

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY**

**ORDER NO. R5-2006-0081  
NPDES NO. CA0084620**

**WASTE DISCHARGE REQUIREMENTS  
FOR  
CALAVERAS COUNTY WATER DISTRICT  
SADDLE CREEK GOLF COURSE, L.P.  
COPPER COVE WASTEWATER RECLAMATION FACILITY  
CALAVERAS COUNTY**

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

<b>Discharger</b>	<b>Calaveras County Water District &amp; Saddle Creek Golf Course, L.P.</b>
<b>Name of Facility</b>	<b>Copper Cove Wastewater Reclamation Facility</b>
<b>Facility Address</b>	<b>5130 Kiva Place</b>
	<b>Copper Cove, Ca 95228</b>
	<b>Calaveras County</b>

The Discharger is authorized to discharge from the following discharge points as set forth below:

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Tertiary	120° 37' 10"	37° 54' 55"	Saddle Creek Golf Course Pond
--	Reclaimed Water Incidental Runoff	Between 120° 39' 32" & 120° 37' 30"	Between 37° 55' 28" & 37° 53' 36"	Jurisdictional Wetlands and Littlejohns Creek

This Order was adopted by the Regional Water Board on:	<b>3 August 2006</b>
This Order shall become effective on:	<b>23 August 2006</b>
This Order shall expire on:	<b>1 August 2011</b>
The U.S. Environmental Protection Agency (U.S. EPA) and the Regional Water Board have classified this discharge as a minor discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted therein, and the provisions of the Federal Clean Water Act (CWA), and regulations and guidelines adopted therein, the Discharger shall comply with the requirements in this Order.

I, Pamela C. Creedon, Executive Officer, do hereby certify the following is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 3 August 2006.

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PAMELA C. CREEDON, Executive Officer

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**I. FACILITY INFORMATION**

The following Discharger is authorized to discharge in accordance with the conditions set forth in this Order:

<b>Discharger</b>	<b>Calaveras County Water District &amp; Saddle Creek Golf Course, L.P.</b>
<b>Name of Facility</b>	<b>Copper Cove Wastewater Reclamation Facility</b>
<b>Facility Address</b>	<b>5130 Kiva Place</b>
	<b>Copper Cove, CA 95228</b>
	<b>Calaveras County</b>
<b>Facility Contact, Title, and Phone</b>	<b>Larry Diamond, Interim General Manager, 209-754-3543</b>
<b>Mailing Address</b>	<b>P.O. Box 846, San Andreas, CA 95249</b>
<b>Type of Facility</b>	<b>Tertiary Treatment Plant</b>
<b>Facility Design Flow</b>	<b>0.5 MGD Tertiary Level w/Chlorine Disinfection &amp; 0.95 MGD Tertiary Level w/UV Disinfection</b>

**II. FINDINGS**

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Regional Water Board), finds:

A. **Background.** Calaveras County Water District (CCWD) and Saddle Creek Golf Club (SCGC) (hereinafter Discharger) submitted a Report of Waste Discharge, dated 25 February 2005 and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 0.95 mgd of tertiary treated reclaimed wastewater from Copper Cove Wastewater Reclamation Facility on Saddle Creek Golf Course and to its jurisdictional wetlands tributaries to Littlejohns Creek. Discharger additionally submitted supplemental information on 03 August 2005 for a permit to discharge reclaimed water directly to Littlejohns Creek from the Tertiary Treatment Facility (Facility). The application was deemed complete on November 7, 2005.

CCWD, due to recent development trends in the community, lack of adequate storage capacity, and lack of additional disposal spray fields, has experienced overflows of wastewater from the effluent storage ponds during wet winters. As a result, the Discharger requested a direct discharge of tertiary treated effluent from the Facility directly to Littlejohns Creek during 100-year storm events when there is a danger of overflow from the on-site storage ponds. However, this permit does not allow direct discharge of tertiary treated effluent from CCWD’s treatment facility to Littlejohns Creek at this time, due to lack of demonstration that a direct discharge to Littlejohns Creek would still be necessary if land disposal is maximized.

This NPDES permit allows the discharge of reclaimed wastewater directly to SCGC’s receiving pond and its subsequent use for golf course irrigation. Additionally, this NPDES permit also allows direct discharge to the jurisdictional wetlands when necessary, to provide makeup water.

The SCGC's receiving pond is a part of the wetlands system regulated by the US Army Corps of Engineers (in December 1994), Clean Water Act Section 404 Conditional Use Permit No. 199100807 ("404 Permit"). By requiring compliance with NPDES permit limits at the discharge to SCGC's receiving pond, the NPDES permit protects the beneficial use of the jurisdictional wetlands from incidental golf course discharges as a result of irrigation with recycled water and Littlejohns Creek from any commingled discharge from incidental golf course runoff and makeup water delivered directly to the jurisdictional wetlands.

The 404 Permit requires that all ponds and wetland areas have a continuous supply of water to maintain minimum water levels in the Golf Course ponds and for downstream flows. The 404 Permit has designated some of the wetland systems as final, protected habitat areas, and some of the wetland systems for "cleansing" purposes. The 404 Permit also requires construction of the Golf Course receiving pond detention system in such a manner as to keep the water levels within certain wetlands limits. The 404 Permit prohibits the Discharger from draining golf course receiving ponds down to prevent reclaimed wastewater stored in the wetlands from overflowing during rainfall events.

Neither the use of recycled wastewater for golf course irrigation, nor the incidental runoff of excess irrigation water from the golf course, is a point source discharge of pollutants to Waters of the United States, and therefore does not require regulation by an NPDES Permit. The discharge of treated wastewater into a tributary to the wetlands does constitute a point source discharge of pollutants to a Water of the United States, and therefore does require regulation by an NPDES Permit. The golf course irrigation and incidental runoff are included in this Order solely for the convenience of minimizing the number of orders on the same discharger.

- B. Facility Description.** The Discharger owns and operates a Tertiary Wastewater Treatment Facility. The treatment system consists of a headworks/flow diverter, two aerated ponds (Ponds 1&2) operated in series, followed by a non-aerated pond (Pond 4). Treated secondary wastewater is stored in Pond No. 6 for subsequent irrigation on-site on CCWD's 25 acres of spray irrigation fields. Waste Discharge Requirements Order No. 5-00-136 prescribes requirements for collection, treatment, storage, and disposal of secondary effluent. Wastewater to be reclaimed on the SCGC is further treated to tertiary levels by utilizing wastewater stored in Pond 6 and further processing it with the use of a Microfloc, coagulation-flocculation, and two-stage filtration system. Hypochlorite is added for disinfection and to control algae. A minimum of 90 minutes of chlorine contact time is achieved by the use of a 38 foot diameter (141,000-gallon) reclaimed water storage tank and in the wastewater conveyance pipe transporting the tertiary wastewater to the SCGC storage pond. Tertiary wastewater is then reclaimed for use on the SCGC by sprinkler irrigation.

The Discharger is currently in the process of replacing the existing 0.5 MGD chlorination facilities with a 0.95 MGD capacity UV disinfection system. The anticipated date for UV System start-up is 1 August 2006.

The current biosolids treatment and controls, and land disposal of secondary effluent onsite are regulated by a separate Order No. 5-00-136, which was adopted on 16 June 2000 and expires on 1 June 2010.

Discharge of tertiary treated wastewater to waters of the United States may occur as follows:

Point of Discharge - 001

Direct discharge of tertiary treated effluent to SCGC Receiving Pond for golf course irrigation and to regulated wetlands system when necessary, to provide makeup water with subsequent runoff to surface water drainage course (Littlejohns Creek) and indirect discharge of minor amounts of reclaimed wastewater overflow and incidental runoff to jurisdictional wetlands.

Attachment B and B1 provide a topographic map of the area around the Facility. Attachment C provides a flow schematic 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 (CWC). It shall serve as a 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 of the CWC for discharges that are not subject to regulation under CWA section 402.
- 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 through special studies. Attachments A through C, which contain background information and rationale for Order requirements, are hereby incorporated into this Order and, thus, constitute part of the Findings for this Order.
- E. **California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the CWC.
- F. **Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (CFR)<sup>1</sup> 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 Secondary Treatment Standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

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

- G. **Water Quality-based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The Regional Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in the Fact Sheet.

Section 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) EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR section 122.44(d)(1)(vi).

- H. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Sacramento and San Joaquin River Basins (hereinafter 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 plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Beneficial uses applicable to jurisdictional wetlands tributary to Littlejohns Creek are as follows:

The Basin Plan Table II-1 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan does not specifically identify beneficial uses for jurisdictional wetlands, but does identify present and potential uses for the Delta, to which the wetlands and Littlejohns Creek, via San Joaquin River, are tributaries. The beneficial uses of San Joaquin River and the Delta as identified in Table II-1 of the Basin Plan are municipal and domestic supply, agricultural irrigation, agricultural stock watering, industrial process water supply, industrial service supply, hydro power generation, body contact water recreation, canoeing and rafting, other non-body contact water recreation, aesthetic enjoyment, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, cold spawning habitat, wildlife habitat, and navigation.

The beneficial uses of the unnamed tributaries of wetlands and Littlejohns Creek are not identified in the Basin Plan, however the Plan states:” The beneficial uses of any

specifically identified water body generally apply to its tributary streams.” Upon review of the flow conditions, habitat values, and beneficial uses of these streams, the Regional Water Board finds that the beneficial uses identified in the Basin Plan for San Joaquin River and the Delta are applicable to the unnamed tributaries and Littlejohns Creek. Beneficial uses of the jurisdictional wetlands described in finding IIB as Discharge Point 001, are: uses of water that support terrestrial or wetland ecosystems including but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, as discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to Jurisdictional Wetlands and Littlejohns Creek are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
--	<b>Jurisdictional Wetlands and Littlejohns Creek</b>	Municipal & domestic water supply (MUN), Warm & cold freshwater habitat (WARM/COLD), agricultural irrigation & agricultural stock watering, hydro power generation, wildlife habitat (WILD), body contact & non-contact (REC-2) water recreation, warm & cold fish migration habitat, and navigation.

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 inland surface waters.

Requirements of this Order specifically implement the applicable Water Quality Control Plans.

- I. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, which was amended on May 4, 1995 and November 9, 1999, and the CTR on May 18, 2000, which was amended on February 13, 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.
- J. **State Implementation Policy.** On March 2, 2000, 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 Boards in their basin plans, with the exception of the provision on alternate test procedures for individual discharges that have been approved by USEPA Regional Administrator. The alternate test procedures provision was effective on May 22, 2000. The SIP became effective on May 18, 2000. The SIP includes procedures for determining the need for and calculating Water Quality Based Effluent Limitations (WQBELs) and requires dischargers to submit data sufficient to do so.



- K. **Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does include compliance schedules and interim effluent limitations and/or discharge specifications. A detailed discussion of the basis for the compliance schedule(s) and interim effluent limitation(s) and/or discharge specifications is included in the Fact Sheet (Attachment F).
- L. **Alaska Rule.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 FR 24641, 27 April 2000). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 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 30 May 2000, may be used for CWA purposes, whether or not approved by USEPA.
- M. **Stringency of Requirements for Individual Pollutants.** This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD<sub>5</sub> and TSS. The water quality-based effluent limitations consist of restrictions on turbidity and pathogens. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are more stringent than required by the CWA. Specifically, this Order includes effluent limitations for BOD, TSS, turbidity and pathogens organisms that are more stringent than applicable federal standards, but that are nonetheless necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in the Fact Sheet. In addition, the Regional Water Board has considered the factors in Water Code section 13241 in establishing these requirements.

Water quality-based effluent limitations 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 water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The scientific procedures for calculating the individual water quality-based effluent



limitations are based on the CTR-SIP, which was approved by USEPA on May 1, 2001. All 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 [Clean Water] Act*” pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

- N. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that 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 68-16, which is consistent with the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.

State Water Resources Control Board (State Board) Resolution No. 68-16 (hereafter Resolution 68-16 or the “Antidegradation Policy”) requires the Regional Water Board in regulating the discharge of waste to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Water Board’s policies (e.g., quality that exceeds water quality objectives). Resolution 68-16 also requires that if degradation is allowed, the waste discharge requirements must assure use of best practicable treatment or control to maintain the highest water quality that is feasible and that complies with the Basin Plan.

The Regional Water Board finds that some degradation of groundwater beneath the WWTF is consistent with Resolution 68-16 provided that:

- a. The degradation is confined within a specified boundary;
- b. The discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures;
- c. The degradation is limited to waste constituents typically encountered in domestic wastewater as specified in the groundwater limitations in this Order; and
- d. The degradation does not result in water quality less than that prescribed in the Basin Plan.

Some degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of California. The technology,

energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less. Degradation of groundwater by constituents (e.g., toxic chemicals) other than those specified in the groundwater limitations in this Order, and by constituents that can be effectively removed by conventional treatment (e.g., total coliform bacteria) is prohibited. When allowed, the degree of degradation permitted depends upon many factors (i.e., background water quality, the waste constituent, the beneficial uses and most stringent water quality objective, source control measures, and waste constituent treatability). This Order establishes effluent limits and other requirements that if complied with will result in best practicable treatment or control of the discharge and will comply with the Basin Plan.

Economic prosperity of local communities and associated industry is of maximum benefit to the people of California, and therefore sufficient reason exists to accommodate growth and groundwater degradation around the WWTF, provided that the terms of the Basin Plan are met.

#### **O. Treatment and Control**

This WWTF provides treatment and control of the discharge that incorporates:

- a. Technology for tertiary treatment;
- b. Alarm and automatic flow diversion systems to prevent system bypass or overflow;
- c. Recycling of wastewater using agronomic application rates;
- d. Appropriate biosolids storage and disposal practices; and
- e. Certified operators to assure proper operation and maintenance

The design of the WWTF and the effluent recycling program incorporate several BPTC measures. In order to determine compliance with Resolution No. 68-16, this Order establishes a schedule to install and sample groundwater monitoring wells, as well as formally determine background groundwater concentrations for selected constituents. If groundwater has been degraded, then the Discharger will be required to evaluate and implement BPTC measures for each conveyance, treatment, storage, and disposal component of the system. Completion of these tasks will ensure that BPTC and the highest water quality consistent with the maximum benefit to the people of the State will be achieved.

This Order establishes interim groundwater limitations for the WWTF that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. This Order contains tasks for assuring that BPTC and the highest water quality consistent with the maximum benefit to the people of the State will be achieved. Accordingly, the discharge is consistent with the antidegradation provisions of Resolution 68-16. Based on the results of the scheduled tasks, the Regional Water Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution 68-16.

**P. Water Recycling**

State Board Resolution No. 77-1, *Policy with Respect to Water Reclamation in California*, encourages recycling projects that replace or supplement the use of fresh water, and *The Water Recycling Law* (CWC sections 13500-13529.4) declares that utilization of recycled water is of primary interest to people of the State in meeting future water needs.

A 1988 Memorandum of Understanding between the California Department of Health Services (DHS) and the State Board on the use of recycled water establishes basic principles relative to the two agencies and the regional boards. The Memorandum allocates primary areas of responsibility and authority between the agencies and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to use of recycled water.

The DHS has established statewide water recycling criteria contained in Title 22, CCR, Section 60301 et. seq. DHS revised the water recycling criteria contained in Title 22 on 2 December 2000. CCWD will treat the wastewater to tertiary standards and disinfect the tertiary effluent per Title 22 requirements because of the potential for human contact with the recycled wastewater when it is used to irrigate the golf course.

The DHS requires that the American Water Works Association (AWWA) *Guidelines for Distribution of Non-Potable Water* and *Guidelines for the Onsite Retrofit of Facilities Using Disinfected Tertiary Recycled Water* be implemented in design and construction of recycling equipment. The guidelines require installation of purple pipe, adequate signs, etc. Adequate separation of the recycled water lines, the domestic water lines, and the sewer lines shall be provided.

Section 60323(a) of Title 22 states that no person shall produce or supply recycled water for direct reuse from a proposed water reclamation plant unless a Title 22 Engineering Report is submitted for review, and approval by DHS and the Regional Water Board. Recycled wastewater used for irrigation of golf courses is considered a beneficial reuse. Staff has no record of a Title 22 Engineering Report being submitted to DHS. This Order requires compliance with Title 22 and the Dischargers are expected to prepare and submit a Title 22 Engineering Report to DHS and the Regional Water Board.

- Q. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 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.
- R. Monitoring and Reporting.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards 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.

- S. **Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. 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 (Attachment F).
- T. **Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.
- U. **Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F) of this Order.

### III. DISCHARGE PROHIBITIONS

1. Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. [See attached “Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)”].
3. Neither the discharge nor its treatment shall create a pollution or nuisance as defined in Section 13050 of the California Water Code.
4. Discharge to Saddle Creek Golf Course Pond (NC-2D) or to its wetlands between January 1 and March 31 is prohibited.
5. Direct discharge to Littlejohns Creek is prohibited.

### IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

#### A. Effluent Limitations – Discharge Point - 001

The discharge of tertiary treated wastewater to SCGC Receiving Pond.

1. **Final Effluent Limitations - Discharge to SCGC Receiving Pond (NC-2D)**
  - a. **Effluent Disinfected by Chlorine** - Upon commencement of discharge from the Facility, the discharge of reclaimed wastewater to the SCGC’s receiving pond shall

maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location RECL-001 as described in the attached Monitoring and Reporting Program (Attachment E).

**Final Effluent Limitations  
 Discharge to SCGC Receiving Pond NC-2D  
 (For Chlorine Disinfected Effluent)**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow <sup>1</sup>	mgd	0.5	--	0.5		
BOD <sup>2</sup>	mg/l	10	--	20	---	
	lbs/day <sup>3</sup>	42	---	83	---	
Total Susp. Solids (TSS)	mg/l	10	--	20	---	
	lbs/day <sup>3</sup>	42	---	83		
Settleable Solids	ml/l	0.1	--	0.2		
pH	Std. Units				6.5	8.5
Elect. Conductivity <sup>4</sup>	µmhos/cm	900	--	---		
Oils & Grease	mg/l	10		15		
	lbs.day <sup>3</sup>	42		63		
Dibromochloromethane <sup>5</sup>	µg/l	0.41		0.82		
	lbs/day <sup>3</sup>	0.0017		0.003		
Dicholorbromomethane <sup>5</sup>	µg/l	0.56		1.13		
	lbs/day <sup>3</sup>	0.0023		0.005		
Chloroform	µg/l	1.1		---		
	lbs/day <sup>3</sup>	0.0046				
Aluminum <sup>6</sup>	µg/l	87		174		
	lbs/day <sup>3</sup>	0.36		0.73		
Iron (total recoverable)	µg/l	300		---		
	lbs/day <sup>3</sup>	1.25				
Manganese (total recoverable)	µg/l	50				
	lbs/day <sup>3</sup>	0.21				

<sup>1</sup> Flow will be limited to 0.5 mgd until UV disinfection facilities are installed and fully certified to the satisfaction of the Regional Water Board.

<sup>2</sup> 5-day, 20° C biochemical oxygen demand (BOD)

<sup>3</sup> The mass limits (lbs/day) under the Monthly Average column and the Daily Maximum column are based on the concentration limits multiplied by their corresponding design flow (0.5 mgd ) and the unit conversion factor of 8.34.

<sup>4</sup> Full compliance with this limitation is required by **1 June 2009**

<sup>5</sup> Full compliance with this limitation is required by **18 May 2010**

<sup>6</sup> The effluent limit may be met through the use of USEPA's alternate aluminum testing protocol.

- b. **Effluent Disinfected by UV System** - Upon start-up of UV System and commencement of discharge from the Facility, the discharge of reclaimed wastewater to the SCGC's receiving pond shall maintain compliance with the following effluent limitations at Discharge Point

001, with compliance measured at Monitoring Location RECL-001 as described in the attached Monitoring and Reporting Program (Attachment E).

