



Linda S. Adams  
Secretary for  
Environmental Protection

## California Regional Water Quality Control Board North Coast Region



Arnold Schwarzenegger  
Governor

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**ORDER NO. R1-2006-0049**  
**NPDES NO. CA0022888**

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

<b>Discharger</b>	City of Ukiah
<b>Name of Facility</b>	Ukiah Wastewater Treatment Plant
<b>Facility Address</b>	300 Plant Road
	Ukiah, California 95482-5400
	Mendocino County
The United States Environmental Protection Agency and the California Regional Water Quality Control Board, North Coast Region have classified this discharge as a major discharge.	

The Discharger is authorized to discharge from the following discharge points as set forth below:

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Disinfected tertiary municipal effluent	39 °, 07 ', 07 " N	123 °, 11 ', 28 " W	Russian River
002	Disinfected secondary municipal effluent	----	----	Percolation ponds adjacent to the Russian River

This Order was adopted by the Regional Water Board on:	September 20, 2006
This Order shall become effective on:	November 9, 2006
This Order shall expire on:	November 9, 2011
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, as application for issuance of new waste discharge requirements, not later than:	March 20, 2011

IT IS HEREBY ORDERED, that Order No. 99-65 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the federal Clean Water Act, and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements herein.

I, Catherine Kuhlman, Executive Officer, do hereby certify that the following is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, North Coast Region, on September 20, 2006.

*Catherine Kuhlman*

Catherine Kuhlman, Executive Officer

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
 REGION 1, NORTH COAST REGION**

ORDER NO. R1-2006-0049  
 NPDES NO. CA0022888

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**I. FACILITY INFORMATION**

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

<b>Discharger</b>	City of Ukiah
<b>Name of Facility</b>	Ukiah Wastewater Treatment Plant
<b>Facility Address</b>	300 Plant Road
	Ukiah, California 95482-5400
	Mendocino County
<b>Facility Contact, Title, and Phone</b>	Ann Burck, Project Engineer, 707-463-6286
<b>Mailing Address</b>	411 Clay Street, Ukiah, CA 95482
<b>Type of Facility</b>	Publicly Owned Treatment Works
<b>Facility Design Flow</b>	Current: 2.8 mgd ADWF/7.0 mgd PWWF AWT Upgrade: 3.01 mgd ADWF/6.89 AWWF/24.5 mgd PWWF (secondary)/ 8.0 mgd PWWF AWT

mgd – million gallons per day  
 ADWF – Average Dry Weather Flow  
 AWWF – Average Wet Weather Flow  
 PWWF – Peak Wet Weather Flow  
 AWT – Advanced Wastewater Treatment

## II. FINDINGS

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

- A. **Background.** The City of Ukiah (the Discharger) is currently discharging disinfected, advanced treated wastewater from the City of Ukiah Wastewater Treatment Facility (hereinafter Facility or WWTF) under Order No. 99-65 and National Pollutant Discharge Elimination System (NPDES) Order No. CA0022888, adopted on September 23, 1999. The Discharger submitted a Report of Waste Discharge (ROWD), dated November 30, 2005, and applied to renew its NPDES Order for the Facility to discharge a maximum wet weather flow of 7.0 million gallons per day (mgd) of disinfected, advanced treated wastewater to the Russian River. The Discharger submitted supplemental information to complete the ROWD on February 23, 2006. During the term of the permit, the Discharger will be expanding its wastewater treatment capacity, but will not increase its maximum daily discharge volume to the Russian River.
- B. **Facility Description.** The Discharger owns and operates a municipal wastewater treatment facility and associated collection system and disposal facilities. The Facility is designed to treat an average dry-weather flow (ADWF) of 2.8 million gallons per day and a peak wet weather flow (PWWF) of 7.0 mgd of advanced treated wastewater (AWT). During the term of this Order, the Discharger will be expanding its wastewater treatment capacity to 3.01 mgd (ADWF), 6.89 mgd (average wet weather flow, AWWF), and 24.5 mgd (secondary PWWF). The Facility serves approximately 15,000 residential, commercial, and institutional users in the City of Ukiah and 5,000 residential users served by the Ukiah Valley Sanitation District. The current wastewater treatment system consists of grit removal, primary sedimentation, trickling filters, secondary sedimentation, coagulation, filtration, chlorination, dechlorination, and biosolids digestion and dewatering. Disinfected, tertiary treated wastewater can be discharged from Discharge Point 001 to the Russian River, waters of the United States, as needed during the winter months. Year-round, disinfected secondary wastewater is discharged to percolation ponds adjacent to the Russian River. Biosolids generated during the treatment process are thickened, anaerobically digested and dewatered using a belt filter press. The dewatered biosolids are currently sent to an authorized landfill. Attachment B provides a topographic map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

Storm water that falls northeast of the treatment process area is captured in a basin before it is discharged to surface waters. Storm water that collects in areas around the treatment process is routed to the sludge drying bed (located east of the treatment process area) and returned to the treatment process. Storm water that collects in the remaining part of the WWTF is routed to one of two retention basins before it is discharged to surface waters.

- C. **Legal Authorities.** This Order is issued pursuant to section 402 of the Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental

Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as an NPDES Order for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to CWC Article 4, Chapter 4 for discharges that are not subject to regulation under section 402 of the CWA.

- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the Discharger's application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** This action to reissue an NPDES Order is exempt from the provisions of CEQA (Public Resources Code sections 21100-21177) in accordance with CWC section 13389.
- F. Technology-Based Effluent Limitations.** NPDES regulations at 40 CFR 122.44 (a) require Orders to include applicable technology-based limitations and standards. This Order includes technology-based effluent limitations based on standards for the secondary treatment of wastewater established at 40 CFR Part 133, tertiary treatment or equivalent requirements that meet both the technology-based secondary treatment standards for publicly owned treatment works (POTWs) and protect the beneficial uses of the receiving waters, and/or based on best professional judgment pursuant to section 402 (a) (1) (B) of the CWA. The Regional Water Board has considered the factors listed at 40 CFR 125.3 (c) and (d) for establishing technology-based limitations using best professional judgment. Discussion of the development of the technology-based effluent limitations of this Order is included in the Fact Sheet (Attachment F).
- G. Water Quality-based Effluent Limitations.** Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR section 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.
- H. Water Quality Control Plans.** The Regional Water Board adopted the *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 Basin Plan. 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) Groundwater recharge (GWR) Freshwater replenishment (FRESH) Navigation (NAV) Contact water recreation (REC-1) Non-contact (REC-2) water recreation 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) Native American Culture (CUL)
002	Groundwater	<u>Existing:</u> Municipal and domestic Supply (MUN) Agricultural supply (AGR) Industrial service supply (IND) Native American Culture (CUL) <u>Potential:</u> Industrial process supply (PRO)

The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters 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.

Requirements of this Order specifically implement the applicable water quality control plans, described above.

- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992 and amended it on May 4, 1995 and November 9, 1999. The

CTR was adopted on May 18, 2000 and amended on February 13, 2001. These rules include water quality criteria for the priority pollutants and are applicable to this discharge.

- J. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in its Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP includes procedures for determining the need for and calculating WQBELs, and requires Dischargers to submit data sufficient to do so. A detailed discussion of the basis for CTR effluent limitations is included in the Fact Sheet (Attachment F).
- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES Order. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the Order is issued or reissued, nor may it extend beyond May 18, 2010 to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order includes CTR compliance schedules (section VI.C.7) and interim effluent limitations (section IV.A.2).
- L. Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that the existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F), the permitted discharge is consistent with the antidegradation provision of 40 CFR section 131.12 and State Water Board Resolution 68-16.
- M. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as

stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. Effluent limitations for biological oxygen demand (BOD), total suspended solids (TSS) and copper are less stringent, and effluent limitations for nickel, zinc, and tributyltin have been removed from the Order. As discussed in this Fact Sheet, this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

- N. **Monitoring and Reporting.** NPDES regulations at 40 CFR 122.48 require that all NPDES Orders specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The attached Monitoring and Reporting Program (Attachment E) establishes monitoring and reporting requirements to implement federal and State requirements.
- O. **Standard and Special Provisions.** Standard NPDES provisions, established at 40 CFR 122.41 and 122.42 and applicable to all discharges, must be included in every NPDES Order and are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in the Order is provided in the attached Fact Sheet (Attachment F).
- P. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) accompanying this Order.
- Q. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the public hearing are provided in the attached Fact Sheet (Attachment F).

### III. DISCHARGE PROHIBITIONS

- A. The discharge of any waste not disclosed by the Discharger or not within the reasonable contemplation of the Regional Water Board is prohibited.
- B. Creation of pollution, contamination, or nuisance, as defined by section 13050 of the CWC, is prohibited.
- C. The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c. of this Order (Solids Disposal and Handling Requirements).
- D. The discharge of untreated or partially treated waste from anywhere within the collection, treatment, or disposal facility is prohibited, except as provided for in Prohibition III.E. and Attachment D, Standard Provision I.G. (Bypass).

- E. Any sanitary sewer overflow (SSO) that results in a discharge of untreated or partially treated wastewater to (a) waters of the State, (b) groundwater, or (c) land that creates a pollution, contamination, or nuisance as defined in CWC section 13050(m) is prohibited.
- F. The discharge of waste to land that is not owned by or subject to an agreement for use by the Discharger is prohibited.
- G. The discharge of waste at any point except Discharge Point 001 (the constructed outfall to the Russian River) or 002 (the Facility's percolation ponds), or as authorized by another State Water Board or Regional Water Board Order, is prohibited.
- H. Prior to completion and certification of the Discharger's facility upgrade project, the average daily dry weather flow (ADWF) of waste into the Discharger's Facility in excess of 2.8 mgd, as determined from the lowest consecutive 30-day mean daily flow, is prohibited. After completion and certification of the Discharger's Facility upgrade project, the ADWF of waste into the Discharger's Facility in excess of 3.01 mgd, as determined from the lowest consecutive 30-day mean daily flow, is prohibited.
- I. The discharge of treated wastewater from the wastewater treatment facility to the Russian River or its tributaries is prohibited during the period May 15 through September 30 of each year.
- J. During the period of October 1 through May 14 of each year, discharges of wastewater shall not exceed one percent of the flow of the Russian River. For purposes of this Order, compliance with this discharge rate limitation is determined as follows: 1) the discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of the Russian River as measured near Hopland at USGS Gage No. 11462500, and 2) in no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of the Russian River near Hopland at USGS Gage No. 11462500 in the same calendar month.

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

#### IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

##### A. Effluent Limitations

##### 1. Final Effluent Limitations – Discharge Point 001, Direct Discharge to Russian River

- a. The discharge of advanced treated wastewater, as defined by the numerical limitations below, shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001B as described in the attached Monitoring and Reporting Program (Attachment E). The advanced treated wastewater shall be adequately oxidized, filtered and disinfected as defined in Title 22, Division 4, Chapter 3, California Code of Regulations (CCR).

Parameter	Units	Effluent Limitations				
		Average Monthly <sup>1</sup>	Average Weekly <sup>1</sup>	Maximum Daily <sup>1</sup>	Instantaneous Minimum <sup>1</sup>	Instantaneous Maximum <sup>1</sup>
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	10	15	---	---	---
	lbs/day <sup>2,3</sup> (wet-weather)	580	880	---	---	---
Total Suspended Solids	mg/L	10	15	---	---	---
	lbs/day <sup>2,3</sup> (wet-weather)	580	880	---	---	---
pH	standard units	---	---	---	6.5	8.5
Nitrate (as N)	mg/l	10	---	---	---	---

<sup>1</sup> See Attachment A for definitions

<sup>2</sup> The mass discharge (lbs/day) is obtained from the following calculation for any calendar week or month:

$$\frac{8.34}{N} \sum_i^N Q_i C_i$$

in which N is the number of samples analyzed in any calendar week or month. Q<sub>i</sub> and C<sub>i</sub> are the flow rate (mgd) and the constituent concentration (mg/L), respectively, which are associated with each of the N grab samples, which may be taken in any calendar week or month. If a composite sample is taken, C<sub>i</sub> is the concentration measured in the composite sample; and Q<sub>i</sub> is the average flow rate occurring during the period over which samples are composited.

<sup>3</sup> Mass-based effluent limitations are based on the peak design flow of the AWT filters of 7.0 mgd.

- b. The disinfected, advanced treated wastewater sampled at Monitoring Location M-001A 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 any sample.
- c. Advanced treated disinfected wastewater discharged to the Russian River, sampled at Monitoring Location M-001B, shall not contain detectable levels of total chlorine using an analytical method or chlorine analyzer with a minimum detection level of 0.1 mg/L.
- e. 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))
- f. Effluent shall not contain any measurable settleable solids at Discharge Point 001, as measured at Monitoring Location 001B.
- g. There shall be no acute toxicity in the effluent, as measured at Monitoring Location M-001, when discharging to the Russian River. The Discharger will be considered in compliance with this limitation when the survival of aquatic organisms in a 96-hour bioassay using undiluted effluent 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. R1-2006-0049 in Attachment E.

- h. Priority pollutant effluent limitations. Final priority pollutant effluent limitations shall replace the interim priority pollutant effluent limitations in section IV.A.2., below, on May 18, 2010. During periods of discharge to the Russian River,

representative samples of treated wastewater collected at Monitoring Location M-001B shall not contain constituents in excess of the following limits:

Constituent	Unit	Final Limitations	
		AMEL <sup>1</sup>	MDEL <sup>1</sup>
Copper	µg/L	See Attachment E-1	See Attachment E-1
Dichlorobromomethane	µg/L	0.56	1.1

**2. Interim Effluent Limitations – Discharge Point 001, Direct Discharge to Russian River**

- a. Priority pollutant effluent limitations. Interim priority pollutant effluent limitations shall be effective until May 18, 2010. During periods of discharge to the Russian River, representative samples of treated wastewater collected at Monitoring Location M-001B shall not contain constituents in excess of the following limits:

Constituent	Unit	Interim Limitations	
		AMEL <sup>1</sup>	MDEL <sup>1</sup>
Copper	µg/L	---	30
Dichlorobromomethane	µg/L	0.68	1.1

- b. Nitrate effluent limitations. Interim effluent limitations for nitrate shall be effective until September 20, 2011. During periods of direct discharge to the Russian River, representative samples of treated wastewater collected at Monitoring Location M-001B shall not contain nitrate in excess of the following limits:

Constituent	Unit	Interim Limitations	
		AMEL <sup>1</sup>	MDEL <sup>1</sup>
Nitrate (as N)	mg/l	26.6	---

<sup>1</sup> See Attachment A for definitions

**3. Final Effluent Limitations – Discharge Point 002, Discharge to Evaporation/Percolation Ponds**

- a. The discharge of secondary treated wastewater, as defined by the Facility’s treatment design and the numerical limitations below, shall maintain compliance with the following effluent limitations at Discharge Point 002, with compliance measured at Monitoring Location M-002, as described in the attached Monitoring and Reporting Program (Attachment E). The secondary treated wastewater shall be adequately oxidized and disinfected as defined in Title 22, Division 4, Chapter 3, CCR.

Parameter	Units	Effluent Limitations				
		Average Monthly <sup>1</sup>	Average Weekly <sup>1</sup>	Maximum Daily <sup>1</sup>	Instantaneous Minimum <sup>1</sup>	Instantaneous Maximum <sup>1</sup>
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	30	45	60	---	---
Total Suspended Solids	mg/L	30	45	60	---	---
pH	standard units	---	---	---	6.0	9.0

- b. The disinfected effluent, sampled at Monitoring Location M-002 shall not contain concentrations of total coliform bacteria exceeding the following concentrations:
- i. The median concentrations shall not exceed a Most Probable Number (MPN) of 23 per 100 milliliters, using the bacteriological results of the last seven days for which analyses have been completed.
  - ii. The number of coliform bacteria shall not exceed an MPN of 240 per 100 milliliters in any sample.
- c. 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))

## **B. Land Discharge Specifications**

This section of the standardized Order form is not applicable to the City of Ukiah wastewater treatment facility, as treated wastewater is not discharged or applied to land.

## **C. Reclamation Specifications**

This section of the standardized Order form is not applicable to the City of Ukiah wastewater treatment facility, as treated wastewater is not reclaimed.

## **V. RECEIVING WATER LIMITATIONS**

### **A. Surface Water Limitations**

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. Compliance with receiving water limitations shall be measured at Monitoring Locations R-001A and R-001B as described in the Monitoring and Reporting Program (Attachment E) during periods of discharge to the Russian River. The discharge shall not cause the following conditions in the Russian River:

1. The waste discharge shall not cause the dissolved oxygen concentration of the receiving waters to be depressed below 7.0 mg/l. Additionally, the discharge shall not cause the dissolved oxygen content of the receiving water to fall below 10.0 mg/l more than 50 percent of the time, or below 7.5 mg/l more than 10 percent of the time. In the event that the receiving waters are determined to have dissolved oxygen concentration of less than 7.0 mg/l, the discharge shall not depress the dissolved oxygen concentration below the existing level.
2. The discharge shall not cause the pH of the receiving waters to be depressed below 6.5 nor raised above 8.5. If the pH of the receiving water is less than 6.5, the discharge shall not cause a further depression of the pH of the receiving water. If the pH of the receiving water is greater than 8.5, the discharge shall not cause a further increase in the pH of the receiving water. The discharge shall not cause receiving water pH to change more than 0.5 pH units at any time.
3. The discharge shall not cause the turbidity of the receiving waters to be increased more than 20 percent above naturally occurring background levels.
4. The discharge shall not cause the receiving waters to contain floating materials, including, but not limited to, solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
5. The discharge shall not cause the receiving waters to contain taste or odor producing substances in concentrations that impart undesirable tastes or odors to fish flesh or

- other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
6. The discharge shall not cause coloration of the receiving waters that causes nuisance or adversely affects beneficial uses.
  7. The discharge shall not cause bottom deposits in the receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.
  8. The discharge shall not cause or contribute to receiving water concentrations of biostimulants that promote objectionable aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses of the receiving waters.
  9. The discharge shall not cause the receiving waters to contain 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, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board. [See Order Section IV.A.1.g and Monitoring and Reporting Program section V]
  10. The discharge shall not alter the natural temperature of the receiving waters.
  11. The discharge shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations found in bottom sediments or aquatic life as a result of the discharge. The discharge shall not cause the receiving waters to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Basin Plan.
  12. The discharge shall not cause the receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water that cause nuisance or that otherwise adversely affect beneficial uses.
  13. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with the more stringent standards.
  14. The discharge shall not cause concentrations of chemical constituents to occur in excess of limiting concentrations specified in Table 3-2 of the Basin Plan or in excess

of more stringent MCLs established for these pollutants in Title 22, Division 4, Chapter 15, Articles 4 and 5.5 of the CCR.

## **B. Groundwater Limitations**

1. The collection, storage, and use of wastewater or recycled water shall not cause or contribute to a statistically significant degradation of groundwater quality.
2. The collection, storage, and use of wastewater or recycled water shall not cause alterations of groundwater that result in taste or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

## **VI. PROVISIONS**

### **A. Standard Provisions**

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. **Regional Water Board Standard Provisions**
  - a. **Disinfection Process Requirements.** A minimum chlorine residual of 1.5 mg/L, as measured at Monitoring Location M-002, shall be maintained at the end of the disinfection process.
  - b. **Filtration Process Requirements.** The effluent from the AWT filtration system shall at all times be filtered such that the filtered effluent does not exceed the following specifications prior to discharge to the disinfection unit:
    - i. An average of 2 NTU within a 24-hour period;
    - ii. 5 NTU more than 5 percent of the time within a 24-hour period; and
    - iii. 10 NTU at any time.

### **B. Monitoring and Reporting Program Requirements**

The Discharger shall comply with the Monitoring and Reporting Program (Attachment E of this Order), and future revisions thereto.

### **C. Special Provisions**

#### **1. Reopener**

The Regional Water Board may modify, or revoke and reissue this Order if on-going or future investigations demonstrate that the Discharger governed by this Order is

causing or significantly contributing to adverse impacts to water quality and/or beneficial uses of receiving waters.

In the event that the Regional Water Board’s interpretation of the narrative toxicity objective in the Basin Plan is modified or invalidated by an order of the State Water Board, a court decision, or State or federal statute or regulation, effluent limitations for toxic pollutants established by this Order may be revised to be consistent with the order, decision, statute, or regulation.

