California Regional Water Quality Control Board
North Coast Region

Order No. R1-2004-0027
NPDES Permit No. CA0023043
I.D. No.1B83100OSON

Waste Discharge Requirements
and
Master Reclamation Permit

For

Forestville Water District
(formerly Forestville County Sanitation District)

Wastewater Treatment, Reclamation, and Disposal Facility

Sonoma County

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

1. The Forestville County Sanitation District (CSD) and the Sonoma County Water Agency (SCWA) submitted a Report of Waste Discharge dated November 1, 2001 and applied for revision of its Permit to discharge treated municipal wastewater under the National Pollutant Discharge Elimination System (NPDES) from the Forestville County Sanitation District Wastewater Treatment Facility (WWTF). Supplemental information to complete filing of the application was submitted on January 29, 2002, February 7, 2002, September 30, 2002, October 4, 2002, January 3, 2003, January 16, 2003, and April 29, 2003. The Forestville Water District (hereinafter Permittee) submitted a revised Report of Waste Discharge on August 10, 2004, identifying the Forestville Water District (District) as the new owner of the municipal wastewater treatment facility as of July 1, 2004[1]. Supplemental information to complete filing of the application was submitted on September 1, 2004. These Waste Discharge Requirements (WDRs) regulate the discharge of municipal wastewater from the Permittee's wastewater collection, treatment, reclamation, and disposal facility. The term of this Permit is five years.

2. The District owns the wastewater collection, treatment, reclamation, and disposal facilities that serve the unincorporated communities of Forestville and the Mirabel Heights Zone of Benefit (Mirabel Heights). The treatment, reclamation and disposal facilities and part of the collection system are located in the Green Valley Creek drainage area in portions of Sections 5, 6, 7 and 8, T7N, R9W, MDB&M as

[1] The Sonoma County Local Agency Formation Commission (LAFCO) adopted Resolution No. 2434 on September 10, 2003, ordering a conditional reorganization consisting of dissolution of the Forestville County Sanitation District and the Mirabel Heights Zone of Benefit, approval for the Forestville Water District to exercise its latent sewer service powers, and designation of the Forestville Water District as the successor in interest to the Forestville County Sanitation District and the Mirabel Heights Zone of Benefit. LAFCO filed a Certificate of Completion with the Sonoma County Recorder on June 30, 2004 declaring that the terms and conditions of Resolution 2434 have been completed.

shown in Attachment "A" incorporated herein and made a part of this Order. The remainder of the collection system is located in the Mark West Creek drainage area in portions of Sections 31 and 32, T8N, R9W, MDB&M as also shown in Attachment "A."

3. Portions of the Forestville collection system, which were constructed in the early 1950's, consist of 3.3 miles of vitrified clay and asbestos-cement collection system pipelines to the treatment plant. In 1976-1977, 5,026 feet of sewer mains were sliplined with polyethylene liner to improve the system integrity. Wastewater flows by gravity from the Forestville service area to the wastewater treatment plant.

   In January 2001, the Mirabel Heights Zone of Benefit (Mirabel Heights) newly constructed collection system was connected to the Forestville WWTF. Mirabel Heights is served by a gravity flow collection system, which feeds into a force main connected to the Forestville wastewater treatment plant. The gravity portion of the collection system consists of 2.7 miles of plastic sewer pipe and the force main consists of 1.5 miles of ductile iron pipe. Two lift stations carry wastewater from Mirabel Heights' gravity flow collection system to the wastewater treatment plant.

4. The Permittee may also accept disinfected, secondary effluent from the Graton Community Services District (CSD) WWTF for the purpose of providing advanced wastewater treatment (AWT) to the transferred Graton CSD effluent. Effluent may be transferred via an effluent transfer pipeline (Discharge Serial No. 004) that has been constructed between the two WWTFs.

   Graton's disinfected secondary effluent may be transferred to Forestville for advanced wastewater treatment, disinfection, storage and disposal when treatment, storage and disposal capacity are available at Forestville. The Permittee is responsible for compliance with AWT effluent limitations for all effluent that is treated at Forestville WWTF for Graton. The Permittee may provide for surface water disposal of Graton's effluent provided that such disposal does not result in any violation of this Order, including, but not limited to, the one percent flow limitation (Finding 7.b), all discharge prohibitions, effluent limitations, receiving water limitations, and general provisions. The Permittee may also transfer Graton's disinfected AWT effluent back to the Graton WWTF (see Finding 7.d).

5. The WWTF was recently modified and upgraded to a) increase the average daily dry weather flow (ADWF) capacity from 0.10 mgd to 0.130 mgd, the average maximum monthly flow (MMF) capacity from 0.25 mgd to 0.357 mgd, and the maximum daily treatment capacity[2] to 0.58 mgd and b) provide advanced

[2] Average daily dry weather flow (ADWF) is defined as the average of daily inflows calculated during the lowest consecutive 30-day period each calendar year. Average maximum monthly flow is defined as the average of the highest monthly inflow each calendar year. Maximum daily treatment capacity is defined as the highest amount of effluent that may be treated, based on the capacity of the microfilters.

wastewater treatment[3] (AWT) employing microfiltration technology to bring its WWTF into compliance with the Water Quality Control Plan for the North Coast Region (Basin Plan) and to maintain compliance with Department of Health Services (DHS) water recycling requirements contained in Chapter 3, Division 4, Title 22, California Code of Regulations (CCR), Sections 60301 through 60355 (hereinafter Title 22). Advanced treatment of the wastewater will allow the Permittee to pursue increased reclamation opportunities, including landscape irrigation of local schools and parks in addition to local vineyards and farmlands.

6. The upgraded wastewater treatment facilities include a new headworks with a rotary hydroscreen system, a screenings washer, and a metering flume; a 2.67 MG aeration pond; a 0.7 MG settling pond; a prefilter pump station; two microfiltration modules and microfiltration control facilities to provide advanced wastewater treatment to a maximum daily flow of 0.58 mgd; and a new chlorine contact chamber. The upgrade also includes the installation of a floating suction intake in the on-site effluent storage pond; a new effluent pump station and additional pipelines to deliver recycled water to urban and agricultural areas that are not served by the existing recycled water system; and construction of a new effluent transfer pipeline between Forestville WWTF and the Graton CSD WWTF to provide operational flexibility between the Forestville and Graton WWTFs.

7. The wastewater disposal/reclamation component of the Permittee's facilities consists of a storage system, a surface water discharge system, a recycled water delivery system, and a transfer pipeline between Forestville and Graton as shown on Attachment "A" incorporated herein and made a part of this Order. Treated, disinfected effluent may be directed to one or more of the reclamation/disposal components. These components are described as follows:

   a. Discharge to On-Site Effluent Storage Pond (Discharge Serial No. 001)

      After treatment, the advanced treated effluent is discharged to an on-site effluent storage pond prior to discharge to the land disposal system or the surface water discharge system. The maximum capacity of the existing on-site effluent storage pond is 3.25 million gallons. Additional on-site storage capacity may also be available within the treatment ponds during low flow periods associated with an ADWF of 0.130 mgd.

      The on-site effluent storage pond, and other effluent storage ponds described in parts c. and d. below, are not part of the treatment system therefore, technology-based effluent limitations contained in this Order are applicable at Discharge Serial No. 001, the point of completion of treatment and

[3] The terms "advanced treated effluent" and "disinfected tertiary effluent" are used interchangeably in this permit. Both terms refer to the advanced wastewater treatment (AWT) process described in Finding 4 of this Permit. The term advanced wastewater treatment is used in the Water Quality Control Plan for the North Coast Region. The term "disinfected tertiary effluent" is used in the Department of Health Services' Recycled Water Criteria contained in Chapter 3, Division 4, Title 22 of the California Code of Regulations, Sections 60301 through 60355.

disinfection. The storage ponds allow the amount of discharge to be controlled to protect beneficial uses of the receiving water and provide a source of recycled water during the discharge prohibition period.

b. Surface Water Disposal System (Discharge Serial Nos. 002 and 005)

Treated, disinfected, dechlorinated effluent may be discharged from the on-site effluent storage pond to Jones Creek, a tributary to Green Valley Creek (Latitude 38° 27' 58", Longitude 122° 53' 18") at Discharge Serial No. 002 during the allowed discharge period from October 1 to May 14. Green Valley Creek is tributary to the Russian River. The rate of discharge is governed by flow conditions in Green Valley Creek monitored at the Iron Horse Bridge and is limited to one percent of the creek flow as specified in Discharge Prohibition A.9.

c. Tertiary Recycled Water System (Discharge Serial No. 003)

During the dry weather season (May 15 to September 30), and other periods as allowed under this Order, tertiary treated, disinfected effluent from effluent storage is reclaimed for irrigation (Discharge Serial No. 003). The existing irrigation system is shared with the Graton CSD WWTF and includes approximately 93 acres of agricultural land with an irrigable capacity of 77 acre-feet. The Permittee has written agreements with individual recycled water customers.

The AWT recycled water system is includes two effluent pump stations, two recycled water mains, an effluent transfer line to the Graton CSD (see Findings 4 and 7.d), an off-site storage reservoir, spray irrigation systems and accompanying appurtenances to provide AWT recycled water to agricultural and urban landscapes, including school grounds and parks. The irrigation system consists of over 250 acres with an irrigable capacity of approximately 100 acre-feet per year. The off-site storage pond is an existing 14.7 million gallon storage reservoir at the Sterling/Iron Horse Vineyards property in Forestville that will provide additional effluent storage capacity of between 6.5 and 13 million gallons annually. Effluent stored in this pond will be used for subsequent irrigation of vineyards on the Sterling/Iron Horse Vineyards property.