**Final Effluent Limitations  
 Discharge to SCGC Receiving Pond NC-2D  
 (For UV Disinfected Effluent)**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow <sup>1</sup>	mgd	0.95	--	0.95		
BOD <sup>2</sup>	mg/l	10	--	20	---	
	lbs/day <sup>3</sup>	79	---	158	---	
Total Susp. Solids (TSS)	mg/l	10	--	20	---	
	lbs/day <sup>3</sup>	79	---	158		
Settleable Solids	ml/l	0.1	--	0.2		
PH	Std. Units				6.5	8.5
Elect. Conductivity <sup>4</sup>	µmhos/cm	900	--	---		
Oils & Grease	mg/l	10		15		
	lbs.day <sup>3</sup>	79		119		
Dibromochloromethane <sup>5</sup>	µg/l	0.41		0.82		
	lbs/day <sup>3</sup>	0.0032		0.0065		
Dicholorbromomethane <sup>5</sup>	µg/l	0.56		1.13		
	lbs/day <sup>3</sup>	0.0044		0.0089		
Chloroform	µg/l	1.1		---		
	lbs/day <sup>3</sup>	0.0087				
Aluminum <sup>6</sup>	µg/l	87		174		
	lbs/day <sup>3</sup>	0.69		1.38		
Iron (total recoverable)	µg/l	300		---		
	lbs/day <sup>3</sup>	2.4				
Manganese (total recoverable)	µg/l	50				
	lbs/day <sup>3</sup>	0.4				

<sup>1</sup> Upon installation of UV System and fully certified to the satisfaction of Regional Water Board, the permitted flow will be limited to 0.95 mgd.

<sup>2</sup> 5-day, 20° C biochemical oxygen demand (BOD)

<sup>3</sup> The mass limits (lbs/day) under the Monthly Average column and the Daily Maximum column are based on the concentration limits multiplied by their corresponding flows (monthly average 0.95 mgd and daily maximum 0.95 mgd) and the unit conversion factor of 8.34.

<sup>4</sup> Full compliance with this limitation is required by **1 June 2009**

<sup>5</sup> Full compliance with this limitation is required by **18 May 2010**

<sup>6</sup> The effluent limit may be met through the use of USEPA's alternate aluminum testing protocol.

- c. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.



- d. **Total Ammonia:** Effluent ammonia (as N) shall not exceed the following:
- 2.14 mg/l as 1-hr average;
  - 0.56 mg/l as monthly average;
  - 2.33 lbs/day as a monthly average @ 0.5 mgd
  - 4.44 lbs/day as a monthly average @ 0.95 mgd
- e. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
- i. 70%, minimum for any one bioassay; and
  - ii. 90%, median for any three consecutive bioassays.
- f. **Total Residual Chlorine:** Effluent total residual chlorine shall not exceed the following:
- 0.01 mg/l as a four-day average;
  - 0.02 mg/l as a one-hour average;
  - 0.042 lbs/day as a four-day average at design flow of 0.5 mgd, and;
  - 0.079 lbs/day as a four-day average at design flow of 0.95 mgd.
- g. **Turbidity:** Effluent turbidity shall not exceed the following
- 2 NTU as a daily average;
  - 5 NTU more than 5 percent of the time within a 24-hour period; and
  - 10 NTU at any time.
- h. **Total Coliform Organisms:** Effluent total coliform organisms concentrations shall not exceed the following:
- 2.2 MPN/100 ml as a seven-day median based on the previous seven daily sample results;
  - 23 MPN/100 ml more than once in any 30-day period; and
  - 240 MPN/100 ml at any time.

## 2. Interim Effluent Limitations

Prior to **18 May 2010**, the discharge of treated and chlorine disinfected domestic wastewater to SCGC Receiving Pond shall maintain compliance with the following limitations at Monitoring Location RECL-001, as described in the attached Monitoring and Reporting Program (Attachment E). These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

<u>Constituent</u>	<u>Units</u>	<u>Daily Max.</u>
Dibromochloromethane	µg/l	6
Dichlorobromomethane	µg/l	13

## B. Land Discharge Specifications

1. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of the Groundwater Limitations.
2. Neither the treatment nor the discharge shall cause a nuisance or condition of pollution as defined by the California Water Code, Section 13050.
3. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment plant site boundaries.
4. As a means of discerning compliance with Discharge Specifications as specified in B.3 above, the dissolved oxygen content in the upper zone (one foot) of all effluent storage ponds shall not be less than 1.0 mg/l.
5. The wastewater in all storage ponds shall not have a pH of less than 6.5 or greater than 8.5.
6. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
7. The Discharger shall treat the wastewater such that it complies with Title 22 CCR, Section 60301.230 ("Disinfected Tertiary Recycled Water").
8. Recycled wastewater used for irrigation shall meet the criteria contained in Title 22, CCR.

## C. Reclamation Specifications

Reclaimed water discharged to SCGC Receiving Pond NC-2D shall occur only when necessary during the golf course irrigation season (1 April through 31 December), and in controlled quantities such that the supplied effluent does not overflow and runoff into the tributaries of Littlejohns Creek through natural drainage courses from Pond NC-2D. Effluent distribution shall maintain compliance with the following limitations: .

- i. The discharge from Pond NC-2D shall be distributed uniformly on adequate acreage in compliance with the Discharge Specifications. All tail water other than the incidental runoff must be returned to the receiving ponds or treatment facilities. Reclaimed water shall be oxidized, coagulated, and filtered, or equivalent treatment provided prior to discharge to SCGC receiving pond NC-2D.
- ii. The maximum daily flow of reclaimed wastewater to Pond NC-2D shall not exceed the maximum allowable flow rate as determined through chlorine residual traces studies or

- 0.5 mgd, whichever is lower; or 0.95 mgd upon successful installation and certification of UV disinfection system by the Regional Water Board.
- iii. Hydraulic loading of wastewater shall be at reasonable agronomic rates designed to minimize the percolation of process wastewater below the root zone (*i.e.*, deep percolation).
  - iv. Public contact with recycled wastewater at the golf course shall be controlled through the use of fences, cautionary signs, and/or other appropriate means. Perimeter warning signs indicating that recycled water is in use shall be posted at adequate signage along the property boundary and at each access road entrance to the irrigation area, including cart paths. The size and contents of these signs shall be as described in Section 60310(a) of Title 22.
  - v. SCGC area irrigated with effluent shall be managed to prevent breeding of mosquitoes. More specifically:
    - a. All applied irrigation water must infiltrate completely within 24 hours.
    - a. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation.
    - b. Low-pressure and un-pressurized pipelines and ditches, which are accessible to mosquitoes, shall not be used to store reclaimed water.
  - vi. Discharges to the golf course shall be managed to minimize erosion.
  - vii. There shall be no standing water in the golf course area 24 hours after wastewater is applied.
  - viii. Golf course irrigation with reclaimed water shall only occur when conditions are conducive. Application of wastewater to land shall not be performed within 24 hours before a forecasted storm, during precipitation, or within 24 hours after any precipitation event, nor when the ground is saturated.
  - ix. Portions of the golf course which are within the 100-year flood plain shall not be irrigated with recycled effluent during periods of flooding or imminent flooding.
  - x. Recycled water controller, valves, and similar appurtenances shall be affixed with recycled water warning signs, and shall be equipped with removable handles, locking mechanisms, or some other means to prevent public access or tampering. The contents of the signs shall conform to Section 60310 of Title 22. Quick couplers and sprinkler heads, if used, shall be of a type, or secured in a manner, that permits operation only by authorized personnel. Hose bibs that the public could use shall be eliminated.
  - xi. Any connection between the recycled water conveyance system and any potable water conveyance system, groundwater supply well, or surface water supply source for the purpose of supplementing recycled water shall be equipped with a DHS-approved backflow prevention device.

- xii. Direct or windblown spray of recycled water shall be confined to the designated land application area and shall be prevented from entering outdoor eating areas, dwellings, drinking water facilities, food handling facilities, and other locations where the public may be present. In addition, direct or windblown spray of recycled water shall not enter surface watercourses.
- xiii. Spray irrigation with recycled water is prohibited when wind velocities exceed 30 mph.
- xiv. Reclaimed irrigation water shall be managed, using BPTC methods, to minimize runoff and movement of aerosols from the designated golf course irrigation areas.
- xv. A 50 foot buffer zone shall be maintained between any spring, domestic well or irrigation well and the wetted area produced during land application of effluent.
- xvi. Application rates of recycled water shall not exceed agronomic rates considering the crop, soil, climate, and irrigation management system. The nutrient loading of the reclamation areas, including nutritive value or organic and chemical fertilizers and of the reclaimed water shall not exceed the crop demand.

**D. Receiving Water Specifications – Discharge from SCGC Receiving Pond (NC-2D) to Regulated Wetlands (Mitchell Lake)**

Intentional direct discharge of reclaimed wastewater from SCGC Receiving Pond NC-2D to jurisdictional wetlands shall occur only when necessary to provide makeup water in compliance with the section 404 Permit. The discharge shall be in controlled quantities such that the effluent does not overflow and runoff into the tributaries of Littlejohns Creek through natural drainage courses.

**E. Discharge of Pollutant-Free Wastewater Specification**

The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

**V. RECEIVING WATER LIMITATIONS**

**A. Surface Water Limitations**

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge from incidental runoff, overflows and/or direct discharge from Pond NC-2D shall not cause the following in the jurisdictional wetlands (Mitchell Lake) and Littlejohns Creek.

- i. **Fecal Coliform.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 23 MPN/100 ml, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 240 MPN/100 ml.
- ii. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
- iii. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
- iv. **Discoloration.** Discoloration that causes nuisance or adversely affects beneficial uses.
- v. **Dissolved Oxygen:** Concentrations of dissolved oxygen to fall below 7 mg/L. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95<sup>th</sup> percentile concentration shall not fall below 75 percent of saturation.
- vi. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
- vii. **Oils and Greases.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
- viii. **pH.** The pH to be depressed below 6.5 raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units.
- ix. **Pesticides:**
  - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
  - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
  - c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer;
  - d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR §131.12.);

- e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
  - f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15; nor
  - g. Thiobencarb to be present in excess of 1.0 µg/L.
- xii. **Radioactivity:**
- a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
  - b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.
- xiii. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
- xiv. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
- xv. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
- xvi. **Taste or Odor Producing Substances.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses of receiving water.
- xvii. **Temperature.** The natural temperature to be increased by more than 5°F.
- xviii. **Toxic Substances.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
- xix. **Turbidity.** Changes in turbidity that cause nuisance or adversely affect beneficial uses. Turbidity attributable to controllable water quality factors to exceed the following:



- a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
- b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
- c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
- d. More than 10 percent where natural turbidity is greater than 100 NTUs.

**B. Groundwater Limitations**

- 1. Release of waste constituents from the tertiary WWTP and wastewater disposal components associated with the golf course shall not cause groundwater under and beyond that system component, as determined by an approved well monitoring network, to:
  - a. Contain any of the following constituents in concentration greater than as listed or greater than ambient background quality, whichever is greater.

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Boron	mg/L	0.7
Chloride	mg/L	106
Iron	mg/L	0.3
Manganese	mg/L	0.05
Sodium	mg/L	69
Total Coliform Organisms	MPN/100 mL	Non-detect
Total Dissolved Solids <sup>1</sup>	mg/L	450
Total Nitrogen	mg/L	10
Nitrite (as N)	mg/L	1
Nitrate (as N)	mg/L	10
Ammonia (as NH <sub>4</sub> )	mg/L	0.5
Bromoform	µg/l	4
Bromodichloromethane	µg/l	0.27
Chloroform	µg/l	1.1
Dibromochloromethane	µg/l	0.37

<sup>1</sup> A cumulative impact limit that accounts for several dissolved constituents in addition to those listed here separately [e.g., alkalinity (carbonate and bicarbonate), calcium, hardness, phosphate, and potassium].

- b. Contain any constituent not identified in Groundwater Limitation 1a in concentrations greater than background quality (whether chemical, physical, biological, bacteriological, radiological, or some other property or characteristic).
- c. Exhibit a pH of less than 6.5 or greater than 8.5 pH units.
- d. Impart taste, odor, toxicity, or color that creates nuisance or impairs any beneficial use.

## VI. PROVISIONS

### A. Standard Provisions

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

The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, Sections 13385, 13386, and 13387.

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following provisions:
  - a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by the California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, California Code of Regulations (CCR), Division 3, Chapter 14.
  - b. 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 by failing to disclose fully all relevant facts;
    - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
    - iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

- i. New regulations. New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- iii. Change in sludge use or disposal practice. Under 40 Code of Federal Regulations (CFR) 122.62(a)(1), a change in the Discharger's sludge use or disposal practice

is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Regional Water Board may review and revise this Order at any time upon application of any affected person or the Board's own motion.

- c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Regional Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

- d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 04(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
  - i. contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or
  - ii. controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

- e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- f. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- g. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.
- h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- i. Neither the treatment nor the discharge shall create a condition of nuisance or pollution as defined by the CWC, Section 13050.
- j. Safeguard to electric power failure:

- i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, failure of electric power, the discharge shall comply with the terms and conditions of this Order.
  - ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.
  - iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the existing safeguards are inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.
- k. The Discharger, upon written request of the Regional Water Board, shall file with the Regional Water Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.
- The technical report shall:
- i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
  - ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
  - iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The 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 shall be incorporated as part of this Order, upon notice to the Discharger.

- l. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the Discharger shall notify the Regional Water Board by **January 31**. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.
- m. The Discharger shall submit technical reports as directed by the Executive Officer.
- n. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
  - i. Unless otherwise specified, all metals shall be reported as Total Metals.
  - ii. Unless otherwise specified, bioassays shall be performed in the following manner:
    1. Acute bioassays shall be performed in accordance with guidelines approved by the Regional Water Board and the Department of Fish and Game or in accordance with methods described in USEPA's manual for measuring acute toxicity of effluents (EPA-821-R-02-012 and subsequent amendments).
    2. Short-term chronic bioassays shall be performed in accordance with USEPA guidelines (EPA-821-R-02-013 and subsequent amendments).
- o. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.
- p. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.
- q. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with

the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

- r. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.
- s. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.
- t. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.
- u. Upon written request of the Regional Water Board, the Discharger shall submit a summary monitoring report to the Regional Water Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
- v. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, Sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
- w. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

## **B. Monitoring and Reporting Program Requirements**

- 1. The discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.
- 2. Within **60 days** of permit adoption, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and



2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, adopted 2 March 2000 by the State Water Resources Control Board. All peaks identified by analytical methods shall be reported.

3. This permit, and the Monitoring and Reporting Program which is a part of this permit, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant may not be staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger is required to establish an electronic system for operator notification for continuous recording device alarms. For existing continuous monitoring systems, the electronic notification system shall be installed **within six months of adoption** of this permit. For systems installed following permit adoption, the notification system shall be installed simultaneously.

### C. Special Provisions

#### 1. Reopener Provisions

- a. If more stringent applicable water quality standards for receiving water are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with such more stringent standards.
- b. **Aluminum.** Based on information included in analytical laboratory reports submitted by the Discharger, aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life. Therefore, the Discharger may conduct a water effects ratio study to develop a site-specific objective, and upon approval this Order may be reopened and the aluminum limitation reconsidered.
- c. **Mercury.** Discharger's effluent contains mercury, a bioaccumulative pollutant, and therefore has a reasonable potential to cause or contribute to an exceedance of a narrative water quality objective. There is inadequate information to establish an interim performance based limitation for mercury. The Discharger is required to monitor and report mercury concentrations in accordance with Attachment E. After receipt of twelve months of monitoring data, this Order may be reopened and an interim limit established for mercury.

Additionally, if mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL for mercury is adopted, this Order shall be reopened and any interim mass effluent limitation may be modified (higher or lower) or an effluent concentration limitation imposed. If the Regional Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate any interim mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.

- d. **pH. and Ammonia.** This Order allows the Discharger to perform a site specific study of the tertiary treated effluent to evaluate the possibility of lowering or raising the upper pH limit to allow a higher or a lower ammonia limit. Upon completion of the study, this Order may be reopened to modify the pH limitations and commensurately recalculate ammonia limitations based on the findings of this study.
- e. **Fluoride, Tributyltin, and MBAS.** This Order requires the Discharger to conduct additional monitoring to determine if these constituents have a reasonable potential to exceed a water quality objectives. If the monitoring indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the narrative water quality objective, this Order may be reopened and new limitations included.
- f. **Pollution Prevention.** This Order requires the Discharger prepare pollution prevention plans following CWC section 13263.3(d)(3) for dibromochloromethane, bromodichloromethane, mercury and chloroform. Based on a review of the pollution prevention plans, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these CTR constituents.
- g. **Biosolids.** This Order requires that the use and disposal of biosolids from the SCGC receiving pond comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR part 503. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards.
- h. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.
- i. **Dilution Credits.** No dilution credit has been granted in this Order, thus end-of-pipe effluent limitations for all constituents are required. As discussed in the Fact Sheet, the Discharger has not provided adequate information for the allowance of dilution credits, most importantly, real-time flow monitoring data in the vicinity of the discharge. Should a real-time flow monitoring station be installed in the vicinity of the discharge, and if real-time flow monitoring data from the station demonstrates that sufficient dilution flows are available in Littlejohns Creek, this Order may be reopened to allow dilution credits based on the real-time flow monitoring data.

## 2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **WWTP Expansion.** For authorization to discharge tertiary treated effluent in excess of 0.5 mgd (with chlorine disinfection) or 0.95 mgd (with UV disinfection) and up, the Discharger must:
  - i) Submit certification from a California-registered civil engineer with experience in the design and operation of wastewater treatment plants that the WWTP is capable of meeting discharge limitations and has adequate capacity to treat and dispose of these flows in compliance with this Order.
  - ii) Show that California Environmental Quality Act requirements have been satisfied for the WWTF expansion project.
- b. By **1 September 2006** or prior to initiation of discharge of up to 0.95 mgd, the Discharger shall submit a progress report for the proposed installation of UV disinfection system. The report shall include the physical location of the unit, its disinfection capacity to meet Title 22 requirements, start-up date, and test results, if available.
- c. **SCGC Receiving Pond Management Plan.** By **1 October 2006**, the Discharger shall submit a Pond Management Plan describing how the reclaimed water irrigation receiving pond will be managed consistent with 404 Permit.
- d. **Hydrogeologic Evaluation and Groundwater Monitoring Tasks.** By **30 October 2006**, the Discharger shall submit a workplan for characterization of groundwater quality. The workplan shall describe the installation of wells or similar devices to allow evaluation of the groundwater quality upgradient and downgradient of the golf course receiving pond and the reclamation areas (golf course). Every monitoring well shall be constructed to yield representative samples from the uppermost layer of the uppermost aquifer and to comply with applicable well standards. The workplan shall be consistent with, and include the items listed in, the first section of Attachment 'G', "*Items to be Included in a Monitoring Well Installation Workplan and a Monitoring Well Installation Report of Results.*"

By **30 June 2007**, the Discharger shall submit a groundwater well installation report for monitoring wells or similar devices installed in compliance with this provision and that is consistent with, and includes the items listed in, the second section of Attachment 'G'.

By **30 June 2009**, the Discharger shall submit a *Background Groundwater Quality Study Report*. For each groundwater monitoring parameter/constituent identified in the MRP, the report shall present a summary of monitoring data, calculation of the concentration in background monitoring wells, and comparison of background groundwater quality to that in wells used to monitor the facility. Determination of background quality shall be made using the methods described in Title 27, Section 20415(e)(10), and shall be based on data from at least eight consecutive quarterly (or

more frequent) groundwater monitoring events. For each monitoring parameter/constituent, the report shall compare measured concentrations for compliance monitoring wells with: 1) the calculated background concentration, and 2) the interim numeric limitations set forth in Groundwater Limitation B.1.a. Where background concentrations are statistically greater than the interim limitations specified in Groundwater Limitation B.1.a, the report shall recommend final groundwater limitations which comply with Resolution 68-16 for the waste constituents listed therein. Subsequent use of a concentration as a final groundwater limitation will be subject to the discretion of the Executive Officer.

