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**ATTACHMENT F – FACT SHEET**

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

**I. PERMIT INFORMATION**

The following table summarizes administrative information related to the facility.

<b>WDID</b>	1B84032OSON
<b>Discharger</b>	City of Cloverdale
<b>Name of Facility</b>	Cloverdale Wastewater Treatment Plant
<b>Facility Address</b>	700 Asti Road
	Cloverdale, CA 95425
	Sonoma County
<b>Facility Contact, Title and Phone</b>	John Wanger, City Engineer, (707) 894-1722 Jay Robinson, Wastewater Treatment Plant Operator, (707) 894-1719
<b>Authorized Person to Sign and Submit Reports</b>	Jay Robinson, Wastewater Treatment Plant Operator, (707) 894-1719
<b>Mailing Address</b>	124 N. Cloverdale Blvd., P.O. Box 217, Cloverdale, CA 95425
<b>Billing Address</b>	SAME
<b>Type of Facility</b>	POTW
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	A
<b>Pretreatment Program</b>	None
<b>Reclamation Requirements</b>	None
<b>Facility Permitted Flow</b>	8.25 mgd PWWF
<b>Facility Design Flow</b>	1.0 mgd ADWF
<b>Watershed</b>	Russian River (Middle Russian River Hydrologic Unit)
<b>Receiving Water</b>	Russian River
<b>Receiving Water Type</b>	Inland Surface Water

- A. The City of Cloverdale (hereinafter Discharger) is the owner and operator of the Cloverdale Wastewater Treatment Plant (hereinafter Facility), a municipal wastewater treatment plant.
- B. The Facility discharges wastewater to percolation ponds adjacent to the Russian River and is currently regulated by Waste Discharge Requirements Order No. 96-9 which was adopted on May 23, 1996. The Facility also has a discharge outfall to the Russian River, however, since the Facility does not currently include advanced wastewater treatment (AWT), direct discharges to the Russian River via its discharge outfall are currently prohibited. The Russian

River is a water of the United States. The terms of the existing Order were automatically continued in effect after the Order expiration date of May 23, 2001.

- C. The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its WDRs and National Pollutant Discharge Elimination System (NPDES) permit on April 24, 2002. Supplemental Information was requested on November 15, 2005 and received on December 15, 2005. A site visit was conducted on August 25, 2005, to observe operations and collect additional data to develop permit limitations and conditions.

## II. FACILITY DESCRIPTION

### A. Description of Collection System, Wastewater and Biosolids Treatment or Controls

Cloverdale's wastewater collection system includes of a lift station in a low section of the city, otherwise flow is by gravity to the wastewater treatment facility. Wastewater is received from approximately 3,000 connections, primarily residential, serving a population of approximately 8,300 people. Commercial/industrial dischargers include restaurants, a photo finisher, two wineries, a brewery and MGM Brakes. The Facility has an industrial wastewater discharge permit that has primarily been applied to all non-residential users during the last five to ten years and is in the process of developing a formal pretreatment ordinance.

Infiltration and inflow (I/I) has historically been a problem for the facility, resulting in significantly greater influent flows during storm events. The City completed a smoke and video testing study for I/I in 1997 and has developed a program to correct the I/I problem. The City has received approval for a State Revolving Fund Loan of \$1.7 million to upgrade the collection system through repairs and replacement and will proceed with project design when funds are available. In addition, the City has completed some work on its collection system, including the replacement of sewer lines during its Downtown Reconstruction project and rehabilitation of 44 of its 697 manholes. This has resulted in a noticeable reduction in influent flows during the winter months during the last few years, even though the City's population has grown. A comparison of the annual influent flow volume and average dry-weather flows for the calendar years 2003 and 2004 shows significant reductions in the influent flows to the Facility. The amount of influent flow per year dropped from 216 million gallons to 177 million gallons. The average dry weather flow (ADWF) dropped from 0.37 million gallons per day (mgd) to 0.28 mgd.

Influent flow is measured at the headworks with a Parshall Flume equipped with an ultrasonic flow meter. The ultrasonic flow meter is connected to a computer for continuous recording of inflows. The headworks has bar screens on both influent channels and Spiral Kleen units that keep fecal matter in suspension so that it does not get deposited into the screenings dumpster.

The facility is designed to provide secondary treatment for an average dry weather flow (ADWF) of 1.0 mgd in a series of ponds. The treatment train consists of a 2.8 million gallon

primary aeration pond equipped with a Parkson Biolac extended aeration system, a secondary aeration pond equipped with six aerators, and a settling/polishing pond. Retention time in primary aeration is from three to six days. Each pond contains baffles to improve flow and minimize the potential for short-circuiting. Sludge is retained and reduced to an insignificant volume in the aerated ponds.

The treated wastewater is chlorinated prior to disposal. Chlorine contact occurs in a 1200-foot long, 36-inch diameter underground pipeline. The facility has the ability to dechlorinate its disinfected effluent in the event of a discharge to the Russian River under emergency conditions. The facility does not currently have advanced wastewater treatment (AWT) facilities and is not authorized to discharge to the Russian River unless the facility is upgraded to AWT.

## **B. Discharge Points and Receiving Waters**

The City of Cloverdale is located within the Geyserville Hydrologic Subarea of the Middle Russian River Hydrologic Area within the Russian River Hydrologic Unit. The Cloverdale Wastewater Treatment Facility is located adjacent to the Russian River.

The primary means of wastewater disposal is via seven evaporation/percolation ponds, with a combined capacity of 35 million gallons, located on the west bank of the Russian River.

The existing facility does not currently include advanced wastewater treatment (AWT) and thus, is not currently authorized to discharge directly to the Russian River. Discharge Prohibition III.J. of this Permit prohibits the discharge of wastewater to the Russian River, unless the Discharger upgrades the facility to include AWT. The Order includes Effluent Limitations for discharges to the Russian River in the event that the Discharger upgrades its facility during the term of this Order.

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

The existing Order contains effluent limitations for direct discharges to the Russian River (Discharge Point 001) and for discharges to evaporation/percolation ponds adjacent to the Russian River (Discharge Point. 002). During the term of the existing permit, Order No. 96-9, the Discharger discharged all of its effluent to the evaporation and percolation ponds. Effluent limitations contained in the existing Order for discharges to the evaporation/percolation ponds adjacent to the Russian River from Discharge Point. 002 (Monitoring Location M-002) and representative monitoring data from the term of the previous Order are as follows:

Parameter (units)	Effluent Limitations		Monitoring Data (From January 2000 – To September 2005)		
	Average Monthly	Maximum Daily	Highest Average Monthly Result	Highest Daily Result	No. of Violations
BOD (20°C, 5-day) (mg/l)	30	60	29	74	1
Total Suspended Solids (mg/l)	50	80	42	87	1
Total Coliform Organisms (MPN/100 ml)	23*	230	>1600*	>1600	Daily Max – 37 Monthly Median - 6
Hydrogen Ion	Not less than 6.0 nor greater than 9.0		8.6**	6.0***	0

Notes:

- \* Monthly median
- \*\* Maximum Daily pH
- \*\*\* Minimum daily pH

**D. Compliance Summary**

The facility has violated coliform effluent limitations (daily maximum and monthly median) a total of 42 times between January 2000 and September 2005. The Discharger has reported that these violations frequently occur during periods of warm weather when there is significant algal growth in the treatment ponds. The Discharger’s efforts to reduce coliform violations with increased chlorine dosing has not adequately reduced the number of violations. In a letter dated December 9, 2005, the Discharger described a plan to reduce coliform violations that includes increasing the amount of aeration and the retention time in the treatment ponds, increasing chlorine dosage, and increasing the frequency of chlorine contact chamber cleaning. If these measures do not effectively reduce the coliform violations, the Discharger will be required to implement additional measures.

The facility also had one BOD and one total suspended solids violation between January 2000 and September 2005. In November 2000, the weekly TSS concentration was 87 which exceeded the daily maximum TSS effluent limitation, and on October 6, 2004, the weekly BOD concentration was 74 mg/l, exceeding the maximum BOD effluent limitation. The Discharger was discharging to the evaporation/percolation ponds at the time of each violation. These violations do not appear to be significant given the infrequency of the violations.

**E. Planned Changes**

The Discharger plans to repair and replace portions of the collection system as described under Fact Sheet Section II.A. above.

The Discharger may consider upgrading its wastewater treatment plant sometime during the term of this Order. The decision is dependent on the approval and construction of a proposed residential development that includes a golf course. If the City approves this project, the Discharger will pursue upgrading the wastewater treatment plant to include tertiary treatment to meet the Department of Health Services' Title 22 regulations for the use of recycled water for golf course irrigation. In a letter dated December 15, 2005, the Discharger requested that the Order include provisions to allow for the use of recycled water. Due to the timing of the request and the limited amount of detail regarding AWT upgrade plans, this Order would need to be reopened in the event that the Discharger decides to proceed with such reclamation plans.

### **III. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

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

#### **A. Legal Authorities**

This Order is issued pursuant to 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 California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as WDRs pursuant to Article 4, Chapter 4 of the CWC for any discharges that are not subject to regulation under CWA section 402.

#### **B. California Environmental Quality Act (CEQA)**

This action to adopt an NPDES permit is exempt from Chapter 3 of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Section 13389 of the CWC.

#### **C. State and Federal Regulations, Policies, and Plans**

- 1. Water Quality Control Plans.** The 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. Beneficial uses are designated for all waters of the North Coast Region and are designated for coastal and inland waters, wetlands, and ground waters. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Beneficial uses applicable to the Russian River are as follows:

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

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters.
3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.

4. **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 boards in their basin plans. 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 includes procedures for determining the need for and calculating water quality-based effluent limitations (WQBELs), and requires Dischargers to submit data sufficient to do so.
5. **Antidegradation Policy.** CWA Sections 402 (o) (2) and 303 (d) (4) and 40 CFR 122.44 (l) prohibit 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. Most effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order. Some effluent limitations in Order No. R1-2006-0004 are less stringent than those in the previous Order. Effluent limitations for BOD and TSS are less stringent than those in Order No. 96-9.

A permit may be renewed, reissued, or modified to contain a less stringent effluent limitation if new information has become available that was not previously available that justifies the application of a less stringent effluent limitation. (33 USC § 1342 (o)(2)(B)(i).) Order No. 96-9 established maximum effluent limitations for BOD and TSS. Maximum daily effluent limitations are not applicable nor required under 40 CFR § 133. Accordingly, these limitations (concentration- and mass-based) are omitted from this Order because the limitations promulgated subsequent to the issuance of the original permit present new information not available at that time that justifies the change. Average monthly and average weekly concentration- and mass-based effluent limitations required under 40 CFR §133 remain in effect.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit 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. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order.
7. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the regional water boards to require

technical and monitoring reports. The Monitoring and Reporting Program (MRP), provided in Attachment E, establishes monitoring and reporting requirements to implement federal and State requirements.

