California Regional Water Quality Control Board
San Francisco Bay Region

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Linda S. Adams
Acting Secretary for Environmental Protection

Edmund G. Brown, Jr.
Governor

ORDER NO. R2-2011-0028
NPDES NO. CA0038679

The following Dischargers are subject to waste discharge requirements set forth in this Order.

Table 1. Discharger Information

Dischargers	Livermore-Amador Valley Water Management Agency (LAVWMA), Dublin San Ramon Services District (DSRSD), City of Pleasanton, and City of Livermore
Name of Facility	LAVWMA Export and Storage Facilities
Facility Address	7176 Johnson Drive
	Pleasanton, CA 94588
	Alameda County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by the LAVWMA facility from the discharge points identified below is subject to waste discharge requirements set forth in this Order.

Table 2. Discharge Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
San Lorenzo Creek Outfall E-002	Intermittent peak wet weather extreme storm event discharge of secondary treated, disinfected, and dechlorinated effluent	37º, 40’, 30” N	122º, 09’, 19” W	San Lorenzo Creek
Alamo Canal Outfall E-003	Intermittent peak wet weather extreme storm event discharge of secondary treated, disinfected, and dechlorinated effluent	37º 41’ 04’’ N To be relocated to 37º 41’ 33’’ N	121º 54’ 55’’ W To be relocated to 121º 55’ 06’’ W	Alamo Canal

Table 3. Administrative Information

This Order was adopted by the Regional Water Board on:	May 11, 2011
This Order shall become effective on:	July 1, 2011
This Order shall expire on:	June 30, 2016
CIWQS Regulatory Measure Number	379074
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to the Order expiration date

I, Bruce H. Wolfe, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on May 11, 2011.

Digitally signed by Bruce Wolfe
Date: 2011.05.16 16:50:12 -07'00'

Bruce H. Wolfe, Executive Officer

Table of Contents

I. Facility Information 4
II. Findings 4
III. Discharge Prohibitions 10
IV. Effluent Limitations and Discharge Specifications 10
A. Effluent Limitations for Conventional and Non-Conventional Pollutants 10
B. Effluent Limitations for Toxic Pollutants 11
C. Whole Effluent Acute Toxicity 11
V. Receiving Water Limitations 12
VI. Provisions 13
A. Standard Provisions 13
B. Monitoring and Reporting Program (MRP) Requirements 13
C. Special Provisions 13
1. Reopener Provisions 13
2. Pollutant Minimization Program 14
3. Special Studies, Technical Reports, and Additional Monitoring Requirements 15
VII. Compliance Determination 15

Tables

Table 1. Discharger Information 1
Table 2. Discharge Locations 1
Table 3. Administrative Information 1
Table 4. Facility Information 4
Table 5. Beneficial Uses of San Lorenzo Creek and Alamo Canal 7
Table 6. Effluent Limitations for Conventional and Non-Conventional Pollutants 11
Table 7. Effluent Limitations for Toxic Pollutants 11

Attachments

Attachment A – Definitions
Attachment B – Maps showing location of the Facility
Attachment C – Treatment Plant Process Flow Diagram
Attachment D – Federal Standard Provisions
Attachment E – Monitoring and Reporting Program (MRP)
Attachment F – Fact Sheet
Attachment G – Regional Standard Provisions, and Monitoring and Reporting Requirements
Attachment H – Operational Changes

I. FACILITY INFORMATION

Livermore-Amador Valley Water Management Agency (LAVWMA), Dublin San Ramon Services District (DSRSD), City of Pleasanton, and City of Livermore (hereinafter collectively "Discharger") is subject to the waste discharge requirements set forth in this Order.

Table 4. Facility Information

Dischargers	Livermore-Amador Valley Water Management Agency (LAVWMA), Dublin San Ramon Services District (DSRSD), City of Pleasanton, and City of Livermore
Name of Facility	LAVWMA Export and Storage Facilities
Facility Address	7176 Johnson Drive
	Pleasanton, CA 94588
	Alameda County
Facility Contact, Title, and Phone	Ed Cummings, General Manager, (925) 875-2233
Discharger Mailing Address	7051 Dublin Blvd., Dublin, CA 94568
CIWQS Party Number	26062
CIWQS Place Number	236689
Facility Operator	Dublin San Ramon Services District
Operator Contact	Dan Gallagher (925) 875-2345
Type of Facility	Export and storage facilities
Facility Design Flow	41.2 MGD
Facility Permitted Flow	Intermittent: 21.5 MGD to San Lorenzo Creek, and 55 MGD to Alamo Canal
Service Areas	DSRSD, and City of Livermore; DSRSD treats wastewater from City of Pleasanton under contract
Service Population	224,300

II. FINDINGS

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter "Regional Water Board"), finds:

A. Background. The Discharger has been discharging under Order No. R2-2006-0026 (previous permit), National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038679. On December 8, 2010, the Discharger submitted an application for reissuance of its NPDES permit to discharge secondarily-treated wastewater from LAVWMA's facilities to waters of the State and the United States. The Discharger's discharge is also currently covered under Order No. R2-2007-0077 (NPDES Permit CA0038849), which supersedes all requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges in the region. This Order does not affect the mercury and PCBs permit.

LAVWMA is a Joint Powers Agency; its member agencies include DSRSD, the City of Livermore, and the City of Pleasanton. DSRSD and the City of Livermore separately own and operate collection and treatment facilities for domestic, commercial, and industrial wastewater. DSRSD and the City of Livermore collection and treatment facilities are currently regulated by NPDES No. CA0037613 and NPDES No. CA0038008. The City of Pleasanton owns and operates its own

collection system but does not own or operate a wastewater treatment plant. DSRSD treats wastewater from the City of Pleasanton under contract.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility and Discharge Description

1. Facility Description

LAVWMA receives secondarily-treated and disinfected wastewater from the DSRSD and City of Livermore wastewater treatment plants, then pumps the combined flow through its export pipeline to the East Bay Dischargers Authority (EBDA) system. EBDA transports LAVWMA's treated wastewater, along with the treated wastewater from its other member agencies, to its dechlorination station near the San Leandro Marina, and then to its deep water outfall for discharge to lower San Francisco Bay. The deep water discharge is regulated under a separate NPDES permit (CA0037869). Under current contractual agreement, the Discharger has a firm capacity of 19.7 million gallons per day (MGD), has an interruptible capacity of 21.5 MGD, and can discharge a maximum capacity of 41.2 million gallons per day (MGD) to the EBDA transport pipeline.

2. Discharge Description

This permit covers two intermittent wet weather discharge points that consist of fully secondarily-treated and disinfected municipal wastewater. These discharges occur at outfall E-002 to San Lorenzo Creek, and outfall E-003 to Alamo Canal. The discharges are infrequent; in the past 12 years, only two discharges to San Lorenzo Creek and no discharges to Alamo Canal have occurred.

Under normal operating procedures, the Discharger pumps up to 41.2 MGD of treated and chlorinated wastewater to the EBDA pipeline. During wet weather, when the capacity of the EBDA system to accept LAVWMA treated wastewater is less than 41.2 MGD, treated wastewater may be discharged through the wet weather outfall to San Lorenzo Creek (E-002). Under these conditions, LAVWMA maintains its maximum export pumping capacity of 41.2 MGD, routing at least 19.7 MGD to EBDA's system and at most 21.5 MGD to San Lorenzo Creek. Flow discharged to San Lorenzo Creek through outfall E-002 is dechlorinated. LAVWMA stops discharge to San Lorenzo Creek as soon as EBDA's available capacity equals or exceeds LAVWMA's flows.

If LAVWMA's flows exceed 41.2 MGD during significant storm events, treated wastewater may be discharged through the wet weather outfall to Alamo Canal (E-003). To minimize discharges to Alamo Canal, LAVWMA and its member agencies use their combined storage facilities, including LAVWMA's three flow-equalization basins (18 million gallons (MG)) and DSRSD's and the City of Livermore's storage ponds (21 MG and 16 MG), to increase in-valley flow equalization capacity. When inflow rates to the DSRSD and City of Livermore wastewater treatment plants indicate that discharge to Alamo Canal is imminent, storage is optimized and discharge to Alamo Canal is timed to coincide as closely as possible with the peak of the wet weather hydrograph to allow for the greatest dilution of the effluent in the

receiving water, rather than waiting to discharge after all storage is full. When the storage facilities approach their capacities, LAVWMA notifies the Regional Water Board, Alameda County Water District, and Zone 7 Alameda County Flood Control District of impending discharge to Alamo Canal. Flow discharged to Alamo Canal through outfall E-003 is dechlorinated. LAVWMA stops discharge to Alamo Canal after the incoming flow subsides and stabilizes at a rate less than 41.2 MGD.

The wet weather outfall to San Lorenzo Creek is located in San Leandro approximately 3000 feet upstream of Lower San Francisco Bay. Alamo Canal is a constructed flood control channel located in Pleasanton, and that wet weather outfall is located upstream of the confluence with Arroyo de la Laguna. **Attachment B** provides a map of the facility's surroundings and its outfall locations. **Attachment C** provides a schematic of LAVWMA's facilities and those of its member agencies.

C. Legal Authorities. This Order is issued pursuant to Clean Water Act (CWA) section 402 and implements regulations adopted by the U.S. Environmental Protection Agency (USEPA). This Order is also issued pursuant to California Water Code (CWC) Chapters 5.5, Division 7, commencing with section 13370. It serves as an NPDES permit for point source discharges from the Discharger's facilities to surface waters. This Order also serves as Waste Discharge Requirements pursuant to CWC Article 4, Chapter 4, Division 7, commencing with section 13260.

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (**Attachment F**), which contains background information and rationale for requirements of the Order, is hereby incorporated into this Order and constitutes part of the findings for this Order. **Attachments A through E and G** are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under CWC section 13389 and section 3733 of Title 23 of the California Code of Regulations, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 but not from the policy provisions of Chapter 1 of CEQA.

F. Technology-Based Effluent Limitations. CWA section 301(b) and NPDES regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at minimum and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133. A detailed discussion of technology-based effluent limitation development is included in the Fact Sheet.

G. Water Quality-Based Effluent Limitations. CWA section 301(b) and NPDES regulations at 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

NPDES regulations at 40 CFR 122.44(d)(1)(i) mandate that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant that has no

numeric criterion or objective, water quality-based effluent limitations (WQBELs) must be established using (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. *The Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Regional Water Board and approved by the State Water Resources Control Board (State Water Board), USEPA, and the Office of Administrative Law. Requirements of this Order implement the Basin Plan.

The beneficial uses applicable to San Lorenzo Creek and Alamo Canal are listed in Table 5 based on Basin Plan Table 2-1. San Lorenzo Creek recharges the East Bay Plain groundwater basin, and Alamo Canal recharges the Livermore Valley groundwater basin. Alamo Canal is tributary to Arroyo de la Laguna, which is tributary to Alameda Creek. Arroyo de la Laguna recharges the Livermore Valley and Sunol groundwater basins, and Alameda Creek recharges the Sunol, East Bay Plain, and Niles Cone groundwater basins (**Attachment B**). The existing beneficial uses of these groundwater basins are municipal and domestic supply, industrial process water supply, industrial service supply, and agricultural supply.

Table 5. Beneficial Uses of San Lorenzo Creek and Alamo Canal

Discharge Point	Receiving Water Name	Beneficial Uses
E-002	San Lorenzo Creek	Municipal and Domestic Supply (MUN) Fresh Water Replenishment (FRSH) Groundwater Recharge (GWR) Cold Fresh Water Habitats (COLD) Fish Migration (MIGR) Fish Spawning (SPWN) Warm Fresh Water Habitats (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2)
E-003	Alamo Canal	Groundwater Recharge (GWR) Fish Migration (MIGR) Fish Spawning (SPWN) Warm Fresh Water Habitats (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Cold Fresh Water Habitats (COLD)

I. **National Toxics Rule (NTR) and California Toxics Rule (CTR)**. USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the State. USEPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria USEPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria USEPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

K. **Compliance Schedules and Interim Requirements.** The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits." Under limited circumstances, this policy allows the Regional Water Board to grant a compliance schedule based on a discharger's request and demonstration that it is infeasible to comply immediately with certain effluent limits. This policy became effective on August 27, 2008, superseding the Basin Plan's compliance schedule policy. This Order does not contain a compliance schedule or any interim effluent limit for any constituent.

L. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000) (codified at 40 CFR 131.21)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

M. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limits. The technology-based effluent limitations consist of restrictions on oil and grease, pH, bacteria, total suspended solids (TSS), and five-day biochemical oxygen demand (BOD_5). Derivation of these technology-based limitations is discussed in the Fact Sheet (**Attachment F**). This Order's technology-based pollutant restrictions implement the minimum applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum federal technology-based requirements as necessary to meet water quality standards.

Water Quality-Based Effluent Limits (WQBELs) have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard

pursuant to 40 CFR 131.38. The procedures for calculating the individual WQBELs for priority pollutants are based on the SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to USEPA. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for the purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

N. Antidegradation Policy. NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law and requires that existing water quality be maintained unless degradation is justified based on specific findings. The Basin Plan implements, and incorporates by reference, both State and federal antidegradation policies. As discussed in detail in the Fact Sheet (III.C.5), the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. CWA sections 402(o)(2) and 303(d)(4) and NPDES regulations at 40 CFR122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. As discussed in detail in the Fact Sheet (**Attachment F**) (III.C.6), the permitted discharge is consistent with anti-backsliding requirements.

P. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of applicable State and federal laws pertaining to threatened and endangered species.

Q. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in **Attachment E**.

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in **Attachment D**. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions is provided in the Fact Sheet (**Attachment F**).

S. Provisions and Requirements Implementing State Law. No provisions or requirements in this Order are included to implement State law only. All provisions and requirements are required or authorized under the federal CWA; consequently, violations of these provisions and requirements are subject to the enforcement remedies available for NPDES violations.

T. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit written comments and recommendations. Details of the notification are provided in the Fact Sheet (**Attachment F**).

U. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (**Attachment F**).

IT IS HEREBY ORDERED that this Order supersedes Order No. R2-2006-0026, except for enforcement purposes, and to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated wastewater at a location or in a manner different from that described in this Order is prohibited.

B. Discharge to San Lorenzo Creek is prohibited except during wet weather and when the volume of discharge the Discharger is allowed to send to the EBDA pipeline is reduced.

C. Discharge to Alamo Canal is prohibited unless, as a result of an extreme wet weather event, the maximum export pumping capacity is in use (i.e., either the full 41.2 MGD to the EBDA pipeline or 19.2 MGD to the EBDA pipeline and at most 21.5 MGD to San Lorenzo Creek), storage facilities are being utilized to optimize dilution in the receiving water, and both the Regional Water Board and Alameda County Water District have been given prior notification that a discharge to Alamo Canal is needed. The discharge to Alamo Canal shall only occur during a 10-year flow event or greater and shall not exceed 55 MGD. Discharge is prohibited during dry weather.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations for Conventional and Non-Conventional Pollutants

The Discharger shall maintain compliance with the following effluent limitations at the San Lorenzo Creek Outfall (E-002) and Alamo Canal Outfall (E-003), with compliance measured at Monitoring Locations M-002 and M-003 as described in the attached MRP (**Attachment E**).

Table 6. Effluent Limitations for Conventional and Non-Conventional Pollutants

Parameter	Units	Effluent Limitations			
		Average Weekly(2)	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) ($CBOD_5$)	mg/L	40	50	---	---
Total Suspended Solids (TSS)	mg/L	45	60	---	---
Oil and Grease	mg/L	---	20	---	---
pH (1)	s.u.	---	---	6.5	8.5
Total Residual Chlorine	mg/L	---	---	---	0.0 (3)
Total Coliform Organisms	MPN/100 mL	---	1,000	---	---

Footnotes for Table 6:

(1) If the Discharger monitors pH continuously, pursuant to 40 CFR 401.17, the Discharger shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (i) the total time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (ii) no individual excursion from the range of pH values shall exceed 60 minutes.

(2) Average weekly effluent limitations apply if a discharge lasts more than one day, or 24 hours, in a calendar week.

(3) The Discharger may elect to use a continuous on-line monitoring system for measuring flows, sodium hypochlorite, and sodium bisulfite dosage (including a safety factor) and concentration to prove that chlorine residual exceedances are false positives. If convincing evidence is provided, Regional Water Board staff will conclude that these chlorine residual exceedances are false positives and are not violations of this Order's total residual chlorine limit.

B. Effluent Limitations for Toxic Pollutants

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points E-002 and E-003, with compliance measured at Monitoring Location M-002 and M-003, as described in the attached MRP (Attachment E).

Table 7. Effluent Limitations for Toxic Pollutants

Parameter	Units	Effluent Limitations[1,2]	
		AMEL	MDEL
Bis(2-ethylhexyl)phthalate	µg/L	20	40

Footnotes for Table 7:

(1) Limitations for toxic pollutants apply to the average concentration of all samples collected during the averaging period (daily = 24-hour period; monthly = calendar month). For example, if discharge is only for one day, that concentration for one day shall be used for compliance with the AMEL.

(2) A daily maximum or average monthly value for a given constituent shall be considered noncompliant with the effluent limitations only if it exceeds the effluent limitation and the Reporting Level for that constituent. The Regional Standard Provisions (**Attachment G**) provide Minimum Levels (MLs) for compliance determination purposes. An ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

C. Whole Effluent Acute Toxicity

Discharges at Discharge Points E-002 and E-003 shall comply with the following acute toxicity limitation. The survival of test organisms, as specified in the MRP (**Attachment E**), in 96-hour

bioassays of the discharge shall not be less than 70%. Bioassays shall be conducted in compliance with MRP section IV.

V. RECEIVING WATER LIMITATIONS

1. The discharge shall not cause the following in San Lorenzo Creek or Alamo Canal:

   a. Floating, suspended, or deposited macroscopic particulate matter or foams;

   b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil and other products of petroleum origin; or

   e. Toxic or other deleterious substances to be present in concentrations or quantities that will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or that render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State within 1 foot of the water surface:

   a. Dissolved Oxygen — 5.0 mg/L, minimum

      The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

   b. Dissolved Sulfide — Natural background levels

   c. pH — Within range from 6.5 to 8.5

   d. Nutrients: — Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3. The discharge shall not cause a violation of any water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved, the Regional Water Board may revise and modify this Order in accordance with such more stringent standards.

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with Federal Standard Provisions included in **Attachment D** of this Order.

2. **Regional Standard Provisions.** The Discharger shall comply with all applicable items of the Regional Standard Provisions, and Monitoring and Reporting Requirements (Supplement to **Attachment D**) for NPDES Wastewater Discharge Permits (**Attachment G**) including amendments thereto.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP (**Attachment E**), and future revisions thereto, including sampling and reporting requirements in the two standard provisions listed in VI.A.

C. Special Provisions

1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

a. If present or future investigations demonstrate that the discharges governed by this Order will have, or will cease to have, a reasonable potential to cause or contribute to adverse impacts on water quality or beneficial uses of the receiving waters.

b. If new or revised WQOs or Total Maximum Daily Loads (TMDLs) come into effect for the San Francisco Bay estuary and contiguous water bodies (whether statewide, regional, or site-specific). In such cases, effluent limitations in this Order may be modified as necessary to reflect updated WQOs and wasteload allocations in TMDLs. Adoption of effluent limitations contained in this Order is not intended to restrict in any way future modifications based on legally adopted WQOs or TMDLs, or as otherwise permitted under federal regulations governing NPDES permit modifications.

c. If translator or other water quality studies provide a basis for determining that a permit condition should be modified.

d. If State Water Board precedential decisions, new policies, new laws, or new regulations on chronic toxicity or total chlorine residual become available.

e. If an administrative or judicial decision on a separate NPDES permit or WDR addresses requirements similar to this discharge.

f. Or as otherwise authorized by law.

The Discharger may request permit modifications based on the above. The Discharger shall include with any such request an antidegradation and anti-backsliding analysis.

2. Pollutant Minimization Program (PMP)

a. Pollutant Minimization Program for Pollutants with Effluent Limitations

The Discharger shall develop and conduct a PMP as further described below when there is evidence (e.g., sample results reported as Detected but Not Quantified [DNQ] when the effluent limitation is less than the method detection limit [MDL], sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:

(1) A sample result is reported as DNQ and the effluent limitation is less than the Reporting Limit (RL); or

(2) A sample result is reported as Not Detected (ND) and the effluent limitation is less than the MDL, using definitions described in the SIP.

b. Pollutant Minimization Program Submittals for Pollutants with Effluent Limitations

If triggered by the reasons in **2.a**. above, the Discharger's PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

(1) An annual review and semi-annual monitoring of potential sources of the reportable priority pollutants, which may include fish tissue monitoring and other bio-uptake sampling, or alternative measures approved by the Executive Officer when it is demonstrated that source monitoring is unlikely to produce useful analytical data;

(2) Quarterly monitoring for the reportable priority pollutants in the influent to the wastewater treatment system, or alternative measures approved by the Executive Officer when it is demonstrated that influent monitoring is unlikely to produce useful analytical data;

(3) Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutants in the effluent at or below the effluent limitation;

(4) Implementation of appropriate cost-effective control measures for the reportable priority pollutants, consistent with the control strategy; and

(5) The Discharger's Annual Report due June 15th shall specifically address the following items:

i. All PMP monitoring results for the previous year;

ii. A list of potential sources of the reportable priority pollutant(s);

iii. A summary of all actions undertaken pursuant to the control strategy; and

iv. A description of actions to be taken in the following year.