Upon completion of tasks set forth under this provision, the Regional Water Board shall consider the evidence provided and make a determination regarding whether the Discharger has justified BPTC and the appropriate final numeric groundwater limitations that comply with Resolution 68-16.

- e. **Title 22 Engineering Report.** By **31 August 2006**, the Discharger shall submit a Title 22 Engineering Report that contains the information listed in DHS March 2001 document “ *Guidelines for the Preparation of an Engineering Report for the Production, Distribution, and Use of Recycled Water* (see Attachment ‘H’ of this Order). This report shall be jointly completed, and the cover letter signed, by both the CCWD and the SCGC.
- f. **Chronic Whole Effluent Toxicity.** The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the narrative water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Water Board evaluation, conduct the TRE. This Order may be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened and a limitation based on that objective included.
- g. By **1 December 2006**, the Discharger shall submit a progress report for the proposed expansion of both the Storage Pond 6 and the on-site spray irrigation fields. The report shall include a description of additional wintertime storage capacity available from the proposed expansion and a revised water balance demonstrating the need to continue discharge to SCGC after implementing the land disposal maximization measures required under Order 5-00-136.

### 3. Best Management Practices and Pollution Prevention

- a. In an effort to maximize the use of existing land disposal resources as described in Order No. 5-00-136, the Discharger must irrigate the Golf Course, in addition to the existing

on-site spray field irrigation, with reclaimed wastewater during the wintertime when the conditions are suitable for irrigation. For example, water meter data from CCWD indicates that SCGC needed approximately 70 AF of water for irrigation during the 1999-2000 winter. Therefore, wintertime golf course irrigation with reclaimed wastewater will be permitted (from 1 April to 31 December) as set forth in Section IV.C (Reclamation Specifications).

**4. Compliance Schedules:**

- a. **CTR Compliance Schedule:** The Discharger’s effluent contains Dichlorobromomethane, and Dibromochloromethane at concentrations that exceed water quality objectives contained in the CTR. Sampling indicates the existing effluent while discharging to SCGC Pond NC-2D or to its tributaries would not be capable of consistently meeting the effluent limitations for these constituents. Therefore, the Discharger shall comply with the following time schedule and develop a corrective action, which evaluates reasonable measures to achieve full compliance with the new final water quality based effluent limitations for Dichlorobromomethane, and Dibromochloromethane by **18 May 2010**.

<u>Task</u>	<u>Date Due</u>
Submit Compliance Schedule	Accomplished
Submit Corrective Action Plan and Implementation Schedule	1 December 2006
Progress Report <sup>1</sup>	1 July, annually
<b>Full compliance</b>	<b>18 May 2010</b>

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<sup>1</sup>. The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, evaluate effectiveness of the implemented measures and assess whether additional measures are necessary to meet the time schedule.

The Discharger shall submit to the Regional Water Board on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the time schedule.

If after review of the study results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective this Order will be reopened and effluent limitations added for the subject constituents.

- b. **Compliance Time Schedule for Aluminum, Ammonia, Chloroform, EC, Iron, and Manganese:** The Discharger’s effluent contains aluminum, ammonia, chloroform, EC, iron, and manganese at concentrations that has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan’s water quality objectives.

Based on the data available, the Discharger cannot consistently comply with the established limitations, and a compliance time schedule is needed. As the Basin Plan toxicity and chemical constituent objectives are not new objectives, a schedule of compliance for these constituents is not included in this Order but a separate Time Schedule Order shall be proposed for compliance with effluent limitations.

The Discharger shall submit to the Regional Water Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the time schedule.

- c. **Requirements for EC Study:** This Order requires the Discharger to conduct a site specific study which assesses ambient receiving water flows and associated EC levels, TDS, and chloride concentrations and the impact of the discharge on local soil salinity, groundwater quality, background water quality, and irrigation water users and municipal supply users downstream of the discharge. The site specific study shall be completed and submitted for approval by the Executive Officer in accordance with the following time schedule:

<u>Task</u>	<u>Compliance Date</u>
Submit Workplan and Time Schedule	1 June 2007
Begin Study	1 July 2007
Complete Study	1 July 2008
<b>Submit Final Study Report</b>	<b>1 June 2009</b>

The Discharger shall submit to the Regional Board on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Board by letter when it returns to compliance with the time schedule.

Upon completion of the study, this Order may be reopened to consider whether the effluent limitation for EC should be adjusted up or down considering the findings of this study.

d. **General Compliance:**

- i. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986."



- ii. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)", dated February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
- iii. The Discharger shall comply with Monitoring and Reporting Program No. R5-2006-XXX, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by U.S. EPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

- iv. This Order expires on **1 August 2011** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.
- v. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:
  - a. Wastes which create a fire or explosion hazard in the treatment works;
  - b. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
  - c. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;
  - d. Any waste, including oxygen demanding pollutants (BOD, *etc.*), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;
  - e. Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F), unless the Regional Water Board approves alternate temperature limits;
  - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;



## 5. Construction, Operation and Maintenance Specifications

- a. Reclaimed Wastewater Receiving Pond (NC-2D) shall be managed to prevent breeding of mosquitoes. In particular,
  - i. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface;
  - ii. Weeds shall be minimized; and
  - iii. Dead algae, vegetation, and debris shall not accumulate on the water surface.
- b. Public contact with wastewater in ponds shall be precluded through such means as fences, signs, and/or other acceptable alternatives.
- c. Pond NC-2D shall have sufficient capacity to comply with 404 Permit requirements and accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.
- d. Prior to the onset of the rainy season of each year, available pond storage capacity at SCGC shall at least equal the volume necessary to comply with Discharge Specifications.
- e. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
- f. This permit, and the Monitoring and Reporting Program which is a part of this permit, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant may not be staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger is required to establish an electronic system for operator notification for continuous recording device alarms. For existing continuous monitoring systems, the electronic notification system shall be installed **within six months of adoption** of this permit. For systems installed following permit adoption, the notification system shall be installed simultaneously.

## 6. Special Provisions for Municipal Facilities (POTWs Only)

- a. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, Sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner

such that all work can be clearly attributed to the professional responsible for the work.

- b. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (916) 464-3291 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 include the information required by Federal Standard Provision V.E.1 [40 CFR §122.41(l)(6)(i)].
- c. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).
  - i. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.
  - ii. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

## VII. COMPLIANCE DETERMINATION

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

### A. **Average Monthly Effluent Limitation (AMEL).**

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation though the discharge 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. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

- B. Average Weekly Effluent Limitation (AWEL).**  
If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, this will represent a single violation though the discharge will be considered out of compliance for each day of that week for that parameter, resulting in seven (7) days of non-compliance. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the discharger will be considered out of compliance for that calendar week. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.
- C. Maximum Daily Effluent Limitation (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 one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.
- D. 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).
- E. 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).
- F. Six-month Median Effluent Limitation.**  
If the median of daily discharges over any 180-day period exceeds the six-month median effluent limitation for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the six-month median, the discharger will be considered out of compliance for the 180-day period. For any 180-period during which no sample is taken, no compliance determination can be made for the six-month median limitation.

**G. Aluminum Effluent Limitations.**

Compliance with the final effluent limitations for aluminum can be demonstrated by using either total, or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by US EPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

**H. Mercury Mass Loading Limitation**

1. In calculating for compliance, the Discharger shall count all non-detect results at one half of the method detection limit and shall apply the monthly average flow from the discharge. If compliance with the effluent limit is not attained due to the non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance will be evaluated with consideration of the detection limits.
2. Twelve month mass loadings shall be calculated for each calendar month. For monthly measures, calculate monthly loadings using average monthly flow and the average of all mercury analyses conducted that month. The Discharger shall submit a cumulative total of mass loadings for the previous twelve months with each self-monitoring report. Compliance will be determined based on monitoring results from the previous twelve calendar months.

## ATTACHMENT A – DEFINITIONS

**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.

**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 one 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.

**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.

**Percent Removal:** the arithmetic mean of 20°C BOD (5-day) and total suspended solids in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).

**Six-month Median Effluent Limitation:** the highest allowable moving median of all daily discharges for any 180-day period.



**ATTACHMENT B – TOPOGRAPHIC MAP**

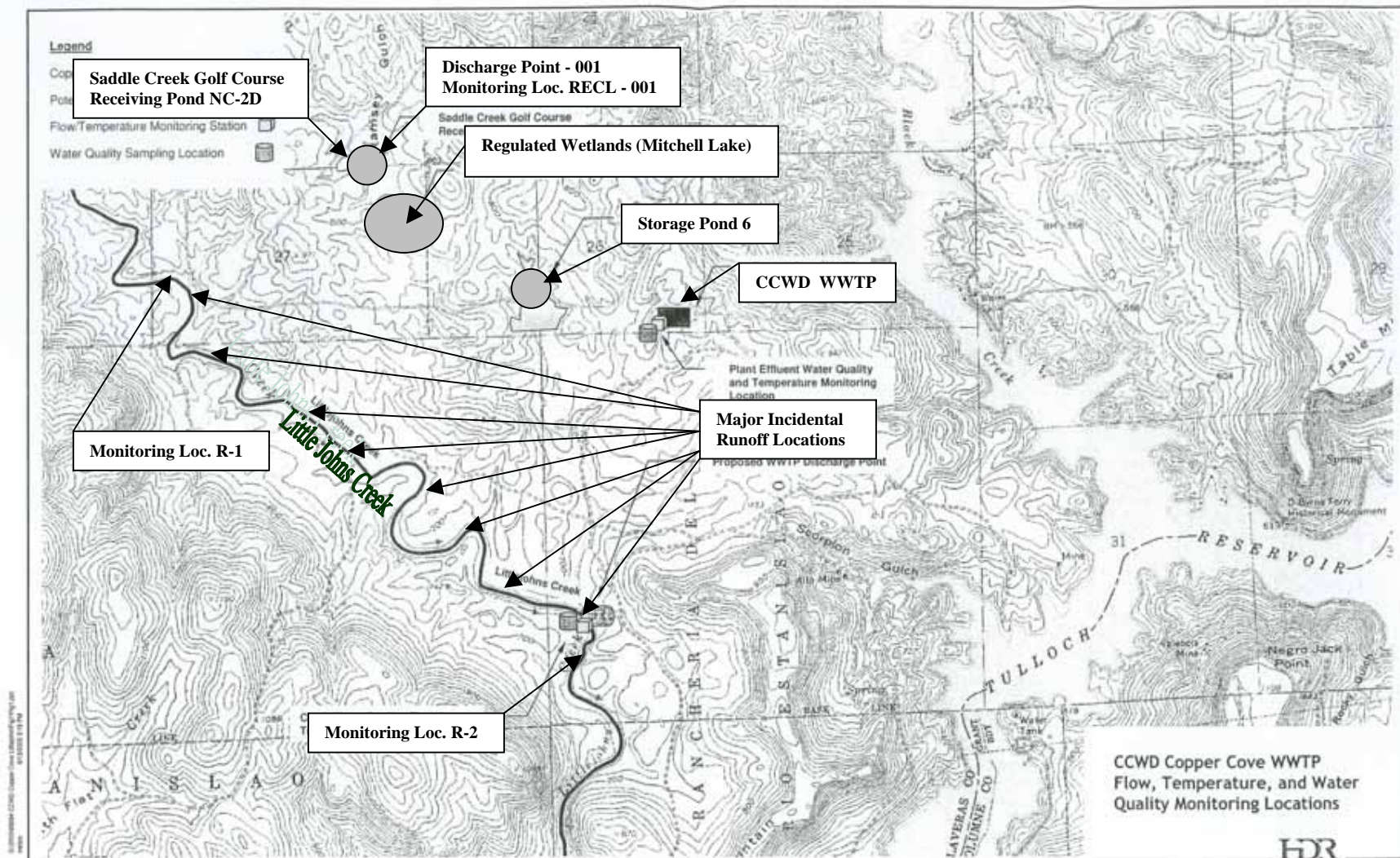
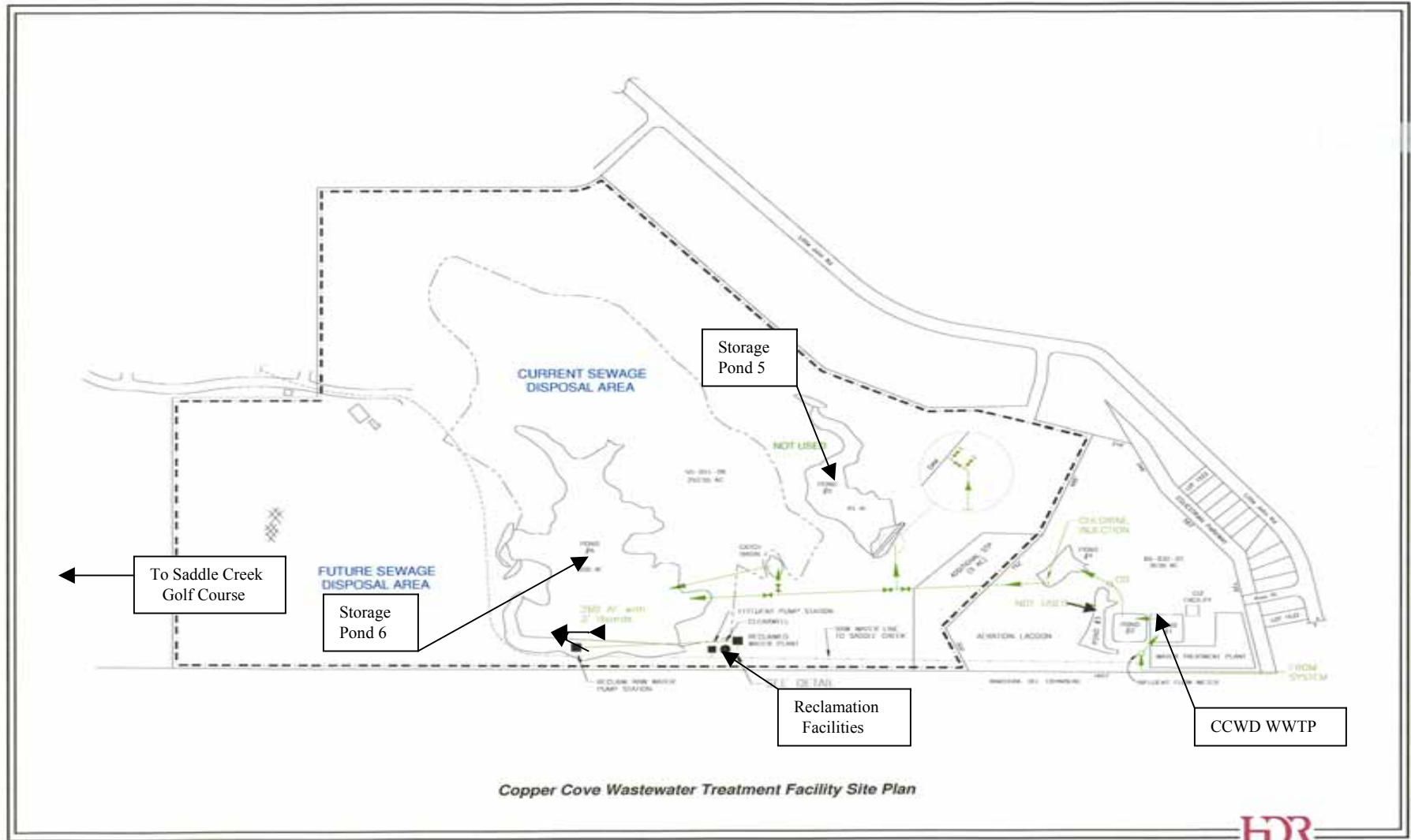
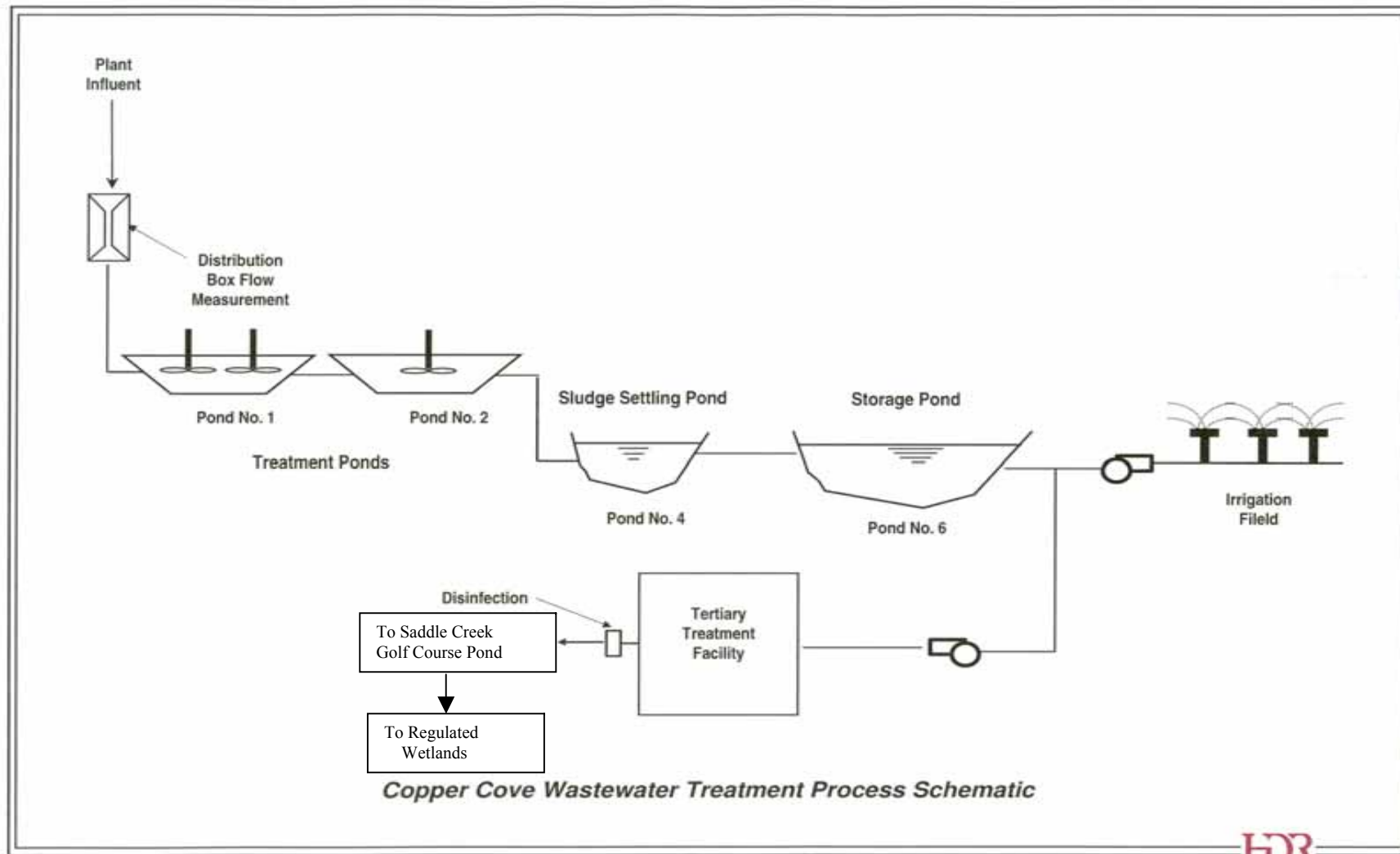


Figure 1

**ATTACHMENT B1 (PLANT LAYOUT)**



**ATTACHMENT C – FLOW SCHEMATIC**



HDR

Figure 4-5

## **ATTACHMENT D – FEDERAL STANDARD PROVISIONS**

### **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 (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [*40 CFR §122.41(a)*].
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act 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 been modified to incorporate the requirement [*40 CFR §122.41(a)(1)*].