The Regional Water Board may reopen this Order within five years of its adoption, if effluent monitoring results 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, Technical Reports and Additional Monitoring Requirements**

a. The Discharger shall comply with one of the following special study requirements in order to assure compliance with the Basin Plan’s discharge prohibitions for the Russian River, described in Discharge Prohibition III.I. of this Order:

i. Hydrogeologic Study

Task	Task Description	Due Date
	The Discharger shall conduct all work under the direction of a California registered engineer or geologist experienced in pollution investigation in accordance with all laws. All necessary permits shall be obtained.	
1	Submit for Executive Officer approval, a workplan for a hydrogeologic study to determine the fate and transport of wastewater pollutants discharged via the Discharger’s percolation ponds. The workplan proposal should be designed to investigate: <ul style="list-style-type: none"> <li>• current and/or projected surveyed elevations of pond features referenced to mean sea level (e.g., pond bottom, peak water surface level) and nearby surface water features (e.g., channel bed, top of bank, seasonal average and maximum water surface elevations);</li> <li>• site specific lithology;</li> <li>• depth to groundwater across seasonal variations;</li> </ul>	Six months following the effective date of this Order

Task	Task Description	Due Date
	<ul style="list-style-type: none"> <li>• seasonal groundwater gradients;</li> <li>• transmissivity of areal soil;</li> <li>• concentration gradients of targeted wastewater constituents measured at various points extending away from the disposal area towards the Russian River. The Discharger may use conservative indicator pollutants for the purpose of this study.</li> </ul> <p>The workplan proposal shall contain milestones and a time schedule for completion of the study. The study time schedule shall be as short as practicable, and in no case, extend beyond three and a half years following the effective date of this Order. The study time schedule shall include provision for the submittal of semi-annual progress reports.</p>	
2	<p>Submit a report describing the findings and conclusions of the hydrogeologic study that models the fate and transport of wastewater pollutants. The report shall include all pertinent information from groundwater monitoring wells used to collect data, including, but not limited to well locations and well logs.</p>	<p>No later than 3.5 years following the effective date of this Order</p>
3	<p>If the Regional Water Board determines that the hydrogeologic study demonstrates that wastewater pollutants discharged to the percolation ponds reach the Russian River, the Discharger shall submit a written proposal to study disposal alternatives to comply with the Basin Plan discharge prohibitions. The study plan shall contain milestones and a time schedule for selection and implementation of an alternative disposal method. The study time schedule shall be as short as practicable. In addition, the Regional Water Board would adopt a cease and desist order with a compliance schedule for achieving compliance with the Basin Plan discharge prohibitions.</p>	<p>No later than 4 years following the effective date of this Order</p>

**OR**

ii. Study to Determine Alternative Disposal Method

<b>Task</b>	<b>Task Description</b>	<b>Due Date</b>
<b>1</b>	Submit a written commitment to modify existing effluent disposal methods in order to ensure compliance with the Basin Plan discharge prohibitions. The commitment shall include a preliminary schedule of tasks necessary to develop a detailed study plan containing milestones and a time schedule for selection and implementation of an alternative disposal method.	Six months following the effective date of this Order
<b>2</b>	Submit a written proposal to study disposal alternatives to comply with the Basin Plan discharge prohibitions. The study plan shall contain milestones and a time schedule for selection and implementation of an alternative disposal method. The study time schedule shall be as short as practicable but no longer than five years from the expiration date of this Order.	No later than 3.5 years following the effective date of this Order

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

a. Pollutant Minimization Program

The Discharger shall, as required by the Executive Officer, prepare a Pollutant Minimization Program in accordance with section 2.4.5.1 of the SIP, when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods included in the permit, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

- i. A sample result is reported as detected and not quantified (DNQ) and the effluent limitation is less than the Reporting Limit (RL); or,
- ii. A sample result is reported as not detected (ND) and the effluent limitation is less than the method detection limit (MDL).

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

- a. The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the Discharger only when necessary to achieve compliance with the conditions of this Order. [40 CFR 122.41(e)]
- b. The Discharger shall maintain an updated Operation and Maintenance (O&M) Manual for the Facility. The Discharger shall update the O&M Manual, as necessary, to conform with changes in operation and maintenance of the Facility. The O&M Manual shall be readily available to operating personnel onsite. The O&M Manual shall include the following.
  - i. Description of the treatment plant, table of organization showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment facility so as to achieve the required level of treatment at all times.
  - ii. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
  - iii. Description of laboratory and quality assurance procedures.
  - iv. Process and equipment inspection and maintenance schedules.
  - v. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Discharger will be able to comply with requirements of this Order.
  - vi. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

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

- a. Wastewater Collection Systems
  - i. Statewide General WDRs for Sanitary Sewer Systems

On May 2, 2006, the State Water Board adopted State Water Board Order 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order 2006-0003-DWQ and any future revisions thereto. Order 2006-0003-DWQ requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDRs within six months. Therefore, **by November 2, 2006**, the Discharger shall apply for coverage under State Water Board Order 2006-0003-DWQ for operation of its wastewater collection system.

In addition to the coverage obtained under Order 2006-0003-DWQ, the Discharger's collection system is also part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR section 122.41(e)], report any non-compliance [40 CFR section 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR section 122.41(d)]. See also Attachment D subsections I.C., I.D., V.E., and V.H.

- ii. Sanitary Sewer Overflows (SSOs)

The written report requirements as specified below in this subsection shall terminate when the Discharger obtains coverage under Order No. 2006-0003-DWQ and commences electronic and/or telefax reporting of sanitary SSOs pursuant to Provision D.15 and General Monitoring and Reporting Requirement G.2 of Order No. 2006-0003-DWQ and Monitoring and Reporting Program No. 2006-0003-DWQ. Oral reporting<sup>1</sup> of SSOs as specified below in this subsection shall continue through the term of this Order.

SSOs shall be reported orally and in writing to the Regional Water Board staff in accordance with the following:

- (a) *SSOs in excess of 1,000 gallons* or any SSO that results in sewage reaching surface waters, or if it is likely that more than 1,000 gallons has escaped the collection system, shall be reported immediately by telephone. A written

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<sup>1</sup> Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the State Office of Emergency Services or the Regional Water Board spill officer.

description of the event shall be submitted with the monthly monitoring report.

(b) *SSOs that result in a sewage spill between 100 gallons and 1,000 gallons that does not reach a waterway shall be reported orally within 24 hours. A written description of the event shall be submitted with the monthly monitoring report.*

(c) Information to be provided orally includes:

- 1) Name and contact information of caller.
- 2) Date, time and location of SSO occurrence.
- 3) Estimates of spill volume, rate of flow, and spill duration.
- 4) Surface water bodies impacted.
- 5) Cause of spill.
- 6) Cleanup actions taken or repairs made.
- 7) Responding agencies.

(d) Information to be provided in writing includes:

- 1) Information provided in verbal notification.
- 2) Other agencies notified by phone.
- 3) Detailed description of cleanup actions and repairs taken.
- 4) Description of actions that will be taken to minimize or prevent future spills.

b. Source Control Provisions

Beginning January 1, 2007, the Discharger shall perform source control functions, to include the following:

- i. Implement the necessary legal authorities to monitor and enforce source control standards, restrict discharges of toxic materials to the collection system and inspect facilities connected to the system.
- ii. If waste haulers are allowed to discharge to the Facility, establish a waste hauler permit system, to be reviewed by the Executive Officer, to regulate waste haulers discharging to the collection system or Facility.
- iii. Conduct a waste survey to identify all industrial dischargers that might discharge pollutants that could pass through or interfere with the operation or performance of the Facility
- iv. Perform ongoing industrial inspections and monitoring, as necessary, to ensure adequate source control.

c. Solids Disposal and Handling Requirements

- i. All collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a municipal solid waste landfill, reused by land application, disposed of in a sludge only landfill, or incinerated in accordance with 40 CFR Parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of Title 27 CCR Division 2. If the Discharger desires to dispose of solids or sludge by a different method, a request for Order modification shall be submitted to the USEPA and the Regional Water Board 180 days prior to the alternative disposal.
- ii. The Discharger shall notify the Regional Water Board Executive Officer at least 60 days prior to the initiation of any disposal project, with the exception of regular disposal of screenings at a permitted landfill.
- iii. All the requirements in 40 CFR 503 are enforceable by USEPA whether or not they are stated in an NPDES Order or other Order issued to the Discharger. The Regional Water Board shall be copied on relevant correspondence and reports forwarded to the USEPA regarding sludge management practices.
- iv. Sludge that is disposed of in a municipal solid waste landfill or used as daily landfill cover shall meet the applicable requirements of 40 CFR 258. In the annual self-monitoring report, the Discharger shall report the amount of sludge placed in a landfill and the landfill(s) which received the sludge.
- v. Sludge that is applied to land as soil amendment shall meet pollutant ceiling concentrations, pathogen reduction and vector attraction reduction requirements, and annual and cumulative discharge limitations of 40 CFR Part 503.
- vi. Sludge that is disposed of through surface disposal, including but not limited to trench systems, area-fill systems, active waste piles, and active impoundments or lagoons, shall meet the applicable requirements of 40 CFR 503. Sludge stored beyond two years may be considered as disposed and regulated as a waste pile or surface impoundment under Title 27 CCR Division 2.
- vii. The Discharger is responsible for ensuring compliance with applicable regulations whether the Discharger uses or disposes of the sludge itself or contracts with another party for further treatment, use, or disposal. The Discharger is responsible for informing subsequent preparers, applicers, and

disposers of the requirements they must meet under 40 CFR Parts 257, 258, and 503.

- viii. The Discharger shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that is likely to adversely affect human health or the environment.
- ix. Solids and sludge treatment, storage, and disposal and reuse shall not create a nuisance, such as objectionable odors and flies, and shall not result in ground water contamination.
- x. Solids and sludge treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas, to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.
- xi. The discharge of sewage sludge and solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the State.

d. Operator Certification

Supervisors and operators of municipal WWTFs shall possess a certificate of appropriate grade in accordance with Title 23, CCR, section 3680. The State Water Board may accept experience in lieu of qualification training. In lieu of a properly certified WWTF operator, the State Water Board may approve use of a water treatment plant operator of appropriate grade certified by the State Department of Health Services where water reclamation is involved.

e. Adequate Capacity

Whenever a WWTF will reach capacity within four years, the Discharger shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press. Factors to be evaluated in assessing reserve capacity shall include, at a minimum, (1) comparison of the wet weather design flow with the highest daily flow, and (2) comparison of the average dry weather design flow with the lowest 30-day flow. The Discharger shall demonstrate that adequate steps are being taken to address the capacity problem. The Discharger shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Water Board, or within 120 days after receipt of Regional Water Board notification, that the WWTF will reach capacity

within four years. The time for filing the required technical report may be extended by the Regional Water Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR Title 23, section 2232]

**6. Stormwater**

For the control of storm water discharged from the site of the wastewater treatment facility, if applicable, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Board’s Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities* (or subsequent renewed permits).

**7. Compliance Schedules**

- a. Interim Requirements and Compliance Schedule for Priority Pollutants and Nitrate

The Discharger shall comply with the following schedules to achieve compliance with final effluent limitations for dichlorobromomethane, copper and nitrate. No later than 14 days following each compliance date, the Discharger shall notify the Regional Water Board, in writing of its compliance with the compliance requirement.

- i. Dichlorobromomethane. During the term of this Order, the Discharger shall complete the following tasks in accordance with the November 30, 2005 Infeasibility Analysis for Dichlorobromomethane and in compliance with the following time schedule to achieve compliance with the final effluent limitations for dichlorobromomethane in section IV.A.1.h.of this Order by May 18, 2010.

Task	Task Description	Compliance Date
1	During periods of discharge to the Russian River, conduct twice monthly sampling of the AWT effluent for dichlorobromomethane utilizing analytical methods with detection limits low enough to determine if dichlorobromomethane is present above the CTR water quality objective. Sampling efforts shall be conducted during the 2006/2007 discharge season and be completed by May 14, 2007. Sampling data shall be submitted with the Discharger’s monthly monitoring reports and in a final summary report to be submitted by July 1, 2007.	July 1, 2007

<b>Task</b>	<b>Task Description</b>	<b>Compliance Date</b>
2	Implement source control efforts for dichlorobromomethane, including a review of vendor product data, sampling and analysis of the Discharger's hypochlorite solution, and possible substitution with an alternative hypochlorite solution.	July 1, 2007
3	Submit semi-annual reports describing the status and effectiveness of the Discharger's source identification and reduction efforts for dichlorobromomethane. The semi-annual reports should propose modifications to the Discharger's source identification and reduction efforts, if modifications are deemed necessary to achieve the goal of compliance with final effluent limitations.	January 1 and July 1 of each year, beginning January 1, 2008
4	If the dichlorobromomethane source control efforts of Task 2 do not result in removal of reasonable potential for dichlorobromomethane, the Discharger shall submit a report to the Executive Officer for approval, describing engineering studies that will be conducted to determine the feasibility of end-of-pipe treatment.	October 1, 2007
5	Submit, for Executive Officer approval, an implementation plan to achieve compliance with the final effluent limitations for dichlorobromomethane.	No later than January 1, 2010
6	Comply with final CTR effluent limitations for dichlorobromomethane.	May 18, 2010

- ii. Copper. During the term of this Order, the Discharger shall complete the following tasks in accordance with the April 11, 2006 Infeasibility Analysis for Copper and in compliance with the following time schedule to achieve compliance with the final effluent limitations for copper in section IV.A.1.h. of this Order by May 18, 2010.

<b>Task</b>	<b>Task Description</b>	<b>Compliance Date</b>
1	During periods of discharge to the Russian River, conduct twice monthly sampling of the WWTF influent and AWT effluent for copper, utilizing analytical methods with detection limits low enough to determine if the copper is present above the CTR water quality objective. Sampling efforts shall be conducted during the 2006/2007 discharge season and be completed by May 14, 2007. Sampling data shall be submitted with the Discharger's monthly monitoring reports and in a final summary report to be submitted by July 1, 2007.	July 1, 2007

Task	Task Description	Compliance Date
2	<p>If the sampling data collected as required by Task 1 indicate that the final AMEL and MDEL cannot be met, the Discharger shall submit, for Executive Officer approval, a plan to sample the collection system to identify potential sources of copper.</p> <p>If this sampling effort is necessary, the Discharger shall submit, for Executive Officer approval, a plan to sample the collection system to identify potential sources of copper. If copper is detected in the collection system at levels that support the determination of reasonable potential, the Discharger shall develop a source identification plan that includes the review of service connections for possible sources of copper, influent sampling, and an outreach program for businesses associated with possible copper contamination. If required, the source identification plan should be submitted to the Executive Officer for approval by September 1, 2007.</p>	July 1, 2007
3	<p>If necessary, in accordance with the Executive Officer approved plan described in Task 2, conduct additional sampling for copper in the collection system to identify potential sources of copper during the dry-season in 2007 (July through October) and submit a report summarizing the results of this additional sampling no later than December 1, 2007.</p>	December 1, 2007
4	<p>If the results of the collection system sampling, identified in Task 3, reveal sources of copper, prepare and submit a source control implementation plan, for Executive Officer approval, and upon approval, initiate implementation of a source control plan for copper.</p>	June 1, 2008
5	<p>If the final AMEL and MDEL for copper cannot be met by improved sampling and analytical procedures and/or source control, the Discharger shall submit a report to the Executive Officer for approval, describing engineering studies that will be conducted to determine the feasibility of end-of-pipe treatment.</p>	March 1, 2008
6	<p>Submit semi-annual reports describing the status and effectiveness of the Discharger's efforts toward compliance with the final copper effluent limitations. The semi-annual reports should propose modifications to the Discharger's plans, if modifications are deemed necessary to achieve the goal of compliance with final effluent limitations.</p>	January 1 and July 1 of each year, beginning January 1, 2008

<b>Task</b>	<b>Task Description</b>	<b>Compliance Date</b>
7	Submit, for Executive Officer approval, an implementation plan to achieve compliance with the final effluent limitations for copper.	No later than January 1, 2010
8	Comply with final CTR effluent limitations for copper.	May 18, 2010

- iii. Nitrate. During the term of this Order, the Discharger shall complete the following tasks in accordance with the June 26, 2006 Infeasibility Analysis for Nitrate and in compliance with the following time schedule to achieve compliance with the final effluent limitations for nitrate in section IV.A.1.a.of this Order by September 20, 2011.

<b>Task</b>	<b>Task Description</b>	<b>Compliance Date</b>
1	Identify drinking water intakes within 5 miles downstream of the WWTF	March 20, 2007
2	Evaluate treatment plant and monitoring data to assure that ammonia is controlled to a level that does not cause toxicity in the discharge to the Russian River. This evaluation shall include a review of the analytical methods used to analyze acute and chronic toxicity in the effluent to ensure that those methods accurately assess the toxicity of the effluent.	September 20, 2007
3	Submit report summarizing evaluation of ammonia data and toxicity analytical methods pursuant to Task 1	December 30, 2007
4	Submit nitrate study workplan for Executive Officer approval	December 30, 2008
5	Evaluate performance of upgraded WWTF with regard to nitrate removals	December 30, 2009
6	Complete nitrate engineering study, including: Russian River nitrate analysis (June 2006-June 2010) New WWTF evaluation (June 2009-December 2009) New WWTF operation modifications evaluation (December 2009-June 2010) New WWTF alternative analysis (if required) (June 2010-September 2010) Mixing Zone Study (if required) (November 2009-June 2010)	October 1, 2010
7	Submit workplan describing an implementation plan for compliance with final nitrate effluent limitations for Executive Officer approval	October 1, 2010
8	Complete design of new facilities for nitrate compliance (if required)	September 20, 2011

## VII. COMPLIANCE DETERMINATION

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

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

When less than daily monitoring is required, the monthly average shall be determined by summing the daily values and dividing by the number of days during the calendar month when monitoring occurred. If only one sample is collected in a calendar month, the value of the single sample shall constitute the monthly average.

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. For purposes of Mandatory Minimum Penalties, a violation of an AMEL will be considered as one violation. Depending on the nature of the violation, the Regional Water Board may, however, pursue discretionary civil penalties for the remaining days of violation. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

### B. Average Weekly Effluent Limitation (AWEL).

When less than daily monitoring is required, the weekly average shall be determined by summing the daily values and dividing by the number of days during the calendar week when monitoring occurred. If only one sample is collected in a calendar week, the value of the single sample shall constitute the weekly average. For any one calendar week during which no sample is taken, no compliance determination can be made for that calendar week.

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in seven days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. For purposes of Mandatory Minimum Penalties, a violation of an AWEL will be considered as one violation. Depending on the nature of the violation, the Regional Water Board may, however, pursue discretionary civil penalties for the remaining days of violation. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL,

the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

C. Maximum Daily Effluent Limitation (MDEL).

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period. For any 1 day during which no sample is taken, no compliance determination can be made for that day.

D. Instantaneous Minimum Effluent Limitation.

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

E. Instantaneous Maximum Effluent Limitation.

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

F. Compliance with Single-Constituent Effluent Limitations.

The discharge is out of compliance with the effluent limitation if the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML). The ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specific sample weights, volumes and processing steps have been followed.

G. Compliance with Effluent Limitations Expressed as a Sum of Several Constituents.

The discharge is out of compliance with an effluent limitation that applies to the sum of a group of chemicals (e.g., PCBs) if the sum of the individual pollutant concentrations is

greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as non-detect (ND) or Detected, but Not Quantified (DNQ).