3. Special Studies, Technical Reports, and Additional Monitoring Requirements

a. Wet Weather Discharges Notification and Annual Technical Report

The Discharger shall notify the Regional Water Board of any discharge in compliance with the prohibitions in Section III of this Order to San Lorenzo or Alamo Canal within 3 business days. (Note that for any discharge in violation of a prohibition or effluent limitation, the Discharger must follow the earlier and more detailed notification and reporting requirements in Section V.E. in both Attachments D and G of this Order.) In the annual self monitoring report required by Section VI.B.2 of Attachment E of this Order, the Discharger shall include a detailed summary of all wet weather discharges that occurred during the preceding wet season, including a description of how facilities were operated to avoid discharges and how storage was used to optimize dilution in Alamo Canal.

b. Wet Weather Facilities Management Plan

As required by the Regional Standard Provisions (Attachment G), the Discharger shall provide results of LAVWMA's facility report reviews annually. The Discharger shall include the Wet Weather Facilities Management Plan in this review. The Discharger shall review the Wet Weather Facilities Management Plan with input from the Alameda County Flood Control District and Alameda County Water District to ensure that the Alamo Canal discharge is minimized and coordinated with Alameda County Water District operations.

c. Groundwater Recharge

Within 30 days after the first discharge to Alamo Canal, the Discharger shall propose a Study Plan, with an implementation schedule acceptable to the Executive Officer, to determine the rate and extent of groundwater recharge resulting from any discharges to Alamo Canal during its 20-mile flow to the Bay. The Discharger shall implement the Study Plan within 45 days of its submittal, incorporating all comments provided by the Executive Officer, and submit a Final Report within 180 days of the approval of the Study Plan. A California registered engineer or professional geologist shall certify this report.

VII. COMPLIANCE DETERMINATION

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP (**Attachment E**) and Fact Sheet section VI. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger

shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$

where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

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

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

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (*CV*) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

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

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

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

Detected, but Not Quantified (DNQ) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA) is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in California Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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

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

Maximum Daily Effluent Limitation (MDEL) means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP) means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to California Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in California Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of

method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

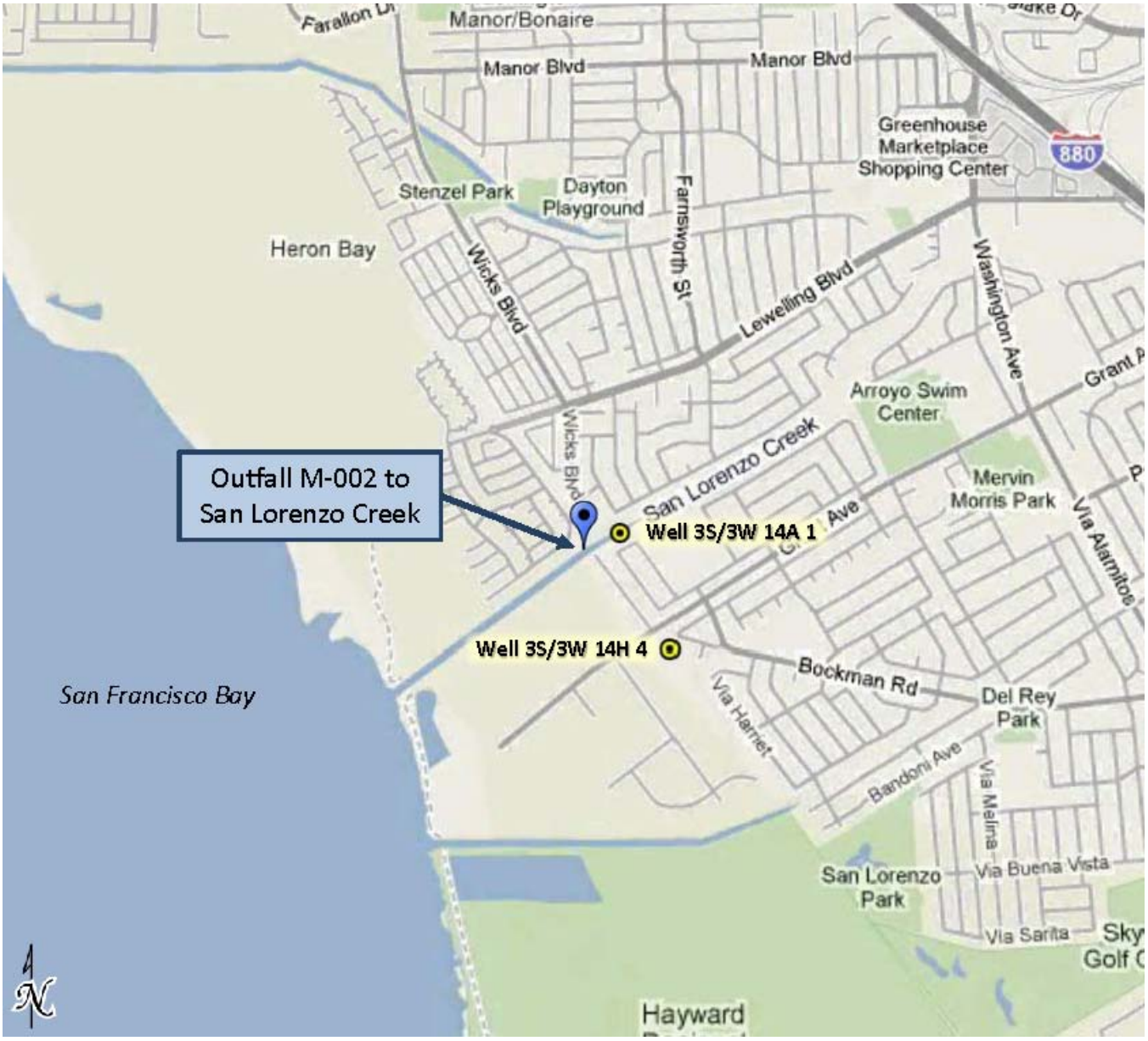
where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

ATTACHMENT B FACILITY MAP

Figure B-1. Facility and Outfall Locations

Background provided by Google Maps

Figure B-2. Detailed View of San Lorenzo Creek Outfall Location



1 mile [redacted]

Background provided by Google Maps

Note: Wells located within ¼ mile of LAVWMA facilities were identified by Alameda County Public Works Agency. These wells are used for municipal supply (3S/3W 14A 1) and industrial supply (3S/3W 14H 4). Monitoring and abandoned wells are not shown.

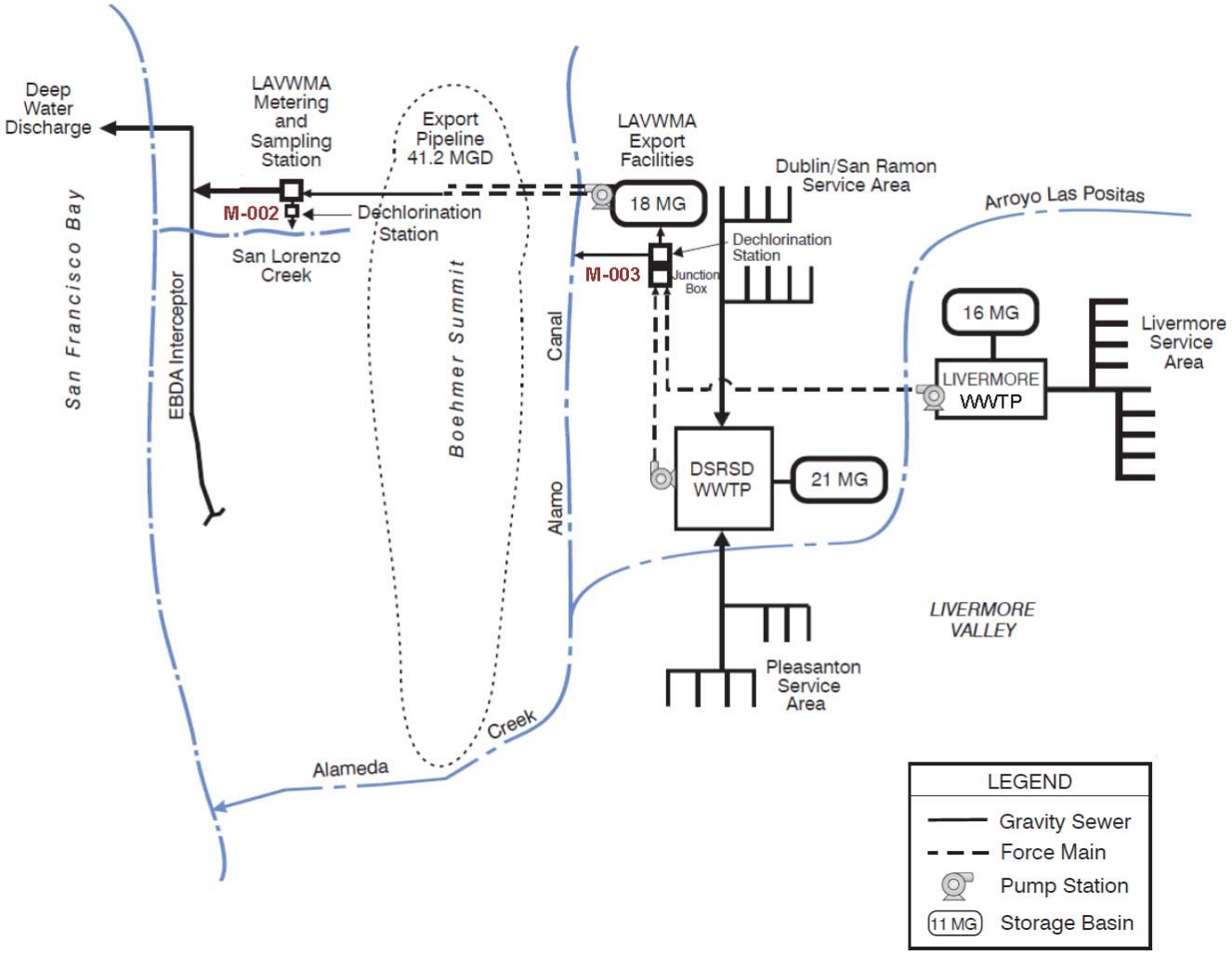
Figure B-2. Detailed View of Current and Future Alamo Canal Outfall Locations

1 mile [redacted]

Background provided by Google Maps

Note: Wells located within ¼ mile of LAVWMA facilities were identified by Zone 7 Water Agency. These wells are used for municipal supply (3S/1W 12G 3), irrigation (3S/1W 12J 3) and industrial supply (3S/1W 1R2). Monitoring and abandoned wells are not shown.

ATTACHMENT C –FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code 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).)

2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR §122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

C. Duty to Mitigate

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

D. Proper Operation and Maintenance

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR §22.41(g).)

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

F. Inspection and Entry

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR §122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR §122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR §122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR §122.41(i)(4).)

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR §122.41(m)(1)(i).)

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR §122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR §122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR §122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of

equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR §122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR §122.41(m)(4)(i)(C).)

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR §122.41(m)(4)(ii).)

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR §122.41(m)(3)(i).)

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR §122.41(m)(3)(ii).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by an upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR §122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR §122.41(n)(3)):

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR §122.41(n)(3)(i));

b. The permitted facility was, at the time, being properly operated (40 CFR §122.41(n)(3)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR §122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR §122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR §122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

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

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR §122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR §122.41(j)(4); §122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years

from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 CFR §122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR §122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR §122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR §122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR §122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR §122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR §122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 CFR §122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR §122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

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

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR §122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR §122.22(a)(3).).

3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR §122.22(b)(1));

   b. 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. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR §122.22(b)(2)); and

   c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR §122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR §122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

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

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (**Attachment E**) in this Order. (40 CFR §122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR §122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved

under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR §122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR §122.41(l)(4)(iii).)

D. Compliance Schedules

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

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR §122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR §122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR §122.41(l)(6)(ii)(A).)

   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(B).)

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR §122.41(l)(6)(iii).)

F. Planned Changes

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR §122.41(l)(1)(i));

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order (40 CFR §122.41(l)(1)(ii)); or

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR §122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this Order under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

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

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR §122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of this Order. (40 CFR §122.42(b)(2).)

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR §122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

I. General Monitoring Provisions 2
II. Monitoring Locations 2
III. Effluent Monitoring Requirements 3
IV. Whole Effluent Toxicity Testing Requirements 4
V. Receiving water Monitoring Requirements 5
VI. Reporting Requirements 5
A. General Monitoring and Reporting Requirements 5
B. Self Monitoring Reports (SMRs) 6
C. Discharge Monitoring Reports 8

Tables

Table E-1. Monitoring Station Locations 3
Table E-2. Effluent Monitoring 4
Table E-3. Receiving Water Monitoring 5
Table E-4. Monitoring Periods and Reporting Schedule 6

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

National Pollutant Discharge Elimination System (NPDES) regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. California Water Code (CWC) sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. The Discharger shall comply with this MRP and with all of the requirements contained in the Regional Standard Provisions (**Attachment G**). The MRP may be amended by the Executive Officer pursuant to U.S. Environmental Protection Agency (USEPA) regulations 40 CFR 122.62, 122.63, and 124.5.

B. All analyses shall be conducted using current USEPA methods, methods the USEPA Regional Administrator approved pursuant to 40 CFR Part 136.4 and 40 CFR 136.5, or equivalent methods that are commercially and reasonably available and that provide quantification of sampling parameters and constituents sufficient to evaluate compliance with applicable effluent limits and to perform reasonable potential analyses. Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer following consultation with the State Water Quality Control Board (State Water Board) Quality Assurance Program.

C. Sampling and analysis of additional constituents is required pursuant to the Regional Standard Provisions (**Attachment G**).

D. Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health (CDPH) under the Environmental Laboratory Accreditation Program (ELAP) in accordance with CWC section 13176, and shall include in reports quality assurance/quality control data.

E. For compliance and reasonable potential monitoring, analyses shall be conducted using commercially available and reasonably achievable detection levels that are lower than the water quality objectives (WQOs) or the effluent limitations, whichever are lower.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
Effluent	M-001	LAVWMA discharge to EBDA pipeline.
Effluent	M-002	Any point in the outfall from the LAVWMA facility at which adequate dechlorination has taken place and just prior to discharge to San Lorenzo Creek.
Effluent	M-003	Any point in the outfall from the LAVWMA treatment facility at which adequate dechlorination has taken place and just prior to discharge to Alamo Canal.
Receiving Water	R-002U	At a point located 100 feet upstream from San Lorenzo Creek discharge point, or if access is limited, at the first point upstream that is accessible or at the first opportunity, weather permitting, while the discharge is occurring.
Receiving Water	R-002D	At a point located 100 feet downstream from San Lorenzo Creek discharge point, or if access is limited, at the first point downstream that is accessible or at the first opportunity, weather permitting, while the discharge is occurring.
Receiving Water	R-003U	At a point located 100 feet upstream from Alamo Canal discharge point, or if access is limited, at the first point upstream that is accessible or at the first opportunity, weather permitting, while the discharge is occurring.
Receiving Water	R-003D	At a point located 100 feet downstream from Alamo Canal discharge point, or if access is limited, at the first point downstream that is accessible or at the first opportunity, weather permitting, while the discharge is occurring.

III. EFFLUENT MONITORING REQUIREMENTS

The Discharger shall monitor the discharge from the LAVWMA pipeline to San Lorenzo Creek at M-002 and to Alamo Canal at M-003 according to Table E-2.

If there is no discharge to San Lorenzo Creek or Alamo Canal, samples shall be taken at least once each year from the DSRSD and City of Livermore discharge points to the LAVWMA pipeline, preferably during a wet weather event between October 1 and April 1. These samples shall be analyzed for all constituents in Table E-2, except for those that are not applicable (i.e., duration of discharge and chlorine dosage). Alternatively, if there is no discharge to San Lorenzo Creek or Alamo Canal, effluent sampling requirements can be satisfied through the monitoring required under the separate permits for DSRSD (NPDES Permit CA0037613) and the City of Livermore (NPDES Permit CA0038008). If the Discharger chooses, these annual samples may instead be collected from the LAVWMA pipeline before release to the EBDA pipeline. Effluent limitations in this Order do not apply to monitoring data collected for samples when there is not a discharge to San Lorenzo Creek or Alamo Canal; these data will be used for reasonable potential analyses for the next permit cycle if there are no wet weather discharges to San Lorenzo Creek or Alamo Canal. The Discharger shall submit these data in accordance with the provisions below that apply to Priority Pollutants for reasonable potential analysis (RPA).

Table E-2. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Duration of Discharge	Hours and minutes	--	1/discharge event
Flow Volume	Gallons	Continuous	1/discharge event
Oil and Grease (1)	mg/L	Grab	1/discharge event
pH	s.u.	Grab	1/discharge event
Temperature	^{o}C	Grab	1/discharge event
$CBOD_5$	mg/L	Grab	1/discharge event
TSS	mg/L	Grab	1/discharge event
Total Coliform Organisms	MPN/100mL	Grab	1/discharge event
Chlorine Residual	mg/L	Continuous or Every 2 hours (2)	1/discharge event
Ammonia (total as N)	mg/L as N	Grab	1/discharge event
Bis(2-ethylhexyl) phthalate	µg/L	Grab	1/discharge event or 1/year if no discharge
Other Priority Pollutants for RPA	µg/L	Grab	1/discharge event or 1/year if no discharge (3)

Legend for Table E-2:
Units:

MPN/100mL = most probable number per 100 milliliters
^{o}C = degrees Celsius
µg/L = micrograms per liter
mg/L = milligrams per liter

Footnotes for Table E-2

(1) Each oil and grease sampling and analysis event shall be conducted in accordance with USEPA Method 1664.

(2) The dechlorinated effluent shall be monitored continuously or, at a minimum, every 2 hours during discharge. The Discharger shall report on a daily basis both maximum and minimum concentrations. If a violation is detected, the maximum and average concentrations and duration of each non-zero residual event shall be reported, along with the cause and corrective actions taken. The Discharger may elect to use a continuous on-line monitoring systems to measure flows, chlorine residual, and sodium bisulfite (or other dechlorinating chemical) dosage (including a safety factor) to demonstrate that chlorine residual exceedences are false positives.

(3) Priority pollutants, excluding asbestos, shall be monitored during discharge through the wet weather outfalls at San Lorenzo Creek and Alamo Canal or during the wet season at DSRSD and City of Livermore effluent outfalls (or at a location where these effluents are combined) if no discharge to San Lorenzo Creek or Alamo Canal occurs. See below for reporting requirements for these Priority Pollutants for RPA.

IV. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall monitor acute toxicity at M-002 and M-003 during discharge events to San Lorenzo Creek and Alamo Canal as follows:

A. Compliance with the acute toxicity effluent limitations of this Order shall be evaluated by measuring survival of test organisms exposed to static bioassays.

B. Test organisms shall be *Oncorhynchus mykiss* (rainbow trout), unless the Executive Officer specifies otherwise in writing.

C. All bioassays shall be performed according to the most up-to-date protocols in 40 CFR 136, currently in Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, 5th Edition.

D. Effluent used for fish bioassays shall be dechlorinated prior to testing. Monitoring of the bioassay water shall include, on a daily basis, the following parameters: pH, dissolved oxygen, ammonia (if toxicity is observed), temperature, hardness, and alkalinity. These results shall be recorded and maintained with all other analytical documents.

V. RECEIVING WATER MONITORING REQUIREMENTS

The sampling, measurements, and analysis for receiving water shall follow the schedule in Table E-3. Samples shall be taken at monitoring stations R-002U and R-003U between October 1 and May 1 during wet weather discharge events as safety permits. If safety is of concern during the discharge event, the receiving water monitoring may be conducted outside the discharge period, as long as the sample is collected during wet weather conditions and is conducted as close to the wet weather discharge as is safe to do so. Standard observations shall be made at monitoring stations R-002U and R-002D during each discharge to San Lorenzo Creek, and at monitoring stations R-003U and R-003D during each discharge to Alamo Canal.

Table E-3. Receiving Water Monitoring

Parameter	Unit	Sample Type	Frequency
pH	s.u.	Grab	Once/discharge event or a minimum of Twice/permit term during wet weather
Temperature	^{o}C	Grab	
Salinity [(1)]	ppt	Grab	
Hardness	mg/L as $CaCO_3$	Grab	
Ammonia (total as N)	mg/L as N	Grab	
Dissolved oxygen	mg/L	Grab	
Priority pollutants for RPA	µg/L	Grab	Once/permit term during wet weather
Standard observations	See Attachment G		Once/discharge event

[(1)] At San Lorenzo Creek R-002U only.

VI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all standard provisions (**Attachments D and G**) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event that there will be service interruption for electronic submittal.

2. The Discharger shall submit an annual SMR including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the Annual Report. Annual SMR Reports shall be due on June 15th following the completion of each annual monitoring period (see Table E-4 below).

3. Monitoring periods and reporting for all required monitoring shall be completed according to:

   a. At its option, the Discharger may report data for constituents listed above as Priority Pollutants for RPA in accordance with section b., below. If it chooses to do so, the Discharger shall then, in the applicable self-monitoring report, identify that the required sample(s) was collected, and report only the priority pollutant concentrations that were detected above or within one order of magnitude of the applicable water quality objective (see table F-6 in Attachment F of this Order).

Table E-4. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period
Continuous	Day after permit effective date	All
Every 2 Hours	Day after permit effective date	Every 2 hours during discharge event
Annually	October 1 following (or on) permit effective date	October 1 through May 1
Per Discharge Event	Anytime during the discharge event or as soon as possible after aware of the event	At a time when sampling can characterize the discharge event
Permit Term	Anytime after the permit effective date and at least 180 days before the permit expiration date	Anytime at least 180 days before the permit expiration date during the wet season (October 1-May1)

   b. **Reporting of Data for Priority Pollutants for RPA –** If the Discharger chooses to defer submittal of these data close to the time of collection, it shall instead report all the data with its Report of Waste Discharge and application for permit reissuance.