#### **B. Need to Halt or Reduce Activity Not a Defense**

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

#### **C. Duty to Mitigate**

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

#### **D. Proper Operation and Maintenance**

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

#### **E. Property Rights**

1. This Order does not convey any property rights of any sort or any exclusive privileges [*40 CFR §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 [40 CFR §122.5(c)].

#### **F. Inspection and Entry**

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

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [40 CFR §122.41(i)(1)];
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [40 CFR §122.41(i)(2)];
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [40 CFR §122.41(i)(3)];
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [40 CFR §122.41(i)(4)].

#### **G. Bypass**

1. Definitions
  - a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility [40 CFR §122.41(m)(1)(i)].
  - b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [40 CFR §122.41(m)(1)(ii)].
2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3 and I.G.5 below [40 CFR §122.41(m)(2)].

3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [40 CFR §122.41(m)(4)(i)]:
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [40 CFR §122.41(m)(4)(A)];
  - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [40 CFR §122.41(m)(4)(B)]; and
  - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provision – Permit Compliance I.G.5 below [40 CFR §122.41(m)(4)(C)].
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [40 CFR §122.41(m)(4)(ii)].
5. Notice
  - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [40 CFR §122.41(m)(3)(i)].
  - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below [40 CFR §122.41(m)(3)(ii)].

## H. Upset

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

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



2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR §122.41(n)(3)]:
  - a. An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR §122.41(n)(3)(i)];
  - b. The permitted facility was, at the time, being properly operated [40 CFR §122.41(n)(3)(i)];
  - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b [40 CFR §122.41(n)(3)(iii)]; and
  - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [40 CFR §122.41(n)(3)(iv)].
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [40 CFR §122.41(n)(4)].

## II. STANDARD PROVISIONS – PERMIT ACTION

### A. General

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

### B. Duty to Reapply

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

### C. Transfers

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

## III. STANDARD PROVISIONS – MONITORING

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR §122.41(j)(1)].
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in



40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §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 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR §122.41(j)(2)].

**B. Records of monitoring information shall include:**

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

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

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

#### **V. STANDARD PROVISIONS – REPORTING**

**A. Duty to Provide Information**

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [40 CFR §122.41(h)] [CWC 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 paragraph (2.) and (3.) of this provision [40 CFR §122.41(k)].
2. All permit applications shall be signed as follows:
  - a. For a corporation: 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 [40 CFR §122.22(a)(1)];
  - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [40 CFR §122.22(a)(2)]; or
  - c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA) [40 CFR §122.22(a)(3)].
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph (b) of this provision, 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 paragraph (2.) of this provision [40 CFR §122.22(b)(1)];
  - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [40 CFR §122.22(b)(2)]; and

- c. The written authorization is submitted to the Regional Water Board, State Water Board, or USEPA [40 CFR §122.22(b)(3)].
4. If an authorization under paragraph (3.) of this provision 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 paragraph (3.) of this provision must be submitted to the Regional Water Board, State Water Board, or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].
5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

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

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [40 CFR §122.41(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices [40 CFR §122.41(l)(4)(i)].
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [40 CFR §122.41(l)(4)(ii)].
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [40 CFR §122.41(l)(4)(iii)].

### **D. Compliance Schedules**

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

#### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [*40 CFR §122.41(l)(6)(i)*].
2. The following shall be included as information that must be reported within 24 hours under this paragraph [*40 CFR §122.41(l)(6)(ii)*]:
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(A)*].
  - b. Any upset that exceeds any effluent limitation in this Order [*40 CFR §122.41(l)(6)(ii)(B)*].
  - c. Violation of a maximum daily discharge limitation for any of the pollutants listed in this Order to be reported within 24 hours [*40 CFR §122.41(l)(6)(ii)(C)*].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [*40 CFR §122.41(l)(6)(iii)*].

#### **F. Planned Changes**

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

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [*40 CFR §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 which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [*40 CFR §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 [40 CFR §122.41(l)(1)(iii)].

#### **G. Anticipated Noncompliance**

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

#### **H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting E.3, E.4, and E.5 at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E [40 CFR §122.41(l)(7)].

#### **I. Other Information**

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

### **VI. STANDARD PROVISIONS – ENFORCEMENT**

- A. The 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 Clean Water Act, 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 [40 CFR 122.41(a)(2)] [CWC 13385 and 13387].
- B. 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 [40 CFR 122.41(a)(3)].
- C. 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 2 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 [40 CFR 122.41(j)(5)].
- D. 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 [40 CFR 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 [40 CFR §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" [40 CFR §122.42(a)(1)]:
  - a. 100 micrograms per liter (µg/L) [40 CFR §122.42(a)(1)(i)];



- b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(1)(ii)];
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(1)(iii)]; or
  - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §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” [40 CFR §122.42(a)(2)]:
- a. 500 micrograms per liter (µg/L) [40 CFR §122.42(a)(2)(i)];
  - b. 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(2)(ii)];
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(2)(iii)]; or
  - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(2)(iv)].

**B. Publicly-Owned Treatment Works (POTWs)**

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

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the CWA if it were directly discharging those pollutants [40 CFR §122.42(b)(1)]; and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order [40 CFR §122.42(b)(2)].

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

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## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

### **I. GENERAL MONITORING PROVISIONS**

- A. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.
- B. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.
- C. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.
- D. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.
- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

## 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:

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	M-INF	At the plant headworks prior to entry into treatment processes
001	RECL-001	Entry point of tertiary treated effluent discharge into SCGC Receiving Pond (NC-2D)
--	---	Entry points of incidental runoffs and overflows into Littlejohns Creek (no monitoring required at these locations except at R-1 & R-2)
--	R-1	Littlejohns Creek: 50 feet upstream from the first incidental runoff location point (Latitude 120° 39' 32" & Longitude 37° 55' 28")
--	R-2	Littlejohns Creek: 100 feet downstream from the last incidental runoff location point (Latitude 120° 37' 30" & Longitude 37° 53' 36")
--	PND-001	Monitoring of SCGC Storage Pond NC-2D
--	GW-001	Ground water monitoring (Immediately up gradient of Receiving Pond NC-2D)
--	GW-002	Ground water monitoring (Down gradient of Saddle Creek Golf Course)

## III. INFLUENT MONITORING REQUIREMENTS

### A. Monitoring Location (Headworks M-INF)

1. Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled. The Discharger shall monitor domestic influent to the facility at the headworks prior to entry into treatment processes as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	
5-Day BOD <sub>5</sub>	mg/l, lbs/day	24-hr. Composite <sup>1</sup>	Once weekly	
Total Suspended Solids	mg/l, lbs/day	24-hr. Composite <sup>1</sup>	Once weekly	
PH	Number	Meter	Once weekly	
Electrical Conductivity	µmhos/cm	Grab	Once weekly	
TDS	mg/l	Grab	Once weekly	

<sup>1</sup> 24-hour flow proportional composite

**IV. EFFLUENT MONITORING REQUIREMENTS**

**A. Monitoring Location – SCGC Pond NC-2D (RECL-001)**

1. When supplying reclaimed water to SCGC Golf Course Receiving Pond NC-2D, the Discharger shall monitor tertiary treated effluent prior to discharge at Monitoring Location RECL-001 (from the last connection in the outfall through which the reclaimed water can be admitted into the pond). Effluent samples should be representative of the volume and quality of the discharge and the time of collection shall be recorded. The Discharger shall monitor the effluent as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous <sup>1</sup>	
PH	Number	Meter	Continuous <sup>1</sup>	
Turbidity	NTU	Meter	Continuous <sup>1</sup>	
5-Day BOD <sub>5</sub>	mg/l, lbs/day <sup>6</sup>	24-Hour Composite <sup>2</sup>	Once Weekly	
Total Residual Chlorine	mg/l, lbs/day <sup>6</sup>	Grab	Monthly <sup>10</sup>	
Total Susp. Solids	mg/l, lbs/day <sup>6</sup>	24-Hour Composite <sup>2</sup>	Once Weekly	
Settleable Solids	ml/l-hr	24-Hour Composite <sup>2</sup>	Once Weekly	
Temperature	°F	Grab	Once Weekly	
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Once Weekly	
Ammonia, Total (N) <sup>4, 5,7</sup>	mg/l, lbs/day <sup>6</sup>	Grab	Once Weekly	
Total Coliform Organisms <sup>3</sup>	MPN/100 ml	Grab	Once Daily	
Dibromochloromethane	µg/l, lbs/day <sup>6</sup>	Grab	Monthly	
Dichlorobromomethane	µg/l, lbs/day <sup>6</sup>	Grab	Monthly	
Chloroform	µg/l, lbs/day <sup>6</sup>	Grab	Monthly	
Hardness	mg/l	24-Hour Composite <sup>2</sup>	Monthly	
Aluminum	mg/l, lbs/day <sup>6</sup>	24-Hour Composite <sup>2</sup>	Monthly	
Iron (total)	mg/l, lbs/day <sup>6</sup>	24-Hour Composite <sup>2</sup>	Monthly	
Manganese (total)	mg/l, lbs/day <sup>6</sup>	24-Hour Composite <sup>2</sup>	Monthly	
Mercury	µg/l, lbs/day <sup>6</sup>	24-Hour Composite <sup>2</sup>	Monthly	
Fluoride	mg/l, lbs/day <sup>6</sup>	24-Hour Composite <sup>2</sup>	Quarterly	

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
MBAS	mg/l, lbs/day <sup>6</sup>	24-Hour Composite <sup>2</sup>	Quarterly	
Sulfates	mg/l, lbs/day <sup>6</sup>	Grab	Quarterly	
Tributyltin	µg/l, lbs/day <sup>6</sup>	Grab	Quarterly	
Methylmercury	µg/l, lbs/day <sup>6</sup>	Grab	Quarterly	1630 <sup>11</sup>
Standard Minerals <sup>8,9</sup>	mg/l	24-Hour Composite <sup>2</sup>	Annually	
Priority Pollutants <sup>8</sup>	mg/l	Grab	Once during the life of the permit	

- <sup>1</sup> The continuous monitoring system, or functional equivalent, shall be operational no later than **31 August 2006** or **prior to initiation of discharge**.
- <sup>2</sup> These samples shall be flow-proportional composite samples.
- <sup>3</sup> Total coliform organisms samples may be collected at any point following disinfection, provided that samples are adequately dechlorinated and/or UV'd at the time of collection. The Discharger shall report the sampling location(s) in the monthly self-monitoring reports.
- <sup>4</sup> Report as total ammonia.
- <sup>5</sup> Concurrent with biotoxicity monitoring.
- <sup>6</sup> In reporting lbs/day, the Discharger shall report both the lbs/day discharged and the calculated lbs/day limitation.
- <sup>7</sup> Temperature and pH shall be recorded at the time of ammonia sample collection.
- <sup>8</sup> To be collected concurrently with upstream of Littlejohns Creek water monitoring for these constituents. Priority pollutants to be collected once during the life of the permit, during the 2009 discharge season, whether discharge to surface waters actually occurs or not.
- <sup>9</sup> Standard minerals shall include calcium, magnesium, hardness, sodium, potassium, alkalinity, sulfate, chloride, boron, and nitrate and include verification that the analysis is complete (i.e., cation/anion balance).
- <sup>10</sup> Monitoring required daily when there is a direct discharge from Pond NC-2D to regulated wetlands (Mitchell Lake).
- <sup>11</sup> Unfiltered methylmercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: "Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels", for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by U.S.EPA method 1630/1631 (Revision E) with a method detection limit of 0.02 ng/l for methylmercury and 0.2 ng/l for total mercury.

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, except for priority pollutants, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.



## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. Monitoring Frequency – the Discharger shall perform quarterly acute toxicity testing, concurrent with effluent ammonia sampling.
2. Sample Types – For Static Non-renewal and Static Renewal testing, the samples shall be 24-hour flow proportional composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location RECL-001.
3. Test Species – Test species shall be fathead minnows (*Pimephales promelas*) or rainbow trout (*Oncorhchus mykiss*).
4. Methods – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
5. Test Failure – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. **Chronic Toxicity Testing.** The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. Monitoring Frequency – When supplying reclaimed water to the SCGC, the Discharger shall perform quarterly three species chronic toxicity testing.
2. Sample Types – Effluent samples shall be 24-hour flow proportional composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location RECL-001. The receiving water control shall be a grab sample obtained from Pond NC-2D.
3. Sample Volumes – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
4. Test Species – Chronic toxicity testing measures sublethal (e.g. reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:
  - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
  - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and

- The green alga, *Selenastrum capricornutum* (growth test).
5. **Methods** – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002.
  6. **Reference Toxicant** – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.
  7. **Dilutions** – The chronic toxicity testing shall be performed using the dilution series identified in Table E-1, below. The receiving water control from Pond NC-2D shall be used as the diluent (unless the receiving water is toxic).
  8. **Test Failure** – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days from the time the Discharger becomes aware of the test failure. A chronic toxicity test fails if:
    - a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or
    - b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page. 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in Special Provisions VI. 2.a.iii.)

**Table E-1  
 Chronic Toxicity Testing Dilution Series**

Sample	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	12.5	0	0
% Receiving Water	0	25	50	75	87.5	100	0
% Laboratory Water	0	0	0	0	0	0	100

- C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Water Board within 24-hrs from the time the Discharger becomes aware of the test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.
- D. **WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory’s complete report provided to the Discharger and shall be in accordance with the

appropriate “Report Preparation and Test Review” sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:
  - a. The results expressed in TUC, measured as 100/NOEC, and also measured as 100/LC<sub>50</sub>, 100/EC<sub>25</sub>, 100/IC<sub>25</sub>, and 100/IC<sub>50</sub>, as appropriate.
  - b. The statistical methods used to calculate endpoints;
  - c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);
  - d. The dates of sample collection and initiation of each toxicity test; and
  - e. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUC, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.
2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.
3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger’s approved TRE Work Plan.

**VI. LAND DISCHARGE MONITORING REQUIREMENTS;**

**GOLF COURSE RECEIVING POND (NC-2D) – Monitoring Location PND-001**

Pond monitoring shall be conducted when water is present in SCGC Receiving Pond NC-2D. All pond samples shall be grab samples. The Discharger shall monitor pond at PND-001 at a minimum as follows:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen <sup>1</sup>	mg/l	Grab	Weekly	Monthly
PH	pH units	Grab	Weekly	Monthly
Electrical Conductivity	µmhos/cm	Grab	Weekly	Monthly
Berm Seepage <sup>2</sup>	NA	Observation	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Freeboard	0.1 feet	Observation	Weekly	Monthly

<sup>1</sup> Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

<sup>2</sup> Receiving Pond containment levees shall be observed for signs of seepage or surfacing water along the exterior toe of the levees and dam. If surfacing water is found, then a sample shall be collected and tested for total coliform organisms and total dissolved solids.

**GOLF COURSE MONITORING**

Monitoring of the effluent recycling site (golf course) shall be conducted daily and the results shall be included in the monthly monitoring report. Evidence of erosion, saturation, irrigation runoff, or the presence of nuisance conditions shall be noted in the report. Effluent monitoring results shall be used in calculations to ascertain loading rates at the application area. Monitoring of the golf course shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow <sup>1</sup>	mgd	Continuous	Daily	Monthly
Rainfall	Inches	Observation	Daily	Monthly
Application Rate <sup>2</sup>	gal/acre/day	Calculated	Daily	Monthly
Total Nitrogen Loading Rate <sup>2</sup>	lbs/ac/month	Calculated	Monthly	Monthly
Total Dissolved Solids Loading Rate <sup>2</sup>	lbs/ac/month	Calculated	Monthly	Monthly

<sup>1</sup> Flow measurement shall be provided for effluent being supplied to the golf course  
<sup>2</sup> For each land application area.

The entire irrigated area shall be periodically inspected during or immediately following an irrigation event to identify any equipment malfunction or other circumstances that might allow irrigation runoff to leave the irrigation area and/or create ponding conditions that violate the Waste Discharge Requirements. A daily log of these inspections shall be kept at the facility and made available for review upon request.

**VII. RECLAMATION MONITORING REQUIREMENTS**

**Not Applicable**

**VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER**

**A. Monitoring Location – Littlejohns Creek (R-1 & R-2)**

All receiving water samples shall be grab samples. Samples shall be collected when there is an incidental discharge from SCGC and/or regulated wetlands, which is the major water body that collects runoff from SCGC property and then eventually discharges it to Littlejohns Creek. If discharge does not occur during the monitoring period, samples are not required to be collected. The Discharger shall monitor Littlejohns Creek at Monitoring Locations R-1 and R-2 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>1</sup>	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/Month	[2]
PH	standard units	Grab	1/Month	[2]
Turbidity	NTU	Grab	1/Month	[2]
Temperature	°F (°C)	Grab	1/Month	[2]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month	[2]
Ammonia <sup>3</sup>	mg/L	Grab	1/Month	[2]
Fecal Coliform Organisms	MPN/100 ml	Grab	1/Month	[2]

- <sup>1</sup> If a discharge is intermittent rather than continuous, the Discharger shall monitor and record data for all of the constituents listed above on the first day of each intermittent discharge and thereafter the frequencies in the schedule shall apply. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.
- <sup>2</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board.
- <sup>3</sup> Report as both total and un-ionized ammonia with corresponding pH and temperature measurements.

In conducting receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Location R-001. Attention shall be given to the presence or absence of:

Floating or suspended matter	Visible films, sheens or coatings
Discoloration	Fungi, slimes, or objectionable growths
Bottom deposits	Potential nuisance conditions
Aquatic life	

Notes on receiving water conditions shall be summarized in the monitoring report.

### B. Monitoring Location - Groundwater (GW-001 & GW-002)

Groundwater grab samples shall be collected from all groundwater monitoring wells immediately up and down gradient of SCGC and the receiving pond NC-2D. Prior to sampling, the wells should be pumped until the temperature, specific conductivity, and pH have stabilized to ensure representative samples. The Discharger shall monitor groundwater at G-001 and G-002 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to Groundwater <sup>1</sup>	feet	Grab	Quarterly	
Groundwater Elevation	feet	Grab	Quarterly	
pH	pH units	Grab	Quarterly	
Electrical Conductivity at 25°C	µmhos/cm	Grab	Quarterly	
TDS	mg/L	Grab	Quarterly	
Total Nitrogen	mg/L	Grab	Quarterly	

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Nitrate (as N)	mg/L	Grab	Quarterly	
Total Kjeldahl Nitrogen (as N)	mg/L	Grab	Quarterly	
Ammonia	mg/L	Grab	Quarterly	
Total Coliform Organisms	MPN/100 ml	Grab	Quarterly	
Fecal Coliform <sup>2</sup>	MPN./100 ml	Grab	Quarterly	
Standard Minerals <sup>3</sup>	mg/L	Grab	Annually	
Priority Pollutants <sup>4</sup>	µg/L	Grab	Annually	

- <sup>1</sup> Groundwater elevation shall be used to calculate the direction and gradient of groundwater flow. Elevations shall be measured to the nearest one-hundredth of a foot from mean sea level. The groundwater elevation shall be measured prior to purging the wells.
- <sup>2</sup> Sampling for fecal coliform shall be performed for at least two consecutive quarters in any groundwater monitoring well following the detection in that well of total coliform organisms in excess of 2.2 MPN/100 ml.
- <sup>3</sup> Standard minerals shall include calcium, magnesium, hardness, sodium, potassium, alkalinity, sulfate, chloride, boron, and nitrate and include verification that the analysis is complete (i.e., cation/anion balance).
- <sup>4</sup> All priority pollutants to be monitored once every year of the life of the permit.

## IX. OTHER MONITORING REQUIREMENTS

### A. SCGC Receiving Pond Monitoring

Same requirements as under Section E VI Golf Course Receiving Pond NC-2D.