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

On June 5 and July 25, 2003, the USEPA approved the list of impaired water bodies, prepared by the State Water Resources Control Board pursuant to Section 303 (d) of the CWA – water bodies which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations for point sources.

The Russian River is listed as an impaired water body for sediment and temperature pursuant to Section 303(d) of the CWA. A Total Maximum Daily Load has not been established to address sediment and temperature loadings in the Russian River. 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 Discharger's monitoring data determined that the discharge does not contain sediment (e.g., settleable solids, suspended solids, and turbidity) at levels which will cause, have the reasonable potential to cause, or contribute to increases in sediment levels in the Russian River. This finding is based in part on the facts that the Discharger does not currently discharge directly to the Russian River, and if, and when the Discharger does discharge directly to the Russian River the Discharger would need to implement AWT treatment, which removes all settleable solids and reduces total suspended solids and turbidity to negligible levels. The summer discharge prohibition and the one-percent flow limitation for winter discharge also support the conclusion that the Discharger does not have the reasonable potential to cause, or contribute to increases in sediment levels in the Russian River.

#### **E. Other Plans, Policies and Regulations**

1. The "Water Quality Control Plan for the North Coast Region" (Basin Plan) includes water quality objectives, implementation plans for point source and nonpoint source discharges, prohibitions, and statewide plans and policies.
2. The Basin Plan contains a narrative objective (standard) for toxicity that requires:

All 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. Compliance with this objective will be determined by use of indicator organisms,

analyses of species diversity, population density, growth anomalies, bioassay of appropriate duration or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for "experimental water" as described in Standard Methods for the Examination of Water and Wastewater 18th Edition (1992). At a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluent will be prescribed. Where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be required.

3. The Discharger has storm water discharges associated with industrial activities, category "ix" as defined in 40 CFR Section 122.26(b)(14). The Discharger has prepared a Storm Water Pollution Prevention Plan (SWPP Plan) and has implemented the provisions of the SWPP Plan. The Discharger must describe storm water discharges, appropriate pollution prevention practices and best management practices in a completed Notice of Intent to be submitted to the State Water Board pursuant to the Statewide General Permit Program.
4. The California Water Code (CWC) gives the Regional Water Board authority to request technical information as necessary to determine whether or not a discharge is occurring or impacting beneficial uses of waters of the State. The Regional Water Board is using this its authority pursuant to section 13267 of the CWC in requiring the City to conduct a hydrogeologic study to determine the fate of wastewater pollutants and whether or not wastewater pollutants discharged into the percolation ponds impact groundwater and/or reach the Russian River via subsurface water that is in direct hydrologic connection to the Russian River.

The Regional Water Board agrees with the USEPA's interpretation of the CWA as applying to discharges of pollutants from a point source via ground water that has a direct hydrologic connection to surface water. While the CWA's NPDES Ordering requirements are not intended to regulate ground water, they are intended to protect surface waters, which are contaminated via a ground water connection. [66 Fed. Reg. 3015 (Jan. 12, 2001)] In similar circumstances to those of the City of Cloverdale's WWTF, where a wastewater holding/treatment pond is located adjacent to surface waters, the federal District Court for the Northern District of California recently found that there was an immediate hydrologic connection between the pond and the river, noting that the water level in each immediately affects the water level in the other. The Court described

groundwater as “tributary” to the surface water and reasoned that elevated measurements of pollutants in the wastewater pond and in monitoring wells between the pond and the river supported such a conclusion. Northern California River Watch v. City of Healdsburg, No. C01-04686WHA (N. Dist. Ca., January 23, 2004)

#### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

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

##### **A. Discharge Prohibitions**

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

This prohibition is based on the Basin Plan, previous Order, and State Water Resources Control Board Order WQO 2002-0012 regarding the petition of WDR Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order WQO 2002-0012, the State Water Board found that this prohibition is acceptable in permits, but should be interpreted to apply only to constituents that are either not disclosed by the discharger or are not reasonably anticipated to be present in the discharge, but have not been disclosed by the Discharger. 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. WQ 2002-0012, p. 24.) The case cited in that order by the

State Water Board reasoned that the Discharger is liable for discharges “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, State Water Board authority provides that, to be permissible, the constituent discharged (1) must have been disclosed by the Discharger and (2) can be reasonably contemplated by the Regional Water Board.

The Regional Water Board has the authority to determine whether the discharge of a constituent is “reasonably contemplated.” The Piney Run case makes clear that the Discharger is liable for discharges “not within the reasonable contemplation of the permitting authority . . . , whether spills or otherwise . . . .” (268 F.3d 255, 268 [italics added].) In other words, whether or not the Discharger reasonably contemplates the discharge of a constituent is not relevant. What matters is whether the Discharger 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 permit adoption.

**2. Discharge Prohibition III.B. Creation of a pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code (CWC) is prohibited.**

This prohibition is based on CWC Section 13050. It has been retained from the previous order, Order No. 96-9.

**3. Discharge Prohibition III.C. The discharge of sludge is prohibited, except as authorized under Section VI.C.5.d. Solids Disposal and Handling Requirements.**

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 CCR. It has been retained from Order No. 96-9.

**4. Discharge Prohibition III.D. The discharge of untreated or partially treated waste (receiving a lower level of treatment than described in Finding II.B) from anywhere within the collection, treatment, or disposal facility is prohibited, except as provided for in Attachment D, Standard Provision I.G [Bypass Provision].**

This prohibition has been retained from Order No. 96-9 and is based on the Basin Plan to protect beneficial uses of the receiving water from unpermitted discharges, and the intent of CWC sections 13260 through 13264 relating to the discharge of waste to waters of the State without filing for and being issued a permit. This prohibition applies to, but is not limited to, sanitary sewer overflows, spills, 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. The discharge of waste to land that is not owned by or under agreement to use by the Discharger is prohibited.**

This prohibition is retained from Order No. 96-9. Land used for the application of wastewater must be owned by the Discharger or be under the control of the Discharger by contract so that the Discharger maintains a means for ultimate disposal of treated wastewater.

**6. Discharge Prohibition III.F. The discharge of waste at any point, except Discharge Points 001 or 002, as described in the table on page 1 of this Order, or authorized by any State Water Board or other Regional Water Board permit is prohibited.**

This prohibition is a general prohibition that allows the Discharger to discharge waste only in accordance with waste discharge requirements. It is based on Sections 301 and 402 of the federal CWA and CWC Section 13263.

**7. Discharge Prohibition III. G. The average daily dry weather flow (ADWF) of waste into the Discharger's Facility in excess of 1.0 mgd, as determined from the lowest consecutive 30-day mean daily flow, is prohibited.**

The flow limitation of 1.0 mgd (average daily dry weather flow) is retained from Order No. 96-9 and is intended to ensure that wastewater flows do not exceed the Facility's design capacity.

**8. Discharge Prohibition III. H. The discharge of wastewater effluent from the WWTF to the Russian River or its tributaries is prohibited during the period May 15 through September 30 each year.**

This prohibition is required by the Basin Plan. The Basin Plan prohibits discharges to the Russian River and its tributaries during the period May 15 through September 30 (Chapter 4, North Coastal Basin Discharge Prohibition No. 4). 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.

**9. Discharge Prohibition III.I. During the period of October 1 through May 14, discharges of wastewater shall not exceed one percent of the flow of the Russian River.**

This prohibition is required by the Basin Plan (Chapter 4 Implementation Plans, North Coastal Basin Discharge Prohibition No. 4). 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 to the one-percent flow requirement will be determined. The previous permit; Order No. 96-9 does not specify how compliance to the one-percent flow requirement will be determined. The draft Order corrects this oversight and specifies that the discharge may comply with the one percent requirement as a monthly average for the surface water discharge season, provided the Discharger makes a reasonable effort to adjust the discharge of treated wastewater to one percent of the most recent daily flow measurement of the Russian River at the Cloverdale gage. However, Prohibition III.I. recognizes that there may be conditions when a comparison to the daily flow in the Russian River gives a closer approximation of the flow conditions in the Russian River at the time of discharge. This modification provides day-to-day operational flexibility for the Discharger while retaining the intent of the prohibition.

**10. Discharge Prohibition III.J. The direct discharge of wastewater effluent from the Facility to the Russian River is prohibited, unless the Discharger upgrades the Facility to include advanced wastewater treatment, in accordance with an upgrade plan approved by the Executive Officer. AWT requirements for discharges to the Russian River are defined in Effluent Limitation IV.A.1.**

This prohibition implements the Basin Plan waste discharge prohibition that requires the discharge of municipal waste to surface waters to be 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 during the period of October 1 through May 14.

**B. Technology-Based Effluent Limitations**

**1. Scope and Authority**

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

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

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR 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 biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and pH, as follows:

- a. BOD and Suspended Solids
  - i. The 30-day average shall not exceed 30 mg/l.
  - ii. The 7-day average shall not exceed 45 mg/l.
  - iii. The 30-day average percent removal shall not be less than 85 percent.
- b. pH
  - i. 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 CFR 122.45(f) requires the establishment of mass-based effluent limitations for all pollutants limited in permits, except, 1) for pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass, and (2) when applicable standards and limitations are expressed in terms of other units of measure.

## 2. Applicable Technology-Based Effluent Limitations

### a. Discharge Point 002

- i. The following table summarizes concentration-based effluent limitations derived from 40 CFR 133.102, that are retained from Order No. 96-9, that are applicable to the City of Cloverdale wastewater treatment facility's discharge to the evaporation/percolation ponds and included in Order No. R1-2006-0004.

**Summary of Technology-Based Effluent Limitations from 40CFR 133.102 - Discharge Point 002**

Parameter	Units	Effluent Limitation		
		Avg Monthly	Avg Weekly	Daily Maximum
BOD (5-day @ 20° C)	mg/L	30	45	60
TSS	mg/L	50	65	80
Percent Removal <sup>a</sup>	%	85	---	---
pH	stnd units	6.0 – 9.0		

<sup>a</sup> Order No. R1-2006-XXXX specifies that percent removal for BOD and TSS shall be determined from the 30-day average value of influent wastewater concentration in comparison to the 30-day average value of effluent concentration for the same constituent over the same time period.

**BOD and TSS.** The technology-based effluent limitations for secondary effluent discharged to Discharge Point 002 are slightly more stringent than the current permit, Order No. 96-9. Order No. 96-9 contains average monthly and maximum daily effluent limitations for BOD and TSS. 40 CFR Part 133.102 requires a minimum level of effluent quality attainable by secondary treatment in terms of a monthly and weekly average BOD and TSS. Thus, average weekly effluent limitations for BOD and TSS have been added in Order No. R1-2006-0004.