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

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   For purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ($\pm$ a percentage of the reported value), numerical ranges (low to high), or any other means the laboratory considers appropriate.

c. Sample results less than the laboratory's MDL shall be reported as "Not Detected" or ND.

d. The Discharger shall instruct laboratories to establish calibration standards so that the minimum level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.

5. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the Plant is operating in compliance with effluent limitations in this Order. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter with the SMR, and include all required monitoring data. See Section V.C. of both Attachments D and G of this Order for detailed requirements.

   c. SMRs shall be submitted to the Regional Water Board, signed and certified as required by the Federal Standard Provisions (**Attachment D**), to the address listed below:

      Executive Officer
      California Regional Water Quality Control Board
      San Francisco Bay Region
      1515 Clay Street, Suite 1400
      Oakland, CA 94612

ATTN: NPDES Wastewater Division

C. Discharge Monitoring Reports

1. As described in section V.B.1 above, at any time during the term of this Order, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. Once notified by the State or Regional Water Board, the Discharger shall submit hard copy DMRs. DMRs must be signed and certified as required by the Federal Standard Provisions (**Attachment D**). The Discharge shall submit the original DMR and one copy of the DMR to one of the addresses listed below:

Standard Mail	**FedEx/UPS/Other Private Carriers**
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results shall be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format as EPA Form 3320-1.

ATTACHMENT F - FACT SHEET

Table of Contents

I. Permit Information ... 3
II. Facility Description ... 4
A. Description of Wastewater Treatment ... 4
B. Discharge Description ... 4
C. Summary of Dischargers During the Previous Permit Term ... 5
D. Summary of Existing Requirements and Self-Monitoring Data ... 5
E. Compliance Summary ... 6
F. Planned Changes ... 7
III. Applicable Plans, Policies, and Regulations ... 7
A. Legal Authorities ... 7
B. California Environmental Quality Act (CEQA) ... 8
C. State and Federal Regulations, Policies, and Plans ... 8
D. Impaired Water Bodies on CWA 303(d) List ... 10
IV. Rationale For Effluent Limitations and Discharge Specifications ... 10
A. Discharge Prohibitions ... 10
B. Technology-Based Effluent Limitations ... 11
1. Scope and Authority ... 11
2. Applicable Technology-Based Effluent Limitations ... 12
C. Water Quality-Based Effluent Limitations (WQBELs) ... 12
1. Scope and Authority ... 12
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives ... 12
3. Determining the Need for WQBELs ... 14
4. WQBEL Calculations ... 18
5. Whole Effluent Toxicity ... 25
D. Anti-backsliding and Antidegradation ... 25
V. Rationale for Receiving Water Limitations ... 26
VI. RationalE for Monitoring and Reporting Requirements ... 26
A. Effluent Monitoring ... 26
B. Receiving Water Monitoring ... 26
VII. Rationale for Provisions ... 27
A. Standard Provisions (Provision VI.A) ... 27
B. Monitoring and Reporting Requirements (Provision VI.B) ... 27
C. Special Provisions (Provision VI.C) ... 27
1. Reopener Provisions ... 27
2. Pollutant Minimization Program ... 27
3. Special Studies, Technical Reports and Additional Monitoring Requirements ... 27
VIII. Public Participation ... 28
A. Notification of Interested Parties ... 28
B. Written Comments ... 28
C. Public Hearing ... 28
D. Waste Discharge Requirements Petitions ... 29
E. Information and Copying ... 29
F. Register of Interested Persons ... 29

G. Additional Information 29

List of Tables

Table F-1. Facility Information 3
Table F-2. Effluent Limitations in Previous Permit 5
Table F-3. Effluent Quality at San Lorenzo Creek Outfall, M-002, January 20, 2010 6
Table F-4. Required Reports and Studies Progress 7
Table F-5. Beneficial Uses of San Lorenzo Creek and Alamo Canal 8
Table F-6. Reasonable Potential Analysis Summary 15
Table F-7. Effluent Limit Calculation 24

ATTACHMENT F – FACT SHEET

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

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" fully apply to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Livermore-Amador Valley Water Management Agency (LAVWMA) export and storage facilities.

Table F-1. Facility Information

WDID	2 019129001
Discharger	Livermore-Amador Valley Water Management Agency (LAVWMA), Dublin San Ramon Services District (DSRSD), City of Pleasanton, and City of Livermore
Name of Facility	LAVWMA Export and Storage Facilities
Facility Address	7176 Johnson Drive
	Pleasanton, CA 94588
	Alameda County
Facility Contact, Title, and Phone	Ed Cummings, General Manager, (925) 875-2233
Discharger Mailing Address	7051 Dublin Blvd.,Dublin, CA 94568
CIWQS Place Number	236689
Facility Operator	Dublin San Ramon Services District
Facility Operator Contact	Dan Gallagher (925)875-2345
Type of Facility	Export and storage facilities
Service Areas	DSRSD and City of Livermore; DSRSD treats wastewater from City of Pleasanton under contract
Service Population	224,300
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	No
Reclamation Requirements	No
Mercury Discharge Requirement	Order No. R2-2007-0077
Facility Design Flow	41.2 MGD
Facility Permitted Flow	Intermittent: 21.5 MGD to San Lorenzo Creek, and 55 MGD to Alamo Canal
Watershed	San Lorenzo Creek and Alameda Creek Watersheds
Receiving Water and Type	San Lorenzo Creek (estuarine) and Alamo Canal (freshwater)

The Discharger has been discharging under Order No. R2-2006-0026 (previous permit) and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0038679. On December 8, 2010, the Discharger submitted an application for reissuance of its NPDES permit to discharge secondarily

treated wastewater from the Livermore-Amador Valley Water Management Agency (LAVWMA) facilities to waters of the State and the United States. The Discharger's discharge is also currently covered under Order No. R2-2007-0077 (NPDES Permit CA0038849), which supersedes all requirements on mercury and polychlorinated biphenyls (PCBs) from wastewater discharges in the region. This Order does not affect the mercury and PCBs permit.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

II. FACILITY DESCRIPTION

A. Description of Wastewater Treatment

LAVWMA receives secondarily-treated and disinfected wastewater from the DSRSD and City of Livermore wastewater treatment plants, then pumps the combined flow through its export pipeline to the East Bay Dischargers Authority (EBDA) system. EBDA transports LAVWMA's treated wastewater, along with the treated wastewater from its other member agencies, to its dechlorination station near the San Leandro Marina, and then to its deep water outfall for discharge to lower San Francisco Bay. The deep water discharge is regulated under a separate NPDES permit (CA0037869). Under current contractual agreement, the Discharger has a firm capacity of 19.7 million gallons per day (MGD), has an interruptible capacity of 21.5 MGD, and can discharge a maximum capacity of 41.2 million gallons per day (MGD) to the EBDA transport pipeline.

B. Discharge Description

This permit covers two intermittent wet weather discharge points that consist of fully secondarily-treated and disinfected municipal wastewater. These discharges occur at outfall E-002 to San Lorenzo Creek, and outfall E-003 to Alamo Canal.

Under normal operating procedures, the Discharger pumps up to 41.2 MGD of treated and chlorinated wastewater to the EBDA pipeline. During wet weather, when the capacity of the EBDA system to accept LAVWMA treated wastewater is less than 41.2 MGD, treated wastewater may be discharged through the wet weather outfall to San Lorenzo Creek (E-002). Under these conditions, LAVWMA maintains its maximum export pumping capacity of 41.2 MGD, routing at least 19.7 MGD to EBDA's system and at most 21.5 MGD to San Lorenzo Creek. Flow discharged to San Lorenzo Creek through outfall E-002 is dechlorinated. LAVWMA stops discharge to San Lorenzo Creek as soon as EBDA's available capacity equals or exceeds LAVWMA's flows.

If LAVWMA's flows exceed 41.2 MGD during significant storm events, treated wastewater may be discharged through the wet weather outfall to Alamo Canal (E-003). To minimize discharges to Alamo Canal, LAVWMA and its member agencies use their combined storage facilities, including LAVWMA's three flow-equalization basins (18 MG) and DSRSD's and the City of Livermore's storage ponds (21 MG and 16 MG), to increase in-valley flow equalization capacity. When inflow rates to the DSRSD and City of Livermore wastewater treatment plants indicate that discharge to Alamo Canal is imminent, storage is optimized and discharge to Alamo Canal is

timed to coincide as closely as possible with the peak of the wet weather hydrograph to allow for the greatest dilution of the effluent in the receiving water, rather than waiting to discharge after all storage is full. When the storage facilities approach their capacities, LAVWMA notifies the Regional Water Board, Alameda County Water District (ACWD), and Zone 7 Alameda County Flood Control District of impending discharge to Alamo Canal. Flow discharged to Alamo Canal through outfall E-003 is dechlorinated. LAVWMA stops discharge to Alamo Canal after the incoming flow subsides and stabilizes at a rate less than 41.2 MGD.

C. Summary of Dischargers During the Previous Permit Term

Two discharges to San Lorenzo Creek occurred during the term of the previous permit. The first discharge occurred on October 13, 2009. The maximum discharge rate was approximately 14 MGD. The discharge lasted less than 4 hours. The total volume discharged was approximately 1.5-2 MG. The second discharge occurred on January 20, 2010. The maximum discharge rate was 8.65 MGD. The discharge lasted approximately 7 hours. The total volume discharged was about 2.2 MG.

No discharges to Alamo Canal occurred during the term of the previous permit.

D. Summary of Existing Requirements and Self-Monitoring Data

Table F-2 shows effluent limitations contained in the previous permit for wet weather discharges to San Lorenzo Creek and Alamo Canal. Table F-3 presents representative monitoring data from the term of the previous permit. Representative monitoring data are not available for Alamo Canal because no wet weather discharge occurred there during the term of the previous permit.

Table F-2. Effluent Limitations in Previous Permit

Parameter	Units	Effluent Limitations		
		Weekly Average[1]	Instantaneous Maximum	Daily Maximum
Oil and Grease	mg/L	--	--	20
pH	standard units	Discharge must be within 6.5 to 8.5		
Total Suspended Solids (TSS)	mg/L	45	--	60
Biochemical Oxygen Demand [5-day @ 20 °C] (BOD_5)	mg/L	40	--	50
Total Coliform Organisms	MPN/ 100 mL	--	--	1,000
Chlorine, Total Residual	mg/L	--	0.0	--
Acute Toxicity	Survival of rainbow trout shall not be less than 70%			

Footnotes for Table F-2:
mg/L = milligrams per liter, mL/L-hr = milliliters per liter per hour
MPN/100 mL = Most Probable Number per 100 milliliters
(1) Average Weekly effluent limitation applies if discharge event lasts more than one day, or 24 hour period, in a calendar week.

Table F-3. Effluent Quality at San Lorenzo Creek Outfall, M-002, January 20, 2010

Parameter	Units	Daily Maximum
Biochemical Oxygen Demand (BOD)	mg/L	68
Total Suspended Solids (TSS)	mg/L	25
Total Chlorine Residual (Cl2)	mg/L	<0.02
Total Coliform Organisms	MPN/100 mL	540
pH	SU	7.3
Oil & Grease	mg/L	<5.0
Total Solids	mg/L	830
Total Dissolved Solids	mg/L	800
Temperature	°C	18
Nitrate (as N)	mg/L	1.1
Nitrite (as N)	mg/L	3.0
Total Ammonia (as N)	mg/L	18
Un-ionized Ammonia (as N)	mg/L	0.13
Copper	µg/L	11
Mercury	µg/L	0.0078
Nickel	µg/L	3.1
Zinc	µg/L	33
Bis(2-ethylhexyl) Phthalate	µg/L	3.3[(a)]
Dioxin-TEQ	pg/L	0.032[(a)]
Acute Toxicity	% survival	90

[(a)] This value represents an estimated concentration detected below the reported minimum level but above the analytical detection limit.

E. Compliance Summary

1. **Compliance with Numeric Effluent Limits.** BOD in the effluent sample collected during the discharge to San Lorenzo Creek on January 20, 2010 (67.7 mg/L) exceeded the maximum daily BOD limitation (50 mg/L). This was not a serious violation subject to a mandatory minimum penalty because the detected value exceeded the maximum daily effluent limit by less than 40 percent. Because the discharge lasted only 7 hours and was greatly diluted by storm flows, no formal enforcement action was taken. The Discharger suspects the high BOD measurement was caused by silt and/or organic material that gained entry into the outfall pipe via the flap gate on the discharge to San Lorenzo Creek, which had collected in the outfall piping prior to the beginning of the wet weather event. In addition, microbial growth in the sample lines could have occurred due to infrequent use. In the future, the Discharger will replace the sample tubing prior to the beginning of the wet weather season and will flush the sample line and tubing at least once per month in order to minimize the growth and subsequent sloughing of microbial material. Sample lines and tubing will also be flushed for one hour prior to collection of samples during discharges to San Lorenzo Creek and Alamo Canal.

2. **Compliance with Previous Permit Provisions.** Table F-4 shows a list of special activities the previous permit required and the status of those activities.

Table F-4. Required Reports and Studies Progress

Provision Number	Requirement	Date Due	Statues of Completion
B.2	Technical report including future wet-weather flow projection data, detailed information on the facility for 30 days prior to discharge, and preventive measures.	Within 180 days after the first discharge to San Lorenzo Creek or Alamo Canal	Submitted March 25, 2010, after discharge to San Lorenzo Creek on October 13, 2009
B.3	Wet Weather Management Plan	Annually by April 15 each year	All annual reports submitted
D.5	Self-Monitoring Program	Annually if discharge during the reporting year	Submitted for discharges that occurred in 2009-2010 wet season

F. Planned Changes

The Discharger plans to reconfigure outfall E-003 so that it discharges directly to Alamo Canal. In its current configuration, the outfall discharges to a flood conveyance facility that is tributary to Alamo Canal. After the reconfiguration, outfall E-003 would be located at 37°41'33" N, 121°55'06" W. Although the reconfiguration is in the preliminary planning phase, the Discharger anticipates that the new location will be established during the term of this Order.

The Discharger also plans to change its current wet weather operations plan to improve effluent dilution when discharging to Alamo Canal. The revised operational criteria involve discharging to Alamo Canal only when full storage utilization is known to be imminent based on inflow rates to the DSRSD and City of Livermore wastewater treatment plants, rather than waiting until storage is full. The modified operational criteria will reduce the time lag between peak flow in the receiving water and the initiation of the discharge by as much as 12 hours. To implement the change in storage use, the return frequency interval for discharges to Alamo Canal will be approximately 10 years, rather than 20 years. Further detail regarding these operational changes is provided in **Attachment H**.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to the Clean Water Act (CWA) section 402 and implementing regulations adopted by the U. S. Environmental Protection Agency (USEPA) and pursuant to California Water Code (CWC) Chapter 5.5, Division 7 (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from the Discharger's facilities to surface waters. This Order also serves as a WDR pursuant to CWC Article 4, Chapter 4, Division 7 (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under CWC section 13389 and section 3733 of Title 23 of the California Code of Regulations, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 but not from the policy provisions of Chapter 1 of CEQA.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The *Water Quality Control Plan for the San Francisco Bay Basin* (Basin Plan) is the Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives (WQOs) for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was adopted by the Regional Water Board and approved by the State Water Board, USEPA, and the Office of Administrative Law. Requirements of this Order implement the Basin Plan.

   The beneficial uses applicable to San Lorenzo Creek and Alamo Canal are listed in Table 5 based on Basin Plan Table 2-1. Surface water in San Lorenzo Creek recharges the East Bay Plain groundwater basin and Alamo Canal recharges the Livermore Valley groundwater basin. Alamo Canal is tributary to Arroyo de la Laguna, which is tributary to Alameda Creek. Arroyo de la Laguna recharges Livermore Valley and Sunol groundwater basins, and Alameda Creek recharges the Sunol, East Bay Plain, and Niles Cone groundwater basins (**Attachment B**). The existing beneficial uses of these groundwater basins are municipal and domestic supply, industrial process water supply, industrial service supply, and agricultural supply.

Table F-5. Beneficial Uses of San Lorenzo Creek and Alamo Canal

Discharge Point	Receiving Water Name	Beneficial Uses
E-002	San Lorenzo Creek	Municipal and Domestic Supply (MUN) Fresh Water Replenishment (FRSH) Groundwater Recharge (GWR) Cold Fresh Water Habitats (COLD) Fish Migration (MIGR) Fish Spawning (SPWN) Warm Fresh Water Habitats (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2)
E-003	Alamo Canal	Groundwater Recharge (GWR) Fish Migration (MIGR) Fish Spawning (SPWN) Warm Fresh Water Habitats (WARM) Wildlife Habitat (WILD) Water Contact Recreation (REC1) Non-Contact Water Recreation (REC2) Cold Fresh Water Habitats (COLD)

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995 and November 9, 1999. About 40 criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that applied in the state. USEPA amended the CTR on February 13, 2001. These rules contain water quality criteria for priority toxic pollutants, which apply to the receiving water.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP*).* The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria USEPA promulgated for California through the NTR and the priority pollutant objectives the Regional Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria USEPA promulgated through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards become effective for CWA purposes [40 CFR 131.21, 65 Fed. Reg. 24641 (April 27, 2000)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** 40 CFR 131.12 requires that State water quality standards include an antidegradation policy consistent with federal policy. The State Water Board established California's antidegradation policy through State Water Board Resolution No. 68-16 which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both State and federal antidegradation policies. As discussed in section II.N, the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** CWA sections 402(o)(2) and 303(d)(4) and NPDES regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. As discussed in section II.O, the permitted discharge is consistent with anti-backsliding requirements.

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

In November 2006, USEPA approved a revised list of impaired water bodies prepared by the State (hereinafter the 303(d) list) pursuant to CWA section 303(d), which requires identification of specific water bodies where it is expected that water quality standards will not be met after implementation of technology-based effluent limitations on point sources. Neither San Lorenzo Creek nor Alamo Canal is listed as an impaired waterbody.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants discharged into waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the NPDES regulations: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria (WQC) to protect the beneficial uses of the receiving water. Specific factors affecting the development of limitations and requirements in this Order are discussed as follows.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A (No discharge other than that described in this Order):** This prohibition is the same as in the previous permit and is based on 40 CFR 122.21(a), duty to apply, and CWC section 13260, which requires filing an application and Report of Waste Discharge before discharges can occur. Discharges not described in the permit application and Report of Waste Discharge, and subsequently in this Order, are prohibited.

2. **Discharge Prohibition III.B (Discharge to San Lorenzo Creek only during peak wet weather).** Under normal operating conditions LAVWMA is allowed to send 41.2 MGD to the EBDA pipeline. During wet weather conditions EBDA may restrict this amount down to a minimum of 19.7 MGD. This prohibition allows LAVWMA to discharge to San Lorenzo Creek only when its flow to the EBDA pipeline is restricted.

   Discharges during dry weather are prohibited based on Basin Plan Table 4-1. As the Basin Plan section 4.2 allows, an exception to the prohibition is granted during extreme wet weather because otherwise an inordinate burden would be placed on the Discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means (i.e., by far, most of the Discharger's effluent is discharged through the EBDA outfall). Specifically, it would be an inordinate burden for the Discharger to construct its own deepwater outfall or modify the EBDA system to provide additional capacity during peak wet weather discharges, which have only occurred two times to San Lorenzo Creek in the last twelve years, with a total volume of fully treated wastewater of 4.2 million gallons.

3. **Discharge Prohibition III.C (Discharge to Alamo Canal only during extreme wet weather events).** This prohibition is intended to ensure that Alamo Canal discharges are

limited to extreme wet weather events, where the maximum export pumping capacity to EBDA is in use and storage facilities are being used to optimize dilution in the receiving water as described in the Discharger's operational changes (**Attachment H**). The Alameda County Water District must be notified because it is a downstream water user and responsible for operating the intake to the areas recharging Niles Cone groundwater; a source of drinking water.

The discharge to Alamo Canal may only occur during a 10-year flow event or greater and is not to exceed 55 MG. These projections are based on the Discharger's proposed operational changes. In the previous permit, the discharge was limited to a 20-year return frequency storm. However, the Discharger provided information to support an approach that focuses on receiving the maximum amount of dilution in the receiving water rather than delaying the discharge to a time after peak wet weather runoff when dilution in the receiving water has decreased. This approach changes how the wet weather storage facilities are used and could result in discharges more frequent than the 20-year return frequency.

Discharges during dry weather are prohibited based on Basin Plan Table 4-1. As Basin Plan section 4.2 allows, an exception to the prohibition is granted during extreme wet weather because otherwise an inordinate burden would be placed on the Discharger relative to the beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means. Specifically, it would be an inordinate burden for the Discharger to construct its own deepwater outfall or modify the EBDA system to provide additional capacity during peak wet weather discharges, which have not occurred in the past twelve years.

B. Technology-Based Effluent Limitations

1. Scope and Authority

CWA section 301(b)(1)(B) requires USEPA to develop secondary treatment standards (the level of effluent quality attainable through application of secondary or equivalent treatment) for POTWs. USEPA promulgated such technology-based effluent guidelines for POTWs at 40 CFR Part 133. These secondary treatment regulations include the minimum requirements for POTWs that apply to discharges from the LAVWMA facility, which receives effluent from the DSRSD and City of Livermore treatment plants.