### B. Water Supply Monitoring

See Water Supply Monitoring requirements contained in the Revised Monitoring and Reporting Program of Land Disposal Waste Discharge Requirements Order No. 5-00-136.

### C. Sludge Monitoring

- a. A composite sample of sludge shall be collected when sludge is removed from SCGC receiving ponds for disposal in accordance with USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the metals listed in Title 22.
- b. Sampling records shall be retained for a minimum of **five years**. A log shall be kept of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report.
- c. Upon removal of sludge, the Discharger shall submit characterization of sludge quality, including sludge percent solids and quantitative results of chemical analysis for the priority pollutants listed in 40 CFR 122 Appendix D, Tables II and III (excluding total phenols). Suggested methods for analysis of sludge are provided in U.S. EPA publications titled "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods" and "Test Methods for Organic Chemical Analysis of Municipal and Industrial

Wastewater". Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e). Other guidance is available in U.S. EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989.

## **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. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986.
3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the reported analytical result are readily discernible. The data shall be summarized in such a manner to clearly illustrate whether the discharge complies with waste discharge requirements. Monthly maximums, minimums, and averages shall be reported for each monitored constituent and parameter. Removal efficiencies (%) for biochemical oxygen demand and total suspended solids and all periodic averages and medians for which there are limitations shall also be calculated and reported.
4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.

### **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. Until such notification is given, the Discharger shall submit self-monitoring reports in accordance with the requirements described below.
2. The Discharger shall submit monthly, quarterly, semiannual, and annual Self Monitoring Reports including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. Monthly reports shall be due on the 1<sup>st</sup> day of the second month following the end of each calendar month; quarterly reports shall be due on May 1, August 1, November 1, and February 1 following each calendar quarter; semi-annual reports shall be due on August 1 and February 1 following each semi-annual period; annual reports shall be due on February 1 following each calendar year.
3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily

discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements (interim and/or final effluent limitations). The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD and Total Suspended Solids, shall be determined and recorded as needed to demonstrate compliance.

4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.
5. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.
6. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling
1 / Day	Permit effective date	Calendar day (Midnight through 11:59 PM)	First day of second month following month of sampling
2 / Week 1 / Week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling
1 / Month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 <sup>st</sup> day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1 / Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	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
1 / Semi-annual period	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 1 February 1
1 / Year	January 1 following (or on) permit effective date	January 1 through December 31	February 1



7. The Discharger shall report with each sample result the applicable Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.
8. 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.
9. 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  
Central Valley Region  
11020 Sun Center Drive, #200  
Rancho Cordova, CA 95670

### C. Groundwater Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Board by the **1<sup>st</sup> day of the second month after the quarter** (i.e. the January-March quarterly report is due by May 1<sup>st</sup>) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of groundwater monitoring;
2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;

6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
8. Copies of laboratory analytical report(s) for groundwater monitoring.

**D. 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 self-monitoring reports. Until such notification is given, the Discharger shall submit discharge monitoring reports (DMRs) in accordance with the requirements described below.
2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharge shall submit the original DMR and one copy of the DMR to the address listed below:

State Water Resources Control Board  
 Discharge Monitoring Report Processing Center  
 Post Office Box 671  
 Sacramento, CA 95812

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 or modified cannot be accepted.

**E. Other Reports**

- a. **Progress Reports.** As specified in the compliance time schedules required in Special Provisions VI, progress reports shall be submitted in accordance with the following reporting requirements. At minimum, the progress reports shall include a discussion of the status of final compliance, whether the Discharger is on schedule to meet the final compliance date, and the remaining tasks to meet the final compliance date.

<b>Special Provision</b>	<b>Reporting Requirements</b>
Compliance Schedule for Final Effluent Limitations for Dibromochloromethane, and, Dichlorobromomethane.	<b>1 July</b> , annually, until final compliance

By **1 February** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

- i. The names, certificate grades, and general responsibilities of all persons employed at the WWTP.
  - ii. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
  - iii. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
  - iv. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
- b. **Additional Report:** The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

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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.

SCOPE OF PERMIT

This Order regulates the discharge of up to **0.5 MGD chlorine disinfected** and/or **0.95 MGD UV disinfected** design maximum dry weather flow of tertiary treated effluent from the existing Copper Cove Wastewater Reclamation Facility. This Order includes effluent, land discharge, groundwater, and surface water limitations, monitoring and reporting requirements, additional study requirements, and reopener provisions for effluent and groundwater constituents.

**I. PERMIT INFORMATION**

The following table summarizes administrative information related to the facility.

<b>Discharger</b>	<b>Calaveras County Water District &amp; Saddle Creek Golf Course, L.P.</b>
<b>Name of Facility</b>	<b>Copper Cove Wastewater Reclamation Facility</b>
<b>Facility Address</b>	<b>5130 Kiva Place</b>
	<b>Copper Cove, CA 95228</b>
	<b>Calaveras County</b>
<b>Facility Contact, Title and Phone</b>	<b>Larry Diamond, Interim General Manager, 209-754-3543</b>
<b>Authorized Person to Sign and Submit Reports</b>	<b>Fred Burnett , Plant Superintendent, 209-754-3543 Extn. 35</b>
<b>Mailing Address</b>	<b>P.O. Box 846, San Andreas, CA 95249</b>
<b>Billing Address</b>	<b>Same as above</b>
<b>Type of Facility</b>	<b>Tertiary Treatment (Domestic Waste)</b>
<b>Major or Minor Facility</b>	<b>Minor</b>
<b>Threat to Water Quality</b>	<b>2</b>
<b>Complexity</b>	<b>B</b>
<b>Pretreatment Program</b>	<b>Not Applicable</b>
<b>Reclamation Requirements</b>	<b>Producer of Title 22 water</b>
<b>Facility Permitted Flow</b>	<b>0.5 MGD (w/Chlorine disinfection) or 0.95 MGD (w/UV disinfection)</b>
<b>Facility Design Flow</b>	<b>0.2 MGD Secondary Treatment &amp; 0.95 MGD Tertiary Treatment</b>
<b>Watershed</b>	<b>Calaveras Hydrologic Basin</b>
<b>Receiving Water</b>	<b>Regulated Wetlands and Littlejohns Creek</b>
<b>Receiving Water Type</b>	<b>Wetlands and Creek</b>

- A. Calaveras County Water District (CCWD) is the owner and operator of Copper Cove Wastewater Reclamation Facility (hereinafter Facility) a domestic wastewater tertiary treatment facility and the Saddle Creek Community is the owner and operator of the Saddle Creek Golf Course (SCGC), recipient of tertiary treated wastewater.
- B. By this Order, the Facility will be permitted to discharge minor amounts of golf course over spraying and residual discharges of tertiary treated wastewater that could occur during the first rainstorm, as part of any reclaimed wastewater uses to regulated wetlands and Littlejohns Creek, which are waters of the United States. Additionally, this permit also allows direct discharge of tertiary treated effluent to regulated wetlands (Mitchell lake) when necessary, to provide makeup water. The wetlands system is regulated by a conditional use permit under Clean Water Act Section 404 Permit No. 199100807 (“404 Permit”) issued by the US Army Corps of Engineers, which requires that there be a continuous supply of water to maintain minimum water levels in the wetlands.
- C. The Discharger filed a report of waste discharge and submitted an application for a National Pollutant Discharge Elimination System (NPDES) permit on 25 February 2005, to discharge up to the Design Flow Rate of 0.95 mgd of tertiary treated wastewater from Copper Cove Wastewater Reclamation Facility to Saddle Creek Golf Course and to its jurisdictional wetlands tributaries to Littlejohns Creek. Supplemental Information was submitted on 3 August 2005. A site visit was conducted on 13 July 2005 to observe operations and collect additional data to develop permit limitations and conditions.

## II. FACILITY DESCRIPTION

### **BACKGROUND INFORMATION**

The Discharger provides sewerage service for the Copperopolis Development Area (Copper Cove Sub-division) and serves a population of approximately 2800. The Discharger, due to recent development trends in the community, lack of adequate storage capacity, and lack of additional disposal spray fields, has experienced overflows of wastewater from the effluent storage ponds during wet winters. As a result, the Discharger requested a direct discharge of tertiary treated effluent from the Facility directly to Littlejohns Creek during 100-year storm events when there is a danger of overflow from the on-site storage ponds. However, this permit does not allow direct discharge of tertiary treated effluent to Littlejohns Creek at this time, due to lack of demonstration that a direct discharge to Littlejohns Creek would still be necessary if land disposal is maximized.

This NPDES permit allows the discharge of reclaimed wastewater directly to SCGC’s receiving pond and its subsequent use for golf course irrigation. Additionally, this NPDES permit also allows direct discharge to the jurisdictional wetlands when necessary, to provide makeup water. The SCGC’s receiving pond is a part of the wetlands system regulated by the US Army Corps of Engineers (in December 1994), Clean Water Act Section 404 Conditional Use Permit No. 199100807 (“404 Permit”). By requiring compliance with NPDES permit limits at the discharge to SCGC’s receiving pond, the NPDES permit protects the beneficial use of the jurisdictional wetlands from incidental golf course discharges as a result of

irrigation with recycled water and Littlejohns Creek from any commingled discharge from incidental golf course runoffs and makeup water delivered directly to the jurisdictional wetlands.

The 404 Permit requires that all ponds and wetland areas have a continuous supply of water to maintain minimum water levels in the Golf Course ponds and for downstream flows. The 404 Permit has designated some of the wetland systems as final, protected habitat areas, and some of the wetland systems for “cleansing” purposes. The 404 Permit also requires construction of the Golf Course receiving pond detention system is in such a manner as to keep the water levels within certain wetlands limits. The 404 Permit prohibits the Discharger from draining golf course receiving ponds down to prevent reclaimed wastewater stored in the wetlands from overflowing during rainfall events.

#### **A. Description of Wastewater and Biosolids Treatment or Controls**

The treatment system consists of a headworks/flow diverter, two aerated ponds (Ponds 1&2) operated in series, followed by a non-aerated pond (Pond 4). The treatment system design average dry weather flow treatment capacity is 0.2 MGD secondary and 0.95 MGD tertiary. Even though CCWD’s tertiary filtration has a capacity of 0.95 MGD, the existing effluent disinfection system restricts flow to 0.5 MGD maximum due to chlorine contact time requirements. However, under the proposed WWTP improvements, a 0.95 MGD capacity UV disinfection system is scheduled to replace the existing chlorination facility by the end of Summer 2006. The flow restriction to 0.5 MGD will remain until the UV system is installed and certified by the Regional Water Board.

Currently, treated secondary wastewater is stored in storage Pond No. 6 for subsequent irrigation on-site on CCWD’s 25 acres of spray irrigation fields. Wastewater to be reclaimed on the SCGC is further treated to tertiary levels at the Facility by utilizing wastewater stored in Pond 6 and further processing it with the use of a Microfloc, coagulation-flocculation, and two-stage filtration system. Hypochlorite is added for disinfection and to control algae prior to pumping into reclaimed water storage tank. A minimum of 90 minutes of chlorine contact time is achieved by the use of a 38 foot diameter (141,000-gallon) reclaimed water storage tank and wastewater conveyance pipe transporting the tertiary wastewater to the SCGC receiving pond. Tertiary wastewater is then reclaimed for use on the SCGC by sprinkler irrigation.

The current biosolids treatment and controls, and land disposal of secondary effluent onsite are regulated by a separate Order No.5-00-136, which was adopted on 16 June 2000.

#### **B. Discharge Points and Receiving Waters**

1. The treatment plant is in Section 26, T1N, R12E, MDB&M, as shown on Attachment B, a part of this Order. The treatment plant is on property owned by CCWD with Assessor’s parcel No. 055-051-009. Tertiary treated effluent from the reclaimed water storage tank will be discharged directly into the main SCGC’s receiving pond, from which it will be pumped for golf course irrigation. The Facility is designed to produce effluent that meets California



Department of Health Services (DHS), California Code of Regulations (CCR), Title 22 disinfected tertiary standards for filtration and disinfection.

Because of direct discharge of reclaimed water into jurisdictional wetlands and the runoff from jurisdictional wetlands flows into Littlejohns Creek, both waters of the United States, this NPDES permit is needed for commingled discharge from regulated wetlands into Littlejohns Creek.

There are approximately eight separate incidental runoff locations in SCGC's terrain that enter into Littlejohns Creek, but only two of these, the uppermost and the lowest of the terrain (Mitchell Lake) contribute over 80% of the incidental runoff into Littlejohns Creek. However, for purposes of monitoring under this permit, all eight incidental runoff locations are taken into consideration to obtain a true representation of the entire waste runoff that reaches Littlejohns Creek (see Attachment B).

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

1. Effluent limitations, Discharge Specifications, and representative monitoring requirements contained in the existing Order 5-00-136 are for the discharges of secondary treated effluent from Pond 6 onto the on-site spray irrigation fields and they are as follows:

Parameter (units)	Effluent Limitation			Monitoring Data (June 2000 – May 2010)		
	Monthly Average	Weekly Median	Maximum Daily	Highest Monthly Average Discharge	Highest Weekly Median Discharge	Highest Daily Discharge
BOD <sub>5</sub> (mg/L)	40	---	80	--	--	--
Total Suspended Solids (mg/L)	---	---	---	---	---	---
Settleable Solids (ml/L)	---	---	0.2	---	---	---
Total Dissolved Solids (mg/l)	450	---	---			
Total Coliform MPN/100 ml	23		230			

2. The Report of Waste Discharge describes the secondary effluent discharge as follows:

Design Flow (dry or wet weather): Secondary	0.20	million gallons/ day (mgd)
Design Flow (Tertiary Filtration) <sup>1</sup>	0.95	mgd
Annual Average Daily Flow Rate <sup>2</sup> :	<0.95	mgd
Maximum Daily Flow Rate <sup>2</sup> :	0.95	mgd
Average Temperature, Summer:	76	°F
Average Temperature, Winter:	45	°F
BOD <sup>3</sup> :	3.0	mg/l

Total Suspended Solids:	5.0	mg/l
Total Dissolved Solids	285	mg/l
Arsenic	7.2	mg/l
Cadmium	<1.0	mg/l
Chromium	<2.0	mg/l
Lead	<3.0	mg/l
Silver	<2.0	mg/l
Hardness	111	mg/l

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<sup>1</sup> Design flow is based on providing only tertiary level filtration but no disinfection

<sup>2</sup> Annual average and maximum daily flow rates are based on providing only secondary level disinfection (23MPN/100ml).

<sup>3</sup> 5-day, 20°C biochemical oxygen demand

#### D. Compliance Summary

In December 1999, CCWD was issued Administrative Civil Liability Complaint No. 99-507 for unauthorized discharge due to overflow of wastewater from Pond 6 to surface waters. Pond storage capacity limitations for the last several years are a periodic and recurring operational difficulty for CCWD's WWTP. However, by maximizing summertime land disposal by golf course irrigation and emptying Pond 5 and 6, as proposed in the Master Plan, the threat of future overflows from these ponds are substantially reduced.

In April 2000, CCWD was issued a Notice of Violation for inadequate freeboard limitations as well as for seepage and surfacing of wastewater down-gradient of Pond 5 and the Pond 6 tail-water return pond. CCWD has since corrected those permit violations. In addition, during 2004-2006, the pond freeboard limitations were not met during the winter months.

The Discharger, based on recent development trends in the community, lack of adequate storage capacity, and lack of additional disposal spray fields, recognized that there is a reasonable potential that back to back wet years could result in effluent spilling from the effluent storage pond 6 to a surface water drainage course. As a result, the Discharger has proposed a controlled seasonal discharge of treated effluent to irrigate SCGC. The discharge to the SCGC would occur only from 1 April to 31 December to minimize uncontrolled spillages from the storage reservoir. In view of the above facts, and in an effort to maximize the use of existing land disposal resources and to reduce the threat of uncontrolled releases of reclaimed wastewater to surface waters, an NPDES permit is considered justified. Under this Order, the CCWD would be allowed to discharge incidental runoff of tertiary treated reclaimed water to regulated wetlands with subsequent runoff to surface water drainage course (Littlejohns Creek). The proposed discharge will contain minor amounts of reclaimed wastewater due to golf course over spraying and residual waste runoff that would reach surface waters through natural drainage courses during severe wet weather events.

#### E. **Planned Changes**

Currently all treated wastewater is contained and disposed of on-site spray fields during summer months. There are two winter storage ponds, Pond 5 and Pond 6. This Order would allow treated wastewater to be reclaimed on the SCGC and incidental runoff from the golf course area into regulated surface waters. These changes in combination with proposed installation of UV disinfection system, expansion of on-site spray fields and wintertime storage capacity would significantly reduce the threat of uncontrolled release of wastewater to surface waters.

### 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 (CWC). It shall serve as a 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 of the CWC for discharges that are not subject to regulation under CWA section 402.

#### B. **California Environmental Quality Act (CEQA)**

The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, *et seq.*), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.

On 11 August 1999, the Board of Directors of Calaveras County Water District certified a Mitigated Negative Declaration for this project in accordance with the CEQA and the State CEQA guidelines.

The Board has considered the Mitigated Negative Declaration and concurred there are no significant impacts on water quality.

#### C. **State and Federal Regulations, Policies, and Plans**

1. **Water Quality Control Plans.** The Basin Plan at page *II-2.00* for *Sacramento and San Joaquin River Basins* states that the “...*beneficial uses of any specifically identified water body generally apply to its tributary streams.*” The Basin Plan does not specifically identify beneficial uses for the *jurisdictional wetlands and Littlejohns Creek*, but does identify present and potential uses for the San Joaquin River and the Delta, to which the *Littlejohns Creek*, via *San Joaquin River*, is tributary. These beneficial uses are municipal and domestic supply; agricultural supply, including stock watering; industrial service supply; industrial

process supply; navigation; hydropower generation; water contact recreation, including canoeing and rafting; non-contact water recreation, aesthetic enjoyment, warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and /or early development; and wildlife habitat. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63, incorporated into the Basin Plan pursuant to Regional Water Board Resolution No. 89-056, requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, as discussed in detail below, beneficial uses applicable to both *jurisdictional wetlands* and *Littlejohns Creek* are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
--	<b>Jurisdictional Wetlands &amp; Littlejohns Creek</b>	Municipal & domestic water supply (MUN), Warm & cold freshwater habitat (WARM/COLD), agricultural irrigation & agricultural stock watering, hydro power generation, wildlife habitat (WILD), body contact & non-contact (REC-2) water recreation, warm & cold fish migration habitat, and navigation

The Basin Plan on page II-1.00 states: “*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*” and with respect to disposal of wastewaters states that “*...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*”

The federal Clean Water Act, Section 101(a)(2), states: “*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*” Federal Regulations, developed to implement the requirements of the Clean Water Act, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR Sections 131.2 and 131.10, require that all waters of the State be regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR Section 131.10, requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

In reviewing whether the existing and/or potential uses of the **San Joaquin River and the Delta** apply to **Jurisdictional Wetlands** and **Littlejohns Creek**, the Regional Water Board has considered the following facts:

a. Domestic Supply and Agricultural Supply

The Regional Water Board is required to apply the beneficial uses of municipal and domestic supply to Littlejohns Creek based on State Water Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Water Board Resolution No. 89-056. In addition, the State Water Resources Control Board (State Water Board) has issued water rights to existing water users along *Littlejohns Creek*, *San Joaquin River* and the Delta downstream of the discharge for domestic and irrigation uses. Since *Littlejohns Creek* is an ephemeral stream, it likely provides groundwater recharge during periods of low flow. The groundwater is a source of drinking water. In addition to the existing water uses, growth in the area, downstream of the discharge is expected to continue, which presents a potential for increased domestic and agricultural uses of the water in *Littlejohns Creek*.

b. Water Contact and Noncontact Recreation and Esthetic Enjoyment

The Regional Water Board finds that the discharge flows in close proximity to residential areas, there is ready public access to *Jurisdictional wetlands* and *Littlejohns Creek*, exclusion of the public is unrealistic and contact recreational activities currently exist along *Jurisdictional wetlands* and *Littlejohns Creek* and downstream waters and these uses are likely to increase as the population in the area grows. Prior to flowing into *San Joaquin River*, *Littlejohns Creek* flows through areas of general public access, meadows, residential areas, and parks. *San Joaquin River* also offers recreational opportunities.

c. Groundwater Recharge

In areas where groundwater elevations are below the stream bottom, water from the stream will percolate to groundwater. Since *Littlejohns Creek* is at times dry, it is reasonable to assume that the stream water is lost by evaporation, flow downstream and percolation to groundwater providing a source of municipal and irrigation water supply.

d. Freshwater Replenishment

When water is present in *Jurisdictional wetlands* and *Littlejohns Creek*, there is hydraulic continuity between these water sources and the *San Joaquin River*. During periods of hydraulic continuity, *Jurisdictional wetlands* and *Littlejohns Creek* adds to the water quantity and may impact the quality of water flowing down stream in the *San Joaquin River*.

e. Preservation and Enhancement of Fish, Wildlife, and Other Aquatic Resources

Flows from *Jurisdictional wetlands* and *Littlejohns Creek* flow to *San Joaquin River*. The California Department of Fish and Game (DFG) has verified that the fish species present in *Jurisdictional wetlands/Littlejohns Creek* and downstream waters are consistent with both cold and warm water fisheries, that there is a potential for anadromous fish migration necessitating a cold water designation. The Basin Plan (Table

II-1) designates the *San Joaquin River* as being both a cold and warm freshwater habitat. Therefore, pursuant to the Basin Plan (Table II-1, Footnote (2)), the cold designation applies to both *Jurisdictional wetlands* and *Littlejohns Creek*. The cold-water habitat designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/l.