The amount of recycled water used for irrigation in any year is dependent on weather conditions and the amount of land available for irrigation. The Permittee's preferred disposal method is irrigation, rather than discharge to surface waters.

d. Transfers To the Graton CSD Storage Ponds (Discharge Serial No. 004)

Disinfected, secondary or disinfected, tertiary treated effluent may be transferred from Forestville to Graton when Forestville is in need of additional storage capacity. Disinfected, tertiary effluent delivered via the pipeline after disinfected, secondary effluent has been in the pipeline would only be considered tertiary after one full pipe volume of tertiary water passes through the pipeline.

8. Biosolids generated during the treatment process accumulate in the aeration and settling ponds. As necessary biosolids will be removed and disposed at a legal point of disposal. Solids Disposal and Handling Provisions are included in Section H. of this Order.

9. This facility is a minor discharger as defined in Part 40 of the Code of Federal Regulations (CFR) 122.21(j). Pursuant to Title 23, California Code of Regulations (CCR), Section 2200, the Permittee is assessed an annual fee based on an average dry weather flow of 0.130 mgd.

10. The Water Quality Control Plan for the North Coast Region (Basin Plan) includes beneficial uses, water quality objectives, implementation plans for point source and nonpoint source discharges, prohibitions and statewide plans and policies. The Basin Plan also includes a prohibition against discharge to the Russian River and its tributaries during the period May 15 through September 30 and all other periods when the waste discharge flow is greater than one percent of the receiving stream's flow. The Basin Plan further requires that such discharges be advanced treated wastewater in accordance with effluent limitations contained in NPDES permits for each affected discharger, and shall meet a median coliform level of 2.2 MPN/100 ml.

11. 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). As 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 and chronic 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 encouraged.

12. The beneficial uses of Green Valley Creek and the Russian River include:

a. municipal and domestic supply
b. agricultural supply
c. industrial service supply
d. industrial process supply
e. groundwater recharge
f. navigation
g. hydropower generation
h. water contact recreation
i. non-contact water recreation
j. commercial and sport fishing
k. warm freshwater habitat
l. cold freshwater habitat
m. wildlife habitat
n. preservation of rare, threatened, or endangered species
o. migration of aquatic organisms
p. spawning, reproduction, and/or early development
q. estuarine habitat
r. aquaculture

13. Beneficial uses of areal groundwaters include:

a. municipal and domestic water supply
b. agricultural water supply
c. industrial service supply
d. industrial process supply

14. 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 Permittees.

15. This Order contains technology-based effluent limitations for 5-day Biochemical Oxygen Demand (BOD), suspended solids, pH, and percent removal of BOD and suspended solids, as required by 40 CFR 133.102 and 133.105(f). The concentration-based effluent limitations for BOD and suspended solids in this Order are more stringent than those contained in CFR 133.102 and are based on the effluent quality requirements specified in Finding 6 of the Permittee's previous permit Waste Discharge Requirements Order No. 95-54, the treatment requirements recommended by the Department of Health Services to produce a "pathogen free" effluent, the performance of similar pond-based microfiltration tertiary WWTFs, and preliminary effluent data obtained from Forestville's recently installed microfiltration units. Demonstration of adequate disinfection to

produce a "pathogen-free" effluent is accomplished through compliance with technology-based effluent limitations for total coliform bacteria as required by the Basin Plan and Title 22, and through compliance with Title 22 filtration and disinfection requirements contained in Section G "Other Requirements" of this Order.

The previous permit (Order No. 95-54) contained daily maximum effluent limitations for BOD and suspended solids. This Order has been modified to remove those effluent limitations. This Permit modification is governed by 40 CFR 122.44(*l*)(1), which provides that less stringent effluent limitations are permitted where the circumstances justifying permit modification under 40 CFR 122.62 are present. Among the several enumerated grounds is that, as provided in Section 122.62(a)(15), a modification is needed to "correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions." Pursuant to 40 CFR 122.45(m), effluent limitations for publicly owned treatment works (POTWs) are to be expressed as weekly and monthly averages. A daily maximum limitation was previously included for this discharge, but is no longer technically justified.

16. Mass-based effluent limitations are included in this Order for BOD and suspended solids, as provided by 40 CFR 122.45(f). The mass-based effluent limitations for BOD and suspended solids included in this Order have been modified to be numerically lower than those included in Order No. 95-54 due to the fact that: 1) the concentration-based effluent limitations are lower than those in the previous permit, and; 2) mass-based effluent limitations have been calculated using the average dry weather flow for discharges occurring during dry-weather periods. However, this Order allows for the calculation of mass-based effluent limitations applicable during periods of wet-weather flow based on wet-weather design flows up to the maximum daily design flow of 0.58 mgd.

17. The State Water Resources Control Board (State Water Board) adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (also known as the State Implementation Plan or SIP) on March 2, 2000. All provisions of the SIP became effective as of May 22, 2000. The SIP applies to discharges of toxic pollutants into the inland surface State's Porter-Cologne Water Quality Control Act (Division 7 of the CWC) and the federal CWA. The SIP establishes: (1) implementation provisions for priority pollutant criteria promulgated by the U.S. EPA through the National Toxics Rule (NTR) and through the California Toxics Rule (CTR), and for priority pollutant objectives established by Regional Water Quality Control Boards (Regional Water Boards) in their water quality waters, enclosed bays, and estuaries of California subject to regulation under the control plans (basin plans); (2) monitoring requirements for 2, 3, 7, 8-TCDD equivalents; and (3) chronic toxicity control provisions.

18. On April 27, 2001, in accordance with the SIP, the Regional Water Board Executive Officer issued a 13267(b) order to require the previous permittees to obtain ambient background and effluent data to determine whether priority pollutants for which criteria have been established under provisions of the SIP are, or may be, discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard. The 13267(b) Order required sampling for NTR, CTR, and additional priority pollutants to determine if the discharge has reasonable potential to cause or contribute to water quality impacts. The requirements contained in the 13267(b) Order list specific constituents, detection levels, acceptable time frames, and report requirements. In response to the 13267(b) Order, the previous permittees collected effluent and ambient background samples on November 11, 2002 and February 20, 2003. The previous permittees submitted the analytical data to satisfy the 13267(b) Order on April 29, 2003.

19. Order No. 95-54 contained water quality-based effluent limitations (WQBELs) for nine priority pollutants, including hexavalent chromium, copper, lead, mercury, nickel, silver, zinc, chloroform and dichlorobromomethane and required monthly effluent monitoring for these nine constituents during the discharge season. Effluent monitoring for these constituents began in December 1994. Due to changes to improved analytical methods, changes in laboratories performing the analyses, and changes in operations at the WWTF, the data set evaluated for chromium, copper, lead, nickel, silver, zinc and dichlorobromomethane is October 1998 through May 2003 and the data set evaluated for mercury is November 1999 through May 2003.

20. As prescribed by Section 1.3 of the SIP, effluent and ambient monitoring data for priority pollutants was analyzed to determine whether the discharge has the reasonable potential to cause or contribute to an excursion above any State water quality standard. This reasonable potential analysis (RPA) was conducted using the results of effluent and background monitoring data described in Findings 18 and 19. Based on the results of the RPA, reasonable potential to exceed State water quality standards was found for copper, lead, and dichlorobromomethane due to the maximum effluent concentration being greater than the applicable water quality objective, and for zinc based on the maximum ambient concentration being greater than the applicable water quality objective. The reasonable potential analysis for the hardness-dependent metals copper, lead, and zinc, was conducted using the lowest receiving water hardness concentration for Jones Creek of 86 mg/l. In accordance with Section 1.4 of the SIP, numeric WQBELs are required for these constituents.

    There may be reasonable potential for cyanide due to one of two ambient background sample concentrations being greater than the water quality objective for cyanide. However, due to the small data set for cyanide, and the fact that the ambient background sample was collected over two miles upstream of the Permittee's discharge point on Atascadero Creek, additional monitoring data is required under this Order to determine reasonable potential, thus no effluent limitation for cyanide is established in this Order.

21. Final WQBELs were calculated with no dilution credit for copper, lead, and zinc, based on the freshwater aquatic life criterion and for dichlorobromomethane based on the human health criterion as shown in the following table:

Priority Pollutant	**AMEL (ug/l)**	**MDEL (ug/l)**
Copper	See Attachment B	See Attachment B
Lead	See Attachment C	See Attachment C
Zinc	See Attachment D	See Attachment D
Dichlorobromomethane	0.56	1.41

Final WQBELs for copper, lead, and zinc 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. Appendices B, C, and D provide calculated final effluent limitations for copper, lead, and zinc, respectively, for a range of hardness concentrations using the formulas noted therein.