2. Applicable Technology-Based Effluent Limitations

In accordance with Secondary Treatment requirements in 40 CFR Part 133 and Basin Plan Table 4-2 (including footnote b), this Order retains technology-based effluent limitations from the previous permit. Consistent with the previous permit, the average monthly technology-based limits are not included because the discharge duration is unlikely to exceed five days. Instead, this Order imposes maximum daily TSS and CBOD limits that are the same as the previous permit. Maintaining these limitations maintains current performance and avoids backsliding.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

a. 40 CFR 122.44(d)(1)(i) requires permits to include WQBELs for pollutants that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard (reasonable potential). The process for determining reasonable potential and, when necessary, calculating WQBELs is intended to (1) protect the designated beneficial uses of the receiving water specified in the Basin Plan and (2) achieve applicable Water Quality Objectives contained in the California Toxics Rule (CTR), National Toxics Rule (NTR), and the Basin Plan and other State plans and policies.

b. NPDES regulations and the SIP provide the basis to establish Maximum Daily Effluent Limitations (MDELs).

(1) NPDES Regulations. 40 CFR 122.45(d) states, "For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall *unless impracticable* be stated as maximum daily and average monthly discharge limitations for all discharges other than publicly owned treatment works."

(2) SIP. SIP section 1.4 requires that WQBELs be expressed as MDELs and average monthly effluent limitations (AMELs).

MDELs are necessary to protect against acute water quality effects and for preventing fish kills or acute mortality to aquatic organisms.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The water quality criteria (WQC) and water quality objectives (WQOs) applicable to the receiving waters for this discharge are from the Basin Plan; the CTR, established by USEPA at 40 CFR 131.38; and the NTR, established by USEPA at 40 CFR 131.36. Some pollutants have WQC or WQOs established by more than one of these three sources.

a. Basin Plan. The Basin Plan specifies numeric WQOs for 10 priority toxic pollutants, as well as narrative WQOs for toxicity and bioaccumulation in order to protect beneficial uses. The pollutants for which the Basin Plan specifies numeric objectives are arsenic,

cadmium, chromium (VI), copper in freshwater, lead, mercury, nickel, silver, zinc, and cyanide. The narrative toxicity objective states in part, "All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organisms." Effluent limitations and provisions contained in this Order are based on available information to implement this objective. Basin Plan section 3.3.22 also incorporates WQOs for municipal supply, including maximum contaminant levels (MCLs) from various provisions of Title 22.

b. CTR. The CTR specifies numeric aquatic life criteria for 23 toxic pollutants and numeric human health criteria for 57 toxic pollutants. These criteria apply to all inland surface waters and enclosed bays and estuaries of the San Francisco Bay Region, although Basin Plan Tables 3-3 and 3-4 contain numeric objectives for certain toxic pollutants that supersede the CTR criteria in some circumstances.

c. NTR. The NTR establishes numeric aquatic life criteria for selenium and numeric human health criteria for 33 toxic pollutants for waters of San Francisco Bay upstream to and including Suisun Bay and the Sacramento River Delta. These criteria apply to San Lorenzo Creek and Alamo Canal, the receiving waters for this discharger.

d. Basin Plan Receiving Water Salinity Policy. The Basin Plan (like the CTR and the NTR) states that the salinity characteristics (i.e., freshwater vs. saltwater) of the receiving water shall be considered in determining the applicable WQOs. Freshwater objectives apply to discharges to waters with salinities equal to or less than one part per thousand (ppt) at least 95 percent of the time. Saltwater criteria apply to discharges to waters with salinities equal to or greater than 10 ppt at least 95 percent of the time in a normal water year. For discharges to water with salinities in between these two categories, or tidally influenced freshwaters that support estuarine beneficial uses, the criteria are to be the lower of the salt or freshwater criteria (the latter calculated based on ambient hardness) for each substance.

This Order's effluent limitations are based on freshwater WQOs. The Discharger has not collected salinity data; however, the beneficial uses for San Lorenzo Creek (municipal supply, fresh water replenishment, cold and warm fresh water habitats) and Alamo Canal (groundwater recharge, warm and cold fresh water habitats) indicate fresh water. Furthermore, peak wet weather discharge conditions would be expected to be fresh because of the large amount of fresh upstream storm water flow.

e. Receiving Water Hardness. Ambient hardness is used to calculate freshwater WQOs that are hardness-dependent. In determining the WQOs for this Order, a hardness of 185 milligrams per liter (mg/L) as $CaCO_3$, was used as determined from data collected in San Lorenzo Creek during the wet seasons between 1989 and 1993. This value represents the median of the data set, which was censored to remove hardness values above 400 mg/L as $CaCO_3$. Hardness data for Alamo Canal are expected to be similar.

f. Metals Translators. Because 40 CFR 122.45(c) requires that effluent limitations for metals be expressed as total recoverable metal, and applicable WQOs for metals are typically expressed as dissolved metal, translators must be used to convert metals

concentrations from dissolved to total recoverable and vice versa. In general, the dissolved form of the metals is more available and more toxic to aquatic life than the filterable form. USEPA established default translators in the CTR. Site-specific translators can be developed to account for site-specific conditions, thereby preventing exceedingly stringent or under protective WQOs. This Order relies on the default translators.

3. Determining the Need for WQBELs

Assessing whether a pollutant has reasonable potential is the fundamental step in determining whether or not a WQBEL is required. Using the methods prescribed in SIP section 1.3, the effluent data were analyzed to determine if the discharge demonstrates reasonable potential. The reasonable potential Analysis (RPA) compares the effluent data with numeric and narrative WQOs in the Basin Plan, the NTR, and the CTR.

a. Reasonable Potential Methodology. The RPA identifies the observed MEC in the effluent for each pollutant based on effluent concentration data. There are three triggers in determining reasonable potential, according to SIP section 1.3.

(1) The first trigger (Trigger 1) is activated if the MEC is greater than or equal to the lowest applicable WQO (MEC $\geq$ WQO), which has been adjusted, if appropriate, for pH, hardness, and translator data. If the MEC is greater than or equal to the adjusted WQO, then that pollutant has reasonable potential, and a WQBEL is required.

(2) The second trigger (Trigger 2) is activated if the observed maximum ambient background concentration (B) is greater than the adjusted WQO (B > WQO), and the pollutant is detected in any of the effluent samples (MEC > ND).

(3) The third trigger (Trigger 3) is activated if a review of other information determines that a WQBEL is necessary to protect beneficial uses, even though both MEC and B are less than the WQO.

b. Effluent Data. The RPA is based on effluent monitoring data for conventional constituents and priority pollutants the Discharger collected at Monitoring Location M-002 during the January 20, 2010, discharge to San Lorenzo Creek. Effluent samples collected during the October 13 event were mistakenly collected from San Lorenzo Creek at the confluence with the Discharger's wet weather outfall, instead of the effluent prior to the point of discharge to San Lorenzo Creek. Therefore, the analytical results from the October event are not representative of the quality of the Discharger's effluent and were not used in the RPA.

c. Ambient Background Data. Ambient background values are typically used to determine reasonable potential and to calculate effluent limitations, when necessary. For the RPA, ambient background concentrations are the observed maximum detected water column concentrations. The SIP states that for calculating WQBELs, ambient background concentrations are either the observed maximum ambient water column concentrations or, for WQOs intended to protect human health from carcinogenic effects, the arithmetic mean of observed ambient water concentrations. No receiving water data are available for

San Lorenzo Creek or Alamo Canal. This Order requires the Discharger to collect wet weather receiving water data in San Lorenzo Creek and Alamo Canal during the permit term. These data will be used in the next permit reissuance for determining reasonable potential.

d. **Reasonable Potential Determination.** The MECs, most stringent applicable WQOs, and background concentrations used in the RPA are presented in the following table, along with the RPA results (Yes or No) for each pollutant analyzed. Reasonable potential was not determined for all pollutants, because there are not applicable WQOs for all pollutants, and monitoring data are not available for others. The RPA determined that bis(2-ethylhexyl)phthalate exhibits reasonable potential by Trigger 1.

Table F-6. Reasonable Potential Analysis Summary

CTR #	Priority Pollutants	MEC or Minimum DL [(a)(b)] (µg/L)	Governing WQO (µg/L)	Maximum Background or Minimum DL [(a)(b)] (µg/L)	RPA Results [(c)]
1	Antimony	Not available	6	Not Available	Ud
2	Arsenic	Not available	50	Not Available	Ud
3	Beryllium	Not available	4	Not Available	Ud
4	Cadmium	Not available	1.8	Not Available	Ud
5a	Chromium (III)	Not available	50	Not Available	Ud
5b	Chromium (VI)	Not available	11	Not Available	Ud
6	Copper	11	20.8	Not Available	No
7	Lead	<2	7.0	Not Available	No
8	Mercury (303d listed)	0.0078	0.025	Not Available	No[(d)]
9	Nickel	3.1	100	Not Available	No
10	Selenium	<2	5.0	Not Available	No
11	Silver	<0.2	11.7	Not Available	No
12	Thallium	Not available	1.7	Not Available	Ud
13	Zinc	33	202	Not Available	No
14	Cyanide	<5	2.9	Not Available	No
15	Asbestos	<2	7	Not Available	Ud
16	2,3,7,8-TCDD (Dioxin)	<3.2E-08	1.3E-08	Not Available	Ud
17	Acrolein	Not available	320	Not Available	Ud
18	Acrylonitrile	Not available	0.059	Not Available	Ud
19	Benzene	Not available	1	Not Available	Ud
20	Bromoform	Not available	4.3	Not Available	Ud
21	Carbon Tetrachloride	Not available	0.25	Not Available	Ud
22	Chlorobenzene	Not available	680	Not Available	Ud
23	Chlorodibromomethane	<0.19	0.41	Not Available	No
24	Chloroethane	Not available	No Criteria	Not Available	Ud
25	2-Chloroethylvinyl Ether	Not available	No Criteria	Not Available	Ud
26	Chloroform	Not available	No Criteria	Not Available	Ud
27	Dichlorobromomethane	<0.2	0.56	Not Available	No
28	1,1-Dichloroethane	Not available	5	Not Available	Ud
29	1,2-Dichloroethane	Not available	0.38	Not Available	Ud
30	1,1-Dichloroethylene	Not available	0.057	Not Available	Ud
31	1,2-Dichloropropane	Not available	0.52	Not Available	Ud
32	1,3-Dichloropropylene	Not available	0.5	Not Available	Ud

33	Ethylbenzene	Not available	300	Not Available	Ud
34	Methyl Bromide	Not available	48	Not Available	Ud
35	Methyl Chloride	Not available	No Criteria	Not Available	Ud
36	Methylene Chloride	Not available	4.7	Not Available	Ud
37	1,1,2,2-Tetrachloroethane	Not available	0.17	Not Available	Ud
38	Tetrachloroethylene	Not available	0.8	Not Available	Ud
39	Toluene	Not available	150	Not Available	Ud
40	1,2-Trans-Dichloroethylene	Not available	10	Not Available	Ud
41	1,1,1-Trichloroethane	Not available	200	Not Available	Ud
42	1,1,2-Trichloroethane	Not available	0.6	Not Available	Ud
43	Trichloroethylene	Not available	2.7	Not Available	Ud
44	Vinyl Chloride	Not available	0.5	Not Available	Ud
45	Chlorophenol	Not available	120	Not Available	Ud
46	2,4-Dichlorophenol	Not available	93	Not Available	Ud
47	2,4-Dimethylphenol	Not available	540	Not Available	Ud
48	2-Methyl-4,6-Dinitrophenol	Not available	13.4	Not Available	Ud
49	2,4-Dinitrophenol	Not available	70	Not Available	Ud
50	2-Nitrophenol	Not available	No Criteria	Not Available	Ud
51	4-Nitrophenol	Not available	No Criteria	Not Available	Ud
52	3-Methyl-4-Chlorophenol	Not available	No Criteria	Not Available	Ud
53	Pentachlorophenol	Not available	0.3	Not Available	Ud
54	Phenol	Not available	21000	Not Available	Ud
55	2,4,6-Trichlorophenol	Not available	2.1	Not Available	Ud
56	Acenaphthene	Not available	1200	Not Available	Ud
57	Acenaphthylene	Not available	No Criteria	Not Available	Ud
58	Anthracene	Not available	9600	Not Available	Ud
59	Benzidine	Not available	0.00012	Not Available	Ud
60	Benzo(a)Anthracene	Not available	0.0044	Not Available	Ud
61	Benzo(a)Pyrene	Not available	0.0044	Not Available	Ud
62	Benzo(b)Fluoranthene	Not available	0.0044	Not Available	Ud
63	Benzo(ghi)Perylene	Not available	No Criteria	Not Available	Ud
64	Benzo(k)Fluoranthene	Not available	0.0044	Not Available	Ud
65	Bis(2-Chloroethoxy)Methane	Not available	No Criteria	Not Available	Ud
66	Bis(2-Chloroethyl)Ether	Not available	0.031	Not Available	Ud
67	Bis(2-Chloroisopropyl)Ether	Not available	1400	Not Available	Ud
68	**Bis(2-Ethylhexyl)Phthalate**	**3.3**	**1.8**	**Not Available**	**Yes**
69	4-Bromophenyl Phenyl Ether	Not available	No Criteria	Not Available	Ud
70	Butylbenzyl Phthalate	Not available	3000	Not Available	Ud
71	2-Chloronaphthalene	Not available	1700	Not Available	Ud
72	4-Chlorophenyl Phenyl Ether	Not available	No Criteria	Not Available	Ud
73	Chrysene	Not available	0.0044	Not Available	Ud
74	Dibenzo(a,h)Anthracene	Not available	0.0044	Not Available	Ud
75	1,2-Dichlorobenzene	Not available	600	Not Available	Ud
76	1,3-Dichlorobenzene	Not available	400	Not Available	Ud
77	1,4-Dichlorobenzene	Not available	5	Not Available	Ud
78	3,3-Dichlorobenzidine	Not available	0.04	Not Available	Ud
79	Diethyl Phthalate	Not available	23000	Not Available	Ud
80	Dimethyl Phthalate	Not available	313000	Not Available	Ud
81	Di-n-Butyl Phthalate	Not available	2700	Not Available	Ud
82	2,4-Dinitrotoluene	Not available	0.11	Not Available	Ud

83	2,6-Dinitrotoluene	Not available	No Criteria	Not Available	Ud
84	Di-n-Octyl Phthalate	Not available	No Criteria	Not Available	Ud
85	1,2-Diphenylhydrazine	Not available	0.04	Not Available	Ud
86	Fluoranthene	Not available	300	Not Available	Ud
87	Fluorene	Not available	1300	Not Available	Ud
88	Hexachlorobenzene	Not available	0.00075	Not Available	Ud
89	Hexachlorobutadiene	Not available	0.44	Not Available	Ud
90	Hexachlorocyclopentadiene	Not available	50	Not Available	Ud
91	Hexachloroethane	Not available	1.9	Not Available	Ud
92	Indeno(1,2,3-cd) Pyrene	Not available	0.0044	Not Available	Ud
93	Isophorone	Not available	8.4	Not Available	Ud
94	Naphthalene	Not available	No Criteria	Not Available	Ud
95	Nitrobenzene	Not available	17	Not Available	Ud
96	N-Nitrosodimethylamine	Not available	0.00069	Not Available	Ud
97	N-Nitrosodi-n-Propylamine	Not available	0.005	Not Available	Ud
98	N-Nitrosodiphenylamine	Not available	5	Not Available	Ud
99	Phenanthrene	Not available	No Criteria	Not Available	Ud
100	Pyrene	Not available	960	Not Available	Ud
101	1,2,4-Trichlorobenzene	Not available	5	Not Available	Ud
102	Aldrin	<0.006	0.00013	Not Available	No
103	alpha-BHC	<0.004	0.0039	Not Available	No
104	beta-BHC	<0.003	0.014	Not Available	No
105	gamma-BHC	<0.004	0.019	Not Available	No
106	delta-BHC	Not available	No Criteria	Not Available	Ud
107	Chlordane (303d listed)	<0.035	0.00057	Not Available	No
108	4,4-DDT (303d listed)	<0.01	0.00059	Not Available	No
109	4,4-DDE	Not available	0.00059	Not Available	Ud
110	4,4-DDD	Not available	0.00083	Not Available	Ud
111	Dieldrin (303d listed)	<0.003	0.00014	Not Available	Ud
112	alpha-Endosulfan	Not available	0.056	Not Available	Ud
113	beta-Endosulfan	Not available	0.056	Not Available	Ud
114	Endosulfan Sulfate	Not available	110	Not Available	Ud
115	Endrin	Not available	0.036	Not Available	Ud
116	Endrin Aldehyde	Not available	0.76	Not Available	Ud
117	Heptachlor	Not available	0.00021	Not Available	Ud
118	Heptachlor Epoxide	Not available	0.0001	Not Available	Ud
119-125	PCBs sum (303d listed)	Not available	0.00017	Not Available	[d]
126	Toxaphene	Not available	0.0002	Not Available	Ud
	Tributyltin	0.0026	0.0074	Not Available	No
	Total PAHs	Not available	15	Not Available	Ud
	Total Ammonia (mg/L N)[e]	18.1	No Criteria	Not Available	No

Footnotes for Table F-6:

[a] The Maximum Effluent Concentration (MEC) and maximum background concentration (B) are the actual detected concentrations unless preceded by a "<" sign, in which case the value shown is the minimum detection level (DL).

[b] The MEC or B is "Not Available" when there are no monitoring data for the constituent.

[c] RPA Results = Yes, if MEC > WQO, B > WQO and MEC is detected, or Trigger 3;
= No, if MEC and B are < WQO or all effluent data are undetected;
= Undetermined (Ud), if no objectives have been promulgated or there are insufficient data.

[d] SIP section 1.3 excludes from its RPA procedure priority pollutants for which a TMDL has been developed. TMDLs have been developed for mercury and PCBs in San Francisco Bay. Mercury and PCBs from wastewater discharges are regulated by NPDES Permit No. CA0038849 (currently Regional Water Board Order No. R2-2007-0077), which implements the San Francisco Bay Mercury and PCB TMDLs.

[e] Only one data point was available for ammonia. The calculated un-ionized ammonia concentration of 0.128 mg/L was lower than the Basin Plan receiving water objective of 0.4 mg/L for Lower San Francisco Bay.

(1) Constituents with limited data. In some cases, reasonable potential cannot be determined because effluent data are limited or ambient background concentrations are not available. The Discharger will continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further RPA will be conducted to determine whether to add numeric effluent limitations to this Order or to continue monitoring.

(2) Pollutants with No Reasonable Potential. WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential; however, monitoring for those pollutants is still required. If concentrations of these constituents are found to have increased significantly, the Discharger will be required to investigate the sources of the increases. Remedial measures are required if the increases pose a threat to water quality in the receiving water.

4. WQBEL Calculations

a. Pollutants with Reasonable Potential. WQBELs were developed for the toxic and priority pollutants determined to have reasonable potential to cause or contribute to exceedances of applicable WQOs or WQC. The WQBELs were calculated based on appropriate WQOs and the appropriate procedures specified in SIP section 1.4. The WQOs used for each pollutant with reasonable potential are discussed below.

b. Dilution Credit. This Order allows dilution credits for bis(2-ethylhexyl)phthalate. SIP section 1.4.2 allows dilution credits for completely-mixed discharges and, under certain circumstances, for incompletely-mixed discharges. The outfall does not have a diffuser, and the Discharger's December 2010 mixing zone analysis (*LAVWMA Report of Waste Discharge for Renewal of NPDES Permit No. CA0038679 Mixing Zone Analysis for Wet Weather Discharges,* December 8, 2010) did not provide evidence that the discharge is completely-mixed; therefore the discharge is classified as incompletely-mixed.

The Discharger's mixing zone analysis justifies a mixing zone and associated dilution credit for bis(2-ethylhexyl)phthalate in San Lorenzo Creek and Alamo Canal in accordance with SIP requirements. The SIP allows mixing zones for incompletely-mixed discharges, but the mixing zones must be as small as practicable. The mixing zones identified for San Lorenzo Creek and Alamo Canal meet the SIP criteria, as summarized below.

(1) San Lorenzo Creek. The Discharger identified a mixing zone extending from the San Lorenzo Creek outfall to a distance of 50 feet downstream and encompassing the entire width and depth of the creek within this reach. At 50 feet downstream from the outfall, there is a pump station and outfall operated by the Alameda County Flood Control and Water Conservation District. Based on expected receiving water flows during a 1.5-year return frequency storm (233 MGD), and based on the maximum discharge from the outfall (21.5 MGD) (i.e., the difference between the hydraulic

capacity of the LAVWMA export pumping system and pipeline (41.2 MGD) and the minimum capacity of the EBDA system to accept LAVWMA flows during wet weather events (19.7 MGD)), the mixing zone would result in dilution of at least 11:1 (D=10). This is the highest dilution justified. On a pollutant-by-pollutant basis, the smallest practicable mixing zone can be no larger than the one corresponding to this dilution.