Upon review of the flow conditions, habitat values, and beneficial uses of both *Jurisdictional wetlands* and *Littlejohns Creek*, and the facts described above, the Regional Water Board finds that the beneficial uses identified in the Basin Plan for *San Joaquin River* and the *Delta* are applicable to both *Jurisdictional wetlands* and *Littlejohns Creek*.

The Regional Water Board also finds that based on the available information and on the Discharger's application, that *Jurisdictional wetlands* and *Littlejohns Creek*, absent the discharge, is an ephemeral water body. The ephemeral nature of *Jurisdictional wetlands* and *Littlejohns Creek* means that the designated beneficial uses must be protected, but that no credit for receiving water dilution is available. Although the discharge, at times, maintains the aquatic habitat, constituents may not be discharged that may cause harm to aquatic life. At other times, natural flows within *Littlejohns Creek* help support the aquatic life. Both conditions may exist within a short time span, where *Jurisdictional wetlands* and *Littlejohns Creek* would be dry without the discharge and periods when sufficient background flows provide hydraulic continuity with the *San Joaquin River*. Dry conditions occur in *Littlejohns Creek* primarily in the summer months, but dry conditions may also occur throughout the year, particularly in low rainfall years. The lack of dilution results in more stringent effluent limitations to protect contact recreational uses, drinking water standards, agricultural water quality goals and aquatic life. Significant dilution may occur during and immediately following high rainfall events.

2. **Thermal Plan.** Not Applicable.
3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the *NTR* on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the *CTR* on 18 May 2000, which was amended on 13 February 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.
4. **State Implementation Policy.** On 2 March 2000, 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 28 April 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 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the California Toxics Rule. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005.
5. **Alaska Rule.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for CWA purposes

(40 CFR 131.21, 65 FR 24641, 27 April 2000). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 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 30 May 2000, may be used for CWA purposes, whether or not approved by USEPA.

6. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on BOD, Total Suspended Solids, and Settleable Solids. Restrictions on these pollutants are specified in federal regulations as discussed in Findings II.F, and the permit's technology-based pollutant restrictions are no more stringent than required by the CWA. Water quality-based effluent limitations 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 water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on 18 May 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 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "*applicable water quality standards for purposes of the CWA*" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.
7. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that 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 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.

State Water Resources Control Regional Board (State Board) Resolution No. 68-16 (hereafter Resolution 68-16 or the "Antidegradation Policy") requires the Regional Board in regulating the discharge of waste to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board's policies (e.g., quality that exceeds water quality objectives).



The Regional Water Board finds that some degradation of groundwater beneath the WWTF is consistent with Resolution 68-16 provided that:

- a. The degradation is confined within a specified boundary;
- b. The discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures;
- c. The degradation is limited to waste constituents typically encountered in domestic wastewater as specified in the groundwater limitations in this Order; and
- d. The degradation does not result in water quality less than that prescribed in the Basin Plan.

Some degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of California. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less. Degradation of groundwater by constituents (e.g., toxic chemicals) other than those specified in the groundwater limitations in this Order, and by constituents that can be effectively removed by conventional treatment (e.g., total coliform bacteria) is prohibited. When allowed, the degree of degradation permitted depends upon many factors (i.e., background water quality, the waste constituent, the beneficial uses and most stringent water quality objective, source control measures, and waste constituent treatability).

Economic prosperity of local communities and associated industry is of maximum benefit to the people of California, and therefore sufficient reason exists to accommodate growth and groundwater degradation around the WWTF, provided that the terms of the Basin Plan are met.

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

8. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order.
9. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a), California Water Code, requires that *“the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent*

*toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective". However, the Regional Water Board has determined that no toxic chemical release data has been reported to the state emergency response commission for the discharge into the POTW.*

10. **Monitoring and Reporting Requirements.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.
11. **Stormwater Requirements.** USEPA promulgated Federal Regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from municipal sanitary sewer systems. Wastewater treatment plants are applicable industries under the stormwater program and are obligated to comply with the Federal Regulations.

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

Not Applicable

#### **E. Other Plans, Policies, and Regulations**

1. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 *et seq.* (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:
  - a. The waste consists primarily of domestic sewage and treated effluent;
  - b. The waste discharge requirements are consistent with water quality objectives; and
  - c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

### **IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and

Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

The federal Clean Water Act (CWA) mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law. [33 U.S.C., § 1311(b)(1)(C); 40 C.F.R., § 122.44(d)(1)] NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*” Federal Regulations, 40 CFR, Section 122.44(d)(1)(vi), further provide that “[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”

The Regional Water Board’s Basin Plan, page IV-17.00, contains an implementation policy (“Policy for Application of Water Quality Objectives”) that specifies that the Regional Water Board “*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.*” This Policy complies with 40 CFR 122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including EPA’s published water quality criteria, a proposed state criterion (*i.e.*, water quality objective), or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Water Board’s “Policy for Application of Water Quality Objectives”)(40 C.F.R. 122.44(d)(1) (vi) (A), (B) or (C)). The Basin Plan contains a narrative objective requiring that: “*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*”. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The beneficial uses include municipal and domestic supply; agricultural supply, including stock watering; industrial service supply; industrial process supply; navigation; hydropower generation; water contact recreation, including canoeing and rafting; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; warm migration of aquatic organisms; cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and /or early development; and wildlife habitat. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs. When a reasonable potential exists for exceeding a narrative objective, Federal Regulations mandate numerical effluent limitations and the Basin Plan

narrative criteria clearly establish a procedure for translating the narrative objectives into numerical effluent limitations.

The CWA requires point source discharges 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: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established. Three options exist to protect water quality: 1) 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); 2) proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or 3) an indicator parameter may be established.

#### A. Discharge Prohibitions

As stated in the Federal Standard Provisions (Attachment D), this Order prohibits bypass from any portion of the treatment facility. Federal Regulations, 40 CFR 122.41 (m), define “bypass” as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board’s prohibition of bypasses, the State Water Resources Control Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation. In the case of *United States v. City of Toledo, Ohio* (63 F. Supp 2d 834, N.D. Ohio 1999) the Federal Court ruled that “*any bypass which occurs because of inadequate plant capacity is unauthorized...to the extent that there are ‘feasible alternatives’, including the construction or installation of additional treatment capacity*”.

The Federal Clean Water Act, Section 301, requires that not later than 1 July 1977, publicly owned wastewater treatment works meet effluent limitations based on secondary treatment or any more stringent limitation necessary to meet water quality standards. Federal Regulations, 40 CFR, Part 133, establish the minimum level of effluent quality attainable by secondary treatment for BOD, TSS, and pH. Tertiary treatment requirements for BOD and TSS are based on the technical capability of the process. Biochemical oxygen demand (BOD) is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The solids content—suspended (TSS) and settleable (SS)—is also an important characteristic of wastewater. The secondary and tertiary treatment standards for BOD and TSS are indicators of the effectiveness of the treatment processes.

The principal infectious agents (pathogens) that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Secondary treatment has been shown to be effective for pathogen removal. For additional pathogen reduction, tertiary treatment, consisting of chemical coagulation, sedimentation, and filtration, has been found to remove approximately 99.5% of viruses. Filtration is an effective means of reducing viruses and

parasites from the waste stream.

A wet weather influent wastestream may contain significantly diluted levels of BOD and TSS. A bypassed diluted wastestream may have BOD and TSS levels that meet the secondary or tertiary objectives, either alone or when blended with treated wastewater. However, the bypassed wastestream would not have been treated to reduce pathogens or other individual pollutants. The indicator parameters of BOD and TSS cannot be diluted to a level that may indicate the adequate treatment has occurred as an alternative to providing appropriate treatment.

This permit prohibits discharge to SCGC Receiving Pond or to its wetlands between 1 January and 31 March. Information supplied by the Discharger has demonstrated that by allowing the use of reclaimed wastewater for golf course irrigation during irrigation season, the threat of uncontrolled release of reclaimed wastewater to surface waters during the wet winter months will be reduced or eliminated. In addition, Regional Water Board's Order No. 5-00-136 prohibits surface water discharge and requires the Discharger to maximize land disposal to minimize or prevent the wintertime discharge to surface waters.

This permit does not allow direct discharge to Littlejohns Creek at this time, due to lack of demonstration that land disposal maximization is not feasible or not economically viable before a NPDES permit is justified.

## **B. Technology-Based Effluent Limitations**

### **1. Scope and Authority**

The California Department of Health Services (DHS) has established statewide reclamation criteria in Title 22, CCR, for use of reclaimed water and has developed guidelines for discharges to surface waters. The Regional Water Board consults with the DHS on reclamation discharges in accordance with the terms specified in a Memorandum of Agreement between DHS and the State Water Board.

### **2. Applicable Technology-Based Effluent Limitations**

- a. **BOD, TSS, and Settleable Solids.** Order No. 5-00-136 establishes effluent limitations when discharging to land for BOD, total suspended solids (TSS), and settleable solids, which are technology-based effluent limitations (TBELs) for the current secondary treatment system. This Order includes more stringent technology based effluent limitations when discharging to golf course and surface water for BOD and TSS, which are found to be achievable by facilities with tertiary treatment or equivalent treatment system that meets both the technology-based secondary treatment standards for POTWs and protect the beneficial uses of the receiving waters when little or no dilution is available for treated domestic wastewater discharges. This Order therefore applies the more stringent tertiary standards TBELs when discharging to golf courses and surface water. In addition, the Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements.

- b. **Total Coliform Organisms.** This Order establishes requirements for tertiary treated wastewater consistent with DHS Title 22 standards for disinfected tertiary recycled wastewater. Under this Order, the total coliform limitations are established as a 7-day median of 2.2 MPN/100 ml based on the previous seven daily sample results, a daily maximum of 23 MPN/100 ml for any one sample within a 30-day period, and an instantaneous maximum effluent limitation of 240 MPN/100 ml. These TBELs for total coliform organisms are based on BPJ considering the expected performance of tertiary treatment systems and are consistent with the requirements found in 40 CFR 122.44 concerning the establishment of limitations, standards, and other permit conditions.
- c. **Turbidity.** This Order establishes requirements for tertiary treated wastewater consistent with DHS Title 22 standards for disinfected tertiary recycled wastewater: This Order includes the following TBEL for turbidity: “The turbidity in the effluent shall not exceed a daily average of 2 turbidity units and shall not exceed 5 turbidity units more than 5 percent of the time during any 24-hour period, and shall not exceed 10 turbidity units at any time.” These TBELs for turbidity are based on BPJ considering the expected performance of tertiary treatment systems and are consistent with the requirements found in 40 CFR 122.44 concerning the establishment of limitations, standards, and other permit conditions.
- d. TBELs are summarized below in Table F-1.

**Table F-1**  
**Summary of Technology-Based Effluent Limitations**  
**Discharge Point–001 (SCGC Receiving Pond NC-2D)**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
5-Day BOD @ 20 °C	mg/l	10	--	20		
	lbs/day <sup>1</sup>	42	--	83		
	lbs/day <sup>2</sup>	79	--	158		
Total Suspended Solids	mg/l	10	--	20		
	lbs/day <sup>1</sup>	42	--	83		
	lbs/day <sup>2</sup>	79	--	158		
Settleable Solids	ml/l	0.1	--	0.2		
PH	Std. Units	6.5	--	8.5		

<sup>1</sup> Based upon average monthly & daily maximum tertiary treatment capacity of 0.5 mgd with chlorine as disinfectant.  
<sup>2</sup> Based upon average monthly & daily maximum tertiary treatment capacity of 0.95 mgd with UV disinfection system.

### **C. Water Quality-Based Effluent Limitations (WQBELs)**

#### **1. Scope and Authority**

As specified in 40 CFR §122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. 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 water quality criteria contained in the CTR and NTR.

#### **2. Applicable Beneficial Uses and Water Quality Criteria and Objectives**

- a. The receiving stream is Littlejohns Creek, which is tributary to the San Joaquin River and the Delta. Based on the available information, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

Dilution: There may be assimilative capacity within the receiving water (Littlejohns Creek) for certain pollutants in the Facility's discharge, however, section 1.4.2.2 of the SIP requires that the Discharger's permit application include the information needed by the Regional Water Board to make a determination on allowing a mixing zone, including the calculations for deriving the appropriate receiving water and effluent flows, and/or the results of a mixing zone study. The Discharger has not submitted the required mixing zone study. Therefore, this Order does not provide any dilution credits from receiving water for its assimilative capacity for these constituents. Due to the lack of information regarding available assimilative capacity, the Regional Water Board has evaluated the need for WQBELs for pollutants without benefit of dilution in this Order. These water quality-based effluent limitations are based on the application of water quality criteria or objectives at the point of discharge to Littlejohns Creek. The Discharger may elect, as a means of compliance, to conduct a dilution study to evaluate any available assimilative capacity. If requested, the Regional Water Board will review such studies and if warranted, may reopen this permit to make appropriate changes.

- b. Receiving Water Hardness, pH, and Temperature

The minimum receiving water hardness, maximum receiving water pH limitation, and maximum average effluent temperature were used to develop hardness, pH, and/or temperature dependent WQBELs. These worst-case values have been chosen to protect the beneficial uses of the receiving water and are summarized below:



Hardness:	170 mg/L
pH:	8.5 standard units
Temperature:	78 °F

**3. Determining the Need for WQBELs**

- a. Reasonable potential (RP) was determined by calculating the projected MEC (maximum effluent concentration) for each constituent and comparing it to applicable water quality criteria; if a criterion was exceeded, the discharge was determined to have reasonable potential to exceed a water quality objective for that constituent. The projected MEC (maximum effluent concentration) is determined by multiplying the observed MEC (the maximum detected concentration) by a factor that accounts for statistical variation. The multiplying factor is determined (for 99% confidence level and 99% probability basis) using the number of results available and the coefficient of variation (standard deviation divided by the mean) of the sample results. In accordance with the SIP, non-detect results were counted as one-half the detection level when calculating the mean. For all constituents for which the source of the applicable water quality standard is the CTR or NTR, the multiplying factor is 1. Reasonable potential evaluation was based on the methods used in the SIP and the USEPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001].
- b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Water Board finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for Chloroform, Dibromochloromethane, and Dichlorobromomethane. Effluent limitations for these constituents are included in this Order.
- c. The reasonable potential analysis for detected constituents in the effluent and receiving water is summarized below in Table F-2.

**Table F-2.**  
**Summary of Reasonable Potential Analysis**  
**Discharge Point - 001**

Parameter (units)	n <sup>1</sup>	cv <sup>1</sup>	RPA multiplier <sup>1</sup>	MEC <sup>1</sup>	Projected MEC <sup>1</sup>	B <sup>1</sup>	WQO/WQC <sup>1</sup>	Source	RP <sup>1</sup>
Bis(2-ethylhexyl)phthalate (µg/L)	2	0.6	--	1.5		ND	1.8	NTR Human health	N
Dichlorobromomethane (µg/L)	2	0.6	--	4.2		ND	0.56	CTR Human Health	Y
Dibromochloromethane (µg/L)	2	0.6	--	1.8		3	0.41	CTR Human Health	Y
Di-n-Octylphthalate (µg/L)	2	0.6	--	2.3		ND	3	California Secondary MCL	N
Chloroform (µg/L)	2	0.6	--	59		ND	1.1	CalEPA Cancer Potency Factor	Y
Aluminum (µg/L)	2	0.6	7.4	380	2812	36	87/750	USEPA Recommended Water Quality Criteria	Y
Ammonia (µg/L)	2	0.6	7.4	1400	10360	ND	1220/5620	USEPA Recommended Water Quality Criteria	Y
Chloride (mg/L)	2	0.6	7.4	170	1258	36	106	Agri. goal	Y
Arsenic (µg/L)	2	0.6	--	4.1		4.4	10	USEPA Primary MCL	N
Antimony (µg/L)	2	0.6	--	6		ND	6	Primary MCL	N
Barium (µg/L)	2	0.6	7.4	25	185	40	1000	Calif Primary MCL	N
Berillium (µg/L)	2	0.6	--	0.74	0.74	0.99	4	Calif Primary MCL	N
Chromium Total (µg/L)	2	0.6	--	0.61		0.48	50	USEPA Primary MCL	N
Copper (µg/L)	2	0.6	--	4.2	--	1.1	15/23	CTR /NTR	N
Fluoride (µg/L)	2	0.6	7.4	190	1406	0.15	1000	Public Health Goal	I
Iron (µg/L)	2	0.6	7.4	180	1332	480	300	Calif. Secondary MCL	Y
Lead (µg/L)	2	0.6	--	0.52		0.29	6/160	Calif Toxic Rule	N
Mercury (ng/l)	2	0.6	--	4.44		4.25	50	CTR Human Health	N
Manganese (µg/L)	2	0.6	7.4	430	3180	200	50	Calif. Secondary MCL	Y
Nickel (µg/L)			--	3.1		1.3	81/735	Calif. Toxic Rule	N
Zinc ((µg/L)	2	0.6	--	16		21	187/187	Calif. Toxic Rule	N
Tributyltin (µg/L)	2	0.6	7.4	0.006	0.04	ND	0.007	Ambient Water Quality	I
EC (µmhos/cm)	2	0.6	7.4	900	6660	580	900	Secondary MCL	Y
Foaming Agents (MBAS)	2	0.6	7.4	120	888	54	500/500	Calif. Secondary MCL	I
Nitrate (mg/l)	2	0.6	7.4	0.19	1.4	0.18	10	Calif. Primary MCL	N
Sulfates (mg/l)	2	0.6	7.4	59	436	180	250	Calif. Secondary MCL	I
TDS (mg/L)	2	0.6	7.4	490	3626	177	450	Agricultural Goal	Y

<sup>1</sup> n: number of data points available; cv: statistically determined coefficient of variation; RPA multiplier: 99<sup>th</sup> percentile multiplier; MEC: maximum effluent concentration; Projected MEC: determined using the RPA multiplier; B: background receiving water concentration; WQO/WQC: applicable water quality objective/water quality criteria; RP: reasonable potential.