22. The previous permittees submitted an infeasibility study dated March 29, 2004 that concluded that it is infeasible to immediately comply with the final effluent limitations for copper, lead, zinc, and dichlorobromomethane. The Permittee has requested a compliance schedule for achievement of the final priority pollutant effluent limitations identified in Finding 21. Sections 2.1 and 2.2 of the SIP authorize the establishment of a compliance schedule and interim limitations upon receipt of additional information documenting possible source control efforts, pollutant minimization actions, and facility improvements. In addition, the Regional Water Board is investigating the feasibility of developing a mixing zone policy. It is anticipated that this policy will not be ready for consideration by the Regional Water Board until at least 2006. If this policy is adopted, and final effluent limitations are calculated using an appropriate dilution factor, the proposed WQBELs may be revised. Based on the facts presented in this Finding, the Regional Water Board has determined that a compliance schedule and interim requirements, including interim effluent limitations, are warranted.

23. Section 2.2.1 of the SIP requires that interim effluent limitations be based on the more stringent of existing permit limitations or current facility performance. The interim effluent limitations for the copper, lead, zinc, and chloroform plus dichlorobromomethane are based on effluent limitations in the the previous order for the Forestville WWTF, Order No. 95-54. The interim effluent limitation for dichlorobromomethane is based on current treatment plant performance using the maximum observed concentration from the October 1998 through May 2003 data set. General Provision J.30 specifies interim requirements and a compliance schedule to achieve the final effluent limitations for copper, lead, zinc, and dichlorobromomethane. Tasks to be performed by the Permittee include completion of a copper and lead source identification program, implementation of an outreach program (if necessary) for businesses associated with possible copper contamination, implementation of a dichlorobromomethane monitoring plan to evaluate the formation of dichlorobromomethane within the treatment train, submittal of a written implementation plan and implementation of the plan to

achieve compliance with the final effluent limitations for copper, lead, zinc, and/or dichlorobromomethane. In addition, General Provision J.25 requires annual chronic toxicity monitoring.

24. Order No. 95-54 also contained effluent limitations for chromium, mercury, nickel, silver, and chloroform, and required monthly effluent monitoring for these five constituents during the discharge season. Effluent monitoring for these constituents began in December 1994. The RPA for chromium, mercury, nickel, and silver demonstrated that there is no reasonable potential to cause or contribute to exceedances of water quality objectives for mercury, nickel, and silver. Accordingly, the CWA does not require the establishment of numeric effluent limitations for these constituents. The lack of reasonable potential for these constituents constitutes new information that permits the removal of effluent limitations for these constituents consistent with CWA Sections 402(o)(2)(B) and/or 303(d)(4). Therefore, effluent limitations for chromium, mercury, nickel, and silver are not contained in this Order.

    A reasonable potential analysis was not conducted for chloroform because a water quality criterion has not yet been developed for this pollutant. Consequently, the effluent limitation for chloroform from Order No. 95-54 has been retained in this Order.

25. The WWTF is not required under 40 CFR Part 403 to have an approved pretreatment program that meets the criteria established in 40 CFR Part 403.8 and Part 403.9 because the average daily dry weather flow is less than 5 mgd and there are no significant industrial users discharging to the WWTF. However, this Order establishes general source control requirements (Source Control Provisions Section I) that require the Permittee to perform some source control functions to ensure that pollutants do not interfere with, pass through, or be incompatible with treatment operations, interfere with the use or disposal of sludge, or pose a health hazard to personnel.

26. The Forestville WWTF is not required to have coverage under NPDES General Permit No. CAS000001 for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities because the design flow of the WWTF is less than 1.0 mgd. The Permittee has determined that this facility does not have industrial storm water discharges to surface waters. Storm water Best Management Practices are in place to divert storm water run-on from the treatment facility grounds.

27. The DHS has established statewide reclamation criteria in Chapter 3, Division 4, Title 22, CCR, Sections 60301 through 60355 (hereinafter Title 22) for the use of recycled water for irrigation, impoundments, cooling water, and other purposes. The DHS has also established Guidelines for Use of Reclaimed Water. This Order implements the Title 22 recycled water criteria.

28. In 1996, the State Water Board and DHS set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of recycled water in California, in a document titled Memorandum of Agreement Between the Department of Health Services and the State Water Resources Control Board on the Use of Reclaimed Water (MOA). This Order is consistent with the MOA.

29. This Order implements Section 13523.1 of the CWC which authorizes issuance of a Master Reclamation Permit to suppliers or distributors, or both, of recycled water in lieu of issuing individual water reclamation requirements to each recycled water user.

30. The Permittee is required to develop and keep updated, an Engineering Report for the use of recycled water as required by Sections 60313(d), 60314, and 60323 of Title 22. This Title 22 Engineering Report must be approved by DHS and the Regional Water Board prior to delivery of disinfected, advanced treated effluent to any recycled water use site requiring tertiary effluent as required by Title 22. The Title 22 Engineering Report shall describe how the Permittee will operate the treatment facilities and reclamation system to comply with all applicable rules and regulations, including Title 22 and this Order. The Title 22 Engineering Report shall also discuss the possibility of incidental runoff from recycled water use areas and describe measures the Permittee will take to minimize this possibility.

    Incidental runoff is defined as runoff that is unintentional (e.g., accidental breakage of a sprinkler head) and not associated with negligence on the part of the Permittee or the recycled water user. These incidents are typically infrequent, low volume, accidental, not due to a pattern of neglect or lack of oversight, and are promptly addressed. The Regional Water Board recognizes that such minor violations are unavoidable and present a low risk to water quality. Incidental runoff incidents shall be summarized in the Permittee's quarterly recycled water monitoring report**.** Enforcement action shall be considered for inadequate response by the Permittee to incidental runoff incidents, repeated runoff incidents that were within the Permittee's control, where incidental runoff directly causes violations of water quality objectives, incidents that create a condition of pollution or nuisance, and discharges that reach surface water in violation of Discharge Prohibitions A.6 or A.7 and/or Water Recycling Requirements D.4 or D.6 of this Order.

31. This Order authorizes the Permittee to reuse treated municipal wastewater that complies with effluent limitations contained in Section B of this Order for uses that have been addressed in an approved Title 22 Engineering Report and for which recycled water user agreements have been negotiated.

32. Effluent Limitations included in this Order will assure compliance with requirements contained in Title 22 and the DHS/State Water Board MOA.

33. The use of recycled water is exempt from the requirements of Title 23, CCR, Section 2510, et. seq., (hereinafter Chapter 15) and Title 27, CCR, pursuant to Section 2511(b) based on the following:

    a. The Board is issuing a Master Reclamation Permit, and

    b. The reclamation complies with the Basin Plan, and

    c. The recycled water does not need to be managed according to 22 CCR, Division 4.5, Chapter 11, as a hazardous waste.

34. The Regional Water Board consulted with DHS, the Sonoma County Health Department, and the local Mosquito Abatement District and considered any recommendations regarding public health aspects for this use of recycled water.

35. The Russian River is listed as an impaired water body for sediment pursuant to Section 303(d) of the CWA. A total maximum daily load (TMDL) has not been established to address sediment 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 Permittee's discharge determined that the discharge does not contain sediment (i.e., settleable solids, suspended solids, and turbidity) at levels that 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 advanced level of treatment provided by the WWTF, which removes all settleable solids and reduces total suspended solids and turbidity to negligible levels. The summer discharge prohibition, the one-percent flow limitation for winter discharge, and the results of previous solids and turbidity monitoring also support this Finding.

36. The permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. Although the flow volume of the discharge may increase, the quality of the effluent will be significantly improved with regard to BOD, suspended solids and coliform, which will result in a net decrease in the mass of pollutants discharged. This potential increase in the flow volume of the discharge allows for correction of a documented water pollution problem in the Mirabel Heights area. Because upgrades to the treatment plant will improve the quality of effluent, the impact on existing water quality will be insignificant.

    The priority pollutant effluent limitations in this Order are in compliance with the antidegradation policy because the interim limits for copper, lead, zinc and chloroform plus dichlorobromomethane hold the Permittee to the effluent limitations from Order No. 95-54 and the interim limit for dichlorobromomethane holds the Permittee to current facility performance.

37. The action to renew an NPDES permit is exempt from Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.) in accordance with Section 13389 of the California Water Code.

    This action is also exempt from CEQA as an existing facility pursuant to Title 14, CCR, Section 15301. The project involves a negligible expansion of an existing use. This determination is based on the fact that the WWTF ADWF capacity is being increased from 0.1 mgd to 0.130 mgd concurrently with an upgrade from secondary to advanced wastewater treatment (AWT). This WWTF upgrade is considered negligible because the concentration and mass loading of pollutants discharged to receiving waters will decrease because of the higher level of treatment provided by AWT.

    An Environmental Impact Report for the upgrade project titled "Forestville and Graton Wastewater Facilities Improvement Project" was prepared and a Notice of Determination filed on December 14, 1993. An Environmental Impact Report for the Mirabel Heights Water Pollution Control Project was prepared and a Notice of Determination filed on March 4, 1998. A March 2000 Environmental Analysis concluded that supplemental environmental documentation was not needed prior to construction of the AWT upgrade project.

38. The Regional Water Board has notified the Permittee 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.

39. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

40. The Forestville WWTF is presently governed by WDR Order No. 95-54 for the Forestville Sanitation District, adopted by the Regional Water Board on August 24, 1995. Upon taking effect, this Order will supplant and replace the prior permit, Order No. 95-54.

41. This Order will serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the Clean Water Act, or amendments thereto. The Order will take effect 50 days after adoption by the Regional Water Board (i.e., November 25, 2004) because the draft Order received significant public comments.