- ii. Technology-based effluent limitations for coliform bacteria for secondary effluent discharges to the percolation ponds have been retained from Order No. 96-9 and reflect standards adopted by the Department of Health Services for secondary treated recycled water in Title 22, Division 4, Chapter 3 of the California Code of Regulations.

**Summary of Technology-Based Effluent Limitations - Discharge Point 002**

Parameter	Units	Effluent Limitations <sup>a</sup>	
		Weekly Median	Maximum
Total Coliform Bacteria	mpn /100 mL	23	240

- iii. **Chlorine Residual.** The requirement for a minimum chlorine residual of 1.5 mg/l at the end of the disinfection process is retained from Order No. 96-6 and is based on Regional Water Board staffs’ best professional judgment for providing adequate disinfection.

**b. Discharge Point 001**

- i. The following table summarizes concentration-based effluent limitations, and mass-based effluent limitations that are applicable to the City of Cloverdale wastewater treatment facility’s discharge to the Russian River.

**Summary of Technology-Based Effluent Limitations - Discharge Point 001**

Parameter	Units	Effluent Limitation		
		Avg Monthly	Avg Weekly	Daily Maximum
BOD (5-day @ 20° C)	mg/L	10	15	---
	lbs/day	83	125	---
TSS	mg/L	10	15	---
	lbs/day	83	125	---
Turbidity	NTU	2	---	5
Percent Removal	%	85	---	---

The average monthly and average weekly effluent limitations summarized in the above table are retained from Order No. 96-9 and are contained in Section IV.A.1.(a) and (d) of Order No. R1-2006-0004. Order No. R1-2006-0004 corrects a typographical error in the heading of the effluent limitation table for discharges to the Russian River. Although it may appear that the effluent limitations for BOD, TSS, and turbidity are less stringent than Order No. 96-9, this perception is due to the typographical error. The typographical error in Order No. 96-9 makes it appear that 30-day average effluent limitations are 7-Day average effluent limitations, and that 7-Day average effluent limitations are “Daily average” effluent limitations.

In addition to weekly and monthly limitations, AWT has historically included a daily maximum BOD and Suspended Solids limitation of 20 mg/l. Order No. 96-9 contains daily maximum effluent limitations for BOD and suspended solids. The Discharger has requested that the Regional Water Board remove daily effluent limitations from the new Order, citing federal regulations (referring to 40 CFR 122.45(d)), which state that permit effluent limitations be stated as average weekly and average monthly discharge limitations for POTWs. The State Water Resources Control Board indicated in SWRCB Order WQC 2002-0012<sup>1</sup> that a weekly average was effective for monitoring the performance of biological wastewater treatment plants and that daily and instantaneous maximum limitations are appropriate to protect against acute water quality effects. Because acute water quality effects from BOD and suspended solids are not anticipated from the discharge, the daily maximum effluent limitations for BOD and suspended solids have not been included in the draft Permit.

**BOD and Suspended Solids.** The concentration based effluent limitations for BOD and suspended solids in the proposed Order are retained from Order No. 96-9. These advanced wastewater treatment limitations are more stringent than the technology-based limits derived from federal requirements (40 CFR 133.102). The BOD and suspended solids limits are based on the effluent quality expected from a treatment system providing advanced wastewater treatment. Compliance with these limits will ensure protection of receiving water beneficial uses in the Russian River. These treatment requirements have been recommended by the Department of Health Services (DHS) to produce a “pathogen-free” effluent. These BOD and suspended solids limitations are routinely adopted into permits that require AWT throughout the State, including the North Coast Region.

Mass effluent limitations for BOD and TSS are also retained from Order No. 96-9 and are required under 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-

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<sup>1</sup> This Order contains rulings in the Matter of the Petitions of East Bay Municipal Utility District and Bay Area Clean Water Agencies For Review of Waste Discharge Requirements Order No. 01-072

based effluent limitations are technology-based; thus these limitations apply at the end of the treatment train (Monitoring Location M-001).

**Turbidity.** The proposed turbidity requirements are based on the definition of filtered wastewater found in Title 22 Section 60301.320 of the CCR. 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 regardless of whether the final use is water recycling or discharge to surface water. The point of compliance for the turbidity requirements is a point following the effluent filters and before discharge to the disinfection system.

The existing Permit specifies that daily measurements of effluent turbidity averaged over a 30-day period not exceed an average of 2 NTU and 5 NTU no more than 5 percent of the time. The proposed limitation specifies that the turbidity of the filtered wastewater not exceed an average of 2 NTU within a 24-hour period, 5 NTU more than 5 percent of the time within a 24-hour period, and 10 NTU at any time. This performance standard is consistent with the Title 22 definition of filtered wastewater.

**Percent Removal.** The percent removal requirements are standard secondary treatment technology-based effluent limitations derived from federal requirements (40 CFR 133.102; definition in 133.101) and are retained from the Order No. 96-9.

- ii. **pH.** Order No. R1-2006-0004 requires the Discharger to comply with Basin Plan WQBELs for pH, of 6.5 to 8.5, for discharges to the Russian River. The requirement is based on the Basin Plan water quality objective for inland surface waters.
- iii. **Total Coliform.** Technology-based effluent limitations for coliform bacteria for AWT discharges to the Russian River are retained from Order No. 96-9 and reflect standards adopted by the DHS for tertiary treated recycled water in Title 22, Division 4, Chapter 3 of the CCR, as summarized in the following table.

**Summary of Technology-Based Effluent Limitations - Discharge Point 001**

Parameter	Units	Effluent Limitations <sup>a</sup>	
		Weekly Median	Maximum
Total Coliform Bacteria	MPN /100 mL	2.2	23/240

<sup>a</sup> The number of total coliform bacteria shall not exceed 23 per 100 mls in more than one sample in any 30-day period. No sample shall exceed an MPN pf 240 total coliform bacteria per 100 mls.

The Basin Plan states that discharges “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.” This requirement leaves discretion to the Regional Water Board to define AWT in effluent limitations in individual permits.

From the record associated with the adoption of the AWT requirement, it is clear that treatment to a “pathogen-free” level was intended. The adopting resolution for the AWT Basin Plan amendment, Resolution No. 86-148 (Appendix A), and the Basin Plan explain that zero discharge of municipal wastewater is preferable to ensure protection of beneficial uses (particularly municipal/domestic supply and body contact recreation), but that advanced treatment of wastewater is the “minimum acceptable.” The Resolution incorporates the recommendation of the DHS that “all municipal wastewater discharged to streams used for domestic water supply be treated to a “pathogen-free” level. “Pathogen free” effluent is that which has been treated to advanced levels including chemical flocculation, coagulation, sedimentation, filtration, and disinfection.”

The DHS recommendation referred to in the Resolution explained that “the discharge [of wastewater] should be strengthened to require a pathogen-free effluent as defined in Section 60315, Title 22 Wastewater Reclamation regulations.”

The Wastewater Reclamation Criteria in effect at the time stated:

“Section 60315. Nonrestricted Recreational Impoundment

Reclaimed water used, as a source of supply in a nonrestricted recreational impoundment shall be at all times an adequately disinfected, oxidized, coagulated, clarified, filtered wastewater. The wastewater shall be considered adequately disinfected if at some location in the treatment process the median number of coliform organisms does not exceed 2.2 per 100 ml and the number of coliform organisms does not exceed 23 per 100mL in more than one sample within any 30-day period. The median value shall be determined from the bacteriological results of the last 7 days for which analyses have been completed.”

In sum, the Basin Plan amendment was intended to protect beneficial uses of the Russian River and its tributaries, primarily domestic water supply and contact recreation. The adopting Resolution makes it clear that the amendment was aimed to eliminate pathogens (which pose a significant threat to domestic and recreation uses) from wastewater discharges. Even at that time, Title 22 of the CCR contained the definition of pathogen-free treatment relied on by the Resolution. By requiring that the standards be defined in individual permits, the Basin Plan contemplated that

they would be periodically refined during permit renewals. Accordingly, the use of Title 22 as it exists today is an appropriate means to define AWT wastewater quality for the protection of beneficial uses of the Russian River and its tributaries.

- iv. **Settleable Solids.** High levels of settleable solids can have an adverse effect on aquatic habitat. Untreated or improperly treated wastewater can contain high amounts of settleable solids. The Russian River and its tributaries are 303(d) listed for sediment and settleable solids is one aspect of the sediment impairing the Russian River. The requirement is crucial for the protection of the receiving water.

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

### 1. Scope and Authority

As specified in 40 CFR §122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses for 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 water quality criteria contained in the CTR and NTR.

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

- a. Beneficial Uses. Applicable beneficial uses are discussed in Finding II.H. of Order No. R1-2006-0004 and Section III.C.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, including the Russian River.
- c. State Implementation Policy (SIP), CTR and NTR.

Water quality criteria applicable to the discharge to the Russian River are included in the NTR and the CTR, which contain numeric criteria for most of the 126 priority, toxic pollutants, and indicates that such criteria will be developed for the remaining criteria at a future date.

Aquatic life freshwater and saltwater criteria are further 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 one-hour average numeric effluent limitation and the CCC is used to calculate a chronic or 4-day average numeric effluent limitation.

Human health criteria are further identified as “water and organisms” and “organisms only.” The criteria from the “water and organisms” column of CTR were used for the preliminary reasonable potential analysis because the Basin Plan identifies that the receiving water, the Russian River is a source of municipal and domestic drinking water supply. The human health criteria are used to calculate human health effluent limitations.

The SIP, which is described in Finding II.J. of the Order and Section III.C.4 of the Fact Sheet, includes procedures for determining the need for and calculating WQBELs and requires dischargers to submit data sufficient to do so.

The following table summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the Reasonable Potential Analysis for this Order. Attachment F-1 to this Order summarizes the reasonable potential analysis for all 126 priority pollutants.

#### Applicable Water Quality Criteria and Objectives

CTR No.	Constituent	Lowest Applicable Criteria	CTR/NTR Water Quality Criteria		
			Freshwater		Human Health for Consumption of
			Acute	Chronic	Water and Organisms
		µg/L	µg/L	µg/L	µg/L
5a	Chromium (total) <sup>a</sup>	149.1	1250.9	149.1	
6	Copper <sup>a</sup>	6.6	9.6	6.6	1300
7	Lead <sup>a</sup>	1.91	49	1.91	
8	Mercury	0.5			0.5
9	Nickel <sup>a</sup>	37.2	334.3	37.2	610
13	Zinc <sup>a</sup>	85.3	85.3	85.3	
14	Cyanide	5.2	22	5.2	700
20	Bromoform	4.3			4.3
21	Carbon Tetrachloride	0.25			0.25
23	Chlorodibromomethane	0.41			0.41
26	Chloroform	No Criteria			
27	Dichlorobromomethane	0.56			0.56

35	Methyl Chloride	No Criteria			
36	Methylene Chloride	4.7			4.7
39	Toluene	6800			6800
68	Bis(2-Ethylhexyl) Phthalate	1.8			1.8
81	Di-n-Butyl Phthalate	2700			2700

Note:

- a Water Quality Criteria for hardness-based metals are based on the lowest detected hardness concentration of 67 mg/l and have been converted to total recoverable metal fraction using the conversion factors in the CTR.