As SIP section 1.4.2.2 requires, the mixing zone does not:

i. **Compromise the integrity of the entire water body.** A mixing zone providing 11:1 dilution in San Lorenzo Creek would extend 50 feet downstream of the wet weather outfall, and comprise 1.7% of the receiving water body length and surface area. The maximum dilution credit,11:1 (D=10) is applied for bis(2-ethylhexyl)phthalate. Due to the limited amount of data, it is not possible to determine if a smaller mixing zone is applicable. Because of the infrequency of the discharge, the mixing zone will not compromise the integrity of the entire water body.

ii. **Cause acutely toxic conditions to aquatic life passing through the mixing zone.** During wet weather flows, water moves rapidly through the mixing zone. Acute toxicity is not expected because organisms that drift or swim through the mixing zone are exposed much less than the one-hour averaging period on which acute criteria are based (*Technical Support Document for Water Quality-based Toxics Control,* USEPA, 1991).

iii. **Restrict the passage of aquatic life.** The mixing zone dimensions are less than the actual channel width during storm flows because the mixing zone is based on the trapezoidal channel bottom width. During storm events water in the channel is estimated to be up to 100 feet wider, leaving adequate room for aquatic life to pass.

iv. **Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws.** The area surrounding the outfall consists of sheltered tidal flats and low vegetated riverine banks. The estuarine portion of San Lorenzo Creek and adjacent areas provide habitat to the endangered California clapper rail. The reach of San Lorenzo Creek upstream of wet weather outfall M-002 is identified as habitat for juvenile and adult steelhead. Due to the short duration and very infrequent nature of any discharges, the mixing zone will not adversely impact biologically sensitive or critical habitats.

v. **Produce undesirable or nuisance aquatic life.** Discharge during a peak wet weather event cannot support or sustain algal growth or other nuisance aquatic life. In addition, the Discharger's effluent is regulated by receiving water limitation V.1.b, which prohibits bottom deposits or aquatic growths to the

extent that such deposits or growths cause nuisance or adversely affect beneficial uses.

vi. **Result in floating debris, oil, or scum.** The DSRSD and City of Livermore wastewater treatment plants are equipped with properly designed, installed, and maintained scum/debris collection devices (scum baffles) to effectively collect and properly dispose of oils, grease, debris, and scum, so the effluent is free of these materials. Also, the Discharger's effluent is regulated by receiving water limitation V.1.a-d, which specifically prohibits floating debris, oil, and scum. When the discharges occur, the Discharger is required to visually monitor the effluent to confirm that debris, oil, and scum are not present. These materials have not been observed during prior discharge events.

vii. **Produce objectionable color, odor, taste, or turbidity.** All effluent discharged through the wet weather outfall receives secondary treatment and is disinfected. Secondary treatment generally addresses color, odor, taste, and turbidity through the biological degradation of organic compounds. The Discharger's effluent is regulated by receiving water limitation V.1.a-d, which requires the discharge not cause these conditions in the receiving water. When discharges occur, the Discharger is required to visually monitor the effluent to confirm that objectionable color, odor, or turbidity is not present.

viii. **Cause objectionable bottom deposits.** All effluent discharged through the wet weather outfall receives secondary treatment, which removes a minimum of 85% of BOD and TSS. Secondary treatment biologically degrades and removes suspended particles from the wastewater that may otherwise contribute to receiving water bottom deposits. Because the discharge will be held to secondary treatment standards, it will not cause objectionable bottom deposits.

ix. **Cause a nuisance.** California Water Code 13050(m) defines "nuisance" to mean anything that meets all of the following requirements:

- Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
- Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
- Occurs during, or as a result of, the treatment or disposal of wastes.

No nuisances will be created because the effluent receives secondary treatment and is disinfected. Due to its location, infrequent nature, short duration, and limitation to wet weather conditions, the discharge would not obstruct the free use of property so as to interfere with the enjoyment of life or property, nor would it affect an entire community or neighborhood or any considerable number of persons.

x. **Dominate San Lorenzo Creek or overlap a mixing zone from a different outfall.** The mixing zone does not extend beyond the Alameda County Flood Control and Water Conservation District pump station and outfall located 50 feet downstream from the wet weather outfall M-002. The Regional Water Board has not established any other mixing zones for a nearby discharger.

xi. **Exist near any drinking water intake.** The receiving water is not used for drinking water supplies.

Since the 50-foot mixing zone with 11:1 dilution meets these SIP criteria, the smallest practicable mixing zone was determined based on the smallest dilution credit less than 11:1 that results in WQBELs with which the Discharger can comply. Because there was only one data point for bis(2-exylhexyl)phthalate (an estimated value of 3.3 µg/L), dilution credit was set to the maximum dilution allowable (11:1).

(2) Alamo Canal. The Discharger identified a mixing zone extending from the Alamo Canal outfall to a distance of 200 feet downstream and encompassing the entire width and depth of the creek within this reach. At 200 feet downstream from the outfall, there is a storm water outfall. Based on expected receiving water flows representing the annual peak daily discharge during a 10-year return frequency storm (800 MGD), and based on the maximum discharge from the outfall (55 MGD), the mixing zone would result in dilution of at least 15:1 (D=14). This is the highest dilution justified. On a pollutant-by-pollutant basis, the smallest practicable mixing zone can be no larger than the one corresponding to this dilution. Since the 200-foot mixing zone meets the SIP criteria, smaller mixing zones also meet these criteria.

As SIP section 1.4.2.2 requires, the mixing zone does not:

i. **Compromise the integrity of the entire water body.** A mixing zone providing 15:1 dilution in Alamo Canal would extend 200 feet downstream of the wet weather outfall, and comprise 2.1% of the receiving water body length and surface area. The actual dilution credit applied, 11:1 (D=10) for bis(2-ethylhexyl)phthalate, reflects an even smaller mixing zone and is based on the dilution allowed for San Lorenzo Creek since the dataset consists of only one data point collected during a discharge to San Lorenzo Creek. Because of the infrequency of the discharge, the mixing zone will not compromise the integrity of the entire water body.

ii. **Cause acutely toxic conditions to aquatic life passing through the mixing zone.** During wet weather flows, water moves rapidly through the mixing zone. Acute toxicity is not expected because organisms that drift or swim through the mixing zone are exposed much less than the one-hour averaging period on which acute criteria are based (*Technical Support Document for Water Quality-based Toxics Control,* USEPA, 1991).

iii. **Restrict the passage of aquatic life.** The mixing zone dimensions are less than the actual channel width during storm flows because the mixing zone is based on the trapezoidal channel bottom width. During storm events water in the channel is estimated to be up to 50 feet wider, leaving adequate room for aquatic life to pass.

iv. **Adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws.** The area surrounding the outfall consists of steep vegetated banks with introduced grasses and no riparian cover. The lack of in-stream shelter and sand-bottomed channel limit its invertebrate productivity and habitat value. The receiving water and adjacent terrestrial areas are not considered potential habitat for the federally threatened California-red-legged frog, California tiger salamander, burrowing owl, any migrating or anadromous fish, or any special status plants. Potential habitat exists within Alamo Canal for other special status wildlife species, including Ricksecker's water scavenger beetle, curved-foot hygrotus diving beetle, and western pond turtle. Due to the short duration and very infrequent nature of any discharges, the mixing zone will not adversely impact biologically sensitive or critical habitats.

v. **Produce undesirable or nuisance aquatic life.** Discharge during a peak wet weather event cannot support or sustain algal growth or other nuisance aquatic life. In addition, the Discharger's effluent is regulated by receiving water limitation V.1.b, which prohibits bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses.

vi. **Result in floating debris, oil, or scum.** The DSRSD and City of Livermore wastewater treatment plants are equipped with properly designed, installed, and maintained scum/debris collection devices (scum baffles) to effectively collect and properly dispose of oils, grease, debris, and scum, so the effluent is free of these materials. Also, the Discharger's effluent is regulated by receiving water limitation V.1.a-d, which specifically prohibits floating debris, oil, and scum. When the discharges occur, the Discharger is required to visually monitor the effluent to confirm that debris, oil, and scum are not present. These materials have not been observed during prior discharge events.

vii. **Produce objectionable color, odor, taste, or turbidity.** All effluent discharged through the wet weather outfall receives secondary treatment and is disinfected. Secondary treatment generally addresses color, odor, taste, and turbidity through the biological degradation of organic compounds. The Discharger's effluent is regulated by receiving water limitation V.1.a-d, which requires the discharge not cause these conditions in the receiving water. When discharges occur, the Discharger is required to visually monitor the effluent to confirm that objectionable color, odor, or turbidity is not present.

viii. Cause objectionable bottom deposits. All effluent discharged through the wet weather outfall receives secondary treatment, which removes a minimum of 85% of BOD and TSS. Secondary treatment biologically degrades and removes suspended particles from the wastewater that may otherwise contribute to receiving water bottom deposits. Because the discharge will be held to secondary treatment standards, it will not cause objectionable bottom deposits.

ix. Cause a nuisance. California Water Code 13050(m) defines "nuisance" to mean anything that meets all of the following requirements:

- Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
- Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
- Occurs during, or as a result of, the treatment or disposal of wastes.

No nuisances will be created because the effluent receives secondary treatment and is disinfected. Due to its location, infrequent nature, short duration, and limitation to wet weather conditions, the discharge would not obstruct the free use of property so as to interfere with the enjoyment of life or property, nor would it affect an entire community or neighborhood or any considerable number of persons.

x. Dominate Alamo Canal or overlap a mixing zone from a different outfall. The mixing zone does not extend beyond the storm water outfall located 200 feet downstream from the wet weather outfall M-003. The Regional Water Board has not established any other mixing zones for a nearby discharger.

xi. Exist near any drinking water intake. The receiving water is not used for drinking water supplies.

Since the 200-foot mixing zone with 15:1 dilution meets these SIP criteria, the smallest practicable mixing zone was determined based on the smallest dilution credit less than 15:1 that results in WQBELs with which the Discharger can comply. Because there was only one data point for bis(2-exylhexyl)phthalate (an estimated value of 3.3 µg/L measured during a discharge to San Lorenzo Creek), dilution credit was set to the maximum dilution determined for San Lorenzo Creek (11:1).

d. Development of WQBELs for Bis(2-ethylhexyl)phthalate

(1) Bis(2-ethylhexyl)phthalate WQC. The most stringent applicable WQC for bis(2-ethylhexyl)phthalate is 1.8 µg/L based on the CTR.

(2) RPA Results. This Order establishes effluent limitations for bis(2-ethylhexyl)phthalate because the MEC (3.3 µg/L) exceeds the governing WQC (1.8 µg/L), demonstrating reasonable potential by Trigger 1.

(3) WQBELs. Effluent limitations for bis(2-ethylhexyl)phthalate, calculated in accordance with SIP section 1.4 (based on a default coefficient of variation of 0.6), are an AMEL of 20 µg/L and an MDEL of 40 µg/L.

(4) Anti-backsliding. Anti-backsliding requirements are satisfied because the previous permit did not include final effluent limitations for bis(2-ethylhexyl)phthalate.

e. Effluent Limit Calculations

Table F-7 summarizes the bis(2-ethylhexyl)phthalate WQBEL calculation.

Table F-7. Effluent Limit Calculation

PRIORITY POLLUTANTS	
Basis and Criteria type	Basin Plan HH
Criteria -Acute	-----
Criteria -Chronic	-----
Lowest WQO	1.8
Dilution Factor (D) (if applicable)	10
No. of samples per month	4
Aquatic life criteria analysis required? (Y/N)	N
HH criteria analysis required? (Y/N)	Y
HH criteria	1.8
Background (Maximum Conc for Aquatic Life calc)	
Background (Average Conc for Human Health calc)	0
Is the pollutant on the 303d list (Y/N)?	N
ECA acute	
ECA chronic	
ECA HH	19.8
No. of data points <10 or at least 80% of data reported non detect?	Y
Avg of effluent data points	
Std Dev of effluent data points	
CV calculated	N/A
CV (Selected) - Final	0.60
ECA acute mult99	
ECA chronic mult99	
LTA acute	
LTA chronic	
minimum of LTAs	

AMEL mult95	1.55
MDEL mult99	3.11
AMEL (aq life)	
MDEL(aq life)	
MDEL/AMEL Multiplier	2.0
AMEL (human hlth)	19.8
MDEL (human hlth)	39.7
minimum of AMEL for Aq. life vs HH	19.8
minimum of MDEL for Aq. Life vs HH	39.7
Current limit in permit (30-day average)	NA
Current limit in permit (daily)	NA
Final limit - AMEL	20
Final limit - MDEL	40
Max Effl Conc (MEC)	3.3 (J)

5. Whole Effluent Toxicity

This Order includes effluent limitations for whole effluent acute toxicity based on Basin Plan Table 4-3. Compliance evaluation is based on 96-hour static-renewal bioassays. All bioassays are to be performed according to the USEPA-approved method in 40 CFR Part 136, currently *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water, 5th Edition.* Chronic toxicity testing is not required because of the short-term nature and infrequency of the discharge.

D. Anti-backsliding and Antidegradation

1. **Effluent Limitations Retained from Previous Permit**. Limitations for the following parameters are unchanged.

   - Oil and grease
   - pH
   - BOD_5
   - TSS
   - Total residual chlorine
   - Total coliform organisms

   Retaining effluent limitations for these parameters ensures that these limitations are at least as stringent as those in the previous permit, meeting CWA anti-backsliding requirements. Retaining effluent limitations for these parameters also ensures that the existing receiving water quality will not be degraded in terms of these parameters, thus meeting antidegradation requirements.

2. **New Effluent Limitations**. This Order establishes new WQBELs for bis(2-ethylhexyl)phthalate. The establishment of effluent limitations for bis(2-ethylhexyl)phthalate effectively creates limitations more stringent than those in the previous permit, thereby meeting anti-backsliding requirements and ensuring that existing receiving water quality will not be degraded.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations are retained from the previous permit and reflect Basin Plan WQOs.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

The principal purposes of a Monitoring and Reporting Plan (MRP) are to:

- Document compliance with WDRs and prohibitions established by the Regional Water Board;
- Facilitate self-policing by the Discharger in the prevention and abatement of pollution arising from waste discharge;
- Develop or assist in the development of limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards; and
- Prepare water and wastewater quality inventories.

The MRP is a standard requirement in almost all NPDES permits, including this Order. It contains definitions of terms, specifies general sampling and analytical protocols, and sets out requirements for reporting spills, violations, and routine monitoring data in accordance with NPDES requirements. The MRP also defines the sampling stations and frequency, the pollutants to be monitored, and additional reporting requirements. Pollutants to be monitored include all parameters for which effluent limitations are specified. Monitoring for additional constituents, for which no effluent limitations are established, is also required to provide data for future RPAs.

The following provides the rationale for the monitoring and reporting requirements contained in the MRP (**Attachment E**).

A. Effluent Monitoring

The MRP retains most effluent monitoring requirements from the previous permit.

Monitoring for all priority toxic pollutants is to be conducted in accordance with the frequency and methods described in the MRP (**Attachment E**) and the Regional Standard Provisions (**Attachment G**). Monitoring of ammonia, pH, and temperature in the effluent is required to conduct a reasonable potential analysis for ammonia for the next permit cycle.

B. Receiving Water Monitoring

Receiving water monitoring is required to provide data to perform an RPA for the next permit cycle and to ensure compliance with receiving water limits.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions (Provision VI.A)

Federal Standard Provisions, which in accordance with 40 CFR 122.41and 122.42 apply to all NPDES discharges and must be included in every NPDES permit, are provided in **Attachment D** of this Order. 40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. The Regional Standard Provisions (**Attachment G**) supplement the Federal Standard Provisions. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

B. Monitoring and Reporting Requirements (Provision VI.B)

The Discharger is required to monitor the permitted discharges in order to evaluate compliance with permit conditions. Monitoring requirements are contained in the MRP (**Attachment E**) and the Regional Standard Provisions (**Attachment G**). This provision requires compliance with these documents and is authorized by 40 CFR 122.41(h) and (j), and CWC sections 13267 and 13383.

C. Special Provisions (Provision VI.C)

1. Reopener Provisions

These provisions are based on 40 CFR 122.63 and allow modification of this Order and its effluent limitations as necessary in response to updated WQOs, regulations, or other new and relevant information.

2. Pollutant Minimization Program

This provision is based on SIP section 2.4.5.

3. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Wet Weather Facilities Management Plan

Compiling information on the management of facilities during wet weather discharges will enable the Discharger to make necessary modifications to minimize future discharges, and allow the Regional Water Board to evaluate compliance with the procedures this Order requires. This requirement is retained from the previous permit and to ensure discharges do not occur during dry weather.

b. Groundwater Recharge

This requirement is retained from the previous permit to determine if the discharge would recharge to the groundwater in the basin when such discharges occur, and the extent of that recharge if it did occur. This is to inform whether additional limitations beyond those already specified for surface water protection are necessary to ensure compliance with the objectives in Table 3-7 of the Basin Plan for protection of groundwater beneficial uses.

VIII. PUBLIC PARTICIPATION

The Regional Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Discharger's discharge. As a step in the WDR adoption process, the Regional Water Board developed tentative WDRs. The Regional Water Board encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and provided them with an opportunity to submit their written comments and recommendations. Notification was provided through the Tri-Valley Herald Newspaper on February 28, 2011.

B. Written Comments

Staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the attention of Heather Ottaway at the Regional Water Board at the address on the cover page of this Order.

To receive full consideration and a written response, written comments should be received at the Regional Water Board offices by 5:00 p.m. on **March 30, 2011.**

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date:	**May 11, 2011**
Time:	9:00 am
Location:	Elihu Harris State Office Building 1515 Clay Street, 1st Floor Auditorium Oakland, CA 94612
Contact:	Heather Ottaway, (510) 622-2116, email HOttaway@waterboards.ca.gov

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Dates and venues may change. The Regional Water Board Web address is http://www.waterboards.ca.gov/sanfranciscobay where one can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m. Monday through Friday, except from noon to 1:00 p.m. Copying of documents may be arranged through the Regional Water Board by calling 510-622-2300.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding these WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, phone number, and preferably an email address.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Heather Ottaway at (510) 622-2116 (e-mail at HOttaway@waterboards.ca.gov).

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT G

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS
(SUPPLEMENT TO ATTACHMENT D)

For

NPDES WASTEWATER DISCHARGE PERMITS

March 2010

Table of Contents

I. STANDARD PROVISIONS - PERMIT COMPLIANCE G-1
- A. Duty to Comply G-1
- B. Need to Halt or Reduce Activity Not a Defense G-1
- C. Duty to Mitigate G-1
  - 1. Contingency Plan G-1
  - 2. Spill Prevention Plan G-2
- D. Proper Operation & Maintenance G-2
  - 1. Operation and Maintenance (O&M) Manual G-2
  - 2. Wastewater Facilities Status Report G-2
  - 3. Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) G-3
- E. Property Rights G-3
- F. Inspection and Entry G-3
- G. Bypass G-3
- H. Upset G-3
- I. Other G-3
- J. Storm Water G-3
  - 1. Storm Water Pollution Prevention Plan (SWPP Plan) G-3
  - 2. Source Identification G-4
  - 3. Storm Water Management Controls G-5
  - 4. Annual Verification of SWPP Plan G-6
- K. Biosolids Management G-6

II. STANDARD PROVISIONS – PERMIT ACTION G-7

III. STANDARD PROVISIONS – MONITORING G-7
- A. Sampling and Analyses G-7
  - 1. Use of Certified Laboratories G-7
  - 2. Use of Appropriate Minimum Levels G-7
  - 3. Frequency of Monitoring G-7
- B. Biosolids Monitoring G-10
  - 1. Biosolids Monitoring Frequency G-10
  - 2. Biosolids Pollutants to Monitor G-11
- C. Standard Observations G-11
  - 1. Receiving Water Observations G-11
  - 2. Wastewater Effluent Observations G-11
  - 3. Beach and Shoreline Observations G-12
  - 4. Land Retention or Disposal Area Observations G-12
  - 5. Periphery of Waste Treatment and/or Disposal Facilities Observations G-12

IV. STANDARD PROVISIONS – RECORDS G-12
- A. Records to be Maintained G-12
- B. Records of monitoring information shall include G-13
  - 1. Analytical Information G-13
  - 2. Flow Monitoring Data G-13
  - 3. Wastewater Treatment Process Solids G-13
  - 4. Disinfection Process G-13

5. Treatment Process Bypasses G-14
6. Treatment Facility Overflows G-14
V. STANDARD PROVISIONS – REPORTING G-14
A. Duty to Provide Information G-14
B. Signatory and Certification Requirements G-14
C. Monitoring Reports G-15
1. Self Monitoring Reports G-15
D. Compliance Schedules G-19
E. Twenty-Four Hour Reporting G-19
1. Spill of Oil or Other Hazardous Material Reports G-19
2. Unauthorized Discharges from Municipal Wastewater Treatment Plants G-20
F. Planned Changes G-23
G. Anticipated Noncompliance G-23
H. Other Noncompliance G-23
I. Other Information G-23
VI. STANDARD PROVISIONS – ENFORCEMENT G-23
VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS G-23
VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D) G-23

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

REGIONAL STANDARD PROVISIONS, AND MONITORING AND REPORTING REQUIREMENTS (SUPPLEMENT TO ATTACHMENT D)

FOR

NPDES WASTEWATER DISCHARGE PERMITS

APPLICABILITY

This document applies to dischargers covered by a National Pollutant Discharge Elimination System (NPDES) permit. This document does not apply to Municipal Separate Storm Sewer System (MS4) NPDES permits.

The purpose of this document is to supplement the requirements of Attachment D, Standard Provisions. The requirements in this supplemental document are designed to ensure permit compliance through preventative planning, monitoring, recordkeeping, and reporting. In addition, this document requires proper characterization of issues as they arise, and timely and full responses to problems encountered. To provide clarity on which sections of Attachment D this document supplements, this document is arranged in the same format as Attachment D.

I. STANDARD PROVISIONS - PERMIT COMPLIANCE

A. Duty to Comply – Not Supplemented

B. Need to Halt or Reduce Activity Not a Defense – Not Supplemented

C. Duty to Mitigate – This supplements I.C. of Standard Provisions (Attachment D)

1. **Contingency Plan -** The Discharger shall maintain a Contingency Plan as originally required by Regional Water Board Resolution 74-10 and as prudent in accordance with current municipal facility emergency planning. The Contingency Plan shall describe procedures to ensure that existing facilities remain in, or are rapidly returned to, operation in the event of a process failure or emergency incident, such as employee strike, strike by suppliers of chemicals or maintenance services, power outage, vandalism, earthquake, or fire. The Discharger may combine the Contingency Plan and Spill Prevention Plan into one document. Discharge in violation of the permit where the Discharger has failed to develop and implement a Contingency Plan as described below will be the basis for considering the discharge a willful and negligent violation of the permit pursuant to California Water Code Section 13387. The Contingency Plan shall, at a minimum, contain the provisions of a. through g. below.

    a. Provision of personnel for continued operation and maintenance of sewerage facilities during employee strikes or strikes against contractors providing services.

b. Maintenance of adequate chemicals or other supplies and spare parts necessary for continued operations of sewerage facilities.

c. Provisions of emergency standby power.

d. Protection against vandalism.

e. Expeditious action to repair failures of, or damage to, equipment and sewer lines.

f. Report of spills and discharges of untreated or inadequately treated wastes, including measures taken to clean up the effects of such discharges.

g. Programs for maintenance, replacement, and surveillance of physical condition of equipment, facilities, and sewer lines.