#### H. Multiple Sample Data Reduction.

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of the central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported ML). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

## **ATTACHMENT A – DEFINITIONS**

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

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

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

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

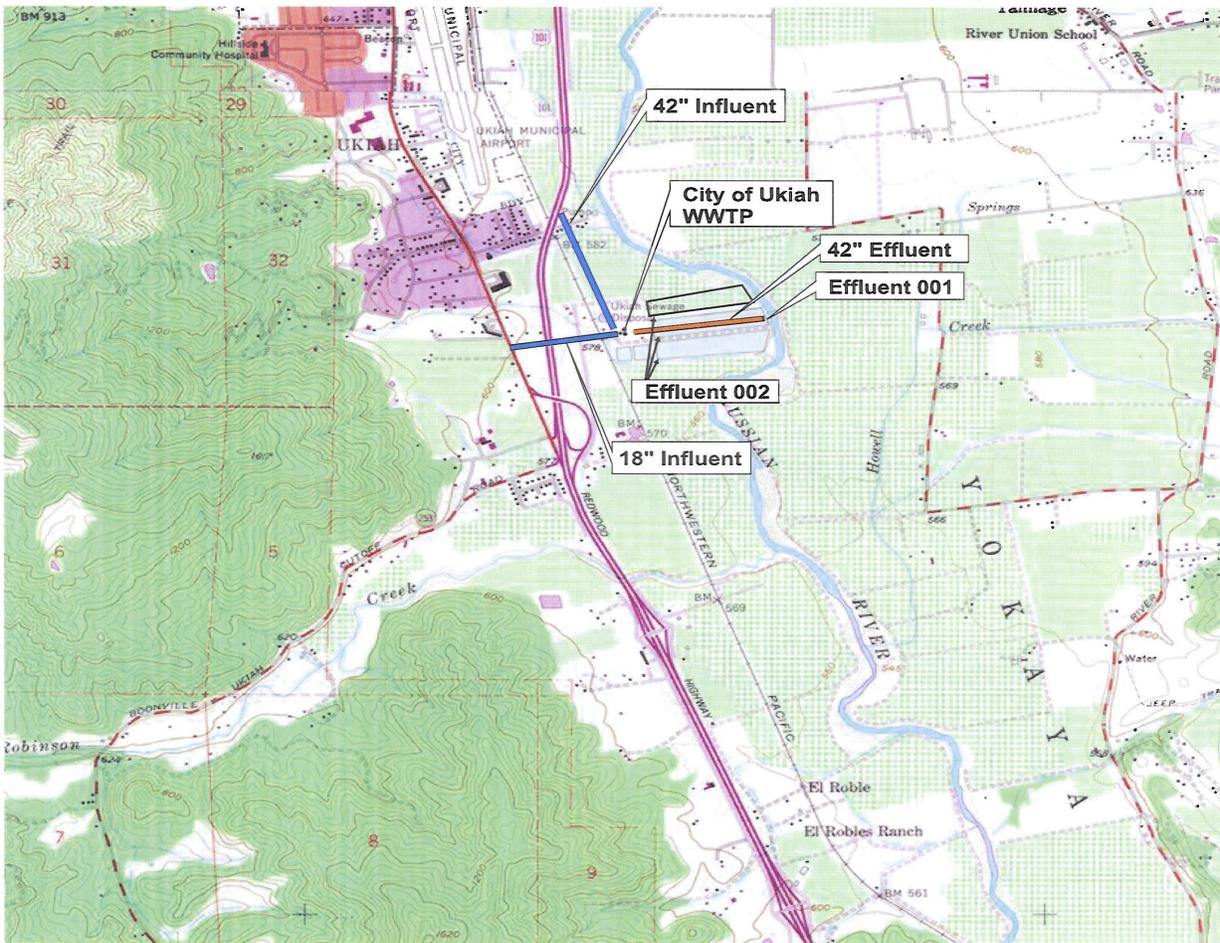
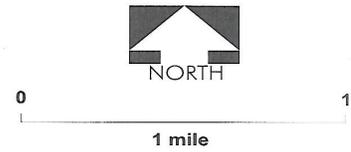
For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

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

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

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

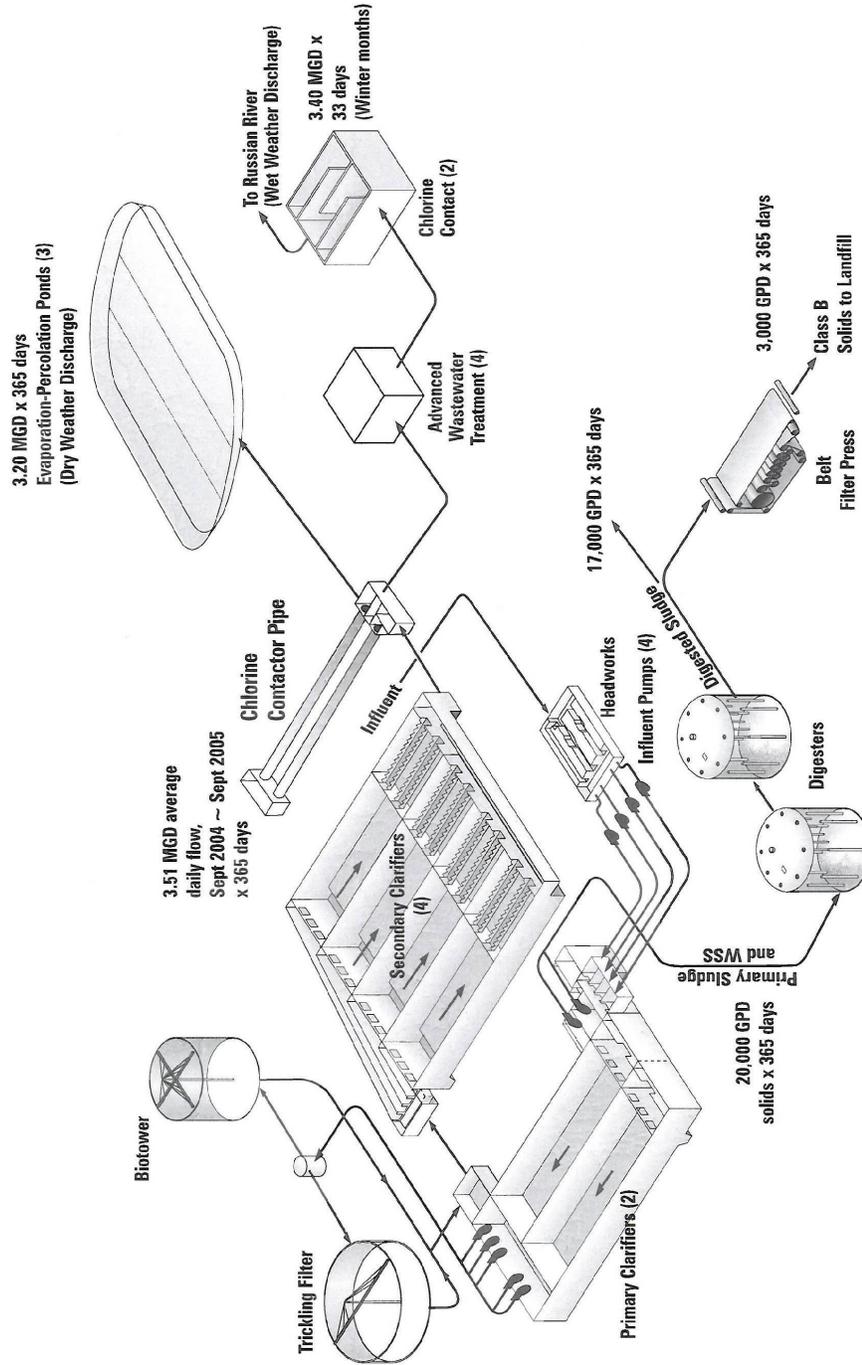
**ATTACHMENT B – TOPOGRAPHIC MAP**



**Figure 6 Topographic Map**

125804-850

**ATTACHMENT C – FLOW SCHEMATIC**



Attachment C City of Ukiah Flow Schematic (Existing Plant)

## **ATTACHMENT D – FEDERAL STANDARD PROVISIONS**

### **I. STANDARD PROVISIONS – ORDER COMPLIANCE**

#### **A. Duty to Comply**

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for Order termination, revocation and reissuance, or denial of an Order renewal application [40 *CFR* §122.41(a)].
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [40 *CFR* §122.41(a)(1)].

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

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

#### **C. Duty to Mitigate**

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

#### **D. Proper Operation and Maintenance**

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

#### **E. Property Rights**

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

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

#### **F. Inspection and Entry**

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [40 CFR §122.41(i)(1)];
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [40 CFR §122.41(i)(2)];
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [40 CFR §122.41(i)(3)];
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [40 CFR §122.41(i)(4)].

#### **G. Bypass**

1. Definitions
  - a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility [40 CFR §122.41(m)(1)(i)].
  - b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [40 CFR §122.41(m)(1)(ii)].
2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the

- provisions listed in Standard Provisions – Order Compliance I.G.3 and I.G.5 below [40 CFR §122.41(m)(2)].
3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [40 CFR §122.41(m)(4)(i)]:
    - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [40 CFR §122.41(m)(4)(A)];
    - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [40 CFR §122.41(m)(4)(B)]; and
    - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Order Compliance I.G.5 below [40 CFR §122.41(m)(4)(C)].
  4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Order Compliance I.G.3 above [40 CFR §122.41(m)(4)(ii)].
  5. Notice
    - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [40 CFR §122.41(m)(3)(i)].
    - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [40 CFR §122.41(m)(3)(ii)].

## **H. Upset**

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based Order effluent limitations if the requirements of paragraph H.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [40 CFR §122.41(n)(2)].
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR §122.41(n)(3)]:
  - a. An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR §122.41(n)(3)(i)];
  - b. The Permitted facility was, at the time, being properly operated [40 CFR §122.41(n)(3)(i)];
  - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [40 CFR §122.41(n)(3)(iii)]; and
  - d. The Discharger complied with any remedial measures required under Standard Provisions – Order Compliance I.C above [40 CFR §122.41(n)(3)(iv)].
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [40 CFR §122.41(n)(4)].

## II. STANDARD PROVISIONS – ORDER ACTION

### A. General

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

### B. Duty to Reapply

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

### **C. Transfers**

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

### **III. STANDARD PROVISIONS – MONITORING**

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR §122.41(j)(1)].
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

### **IV. STANDARD PROVISIONS – RECORDS**

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR §122.41(j)(2)].
- B. Records of monitoring information shall include:
  - 1. The date, exact place, and time of sampling or measurements [40 CFR §122.41(j)(3)(i)];
  - 2. The individual(s) who performed the sampling or measurements [40 CFR §122.41(j)(3)(ii)];
  - 3. The date(s) analyses were performed [40 CFR §122.41(j)(3)(iii)];
  - 4. The individual(s) who performed the analyses [40 CFR §122.41(j)(3)(iv)];
  - 5. The analytical techniques or methods used [40 CFR §122.41(j)(3)(v)]; and
  - 6. The results of such analyses [40 CFR §122.41(j)(3)(vi)].

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

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

## V. STANDARD PROVISIONS – REPORTING

### A. Duty to Provide Information

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

### B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with paragraph (2.) and (3.) of this provision [40 CFR §122.41(k)].
2. All Order applications shall be signed as follows:
  - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for Order application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [40 CFR §122.22(a)(1)];
  - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [40 CFR §122.22(a)(2)]; or

- c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [40 CFR §122.22(a)(3)].
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph (b) of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a. The authorization is made in writing by a person described in paragraph (2.) of this provision [40 CFR §122.22(b)(1)];
  - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [40 CFR §122.22(b)(2)]; and
  - c. The written authorization is submitted to the Regional Water Board, State Water Board, or USEPA [40 CFR §122.22(b)(3)].
4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, State Water Board or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].
5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

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

### C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [40 CFR §122.41(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices [40 CFR §122.41(l)(4)(i)].
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [40 CFR §122.41(l)(4)(ii)].
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [40 CFR §122.41(l)(4)(iii)].

### D. Compliance Schedules

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

### E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided **orally within 24 hours** from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [40 CFR §122.41(l)(6)(i)].
2. The following shall be included as information that must be reported within 24 hours under this paragraph [40 CFR §122.41(l)(6)(ii)]:
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(A)].

- b. Any upset that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(B)].
  - c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [40 CFR §122.41(l)(6)(ii)(C)].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [40 CFR §122.41(l)(6)(iii)].

#### **F. Planned Changes**

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

1. The alteration or addition to a Permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [40 CFR §122.41(l)(1)(i)]; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [40 CFR §122.41(l)(1)(ii)].
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of Order conditions that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the Order application process or not reported pursuant to an approved land application plan [40 CFR §122.41(l)(1)(iii)].

#### **G. Anticipated Noncompliance**

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

#### **H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.2 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above [40 CFR §122.41(l)(7)].

## **I. Other Information**

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

## **VI. STANDARD PROVISIONS – ENFORCEMENT**

- A. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any Order condition or limitation implementing any such sections in a Order issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a Order issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any Order condition or limitation implementing any of such sections in a Order issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions [40 CFR §122.41(a)(2)] [CWC 13385 and 13387].
- B. Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any Order condition or limitation implementing any of such sections in a Order issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for

Class II violations are not to exceed \$10,000 per day for each day, during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000 [40 CFR §122.41(a)(3)].

- C. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both [40 CFR §122.41(j)(5)].
- D. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Order, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both [40 CFR §122.41(k)(2)].

## **VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

### **A. Non-Municipal Facilities**

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [40 CFR §122.42(a)]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [40 CFR §122.42(a)(1)]:
  - a. 100 micrograms per liter (µg/L) [40 CFR §122.42(a)(1)(i)];
  - b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(1)(ii)];
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(1)(iii)]; or
  - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(1)(iv)].
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order,

if that discharge will exceed the highest of the following “notification levels” [40 *CFR* §122.42(a)(2)]:

- a. 500 micrograms per liter (µg/L) [40 *CFR* §122.42(a)(2)(i)];
- b. 1 milligram per liter (mg/L) for antimony [40 *CFR* §122.42(a)(2)(ii)];
- c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 *CFR* §122.42(a)(2)(iii)]; or
- d. The level established by the Regional Water Board in accordance with 40 *CFR* §122.44(f) [40 *CFR* §122.42(a)(2)(iv)].

**B. Publicly-Owned Treatment Works (POTWs)**

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

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

**ATTACHMENT E – MONITORING AND REPORTING PROGRAM – TABLE OF CONTENTS**

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**ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

NPDES regulations at section 122.48 of 40 CFR require that all NPDES Orders specify monitoring and reporting requirements. Sections 13267 and 13383 of the CWC also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and State regulations.

**I. GENERAL MONITORING PROVISIONS**

- A. Wastewater Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.
- B. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved by 40 CFR Part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the monthly and annual discharger monitoring reports.
- C. Laboratories analyzing monitoring samples shall be certified by the State Department of Health Services, in accordance with the provision of the California Water Code (CWC), section 13176 and must include quality assurance/quality control data with the reports.

**II. MONITORING LOCATIONS**

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

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	M-INF	Untreated wastewater influent collected at the plant headworks, at a representative point preceding primary treatment
001	M-001T	Treated wastewater immediately following the AWT process
001	M-001A	A representative point immediately following disinfection but prior to dechlorination
001	M-001B	Treated wastewater after dechlorination and before effluent contacts receiving water
002	M-002	A representative point following full treatment and disinfection but prior to discharge to percolation ponds
---	R-001A	Russian River, upstream beyond influence of the discharge
---	R-001B	Russian River surface water at the point of discharge or other location approved by the Executive Officer
---	GW-01, GW-02, GW-03	Groundwater Monitoring Wells

### III. INFLUENT MONITORING REQUIREMENTS

#### A. Monitoring Location M-INF

1. The Discharger shall monitor influent to the facility Monitoring Location M-INF as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	24-hour composite	weekly	Standard Methods <sup>1</sup>
Total Suspended Solids	mg/L	24-hour composite	weekly	Standard Methods
Settleable Solids	ml/L	grab	weekly	Standard Methods
Maximum Daily Flow	mgd	meter	continuous	Meter
Mean Daily Flow	mgd	meter	continuous	Meter

### IV. EFFLUENT MONITORING REQUIREMENTS

#### A. Monitoring Location M-001 (Effluent Monitoring Prior to Discharge to Russian River)

1. The Discharger shall monitor advanced treated wastewater at Monitoring Location M-001T during periods of discharge to the Russian River as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Turbidity <sup>2</sup>	NTU	meter	continuous	Standard Methods

2. The Discharger shall monitor disinfected advanced treated wastewater at Monitoring Location M-001A during periods of discharge to the Russian River as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Coliform Organisms	MPN/100 ml	grab	weekly	Standard Methods
Chlorine Residual <sup>3</sup>	mg/L	grab	daily	Standard Methods

3. The Discharger shall monitor disinfected advanced treated wastewater at Monitoring Location M-001B during periods of discharge to the Russian River as follows:

<sup>1</sup> In accordance with current edition of *Standard Methods for the Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 CFR Part 136.

<sup>2</sup> The daily maximum and 95<sup>th</sup> percentile turbidity results shall be reported on the monthly monitoring reports.

<sup>3</sup> Chlorine residual monitoring at Monitoring Location M-001A shall demonstrate that a chlorine residual is present after chlorination.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L and lb/day	24-hour composite	weekly	Standard Methods
Total Suspended Solids	mg/L and lb/day	24-hour composite	weekly	Standard Methods
Settleable Solids	ml/L	grab	daily	Standard Methods
Hydrogen Ion	pH Units	grab	daily	Standard Methods
Chlorine Residual <sup>1</sup>	mg/L	meter	continuous	Standard Methods
Maximum Daily Flow	mgd	metered	continuous	Meter
Mean Daily Flow	mgd	metered	continuous	Meter
Acute Toxicity Bioassay	96-hour percent survival or TUa	grab	monthly	See Acute Toxicity Monitoring Requirements in section V.A. Below
Chronic Toxicity Bioassay	TUc	composite	Once a year	See Chronic Toxicity Monitoring Requirements in section V.B. Below
Turbidity	NTU	grab	daily	Standard Methods
Dissolved Oxygen	mg/L	grab	weekly	Standard Methods
Temperature	°C	grab	daily	Standard Methods
Ammonia Nitrogen	mg/L	grab	weekly	Standard Methods
Unionized Ammonia	mg/L	calculation	weekly	Standard Methods
Nitrate Nitrogen	mg/L	grab	weekly	Standard Methods
Total Phosphorus	mg/L	grab	weekly	Standard Methods
Copper <sup>2</sup>	µg/L	24-hour composite	monthly	Standard Methods
Chlorodibromomethane <sup>2</sup>	µg/L	grab	monthly	Standard Methods
Dichlorobromomethane <sup>2</sup>	µg/L	grab	monthly	Standard Methods
Bromoform <sup>2</sup>	µg/L	grab	monthly	Standard Methods
Chloroform <sup>2</sup>	µg/L	grab	monthly	Standard Methods
CTR Priority Pollutants <sup>2</sup>	ug/l	24-hour composite/grab <sup>3</sup>	Every five years	Standard Methods
Discharge Dilution Rate	%	calculation	daily	

<sup>1</sup> Chlorine residual monitoring at Monitoring Location M-001B shall demonstrate that the disinfected, advanced treated effluent has been properly dechlorinated prior to discharge to the Russian River.

<sup>2</sup> For priority pollutants, the methods must meet the lowest minimum level (ML) specified in Attachment 4 of the SIP. In accordance with Section 2.4 of the SIP, the Discharger shall report the ML and MDL for each sample result. Where no methods are specified for a given pollutant, the Discharger shall use methods approved by the Regional Water Board. The laboratory's current MDL shall be determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999).

<sup>3</sup> 24-hour composite samples shall be collected for all constituents, except for those constituents that are volatile and or require grab sampling for other reasons (e.g., ultraclean sample collection methods required). The priority pollutant monitoring report shall document the sampling method used for each constituent and justify the use of grab sampling for specific constituents (e.g., volatile, ultraclean method required, etc.)

**B. Monitoring Location M-002 (Effluent Monitoring Prior to Discharge to Percolation Ponds)**

1. The Discharger shall monitor the disinfected treated effluent at Monitoring Location M-002 during periods of discharge to the percolation ponds as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20° C, 5-day)	mg/L	24-hour composite	weekly	Standard Methods
Total Suspended Solids	mg/L	24-hour composite	weekly	Standard Methods
Hydrogen Ion	pH Units	grab	daily	Standard Methods
Total Coliform Organisms	MPN/100 ml	grab	weekly	Standard Methods
Chlorine Residual <sup>1</sup>	mg/L	grab	daily	Standard Methods
Maximum Daily Flow	mgd	metered	continuous	Meter
Mean Daily Flow	mgd	metered	continuous	Meter

**V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS**

**A. Acute Toxicity Control**

1. Test Species and Methods
  - a. During the first discharge season after adoption of this Order, the Discharger shall conduct 96-hour static renewal tests with an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, the rainbow trout, *Oncorhynchus mykiss*, for at least two suites of tests. At least one test during the screening period shall be conducted when the effluent is unaffected by storm-related inflow into the WWTF. After this screening period, monitoring shall be conducted using the most sensitive species determined for the given flow regime. At least once every five years, the Discharger shall re-screen once with the two species listed above and continue to monitor monthly with the most sensitive species.
  - b. The presence of acute toxicity shall be estimated as specified in Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (USEPA Report No. EPA-821-R-02-012, 5th edition or subsequent editions), or other methods approved by the Executive Officer.