### 3. Determining the Need for WQBELs

#### a. Non-Priority Pollutants

Order No. R1-2006-0004 contains a WQBEL for total chlorine residual prior to surface water discharge (Effluent Limitation IV.A.1.d). The Permit specifies that the discharge shall at no time show detectable chlorine residual. This effluent limitation is based on the Basin Plan narrative water quality objectives for toxicity and chemical constituents. This effluent limitation is included to ensure that a wastewater dechlorination step removes all detectable chlorine residual for the protection of aquatic beneficial uses of the receiving water. The Regional Water Board views any chlorinated discharge as having the potential to contribute to an exceedance of the Basin Plan’s narrative toxicity objective – all waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life. The USEPA recommends a 4-day average (chronic) chlorine concentration of 0.01 mg/L for protection of fresh water aquatic life and a 1-hour (acute) concentration of 0.02 mg/L. [Quality Criteria for Water 1986 (The Gold Book), EPA 440/5-86-001 (May 1, 1986)]. These concentrations are, in effect, non-detectable concentrations by the common amperometric analytical method used for the measurement of chlorine; and therefore, the Regional Water Board has established an ND (not detected) level of chlorine as an effluent limitation for this discharge.

Order No. R1-2006-0004 retains WQBELs for pH (6.5 – 8.5) from Order No. 96-6. The WQBEL for pH is based on water quality-based objectives established by the Basin Plan.

#### b. Priority Pollutants

The SIP Section 1.3 requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct a reasonable potential analysis. Sufficient effluent and ambient data are available to conduct a complete RPA for the Facility. The Discharger collected six sets of priority pollutant data between August 13, 2002 and March 24, 2005.

Some freshwater water quality criteria for metals are hardness dependent; i.e., as hardness decreases, the toxicity of certain metals increases, and the applicable water quality criteria become correspondingly more stringent. For this reasonable potential analysis, Regional Water Board staff has used a receiving water hardness concentration of 67 mg/L CaCO<sub>3</sub>, based on receiving water data submitted by the Discharger. Six samples collected between August 13, 2002 and March 24, 2005 showed hardness concentrations between 67 and 127 mg/l in the Russian River, approximately 50 feet upstream of the Facility's discharge point. The use of the lowest receiving water hardness concentration provides the most protective approach for determining which parameters to require effluent limitations for, for the protection of aquatic life in the receiving stream.

To conduct the reasonable potential analysis, Regional Water Board staff identified the maximum observed effluent (MEC) and background (B) concentrations for each priority, toxic pollutant from receiving water and effluent data provided by the Discharger and compared this data to the most stringent applicable water quality criterion (C) for each pollutant 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 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 reasonable potential analysis demonstrated reasonable potential for discharges from Discharge Monitoring Point 001 to cause or contribute to exceedances of applicable water quality criteria for copper, cyanide, carbon tetrachloride, chlorodibromomethane, and dichlorobromomethane. 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 other 126 priority pollutants.

The following table summarizes the reasonable potential analysis for each priority pollutant that was reported in detectable concentrations in either the effluent or receiving water since August 2002. Attachment F-2 to this Order summarizes all of the

Discharger's effluent and receiving water monitoring data for these same pollutants. No other pollutants with applicable, numeric water quality criteria from the NTR, CTR, and the Basin Plan were measured above detectable concentrations during the six monitoring events conducted by the Discharger.

### Summary of Reasonable Potential Analysis

CTR No.	Priority Pollutant	Lowest Applicable Water Quality Criteria(C)	Maximum Effluent Concentration (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result-Need Limit?	Reason	Recommendation
5a	Chromium, Total	149.1	1.4DNQ	62	No	MEC<C and B<C	No EL or monitoring needed
6	Copper	6.6	13	20	Yes	MEC>C	EL and monitoring needed
7	Lead	1.91	1.0DNQ	4.1	UD	B>C and effluent data ND	Additional monitoring needed
8	Mercury	0.5	0.0265	0.0523	No	MEC<C and B<C	No EL or monitoring needed
9	Nickel	37.2	5.4DNQ	94	No	MEC<C	No EL or monitoring needed
13	Zinc	85.3	53	55	No	MEC<C and B<C	No EL or monitoring needed
14	Cyanide	5.2	17	<3	Yes	MEC>C	EL and monitoring needed
20	Bromoform	4.3	<0.5	8.4	UD	B>C and effluent data ND	Additional monitoring needed
21	Carbon Tetrachloride	0.25	1.1	<0.5	Yes	MEC>C	EL and monitoring needed
23	Chlorodibromomethane	0.41	0.92	0.46DNQ	Yes	MEC>C	EL and monitoring needed
26	Chloroform	No CTR Criteria	92	<0.5	No	No CTR Criteria	EL based on DHS standard and monitoring needed
27	Dichlorobromomethane	0.56	12	<0.5	Yes	MEC>C	EL and monitoring needed
35	Methyl Chloride	No Criteria	0.99	<0.5	No	No Criteria	No EL or monitoring needed
36	Methylene Chloride	4.7	1.4	<0.5	No	MEC<C and B<C	No EL or monitoring needed
39	Toluene	6800	13	<0.5	No	MEC<C and B<C	No EL or monitoring needed
68	Bis (2-Ethylhexyl) Phthalate	1.8	4.2DNQ	<5	UD	B and effluent data ND	Additional monitoring needed due to high DL

Notes: EL – Effluent Limitation  
 UD – Undetermined: Effluent data and receiving water data are both non-detect.  
 DL – Detection Limit

Reasonable Potential Analysis: The following section summarizes additional details regarding the data used for the reasonable potential analysis for copper, cyanide, carbon tetrachloride, chlorodibromomethane, and dichlorobromomethane. In addition, a discussion of the sampling results for lead, chloroform (and trihalomethanes), bromoform, and bis (2-Ethylhexyl) Phthalate are included in this section.

i. Copper

Effluent monitoring data submitted by the Discharger showed concentrations of total recoverable copper ranging from <9 µg/L to 13 µg/L, in six samples. Two of the effluent concentrations exceeded the lowest CTR criterion of 6.6 µg/L, and three samples contained detectable concentrations of copper above the lowest CTR criterion, but below the Method Detection Limit. This data demonstrates that there is reasonable potential for copper and effluent limitations are needed.

Six receiving water samples were collected for copper. The receiving water sample collected on April 28, 2003 contained 20 µg/L of copper. Two of the receiving water sample results were detected at levels below the Method Detection Limit.

Final effluent limitations for copper are calculated in Attachment E-1.

ii. Cyanide

Effluent monitoring data submitted by the Discharger showed concentrations of cyanide ranging from <3 to 17 µg/L. The sample collected on August 13, 2002 contained 17 µg/L which exceeds the lowest CTR criterion of 5.2 µg/L. Therefore, there is reasonable potential for cyanide and effluent limitations are needed. Two other samples showed detectable concentrations of cyanide below the Method Detection Limit and below the lowest CTR criterion.

The six receiving water samples were non-detect for cyanide at a detection limit of 3 µg/L.

iii. Carbon Tetrachloride

Effluent monitoring data submitted by the Discharger showed concentrations of carbon tetrachloride ranging from <0.5 to 1.1 µg/L. The sample collected on March 24, 2005 contained 1.1 µg/L which exceeds the lowest CTR criterion of 0.25 µg/L. Therefore, there is reasonable potential for carbon tetrachloride and effluent limitations are needed. The sample collected on August 13, 2002 showed 0.49 µg/L of carbon tetrachloride, a concentration that is just below the Method Detection Limit of 0.5 µg/L, but above the lowest CTR criterion.

The six receiving water samples were non-detect for carbon tetrachloride at a detection limit of 0.5 µg/L.

iv. Lead

Effluent monitoring data submitted by the Discharger showed concentrations of lead at <2 µg/L in all six samples.

One of the six receiving water samples revealed that lead was present at a concentration of 4.1 µg/L which is greater than the lowest CTR criterion of 1.91 µg/L. Additional monitoring is required in accordance with the SIP.

v. Mercury

Effluent monitoring data submitted by the Discharger showed concentrations of mercury ranging from 0.0102 µg/L to 0.0252 µg/L in six samples, all below the lowest CTR criterion of 0.050 µg/L.

Receiving water data submitted by the Discharger showed concentrations of mercury ranging from 0.00140 µg/L to 0.05230 µg/L in six samples. Since one receiving water result was higher than the lowest CTR criterion of 0.050 µg/L, the SIP requires that effluent limitations for mercury be established in the permit.

vi. Dichlorobromomethane

Dichlorobromomethane, like chlorodibromomethane, is a trihalomethane and is considered a human carcinogen.

The CTR criterion for dichlorobromomethane to protect human health (30-Day average) for drinking water sources (consumption of water and aquatic organisms) is 0.56 µg/L.

Effluent monitoring data collected during the winter months and submitted by the Discharger showed concentrations of dichlorobromomethane ranging from <0.5 to 0.98 µg/L. Higher effluent concentrations of 1.8 µg/L and 12 µg/L were detected on August 23, 2004 and August 13, 2002, respectively. Two of the three samples collected during the allowed discharge season contained concentrations of dichlorobromomethane that exceeded the CTR criterion of 0.56 µg/L for dichlorobromomethane, with results of 0.78 and 0.98µg/L. This data demonstrates that there is reasonable potential for dichlorobromomethane and effluent limitations are needed.

The six receiving water samples were non-detect for dichlorobromomethane at a detection limit of <0.5 µg/L.

vii. Chlorodibromomethane

Chlorodibromomethane is a component of a group of chemicals, commonly known as trihalomethanes, which are formed during the disinfection process for drinking water and wastewater treatment through the reaction of chlorine and organic and inorganic material. Other trihalomethanes include dichlorobromomethane, chloroform, and bromoform. Trihalomethanes are considered human carcinogens.

Effluent monitoring data submitted by the Discharger showed concentrations of chlorodibromomethane ranging from <0.5 to 0.40 µg/L. A higher effluent concentration of 0.92 µg/L was detected in a sample collected on August 13, 2002 and during the summer season when discharges to the Russian River are prohibited. The Discharger has documented that it uses higher doses of chlorine during the hot summer months when algae in the treatment ponds adds to the chlorine demand. Thus, the sample result on August 13, 2002 is not representative of effluent during the discharge season. The remaining effluent data does not demonstrate reasonable potential.