2. **Spill Prevention Plan -** The Discharger shall maintain a Spill Prevention Plan to prevent accidental discharges and minimize the effects of such events. The Spill Prevention Plan shall:

   a. Identify the possible sources of accidental discharge, untreated or partially treated waste bypass, and polluted drainage;

   b. Evaluate the effectiveness of present facilities and procedures, and state when they became operational; and

   c. Predict the effectiveness of the proposed facilities and procedures, and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

   This Regional Water Board, after review of the Contingency and Spill Prevention Plans or their updated revisions, may establish conditions it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of the permit upon notice to the Discharger.

D. Proper Operation & Maintenance – This supplements I.D of Standard Provisions (Attachment D)

1. **Operation and Maintenance (O&M) Manual -** The Discharger shall maintain an O&M Manual to provide the plant and regulatory personnel with a source of information describing all equipment, recommended operational strategies, process control monitoring, and maintenance activities. To remain a useful and relevant document, the O&M Manual shall be kept updated to reflect significant changes in treatment facility equipment and operational practices. The O&M Manual shall be maintained in usable condition and be available for reference and use by all relevant personnel and Regional Water Board staff.

2. **Wastewater Facilities Status Report -** The Discharger shall regularly review, revise, or update, as necessary, its Wastewater Facilities Status Report. This report shall document how the Discharger operates and maintains its wastewater collection, treatment, and disposal facilities to ensure that all facilities are adequately staffed, supervised, financed, operated,

maintained, repaired, and upgraded as necessary to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the Discharger's service responsibilities.

3. **Proper Supervision and Operation of Publicly Owned Treatment Works (POTWs) -** POTWs shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

E. Property Rights – Not Supplemented

F. Inspection and Entry – Not Supplemented

G. Bypass – Not Supplemented

H. Upset – Not Supplemented

I. Other – This section is an addition to Standard Provisions (Attachment D)

1. Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or nuisance as defined by California Water Code Section 13050.

2. Collection, treatment, storage, and disposal systems shall be operated in a manner that precludes public contact with wastewater, except in cases where excluding the public is infeasible, such as private property. If public contact with wastewater could reasonably occur on public property, warning signs shall be posted.

3. If the Discharger submits a timely and complete Report of Waste Discharge for permit reissuance, this permit continues in force and effect until a new permit is issued or the Regional Water Board rescinds the permit.

J. Storm Water – This section is an addition to Standard Provisions (Attachment D)

These provisions apply to facilities that do not direct all storm water flows from the facility to the wastewater treatment plant headworks.

1. **Storm Water Pollution Prevention Plan (SWPP Plan)**

   The SWPP Plan shall be designed in accordance with good engineering practices and shall address the following objectives:

   a. To identify pollutant sources that may affect the quality of storm water discharges; and

   b. To identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

   The SWPP Plan may be combined with the existing Spill Prevention Plan as required in accordance with Section C.2. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Regional Water Board.

2. Source Identification

The SWPP Plan shall provide a description of potential sources that may be expected to add significant quantities of pollutants to storm water discharges, or may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing the wastewater treatment facility process areas, surface water bodies (including springs and wells), and discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points of discharge to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.

b. A site map showing the following:

   1) Storm water conveyance, drainage, and discharge structures;

   2) An outline of the storm water drainage areas for each storm water discharge point;

   3) Paved areas and buildings;

   4) Areas of actual or potential pollutant contact with storm water or release to storm water, including but not limited to outdoor storage and process areas; material loading, unloading, and access areas; and waste treatment, storage, and disposal areas;

   5) Location of existing storm water structural control measures (i.e., berms, coverings, etc.);

   6) Surface water locations, including springs and wetlands; and

   7) Vehicle service areas.

c. A narrative description of the following:

   1) Wastewater treatment process activity areas;

   2) Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;

   3) Material storage, loading, unloading, and access areas;

   4) Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharges; and

   5) Methods of on-site storage and disposal of significant materials.

d. A list of pollutants that have a reasonable potential to be present in storm water discharges in significant quantities.

3. Storm Water Management Controls

The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls to be implemented shall include, as appropriate:

a. Storm water pollution prevention personnel

Identify specific individuals (and job titles) that are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce the potential for pollutants to enter the storm drain conveyance system.

c. Spill prevention and response

Identify areas where significant materials can spill into or otherwise enter storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, and cleanup equipment and procedures shall be identified, as appropriate. The necessary equipment to implement a cleanup shall be available, and personnel shall be trained in proper response, containment, and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source control

Source controls include, for example, elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling of all storm drain inlets with “No Dumping” signs, isolation or separation of industrial and non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Storm water management practices

Storm water management practices are practices other than those that control the sources of pollutants. Such practices include treatment or conveyance structures, such as drop inlets, channels, retention and detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and erosion control

Measures to minimize erosion around the storm water drainage and discharge points, such as riprap, revegetation, slope stabilization, etc., shall be described.

g. Employee training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training shall address spill response, good housekeeping, and material management practices. New employee and refresher training schedules shall be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorded. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. Annual Verification of SWPP Plan

An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up-to-date. The results of this review shall be reported in the Annual Report to the Regional Water Board described in Section V.C.f.

K. Biosolids Management – This section is an addition to Standard Provisions (Attachment D)

Biosolids must meet the following requirements prior to land application. The Discharger must either demonstrate compliance or, if it sends the biosolids to another party for further treatment or distribution, must give the recipient the information necessary to ensure compliance.

1. Exceptional quality biosolids meet the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8). Such biosolids do not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).

2. Biosolids used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. They shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality biosolids) for Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).

3. Biosolids used for lawn or home gardens must meet exceptional quality biosolids limits.

4. Biosolids sold or given away in a bag or other container must meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached to the biosolids packing that explains Table IV (see 503.14). The biosolids must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

II. STANDARD PROVISIONS – PERMIT ACTION – Not Supplemented

III. STANDARD PROVISIONS – MONITORING

A. Sampling and Analyses – This section is a supplement to III.A and III.B of Standard Provisions (Attachment D)

1. Use of Certified Laboratories

Water and waste analyses shall be performed by a laboratory certified for these analyses in accordance with California Water Code Section 13176.

2. Use of Appropriate Minimum Levels

Table C lists the suggested analytical methods for the 126 priority pollutants and other toxic pollutants that should be used, unless a particular method or minimum level (ML) is required in the MRP.

For priority pollutant monitoring, when there is more than one ML value for a given substance, the Discharger may select any one of the analytical methods cited in Table C for compliance determination, or any other method described in 40 CFR part 136 or approved by USEPA (such as the 1600 series) if authorized by the Regional Water Board. However, the ML must be below the effluent limitation and water quality objective. If no ML value is below the effluent limitation and water quality objective, then the method must achieve an ML no greater than the lowest ML value indicated in Table C. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

3. Frequency of Monitoring

The minimum schedule of sampling analysis is specified in the MRP portion of the permit.

a. Timing of Sample Collection

1) The Discharger shall collect samples of influent on varying days selected at random and shall not include any plant recirculation or other sidestream wastes, unless otherwise stipulated by the MRP.

2) The Discharger shall collect samples of effluent on days coincident with influent sampling unless otherwise stipulated by the MRP or the Executive Officer. The Executive Officer may approve an alternative sampling plan if it is demonstrated to be representative of plant discharge flow and in compliance with all other permit requirements.

3) The Discharger shall collect grab samples of effluent during periods of day-time maximum peak effluent flows (or peak flows through secondary treatment units for facilities that recycle effluent flows).

4) Effluent sampling for conventional pollutants shall occur on at least one day of any multiple-day bioassay test the MRP requires. During the course of the test, on at least one day, the Discharger shall collect and retain samples of the discharge. In the event a bioassay test does not comply with permit limits, the Discharger shall analyze these retained samples for pollutants that could be toxic to aquatic life and for which it has effluent limits.

   i. The Discharger shall perform bioassay tests on final effluent samples; when chlorine is used for disinfection, bioassay tests shall be performed on effluent after chlorination-dechlorination; and

   ii. The Discharger shall analyze for total ammonia nitrogen and calculate the amount of un-ionized ammonia whenever test results fail to meet the percent survival specified in the permit.

b. Conditions Triggering Accelerated Monitoring

1) If the results from two consecutive samples of a constituent monitored in a 30-day period exceed the monthly average limit for any parameter (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the Discharger shall, within 24 hours after the results are received, increase its sampling frequency to daily until the results from the additional sampling show that the parameter is in compliance with the monthly average limit.

2) If any maximum daily limit is exceeded, the Discharger shall increase its sampling frequency to daily within 24 hours after the results are received that indicate the exceedance of the maximum daily limit until two samples collected on consecutive days show compliance with the maximum daily limit.

3) If final or intermediate results of an acute bioassay test indicate a violation or threatened violation (e.g., the percentage of surviving test organisms of any single acute bioassay test is less than 70 percent), the Discharger shall initiate a new test as soon as practical, and the Discharger shall investigate the cause of the mortalities and report its findings in the next self monitoring report (SMR).

4) The Discharger shall calibrate chlorine residual analyzers against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, the Discharger shall collect grab samples at least every 30 minutes until compliance with the limit is achieved, unless the Discharger monitors chlorine residual continuously. In such cases, the Discharger shall continue to conduct continuous monitoring as required by its permit.

5) When a bypass occurs (except one subject to provision III.A.3.b.6 below), the Discharger shall monitor flows and collect samples on a daily basis for all constituents at affected discharge points that have effluent limits for the duration of

the bypass (including acute toxicity using static renewals), except chronic toxicity, unless otherwise stipulated by the MRP.

6) Unless otherwise stipulated by the MRP, when a bypass approved pursuant to Attachment D, Standard Provisions, Sections I.G.2 or I.G.4, occurs, the Discharger shall monitor flows and, using appropriate procedures as specified in the MRP, collect and retain samples for affected discharge points on a daily basis for the duration of the bypass. The Discharger shall analyze for total suspended solids (TSS) using 24-hour composites (or more frequent increments) and for bacteria indicators with effluent limits using grab samples. If TSS exceeds 45 mg/L in any composite sample, the Discharger shall also analyze the retained samples for that discharge for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. Additionally, at least once each year, the Discharger shall analyze the retained samples for one approved bypass discharge event for all other constituents that have effluent limits, except oil and grease, mercury, dioxin-TEQ, and acute and chronic toxicity. This monitoring shall be in addition to the minimum monitoring specified in the MRP.

c. Storm Water Monitoring

The requirements of this section only apply to facilities that are not covered by an NPDES permit for storm water discharges and where not all site storm drainage from process areas (i.e., areas of the treatment facility where chemicals or wastewater could come in contact with storm water) is directed to the headworks. For storm water not directed to the headworks during the wet season (October 1 to April 30), the Discharger shall:

1) Conduct visual observations of the storm water discharge locations during daylight hours at least once per month during a storm event that produces significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor, etc.

2) Measure (or estimate) the total volume of storm water discharge, collect grab samples of storm water discharge from at least two storm events that produce significant storm water discharge, and analyze the samples for oil and grease, pH, TSS, and specific conductance.

   The grab samples shall be taken during the first 30 minutes of the discharge. If collection of the grab samples during the first 30 minutes is impracticable, grab samples may be taken during the first hour of the discharge, and the Discharger shall explain in the Annual Report why the grab sample(s) could not be taken in the first 30 minutes.

3) Testing for the presence of non-storm water discharges shall be conducted no less than twice during the dry season (May 1 to September 30) at all storm water discharge locations. Tests may include visual observations of flows, stains, sludges, odors, and other abnormal conditions; dye tests; TV line surveys; or analysis and validation of accurate piping schematics. Records shall be maintained describing the method used, date of testing, locations observed, and test results.

4) Samples shall be collected from all locations where storm water is discharged. Samples shall represent the quality and quantity of storm water discharged from the facility. If a facility discharges storm water at multiple locations, the Discharger may sample a reduced number of locations if it establishes and documents through the monitoring program that storm water discharges from different locations are substantially identical.

5) Records of all storm water monitoring information and copies of all reports required by the permit shall be retained for a period of at least three years from the date of sample, observation, or report.

d. Receiving Water Monitoring

The requirements of this section only apply when the MRP requires receiving water sampling.

1) Receiving water samples shall be collected on days coincident with effluent sampling for conventional pollutants.

2) Receiving water samples shall be collected at each station on each sampling day during the period within one hour following low slack water. Where sampling during lower slack water is impractical, sampling shall be performed during higher slack water. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated in the MRP.

3) Samples shall be collected within one foot of the surface of the receiving water, unless otherwise stipulated in the MRP.

B. Biosolids Monitoring – This section supplements III.B of Standard Provisions (Attachment D)

When biosolids are sent to a landfill, sent to a surface disposal site, or applied to land as a soil amendment, they must be monitored as follows:

1. Biosolids Monitoring Frequency

Biosolids disposal must be monitored at the following frequency:

Metric tons biosolids/365 days	Frequency
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

2. **Biosolids Pollutants to Monitor**

Biosolids shall be monitored for the following constituents:

Land Application: arsenic, cadmium, copper, mercury, molybdenum, nickel, lead, selenium, and zinc

Municipal Landfill: Paint filter test (pursuant to 40 CFR 258)

Biosolids-only Landfill or Surface Disposal Site (if no liner and leachate system): arsenic, chromium, and nickel

C. Standard Observations – This section is an addition to III of Standard Provisions (Attachment D)

1. **Receiving Water Observations**

The requirements of this section only apply when the MRP requires standard observations of the receiving water. Standard observations shall include the following:

a. *Floating and suspended materials* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

b. *Discoloration and turbidity*: description of color, source, and size of affected area.

c. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

d. *Beneficial water use*: presence of water-associated waterfowl or wildlife, fisherpeople, and other recreational activities in the vicinity of each sampling station.

e. *Hydrographic condition*: time and height of corrected high and low tides (corrected to nearest National Oceanic and Atmospheric Administration location for the sampling date and time of sample collection).

f. *Weather conditions*:

1) Air temperature; and

2) Total precipitation during the five days prior to observation.

2. **Wastewater Effluent Observations**

The requirements of this section only apply when the MRP requires wastewater effluent standard observations. Standard observations shall include the following:

a. *Floating and suspended material of wastewater origin* (e.g., oil, grease, algae, and other macroscopic particulate matter): presence or absence.

b. *Odor*: presence or absence, characterization, source, distance of travel, and wind direction.

3. Beach and Shoreline Observations

The requirements of this section only apply when the MRP requires beach and shoreline standard observations. Standard observations shall include the following:

a. *Material of wastewater origin*: presence or absence, description of material, estimated size of affected area, and source.

b. *Beneficial use*: estimate number of people participating in recreational water contact, non-water contact, or fishing activities.

4. Land Retention or Disposal Area Observations

The requirements of this section only apply to facilities with on-site surface impoundments or disposal areas that are in use. This section applies to both liquid and solid wastes, whether confined or unconfined. The Discharger shall conduct the following for each impoundment:

a. Determine the amount of freeboard at the lowest point of dikes confining liquid wastes.

b. Report evidence of leaching liquid from area of confinement and estimated size of affected area. Show affected area on a sketch and volume of flow (e.g., gallons per minute [gpm]).

c. Regarding odor, describe presence or absence, characterization, source, distance of travel, and wind direction.

d. Estimate number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities Observations

The requirements of this section only apply when the MRP specifies periphery standard observations. Standard observations shall include the following:

a. *Odor*: presence or absence, characterization, source, and distance of travel.

b. *Weather conditions*: wind direction and estimated velocity.

IV. STANDARD PROVISIONS – RECORDS

A. Records to be Maintained – This supplements IV.A of Standard Provisions (Attachment D)

The Discharger shall maintain records in a manner and at a location (e.g., wastewater treatment plant or Discharger offices) such that the records are accessible to Regional Water Board staff. The minimum period of retention specified in Section IV, Records, of the Federal Standard Provisions shall be extended during the course of any unresolved litigation regarding the subject discharge, or when requested by the Regional Water Board or Regional Administrator of USEPA, Region IX.

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

B. Records of monitoring information shall include – This supplements IV.B of Standard Provision (Attachment D)

1. Analytical Information

Records shall include analytical method detection limits, minimum levels, reporting levels, and related quantification parameters.

2. Flow Monitoring Data

For all required flow monitoring (e.g., influent and effluent flows), the additional records shall include the following, unless otherwise stipulated by the MRP:

a. Total volume for each day; and

b. Maximum, minimum, and average daily flows for each calendar month.

3. Wastewater Treatment Process Solids

a. For each treatment unit process that involves solids removal from the wastewater stream, records shall include the following:

1) Total volume or mass of solids removed from each collection unit (e.g., grit, skimmings, undigested biosolids, or combination) for each calendar month or other time period as appropriate, but not to exceed annually; and

2) Final disposition of such solids (e.g., landfill, other subsequent treatment unit).

b. For final dewatered biosolids from the treatment plant as a whole, records shall include the following:

1) Total volume or mass of dewatered biosolids for each calendar month;

2) Solids content of the dewatered biosolids; and

3) Final disposition of dewatered biosolids (disposal location and disposal method).

4. Disinfection Process

For the disinfection process, these additional records shall be maintained documenting process operation and performance:

a. For bacteriological analyses:

1) Wastewater flow rate at the time of sample collection; and

2) Required statistical parameters for cumulative bacterial values (e.g., moving median or geometric mean for the number of samples or sampling period identified in this Order).

b. For the chlorination process, when chlorine is used for disinfection, at least daily average values for the following:

1) Chlorine residual of treated wastewater as it enters the contact basin (mg/L);

2) Chlorine dosage (kg/day); and

3) Dechlorination chemical dosage (kg/day).

5. Treatment Process Bypasses

A chronological log of all treatment process bypasses, including wet weather blending, shall include the following:

a. Identification of the treatment process bypassed;

b. Dates and times of bypass beginning and end;

c. Total bypass duration;

d. Estimated total bypass volume; and

e. Description of, or reference to other reports describing, the bypass event, the cause, the corrective actions taken (except for wet weather blending that is in compliance with permit conditions), and any additional monitoring conducted.

6. Treatment Facility Overflows

This section applies to records for overflows at the treatment facility. This includes the headworks and all units and appurtenances downstream. The Discharger shall retain a chronological log of overflows at the treatment facility and records supporting the information provided in section V.E.2.

C. Claims of Confidentiality – Not Supplemented

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information – Not Supplemented

B. Signatory and Certification Requirements – Not Supplemented

C. Monitoring Reports – This section supplements V.C of Standard Provisions (Attachment D)

1. Self Monitoring Reports

For each reporting period established in the MRP, the Discharger shall submit an SMR to the Regional Water Board in accordance with the requirements listed in this document and at the frequency the MRP specifies. The purpose of the SMR is to document treatment performance, effluent quality, and compliance with the waste discharge requirements of this Order.

a. Transmittal letter

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

1) Identification of all violations of effluent limits or other waste discharge requirements found during the reporting period;

2) Details regarding violations: parameters, magnitude, test results, frequency, and dates;

3) Causes of violations;

4) Discussion of corrective actions taken or planned to resolve violations and prevent recurrences, and dates or time schedule of action implementation (if previous reports have been submitted that address corrective actions, reference to the earlier reports is satisfactory);

5) Data invalidation (Data should not be submitted in an SMR if it does not meet quality assurance/quality control standards. However, if the Discharger wishes to invalidate any measurement after it was submitted in an SMR, a letter shall identify the measurement suspected to be invalid and state the Discharger's intent to submit, within 60 days, a formal request to invalidate the measurement. This request shall include the original measurement in question, the reason for invalidating the measurement, all relevant documentation that supports invalidation [e.g., laboratory sheet, log entry, test results, etc.], and discussion of the corrective actions taken or planned [with a time schedule for completion] to prevent recurrence of the sampling or measurement problem.);

6) If the Discharger blends, the letter shall describe the duration of blending events and certify whether blended effluent was in compliance with the conditions for blending; and

7) Signature (The transmittal letter shall be signed according to Section V.B of this Order, Attachment D – Standard Provisions.).

b. Compliance evaluation summary

Each report shall include a compliance evaluation summary. This summary shall include each parameter for which the permit specifies effluent limits, the number of

samples taken during the monitoring period, and the number of samples that exceed applicable effluent limits.

c. Results of analyses and observations

1) Tabulations of all required analyses and observations, including parameter, date, time, sample station, type of sample, test result, method detection limit, method minimum level, and method reporting level, if applicable, signed by the laboratory director or other responsible official.

2) When determining compliance with an average monthly effluent limitation and more than one sample result is available in a month, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of detected but not quantified (DNQ) or nondetect (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

i. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

ii. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

If a sample result, or the arithmetic mean or median of multiple sample results, is below the reporting limit, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the Discharger conducts a Pollutant Minimization Program, the Discharger shall not be deemed out of compliance.