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<sup>1</sup> Chlorine residual monitoring at Monitoring Location M-002 shall demonstrate that a chlorine residual is present after chlorination.

## 2. Definition of Toxicity Limits

- a. Acute toxicity is defined as the effluent concentration that would cause death in 50 percent of the test organisms (LC50). Where the LC50 is calculated, results shall be reported in TUa, where  $TUa = 100/LC50$  (in percent effluent).
- b. Acute toxicity is significantly reduced survival at 100 percent effluent compared to a control, using a t-test. Where 100 percent effluent is used, results shall be reported as percent survival.
- c. If the result of any single acute toxicity test does not comply with the acute toxicity effluent limitation, the Discharger shall take two more samples, one within 14 days, and one within 21 days of receiving the sample results. If two of the three samples do not comply with the acute toxicity limitation, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with section V.C., below. If the two additional samples are in compliance with the acute toxicity requirement, then a TRE will not be required. If the discharge has ceased before the additional samples could be collected, the Discharger shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the acute toxicity effluent limitation.

### **B. Chronic Toxicity Control**

1. In addition to results from acute toxicity tests, compliance with the Basin Plan narrative toxicity objective shall be demonstrated according to the following tiered requirements based on results from representative samples of the treated effluent:
  - a. Routine monitoring;
  - b. Accelerate monitoring after exceeding a three sample median value of 1.0 TUc or a single sample maximum of 2.0 TUc;
  - c. Return to routine monitoring if accelerated monitoring does not exceed either “trigger” in “b”;
  - d. Initiate approved TRE workplan and continue accelerated monitoring if monitoring confirms consistent toxicity above either “trigger” in “b”;
  - e. Return to routine monitoring after appropriate elements of TRE workplan are implemented and toxicity drops below “trigger” levels in “b”, or as directed by the Executive Officer.

## 2. Test Species and Methods

- a. The Discharger shall conduct short-term chronic toxicity tests with the water flea, *Ceriodaphnia dubia* (survival and reproduction test), the fathead minnow, *Pimephales promelas* (larval survival and growth test), and the green alga, *Selenastrum capricornutum* (growth test) for the first two suites of tests. At least one test during the screening period shall be conducted when the effluent is unaffected by storm-related inflow into the WWTF. After this screening period, monitoring shall be conducted using the most sensitive species. At least once every five years, the Discharger shall re-screen once with the three species listed above and continue to monitor with the most sensitive species.
- b. The presence of chronic toxicity shall be estimated as specified in USEPA's Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms (USEPA Report No. EPA-821-R-02-013, 4<sup>th</sup> or subsequent editions).

## 3. Definition of Toxicity Limits

- a. Chronic toxicity measures both mortality and a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms.
- b. Results shall be reported in TUC, where  $TUC = 100/NOEC$  (in percent effluent). Results shall be reported for both mortality and the appropriate sublethal effect.

## 4. Quality Assurance

- a. A series of at least five dilutions and a control will be tested. The series shall consist of the following dilution series: 12.5, 25, 50, 75, and 100 percent effluent.
- b. If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
- c. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified by EPA-821-R-02-013, 4<sup>th</sup> or subsequent editions, then the Discharger must re-sample and re-test within 14 days or as soon as possible.
- d. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

5. Accelerated Testing for Toxicity

- a. If the initial investigation indicates the source of toxicity (for instance, a temporary plant upset), then only one additional test is necessary. If chronic toxicity is detected in this test, then this section shall apply.
- b. If chronic toxicity is detected, then the Discharger shall conduct two more tests, one test conducted approximately every two weeks, over a four-week period. Testing shall commence within two weeks of receipt of the sample results of the exceedance of the toxicity monitoring trigger.
- c. The Discharger may return to routine monitoring after appropriate elements of the TRE workplan are implemented and toxicity drops below trigger levels in B.1.b., above, or as directed by the Executive Officer.

6. Reporting for Toxicity Tests

- a. Test results for chronic toxicity tests shall be reported according to EPA-821-R-02-013, 4<sup>th</sup> or subsequent editions, Chapter 10 (Report Preparation) and the Monitoring and Reporting Program and shall be attached to the self-monitoring report.
- b. The Discharger shall notify the Regional Water Board in writing within 14 days after the receipt of test results exceeding an effluent limitation or trigger. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons for such inaction shall be given.

**C. Toxicity Reduction Evaluations (TREs)**

1. The Discharger shall prepare and submit to the Regional Water Board Executive Officer a TRE workplan within 180 days of the effective date of this Order. This plan shall be reviewed and updated as necessary in order to remain current and applicable to the discharge and discharge facilities. The workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at least the following items.
  - a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
  - b. A description of the facility's methods of maximizing in house treatment efficiency and good housekeeping practices.

- c. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in house expert or an outside contractor).
2. The TRE shall be conducted in accordance with the following.
    - a. The TRE shall be initiated within 30 days of the date of completion of the accelerated monitoring test observed to exceed either the acute or chronic toxicity parameter.
    - b. The TRE shall be conducted in accordance with the Discharger's workplan.
    - c. The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the USEPA manual EPA/833B-99/002. The TRE shall be conducted as a tiered evaluation process, as summarized below:
      - i. Tier 1 consists of basic data collection (routine and accelerated monitoring).
      - ii. Tier 2 consists of the evaluation of treatment plant optimization including operational practices and in-plant process chemicals.
      - iii. Tier 3 consists of a toxicity identification evaluation (TIE).
      - iv. Tier 4 consists of the evaluation of options for additional treatment processes.
      - v. Tier 5 consists of the evaluation of options for modifications of in-plant treatment processes.
      - vi. Tier 6 consists of the implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.
    - d. The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity.
    - e. The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. As guidance, the Discharger shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F(Phase I), EPA/600/R-92/080(Phase II), and EPA-600/R-92/081 (Phase III).
    - f. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the source(s) and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with chronic toxicity parameters.

- g. Many recommended TRE elements accompany required efforts of source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. To prevent duplication of efforts, evidence of complying with requirements of recommendations of such programs may be acceptable to comply with requirements of the TRE.
- h. The Regional Water Board recognizes that chronic toxicity may be episodic and identification of a reduction of sources of chronic toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based in part on the Discharger’s actions and efforts to identify and control or reduce sources of consistent toxicity.

**VI. LAND DISCHARGE MONITORING REQUIREMENTS**

This section of the standardized Order form is not applicable to the City of Ukiah wastewater treatment facility, as discharges to land are not addressed by this Order.

**VII. RECLAMATION MONITORING REQUIREMENTS**

This section of the standardized Order form is not applicable to the City of Ukiah wastewater treatment facility, as discharges to land are not addressed by this Order.

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

**A. Surface Water Monitoring Locations R-001A and R-001B**

- 1. The Discharger shall monitor the Russian River at Monitoring Locations R-001A and R-001B, upstream and downstream of the discharge point, respectively, as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
BOD (20°C, 5-day)	mg/L	grab	weekly	Standard Methods
Total Suspended Solids	mg/L	grab	weekly	Standard Methods
Dissolved Oxygen	mg/L	grab	weekly	Standard Methods
Hydrogen Ion	pH Units	grab	weekly	Standard Methods
Turbidity	NTU	grab	weekly	Meter
Nitrate Nitrogen	mg/L	grab	weekly	Standard Methods
Ammonia Nitrogen	mg/L	grab	weekly	Standard Methods
Total Phosphorus	mg/L	grab	weekly	Standard Methods
Stream Flow	mgd	Flow gage reading	daily	
Dilution	% of stream flow	calculation	daily	
Temperature	°C	grab	weekly	Standard Methods

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hardness (CaCO <sub>3</sub> )	mg/L	grab	monthly	Standard Methods
Copper <sup>1</sup>	µg/L	grab	monthly	Standard Methods
Dichlorobromomethane <sup>1</sup>	µg/L	grab	monthly	Standard Methods
CTR Priority Pollutants <sup>1</sup>	ug/l	grab	Every five years	Standard Methods

## B. Ground Water Monitoring

1. Groundwater wells 1, 2, and 3 shall be sampled for the following parameters:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Hydrogen Ion	pH Units	grab	Semi-annually	Standard Methods
Chloride	mg/L	grab	Semi-annually	Standard Methods
Total Dissolved Solids	mg/L	grab	Semi-annually	Standard Methods
Nitrate Nitrogen	mg/L	grab	Semi-annually	Standard Methods
Depth to Groundwater	feet	measurement	Semi-annually	---

2. Ground Water Study. If applicable, the Discharger shall conduct additional groundwater and surface water monitoring in accordance with section VI. A. 2 of Order No. R1-2006-0049 to determine the fate of pollutants discharged to the percolation ponds. All chemical analyses performed for such a study shall adhere to methods established at 40 CFR 136.

## IX. OTHER MONITORING REQUIREMENTS

This section of the standardized Monitoring and Reporting Plan is not applicable to the City of Ukiah wastewater treatment facility.

## X. REPORTING REQUIREMENTS

### A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Regional Water Board, on or before each compliance due date, the specified document or a written report detailing compliance

<sup>1</sup> For priority pollutants, the methods must meet the lowest minimum level (ML) specified in Attachment 4 of the SIP. In accordance with Section 2.4 of the SIP, the Discharger shall report the ML and MDL for each sample result. Where no methods are specified for a given pollutant, the Discharger shall use methods approved by the Regional Water Board. The laboratory's current MDL shall be determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999).

or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the compliance time schedule.

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

1. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports (SMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs in accordance with the requirements described below. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule.

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	November 9, 2006	All	First day of second calendar month following month of sampling
Hourly	November 9, 2006	Hourly	First day of second calendar month following month of sampling
Daily	November 9, 2006	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling
Weekly	November 12, 2006 (Sunday following permit effective date)	Sunday through Saturday	First day of second calendar month following month of sampling

<b>Sampling Frequency</b>	<b>Monitoring Period Begins On...</b>	<b>Monitoring Period</b>	<b>SMR Due Date</b>
Monthly	December 1, 2006 (First day of calendar month following permit effective date)	1 <sup>st</sup> day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Annually	January 1, 2007	January 1 through December 31	February 1 of each year
Once during Order term	January 1, 2007	Between October 1, 2009 and May 14, 2010	Sampling data to be submitted with ROWD due by January 21, 2011

4. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

5. SMR Content and Format.

a. Monthly Reports. The purpose of the monthly report is to document treatment performance, effluent quality, and compliance with WDRs prescribed by Order No. R1-2006-0049. For each calendar month, an SMR shall be submitted to the Regional Water Board in accordance with the following:

i. Letter of transmittal: Each SMR shall be submitted with a letter of transmittal. This letter shall include the following:

- Identification of facility: Name, address, WDID number;
- Date of report and monitoring period;
- Identification of all violations of discharge prohibitions, effluent limitations or other discharge requirements found during the monitoring period;
- Details of the violations: parameters, magnitude, test results, frequency, and dates;
- The cause of the violation(s);
- Discussion of corrective actions taken or planned to resolve violations and prevent recurrence, and dates or time of action implementation;
- Authorized signature and certification statement.

ii. Compliance Evaluation Summary: Each report shall include a compliance evaluation summary. The summary shall illustrate clearly the facility's

compliance (or lack thereof) with all effluent limitations and other WDRs. During periods of no discharge, the reports shall certify “no discharge”.

iii. Results of Analyses and Observations.

- Tabulations of all required analyses, including parameter, sample date and time, sample station, and test result.
  - If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR Part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted in the Discharger’s SMR.
  - Calculation of all effluent limitations that require averaging, taking of a median, or other calculation.
6. SMRs must be submitted to the Regional Water Board, signed and certified as required by the standard provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board  
5550 Skylane Boulevard, Suite A  
Santa Rosa, CA 95407

**C. Discharge Monitoring Reports (DMRs)**

1. As described in section X.B.1 above, at any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit self-monitoring reports. Until such notification is given, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

State Water Resources Control Board  
Discharge Monitoring Report Processing Center  
Post Office Box 671  
Sacramento, CA 95812

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

#### **D. Other Reports**

1. Annual Report. The Discharger shall submit an annual report to the Regional Water Board for each calendar year. The report shall be submitted by February 1<sup>st</sup> of the following year. The report shall, at a minimum, include the following:
  - a. Both tabular and, where appropriate, graphical summaries of the monitoring data and disposal records from the previous year. If the Discharger monitors any pollutant more frequently than required by this Order, using test procedures approved under 40 CFR Part 136 or as specified in this Order, the results of this monitoring shall be included in the calculation and report of the data submitted SMR.
  - b. A comprehensive discussion of the facility's compliance (or lack thereof) with all effluent limitations and other WDRs, and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Order.
  - c. Sanitary Sewer System Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's activities within the sanitary sewer system over the previous twelve months. The report shall contain:
    - i. A description of any change in the local legal authorities enacted to implement the Sewer System Management Plan (SSMP);
    - ii. A summary of the SSOs that occurred in the past year. The summary shall include the date, location of overflow point, affected receiving water (if any), estimated volume, and cause of the SSO, and the names and addresses of the responsible parties as well as the names and addresses of the property owner(s) affected by the sanitary sewer overflow.
    - iii. A summary of compliance and enforcement activities during the past year. The summary shall include fines, other penalties, or corrective actions taken as a result of the SSO. The summary shall also include a description of public participation activities to involve and inform the public;
    - iv. Documentation that all feasible steps to stop and mitigate impacts of sanitary sewer overflows have been taken;
    - v. Documentation that the annual report has been made available to the public.
  - d. Source Control Activity Reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's source control activities, as required by Provision VI.C.5.b. of Order No. R1-

2006-0049, during the past year. This annual report is due on February 1<sup>st</sup> of each year, beginning on February 1, 2008 and shall contain:

- i. A copy of the source control standards.
- ii. A description of the waste hauler permit system.
- iii. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of any industrial or commercial users under surveillance by the Discharger, an explanation of whether they were inspected, sampled, or both, the frequency of these activities at each user, and the conclusions or results from the inspection or sampling of each user.
- iv. A summary of public participation activities to involve and inform the public.
- e. Biosolids handling and disposal activity reporting. The Discharger shall submit, as part of its annual report to the Regional Water Board, a description of the Discharger's solids handling, disposal and reuse activities over the previous twelve months. At a minimum, the report shall contain:
  - i. Annual sludge production, in dry tons and percent solids
  - ii. A schematic diagram showing sludge handling facilities (e.g., digesters, thickeners, drying beds, etc.) and a solids flow diagram.
  - iii. Methods of final disposal of sludge:
    - (a) For any portion of sludge discharged to a sanitary landfill, the Discharger shall provide the volume of sludge transported to the land fill, the names and locations of the facilities receiving sludge, the Regional Water Board's WDRs order number for the regulated landfill, and the landfill classification.
    - (b) For any portion of sludge discharged through land application, the Discharger shall provide the volume of biosolids applied, the date and locations where biosolids were applied, the Regional Water Board's WDRs order number for the regulated discharge, a demonstration that the discharge was conducted in compliance with applicable permits and regulations, and, if applicable, corrective actions taken or planned to bring the discharge into compliance with WDRs.

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

PERMIT ATTACHMENT E-1  
 CITY OF UKIAH WASTEWATER TREATMENT PLANT  
 WASTE DISCHARGE REQUIREMENTS ORDER NO. R1-2006-0049  
 FINAL COPPER EFFLUENT LIMITATIONS

Hardness-Dependent Effluent Limitations for Copper  
 Total Recoverable Copper (in ug/l)

Hardness mg/l as CaCO <sub>3</sub>	Copper Concentration Limitations				Lowest LTA Min D and E	AMEL (ug/l)	MDEL (ug/l)	CV = 0.60
	CCC 4-Day Ave. (ug/l)	CMC 1-Hour Ave. (ug/l)	0.527CCC	0.321CMC				
5	0.72	0.83	0.38	0.27	0.27	0.41	0.83	
10	1.30	1.60	0.69	0.51	0.51	0.80	1.60	
15	1.84	2.34	0.97	0.75	0.75	1.17	2.34	
20	2.36	3.07	1.24	0.99	0.99	1.53	3.07	
25	2.85	3.79	1.50	1.22	1.22	1.89	3.79	CCC = Criteria Continuous Concentration = e {0.8545[ln(hardness)] - 1.702}
30	3.33	4.50	1.76	1.45	1.45	2.24	4.49	
35	3.80	5.21	2.00	1.67	1.67	2.59	5.20	CMC = Criteria Maximum Concentration = e {0.9422[ln(hardness0)] - 1.700}
40	4.26	5.90	2.25	1.90	1.90	2.94	5.89	
45	4.72	6.60	2.48	2.12	2.12	3.28	6.59	
50	5.16	7.29	2.72	2.34	2.34	3.62	7.27	
55	5.60	7.97	2.95	2.56	2.56	3.97	7.96	
60	6.03	8.65	3.18	2.78	2.78	4.30	8.64	
65	6.46	9.33	3.40	2.99	2.99	4.64	9.31	AMEL = Average Monthly Effluent Limitation = 1.55[min(0.527CCC,0.321CMC)]
67	6.63	9.60	3.49	3.08	3.08	4.78	9.58	
70	6.88	10.00	3.62	3.21	3.21	4.98	9.99	
75	7.30	10.68	3.84	3.43	3.43	5.31	10.66	MDEL = Maximum Daily Effluent Limitation = 3.11[min(0.527CCC,0.321CMC)]
80	7.71	11.34	4.06	3.64	3.64	5.64	11.33	
85	8.12	12.01	4.28	3.86	3.86	5.98	11.99	
90	8.53	12.68	4.49	4.07	4.07	6.31	12.65	
95	8.93	13.34	4.71	4.28	4.28	6.64	13.32	
100	9.33	14.00	4.92	4.49	4.49	6.97	13.98	Hardness – hardness of the receiving water at the time the discharge is sampled.
105	9.73	14.66	5.13	4.71	4.71	7.29	14.63	
110	10.12	15.31	5.33	4.92	4.92	7.62	15.29	LTA - Long term average
115	10.51	15.97	5.54	5.13	5.13	7.95	15.94	
120	10.90	16.62	5.75	5.34	5.34	8.27	16.59	
125	11.29	17.27	5.95	5.55	5.55	8.59	17.25	
130	11.67	17.92	6.15	5.75	5.75	8.92	17.89	
135	12.06	18.57	6.35	5.96	5.96	9.24	18.54	
140	12.44	19.22	6.55	6.17	6.17	9.56	19.19	
145	12.82	19.87	6.75	6.38	6.38	9.89	19.83	
150	13.19	20.51	6.95	6.58	6.58	10.21	20.48	
155	13.57	21.16	7.15	6.79	6.79	10.53	21.12	
160	13.94	21.80	7.35	7.00	7.00	10.85	21.76	
165	14.31	22.44	7.54	7.20	7.20	11.16	22.40	
170	14.68	23.08	7.74	7.41	7.41	11.48	23.04	
175	15.05	23.72	7.93	7.61	7.61	11.80	23.68	
180	15.42	24.36	8.12	7.82	7.82	12.12	24.32	
185	15.78	24.99	8.32	8.02	8.02	12.44	24.95	
190	16.14	25.63	8.51	8.23	8.23	12.75	25.59	
195	16.51	26.26	8.70	8.43	8.43	13.07	26.22	
200	16.87	26.90	8.89	8.63	8.63	13.38	26.85	
205	17.23	27.53	9.08	8.84	8.84	13.70	27.49	
210	17.59	28.16	9.27	9.04	9.04	14.01	28.12	
215	17.94	28.80	9.46	9.24	9.24	14.33	28.75	
220	18.30	29.43	9.64	9.45	9.45	14.64	29.38	
225	18.65	30.06	9.83	9.65	9.65	14.95	30.00	
230	19.01	30.68	10.02	9.85	9.85	15.27	30.63	
235	19.36	31.31	10.20	10.05	10.05	15.58	31.26	
240	19.71	31.94	10.39	10.25	10.25	15.89	31.89	
245	20.06	32.57	10.57	10.45	10.45	16.20	32.51	
250	20.41	33.19	10.76	10.65	10.65	16.51	33.14	
255	20.76	33.82	10.94	10.86	10.86	16.83	33.76	
260	21.11	34.44	11.12	11.06	11.06	17.14	34.38	
265	21.45	35.07	11.31	11.26	11.26	17.45	35.01	
270	21.80	35.69	11.49	11.46	11.46	17.76	35.63	
275	22.14	36.31	11.67	11.66	11.66	18.07	36.25	
280	22.49	36.93	11.85	11.86	11.85	18.37	36.86	
285	22.83	37.55	12.03	12.05	12.03	18.65	37.42	
290	23.17	38.17	12.21	12.25	12.21	18.93	37.98	
295	23.51	38.79	12.39	12.45	12.39	19.21	38.54	
300	23.85	39.41	12.57	12.65	12.57	19.48	39.09	
310	24.53	40.65	12.93	13.05	12.93	20.04	40.20	
320	25.20	41.88	13.28	13.44	13.28	20.59	41.31	
330	25.88	43.12	13.64	13.84	13.64	21.14	42.41	
340	26.54	44.35	13.99	14.24	13.99	21.68	43.51	
350	27.21	45.57	14.34	14.63	14.34	22.23	44.60	
360	27.87	46.80	14.69	15.02	14.69	22.77	45.68	
370	28.53	48.02	15.04	15.42	15.04	23.31	46.77	
380	29.19	49.25	15.38	15.81	15.38	23.85	47.84	
400	30.50	51.68	16.07	16.59	16.07	24.91	49.99	
>400	30.50	51.68	16.07	16.59	16.07	24.91	49.99	

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## ATTACHMENT F – FACT SHEET

This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

### I. ORDER INFORMATION

The following table summarizes administrative information related to the facility.