The six receiving water samples were non-detect for chlorodibromomethane, although the receiving water sample collected on April 28, 2003 was reported to be 0.460 ug/l, but since the result was lower than the method detection limit, the result was reported as “DNQ – detected but not quantifiable”.

viii. Bromoform

Bromoform, like chlorodibromomethane, is a trihalomethane.

Effluent monitoring data submitted by the Discharger showed concentrations of bromoform at <0.5 µg/L in all six samples. A receiving water sample collected on April 28, 2003 showed a concentration of 8.4 µg/L which is greater than the lowest CTR criterion of 4.3 µg/L. Additional monitoring is required in accordance with the SIP.

ix. Chloroform and Trihalomethanes (THMs)

Chloroform, like chlorodibromomethane, is a trihalomethane.

The CTR does not establish a water quality objective for chloroform. The CTR, however, has reserved a placeholder for the addition of a numeric criterion for

chloroform. The CTR preamble states that USEPA “intends to reassess the human health 304(a) criteria recommendations for chloroform.” USEPA is apparently reconsidering chloroform’s cancer risk based on new data and analysis. If the USEPA adopts a standard for chloroform, it will be necessary to reassess reasonable potential and potentially adjust the chloroform effluent limitation.

The State DHS’s and federal primary drinking water standard for total THMs is 80 µg/L, thus the permit establishes an effluent limitation based on this standard.

Effluent monitoring data submitted by the Discharger showed concentrations of chloroform ranging from 2 µg/L to 8.2 µg/L. A higher effluent concentration of 92 µg/L was detected in a sample collected on August 13, 2002 and during the summer season when discharges to the Russian River are prohibited. The Discharger has documented that it uses higher doses of chlorine during the hot summer months when algae in the treatment ponds adds to the chlorine demand. Thus, the sample result on August 13, 2002 is not representative of effluent during the discharge season. The remaining effluent data does not demonstrate reasonable potential for the Discharger to exceed the THM standard of 80 µg/L, and no effluent limitation is needed.

Due to the fact that the Discharger uses chlorine for disinfection and the variability of THM effluent concentration reported by other dischargers that have collected larger data sets for THMs, it is necessary to require additional monitoring for the THMs bromoform, chloroform, chlorodibromomethane, and dichlorobromomethane in order to obtain enough data to definitively determine whether or not there is reasonable potential.

x. Bis (2-Ethylhexyl) Phthalate

The lowest CTR criterion for Bis (2-Ethylhexyl) Phthalate is 1.8 µg/L. The Discharger’s data was analyzed using a Method Detection Limit of 5 µg/L. The two most recent effluent samples, collected on August 23, 2004 and March 24, 2005, contained concentrations of Bis (2-Ethylhexyl) Phthalate of 3.4 and 4.2 µg/L, respectively. These concentrations are below the Method Detection limit but above the lowest CTR criterion. This data demonstrates the need for additional monitoring at a detection limit of 1 µg/L or less.

#### **4. WQBEL Calculations**

Final WQBELs for copper, cyanide, carbon tetrachloride, chlorodibromomethane, and dichlorobromomethane have been determined using the methods described in Section 1.4 of the SIP.

Since the water quality objectives for copper are hardness-dependent and the hardness in the Russian River varies significantly, final effluent limitations for copper are determined using formulas that are based on the hardness of the receiving water at the time the discharge is sampled. The calculations for copper below use a hardness concentration of 100 mg/l to determine the copper effluent limitation for that single hardness value. Calculations for a range of hardness concentrations, ranging from 5 to >400 mg/l are included in Attachment E-1, titled Hardness-Dependent Effluent Limitations for Copper.

**Step 1:** For each water quality criterion/objective, an effluent concentration allowance (ECA) is calculated from the following equation to account for dilution and background levels of each pollutant.

$$ECA = C + D (C - B), \text{ where}$$

- C = the applicable water quality criterion (adjusted for receiving water hardness and expressed as total recoverable metal, if necessary)
- D = the dilution credit
- B = the background concentration

Because no credit is being allowed for dilution,  $D = 0$ , and therefore,  $ECA = C$ .

**Step 2:** For each ECA based on aquatic life criterion/objective (copper), the long-term average discharge condition (LTA) is determined by multiplying the ECA times a factor (multiplier), which adjusts the ECA to account for effluent variability. The multiplier varies depending 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 value of the CV. When the data set contains less than 10 sample results (which is the case for the Discharger), or 80 percent or more of the data are 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.

From Table 1 of the SIP, multipliers for calculating LTAs at the 99<sup>th</sup> percentile occurrence probability are 0.321 (acute multiplier) and 0.527 (chronic multiplier). LTAs are determined as follows.

Pollutant	ECA		ECA Multiplier		LTA (µg/L)	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Copper	14.00	9.33	0.321	0.527	4.49	4.92
Cyanide	22	5.2	0.321	0.527	7.062	2.740

**Step 3:** WQBELs, including an average monthly effluent limitation (AMEL) and a maximum daily effluent limitation (MDEL) are calculated using the most limiting (the lowest) LTA. The LTA is multiplied times a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent

monitoring frequency. Here, the CV is set equal to 0.6, and the sampling frequency is set equal to 4 (n = 4). The 99<sup>th</sup> percentile occurrence probability was used to determine the MDEL multiplier and a 95<sup>th</sup> percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier is 3.11 and the AMEL multiplier is 1.55. Final WQBELs for copper and cyanide are calculated as follows.

Pollutant	LTA	MDEL Multiplier	AMEL Multiplier	MDEL (µg/L)	AMEL (µg/L)
Copper	4.49	3.11	1.55	13.96	6.96
Cyanide	2.74	3.11	1.55	8.52	4.25

**Step 4:** When the most stringent water quality criterion/objective is a human health criterion/objective, the AMEL is set equal to the ECA, and the MDEL is calculated by multiplying the ECA times the ratio of the MDEL multiplier to the AMEL multiplier.

From Table 2 of the SIP, when CV = 0.6 and n = 4, the MDEL/AMEL Multiplier (for MDEL at the 99<sup>th</sup> percentile occurrence probability and AMEL at the 95<sup>th</sup> percentile occurrence probability) equals 2.01. Final WQBELs for carbon tetrachloride and dichlorobromomethane are determined as follows.

Pollutant	ECA	MDEL/AMEL Multiplier	AMEL (µg/L)	MDEL (µg/L)
Mercury	0.050	2.01	0.050	0.100
Carbon Tetrachloride	0.25	2.01	0.25	0.50
Dichlorobromomethane	0.56	2.01	0.56	1.13

All WQBELs for the Facility are summarized in the table below.

**Summary of Water Quality-based Effluent Limitations  
 Discharge Point 001**

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Chlorine Residual	mg/l	No Detectable Levels using a minimum detection limit of 0.1 mg/l	
pH	pH Units	6.5-8.5	
Copper <sup>a</sup>	µg/L	See Attachment E-1	
Cyanide	µg/L	4.3	8.5
Mercury	µg/L	0.050	0.100

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Carbon Tetrachloride	µg/L	0.25	0.50
Dichlorobromomethane	µg/L	0.56	1.13

Notes:

- a Final effluent limitations for copper are for total recoverable metal fraction and are determined using formulas that are based on the hardness of the receiving water at the time the discharge is sampled. Attachment E-1 provides calculated final effluent limitations for copper, for a range of hardness values using the formulas noted therein.

## 5. Whole Effluent Toxicity (WET)

Effluent limits for whole effluent toxicity (WET), acute or chronic, protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the 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 toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses in aquatic organisms. Detrimental response includes, but is 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. The existing Order contains acute toxicity limitations in accordance with the Basin Plan, which requires that average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests be at least 90 percent, with no single test having less than 70 percent survival.

In addition to the Basin Plan requirements, Section 4 of the SIP states that chronic toxicity effluent limitations are required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Discharges from Discharge Point 001 may contribute to long-term toxic effects within the receiving water; however, no chronic toxicity data are available for this discharge. In accordance with the SIP, therefore, the Discharger will be required to conduct chronic toxicity testing in order to determine reasonable potential and establish WQBELs as necessary.

### D. Final Effluent Limitations

1. Discharge Point 001, Direct Discharge to Russian River

Final effluent limitations for Discharge Point 001 are summarized below in the table and bulleted text.

Parameter	Units	Effluent Limitation		
		Average Monthly	Average Weekly	Maximum Daily
BOD <sub>5</sub> (5-day @ 20° C)	mg/L	10	15	20
	lbs/day	83	125	167
TSS <sup>a</sup>	mg/L	10	15	20
	lbs/day	83	125	167
Settleable Solids	mls/L	---	---	ND <sup>b</sup>
pH	std units	6.5 – 85		
Chlorine	mg/L	---	--	ND <sup>c</sup>
Copper	µg/L	See Attachment E-1		
Cyanide	µg/L	4.25	---	8.52
Mercury	µg/L	0.050	---	0.100
Carbon Tetrachloride	µg/L	0.25	---	0.50
Dichlorobromomethane	µg/L	0.56	--	0.11

Notes:

<sup>a</sup> TSS = total suspended solids

<sup>b</sup> ND = not detected using an analytical method with a minimum detection level of 0.1 ml/L

<sup>c</sup> ND = not detected using an analytical method or chlorine analyzer with a minimum detection level of 0.1 mg/L.

- The disinfected, advanced treated wastewater sampled at Monitoring Location M-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 2.2 per 100 milliliters, using the bacteriological results of the last seven days for which analyses have been completed.
  - ii. The number of coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period.
  - iii. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
- The average monthly percent removal of BOD (5-day 20°C) and total suspended solids shall not be less than 85 percent. Percent removal shall be determined from the 30-day average value of influent wastewater concentration in comparison to the 30-day average value of effluent concentration for the same constituent over the same time period. (CFR 133.101(j))
- There shall be no acute toxicity in the effluent when discharging to the Russian River, as measured at Monitoring Location M-001. The Discharger will be considered in

compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay of undiluted waste complies with the following:

- i. Minimum for any one bioassay: 70 percent survival
- 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 Monitoring and Reporting Program No. R1-2006-0004.

## 2. Discharge Point 002

Final effluent limitations for Discharge Point 002 are summarized below in the table and bulleted text.