3) Dioxin-TEQ Reporting: The Discharger shall report for each dioxin and furan congener the analytical results of effluent monitoring, including the quantifiable limit (reporting level), the method detection limit, and the measured concentration. The Discharger shall report all measured values of individual congeners, including data qualifiers. When calculating dioxin-TEQ, the Discharger shall set congener concentrations below the minimum levels (ML) to zero. The Discharger shall calculate and report dioxin-TEQs using the following formula, where the MLs, toxicity equivalency factors (TEFs), and bioaccumulation equivalency factors (BEFs) are as provided in Table A:

$$\text{Dioxin-TEQ} = \Sigma\,(C_x \times TEF_x \times BEF_x)$$

where: C_x = measured or estimated concentration of congener *x*
TEF_x = toxicity equivalency factor for congener x
BEFx = bioaccumulation equivalency factor for congener *x*

Table A

Minimum Levels, Toxicity Equivalency Factors,
and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	1998 Toxicity Equivalency Factor (TEF)	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8-TCDD	10	1.0	1.0
1,2,3,7,8-PeCDD	50	1.0	0.9
1,2,3,4,7,8-HxCDD	50	0.1	0.3
1,2,3,6,7,8-HxCDD	50	0.1	0.1
1,2,3,7,8,9-HxCDD	50	0.1	0.1
1,2,3,4,6,7,8-HpCDD	50	0.01	0.05
OCDD	100	0.0001	0.01
2,3,7,8-TCDF	10	0.1	0.8
1,2,3,7,8-PeCDF	50	0.05	0.2
2,3,4,7,8-PeCDF	50	0.5	1.6
1,2,3,4,7,8-HxCDF	50	0.1	0.08
1,2,3,6,7,8-HxCDF	50	0.1	0.2
1,2,3,7,8,9-HxCDF	50	0.1	0.6
2,3,4,6,7,8-HxCDF	50	0.1	0.7
1,2,3,4,6,7,8-HpCDF	50	0.01	0.01
1,2,3,4,7,8,9-HpCDF	50	0.01	0.4
OCDF	100	0.0001	0.02

d. Data reporting for results not yet available

The Discharger shall make all reasonable efforts to obtain analytical data for required parameter sampling in a timely manner. Certain analyses require additional time to complete analytical processes and report results. For cases where required monitoring parameters require additional time to complete analytical processes and reports, and results are not available in time to be included in the SMR for the subject monitoring period, the Discharger shall describe such circumstances in the SMR and include the data for these parameters and relevant discussions of any observed exceedances in the next SMR due after the results are available.

e. Flow data

The Discharger shall provide flow data tabulation pursuant to Section IV.B.2.

f. Annual self monitoring report requirements

By the date specified in the MRP, the Discharger shall submit an annual report to the Regional Water Board covering the previous calendar year. The report shall contain the following:

1) Annual compliance summary table of treatment plant performance, including documentation of any blending events;

2) Comprehensive discussion of treatment plant performance and compliance with the permit (This discussion shall include any corrective actions taken or planned, such as changes to facility equipment or operation practices that may be needed to achieve compliance, and any other actions taken or planned that are intended to improve performance and reliability of the Discharger's wastewater collection, treatment, or disposal practices.);

3) Both tabular and graphical summaries of the monitoring data for the previous year if parameters are monitored at a frequency of monthly or greater;

4) List of approved analyses, including the following:

   (i) List of analyses for which the Discharger is certified;

   (ii) List of analyses performed for the Discharger by a separate certified laboratory (copies of reports signed by the laboratory director of that laboratory shall not be submitted but be retained onsite); and

   (iii) List of "waived" analyses, as approved;

5) Plan view drawing or map showing the Discharger's facility, flow routing, and sampling and observation station locations;

6) Results of annual facility inspection to verify that all elements of the SWPP Plan are accurate and up to date (only required if the Discharger does not route all storm water to the headworks of its wastewater treatment plant); and

7) Results of facility report reviews (The Discharger shall regularly review, revise, and update, as necessary, the O&M Manual, the Contingency Plan, the Spill Prevention Plan, and Wastewater Facilities Status Report so that these documents remain useful and relevant to current practices. At a minimum, reviews shall be conducted annually. The Discharger shall include, in each Annual Report, a description or summary of review and evaluation procedures, recommended or planned actions, and an estimated time schedule for implementing these actions. The Discharger shall complete changes to these documents to ensure they are up-to-date.).

g. Report submittal

The Discharger shall submit SMRs to:

California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612
Attn: NPDES Wastewater Division

h. Reporting data in electronic format

The Discharger has the option to submit all monitoring results in an electronic reporting format approved by the Executive Officer. If the Discharger chooses to submit SMRs electronically, the following shall apply:

1) *Reporting Method*: The Discharger shall submit SMRs electronically via a process approved by the Executive Officer (see, for example, the letter dated December 17, 1999, "Official Implementation of Electronic Reporting System [ERS]" and the progress report letter dated December 17, 2000).

2) *Monthly or Quarterly Reporting Requirements*: For each reporting period (monthly or quarterly as specified in the MRP), the Discharger shall submit an electronic SMR to the Regional Water Board in accordance with the provisions of Section V.C.1.a-e, except for requirements under Section V.C.1.c(1) where ERS does not have fields for dischargers to input certain information (e.g., sample time). However, until USEPA approves the electronic signature or other signature technologies, Dischargers that use ERS shall submit a hard copy of the original transmittal letter, an ERS printout of the data sheet, and a violation report (a receipt of the electronic transmittal shall be retained by the Discharger). This electronic SMR submittal suffices for the signed tabulations specified under Section V.C.1.c(1).

3) *Annual Reporting Requirements*: Dischargers who have submitted data using the ERS for at least one calendar year are exempt from submitting the portion of the annual report required under Section V.C.1.f(1) and (3).

D. Compliance Schedules – Not supplemented

E. Twenty-Four Hour Reporting – This section supplements V.E of Standard Provision (Attachment D)

1. Spill of Oil or Other Hazardous Material Reports

a. Within 24 hours of becoming aware of a spill of oil or other hazardous material that is not contained onsite and completely cleaned up, the Discharger shall report by telephone to the Regional Water Board at (510) 622-2369.

b. The Discharger shall also report such spills to the State Office of Emergency Services [telephone (800) 852-7550] only when the spills are in accordance with applicable reporting quantities for hazardous materials.

c. The Discharger shall submit a written report to the Regional Water Board within five working days following telephone notification unless directed otherwise by Regional Water Board staff. A report submitted electronically is acceptable. The written report shall include the following:

1) Date and time of spill, and duration if known;

2) Location of spill (street address or description of location);

3) Nature of material spilled;

4) Quantity of material involved;

5) Receiving water body affected, if any;

6) Cause of spill;

7) Estimated size of affected area;

8) Observed impacts to receiving waters (e.g., oil sheen, fish kill, water discoloration);

9) Corrective actions taken to contain, minimize, or clean up the spill;

10) Future corrective actions planned to be taken to prevent recurrence, and schedule of implementation; and

11) Persons or agencies notified.

2. Unauthorized Discharges from Municipal Wastewater Treatment Plants[1]

The following requirements apply to municipal wastewater treatment plants that experience an unauthorized discharge at their treatment facilities and are consistent with and supercede requirements imposed on the Discharger by the Executive Officer by letter of May 1, 2008, issued pursuant to California Water Code Section 13383.

a. Two (2)-Hour Notification

For any unauthorized discharges that result in a discharge to a drainage channel or a surface water, the Discharger shall, as soon as possible, but not later than two (2) hours after becoming aware of the discharge, notify the State Office of Emergency Services (telephone 800-852-7550), the local health officers or directors of environmental health with jurisdiction over the affected water bodies, and the Regional Water Board. The notification to the Regional Water Board shall be via the Regional Water Board's online reporting system at www.wbers.net, and shall include the following:

1) Incident description and cause;

2) Location of threatened or involved waterway(s) or storm drains;

3) Date and time the unauthorized discharge started;

4) Estimated quantity and duration of the unauthorized discharge (to the extent known), and the estimated amount recovered;

[1] California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

5) Level of treatment prior to discharge (e.g., raw wastewater, primary treated, undisinfected secondary treated, and so on); and

6) Identity of the person reporting the unauthorized discharge.

b. 24-hour Certification

Within 24 hours, the Discharger shall certify to the Regional Water Board, at www.wbers.net, that the State Office of Emergency Services and the local health officers or directors of environmental health with jurisdiction over the affected water bodies have been notified of the unauthorized discharge.

c. 5-Day Written Report

Within five business days, the Discharger shall submit a written report, via the Regional Water Board's online reporting system at www.wbers.net, that includes, in addition to the information required above, the following:

1) Methods used to delineate the geographical extent of the unauthorized discharge within receiving waters;

2) Efforts implemented to minimize public exposure to the unauthorized discharge;

3) Visual observations of the impacts (if any) noted in the receiving waters (e.g., fish kill, discoloration of water) and the extent of sampling if conducted;

4) Corrective measures taken to minimize the impact of the unauthorized discharge;

5) Measures to be taken to minimize the chances of a similar unauthorized discharge occurring in the future;

6) Summary of Spill Prevention Plan or O&M Manual modifications to be made, if necessary, to minimize the chances of future unauthorized discharges; and

7) Quantity and duration of the unauthorized discharge, and the amount recovered.

d. Communication Protocol

To clarify the multiple levels of notification, certification, and reporting, the current communication requirements for unauthorized discharges from municipal wastewater treatment plants are summarized in Table B that follows.

Table B

Summary of Communication Requirements for Unauthorized Discharges[1] from Municipal Wastewater Treatment Plants

Discharger is required to:	Agency Receiving Information	Time frame	Method for Contact
1. Notify	California Emergency Management Agency (Cal EMA)	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Telephone – (800) 852-7550 (obtain a control number from Cal EMA)
	Local health department	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Depends on local health department
	Regional Water Board	As soon as possible, but not later than **2 hours** after becoming aware of the unauthorized discharge.	Electronic[2] www.wbers.net
2. Certify	Regional Water Board	As soon as possible, but not later than **24 hours** after becoming aware of the unauthorized discharge.	Electronic[3] www.wbers.net
3. Report	Regional Water Board	Within **5 business days** of becoming aware of the unauthorized discharge.	Electronic[4] www.wbers.net

[1] California Code of Regulations, Title 23, Section 2250(b), defines an unauthorized discharge to be a discharge, not regulated by waste discharge requirements, of treated, partially treated, or untreated wastewater resulting from the intentional or unintentional diversion of wastewater from a collection, treatment or disposal system.

[2] In the event that the Discharger is unable to provide online notification within 2 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the notification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the notification information into the Regional Water Board's online system in electronic format.

[3] In most instances, the 2-hour notification will also satisfy 24-hour certification requirements. This is because the notification form includes fields for documenting that OES and the local health department have been contacted. In other words, if the Discharger is able to complete all the fields in the notification form within 2 hours, certification requirements are also satisfied. In the event that the Discharger is unable to provide online certification within 24 hours of becoming aware of an unauthorized discharge, it shall phone the Regional Water Board's spill hotline at (510) 622-2369 and convey the same information contained in the certification form. In addition, within 3 business days of becoming aware of the unauthorized discharge, the Discharger shall enter the certification information into the Regional Water Board's online system in electronic format.

[4] If the Discharger cannot satisfy the 5-day reporting requirements via the Regional Water Board's online reporting system, it shall submit a written report (preferably electronically in pdf) to the appropriate Regional Water Board case manager. In cases where the Discharger cannot satisfy the 5-day reporting requirements via the online reporting system, it must still complete the Regional Water Board's online reporting requirements within 15 calendar days of becoming aware of the unauthorized discharge.

F. Planned Changes – Not supplemented

G. Anticipated Noncompliance – Not supplemented

H. Other Noncompliance – Not supplemented

I. Other Information – Not supplemented

VI. STANDARD PROVISIONS – ENFORCEMENT – Not Supplemented

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS – Not Supplemented

VIII. DEFINITIONS – This section is an addition to Standard Provisions (Attachment D)

More definitions can be found in Attachment A of this NPDES Permit.

1. Arithmetic Calculations

   a. Geometric mean is the antilog of the log mean or the back-transformed mean of the logarithmically transformed variables, which is equivalent to the multiplication of the antilogarithms. The geometric mean can be calculated with either of the following equations:

   $$\text{Geometric Mean} = Anti\log\left(\frac{1}{N}\sum_{i=1}^{N} Log(C_i)\right)$$

   or

   $$\text{Geometric Mean} = (C_1 * C_2 * \ldots * C_N)^{1/N}$$

   Where "N" is the number of data points for the period analyzed and "C" is the concentration for each of the "N" data points.

   b. Mass emission rate is obtained from the following calculation for any calendar day:

   $$\text{Mass emission rate (lb/day)} = \frac{8.345}{N}\sum_{i=1}^{N} Q_i C_i$$

   $$\text{Mass emission rate (kg/day)} = \frac{3.785}{N}\sum_{i=1}^{N} Q_i C_i$$

   In which "N" is the number of samples analyzed in any calendar day and "Q_i" and "C_i" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" grab samples that may be taken in any calendar day. 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 the samples are composited. The daily concentration of a constituent measured over any calendar day shall be determined from the flow-weighted average of the same constituent in the combined waste streams as follows:

C_d = Average daily concentration = $\frac{1}{Q_t}\sum_{i=1}^{N} Q_i C_i$

In which "N" is the number of component waste streams and "Q" and "C" are the flow rate (MGD) and the constituent concentration (mg/L) associated with each of the "N" waste streams. "Q_t" is the total flow rate of the combined waste streams.

c. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in the paragraph above, using the effluent concentration limit specified in the permit for the period and the specified allowable flow.

d. POTW removal efficiency is the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities (expressed as a percentage). The Discharger shall determine removal efficiencies using monthly averages (by calendar month unless otherwise specified) of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):

Removal Efficiency (%) = 100 × [1-(Effluent Concentration/Influent Concentration)]

2. Biosolids means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from or created in wastewater by the unit processes of a treatment system. It also includes, but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow and underflow in the solids handling parts of the wastewater treatment system.

3. Blending is the practice of recombining wastewater that has been biologically treated with wastewater that has bypassed around biological treatment units.

4. Bottom sediment sample is (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.

5. Composite sample is a sample composed of individual grab samples collected manually or by an automatic sampling device on the basis of time or flow as specified in the MRP. For flow-based composites, the proportion of each grab sample included in the composite sample shall be within plus or minus five percent (+/-5%) of the representative flow rate of the waste stream being measured at the time of grab sample collection. Alternatively, equal volume grab samples may be individually analyzed with the flow-weighted average calculated by averaging flow-weighted ratios of each grab sample analytical result. Grab samples comprising time-based composite samples shall be collected at intervals not greater than those specified in the MRP. The quantity of each grab sample comprising a time-based composite sample shall be a set of flow proportional volumes as specified in the MRP. If a particular time-based or flow-based composite sampling protocol is not specified in the MRP, the Discharger shall determine and implement the most representative sampling protocol for the given parameter subject to Executive Officer approval.

6. Depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled. The

Discharger shall collect depth-integrated samples in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

7. Flow sample is an accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

8. Grab sample is an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples represent only the condition that exists at the time the wastewater is collected.

9. Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.

10. Overflow is the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g., through manholes, at pump stations, and at collection points) upstream from the treatment plant headworks or from any part of a treatment plant facility.

11. Priority pollutants are those constituents referred to in 40 CFR Part 122 as promulgated in the Federal Register, Vol. 65, No. 97, Thursday, May 18, 2000, also known as the California Toxics Rule, the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses.

12. Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

13. Toxic pollutant means any pollutant listed as toxic under federal Clean Water Act section 307(a)(1) or under 40 CFR 401.15.

14. Untreated waste is raw wastewater.

15. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in the permit. The requirements of the permit apply to the entire volume of water, and the material therein, that is disposed of to surface and ground waters of the State of California.

Table C

List of Monitoring Parameters and Analytical Methods

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
1.	Antimony	204.2					10	5	50	0.5	5	0.5		1000
2.	Arsenic	206.3				20		2	10	2	2	1		1000
3.	Beryllium						20	0.5	2	0.5	1			1000
4.	Cadmium	200 or 213					10	0.5	10	0.25	0.5			1000
5a.	Chromium (III)	SM 3500												
5b.	Chromium (VI)	SM 3500				10	5							1000
	Chromium (total)[3]	SM 3500					50	2	10	0.5	1			1000
6.	Copper	200.9					25	5	10	0.5	2			1000
7.	Lead	200.9					20	5	5	0.5	2			10,000
8.	Mercury	1631 (note)[4]												
9.	Nickel	249.2					50	5	20	1	5			1000
10.	Selenium	200.8 or SM 3114B or C						5	10	2	5	1		1000
11.	Silver	272.2					10	1	10	0.25	2			1000
12.	Thallium	279.2					10	2	10	1	5			1000
13.	Zinc	200 or 289					20		20	1	10			
14.	Cyanide	SM 4500 CN^- C or I				5								
15.	Asbestos (only required for dischargers to MUN waters)[5]	0100.2 [6]												
16.	2,3,7,8-TCDD and 17 congeners (Dioxin)	1613												
17.	Acrolein	603	2.0	5										
18.	Acrylonitrile	603	2.0	2										

[1] The suggested method is the USEPA Method unless otherwise specified (SM = Standard Methods). The Discharger may use another USEPA-approved or recognized method if that method has a level of quantification below the applicable water quality objective. Where no method is suggested, the Discharger has the discretion to use any standard method.

[2] Minimum levels are from the *State Implementation Policy*. They are the concentration of the lowest calibration standard for that technique based on a survey of contract laboratories. Laboratory techniques are defined as follows: GC = Gas Chromatography; GCMS = Gas Chromatography/Mass Spectrometry; LC = High Pressure Liquid Chromatography; Color = Colorimetric; FAA = Flame Atomic Absorption; GFAA = Graphite Furnace Atomic Absorption; ICP = Inductively Coupled Plasma; ICPMS = Inductively Coupled Plasma/Mass Spectrometry; SPGFAA = Stabilized Platform Graphite Furnace Atomic Absorption (i.e., USEPA 200.9); Hydride = Gaseous Hydride Atomic Absorption; CVAA = Cold Vapor Atomic Absorption; DCP = Direct Current Plasma.

[3] Analysis for total chromium may be substituted for analysis of chromium (III) and chromium (VI) if the concentration measured is below the lowest hexavalent chromium criterion (11 ug/l).

[4] The Discharger shall use ultra-clean sampling (USEPA Method 1669) and ultra-clean analytical methods (USEPA Method 1631) for mercury monitoring. The minimum level for mercury is 2 ng/l (or 0.002 ug/l).

[5] MUN = Municipal and Domestic Supply. This designation, if applicable, is in the Findings of the permit.

[6] *Determination of Asbestos Structures over 10 [micrometers] in Length in Drinking Water Using MCE Filters*, USEPA 600/R-94-134, June 1994.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
19.	Benzene	602	0.5	2										
33.	Ethylbenzene	602	0.5	2										
39.	Toluene	602	0.5	2										
20.	Bromoform	601	0.5	2										
21.	Carbon Tetrachloride	601	0.5	2										
22.	Chlorobenzene	601	0.5	2										
23.	Chlorodibromomethane	601	0.5	2										
24.	Chloroethane	601	0.5	2										
25.	2-Chloroethylvinyl Ether	601	1	1										
26.	Chloroform	601	0.5	2										
75.	1,2-Dichlorobenzene	601	0.5	2										
76.	1,3-Dichlorobenzene	601	0.5	2										
77.	1,4-Dichlorobenzene	601	0.5	2										
27.	Dichlorobromomethane	601	0.5	2										
28.	1,1-Dichloroethane	601	0.5	1										
29.	1,2-Dichloroethane	601	0.5	2										
30.	1,1-Dichloroethylene or 1,1-Dichloroethene	601	0.5	2										
31.	1,2-Dichloropropane	601	0.5	1										
32.	1,3-Dichloropropylene or 1,3-Dichloropropene	601	0.5	2										
34.	Methyl Bromide or Bromomethane	601	1.0	2										
35.	Methyl Chloride or Chloromethane	601	0.5	2										
36.	Methylene Chloride or Dichlorormethane	601	0.5	2										
37.	1,1,2,2-Tetrachloroethane	601	0.5	1										
38.	Tetrachloroethylene	601	0.5	2										
40.	1,2-Trans-Dichloroethylene	601	0.5	1										
41.	1,1,1-Trichloroethane	601	0.5	2										
42.	1,1,2-Trichloroethane	601	0.5	2										
43.	Trichloroethene	601	0.5	2										
44.	Vinyl Chloride	601	0.5	2										
45.	2-Chlorophenol	604	2	5										
46.	2,4-Dichlorophenol	604	1	5										
47.	2,4-Dimethylphenol	604	1	2										
48.	2-Methyl-4,6-Dinitrophenol or Dinitro-2-methylphenol	604	10	5										
49.	2,4-Dinitrophenol	604	5	5										
50.	2-Nitrophenol	604		10										
51.	4-Nitrophenol	604	5	10										
52.	3-Methyl-4-Chlorophenol	604	5	1										
53.	Pentachlorophenol	604	1	5										
54.	Phenol	604	1	1		50								
55.	2,4,6-Trichlorophenol	604	10	10										
56.	Acenaphthene	610 HPLC	1	1	0.5									
57.	Acenaphthylene	610 HPLC		10	0.2									
58.	Anthracene	610 HPLC		10	2									
60.	Benzo(a)Anthracene or 1,2 Benzanthracene	610 HPLC	10	5										
61.	Benzo(a)Pyrene	610 HPLC		10	2									

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
62.	Benzo(b)Fluoranthene or 3,4 Benzofluoranthene	610 HPLC		10	10									
63.	Benzo(ghi)Perylene	610 HPLC		5	0.1									
64.	Benzo(k)Fluoranthene	610 HPLC		10	2									
74.	Dibenzo(a,h)Anthracene	610 HPLC		10	0.1									
86.	Fluoranthene	610 HPLC	10	1	0.05									
87.	Fluorene	610 HPLC		10	0.1									
92.	Indeno(1,2,3-cd) Pyrene	610 HPLC		10	0.05									
100.	Pyrene	610 HPLC		10	0.05									
68.	Bis(2-Ethylhexyl)Phthalate	606 or 625	10	5										
70.	Butylbenzyl Phthalate	606 or 625	10	10										
79.	Diethyl Phthalate	606 or 625	10	2										
80.	Dimethyl Phthalate	606 or 625	10	2										
81.	Di-n-Butyl Phthalate	606 or 625		10										
84.	Di-n-Octyl Phthalate	606 or 625		10										
59.	Benzidine	625		5										
65.	Bis(2-Chloroethoxy)Methane	625		5										
66.	Bis(2-Chloroethyl)Ether	625	10	1										
67.	Bis(2-Chloroisopropyl)Ether	625	10	2										
69.	4-Bromophenyl Phenyl Ether	625	10	5										
71.	2-Chloronaphthalene	625		10										
72.	4-Chlorophenyl Phenyl Ether	625		5										
73.	Chrysene	625		10	5									
78.	3,3'-Dichlorobenzidine	625		5										
82.	2,4-Dinitrotoluene	625	10	5										
83.	2,6-Dinitrotoluene	625		5										
85.	1,2-Diphenylhydrazine (note)[7]	625		1										
88.	Hexachlorobenzene	625	5	1										
89.	Hexachlorobutadiene	625	5	1										
90.	Hexachlorocyclopentadiene	625	5	5										
91.	Hexachloroethane	625	5	1										
93.	Isophorone	625	10	1										
94.	Naphthalene	625	10	1	0.2									
95.	Nitrobenzene	625	10	1										
96.	N-Nitrosodimethylamine	625	10	5										
97.	N-Nitrosodi-n-Propylamine	625	10	5										
98.	N-Nitrosodiphenylamine	625	10	1										
99.	Phenanthrene	625		5	0.05									
101.	1,2,4-Trichlorobenzene	625	1	5										
102.	Aldrin	608	0.005											
103.	α-BHC	608	0.01											
104.	β-BHC	608	0.005											
105.	γ-BHC (Lindane)	608	0.02											
106.	δ-BHC	608	0.005											
107.	Chlordane	608	0.1											

[7] Measurement for 1,2-Diphenylhydrazine may use azobenzene as a screen: if azobenzene is measured at >1 ug/l, then the Discharger shall analyze for 1,2-Diphenylhydrazine.