<b>WDID</b>	1B84029OMEN
<b>Discharger</b>	City of Ukiah
<b>Name of Facility</b>	City of Ukiah Wastewater Treatment Plant
<b>Facility Address</b>	300 Plant Road
	Ukiah, California 95482-5400
	Mendocino County
<b>Facility Contact, Title and Phone</b>	Ann Burck, Project Engineer, 707-463-6286
<b>Authorized Person to Sign and Submit Reports</b>	William Pounders, Interim Wastewater Treatment Plant Supervisor, Grade V Or current wastewater treatment plant supervisor with proper signatory authorization
<b>Mailing Address</b>	411 Clay Street, Ukiah, CA 95482
<b>Billing Address</b>	Same as mailing address
<b>Type of Facility</b>	Publicly-owned treatment works
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	A
<b>Pretreatment Program</b>	NA
<b>Reclamation Requirements</b>	NA
<b>Facility Permitted Flow</b>	8.0 mgd PWWF based on AWT treatment capacity
<b>Facility Design Flow</b>	Current: 2.8 mgd ADWF/21.7 mgd PWWF (secondary)/7.0 mgd PWWF AWT Upgrade: 3.01 mgd ADWF/ 6.89 mgd AWWF/ 24.5 mgd PWWF (secondary)/7.0 mgd PWWF AWT
<b>Watershed</b>	Russian River (Upper Russian River Hydrologic Unit, Ukiah Hydrologic Subarea)
<b>Receiving Water</b>	Russian River
<b>Receiving Water Type</b>	Inland Surface Water

- A. The City of Ukiah (the Discharger) is the owner and operator of the City of Ukiah municipal wastewater collection, treatment, and disposal facility.
- B. The Facility is permitted to discharge treated, disinfected wastewater to the Russian River, a water of the United States, and is currently regulated by Waste Discharge Requirements (WDRs) Order No. 99-65, which was adopted on September 23, 1999. The terms of the

existing Order were automatically continued in effect after the Order expiration date of September 23, 2004.

- C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for renewal of its WDRs and National Pollutant Discharge Elimination System (NPDES) Order on November 30, 2005. The Discharger submitted supplemental information to complete the ROWD on February 6, 2006. Staff conducted a site visit on April 5, 2006, to observe operations and collect additional data to develop Order limitations and conditions.

## II. FACILITY DESCRIPTION

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

The City of Ukiah Wastewater Treatment Facility (Facility or WWTF) is a publicly owned treatment works (POTW) serving the City of Ukiah and residential areas to the north and south of Ukiah as well as east of the Russian River. The Facility is located on the west bank of the Russian River at the southern end of Ukiah.

The WWTF treats wastewater from two entities, the City of Ukiah and the Ukiah Valley Sanitation District (UVSD). The WWTF serves a population of approximately 20,000. The City's population is approximately 15,000 with approximately 25 percent of the City's population being served by the UVSD. The UVSD also serves Mendocino College, El Dorado Estates, Vichy Springs and areas contiguous to the City of Ukiah. The City of Ukiah owns and operates the treatment facilities and its own collection system. The UVSD owns the collection system in its service area and the City of Ukiah maintains it. The City of Ukiah does not accept wastewater from any collection systems not owned or maintained by the City.

#### Collection System

The present wastewater collection system in the City and UVSD consists of approximately 67 miles of pipelines that are 6-inches in diameter or larger. A trunk sewer that ranges in size from 42 to 15 inches in diameter extends northward from the WWTF for a distance of 6 miles. The majority of the sewers are gravity collection lines. There are no bypass or overflow structures in the system.

The lift stations from El Dorado Estates and Vichy Springs discharge to force mains that cross under the Russian River at two different locations. Each lift station has a bypass pipe around the pumps that allows the system to flow by gravity (via a siphoning effect), and prevent lift station overflows.

Infiltration and inflow (I/I) has historically been a problem for the Facility, resulting in significantly greater influent flows during storm events. The City's current I/I program includes plans to conduct video inspections of the entire collection system over the next

four years, develop a program to address and repair major problems found during the video inspections, and to require a lateral inspection of all properties sold.

Leachate from the City's municipal landfill is discharged to the City's WWTF. Leachate is clarified in a sedimentation basin at the landfill and subsequently stored in above ground tanks prior to being pumped to the City's sewer line. The leachate is analyzed on a quarterly basis for pollutants of concern, including total dissolved solids, nutrients, BOD, volatile organic compounds and petroleum hydrocarbons. Volumes of leachate discharged to the WWTF vary from month to month and may be mixed with rainwater in the winter. During 2005, monthly volumes ranged from 0 to almost 600,000 gallons per month, for an annual total of almost 2 million gallons.

The City has one significant industrial user, Mendocino Brewing Company, with flows of approximately 20,000 gallons per day (less than two percent of the total plant inflow). The City requires the Mendocino Brewing Company to pretreat its wastewater to lower the biological oxygen demand (BOD) and total suspended solids (TSS) and monitor BOD and TSS prior to discharging to the City's WWTF. The flow from commercial facilities is approximately 26 percent of the total plant inflow. Commercial and business facilities served by the WWTF include restaurants, hotels, cookie factories, car washes, automotive mechanics, car dealerships, hospitals, dental offices, photo processors, and other typical small city businesses. The remaining 72 percent of flow is considered residential flow. The City does not accept flow from septage, chemical toilets, or other bulk waste sources.

### Wastewater Treatment

Construction of the original wastewater treatment facility was completed in 1958 with a capacity of 2.5 million gallons per day (mgd) average dry weather flow and 10.5 mgd peak wet-weather flow. The original plant consisted of a headworks facility (one barminutor and four influent pumps), pre-aeration grit tanks, one primary clarifier, one trickling filter, one secondary clarifier, a chlorine contact pipe, two anaerobic digesters, two oxidation/percolation ponds, and two sludge lagoons. The plant was modified in 1983 to increase plant capacity to 2.8 mgd average dry weather flow and a maximum wet weather discharge flow of 7.0 mgd and with the construction of additional clarifiers, biological tower, new chlorine contact pipe and dechlorination facilities, emergency generator facilities and a new direct outfall; in 1986 to add a third percolation pond; in 1989 to add an effluent pumping station; and in 1995 to modify the headworks, add a fourth secondary clarifier, and to add a new advanced wastewater treatment (AWT) system and new solids handling facility. Also, in 1983, an earthen berm was constructed to provide 100-year flood protection for the WWTF.

The Facility produces disinfected secondary effluent for discharge to the three percolation ponds and disinfected, dechlorinated AWT effluent for direct discharge to the Russian River. The current wastewater treatment train consists of grit removal, primary

sedimentation, trickling filters, secondary sedimentation, and chlorination; AWT facilities consisting of coagulation, and filtration; post-AWT chlorination, and dechlorination; and solids handling facilities consisting of anaerobic digesters and a belt press for dewatering. All treated wastewater is chlorinated prior to disposal. Chlorination of secondary effluent occurs in a 600-foot long 8-foot diameter underground pipeline. The AWT chlorination facility consists of two concrete-lined aboveground baffled basins. The Facility has the ability to dechlorinate disinfected effluent prior to discharging to the Russian River. The discharge capacity of the outfall is 7 mgd.

The Facility upgrade project started in the spring of 2006 and will be completed by June 2009. The project will occur in stages so that the existing facility may continue to operate in compliance with WDRs. The facility upgrade project includes the following components: a new head works facility which includes a new influent pumping station, bar screen facility and grit removal system; conversion of the existing secondary clarifiers to primary clarifiers; new trickling filter pumping station; modifications to the trickling filter distribution arms; conversion of the existing primary clarifiers to solids contact tanks along with the installation of new blowers; new secondary clarifiers; modifications to the chlorine contact pipe and chlorination facilities (new chemical addition and mixing facilities); repairs to the AWT pump pad, AWT chlorine contact basin, and washwater recovery ponds; new dissolved air flotation thickeners; improvements to the existing sludge digesters, including conversion of the floating covers on the anaerobic digesters to fixed covers and modifications to the piping and gas management system; and a new operations building.

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

The City of Ukiah Wastewater Treatment Facility is located in the Upper Russian River Hydrologic Basin (Ukiah Hydrologic Subarea).

The Facility is located adjacent to the Russian River and has three percolation ponds with a combined storage capacity of 115 million gallons. The City can dispose up to 4.01 mgd via the percolation ponds. Percolation pond 1 is 14.7 acres and has a design percolation rate of 50,000 gpd per acre. Percolation pond 2 is 14.7 acres and has a design percolation rate of 80,000 gpd per acre. Percolation pond 3 is 12.4 acres and has a design percolation rate of 175,000 gpd per acre. These ponds are maintained to maximize percolation by alternately ripping the bottom of one pond each summer to increase the ponds' permeability. The ponds' bottoms slope toward the river.

The Facility also has an outfall pipe which is used to discharge disinfected, dechlorinated AWT effluent directly to the Russian River during the wet-weather season (October 1 through May 14) The Discharger preferentially discharges disinfected secondary effluent to its percolation ponds and utilizes its AWT facilities and outfall as needed to balance flows.

### 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 percolation ponds adjacent to the Russian River (Discharge Point 002). Effluent limitations contained in the existing Order No. 99-65 for discharges from Discharge Points 001 and 002 and representative monitoring data from the term of the previous Order are presented below.

#### Discharge Point 001

Parameter (units)	Effluent Limitations			Monitoring Data (From January 2000 – To December 2005)		
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Weekly Result	Highest Daily Result	No. of Violations
BOD (20°C, 5-day) (mg/L & lb/day)	10	15	20	10	10	0
	580	880	1170	317	411	0
Total Suspended Solids (mg/L & lb/day)	10	15	20	4	6	0
	580	880	1170	70	102	0
Settleable Solids (mL/L)	0.1	---	0.2	<0.05	<0.05	0
Total Coliform Organisms (MPN/100 ml)	---	2.2*	23	4	4	0
Hydrogen Ion	Not less than 6.0 nor greater than 9.0				Range of 6.5** to 7.3***	0
Chlorine Residual (mg/L)	---	---	ND	ND	ND	0
Turbidity (NTU)	2	---	5	1.4	<5	0
Toxicity	The survival of test fish in 96-hour (static or continuous flow) bioassays in undiluted effluent samples shall equal or exceed 90 percent survival 67 percent of the time, and 70 percent survival 100 percent of the time.			10% survival	---	1
Discharge Flow (mgd)	7.0 mgd			3.6	5.3	0

Notes: \* Coliform effluent limitation is a weekly median  
 \*\* minimum pH reported  
 \*\*\* maximum pH reported

### Discharge Point 002

Parameter (units)	Effluent Limitations			Monitoring Data (From January 2000 – To December 2005)			
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Result	Highest Average Weekly Result	Highest Daily Result	No. of Violations
BOD (20°C, 5-day) (mg/l)	30	45	60	40	71	71	Daily – 1 Weekly – 4 Monthly – 5
Total Suspended Solids (mg/L & lb/day)	30	45	60	35	82	82	Daily – 1 Weekly – 1 Monthly – 2
Settleable Solids (mL/L)	0.1	---	0.2	<0.05	---	<0.05	0
Total Coliform Organisms (MPN/100 ml)	---	23*	230	---	1600	1600	Daily – 4 Weekly -18
Hydrogen Ion	Not less than 6.0 nor greater than 9.0			---	---	Range of 6.6** - 7.8***	0
Discharge Flow	Design ADWF= 2.8 mgd			2.40 mgd	---	---	0
	Hydraulic capacity = 20 mgd			8.34 (Feb. 2004)	---	>19.5	

Notes: \* Coliform effluent limitation is a weekly median  
 \*\* minimum pH reported  
 \*\*\* maximum pH reported

#### D. Compliance Summary

As discussed in section II.A. of this Fact Sheet, the City of Ukiah wastewater treatment facility was originally completed in 1958. Although the City has expanded and upgraded the Facility over the years, many of the original components of the original plant are still in use. Due to the age of most of the facilities and a lack of redundancy of key process units, this plant has experienced equipment breakdowns over the years that have contributed to occasional violations of effluent limitations. The City's wastewater treatment plant operators and its engineering firm have worked very hard to maintain compliance with its permit.

The City disposes of the majority of its effluent via its percolation ponds and disposes to these ponds year-round. The City disposes its effluent directly to the Russian River in the wintertime only as needed to maintain its water balance.

During the period of January 2000 through December 2005, the City had only one violation of effluent limitations at Discharge Point 001, the direct discharge to the Russian River. This occurred on December 26, 2002 when the acute toxicity test result was 10% survival. In January 2006, due to extreme rainfall and flood conditions, the City discharged disinfected, secondary effluent from the percolation ponds directly to the Russian River as an emergency measure to protect the integrity of its percolation pond dikes.

As summarized in the table in section C. above, this Facility has violated effluent limitations for BOD, NFR and coliform at Discharge Point 002, the discharge to the percolation ponds. The majority of the violations occurred in the year 2000. The City began implementing interim measures to improve plant performance and provide additional capacity while they evaluated a long-term upgrade project. The City has implemented various interim measures to achieve permit compliance, including placing a hold on new connections to the WWTF, repairing structures that have broken, use of chemically enhanced primary treatment to increase performance of the trickling filters, and implementation of other operational modifications.

Occasional violations have occurred since 2000, primarily in response to equipment failures and the need to take crucial processes off-line for repairs (e.g., in July 2004, structural damage to the primary clarifiers required that the clarifiers be off-line during repairs).

#### **E. Planned Changes**

The City began construction on its wastewater treatment plant upgrade project (described in section II.B of this Fact Sheet) during the spring of 2006 and plans to complete the project by June 2009. The City has also evaluated other potential projects that may be implemented in the future, including the development of a collection system master plan, and the possibility of developing a reclamation master plan if it is determined that the City needs to modify its wastewater disposal to meet regulatory requirements. In addition, provisions in the design of the WWTF Improvement Project will allow the City to easily upgrade the solids handling system in the future to produce Class A Biosolids, which will significantly increase options for beneficial use of the stabilized biosolids generated at the facility. The City's goal is to design and construct a wastewater treatment system that reliably meets effluent requirements for the next 25 years.

### **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 Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and California Water Code (CWC) Chapter 5.5, Division 7. It shall serve as an NPDES Order for point source discharges from this facility to surface waters. This Order also serves as WDRs pursuant to CWC Article 4, Chapter 4 for discharges that are not subject to regulation under section 402 of the CWA.

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

This action to adopt an NPDES Order is exempt from the provisions of the California Environmental Quality Act (Public Resources Code sections 21100-21177) 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) Groundwater 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) Native American Culture (CUL)
002	Groundwater	<u>Existing:</u> Municipal and domestic water supply (MUN) Agricultural supply (AGR) Industrial water supply (IND) American Native Culture (CUL) <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 and amended it on May 4, 1995 and November 9, 1999. The CTR was adopted on May 18, 2000 and 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 Board in its Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP includes procedures for determining the need for and calculating WQBELs, and requires Dischargers to submit data sufficient to do so.
5. **Antidegradation Policy.** 40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the Permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution 68-16.
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. 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. R1-2006-0049 are less stringent than those in the previous Order. Effluent limitations for BOD, TSS and copper are less stringent, and effluent limitations for nickel, zinc, and tributyltin have been removed from the Order.

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 section 1342 (o)(2)(B)(i).) Order No. 99-65 established maximum effluent limitations for BOD and TSS. Maximum daily effluent limitations are not applicable nor required under section 133 of 40 CFR section 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 section 133 of 40 CFR remain in effect. Order No. 99-65 established an effluent limitation for copper that was superceded by the CTR, which justifies the application of a less stringent effluent limitation. The lack of reasonable potential for nickel, zinc and tributyltin constitutes new information, which permits the removal of effluent limitations consistent with section 402(o)(2)(B)(1).

7. **Monitoring and Reporting Requirements.** 40 CFR 122.48 requires that all NPDES Orders specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The monitoring and reporting program (MRP) in Attachment E establishes monitoring and reporting requirements to implement federal and State requirements.

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

1. On June 5 and July 25, 2003, the USEPA approved the list of impaired water bodies, prepared by the State Water 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.
2. 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 summer discharge prohibition, the one-percent flow limitation for winter discharge, and the results of previous solids and turbidity monitoring that has demonstrated that the Discharger’s facility removes all settleable solids and reduces total suspended solids and turbidity to negligible levels.

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

1. The 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 submitted a Notice of Intent to the State Water Board pursuant to the Statewide General Permit Program. The Discharger has prepared a Storm Water Pollution Prevention Plan (SWPP Plan) describing its storm water discharges, pollution prevention practices and best management practices, and has implemented the provisions of the SWPP Plan.
4. 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 Ukiah'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, water quality-based effluent limitations (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. 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, the previous Order, and State Water Board Order WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order WQO 2002-0012, the State Water Board found that this prohibition is acceptable in Orders, but should be interpreted to apply only to constituents that are either not disclosed by the 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 Ordering 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 Ordering 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 Ordering 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 Order adoption.

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

This prohibition is based on section 13050 of the CWC. It has been retained from Order No. 99-65.

3. Prohibition III. C. The discharge of sludge or digester supernatant is prohibited, except as authorized under section VI.C.5.c. (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 of the California Code of Regulations (CCR). It has been retained from Order No. 99-65.

4. Prohibition III. D. The discharge of untreated or partially treated waste from anywhere within the collection, treatment, or disposal facility is prohibited, except as provided for in Prohibition III.E. and Attachment D, Standard Provision I. G (Bypass).

This prohibition has been retained from Order No. 99-65 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 an Order. This prohibition applies to spills not related to sanitary sewer overflows (SSOs) and other unauthorized discharges of wastewater within the collection, treatment, and disposal facilities. The discharge of untreated or partially treated wastewater from the collection, treatment, or disposal facility represents an unauthorized bypass pursuant to 40 CFR 122.41(m) or an unauthorized discharge which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by this Order.

