

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

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ORDER NO. R4-2011-0029

NPDES NO. CA0003352

WASTE DISCHARGE REQUIREMENTS FOR MAGIC MOUNTAIN, LLC, SIX FLAGS MAGIC MOUNTAIN

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	Magic Mountain, LLC
Name of Facility	Six Flags Magic Mountain
Facility Address	26101 Magic Mountain Parkway
	Valencia, CA 91355
	Los Angeles County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by Magic Mountain, LLC from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Irrigation runoff and midway washdown, water attraction overflow, drainage/overflow from lakes and ponds, storm water runoff	34° 25' 38.22" N	118° 35' 31.74" W	Santa Clara River
002	Irrigation runoff and midway washdown, storm water runoff	34° 25' 52.68" N	118° 35' 46.38" W	Santa Clara River
003	Irrigation runoff and midway washdown, water attraction overflow, drainage/overflow from lakes and ponds, storm water runoff	34° 25' 51.00" N	118° 35' 57.24" W	Santa Clara River

Order

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May 10, 2010
Revised June 17, 2010
Revised December 2, 2010

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	February 3, 2011
This Order shall become effective on:	March 4, 2011
This Order shall expire on:	January 10, 2016
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

IT IS HEREBY ORDERED, that Order Nos. R4-2008-0209 and R4-2005-0036 are terminated upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted pursuant thereto, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted pursuant thereto, the Discharger shall comply with the requirements in this Order.

I, Samuel Unger, 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, Los Angeles Region, on February 3, 2011.



Samuel Unger, Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	Magic Mountain, LLC
Name of Facility	Six Flags Magic Mountain
Facility Address	26101 Magic Mountain Parkway
	Valencia, CA 91355
	Los Angeles County
Facility Contact, Title, and Phone	Tom Edgar, Director of Administration, (661) 255-4850
Mailing Address	26101 Magic Mountain Parkway, Valencia, CA 91355
Type of Facility	Amusement Park
Facility Design Flow	1.0 million gallons per day (mgd) – Discharge Point No. 001 0.05 mgd – Discharge Point No. 002 1.3 mgd – Discharge Point No. 003

II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Water Board), finds:

A. Background. Magic Mountain, LLC (hereinafter Discharger) is currently discharging pursuant to Order No. R4-2008-0209 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0003352 to the Santa Clara River. The Discharger submitted a Report of Waste Discharge, dated November 12, 2009, and applied for an NPDES permit renewal to discharge up to 2.35 million gallons per day (mgd) of treated wastewater from Six Flags Magic Mountain, hereinafter Facility.

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 Description. The Discharger owns and operates the Facility located at 26101 Magic Mountain Parkway in Valencia, California. The Facility is an amusement park consisting of rides, shows, landscaping, and water attractions. It occupies approximately 260 acres. The water attractions include water fountains, features, rides, slides, public swimming facilities, and Hurricane Harbor. The water in these attractions is either chlorinated or filtered through sand filters to protect public health. The filter backwash water is plumbed to the sanitary sewer.

To maintain the fresh water appearance of the water attractions, some of the water from each attraction is allowed to overflow and it is drained and subsequently replaced with drinking water supplied by the Valencia Water Company. The drainage/overflow, along with washdown water, some irrigation runoff and storm water runoff flow into the drain lines, then to the Outfalls (Discharge Point Nos. 001, 002, and 003) and into the Santa Clara River, a water of the United States.

The Discharger proposes to discharge up to 1 mgd, 0.05 mgd, and 1.3 mgd of treated wastewater and storm water runoff through Discharge Point Nos. 001, 002, and 003, respectively, into a storm drain thence to the Santa Clara River. The treated wastewater consists of drainage/overflow from the water attractions as well as lakes and ponds, irrigation run-off, and midway (walkway throughout the park) washdown water. The storm water runoff is discharged through Outfalls when rainfall exceeds one inch during rain events.

Attachment B provides a location map of the area around the Facility. Attachment C provides a more detailed site map of the Facility.

C. Legal Authorities. This Order is issued pursuant to Section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with Section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste

Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (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 Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G through J are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code Section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code Sections 21100-21177.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at part 122.44, title 40 of the Code of Federal Regulations¹ (40 CFR), require that permits include conditions meeting applicable technology-based requirements at a 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 Best Professional Judgment (BPJ) in accordance with part 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and part 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR part 122.44(d)(1)(i) mandates 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, but there is no numeric criterion or objective for the pollutant, 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 Section 122.44(d)(1)(vi).

Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2006 303(d) list and have been scheduled for total maximum daily load (TMDL) development.

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

The USEPA approved the State's 2006 303(d) list of impaired water bodies on June 28, 2007. The Facility discharges into the Santa Clara River Reach 5. The 2006 State Water Resources Control Board's (State Water Board) California 303(d) List classifies the Santa Clara River, Reach 5, as impaired. The pollutants of concern in this reach include ammonia, nitrate and nitrite, chloride, and coliform bacteria. The following are summaries of the TMDLs for the Santa Clara River.

- **Upper Santa Clara River Watershed Chloride TMDL:** On October 24, 2002, the Regional Water Board adopted Resolution R4-2002-018 which amended the Basin Plan to incorporate a TMDL for chloride. On February 19, 2003, the State Water Board adopted Resolution R4-2003-0014, which remanded the chloride TMDL and directing the Regional Water Board to revise the implementation provisions of the TMDL. The Regional Water Board addressed the State Water Board directions. On July 10, 2003, the Regional Water Board reconsidered Resolution No. 2002-018, in light of the Remand Resolution, and adopted Resolution No. 2003-008 which modified the chloride TMDL implementation provisions.

On May 6, 2004, the Regional Water Board adopted Resolution No. 04-004, further modifying the Chloride TMDL by revising the chloride interim limits. The Upper Santa Clara River Chloride TMDL was approved by the State Water Board, Office of Administrative Law (OAL), and USEPA on July 22, 2004, November 15, 2004, and April 28, 2005, respectively. It became effective on May 4, 2005.

On August 3, 2006, the Regional Water Board adopted Resolution No. R4-2006-016, *Amendment to the Water Quality Control Plan for the Los Angeles Region through revision of the Implementation Plan for the Upper Santa Clara River Chloride TMDL*, which proposed to shorten the compliance period by two years, requiring compliance with the chloride final waste load allocation within 11 years from the effective date of the TMDL, rather than 13 years. Resolution No. R4-2006-016 was approved by the State Water Board and OAL on May 22, 2007, and August 5, 2007, respectively. However, the TMDL compliance schedule provisions contained in Resolution No. R4-2006-016 need not be acted upon by USEPA separately under 303(c), because USEPA considers those TMDL compliance schedule provisions to have been authorized by the State Water Board's Compliance Schedule Policy. Resolution No. R4-2006-016 became effective on June 12, 2008.

On December 11, 2008, the Regional Water Board adopted Resolution No. R4-2008-012, *Reconsideration of the Upper Santa Clara River Chloride TMDL Implementation Plan and Revise Chloride Water Quality Objectives*. The Resolution would incorporate site specific objectives (SSOs) for chloride in Reaches 4B, 5, and 6 of the Santa Clara River and the groundwater basins underlying those reaches. Resolution No. R4-2008-012 was approved by the State Water Board on October 20, 2009, and OAL January 26, 2011. Resolution No. R4-2008-012 was approved by USEPA on April 6, 2011, and it became effective on the same date.

- **Santa Clara River Watershed Nitrogen Compounds TMDL:** On August 7, 2003, the Regional Water Board adopted Resolution No. R4-2003-011, which incorporated a TMDL and waste load allocations (WLAs) into the Basin Plan for ammonia and nitrate plus nitrite within the Santa Clara River at USEPA Reach 7 (corresponds to Basin Plan Reach 5). The USEPA approved the TMDL on March 18, 2004, and it became effective on March 23, 2004.
- **Santa Clara River Bacteria TMDL:** On July 8, 2010, the Regional Water Board adopted Resolution No. R10-006, which amended the Basin Plan to incorporate a TMDL for indicator bacteria in Santa Clara River Estuary and Reaches 3, 5, 6, and 7. The Basin Plan amendment has not been approved by the State Water Board, the OAL, and the USEPA.

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan for the Los Angeles Region* (hereinafter Basin Plan) on June 13, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. The Basin Plan specifies present and potential beneficial uses of the Santa Clara River. The beneficial uses applicable to Reach 5 of the Santa Clara River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Santa Clara River	<p><u>Existing:</u> Industrial service supply (IND), industrial process supply (PROC), agricultural supply (AGR), ground water recharge (GWR), freshwater replenishment (FRSH), water contact recreation (REC1), non-contact water recreation (REC2), warm freshwater habitat (WARM), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), wetland habitat (WET)</p> <p><u>Potential:</u> Municipal and domestic supply (MUN).</p>

Requirements of this Order implement the Basin Plan.

The State Water Board adopted the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland and coastal surface waters.

Ammonia Basin Plan Amendment. The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life in Table 3-1 through Table 3-4. However, those ammonia objectives were revised on April 25, 2002, by the Regional Water Board

with the adoption of Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The amendment reflects the revised water quality criteria developed by USEPA in the “1999 Update of Ambient Water Quality Criteria for Ammonia,” December 1999. The 1999 Update contains USEPA’s most recent freshwater aquatic life criteria for ammonia and superseded all previous freshwater aquatic life criteria for ammonia. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA’s 1999 ammonia criteria update.

- 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 forty 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 were applicable in the state. The CTR was amended 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 promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- K. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 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.
- L. Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on total suspended solids (TSS), turbidity, biochemical oxygen demand (BOD), oil and grease, settleable solids, and phenols. Restrictions on these constituents are discussed in IV.B of this

Order. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

- M. Antidegradation Policy.** 40 CFR part 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of part 131.12 and State Water Board Resolution No. 68-16.
- N. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations part 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent than those in the previous Order. As discussed in detail in the Fact Sheet this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.
- O. 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 the applicable Endangered Species Act.
- P. Monitoring and Reporting.** 40 CFR part 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code Sections 13267 and 13383 authorizes 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.
- Q. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with part 122.41, and additional conditions applicable to specified categories of permits in accordance with part 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under part 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

- R. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections VI.C. of this Order are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.
- S. 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 their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- T. 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 of this Order.

THEREFORE, IT IS HEREBY ORDERED, that this Order supercedes Order No. R4-2008-0209 and Order No. R4-2005-0036 except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereto, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereto, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

- A.** Wastes discharged shall be limited to a maximum of 2.35 mgd of drainage/overflow from lakes and ponds, irrigation runoff, midway (walkway through the park) washdown, and storm water runoff through Discharge Point Nos. 001, 002, and 003, as described in the findings. The discharge of wastes from accidental spills or other sources is prohibited.
- B.** Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order to a storm drain system, the Santa Clara River, or other waters of the State, are prohibited.
- C.** Neither the treatment nor the discharge of pollutants shall create pollution, contamination, or a nuisance as defined by Section 13050 of the Water Code.
- D.** Wastes discharged shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life.
- E.** The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or the State Water Resources Control Board as required by the Federal CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, and amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

- F. The discharge of any radiological, chemical, or biological warfare agent or high level radiological waste is prohibited.
- G. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point Nos. 001, 002, and 003

1. Final Effluent Limitations – Discharge Point No. 001

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP (Attachment E):

Table 6. Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	s.u.	--	--	6.5	8.5
Total Suspended Solids (TSS)	mg/L	50	75	--	--
	lbs/day ¹	417	630	--	--
BOD (5-day @ 20 Deg. C)	mg/L	20	30	--	--
	lbs/day ¹	167	250	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day ¹	83	125	--	--
Non-Conventional Pollutants					
Temperature	°F	--	--	--	86
Turbidity	NTU	50	75	--	--
Settleable Solids	ml/L	0.1	0.3	--	--
Chlorine, Total Residual	µg/L	--	0.1	--	--
	lbs/day ¹	--	0.83	--	--
Chloride	mg/L	--	100	--	--
	lbs/day ¹	--	834	--	--
Phenols	mg/L	--	1.0	--	--
	lbs/day ¹	--	8	--	--
Total Dissolved Solids	mg/L	--	1,000	--	--
	lbs/day ¹	--	8,340	--	--
Sulfate	mg/L	--	400	--	--
	lbs/day ¹	--	3,336	--	--
Boron	mg/L	--	1.5	--	--
	lbs/day ¹	--	13	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Ammonia (as N)	mg/L	1.75	5.2	--	--
	lbs/day ¹	15	43	--	--
Nitrate Plus Nitrite (as N)	mg/L ¹	6.8	--	--	--
	lbs/day ¹	57	--	--	--
Acute toxicity	% survival	--	²	--	--
Chronic toxicity	TUc		1 ³	--	
Priority Pollutants					
Copper, Total Recoverable	µg/L	18	39	--	--
	lbs/day ¹	0.15	0.33	--	--
Lead, Total Recoverable	µg/L	11	21	--	--
	lbs/day ¹	0.09	0.18	--	--
Bis(2-Ethylhexyl) Phthalate	µg/L	6	12	--	--
	lbs/day ¹	0.05	0.10	--	--

For Footnotes, see pages 16 and 17.

2. Final Effluent Limitations – Discharge Point No. 002

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 002 with compliance measured at Monitoring Location EFF-002, as described in the attached MRP (Attachment E):

Table 7. Effluent Limitations – Discharge Point No. 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	s.u.	--	--	6.5	8.5
TSS	mg/L	50	75	--	--
	lbs/day ¹	21	31	--	--
BOD (5-day @ 20 Deg. C)	mg/L	20	30	--	--
	lbs/day ¹	8	13	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day ¹	4	6	--	--
Non-Conventional Pollutants					
Temperature	°F	--	--	--	86
Turbidity	NTU	50	75	--	--
Settleable Solids	ml/L	0.1	0.3	--	--
Chlorine, Total Residual	µg/L	--	0.1	--	--
	lbs/day ¹	--	0.04	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chloride	mg/L	--	100	--	--
	lbs/day ¹	--	42	--	--
Phenols	mg/L	--	1.0	--	--
	lbs/day ¹	--	0.42	--	--
Total Dissolved Solids	mg/L	--	1,000	--	--
	lbs/day ¹	--	417	--	--
Sulfate	mg/L	--	400	--	--
	lbs/day ¹	--	167	--	--
Boron	mg/L	--	1.5	--	--
	lbs/day ¹	--	0.63	--	--
Total Ammonia (as N)	mg/L	1.75	5.2	--	--
	lbs/day ¹	0.73	2.2	--	--
Nitrate Plus Nitrite (as N)	mg/L ¹	6.8	--	--	--
	lbs/day ¹	2.8	--	--	--
Acute toxicity	% survival	--	²	--	--
Chronic toxicity	TUc	--	1 ³	--	--
Priority Pollutants					
Copper, Total Recoverable	µg/L	20	39.	--	--
	lbs/day ¹	0.01	0.02	--	--

For Footnotes, see pages 16 and 17.

3. Final Effluent Limitations – Discharge Point No. 003

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 003, with compliance measured at Monitoring Location EFF-003, as described in the attached MRP (Attachment E):

Table 8. Effluent Limitations – Discharge Point No. 003

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	s.u.	--	--	6.5	8.5
TSS	mg/L	50	75	--	--
	lbs/day ¹	542	813	--	--
BOD (5-day @ 20 Deg. C)	mg/L	20	30	--	--
	lbs/day ¹	217	325	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day ¹	108	163	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Non-Conventional Pollutants					
Temperature	°F	--	--	--	86
Turbidity	NTU	50	75	--	--
Settleable Solids	ml/L	0.1	0.3	--	--
Chlorine, Total Residual	µg/L	--	0.1	--	--
	lbs/day ¹	--	1.08	--	--
Chloride	mg/L	--	100	--	--
	lbs/day ¹	--	1084	--	--
Phenols	mg/L	--	1.0	--	--
	lbs/day ¹	--	11	--	--
Total Dissolved Solids	mg/L	--	1,000	--	--
	lbs/day ¹	--	10,842	--	--
Sulfate	mg/L	--	400	--	--
	lbs/day ¹	--	4,337	--	--
Boron	mg/L	--	1.5	--	--
	lbs/day ¹	--	16	--	--
Total Ammonia (as N)	mg/L	1.75	5.2	--	--
	lbs/day ¹	19	56	--	--
Nitrate Plus Nitrite (as N)	mg/L ¹	6.8		--	--
	lbs/day ¹	74		--	--
Acute toxicity	% survival	--	²	--	--
Chronic toxicity	TUc	--	³	--	--
Priority Pollutants					
Copper, Total Recoverable	µg/L	18	39	--	--
	lbs/day ¹	0.20	0.43	--	--
Lead, Total Recoverable	µg/L	11	21	--	--
	lbs/day ¹	0.12	0.23	--	--

Footnotes:

¹ Mass-based effluent limitations (lbs/day) is calculated based on a discharge flow rate of 1 mgd for Discharge Point 001, 0.05 mgd for 002, and 1.3 mgd for 003, and using the formula:

$$\text{Mass (lbs/day)} = 8.34 \times C \times Q$$

where:

C = actual measured concentration for a pollutant, in mg/L

Q = maximum discharge flow rate in MGD

². The acute toxicity of the effluent shall be such that:

- a. The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay test shall be at least 90%, and

- b. No single test shall produce less than 70% survival. Compliance with the toxicity objectives will be determined by the method described in section V of the MRP (Attachment E).

³ The chronic toxicity limitation as defined in Item 5 below.

4. Acute Toxicity Limitation Requirements:

- a. The acute toxicity for all of the effluent discharges shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and (ii) no single test producing less than 70 % survival.
- b. If either of the above requirements is not met, the Discharger shall conduct six additional tests over a six-week period. The Discharger shall ensure that they receive results of a failing acute toxicity test within 24 hours of the completion of the test, and the additional tests shall begin within 3 business days of the receipt of the result. If the additional tests indicate compliance with acute toxicity limitation, the discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than 90% survival, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.
- c. If the initial test and any of the additional six acute toxicity bioassay test result in less than 70% survival, including the initial test, the Discharger shall immediately begin a TIE.
- d. The Discharger shall conduct acute toxicity monitoring as specified in Monitoring and Reporting Program No. 6045.

5. Chronic Toxicity Limitation and Requirements:

- a. This Order includes a chronic testing toxicity trigger defined as an exceedance of 1.0 TU_c in a critical life stage test for 100% effluent. (The monthly median for chronic toxicity of 100% effluent shall not exceed 1.0 TU_c in a critical life stage test.).
- b. If the chronic toxicity of the effluent exceeds 1.0 TU_c, the Discharger shall immediately implement an accelerated chronic toxicity testing according to MRP No. 6045. If the results of two of the six accelerated tests exceed 1.0 TU_c, the Discharger shall initiate a TIE and implement the Initial Investigation TRE Workplan. (see MRP No. 6045)
- c. The Discharger shall conduct chronic toxicity monitoring as specified in MRP No. 6045.

- d. The chronic toxicity of the effluent shall be expressed and reported in toxic units, where:

$$TU_c = \frac{100}{NOEC}$$

The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

6. Preparation of an Initial Investigation TRE Workplan

- a. The Discharger shall submit a detailed initial investigation Toxicity Reduction Evaluation (TRE) workplan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. The Discharger shall use EPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) as guidance or current versions. This workplan shall describe the steps the Discharger intends to follow if toxicity is detected, and should include, at a minimum:
- i. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;
 - ii. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and,
 - iii. If a toxicity identification evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor) (See MRP. for guidance manuals).

7. Bacteria Limitations for Discharge Point Nos. 001, 002, and 003:

- a. Geometric Mean Limits:
- i. E. coli density shall not exceed 126/100 ml.
 - ii. Fecal coliform density shall not exceed 200/100 ml
- b. Single Sample Maximum Limits:
- i. E. coli density shall not exceed 235/100 ml.
 - ii. Fecal coliform density shall not exceed 400/100 ml.

The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period, if possible).

If any of the single sample limits are exceeded, the Regional Board requires repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance.

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.

8. Interim Effluent Limitations

Not Applicable

B. Land Discharge Specifications

Not Applicable

C. Reclamation Specifications

Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitation

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Santa Clara River.

1. The normal ambient pH to fall below 6.5 nor exceed 8.5 units nor vary from normal ambient pH levels by more than 0.5 units.
2. Surface water temperature to rise greater than 5°F above the natural temperature of the receiving waters at any time or place. At no time shall the temperature be raised above 80° F as a result of waste discharged.
3. Water Contact Standards

a. State/Regional Water Board Water Contact Standards:

In fresh water designated for water contact recreation (REC-1), the waste discharged shall not cause the following bacterial standards to be exceeded in the receiving water:

Geometric Mean Limits

- i. E. coli density shall not exceed 126/100 mL.
- ii. Fecal coliform density shall not exceed 200/100 mL.

Single Sample Maximum (SSM) Limits

- i. E. coli density shall not exceed 235/100 mL.
 - ii. Fecal coliform density shall not exceed 400/100 mL.
4. Depress the concentration of dissolved oxygen to fall below 5.0 mg/L anytime, and the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
5. Exceed total ammonia (as N) concentrations specified in the Regional Water Board Resolution No. 2002-011. Resolution No. 2002-011 revised the ammonia water quality objectives for inland surface waters characteristic of freshwater in the 1994 Basin Plan, to be consistent with the *"1999 Update of Ambient Water Quality Criteria for Ammonia"*. Adopted on April 28, 2002, Resolution No. 2002-011 was approved by State Water Board, Office of Administrative Law (OAL) and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively and is now in effect.
6. The presence of visible, floating, suspended or deposited macroscopic particulate matter or foam.
7. Oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the receiving water or on objects in the water.
8. Suspended or settleable materials, chemical substances or pesticides in amounts that cause nuisance or adversely affect any designated beneficial use.
9. Toxic or other deleterious substances in concentrations or quantities which cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
10. Accumulation of bottom deposits or aquatic growths.
11. Biostimulatory substances at concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
12. The presence of substances that result in increases of BOD that adversely affect beneficial uses.
13. Taste or odor-producing substances in concentrations that alter the natural taste, odor, and/or color of fish, shellfish, or other edible aquatic resources; cause nuisance; or adversely affect beneficial uses.
14. Alteration of turbidity, or apparent color beyond present natural background levels.
15. Damage, discolor, nor cause formation of sludge deposits on flood control structures or facilities nor overload the design capacity.

16. Degrade surface water communities and populations including vertebrate, invertebrate, and plant species.
17. Problems associated with breeding of mosquitoes, gnats, black flies, midges, or other pests.
18. Create nuisance, or adversely effect beneficial uses of the receiving water.
19. Violation of any applicable water quality standards for receiving waters adopted by the Regional Water Board or State Water Board. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board will revise or modify this Order in accordance with such standards.

B. Groundwater Limitations

Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. Federal Standard Provisions. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. Regional Water Board Standard Provisions. The Discharger shall comply with the following provisions:
 - a. This Order may be modified, revoked, reissued, or terminated in accordance with the provisions of Parts 122.44, 122.62, 122.63, 122.64, 125.62 and 125.64. Causes for taking such actions include, but are not limited to: failure to comply with any condition of this Order; endangerment to human health or the environment resulting from the permitted activity; or acquisition of newly-obtained information which would have justified the application of different conditions if known at the time of Order adoption. The filing of a request by the Discharger for an Order modification, revocation, and issuance or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.
 - b. The Discharger must comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm drain systems or other water courses under their jurisdiction; including applicable requirements in municipal storm water management program developed to comply with NPDES permits issued by the Regional Water Board to local agencies.
 - c. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.

- d.** The Discharger shall comply with all applicable effluent limitations, national standards of performance, toxic effluent standards, and all federal regulations established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, 318, 405, and 423 of the Federal CWA and amendments thereto.
- e.** These requirements do not exempt the operator of the waste disposal facility from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this waste disposal facility, and they leave unaffected any further restraints on the disposal of wastes at this site which may be contained in other statutes or required by other agencies.
- f.** Oil or oily material, chemicals, refuse, or other pollutionable materials shall not be stored or deposited in areas where they may be picked up by rainfall and carried off of the property and/or discharged to surface waters. Any such spill of such materials shall be contained and removed immediately.
- g.** A copy of these waste discharge specifications shall be maintained at the discharge facility so as to be available at all times to operating personnel.
- h.** After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - i.** Violation of any term or condition contained in this Order;
 - ii.** Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
 - iii.** A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- i.** If there is any storage of hazardous or toxic materials or hydrocarbons at this facility and if the facility is not manned at all times, a 24-hour emergency response telephone number shall be prominently posted where it can easily be read from the outside.
- j.** The Discharger shall notify the Regional Water Board not later than 120 days in advance of implementation of any plans to alter production capacity of the product line of the manufacturing, producing or processing facility by more than ten percent. Such notification shall include estimates of proposed production rate, the type of process, and projected effects on effluent quality. Notification shall include submittal of a new report of waste discharge appropriate filing fee.
- k.** The Discharger shall file with the Regional Water Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.
- l.** All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Water Board as soon as they know or have reason to believe that they have begun or expect to begin to use or manufacture intermediate or

final product or byproduct of any toxic pollutant that was not reported on their application.

- m.** In the event of any change in name, ownership, or control of these waste disposal facilities, the discharger shall notify this Regional Water Board of such change and shall notify the succeeding owner or operator of the existence of this Order by letter, copy of which shall be forwarded to the Regional Water Board.
- n.** The Water Code provides that any person who violates a waste discharge requirement or a provision of the Water Code is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$25 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.

Violation of any of the provisions of the NPDES program or of any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.

- o.** The discharge of any product registered under the Federal Insecticide, Fungicide, and Rodenticide Act to any waste stream which may ultimately be released to waters of the United States, is prohibited unless specifically authorized elsewhere in this permit or another NPDES permit. This requirement is not applicable to products used for lawn and agricultural purposes.
- p.** The discharge of any waste resulting from the combustion of toxic or hazardous wastes to any waste stream that ultimately discharges to waters of the United States is prohibited, unless specifically authorized elsewhere in this permit.
- q.** The Discharger shall notify the Executive Officer in writing no later than 6 months prior to the planned discharge of any chemical, other than the products previously reported to the Executive Officer, which may be toxic to aquatic life. Such notification shall include:
 - i.** Name and general composition of the chemical,
 - ii.** Frequency of use,
 - iii.** Quantities to be used,
 - iv.** Proposed discharge concentrations, and
 - v.** USEPA registration number, if applicable.
- r.** Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties,

and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

- s. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, AMEL, MDEL, instantaneous, or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (213) 576-6600 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.
- t. Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (Water Code § 1211.)

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal CWA, and amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
- b. This Order may be reopened to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order and based on the results of the RPA.
- c. This Order may be reopened to modify the chloride limitations based on the modification to the TMDL for the Santa Clara River.
- d. This Order may be reopened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach or to include new MLs.

- e. This Order may be reopened and modified to revise effluent limitations as a result of future Basin Plan Amendments, such as an update of an objective or the adoption of a TMDL for the Santa Clara River.
- f. This Order may be reopened upon submission by the Discharger of adequate information, as determined by the Regional Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.
- g. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Initial Investigation Toxicity Reduction Evaluation (TRE) Workplan.** The Discharger shall submit to the Regional Water Board an Initial Investigation Toxicity Reduction Evaluation (TRE) workplan (1-2 pages) **within 90 days** of the effective date of this permit. This plan shall describe the steps the permittee intends to follow in the event that toxicity is detected, and should include at a minimum:
 - i. A description of the investigation and evaluation techniques that will be used to identify potential causes/sources of toxicity, effluent variability, and treatment system efficiency;
 - ii. A description of the facility's method of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility;
 - iii. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor) (Section V of the MRP, Attachment E provides references for the guidance manuals that should be used for performing TIEs).

3. Best Management Practices and Storm Water Pollution Prevention and Spill Contingency Plan

- a. The Discharger shall submit **within 90 days** of the effective date of this Order:
 - i. An updated Storm Water Pollution Prevention Plan (SWPPP) that describes site-specific management practices for minimizing contamination of storm water runoff and for preventing contaminated storm water runoff from being discharged directly to waters of the State. The SWPPP shall be developed in accordance with the requirements in Attachment G.

- ii. Updated Best Management Practices (BMPs) that includes site-specific plans and procedures implemented to prevent hazardous waste/material from being discharged to waters of the State. The BMPs shall be consistent with the general guidance contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-B-93-004). In particular, a risk assessment of each area identified by the Discharger shall be performed to determine the potential for hazardous or toxic waste/material discharge to surface waters.
- iii. A Spill Contingency Plan (or substituted with an updated version of the Dischargers Spill Prevention Control and Countermeasure Plan).

A Spill Contingency Plan (SCP) that describes the preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The SCP shall be reviewed at a minimum of once per year and updated as needed. Any changes or revisions shall be summarized in the annual summary report.

Each plan shall cover all areas of the Facility and shall include an updated drainage map of the Facility. The Discharger shall identify on a map of appropriate scale the areas that contribute runoff to the permitted discharge point; describe the activities in each area and the potential for contamination of storm water runoff from historical contamination and the discharge of hazardous waste/material; and address the feasibility of containment and/or treatment of the storm water runoff. The plans must be reviewed and updated annually at the same time. Updated information shall be submitted within 30 days of revision.

4. Construction, Operation and Maintenance Specifications

- a. The discharger shall at all times properly operate and maintain all facilities and systems installed or used to achieve compliance with this order.

5. Special Provisions for Municipal Facilities (POTWs Only)

Not Applicable

6. Other Special Provisions

Not Applicable

7. Compliance Schedules

Not Applicable

VII. COMPLIANCE DETERMINATION

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

A. Single Constituent Effluent Limitation.

If the concentration of the pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), then the Discharger is out of compliance.

B. Effluent Limitations Expressed as a Sum of Several Constituents.

If the sum of the individual pollutant concentrations is greater than the effluent limitation, then the Discharger is out of compliance. In calculating the sum of the concentrations of a group of pollutants, consider constituents reported as ND or DNQ to have concentrations equal to zero, provided that the applicable ML is used.

C. Mass-based Effluent Limitations.

In calculating mass emission rates from the monthly average concentrations, use one half of the method detection limit for “Not Detected” (ND) and the estimated concentration for “Detected, but Not Quantified” (DNQ) for the calculation of the monthly average concentration. To be consistent with Limitations and Discharge Requirements, section VII.B, if all pollutants belonging to the same group are reported as ND or DNQ, the sum of the individual pollutant concentrations should be considered as zero for the calculation of the monthly average concentration.

D. Multiple Sample Data.

When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. 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.

E. Average Monthly Effluent Limitation (AMEL).

If the average (or when applicable, the median determined by subsection E above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g.,

resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

In determining compliance with the AMEL, the following provisions shall also apply to all constituents:

1. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, does not exceed the AMEL for that constituent, the Discharger has demonstrated compliance with the AMEL for that month;
2. If the analytical result of a single sample, monitored monthly, quarterly, semiannually, or annually, exceeds the AMEL for any constituent, the Discharger shall collect four additional samples at approximately equal intervals during the month. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later.

When all sample results are greater than or equal to the reported Minimum Level (see Reporting Requirement I.G. of the MRP), the numerical average of the analytical results of these five samples will be used for compliance determination.

When one or more sample results are reported as "Not-Detected (ND)" or "Detected, but Not Quantified (DNQ)" (see Reporting Requirement I.G. of the MRP), the median value of these four samples shall be used for compliance determination. If one or both of the middle values is ND or DNQ, the median shall be the lower of the two middle values.

3. In the event of noncompliance with an AMEL, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the AMEL has been demonstrated.
4. If only one sample was obtained for the month or more than a monthly period and the result exceeds the AMEL, then the Discharger is in violation of the AMEL.

