

Executive Officer's Summary Report
8:30 a.m., July 23, 2009
North Coast Regional Water Board
Hearing Room
5550 Skylane Blvd., Suite A
Santa Rosa, California

Item: 8

Subject: Public Hearing on Order No.R1-2009-0034 to consider adoption of Waste Discharge Requirements for the **City of Ferndale Wastewater Treatment Facility**, NPDES Permit No.CA 0022721, WDID No. 1B831360HUM.

DISCUSSION

The City of Ferndale (hereinafter Discharger or City) owns and operates a municipal wastewater treatment facility (WWTF) and associated wastewater collection, reclamation, and disposal facilities that serve a population of 1,457 residential and commercial users. The WWTF is currently discharging under Order No. R1-2008-0038 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0022721 adopted on June 12, 2008.

NPDES permits are typically renewed every five years in accordance with federal requirements. However, under certain circumstances, a permit must be re-opened and renewed sooner. This action to renew the City's NPDES permit is being taken early because the City of Ferndale is proposing construction of a new WWTF. In order for the City to receive grant funds to construct the new WWTF through the State Board's funding programs, the Regional Water Board must provide written assurance that the project will be compliant with permit conditions. The City could not legally discharge from the new WWTF without requirements specific to the new treatment system. In addition, the City's application for discharge requires an exception to the Water Quality Control Plan for the North Coast Basin (Basin Plan). The Basin requires that such an exception be adopted through an NPDES permit. The specific changes and associated rationale for the changes being proposed during this permit renewal are described in more detail below.

Order No. R1-2008-0038 permits the discharge of equivalent to secondary-treated effluent from the existing oxidation pond treatment system to Francis Creek near its confluence with the Salt River during the winter discharge period of October 1 to May 14. Current effluent limits for conventional pollutants, representing equivalent to secondary for the City, are presented in the following table:

Parameter	Units	Effluent Limitations for Existing WWTF Equivalent To Secondary – Discharge Pont 001		
		Average Monthly	Average Weekly	Percent Removal
Biochemical Oxygen	mg/L	30	45	65%

Parameter	Units	Effluent Limitations for Existing WWTF Equivalent To Secondary – Discharge Pont 001		
		Average Monthly	Average Weekly	Percent Removal
Demand 5-day @ 20°C	lbs/day	144	216	---
Total Suspended Solids	mg/L	44	66	65%
	lbs/day	211	317	---

Pursuant to provisions of the Basin Plan Order No. R1-2008-0038 requires that discharges of wastewater during the period of October 1 through May 14 shall not exceed one percent (100:1) of the combined flows of the receiving water (Francis Creek and the Salt River). Historically, the Salt River was wide and deep enough to be used as a shipping channel. Over time, the Salt River has experienced significant reductions in channel capacity from sediment deposition and prolific growth of in-stream vegetation. As a result, the volume of effluent discharged from the Ferndale WWTF consistently exceeds one percent of the receiving water flow in violation of permit and Basin Plan requirements. The City of Ferndale has been under a Cease and Desist Order to comply with waste discharge rate requirements since May 2003. The City is in full compliance with current Cease and Desist Order R1-2008-0110.

The Basin Plan indicates that the Regional Water Board will consider requests for exceptions to the waste discharge rate limitation and requires that exceptions be defined in NPDES permits for each discharger, on a case by case basis. The City has evaluated numerous options to comply with the waste discharge rate limitation. These studies have resulted in the current proposal, which includes construction of a new WWTF to enhance treatment levels in order to comply with the criteria for an exception from the Basin Plan discharge rate limitation.

The Discharger submitted a Report of Waste Discharge, dated January 15, 2009, and applied for an NPDES permit renewal proposing construction of a new wastewater treatment facility. The new WWTF will discharge an Average Dry Weather Flow (ADWF) up to 0.55 million gallons per day (mgd) and a Peak Wet Weather Flow (PWWF) up to 0.95 mgd of treated wastewater. Until the new WWTF is constructed and operational, the Discharger will continue to operate the existing WWTF under the terms set out in IV.B of the proposed Order. The application was deemed complete on February 12, 2009.