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

This prohibition applies to spills related to SSOs and is based on State standards, including section 13050 of the CWC and the Basin Plan. This prohibition is consistent with the States' antidegradation policy as specified in State Water Board Resolution No. 68-16 (Statement of Policy with Respect to Maintaining high Quality of Waters in California) in that the prohibition imposes conditions to prevent impacts to water quality, does not allow the degradation of water quality, will not unreasonably affect beneficial uses of water, and will not result in water quality less than that prescribed in State Water Board or Regional Water Board plans and policies.

This prohibition is stricter than the prohibitions stated in State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. Order 2006-0003-DWQ prohibits SSOs that result in the discharge of untreated or partially treated wastewater to waters of the United States and SSOs that create a nuisance. Prohibition III.E. of this Order further prohibits any SSO that results in the discharge of untreated or partially treated wastewater to groundwater due to the prevalence of high groundwater in this Region and this Region's reliance on groundwater as a drinking water source.

6. Prohibition III.F. The discharge of waste to land that is not owned by or subject to an agreement for use by the Discharger is prohibited.

This prohibition is retained from Order No. 99-65. 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.

7. Prohibition III.G. The discharge of waste at any point except Discharge Point 001 (the constructed outfall to the Russian River) or 002 (the Facility's percolation ponds), or as authorized by another State Water Board or Regional Water Board Order, is prohibited.

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

8. Prohibition III.H. Prior to completion and certification of the Discharger's facility upgrade project, the average daily dry weather flow (ADWF) of waste into the Discharger's Facility in excess of 2.8 mgd, as determined from the lowest consecutive 30-day mean daily flow, is prohibited. After completion and certification of the

Discharger's Facility upgrade project, the ADWF of waste into the Discharger's Facility in excess of 3.01 mgd, as determined from the lowest consecutive 30-day mean daily flow, is prohibited.

The flow limitation of 2.8 mgd ADWF is retained from Order No. 99-65 and is intended to ensure that dry weather wastewater flows do not exceed the Facility's ADWF design capacity prior to completion of the Discharger's WWTF upgrade project. The flow limitation of 3.01 mgd ADWF is intended to ensure that wastewater flows do not exceed the Facility's design capacity after completion of the Discharger's WWTF upgrade project.

9. Prohibition III.I. The discharge of treated wastewater from the wastewater treatment facility to the Russian River or its tributaries is prohibited during the period May 15 through September 30 of 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. 3). The original intent of this prohibition was to prevent the contribution of wastewater to the baseline flow of the Russian River during the period of the year when the Russian River and its tributaries experience the heaviest water-contact recreation use.

10. Prohibition III.J. During the period of October 1 through May 14 of each year, discharges of wastewater shall not exceed one percent of the flow of the Russian River. For purposes of this Order, compliance with this discharge rate limitation is determined as follows: 1) the discharge of advanced treated wastewater shall be adjusted at least once daily to avoid exceeding, to the extent practicable, one percent of the most recent daily flow measurement of the Russian River as measured near Hopland at USGS Gage No. 11462500, and 2) in no case shall the total volume of advanced treated wastewater discharged in a calendar month exceed one percent of the total volume of the Russian River near Ukiah at USGS Gage No. 11462500 in the same calendar month.

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

This prohibition is required by the Basin Plan (Chapter 4 Implementation Plans, North Coastal Basin Discharge Prohibition No. 3). The Basin Plan prohibits discharges to the Russian River and its tributaries when the waste discharge flow is greater than one percent of the receiving water's flow. Basin Plan Prohibition No. 4

does not specify how compliance to the one-percent flow requirement will be determined. The previous permit, Order No. 99-65, does not specify how compliance to the one-percent flow requirement will be determined. This 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 Hopland gage. However, Prohibition III.J. 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.

## **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 Orders 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 Orders, 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 001, Direct Discharge to Russian River**

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

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

Parameter	Units	Effluent Limitation		
		Average Monthly	Average Weekly	Daily Maximum
BOD (5-day @ 20° C)	mg/L	10	15	---
	lbs/day	350	880	---
TSS	mg/L	10	15	---
	lbs/day	350	880	---
Turbidity	NTU	2	---	5*
Percent Removal	%	85	---	---

\* Daily maximum turbidity level of 5 NTU not to be exceeded more than five percent of the time, nor 10 NTU at any time.

The effluent limitations summarized in the above table are retained from Order No. 99-65 and are contained in sections IV.A.1.(a) and (e) of Order No. R1-2006-0049. .

**BOD and Suspended Solids.** Average monthly and average weekly concentration-based effluent limitations for BOD and suspended solids in the proposed Order are retained from Order No. 99-65. These advanced wastewater treatment limitations are more stringent than the technology-based limits derived from federal requirements (40 CFR section 133.102) and are required by the Basin Plan which requires AWT for discharges of municipal wastewater to the Russian River. 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 State Department of Health Services 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-based effluent limitations for BOD and TSS are also retained from Order No. 99-65 and are required under CFR section 122.45(f) for the purpose of assuring that dilution is not used as a method of achieving the concentration limitations in the permit. Mass-based effluent limitations are technology-based; thus these limitations apply at the end of the treatment train (Monitoring Location M-001B or M-002). Mass-based effluent limitations in Order No. 99-65 were based on the design flow of the Discharger’s outfall pipe and have been retained in Order No. R1-2006-0049.

Maximum daily effluent limitations are not applicable nor required under section 133 of 40 CFR. 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.

**Turbidity.** The proposed turbidity requirements are based on the definition of filtered wastewater found in section 60301.320 of Title 22 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. **Total Coliform.** Technology-based effluent limitations for coliform bacteria for AWT discharges to the Russian River are retained from Order No. 99-65 and reflect standards adopted by the State Department of Health Services 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 for Coliform  
 Discharge Point 001**

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

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 State Department of Health Services 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 State Department of Health Services 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 seven 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.

- iii. **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.

**b. Discharge Point 002, Discharge to Percolation Ponds**

- i. The following table summarizes concentration-based effluent limitations derived from 40 CFR 133.102, that are retained from Order No. 99-65, that are applicable to the City of Ukiah wastewater treatment facility’s discharge

to the evaporation/percolation ponds and included in Order No. R1-2006-0049.

**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	30	45	60
Percent Removal <sup>a</sup>	%	85	---	---
pH	std units	6.0 – 9.0		

<sup>a</sup> Order No. R1-2006-0049 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 and pH.** The technology-based effluent limitations for secondary effluent discharged to Discharge Point 002 have been retained from Order No. 99-65 and satisfy the minimum requirements for secondary treatment specified in 40 CFR Part 133.102.

**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. Technology-based effluent limitations for coliform bacteria for secondary effluent discharges to the percolation ponds, which have been retained from Order No. 99-65, reflect standards adopted by the State Department of Health Services for tertiary treated recycled water in Title 22, Division 4, Chapter 3 of the California Code of Regulations.

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

Parameter	Units	Effluent Limitations	
		Weekly (7-day) Median	Maximum
Total Coliform Bacteria	mpn /100 mL	23	240

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

### **1. Scope and Authority**

As specified in 40 CFR section 122.44(d)(1)(i), Orders 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. R1-2006-0049 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 discharges to the Russian River are included in the NTR and the CTR, which contain numeric criteria for the protection of aquatic life and human health for most of the 126 priority, toxic pollutants. The CTR further indicates that such criteria will be developed for the remaining priority pollutants 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. Aquatic life freshwater criteria were used for the reasonable

potential analysis (RPA), and for the calculation of effluent limitations for pollutants that showed reasonable potential.

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 RPA 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 each priority pollutants reported in detectable concentrations in Ukiah’s effluent or receiving water. These criteria were used in conducting the Reasonable Potential Analysis (RPA) for this Order. Attachment F-1 to this Order summarizes the RPA for all 126 priority pollutants.

**Applicable Water Quality Criteria and Objectives for Priority Pollutants Reported in Detectable Concentrations in Ukiah’s Effluent**

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
6	Copper <sup>a</sup>	6.46	9.33	6.46	1300
7	Lead <sup>a</sup>	1.84	47	1.84	---
8	Mercury	0.05	---	---	0.5
9	Nickel <sup>a</sup>	36	326	36	610
13	Zinc <sup>a</sup>	83	83	83	--
26	Chloroform	No Criteria	---	---	---
27	Dichlorobromomethane	0.56	---	---	0.56
36	Methylene Chloride	4.7	---	---	4.7
39	Toluene	6800	---	---	6800

Note:

a Water Quality Criteria for hardness-based metals are based on the lowest detected hardness concentration of 65 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

- i. Chlorine Residual. Order No. R1-2006-0049 contains a WQBEL for total chlorine residual prior to surface water discharge (Effluent Limitation IV.A.1.d). The Order specifies that the discharge shall at no time contain 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.
- ii. pH. Order No. 99-65 contained WQBELs for pH of 6 to 9. The WQBELs for pH in Order No. R1-2006-0049 are more stringent because they have been corrected to reflect the Basin Plan pH requirement of 6.5 to 8.5.
- iii. Nitrate. Order No. R1-2006-0049 contains a WQBEL for nitrate. Nitrate causes adverse health effects in humans by interfering with the transport of oxygen in the bloodstream, particularly with fetuses and new-born children, a condition known as methemoglobinemia, or blue-baby syndrome. In extreme cases, the condition can retard physical and mental development, and cause death. Water quality standards for nitrate include State Drinking Water Standards, including the primary MCL of 10 mg/l, and USEPA Ambient Water Quality Criteria for the Protection of Human Health, also 10 mg/l, for non-cancer health effects. The Discharger's self-monitoring data indicates a maximum effluent nitrate (as nitrogen) concentration of 26 mg/l. The conversion of ammonia (a common pollutant in domestic wastewater) to nitrates, and the potential for inadequate denitrification (a process for removing nitrates from wastewater), presents a reasonable potential for the discharge to exceed both the primary MCL and the Water Quality Criteria for the Protection of Human Health for nitrate. Order No. R1-2006-0049 includes

an effluent limitation for nitrate to protect the Municipal and Domestic Water Supply beneficial use of the Russian River. The Discharger is unable to comply with this effluent limitation at this time. An interim average monthly effluent limitation of 26.6 mg/l as nitrogen and a compliance schedule for achieving compliance with the nitrate effluent limitation have been established in the Order. The interim effluent limitation is based on the 99 percentile concentration from data collected from January 2000 through May 2006.

b. Priority Pollutants

Section 1.3 of the SIP requires the Regional Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct a RPA. Effluent and ambient data are available to conduct a RPA for some, but not all, of the CTR constituents for this Facility. The SIP states that if all reported detection limits used for effluent sampling for any constituent are greater than the most stringent CTR criterion, that the Regional Water Board shall require additional effluent sampling in place of water quality-based effluent limitations. Regional Water Board staff will issue a 13267 Order requesting the Discharger to conduct additional monitoring for CTR constituents that were analyzed with detection limits that were too high to determine whether or not reasonable potential exists.

On April 25, 2001, the Regional Water Board sent a technical information request (13267) letter titled "California Water Code Section 13267(b) Order; Requirement for submittal of Technical/Monitoring Report for Monitoring Priority Pollutants Regulated in the California Toxics Rule (CTR)" to the Discharger. In response to this request, the Discharger collected two sets of CTR priority pollutant data: one set was collected on January 23, 2002 and the other set was collected on April 9, 2002. In addition, the Discharger has collected the following additional data: 31 copper results from samples collected each month of discharge from January 1998 to the present; 16 results each for nickel and zinc from samples collected for each month of discharge from January 2001 to the present; and eight results each for toluene, tributyltin, and TCDD equivalents from samples collected annually from 1998 to the present. The copper, nickel and zinc samples were analyzed using an analytical detection limit of 20 ug/l.

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 RPA, Regional Water Board staff has used a receiving water hardness concentration of 65 mg/L CaCO<sub>3</sub>, based on receiving water data submitted by the Discharger. The use of the lowest receiving water hardness concentration provides the most

protective approach for determining which parameters to require effluent limitations for the protection of aquatic life in the receiving stream. Thirteen representative hardness samples collected between 2003 and 2005 showed hardness concentrations between 65 and 128 mg/l in the Russian River, approximately 50 feet upstream of the Facility's discharge point. Hardness data collected in 2000, 2001, and 2002 were not considered for this analysis because the hardness results reported on the Discharger's self-monitoring reports were extremely low and Regional Water Board staff does not believe that these results are representative of Russian River hardness concentrations. This conclusion is based on a review of Russian River hardness data collected by Regional Water Board staff.

To conduct the RPA, Regional Water Board staff identified the maximum observed effluent (MEC) and background (B) concentrations for each priority pollutant from effluent and receiving water 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 RPA demonstrated reasonable potential for discharges from Discharge Monitoring Point 001 to cause or contribute to exceedances of applicable water quality criteria for copper 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 RPA for each priority pollutant that was reported in detectable concentrations in either the effluent or receiving water between January 2000 and December 2005. 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 monitoring events conducted by the Discharger.

### Summary of Reasonable Potential Analysis for Ukiah WWTF

CTR No.	Priority Pollutant	Lowest Applicable Water Quality Criteria(C)	Max Effluent Conc (MEC)	Maximum Detected Receiving Water Conc.(B)	RPA Result-Need Limit?	Reason	Recommendation
6	Copper (H= 65 mg/l)	6.46	30	<9	Yes	MEC>C	EL and monitoring needed
7	Lead (H = 65 mg/l)	1.84	1.3DNQ	1.2	No	MEC<C and B<C	No EL or monitoring needed
8	Mercury	0.05	0.0087	0.0025	No	MEC<C and B<C	No EL or monitoring needed
9	Nickel (H = 65 mg/l)	36	4.4DNQ	3.6	No	MEC<C and B<C	No EL or monitoring needed
13	Zinc (H = 65 mg/l)	83	37	39	No	MEC<C and B<C	No EL or monitoring needed
26	Chloroform	No CTR Criteria	4.1	<0.5	No	No CTR Criteria	No EL needed. Monitoring recommended based on BPJ.
27	Dichlorobromomethane	0.56	0.68	<0.5	Yes	MEC>C	EL and monitoring needed
36	Methylene Chloride	4.7	1.4	0.46 DNQ	No	MEC<C and B<C	No EL or monitoring needed
39	Toluene	6800	9.9	<0.3	No	MEC<C and B<C	No EL or monitoring needed

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 RPA for copper and dichlorobromomethane. A discussion of the sampling results for bromoform, chlorodibromomethane, and chloroform are included in this section to justify the need for additional sampling. In addition, a discussion of the sampling results for nickel, zinc, and tributyltin is included to justify removal of effluent limitations for these constituents.

i. Copper

Effluent monitoring data submitted by the Discharger showed concentrations of total recoverable copper ranging from <9 µg/L to 30 µg/L in 20 samples. Six of the effluent concentrations exceeded the lowest CTR criterion of 6.46 µg/L. The other 14 samples were non-detect for copper, but were analyzed using method detection limits that were too high to determine reasonable potential. However, there is sufficient data to demonstrate that there is reasonable potential for copper and effluent limitations are needed.

Two receiving water samples were analyzed for copper utilizing a reporting limit of 9 ug/l. Copper was not detected in the receiving water at this detection limit.

Final effluent limitations for copper are calculated in Attachment E-1. These effluent limitations are based on hardness-based formulas from the CTR published in the Federal Register on May 18, 2000. The CTR formulas calculate less stringent effluent limitations than the effluent limitations that were set in Order No. 99-65. The hardness-based formulas used in Order No. 99-65 came from the California Inland Surface Waters Plan that was adopted by the State Water Board in 1991 and was later rescinded in 1994. The CTR contains the most current water quality criteria and justifies the application of a less stringent effluent limitation.

ii. Dichlorobromomethane

Dichlorobromomethane 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 chlorodibromomethane, chloroform, and bromoform. Trihalomethanes are considered human carcinogens.

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 ug/l.

Two effluent samples were analyzed for dichlorobromomethane utilizing a detection limit of 0.5 ug/l. One sample contained a dichlorobromomethane concentration of 0.68 µg/L. The other sample contained 0.38 ug/l of dichlorobromomethane, and reported as “detected, but not quantifiable” because it was detected below the analytical method detection limit. However, because dichlorobromomethane was detected in one sample above

the method detection limit, there is reasonable potential for dichlorobromomethane and effluent limitations are needed.

The two receiving water samples were non-detect for dichlorobromomethane at a detection limit of  $<0.5 \mu\text{g/L}$ .

iii. Other Trihalomethanes (THMs)

Other trihalomethanes that are commonly formed during chlorine disinfection processes, such as bromoform, chlorodibromomethane, and chloroform, were either not detected, or were detected at low levels that did not trigger reasonable potential, in the two effluent samples collected. Bromoform and chlorodibromomethane were reported as non-detect using a detection limit of  $0.5 \mu\text{g/l}$ . Chloroform was detected in both samples at levels of 2.6 and  $4.1 \mu\text{g/l}$ , respectively.

The lowest water quality objective for each of these THMs are: bromoform,  $4.3 \mu\text{g/l}$  and chlorodibromomethane,  $0.401 \mu\text{g/l}$ . The CTR does not establish a water quality objective for chloroform, rather it reserves a placeholder for the addition of a numeric criterion for chloroform.

Due to the fact that the Discharger uses chlorine for disinfection and the variability of THM effluent concentrations reported by other dischargers that have collected larger data sets, it is necessary to require additional monitoring for the THMs bromoform, chloroform and chlorodibromomethane in order to obtain enough data to definitively determine whether or not there is reasonable potential. In addition, chlorodibromomethane was analyzed using a detection limit higher than the lowest chlorodibromomethane water quality objective.

iv. Nickel

The CTR freshwater aquatic life acute and chronic criteria for nickel, using the lowest hardness concentration of  $65 \text{ mg/l}$  are  $326 \mu\text{g/l}$  and  $36 \mu\text{g/l}$ , respectively, and the human health criterion is  $610 \mu\text{g/l}$ .

Effluent monitoring data submitted by the Discharger contained concentrations of nickel that were all less than the analytical detection limit of  $10 \mu\text{g/l}$  (2 samples) and  $20 \mu\text{g/l}$  (16 samples). Since the MEC of  $<20 \mu\text{g/l}$  is less than the lowest CTR criteria, there is no reasonable potential for nickel.

Two receiving water samples were analyzed for nickel utilizing a reporting limit of  $10 \mu\text{g/l}$ . Nickel was not detected in the receiving water at this detection limit.

As a result of the RPA, effluent limitations for nickel are not included in the proposed Order.

v. Zinc

The CTR freshwater aquatic life acute and chronic criteria for zinc, using the lowest hardness concentration of 65 mg/l, are both 83 ug/l. There is no CTR human health criterion for zinc.

Effluent monitoring data submitted by the Discharger contained concentrations of zinc ranging from 5.5 ug/l to 39 ug/l in 19 samples. Since the MEC of 39 ug/l is less than the lowest CTR criteria, there is no reasonable potential for zinc.

Two receiving water samples were analyzed for zinc utilizing a reporting limit of 1 ug/l. Zinc was detected in the receiving water at 5.5 ug/l and 39 ug/l, both below the most stringent CTR criterion of 83 ug/l.

As a result of the RPA, effluent limitations for zinc are not included in the proposed Order.

vi. Tributyltin

Although CTR does not establish water quality criteria for tributyltin, Order No. 99-65 established an effluent limitation of 20 nanograms/liter (ng/l) as a daily average, 40 ng/l as a 1-hour average, and 60 ng/l as an instantaneous maximum. Order No. 99-65 required annual monitoring of this constituent. These effluent limitations were included in Order No. 99-65 due to the fact that a facility that used tributyltin was discharging wastewater into the City's wastewater treatment plant. Five of the annual samples for tributyltin were non-detect at a detection limit of 2 ng/l. The annual sample collected in March 2001 contained 2 ng/l of tributyltin. The available data does not suggest reasonable potential for tributyltin. In addition, the facility that had the potential to release tributyltin into the Discharger's Facility is no longer discharging to the system.

As a result of the RPA, effluent limitations for tributyltin are not included in the proposed Order.

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

Final WQBELs for copper and dichlorobromomethane have been determined using the methods described in section 1.4 of the SIP.