F. Maximum Daily Effluent Limitations (MDEL).

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

G. Instantaneous Minimum Effluent Limitation.

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

H. Instantaneous Maximum Effluent Limitation.

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

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)

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

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)

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

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), 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)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

Dilution Credit

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)

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

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

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries

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 included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in 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

All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

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

Instantaneous Minimum Effluent Limitation

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

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, 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

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)

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)

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

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)

Sample results which are less than the laboratory's MDL.

Ocean Waters

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

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

Pollutant Minimization Program (PMP)

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 Water Code Section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

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 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)

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.

Satellite Collection System

The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

4-Day Average Effluent Limitation: the highest allowable 4-day average of daily discharges over a 4-day period, calculated as the sum of all daily discharges measured during the previous 4-days divided by the number of daily discharges measured during the 4-day period.

Standard Deviation (σ)

Standard Deviation 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.

Toxicity Reduction Evaluation (TRE)

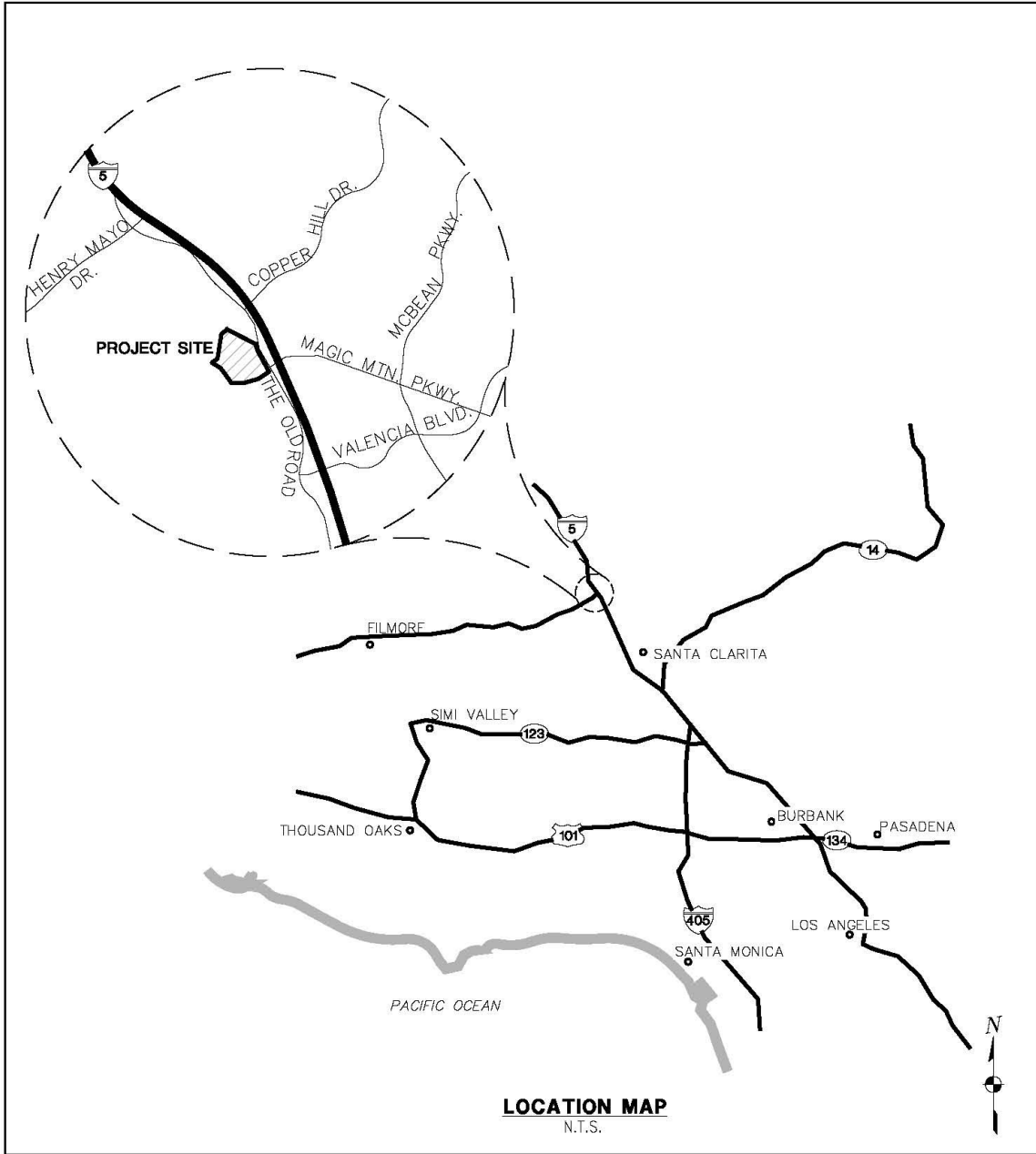
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ACRONYMS AND ABBREVIATIONS

AMEL	Average Monthly Effluent Limitation
B	Background Concentration
BAT	Best Available Technology Economically Achievable
Basin Plan	<i>Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties</i>
BEF	Bioaccumulative Equivalency Factor
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BMPPP	Best Management Practices Plan
BPJ	Best Professional Judgment
BOD	Biochemical Oxygen Demand 5-day @ 20 °C
BPT	Best Practicable Treatment Control Technology
C	Water Quality Objective
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CTR	California Toxics Rule
CV	Coefficient of Variation
CWA	Clean Water Act
CWC	California Water Code
Discharger	Magic Mountain, LLC
DMR	Discharge Monitoring Report
DNQ	Detected But Not Quantified
ELAP	California Department of Health Services Environmental Laboratory Accreditation Program
ELG	Effluent Limitations, Guidelines and Standards
Facility	Six Flags Magic Mountain
gpd	gallons per day
IC	Inhibition Coefficient
IC ₁₅	Concentration at which the organism is 15% inhibited
IC ₂₅	Concentration at which the organism is 25% inhibited
IC ₄₀	Concentration at which the organism is 40% inhibited
IC ₅₀	Concentration at which the organism is 50% inhibited
LA	Load Allocations
LOEC	Lowest Observed Effect Concentration
µg/L	micrograms per Liter
mg/L	milligrams per Liter
MDEL	Maximum Daily Effluent Limitation
MEC	Maximum Effluent Concentration
MGD	Million Gallons Per Day
ML	Minimum Level
MRP	Monitoring and Reporting Program
ND	Not Detected

NOEC	No Observable Effect Concentration
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
NTR	National Toxics Rule
OAL	Office of Administrative Law
PMEL	Proposed Maximum Daily Effluent Limitation
PMP	Pollutant Minimization Plan
POTW	Publicly Owned Treatment Works
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
Ocean Plan	<i>Water Quality Control Plan for Ocean Waters of California</i>
Regional Water Board	California Regional Water Quality Control Board, Los Angeles Region
RPA	Reasonable Potential Analysis
SCP	Spill Contingency Plan
SIP	State Implementation Policy (<i>Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California</i>)
SMR	Self Monitoring Reports
State Water Board	California State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TAC	Test Acceptability Criteria
TEF	Toxicity Equivalency Factor
Thermal Plan	<i>Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California</i>
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document
TSS	Total Suspended Solid
TU _c	Chronic Toxicity Unit
USEPA	United States Environmental Protection Agency
WDR	Waste Discharge Requirements
WET	Whole Effluent Toxicity
WLA	Waste Load Allocations
WQBELs	Water Quality-Based Effluent Limitations
WQS	Water Quality Standards
%	Percent

ATTACHMENT B – LOCATION MAP



Kennedy/Jenks Consultants

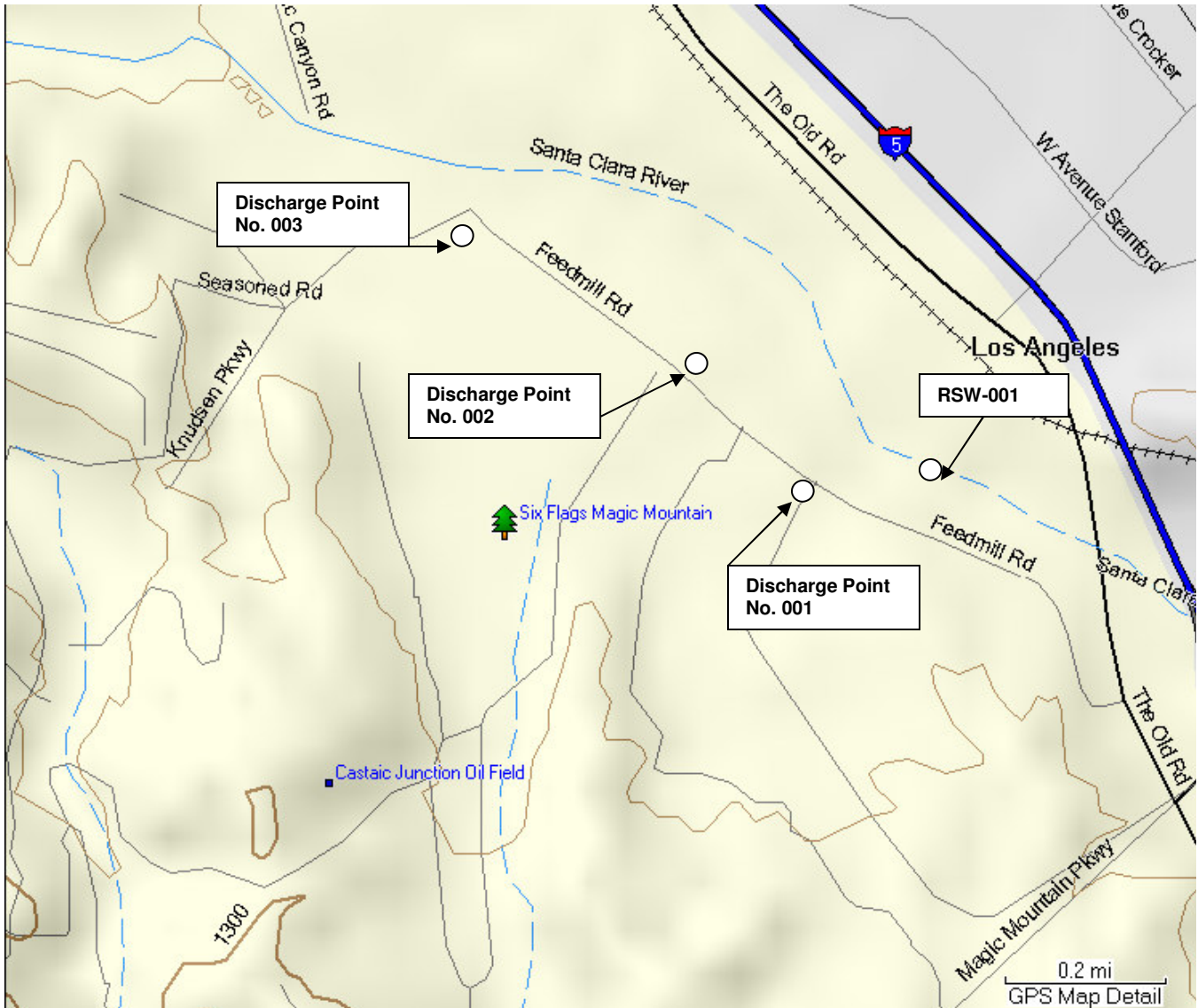
SIX FLAGS MAGIC MOUNTAIN

LOCATION MAP

0583007

FIGURE 01

ATTACHMENT C – SITE MAP



DRAWING REFERENCE:

Garmin MapSource
Topo U.S. 2008

SITE LOCATION MAP

Magic Mountain, LLC,
Six Flags Magic Mountain
Los Angeles County

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 [part 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 [part 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 [part 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 [part 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 [part 122.41(e)].

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges [part 122.41(g)].
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations [part 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 [part 122.41(i)] [Water Code Section 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 [part 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 [part 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 [part 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 [part 122.41(i)(4)].

G. Bypass

1. Definitions

- i. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility [part 122.41(m)(1)(i)].
 - ii. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources 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 [part 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 [part 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 [part 122.41(m)(4)(i)]:
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [part 122.41(m)(4)(i)(A)];

- b. The permitted facility was, at the time, being properly operated [part 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) [part 122.41(n)(3)(iii)]; and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [part 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 [part 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 [part 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 [part 122.41(b)].

C. Transfers

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

III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [part 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 [parts 122.41(j)(4) and 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 [part 122.41(j)(2)].

B. Records of monitoring information shall include:

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

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

1. The name and address of any permit applicant or Discharger [part 122.7(b)(1)]; and
2. Permit applications and attachments, permits and effluent data [part 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 [Part 122.41(h)] [Water Code Section 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 [part 122.41(k)].

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. [part 122.22(a)(1)].
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 [part 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.) [part 122.22(b)(2)]; and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board [part 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 [part 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.” [part 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 [part 122.22(l)(4)] and as specified in VI.C of this Order.
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 [part 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 [part 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 [part 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 [part 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 [part 122.41(l)(6)(i)].
2. The following shall be included as information that must be reported within 24 hours under this paragraph [part 122.41(l)(6)(ii)]:

- a. Any unanticipated bypass that exceeds any effluent limitation in this Order [part 122.41(l)(6)(ii)(A)].
 - b. Any upset that exceeds any effluent limitation in this Order [part 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 [part 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 [part 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) [part 122.41(l)(1)(i)]; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [part 122.41(l)(1)(ii)].
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of 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 [part 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 [part 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 [part 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 [part 122.41(l)(8)].

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.
- B.** The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than one (1) year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than two (2) years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than three (3) years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than six (6) years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions [part 122.41(a)(2)] [Water Code sections 13385 and 13387].
- C.** Any person may be assessed an administrative penalty by the Regional Water Board for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed

\$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000 [part 122.41(a)(3)].

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

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

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

- 2.** That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels” [part 122.42(a)(2)]:
 - a.** 500 micrograms per liter ($\mu\text{g/L}$) [part 122.42(a)(2)(i)];
 - b.** 1 milligram per liter (mg/L) for antimony [part 122.42(a)(2)(ii)];
 - c.** Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [part 122.42(a)(2)(iii)]; or
 - d.** The level established by the Regional Water Board in accordance with part 122.44(f) [part 122.42(a)(2)(iv)].

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP NO. 6045)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP) NO. 6045

The Code of Federal Regulations part 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code 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, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A.** Effluent sampling stations shall be established for the points of discharge: (Discharge Point No. 001, latitude 34° 25' 38.22" N, longitude 118° 35' 31.74" W; Discharge Point No. 002, latitude 34° 25' 52.68" N, longitude 118° 35' 46.38" W; Discharge Point No. 003 latitude 34° 25' 51" N, longitude 118° 35' 57.24" W); and shall be located where representative samples of that effluent can be obtained.
- B.** Effluent samples shall be taken downstream of any addition to treatment works and prior to mixing with the receiving waters.
- C.** The Regional Water Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.
- D.** Pollutants shall be analyzed using the analytical methods described in parts 136.3, 136.4, and 136.5 (revised March 12, 2007); or, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. Laboratories analyzing effluent samples and receiving water samples shall be certified by the California Department of Public Health Environmental Laboratory Accreditation Program (ELAP) or approved by the Executive Officer and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new certification and/or renewal of the certification is obtained from ELAP.
- E.** For any analyses performed for which no procedure is specified in the USEPA guidelines or in the MRP, the constituent or parameter analyzed and the method or procedure used must be specified in the monitoring report.
- F.** Each monitoring report must affirm in writing that "all analyses were conducted at a laboratory certified for such analyses by the Department of Public Health or approved by the Executive Officer and in accordance with current USEPA guideline procedures or as specified in this MRP".

G. The monitoring reports shall specify the analytical method used, the Method Detection Limit (MDL), and the Minimum Level (ML) for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported by one of the following methods, as appropriate:

1. An actual numerical value for sample results greater than or equal to the ML; or
2. “Detected, but Not Quantified (DNQ)” if results are greater than or equal to the laboratory’s MDL but less than the ML; or,
3. “Not-Detected (ND)” for sample results less than the laboratory’s MDL with the MDL indicated for the analytical method used.

Analytical data reported as “less than” for the purpose of reporting compliance with permit limitations shall be the same or lower than the permit limit(s) established for the given parameter.

Current MLs (Attachment H) are those published by the State Water Board in the Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, February 24, 2005.

H. Where possible, the MLs employed for effluent analyses shall be lower than the permit limitations established for a given parameter. If the ML value is not below the effluent limitation, then the lowest ML value and its associated analytical method shall be selected for compliance purposes. At least once a year, the Discharger shall submit a list of the analytical methods employed for each test and associated laboratory QA/QC procedures.

The Regional Water Board, in consultation with the State Water Board Quality Assurance Program, shall establish a ML that is not contained in Attachment H to be included in the Discharger’s permit in any of the following situations:

1. When the pollutant under consideration is not included in Attachment H;
2. When the Discharger and Regional Water Board agree to include in the permit a test method that is more sensitive than that specified in 40 CFR Part 136 (revised March 12, 2007);
3. When the Discharger agrees to use an ML that is lower than that listed in Attachment H;
4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment H and proposes an appropriate ML for their matrix; or,

5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Water Board, and the State Water Board shall agree on a lowest quantifiable limit and that limit will substitute for the ML for reporting and compliance determination purposes.
- I. Water/wastewater samples must be analyzed within allowable holding time limits as specified in section 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Water Board format, when it becomes available, and submitted with the laboratory reports. Proper chain of custody procedures must be followed, and a copy of the chain of custody shall be submitted with the report.
 - J. All analyses shall be accompanied by the chain of custody, including but not limited to data and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.
 - K. The Discharger shall calibrate and perform maintenance procedures on all monitoring instruments and to insure accuracy of measurements, or shall insure that both equipment activities will be conducted.
 - L. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. The annual monitoring report required in Section X.D shall also summarize the QA activities for the previous year. Duplicate chemical analyses must be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per sampling period, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples.
 - M. When requested by the Regional Water Board or USEPA, the Discharger will participate in the NPDES discharge monitoring report QA performance study. The Discharger must have a success rate equal to or greater than 80%.
 - N. For parameters that both average monthly and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the average monthly limit, the Discharger shall collect four additional samples at approximately equal intervals during the month, until compliance with the average monthly limit has been demonstrated. All five analytical results shall be reported in the monitoring report for that month, or 45 days after results for the additional samples were received, whichever is later. In the event of noncompliance with an average monthly effluent limitation, the sampling frequency for that constituent shall be increased to weekly and shall continue at this level until compliance with the average monthly effluent limitation has been demonstrated. The

Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the average monthly limit.

O. In the event wastes are transported to a different disposal site during the report period, the following shall be reported in the monitoring report:

1. Types of wastes and quantity of each type;
2. Name and address for each hauler of wastes (or method of transport if other than by hauling); and
3. Location of the final point(s) of disposal for each type of waste.

If no wastes are transported off-site during the reporting period, a statement to that effect shall be submitted.

P. Each monitoring report shall state whether or not there was any change in the discharge as described in the Order during the reporting period.

Q. Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description (include Latitude and Longitude when available)
--	INF-001	Intake water prior to utilizing or treating the influent water at the Facility
001	EFF-001	After the wastewater is discharged via a lined tributary to the Santa Clara River, but prior to discharging into the Santa Clara River (latitude 34° 25' 38.22" north, longitude 118° 35' 31.74" west)
002	EFF-002	After the wastewater is discharged via a lined tributary to the Santa Clara River, but prior to discharging into the Santa Clara River (latitude 34° 25' 52.68" north, longitude 118° 35' 46.38" west)
003	EFF-003	After the wastewater is discharged via a lined tributary to the Santa Clara River, but prior to discharging into the Santa Clara River (latitude 34° 25' 51.00" north, longitude 118° 35' 57.24" west)
--	RSW-001	Santa Clara River - located 300 feet upstream of the Discharge Point No. 001
--	RSW-002	Santa Clara River – located downstream of Discharge Point 003

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor the influent water to the facility prior to use or treatment at INF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Chloride	mg/L	Grab	1/Month ²	1
Copper, Total Recoverable	µg/L	Grab	1/Month ²	1
TCDD Equivalents ³	µg/L	Grab	1/Quarter ²	1

¹ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP (Attachment H of this permit package), where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

² Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled.

³ The Discharger must monitor the influent water for the presence of the 17 congeners of 2,3,7,8-TCDD listed below. To determine compliance with effluent limitations or to conduct Reasonable Potential Analysis, this Order requires the Discharger to calculate and report dioxin-toxicity equivalencies (TEQa) using the following formula, where the toxicity equivalency factors (TEFs) and bioaccumulation equivalency factors (BEFs) are listed in the Table below:

$$\text{Dioxin-TEQ} = \sum(C_x \times \text{TEF} \times \text{BEF}_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Toxicity Equivalency Factors and Bioaccumulation Equivalency Factors

Congeners	Toxicity Equivalence Factor	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8 - tetra CDD	1.0	1.0
1,2,3,7,8 - penta CDD	1.0	0.9
1,2,3,4,7,8 - hexa CDD	0.1	0.3
1,2,3,6,7,8 - hexa CDD	0.1	0.1
1,2,3,7,8,9 - hexa CDD	0.1	0.1
1,2,3,4,6,7,8 - hepta CDD	0.01	0.05
Octa CDD	0.0001	0.01
2,3,7,8 - tetra CDF	0.1	0.8
1,2,3,7,8 - penta CDF	0.05	0.2
2,3,4,7,8 - penta CDF	0.5	1.6
1,2,3,4,7,8 - hexa CDF	0.1	0.08
1,2,3,6,7,8 - hexa CDF	0.1	0.2
1,2,3,7,8,9 - hexa CDF	0.1	0.6

Congeners	Toxicity Equivalence Factor	Bioaccumulation Equivalency Factor (BEF)
2,3,4,6,7,8 - hexa CDF	0.1	0.7
1,2,3,4,6,7,8 - hepta CDFs	0.01	0.01
1,2,3,4,7,8,9 - hepta CDFs	0.01	0.4
Octa CDF	0.0001	0.02

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

- The Discharger shall monitor Discharged Point No. 001 at EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3a. Effluent Monitoring for Discharge Point No. 001

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	gpd	Estimate	1/Day	--
Temperature	°F	Grab	1/Month	2
pH	s.u.	Grab	1/Month	2
Total Suspended Solids (TSS)	Mg/L	Grab	1/Quarter	2
Turbidity	NTU	Grab	1/Quarter	2
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	Grab	1/Quarter	2
Oil and Grease	mg/L	Grab	1/Quarter	2
Settleable Solids	ml/L	Grab	1/Quarter	2
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	2
Chlorine, Total Residual	µg/L	Grab	1/Month	2
Chloride	mg/L	Grab	1/Month	2
Dissolved Oxygen	mg/L	Grab	2/Year	2
Phenols	mg/L	Grab	1/Quarter	2
Total Dissolved Solids (TDS)	mg/L	Grab	1/Quarter	2
Sulfate	mg/L	Grab	1/Quarter	2
Sulfide, Total	mg/L	Grab	1/Quarter	2
Boron, Total	mg/L	Grab	1/Quarter	2

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method and (Minimum Level, units), respectively
Nitrite Plus Nitrate (as N)	mg/L	Grab	1/Quarter	2
E. Coli	MPN/100mL	Grab	1/Week ³	2
Fecal Coliform	MPN/100mL	Grab	1/Week ³	2
Arsenic, Total Recoverable	µg/L	Grab	2/Year	2
Cadmium, Total Recoverable	µg/L	Grab	2/Year	2
Copper, Total Recoverable	µg/L	Grab	1/Month	2
Chromium (III) Total Recoverable	µg/L	Grab	2/Year	2
Chromium (VI) Total Recoverable	µg/L	Grab	2/Year	2
Lead, Total Recoverable	µg/L	Grab	1/Month	2
Mercury, Total Recoverable	µg/L	Grab	1/Month	2
Selenium, Total Recoverable	µg/L	Grab	2/Year	2
Silver, Total Recoverable	µg/L	Grab	2/Year	2
Zinc, Total Recoverable	µg/L	Grab	2/Year	2
Bis(2-ethylhexyl)phthalate	µg/L	Grab	1/Month	2
TCDD Equivalents ⁴	µg/L	Grab	2/Year	2
Remaining Priority Pollutants ⁵	µg/L	Grab	1/Year	2
Acute Toxicity ⁶	% survival	Grab	1/Year	2, 6
Chronic Toxicity ⁶	TUc	Grab	1/Year	2, 6

For Footnotes, see Pages E-11 and E-12.

B. Monitoring Location EFF-002

1. The Discharger shall monitor Discharge Point No. 002 at EFF-002 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3b. Effluent Monitoring for Discharge Point No. 002

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	gpd	Estimate	1/Day	--
Total Waste Volume	gallons	Estimate	1/Day	--

Parameter	Units	Sample Type	Minimum Sampling Frequency¹	Required Analytical Test Method and (Minimum Level, units), respectively
Temperature	°F	Grab	1/Month	2
pH	s.u.	Grab	1/Month	2
TSS	Mg/L	Grab	1/Quarter	2
Turbidity	NTU	Grab	1/Quarter	2
BOD (5-day @ 20 Deg. C)	mg/L	Grab	1/Quarter	2
Oil and Grease	mg/L	Grab	1/Quarter	2
Settleable Solids	ml/L	Grab	1/Quarter	2
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	2
Chlorine, Total Residual	µg/L	Grab	1/Month	2
Chloride	mg/L	Grab	1/Month	2
Dissolved Oxygen	mg/L	Grab	2/Year	2
Phenols	mg/L	Grab	1/Quarter	2
TDS	mg/L	Grab	1/Quarter	2
Sulfate	mg/L	Grab	1/Quarter	2
Sulfide, Total	mg/L	Grab	1/Quarter	2
Boron, Total	mg/L	Grab	1/Quarter	2
Nitrite Plus Nitrate (as N)	mg/L	Grab	1/Quarter	2
E. Coli	MPN/100mL	Grab	1/Week ³	2
Fecal Coliform	MPN/100mL	Grab	1/Week ³	2
Arsenic, Total Recoverable	µg/L	Grab	2/Year	2
Cadmium, Total Recoverable	µg/L	Grab	2/Year	2
Copper, Total Recoverable	µg/L	Grab	1/Month	2
Chromium (III) Total Recoverable	µg/L	Grab	2/Year	2
Chromium (VI) Total Recoverable	µg/L	Grab	2/Year	2
Lead, Total Recoverable	µg/L	Grab	1/Month	2
Mercury, Total Recoverable	µg/L	Grab	1/Month	2
Selenium, Total Recoverable	µg/L	Grab	2/Year	2
Silver, Total Recoverable	µg/L	Grab	2/Year	2
Zinc, Total Recoverable	µg/L	Grab	2/Year	2

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method and (Minimum Level, units), respectively
TCDD Equivalents ⁴	µg/L	Grab	2/Year	2
Remaining Priority Pollutants ⁵	µg/L	Grab	1/Year	2
Acute Toxicity ⁶	% survival	Grab	1/Year	2, 6
Chronic Toxicity ⁶	TUc	Grab	1/Year	2, 6

For Footnotes, see Pages E-11 and E-12.

C. Monitoring Location EFF-003

- The Discharger shall monitor Discharge Point No. 003 at EFF-003 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3c. Effluent Monitoring for Discharge Point No. 003

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method and (Minimum Level, units), respectively
Total Waste Flow	gpd	Estimate	1/Day	--
Total Waste Volume	gallons	Estimate	1/Day	--
Temperature	°F	Grab	1/Month	2
pH	s.u.	Grab	1/Month	2
TSS	mg/L	Grab	1/Quarter	2
Turbidity	NTU	Grab	1/Quarter	2
BOD (5-day @ 20 Deg. C)	mg/L	Grab	1/Quarter	2
Oil and Grease	mg/L	Grab	1/Quarter	2
Settleable Solids	ml/L	Grab	1/Quarter	2
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	2
Chlorine, Total Residual	µg/L	Grab	1/Month	2
Chloride	mg/L	Grab	1/Month	2
Dissolved Oxygen	mg/L	Grab	2/Year	2
Phenols	mg/L	Grab	1/Quarter	2
TDS	mg/L	Grab	1/Quarter	2
Sulfate	mg/L	Grab	1/Quarter	2
Sulfide, Total	mg/L	Grab	1/Quarter	2

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method and (Minimum Level, units), respectively
Boron, Total	mg/L	Grab	1/Quarter	2
Nitrite Plus Nitrate (as N)	mg/L ¹	Grab	1/Quarter	2
E. Coli	MPN/100mL	Grab	1/Week ³	2
Fecal Coliform	MPN/100mL	Grab	1/Week ³	2
Arsenic, Total Recoverable	µg/L	Grab	2/Year	2
Cadmium, Total Recoverable	µg/L	Grab	2/Year	2
Copper, Total Recoverable	µg/L	Grab	1/Month	2
Chromium (III) Total Recoverable	µg/L	Grab	2/Year	2
Chromium (VI) Total Recoverable	µg/L	Grab	2/Year	2
Lead, Total Recoverable	µg/L	Grab	1/Month	2
Mercury, Total Recoverable	µg/L	Grab	1/Month	2
Selenium, Total Recoverable	µg/L	Grab	1/Month	2
Silver, Total Recoverable	µg/L	Grab	2/Year	2
Zinc, Total Recoverable	µg/L	Grab	2/Year	2
TCDD Equivalents ⁴	µg/L	Grab	1/Quarter	2
4,4'-DDT	µg/L	Grab	1/Month	2
Remaining Priority Pollutants ⁵	µg/L	Grab	1/Year	2
Acute Toxicity ⁶	% survival	Grab	1/Year	2
Chronic Toxicity ⁶	T.U.c	Grab	1/Year	2

Footnotes:

- ¹ No monitoring is required when there is no discharge to surface waters. However, the Discharger shall indicate under statement of perjury that no effluent was discharged to surface water in the corresponding monitoring report.
- ² Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP (Attachment H of this permit package), where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.
- ³ The geometric mean values should be calculated based on not less than 5 samples equally spaced over a 30-day period. If any of the single sample limits are exceeded, the Regional Water Board requires repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance. When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.
- ⁴ The Discharger must monitor the effluent for the presence of the 17 congeners of 2,3,7,8-TCDD listed below once over the term of the permit, as early as practical (i.e., discharge occurs). To determine

compliance with effluent limitations or to conduct Reasonable Potential Analysis, this Order requires the Discharger to calculate and report dioxin-toxicity equivalencies (TEQa) using the following formula, where the toxicity equivalency factors (TEFs) and bioaccumulation equivalency factors (BEFs) are listed in the Table below:

$$\text{Dioxin-TEQ} = \sum(C_x \times \text{TEF} \times \text{BEF}_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Toxicity Equivalency Factors and Bioaccumulation Equivalency Factors

Congeners	Toxicity Equivalence Factor	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8 - tetra CDD	1.0	1.0
1,2,3,7,8 - penta CDD	1.0	0.9
1,2,3,4,7,8 - hexa CDD	0.1	0.3
1,2,3,6,7,8 - hexa CDD	0.1	0.1
1,2,3,7,8,9 - hexa CDD	0.1	0.1
1,2,3,4,6,7,8 - hepta CDD	0.01	0.05
Octa CDD	0.0001	0.01
2,3,7,8 - tetra CDF	0.1	0.8
1,2,3,7,8 - penta CDF	0.05	0.2
2,3,4,7,8 - penta CDF	0.5	1.6
1,2,3,4,7,8 - hexa CDF	0.1	0.08
1,2,3,6,7,8 - hexa CDF	0.1	0.2
1,2,3,7,8,9 - hexa CDF	0.1	0.6
2,3,4,6,7,8 - hexa CDF	0.1	0.7
1,2,3,4,6,7,8 - hepta CDFs	0.01	0.01
1,2,3,4,7,8,9 - hepta CDFs	0.01	0.4
Octa CDF	0.0001	0.02

⁵ Priority Pollutants as defined by the CTR defined in Finding II.J of the Limitations and Discharge Requirements of this Order, and included as Attachment I.