42. The Fact Sheet is incorporated as findings in support of this Order as if set forth here verbatim.

THEREFORE, IT IS HEREBY ORDERED that WDR Order No. 95-54 is rescinded, effective 50 days after adoption of Order No. R1-2004-0027 by the Regional Water Board, and the Permittee, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS

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

2. Creation of a pollution, contamination, or nuisance, as defined by Section 13050 of the CWC is prohibited.

3. The discharge of sludge is prohibited, except as authorized under **H. SOLIDS DISPOSAL AND HANDLING REQUIREMENTS**.

4. The discharge or reclamation of untreated or partially treated waste from anywhere within the collection, treatment, or disposal facility is prohibited, except as provided for in General Provision J.13.

5. The discharge of waste to land that is not owned by or under agreement to use by the Permittee is prohibited

6. The discharge of waste at any point not described in Finding 7 of this Order or authorized by any State Water Board or other Regional Water Board permit is prohibited.

7. The discharge of wastewater effluent from the WWTF to the Russian River or its tributaries is prohibited during the period May 15 through September 30 each year.

8. The average daily dry weather flow (ADWF) of waste into the Permittee's WWTF in excess of 0.130 mgd, as determined from the lowest consecutive 30-day mean daily flow, is prohibited.

9. During the period of October 1 through May 14, discharges of wastewater shall not exceed one percent of the flow of Green Valley Creek. For purposes of this Order, compliance with the 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 Green Valley Creek as measured at the Iron Horse Bridge, 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 Green Valley Creek flow at Iron Horse Bridge in the same calendar month. During periods of discharge, the gage at Iron Horse Bridge at Green Valley Creek shall be read at least once daily, and the effluent flow shall be set for no greater than one percent of the flow of the creek at the time of the daily reading. At the beginning of the discharge season, the monthly flow volume comparisons shall be based on the date when the discharge commenced to the end of the calendar month. At the end of the discharge season, the monthly flow volume shall be based on the first day of the calendar month to the date when the discharge ceased for the season.

B. EFFLUENT LIMITATIONS

1. Only advanced treated wastewater, as defined by the WWTF's treatment design and the numerical limitations below, shall be discharged from the WWTF to Jones Creek (Discharge Serial No. 002) and the recycled water system (Discharge Serial No. 003). The advanced treated wastewater shall be adequately oxidized, micro-filtered, and disinfected as defined in Title 22, Division 4, Chapter 3, CCR. Representative samples of advanced treated effluent shall be collected at a point between the end of the treatment train and prior to discharge (Discharge Serial Nos. 001, 002, and 003), unless otherwise specified, and shall be analyzed for the purpose of determining compliance with this Order.

2. Advanced treated wastewater sampled at Discharge Serial No. 001 shall not contain constituents in excess of the following limitations:

Constituent	Units	Monthly Average[4]	Weekly Average[5]
BOD (20º, 5-day)	mg/l	10	15
	lb/day (dry-weather) [6, 7]	11	16
	lb/day (maximum wet-weather) [6, 7]	48	73
Suspended Solids	mg/l	10	15
	lb/day (dry-weather) [6, 7]	11	16
	lb/day (maximum wet-weather) [6, 7]	48	73

[4] The arithmetic mean of all daily determinations made during a calendar month. Where less than daily sampling is required, the average shall be determined by the summation of all the measured daily discharges divided by the number of days during the calendar month when the measurements were made. If only one sample is collected during that period of time, the value of the single sample shall constitute the monthly average.

[5] The arithmetic mean of all daily determinations made during a calendar week, Sunday to Saturday. Where less than daily sampling is required, the average shall be determined by the summation of all the measured daily discharges divided by the number of days during the calendar week when the measurements were made. If only one sample is collected during that period of time, the value of the single sample shall constitute the weekly average.

[6] The mass discharge (lbs/day) is obtained from the following calculation of 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_i and C_i 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 day, week, or month. If a composite sample is taken, C_i is the concentration measured in the composite sample; and Q_i is the average flow rate occurring during the period over which samples are composited.

[7] Mass based effluent limitations are based on the WWTF average dry-weather design flow of 0.130 mgd. During wet-weather periods when the flow rate into the WWTF exceeds the dry weather design flow, the mass emission limitations shall be calculated using the concentration-based effluent limitations and the actual daily average flow rates (not to exceed the peak design flow of 0.58 mgd.)

Mass effluent limitations for BOD and Suspended Solids are technology-based limits, thus they apply at all times at the end of the treatment and disinfection train (Discharge Serial No. 001).

3. Secondary treated wastewater transferred to Graton CSD's effluent storage ponds via Discharge Serial No. 004 shall not contain constituents in excess of the following limitations:

Constituent	**Units**	**Monthly Average[8]**	**Weekly Average[9]**
BOD (20º, 5-day)	mg/l	30	45
	lb/day (dry-weather) [10, 11]	33	49
	lb/day (maximum wet-weather) [10, 11]	145	218
Suspended Solids	mg/l	30	45
	lb/day (dry-weather) [10, 11]	33	49
	lb/day (maximum wet-weather) [10, 11]	145	218

4. The disinfected effluent, sampled at Discharge Serial No. 001 or transferred to Graton CSD (Discharge Serial No. 004) shall not contain concentrations of total coliform bacteria exceeding the following limitations:

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[8] The arithmetic mean of all daily determinations made during a calendar month. Where less than daily sampling is required, the average shall be determined by the summation of all the measured daily discharges divided by the number of days during the calendar month when the measurements were made. If only one sample is collected during that period of time, the value of the single sample shall constitute the monthly average.

[9] The arithmetic mean of all daily determinations made during a calendar week, Sunday to Saturday. Where less than daily sampling is required, the average shall be determined by the summation of all the measured daily discharges divided by the number of days during the calendar week when the measurements were made. If only one sample is collected during that period of time, the value of the single sample shall constitute the weekly average.

[10] The mass discharge (lbs/day) is obtained from the following calculation of 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_i and C_i 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 day, week, or month. If a composite sample is taken, C_i is the concentration measured in the composite sample; and Q_i is the average flow rate occurring during the period over which samples are composited.

[11] Mass based effluent limitations are based on the WWTF average dry-weather design flow of 0.130 mgd. During wet-weather periods when the flow rate into the WWTF exceeds the dry weather design flow, the mass emission limitations shall be calculated using the concentration-based effluent limitations and the actual daily average flow rates (not to exceed the peak design flow of 0.58 mgd.)

a. The median concentration 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.

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

c. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.[12]

5. Effluent shall not contain any measurable settleable solids, as measured at Discharge Serial No. 001.

6. The arithmetic mean of the BOD (20ºC, 5-day) and suspended solids values for effluent samples collected from Discharge Serial No. 001 in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal). 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))

7. Advanced treated disinfected wastewater discharged to Jones Creek, sampled at Discharge Serial No. 002, 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.

8. The pH of the effluent, measured at Discharge Serial No. 001 shall not be less than 6.0 nor greater than 9.0 when discharging to land.

9. The pH of the effluent, measured at Discharge Serial No. 002 shall not be less than 6.5 nor greater than 8.5 when discharging to Jones Creek.

10. There shall be no acute toxicity in the effluent when discharging to Jones Creek, as measured at Discharge Serial No. 002. The Permittee 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:

a. Minimum for any one bioassay: 70 percent survival.
b. Median for any three or more consecutive bioassays: at least 90 percent survival.

Compliance with this effluent limitation shall be determined in accordance with General Provision J.24 of this Order.

[12] Compliance with Effluent Limitation B.4.a. shall be determined as a rolling 7-day median and compliance with Effluent Limitation B.4.b. shall be determined based on a fixed calendar month, not as a rolling 30-day average.

11. Effluent Limitations for Protection of Freshwater Aquatic Life

During periods of discharge to Jones Creek, representative samples of advanced treated wastewater collected at Discharge Serial No. 002 shall not contain constituents in excess of the following limits:

Constituent	Unit	Interim Limitations[a]		Final Limitations[b]	
		1-Hour Average	4-Day Average	AMEL	MDEL
Copper[c]	ug/l	Attachment E	Attachment E	Attachment B	Attachment B
Lead[c]	ug/l	Attachment E	Attachment E	Attachment C	Attachment C
Zinc[c]	ug/l	Attachment E	Attachment E	Attachment D	Attachment D

Notes:
AMEL – Average Monthly Effluent Limitation
MDEL – Maximum Daily Effluent Limitation
a These interim limitations shall be effective until October 6, 2009.
b Final effluent limitations shall replace the interim limitations on October 6, 2009.
c Interim and final effluent limitations for copper, lead, and zinc 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 of this Order provides calculated interim acute and chronic aquatic life values for copper and lead for a range of hardness values using the formulas noted in Attachment E. Attachments B, C, and D provide calculated final effluent limitations for copper, lead, and zinc, respectively, for a range of hardness values using the formulas noted therein.

12. Effluent Limitations for the Protection of Human Health

During periods of discharge to Jones Creek, representative samples of advanced treated wastewater collected at Discharge Serial No. 002 shall not contain constituents in excess of the following limits:

Constituent	Unit	Interim Limitations[a]		Final Limitations[b]	
		Monthly Average	Daily Maximum	AMEL	MDEL
Chloroform + dichlorobromomethane	ug/l	---	---	100 [c, d]	---
Dichlorobromomethane	ug/l	---	5.7	0.56	1.4

Notes:
AMEL – Average Monthly Effluent Limitation
MDEL – Maximum Daily Effluent Limitation
a These interim limitations shall be effective until October 6, 2009.
b Final effluent limitations shall replace the interim effluent limitations on October 6, 2009.
c The chloroform + dichlorobromomethane limitation is a 30-Day Average limit carried over from Order No. 95-54.
d The chloroform and dichlorobromomethane concentrations combined are not to exceed 100 ug/l.