CTR No.	Pollutant/Parameter	Analytical Method[1]	Minimum Levels[2] (µg/l)											
			GC	GCMS	LC	Color	FAA	GFAA	ICP	ICP MS	SPGFAA	HYD RIDE	CVAA	DCP
108.	4,4'-DDT	608	0.01											
109.	4,4'-DDE	608	0.05											
110.	4,4'-DDD	608	0.05											
111.	Dieldrin	608	0.01											
112.	Endosulfan (alpha)	608	0.02											
113.	Endosulfan (beta)	608	0.01											
114.	Endosulfan Sulfate	608	0.05											
115.	Endrin	608	0.01											
116.	Endrin Aldehyde	608	0.01											
117.	Heptachlor	608	0.01											
118.	Heptachlor Epoxide	608	0.01											
119-125	PCBs: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260	608	0.5											
126.	Toxaphene	608	0.5											

ATTACHMENT H

Operational Changes

Livermore-Amador Valley Water Management Agency
2011 NPDES Permit Renewal for Wet Weather Discharges
Supplemental Information for Report of Waste Discharge

Operational Changes

December 8, 2010

Introduction

The purpose of this memorandum is to present information about planned wet weather operational changes for discharges from the Livermore-Amador Valley Water Management Agency (LAVWMA) export and storage facilities to the Alamo Canal.

No wet-weather discharges to the Alamo Canal have occurred, and no flow rate increase or new discharge is anticipated. However, LAVWMA plans an operational change that would result in minor modifications to the frequency and timing of discharge as described in the current NPDES permit for wet weather discharges (Order R2-2006-0026).

Change in Storage Utilization

LAVWMA and its member agencies, Dublin San Ramon Services District (DSRSD) and the City of Livermore, maintain a large storage capacity (54.7 MG) that is used to avoid wet weather discharges to the Alamo Canal. Section III.C of the current permit contains the following discharge prohibition:

> *Discharge to Alamo Canal is prohibited unless, as a result of an extreme wet weather event, the maximum export pumping capacity is in use, storage capacity of the flow-equalization basins and DSRSD and City of Livermore storage ponds, and required discharge to San Lorenzo Creek are fully utilized, and both the Regional Water Board and Alameda County Water District have been given prior notification that a discharge to Alamo Canal is needed.*

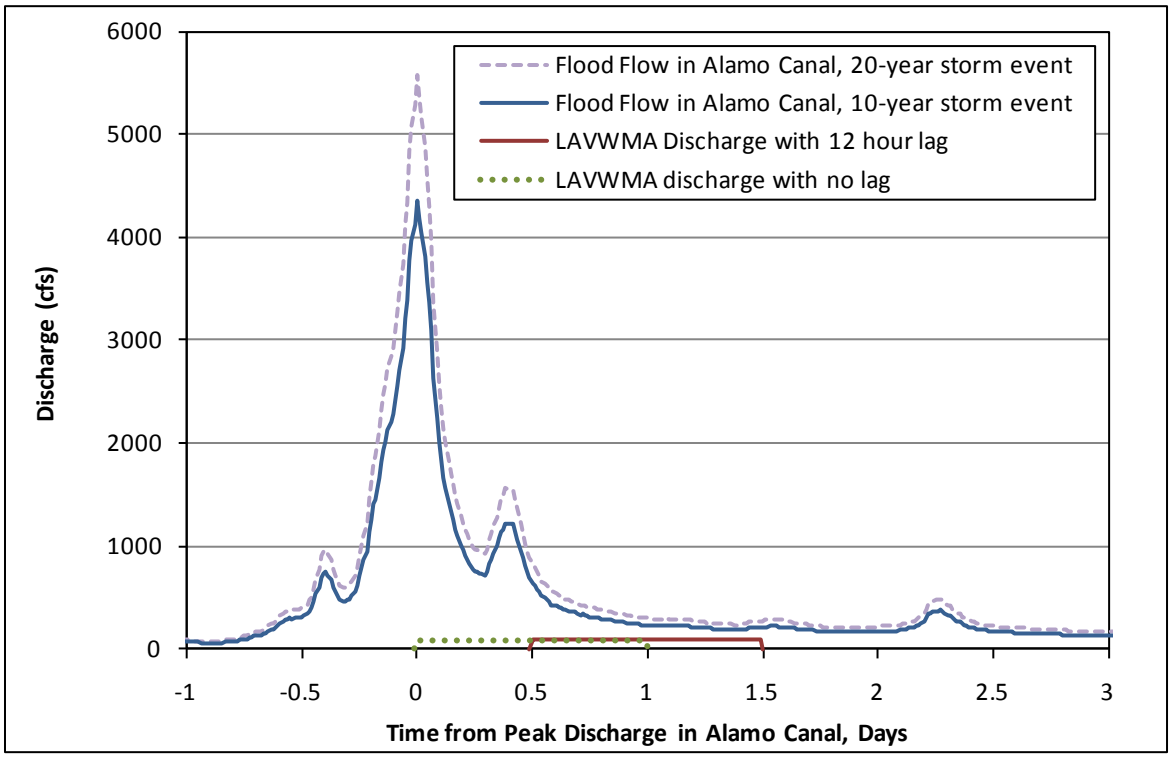
The discharge prohibition cited above means that any discharges to the Alamo Canal are expected to occur after peak discharge conditions in the receiving water have receded. Since no discharges have occurred, and since Alamo Canal does not currently have an active stream gage, the length of this time lag can only be roughly estimated by modeling studies. According

to LAVWMA's most recent wet weather operations model[1], a time lag as long as 24 hours is expected between the receiving water peak flow and the initiation of LAVWMA effluent discharge to the Alamo Canal.

LAVWMA plans to change its current wet weather operations plan so that storage use is optimized to meet several goals, including effluent dilution in the receiving water. The revised operational criteria will improve dilution by discharging to the Alamo Canal only when full storage utilization is known to be imminent based on inflow rates to the DSRSD and City of Livermore wastewater treatment plants, rather than when storage is 100% realized. Both the Regional Water Board and Alameda County Water District will be given prior notification that a discharge to Alamo Canal is imminent. LAVWMA stops discharge to Alamo Canal after the incoming flow subsides and stabilizes at a rate less than 41.2 MGD.

The modified operational criteria will result in a reduction in the time lag between peak flow in the receiving water and the initiation of LAVWMA effluent discharge by as much as 12 hours, as illustrated in **Figure 1**.

Figure 1: Example Showing Result of Change in LAVWMA Operations With Respect to Alamo Canal Flood Flow Hydrograph



[1] Carollo Engineers (August 2008). Wet Weather Operations Model Update, Phase V Report. Prepared for Livermore-Amador Valley Water Management Agency.

Because Alamo Canal does not have an active stream gage, the hydrograph in Figure 1 was established using 15-minute flow data from USGS stream gage 11181000 on upper San Lorenzo Creek, which is located in an adjacent watershed with similar land use characteristics[2]. The three largest storms available from the USGS database were used to define the flood hydrograph: February 3, 1998 (7.3-year event), December 31, 2005 (5.7-year event), and February 13, 2000 (3.6-year event). Flow rates were adjusted to reflect the magnitude of the 20-year and 10-year storm events on Alamo Canal (1590 cfs and 1240 cfs, respectively[2]).

The operational change in storage utilization presents an opportunity for increased coordination between LAVWMA and other local agencies. Specifically, LAVWMA will consult with Alameda County Water District to optimize storage use for effluent dilution and to minimize impacts on ACWD's recharge facilities. During extreme storm events where flooding may be of concern, LAVWMA will consult with Zone 7 Water Agency to optimize storage use for flood control purposes.

Change in Frequency of Discharge

To allow for the change in storage utilization and reduce the need for costly upgrades to storage capacity (estimated at $60 million[3]), LAVWMA requests that discharges to the Alamo Canal be allowed for system flows with a 10-year return interval, rather than a 20-year return interval. Although discharges may be slightly more frequent, water quality conditions in the receiving water will not be affected outside of the restricted mixing zone because of the change in storage utilization described above.

Dilution in the receiving water is more sensitive to the timing of effluent discharge than to the frequency of the storm event, as shown in Figure 1. For example, reducing the time lag for LAVWMA discharges by twelve hours increases dilution by 230%, whereas shifting the return interval from 20 years to 10 years reduces dilution by only 22%. Anticipated dilution ratios are defined in the Mixing Zone Study, which is also included in the Report of Waste Discharge.

[2] See Mixing Zone Study, also included in the Report of Waste Discharge.
[3] See Wet Weather Operations Model Update Phase V Report, 2008.

Livermore-Amador Valley Water Management Agency
2011 NPDES Permit Renewal for Wet Weather Discharges
Supplemental Information for Report of Waste Discharge

Receiving Water Hardness Analysis

December 8, 2010

Introduction

The purpose of this memorandum is to present the computation of a representative and appropriate receiving water hardness based on site-specific data. Hardness is used in the calculation of Water Quality-Based Effluent Limitations (WQBELs) for hardness-dependent metals criteria.

Under wet weather conditions, the Livermore-Amador Valley Water Management Agency (LAVWMA) discharges to the receiving waters of San Lorenzo Creek and Alamo Canal. Both receiving waters are fresh water under the conditions that result in discharges.

Analysis Background & Method

There are several regulations and guidance documents that provide information relevant to developing a plan for the determination of receiving water hardness. These include the United States Environmental Protection Agency's (EPA's) The Metals Translator guidance document (EPA 1996), the California Toxics Rule (CTR) (EPA 2000), and the State Implementation Plan (SIP) (State Water Resources Control Board 2005). Specific relevant provisions in these documents are discussed below.

The CTR establishes aquatic life- and human health-based water quality criteria for 126 priority pollutants, including hardness-dependent criteria for six metals, and describes the role of hardness as follows:

> *"Freshwater aquatic life criteria for certain metals are expressed as a function of hardness because hardness and/or water quality characteristics that are usually correlated with hardness can reduce or increase the toxicities of some metals. Hardness is used as a surrogate for a number of water quality characteristics which affect the toxicity of metals in a variety of ways. Increasing hardness has the effect of decreasing the toxicity of metals. Water quality criteria to protect aquatic life may be calculated at different concentrations of hardness measured in milligrams per liter (mg/L) as calcium carbonate ($CaCO_3$)." [p. 31692]*

The SIP establishes procedures for developing WQBELs for priority pollutants, including trace metals. This document describes how WQBELs are determined to support freshwater aquatic life- and human health-based criteria, and that in order to calculate WQBELs, metals criteria must be appropriately adjusted for site-specific hardness and translators. The SIP states that

> *The translator shall be derived using the median of data for translation of chronic criteria and the 90th percentile of observed data for translation of acute criteria.*

Since hardness is used as a specific type of translator for bioavailability of metals, it is appropriate to use a similar statistical approach for hardness as for other translators. For hardness-dependent acute criteria, use of the lower 90th percentile value is appropriate since the intent of the extreme percentile value is to account for short-term variability and to provide an appropriate margin of safety for acute criteria. The lower 90th percentile value is used as opposed to the higher 90th percentile that is typically used for metals translators because hardness is inversely proportional to toxicity. For hardness-dependent chronic criteria, use of the median hardness is appropriate.

San Lorenzo Creek

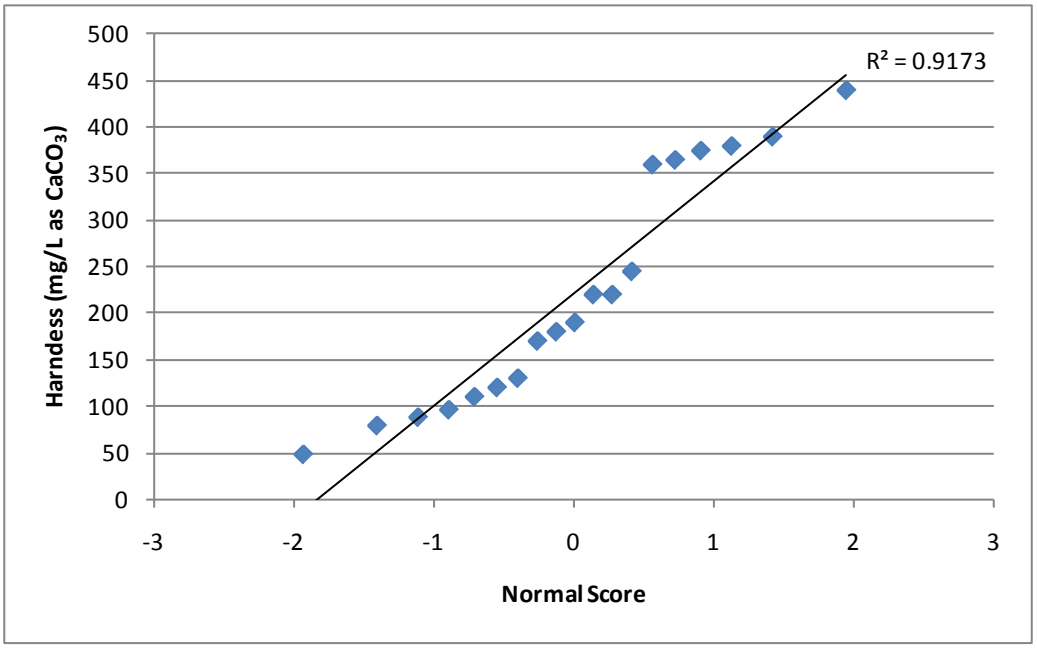
Hardness data for San Lorenzo Creek were obtained from the Alameda County Urban Runoff Clean Water Program Station S2, which is located on San Lorenzo Creek near USGS gaging station #11181040, approximately 1.2 miles upstream of LAVWMA outfall M-002. Data were collected from 1989 through 1993. Hardness concentrations during wet weather conditions, defined as samples collected between November and April, are shown in **Table 1.**

Table 1: Wet Weather Hardness in San Lorenzo Creek, 1989-1993

Date	Hardness, mg/L
11/26/1989	88
12/6/1989	375
2/13/1990	365
2/17/1990	130
4/2/1990	360
12/17/1990	48
1/2/1991	390
2/2/1991	96
2/22/1991	440
4/4/1991	380
12/28/1991	79
2/11/1992	120
3/16/1992	190
4/14/1992	220
12/9/1992	110
12/13/1992	180
1/9/1993	170
2/10/1993	220
3/25/1993	245

A plot of hardness data for San Lorenzo Creek shows that it is normally distributed, since the normal scores for each hardness value fall along a straight line (**Figure 1**). The median hardness is 190 mg/L as $CaCO_3$. The lower 90th percentile for hardness is 86 mg/L as $CaCO_3$.

Figure 1: San Lorenzo Creek Hardness Values Demonstrating a Normal Distribution



Alamo Canal

Hardness data for Alamo Canal were obtained from Zone 7 Water Agency for the period 1971-2000. Samples were collected in the Alamo Canal near USGS gaging station #11174600, which is located approximately 500 feet upstream of the discharge point for LAVWMA outfall M-003 to Alamo Canal. Hardness concentrations under wet weather conditions, defined as samples collected between November and April, are summarized in **Table 2**.

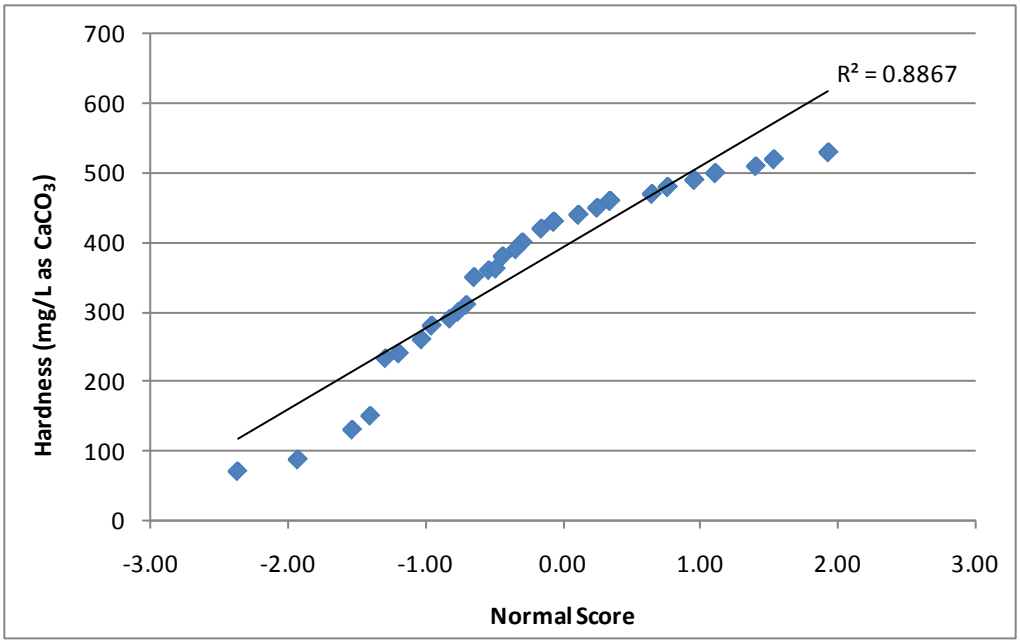
Table 2: Wet Weather Hardness in Alamo Canal, 1971-2000

Date	Hardness, mg/L
4/23/1971	240
1/28/1975	470
11/18/1975	460
11/25/1975	450
12/2/1975	480
12/9/1975	240
12/16/1975	440
12/23/1975	420
12/30/1975	500
1/6/1976	500
1/13/1976	460
1/27/1976	460
2/3/1976	470
2/10/1976	400
2/17/1976	420
2/24/1976	480
3/9/1976	490
3/23/1976	440
3/30/1976	440
4/6/1976	430
4/13/1976	350
4/20/1976	430
4/27/1976	380
11/2/1976	530
11/9/1976	450
11/16/1976	300
11/23/1976	480
11/30/1976	430

Date	Hardness, mg/L
12/7/1976	490
12/14/1976	520
12/21/1976	500
12/28/1976	520
1/25/1977	510
4/19/1977	530
2/27/1979	350
12/19/1979	87
1/12/1980	70
2/17/1980	130
3/4/1980	280
3/13/1980	380
4/1/1980	400
4/14/1980	400
4/29/1980	460
12/3/1980	87
1/21/1981	460
3/5/1981	310
3/13/1981	150
3/23/1981	360
3/30/1981	460
1/7/1982	290
2/2/1982	430
4/12/1982	260
2/14/1983	280
3/16/1998	362
3/22/1999	390
2/15/2000	233

A plot of hardness data for Alamo Canal shows that it is normally distributed, since the normal scores for each hardness value fall along a straight line (**Figure 2**). The median hardness is 430 mg/L as $CaCO_3$. The lower 90th percentile for hardness is 237 mg/L as $CaCO_3$.

Figure 2
Alamo Canal Hardness Values Demonstrating a Normal Distribution



Discussion and Conclusions

Based on the limited data set available, the receiving water San Lorenzo Creek has lower wet weather hardness values than the receiving water Alamo Canal. The lower 90th percentile wet weather hardness in San Lorenzo Creek was 86 mg/L as $CaCO_3$, while the lower 90th percentile wet weather hardness in Alamo was 237 mg/L as $CaCO_3$.