⁶ Refer to section V., Whole Effluent Toxicity Testing Requirements.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Definition of Toxicity

1. Acute Toxicity.

Acute toxicity is a measure of primarily lethal effects that occur over a 96-hour period. Acute toxicity shall be measured in percent survival measured in undiluted (100%) effluent.

- (a) The average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and
- (b) No single test shall produce less than 70% survival.

2. Chronic Toxicity.

Chronic toxicity measures a sublethal effect (e.g., reduced growth, reproduction) to experimental test organisms exposed to an effluent or ambient waters compared to that of the control organisms. Chronic toxicity shall be measured in TU_c , where $TU_c = 100/NOEC$. The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.

This Order includes a chronic testing toxicity trigger defined as an exceedance of 1.0 TU_c in a critical life stage test of 100% effluent. (The monthly median for chronic toxicity of 100% effluent shall not exceed, 1 TU_c in a critical life stage test.)

3. Accelerated Monitoring

If either of the above requirements is not met, the Discharger shall conduct six additional tests over a 6-week period, if possible. The Discharger shall ensure that they receive results of a failing toxicity test within 24 hours of the close of the test and the additional tests shall begin within 3 business days of the receipt of the result. If the additional tests indicate compliance with the toxicity limitation, the Discharger may resume regular testing. However, if the results of any two of the six accelerated tests are less than the stipulated requirements, then the Discharger shall begin a Toxicity Identification Evaluation (TIE). The TIE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet the objective.

If the initial test and any of the additional six acute toxicity bioassay tests result in less than 70% survival, including the initial test, the Discharger shall immediately begin a TIE.

B. Acute Toxicity Effluent Monitoring Program

1. Method. The Discharger shall conduct acute toxicity tests on 24-hour composite 100% effluent samples by methods specified in Part 136 which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, October 2002, USEPA, Office of Water, Washington D.C. (EPA-821-R-02-012) or a more recent edition to ensure compliance. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.
2. Test species. The fathead minnow, *Pimephales promelas*, (Acute Toxicity Test Method 2000.0) shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish effluent. However, if the salinity of the receiving water is between 1 to 32 parts per thousand (ppt), the Discharger may have the option of using the inland silverside, *Menidia beryllina* (Acute Toxicity Test Method 2006.0), instead of the topsmelt. The method for topsmelt (Larval Survival and Growth Test Method 1006.0) is found

in USEPA's *Short-term Method for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Fresh Water Organisms*, Fourth Edition, October 2002 (EPA-821-02-013).

3. In lieu of conducting the standard acute toxicity testing with the fathead minnow, the Discharger may elect to report the results or endpoint from the first 96 hours of the chronic toxicity test as the results of the acute toxicity test.
4. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.

C. Chronic Toxicity Effluent Monitoring Program

1. The Discharger shall conduct critical life stage chronic toxicity tests on effluent samples (24-hour composite) 100% effluent or receiving water samples. For freshwater discharge the analysis is completed in accordance with EPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002 (EPA/821-R-02-013) or a more recent edition. For brackish effluent, the Discharger shall conduct the chronic toxicity test in accordance with USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms*, First Edition, August 1995 (EPA/600/R-95/136) or *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, Third Edition, October 2002, (EPA/821-R-02-014) or a more recent edition.
2. The Discharger shall conduct tests as follows: with a vertebrate, an invertebrate, and an alga (plant) for the first three suites of tests. After the screening period, monitoring shall be conducted using the most sensitive species.
3. Re-screening is required every 24 months. The Discharger shall re-screen with the three species listed above and continue to monitor with the most sensitive species. If the first suite of re-screening tests demonstrates that the same species is the most sensitive then the re-screening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.
4. The presence of chronic toxicity shall be estimated as specified using West Coast marine organisms according to EPA's *Short-Term Methods for Estimating Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002 (EPA/821-R-02-013).
5. In brackish waters, the presence of chronic toxicity may be estimated as specified using West Coast marine organisms according to USEPA's *Short-Term Methods for Estimating Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine and Estuarine Organisms*, August 1995 (EPA/600/R-95/136), or a more recent edition.

6. After the screening period, monitoring shall be conducted annually using the most sensitive species.
7. Effluent samples shall be collected after all treatment processes and before discharge to the receiving water.

D. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manuals (EPA/600/4-91/002 and EPA/821-R-02-014), then the Discharger must re-sample and re-test at the earliest time possible.
3. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.

E. Accelerated Monitoring and Initial Investigation TRE Trigger

1. If toxicity exceeds the limitations (as defined below in sections V.A.1 and V.A.2, above), then the Discharger shall immediately implement accelerated testing, as specified at section V.A.3, above. The Discharger shall ensure that they receive results of a failing toxicity test within 24 hours of the completion of the test and the additional tests shall begin within 3 business days of the receipt of the results or at the first opportunity of discharge. If the accelerated testing shows consistent toxicity, the Discharger shall immediately implement the Initial Investigation of the TRE Workplan.
2. If implementation of the Initial Investigation TRE Workplan indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger may discontinue the TIE.
3. The first step in the Initial Investigation TRE Workplan for downstream receiving water toxicity can be a toxicity test protocol designed to determine if the effluent causes or contributes to the measured downstream toxicity. If this first step TRE testing shows that the outfall effluent does not cause or contribute to downstream toxicity, using USEPA's *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, Fourth Edition, October 2002, USEPA, Office of Water, Washington D.C. (EPA/821-R-02-014) then a report on this testing shall be submitted to the Regional Water Board and the TRE will be considered to be completed. Routine testing in accordance with the MRP shall be continued thereafter.

F. Toxicity Reduction Evaluation (TRE)/ Toxicity Identification Evaluation (TIE) Trigger

1. If the accelerated testing shows consistent toxicity as defined below:
 - a. Acute Toxicity:
 - i. If the results of any two of the six accelerated tests are less than 90% survival, or
 - ii. If the initial test and any of the additional six acute toxicity bioassay tests result in less than 70% survival
 - b. Chronic Toxicity:
 - i. If the results of two of the six accelerated tests exceed 1.0 TU_c.

then, the Discharger shall immediately implement the Toxicity Reduction Evaluation (TRE) as described below.

G. Steps in TRE and TIE Procedures

1. Following a TRE trigger, the Discharger shall initiate a TRE in accordance with the facility's Initial Investigation TRE workplan. At a minimum, the Discharger shall use USEPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) as guidance. The Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 30 days of the trigger, which will include, but not be limited to:
 - a. Further actions to investigate and identify the cause of toxicity;
 - b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity;
 - c. Standards the Discharger will apply to consider the TRE complete and to return to normal sampling frequency; and,
 - d. A schedule for these actions.
2. The following is a stepwise approach in conducting the TRE
 - a. Step 1 - Basic data collection. Data collected for the accelerated monitoring requirements may be used to conduct the TRE;
 - b. Step 2 - Evaluates optimization of the treatment system operation, facility housekeeping, and the selection and use of in-plant process chemicals;
 - c. Step 3 – If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) by employing all reasonable efforts and using

currently available TIE methodologies. The Discharger shall use the USEPA acute and chronic manuals, EPA/600/6-91/005F (Phase I)/EPA/600/R-96-054 (for marine), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) as guidance. The objective of the TIE is to identify the substance or combination of substances causing the observed toxicity;

- d. Step 4 – Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options;
- e. Step 5 evaluates in-plant treatment options; and,
- f. Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of compliance with those requirements may be sufficient to comply with TRE requirements. By requiring the first steps of a TRE to be accelerated testing and review of the facility's TRE workplan, a TRE may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring indicates there is no longer toxicity (six consecutive chronic toxicity test results are less than or equal to 1.0 TU_c or six consecutive acute toxicity test results are greater than 90% survival).

- 3. The Discharger shall initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the USEPA acute manual, chronic manual, EPA/600/6-91/005F (Phase I)/EPA/600/R-96-054 (for marine), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III), as guidance.
- 4. If a TRE/TIE is initiated prior to completion of the accelerated testing schedule required by this permit, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.
- 5. Toxicity tests conducted as part of a TRE/TIE may also be used for compliance determination, if appropriate.
- 6. The Regional Water Board recognizes that toxicity may be episodic and identification of causes of and reduction of sources of toxicity may not be successful in all cases. Consideration of enforcement action by the Regional Water Board will be based, in part, on the Discharger's actions and efforts to identify and control or reduce sources of consistent toxicity.

H. Ammonia Removal

- 1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must

demonstrate the effluent toxicity is caused by ammonia *because of* increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

- a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
 - b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
 - c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
 - d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.
2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

I. Reporting

1. The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month as required by this permit. Test results shall be reported as % survival for acute toxicity test results and as TU_c for chronic toxicity test results with the self monitoring reports (SMR) for the month in which the test is conducted. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, then those results also shall be submitted with the SMR for the period in which the Investigation occurred.
2. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, then those results also shall be submitted with the SMR for the period in which the investigation occurred.
 - a. The full report shall be submitted on or before the end of the month in which the SMR is submitted.
 - b. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the acute toxicity average limit or chronic toxicity limit or trigger and (4) printout of the ToxCalc or CETIS (Comprehensive Environmental Toxicity Information System) program results.

3. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the SMR. Routine reporting shall include, at a minimum, as applicable, for each test:
 - a. Sample date(s);
 - b. Test initiation date;
 - c. Test species;
 - d. End point values for each dilution (e.g., number of young, growth rate, percent survival);
 - e. LC₅₀ value(s) in percent effluent;
 - f. TU_a values $\left(TU_a = \frac{100}{LC_{50}}\right)$;
 - g. NOEC value(s) in percent effluent;
 - h. IC₁₅, IC₂₅, IC₄₀ and IC₅₀ values in percent effluent;
 - i. TU_c values $\left(TU_c = \frac{100}{NOEC}\right)$;
 - j. Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable);
 - k. NOEC and LOEC (Lowest Observable Effect Concentration) values for reference toxicant test(s);
 - l. IC₂₅ value for reference toxicant test(s);
 - m. Any applicable charts; and
 - n. Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).
4. The Discharger shall provide a compliance summary, which includes a summary table of toxicity data from all samples collected during that year.
5. The Discharger shall notify by telephone or electronically, this Regional Water Board of any toxicity exceedance of the limit or trigger within 24 hours of receipt of the results followed by a written report within 14 calendar days of receipt of the results. The verbal or electronic notification shall include the exceedance and the plan the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit,

with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

Not Applicable

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location RSW-001 and RSW-002

1. The Discharger shall monitor the Santa Clara River at RSW-001 and RSW-002 as follows:

Table E-4. Receiving Water Monitoring Requirements RSW-001 and RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	s.u.	Grab	1/Quarter	1,2
Hardness (as CaCO ₃)	mg/L	Grab	1/Quarter	1,2
Salinity	g/L	Grab	1/Quarter	1,2
Temperature	°F	Grab	1/Quarter	1
Dissolved Oxygen	mg/L	Grab	1/Quarter	1
Ammonia, Total (as N)	mg/L	Grab	1/Quarter	1
Chlorine, Total Residual	µg/L	Grab	1/Quarter	1
Chloride	mg/L	Grab	1/Quarter	1
TDS	mg/L	Grab	1/Quarter	1
Turbidity	NTU	Grab	1/Quarter	1
E. Coli	MPN/100 mL	Grab	1/Quarter	1
Fecal Coliform	MPN/100 mL	Grab	1/Quarter	1
TCDD-Equivalents ³	µg/L	Grab	1/Year	1,2
Priority Pollutants ⁴	µg/L	Grab	1/Year	1,2

¹ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP (Attachment H of this permit package), where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.

² Receiving water samples for pH, hardness, salinity, and priority pollutants must be collected at the same time as effluent samples.

- ³ The Discharger must monitor the receiving water for the presence of the 17 congeners of 2,3,7,8-TCDD listed below once over the term of the permit. To determine compliance with effluent limitations or to conduct Reasonable Potential Analysis, this Order requires the Discharger to calculate and report dioxin-toxicity equivalencies (TEQa) using the following formula, where the toxicity equivalency factors (TEFs) and bioaccumulation equivalency factors (BEFs) are listed in the Table below:

$$\text{Dioxin-TEQ} = \sum(C_x \times \text{TEF} \times \text{BEF}_x)$$

where:

C_x = concentration of dioxin or furan congener x

TEF_x = TEF for congener x

BEF_x = BEF for congener x

Toxicity Equivalency Factors and Bioaccumulation Equivalency Factors

Congeners	Toxicity Equivalence Factor	Bioaccumulation Equivalency Factor (BEF)
2,3,7,8 - tetra CDD	1.0	1.0
1,2,3,7,8 - penta CDD	1.0	0.9
1,2,3,4,7,8 - hexa CDD	0.1	0.3
1,2,3,6,7,8 - hexa CDD	0.1	0.1
1,2,3,7,8,9 - hexa CDD	0.1	0.1
1,2,3,4,6,7,8 - hepta CDD	0.01	0.05
Octa CDD	0.0001	0.01
2,3,7,8 - tetra CDF	0.1	0.8
1,2,3,7,8 - penta CDF	0.05	0.2
2,3,4,7,8 - penta CDF	0.5	1.6
1,2,3,4,7,8 - hexa CDF	0.1	0.08
1,2,3,6,7,8 - hexa CDF	0.1	0.2
1,2,3,7,8,9 - hexa CDF	0.1	0.6
2,3,4,6,7,8 - hexa CDF	0.1	0.7
1,2,3,4,6,7,8 - hepta CDFs	0.01	0.01
1,2,3,4,7,8,9 - hepta CDFs	0.01	0.4
Octa CDF	0.0001	0.02

- ⁴ Priority Pollutants as defined by the CTR defined in Finding II.J of the Limitations and Discharge Requirements of this Order, and included as Attachment I.

B. Visual Monitoring of Upstream and Downstream Receiving Water Sampling Points

1. A visual observation station shall be established in the vicinity of the discharge point of the storm drain to the receiving water (Santa Clara River).
2. General observations of the receiving water shall be made at each discharge point when discharges occur. During months of no discharge, the receiving water observations shall be made on a monthly basis. All receiving water observations shall be reported in the quarterly monitoring report. If no discharge occurred during the observation period, this shall be reported. Observations shall be descriptive where applicable, such that colors, approximate amounts, or types of materials are apparent. The following observations shall be made:
 - a. Weather conditions

- b. Color of water
- c. Appearance of oil films or grease, or floatable materials
- d. Extent of visible turbidity or color patches
- e. Description of odor, if any, of the receiving water
- f. Presence and activity of California Least Tern and California Brown Pelican.

IX. OTHER MONITORING REQUIREMENTS

A. Storm Water Monitoring

1. **Rainfall Monitoring.** The Discharger shall measure and record the rainfall on each day of the month. This information shall be included in the monitoring report for that month.
2. **Visual Observation.** The Discharger shall make visual observations of all storm water discharge locations on at least one storm event per month that produces a significant storm water discharge to observe the presence of floating and suspended materials, oil and grease, discoloration, turbidity, and odor. A “significant storm water discharge” is a continuous discharge of storm water for a minimum of 1 hour, or the intermittent discharge of storm water for a minimum of 3 hours in a 12-hour period.

B. SWPPP, BMPP, and SCP Status and Effectiveness Reports

1. As required under Special Provision VI.C.3.a of this Order, the Discharger shall submit an updated Storm Water Pollution Prevention Plan (SWPPP), Best Management Practices Plan (BMPP), and Spill Contingency Plan (SCP) to the Executive Officer of the Regional Water Board for approval **within 90 days** of the effective date of this permit.
2. Annually the Discharger shall report the status of the implementation and the effectiveness of the SWPPP, BMPP, and SCP Status required under Special Provision VI.C.3.a of this Order. The SWPPP, BMPP, and SCP status shall be reviewed at a minimum once per year and updated as needed to ensure all actual or potential sources of pollutants in wastewater and storm water discharged from the facility are addressed in the SWPPP, BMPP, and SCP status. All changes or revisions to the SWPPP, BMPP, and SCP status shall be submitted within 30 days of revision.

C. Chemical Use Report

1. The Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect the waste discharge, including quantities of each.

2. The Discharger shall report annually summarizing the quantities of all chemicals, listed by both trade and chemical names, which are used at the facility and which are discharged or have the potential to be discharged.
3. The Discharger shall monitor the chemicals used in the Facility. Prior to any change in the use of chemical at the Facility the Discharger must inform the Regional Water Board. As specified in Special Provision VI.A.2.q, no changes in the type or amount of chemicals added to the process water shall be made without the written approval of the Regional Water Board's Executive Officer. To comply with this provision, the discharger must submit a complete report of the change to the Regional Water Board before the proposed date of change. This requirement does not apply to changes of chemical brand names where the chemical composition and Material Safety Data Sheet (MSDS) information for the new brand is essentially identical to the previous chemical used. The change in brand or manufacturer with a copy of the new MSDS sheet need only be reported to the Regional Water Board in the Discharger's monthly DMRs.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.
3. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.
4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.
5. The Discharger shall report the results of acute and chronic toxicity testing, TRE and TIE as required in the Attachment E, Monitoring and Reporting, Section V.F.

B. Self Monitoring Reports (SMRs)

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

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III. through IX. The Discharger shall submit quarterly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-5. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
1/Day	March 4, 2011	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with Quarterly SMR
1/Week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with Quarterly SMR
1/Month	March 4, 2011	First day of calendar month through last day of calendar month	Submit with quarterly SMR
1/Quarter	March 4, 2011	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
2/Year	March 4, 2011	January 1 through June 30 July 1 through December 31	August 1 February 1
1/Year	March 4, 2011	January 1 through December 31	February 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 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 reported ML 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 the 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 (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected,” or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the 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. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. 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).
6. Multiple Sample Data. When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. 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.
7. 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 facility is operating in compliance with interim and/or final effluent limitations. 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 to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
- c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

**California Regional Water Quality Control Board
 Los Angeles Region
 320 W. 4th Street, Suite 200
 Los Angeles, CA 90013**

C. Discharge Monitoring Reports (DMRs)

- 1. As described in Section X.B.1 above, at any time during the term of this permit, 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. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

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, 15 th Floor Sacramento, CA 95814

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

D. Other Reports

- 1. The Discharger shall report the results of the downstream monitoring location report, acute and chronic toxicity testing, compliance evaluation study, TRE/TIE,

PMP, and SWPPP required by Special Provisions – VI.C.2.a, b, and c and VI.C.3.a and b of this Order. The Discharger shall report the progress in satisfaction of compliance schedule dates specified in Special Provisions – VI.C.2.a, b, and c and VI.C.3.a and b of this Order. The Discharger shall submit reports in compliance with SMR reporting requirements described in subsection X.B.5 above.

2. Within **90 days** of the effective date of this permit, the Discharger is required to submit the following to the Regional Water Board:
 - a. Initial Investigation TRE workplan
 - b. Updated SWPPP
 - c. Updated BMPP
 - d. SPC
 - e. Alternative Downstream Monitoring Location
3. As discussed in Section VIII.E of the MRP, Attachment E, the Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.
4. If the Discharger wishes to participate in a coordinated receiving water monitoring program with other dischargers to Santa Clara River, then the Discharger shall submit a report seeking approval of the Regional Water Board.
5. This Regional Water Board requires the Discharger to file with the Regional Water Board, **within 90 days** after the effective date of this Order, a technical report on his preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:
 - a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
 - b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.
 - c. Describe facilities and procedures needed for effective preventive and contingency plans.
 - d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent interim and final dates when they will be constructed, implemented, or operational.

This Regional Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of this Order, upon notice to the Discharger.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II of this 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” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	4A199002002
Discharger	Magic Mountain, LLC
Name of Facility	Six Flags Magic Mountain
Facility Address	26101 Magic Mountain Parkway
	Valencia, CA 91355
	Los Angeles County
Facility Contact, Title and Phone	Tom Edgar, Director of Administration, (661) 255-4850
Authorized Person to Sign and Submit Reports	Jay Thomas, Park President, (661) 255-4512
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Amusement Park (SIC 7996)
Major or Minor Facility	Major
Threat to Water Quality	Category 2
Complexity	Category B
Pretreatment Program	Not Applicable
Reclamation Requirements	Not Applicable
Facility Permitted Flow	1.0 million gallons per day (mgd) - Discharge Point No. 001
	0.05 mgd - Discharge Point No. 002
	1.3 mgd - Discharge Point No. 003
Facility Design Flow	Unspecified
Watershed	Santa Clara River Watershed
Receiving Water	Santa Clara River
Receiving Water Type	Inland Surface Water

A. Magic Mountain, LLC (hereinafter Discharger) is the owner and operator of Six Flags Magic Mountain (hereinafter Facility). The Facility is an amusement park.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policies are held to be equivalent to references to the Discharger herein.

- B.** The Facility discharges wastewater to the Santa Clara River, a water of the United States. The discharge is currently regulated by Order No. R4-2008-0209, which was adopted on December 11, 2008. Order No. R4-2008-0209 expired on May 10, 2009. The terms and conditions of the current Order have been automatically continued and remain in effect as per 40 Code Federal Regulations (CFR) Part 122.6 until Waste Discharge Requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.

The discharge is also regulated by Time Schedule Order (TSO) No. R4-2005-0043 which was issued on June 29, 2005, and expired on June 29, 2010. The TSO required the Discharger investigate and implement any required upgrades to the Facility that will allow the Discharger to achieve full compliance with the final effluent limitation for chloride prescribed in NPDES Order No. R4-2005-0036, and prescribed an interim effluent limitation for chloride effective through June 29, 2010.

- C.** The Discharger filed a report of waste discharge (ROWD) and submitted an application for renewal of its WDRs and an NPDES permit on November 12, 2009. A site visit was conducted on January 27, 2010, to observe operations and collect additional data to develop permit limitations and conditions.
- D.** The Regional Water Board adopted Order No. R4-2005-0036 on June 2, 2005, for the Facility for discharges to the Santa Clara River. On October 19, 2007, the Discharger submitted an updated ROWD to the Regional Water Board. The updated ROWD contained information on the new owner/operator, an updated facility description, which included new interceptor construction, discharge and monitoring locations, and types of wastes discharged. On December 11, 2008, the Regional Water Board adopted Order No. R4-2008-0209 amending Order No. R4-2005-0036 to reflect the information contained in the updated ROWD. Order No. R4-2008-0209 also modified the bacteria limitations to reflect Basin Plan objectives for fresh water.

II. FACILITY DESCRIPTION

The Discharger owns and operates the Facility, an amusement park located at 26101 West Magic Mountain Parkway, Valencia, California. The amusement park consists of various rides, shows, landscaping, and water attractions, and occupies approximately 260 acres. The water attractions include various water fountains, features, rides, slides, public swimming facilities, and Hurricane Harbor. The water in these attractions is either chlorinated or filtered through sand filters to protect public health. The filter backwash water is plumbed to the sanitary sewer.

To maintain the fresh water appearance of the water attractions, some of the water from each attraction is allowed to overflow and it is drained and subsequently replaced with drinking water supplied by the Valencia Water Company. The drainage/overflow, along

with washdown water, some irrigation runoff and storm water runoff flow into the drain lines and to the Outfalls.

A. Description of Wastewater and Biosolids Treatment or Controls

The Discharger proposes to discharge up to 1 mgd, 0.05 mgd, and 1.3 mgd of treated wastewater and storm water runoff through Discharge Point Nos. 001, 002, and 003, respectively, into a storm drain thence to the Santa Clara River, a water of the United States. The treated wastewater consists of drainage/overflow from the water attractions as well as lakes and ponds, irrigation run-off, and midway (walkway throughout the park) washdown water. The storm water runoff is discharged through the Outfalls when rainfall exceeds one inch during rain events.

Non-Storm Water Drain Interceptor. In March 2007, the Discharger completed the construction of a 24-inch drain bypass to connect flows from the two existing backbone drain lines, a 48-inch line along the east side of the park which currently discharges to Discharge Point No. 001 and a 24-inch line along the west side of the park which currently discharges to Discharge Point No. 002, to an existing open, trapezoidal channel which runs along the westerly edge of the park to Discharge Point No. 003. The non-storm water interceptor runs westerly through the existing parking lot. In addition to the non-storm water discharge, the 24-inch bypass pipe is designed to handle 10 percent of the 50-year storm event. Should a storm event exceed the design flows, or should there be any blockage in the interceptor, the non-storm water and storm water runoff will continue to flow through Outfalls 001 and 002.

Following are descriptions of the wastewater discharged and the outfalls.

1. Potential Flow Contributions to Discharge Point No. 001

Outfall 001 is an open channel which runs along the eastern side of the Facility. The discharge which consists of drainage and overflow from the water attractions in Hurricane Harbor as well as from lakes and ponds, surface water runoff from irrigation and midway (walkway throughout the park) washdown water, from the east side of the Facility, surface water from the main gate driveway, recreational vehicle (RV) parking, and east side general parking, and storm water runoff flows through an underground pipe system beneath the Facility, exits through Outfall 001. The discharge flows through a covered channel under the Facility access road and into an earthen ditch, a tributary to the Santa Clara River. The open channel also collects offsite storm water runoff.

Non-storm water discharges are intercepted by the storm drain bypass system and diverted to Discharge Point No. 003. Therefore, under typical daily operations, only a negligible quantity of irrigation runoff downstream of the interceptor is discharged through Discharge Point No. 001. However, during storm events when the design capacity of the bypass system is exceeded or when there is blockage in the system, both non-storm water and storm water are discharged through Discharge Point 001.

The water attractions, lakes, and ponds located in the Outfall 001 tributary area, with water capacities of up to 1.4 million gallons, may be drained for cleaning or maintenance on an annual basis. These water attractions are not drained concurrently. The water attractions that may contribute flow to Discharge Point No. 001 are listed in Table F-2 as below:

Table F-2. Water Attractions Contributing to Discharge Point No. 001

Water Attraction	Water Capacity (million gallons)	Complete Discharges/Year
Black Snake Summit	0.0432	1
Castaway Cove	0.0653	1
Forgotten Sea Wave Pool	0.4792	1
Lightening Falls	0.0431	1
Lost Temple Rapids	0.0388	1
Lizard Lagoon & Reptile Ridge	0.2239	1
River Cruise	0.4286	1
Shipwreck Shores	0.0115	1
Taboo Tower	0.0011	1
Tiki Falls	0.0431	1
Tornado	0.0210	1
Total	1.3988	

Flow data submitted in the Quarterly SMRs indicate a maximum flow rate of 144,000 gallons per day (gpd), prior to completion of the non-storm water interceptor drain in March 2007. From April 2008 through December 2008, the Discharger reported a discharge for 5 of the 21 months, with a maximum flow of 1,440 gpd. After December 2008, the Discharger reported no flow.

2. Flow Contributions to Discharge Point No. 002

Outfall 002 is a piped storm drain system that collects wastewater from the central and northern portion of the Facility and then discharges offsite between Outfalls 001 and 003 into an earthen ditch that drains toward the Santa Clara River. The wastewater consists of drainage and overflow from lakes, and ponds, surface water runoff from irrigation and midway washdown water, including portions of the backstage and parking lot, and storm water runoff from the northern area of the Facility.

Non-storm water discharges are intercepted by the storm drain bypass system and diverted to Outfall 003. Therefore, during typical daily operations, there is no discharge from Outfall 002. However, during storm events when the design capacity of the bypass system is exceeded or when there is blockage in the system, the non-storm water and storm water are discharged through Discharge Point 002.

No water attractions, lakes, or ponds contribute flow to Discharge Point No. 002.

Flow data submitted in the Quarterly SMRs indicate a maximum flow rate of 50,400 gpd prior to completion of the non-storm water interceptor drain in March 2007. The Discharger reported that there were no discharges at Outfall 002 since March 2007.

3. Flow Contributions to Discharge Point No. 003

Outfall 003 is an open channel which runs along the western side of the Facility.

Drainage and overflow from the water attractions, lakes, and ponds in the western area of the Facility discharge to the channel that becomes Discharge Point No. 003. Surface water runoff, primarily irrigation and midway washdown water, from the western area of the Facility including most of the backstage and employee and overflow parking lots, also flow to this channel. Water attractions, lakes, and ponds are typically drained on an annual basis. The water attractions and runoff that previously flowed to Discharge Point Nos. 001 and 002 are now conveyed by the interceptor to Discharge Point No. 003 (see II.A.2 and 3 above). In addition to these contributions, the major water attractions that contribute flow to Discharge Point No. 003 are identified in Table F-3 below.

Table F-3. Water Attractions Contributing to Discharge Point No. 003

Water Attraction	Water Capacity (million gallons)	Complete Discharges/Year
Roaring Rapids	1	1
4,000 Lake	0.555	1
Jet Stream	0.5	1
Log Jammer	1.3	1
Tidal Wave	0.2	1
Valencia Falls	0.125	1
Total	3.68	

Flow data submitted in the Quarterly SMRs indicate a maximum flow rate of 288,000 gpd, prior to completion of the non-storm water interceptor drain in March 2007. From April 2007 through September 2009, the maximum flow rate is 360,000 gpd.

To prevent build-up of organic matter and bacteria in the storm drain, the Facility has incorporated high-pressure cleaning and disinfection of on-site storm drains into the regular maintenance program.

B. Discharge Points and Receiving Waters

Treated wastewater, irrigation runoff, midway washdown water, and storm water runoff is discharged from Discharge Point Nos. 001, 002, and 003 to the Santa Clara River, a water of the United States, within the Santa Clara River Watershed. The locations of the discharge points are listed below.