Water quality objectives for copper are hardness-dependent and the Discharger’s Russian River hardness data varies significantly from 65 to 128 mg/l. Regional Water Board staff used best professional judgment to determine the copper effluent limitations for this Discharger should be 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 65 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	9.33	6.46	0.321	0.527	2.99	3.40

**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 are calculated as follows.

Pollutant	LTA	MDEL Multiplier	AMEL Multiplier	MDEL (µg/L)	AMEL (µg/L)
Copper	2.99	3.11	1.55	9.3	4.6

**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 dichlorobromomethane are determined as follows.

Pollutant	ECA	MDEL/AMEL Multiplier	AMEL (µg/L)	MDEL (µg/L)
Dichlorobromomethane	0.56	2.01	0.56	1.1

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	
Dichlorobromomethane	µg/L	0.56	1.1

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, Order No. 99-65, 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	---
	lbs/day	580	880	---

Parameter	Units	Effluent Limitation		
		Average Monthly	Average Weekly	Maximum Daily
TSS <sup>a</sup>	mg/L	10	15	---
	lbs/day	580	880	--
Settleable Solids	ml/L	---	---	ND <sup>b</sup>
pH	std units	6.5 – 85		
Nitrate <sup>d</sup>	mg/l	10	---	---
Chlorine	mg/L	---	--	ND <sup>c</sup>
Copper <sup>e</sup>	µg/L	See Attachment E-1		
Dichlorobromomethane <sup>e</sup>	µg/L	0.56	--	1.1

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.

<sup>d</sup> Final effluent limitation for nitrate is not effective until September 20, 2011.

<sup>e</sup> Final effluent limitations for copper and dichlorobromomethane become effective on May 18, 2010.

- The disinfected, advanced treated wastewater sampled at Monitoring Location M-001A 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 any sample.
- 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-001B. 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. R1-2006-0049.

## 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	30	45	60
Settleable Solids	ml/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 any sample.
- 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. Interim effluent limitations for copper and dichlorobromomethane are effective until May 18, 2010. The interim effluent limitation for nitrate is effective until September 20, 2011.

Constituent	Unit	Interim Limitations	
		AMEL	MDEL
Copper	µg/L	---	30
Dichlorobromomethane	µg/L	0.68	1.1
Nitrate (as N)	mg/l	26.6	---

AMEL – Average Monthly Effluent Limitation  
 MDEL – Maximum Daily Effluent Limitation

The interim MDEL for copper is set at 30 ug/l and is based on the highest copper concentration identified in the copper data submitted by the Discharger. The interim average monthly effluent limitation (AMEL) for dichlorobromomethane is set at 0.68 ug/l based on the highest dichlorobromomethane concentration detected in the Discharger’s limited effluent data for this constituent. 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 that was established by the reasonable potential calculations. Thus the final MDEL for dichlorobromomethane is effective immediately. The interim AMEL for nitrate is based on the 99 percentile concentration for the Discharger’s data collected between January 2000 and May 2006.

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

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

**V. RATIONALE FOR RECEIVING WATER LIMITATIONS**

**A. Surface Water**

CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan (Chapter 3). The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional [Water] Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving

Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

Several of the receiving water limitations were modified 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 Order and are included in the draft Order.

## **B. Groundwater**

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

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

40 CFR 122.48 requires all NPDES Orders to specify recording and reporting of monitoring results. Section 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program, 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.

### **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 monitoring requirements in MRP No. R1-2006-0049 are unchanged from those in MRP No. 99-65.

### **B. Effluent Monitoring**

The MRP included with this Order 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.

The MRP in this Order requires increased monitoring at Discharge Point 001 for nutrients and turbidity. It also includes new monitoring requirements for acute toxicity, chronic toxicity, and THMs (dichlorobromomethane, chlorodibromomethane, chloroform and bromoform). The Discharger is no longer required to monitor nickel, zinc, toluene, tributyltin, and TCDD equivalents.

The MRP in this Order has been modified for Discharge Point 002 to include a requirement for daily chlorine residual monitoring and to remove the requirement for settleable solids monitoring.

### **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 MRP included with this Order, 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 with the collection of grab samples taken upstream and downstream of Discharge Point 001 when discharging to the Russian River. The receiving water monitoring program includes a new requirement to monitor total suspended solids. The receiving water monitoring frequency has been increased from monthly to weekly for most constituents.

#### **2. Groundwater**

Routine ground water monitoring is required by Order No. R1-2006-0049. 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 groundwater to the Russian River.

## **VII. RATIONALE FOR PROVISIONS**

### **A. Standard Provisions (Provision VI.A)**

1. **Federal Standard Provisions.** Standard Provisions, which in accordance with sections 122.41 and 122.42 of 40 CFR, apply to all NPDES discharges and must be included in every NPDES Order, 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.
2. **Regional Water Board Standard Provisions.**
  - a. **Disinfection Requirements.** The requirement for a minimum chlorine residual of 1.5 mg/l at the end of the disinfection process is retained from Order No. 99-65 and is based on Regional Water Board staffs' best professional judgment for providing adequate disinfection.
  - b. **Filtration Process Requirements.** The proposed turbidity requirements are based on the definition of filtered wastewater found in section 60301.320(b) of Title 22 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.

### **B. Special Provisions (Provision VI.C)**

#### **1. Reopener Provisions (Provision VI.C.1)**

Provision VI.C.1 contains a reopener provision. The Regional Water Board may reopen the Order to modify Order 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 (Provision VI.C.2)**

The Regional Water Board has issued permits allowing seasonal and year-round discharges to percolation ponds adjacent to or within stream channels. These discharges are typically regulated as discharges to land and are not held to the same standards as direct discharges 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, Regional Water Board staff have identified evidence of pollutants reaching surface water from some of these percolation ponds. The Regional Water Board and USEPA 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 United States, subject to all Basin Plan requirements, NPDES permitting requirements pursuant to section 301 of the CWA, as well as to all WDRs 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 Prohibition III.I. of the Order.

Absent a showing that the discharge is in compliance with the Basin Plan discharge prohibitions, the Regional Water Board may adopt a cease and desist order with a compliance schedule for achieving compliance with the Basin Plan discharge prohibitions and the Discharger's next permit renewal would include a time schedule to come into compliance with the Basin Plan discharge prohibitions through the implementation of alternative disposal methods.

### **3. Best Management Practices and Pollution Prevention (Provision VI.C.3)**

The Regional Water Board includes standard provisions in all NPDES Orders 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 (Provision VI.C.4)**

40 CFR 122.41 (e) requires proper operation and maintenance of permitted wastewater systems and related facilities to achieve compliance with Order conditions. An up-to-date operation and maintenance manual, as required by Provision VI.C.4.b. of the Order, is an integral part of a well-operated and maintained facility.

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

The Regional Water Board includes standard provisions in all NPDES Orders 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)**

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

The Discharger is required to enroll under Statewide General WDRs for Sanitary Sewer Systems (State Water Board Order No. 2006-0003-DWQ) by November 2, 2006. Once enrolled, the Discharger will be required under terms of the General Order to develop and implement a Sewer System Management Plan.

All NPDES permits for POTWs currently include federally required standard conditions to mitigate discharges (40 CFR 122.41(d)), to report non-compliance (40 CFR 122.41(l)(6) and (7)), and to properly operate and maintain facilities (40 CFR 122.41(e)). This provision is consistent with these federal requirements.

###### **ii. Sanitary Sewer Overflows**

Order No. 2006-0003-DWQ includes a Reporting Program that requires the Discharger, beginning May 2, 2007, to report SSOs to an online SSO database administered through the California Integrated Water Quality System (CIWQS) and telefax reporting when the online SSO database is not available. 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.

This Order also includes reporting provisions (Provision VI.C.5.(a)(ii) and Attachment D subsections I.C., I.D., V.E. and V.H.) to ensure that adequate

and timely notifications are made to the Regional Water Board and appropriate local, state, and federal authorities.

The Order establishes oral reporting limits for SSOs. SSOs less than 100 gallons are not required to be reported orally, while SSOs greater than or equal to 100 gallons must be reported orally to the Regional Water Board. Inevitably, minor amounts of untreated or partially treated wastewater may escape during carefully executed routine operation and maintenance activities. This Order establishes a reasonable minimum volume threshold for oral notifications. It has been the experience of Regional Water Board staff that SSOs to land that are less than 100 gallons are not likely to have a material effect on the environment or public health. Larger volumes in excess of 100 gallons may indicate a lack of proper operation and maintenance and due care, and pose more of a threat to the environment or public health. All SSOs, regardless of volume, must be electronically reported pursuant to State Water Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.

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

Because the design flow of the Facility is less than 5.0 mgd, the Order 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 and dichlorobromomethane in the discharge, the proposed Order includes requirements for the Discharger to implement a source identification and reduction program. The Discharger's source identification and reduction program will need to address only those pollutants that continue to be detected at levels that trigger reasonable potential.

In addition, the Regional Water Board recognizes that some form of source control is prudent to ensure the efficient operation of the WWTF, the safety of City 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.

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

The disposal or reuse of wastewater treatment screenings, sludges, or other solids removed from the liquid waste stream is regulated by 40 CFR Parts 257, 258, 501, and 503, the State Water Board promulgated provisions of Title 27, Division 2, of the California Code of Regulations, 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.

**d. Operator Certification (Provision VI.C.5.d)**

This provision requires the WWTF to be operated by supervisors and operators who are certified as required by Title 23, CCR, section 3680.

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

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

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

**7. Compliance Schedules (Provision VI.C.7)**

**Priority Pollutants.** 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 and dichlorobromomethane.

The compliance schedule is based on three documents submitted by the Discharger. On November 30, 2005, the Discharger submitted an Infeasibility Analysis for dichlorobromomethane, documenting that it is infeasible for the Discharger to immediately comply with final effluent limitations for dichlorobromomethane and requesting a compliance schedule. The Discharger requested a five-year compliance schedule, however, the SIP requires that all dischargers comply with final priority pollutant effluent limitations by May 18, 2010. On April 11, 2006, the Discharger submitted an Infeasibility Analysis for copper. The compliance schedule in the Order requires compliance with final effluent limitations for copper and dichlorobromomethane by May 18, 2010.

**Nitrate.** As allowed by the Basin Plan, the Order contains a compliance schedule that the Discharger must follow in order to achieve compliance with final effluent limitations for nitrate. The compliance schedule is allowed due to the Regional Water Board's new interpretation of the Basin Plan nitrate standard as an effluent limitation rather than a receiving water limitation. The compliance schedule is based on the June 26, 2006 Infeasibility Analysis for nitrate submitted by the Discharger. The Discharger requested a five year time schedule to complete studies necessary to

achieve compliance with final nitrate effluent limitations and demonstrated that this is the shortest feasible period of time for completing such studies based on an economic and financial feasibility analysis.

## **VIII. PUBLIC PARTICIPATION**

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the issuance of WDRs that will serve as a National Pollutant Discharge Elimination System (NPDES) Order for the City of Ukiah 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 WDRs 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 April 21, 2006 and through posting on the Regional Water Board's Internet site at <http://www.waterboards.ca.gov/northcoast/agenda/pending.html> beginning on April 21, 2006. Several significant changes were made to the Order in response to comments submitted by the Discharger resulting in the need for a second public comment period. Notification for the second public comment period was provided through publication in the Press Democrat on July 14, 2006 and through posting on the Regional Water Board's Internet site at <http://www.waterboards.ca.gov/northcoast/agenda/pending.html> beginning on July 14, 2006.

### **B. Written Comments**

Regional Water Board staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments for the second public notice period were limited to sections in the July 14, 2006 version of the draft Order that are indicated with underline and strike-out (also indicated in color for color copies). Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by Regional Water Board 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 August 17, 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: September 20, 2006

Time: 9:00 a.m. or as announced in the Regional Water Board's agenda

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 Order. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is

<http://www.waterboards.ca.gov/northcoast> where you can access the current agenda for changes in dates and locations.

**D. Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water 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, 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 Order 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.

Attachment F-1  
 City of Ukiah Reasonable Potential Analysis

Beginning	Step 2		Step 3		Step 5		Final Result						
	C (ug/L) Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points non-detects (Y/N)?	If all data points ND Enter the min detection limit (MDL) (ug/L)	Enter the pollutant detected max conc (ug/L)	Maximum Pollutant Concentration from the effluent (MEC) (ug/L) (MEC= detected max value, if all ND & MDL < then MEC = MDL)	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)	If all B is ND, is MDL > C?	RPA Result	Reason
1	Antimony	6	Y	Y	2	2	Y	Y	2	1.2	N	No	Ud;MEC<C & B is ND
2	Arsenic	50	Y	Y	0.86	0.86	Y	Y	0.1	0.1	N	No	MEC<C & B<C
3	Beryllium	4	Y	Y	0.1	0.1	Y	Y	0.7	0.7	N	No	Ud;MEC<C & B is ND
4	Cadmium	1.76	Y	Y	0.7	0.7	Y	Y	1.7	1.7	N	No	Ud;MEC<C & B is ND
5a	Chromium (III)	145.45	Y	Y	1.7	1.7	Y	Y	5	5	N	No	MEC<C & B<C
5b	Chromium (VI)	11.43	Y	Y	5	5	Y	Y	1.5	1.5	N	Yes	Ud;MEC<C & B is ND
6	Copper	6.46	Y	N	30	30	Y	Y	1.3	1.2	N	No	MEC<C & B<C
7	Lead	1.84	Y	N	1.3	1.3	Y	Y	0.0087	0.0025	N	No	MEC<C & B<C
8	Mercury	0.050	Y	N	0.0087	0.0087	Y	Y	4.4	3.6	N	No	MEC<C & B<C
9	Nickel	36.23	Y	N	4.4	4.4	Y	Y	1	1	N	No	MEC<C & B<C
10	Selenium	50.00	Y	Y	1	1	Y	Y	2.9	2.9	Y	No	Ud;MEC<C & B is ND
11	Silver	1.83	Y	Y	0.9	0.9	Y	Y	0.9	0.9	N	No	Ud;MEC<C & B is ND
12	Thallium	1.70	Y	Y	0.9	0.9	Y	Y	2	39	N	No	MEC<C & B<C
13	Zinc	83.18	Y	N	37	37	Y	Y	0.041	0.041	N	No	Ud;MEC<C & B is ND
14	Cyanide	5.20	Y	Y	2	2	Y	Y	0.00001	0.00001	Y	No	MEC<C & B<C
15	Asbestos	7.00	Y	Y	0.00001	0.00001	Y	Y	0.36	0.36	N	No	Ud;MEC<C & B is ND
16	2,3,7,8 TCDD	0.000000013	Y	Y	0.36	0.36	Y	Y	0.25	0.25	Y	No	Ud;MEC<C & B is ND
17	Acrolein	320	Y	Y	0.25	0.25	Y	Y	0.09	0.09	N	No	Ud;MEC<C & B is ND
18	Acrylonitrile	0.06	Y	Y	0.09	0.09	Y	Y	0.099	0.099	N	No	Ud;MEC<C & B is ND
19	Benzene	1.00	Y	Y	0.099	0.099	Y	Y	0.24	0.24	N	No	Ud;MEC<C & B is ND
20	Bromoform	4.30	Y	Y	0.24	0.24	Y	Y	0.08	0.08	N	No	Ud;MEC<C & B is ND
21	Carbon Tetrachloride	0.25	Y	Y	0.08	0.08	Y	Y	0.13	0.13	N	No	Ud;MEC<C & B is ND
22	Chlorobenzene	70.0	Y	Y	0.13	0.13	Y	Y	0.29	0.29	N	No	Ud;MEC<C & B is ND
23	Chlorodibromomethane	0.41	Y	Y	0.29	0.29	Y	Y	No Criteria	No Criteria	N	Uo	No Criteria
24	Chloroethane	No Criteria	Y	Y	No Criteria	No Criteria	Y	Y	0.14	0.14	N	Uo	No Criteria
25	2-Chloroethylvinyl ether	No Criteria	Y	Y	No Criteria	No Criteria	Y	Y	0.11	0.11	N	Yes	MEC>C
26	Chloroform	No Criteria	Y	N	4.1	4.1	Y	Y	0.14	0.14	N	Yes	MEC>C
27	Dichlorobromomethane	0.560	Y	N	0.68	0.68	Y	Y	0.21	0.21	N	No	Ud;MEC<C & B is ND
28	1,1-Dichloroethane	5.00	Y	Y	0.14	0.14	Y	Y	0.19	0.19	Y	No	Ud;MEC<C & B is ND
29	1,2-Dichloroethane	0.38	Y	Y	0.21	0.21	Y	Y	0.19	0.19	Y	No	Ud;MEC<C & B is ND
30	1,1-Dichloroethylene	0.057	Y	Y	0.19	0.19	Y	Y	0.11	0.11	N	No	Ud;MEC<C & B is ND
31	1,2-Dichloropropane	0.52	Y	Y	0.13	0.13	Y	Y	0.39	0.39	N	No	Ud;MEC<C & B is ND
32	1,3-Dichloropropylene	0.50	Y	Y	0.19	0.19	Y	Y	0.21	0.21	N	No	Ud;MEC<C & B is ND
33	Ethylbenzene	300.0	Y	Y	0.11	0.11	Y	Y	No Criteria	No Criteria	N	Uo	No Criteria
34	Methyl Bromide	48.0	Y	Y	0.39	0.39	Y	Y	0.46	0.46	N	No	MEC<C & B<C
35	Methyl Chloride	4.70	Y	Y	0.21	0.21	Y	Y	0.14	0.14	N	No	Ud;MEC<C & B is ND
36	Methylene Chloride	4.70	Y	N	1.4	1.4	Y	Y	0.21	0.21	N	No	Ud;MEC<C & B is ND
37	1,1,2,2-tetrachloroethane	0.170	Y	Y	0.14	0.14	Y	Y	9.9	9.9	Y	No	Ud;MEC<C & B is ND
38	Tetrachloroethylene	0.800	Y	Y	0.21	0.21	Y	Y	0.16	0.16	N	No	Ud;MEC<C & B is ND
39	Toluene	6,800.0	Y	N	0.21	0.21	Y	Y			N	No	Ud;MEC<C & B is ND
40	1,2-Trans-Dichloroethylene	10.0	Y	Y	0.16	0.16	Y	Y			N	No	Ud;MEC<C & B is ND