C. RECEIVING WATER LIMITATIONS

1. The waste discharge shall not cause the dissolved oxygen concentration of the receiving waters to be depressed below 7.0 mg/l. 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. Within this range, the discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally. 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.

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 the receiving waters 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 humans, plant, animal, or aquatic life. Compliance with this objective shall be determined according to General Provision J.24 and General Provision J.25.

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. This 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 Clean Water Act, and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.

14. The discharge shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin Plan.

D. WATER RECYCLING REQUIREMENTS

1. The use of recycled water shall not result in unreasonable waste of water.

2. The use of recycled water shall not create a condition of pollution or nuisance as defined in CWC Section 13050(m).

3. The Permittee shall be responsible to insure that all users of recycled water comply with the terms and conditions of this Order and with any rules, ordinances, or regulations adopted by the Permittee.

4. Recycled water shall not be applied to irrigation areas during periods when uncontrolled runoff may occur.

5. Recycled water used for irrigation shall be applied in such a manner so as not to exceed vegetative demand or field capacity.

6. Recycled water shall not be allowed to escape from the recycled water use areas by airborne spray or by surface flow unless it does not pose a public health threat. [Title 22, Section 60310(e)]

7. Direct or windblown spray, mist, or runoff from irrigation areas shall not enter dwellings, designated outdoor eating areas, or food handling facilities. [Title 22, Section 60310(e)(2)]

8. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff. [Title 22, Section 60310(e)(3)]

9. There shall be no bypassing of untreated or partially treated wastewater from the reclamation plant or any intermediate processes to the point of use. [Title 22, Section 60331]

10. All recycled water equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities.

11. The California Health and Safety Code, Section 116815, requires that "all pipes installed above or below the ground, on or after June 1, 1993, that are designed to carry recycled water, shall be colored purple or distinctively wrapped with purple tape." Section 116815 also contains exemptions that apply to municipal facilities that have established a labeling or marking system for recycled water used on their premises and for water delivered for agricultural use.

    The Permittee shall prepare a report documenting either compliance with this requirement and/or containing a workplan to identify and replace any pipe in the recycled water distribution system installed after June 1, 1993 that is not in compliance with the this code. The workplan, if necessary, shall be submitted within 90 days of the adoption of this Order. A report documenting full compliance with this requirement shall be submitted within one year of the adoption of this Order.

12. The portions of the recycled water piping system that are in areas subject to access by the general public shall not include any hose bibbs. Only quick couplers that differ from those used on the potable water system shall be used on the portions of the recycled water piping system in areas subject to public access. [Title 22, 60310(i)]

13. Cross-connection shall not occur between any recycled water system and any separate system conveying potable water. [Title 22, Section 60310(h)] Supplementing recycled water with potable water shall not be allowed except through air-gap separation [Title 22, Section 30315].

14. All reservoirs and ponds shall be adequately protected from erosion, washout and flooding from a rainfall event having a predicted frequency of once in 100 years.

15. No irrigation with disinfected tertiary recycled water shall take place within 50 feet of any domestic water supply well unless the conditions in Title 22, Section 60310(a) are met.

16. No irrigation with secondary recycled water shall take place within 100 feet of any domestic water supply well. [Title 22, Section 60310 (c)]

17. No impoundment of recycled water shall occur within 100 feet of any domestic supply well. [Title 22, Section 60310(b) and (c)]

18. The use of recycled water shall not cause degradation of any water supply.

19. Areas irrigated with recycled water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitoes and other disease vectors, and to avoid creation of a public nuisance or health hazard. Irrigation water shall infiltrate completely within a 24-hour period.

20. All areas where recycled water is used that are accessible to the public shall be posted with signs that are visible to the public, in a size no less than 4 inches high by 8 inches wide, that include the following wording: 'RECYCLED WATER – DO NOT DRINK.' [Title 22, Section 60310(g)] Each sign shall display an international symbol similar to that shown in Title 22, Figure 60310-A. These warning signs shall be posted at least every 500 feet with a minimum of a sign at each corner and access road.

21. DHS Guidance Memo No. 2003-02: Guidance Criteria for the Separation of Water Mains and Non-Potable Pipelines provides guidance for the separation of new potable water mains and recycled water pipelines which shall be implemented as follows:

    a. There shall be at least a four-foot horizontal separation between all pipelines transporting disinfected tertiary recycled water and new potable water mains.

    b. There shall be at least a one-foot vertical separation at crossings between all pipelines transporting recycled water and potable water mains, with the potable water main above the recycled water pipeline, unless approved by the DHS.

    c. Recycled water pipelines shall not be installed in the same trench as new water mains.

    d. Where site conditions make it impossible to comply with the above conditions, any variation shall comply with DHS's alternative construction criteria for separation between non-potable pipelines and new potable water mains and be approved in advance and in writing by DHS.

22. A minimum freeboard, consistent with pond design but not less than two feet, shall be maintained under normal operating conditions in any reservoir or pond containing recycled water. When extraordinary operating conditions necessitate a freeboard of less than two feet, the Permittee will document the variance in the monthly self-monitoring report. The report will include an explanation of the circumstances under which the variance is required, the estimated minimum

freeboard during the extraordinary period, and any permit violations occurring as a result of the variance.

23. The use of recycled water for dust suppression shall only occur during periods of dry weather and shall be limited to periods of short duration.

E. 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 groundwaters that result in taste or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

F. WATER RECYCLING PROVISIONS

1. The Permittee shall manage recycled water, and shall develop, establish and enforce administrative procedures, engineering standards, rules, ordinances, and/or regulations governing the design, construction, and operation and maintenance of recycled water systems and use facilities and the use of recycled water in accordance with the criteria established in Title 22 and this Order. The Permittee shall develop user agreements requiring user compliance with Title 22 and this Order. Water reclamation engineering standards, rules, ordinances, and/or regulations shall be approved by the Regional Water Board Executive Officer and DHS.

   Upon approval of the Permittee's procedures, engineering standards, rules, ordinances, and/or regulations, the Permittee may authorize specific additional water reclamation projects, on a case-by-case basis, in accordance with the approved program and agreements.

2. The Permittee shall submit revised and/or additional engineering report(s) for Regional Water Board and DHS approval, prior to initiating any recycled water use (e.g., new industrial use, recreational surface impoundments, water cooling, new dual-plumbed system, etc.) not addressed in any previously approved Title 22 engineering report(s). Engineering report(s) shall be prepared by a properly qualified engineer registered in California and experienced in the field of wastewater treatment, and shall contain (1) a description of the design of the reclamation system; (2) a contingency plan which will assure that no untreated or inadequately treated wastewater will be delivered to the use areas; and (3) a cross-connection control program (Title 17 of the California Code of Regulations). Engineering reports shall clearly indicate the means for compliance with Title 22 regulations and this Order.

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

4. The Permittee shall conduct periodic inspections of the recycled water use areas, facilities, and operations to monitor and assure compliance with the conditions of this Order. The Permittee shall take whatever actions are necessary, including termination of delivery of recycled water, to correct any user violations. The Permittee shall, upon prior notification to the user, conduct regular inspections to assure cross-connections are not made with potable water systems and DHS approved backflow prevention devices are installed and operable.

5. The Permittee shall notify the Regional Water Board Executive Officer and DHS in anticipation of delivering recycled water at a new location, prior to commencement of reclamation activities at the new location. The notice shall include the following: site location, acreage involved, County Assessor Parcel number(s), name of property owner and/or user, estimated volume of recycle water to be used, and a description of the recycled water management facilities and operations plan.

6. If, in the opinion of the Regional Water Board Executive Officer, recycled water use at proposed new locations cannot be adequately regulated under this Master Reclamation Permit, a Report of Water Discharge may be requested and individual Water Reclamation Requirements may be required.

7. Any discharge of untreated or partially treated wastewater to any recycled water use area, and the cessation of the same, shall be reported immediately with an oral report[13] to the Regional Water Board Executive Officer, DHS, and the local health officer.

G. OTHER REQUIREMENTS

1. FILTRATION PROCESS REQUIREMENTS

   a. The effluent from the 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. 0.2 NTU more than 5 percent of the time within a 24-hour period; and

      ii. 0.5 NTU at any time.

[13] Oral reporting means obtaining 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.

b. Recycled water in excess of the turbidity specifications shall not enter the reclamation distribution system. Filtered effluent in excess of turbidity specifications shall be automatically diverted to an upstream treatment process unit or to emergency storage as soon as the Permittee is aware of the exceedance. Alternatively, the Permittee may cease transfers through the microfilters until the problem is corrected. The Permittee shall provide notification of non-compliance with the filtration process requirements as required in General Provision J.12(g).