- Discharge Point No. 001: 34° 25' 38.22" N, 118° 35' 31.74" W
- Discharge Point No. 002: 34° 25' 52.68" N, 118° 35' 46.38" W
- Discharge Point No. 003: 34° 25' 51.00' N, 118° 35' 57.24" W

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

On December 11, 2008, the Regional Water Board adopted Order No. R4-2008-0209, amending Order No. R4-2005-0036 to update bacteria limitations to Basin Plan Objectives for Fresh Water designated for REC-1. Effluent limitations contained in Order Nos. R4-2005-0036 and R4-2008-0209, for discharges from Discharge Point Nos. 001, 002, and 003 (Monitoring Locations EFF-001, 002, and 003) and representative monitoring data from the term of these Orders are as follows:

a. Discharge Point No. 001:

Table F-4a. Historic Effluent Limitations and Monitoring Data - Discharge Point No. 001

Parameter	Units	Effluent Limitation		Monitoring Data (January 2006 – December 2008)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge ¹	Highest Daily Discharge
pH	s.u.	6.5-8.5 ²		7.41-8.54 ²	
Temperature	°F	--	86	--	73.9
Total Suspended Solids (TSS)	mg/L	50	75	230	230
Biochemical Oxygen Demand (BOD) (5-day @20 Deg. C)	mg/L	20	30	34	34
Oil and grease	mg/L	10	15	2.5	2.5
Settleable solids	ml/L	0.1	0.3	0.2	1.5
Chlorine, Total Residual	mg/L	--	0.1	--	2
Phenols	mg/L	--	1.0	--	0.24
Total Dissolved Solids (TDS)	mg/L	--	1,000	--	960
Turbidity	NTU	50	75	170	170
Sulfate	mg/L	--	400	--	400
Boron	mg/L	--	1.5	--	0.47

Parameter	Units	Effluent Limitation		Monitoring Data (January 2006 – December 2008)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge ¹	Highest Daily Discharge
Chloride	mg/L	--	175 ³	--	150
	mg/L	--	100 ⁴	--	--
Nitrate + Nitrite (as N)	mg/L	--	5	--	4.4
Copper, Total Recoverable	µg/L	--	32 ⁵	58	58
	µg/L	19.5 ⁶	39.2 ⁶	--	--
Lead, Total Recoverable	µg/L	--	85 ⁵	5.2	5.2
	µg/L	10.5 ⁶	21.2 ⁶	--	--
Mercury, Total Recoverable	µg/L	--	0.21 ⁵	< 0.05	< 0.05
	µg/L	0.051 ⁶	0.102 ⁶	--	--
Acute Toxicity	% Survival	--	7	--	100% in 100% effluent ⁸
Chronic Toxicity	TU _c	⁹	--	--	< 1 TU _c
Order No. R4-2005-0036, Limits effective July 5, 2005, through December 10, 2008					
Total Coliform	MPN/100 mL	1,000 ¹⁰	10,000	11,200	11,200
Enterococcus	MPN/100 mL	35 ¹¹	104	770	≥1,600
Fecal Coliform	MPN/100 mL	200 ¹²	400	3,500	11,200
Modifications in Order No. R4-2008-0209, Limits Effective December 11, 2008 through June 2010					
E. Coli	MPN/100 mL	126 ¹³	235	14 ¹⁴	14 ¹⁴
Fecal Coliform	MPN/100 mL	200 ¹²	400	Not analyzed ¹⁵	Not analyzed ¹⁵

For Footnotes, see page F-13.

b. Discharge Point No. 002:

Table F-4b. Historic Effluent Limitations and Monitoring Data - Discharge Point No. 002

Parameter	Units	Effluent Limitation		Monitoring Data (From January 2006 – To December 2009)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge ¹	Highest Daily Discharge
pH	s.u.	6.5-8.5 ²		7.87-8.36 ²	
Temperature	°F	--	86	--	77
Total Suspended Solids (TSS)	mg/L	50	75	20.5	70

Parameter	Units	Effluent Limitation		Monitoring Data (From January 2006 – To December 2009)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge ¹	Highest Daily Discharge
BOD (5-day @20 Deg. C)	mg/L	20	30	13	13
Oil and grease	mg/L	10	15	1.3	1.3
Settleable solids	ml/L	0.1	0.3	0.1	0.1
Chlorine, Total Residual	mg/L	--	0.1	--	4
Phenols	mg/L	--	1.0	--	< 0.081
TDS			1,000	--	880
Turbidity	NTU	50	75	34	62
Sulfate	mg/L	--	400	--	290
Boron	mg/L	--	1.5	--	0.39
Chloride	mg/L	--	175 ³	--	--
	mg/L	--	100 ⁴	--	760
Nitrate + Nitrite (as N)	mg/L	--	5	--	4.6
Copper, Total Recoverable	Mg/L	19.5	39.2	61	61
Mercury, Total Recoverable	Mg/L	--	0.25 ⁵	< 0.05	< 0.05
	Mg/L	0.051 ⁶	0.102 ⁶	--	--
Acute Toxicity	% Survival	--	7	--	100% in 100% effluent ⁸
Chronic Toxicity	TUc	⁹	--	--	< 1 TUc
Order No. R4-2005-0036, Limits effective July 5, 2005, through December 10, 2008					
Total Coliform	MPN/100 mL	1,000 ¹⁰	10,000	11,200	≥11,200
Enterococcus	MPN/100 mL	35 ¹¹	104	490	8,000
Fecal Coliform	MPN/100 mL	200 ¹²	400	770	1,600
Modifications in Order No. R4-2008-0209, Limits Effective December 11, 2008, through June 2010					
E. Coli	MPN/100 mL	126 ¹³	235	No discharge	No discharge
Fecal Coliform	MPN/100 mL	200 ¹²	400	No discharge	No discharge

For Footnotes, see page F-13.

c. Discharge Point No. 003:

Table F-4c. Historic Effluent Limitations and Monitoring Data- Discharge Point No. 003

Parameter	Units	Effluent Limitation		Monitoring Data (January 2006 – December 2009)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge ¹	Highest Daily Discharge
pH	s.u.	6.5-8.5 ²		7.71-8.54 ²	
Temperature	°F	--	86	--	79.4
TSS	Mg/L	50	75	1,362	2,700
BOD (5-day @20 Deg. C)	Mg/L	20	30	12	12
Oil and Grease	Mg/L	10	15	1,759	3,500
Settleable Solids	MI/L	0.1	0.3	1.75	2
Chlorine, Total Residual	Mg/L	--	0.1	--	56
Phenols	Mg/L	--	1.0	--	0.078
TDS	Mg/L	--	1,000	--	1,100
Turbidity	NTU	50	75	612	1,200
Sulfate	mg/L	--	400	--	2,000
Boron	mg/L	--	1.5	--	0.5
Chloride	mg/L	--	175 ³		340
	mg/L		100 ⁴		
Nitrate + Nitrite (as N)	mg/L	--	5	--	5
Copper, Total Recoverable	µg/L	--	240 ⁵	76	76
	µg/L	19.5 ⁶	39.2 ⁶	--	--
Lead, Total Recoverable ⁵	µg/L	--	78 ⁵	24	24
	µg/L	10.5 ⁶	21.2 ⁶	--	--
Mercury, Total Recoverable	µg/L	--	0.22 ⁵	--	--
	µg/L	0.051 ⁶	0.102 ⁶	< 0.05	< 0.05
Acute Toxicity	% Survival	--	⁷	--	100% in 100% effluent ⁸
Chronic Toxicity	T.U.c	⁹	--	--	< 1 TUc
Order No. R4-2005-0036, Limits effective July 5, 2005 through December 10, 2008					
Total Coliform	MPN/100 mL	1,000 ¹⁰	10,000	11,200	11,200
Enterococcus	MPN/100 mL	35 ¹¹	104	1,600	11,000
Fecal Coliform	MPN/100 mL	200 ¹²	400	4,149	11,200
Modifications in Order No. R4-2008-0209, Limits Effective December 11, 2008 through June 2010					
E. Coli	MPN/100 mL	126 ¹³	235	113	300

Parameter	Units	Effluent Limitation		Monitoring Data (January 2006 – December 2009)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge ¹	Highest Daily Discharge
Fecal Coliform	MPN/100 mL	200 ¹³	400	253	500

Footnotes:

- ¹ When one or more sample results was reported as not detected (ND) or detected but not quantified (DNQ), the median value of samples is presented.
- ² Range of instantaneous values.
- ³ Interim effluent limitations contained in Time Schedule Order No. R4-2005-0043, effective June 29, 2005, through June 29, 2010.
- ⁴ Final effluent limitation based on TMDL in Order R4-2005-0036 and R4-2008-0209.
- ⁵ Interim Limitation in Order No. R4-2005-0036 and R4-2008-0209, effective July 5, 2005 through June 2, 2010.
- ⁶ Final effluent limitation in Order No. R4-2005-0036 and R4-2008-0209.
- ⁷ The acute toxicity of the effluent shall be such that the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, and no single test producing less than 70% survival.
- ⁸ Represents the lowest observed percent survival.
- ⁹ Chronic testing toxicity trigger defined as an exceedance of 1 TU_c in a critical life state test for 100% effluent. (The monthly median for chronic toxicity of 100% effluent shall not exceed, 1TU_c in a critical life stage test.)
- ¹⁰ The geometric mean density of total coliform organisms shall be less than 1,000 per 100 mL (10 per mL): provided that not more than 20 percent of the samples, in any 30-day period, may exceed 1,000 per 100 mL (10 per mL), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 mL (100 per mL). Also, the total coliform density shall not exceed 1,000 per 100 mL if the ratio of fecal to total coliform exceeds 0.1.
- ¹¹ The geometric mean enterococcus density of the discharge shall not exceed 24 organisms per 100 mL for a 30-day period or 12 organisms per 100 mL for a 6-month period.
- ¹² The fecal coliform density for any 30-day period, shall not exceed a geometric mean of 200 per 100 mL nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 mL.
- ¹³ Applied as a geometric mean.
- ¹⁴ Analytical result of water sample collected on December 12, 2008, for E.coli. After December 2008, there has been no discharge through Discharge Point No. 001.
- ¹⁵ No analysis reported for Fecal coliform for Discharge Point 001 during the 4th Quarter 2008 monitoring period. Thereafter, there was no discharge through Discharge Point 001 from January 2009 through June 2010.

D. Compliance Summary

Data submitted to the Regional Water Board indicate that the Discharger has exceeded existing permit limitations as outlined in the table below:

Table . F-5 Summary of Compliance History

Outfall No.	Date Sampled	Monitoring Period	Violation Type	Pollutant	Reported Value	Permit Limitation	Units
003	01/08/2009	1st Quarter, 2009	Daily Maximum	Settleable Solids	0.5	0.3	ml/L
003	01/29/2009	1st Quarter, 2009	Daily Maximum	Settleable Solids	0.8	0.3	ml/L
003	02/05/2009	1st Quarter, 2009	Daily Maximum	Residual Chlorine	3	0.1	mg/L
003	04/02/2009	2nd Quarter, 2009	Daily Maximum	Oil and Grease	29	15	mg/L
003	05/08/2009	2nd Quarter, 2009	Daily Maximum	Fecal Coliform	500	400	MPN/100 mL

Outfall No.	Date Sampled	Monitoring Period	Violation Type	Pollutant	Reported Value	Permit Limitation	Units
003	05/31/2009	2nd Quarter, 2009	Monthly Average	Copper	32	19.5	mg/L
003	0709/2009	3rd Quarter, 2009	Daily Maximum	Chloride	220	175	mg/L
003	07/09/2009	3rd Quarter, 2009	Daily Maximum	Total Suspended Solids	85	75	mg/L
003	07/09/2009	3rd Quarter, 2009	Daily Maximum	Oil and Grease	3,500	15	mg/L
003	07/09/2009	3rd Quarter, 2009	Daily Maximum	TDS	1,100	1000	mg/L
003	07/23/2009	3 rd Quarter, 2009	Daily Maximum	Oil and Grease	17	15	mg/L
003	07/31/2009	3 rd Quarter, 2009	Monthly Average	Oil and Grease	1,759	10	mg/L
003	08/06/2009	3 rd Quarter, 2009	Daily Maximum	Chloride	180	175	mg/L
003	09/10/2009	3 rd Quarter, 2009	Daily Maximum	Chloride	180	175	mg/L
003	09/17/2009	3 rd Quarter, 2009	Daily Maximum	Chloride	210	175	mg/L
003	09/24/2009	3 rd Quarter, 2009	Daily Maximum	Fecal Coliform	500	400	MPN/100 mL
003	09/24/2009	3 rd Quarter, 2009	Daily Maximum	E. Coli	300	235	MPN/100 mL
003	01/22/2010	1 st Quarter, 2010	Daily Maximum	E. Coli	240	235	MPN/100 mL
003	01/31/2010	1 st Quarter, 2010	Monthly Average	Copper	65	19.5	mg/L
003	01/31/2010	1 st Quarter, 2010	Monthly Average	Lead	23	10.5	mg/L
003	01/31/2010	1 st Quarter, 2010	Monthly Average	Total Suspended Solids	64	50	mg/L

On May 15, 2008, the Chief Deputy Executive Officer issued a Notice of Violation to Magic Mountain, LLC (former Six Flags Theme Park Inc.) for violations of the waste discharge requirements contained in Order Nos. 98-005, R4-2005-0036, and R4-2005-0043 during the periods from second Quarter 2002 through fourth Quarter 2007. These violations included effluent limit exceedances for fecal coliform and other pollutants (i.e., chloride, total dissolved solids (TDS), settleable solids, total suspended solids (TSS), oil and grease, turbidity, biochemical oxygen demand (BOD), residual chlorine, copper, and sulfate), as well as reporting violations. On September 5, 2008, the Chief Deputy Executive Officer issued Complaint No. R4-2008-0036 for Mandatory Minimum Penalties (MMPs) in the amount of \$945,000 for the above mentioned violations of the NPDES permit requirements. On October 6, 2008, the Discharger waived its right to a hearing and paid the recommended penalty for all identified violations.

On December 19, 2008, the Chief Deputy Executive Officer issued a Settlement Offer No. R4-2008-0171-M with Mandatory Minimum Penalties against Six Flags, in the amount of \$3,000 for serious violation of the effluent limitation for BOD during the

second Quarter of 2008 (April 29, 2008). The Regional Water Board received the payment of \$3,000 on April 24, 2009, from Six Flags.

On July 14, 2010, the Executive Officer issued a Settlement Offer No. R4-2010-0099-M with Mandatory Minimum Penalties against Six Flags, in the amount of \$57,000 for the violations of the NPDES permit limitations for the constituents listed in the above mentioned Table F-5. The Regional Water Board received the payment of \$57,000 on July 30, 2010, from Six Flags.

E. Planned Changes

Six Flags plans to implement the necessary upgrades/changes to the Facility to comply with the requirements in the Time Schedule Order accompanied by this Order. Six Flags is in the process of evaluating actions/measures to achieve compliance with the final effluent limitation for chloride.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (hereinafter Basin Plan) on June 13, 1994, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Santa Clara River are as follows:

Table F-6. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Santa Clara River	<p><u>Existing:</u> Industrial service supply (IND), industrial process supply (PROC), agricultural supply (AGR), ground water recharge (GWR), freshwater replenishment (FRSH), water contact recreation (REC1), non-contact water recreation (REC2), warm freshwater habitat (WARM), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), wetland habitat (WET)</p> <p><u>Potential:</u> Municipal and domestic supply (MUN).</p>

Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Discharges from the Facility are not currently considered thermal wastes or elevated temperature wastes; however, temperature is a pollutant of concern. As a result, requirements of this Order implement the Thermal Plan.

3. **Ammonia Basin Plan Amendment.** The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Table 3-1 through Table 3-4. However, those ammonia objectives were revised on April 25, 2002, by the Regional Water Board with the adoption of Resolution No. R4-2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The amendment reflects the revised water quality criteria developed by USEPA in the “1999 Update of Ambient Water Quality Criteria for Ammonia,” December 1999. The 1999 Update contains USEPA’s most recent freshwater aquatic life criteria for ammonia and supersedes all previous freshwater aquatic life criteria for ammonia. The ammonia Basin Plan amendment was approved by the State Water Board, the OAL, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA’s 1999 ammonia criteria update.

4. **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 forty 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

were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants.

- 5. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- 6. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 C.F.R. § 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.
- 7. Antidegradation Policy.** Part 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 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 the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of part 131.12 and State Water Board Resolution No. 68-16.
- 8. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations (CFR)¹ part 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.

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

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

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d)-listed water bodies and pollutants, the Regional Water Board plans to develop and adopt TMDLs that will specify WLAs for point sources and load allocations (LAs) for non-point sources, as appropriate.

The USEPA approved the State's 2006 303(d) list of impaired water bodies on June 28, 2007. Certain receiving waters in the Los Angeles and Ventura County watersheds do not fully support beneficial uses and therefore have been classified as impaired on the 2006 303(d) list and have been scheduled for total maximum daily load (TMDL) development. The Facility discharges into the Santa Clara River Reach 5. The 2006 State Water Board's California 303(d) List classifies the Santa Clara River Reach 5 as impaired. The pollutants of concern include ammonia, chloride, and coliform bacteria. The following are summaries of the TMDLs for the Santa Clara River.

- **Upper Santa Clara River Watershed Chloride TMDL:** On October 24, 2002, the Regional Water Board adopted Resolution R4-2002-018 which amended the Basin Plan to incorporate a TMDL for chloride. On February 19, 2003, the State Water Board adopted Resolution R4-2003-0014, which remanded the chloride TMDL and directing the Regional Water Board to revise the implementation provisions of the TMDL. The Regional Water Board addressed the State Water Board directions. On July 10, 2003, the Regional Water Board reconsidered Resolution No. 2002-018, in light of the Remand Resolution, and adopted Resolution No. 2003-008 which modified the chloride TMDL implementation provisions.

On May 6, 2004, the Regional Water Board adopted Resolution No. 04-004, further modifying the Chloride TMDL by revising the chloride interim limits. The Upper Santa Clara River Chloride TMDL was approved by the State Water Board, Office of Administrative Law (OAL), and USEPA on July 22, 2004, November 15, 2004, and April 28, 2005, respectively. It became effective on May 4, 2005.

On August 3, 2006, the Regional Water Board adopted Resolution No. R4-2006-016, *Amendment to the Water Quality Control Plan for the Los Angeles Region through revision of the Implementation Plan for the Upper Santa Clara River Chloride TMDL*, which proposed to shorten the compliance period by two years, requiring compliance with the chloride final waste load allocation within 11 years from the effective date of the TMDL, rather than 13 years. Resolution No. R4-2006-016 was approved by the State Water Board and OAL on May 22, 2007, and August 5, 2007, respectively. However, the TMDL compliance schedule provisions contained in Resolution No. R4-2006-016 need not be acted upon by USEPA separately under 303(c), because USEPA considers those TMDL compliance schedule provisions to have been authorized by the State Water Board's Compliance Schedule Policy. Resolution No. R4-2006-016 became effective on June 12, 2008.

On December 11, 2008, the Regional Water Board adopted Resolution No. R4-2008-012, *Reconsideration of the Upper Santa Clara River Chloride TMDL Implementation Plan and Revise Chloride Water Quality Objectives*. The Resolution would incorporate site specific objectives (SSOs) for chloride in Reaches 4B, 5, and 6 of the Santa Clara River and the groundwater basins underlying those reaches. Resolution No. R4-2008-012 was approved by the State Water Board on October 20, 2009, and OAL January 26, 2011. Resolution No. R4-2008-012 was approved by USEPA on April 6, 2011, and it became effective on the same date.

- **Santa Clara River Watershed Nitrogen Compounds TMDL:** On August 7, 2003, the Regional Water Board adopted Resolution No. R4-2003-011, which incorporated a TMDL and waste load allocations (WLAs) into the Basin Plan for ammonia and nitrate plus nitrite within the Santa Clara River at USEPA Reach 7 (corresponds to Basin Plan Reach 5). The USEPA approved the TMDL on March 18, 2004, and it became effective on March 23, 2004.
- **Santa Clara River Bacteria TMDL:** On July 8, 2010, the Regional Water Board adopted Resolution No. R10-006, which amended the Basin Plan to incorporate a TMDL for indicator bacteria in the Santa Clara River Estuary and Reaches 3, 5, 6, and 7. The Basin Plan amendment has not been approved by the State Water Board, the OAL, and the USEPA.

E. Other Plans, Policies and Regulations

Not Applicable

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 that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulation: Part 122.44(a) requires that permits include applicable technology-based limitations and standards; and part 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

The existing Order (No. R4-2008-0209) authorizes discharges from drainage and overflow from the east and west side lakes and ponds, midway wash-down, irrigation and storm water runoff. Order No. R4-2008-0209 establishes effluent limitations for discharges through Discharge Point Nos. 001, 002, and 003 for oil and grease, TSS, settleable solids, phenols, and turbidity because these pollutants have the potential to be present in storm water runoff in general, and from the midway wash-down water related to the rides, and the employee and guest parking areas. In addition, maintenance areas where heavy equipment is stored, such as bucket loaders and backhoes, are also a potential source of contamination. Contaminants may be present in the discharge of storm water because storm water contacts the paved surface surrounding the facility, picking up solids and oil and grease. Drainage/overflow from duck ponds and lakes could also potentially contribute

oil and grease, BOD, fecal coliform, and E. coli in the discharges. Therefore, these constituents are pollutants of concern. Irrigation runoff may add solid materials, comprised of settleable solids, TSS, and TDS which may include chloride, nitrate, and nitrite to the discharge. Trace metals, such as arsenic, cadmium, chromium, copper, lead, mercury, selenium, and silver may also be present in the discharge because these pollutants have the potential to be present in the runoff from the midway wash-down water and from rain water coming into contact with the midway rides. The Discharger utilizes chlorine as a disinfectant in swimming facilities and incidental contact water attractions, lakes and ponds, thus total residual chlorine is a pollutant of concern. Sodium hypochlorite solution is also used at the park for disinfectant. Muriatic acid (hydrochloric acid) is used to increase the effectiveness of sodium hypochlorite. The addition of acid may affect the pH of the discharge. Storm water runoff from the facility may affect the pH and temperature of the discharge. Therefore, pH and temperature are considered pollutants of concern at the theme park. The multitude of possible pollutants in the discharge present the potential for interactive characteristics that may cause acute or chronic toxicity, thus these parameters are considered pollutants of concern.

The Discharger uses dechlorination tablets in storm drains that collect chlorinated water and at the weirs located in the channel that discharges to Outfall 003.

Generally, mass-based effluent limitations ensure that proper treatment, and not dilution, is employed to comply with the final effluent concentration limitations. However, part 122.45(f)(1) requires that all permit limitations, standards or prohibitions be expressed in terms of mass units except under the following conditions: (1) for pH, temperature, radiation or other pollutants that cannot appropriately be expressed by mass limitations; (2) when applicable standards or limitations are expressed in terms of other units of measure; or (3) if in establishing technology-based permit limitation on a case-by-case basis limitation based on mass are infeasible because the mass or pollutant cannot be related to a measure of production. The limitations, however, must ensure that dilution will not be used as a substitute for treatment. This Order includes mass-based limitations for most of the constituents.

A. Discharge Prohibitions

The discharge prohibitions are based on the requirements of the Basin Plan, State Water Board's plans and policies, the Water Code, and previous permit provisions, and they are consistent with the requirements set for other discharges to Santa Clara River that are regulated by an NPDES permit.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at part 122.44, title 40 of the CFR, require that permits include conditions meeting applicable technology-based requirements at a 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 Best Professional Judgment (BPJ) in accordance with 40 CFR part 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial treatment beyond BPT.
- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and part 125.3 of the Code of Federal Regulations authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in part 125.3.

2. Applicable Technology-Based Effluent Limitations

Storm water and non-storm water discharges at the Facility are not currently regulated under ELGs. This Order includes technology-based effluent limitations based on BPJ in accordance with part 125.3. Effluent limitations for BOD, TSS, oil and grease, phenols, settleable solids, and turbidity have been carried over from the existing Order No. R4-2008-0209. BPJ was used to develop technology-based limits for the control of these pollutants.

The previous Order required the Discharger to develop and implement a Storm Water Pollution Prevention Plan (SWPPP). This Order will require the Discharger to update and continue to implement, consistent with the existing Order requirements, a SWPPP. The SWPPP will outline site-specific management processes for

minimizing storm water runoff contamination and for preventing contaminated storm water runoff from being discharged directly into the storm drain.

National ELGs have not been developed for discharges from theme parks. Order No. R4-2008-0209 required the Discharger to develop and implement Best Management Practices (BMPs) to be included in the SWPPP, pursuant to 40 CFR part 122.44(k). The Regional Water Board will require the Discharger to continue to implement and update BMPs. The purpose of the BMPs is to establish site-specific procedures that ensure proper operation of the facility and maintenance of equipment. For instance, proper operation and maintenance procedures may address alternative methods for reducing chloride and residual chlorine levels and other pollutants of concern in the wastewater, which will assist the facility in complying with effluent limitations for these pollutants. In the absence of established ELGs, the combination of the SWPPP and BMPs will serve as the equivalent of technology-based effluent limitations to carry out the purposes and intent of the CWA.

Table F-7a. Summary of Technology-based Effluent Limitations - Discharge Point No. 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
TSS	mg/L	50	75	--	--
	lbs/day ¹	417	630	--	--
Turbidity	NTU	50	75	--	--
BOD (5 day @ 20 deg C)	mg/L	20	30	--	--
	lbs/day ¹	167	250	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day ¹	83	125	--	--
Settleable Solids	ml/L	0.1	0.3	--	--
Phenols	mg/L	--	1.0	--	--
	lbs/day ¹	--	8	--	--

For Footnotes, see Page 23.

Table F-7b. Summary of Technology-based Effluent Limitations - Discharge Point No. 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
TSS	mg/L	50	75	--	--
	lbs/day ¹	21	31	--	--
Turbidity	NTU	50	75	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD	mg/L	20	30	--	--
	lbs/day ¹	8	13	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day ¹	4	6	--	--
Settleable Solids	ml/L	0.1	0.3	--	--
Phenols	mg/L	--	1.0	--	--
	lbs/day ¹	--	0.42	--	--

Table F-7c. Summary of Technology-based Effluent Limitations - Discharge Point No. 003

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
TSS	mg/L	50	75	--	--
	lbs/day ¹	542	813	--	--
Turbidity	NTU	50	75	--	--
BOD	mg/L	20	30	--	--
	lbs/day ¹	217	325	--	--
Oil and Grease	mg/L	10	15	--	--
	lbs/day ¹	108	163	--	--
Settleable Solids	ml/L	0.1	0.3	--	--
Phenols	mg/L	--	1.0	--	--
	lbs/day ¹	--	11	--	--

¹ Mass-based effluent limitations (lbs/day) is calculated based on a discharge flow rate of 1 mgd for Discharge Point 001, 0.05 mgd for 002, and 1.3 mgd for 003, and using the formula:

$$\text{Mass (lbs/day)} = 8.34 \times C \times Q$$

where:

C = actual measured concentration for a pollutant, in mg/L

Q = maximum discharge flow rate in MGD

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR part 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Part 122.44(d)(1)(i) mandates 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, but there is no numeric criterion or objective for the pollutant, 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 part 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR. The specific procedures for determining reasonable potential for discharges from the Facility, and if necessary for calculating WQBELs, are contained in the SIP.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

As noted in Section II of the Limitations and Discharge Requirements, the Regional Water Board adopted a Basin Plan that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. The beneficial uses applicable to Santa Clara River are summarized in Section III.C.1 of this Fact Sheet. The Basin Plan includes both narrative and numeric water quality objectives applicable to the receiving water.

Priority pollutant water quality criteria in the CTR are applicable to Santa Clara River. The CTR contains both saltwater and freshwater criteria. Because a distinct separation generally does not exist between freshwater and saltwater aquatic communities, the following apply, in accordance with part 131.38(c)(3), freshwater criteria apply at salinities of 1 part per thousand (ppt) and below at locations where this occurs 95 percent or more of the time. The CTR criteria for freshwater or human health for consumption of organisms, whichever is more stringent, are used to prescribe the effluent limitations in this Order to protect the beneficial uses of the Santa Clara River, a water of the United States in the vicinity of the discharge.

Some water quality criteria are hardness dependent. The Discharger provided hardness data for the Santa Clara River, as part of their required CTR monitoring. The hardness values reported from the upstream monitoring station ranged from 350 mg/L to 440 mg/L as CaCO₃ in 15 samples collected from January 5, 2006, through October 1, 2009. The lowest hardness value of 350 mg/L, representing the most conservative approach for establishing criteria, was used for evaluation of reasonable potential.

Table F-8 summarizes the applicable water quality criteria/objective for priority pollutants reported in detectable concentrations in the effluent or receiving water. These criteria were used in conducting the reasonable potential analysis (RPA) for this Order. Table F-9 summarizes applicable Basin Plan water quality objectives that were evaluated for this Facility.

Table F-8. Applicable Water Quality Criteria

Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
		Freshwater		Saltwater		Human Health	
		Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Arsenic	150	340	150	N/A		N/A	--
Chromium (III)	577	4845	577	N/A		N/A	--
Chromium (VI)	11	16	11	N/A		N/A	--
Copper	27	46	27	N/A		N/A	--
Lead	16	402	16	N/A		N/A	--
Mercury	0.051			N/A		N/A	0.051
Nickel	151	1354	151	N/A		N/A	--
Selenium	5.0	20	5.0	N/A		N/A	--
Zinc	346	346	346	N/A		N/A	--
2,3,7,8-TCDD (Dioxin)	1.4 E-08	--	--	N/A		N/A	1.4 E -08
TCDD Equivalentents	1.4 E-08	--	--	N/A		N/A	1.4 E -08
Bromoform	360	--	--	N/A		N/A	360
Chlorodibromo-methane	34	--	--	N/A		N/A	34
Chloroform	No Criteria	--	--	N/A		N/A	--
Dichlorobromo-methane	46	--	--	N/A		N/A	46
Toluene	150 ¹	--	--	N/A		N/A	--
2-Methyl-4,6-Dinitrophenol	765	--	--	N/A		N/A	765

Constituent	Selected Criteria	CTR/NTR Water Quality Criteria					
		Freshwater		Saltwater		Human Health	
		Acute	Chronic	Acute	Chronic	Water & Organisms	Organisms only
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
2,4,6-Trichlorophenol	6.5	--	--				6.5
Bis(2-Ethylhexyl)-Phthalate	5.9	--	--				5.9
Butylbenzyl Phthalate	5,200	--	--				5,200
Diethyl Phthalate	120,000	--	--				120,000
Dimethyl Phthalate	2.9 E 06	--	--				2.9 E 06
Di-n-Butyl Phthalate	12,000	--	--				12,000
Di-n-Octyl Phthalate	No Criteria	--	--				--
Isophorone	600	--	--				600
Naphthalene	No Criteria	--	--				--
Nitrobenzene	1,900	--	--				1,900
4,4-DDT	0.00059	--	--				0.00059

"N/A" indicates the receiving water body is not characterized as saltwater, nor are the water quality criteria for the protection of human health for the consumption of water and organisms applicable.

¹ Since groundwater recharge is a beneficial use, we can use the maximum contaminant level (MCL) that is equal to 150 µg/L as the applicable water quality criteria "C" which is more stringent than the CTR.

Table F-9. Applicable Basin Plan Numeric Water Quality Objectives

Constituent	Units	Water Quality Criteria
pH	s.u.	Between 6.5 and 8.5 at all times, ambient pH shall not be changed more than 0.5 units from natural conditions.
Temperature	°F	Receiving water shall not be altered by more than 5 °F above the natural temperature.
Turbidity	NTU	Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU increases shall not exceed 10%.
Bacteria	MPN/100 mL	<u>Geometric Mean:</u> E. coli density 126/100 mL Fecal coliform density 200/100 mL <u>Single Sample Limit:</u> E. coli density 235/100 mL Fecal coliform density 400/100 mL

Constituent	Units	Water Quality Criteria
Total Residual Chlorine	mg/L	0.1
TDS	mg/L	1,000
Sulfate	mg/L	400
Chloride	mg/L	100 ¹
Boron	mg/L	1.5
Nitrate +Nitrite (as Nitrogen)	mg/L	6.8 ²
Total Ammonia (as Nitrogen)	mg/L	1.75 ² (Average Monthly) 5.2 ² (Maximum Daily)

¹ Based on TMDL, Resolution No. R4-2008-012

² Based on TMDL, Resolution No. 03-011.

a. Numeric criterion for TCDD equivalents:

The CTR establishes a numeric water quality objective for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (2,3,7,8-TCDD) of 1.4×10^{-8} μL for the protection of human health, when aquatic organisms are consumed. When the CTR was promulgated, USEPA stated its support of the regulation of other dioxin and dioxin-like compounds through the use of toxicity equivalencies (TEQs) in NPDES permits. For California waters, USEPA stated specifically, *"if the discharge of dioxin or dioxin-like compounds has reasonable potential to cause or contribute to a violation of a narrative criterion, numeric water quality-based effluent limitations for dioxin or dioxin-like compounds should be included in NPDES permits and should be expressed using a TEQ scheme"* [65 Fed. Reg. 31682, 31695 (2000)]. This procedure, developed by the World Health Organization (WHO) in 1988, uses a set of toxicity equivalency factors (TEFs) to convert the concentration of any congener of dioxin or furan into an equivalent concentration of 2,3,7,8-TCDD. When the CTR was promulgated, USEPA also stated that the Agency will continue to assess the risks posed by dioxin to public health and the water quality criteria for dioxin that it had promulgated. To determine if the discharge of dioxin or dioxin-like compounds from the Facility has reasonable potential to cause or contribute to a violation of the Basin Plan's narrative water quality objective regarding bioaccumulation, the Regional Water Board staff has therefore used TEFs to express the measured concentrations of 16 dioxin congeners in effluent and background samples as 2,3,7,8-TCDD. These "equivalent" concentrations are then compared to the numeric criterion, established by the CTR for 2,3,7,8-TCDD of 1.4×10^{-8} μL .

Dioxin-TEQ values reflect the combined effect of numerous dioxin and furan compounds (congeners). The effluent limits implement Basin Plan's bioaccumulation objective which states:

"Toxic pollutants shall not be present at levels that will bioaccumulate in aquatic life to levels which are harmful to aquatic life or human health."

