California Regional Water Quality Control Board
North Coast Region

ORDER NO. R1-2011-0034
NPDES No. CA0022730

REQUIRING TECHNICAL INFORMATION
PURSUANT TO WATER CODE SECTION 13267(b)

FOR

City of Fortuna
Municipal Wastewater Treatment Facility
180 Dinsmore Drive
Fortuna, CA 95540
WDID. 1B83135OHUM

Humboldt County

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

1. The City of Fortuna Municipal Wastewater Treatment Facility (herein after Facility) is regulated under NPDES permit No. CA0022730, Order No. R1-2011-0004, formerly (Order No. R1-2007-0007). The Facility and associated collection system serve approximately 7,000 residential, commercial, and institutional users in the City of Fortuna, and 4,000 residential users in the Rohnerville-Campton Heights area. The current wastewater treatment system consists of screening, grit removal, influent pumping, primary sedimentation, activated sludge processes, secondary sedimentation, chlorination, and de-chlorination, as well as anaerobic biosolids digestion, dewatering and composting. Key processes at the facility and each lift station in the collection system are remotely monitored by a Supervisory Control and Data Acquisition (SCADA) system.

2. The Facility is currently designed to treat an average dry-weather flow (ADWF) of 1.5 million gallons a day (mgd) and reports an influent peak wet weather flow (PWWF) capacity of 7.0 mgd. Peak influent flows over 3-4 mgd are diverted to three equalization ponds and returned for treatment during low flow periods.

3. From October 1 through May 14 each year, disinfected, de-chlorinated effluent may be discharged through Discharge Point 001 to Strong's Creek. Strong's Creek is a tributary to the Eel River and is considered a water of the State and of the United States.

4. With prior notification to Regional Water Board staff, the City of Fortuna interrupted typical operation of the Facility to repair damage to the aeration basin suffered during a January 2010 earthquake. Influent flows were temporarily diverted to the equalization ponds to allow dewatering of the chlorine contact chamber and partial dewatering of the secondary clarifier as well as the aeration basin where repairs took

place. During repairs, the Return Activated Sludge (RAS) pump was used to re-circulate a portion of the activated sludge mixed liquor between the secondary clarifier and aeration basin to sustain biological treatment viability.

5. Sometime on January 3, 2011, the RAS pump failed to re-circulate the mixed liquor, allowing wastewater to fill the secondary clarifier and overflow the weirs, subsequently filling the chlorine contact chamber. Chlorination equipment engaged automatically in response to increased levels/flow through the chlorine chamber. However, de-chlorinated equipment does not automatically engage; consequently, chlorinated effluent flowed out discharge point 001 to Strong's Creek. The City estimates that up to 65,000 gallons of chlorinated effluent was released.

6. In addition to the failed RAS pump, the alarm system (SCADA) for emergency call outs failed to alert the on-call operator of the system failure. The SCADA system's internal Structured Query Language (SQL) server program froze and did not allow the computer to engage the auto-dialer to notify on-call operations staff of the emergency.

7. On January 4, 2011, at about 8:45 am, the shift supervisor noticed the chlorine contact basin had filled during the night releasing secondary treated chlorinated effluent to Strong's Creek. The shift supervisor immediately notified the lead plant operator of the release, and City staff redirected flow of the chlorinated effluent to the percolation ponds through Discharge Point 003.

8. The lead plant operator provided verbal notification to the Regional Water Board at 9:40 am, January 4, 2011. City staff also notified the California Emergency Management Agency (Cal EMA) and Department of Fish and Game (DFG) regarding the release of chlorinated effluent to Strong's Creek. Regional Water Board staff received written documentation of the incident on January 5, 2011.

9. On Thursday January 13, 2011, Lisa Bernard of the Regional Water Board staff conducted a follow-up inspection of the facility. Lead plant operator, Hank Brenard, and Warden Ed Ramos with DFG accompanied Ms. Bernard during the inspection. During the inspection, staff 1) confirmed the sequence of events leading to the release, 2) inspected the SCADA server, and 3) observed that the SCADA server continued to freeze without warning.

10. City staff collected a sample of the effluent on January 4, 2011 to ascertain the residual chlorine concentration released to Strong's Creek. The analytical results indicated a total residual chlorine concentration of 2.25 mg/L (ppm).

11. Chlorine in contact with water containing living tissues causes acute necrosis (cell death), especially in fish. In addition, if water contains decaying materials, free chlorine can combine with them to form carcinogenic compounds called trihalomethanes. The US EPA chronic and acute criteria for protection of freshwater aquatic organisms for chlorine are 11 ug/l (ppb) and 19 ppb respectively. The release of chlorinated effluent at Discharge Point 001 as measured on January 4,

2011, exceeded the US EPA National Recommended Ambient Water Quality Criteria for Freshwater Aquatic Life Protection resulting in potential impacts to the beneficial uses of Strong's Creek and the Eel River.