Attachment F-1  
 City of Ukiah Reasonable Potential Analysis

Polluting	Constituent name	Step 2		Step 3		Step 5		Final Result						
		C (µg/L) Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	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)	Maximum Pollutant Concentration from the effluent (MEC) (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)	If all B is ND, is MDL > C?	RPA Result	Reason
41	1,1,1-Trichloroethane	200.0	Y	Y	0.17	0.17	0.17	Y	Y	0.17		N	No	Ud;MEC<C & B is ND
42	1,1,2-Trichloroethane	0.60	Y	Y	0.12	0.12	0.12	Y	Y	0.12		N	No	Ud;MEC<C & B is ND
43	Trichloroethylene	2.70	Y	Y	0.15	0.15	0.15	Y	Y	0.15		N	No	Ud;MEC<C & B is ND
44	Vinyl Chloride	0.50	Y	Y	0.34	0.34	0.34	Y	Y	0.34		N	No	Ud;MEC<C & B is ND
45	2-Chlorophenol	120.0	Y	Y	10	10	10	Y	Y	10		N	No	Ud;MEC<C & B is ND
46	2,4-Dichlorophenol	93.0	Y	Y	10	10	10	Y	Y	10		N	No	Ud;MEC<C & B is ND
47	2,4-Dimethylphenol	540.0	Y	Y	4	4	4	Y	Y	4		N	No	Ud;MEC<C & B is ND
48	2-Methyl-4,6-Dinitrophenol	13.4	Y	Y	10	10	10	Y	Y	10		N	No	Ud;MEC<C & B is ND
49	2,4-Dinitrophenol	70.0	Y	Y	10	10	10	Y	Y	10		N	No	Ud;MEC<C & B is ND
50	2-Nitrophenol	No Criteria	Y	Y	20	20	No Criteria	Y	Y	20		N	No	No Criteria
51	4-Nitrophenol	No Criteria	Y	Y	20	20	No Criteria	Y	Y	20		N	No	No Criteria
52	3-Methyl 4-Chlorophenol	No Criteria	Y	Y	2	2	No Criteria	Y	Y	2		N	No	No Criteria
53	Pentaachlorophenol	0.280	Y	Y	10	10	10	Y	Y	10		N	No	Ud;MEC<C & B is ND
54	Phenol	21,000	Y	Y	2	2	2	Y	Y	2		N	No	Ud;MEC<C & B is ND
55	2,4,6-Trichlorophenol	2.10	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
56	Acenaphthene	1,200	Y	Y	2	2	2	Y	Y	2		N	No	Ud;MEC<C & B is ND
57	Acenaphthylene	No Criteria	Y	Y	20	20	No Criteria	Y	Y	20		N	No	No Criteria
58	Anthracene	9,600	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
59	Benzidine	0.0012	Y	Y	10	10	10	Y	Y	10		N	No	Ud;MEC<C & B is ND
60	Benz(a)Anthracene	0.0044	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
61	Benz(a)Pyrene	0.0044	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
62	Benz(b)Fluoranthene	0.0044	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
63	Benz(g)h)Perylene	No Criteria	Y	Y	10	10	No Criteria	Y	Y	10		N	No	No Criteria
64	Benz(k)Fluoranthene	0.0044	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
65	Bis(2-Chloroethoxy)Methane	No Criteria	Y	Y	10	10	No Criteria	Y	Y	10		N	No	No Criteria
66	Bis(2-Chloroethyl)Ether	0.031	Y	Y	2	2	2	Y	Y	2		N	No	Ud;MEC<C & B is ND
67	Bis(2-Chloroisopropyl)Ether	1,400	Y	Y	4	4	4	Y	Y	4		N	No	Ud;MEC<C & B is ND
68	Bis(2-Ethylhexyl)Phthalate	1,800	Y	Y	10	10	10	Y	Y	10		N	No	Ud;MEC<C & B is ND
69	4-Bromophenyl Phenyl Ether	No Criteria	Y	Y	10	10	No Criteria	Y	Y	10		N	No	No Criteria
70	Butylbenzyl Phthalate	3,000	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
71	2-Chloronaphthalene	1,700	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
72	4-Chlorophenyl Phenyl Ether	No Criteria	Y	Y	10	10	No Criteria	Y	Y	10		N	No	No Criteria
73	Chrysene	0.0044	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
74	Dibenz(a,h)Anthracene	0.0044	Y	Y	20	20	20	Y	Y	20		N	No	Ud;MEC<C & B is ND
75	1,2-Dichlorobenzene	600.0	Y	Y	0.12	0.12	0.12	Y	Y	0.12		N	No	Ud;MEC<C & B is ND
76	1,3-Dichlorobenzene	400.0	Y	Y	0.13	0.13	0.13	Y	Y	0.13		N	No	Ud;MEC<C & B is ND
77	1,4-Dichlorobenzene	5.0	Y	N			0.22	Y	Y	0.22		N	No	Ud;MEC<C & B is ND
78	3,3-Dichlorobenzidine	0.040	Y	Y	10	10	10	Y	Y	10		N	No	Ud;MEC<C & B is ND
79	Diethyl Phthalate	23,000	Y	Y	4	4	4	Y	Y	4		N	No	Ud;MEC<C & B is ND
80	Dimethyl Phthalate	313,000	Y	Y	4	4	4	Y	Y	4		N	No	Ud;MEC<C & B is ND

Attachment F-1  
 City of Ukiah Reasonable Potential Analysis

Beginning	Step 2		Step 3		Step 5		Final Result					
	Lowest (most stringent) Criteria (Enter "No Criteria" for no criteria)	Effluent Data Available (Y/N)?	Are all data points 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)	Maximum Pollutant Concentration from the effluent (MEC) (ug/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) (ug/L)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL > C? RPA Result	Reason
81	2,700	Y	Y	20		20	Y	Y	20		N	U4;MEC<C & B is ND
82	0.110	Y	Y	10		No Criteria	Y	Y	10		Y	U4;MEC<C & B is ND
83	No Criteria	Y	Y	10		No Criteria	Y	Y	10		N	No Criteria
84	No Criteria	Y	Y	20		No Criteria	Y	Y	20		N	No Criteria
85	0.040	Y	Y	2			Y	Y	2		Y	U4;MEC<C & B is ND
86	300	Y	Y	2		2	Y	Y	2		N	U4;MEC<C & B is ND
87	1,300	Y	Y	20		20	Y	Y	20		Y	U4;MEC<C & B is ND
88	0.00075	Y	Y	2			Y	Y	2		Y	U4;MEC<C & B is ND
89	0.440	Y	Y	2			Y	Y	2		Y	U4;MEC<C & B is ND
90	50.0	Y	Y	10		10	Y	Y	10		N	U4;MEC<C & B is ND
91	1,900	Y	Y	2			Y	Y	2		Y	U4;MEC<C & B is ND
92	0.0044	Y	Y	2			Y	Y	2		Y	U4;MEC<C & B is ND
93	8.40	Y	Y	2		2	Y	Y	2		N	No Criteria
94	No Criteria	Y	Y	2		2	Y	Y	2		N	No Criteria
95	17.0	Y	Y	10			Y	Y	10		Y	U4;MEC<C & B is ND
96	0.00069	Y	Y	10			Y	Y	10		Y	U4;MEC<C & B is ND
97	0.0060	Y	Y	10			Y	Y	10		Y	U4;MEC<C & B is ND
98	5.0	Y	Y	2		2	Y	Y	2		N	U4;MEC<C & B is ND
99	960.0	Y	Y	10		No Criteria	Y	Y	10		N	No Criteria
100	5.0	Y	Y	20		20	Y	Y	20		N	U4;MEC<C & B is ND
101	0.00013	Y	Y	0.0032			Y	Y	0.0032		Y	U4;MEC<C & B is ND
102	0.0039	Y	Y	0.0047			Y	Y	0.0047		Y	U4;MEC<C & B is ND
103	0.0140	Y	Y	0.015			Y	Y	0.015		Y	U4;MEC<C & B is ND
104	0.0190	Y	Y	0.0059		0.0069	Y	Y	0.0059		N	U4;MEC<C & B is ND
105	No Criteria	Y	Y	0.0041		No Criteria	Y	Y	0.0041		N	No Criteria
106	0.00057	Y	Y	0.035			Y	Y	0.035		Y	U4;MEC<C & B is ND
107	0.00059	Y	Y	0.0059			Y	Y	0.0059		Y	U4;MEC<C & B is ND
108	0.00059	Y	Y	0.0059			Y	Y	0.0059		Y	U4;MEC<C & B is ND
109	0.00083	Y	Y	0.0032			Y	Y	0.0032		Y	U4;MEC<C & B is ND
110	0.00083	Y	Y	0.0056			Y	Y	0.0056		Y	U4;MEC<C & B is ND
111	0.00014	Y	Y	0.0042			Y	Y	0.0042		Y	U4;MEC<C & B is ND
112	0.0560	Y	Y	0.02		0.02	Y	Y	0.02		N	U4;MEC<C & B is ND
113	0.0560	Y	Y	0.0053		0.0053	Y	Y	0.0053		N	U4;MEC<C & B is ND
114	110	Y	Y	0.007		0.007	Y	Y	0.007		N	U4;MEC<C & B is ND
115	0.0360	Y	Y	0.0084		0.0084	Y	Y	0.0084		N	U4;MEC<C & B is ND
116	0.760	Y	Y	0.1		0.1	Y	Y	0.1		N	U4;MEC<C & B is ND
117	0.00021	Y	Y	0.0058		0.0058	Y	Y	0.0058		Y	U4;MEC<C & B is ND
118	0.00010	Y	Y	0.0066		0.0066	Y	Y	0.0066		Y	U4;MEC<C & B is ND
119	0.00017	Y	Y	7			Y	Y	1.33		Y	U4;MEC<C & B is ND
120	0.00020	Y	Y	0.5			Y	Y	0.21		Y	U4;MEC<C & B is ND

Attachment F-2  
 City of Ukiah Wastewater Treatment Facility  
 Effluent and Receiving Water Monitoring Data Used for RPA

Receiving Water:		pH: 7.4		pH: 6.7	
Russian River		Hardness: 76 mg/L		Hardness: 79 mg/L	
Used RDL for NDs and J = DNQ		01/23/02	01/23/02	04/09/02	04/09/02
# in CTR	CONSTITUENT	Receiving Water	Effluent	Receiving Water	Effluent
1	Antimony	< 6	< 6	< 6	< 6
2	Arsenic	J 1.2	J 0.72	J 0.97	< 2
3	Beryllium	< 0.5	< 0.5	< 1	< 1
4	Cadmium	< 1	< 1	< 1	< 1
5a	Chromium III	J 1.7	< 1.7	< 10	< 10
5b	Chromium (VI)	< 10	< 10	< 10	< 10
6	Copper	< 9	< 9	< 9	< 9
7	Lead	J 1.2	J 1.3	J 0.67	J 0.9
8	Mercury	0.0025	0.0041	0.0024	0.0087
9	Nickel	J 3.6	J 2.8	J 2.6	J 4.4
10	Selenium	< 5	< 5	< 5	< 5
11	Silver	< 10	< 5	< 10	< 10
12	Thallium	< 1	< 1	< 1	< 1
13	Zinc	39	25	J 5.5	37
14	Cyanide	< 3	< 3	< 3	< 3
15	Asbestos (units = MFL)	< 0.021	< 0.021	0.041	< 0.021
16	2,3,7,8-TCDD (Dioxin)	< 0.00001	< 0.00001	< 0.00001	< 0.00001
17	Acrolein	< 2	< 2	< 2	< 2
18	Acrylonitrile	< 2	< 2	< 2	< 2
19	Benzene	< 0.3	< 0.3	< 0.3	< 0.3
20	Bromoform	< 0.5	< 0.5	< 0.5	< 0.5
21	Carbon Tetrachloride	< 0.5	< 0.5	< 0.5	< 0.5
22	Chlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5
23	Chlorobromomethane	< 0.5	< 0.5	< 0.5	< 0.5
24	Chloroethane	< 0.5	< 0.5	< 0.5	< 0.5
25	2-Chloroethylvinyl Ether				
26	Chloroform	< 0.5	2.6	< 0.5	< 4.1
27	Dichlorobromomethane	< 0.5	0.68	< 0.5	J 0.38
28	1,1-Dichloroethane	< 0.5	< 0.5	< 0.5	< 0.5
29	1,2-Dichloroethane	< 0.5	< 0.5	< 0.5	< 0.5
30	1,1-Dichloroethylene	< 0.5	< 0.5	< 0.5	< 0.5
31	1,2-Dichloropropane	< 0.5	< 0.5	< 0.5	< 0.5
32	1,3-Dichloropropylene	< 0.5	< 0.5	< 0.5	< 0.5
33	Ethylbenzene	< 0.5	< 0.5	< 0.5	< 0.5
34	Methyl Bromide	< 0.5	< 0.5	< 0.5	< 0.5
35	Methyl Chloride	< 0.5	< 0.5	< 0.5	< 0.5
36	Methylene Chloride	< 0.5	< 0.5	J 0.46	< 0.5
37	1,1,2,2-Tetrachloroethane	< 0.5	< 0.5	< 0.5	< 0.5
38	Tetrachloroethylene	< 0.5	< 0.5	< 0.5	< 0.5
39	Toluene	< 0.3	1.1	< 0.3	6
40	1,2-Trans-Dichloroethylene	< 0.5	< 0.5	< 0.5	< 0.5
41	1,1,1-Trichloroethane	< 0.5	< 0.5	< 0.5	< 0.5
42	1,1,2-Trichloroethane	< 0.5	< 0.5	< 0.5	< 0.5
43	Trichloroethylene	< 0.5	< 0.5	< 0.5	< 0.5
44	Vinyl Chloride	< 0.5	< 0.5	< 0.5	< 0.5
45	2-Chlorophenol	< 5	< 5	< 5	< 5
46	2,4-Dichlorophenol	< 5	< 5	< 5	< 5
47	2,4-Dimethylphenol	< 2	< 2	< 2	< 2
48	2-Methyl-4,6-Dinitrophenol	< 5	< 5	< 5	< 5
49	2,4-Dinitrophenol	< 5	< 5	< 5	< 5
50	2-Nitrophenol	< 10	< 10	< 10	< 10
51	4-Nitrophenol	< 10	< 10	< 10	< 10
52	3-Methyl-4-Chlorophenol	< 1	< 1	< 1	< 1
53	Pentachlorophenol	< 5	< 5	< 5	< 5
54	Phenol	< 1	< 1	< 1	< 1
55	2,4,6-Trichlorophenol	< 10	< 10	< 10	< 10
56	Acenaphthene	< 1	< 1	< 1	< 1
57	Acenaphthylene	< 10	< 10	< 10	< 10
58	Anthracene	< 10	< 10	< 10	< 10
59	Benzidine	< 5	< 5	< 5	< 5
60	Benzo(a)Anthracene	< 10	< 10	< 10	< 10

Attachment F-2  
 City of Ukiah Wastewater Treatment Facility  
 Effluent and Receiving Water Monitoring Data Used for RPA

Receiving Water:		pH: 7.4		pH: 6.7	
Russian River		Hardness: 76 mg/L		Hardness: 79 mg/L	
Used RDL for NDs and J = DNQ		01/23/02	01/23/02	04/09/02	04/09/02
# in	CONSTITUENT	Receiving Water	Effluent	Receiving Water	Effluent
61	Benzo(a)Pyrene	< 10	< 10	< 10	< 10
62	Benzo(b)Fluoranthene	< 10	< 10	< 10	< 10
63	Benzo(ghi)Perylene	< 5	< 5	< 5	< 5
64	Benzo(k)Fluoranthene	< 10	< 10	< 10	< 10
65	Bis(2-Chloroethoxy)Methane	< 5	< 5	< 5	< 5
66	Bis(2-Chloroethyl)Ether	< 1	< 1	< 1	< 1
67	Bis(2-Chloroisopropyl)Ether	< 2	< 2	< 2	< 2
68	Bis(2-Ethylhexyl)Phthalate	< 5	< 5	< 5	< 5
69	4-Bromophenyl Phenyl Ether	< 5	< 5	< 5	< 5
70	Butylbenzyl Phthalate	< 10	< 10	< 10	< 10
71	2-Chloronaphthalene	< 10	< 10	< 10	< 10
72	4-Chlorophenyl Phenyl Ether	< 5	< 5	< 5	< 5
73	Chrysene	< 10	< 10	< 10	< 10
74	Dibenzo(a,h)Anthracene	< 10	< 10	< 10	< 10
75	1,2 Dichlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5
76	1,3 Dichlorobenzene	< 0.5	< 0.5	< 0.5	< 0.5
77	1,4 Dichlorobenzene	< 0.5	J 0.22	< 0.5	< 0.5
78	3,3'-Dichlorobenzidine	< 5	< 5	< 5	< 5
79	Diethyl Phthalate	< 2	< 2	< 2	< 2
80	Dimethyl Phthalate	< 2	< 2	< 2	< 2
81	Di-n-Butyl Phthalate	< 10	< 10	< 10	< 10
82	2,4-Dinitrotoluene	< 5	< 5	< 5	< 5
83	2,6-Dinitrotoluene	< 5	< 5	< 5	< 5
84	Di-n-Octyl Phthalate	< 10	< 10	< 10	< 10
85	1,2-Diphenylhydrazine	< 1	< 1	< 1	< 1
86	Fluoranthene	< 1	< 1	< 1	< 1
87	Fluorene	< 10	< 10	< 10	< 10
88	Hexachlorobenzene	< 1	< 1	< 1	< 1
89	Hexachlorobutadiene	< 1	< 1	< 1	< 1
90	Hexachlorocyclopentadiene	< 5	< 5	< 5	< 5
91	Hexachloroethane	< 1	< 1	< 1	< 1
92	Indeno(1,2,3-cd) Pyrene	< 10	< 10	< 10	< 10
93	Isophorone	< 1	< 1	< 1	< 1
94	Naphthalene	< 1	< 1	< 1	< 1
95	Nitrobenzene	< 1	< 1	< 1	< 1
96	N-Nitrosodimethylamine	< 5	< 5	< 5	< 5
97	N-Nitrosodi-n-Propylamine	< 5	< 5	< 5	< 5
98	N-Nitrosodiphenylamine	< 1	< 1	< 1	< 1
99	Phenanthrene	< 5	< 5	< 5	< 5
100	Pyrene	< 10	< 10	< 10	< 10
101	1,2,4-Trichlorobenzene	< 5	< 5	< 5	< 5
102	Aldrin	< 0.0032	< 0.0032	< 0.0032	< 0.0032
103	alpha-BHC	< 0.0047	< 0.0047	< 0.0047	< 0.0047
104	beta-BHC	< 0.0039	< 0.01	< 0.0039	< 0.0039
105	gamma-BHC (lindane)	< 0.0069	< 0.0069	< 0.0069	< 0.0069
106	delta-BHC	< 0.0041	< 0.0041	< 0.0041	< 0.0041
107	Chlordane	< 0.035	< 0.035	< 0.035	< 0.035
108	4,4-DDT	< 0.0059	< 0.0059	< 0.0059	< 0.0059
109	4,4-DDE	< 0.0032	< 0.0032	< 0.0032	< 0.0032
110	4,4-DDD	< 0.0056	< 0.0056	< 0.0056	< 0.0056
111	Dieldrin	< 0.0042	< 0.0042	< 0.0042	< 0.0042
112	alpha-Endosulfan	< 0.0037	< 0.0037	< 0.0037	< 0.0037
113	beta-Endosulfan	< 0.0053	< 0.0053	< 0.0053	< 0.0053
114	Endosulfan Sulfate	< 0.007	< 0.007	< 0.007	< 0.007
115	Endrin	< 0.0084	< 0.0084	< 0.0084	< 0.0084
116	Endrin Aldehyde	< 0.01	< 0.03	< 0.01	< 0.01
117	Heptachlor	< 0.0058	< 0.0058	< 0.0058	< 0.0058
118	Heptachlor Epoxide	< 0.0066	< 0.0066	< 0.0066	< 0.0066
119 -					
125	PCBs	< 0.5	< 1	< 0.5	< 0.5
126	Toxaphene	< 0.5	< 0.5	< 0.5	< 0.5

**Attachment F-2 Ukiah Effluent Data Used for Reasonable Potential Analysis**

**Ukiah WWTF - Other Priority Pollutant Effluent Data (to add to 13267 request)**

	Copper	Toluene	Tributyltin	TCDD Eq	Nickel	Zinc	Hardness
	mg/l	ug/l	ng/l	pc/l	mg/l	mg/l	mg/l
Jan-98	ND	5.3	ND	ND	---	---	36
Feb-98	ND	---	---	---	---	---	73
Mar-98	ND	---	---	---	---	---	78
Apr-98	ND	---	---	---	---	---	70
May-98	ND	---	---	---	---	---	75
Nov-98	ND	---	---	---	---	---	77
Dec-98	ND	---	---	---	---	---	71
Jan-99	ND	---	---	---	---	---	75
Feb-99	ND	1.5	ND	ND	---	---	58
Mar-99	ND	---	---	---	---	---	62
Apr-99	ND	---	---	---	---	---	79
Jan-00	ND	---	---	---	---	---	14
Feb-00	ND	---	---	---	---	---	14
Mar-00	ND	9.9	ND	ND	---	---	30
Apr-00	ND	---	---	---	---	---	16
Mar-01	ND	1.7	2	ND	ND	0.03	17
Dec-01	ND	---	---	---	ND	0.02	17
Jan-02	ND	---	---	---	ND	ND	17
Apr-02	0.02	6	ND	ND	ND	0.03	18
Dec-02	ND	---	---	---	ND	ND	17
Jan-03	ND	1.3	---	---	ND	ND	64
Apr-03	ND	---	---	---	ND	ND	73
May-03	ND	---	---	---	ND	ND	70
Dec-03	ND	---	---	---	ND	ND	73
Jan-04	ND	---	---	---	ND	ND	69
Feb-04	ND	ND	ND	ND	ND	ND	75
Mar-04	ND	---	---	---	ND	ND	70
Apr-04	0.03	---	---	---	ND	0.03	80
Jan-05	ND	ND	---	---	ND	ND	72
Feb-05	ND	1.2	ND	ND	ND	ND	74
Dec-05	ND	---	---	---	ND	ND	128

Note: Hardness concentrations below approximately 50 mg/l appear to be outliers. These values of hardness are significantly below any hardness concentration detected in Russian River samples collected by Regional Water Board staff.

Copper Detection Limit = 0.020 mg/l