According to 40 CFR part 122.44(d), where reasonable potential exists for a discharge to cause or contribute to violations of water quality objectives, WQBELs must be established. If the potentially violated objective is narrative, the narrative objective must be translated into an effluent limitation. The dioxin-TEQ effluent limitations in the permit are numeric translations of the Basin Plan narrative bioaccumulation objective.

The translations are based on relevant scientific information used to weight the congener concentrations with respect to their relative toxicities compared to the toxicity of a particular dioxin congener: 2,3,7,8-TCDD. The WHO developed TEFs to convert congener concentrations into equivalent concentrations of 2,3,7,8-TCDD, which when added together are expressed as dioxin-TEQ. The SIP specifies that the WHO 1998 TEFs are to be used to calculate dioxin-TEQ. To complete the translation of the Basin Plan's narrative bioaccumulation objective into a numeric effluent limit, dioxin-TEQ limits are derived from the CTR (40 CFR 131) numeric water quality objective for 2,3,7,8-TCDD (numeric objectives do not exist for the other congeners).

In February 2008, the San Francisco Estuary Institute convened an expert panel to provide an unbiased review and analysis of available information regarding San Francisco Bay dioxins and furans. Representatives of the Regional Water Board, the USEPA, the Bay Area Clean Water Agencies, and others with expertise in the field participated. The panel's recommendations included the following:

- i. Apply both TEFs and Bioaccumulation Equivalency Factors (BEFs) to dioxin and furan concentrations when calculating dioxin-TEQ; and
 - ii. Do not use dioxin and furan congener concentrations reported below MLs when computing dioxin-TEQ.
- b. Bioaccumulation Equivalency Factors**

The different dioxin and furan congeners exhibit different levels of toxicity, they also exhibit different levels of bioaccumulation potential. To account for the different levels of bioaccumulation potential, each congener may be assigned a BEF relative to 2,3,7,8-TCDD. This is comparable to the TEFs that account for relative differences in toxicities. The BEFs shown in Table F-10 correspond to the differences in biological uptake from the water column for the various dioxin congeners. They come from the Great Lakes Water Quality Initiative.

In 1995, the USEPA adopted the approach of using both TEFs and BEFs to calculate dioxin-TEQ for the Great Lakes System (40 CFR 132, Appendix F). In the absence of site-specific BEFs, the USEPA supports the use of national BEFs, stating, "*...EPA believes that national bioaccumulation factors are broadly applicable to sites throughout the United States and can be applied to achieve an acceptable degree of accuracy when estimating bioaccumulation potential at most sites.*" In its Great Lakes Water Quality Initiative Technical Support

Document for the Procedure to Determine Bioaccumulation Factors (EPA-820-B-95-005), the USEPA states, "*Limited comparison to BEFs calculated from data obtained for other ecosystems confirms these bioaccumulation potential differences for [dioxins and furans] for fish in ecosystems outside the Great Lakes.*" Recently, the USEPA and the Regional Water Board incorporated the national BEFs into the dioxin-TEQ calculations required for the NPDES permit for the City and County of San Francisco's Oceanside Water Pollution Control Plant (Order No. R2-2009-0062).

The San Francisco Estuary Institute's expert panel concluded that, if suitable data are unavailable to derive site-specific BEFs for the San Francisco Bay Region, use of BEFs derived for the Great Lakes System is preferable to omitting BEFs altogether. The panel concluded that, because BEFs for the congeners most commonly detected in wastewater can be as low as 0.01, calculating dioxin-TEQ without BEFs (the current practice) may mischaracterize the significance of dioxin and furan discharges by as much as two orders of magnitude. Therefore, for the purpose of determining compliance with effluent limits, this Order requires the Discharger to calculate and report dioxin-TEQ using the following formula, where the TEFs and BEFs are as listed in Table F-10:

$$\text{Dioxin-TEQ} = \sum(C_x \times \text{TEF}_x \times \text{BEF}_x)$$

where:

- C_x = concentration of dioxin or furan congener x
- TEF_x = TEF for congener x
- BEF_x = BEF for congener x

Table F-10. Toxicity Equivalency Factors and Bioaccumulation Equivalency Factors

Dioxin or Furan Congener	Minimum Level (pg/L)	Toxicity Equivalency Factor (TEF)	Bioaccumulative 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

c. Minimum Levels

For purposes of laboratory analysis, reporting, and compliance, the minimum level (ML) is the concentration at which the entire analytical system gives a recognizable signal and acceptable calibration point. Below the ML, detected concentrations can sometimes be estimated, but not with sufficient analytical confidence for regulatory compliance purposes. Currently, the Dischargers analyze dioxin and furan congeners in wastewater using the latest version of USEPA Method 1613 (*Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS*, USEPA 1994). Many permits set forth the dioxin and furan MLs for reporting and compliance purposes as equal to one half the default MLs specified in Method 1613. This Order revises the dioxin and furan MLs to be consistent among all permits and with Method 1613.

This Order also requires the Dischargers to exclude estimated congener concentrations below MLs when calculating dioxin-TEQ for the purpose of determining compliance with effluent limits. When a dioxin or furan congener is detected below its ML, its concentration could be as high as the ML or as low as zero. Dioxin and furan concentrations measured in effluent using high-volume screening techniques have often been orders of magnitude lower than Method 1613's default MLs. Therefore, the San Francisco Estuary Institute's expert panel concluded that assuming congeners detected below MLs are present at concentrations equal to the MLs (or one half the MLs) probably mischaracterizes the significance of dioxin and furan discharges by orders of magnitude. Moreover, when calculating dioxin-TEQ, the errors associated with adding multiple estimated values compound, resulting in values too uncertain for regulatory compliance purposes. Excluding values below MLs when adding multiple data points is consistent with how the USEPA directs dischargers to calculate averages when some data are below practical quantitation limits (comparable to MLs). When adding values to determine averages, data points below the practical quantitation limit are to be treated as zeros ("Instructions for Completing EPA Form 3320-1" [Rev. 01/06]).

Although this Order revises the dioxin and furan MLs, the Dischargers must continue to report all measured and estimated congener concentrations with appropriate data qualifiers.

3. Determining the Need for WQBELs

In accordance with Section 1.3 of the SIP, the Regional Water Board conducts a reasonable potential analysis (RPA) for each priority pollutant with an applicable criterion or objective to determine if a WQBEL is required in the permit. The Regional Water Board analyzes effluent and receiving water data and identifies the maximum observed effluent concentration (MEC) and maximum background concentration (B) in the receiving water for each constituent. To determine reasonable potential, the MEC and the B are then compared with the applicable water quality objectives (C) outlined in the CTR, NTR, as well as the Basin Plan. For all

pollutants that have a reasonable potential to cause or contribute to an excursion above a state water quality standard, numeric WQBELs are required. The RPA considers water quality criteria from the CTR and NTR, and when applicable, water quality objectives specified in the Basin Plan. To conduct the RPA, the Regional Water Board identifies the MEC and maximum background concentration in the receiving water for each constituent, based on data provided by the Discharger.

Section 1.3 of the SIP provides the procedures for determining reasonable potential to exceed applicable water quality criteria and objectives. The SIP specifies three triggers to complete a RPA:

- 1) Trigger 1 – If the MEC \geq C, a limit is needed.
- 2) Trigger 2 – If the background concentration (B) $>$ C and the pollutant is detected in the effluent, a limit is needed.
- 3) Trigger 3 – If other related information such as CWA 303(d) listing for a pollutant, discharge type, compliance history, etc. indicates that a WQBEL is required.

Sufficient effluent and receiving water data are needed to conduct a complete RPA. If data are not sufficient, the Discharger will be required to gather the appropriate data for the Regional Water Board to conduct the RPA. Upon review of the data, and if the Regional Water Board determines that WQBELs are needed to protect the beneficial uses, the permit will be reopened for appropriate modification.

The RPA was performed for the priority pollutants regulated in the CTR for which data are available. Discharge Point Nos. 001 and 002 did not exhibit sufficient flow for annual monitoring to be conducted after 2007. For this reason, data collected from January 1, 2005, through December 31, 2009, were included in the RPA. Based on the RPA, pollutants that demonstrate reasonable potential are copper and bis(2-ethylhexyl)phthalate for Discharge Point No. 001; copper for Discharge Point No. 002; and copper and lead at Discharge Point No. 003. The RPA did not show reasonable potential for lead for Discharge Point 001. Regional Water Board staff utilized best professional judgement to retain the limitations. For mercury, the data from Discharge Points Nos. 001, 002, and 003 indicated non-detect (NDs) and the RPA did not show reasonable potential. Therefore, there were no effluent limitations for mercury for the three Outfalls. However, the Discharger is required to monitor mercury once per month at the three Outfalls. The monitoring data for TCDD for Discharge Point No. 003 indicated that it was detected once (January 23, 2009), at the concentration of 8.5×10^{-7} $\mu\text{g/L}$. Previous annual monitoring from 2005 through 2008 did not result in any detected concentrations of TCDD. Selenium was also detected once (January 7, 2010) during the semi-annual monitoring from 2005 through 2010. Section 1.2 of the SIP, which addresses data requirements and adjustments for establishing WQBELs, states that “*the Regional Water Board shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy*”. Because of the lack of corroborating data, the Regional Water Board has

determined that additional monitoring, in lieu of an effluent limitation is appropriate for TCDD and selenium at Discharge Point No. 003. The frequency of monitoring in this permit is quarterly for TCDD and monthly for selenium for Discharge Point 003, respectively, and semi-annually for TCDD and selenium for Discharge Points 001 and 002.

Refer to Attachment J for a summary of the RPA and associated effluent limitation calculations.

Table F-11a. Summary Reasonable Potential Analysis –Discharge Point No. 001

Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
	µg/L	µg/L	µg/L		
Chromium (VI)	11	5.9	< 4	No	MEC<C
Copper	27	58	< 3	Yes	MEC ≥ C, Trigger 1
Lead	16	5.2	< 3	Yes	Trigger 3 ¹
Mercury	0.051	< 0.05	< 0.05	No	MEC<C
Nickel	151	8.2	15	No	MEC<C
Selenium	5.0	< 0.01	8	No	Effluent ND
Zinc	346	69	< 6	No	MEC<C
TCDD Equivalents	1.4 E-08	< 1.7 E-06	5.22 E -07	No	Effluent ND
Bromoform	360	0.9	< 0.4	No	MEC<C
Chlorodibromomethane	34	1.7	< 0.28	No	MEC<C
Chloroform	No Criteria	1.9	< 0.33	No	No criteria
Dichlorobromomethane	46	24.2	< 0.3	No	MEC<C
Toluene	150 ²	25.3	0.36	No	MEC<C
Bis(2-Ethylhexyl)Phthalate	5.9	24	2.8	Yes	MEC ≥ C ,Trigger 1
Butylbenzyl Phthalate	5,200	10	2	No	MEC<C
Diethyl Phthalate	120,000	4.2	0.45	No	MEC<C
Dimethyl Phthalate	2,900,000	0.48	0.48	No	MEC<C
Di-n-Octyl Phthalate	No Criteria	0.23	< 0.097	No	No Criteria
Nitrobenzene	1,900	6.41	7.58	No	MEC<C

¹ The previous Order No. R4-2008-0209 amending Order No. R4-2005-0036 included numeric effluent limitations for lead for Discharge Point 001, and it is a pollutant of concern in the Facility's discharge. Therefore, WQBELs for lead continue to be applicable to the Facility based on SIP procedures.

² Since groundwater recharge is a beneficial use, we can use the maximum contaminant level (MCL) that is equal to 150 µg/L as the applicable water quality criteria "C" which is more stringent than the CTR. The outcome is the same, no reasonable potential.

Table F-11b. Summary Reasonable Potential Analysis – Discharge Point No. 002

Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
	µg/L	µg/L	µg/L		
Chromium (VI)	11	5.6	< 4	No	MEC<C
Copper	27	61	< 3	Yes	MEC ≥ C , Trigger 1
Lead	16	5.1	< 3	No	MEC<C
Mercury	0.051	< 0.05	< 0.05	No	Effluent ND
Nickel	151	3.8	15	No	MEC<C
Selenium	5.0	< 0.01	8	No	Effluent ND
Zinc	346	51	< 6	No	MEC<C
TCDD Equivalents	1.4 E-08	< 1.70E-05	5.22E-07	No	Effluent ND
Bromoform	360	3.5	< 0.4	No	MEC<C
Chloroform	No Criteria	6.5	< 0.33	No	MEC<C
Dichlorobromo-methane	46	13	< 0.3	No	MEC<C
Toluene	150 ¹	27.1	< 0.36	No	MEC<C
Bis(2-Ethylhexyl)Phthalate	5.9	1.9	2.8	No	MEC<C
Butylbenzyl Phthalate	5,200	1.5	2.0	No	MEC<C
Diethyl Phthalate	120,000	0.69	0.45	No	MEC<C
Dimethyl Phthalate	2,900,000	0.096	0.48	No	MEC<C
Di-n-Butyl Phthalate	12,000	0.79	< 0.19	No	MEC<C
Isophorone	600	0.13	< 0.097	No	MEC<C
Nitrobenzene	1,900	5.87	7.58	No	MEC<C

¹ Since groundwater recharge is a beneficial use, we can use the maximum contaminant level (MCL) that is equal to 150 µg/L as the applicable water quality criteria "C" which is more stringent than the CTR. The outcome is the same, no reasonable potential.

Table F-11c. Summary Reasonable Potential Analysis – Discharge Point No. 003

Constituent	Applicable Water Quality Criteria (C)	Max Effluent Conc. (MEC)	Maximum Detected Receiving Water Conc. (B)	RPA Result - Need Limit?	Reason
	µg/L	µg/L	µg/L		
Arsenic	150	16	< 4.4	No	MEC<C
Chromium (III)	577	4.1	< 2.7	No	MEC<C
Copper	27	76	< 3	Yes	MEC ≥ C, Trigger 1
Lead	16	24	< 3	Yes	MEC ≥ C, Trigger 1
Mercury	0.051	< 0.05	< 0.05	No	Effluent ND
Nickel	151	3.2	15	No	MEC<C
Selenium	5.0	26	34	No	Only one data point ¹
Zinc	346	170	< 6	No	MEC<C
TCDD Equivalents	1.4 E-08	8.5E-07	5.22 E-07	No	Only one data point ¹
Bromoform	360	2.8	< 0.4	No	MEC<C
Chlordibromomethane	34	1.4	< 0.28	No	MEC<C
Chloroform	No Criteria	2.2	< 0.33	No	No Criteria
Dichlorobromomethane	46	26.3	< 0.3	No	MEC<C
Toluene	150 ²	25.6	0.36	No	MEC<C
2-Methyl-4,6-Dinitrophenol	765	1.8	< 0.19	No	MEC<C
2,4,6-Trichlorophenol	6.5	2.3	< 0.097	No	MEC<C
Bis(2-Ethylhexyl)Phthalate	5.9	2.5	2.8	No	MEC<C
Butylbenzyl Phthalate	5,200	1.7	2	No	MEC<C
Diethyl Phthalate	120,000	0.91	0.45	No	MEC<C
Dimethyl Phthalate	2,900,000	5.3	0.48	No	MEC<C
Di-n-Butyl Phthalate	12,000	0.36	< 0.19	No	MEC<C
Di-n-Octyl Phthalate	No Criteria	0.019	< 0.097	No	No Criteria
Naphthalene	No Criteria	0.5	< 0.1	No	No Criteria
Nitrobenzene	1,900	5.62	7.58	No	MEC<C
4,4-DDT	0.00059	0.017	< 0.0038	No	¹

¹ Increased monitoring is being required in lieu of an effluent limit to collect more information prior to developing an effluent limit.

² Since groundwater recharge is a beneficial use, we can use the maximum contaminant level (MCL) that is equal to 150 µg/L as the applicable water quality criteria "C" which is more stringent than the CTR. The outcome is the same, no reasonable potential.

As reported in the first quarter 2009 SMR, effluent data at Discharge Point No. 003 included a measured concentration of 4,4-DDT equal to 0.017 µg/L for the sample collected on January 23, 2009. Previous annual monitoring from 2006 through 2008 did not result in any detected concentrations of 4,4-DDT. Section 1.2 of the SIP, which addresses data requirements and adjustments for establishing WQBELs, states that “*the Regional Water Board shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy*”. Because of the lack of corroborating data, the Regional Water Board has determined that additional monitoring, in lieu of an effluent limitation is appropriate for 4,4-DDT at Discharge Point No. 003.

The Regional Water Board developed WQBELs for chloride that have WLAs specified in TMDLs. As described in Section III.D.1 the most recent TMDL in effect contains a WLA for chloride applicable to the Discharger. The effluent limitations for Reach 5 of the Santa Clara River were established regardless of whether or not there is reasonable potential for chloride to be present in the discharge at levels that would cause or contribute to a violation of water quality standards. The Regional Water Board developed WQBELs for chloride pursuant to section 122.44(d)(1)(vii), which does not require or contemplate a RPA. Similarly, the SIP at Section 1.3 recognizes that RPA is not appropriate if a TMDL has been developed.

This Order contains WQBELs for chloride at Discharge Point Nos. 001, 002, and 003 based on the available WLA of 100 mg/L to Reach 5 of the Santa Clara River for major dischargers, contained in the *Amendment to the Water Quality Control Plan for the Los Angeles Region through Reconsideration of the Upper Santa Clara River Chloride TMDL, Implementation Plan & Revise Chloride WQ Objectives* (Resolution No. R4-2008-012). As required by section 122.44(d)(1)(vii), the Regional Water Board shall ensure there is a WQBEL for chloride in the WDRs that is consistent with the assumptions and requirements of the available WLA. Based on the water quality monitoring done at the time of the TMDL adoption, which set the WLA at the level necessary to attain water quality standards, the Regional Water Board has determined that the WQBEL is consistent with the assumptions of the TMDL. Similarly, compliance with the effluent limitation will satisfy the requirements of the TMDL.

4. WQBEL Calculations

- a. If a reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one or more of the three procedures contained in Section 1.4 of the SIP. These procedures include:
 - i. If applicable and available, use of the WLA established as part of a TMDL.
 - ii. Use of a steady-state model to derive maximum daily effluent limitations (MDELs) and average monthly effluent limitations (AMELs).

- iii. Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the Regional Water Board.
- b. WQBELs (final) for copper and bis(2-ethylhexy)phthalate at Discharge Point No. 001; copper at Discharge Point No. 002; and copper, and lead at Discharge Point No. 003 are based on monitoring results and following the procedure based on the steady-state model, available in Section 1.4 of the SIP.
- c. Since many of the streams in the Region have minimal upstream flows, mixing zones and dilution credits are usually not appropriate. Therefore, in this tentative Order, no dilution credit is being allowed. However, in accordance with the reopener provision in Section VI.C.1.e in this Order, it may be reopened upon the submission by the Discharger of adequate information to establish appropriate dilution credits or a mixing zone, as determined by the Regional Water Board.
- d. WQBELs Calculation Example

Using copper at Discharge Point No. 001 as an example, the following demonstrates how WQBELs were established for this Order. The Tables in Attachment J summarize the development and calculation of all WQBELs for this Order using the process described below.

Concentration-Based Effluent Limitations

A set of AMEL and MDEL values are calculated separately, one set for the protection of aquatic life and the other for the protection of human health. The AMEL and MDEL limitations for aquatic life and human health are compared, and the most restrictive AMEL and the most restrictive MDEL are selected as the WQBEL.

Calculation of aquatic life AMEL and MDEL:

Step 1: For each constituent requiring an effluent limit, identify the applicable water quality criteria or objective. For each criteria determine the effluent concentration allowance (ECA) using the following steady state equation:

$$\begin{aligned} \text{ECA} &= C + D(C-B) \quad \text{when } C > B, \text{ and} \\ \text{ECA} &= C \quad \text{when } C \leq B, \end{aligned}$$

- Where
- C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators. In this Order a hardness value of 350 mg/L (as CaCO₃) was used for development of hardness-dependant criteria, and a pH of 7.6 was used for pH-dependant criteria.
 - D = The dilution credit, and
 - B = The ambient background concentration

As discussed above, for this Order, dilution was not allowed; therefore:

$$ECA = C$$

For copper, the applicable water quality criteria are (reference Table F-8):

$$ECA_{acute} = 46 \mu\text{g/L}$$

$$ECA_{chronic} = 27 \mu\text{g/L}$$

Step 2: For each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA_{acute} = ECA_{acute} \times \text{Multiplier}_{acute 99}$$

$$LTA_{chronic} = ECA_{chronic} \times \text{Multiplier}_{chronic 99}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6.

For copper, the following data was used to develop the acute and chronic LTA using equations provided in Section 1.4, Step 3 of the SIP (Table 1 of the SIP also provides this data up to three decimals):

No. of Samples	CV	ECA Multiplier _{acute 99}	ECA Multiplier _{chronic 99}
21	1.0	0.203	0.37

$$LTA_{acute} = 46 \mu\text{g/L} \times 0.203 = 9.338 = 9.3 \mu\text{g/L}$$

$$LTA_{chronic} = 27 \mu\text{g/L} \times 0.37 = 9.99 = 10 \mu\text{g/L}$$

Step 3: Select the most limiting (lowest) of the LTA.

$$LTA = \text{most limiting of } LTA_{acute} \text{ or } LTA_{chronic}$$

For copper, the most limiting LTA was the LTA_{acute}

$$LTA = 9.3 \mu\text{g/L}$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as an AMEL and an MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the coefficient of variation (CV) of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{\text{aquatic life}} = LTA \times AMEL_{\text{multiplier } 95}$$

$$MDEL_{\text{aquatic life}} = LTA \times MDEL_{\text{multiplier } 99}$$

AMEL multipliers are based on a 95th percentile occurrence probability, and the MDEL multipliers are based on the 99th percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

For copper, the following data was used to develop the AMEL and MDEL for aquatic life using equations provided in Section 1.4, Step 5 of the SIP (Table 2 of the SIP also provides this data up to two decimals):

No. of Samples Per Month	CV	Multiplier _{MDEL 99}	Multiplier _{AMEL 95}
4	1.0	4.92	1.95

$$AMEL_{\text{aquatic life}} = 9.3 \times 1.95 = 18.13 = 18 \mu\text{g/L}$$

$$MDEL_{\text{aquatic life}} = 9.3 \times 4.92 = 45.76 = 46 \mu\text{g/L}$$

Calculation of human health AMEL and MDEL:

Step 5: For the ECA based on human health, set the AMEL equal to the ECA_{human health}

$$AMEL_{\text{human health}} = ECA_{\text{human health}}$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the Multiplier_{MDEL} to the Multiplier_{AMEL}. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{\text{human health}} = AMEL_{\text{human health}} \times (\text{Multiplier}_{\text{MDEL}} / \text{Multiplier}_{\text{AMEL}})$$

However, for copper, $ECA_{\text{human health}} = \text{Not Available}$. The CTR does not contain a numeric copper criterion protective of human health; therefore, it was not possible to develop a copper AMEL based on human health criteria.

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the water-quality based effluent limit for the Order.

For copper:

AMEL _{aquatic life}	MDEL _{aquatic life}	AMEL _{human health}	MDEL _{human health}
18 µg/L	46 µg/L	Not Applicable	Not Applicable

The lowest (most restrictive) effluent limits are based on aquatic toxicity and were incorporated into this Order. For copper and lead, there are no human health criteria; therefore, the AMEL and MDEL based on aquatic life criteria are established as the WQBELs. The MDEL (39.2 µg/L) for copper in the previous Order No. R4-2008-0209 amending Order No. R4-2005-0036 is more restrictive than the calculated MDEL (49 µg/L). Therefore, this Order included the MDEL of 39.2 µg/L for copper. The AMEL (10.5 µg/L) and MDEL (21.2 µg/L) for lead for Discharge Point No. 003 are based on the previous Order No. R4-2008-0209 which were also more restrictive than those calculated AMEL (10.9 µg/L) and MDEL (29 µg/L). The AMEL and MDEL for copper and lead in the previous Order No. R4-2008-0209 amending Order No. R4-2005-0036 were calculated based on the SIP procedures. For bis(2-ethylhexyl)phthalate there is no aquatic life criteria; therefore, the AMEL and MDEL based on the human health criteria are established as the WQBELs.

e. Expression of WQBELs

NPDES regulations at 40 CFR 122.45(d) require that all effluent limitations be expressed, unless impracticable, as both maximum daily and average monthly effluent limits (MDEL and AMEL).

5. WQBELs based on Basin Plan Objectives

The Basin Plan states that the discharge shall not cause the following in the Santa Clara River:

- The normal ambient pH to fall below 6.5 nor exceed 8.5 units.
- Depress the concentration of dissolved oxygen to fall below 5.0 mg/L anytime nor shall allow the mean annual concentration of dissolved oxygen to fall below 7 mg/L.

To meet the water quality objectives in the Basin Plan and to protect the beneficial uses of the receiving water, the above requirements are included as effluent or receiving water limitations in the Order.

Other constituents addressed in the Basin Plan were evaluated as follows:

- a. **Bacteria.** The Basin Plan amendment for bacteria was addressed in Order R4-2008-0209 as a modification from the previous Order, R4-2005-0036. The resulting modifications replaced effluent limitations for total coliform, fecal coliform, and enterococcus with updated Basin Plan requirements for fecal coliform and *E. coli*. These criteria are applicable as much of the wastewater discharged has had human contact and the potential for contact with birds and wildlife at the facility. These effluent limitations are carried over to this Order.
- b. **Temperature.** The Basin Plan lists temperature requirements for the receiving waters and references the Thermal Plan. Based on the requirements of the Thermal Plan and a white paper developed by Regional Water Board staff entitled *Temperature and Dissolved Oxygen Impacts on Biota in Tidal Estuaries and Enclosed Bays in the Los Angeles Region*, a maximum effluent temperature limitation of 86 °F is included in the proposed permit. The white paper evaluated the optimum temperatures for steelhead, topsmelt, ghost shrimp, brown rock crab, jackknife clam, and blue mussel.
- c. **TRC, Sulfate, TDS, and Boron.** Order No. R4-2008-0209 included limitations for total residual chlorine (TRC), sulfate, total dissolved solids (TDS), and boron that were based on Basin Plan Objectives. These are water body and in some cases reach specific objectives that are based on protecting the beneficial uses of the waterbodies. These effluent limitations are carried over to this Order.
- d. **Chloride.** Order No. R4-2008-0209 included an effluent limitation for chloride based on the Basin Plan. This Order included an effluent limitation for this constituent based on the waste load allocation, as set forth in the *Chloride TMDL for the Upper Santa Clara River*, Resolution No. 004-004, Revision of interim waste load allocations and implementation plan for chloride in the Amendment to the Water Quality Control Plan for the Los Angeles Region to include a TMDL for Chloride in the Upper Santa Clara River (Resolution No. 03-008), adopted by the Regional Board on May 6, 2004. The Upper Santa Clara River Chloride TMDL was approved by the State Water Board, Office of Administrative Law (OAL), and USEPA on July 22, 2004, November 15, 2004, and April 28, 2005, respectively. It became effective on May 4, 2005.

On August 3, 2006, the Regional Water Board adopted Resolution No. R4-2006-016, *Amendment to the Water Quality Control Plan for the Los Angeles Region through revision of the Implementation Plan for the Upper Santa Clara River Chloride TMDL*, which proposed to shorten the compliance period by two years, requiring compliance with the chloride final waste load allocation within 11 years from the effective date of the TMDL, rather than 13 years. Resolution No. R4-2006-016 was approved by the State Water Board and OAL on May 22, 2007, and August 5, 2007, respectively. However, the TMDL compliance schedule provisions contained in Resolution No. R4-2006-016 need not be acted upon by USEPA separately under 303(c), because USEPA considers those TMDL compliance schedule provisions to have been authorized by the State Water

Board's Compliance Schedule Policy. Resolution No. R4-2006-016 became effective on June 12, 2008.

On December 11, 2008, the Regional Water Board adopted Resolution No. R4-2008-012, *Reconsideration of the Upper Santa Clara River Chloride TMDL Implementation Plan and Revise Chloride Water Quality Objectives*. The Resolution would incorporate site specific objectives (SSOs) for chloride in Reaches 4B, 5, and 6 of the Santa Clara River and the groundwater basins underlying those reaches. Resolution No. R4-2008-012 was approved by the State Water Board on October 20, 2009, and OAL on January 26, 2011. Resolution No. R4-2008-012 was approved by USEPA on April 6, 2011, and it became effective on the same date.

Therefore, the effluent limitation for chloride in this Order is based on Resolution No. R4-2008-012, *Amendment to the Water Quality Control Plan for the Los Angeles Region, Reconsideration of the Upper Santa Clara River Chloride TMDL Implementation Plan & Revise Chloride WQ Objectives*.

The discharge from Six Flags is classified as a Major discharge by USEPA and the Regional Water Board. This classification is based on the amount of wastewater the facility is permitted to discharge. The Basin Plan in Table 4-1 defines a major discharge as "Publicly owned treatment works with a yearly average of over 0.5 million gallons per day (MGD) or an industrial source with a yearly average flow of over 0.1 MGD and those with lesser flows but with acute or potential adverse environment impacts" is categorized as NPDES Major." Six Flags is permitted to discharge 2.35 mgd which exceeds the 0.1 mgd yearly average flow stipulated for a major discharge. Resolution No. R4-2008-012 (Upper Santa Clara Chloride TMDL) Page 8, paragraph 3, states that "Other major NPDES discharges (as defined in Table 4-1 of the Basin Plan) receive WLAs equal to 100 mg/L. The Regional Board may consider assigning conditional WLAs to other major dischargers based on an analysis of the downstream increase in net chloride loading to surface water and ground water as a result of the implementation of the conditional WLAs." In addition, Resolution No. 2008-012, page 11, paragraph 6 states that "The Regional Board may consider assigning conditional WLAs for other major NPDES permits, including the Newhall Ranch WRP, pending implementation of a chloride mass removal quantity that is proportional to mass based chloride removal required for the Valencia WRP." To date, no analysis has occurred and consideration of assigning conditional WLAs is premature. Therefore, the applicable effluent limitation for chloride in this permit is 100 mg/L.

On June 29, 2005, the Regional Water Board issued a Time Schedule Order (TSO) because the Discharger could not immediately comply with the final effluent limitation (100 mg/L) for chloride. The TSO included an interim effluent limitation (175 mg/L) for chloride, and the requirement to achieve full compliance with the final effluent limitation for chloride by June 29, 2010. Since the adoption of the TSO, Six Flags has implemented remedial actions to reduce chloride concentrations in the effluent. In 2007, when many of the implementation

measures were completed, monitoring data showed a reduction (below 100 mg/L) of the effluent chloride concentrations. However, the monitoring data for the period of February 2009, May 2009, July 2009 through October 2009 showed an increase (above 100 mg/L) in the effluent chloride concentrations. Six Flags continued to investigate the feasibility of chloride reducing strategies, including source control and end-of-pipe treatment. Further, Six Flags requested more time to implement the remedies to address the elevated chloride concentration in the discharge. On September 14, 2010, Six Flags submitted a schedule for the feasibility study and implementation of a water reuse project. In accordance with Section 13385(j)(3)(ii)(II), a TSO which included an interim limitation for chloride, and the requirement to achieve full compliance with the final limitation (100 mg/L) for chloride accompanies this Order.

- e. **Total Ammonia as (N), and Nitrate plus Nitrite as (N).** This Order included effluent limitations for ammonia as N, and nitrate plus nitrite as N based on the final waste load allocation, as set forth in Resolution No. 03-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to include a TMDL for Nitrogen Compounds in the Santa Clara River*, adopted by the Regional Board on August 7, 2003. It was approved by Office of Administrative Law (OAL) and USEPA on February 27, 2004, and March 18, 2004, respectively, and became effective on March 23, 2004.