Parameter	Units	Effluent Limitation		
		Average Monthly	Average Weekly	Maximum Daily
BOD <sub>5</sub> (5-day @ 20°C)	mg/L	30	45	60
TSS <sup>a</sup>	mg/L	50	65	80
Settleable Solids	mls/L	0.1	---	0.2
pH	std units	6.0 – 9.0		

Notes:

<sup>a</sup> TSS = total suspended solids

- The disinfected effluent, sampled at Monitoring Location M-002 shall not contain concentrations of total coliform bacteria exceeding the following concentrations:
  - a. 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.
  - b. 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.
- The average monthly percent removal of (BOD 5-day 20°C) and total suspended solids shall not be less than 85 percent. Percent removal shall be determined from the 30-day average value of influent wastewater concentration in comparison to the 30-day average value of effluent concentration for the same constituent over the same time period. (CFR 133.101(j))

**E. Interim Effluent Limitations**

The following interim effluent limitations are established in this Order, and are effective until May 18, 2010:

Constituent	Unit	Interim Limitations	
		AMEL	MDEL
Cyanide	µg/L	---	17
Copper	µg/L	---	13
Carbon Tetrachloride	µg/L	---	1.1
Dichlorobromomethane	µg/L	0.98	1.1 <sup>a</sup>

Notes:

a – The final MDEL of 1.1 ug/l shall be effective beginning July 28, 2006.

AMEL – Average Monthly Effluent Limitation

MDEL – Maximum Daily Effluent Limitation

The interim effluent limitations for cyanide, copper, and dichlorobromomethane are set as maximum daily effluent limitations and are based on the highest effluent concentrations of each pollutant detected in the Discharger’s monitoring data. An interim average monthly effluent limitation (AMEL) for dichlorobromomethane is set at 0.98 ug/l based on the highest dichlorobromomethane concentration detected in the Discharger’s effluent monitoring data. There is no need to set an interim maximum daily effluent limitation, since the Discharger’s maximum effluent concentration for dichlorobromomethane did not exceed the final effluent limitation of 1.1 ug/l that was established by the reasonable potential calculations. Interim effluent limitations are not necessary for mercury due to the fact that the Discharger’s effluent monitoring data is all less than the lowest mercury water quality objection of 0.05 ug/l.

**F. Land Discharge Specifications – Not Applicable**

This section of the standardized template is not applicable to the City of Cloverdale as treated wastewater is not discharged or applied to land.

**G. Reclamation Specifications – Not Applicable**

This section of the standardized template is not applicable to the City of Cloverdale, as treated wastewater is not reclaimed for use.

## **V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

### **A. Surface Water**

Receiving water limitations contained in this permit are derived from Chapter 3 of the Basin Plan and are a required part of the Order. Receiving water limitations apply during periods of direct discharge to the Russian River. Several of the receiving water limitations were modified from the previous permit to more accurately reflect Basin Plan objectives for inland surface waters, enclosed bays, and estuaries contained in Chapter 3 of the Basin Plan. Narrative receiving water limitations that were modified include V.A.2. (pH), and V.A.11 (pesticides) and receiving water limitation V.A.14 (chemical constituents) was added. Narrative receiving water limitations for other water quality objectives identified in Chapter 3 of the Basin Plan remain unchanged from the existing permit, Order No. 96-9, and are included in the draft Permit.

### **B. Groundwater**

Groundwater limitations included in the proposed draft Permit were derived from Water Quality Objectives for Groundwaters contained in Chapter 3 of the Basin Plan.

The Basin Plan states that the beneficial uses of groundwaters throughout the Region include domestic, agricultural, and industrial supply. The Basin Plan contains water quality objectives set forth in Title 22, Chapter 15 of the California Code of Regulations for groundwaters used as domestic and agricultural supply for taste and odors, bacteria, radioactivity and certain chemical constituents. Permits for discharges of pollutants may not allow the discharge of waste to cause or contribute to the violation of these objectives. These standards do not explicitly provide for a dilution zone in the groundwater formation within which the objectives may be exceeded.

## **VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

40 CFR 122.48 requires all NPDES permits to specify recording and reporting of monitoring results. CWC Sections 13267 and 13383 authorize the regional water boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility.

Section 308 of the Clean Water Act and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality, or to determine whether the discharge has reasonable potential to cause, or contribute to an excursion above water quality objectives. The Discharger is responsible for conducting the monitoring and for reporting results on discharge monitoring reports to the Regional Water Board.

**A. Influent Monitoring**

NPDES regulations at 40 CFR 133 define secondary treatment to include 85 percent removal of BOD<sub>5</sub> and TSS during treatment. Monitoring of influent for these pollutant parameters, in addition to effluent, is required to monitor compliance with this standard of performance.

Influent flow monitoring is required to monitor the water balance during treatment, and thereby, monitor seepage/percolation to ground water.

**B. Effluent Monitoring**

The draft MRP includes monitoring of the treated effluent for conventional and non-conventional pollutants prior to discharge to the percolation pond and surface waters to determine compliance with technology-based and water quality-based effluent limitations. The monitoring and reporting of influent and discharge flow is required to demonstrate compliance with mass emission limitations and flow limitations.

**C. Whole Effluent Toxicity Testing Requirements**

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period, and chronic toxicity testing is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. This Order includes effluent limitations and monitoring requirements for acute toxicity; as well as monitoring requirements for chronic toxicity to determine compliance with the Basin Plan's narrative water quality objective for toxicity.

**D. Receiving Water Monitoring**

The draft MRP includes monitoring of the Russian River for conventional pollutants, nutrients, toxic pollutants and acute and chronic toxicity in order to monitor effluent impacts on receiving water quality.

**1. Surface Water**

Compliance with receiving water limitations will be demonstrated by monthly grab samples taken upstream and downstream of the Discharge Point 001 when discharging to the Russian River.

**2. Groundwater**

Routine ground water monitoring is required by Order No. R1-2006-0004. In addition a hydrogeologic study is required to assess whether wastewater pollutants are being

discharged to the Russian River via a hydrologic connection of local ground water to the Russian River.

#### **E. Other Monitoring Requirements – Not Applicable**

This section of the standardized template is not applicable as there are no other monitoring requirements applicable to the City of Cloverdale.

### **VII. RATIONALE FOR PROVISIONS**

#### **A. Standard Provisions**

Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 208(b), 301, 302, 303(d), 304, 306, and 307 of the CWA and amendments thereto are applicable to the Discharger.

#### **B. Special Provisions**

##### **1. Reopener Provisions**

Provision VI.C.1 contains a reopener provision. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include demonstration that the Discharger is causing or significantly contributing to adverse impacts to water quality and/or beneficial uses of receiving waters; new interpretation of water quality objectives of the Basin Plan; or if effluent monitoring or other new information demonstrates reasonable potential for any pollutant or pollutant parameter with applicable water criteria established by the NTR, CTR, or Basin Plan.

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

The Regional Water Board has issued permits allowing seasonal and year-round discharges to percolation ponds adjacent or within stream channels. These discharges are typically regulated as discharges to land and are not held to the same standards as discharges directly to surface waters. These percolation ponds are often sited in permeable gravels and are operated and maintained in order to facilitate wastewater percolation. Over the past few years, staff have identified evidence of pollutants reaching surface water from some of these percolation ponds. The Regional Water Board and USEPA now consider the conveyance or discharge of pollutants to surface water via subsurface pathways (e.g., groundwater or seepage through the soil column) as a discharge to waters of the U.S., subject to all Basin Plan requirements, NPDES permitting requirements pursuant to Section 301 of the CWA, as well as to all waste discharge requirements established by the Regional

Water Board pursuant to Section 13263 of the CWC. In order to comply with applicable regulations, some facilities with percolation ponds adjacent to surface waters may need to implement facility modifications. It is appropriate to provide a reasonable time schedule for the proper evaluation of alternatives and implementation for necessary modifications.

The Discharger's current groundwater monitoring program has been inconclusive in determining if the discharges to the percolation ponds are impacting groundwater or nearby surface water. Further information is necessary to ensure that disposal methods would not result in detectable wastewater constituents in the Russian River; would not result in violation of ground water quality standards; and to determine the ability of the disposal area to accommodate projected wastewater flows over the next 20 years.

Provision VI.C.2.a of this Order requires the Discharger to conduct a hydrogeologic study to determine the fate and transport of pollutants discharged by seepage or percolation from this Facility and/or conduct a study to determine an alternative disposal method to be implemented to assure compliance with the Basin Plan discharge prohibitions identified in Finding II.H of the Order.

Absent a showing that the discharge is in compliance with the Basin Plan discharge prohibitions, the Discharger's next permit renewal will include a time schedule to come into compliance with the Basin Plan discharge prohibitions through the implementation of alternative disposal methods. The Discharger's next Report of Waste Discharge will need to include a plan and time schedule for achieving compliance during the permit term that follows the term of the proposed Order.

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

Provision VI.C.3 is included in Order No. R1-2006-0004 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 effluent at a concentration greater than an applicable effluent limitation.

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

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.a.i. of the permit, is an integral part of a well-operated and maintained facility.

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

The Regional Water Board includes standard provisions in all NPDES permits for municipal wastewater treatment facilities regarding wastewater collection systems, sanitary sewer overflows, source control, sludge handling and disposal, operator certification, and adequate capacity. These provisions assure efficient and satisfactory operation of municipal wastewater collection and treatment systems.

### **a. Wastewater Collection System (Provision VI.C.5.a)**

The USEPA has prepared a draft proposed rule intended to address the control of sanitary sewer overflow from municipal wastewater collection systems. The core requirement in the draft Rule is for proper system management under the framework of “CMOM.” The proposed CMOM (for Capacity, Management, Operations and Maintenance) rule was to be published in the Federal Register by late 2002, after final review by the federal executive branch. The intent of the Rule is to eliminate “preventable” SSOs by requiring entities to implement appropriate capacity, management, operations, and maintenance practices. The permit conditions under the proposed draft rule will be derived from the CWA sections 304(i), 308, and 402(a).

A CMOM program is a structured program for managers of wastewater collection system to optimize system performance and maintain their facilities. CMOM is an iterative process of evaluating and improving procedures for managing collection systems and ensuring system performance. Under USEPA’s draft proposed sanitary sewer overflow (SSO) Rule, collection system utilities must meet five performance standards:

- Properly manage, operate and maintain all parts of the collection system;
- Provide adequate conveyance capacity;
- Reduce the impact of any SSOs;
- Provide notification to parties who may be exposed to a SSO; and
- Document the CMOM program in a written plan.

The State Water Board is moving forward with implementation of the proposed federal rule, but has of yet not promulgated statewide regulations. Nevertheless, proper management of the municipal wastewater collection system is an integral component of a properly operating publicly owned treatment works as required by 40 CFR 122.41 (e). This Order incorporates many of the goals of the EPA’s proposed CMOM program. In addition, entities that comply with the CMOM regulations and have acceptable CMOM programs in place will be better able to assert an affirmative defense for unpreventable SSO incidents, and avoid or mitigate regulatory enforcement actions that will otherwise occur.

**b. Sanitary Sewer Overflows (Provision VI.C.5.b)**

The Permit contains provisions that require development and implementation of a management, operation, and maintenance program for its wastewater collection system and clearly identifies the reporting requirements for sanitary sewer overflows. The goal of these provisions is to ensure appropriate and timely response by the Discharger to sanitary sewer overflows to protect public health and water quality. The Plan also includes provisions to ensure adequate notifications are made to the appropriate local, state, and federal authorities.