The complete application for NPDES permit renewal included a request for an exception to the Basin Plan 100:1 Discharge Rate Limitation (Exception Request). The Exception Request addressed requirements contained in the Implementation Plan section of the Basin Plan (specifically at page 4-2.00). Specifications from the Basin Plan include the following:

- A. The wastewater treatment facility shall be reliable.

Reliability shall be demonstrated through analysis of the features of the facility including, but not limited to, system redundancy, proper operation and

maintenance, and backup storage capacity to prevent the threat of pollution or nuisance.

- B. The discharge of waste shall be limited to rates and constituent levels which protect the beneficial uses of the receiving waters.

Protection shall be demonstrated through analysis of all the beneficial uses of the receiving waters. For receiving waters which support domestic water supply (MUN) and water contact recreation (REC1), analysis shall include expected normal and extreme weather conditions within the discharge period, including estimates of instantaneous and long-term minimum, average, and maximum discharge flows and percent dilution in receiving waters. The analysis shall evaluate and address cumulative effects of all discharges, including point and nonpoint source contributions, both in existence and reasonably foreseeable. For receiving waters which support domestic water supply (MUN), the Regional Water Board shall consider the California Department of Health Services evaluation of compliance with the Surface Water Filtration and Disinfection Regulations contained in Section 64650 through 64666, Chapter 17, Title 22 of the California Code of Regulations. Demonstration of protection of beneficial uses shall include consultation with the California Department of Fish and Game regarding compliance with the California Endangered Species Act.

- C. The exception shall be limited to that increment of wastewater which remains after reasonable alternatives for reclamation have been addressed.
- D. The exception shall comply with State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Waters in California," and the federal regulations covering antidegradation (40 CFR §131.12).
- E. There shall be no discharge of waste during the period May 15 through September 30.

The Exception Request identified each constituent of concern (COC) known or reasonably thought to be present in WWTF effluent; documented existing water quality for each COC in the receiving water upstream of WWTF influence; and compared the water quality objectives necessary to support the most sensitive beneficial uses identified for the receiving water in the Basin Plan against the levels of each COC and their cumulative impacts. Considering the potential receiving water quality and flows that can be achieved with the new WWTF, the models submitted to support the Exception Request predicted that discharges of tertiary-treated effluent at one hundred percent of the receiving water flow (1:1) would be protective of receiving water beneficial uses. Regional Water Board staff review of the Exception Request indicates that the Discharger has demonstrated consistency with Basin Plan exception requirements for a discharge rate at one hundred percent of the receiving water flow (1:1).

The Exception Request further explains that the new WWTF will be capable of consistently treating wastewater to tertiary level quality through the operation of extended aeration tanks, clarifiers, and disc filtration. Tertiary level treatment is defined under these circumstances as the ability to achieve 10 mg/l as a monthly average for Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) respectively. Future effluent limits for conventional pollutants, representing tertiary level treatment for the City of Ferndale, are presented in the following table:

Parameter	Units	Effluent Limitations New WWTF Tertiary Treated – Discharge Point 001		
		Average Monthly	Average Weekly	Percent Removal
Biochemical Oxygen Demand 5-day @ 20°C	mg/L	10	15	85%
	lbs/day	79	119	---
Total Suspended Solids	mg/L	10	15	85%
	lbs/day	79	119	---

The new WWTF is expected to improve overall compliance by providing tertiary level treatment of conventional pollutants, nutrient removal, filtration and ultraviolet disinfection. The existing oxidation pond will be transformed and used for wet-weather flow equalization, allowing peak flows to be normalized as influent flows subside.

The proposed Order R1-2009-0034 maintains the current requirements for the existing WWTF as adopted in June 2008 in Order R1-2008-0038. These requirements will remain in force until 90 days after the initial activation of the new WWTF at which time the proposed Order will impose new effluent limitations for discharges at Discharge Point 001 as stated above. In addition, new effluent limitations for nutrients and increased surface water monitoring will take effect.

A copy of the draft permit and/or information to access the draft on the Regional Water Board website was mailed to the Discharger, interested agencies, and persons. This item was opened for public comment between May 6, 2009 and June 5, 2009. Staff has been working closely with the City throughout development of the proposed Order. No formal comments were received from either the Discharger or other interested party.

PRELIMINARY STAFF
 RECOMMENDATION:

Adopt the Order as proposed.