2. DISINFECTION PROCESS REQUIREMENTS

a. Treated effluent shall be disinfected in a manner that ensures effective pathogen reduction as described in the following specifications, b through e.

b. No later than 60 days from the effective date of this Order, the chlorine disinfection process shall provide a CT value[14] of not less than 450 milligram-minutes per liter at all times when discharging to the recycled water system or to Jones Creek.

c. Recycled water that does not meet the minimum chlorine residual needed to meet the required chlorine disinfection CT requirement shall not enter the tertiary recycled water distribution system or the surface water disposal system. No later than one year after the effective date of this Order, the Permittee shall complete disinfection process modifications to ensure compliance with Disinfection Process Requirement 2.b. After completion of the necessary modifications, effluent not meeting the CT criteria shall be automatically diverted to an upstream treatment process unit or to emergency storage as soon as the Permittee is aware of the exceedance.

d. Until the disinfection process modifications are completed, the Permittee shall identify an emergency response procedure that will be implemented to prevent the discharge of improperly disinfected effluent to the recycled water system or to surface waters. A description of the emergency response procedure shall be submitted to the Regional Water Board Executive Officer no later than 60 days from the effective date of this Order.

e. For purposes of calculating and demonstrating compliance with the CT requirement, within 270 days of the effective date of this Order, the Permittee shall complete tracer studies under four different flow rates (the maximum, the minimum, and two points in between) to determine the respective modal contact time at the chlorine contact basin. The studies shall follow the protocol outlined in *Tracer Studies in Water Treatment Facilities: A Protocol and Case Studies* published by the American Water Works Association

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

Research Foundation. A curve of flow rate vs. modal contact time, based on study results, shall be used for estimating the modal contact times at a given flow rate, which is essential for the CT calculation. A final report on the tracer studies shall be submitted to the Department of Health Services and the Regional Water Board within 60 days after the completion of the study.

f. In the interim period, before the completion of tracer studies, the theoretical retention time based on the volume of the chlorine contact basin and the design flow shall be used as the modal contact time in calculation of CT.

g. The Permittee shall provide notification of non-compliance with disinfection process requirements as required in General Provision J.12(g).

H. SOLIDS DISPOSAL AND HANDLING REQUIREMENTS

1. 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, 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). If the Permittee desires to dispose of solids or sludge by a different method, a request for permit modification shall be submitted to the U.S. EPA and the Regional Water Board 180 days prior to the alternative disposal.

2. The Permittee 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.

3. All the requirements in 40 CFR 503 are enforceable by U.S. EPA whether or not they are stated in an NPDES permit or other permit issued to the Permittee. The Regional Water Board should be copied on relevant correspondence and reports forwarded to the U.S. EPA regarding sludge management practices.

4. Sludge that is disposed of in a municipal solid waste landfill or used as landfill daily cover shall meet the applicable requirements of 40 CFR Part 258. In the annual self-monitoring report, the Permittee shall include the amount of sludge disposed of, and the landfill(s) to which it was sent.

5. Sludge that is applied to land as soil amendment shall meet pollutant ceiling concentrations and pollutant concentrations, pathogen reduction and vector attraction reduction requirements, and annual and cumulative discharge limitations of 40 CFR Part 503.

6. 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 Part 503. Sludge stored beyond two years may be considered disposal and regulated as a waste pile or surface impoundment under Title 27 Division 2 of the CCR.

7. The Permittee is responsible for ensuring compliance with these regulations whether the Permittee uses or disposes of the sludge itself or contracts with another party for further treatment, use, or disposal. The Permittee is responsible for informing subsequent preparers, appliers, and disposers of the requirements that they must meet under 40 CFR Parts 257, 258, and 503.

8. The Permittee shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that has a likelihood of adversely affecting human health or the environment.

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

10. 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.

11. 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.

I. SOURCE CONTROL PROVISIONS

1. Beginning January 1, 2006, the Permittee shall perform source control functions, to include the following:

   a. 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.

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

   c. Conduct a waste survey to identify all dischargers that might discharge pollutants that could pass through or interfere with the operation or performance of the WWTF.

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

e. Perform ongoing industrial inspections and monitoring, as necessary, to ensure adequate source control.

2. The Permittee shall submit an annual report to the Regional Water Board describing the Permittee's source control activities during the past year. This annual report is due on March 1st of each year beginning on March 1, 2006, and shall contain:

a. A copy of the source control standards.

b. A description of the waste hauler permit system.

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

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

3. The Permittee shall comply with one or both of the following:

a. Upon completion of the AWT upgrade project and after monitoring monthly for two full wet-weather discharge seasons, demonstrate consistent compliance with priority pollutant effluent limitations and acute and chronic toxicity, and that there is no exceedance of CTR water quality objectives for copper, lead, zinc, and dichlorobromomethane. A reasonable potential analysis will be conducted with this data. Any exceedance of an effluent limitation or water quality objective for copper, lead, zinc, dichlorobromomethane or any other CTR constituent during the first season of monitoring will automatically trigger the need to implement Source Control Provision I.3.b. below.

b. Continue implementation of the source identification and reduction plan described in the March 29, 2004 Forestville County Sanitation District Infeasibility Study (along with any subsequent revisions based on Regional Water Board staff comments) for any pollutants not in consistent compliance with effluent limitations (see Source Control Provision I.3.a above) in accordance with the compliance schedule identified in General Provision J.30 of this Order. The source identification and reduction plan shall identify all significant sources of these priority pollutants and evaluate all reasonable and economical steps to reduce influent concentrations of these priority pollutants, including, but not limited to, measures to reduce corrosion in the local water supply system, measures to increase removals at the WWTF, and measures to reduce any other significant source.

J. GENERAL PROVISIONS

1. Duty to Comply

The Permittee shall comply with all of the conditions of this Permit. Any Permit noncompliance constitutes a violation of the Clean Water Act and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. [40 CFR 122.41(a)]

The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. [40 CFR 122.41(a)(1)]

2. Duty to Reapply

This Order expires on October 6, 2009. If the Permittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Permittee shall apply for and obtain a new Permit. The application, including a Report of Waste Discharge (ROWD) in accordance with Title 23, California Code of Regulations shall be received by the Regional Water Board no later than October 6, 2008. [40 CFR 122.41(b)] The ROWD must contain all monitoring data and other technical information needed to support the establishment of final priority pollutant effluent limitations pursuant to the SIP. The ROWD must also contain a technical report that discloses the direct impacts of the discharge on the beneficial uses of Jones Creek and the dilution rate in Jones Creek under average, wet-weather and dry-weather flow conditions.

The Regional Administrator of the U.S. EPA or the Regional Water Board Executive Officer may grant permission to submit an application at a later date prior to the Permit expiration date; and the Regional Administrator of the U.S. EPA or the Regional Water Board Executive Officer may grant permission to submit the information required by paragraphs (g)(7), (9), and (10) of 40 CFR 122.21 after the Permit expiration date. [40 CFR 122.21(d)(1)]

3. Enforcement

The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA is subject to a civil penalty not to exceed $25,000 per day of violation. Any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, or 308 of the Act is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment of not more than one year, or both. Higher penalties may be imposed for knowing violations and for repeat offenders. The Porter-Cologne Water Quality Control Act provides for civil and criminal

penalties comparable to, and in some cases greater than, those provided under the CWA. [40 CFR 122.41 (a)(2)].

4. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this Order, which has a reasonable likelihood of adversely affecting human health or the environment. [40 CFR 122.41(d)]

5. Proper Operation and Maintenance

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

b. The Permittee shall comply with this Provision by submitting to the Regional Water Board an updated Operation and Maintenance (O&M) Manual for the Forestville Water District WWTF. The report shall be included with the applications for renewal of this NPDES permit. The Permittee shall update the O&M Manual, as necessary, to conform with changes in operation and maintenance of the WWTF. 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 Permittee will be able to comply with requirements of this Order.

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

discharges, untreated or partially treated waste bypass, and polluted drainage.

6. Permit Actions

a. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

i. Violation of any terms or conditions of this Order; or

ii. Obtaining this Permit by misrepresentation or failure to disclose fully all relevant facts; or

iii. A change in any condition that requires either a temporary or a permanent reduction or elimination of the authorized discharge; or

iv. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

b. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, this Order shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the Permittee so notified. [40 CFR 122.44(b)]

c. The filing of a request by the Permittee for a Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any Permit condition. [40 CFR 122.41(f)]

7. Property Rights

This Order does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. [40 CFR 122.41(g)]

8. Duty to Provide Information

The Permittee shall furnish the Regional Water Board, State Water Board, or U.S. EPA, within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. The Permittee shall also furnish to the Regional

Water Board, upon request, copies of records required to be kept by this Order. [40 CFR 122.41(h)]

The Permittee shall conduct analysis on any sample provided by U.S. EPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to U.S. EPA's DMQA manager.

9. Inspection and Entry

The Permittee shall allow the Regional Water Board, State Water Board, Department of Health Services, U.S. EPA, and/or other authorized representatives upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;

b. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this Order;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

d. Sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any locations. [40 CFR 122.41(i)]

10. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. The Permittee shall calibrate and perform maintenance procedures in accordance with manufacturer's specifications on all monitoring instruments and equipment to ensure accurate measurements. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Water Board, State Water Board, or U.S. EPA at any time. All monitoring instruments and devices used by the Permittee to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least annually to ensure their continued accuracy.

c. Records of monitoring information shall include:

i. The date, exact place, and time of sampling or measurements;
ii. The individual(s) who performed the sampling or measurements;
iii. The date(s) analyses were performed;
iv. The individual(s) who performed the analyses;
v. The analytical techniques or methods used; and
vi. The results of such analyses.
vii. The method detection limit (MDL); and
viii. The practical quantitation level (PQL) or the limit of quantitation (LOQ).

d. Unless otherwise noted, all sampling and sample preservation shall be in accordance with the current edition of *Standard Methods for the Examination of Water and Wastewater* (American Public Health Association). All analyses shall be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order or approved by the Regional Water Board Executive Officer. Unless otherwise specified, all metals shall be reported as total metals. Toxicity bioassays shall be performed in accordance with the provisions of this Order.