<sup>2</sup> ND: Not detected, Y: Yes, I: Incomplete Information

- d. **Aluminum**—The Basin Plan contains a narrative water quality objective for toxicity that states in part that “[a]ll waters shall be maintained free of toxic substances in

*concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*” (narrative toxicity objective). Aquatic habitat is a beneficial use of the receiving stream. Based on information included in analytical laboratory reports submitted by the Discharger, aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life, and, therefore to violate the Basin Plan’s narrative toxicity objective. USEPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for aluminum. The recommended four-day average (chronic) and one-hour average (acute) criteria for aluminum are 87 µg/L and 750 µg/L, respectively. USEPA recommends that the ambient criteria are protective of the aquatic beneficial uses of receiving waters in lieu of site-specific criteria. Aluminum was detected in an effluent sample collected April 19, 2005 at a maximum observed concentration of 380 µg/L. The projected maximum effluent aluminum concentration is 2812 µg/L. The measured and projected maximum effluent concentrations are greater than the water quality criteria; therefore, effluent limitations for aluminum are required.

In USEPA’s *Ambient Water Quality Criteria for Aluminum—1988* [EPA 440/5-86-008], USEPA states that “[a]cid-soluble aluminum... is probably the best measurement at the present...”; however, USEPA has not yet approved an acid-soluble test method for aluminum. Replacing the ICP/AES portion of the analytical procedure with ICP/MS would allow lower detection limits to be achieved. Based on USEPA’s discussion of aluminum analytical methods, this Order allows the use of the alternate aluminum testing protocol described above to meet monitoring requirements.

This Order includes average monthly and maximum daily effluent limitations for aluminum. Considering the observed and projected MEC, it is anticipated that the Discharger will not be able to immediately comply with the new effluent limitations for aluminum. Applying 40 CFR section 122.44(d)(1)(vi)(B), Effluent Limitations for aluminum are included in this Order and are based on USEPA’s Ambient Water Quality Criteria for the protection of the beneficial use of freshwater aquatic habitat. As the Basin Plan toxicity objective is not a new water quality objective, a schedule of compliance for aluminum is not included in this Order but a separate Time Schedule Order shall be proposed for compliance with the *aluminum* effluent limitation.

This Order includes maximum daily and average daily effluent limitations for aluminum.

- e. ***Ammonia (as N)***—Untreated domestic wastewater contains ammonia. Ammonia can be toxic to aquatic organisms in surface waters. Aquatic habitat is a beneficial use of the receiving stream. USEPA has developed Ambient Water Quality Criteria for ammonia. Applying 40 CFR section 122.44(d)(1)(vi)(B), it is appropriate to use USEPA’s Ambient National Water Quality Criteria for the Protection of Freshwater Aquatic Life for ammonia, which was developed to be protective of aquatic organisms. The acute criterion for ammonia is dependent on pH and fish species present, and the chronic criterion is dependent on pH and temperature. In general, ammonia toxicity increases with increases in pH and temperature. At lower temperatures, the chronic criterion is also dependent on the presence or absence of early life stages of fish (ELS). The beneficial uses of

Littlejohns Creek include warm freshwater aquatic habitat (WARM), cold freshwater aquatic habitat (COLD), migration of aquatic organisms (MIGR) in warm and cold habitat, warm habitat spawning, and reproduction, and/or early development (SPWN). The early life stages of fish are likely present during the permitted period of discharge. Using the maximum permitted effluent limit for pH of 8.5 pH units and the maximum average effluent temperature of 78° F, the USEPA Recommended Ambient Water Quality Criterion for Fresh Water Aquatic Life, 30 day average chronic criteria, or criterion continuous concentration for ammonia is 560 µg as N (Nitrogen)/L. Additionally, the highest 4 day average concentration within the 30 day period should not exceed 2.5 times this criterion ( $2.5 \times 560 = 1,400 \mu\text{g as N/L}$ ). Considering the maximum permitted pH of 8.0, and the assumed presence of salmonids, the USEPA Recommended Ambient Water Quality Criterion for Fresh Water Aquatic Life, maximum 1-hour acute criteria, or criteria maximum concentration for ammonia is 2,140 µg as N/L.

Ammonia was detected in both samples of the Discharger's effluent, with a maximum detected effluent concentration of 1400 µg/L. Using the TSD reasonable potential analysis procedure, the projected MEC for ammonia is 4354 µg/L; therefore, based on the observed and the projected MECs, there is a reasonable potential that the discharge may exceed the USEPA chronic criteria for ammonia and cause or contribute to an excursion above the narrative toxicity objective. This Order contains an average monthly effluent limitation, and a 1-hour maximum effluent limitation considering USEPA's chronic and acute ammonia criteria. Considering the observed MEC, it is anticipated that the Discharger will not be able to immediately comply with these new effluent limitations for ammonia. As the Basin Plan narrative toxicity objective is not new, a schedule of compliance for ammonia is not included in this Order but a separate Time Schedule Order shall be proposed for compliance with the *ammonia* effluent limitation.

- f. **BOD and TSS**—40 Code of Federal Regulations (CFR), Section 133.102 contains regulations describing the minimum level of effluent quality—for biochemical oxygen demand (BOD) and total suspended solids (TSS)—attainable by secondary treatment.

The WWTP is required to comply with effluent limitations appropriate for treatment systems providing tertiary or equivalent treatment. Effluent limitations for both BOD and TSS have been established at 10 mg/l, as a 30-day average, which is technically based on the capability of a tertiary system. In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. If 85 percent removal of BOD and TSS must be achieved by a secondary treatment plant, it must also be achieved by a tertiary (*i.e.*, treatment beyond secondary level) treatment plant. Order No. R5-2006-XXX contains a limitation requiring an average of 85 percent removal of BOD and TSS over each calendar month.

- g. **Chlorine**- The Discharger currently uses chlorine for disinfection of the effluent waste stream and plans to replace it with UV system by the end Summer 2006. Chlorine can cause toxicity to aquatic organisms when discharged to surface waters. USEPA recommends, in its Ambient Water Quality Criteria for the protection of fresh water

aquatic life, maximum 1-hour average and 4-day average chlorine concentrations of 0.02 mg/l and 0.01 mg/L, respectively. The presence of chlorine in filter backwash and water distribution system presents a reasonable potential that it could be discharged in toxic concentrations. Effluent Limitations for chlorine have been included in this Order to protect the receiving stream aquatic life beneficial uses. Effluent Limitations have been established based on the ambient water quality criteria for chlorine.

Because chlorine is a toxic constituent, an average one-hour limitation is considered more appropriate than an average daily limitation. Average one-hour and four-day limitations for chlorine, based on these criteria, are included in this Order for the direct discharge to SCGC receiving pond.

- h. Chloroform*—Municipal and domestic supply is a beneficial use of the receiving stream. The narrative toxicity objective and this beneficial use designation comprise a water quality standard applicable to pollutants in the receiving stream. The Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that narrative objectives may be translated using numerical limits published by other agencies and organizations. The California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database, which contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the boards, departments and offices within Cal/EPA. The OEHHA cancer potency value for oral exposure to chloroform is 0.031 milligrams per kilogram body weight per day (mg/kg-day). By applying standard toxicologic assumptions used by OEHHA and USEPA in evaluating health risks via drinking water exposure of 70 kg body weight and two liters per day water consumption, this cancer potency factor is equivalent to a concentration in drinking water of 1.1 µg/l (ppb) at the one-in-a-million cancer risk level. This risk level is consistent with that used by the Department of Health Services (DHS) to set *de minimis* risks from involuntary exposure to carcinogens in drinking water in developing MCLs and Action Levels and by OEHHA to set negligible cancer risks in developing Public Health Goals for drinking water. The one-in-a-million cancer risk level is also mandated by USEPA in applying human health protective criteria contained in the NTR and the CTR to priority toxic pollutants in California surface waters.

The maximum observed effluent chloroform concentration was detected in an effluent sample collected August 8, 2005 at a concentration of 59 µg/l. The equivalent concentration for the OEHHA cancer potency factor is 1.1 µg/l. The measured and projected maximum effluent concentrations are greater than the water quality criteria; therefore, an Effluent Limitation for chloroform is required.

On February 22, 2006, the Discharger submitted a report documenting the justification the need for a compliance time schedule. A minimum of 5 years was determined to be needed for compliance. This Order requires the Discharger to submit a corrective action plan and implementation time schedule to assure compliance with the final chloroform effluent limitations. As part of the compliance schedule for chloroform, the Discharger shall develop a pollution prevention program in compliance with CWC section

13263.3(d)(3) and submit an engineering treatment feasibility study. As the Basin Plan narrative toxicity objective is not new, a schedule of compliance for chloroform is not included in this Order but a separate Time Schedule Order shall be proposed for compliance with the *chloroform* effluent limitation (for chlorine disinfected effluent). This limitation will be based on the Basin Plan toxicity objective and OEHHA Toxicity Criteria for the protection of human health.

- i. **Dichlorobromomethane** - Based on monitoring samples performed by the Discharger from April 2005 through August 2005, the MEC for dichlorobromomethane was 4.2 µg/L. The CTR human health criterion for consumption of water and aquatic organisms is 0.56 µg/L and municipal and domestic supply is a beneficial use of the receiving water. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion of a water quality objective and effluent limitations are necessary. A dilution credit for this constituents cannot be granted because sufficient information has not been provided to make a determination of the human health dilution credits. For chlorine disinfected effluent, this Order contains final effluent limitations for dichlorobromomethane at 0.56 µg/L (AMEL) and 1.13 µg/L (MDEL). If the Discharger provides sufficient information to determine human health dilution credits, this Order may be reopened to modify the final effluent limitations for this constituent.

The Discharger appears unable to comply with this limitation. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the 99% confidence level and 99% probability, as recommended by the TSD, an interim performance-based maximum daily limitation of 6 µg/L was calculated.

Section 2.1 of the SIP provides that: “*Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.*” Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: ...“*(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.*” On February 22, 2006, the Discharger submitted a report documenting the justification and the need for a compliance time schedule. A minimum of 5 years was determined to be needed for compliance.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final dichlorobromomethane effluent limitations. As part of the compliance schedule for dichlorobromomethane, the Discharger shall

develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) and submit an engineering treatment feasibility study.

- j. **Dibromochloromethane** - Based on monitoring samples performed by the Discharger from April 2005 through August 2005, the MEC for dibromochloromethane was 1.8 µg/L. The CTR human health criterion is 0.41 µg/L. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion of a water quality objective and effluent limitations are necessary. A dilution credit for dibromochloromethane cannot be granted because sufficient information has not been provided to make a determination of the human health dilution credits. For chlorine disinfected effluent, this Order contains final AMEL and MDEL for dibromochloromethane of 0.41 µg/L and 0.82 µg/L, respectively. If the Discharger provides sufficient information to determine human health dilution credits, this Order may be reopened to modify the final effluent limitations for dibromochloromethane.

The Discharger appears unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the 99% confidence level and 99% probability, as recommended by the TSD, an interim performance-based maximum daily limitation of 13 µg/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* On February 22, 2006, the Discharger submitted a report documenting the justification and the need for a compliance time schedule. A minimum of 5 years was determined to be needed for compliance.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final dibromochloromethane effluent limitations. As part of the compliance schedule for dibromochloromethane, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) and submit an engineering treatment feasibility study.

- k. **Electrical Conductivity (Salinity)** - The discharge contains total dissolved solids (TDS), chloride, sulfate and electrical conductivity (EC). These are water quality parameters that are indicative of the salinity of the water. Their presence in water can be growth limiting

to certain agricultural crops and can affect the taste of water for human consumption. There are no USEPA water quality criteria for the protection of aquatic organisms for these constituents. The Basin Plan contains a “Chemical Constituent” objective that incorporates state MCLs, contains a narrative objective, and contains numeric water quality goals for EC, TDS, Sulfate, and Chloride (Table F-3).

**Table F-3**  
**Salinity Water Quality Criteria/Objectives**

Parameter	Agricultural WQ Goal <sup>1</sup>	Secondary MCL <sup>3</sup>	Effluent		
			Avg	Min	Max
EC µmhos/cm)	700 <sup>2</sup>	900, 1600, 2200	765	630	900
TDS (mg/L)	450 <sup>2</sup>	500, 1000, 1500	425	360	490
Sulfate (mg/L)	N/A	250, 500, 600	50	40	59
Chloride (mg/L)	106 <sup>2</sup>	250, 500, 600	140	110	170

- 1 Agricultural water quality goals based on *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985)
- 2 Agricultural water quality goals listed provide no restrictions on crop type or irrigation methods for maximum crop yield. Higher concentrations may require special irrigation methods to maintain crop yields or may restrict types of crops grown.
- 3 The secondary MCLs are stated as a recommended level, upper level, and a short-term maximum level.

The Regional Water Board, with cooperation of the State Water Board, has begun the process to develop a new policy for the regulation of salinity in the Central Valley. In a statement issued at the March 16, 2006, Regional Water Board meeting, board member Dr. Karl Longley recommended that the Board continue to exercise its authority to regulate discharges of salt to minimize salinity increases within the Central Valley. Dr. Longley stated, *“The process of developing new salinity control policies does not, therefore, mean that we should stop regulating salt discharges until a salinity Policy is developed. In the meantime, the Board should consider all possible interim approaches to continue controlling and regulating salts in a reasonable manner, and encourage all stakeholder groups that may be affected by the Regional Board’s policy to actively participate in policy development.”*

A review of the Discharger’s monitoring reports indicates an average TDS effluent concentration of 425 mg/L, a minimum effluent concentration of 360 mg/L, and a maximum effluent concentration of 490 mg/L (based on 2 data points). Background concentrations in Littlejohns Creek range from 260-500 mg/L based on results from two samples.

Chloride concentrations in the effluent ranged from 110-170 mg/L with an average of 140 mg/L based on results from two samples collected. Background concentrations in Littlejohns Creek ranged from 12-36 mg/L based on results from two samples collected.

A review of the Discharger’s monitoring reports indicate an average effluent EC level of 765 µmhos/cm, a minimum effluent level of 630 µmhos/cm, and a maximum effluent



level of 900  $\mu\text{mhos/cm}$ , based on the results of two samples. Receiving water data indicate EC levels in Littlejohns Creek ranged from 410  $\mu\text{mhos/cm}$  to 780  $\mu\text{mhos/cm}$  (based on the results of two samples).

The Basin Plan chemical constituents water quality objective states '*At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations...*' Federal regulations at 40 CFR Section 122.44(d)(1)(vi)(A) allow the state to establish effluent limitations using an explicit state policy interpreting its narrative objectives. The use of MCL's is appropriate to implement the chemical constituents objective of the Basin Plan. As noted in Table F-3, the recommended (most stringent) secondary California MCL for EC is 900  $\mu\text{mhos/cm}$ . Considering the Basin Plan chemical constituents water quality objective, the recommended secondary California MCL, the MUN beneficial use of Littlejohns Creek, and the results of effluent monitoring, this Order includes a final average monthly effluent limitation for EC of 900  $\mu\text{mhos/cm}$ . As the chemical constituents objective is not a new objective, a schedule of compliance for specific conductance is not included in this Order. A separate Time Schedule Order shall be proposed for compliance with the new EC effluent limitations.

The TDS, chloride, and EC goals and recommended levels are all measures of the salt content of the water. Compliance with the effluent limitations for EC will be protective of the chloride, sulfate, and TDS recommended levels; therefore, no limitations are included for chloride, sulfate, and TDS.

Currently there is no information on downstream agricultural uses that may be influenced by the discharge, and there is insufficient information to determine whether effluent EC levels could cause or contribute to a violation of a water quality standard considering the AGR beneficial use. This Order requires the Discharger to conduct a site specific study which identifies downstream agricultural and municipal supply uses, and assess the impact of the discharge on background water quality and these uses. The findings of this study shall be used to determine whether the final effluent limitations for EC should be adjusted up or down considering site specific conditions and the potential and/or existing beneficial uses of the receiving waters. In the meantime, this Order requires full compliance with the average monthly effluent limitation for EC of 900  $\mu\text{mhos/cm}$  by **1 June 2009**.

1. **Flow**— CCWD's wastewater treatment facility has a design average dry weather flow treatment capacity of 0.2 MGD for secondary level treatment and 0.95 MGD for tertiary. Even though the tertiary facility has a filtration capacity up to 0.95 MGD, current effluent disinfection facilities limits flow to 0.5 MGD maximum. The existing disinfection facilities are not adequate to provide the required chlorine contact time to produce Title 22 water and hence, the maximum daily flow for reclamation is limited to 0.5 mgd. However, the flow restriction would be lifted when the proposed 0.95 mgd capacity UV disinfection system is installed and running to the satisfaction of the

Regional Water Board. On April 25, 2006, the Discharger submitted a time schedule with 1 August 2006 as the date for the start-up and operation of the proposed UV disinfection system.

- m. **Iron**—The Basin Plan includes a water quality objective that “...*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations... Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449.*” Municipal and domestic supply is a beneficial use of the receiving stream. Based on information included in analytical laboratory reports submitted by the Discharger, iron in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Secondary Maximum Contaminant Level (MCL)-Consumer Acceptance Limit of 300 µg/l. The Basin Plan also includes a water quality objective that “...*shall be free of discoloration that causes nuisance or adversely affects beneficial uses.*” The Basin Plan identifies non-contact water recreation, which includes aesthetic enjoyment, as a beneficial use of the *Littlejohns Creek*. Iron concentrations in excess of the Secondary MCL-Consumer Acceptance Limit cause aesthetically undesirable discoloration.

Iron was detected in an effluent sample collected 20 April 2005 at a concentration of 180 µg/l. Using the reasonable potential analysis procedure described above, the projected maximum effluent iron concentration is 1332 µg/l. The secondary maximum contaminant level is 300 µg/l. The projected maximum effluent concentration is greater than the water quality criteria; therefore, an Effluent Limitation for iron is required. The maximum observed upstream receiving water iron concentration was 480 µg/l; there is *no* assimilative capacity for iron in the receiving stream at the point of discharge. An Effluent Limitation for iron is included in this Order and is based on the Basin Plan water quality objectives for chemical constituents and color and the DHS Secondary MCL. As the Basin Plan chemical constituents objectives are not new objectives, a schedule of compliance for *iron* is not included in this Order but a separate Time Schedule Order shall be proposed for compliance with *iron* effluent limitation.

This Order includes an average monthly Effluent Limitation for iron that is equal to the secondary maximum contaminant level.

- n. **Mercury**— The current USEPA Ambient Water Quality Criteria for Protection of Freshwater Aquatic Life, continuous concentration, for mercury is 0.77 µg/L (30-day average, chronic criteria). The *CTR* contains a human health criterion (based on a one-in-a-million cancer risk) of 0.050 µg/L for waters from which both water and aquatic organisms are consumed. However, the bioaccumulation rates in fish tissue used to calculate the *CTR* water quality criteria are based only on a laboratory-derived bioconcentration factor that considers organism uptake from water only and does not consider the contribution from the organism’s food source. Therefore, the *CTR* criteria are not protective of actual bioaccumulation conditions in the receiving water. In 40 CFR

Part 131, USEPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species. Both values are controversial and subject to change. In the *CTR*, USEPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date. The reported mercury MEC in effluent was 0.0044 µg/L, and the maximum observed ambient background concentration was 0.0042 µg/L, both of which do not exceed the *CTR* human health criterion (consumption of water and organisms) for mercury (0.050 µg/L). However, the Delta, which receives water from the jurisdictional wetlands and Littlejohns Creek, has been listed as an impaired water body pursuant to Section 303(d) of the Clean Water Act because of mercury. The California DHS has issued health warnings regarding the consumption of fish from Delta waterways. Mercury bioaccumulates in fish tissue and additional loading resulting from the discharge has the potential to cause or contribute to the impairment resulting from mercury bioaccumulation in the Delta. Therefore, discharge of mercury to the receiving water is likely to contribute to exceedances of the narrative toxicity objective, impacts on beneficial uses, and violation of a water quality standard.