**c. Source Control (Provision VI.C.5.c)**

Because the design flow of the Facility is less than 5.0 mgd, the Permit does not require the Discharger to develop a Pretreatment Program that conforms to federal regulations. Due to the identification of the reasonable potential for the priority pollutants copper, cyanide, carbon tetrachloride, chlorodibromomethane, and dichlorobromomethane in the discharge, the proposed Order includes requirements for the development of a Source Identification and Reduction Plan. The Source Identification and Reduction Plan 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 treatment facility, the safety of District staff, and to ensure that pollutants do not pass through the treatment facility to impair the beneficial uses of the receiving water. The proposed Order includes prohibitions for the discharge of pollutants that may interfere, pass through, or be incompatible with treatment operations, interfere with the use or disposal of sludge, or pose a health hazard to personnel. In addition, the proposed Order includes general guidance to develop an effective Pretreatment Program in the event that a Pretreatment Program is necessary.

**d. Solids Disposal and Handling Requirements (Provision VI.C.5.d)**

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, the State Water Board promulgated provisions of Title 27, Division 2, of the CCR, and with the Water Quality Control Plan for Ocean Waters of California (California Ocean Plan). The Discharger has indicated that that all screenings, sludges, and solids removed from the liquid waste stream are currently disposed of at a municipal solid waste landfill in accordance with all applicable regulations.

**e. Operator Certification (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, CCR, Section 3680.

**f. Adequate Capacity (Provision VI.C.5.f.)**

The goal of this provision is to ensure appropriate and timely planning by the Discharger to ensure adequate capacity for the protection of public health and water quality.

**6. Other Special Provisions**

**a. Stormwater (Provision VI.C.6.a)**

This provision requires the Discharger to comply with the State's regulations relating to industrial stormwater activities.

**7. Compliance Schedules**

As allowed by Section 2.1 of the SIP, the Order contains a compliance schedule that the Discharger must follow in order to achieve compliance with final priority pollutant effluent limitations for copper, cyanide, carbon tetrachloride and dichlorobromomethane.

**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 City of Cloverdale wastewater treatment facility. 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 Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through publication in the Press Democrat on January 7, 2006 and May 6, 2006 and through posting on the Regional Water Board's Internet site at <http://www.waterboards.ca.gov/northcoast/agenda/pending.html> beginning on January 6, 2006.

## **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 Officer 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 March 4, 2006.

## **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: **June 29, 2006**  
Time: **9:00 a.m.**  
Location: **Regional Water Board Office, Board Hearing Room**  
**5550 Skylane Boulevard, Suite A**  
**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 must 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 aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

### **E. Information and Copying**

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 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 Cathy Goodwin at (707) 576-2687 or [cgoodwin@waterboards.ca.gov](mailto:cgoodwin@waterboards.ca.gov).

06\_0004\_CloverdaleNPDES\_PermitFactSheet

Attachment F-1  
 City of Cloverdale Reasonable Potential Analysis

Beginning	Constituent name	C (µg/L) Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Step 2		Step 3		Step 5			Final Result	
			Effluent Data Available (Y/N)?	Are all data points non- detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (µg/L)	Enter the pollutant detected max conc (µg/L)	B Available (Y/N)?	Are all B data points non- detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (µg/L)	Enter the pollutant B detected max conc (µg/L)	RPA Result
1	Antimony	6	Y	Y	6		Y	Y	6	No	UD; effluent data and B are ND
2	Arsenic	50	Y	Y	2		Y	Y	1	No	MEC-C & B-C
3	Beryllium	4	Y	Y	1		Y	Y	1	No	Ug;MEC-C & B is ND
4	Cadmium	1.80	Y	Y	1		Y	Y	1	No	Ug;MEC-C & B is ND
5a	Chromium (III)	149.10	Y	N	10	1.5	Y	N	10	No	MEC-C & B-C
5b	Chromium (VI)	11.43	Y	Y	10		Y	Y	10	No	Ug;MEC-C & B is ND
6	Copper	6.63	Y	N	2	13	Y	Y	9	Yes	MEC-C
7	Lead	1.91	Y	Y	2		Y	Y	2	No	UD; effluent data and B are ND
8	Mercury	0.050	Y	N	5	0.0265	Y	N	5	No	MEC-C & B-C
9	Nickel	37.17	Y	Y	10	5.4	Y	Y	10	No	MEC-C & B-C
10	Selenium	5.00	Y	Y	5		Y	Y	5	No	UD; effluent data and B are ND
11	Silver	2.04	Y	Y	10	0.35	Y	Y	10	No	UD; effluent data and B are ND
12	Thallium	1.70	Y	N	10	39	Y	N	1	No	Ug;MEC-C & B is ND
13	Zinc	85.34	Y	Y	17		Y	Y	3	No	MEC-C & B-C
14	Cyanide	5.20	Y	N	0.021		Y	N	3	Yes	B-C
15	Asbestos	7.00	N	Y			N	Y		Yes	no effluent data & no B
16	2,3,7,8 TCDD	0.000000013	N	Y	2		Y	Y	2	No	Ug;MEC-C & B is ND
17	Acrolein	320	Y	Y	2		Y	Y	2	No	UD; effluent data and B are ND
18	Acrylonitrile	0.68	Y	Y	0.3		Y	Y	0.3	No	Ug;MEC-C & B is ND
19	Benzene	0.50	Y	Y	0.5		Y	Y	0.5	Yes	B-C
20	Bromoform	4.30	Y	Y	0.5		Y	Y	0.5	Yes	MEC-C
21	Carbon Tetrachloride	0.25	Y	N	0.5	1.1	Y	Y	0.5	No	Ug;MEC-C & B is ND
22	Chlorobenzene	70.0	Y	Y	0.5		Y	Y	0.5	Yes	MEC-C
23	Chlorodibromomethane	0.41	Y	N			Y	Y	0.5	Yes	MEC-C
24	Chloroethane	No Criteria	Y	N		0.92	Y	Y	0.5	Yes	MEC-C
25	2-Chloroethylvinyl ether	No Criteria	N	N		0.76	Y	Y	0.5	Uo	No Criteria
26	Chloroform	No Criteria	Y	N			N	Y	0.5	Uo	No Criteria
27	Dichlorobromomethane	0.560	Y	N		92	Y	Y	0.5	Uo	No Criteria
28	1,1-Dichloroethane	5.00	Y	Y	0.5	12	Y	Y	0.5	Yes	MEC-C
28	1,2-Dichloroethane	0.38	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
30	1,1-Dichloroethylene	0.057	Y	Y	0.5		Y	Y	0.5	No	UD; effluent data and B are ND
31	1,2-Dichloropropane	0.52	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
32	1,3-Dichloropropylene	0.50	Y	Y	0.5		Y	Y	0.5	No	UD; effluent data and B are ND
33	Ethylbenzene	700.0	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
34	Methyl Bromide	48.0	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
35	Methyl Chloride	No Criteria	Y	N		0.99	Y	Y	0.5	Uo	No Criteria
36	Methylene Chloride	4.70	Y	N		1.4	Y	Y	0.5	No	Ug;MEC-C & B is ND
37	1,1,2,2-Tetrachloroethane	0.170	Y	Y	0.5		Y	Y	0.5	No	UD; effluent data and B are ND
38	Tetrachloroethylene	0.800	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
39	Toluene	150.0	Y	N	0.5	13	Y	Y	0.3	No	Ug;MEC-C & B is ND
40	1,2-Trans-Dichloroethyl	10.0	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
41	1,1,1-Trichloroethane	200.0	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
42	1,1,2-Trichloroethane	0.60	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
43	Trichloroethylene	2.70	Y	Y	0.5		Y	Y	0.5	No	Ug;MEC-C & B is ND
44	Vinyl Chloride	0.50	Y	Y	0.5		Y	Y	0.5	No	UD; effluent data and B are ND