11. Signatory Requirements

a. All permit applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed by either a principal executive officer or ranking elected official. [40 CFR 122.22(a)]

b. Reports required by this Order, other information requested by the Regional Water Board, State Water Board, or U.S. EPA, and Permit applications submitted for Group II storm water discharges under 40 CFR 122.26(b)(3) may be signed by a duly authorized representative provided:

i. the authorization is made in writing by a person described in paragraph (a) of this provision;

ii. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and

iii. the written authorization is submitted to the Regional Water Board prior to or together with any reports, information, or applications signed by the authorized representative. [40 CFR 122.22(b)(c)]

c. Any person signing a document under paragraph (a) or (b) 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)]

12. Reporting Requirements

a. Planned changes: The Permittee shall give notice to the Regional Water Board as soon as possible of any planned physical alteration or additions to the permitted facility. Notice is required under this provision only when:

i. 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); or

ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order, nor the notification requirements under paragraphs (f) and (g) of this provision**.**

b. Anticipated noncompliance: The Permittee will give advance notice to the Regional Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with Permit requirements.

c. Transfers: This Permit is not transferable.

d. Monitoring reports: Monitoring results shall be reported at the intervals specified in the self-monitoring program. The Permittee shall submit an annual report to the Regional Water Board such that it is received no later than March 1 following the annual reporting period. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the Permittee shall discuss the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the Permit. If the Permittee monitors any pollutant more frequently than required by this Permit, using test procedures approved under 40 CFR Part 136 or as specified in this Permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the self-monitoring report.

e. 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 such that they are received by the Regional Water Board via fax, e-mail, or postal service no later than 14 days following each schedule date.

f. Noncompliance reporting: The Permittee shall report any noncompliance at the time monitoring reports are submitted. 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 recurrence of the noncompliance, including where applicable, a schedule of implementation. In addition, the following events shall be reported to the Regional Water Board orally[15] as soon as possible, but no later than 24 hours from the time the Permittee becomes aware of the circumstances, and the written report shall be submitted such that an original signed written report is received by the Regional Water Board no later than 14 days after the event:

   i. Any unanticipated bypass that violates any prohibition or exceeds or has the potential to exceed any effluent limitation in this Order.

   ii. Any upset that exceeds or has the potential to exceed any effluent limitation in this Order.

   iii. Any noncompliance that may endanger health or the environment, except as provided elsewhere in this Order.

   The Executive Officer may waive the above required written report.

g. The following events shall be reported to the Regional Water Board staff and to the Department of Health Services orally[15] as soon as possible, but no later than 24 hours from the time the Permittee becomes aware of the circumstances. A written report describing the incident and the actions undertaken by the Permittee to mitigate the discharge shall be included in the monthly self-monitoring report, unless otherwise requested by the Executive Officer.

   i. Failure of chlorination equipment.

   ii. Effluent total coliform bacteria in exceedance of 240 MPN/100 ml.

[15] Oral reporting means obtaining direct contact with a Regional Water Board staff person. Oral contact should also be made with a DHS 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.

iii. Filter effluent turbidity greater than 0.5 NTU discharged to the chlorine contact chamber and not diverted to an upstream treatment process before discharge to the on-site storage pond (Discharge Serial No. 001).

iv. Chlorine disinfection CT less than 450 mg-min/l.

The Permittee shall mitigate for these events by diverting all inadequately treated and disinfected wastewater to an upstream treatment process and/or by initiating a partial plant shut down (e.g., cease transfers through affected units) until the Permittee documents that the problem has been resolved. The Permittee shall notify all affected recycled water users as soon as possible in the event that inadequately treated recycled water is delivered to any recycled water use site(s).

h. Other information: When the Permittee becomes aware that it failed to submit any relevant facts in a Permit application, or submitted incorrect information in a Permit application or in any report to the Regional Water Board, the Permittee shall promptly submit such facts or information. [40 CFR 122.41(1)].

13. Bypass

a. Definitions:

i. Bypass [as defined in 40 CFR 122.41(m) is the intentional diversion of waste streams from any portion of a treatment facility.

ii. 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 which 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.

b. Bypass not exceeding limitations. The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this provision.

c. Notice

i. Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

ii. Unanticipated bypass. The Permittee shall submit notice of an unanticipated bypass as required in General Provision L.12(f) of this Order.

d. Prohibition of bypass

i. Bypass is prohibited, and the Regional Water Board may take enforcement action against the Permittee for bypass, unless:

1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2) 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 backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

3) The Permittee submitted notices as required under General Provision J.13(c) of this Order.

ii. The Executive Officer may approve an anticipated bypass, after considering its adverse effects, if the Executive Officer determines that it will meet the three conditions listed above in General Provision J.13(d)(i) above.

14. Upset

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

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based Permit effluent limitations if the requirements of paragraph (c), below, are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. Permittees who wish to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An upset occurred and that the Permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being properly operated;
iii. The Permittee submitted notice of the upset as required in General Provision J.12(f) of this Order; and
iv. The Permittee complied with any remedial measures required under General Provision J.4 of this Order.

d. Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

15. Wastewater Collection System

The Permittee shall develop and implement a management, operation, and maintenance program for its wastewater collection system. The program shall include:

a. Adoption of the necessary legal authorities to implement the program.

b. Establishment of collection system performance goals and measures to control infiltration and inflow.

c. A schedule to conduct routine, on-going preventive operation and maintenance activities.

d. Procedures to identify structural deficiencies and to propose and implement rehabilitation actions.

e. The design and implementation of an ongoing program to assess the capacity of the collection system and treatment facility.

f. The maintenance of accurate collection system maps and maintenance records.

g. Collection system employee training program.

h. Establishment and implementation of asset management and long-term planning geared to providing adequate system capacity for base and peak flows in the collection system.

16. Sanitary Sewer Overflows

a. All feasible steps shall be taken to stop sanitary sewer overflows (SSOs) as soon as possible by unblocking the line, diverting the flow to a nearby sewer line, and/or otherwise mitigating impacts of SSOs. All reasonable steps should be taken to collect spilled sewage and protect the public from contact with wastes or waste-contaminated soil.

b. SSOs shall be reported to the Regional Water Board staff in accordance with the following:

   i. *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, must be reported immediately by telephone. A written description of the event shall be submitted with the monthly monitoring report.

   ii. *SSOs that result in a sewage spill between 5 gallons and 1,000 gallons* that does not reach a waterway shall be reported by telephone within 24 hours if a SSO results. A written description of the event shall be submitted with the monthly monitoring report.

   iii. *SSOs that result in a sewage spill less than 5 gallons* that do not enter a waterway do not require Regional Water Board notification.

   iv. Information to be provided verbally includes:

      a. Name and contact information of caller
      b. Date, time and location of SSO occurrence
      c. Estimates of spill volume, rate of flow, and spill duration
      d. Surface water bodies impacted
      e. Cause of spill
      f. Cleanup actions taken or repairs made
      g. Responding agencies

   v. Information to be provided in writing includes:

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

c. The Permittee shall submit an annual report to the Regional Water Board describing the Permittee's activities within the collection system over the previous calendar year. This annual report is due by March 1st of each year and shall contain:

   i. 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, the names and addresses of the responsible parties (if other than the Permittee)

   ii. A summary of compliance and enforcement activities during the past year. The summary shall include fines or other penalties, and corrective actions taken.

iii. Documentation of steps taken to stop and mitigate impacts of sanitary sewer overflows.

d. The Permittee shall perform a self-audit at least once during the life of this Order to assess the degree to which the performance measurements are being met;

e. The Permittee shall provide notice to the public of the availability of the report in a manner reasonably designed to inform the public. The notice shall include a contact person and telephone number for the Permittee and information on how to obtain a copy of the report. The Permittee shall provide documentation that the annual report has been made available to the public.

17. Availability

A copy of this Permit shall be maintained at the discharge facility and be available at all times to operating personnel.

18. Change in Discharge

a. In the event of a material change in the character, location, or volume of a discharge, (including any point or nonpoint discharge to land or groundwater) the Permittee shall file with this Regional Water Board a new report of waste discharge at least 180 days before making any such change. [CWC Section 13376]. A material change includes, but is not limited to, the following:

i. Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

ii. Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.

iii. Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area, significantly removed from the original area, potentially causing different water quality or nuisance problems.

iv. Increase in area or depth to be used for solid waste disposal beyond that specified in the waste discharge requirements. [CCR Title 23 Section 2210]

19. Additional Condition Applicable to Wastewater Treatment Facilities

All WWTFs shall provide adequate notice to the Executive Officer of the following, [CFR 122.42 (b)]:

a. Any new introduction of pollutants into the WWTF from an indirect discharger which would be subject to Section 301 or 306 of the CWA if it were directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into that WWTF by a source introducing pollutants into the WWTF at the time of issuance of the Permit.

c. For purposes of this paragraph, adequate notice shall include information on the quality and quantity of effluent introduced into the WWTF, and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the WWTF.