12. The Regional Water Board's Water Quality Control Plan for the North Coast Region (hereinafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. The Basin Plan, at page 2-1, states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, beneficial uses applicable to Strong's Creek and Eel River are as follows:

Beneficial Use (s)	**Eel River/ Strong's Creek**
Municipal and Domestic Water Supply (MUN)	Existing
Agricultural Supply (AGR)	Existing
Industrial Service Supply (IND)	Existing
Industrial Process Supply (PRO)	Potential
Groundwater Recharge (GWR)	Existing
Freshwater Replenishment (FRESH)	Existing
Navigation (NAV)	Existing
Hydropower Generation (POW)	Potential
Water Contact Recreation (REC-1)	Existing
Non-contact Water Recreation (REC-2)	Existing
Commercial and Sport Fishing (COMM)	Existing
Marine Habitat (MAR)	Potential
Cold Freshwater Habitat (COLD)	Existing
Wildlife Habitat (WILD)	Existing
Preservation of Rare, Threatened or Endangered Species (RARE)	Existing
Spawning, Reproduction, and/or Early Development (SPWN)	Existing
Shellfish Harvesting (SHELL)	Existing
Aquaculture (AQUA)	Existing
Native American Culture (CUL)	Existing
Migration of Aquatic Organisms (MIGR)	Existing
Estuarine Habitat (EST)	Existing

13. The release of chlorinated effluent at Discharge Point 001 violates the following requirements of Order No. R1-2007-0007:

III. DISCHARGE PROHIBITIONS

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

D. *"The discharge or reclamation of untreated or partially treated waste (receiving a lower level of treatment than described in Finding No. II. B. of this order) from anywhere within the collection, treatment, or disposal facility is prohibited, except as provided for in Attachment D, Standard Provision I. G (Bypass Provision)."*

IV. EFFLUENT LIMITATIONS

A.1.b. *"Treated wastewater discharged to Strong's Creek/Eel River shall not contain detectable levels of chlorine, using an analytical method or chlorine analyzer with a minimum detection level of 0.1 mg/L."*

14. Under Order No. R1-2007-0007 Section VI, C (4), subsection (vi), "Construction, Operation and Maintenance Specifications", requires a description of preventive and contingency plans for controlling accidental discharges, and for minimizing the effect of such events. The Regional Water Board requires documentation identifying the sources of the January 2011 accidental discharges of untreated or partially treated effluent entering Strong's Creek. Technical reports required by this Order are necessary to ensure that the prior harm and future threat to water quality created by the discharges described above are properly abated and controlled. More detailed information is available in the Regional Water Board's public file on this matter.

15. In light of the unauthorized waste disposal described in Finding 5, above, the burden, including costs, of the reports required by this Order bear a reasonable relationship to the need for the reports and the benefits to be obtained there from.

16. This enforcement action is being taken for the protection of the environment and, therefore, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, section 21000 et seq.) in accordance with Section 15321, Chapter 3, title 14, California Code of Regulations.

17. Failure to comply with the terms of this Order may result in enforcement under the California Water Code. Any person failing to provide technical reports containing information required by this Order by the required date(s) or falsifying any information in the technical reports is, pursuant to Water Code Section 13268, guilty of a misdemeanor and may be subject to administrative civil liabilities of up to one thousand dollars ($1,000.00) for each day in which the violation occurs. Any person failing to clean up or abate threatened or actual discharges as required by this Order is, pursuant to Water Code section 13385, subject to administrative civil liabilities of

up to five thousand dollars ($5,000.00) per day or ten dollars ($10) per gallon of waste discharged. Any person discharging waste into navigable waters of the United States without waste discharge requirements is, pursuant to Water Code Section 13385(c), subject to administrative civil liabilities of up to ten thousand dollars ($10,000.00) per day in which the discharge occurs plus ten dollars ($10.00) per gallon of waste discharged, and may also be subject to criminal prosecution pursuant to Water Code Section 13387.

18. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with California Water Code section 13320 and title 23, California Code of Regulations, section 2050. The petition must be received by the State Water Board within 30 days of the date of this Order. Copies of the law and regulations applicable to filing petitions will be provided upon request. In addition to filing a petition with the State Board, any person affected by this Order may request the Regional Water Board to reconsider this Order. To be timely, any such request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional Water Board is sought, filing a petition with the State Water Board within the 30 day period is necessary to preserve the petitioner's legal rights. If you choose to request reconsideration of this Order or file a petition with the State Water Board, be advised that you must comply with the Order while your request for reconsideration and/or petition is being considered.

THEREFORE, IT IS HEREBY ORDERED that, pursuant to California Water Code Section 13267(b), the Discharger shall:

By April 15, 2011 submit a technical report to the Assistant Executive Officer, which shall include, but not be limited to, the following technical information:

1. A written report on the Supervisory Control And Data Acquisition (SCADA) system updates addressing; failure of the emergency call out system, repair of the Structured Query Language (SQL) server and auto-dialer.

2. Provide written documentation confirming:

    a. Actions taken to abate threats to water quality and
    b. Measures taken during the interim period (January 4, 2011 to April 15, 2011) to ensure proper notification of system upsets/failures.

3. A written report with measures and a detailed implementation schedule to protect against a reoccurrence of the alarm system failure.

4. A final report submitted within 30 days of project completion documenting identified compliance measures.

If the Discharger is unable to perform any activity or to submit any documentation in compliance with the deadlines in this Order, the Discharger may submit a written

request to the Assistant Executive Officer for an extension of the time schedule. The written extension request shall explain why the delay is beyond the reasonable control of the Discharger and must be received by the Regional Water Board no less than 15 calendar days prior to the respective deadline. An extension may be granted by the Assistant Executive Officer, for good cause, in which case this Order will be accordingly revised.

All information provided in response to this Order must include the following signed certification statement:

> *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.*

The foregoing report is needed to address the potential ongoing water quality threats at The City of Fortuna WWTP. The report required by this Order will allow Regional Water Board staff to determine the mitigation and other measures that are needed to protect water quality and ensure that similar violations do not recur. In addition, the information within the required report may be used to determine if Waste Discharge Requirements, or a Waiver of Waste Discharge Requirements, is necessary or for further enforcement actions taken against the City of Fortuna WWTP.

Ordered by_____
Luis G. Rivera
Assistant Executive Officer

February 17, 2011