On June 7, 2007, the Regional Water Board adopted Resolution No. 2007-005, *Amendments to the Water Quality Control Plan-Los Angeles Region-To Incorporate Site-Specific Objectives (SSO) for Select Inland Surface Waters in the San Gabriel River, Los Angeles River and Santa Clara River Watersheds*. This amendment to the Basin Plan incorporates site-specific 30-day average objectives for ammonia along with corresponding site-specific early life stage implementation provisions for select waterbody reaches and tributaries in the Santa Clara, Los Angeles, and San Gabriel River watersheds. The State Water Board, OAL, and USEPA approved this Basin Plan amendment on January 15, 2008, May 12, 2008, and March 30, 2009, respectively. However, the ammonia nitrogen limitations contained in this Order do not reflect the ammonia SSO criteria.

Separate ammonia effluent limitations, incorporating the 30-day average SSO in the ammonia translation procedures (have not been included in the effluent limitations table at this time), because the Santa Clara River Watershed Nitrogen Compound TMDL (Resolution No. 03-011) has not been revised to incorporate the 30-day average SSO ammonia criteria into the WLAs. The Implementation Plan of Resolution No. 03-011 allows for the reconsideration of WLAs based on monitoring data and special studies. However, the Order does contain a permit re-opener that would allow the permit to be reopened to incorporate an update of an objective.

Therefore, the monthly average effluent limit of 1.75 mg/L and the daily maximum effluent limit of 5.2 mg/L for total ammonia as nitrogen (NH₃-N), and the monthly

average effluent limit of 6.8 mg/L for nitrate plus nitrite as nitrogen (NO₂-N) are based on the Santa Clara River Watershed Nitrogen Compound TMDL Waste Load Allocations included in Resolution No. 03-011.

6. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) protects the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests: acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are lethal to or produce other detrimental responses by aquatic organisms. Detrimental response includes but is not limited to decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. The existing Order contains acute toxicity limitations and monitoring requirements in accordance with the Basin Plan, in which the acute toxicity objective for discharges dictates that the average survival in undiluted effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test having less than 70% survival. The Facility’s effluent has been in compliance with existing acute toxicity limitations. Consistent with Basin Plan requirements, this Order also includes the acute toxicity limitations and monitoring requirements.

In addition to the Basin Plan requirements, section 4 of the SIP states that a chronic toxicity effluent limitation is required in permits for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. The Discharger’s self monitoring report indicated 1 TU_c on January 8, 2009, at Outfall 003. This Order includes the chronic toxicity and monitoring to demonstrate compliance.

7. Final WQBELs

Table F-12a. Summary of Water Quality-based Effluent Limitations - Discharge Point No. 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Temperature	°F	--	--	--	86
pH	s.u.	--	--	6.5	8.5
Ammonia, Total (as N)	mg/L	1.75	5.2	--	--
	lbs/day ¹	15	43	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chlorine, Total Residual	µg/L	--	0.1	--	--
	lbs/day ¹	--	0.83	--	--
Chloride	mg/L	--	100	--	--
	lbs/day ¹	--	834	--	--
TDS	mg/L	--	1,000	--	--
	lbs/day ¹	--	8,340	--	--
Sulfate	mg/L	--	400	--	--
	lbs/day ¹	--	3,336	--	--
Boron, Total	mg/L	--	1.5	--	--
	lbs/day ¹	--	13	--	--
Nitrate Plus Nitrite (as N)	mg/L	6.8	--	--	--
	lbs/day ¹	57	--	--	--
Copper, Total Recoverable	µg/L	18	39 ²	--	--
	lbs/day ¹	0.15	0.33	--	--
Lead, Total Recoverable	µg/L	11 ²	21	--	--
	lbs/day ¹	0.09	0.18	--	--
Bis(2-ethylhexyl) phthalate	µg/L	6	12	--	--
	lbs/day ¹	0.05	0.10	--	--
Acute Toxicity	% survival	--	³	--	--

For Footnotes, see page F-45.

Table F-12b. Summary of Water Quality-based Effluent Limitations - Discharge Point No. 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Temperature	°F	--	--	--	86
pH	s.u.	--	--	6.5	8.5
Ammonia , Total (as N)	mg/L	1.75	5.2	--	--
	lbs/day ¹	0.73	2.2	--	--
Chlorine, Total Residual	µg/L	--	0.1	--	--
	lbs/day ¹	--	0.04	--	--
Chloride	mg/L	--	100	--	--
	lbs/day ¹	--	42	--	--
TDS	mg/L	--	1,000	--	--
	lbs/day ¹	--	417	--	--
Sulfate	mg/L	--	400	--	--
	lbs/day ¹	--	167	--	--
Boron, Total	mg/L	--	1.5	--	--
	lbs/day ¹	--	0.63	--	--
Nitrate Plus Nitrite (as N)	mg/L	6.8	--	--	--
	lbs/day ¹	2.8	--	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Copper, Total Recoverable	µg/L	20	39 ²	--	--
	lbs/day ¹	0.01	0.02	--	--
Acute Toxicity	% survival	--	³	--	--

For Footnotes, see page F-45.

Table F-12c. Summary of Water Quality-based Effluent Limitations - Discharge Point No. 003

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Temperature	°F	--	--	--	86
pH	s.u.	--	--	6.5	8.5
Ammonia, Total (as N)	Mg/L	1.75	5.2	--	--
	lbs/day ¹	19	56	--	--
Chlorine, Total Residual	µg/L	--	0.1	--	--
	lbs/day ¹	--	1.08	--	--
Chloride	mg/L	--	100	--	--
	lbs/day ¹	--	1,084	--	--
TDS	mg/L	--	1,000	--	--
	lbs/day ¹	--	10,842	--	--
Sulfate	mg/L	--	400	--	--
	lbs/day ¹	--	4,337	--	--
Boron, Total	mg/L	--	1.5	--	--
	lbs/day ¹	--	16	--	--
Nitrite Plus Nitrate (as N)	mg/L	6.8	--	--	--
	lbs/day ¹	74	--	--	--
Copper, Total Recoverable	µg/L	18	39 ²	--	--
	lbs/day ¹	0.20	0.43	--	--
Lead, Total Recoverable	µg/L	11 ²	21 ²	--	--
	lbs/day ¹	0.12	0.23	--	--
Acute Toxicity	% survival	--	³	--	--

Footnotes:

¹ Mass-based effluent limitations (lbs/day) is calculated based on a discharge flow rate of 1 mgd for Discharge Point 001, 0.05 mgd for 002, and 1.3 mgd for 003, and using the formula:

$$\text{Mass (lbs/day)} = 8.34 \times C \times Q$$

where:

C = actual measured concentration for a pollutant, in mg/L

Q = maximum discharge flow rate in MGD

² Based on the previous Order No. R4-2008-0209 amending Order No. R4-2005-0036.

³ The acute toxicity of the effluent shall be such that: (i) the average survival in the undiluted effluent for any three (3) consecutive 96-hour static or continuous bioassay tests shall be at least 90%, and (ii) no single test producing less than 70% survival.

a. Bacteria Limitations for Discharge Point Nos. 001, 002, and 003:

1. Geometric Mean Limits:
 - i. E. coli density shall not exceed 126/100 ml.
 - ii. Fecal coliform density shall not exceed 200/100 ml
2. Single Sample Maximum Limits:
 - i. E. coli density shall not exceed 235/100 ml.
 - ii. Fecal coliform density shall not exceed 400/100 ml.

The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period, if possible).

If any of the single sample limits are exceeded, the Regional Board requires repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance.

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.

D. Final Effluent Limitations

Section 402(o) of the CWA and 40 CFR section 122.44(l) require that effluent limitations or conditions in reissued Orders be at least as stringent as those in the existing Orders based on the submitted sampling data. Effluent limitations for constituents included in previous Orders and are considered pollutants of concern at the Facility have been included in this Order. This Order includes a new effluent limitation for total ammonia as (N) based on Resolution No. 03-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to include a TMDL for Nitrogen Compounds in the Santa Clara River*.

1. Satisfaction of Anti-Backsliding Requirements

The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for nitrate plus nitrite at Discharge Point Nos. 001, 002, and 003. The effluent limitations for nitrate plus nitrite as (N) is based on the TMDL (Resolution No. 03-011) and is less stringent than in the previous Order. Information is available which was not available at the time of permit issuance regarding a TMDL in the Santa Clara River. The relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations, based on Section 303(d)(4)(A) of the CWA. Therefore, based on Section 303(d)(4)(A) of the CWA, less stringent WQBELs may be established because they are based on a TMDL which will assure the attainment of water quality standards for nitrate plus nitrite as (N).

The previous permit (Order No. R4-2008-0209 amending Order No. R4-2005-0036) included both monthly average and daily maximum effluent limitations for mercury. Based on the RPA, mercury did not demonstrate reasonable potential. Therefore, no effluent limitations are included in this Order for Discharge Point Nos. 001, 002, and 003. Information is available which was not available at the time of permit issuance regarding the discharge from the facility. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations. However, monthly monitoring requirements are retained in this Order to ensure that the removal of mercury limitations does not result in the discharge causing impairment of beneficial uses of the receiving water. As such, the removal of effluent limitations is consistent with the anti-backsliding requirements of 40 CFR 122.44(l)(2)(i).

2. Satisfaction of Antidegradation Policy

Section 131.12 requires that the state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 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 the State and federal antidegradation policies.

This Order does not provide for an increase in the permitted design flow or allow for a reduction in the level of treatment. The final limitations in this Order meet the requirements of the SIP because these limits hold the Discharger to performance levels that will not cause or contribute to water quality impairment or result in water quality degradation that could result from a reduction in the level of treatment. Further, compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The permitted discharge is consistent with the antidegradation provision of part 131.12 and State Water Board Resolution No. 68-16

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on TSS, oil and grease, BOD, settleable solids, turbidity, and phenols. Restrictions on these pollutants are discussed in IV.B of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBELs have been scientifically 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 part 131.38. The scientific

procedures for calculating the individual WQBELs for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. Most beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. 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 purposes of the CWA” pursuant to part 131.21(c)(1). The remaining water quality objectives and beneficial uses implemented by this Order (specifically bacteria), were approved by USEPA on September 25, 2002 and are applicable water quality standards pursuant to part 131.21(c)(2). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

The combination of the SWPPP, BMPP, and SPC will serve as the equivalent of technology-based effluent limitations, in the absence of established ELGs, in order to carry out the purposes and intent of the CWA.

Table F-13a. Summary of Final Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Temperature	°F	--	--	--	86	Basin Plan, Thermal Plan, E, BPJ
pH	s.u.	--	--	6.5	8.5	Basin Plan, E, BPJ
Total Suspended Solids (TSS)	mg/L	50	75	--	--	E, BPJ
	lbs/day ²	417	630	--	--	
Turbidity	NTU	50	75	--	--	E, BPJ
BOD (5-day @ 20 Deg. C)	mg/L	20	30	--	--	E, BPJ
	lbs/day ²	167	250	--	--	
Oil and Grease	mg/L	10	15	--	--	E, BPJ
	lbs/day ²	83	125	--	--	
Settleable Solids	ml/L	0.1	0.3	--	--	E, BPJ
Total Ammonia (as N)	mg/L	1.75 ³	5.2 ³	--	--	TMDL
	lbs/day ²	15	43	--	--	
Chlorine, Total Residual	µg/L	--	0.1	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	0.83	--	--	
Chloride	mg/L	--	100 ⁴	--	--	TMDL
	lbs/day ²	--	834	--	--	
Phenols	mg/L	--	1.0	--	--	E, BPJ
	lbs/day ²	--	8	--	--	
TDS	mg/L	--	1,000	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	8,340	--	--	

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Sulfate	mg/L	--	400	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	3,336	--	--	
Boron, Total	mg/L	--	1.5	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	13	--	--	
Nitrite Plus Nitrate (as N)	mg/L	6.8 ³	--	--	--	TMDL
	lbs/day ²	57	--	--	--	
E. Coli	MPN/100mL	5				Basin Plan, E, BPJ
Fecal Coliform	MPN/100mL	5				Basin Plan, E, BPJ
Copper, Total Recoverable	µg/L	18 ⁶	39 ⁷	--	--	CTR, SIP, E, BPJ
	lbs/day ²	0.15	0.33	--	--	
Lead, Total Recoverable	µg/L	11 ⁷	21 ⁷	--	--	E, BPJ
	lbs/day ²	0.09	0.18	--	--	
Bis(2-ethylhexyl) phthalate	µg/L	6	12	--	--	CTR, SIP
	lbs/day ²	0.05	0.10	--	--	
Acute Toxicity	% survival	8				Basin Plan, E,
Chronic Toxicity	TU _c	9				Basin Plan, E, SIP

For Footnotes, see page F-52.

Table F-13b. Summary of Final Effluent Limitations – Discharge Point No. 002

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Temperature	°F	--	--	--	86	Basin Plan, Thermal Plan, E, BPJ
pH	s.u.	--	--	6.5	8.5	Basin Plan, E, BPJ
Total Suspended Solids (TSS)	mg/L	50	75	--	--	E, BPJ
	lbs/day ²	21	31	--	--	
Turbidity	NTU	50	75	--	--	E, BPJ
BOD (5-day @ 20 Deg. C)	mg/L	20	30	--	--	E, BPJ
	lbs/day ²	8	13	--	--	
Oil and Grease	mg/L	10	15	--	--	E, BPJ
	lbs/day ²	4	6	--	--	

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Settleable Solids	ml/L	0.1	0.3	--	--	E, BPJ
Total Ammonia (as N)	mg/L	1.75 ³	5.2 ³	--	--	TMDL
	lbs/day ²	0.73	2.2	--	--	
Chlorine, Total Residual	µg/L	--	0.1	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	0.04	--	--	
Chloride	mg/L	--	100 ⁴	--	--	TMDL
	lbs/day ²	--	42	--	--	
Phenols	mg/L	--	1.0	--	--	E, BPJ
	lbs/day ²	--	0.42	--	--	
TDS	mg/L	--	1,000	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	417	--	--	
Sulfate	mg/L	--	400	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	167	--	--	
Boron, Total	mg/L	--	1.5	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	0.63	--	--	
Nitrite Plus Nitrate (as N)	mg/L	6.8 ³	--	--	--	TMDL
	lbs/day ²	2.8	--	--	--	
E. Coli	MPN/100mL	5				Basin Plan, E, BPJ
Fecal Coliform	MPN/100mL	5				Basin Plan, E, BPJ
Copper, Total Recoverable	µg/L	20 ⁶	39 ⁷	--	--	CTR, SIP, E, BPJ
	lbs/day ²	0.01	0.02	--	--	
Acute Toxicity	% survival	8				Basin Plan, E,
Chronic Toxicity	TU _c	9				Basin Plan, E, SIP

For Footnotes, see page F-52.

Table F-13c. Summary of Final Effluent Limitations – Discharge Point No. 003

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Temperature	°F	--	--	--	86	Basin Plan, Thermal Plan, E, BPJ
pH	s.u.	--	--	6.5	8.5	Basin Plan, E, BPJ
Total Suspended Solids (TSS)	mg/L	50	75	--	--	E, BPJ
	lbs/day ²	542	813	--	--	
Turbidity	NTU	50	75	--	--	E, BPJ
BOD (5-day @ 20 Deg. C)	mg/L	20	30	--	--	E, BPJ
	lbs/day ²	217	325	--	--	
Oil and Grease	mg/L	10	15	--	--	E, BPJ
	lbs/day ²	108	163	--	--	
Settleable Solids	ml/L	0.1	0.3	--	--	E, BPJ
Total Ammonia (as N)	mg/L	1.75 ³	5.2 ³	--	--	TMDL
	lbs/day ²	19	56	--	--	
Chlorine, Total Residual	µg/L	--	0.1	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	0.1.08	--	--	
Chloride	mg/L	--	100 ⁴	--	--	TMDL
	lbs/day ²	--	1084	--	--	
Phenols	mg/L	--	1.0	--	--	E, BPJ
	lbs/day ²	--	11	--	--	
TDS	mg/L	--	1,000	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	10,842	--	--	
Sulfate	mg/L	--	400	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	4,337	--	--	
Boron, Total	mg/L	--	1.5	--	--	Basin Plan, E, BPJ
	lbs/day ²	--	16	--	--	
Nitrite Plus Nitrate (as N)	mg/L	6.8 ³	--	--	--	TMDL
	lbs/day ²	74	--	--	--	
E. Coli	MPN/100mL	5				Basin Plan, E, BPJ
Fecal Coliform	MPN/100mL	5				Basin Plan, E, BPJ
Copper, Total Recoverable	µg/L	18 ⁶	39 ⁷	--	--	CTR, SIP, E, BPJ
	lbs/day ²	0.20	0.43	--	--	
Lead, Total Recoverable	µg/L	11 ⁷	21 ⁷	--	--	E, BPJ
	lbs/day ²	0.12	0.23	--	--	

Parameter	Units	Effluent Limitations				Basis ¹
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Acute Toxicity	% survival	8				Basin Plan, E,
Chronic Toxicity	TU _c	9				Basin Plan, E, SIP

Footnotes:

¹ Basin Plan; E = Existing Permit (Order No. R4-2008-0209 amending Order No. R4-2005-0036); BPJ = Best Professional Judgment is the method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data. BPJ limitations are established in cases in which effluent limitation guidelines are not available for a particular pollutant of concern. Authorization for using BPJ limitations is found under section 401(a)(1) of the Clean Water Act and under 40 CFR section 125.3; CTR = California Toxic Rule; SIP = State Implementation Policy; and TMDL = Total Maximum Daily Load.

² The mass-based effluent limitations (lbs/day) was calculated based on the discharge flow rate of 1.0 mgd for Discharge Point 001, 0.05 mgd for 002, and 1.3 mgd for 003, and using the formula:

$$\text{Mass (lbs/day)} = 8.34 \times C \times Q$$

where:

C = actual measured concentration for a pollutant, in mg/L
Q = maximum discharge flow rate in MGD

³ Based the TMDL, Resolution No. 03-011.

⁴ Based on TMDL, Resolution No. R4-2006-016.

⁵ **Bacteria Limitations:**

1. Geometric Mean Limits:

- a. E. coli density shall not exceed 126/100 ml.
- b. Fecal coliform density shall not exceed 200/100 ml.

2. Single Sample Maximum Limits:

- a. E. coli density shall not exceed 235/100 ml.
- b. Fecal coliform density shall not exceed 400/100 ml.

The geometric mean values should be calculated based on a statistically sufficient number of samples (generally not less than 5 samples equally spaced over a 30-day period).

If any of the single sample limits are exceeded, the Regional Board requires repeat sampling on a daily basis until the sample falls below the single sample limit in order to determine the persistence of the exceedance.

When repeat sampling is required because of an exceedance of any one single sample limit, values from all samples collected during that 30-day period shall be used to calculate the geometric mean.

⁶ Based on CTR—SIP calculations.

⁷ Based on Existing Permit (Order No. R4-2008-0209 amending Order No. R4-2005-0036).

⁸ The average survival in effluent for any three consecutive 96-hour static or continuous flow bioassay tests shall be at least 90%, with no single test producing less than 70 % survival. Compliance with the toxicity objectives will be determined by the method described in Attachment E (Monitoring and Reporting Program).

⁹ This Order includes a chronic testing trigger defined as the monthly median for chronic toxicity of 100% effluent shall not exceed 1 TU_c in a critical life stage test (more information can be found in Section IV.A.6. of the proposed Order).

4. Mass-based Effluent Limitations

Mass-based effluent limitations are established using the following formula:

$$\text{Mass (lbs/day)} = \text{flow rate (MGD)} \times 8.34 \times \text{effluent limitation (mg/L)}$$

where:

Mass = mass limitation for a pollutant (lbs/day)

Effluent limitation = concentration limit for a pollutant (mg/L)

Flow rate = discharge flow rate (MGD)

E. Interim Effluent Limitations

Not Applicable

F. Land Discharge Specifications

Not Applicable

G. Reclamation Specifications

Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

The receiving water limitations in the proposed Order are based upon the water quality objectives contained in the Basin Plan. As such, they are a required part of the proposed Order.

A. Surface Water

The Basin Plan contains numeric and narrative water quality objectives applicable to all surface waters within the Los Angeles Region. Water quality objectives include an objective to maintain the high quality waters pursuant to federal regulations (part 131.12) and State Water Board Resolution No. 68-16. Receiving water limitations in this Order are included to ensure protection of the beneficial uses of the receiving water and are based on the water quality objectives contained in the Basin Plan.

B. Groundwater

Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR Part 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following

provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

The Discharger has been unable to consistently meet effluent limitations for chloride and copper. The Discharger has indicated in the ROWD that data obtained from the Valencia Water Company includes chloride and copper concentrations that are at or above the Discharger's effluent limitations for these constituents. In order to ascertain the contributions from influent water, the MRP of this Order requires the Discharger to monitor the influent for chloride and copper. The Discharger is also required to monitor TCDD in the influent to determine reasonable potential.

B. Effluent Monitoring

Monitoring for those pollutants expected to be present in Monitoring Locations EFF-001, EFF-002, and EFF-003 at Discharge Point Nos. 001, 002, and 003, respectively, will be required as shown on the proposed MRP. To determine compliance with effluent and receiving water limitations, the proposed monitoring plan carries forward monitoring requirements from Order No. R4-2008-0209, with some modifications. The monitoring requirements for mercury remains the same as those included in Order No. R4-2008-0209. The monitoring frequency for selenium for Discharge Point No. 003 has been changed from semiannual to once per month to determine reasonable potential.

Semiannual monitoring requirements are carried over from the previous Order for dissolved oxygen, arsenic, cadmium, chromium III, chromium VI, silver, zinc, and selenium (for Discharge Point Nos. 001 and 002) to determine their presence in the effluent and to collect information to conduct the RPA in the future.

According to the SIP, the Discharger is required to monitor the effluent for the CTR priority pollutants to determine reasonable potential. Accordingly, the Regional Water Board is requiring that the Discharger conduct effluent monitoring for the CTR priority pollutants. The monitoring requirements and frequencies of the priority pollutants in the proposed Order are the same as those in Order No. R4-2008-0209. The monitoring frequency for TCDD is semiannually at Discharge Point Nos. 001, and 002, and quarterly at Discharge Point 003.

C. Whole Effluent Toxicity Testing Requirements

Monitoring and effluent limitations for WET protect the receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The WET monitoring requirements established in Section IV of the MRP include conditions and protocol by which compliance with the Basin Plan narrative water quality objective for toxicity will be demonstrated and in accordance with Section 4.0 of the SIP.

Conditions include required monitoring and evaluation of the effluent for acute and chronic toxicity and numerical values for chronic toxicity evaluation to be used as 'triggers' for initiating accelerated monitoring and toxicity reduction evaluation(s).

D. Receiving Water Monitoring

1. Surface Water

This Order includes receiving water limitations and therefore, monitoring requirements are included in the MRP to determine compliance with the receiving water limitations established in Limitations and Discharge Requirements, Receiving Water Limitations, Section V.A. This Order requires quarterly receiving water monitoring for pH, temperature, dissolved oxygen, and turbidity to determine compliance with receiving water limitations. Quarterly monitoring requirements for chloride, salinity, and TDS are also required due to water quality concerns associated with these constituents within the Santa Clara River. Receiving water monitoring requirements for total residual chlorine, E.Coli, and fecal coliform are also required in this Order to better ascertain any impacts to the receiving water.

The facility is also required to perform general observations of the receiving water when discharges occur and report the observations in the monitoring report. Attention shall be given to the presence or absence of floating or suspended matter, discoloration, aquatic life, visible film, sheen or coating, and fungi, slime, or objectionable growths.

According to the SIP, the Discharger is required to monitor the upstream receiving water for the CTR priority pollutants, to determine reasonable potential. Accordingly, the Regional Water Board is requiring that the Discharger conduct upstream receiving water monitoring of the CTR priority pollutants at Monitoring Location RSW-001. The Discharger must analyze temperature, pH, and hardness of the upstream receiving water at the same time the samples are collected for priority pollutants analysis.

2. Groundwater

Not Applicable

E. Other Monitoring Requirements

Not Applicable

VII. RATIONALE FOR PROVISIONS

Standard Provisions, which apply to all NPDES permits in accordance with part 122.41, and additional conditions applicable to specified categories of permits in accordance with part 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under part 122.42.

40 CFR Part 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 Part 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with part 123.25, this Order omits federal conditions that address enforcement authority specified in parts 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

A. Special Provisions

1. Reopener Provisions

These provisions are based on part 123 and the previous Order. The Regional Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new federal regulations, modification in toxicity requirements, completion of mixing zone or dilution credits studies, or adoption of new or regulations by the State Water Board or Regional Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

- a. Chronic Toxicity Trigger.** This provision is based on section 4 of the SIP, Toxicity Control Provisions.
- b. Initial Investigation Toxicity Reduction Evaluation Workplan.** This provision is based on section 4 of the SIP, Toxicity Control Provisions.

3. Best Management Practices and Pollution Prevention

- a. Storm Water Pollution Prevention Plan (SWPPP).** The previous Order required the Discharger to develop and implement a SWPPP. This Order will require the Discharger to update and continue to implement the SWPPP, consistent with the existing Order requirements. The SWPPP will outline site-specific management processes for minimizing storm water runoff contamination and for preventing contaminated storm water runoff from being discharged directly into the storm drain. This provision is retained from Order No. R4-2008-0209, based on 40 CFR 122.44(k).
- b. Best Management Practices (BMPs).** The previous Order required the Discharger to develop and implement BMPs for incorporation into the SWPPP. This Order will require the Discharger to update and continue to implement BMPs, consistent with the existing Order requirements. The BMPs shall entail site-specific plans and procedures implemented and/or to be implemented to prevent hazardous waste/material from being discharged to waters of the State. The BMPs shall be consistent with the general guidance contained in the USEPA *Guidance Manual for Developing Best Management Practices (BMPs)* (EPA 833-

B-93-004). In particular, a risk assessment of each area identified by the Discharger shall be performed or updated to determine the potential for hazardous or toxic waste/material discharge to surface waters. BMPs shall be included in the SWPPP.

- c. **Spill Contingency Plan (SCP).** Since spill or overflow may occur in the facility, this Order requires the Discharger to prepare a SCP for the Facility. The Discharger shall review and update, if necessary, the SCP after each incident and make it available for the facility personnel at all times.

4. Construction, Operation, and Maintenance Specifications

Special Provision VI.C.4 is based on the requirements of section 122.41(e) and the previous Order.

5. Other Special Provisions

Not Applicable

6. Compliance Schedules

Not Applicable

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Six Flags Magic Mountain. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations.

B. Written Comments

The 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 Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on December 16, 2010.

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: February 3, 2011
Time: 9:00 A.M.
Location: Metropolitan Water District of Southern California - Board Room
700 North Alameda Street
Los Angeles, California

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.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/losangeles> where you can access the current agenda for changes in dates and locations.

D. Nature of Hearing

This will be a formal adjudicative hearing pursuant to section 648 et seq. of title 23 of the California Code of Regulations. Chapter 5 of the California Administrative Procedure Act (commencing with section 11500 of the Government Code) will not apply to this proceeding.

Ex Parte Communications Prohibited: As a quasi-adjudicative proceeding, no board member may discuss the subject of this hearing with any person, except during the public hearing itself. Any communications to the Regional Water Board must be directed to staff.

E. Parties to the Hearing

The following are the parties to this proceeding:

1. The applicant/permittee

Any other persons requesting party status must submit a written or electronic request to staff not later than 20 business days before the hearing. All parties will be notified if other persons are so designated.

F. Public Comments and Submittal of Evidence

Persons wishing to comment upon or object to the tentative waste discharge requirements, or submit evidence for the Board to consider, are invited to submit them in writing to the above address. To be evaluated and responded to by staff, included in the Board's agenda folder, and fully considered by the Board, written comments must be received no later than close of business on December 16, 2010. Comments or evidence received after that date will be submitted, ex agenda, to the Board for consideration, but only included in administrative record with express approval of the Chair during the hearing. Additionally, if the Board receives only supportive comments, the permit may be placed on the Board's consent calendar, and approved without an oral testimony.

G. Hearing Procedure

The meeting, in which the hearing will be a part of, will start at 8:00 a.m. Interested persons are invited to attend. Staff will present the matter under consideration, after which oral statements from parties or interested persons will be heard. For accuracy of the record, all important testimony should be in writing. The Board will include in the administrative record written transcriptions of oral testimony that is actually presented at the hearing. Oral testimony may be limited to 3 minutes maximum or less for each speaker, depending on the number of persons wishing to be heard. Parties or persons with similar concerns or opinions are encouraged to choose one representative to speak. At the conclusion of testimony, the Board will deliberate in open or close session, and render a decision.

Parties or persons with special procedural requests should contact staff. Any procedure not specified in this hearing notice will be waived pursuant to Section 648(d) of title 23 of the California Code of Regulations. Objections to any procedure to be used during this hearing must be submitted in writing not later than close of 15 business days prior to the date of the hearing. Procedural objections will not be entertained at the hearing.

If there should not be a quorum on the scheduled date of this meeting, all cases will be automatically continued to the next scheduled meeting on March 3, 2011. A continuance will not extend any time set forth herein.

H. Waste Discharge Requirements Petitions

Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

http://www.waterboards.ca.gov/public_notices/petitions/water_quality
or will be provided upon request.

The State Water Board's mailing address is the following:

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

I. Information and Copying

The Report of Waste Discharge (ROWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (213) 576 – 6600.

J. Register of Interested Persons

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

K. Additional Information

Requests for additional information or questions regarding this Order should be directed to Rosario Aston at (213) 576-6653.

ATTACHMENT G – STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

I. Implementation Schedule

A storm water pollution prevention plan (SWPPP) shall be developed and submitted to the Regional Water Board within 90 days following the adoption of this Order. The SWPPP shall be implemented for each facility covered by this Permit within 10 days of approval from the Regional Water Board, or 6-months from the date of the submittal of the SWPPP to the Regional Water Board (whichever comes first).

II. Objectives

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, overhead coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

III. Planning and Organization

A. Pollution Prevention Team

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Attachment E of this Permit. The SWPPP shall clearly identify the Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

B. Review Other Requirements and Existing Facility Plans

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General Permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

IV. Site Map

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

<p>PLANNING AND ORGANIZATION</p> <p>Form Pollution Prevention Team Review other plans</p>
<p>ASSESSMENT PHASE</p> <p>Develop a site map Identify potential pollutant sources Inventory of materials and chemicals List significant spills and leaks Identify non-storm water discharges Assess pollutant risks</p>
<p>BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE</p> <p>Non-structural BMPs Structural BMPs Select activity and site-specific BMPs</p>

<p>IMPLEMENTATION PHASE</p> <p>Train employees Implement BMPs Conduct recordkeeping and reporting</p>
--

<p>EVALUATION / MONITORING</p> <p>Conduct annual site evaluation Review monitoring information Evaluate BMPs Review and revise SWPPP</p>

The following information shall be included on the site map:

- A.** The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.
- B.** The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.
- C.** An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.
- D.** Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section A.6.a.iv. below have occurred.
- E.** Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

V. List of Significant Materials

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

VI. Description of Potential Pollutant Sources

A. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section A.4.e above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

1. **Industrial Processes.** Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.
2. **Material Handling and Storage Areas.** Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.
3. **Dust and Particulate Generating Activities.** Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.
4. **Significant Spills and Leaks.** Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 CFR, Part 302) that have been discharged to storm water as reported on USEPA Form R, and oil and hazardous substances in excess of reportable quantities (see 40 Code of Federal Regulations [CFR], Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken

to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this Permit.

- 5. Non-Storm Water Discharges.** Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges (other boiler blowdown and boiler condensate permitted under the Order) that contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D of the storm water general permit are prohibited by this Permit (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D of the general storm water permit are authorized by this Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

- 6. Soil Erosion.** Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

- B.** The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with Section A.8. below.