Attachment F-1  
 City of Cloverdale Reasonable Potential Analysis

Beginning	Constituent name	C (ug/L) Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Step 2		Step 3		Step 5			Final Result	
			Effluent Data Available (Y/N)?	Are all data non- detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant effluent detected max conc (ug/L)	B Available (Y/N)?	Are all B data non- detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	RPA Result
45	2-Chlorophenol	120.0	Y	Y	400		Y	Y	100	No	UD; effluent data and B are ND
46	2,4-Dichlorophenol	93.0	Y	Y	400		Y	Y	100	No	UD; effluent data and B are ND
47	2,4-Dimethylphenol	540.0	Y	Y	160		Y	Y	40	No	UD; MEC-C & B is ND
48	2-Methyl-4,6-Dinitrophenol	13.4	Y	Y	400		Y	Y	100	No	UD; effluent data and B are ND
49	2,4-Dinitrophenol	70.0	Y	Y	400		Y	Y	100	No	UD; effluent data and B are ND
50	2-Nitrophenol	No Criteria	Y	Y	800		Y	Y	200	Uo	No Criteria
51	4-Nitrophenol	No Criteria	Y	Y	800		Y	Y	200	Uo	No Criteria
52	3-Methyl 4-Chlorophenol	No Criteria	Y	Y	400		Y	Y	100	No	UD; effluent data and B are ND
53	Pentachlorophenol	0.280	Y	Y	80		Y	Y	20	No	UD; MEC-C & B is ND
54	Phenol	21,000	Y	Y	80		Y	Y	20	No	UD; MEC-C & B is ND
55	2,4,6-Trichlorophenol	2.10	Y	Y	800		Y	Y	200	No	UD; effluent data and B are ND
56	Acenaphthene	1,200	Y	Y	80		Y	Y	20	No	UD; MEC-C & B is ND
57	Acenaphthylene	No Criteria	Y	Y	800		Y	Y	200	Uo	No Criteria
58	Anthracene	9,600	Y	Y	800		Y	Y	200	No	UD; MEC-C & B is ND
59	Benzo(a)Anthracene	0.00012	Y	Y	400		Y	Y	100	No	UD; effluent data and B are ND
60	Benzo(a)Pyrene	0.0044	Y	Y	800		Y	Y	200	No	UD; effluent data and B are ND
61	Benzo(b)Fluoranthene	0.0044	Y	Y	800		Y	Y	200	No	UD; effluent data and B are ND
62	Benzo(k)Fluoranthene	No Criteria	Y	Y	400		Y	Y	100	Uo	No Criteria
63	Benzo(e)Fluoranthene	0.0044	Y	Y	800		Y	Y	200	No	UD; effluent data and B are ND
64	Benzo(f)Fluoranthene	0.0044	Y	Y	800		Y	Y	200	No	UD; effluent data and B are ND
65	Bis(2-Chloroethoxy)Methane	0.031	Y	Y	400		Y	Y	100	Uo	No Criteria
66	Bis(2-Chloroethyl)Ether	1,400	Y	Y	160		Y	Y	40	No	UD; effluent data and B are ND
67	Bis(2-Ethylhexyl)Phthalate	1.80	Y	N	400	4.2	Y	Y	100	Yes	MEC-C
68	4-Bromophenyl Phenyl Ether	No Criteria	Y	Y	400		Y	Y	100	Uo	No Criteria
69	Butylbenzyl Phthalate	3,000	Y	Y	800		Y	Y	200	No	UD; MEC-C & B is ND
70	2-Chloronaphthalene	1,700	Y	Y	800		Y	Y	200	No	UD; MEC-C & B is ND
71	4-Chlorophenyl Phenyl Ether	No Criteria	Y	Y	400		Y	Y	100	Uo	No Criteria
72	4-Chlorophenyl Phenyl Ether	0.0044	Y	Y	800		Y	Y	200	No	UD; effluent data and B are ND
73	Chrysene	0.0044	Y	Y	800		Y	Y	200	No	UD; effluent data and B are ND
74	Dibenz(a,h)Anthracene	0.0044	Y	Y	800		Y	Y	200	No	UD; MEC-C & B is ND
75	1,2-Dichlorobenzene	600.0	Y	Y	0.5		Y	Y	0.5	No	UD; MEC-C & B is ND
76	1,3-Dichlorobenzene	400.0	Y	Y	0.5		Y	Y	0.5	No	UD; MEC-C & B is ND
77	1,4-Dichlorobenzene	5.0	Y	Y	400		Y	Y	100	No	UD; effluent data and B are ND
78	3,3-Dichlorobenzidine	0.040	Y	Y	400		Y	Y	100	No	UD; MEC-C & B is ND
79	Diethyl Phthalate	23,000	Y	Y	160		Y	Y	40	No	UD; MEC-C & B is ND
80	Dimethyl Phthalate	313,000	Y	Y	160		Y	Y	40	No	UD; MEC-C & B is ND
81	Di-n-Butyl Phthalate	2,700	Y	Y	400	3.8	Y	Y	200	No	UD; effluent data and B are ND
82	2,4-Dinitrotoluene	0.110	Y	N	400		Y	Y	100	No	UD; MEC-C & B is ND
83	2,6-Dinitrotoluene	No Criteria	Y	Y	400		Y	Y	100	Uo	No Criteria
84	Di-n-Octyl Phthalate	No Criteria	Y	Y	800		Y	Y	200	Uo	No Criteria
85	1,2-Diphenylhydrazine	0.040	Y	Y	80		Y	Y	20	No	UD; MEC-C & B is ND
86	Fluoranthene	300	Y	Y	800		Y	Y	200	No	UD; MEC-C & B is ND
87	Fluorene	1,300	Y	Y	800		Y	Y	200	No	UD; effluent data and B are ND
88	Hexachlorobenzene	0.00075	Y	Y	80		Y	Y	20	No	UD; MEC-C & B is ND
89	Hexachlorobutadiene	0.440	Y	Y	80		Y	Y	20	No	UD; effluent data and B are ND
90	Hexachlorocyclopentadiene	50.0	Y	Y	400		Y	Y	100	No	UD; effluent data and B are ND

Attachment F-1  
 City of Cloverdale Reasonable Potential Analysis

Beginning	Constituent name	C (ug/L) Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Step 2		Step 3		Step 5			Final Result	
			Effluent Data Available (Y/N)?	Are all data non- detects (Y/N)?	Enter the pollutant detected max conc (ug/L)	B Available (Y/N)?	Are all B data non- detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant B detected max conc (ug/L)	RPA Result	Reason
91	Hexachloroethane	1.900	Y	Y	80	Y	Y	Y	20	No	UD; effluent data and B are ND
92	Indeno(1,2,3-cd)Pyrene	0.0044	Y	Y	800	Y	Y	Y	200	No	UD; effluent data and B are ND
93	Isophorone	8.40	Y	Y	80	Y	Y	Y	20	No	UD; effluent data and B are ND
94	Naphthalene	No Criteria	Y	Y	80	Y	Y	Y	20	Uo	No Criteria
95	Nitrobenzene	17.0	Y	Y	80	Y	Y	Y	20	No	UD; effluent data and B are ND
96	N-Nitrosodimethylamine	0.00069	Y	Y	400	Y	Y	Y	100	No	UD; effluent data and B are ND
97	N-Nitrosodi-n-Propylamine	0.0050	Y	Y	400	Y	Y	Y	100	No	UD; effluent data and B are ND
98	N-Nitrosodiphenylamine	5.0	Y	Y	80	Y	Y	Y	20	No	UD; effluent data and B are ND
99	Phenanthrene	No Criteria	Y	Y	400	Y	Y	Y	100	Uo	No Criteria
100	Pyrene	950.0	Y	Y	800	Y	Y	Y	200	No	U4;MEC-C & B is ND
101	1,2,4-Trichlorobenzene	70.0	Y	Y	400	Y	Y	Y	100	No	UD; effluent data and B are ND
102	Aldrin	0.00013	Y	Y	0.01	Y	Y	Y	0.005	No	UD; effluent data and B are ND
103	alpha-BHC	0.0039	Y	Y	0.01	Y	Y	Y	0.01	No	UD; effluent data and B are ND
104	beta-BHC	0.0140	Y	Y	0.15	Y	Y	Y	0.005	No	UD; effluent data and B are ND
105	gamma-BHC	0.0190	Y	Y	0.01	Y	Y	Y	0.01	No	UD; effluent data and B are ND
106	delta-BHC	No Criteria	Y	Y	0.01	Y	Y	Y	0.005	Uo	No Criteria
107	Chlordane	0.00057	Y	Y	0.25	Y	Y	Y	0.05	No	UD; effluent data and B are ND
108	4,4'-DDT	0.00059	Y	Y	0.01	Y	Y	Y	0.01	No	UD; effluent data and B are ND
109	4,4'-DDE	0.00059	Y	Y	0.02	Y	Y	Y	0.02	No	UD; effluent data and B are ND
110	4,4'-DDD	0.00093	Y	Y	0.02	Y	Y	Y	0.02	No	UD; effluent data and B are ND
111	Dieldrin	0.00014	Y	Y	0.01	Y	Y	Y	0.01	No	UD; effluent data and B are ND
112	alpha-Endosulfan	0.0560	Y	Y	0.03	Y	Y	Y	0.01	No	UD; effluent data and B are ND
113	beta-Endosulfan	0.0560	Y	Y	0.03	Y	Y	Y	0.01	No	UD; effluent data and B are ND
114	Endosulfan Sulfate	110	Y	Y	0.05	Y	Y	Y	0.05	No	U4;MEC-C & B is ND
115	Endrin	0.0360	Y	Y	0.01	Y	Y	Y	0.01	No	U4;MEC-C & B is ND
116	Endrin Aldehyde	0.760	Y	Y	0.01	Y	Y	Y	0.01	No	U4;MEC-C & B is ND
117	Heptachlor	0.00021	Y	Y	0.01	Y	Y	Y	0.01	No	UD; effluent data and B are ND
118	Heptachlor Epoxide	0.00010	Y	Y	0.01	Y	Y	Y	0.01	No	UD; effluent data and B are ND
119-126	PCBs sum	0.00017	Y	Y	2.5	Y	Y	Y	0.5	No	UD; effluent data and B are ND
126	Toxaphene	0.00020	Y	Y	0.5	Y	Y	Y	0.5	No	UD; effluent data and B are ND
	Tributyltin	No Criteria	N					N		Uo	No Criteria

City Of Cloverdale  
 Cloverdale Wastewater Treatment Facility  
 ORDER NO. R1-2006-0004  
 NPDES NO. CA0022977

Attachment F-2  
 Effluent Monitoring Data Used City of Cloverdale Reasonable Potential Analysis

# In CT R	CONSTITUENT	08/13/2002 Receiving Water (ug/L)	08/13/2002 Effluent (ug/L)	04/28/2003 Receiving Water	04/28/2003 Effluent	08/27/2003 Receiving Water	08/27/2003 Effluent	09/27/20 Receiving Water	09/27/20 Effluent	03/18/2004 Receiving Water	03/18/20 Effluent	08/23/2004 Receiving Water	08/23/2004 Effluent	08/23/20 Receiving Water (ug/L)	08/23/20 Effluent (ug/L)	03/24/2005 Receiving Water (ug/L)	03/24/2005 Effluent (ug/L)
5a	Chromium	< 1,400	1,400	62,000	1,500	10	10	10	10	10,000	10	10	10	12,000	10,000	12,000	10,000
6	Copper	< 8,000	8,000	20,000	13,000	4.5	8.8	9,000	8.8	9,000	8.8	9,000	8.8	7,1000	8,30	8,30	12,000
7	Lead	< 2,000	2,000	4,100	1,000	2,000	0.74	2,000	0.82	2,000	0.82	2,000	0.82	2,000	1.10	2,000	2,000
8	Mercury	0.00740	0.01600	0.05230	0.02650	0.00212	0.01020	0.00268	0.01310	0.00268	0.01310	0.0136	0.0252	0.01500	0.01420	0.01500	0.01420
9	Nickel	1,600	5,400	94,000	10,000	10,000	3.2	10,000	2.4	10,000	2.4	10	4,2000	21.00	3,000	3,000	3,000
13	Zinc	2,100	39,000	44,000	31,000	55	36	16,000	37	16,000	37	13,0000	53,0000	17.00	38,000	38,000	38,000
14	Cyanide	< 3,000	17,000	< 3,000	3,000	3,000	2.1	3,000	2.9	3,000	2.9	3,0000	3,0000	3,000	3,000	3,000	3,000
20	Bromoforn	< 0.500	0.500	8,400	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
21	Carbon Tetrachloride	< 0.500	0.490	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
23	Chlorobromomethane	< 0.500	0.920	0.460	0.400	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
26	Chloroforn	< 0.500	92,000	< 0.500	4,100	0.500	5,200	0.500	6,200	0.500	6,200	0.500	13,0000	0.500	0.500	0.500	0.500
27	Dichlorobromomethane	< 0.500	12,000	< 0.500	0.980	0.500	0.600	0.500	0.78	0.500	0.78	0.500	1,8000	0.500	0.500	0.500	0.500
35	Methyl Chloride	< 0.500	0.990	0.500	0.380	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
36	Methylene Chloride	< 0.500	0.250	0.500	0.500	0.500	0.500	0.500	1.4	0.500	1.4	0.500	0.500	0.500	0.500	0.500	0.500
39	Toluene	< 0.300	5,000	< 0.500	0.850	0.500	13	0.500	0.38	0.500	0.38	0.300	3,0000	0.500	0.500	0.500	0.500
68	Bis(2-Ethylhexyl)Phthalate	< 100,000	< 400,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000	< 5,000