20. Severability

Provisions of these waste discharge requirements are severable. If any provision of these requirements is found invalid, the remainder of these requirements shall not be affected.

21. Monitoring

The Regional Water Board or State Water Board may require the Permittee to establish and maintain records, make reports, install, use, and maintain monitoring equipment or methods (including where appropriate, biological monitoring methods), sample effluent as prescribed, and provide other information as may be reasonably required. [CWC Section 13267 and 13383].

The Permittee shall comply with the Contingency Planning and Notification Requirements Order No. 74-151 and the Monitoring and Reporting Program No. R1-2004-0027 and any modifications to these documents as specified by the Executive Officer. Such documents are attached to this Order and incorporated herein. The Permittee shall file with the Regional Water Board technical reports on self-monitoring work performed according to the detailed specifications contained in any monitoring and reporting program as directed by the Regional Water Board.

Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the DHS. In the event a certified laboratory is not available to the Permittee, analyses performed by a noncertified laboratory will be accepted provided a quality assurance/quality control program is instituted by the laboratory, and a manual containing the steps followed in this program is kept in the laboratory and made available for inspection by staff of the Regional Water Board. The quality assurance/quality control program shall conform to U.S. EPA or DHS guidelines.

All Discharge Monitoring Reports shall be sent to:

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

22. Operator Certification

Supervisors and operators of municipal WWTFs shall possess a certificate of appropriate grade in accordance with Title 23, California Code of Regulations, 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.

23. Adequate Capacity

Whenever a WWTF will reach capacity within four years, the Permittee shall notify the Regional Water Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies, and the press. Factors to be evaluated in assessing reserve capacity shall include, at a minimum, 1) comparison of the wet weather design flow with the highest daily flow, and 2) comparison of the average dry weather design flow with the lowest monthly flow. The Permittee shall demonstrate that adequate steps are being taken to address the capacity problem. The Permittee shall submit a technical report to the Regional Water Board showing how flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Water Board, or within 120 days after receipt of Regional Water Board notification, that the 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 Regional Water Board Executive Officer, and longer extensions may be granted by the Regional Water Board itself. [CCR Title 23, Section 2232]

24. Acute Toxicity Control Provision

Compliance with the Basin Plan narrative toxicity objective shall be achieved in accordance with the following:

a. Test Species and Methods

i. During the first discharge season after adoption of this Order, the Permittee shall conduct 96-hour static renewal tests with an invertebrate, the water flea, *Ceriodaphnia dubia*, and a vertebrate, the rainbow trout, *Orncorhychus 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 Permittee shall re-screen once with the two species listed above and continue to monitor monthly with the most sensitive species.

ii. 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* (U.S. EPA Report No. EPA 600/4-90-027F, 4th edition or subsequent editions), or other methods approved by the Executive Officer, shall be used.

b. Definition of Toxicity Limits

i. 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).

ii. 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 Permittee 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 Permittee shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with General Provision J.26. 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 Permittee shall contact the Executive Officer within 21 days with a plan to demonstrate compliance with the acute toxicity effluent limitation.

25. Chronic Toxicity Control Provision

a. 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:

i. Routine monitoring;
ii. Accelerate monitoring after exceeding a three sample median value of 1.0 TUc or a single sample maximum of 2.0 TUc;
iii. Return to routine monitoring if accelerated monitoring does not exceed either “trigger” in “ii”;
iv. Initiate approved TRE workplan and continue accelerated monitoring if monitoring confirms consistent toxicity above either “trigger” in “ii”;

v. Return to routine monitoring after appropriate elements of TRE workplan are implemented and toxicity drops below "trigger" levels in "ii", or as directed by the Executive Officer.

b. Test Species and Methods

i. The Permittee shall conduct short-term 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, *Selanastrum 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 Permittee shall re-screen once with the three species listed above and continue to monitor with the most sensitive species.

ii. The presence of chronic toxicity shall be estimated as specified in EPA's Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms (U.S. EPA Report No. EPA-600-4-91-002, 3rd or subsequent editions).

c. Definition of Toxicity Limits

i. Chronic toxicity measures 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.

ii. Results shall be reported in TUc, where TUc = 100/NOEC or 100/ICp or ECp (in percent effluent).

d. Quality Assurance

i. 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.

ii. 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).

iii. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the manual, then the Permittee must re-sample and re-test within 14 days or as soon as possible.

iv. 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.

26. Toxicity Reduction Evaluation (TRE)

a. The Permittee 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 Permittee intends to follow if toxicity is detected, and should include, at least the following items:

i. 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.

ii. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices.

iii. 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).

b. The TRE shall be conducted in accordance with the following:

i. 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.

ii. The TRE shall be conducted in accordance with the Permittee's workplan.

iii. The TRE shall be in accordance with current technical guidance and reference material including, at a minimum, the EPA manual EPA/833B-99/002. The TRE shall be conducted as a tiered evaluation process, as summarized below:

- Tier 1 consists of basic data collection (routine and accelerated monitoring).
- Tier 2 consists of the evaluation of treatment plant optimization including operational practices, and in-plant process chemicals.
- Tier 3 consists of a toxicity identification evaluation (TIE).
- Tier 4 consists of the evaluation of options for additional treatment processes.
- Tier 5 consists of the evaluation of options for modifications of in-plant treatment processes.

- Tier 6 consists of the implementation of selected toxicity control measures, and follow-up monitoring and confirmation of implementation success.

iv. The TRE may end at any stage if, through monitoring results, it is determined that there is no longer consistent toxicity.

v. The Permittee may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. As guidance, the Permittee shall use the EPA 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).

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

vii. 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.

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

27. 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 Permittee 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 Permittee may return to routine monitoring after appropriate elements of the TRE workplan are implemented and toxicity drops below "trigger" levels in General Provision J.25(a)(ii), or as directed by the Executive Officer.

28. Reporting for Toxicity Tests

    a. Test results for chronic toxicity tests shall be reported according to the chronic toxicity manual Chapter 10 (Report Preparation) and the Monitoring and Reporting Program and shall be attached to the self-monitoring report.

    b. The Permittee shall notify the Regional Water Board in writing 14 days after the receipt of test results exceeding an effluent limitation or trigger. The notification will describe actions the Permittee has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by this Order, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

29. Pollutant Minimization Program

    The Permittee shall, as required by the Executive Officer, conduct a Pollutant Minimization Program (PMP) in accordance with the SIP when there is evidence that a priority pollutant is present in the effluent above an effluent limitation, when a sample result is reported as detected and not quantified and the effluent limitation is less than the reported minimum level, or when a sample result is reported as not detected and the effluent limitation is less than the method detection limit.

30. Interim Requirements and Compliance Schedule for Priority Pollutants

    During the term of this Order, the Permittee shall complete the following tasks in accordance with the March 29, 2004 and August 6, 2004 Forestville County Sanitation District Infeasibility Study and in compliance with the following time schedule to achieve compliance with the final effluent limitations in Effluent Limitations B.11 and B.12 of this Order by October 6, 2009.

Task	**Compliance Date**
Complete the copper and lead source identification program, including the review of service connections for possible sources of copper and source chemical monitoring data from the Forestville Water District for levels of lead and copper	December 1, 2004
Begin implementation of an outreach program for businesses associated with possible copper contamination, if necessary	May 1, 2005
Submit annual reports describing the status and effectiveness of the Permittee's source identification and reduction efforts. The annual reports should propose modifications to the Permittee's source identification and reduction efforts, if necessary.	October 1, 2005 and annually thereafter

Task	Compliance Date
Sample the new tertiary treatment facility for copper, lead, and dichlorobromomethane monthly during the discharge season for a three year monitoring period to develop data needed to determine if reasonable potential exists for the discharge of these pollutants from the upgraded facility at levels that are above the CTR freshwater criterion.	May 14, 2007
Implement the dichlorobromomethane (DCBM) monitoring plan. The monitoring plan includes sampling source water and influent for DCBM and monitoring for the formation of DCBM within the treatment train and in the storage pond.	June 1, 2007
Submit implementation plan to achieve compliance with the final effluent limitations for copper, lead, zinc, and/or dichlorobromomethane.	May 1, 2008
Implement a plan to achieve compliance with the final effluent limitations for copper, lead, zinc, and/or dichlorobromomethane.	January 1, 2009
Comply with final CTR effluent limitations for copper, lead, zinc, and dichlorobromomethane	October 1, 2009

The Permittee shall notify the Regional Water Board, in writing, no later than 14 days following each interim date, of their compliance with the interim requirement.

31. Reopener

The Regional Water Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the Permittee governed by this Permit are causing or significantly contributing to, adverse impacts on water quality and/or beneficial uses of receiving waters.

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

The Regional Water Board may reopen this Order and Permit within five years of adoption if the effluent monitoring results from the upgraded WWTF and/or the Permittee's source control and reduction efforts demonstrate that there is no reasonable potential for the discharge from the WWTF to cause or contribute to an excursion above any state water quality standard or to water quality impacts, or if new information demonstrates reasonable potential for any CTR priority pollutant.

In addition, the Regional Water Board may consider revising this Permit to make it consistent with the SIP and any State Water Board decisions arising from various petitions for rehearing, and litigation concerning SIP, 303(d) list, and total maximum daily load program.

Certification

I, Catherine E. Kuhlman, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on, October 6, 2004.

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Catherine E. Kuhlman
Executive Officer

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