VII. Assessment of Potential Pollutant Sources

- A.** The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in A.6. above to determine:
1. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and
 2. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

- B.** Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8 below.

VIII. Storm Water Best Management Practices

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections A.6. and 7. above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B

EXAMPLE
ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND
CORRESPONDING BEST MANAGEMENT PRACTICES
SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery. Spills caused by topping off fuel tanks. Hosing or washing down fuel oil fuel area. Leaking storage tanks. Rainfall running off fuel oil, and rainfall running onto and off fueling area.	fuel oil	Use spill and overflow protection. Minimize run-on of storm water into the fueling area. Cover fueling area. Use dry cleanup methods rather than hosing down area. Implement proper spill prevention control program. Implement adequate preventative maintenance program to preventive tank and line leaks. Inspect fueling areas regularly to detect problems before they occur. Train employees on proper fueling, cleanup, and spill response techniques.

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

A. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section A.8.b. below). Below is a list of non-structural BMPs that should be considered:

- 1. Good Housekeeping.** Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.
- 2. Preventive Maintenance.** Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.
- 3. Spill Response.** This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.
- 4. Material Handling and Storage.** This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.
- 5. Employee Training.** This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.
- 6. Waste Handling/Recycling.** This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.
- 7. Recordkeeping and Internal Reporting.** This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions,

visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

- 8. Erosion Control and Site Stabilization.** This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.
- 9. Inspections.** This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.
- 10. Quality Assurance.** This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

B. Structural BMPs.

Where non-structural BMPs as identified in Section A.8.a. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

- 1. Overhead Coverage.** This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.
- 2. Retention Ponds.** This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.
- 3. Control Devices.** This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.
- 4. Secondary Containment Structures.** This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.
- 5. Treatment.** This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

IX. Annual Comprehensive Site Compliance Evaluation

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the

revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

- A.** A review of all visual observation records, inspection records, and sampling and analysis results.
- B.** A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.
- C.** A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.
- D.** An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in Section A.10.e, for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions V.D.5 of Attachment D.

X. SWPPP General Requirements

- A.** The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.
- B.** The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.
- C.** The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.

- D. The SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this Permit.
- E. When any part of the SWPPP is infeasible to implement due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.
- F. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

ATTACHMENT H – STATE WATER BOARD MINIMUM LEVELS

The Minimum Levels (MLs) in ppb ($\mu\text{g/L}$) in this appendix are for use in reporting and compliance determination purposes in accordance with section 2.4 of the State Implementation Policy. These MLs were derived from data for priority pollutants provided by State certified analytical laboratories in 1997 and 1998. These MLs shall be used until new values are adopted by the State Water Board and become effective. The following tables (Tables 2a - 2d) present MLs for four major chemical groupings: volatile substances, semi-volatile substances, inorganics, and pesticides and PCBs.

Table 2a - VOLATILE SUBSTANCES*	GC	GCMS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethylene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Methyl Bromide	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethylene	0.5	2
Toluene	0.5	2
Trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

*The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Benzo (a) Anthracene	10	5		
1,2 Dichlorobenzene (semivolatile)	2	2		
1,2 Diphenylhydrazine		1		
1,2,4 Trichlorobenzene	1	5		
1,3 Dichlorobenzene (semivolatile)	2	1		
1,4 Dichlorobenzene (semivolatile)	2	1		
2 Chlorophenol	2	5		
2,4 Dichlorophenol	1	5		
2,4 Dimethylphenol	1	2		
2,4 Dinitrophenol	5	5		
2,4 Dinitrotoluene	10	5		
2,4,6 Trichlorophenol	10	10		
2,6 Dinitrotoluene		5		
2- Nitrophenol		10		
2-Chloroethyl vinyl ether	1	1		
2-Chloronaphthalene		10		
3,3' Dichlorobenzidine		5		
Benzo (b) Fluoranthene		10	10	
3-Methyl-Chlorophenol	5	1		
4,6 Dinitro-2-methylphenol	10	5		
4- Nitrophenol	5	10		
4-Bromophenyl phenyl ether	10	5		
4-Chlorophenyl phenyl ether		5		
Acenaphthene	1	1	0.5	
Acenaphthylene		10	0.2	
Anthracene		10	2	
Benzidine		5		
Benzo(a) pyrene		10	2	
Benzo(g,h,i)perylene		5	0.1	
Benzo(k)fluoranthene		10	2	
bis 2-(1-Chloroethoxyl) methane		5		
bis(2-chloroethyl) ether	10	1		
bis(2-Chloroisopropyl) ether	10	2		
bis(2-Ethylhexyl) phthalate	10	5		
Butyl benzyl phthalate	10	10		
Chrysene		10	5	
di-n-Butyl phthalate		10		
di-n-Octyl phthalate		10		
Dibenzo(a,h)-anthracene		10	0.1	
Diethyl phthalate	10	2		
Dimethyl phthalate	10	2		
Fluoranthene	10	1	0.05	
Fluorene		10	0.1	
Hexachloro-cyclopentadiene	5	5		
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		

Table 2b - SEMI-VOLATILE SUBSTANCES*	GC	GCMS	LC	COLOR
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	
Phenol **	1	1		50
Pyrene		10	0.05	

* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1,000; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1,000.

** Phenol by colorimetric technique has a factor of 1.

Table 2c – INORGANICS*	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVAA	COLOR	DCP
Antimony	10	5	50	0.5	5	0.5			1,000
Arsenic		2	10	2	2	1		20	1,000
Beryllium	20	0.5	2	0.5	1				1,000
Cadmium	10	0.5	10	0.25	0.5				1,000
Chromium (total)	50	2	10	0.5	1				1,000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1,000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1,000
Selenium		5	10	2	5	1			1,000
Silver	10	1	10	0.25	2				1,000
Thallium	10	2	10	1	5				1,000
Zinc	20		20	1	10				1,000

* The normal method-specific factor for these substances is 1; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance.

Table 2d – PESTICIDES – PCBs*	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
alpha-BHC	0.01
Aldrin	0.005
b-Endosulfan	0.01
Beta-BHC	0.005
Chlordane	0.1
Delta-BHC	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01

Table 2d – PESTICIDES – PCBs*	GC
Heptachlor Epoxide	0.01
Gamma-BHC (Lindane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

* The normal method-specific factor for these substances is 100; therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 100.

Techniques:

- GC - Gas Chromatography
- GCMS - Gas Chromatography/Mass Spectrometry
- HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)
- LC - High Pressure Liquid Chromatography
- FAA - Flame Atomic Absorption
- GFAA - Graphite Furnace Atomic Absorption
- HYDRIDE - Gaseous Hydride Atomic Absorption
- CVAA - Cold Vapor Atomic Absorption
- ICP - Inductively Coupled Plasma
- ICPMS - Inductively Coupled Plasma/Mass Spectrometry
- SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)
- DCP - Direct Current Plasma
- COLOR – Colorimetric

ATTACHMENT I – LIST OF PRIORITY POLLUTANTS

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
1	Antimony	7440360	1
2	Arsenic	7440382	1
3	Beryllium	7440417	1
4	Cadmium	7440439	1
5a	Chromium (III)	16065831	1
5a	Chromium (VI)	18540299	1
6	Copper	7440508	1
7	Lead	7439921	1
8	Mercury	7439976	1
9	Nickel	7440020	1
11	Selenium	7782492	1
11	Silver	7440224	1
12	Thallium	7440280	1
13	Zinc	7440666	1
14	Cyanide	57125	1
15	Asbestos	1332214	1
16	2,3,7,8-TCDD	1746016	1
17	Acrolein	117028	1
18	Acrylonitrile	117131	1
19	Benzene	71432	1
20	Bromoform	75252	1
21	Carbon Tetrachloride	56235	1
22	Chlorobenzene	118907	1
23	Chlorodibromomethane	124481	1
24	Chloroethane	75003	1
25	2-Chloroethylvinyl Ether	111758	1
26	Chloroform	67663	1
27	Dichlorobromomethane	75274	1
28	1,1-Dichloroethane	75343	1
29	1,2-Dichloroethane	117062	1
30	1,1-Dichloroethylene	75354	1
31	1,2-Dichloropropane	78875	1
32	1,3-Dichloropropylene	542756	1
33	Ethylbenzene	110414	1
34	Methyl Bromide	74839	1
35	Methyl Chloride	74873	1
36	Methylene Chloride	75092	1
37	1,1,2,2-Tetrachloroethane	79345	1
38	Tetrachloroethylene	127184	1
39	Toluene	118883	1
40	1,2-Trans-Dichloroethylene	156605	1
41	1,1,1-Trichloroethane	71556	1
42	1,1,2-Trichloroethane	79005	1
43	Trichloroethylene	79016	1

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
44	Vinyl Chloride	75014	1
45	2-Chlorophenol	95578	1
46	2,4-Dichlorophenol	120832	1
47	2,4-Dimethylphenol	115679	1
48	2-Methyl-4,6-Dinitrophenol	534521	1
49	2,4-Dinitrophenol	51285	1
50	2-Nitrophenol	88755	1
51	4-Nitrophenol	110027	1
52	3-Methyl-4-Chlorophenol	59507	1
53	Pentachlorophenol	87865	1
54	Phenol	118952	1
55	2,4,6-Trichlorophenol	88062	1
56	Acenaphthene	83329	1
57	Acenaphthylene	208968	1
58	Anthracene	120127	1
59	Benzidine	92875	1
60	Benzo(a)Anthracene	56553	1
61	Benzo(a)Pyrene	50328	1
62	Benzo(b)Fluoranthene	205992	1
63	Benzo(ghi)Perylene	191242	1
64	Benzo(k)Fluoranthene	207089	1
65	Bis(2-Chloroethoxy)Methane	111911	1
66	Bis(2-Chloroethyl)Ether	111444	1
67	Bis(2-Chloroisopropyl)Ether	118601	1
68	Bis(2-Ethylhexyl)Phthalate	117817	1
69	4-Bromophenyl Phenyl Ether	111553	1
70	Butylbenzyl Phthalate	85687	1
71	2-Chloronaphthalene	91587	1
72	4-Chlorophenyl Phenyl Ether	7005723	1
73	Chrysene	218019	1
74	Dibenzo(a,h)Anthracene	53703	1
75	1,2-Dichlorobenzene	95501	1
76	1,3-Dichlorobenzene	541731	1
77	1,4-Dichlorobenzene	116467	1
78	3,3'-Dichlorobenzidine	91941	1
79	Diethyl Phthalate	84662	1
80	Dimethyl Phthalate	131113	1
81	Di-n-Butyl Phthalate	84742	1
82	2,4-Dinitrotoluene	121142	1
83	2,6-Dinitrotoluene	606202	1
84	Di-n-Octyl Phthalate	117840	1
85	1,2-Diphenylhydrazine	122667	1
86	Fluoranthene	206440	1
87	Fluorene	86737	1
88	Hexachlorobenzene	118741	1
89	Hexachlorobutadiene	87863	1
90	Hexachlorocyclopentadiene	77474	1

CTR Number	Parameter	CAS Number	Suggested Analytical Methods
91	Hexachloroethane	67721	†
92	Indeno(1,2,3-cd)Pyrene	193395	†
93	Isophorone	78591	†
94	Naphthalene	91203	†
95	Nitrobenzene	98953	†
96	N-Nitrosodimethylamine	62759	†
97	N-Nitrosodi-n-Propylamine	621647	†
98	N-Nitrosodiphenylamine	86306	†
99	Phenanthrene	85018	†
110	Pyrene	129000	†
111	1,2,4-Trichlorobenzene	120821	†
112	Aldrin	309002	†
113	alpha-BHC	319846	†
114	beta-BHC	319857	†
115	gamma-BHC	58899	†
116	delta-BHC	319868	†
117	Chlordane	57749	†
118	4,4'-DDT	50293	†
119	4,4'-DDE	72559	†
111	4,4'-DDD	72548	†
111	Dieldrin	60571	†
112	alpha-Endosulfan	959988	†
113	beta-Endosulfan	33213659	†
114	Endosulfan Sulfate	1131178	†
115	Endrin	72208	†
116	Endrin Aldehyde	7421934	†
117	Heptachlor	76448	†
118	Heptachlor Epoxide	1124573	†
119	PCB-1116	12674112	†
120	PCB-1221	11114282	†
121	PCB-1232	11141165	†
122	PCB-1242	53469219	†
123	PCB-1248	12672296	†
124	PCB-1254	11197691	†
125	PCB-1260	11196825	†
126	Toxaphene	8001352	†

† Pollutants shall be analyzed using the methods described in 40 CFR Part 136

ATTACHMENT J – RPA ANALYSIS FOR CTR CONSTITUENTS

CTR#	Parameters	Units	CV	Human Health for Consumption of				REASONABLE POTENTIAL ANALYSIS (RPA)											
				Freshwater		Saltwater		Water & Organisms	Organisms only	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B non-detectable (Y/N)?	Enter the points ND with detected max conc (ug/L)	Enter the points ND, is MD > C?	If B-C, effluent limit required	Tier 3 - other info.?	RPA Result - Need Limit?	Reason
				C acute = CMC tot	C acute = CMC tot	C acute = CMC tot	C acute = CMC tot												
1	Antimony	ug/L																UD, effluent ND, MD > C, and B is ND	
2	Arsenic	ug/L																No Criteria	
3	Beryllium	ug/L																UD, effluent ND, MD > C, and B is ND	
4	Barium	ug/L																No Criteria	
5a	Chromium (III)	ug/L																UD, effluent ND, MD > C, and B is ND	
5b	Chromium (VI)	ug/L																MEC > C & B is ND	
6	Copper	ug/L																MEC > C	
7	Lead	ug/L																MEC > C & B is ND	
8	Mercury	ug/L																MEC > C & B is ND	
9	Nickel	ug/L																MEC > C & B is ND	
10	Selenium	ug/L																MEC > C & B is ND	
11	Silver	ug/L																MEC > C & B is ND	
12	Thallium	ug/L																MEC > C & B is ND	
13	Zinc	ug/L																MEC > C & B is ND	
14	Cyanide	ug/L																UD, effluent ND, MD > C, and B is ND	
15	Asbestos	Fibers/L																No Criteria	
16	2,3,7,8 TCDD	ug/L																UD, effluent ND, MD > C, and B is ND	
17	Acroline	ug/L																UD, effluent ND, MD > C, and B is ND	
18	Arylamine	ug/L																UD, effluent ND, MD > C, and B is ND	
19	Benzene	ug/L																UD, effluent ND, MD > C, and B is ND	
20	Bromoforn	ug/L																MEC > C & B is ND	
21	Carbon tetrachloride	ug/L																UD, effluent ND, MD > C, and B is ND	
22	Chlorobenzene	ug/L																UD, effluent ND, MD > C, and B is ND	
23	Chloroethene	ug/L																MEC > C & B is ND	
24	1,2-Dichloroethane	ug/L																UD, effluent ND, MD > C, and B is ND	
25	2-Chlorophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
26	2,4-Dichlorophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
27	1,2-Dichlorobenzene	ug/L																UD, effluent ND, MD > C, and B is ND	
28	1,2-Dichloroethane	ug/L																UD, effluent ND, MD > C, and B is ND	
29	1,2-Dichloroethene	ug/L																UD, effluent ND, MD > C, and B is ND	
30	1,2-Dichloropropane	ug/L																UD, effluent ND, MD > C, and B is ND	
31	1,3-Dichloropropane	ug/L																UD, effluent ND, MD > C, and B is ND	
32	1,3-Dichloropropene	ug/L																UD, effluent ND, MD > C, and B is ND	
33	Ethylbenzene	ug/L																MEC > C & B is ND	
34	Methyl Bromide	ug/L																UD, effluent ND, MD > C, and B is ND	
35	Methyl Chloride	ug/L																UD, effluent ND, MD > C, and B is ND	
36	Methylene Chloride	ug/L																UD, effluent ND, MD > C, and B is ND	
37	1,1,2,2-Tetrachloroethane	ug/L																UD, effluent ND, MD > C, and B is ND	
38	Tetrachloroethene	ug/L																MEC > C & B is ND	
39	Toluene	ug/L																UD, effluent ND, MD > C, and B is ND	
40	1,1,1-Trichloroethane	ug/L																UD, effluent ND, MD > C, and B is ND	
41	1,1,1-Trichloroethene	ug/L																UD, effluent ND, MD > C, and B is ND	
42	1,1,2-Trichloroethane	ug/L																UD, effluent ND, MD > C, and B is ND	
43	Trichloroethene	ug/L																UD, effluent ND, MD > C, and B is ND	
44	Vinyl Chloride	ug/L																UD, effluent ND, MD > C, and B is ND	
45	2-Chlorophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
46	2,4-Dichlorophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
47	2,4-Dinitrophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
48	4-Cumylphenol	ug/L																UD, effluent ND, MD > C, and B is ND	
49	4-Nitrophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
50	2-Nitrophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
51	4-Nitrophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
52	3-Nitrophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
53	Phenol	ug/L																UD, effluent ND, MD > C, and B is ND	
54	Phenol	ug/L																UD, effluent ND, MD > C, and B is ND	
55	2,4,6-Trichlorophenol	ug/L																UD, effluent ND, MD > C, and B is ND	
56	Acenaphthene	ug/L																UD, effluent ND, MD > C, and B is ND	
57	Acenaphthylene	ug/L																UD, effluent ND, MD > C, and B is ND	
58	Anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
59	Benzo(a)anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
60	Benzo(b)fluoranthene	ug/L																UD, effluent ND, MD > C, and B is ND	
61	Benzo(k)fluoranthene	ug/L																UD, effluent ND, MD > C, and B is ND	
62	Benzo(a)pyrene	ug/L																UD, effluent ND, MD > C, and B is ND	
63	Benzo(g)perylene	ug/L																UD, effluent ND, MD > C, and B is ND	
64	Benzo(e)pyrene	ug/L																UD, effluent ND, MD > C, and B is ND	
65	Benzo(b)fluoranthene	ug/L																UD, effluent ND, MD > C, and B is ND	
66	Benzo(a)fluoranthene	ug/L																UD, effluent ND, MD > C, and B is ND	
67	Benzo(a)anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
68	Benzo(a)anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
69	Benzo(a)anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
70	Benzo(a)anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
71	Benzo(a)anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
72	Benzo(a)anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
73	Chrysene	ug/L																UD, effluent ND, MD > C, and B is ND	
74	Dibenz(a,h)anthracene	ug/L																UD, effluent ND, MD > C, and B is ND	
75	1,2-Dichlorobenzene	ug/L																UD, effluent ND, MD > C, and B is ND	
76	1,3-Dichlorobenzene	ug/L																UD, effluent ND, MD > C, and B is ND	
77	1,4-Dichlorobenzene	ug/L																UD, effluent ND, MD > C, and B is ND	

CTR#	Parameters	Units	CV	Freshwater		Saltwater		Human Health for consumption of:		MEC	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	Enter the points ND min detection limit (MDL) (ug/L)	Enter the pollutant B max conc (ug/L)	If all B is MDL > C7	Tier 3 - other Info.?	RPA Result - Need Limit?	Reason
				C acute = CMC tot = CCC tot	C chronic = CMC tot = CCC tot	Water & organisms only	Organisms only	Lowest C	MEC >= Lowest C										
76	3,3-Dichlorobenzidine	ug/L		0.077	0.077	0.077	0.077	0.077	0.077	0.077	Y	Y	Y	0.39	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
77	Dibutyl Phthalate	ug/L	4.2	120000	120000	120000	120000	120000	120000	120000	Y	Y	Y	0.45	No detected value of B, Step 7	No	No	MEC > C & B < C	
78	Dibutyl Phthalate	ug/L	0.48	200000	200000	200000	200000	200000	200000	200000	Y	Y	Y	0.48	No detected value of B, Step 7	No	No	MEC > C & B < C	
79	Dibutyl Phthalate	ug/L		120000	120000	120000	120000	120000	120000	120000	Y	Y	Y	0.19	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
80	Dibutyl Phthalate	ug/L		120000	120000	120000	120000	120000	120000	120000	Y	Y	Y	0.19	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
81	Dibutyl Phthalate	ug/L		9.10	9.10	9.10	9.10	9.10	9.10	9.10	Y	Y	Y	0.097	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
82	2,4-Dinitrochlorobenzene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
83	2,4-Dinitrochlorobenzene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
84	Dibutyl Phthalate	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
85	1,2-Diphenylhydrazine	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
86	Fluorene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
87	Hexachlorobenzene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
88	Hexachlorobenzene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
89	Hexachlorobenzene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
90	Hexachlorobenzene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
91	Hexachlorobenzene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
92	Imined 1,2,3-epiPyrene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
93	Isophthalene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
94	Naphthalene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
95	Nitrobenzene	ug/L	6.41	1900	1900	1900	1900	1900	1900	1900	Y	Y	Y	0.1	No detected value of B, Step 7	No	No	MEC > C & B < C	
96	N-Nitrosodimethylamine	ug/L		8.10	8.10	8.10	8.10	8.10	8.10	8.10	Y	Y	Y	0.097	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
97	N-Nitrosodimethylamine	ug/L		1.40	1.40	1.40	1.40	1.40	1.40	1.40	Y	Y	Y	0.097	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
98	N-Nitrosodimethylamine	ug/L		15.0	15.0	15.0	15.0	15.0	15.0	15.0	Y	Y	Y	0.097	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
99	Phenanthrene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
100	Pyrene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
101	1,2,4-Trichlorobenzene	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
102	Aldrin	ug/L	3.00	0.00014	0.00014	0.00014	0.00014	0.00014	0.00014	0.00014	Y	Y	Y	0.0014	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
103	alpha-BHC	ug/L		0.013	0.013	0.013	0.013	0.013	0.013	0.013	Y	Y	Y	0.0024	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
104	beta-BHC	ug/L		0.046	0.046	0.046	0.046	0.046	0.046	0.046	Y	Y	Y	0.0038	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
105	gamma-BHC	ug/L	0.95	0.063	0.063	0.063	0.063	0.063	0.063	0.063	Y	Y	Y	0.0059	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
106	delta-BHC	ug/L	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No Criteria	No detected value of B, Step 7	No Criteria	No	No Criteria	
107	Chlordane	ug/L		0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	Y	Y	Y	0.029	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
108	4,4-DDT	ug/L		0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	Y	Y	Y	0.038	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
109	4,4-DDT (linked to DDT)	ug/L		0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	Y	Y	Y	0.038	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
110	Dieldrin	ug/L		0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	Y	Y	Y	0.019	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
111	alpha-Endosulfan	ug/L		0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	Y	Y	Y	0.019	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
112	beta-Endosulfan	ug/L		0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	Y	Y	Y	0.019	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
113	Endosulfan Sulfate	ug/L		0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	Y	Y	Y	0.019	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
114	Endrin	ug/L		0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	Y	Y	Y	0.019	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
115	Endrin Alderhyde	ug/L		0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	Y	Y	Y	0.019	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
116	Endrin Alderhyde	ug/L		0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	Y	Y	Y	0.019	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
117	Heptachlor	ug/L		0.00021	0.00021	0.00021	0.00021	0.00021	0.00021	0.00021	Y	Y	Y	0.0028	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
118	Heptachlor Epoxide	ug/L		0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	0.00011	Y	Y	Y	0.0024	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
119-125	PCBs sum (2)	ug/L		0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	0.00017	Y	Y	Y	0.0024	No detected value of B, Step 7	No	No	UD; effluent ND, MDL > C, and B is ND	
126	Toxaphene	ug/L		0.00075	0.00075	0.00075	0.00075	0.00075	0.00075	0.00075	Y	Y	Y	0.068	No detected value of B, Step 7	Y	Ug	No effluent data & no B	

Notes:
 Ud = Undetermined due to lack of data
 Uc = Undetermined due to lack of CTR Water Quality Criteria
 C = Water Quality Criteria
 B = Background receiving water data

CTR#	Parameters	HUMAN HEALTH CALCULATIONS							AQUATIC LIFE CALCULATIONS						
		AMEL hh = ECA = C	MOEL/AMEL	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	LTA	AMEL multiplier 95	AMEL multiplier 95 life	MDEL multiplier 99	MDEL multiplier 99 life	MDL eq	
	1 Arsenic														
	2 Arsenic														
	3 Beryllium														
	4 Cadmium														
	5 Chromium (III)														
	5b Chromium (VI)														
	6 Copper	2.52		0.203	9.30	0.37	10	9.3	1.95	18.13	4.92	45.76			
	7 Lead											45.76			
	8 Mercury														
	9 Nickel														
	10 Selenium														
	11 Silver														
	12 Thallium														
	13 Zinc														
	14 Cyanide														
	15 Asbestos	2, 3, 7, 8 TCDD													
	16 TCDD Equivalents														
	17 Acrolein														
	18 Acrylonitrile														
	19 Benzene														
	20 Bromoform														
	21 Carbon Tetrachloride														
	22 Chlorobenzene														
	23 Chlorodibromomethane														
	24 Chloroethane														
	25 Chloroethoxyethyl ether														
	26 Chloroform														
	27 Dibromomonomethane														
	28 1,1-Dichloroethane														
	29 1,2-Dichloroethane														
	30 1,1-Dichloroethylene														
	31 1,2-Dichloropropane														
	32 1,3-Dichloropropane														
	33 Ethylbenzene														
	34 Methyl Bromide														
	35 Methyl Chloride														
	36 Methylene Chloride														
	37 1,1,2,2-Tetrachloroethane														
	38 Tetrachloroethylene														
	39 Toluene														
	40 1,2-Trans-Dichloroethylene														
	41 1,1,1-Trichloroethane														
	42 1,1,2-Trichloroethane														
	43 Trichloroethylene														
	44 Vinyl Chloride														
	45 2-Chlorophenol														
	46 2,4-Dichlorophenol														
	47 2,4-Dinitrophenol														
	48 4,6-Dinitro-o-cresol (aka 2-methyl-2,4-dinitrophenol)														
	49 4-Chlorophenol														
	50 2-Nitrophenol														
	51 4-Nitrophenol														
	52 3-Methyl-4-Chlorophenol (aka p-chlor-m-tol)														
	53 penta-chlorophenol														
	54 Phenol														
	55 2,4,6-Trichlorophenol														
	56 Acenaphthylene														
	57 Acenaphthylene														
	58 Anthracene														
	59 Benzidine														
	60 Benzof(a)anthracene														
	61 Benzof(b)pyrene														
	62 Benzof(b)fluoranthene														
	63 Benzof(k)fluoranthene														
	64 Benzo(e)fluoranthene														
	65 Benzo(g)hperylene														
	66 Benzo(i)perylene														
	67 Benzo(a)anthracene														
	68 Benzo(e)pyrene														
	69 4-Bromophenyl Phenyl Ether	5.9		2.01	11.83652				1.55	3.11	5.90000	11.85000	Based on J First Value		
	70 2-Chlorophthalate														
	71 2-Chlorophthalate														
	72 2-Chlorophthalate														
	73 4-Chlorophenyl Phenyl Ether														
	74 Dinitrophenylanthracene														
	75 Dibenz(b,h)anthracene														
	76 1,3-Dichlorobenzene														
	77 1,4-Dichlorobenzene														

CTR#	HUMAN HEALTH CALCULATIONS		AQUATIC LIFE CALCULATIONS		LIMITS	Recommendation	Comment
	AMEL nh = ECA = C	MDL/MEL	MDL nh	MDL			
78	3,3-Dichlorobenzidine						No Limit
79	Dibutyl Phthalate						No Limit
80	Dimethyl Phthalate						No Limit
81	Dih-Buyl Phthalate						No Limit
82	2,4-Dinitrobenzene						No Limit
83	Di-n-Cetyl Phthalate						No Limit
84	Di-n-Cetyl Phthalate						No Limit
85	1,2-Diphenylhydrazine						No Limit
86	Fluorene						No Limit
87	Fluorene						No Limit
88	Hexachlorobenzene						No Limit
89	Hexachlorocyclopentadiene						No Limit
90	Hexachlorocyclopentadiene						No Limit
91	Hexachloroethane						No Limit
92	Indeno[1,2,3-cd]Pyrene						No Limit
93	Isophorone						No Limit
94	Naphthalene						No Limit
95	Nitrobenzene						No Limit
96	N-Nitrosodimethylaniline						No Limit
97	N-Nitrosodipropylamine						No Limit
98	N-Nitrosodiphenylamine						No Limit
99	Phenanthrene						No Limit
100	Pyrene						No Limit
101	1,2,4-Trichlorobenzene						No Limit
102	Aldrin						No Limit
103	alpha-BHC						No Limit
104	beta-BHC						No Limit
105	gamma-BHC						No Limit
106	delta-BHC						No Limit
107	Chlordane						No Limit
108	4,4-DDT						No Limit
109	4,4-DDD (linked to DDT)						No Limit
110	4,4-DDD						No Limit
111	Dieldrin						No Limit
112	alpha-Endosulfan						No Limit
113	beta-Endosulfan						No Limit
114	Endosulfan Sulfate						No Limit
115	Endrin						No Limit
116	Endrin Aldehyde						No Limit
117	Heptachlor						No Limit
118	Heptachlor Epoxide						No Limit
119-125	PCBS sum (2)						No Limit
126	Toxaphene						No Limit

Notes:
 Ud = Undetermined due to lack of data
 C = Water Quality Criteria
 B = Background receiving water data

CTR#	Parameters	Units	CV	Freshwater		Saltwater		Human Health for consumption of:		Reasonable Potential Analysis (RPA)		Tier 3 - other Info. 7	RPA Result - Need Limit?	Reason
				C acute = CMC tot	C chronic = CMC tot	C acute = C chronic	C chronic = CMC tot	Water & Organisms	Organisms only	Lowest C	MEC = Lowest C			
1	Anthimony	ug/L												
2	Arsenic	ug/L												
3	Beryllium	ug/L												
4	Cadmium	ug/L												
5a	Chromium (III)	ug/L												
5b	Chromium (VI)	ug/L												
6	Copper	ug/L												
7	Lead	ug/L												
8	Mercury	ug/L												
9	Nickel	ug/L												
10	Selenium	ug/L												
11	Silver	ug/L												
12	Sulfur	ug/L												
13	Zinc	ug/L												
14	Cyanide	ug/L												
15	Asbestos	Fiber/L												
16	2,3,7,8 TCDD	ug/L												
17	TCDD Equivalents	ug/L												
18	Arochlor 1248	ug/L												
19	Arochlor 1254	ug/L												
20	Benzene	ug/L												
21	Bromobenzene	ug/L												
22	Carbon Tetrachloride	ug/L												
23	Chlorobenzene	ug/L												
24	Chloroethane	ug/L												
25	2-Chloroethylvinyl ether	ug/L												
26	Chloroform	ug/L												
27	Dichloromethane	ug/L												
28	1,2-Dichloroethane	ug/L												
29	1,1,1-Trichloroethane	ug/L												
30	1,2-Dichloropropane	ug/L												
31	1,3-Dichloropropane	ug/L												
32	1,1,2,2-Tetrachloroethane	ug/L												
33	1,1,1,2-Tetrachloroethane	ug/L												
34	Methyl Bromide	ug/L												
35	Methyl Chloride	ug/L												
36	Methylene Chloride	ug/L												
37	1,1,2,2-Tetrachloroethane	ug/L												
38	Tetrahydrofuran	ug/L												
39	Toluene	ug/L												
40	1,2-Trans-Dichloroethene	ug/L												
41	1,1,1-Trichloroethane	ug/L												
42	1,1,2-Trichloroethane	ug/L												
43	Trichloroethylene	ug/L												
44	Vinyl Chloride	ug/L												
45	2-Chlorophenol	ug/L												
46	2,4-Dichlorophenol	ug/L												
47	2,4-Dimethylphenol	ug/L												
48	4,6-Dinitro-o-resol (aka 2-methyl-2-nitrophenol)	ug/L												
49	2,4-Dinitrophenol	ug/L												
50	2-Nitrophenol	ug/L												
51	4-Nitrophenol	ug/L												
52	3-Methyl-4-Chlorophenol (aka 2-chloro-m-cresol)	ug/L												
53	2-Chlorophenol	ug/L												
54	4-Chlorophenol	ug/L												
55	2,6-Dichlorophenol	ug/L												
56	4-Aminophenol	ug/L												
57	Arenathiolane	ug/L												
58	Anthracene	ug/L												
59	Benzidine	ug/L												
60	Benz(a)Anthracene	ug/L												
61	Benz(b)Fluoranthene	ug/L												
62	Benz(k)Fluoranthene	ug/L												
63	Benz(g)Heliophenanthrene	ug/L												
64	Benz(a)Perylene	ug/L												
65	Bis(2-Chloroethoxy)Methane	ug/L												
66	Bis(2-Chloroisopropoxy)Ethyl Ether	ug/L												
67	Bis(2-Chloroisopropoxy)Ether	ug/L												
68	Bis(2-Ethylthio)Phthalate	ug/L												
69	4-Bromophenyl Phenyl Ether	ug/L												
70	Bisphenol A	ug/L												
71	2-Chlorophenyl Phenyl Ether	ug/L												
72	4-Chlorophenyl Phenyl Ether	ug/L												
73	Cyanure	ug/L												
74	Dibenz(a,h)Anthracene	ug/L												
75	1,2-Dichlorobenzene	ug/L												
76	1,4-Dichlorobenzene	ug/L												
77	1,2-Dichloroethane	ug/L												
78	3,3-Dichlorobenzidine	ug/L												
79	Diethyl Phthalate	ug/L												
80	Dimethyl Phthalate	ug/L												
81	Di-n-Butyl Phthalate	ug/L												
82	2,4-Dinitroethane	ug/L												
83	2,6-Dinitrotoluene	ug/L												

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				REASONABLE POTENTIAL ANALYSIS (RPA)													
					Freshwater		Saltwater		Human Health for consumption of:		Lowest C	MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL>C?	If B>C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?	Reason
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only												
84	Di-n-Octyl Phthalate	ug/L		No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.097	N	No Criteria	No Criteria	Uc	No Criteria			
85	1,2-Diphenylhydrazine	ug/L						0.54	0.540			Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
86	Fluoranthene	ug/L						370	370			Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
87	Fluorene	ug/L						14000	14000			Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
88	Hexachlorobenzene	ug/L						0.00077	0.00077			Y	Y	0.097	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
89	Hexachlorobutadiene	ug/L						50	50.00			Y	Y	0.2	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
90	Hexachlorocyclopentadiene	ug/L						17000	17000			Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
91	Hexachloroethane	ug/L						8.9	8.9			Y	Y	0.19	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
92	Indeno(1,2,3-cd)Pyrene	ug/L						0.049	0.0490			Y	Y	0.097	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
93	Isophorone	ug/L		0.13				600	600.0	No	No	Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	MEC<C & B is ND			
94	Naphthalene	ug/L		No Criteria				No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.1	N	No Criteria	No Criteria	Uc	No Criteria			
95	Nitrobenzene	ug/L		5.87				1900	1900	No	No	Y	N		7.58	B<C, Step 7	No Criteria	No	MEC<C & B=C			
96	N-Nitrosodimethylamine	ug/L						8.10	8.10000			Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
97	N-Nitrosodi-n-Propylamine	ug/L						1.40	1.400			Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
98	N-Nitrosodiphenylamine	ug/L						16	16.0			Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
99	Phenanthrene	ug/L		No Criteria				No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.097	N	No Criteria	No Criteria	Uc	No Criteria			
100	Pyrene	ug/L						11000	11000			Y	Y	0.097	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
101	1,2,4-Trichlorobenzene	ug/L		No Criteria				No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.1	N	No Criteria	No Criteria	Uc	No Criteria			
102	Aldrin	ug/L			3.00			0.00014	0.00014			Y	Y	0.0014	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
103	alpha-BHC	ug/L						0.013	0.0130			Y	Y	0.0024	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
104	beta-BHC	ug/L						0.046	0.046			Y	Y	0.0038	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
105	gamma-BHC	ug/L			0.95			0.063	0.063			Y	Y	0.0029	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
106	delta-BHC	ug/L		No Criteria				No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.0033	N	No Criteria	No Criteria	Uc	No Criteria			
107	Chlordane	ug/L			2.4	0.0043		0.00059	0.00059			Y	Y	0.029	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
108	4,4'-DDT	ug/L			1.1	0.001		0.00059	0.00059			Y	Y	0.0038	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
109	4,4'-DDE (linked to DDT)	ug/L						0.00059	0.00059			Y	Y	0.0028	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
110	4,4'-DDD	ug/L						0.00084	0.00084			Y	Y	0.0038	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
111	Dieldrin	ug/L			0.24	0.056		0.00014	0.00014			Y	Y	0.0019	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
112	alpha-Endosulfan	ug/L			0.22	0.056		240	0.0560			Y	Y	0.0019	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
113	beta-Endosulfan	ug/L			0.22	0.056		240	0.0560			Y	Y	0.0028	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
114	Endosulfan Sulfate	ug/L						240	240			Y	Y	0.0019	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
115	Endrin	ug/L			0.086	0.036		0.81	0.0360			Y	Y	0.0019	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
116	Endrin Aldehyde	ug/L						0.81	0.81			Y	Y	0.0019	N	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
117	Heptachlor	ug/L			0.52	0.0038		0.00021	0.00021			Y	Y	0.0028	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
118	Heptachlor Epoxide	ug/L			0.52	0.0038		0.00011	0.00011			Y	Y	0.0024	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			
119-125	PCBs sum (2)	ug/L				0.014		0.00017	0.00017			N	N		N	No detected value of B, Step 7	No Criteria	Ud	No effluent data & no B			
126	Toxaphene	ug/L			0.73	0.0002		0.00075	0.0002			Y	Y	0.068	Y	No detected value of B, Step 7	No Criteria	No	UD; effluent ND, MDL>C, and B is ND			

Notes:
 Ud = Undetermined due to lack of data
 Uc = Undetermined due to lack of CTR Water Quality Criteria
 C = Water Quality Criteria
 B = Background receiving water data

CTR#	Parameters	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS								LIMITS		Recommendation	Comment	
		Organisms only			Saltwater / Freshwater / Basin Plan								Lowest AMEL	Lowest MDEL			
		AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99					MDEL aq life
1	Antimony															No Limit	
2	Arsenic															No Limit	
3	Beryllium															No Limit	
4	Cadmium															No Limit	
5a	Chromium (III)															No Limit	
5b	Chromium (VI)															No Limit	
6	Copper		2.24		0.26	11.93	0.46	12.41	11.93	1.71	20.38	3.82	45.5743	20.38	45.57		
7	Lead															No Limit	
8	Mercury															No Limit	
9	Nickel															No Limit	
10	Selenium															No Limit	
11	Silver															No Limit	
12	Thallium															No Limit	
13	Zinc															No Limit	
14	Cyanide															No Limit	
15	Asbestos															No Limit	
16	2,3,7,8 TCDD TCDD Equivalents															No Limit	
17	Acrolein															No Limit	
18	Acrylonitrile															No Limit	
19	Benzene															No Limit	
20	Bromoform															No Limit	
21	Carbon Tetrachloride															No Limit	
22	Chlorobenzene															No Limit	
23	Chlorodibromomethane															No Limit	
24	Chloroethane															No Limit	
25	2-Chloroethyvinyl ether															No Limit	
26	Chloroform															No Limit	
27	Dichlorobromomethane															No Limit	
28	1,1-Dichloroethane															No Limit	
29	1,2-Dichloroethane															No Limit	
30	1,1-Dichloroethylene															No Limit	
31	1,2-Dichloropropane															No Limit	
32	1,3-Dichloropropylene															No Limit	
33	Ethylbenzene															No Limit	
34	Methyl Bromide															No Limit	
35	Methyl Chloride															No Limit	
36	Methylene Chloride															No Limit	
37	1,1,2,2-Tetrachloroethane															No Limit	
38	Tetrachloroethylene															No Limit	
39	Toluene															No Limit	
40	1,2-Trans-Dichloroethylene															No Limit	
41	1,1,1-Trichloroethane															No Limit	
42	1,1,2-Trichloroethane															No Limit	
43	Trichloroethylene															No Limit	
44	Vinyl Chloride															No Limit	
45	2-Chlorophenol															No Limit	
46	2,4-Dichlorophenol															No Limit	
47	2,4-Dimethylphenol															No Limit	
48	4,6-dinitro-o-resol (aka 2-methyl 4,6-Dinitrophenol)															No Limit	
49	2,4-Dinitrophenol															No Limit	
50	2-Nitrophenol															No Limit	
51	4-Nitrophenol															No Limit	
52	3-Methyl-4-Chlorophenol (aka p-chloro-m-resol)															No Limit	
53	Pentachlorophenol															No Limit	
54	Phenol															No Limit	
55	2,4,6-Trichlorophenol															No Limit	
56	Acenaphthene															No Limit	
57	Acenaphthylene															No Limit	
58	Anthracene															No Limit	
59	Benzidine															No Limit	
60	Benzo(a)Anthracene															No Limit	
61	Benzo(a)Pyrene															No Limit	
62	Benzo(b)Fluoranthene															No Limit	
63	Benzo(ghi)Perylene															No Limit	
64	Benzo(k)Fluoranthene															No Limit	
65	Bis(2-Chloroethoxy)Methane															No Limit	
66	Bis(2-Chloroethyl)Ether															No Limit	
67	Bis(2-Chloroisopropyl)Ether															No Limit	
68	Bis(2-Ethylhexyl)Phthalate															No Limit	
69	4-Bromophenyl Phenyl Ether															No Limit	
70	Butylbenzyl Phthalate															No Limit	
71	2-Chloronaphthalene															No Limit	
72	4-Chlorophenyl Phenyl Ether															No Limit	
73	Chrysene															No Limit	
74	Dibenzo(a,h)Anthracene															No Limit	
75	1,2-Dichlorobenzene															No Limit	
76	1,3-Dichlorobenzene															No Limit	
77	1,4-Dichlorobenzene															No Limit	
78	3,3-Dichlorobenzidine															No Limit	
79	Diethyl Phthalate															No Limit	
80	Dimethyl Phthalate															No Limit	
81	Di-n-Butyl Phthalate															No Limit	
82	2,4-Dinitrotoluene															No Limit	
83	2,6-Dinitrotoluene															No Limit	

CTR#	Parameters	HUMAN HEALTH CALCULATIONS		Organisms only		AQUATIC LIFE CALCULATIONS										Recommendation	Comment
		AMEL hh = ECA = C	MDEL/AMEL	MDEL hh	ECA acute multiplier (p.7)	LTA acute multiplier	ECA chronic multiplier	LTA chronic multiplier	Lowest AMEL multiplier	Lowest LTA multiplier	AMEL multiplier 95 aq life	AMEL multiplier 95 aq life	MDEL multiplier	MDEL aq life	Lowest AMEL		
84	Di-n-Octyl Phthalate															No Limit	
85	1,2-Diphenylhydrazine															No Limit	
86	Fluoranthene															No Limit	
87	Fluorene															No Limit	
88	Hexachlorobenzene															No Limit	
89	Hexachlorobutadiene															No Limit	
90	Hexachlorocyclopentadiene															No Limit	
91	Hexachlorobenzene															No Limit	
92	Heptachlorocyclopentadiene															No Limit	
93	Heptachlorocyclopentadiene															No Limit	
94	Naphthalene															No Limit	
95	Nitrobenzene															No Limit	
96	N-Nitrosodimethylamine															No Limit	
97	N-Nitrosodiphenylamine															No Limit	
98	Phenanthrene															No Limit	
99	Pyrene															No Limit	
100	1,2,4-Trichlorobenzene															No Limit	
101	Aldrin															No Limit	
102	alpha-BHC															No Limit	
103	beta-BHC															No Limit	
104	gamma-BHC															No Limit	
105	delta-BHC															No Limit	
106	Chlordane															No Limit	
107	4,4-DDT															No Limit	
108	4,4-DDE (linked to DDT)															No Limit	
109	4,4-DDD															No Limit	
110	Dieldrin															No Limit	
111	alpha-Endosulfan															No Limit	
112	beta-Endosulfan															No Limit	
113	Endosulfan Sulfate															No Limit	
114	Endrin															No Limit	
115	Endrin Aldehyde															No Limit	
116	Heptachlor Epoxide															No Limit	
117	PCBs sum (2)															No Limit	
118-125	Toxaphene															No Limit	

Notes:
 Ud = Undetermined due to lack of data
 C = Water Quality Criteria
 B = Background receiving water data

CTR#	Parameters	Units	CV	CTR Water Quality Criteria (ug/L)								REASONABLE POTENTIAL ANALYSIS (RPA)											
				Freshwater				Saltwater				Human Health for consumption of:		MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is MDL > C?	If B > C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
				C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot	Water & organisms	Organisms only	Lowest C													
1	Antimony	ug/L									4300.00	4300.00			Y	Y	6	N	No detected value of B, Step 7			No	
2	Arsenic	ug/L		16	340.00	150.00					150.00	150.00	No	No	Y	Y	4.4	N	No detected value of B, Step 7			No	
3	Beryllium	ug/L		No Criteria							No Criteria	No Criteria	No Criteria	No Criteria	Y	Y	0.9	N	No Criteria		No Criteria	Uc	
4	Cadmium	ug/L			18.56	6.58					Narrative	Narrative	No	No	Y	Y	2	N	No detected value of B, Step 7			No	
5a	Chromium (III)	ug/L		4.9	4844.73	577.46					Narrative	Narrative	No	No	Y	Y	2.7	N	No detected value of B, Step 7			No	
5b	Chromium (VI)	ug/L			16.29	11.43					Narrative	Narrative	No	No	Y	Y	4	N	No detected value of B, Step 7			No	
6	Copper	ug/L	1.07		76	45.57	27.21						Yes	Yes	Y	Y	3	N	No detected value of B, Step 7			Yes	
7	Lead	ug/L	1.16		24	402.28	15.68						Yes	Yes	Y	Y	3	N	No detected value of B, Step 7			Yes	
8	Mercury	ug/L		0.05	Res	Res							No	No	Y	Y	0.05	N	No detected value of B, Step 7			No	
9	Nickel	ug/L		3.2	1353.99	150.54					4600.00	160.54	No	No	Y	N		15	B <= C, Step 7			No	
10	Selenium	ug/L	0.6		26	20.00	5.00					5.00	Yes	Yes	Y	N		8	Limit required, B-C & pollutant detected in effluent			Yes	
11	Silver	ug/L			35.01							35.01			Y	Y		3	N	No detected value of B, Step 7			No
12	Thallium	ug/L			6.30							6.30			Y	Y		7	N	No detected value of B, Step 7			No
13	Zinc	ug/L		200	346.34	346.34						346.34	No	No	Y	Y		6	N	No detected value of B, Step 7			No
14	Cyanide	ug/L			22.00	5.20						5.20			Y	Y		17	Y	No detected value of B, Step 7			No
15	Asbestos	Fibers/L		No Criteria								No Criteria	No Criteria	No Criteria	N	N				No Criteria		No Criteria	Uc
16	2,3,7,8 TCDD	ug/L	0.6	8.5E-07							0.00000014	0.00000014	Yes	Yes	Y	N		5.22E-07	N	Limit required, B-C & pollutant detected in effluent			Yes
17	TCDD Equivalents	ug/L	0	8.5E-07							0.00000014	0.00000014	Yes	Yes	Y	N		5.22E-07	N	Limit required, B-C & pollutant detected in effluent			Yes
18	Acrolein	ug/L			780							780			Y	Y		4	N	No detected value of B, Step 7			No
19	Acrylonitrile	ug/L			0.66	0.660						0.660			Y	Y		0.7	Y	No detected value of B, Step 7			No
20	Benzene	ug/L			71	71.0						71.0			Y	Y		0.28	N	No detected value of B, Step 7			No
21	Bromoform	ug/L		2.9		360	360.0					360.0	No	No	Y	Y		0.4	N	No detected value of B, Step 7			No
22	Carbon Tetrachloride	ug/L			4.4	4.40						4.40			Y	Y		0.28	N	No detected value of B, Step 7			No
23	Chlorobenzene	ug/L			21000	21000						21000			Y	Y		0.36	N	No detected value of B, Step 7			No
24	Chlorodibromomethane	ug/L		1.4		34	34.00					34.00	No	No	Y	Y		0.28	N	No detected value of B, Step 7			No
25	Chloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.4	N	No Criteria		No Criteria	Uc
26	2-Chloroethylvinyl ether	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		1.3	N	No Criteria		No Criteria	Uc
27	Chloroform	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.33	N	No Criteria		No Criteria	Uc
28	Dichlorobromomethane	ug/L		28.3		46	46.00					46.00	No	No	Y	Y		0.3	N	No detected value of B, Step 7			No
29	1,1-Dichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.27	N	No Criteria		No Criteria	Uc
30	1,2-Dichloroethane	ug/L			99	99.00						99.00			Y	Y		0.27	N	No detected value of B, Step 7			No
31	1,1-Dichloroethylene	ug/L			3.2	3.200						3.200			Y	Y		0.42	N	No detected value of B, Step 7			No
32	1,2-Dichloropropane	ug/L			39	39.00						39.00			Y	Y		0.35	N	No detected value of B, Step 7			No
33	1,3-Dichloropropylene	ug/L			1700	1700						1700			Y	Y		0.22	N	No detected value of B, Step 7			No
34	Ethylbenzene	ug/L			29000	29000						29000			Y	Y		0.25	N	No detected value of B, Step 7			No
35	Methyl Bromide	ug/L			4000	4000						4000			Y	Y		0.42	N	No detected value of B, Step 7			No
36	Methyl Chloride	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.4	N	No Criteria		No Criteria	Uc
37	Methylene Chloride	ug/L			1600	1600.0						1600.0			Y	Y		0.95	N	No detected value of B, Step 7			No
38	1,1,2,2-Tetrachloroethane	ug/L			11	11.00						11.00			Y	Y		0.24	N	No detected value of B, Step 7			No
39	Tetrachloroethylene	ug/L			8.85	8.9						8.9			Y	Y		0.32	N	No detected value of B, Step 7			No
40	Toluene	ug/L		27.9		200000	200000					200000	No	No	Y	Y		0.36	N	No detected value of B, Step 7			No
41	1,2-Trans-Dichloroethylene	ug/L			140000	140000						140000			Y	Y		0.27	N	No detected value of B, Step 7			No
42	1,1,1-Trichloroethane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.3	N	No Criteria		No Criteria	Uc
43	1,1,2-Trichloroethane	ug/L			42	42.0						42.0			Y	Y		0.3	N	No detected value of B, Step 7			No
44	Trichloroethylene	ug/L			81	81.0						81.0			Y	Y		0.26	N	No detected value of B, Step 7			No
45	Vinyl Chloride	ug/L			525	525						525			Y	Y		0.3	N	No detected value of B, Step 7			No
46	2-Chlorophenol	ug/L			400	400						400			Y	Y		0.19	N	No detected value of B, Step 7			No
47	2,4-Dichlorophenol	ug/L			790	790						790			Y	Y		0.19	N	No detected value of B, Step 7			No
48	2,4-Dimethylphenol	ug/L			2300	2300						2300			Y	Y		0.29	N	No detected value of B, Step 7			No
49	4,6-dinitro-o-resol (aka 2-methyl-4,6-Dinitrophenol)	ug/L		1.8		765	765.0					765.0	No	No	Y	Y		0.19	N	No detected value of B, Step 7			No
50	2,4-Dinitrophenol	ug/L			14000	14000						14000			Y	Y		0.87	N	No detected value of B, Step 7			No
51	2-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.097	N	No Criteria		No Criteria	Uc
52	4-Nitrophenol	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		2.4	N	No Criteria		No Criteria	Uc
53	3-Methyl-4-Chlorophenol (aka p-chloro-m-resol)	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.19	N	No Criteria		No Criteria	Uc
54	Pentachlorophenol	ug/L			8.2	8.20						8.20			Y	Y		0.097	N	No detected value of B, Step 7			No
55	Phenol	ug/L			4600000	4600000						4600000			Y	Y		0.29	N	No detected value of B, Step 7			No
56	2,4,6-Trichlorophenol	ug/L		2.3		6.5	6.5					6.5	No	No	Y	Y		0.097	N	No detected value of B, Step 7			No
57	Acenaphthene	ug/L			2700	2700						2700			Y	Y		0.097	N	No detected value of B, Step 7			No
58	Acenaphthylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.097	N	No Criteria		No Criteria	Uc
59	Anthracene	ug/L			110000	110000						110000			Y	Y		0.097	N	No detected value of B, Step 7			No
60	Benzidine	ug/L			0.00054	0.00054						0.00054			Y	Y		0.97	Y	No detected value of B, Step 7			No
61	Benzo(a)Anthracene	ug/L			0.049	0.0490						0.0490			Y	Y		0.097	Y	No detected value of B, Step 7			No
62	Benzo(a)Pyrene	ug/L			0.049	0.0490						0.0490			Y	Y		0.097	Y	No detected value of B, Step 7			No
63	Benzo(b)Fluoranthene	ug/L			0.049	0.0490						0.0490			Y	Y		0.097	Y	No detected value of B, Step 7			No
64	Benzo(g,h)Perylene	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.097	N	No Criteria		No Criteria	Uc
65	Benzo(k)Fluoranthene	ug/L			0.049	0.0490						0.0490			Y	Y		0.097	Y	No detected value of B, Step 7			No
66	Bis(2-Chloroethoxy)Methane	ug/L		No Criteria								No Criteria	No Criteria	No Criteria	Y	Y		0.097	N	No Criteria		No Criteria	Uc
67	Bis(2-Chloroethyl)Ether	ug/L			1.4	1.400						1.400			Y	Y		0.097	N	No detected value of B, Step 7			

Fact Sheet Attachment J
 Draft Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
 Discharge Point 003

CTR#	Parameters	Units	CV	MEC	CTR Water Quality Criteria (ug/L)				Human Health for consumption of:		Lowest C	REASONABLE POTENTIAL ANALYSIS (RPA)									
					Freshwater		Saltwater		Water & organisms	Organisms only		MEC >= Lowest C	Tier 1 - Need limit?	B Available (Y/N)?	Are all B data points non-detects (Y/N)?	points ND Enter the min detection limit (MDL)	Enter the pollutant B detected max conc (ug/L)	If all B is ND, is MDL > C?	If B > C, effluent limit required	Tier 3 - other info. ?	RPA Result - Need Limit?
					C acute = CMC tot	C chronic = CCC tot	C acute = CMC tot	C chronic = CCC tot													
84	Di-n-Octyl Phthalate	ug/L		No Criteria						No Criteria	No Criteria	No Criteria	Y	Y	0.097	N	No Criteria	No Criteria	Uc		
85	1,2-Diphenylhydrazine	ug/L						0.54	0.540				Y	Y	0.087	N	No detected value of B, Step 7		No		
86	Fluoranthene	ug/L						370	370				Y	Y	0.087	N	No detected value of B, Step 7		No		
87	Fluorene	ug/L						14000	14000				Y	Y	0.087	N	No detected value of B, Step 7		No		
88	Hexachlorobenzene	ug/L						0.00077	0.00077				Y	Y	0.097	Y	No detected value of B, Step 7		No		
89	Hexachlorobutadiene	ug/L						50	50.00				Y	Y	0.2	N	No detected value of B, Step 7		No		
90	Hexachlorocyclopentadiene	ug/L						17000	17000				Y	Y	0.097	N	No detected value of B, Step 7		No		
91	Hexachloroethane	ug/L						8.9	8.9				Y	Y	0.19	N	No detected value of B, Step 7		No		
92	Indeno[1,2,3-cd]Pyrene	ug/L						0.049	0.0490				Y	Y	0.097	Y	No detected value of B, Step 7		No		
93	Isophorone	ug/L						600	600.0				Y	Y	0.097	N	No detected value of B, Step 7		No		
94	Naphthalene	ug/L		No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.1	N	No Criteria		No Criteria	Uc		
95	Nitrobenzene	ug/L		5.62				1900	1900				Y	N		7.58	B=C, Step 7		No		
96	N-Nitrosodimethylamine	ug/L						8.10	8.10000				Y	Y	0.097	N	No detected value of B, Step 7		No		
97	N-Nitrosodi-n-Propylamine	ug/L						1.40	1.400				Y	Y	0.097	N	No detected value of B, Step 7		No		
98	N-Nitrosodiphenylamine	ug/L						16	16.0				Y	Y	0.097	N	No detected value of B, Step 7		No		
99	Phenanthrene	ug/L		No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.097	N	No Criteria		No Criteria	Uc		
100	Pyrene	ug/L						11000	11000				Y	Y	0.097	N	No detected value of B, Step 7		No		
101	1,2,4-Trichlorobenzene	ug/L		No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.1	N	No Criteria		No Criteria	Uc		
102	Aldrin	ug/L						3.00	0.00014	0.00014			Y	Y	0.0014	Y	No detected value of B, Step 7		No		
103	alpha-BHC	ug/L						0.013	0.0130				Y	Y	0.0024	N	No detected value of B, Step 7		No		
104	beta-BHC	ug/L						0.046	0.046				Y	Y	0.0038	N	No detected value of B, Step 7		No		
105	gamma-BHC	ug/L						0.95	0.063	0.063			Y	Y	0.0028	N	No detected value of B, Step 7		No		
106	delta-BHC	ug/L		No Criteria					No Criteria	No Criteria	No Criteria	Y	Y	0.0033	N	No Criteria		No Criteria	Uc		
107	Chlordane	ug/L						2.4	0.0043	0.0043			Y	Y	0.029	Y	No detected value of B, Step 7		No		
108	4,4'-DDT	ug/L	0.6	0.017				1.1	0.001	0.001		Yes	Yes	Y	Y	0.0038	Y	No detected value of B, Step 7	Yes		
109	4,4'-DDE (linked to DDT)	ug/L							0.00059	0.00059			Y	Y	0.0028	Y	No detected value of B, Step 7		No		
110	4,4'-DDD	ug/L							0.00084	0.00084			Y	Y	0.0038	Y	No detected value of B, Step 7		No		
111	Dieldrin	ug/L						0.24	0.056	0.056			Y	Y	0.0019	Y	No detected value of B, Step 7		No		
112	alpha-Endosulfan	ug/L						0.22	0.056	0.056			Y	Y	0.0019	Y	No detected value of B, Step 7		No		
113	beta-Endosulfan	ug/L						240	0.0560	0.0560			Y	Y	0.0019	N	No detected value of B, Step 7		No		
114	Endosulfan Sulfate	ug/L						240	0.0560	0.0560			Y	Y	0.0028	N	No detected value of B, Step 7		No		
115	Endrin	ug/L						0.81	0.0360	0.0360			Y	Y	0.0019	N	No detected value of B, Step 7		No		
116	Endrin Aldehyde	ug/L						0.81	0.81	0.81			Y	Y	0.0019	N	No detected value of B, Step 7		No		
117	Heptachlor	ug/L						0.52	0.0038	0.0038			Y	Y	0.0028	Y	No detected value of B, Step 7		No		
118	Heptachlor Epoxide	ug/L						0.52	0.0038	0.0038			Y	Y	0.0024	Y	No detected value of B, Step 7		No		
119-125	PCBs sum (2)	ug/L						0.00017	0.00017	0.00017			N				No detected value of B, Step 7		Ud		
126	Toxaphene	ug/L						0.73	0.0002	0.0002			Y	Y	0.068	Y	No detected value of B, Step 7		No		

Notes:
 Ud = Undetermined due to lack of data
 Uc = Undetermined due to lack of CTR Water Quality Criteria
 C = Water Quality Criteria
 B = Background receiving water data

Fact Sheet Attachment J
 Draft Reasonable Potential Analysis (Per Sections 1.3 and 1.4 of SIP)
 Discharge Point 003

CTR#	Parameters	Reason	HUMAN HEALTH CALCULATIONS			AQUATIC LIFE CALCULATIONS								LIMITS		Recommendation	Comment	
			Organisms only			Saltwater / Freshwater / Basin Plan												
			AMEL hh = ECA = C hh O only	MDEL/AMEL multiplier	MDEL hh	ECA acute multiplier (p.7)	LTA acute	ECA chronic multiplier	LTA chronic	Lowest LTA	AMEL multiplier 95	AMEL aq life	MDEL multiplier 99	MDEL aq life	Lowest AMEL			Lowest MDEL
84	Di-n-Octyl Phthalate	No Criteria														No Limit		
85	1,2-Diphenylhydrazine	UD; effluent ND, MDL>C, and B is ND														No Limit		
86	Fluoranthene	UD; effluent ND, MDL>C, and B is ND														No Limit		
87	Fluorene	UD; effluent ND, MDL>C, and B is ND														No Limit		
88	Hexachlorobenzene	UD; effluent ND, MDL>C, and B is ND														No Limit		
89	Hexachlorobutadiene	UD; effluent ND, MDL>C, and B is ND														No Limit		
90	Hexachlorocyclopentadiene	UD; effluent ND, MDL>C, and B is ND														No Limit		
91	Hexachloroethane	UD; effluent ND, MDL>C, and B is ND														No Limit		
92	Indeno(1,2,3-cd)Pyrene	UD; effluent ND, MDL>C, and B is ND														No Limit		
93	Isophorone	UD; effluent ND, MDL>C, and B is ND														No Limit		
94	Naphthalene	No Criteria														No Limit		
95	Nitrobenzene	MEC<C & B<=C														No Limit		
96	N-Nitrosodimethylamine	UD; effluent ND, MDL>C, and B is ND														No Limit		
97	N-Nitrosodi-n-Propylamine	UD; effluent ND, MDL>C, and B is ND														No Limit		
98	N-Nitrosodiphenylamine	UD; effluent ND, MDL>C, and B is ND														No Limit		
99	Phenanthrene	No Criteria														No Limit		
100	Pyrene	UD; effluent ND, MDL>C, and B is ND														No Limit		
101	1,2,4-Trichlorobenzene	No Criteria														No Limit		
102	Aldrin	UD; effluent ND, MDL>C, and B is ND														No Limit		
103	alpha-BHC	UD; effluent ND, MDL>C, and B is ND														No Limit		
104	beta-BHC	UD; effluent ND, MDL>C, and B is ND														No Limit		
105	gamma-BHC	UD; effluent ND, MDL>C, and B is ND														No Limit		
106	delta-BHC	No Criteria														No Limit		
107	Chlordane	UD; effluent ND, MDL>C, and B is ND														No Limit		
108	4,4'-DDT	MEC>=C	0.00059	2.01	0.00118	0.32	0.35	0.53	0.00	0.00	1.55	0.00	3.11	0.00164	0.00059	0.00118	No Limit	
109	4,4'-DDE (linked to DDT)	UD; effluent ND, MDL>C, and B is ND														No Limit		
110	4,4'-DDD	UD; effluent ND, MDL>C, and B is ND														No Limit		
111	Dieldrin	UD; effluent ND, MDL>C, and B is ND														No Limit		
112	alpha-Endosulfan	UD; effluent ND, MDL>C, and B is ND														No Limit		
113	beta-Endosulfan	UD; effluent ND, MDL>C, and B is ND														No Limit		
114	Endosulfan Sulfate	UD; effluent ND, MDL>C, and B is ND														No Limit		
115	Endrin	UD; effluent ND, MDL>C, and B is ND														No Limit		
116	Endrin Aldehyde	UD; effluent ND, MDL>C, and B is ND														No Limit		
117	Heptachlor	UD; effluent ND, MDL>C, and B is ND														No Limit		
118	Heptachlor Epoxide	UD; effluent ND, MDL>C, and B is ND														No Limit		
119-125	PCBs sum (2)	No effluent data & no B														No Limit		
125	Texaphene	UD; effluent ND, MDL>C, and B is ND														No Limit		

Notes:
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 B = Background receiving water data