At Section 2.1.1 the SIP states: “For bioaccumulative priority pollutants for which the receiving water has been included on the CWA Section 303(d) list, the RWQCB should consider whether the mass loading of the bioaccumulative pollutant(s) should be limited to representative, current levels pending TMDL development in order to implement the applicable water quality standard”. Since mercury is a bioaccumulative pollutant included on the CWA 303(d) list for the Delta, the intent of this Order is to include an interim performance based effluent limitation for mercury.

Current mercury data are not sufficient for establishment of an interim performance based limitation. This Order requires the Discharger to collect data necessary to establish an interim performance based effluent mass limitation.

Performance-based effluent limits for mercury are typically established as follows:

1) The average monthly effluent mercury concentration is calculated by adding all detected concentrations and one-half of the reported detection levels of all non-detectable mercury concentration results; 2) From the average monthly mercury concentration and average monthly flow, a monthly mercury mass discharge is calculated; and 3) A total mass for all months is then totaled, and an average annual mass discharge is calculated.

Following the establishment of the interim limit, the mass of mercury discharged shall not exceed the interim mercury mass limit twelve months on a running average. In calculating for compliance, the Discharger shall count all non-detect measures at one-half of the detection level and apply the monthly average flow from the sampled discharge. If compliance with the effluent limit is not attained due to the non-detect contribution, the Discharger will be directed to improve and implement available analytical capabilities and compliance will be evaluated with consideration of the detection limits. For each calendar month, the Discharger shall calculate twelve-month mass loadings. For monthly measures, monthly loadings shall be calculated using the average monthly flow and the average of all mercury analyses conducted that month. The Discharger shall submit a

cumulative total of mass loadings for the previous twelve months with each self-monitoring report. Compliance will be determined based on the previous 12-month moving averages over the previous twelve months of monitoring.

This Order may be reopened, and alternative final effluent limitations may be established for mercury upon completion of the TMDL, or promulgation of new criteria.

Upon completion of the Interim Mercury Mass Limitation Study required by this Order, this Order shall be reopened and an interim performance based mercury mass effluent limitation established.

- o. Manganese*—The Basin Plan includes a water quality objective that “...*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations... Tables 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449.*” Municipal and domestic supply is a beneficial use of the Basin Plan Receiving Water. Based on information included in analytical laboratory reports submitted by the Discharger, manganese in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Secondary Maximum Contaminant Level (MCL)-Consumer Acceptance Limit of 50 µg/l for manganese. The Basin Plan also includes water quality objectives that water be free of discoloration and taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan identifies non-contact water recreation, which includes aesthetic enjoyment, as a beneficial use of the Basin Plan for Littlejohns Creek. Manganese concentrations in excess of the Secondary MCL-Consumer Acceptance Limit produce aesthetically undesirable discoloration and taste.

Manganese was detected in an effluent sample collected 20 April 2005 at a concentration of 430 µg/l. The secondary maximum contaminant level is 50 µg/l. Both the measured and projected (3180 µg/l) maximum effluent concentrations are greater than the water quality criteria; therefore, an Effluent Limitation for manganese is required.

As the Basin Plan chemical constituents objectives are not new objectives, a schedule of compliance for *manganese* is not included in this Order but a separate Time Schedule Order shall be proposed for compliance with *manganese* effluent limitation.

An Effluent Limitation for manganese is included in this Order and is based on protection of the Basin Plan water quality objectives for chemical constituents, color, and tastes and odors and the DHS Secondary MCL.

- p. Oil and Grease*—The Basin Plan includes water quality objectives for oil and grease and floating material in surface waters, which state: “*Waters shall not contain oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or*

*coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses” and that: “[w]ater shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses”. The antidegradation provisions of the State Water Resources Control Board, Resolution No. 68-16 state that: “ Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.” Non-contact water recreation, including aesthetic enjoyment, is a beneficial use of Receiving Water. Therefore, this permit includes monthly average and daily maximum Effluent Limitations of 10 mg/l and 15 mg/l, respectively, for oil and grease. In addition, this permit also includes discharge prohibitions that preclude discharge of Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.*

- q. ***Pathogens***—The beneficial uses of Littlejohns Creek include contact recreation uses and irrigation. To protect these beneficial uses, the Regional Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. The principal infectious agents (pathogens) that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Tertiary treatment, consisting of chemical coagulation, sedimentation, and filtration, has been found to remove approximately 99.5% of viruses. Filtration is an effective means of reducing viruses and parasites from the waste stream. The wastewater must be treated to tertiary standards (filtered), or equivalent, to protect contact recreational and food crop irrigation uses.

The California Department of Health Services (DHS) has developed reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 ml as a 7-day median. Title 22 also requires that recycled water used as a source of water supply for nonrestricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A nonrestricted recreational impoundment is defined as “...an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.” Title 22 is not directly applicable to surface waters; however, the Regional Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by DHS’s reclamation criteria because *Littlejohns Creek* used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens. The method of

treatment is not prescribed by this Order; however, wastewater must be treated to a level equivalent to that recommended by DHS.

In addition to coliform testing, a turbidity effluent limitation has been included as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. The tertiary treatment process, or equivalent, is also capable of reliably meeting a turbidity limitation of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations.

The effluent limitation for total coliform organisms is intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of pathogen removal. The method of treatment is not prescribed by this Order, however, wastewater must be treated to a level equivalent to that specified in Title 22 and in other recommendations by the California Department of Health Services.

- r. **pH**— The Basin Plan includes numeric water quality objectives that the pH “...*not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.*” The Receiving Water is designated as having both COLD and WARM beneficial uses. Effluent Limitations for pH are included in this Order and are based on the Basin Plan objectives for pH. This Order allows the Discharger to conduct a site specific study which evaluates the appropriate pH limits, and assess the impact of the discharge on receiving water quality and its uses. The findings of this study shall be used to determine whether the final effluent limitations for pH should be adjusted up or down considering site specific conditions and the potential and/or existing beneficial uses of the receiving waters.
- s. **Settleable Solids**—For inland surface waters, the Basin Plan states that “[w]ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.” This Order contains average monthly and maximum daily effluent limitations for settleable solids.

Because the amount of settleable solids is measured in terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order.

- t. **Tertiary Treatment Standards**— The beneficial uses of Littlejohns Creek include contact recreation uses and irrigation. To protect these beneficial uses, the Regional Water Board finds that the wastewater must be adequately treated. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD and TSS than the secondary standards currently prescribed; the 30-day average BOD and TSS limitations

have been revised to 10 mg/l, which is technically based on the capability of a tertiary system.

The establishment of tertiary limitations has not been previously required for this discharge; therefore, a schedule for compliance with the tertiary treatment requirement is included as a Provision in this Order. Alternatives to tertiary treatment, such as land disposal or discharge to a different water body with assimilative capacity, would require modification of the permit.

This Order contains Effluent Limitations and a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. In accordance with California Water Code, Section 13241, the Regional Water Board has considered the following:

As stated in the above Findings, the past, present and probable future beneficial uses of the receiving stream include: municipal and domestic supply, agricultural irrigation, agricultural stock watering, industrial process water supply, industrial service supply, hydro power generation, body contact water recreation, canoeing and rafting, other non-body contact water recreation, aesthetic enjoyment, warm freshwater aquatic habitat, cold freshwater aquatic habitat, warm fish migration habitat, cold fish migration habitat, warm spawning habitat, cold spawning habitat, wildlife habitat, and navigation.

The environmental characteristics of the hydrographic unit including the quality of water available will be improved by the requirement to provide tertiary treatment for this wastewater discharge. Tertiary treatment will allow for the reuse of the undiluted wastewater for food crop irrigation and contact recreation activities which would otherwise be unsafe according to recommendations from the California Department of Health Services (DHS)

Fishable and swimmable water quality conditions can be reasonably achieved through the coordinated control of all factors which affect water quality in the area.

The economic impact of requiring an increased level of treatment has been considered. The Regional Water Board staff has estimated that the increased level of treatment will cost approximately \$5/month more. The current monthly domestic sewer user fee is \$50/month. The California average monthly domestic sewer user fee is \$26.08. The loss of beneficial uses within downstream waters, without the tertiary treatment requirement, include prohibiting the irrigation of food crops and prohibiting public access for contact recreational purposes, would have a detrimental economic impact. In addition to pathogen removal to protect irrigation and recreation, tertiary treatment may also aid in meeting discharge limitations for other pollutants, such as heavy metals, reducing the need for advanced treatment.

The need to develop housing in the area will be facilitated by improved water quality, which protects the contact recreation and irrigation uses of the receiving water. DHS recommends that, in order to protect the public health, undiluted wastewater effluent

must be treated to a tertiary level, for contact recreational and food crop irrigation uses. Without tertiary treatment, the downstream waters could not be safely utilized for contact recreation or the irrigation of food crops.

It is the Regional Water Board's policy, (Basin Plan, page IV-15.00, Policy 2) to encourage the reuse of wastewater. The Regional Water Board requires Dischargers to evaluate how reuse or land disposal of wastewater can be optimized. The need to develop and use recycled water is facilitated by providing a tertiary level of wastewater treatment, which will allow for a greater variety of uses in accordance with California Code of Regulations, Title 22.

- u. **Toxicity**—The Basin Plan states that “[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.” The Basin Plan requires that “[a]s a minimum, compliance with this objective...shall be evaluated with a 96-hour bioassay.” This Order requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective.

The Basin Plan further states that “...effluent limits based upon acute bio-toxicity tests of effluents will be prescribed...”. Effluent limitations for acute toxicity have been included in the Order.

- v. **Tributyltin, MBAS, and Fluoride** – Analytical data provided by the Discharger indicates that tributyltin, MBAS and fluoride were detected in both effluent samples. The maximum detected effluent concentrations of tributyltin, MBAS, and fluoride were reported at 0.006µg/l, 120µg/l, and 190µg/l, respectively. Since there are only two data points for each pollutant, and the analytical results indicate all of these maximum effluent concentrations are significantly less than the applicable water quality criteria, there is currently insufficient data to establish reasonable potential. Additional monitoring has been established in this Order for these pollutants. If results of monitoring indicate these pollutants have the reasonable potential to cause or contribute to an excursion above a numeric water quality objective, this Order may be reopened and effluent limitations established for these pollutants.

#### 4. **WQBEL Calculations**

- a. The Discharger conducted monitoring for priority and non-priority pollutants. The analytical results of two comprehensive sampling events were submitted to the Regional Water Board. The results of these sampling events were used in developing this Order. All detectable results from these analyses are summarized in Table F-4 (below). Effluent limitations are included in the Order to protect the beneficial uses of the receiving stream and to ensure that the discharge complies with the Basin Plan objective that toxic substances not be discharged in toxic amounts. Unless otherwise noted, all mass limitations in this Order were calculated by multiplying the concentration limitation by the design flow and the appropriate unit conversion factors.



- b. Effluent Limitations for water quality-based limitations were calculated in accordance with Section 1.4 of the SIP and the TSD. The following paragraphs describe the general methodology used for calculating Effluent Limitations.
- c. Calculations for Effluent Limitations. In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC \qquad ECA_{HH} = HH$$

where:

- $ECA_{acute}$  = effluent concentration allowance for acute (one-hour average) toxicity criterion
- $ECA_{chronic}$  = effluent concentration allowance for chronic (four-day average) toxicity criterion
- $ECA_{HH}$  = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective
- $CMC$  = criteria maximum concentration (one-hour average)
- $CCC$  = criteria continuous concentration (four-day average, unless otherwise noted)
- $HH$  = human health, agriculture, or other long-term criterion/objective

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL). The statistical multipliers were calculated using data shown in Table F-1.

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$AMEL = \overbrace{mult_{AMEL} \left[ \min(M_A ECA_{acute}, M_C ECA_{chronic}) \right]}^{LTA_{acute}}$$

$$MDEL = mult_{MDEL} \left[ \min(M_A ECA_{acute}, M_C ECA_{chronic}) \right]$$

$$MDEL_{HH} = \left( \frac{mult_{MDEL}}{mult_{AMEL}} \right) \overbrace{ECA_{HH}}^{LTA_{chronic}}$$

where:

- $mult_{AMEL}$  = statistical multiplier converting minimum LTA to AMEL
- $mult_{MDEL}$  = statistical multiplier converting minimum LTA to MDEL
- $M_A$  = statistical multiplier converting CMC to LTA
- $M_C$  = statistical multiplier converting CCC to LTA

- d. *Flow*—The WWTF was designed to provide a tertiary level of treatment for up to 0.95 mgd but due to lack of adequate disinfection facilities, the daily average and daily maximum effluent flow for reclamation is limited to 0.5 mgd until the proposed UV disinfection system is installed and operating to the satisfaction of the Regional Water Board.
- e. *Mass-based Effluent Limitations*—Mass-based effluent limitations are based upon two different design treatment & reclamation capacities. With chlorine as disinfectant, the mass is limited based on flow of 0.5 mgd monthly average and daily maximum. With UV disinfection, the mass is limited based on flow of 0.95 mgd monthly average and daily maximum.
- f. USEPA recommends a maximum daily limitation rather than an average weekly limitation for water quality based permitting.

**Table F-4**  
**Summary of Water Quality-Based Effluent Limitations**  
**Discharge Point – 001 (SCGC Pond NC-2D)**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	0.50 <sup>1</sup>	--	0.50 <sup>1</sup>		
	MGD	0.95 <sup>2</sup>		0.95 <sup>2</sup>		
PH	standard units	--	--	--	6.5	8.5
Dibromochloromethane <sup>5</sup>	µg/l	0.41	--	0.82		
	lbs/day <sup>3</sup>	0.0017	--	0.003		
	lbs/day <sup>4</sup>	0.0032		0.0065		
Dichlorobromomethane <sup>5</sup>	µg/l	0.56	--	1.13		
	lbs/day <sup>3</sup>	0.0023	--	0.005		
	lbs/day <sup>4</sup>	0.0044		0.0089		
Chloroform	µg/L	1.1	--	--		
	lbs/day <sup>3</sup>	0.0046	--			
	lbs/day <sup>4</sup>	0.0087				
Aluminum <sup>6</sup> (total recoverable)	µg/L	87	--	174		--
	lbs/day <sup>3</sup>	0.36	--	0.73		--
	lbs/day <sup>4</sup>	0.69				
Ammonia (total recoverable)	µg/L	560	--		--	--
	lbs/day <sup>3</sup>	2.33	--		--	--
	lbs/day <sup>4</sup>	4.44				
Iron (total recoverable)	µg/L	300	--	--	--	--
	lbs/day <sup>3</sup>	1.25	--	--	--	--
	lbs/day <sup>4</sup>	2.4				
Manganese (total recoverable)	µg/L	50	--	--	--	--
	lbs/day <sup>3</sup>	0.21	--	--	--	--

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
	lbs/day <sup>4</sup>	0.40				
Specific Conductance <sup>7</sup> (EC at 25°C)	µmhos/cm	900	--	--	--	--

- <sup>1</sup> Flow will be limited to 0.5 mgd until UV disinfection facilities are implemented and fully demonstrated to the satisfaction of the Regional Water Board.
- <sup>2</sup> Flow permitted only after the installation of UV disinfection facilities and certified by the Regional water Board.
- <sup>3</sup> For Chlorine disinfected effluent: The mass limits (lbs/day) under the Monthly Average column and the Daily Maximum column are based on the concentration limits multiplied by their corresponding design flow (0.5 mgd) and the unit conversion factor of 8.34.
- <sup>4</sup> For UV disinfected effluent: The mass limits (lbs/day) under the Monthly Average column and the Daily Maximum column are based on the concentration limits multiplied by their corresponding design flow (0.95 mgd) and the unit conversion factor of 8.34.
- <sup>5</sup> Full Compliance with this limitation is required by **18 May 2010**.
- <sup>6</sup> The effluent limit may be met through the use of USEPA's alternate aluminum testing protocol.
- <sup>7</sup> Full Compliance with this limitation is required by **1 June 2009**.

- i. The maximum 1-hour average ammonia (total recoverable) in the discharge shall not exceed 2140 µg/L.
- ii. The maximum 1-hour average total chlorine concentration in the discharge to Pond NC-2D shall not exceed 0.02 µg/L, and the
- iii. The maximum 4-day average total chlorine in the discharge to Pond NC-2D shall not exceed 0.01 mg/l and 0.042 lbs/day (based on chlorine disinfected flow of 0.5 mgd) or 0.079 lbs/day (based on 0.95 mgd using UV disinfection system).

**5. Whole Effluent Toxicity (WET)**

- a. **Acute Toxicity.** In order to comply with Basin Plan narrative toxicity requirements, this Order includes the following acute toxicity limitation: 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.
- b. **Chronic Toxicity.** 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 response on 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.

**D. Final Effluent Limitations**

1. 40 CFR §122.45 states that:
  - a. *“In the case of POTWs, permit effluent limitations...shall be calculated based on design flow.”*
  - b. *“For continuous discharges all permit effluent limitations...shall unless impracticable be stated as...[a]verage weekly and average monthly discharge limitations for POTWs.”*
  - c. *“All pollutants limited in permits shall have limitations...expressed in terms of mass except...[f]or pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass...Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.”*

Table F-5 below summarizes the final (combined) technology-based and water quality-based effluent limits established in this Order for discharges to both SCGC Receiving Pond (NC-2D) and regulated wetlands (Mitchell Lake) and subsequently to Littlejohns Creek.

**Table F-5  
 Summary of Final Effluent Limitations  
 Discharge Point 001 (SCGC Pond NC-2D)**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	0.50 <sup>1</sup>	--	0.50 <sup>1</sup>		
	MGD	0.95 <sup>2</sup>		0.95 <sup>2</sup>		
pH	standard units	--	--	--	6.5	8.5
BOD	mg/l	10	--	20	---	
	lbs/day <sup>3</sup>	42		83	---	
	lbs/day <sup>4</sup>	79		158		
Total Susp. Solids (TSS)	mg/l	10	--	20	---	
	lbs/day <sup>3</sup>	42	---	83		
	lbs/day <sup>4</sup>	79		158		
Settleable Solids	ml/l	0.1	--	0.2		
Oils & Grease	mg/l	10	--	15		
	lbs/day <sup>3</sup>	42	--	63		
	lbs/day <sup>4</sup>	79		119		
Dibromochloromethane <sup>5</sup>	µg/l	0.41	--	0.82		
	lbs/day <sup>3</sup>	0.0017	--	0.003		
	lbs/day <sup>4</sup>	0.0032		0.0065		

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Dichlorobromomethane <sup>5</sup>	µg/l	0.56	--	1.13		
	lbs/day <sup>3</sup>	0.0023	--	0.005		
	lbs/day <sup>4</sup>	0.0044		0.0089		
Chloroform	µg/L	1.1		--		
	lbs/day <sup>3</sup>	0.0046		--		
	lbs/day <sup>4</sup>	0.0087		--		
Aluminum <sup>6</sup>	µg/L	87	--	174		--
	lbs/day <sup>3</sup>	0.36	--	0.73		--
	lbs/day <sup>4</sup>	0.69		1.38		
Ammonia (total recoverable)	µg/L	560	--	--	--	--
	lbs/day <sup>3</sup>	2.33	--	--	--	--
	lbs/day <sup>4</sup>	4.44	--	--		
Iron (total recoverable)	µg/L	300	--	--	--	--
	lbs/day <sup>3</sup>	1.25	--	--	--	--
	lbs/day <sup>4</sup>	2.4				
Manganese (total recoverable)	µg/L	50	--	--	--	--
	lbs/day <sup>3</sup>	0.21	--	--	--	--
	lbs/day <sup>4</sup>	0.40	--	--		
Specific Conductance <sup>7</sup> (EC at 25°C)	µmhos/cm	900	--	--	--	--

<sup>1</sup> Flow will be limited to 0.5 mgd until UV disinfection facilities are implemented and fully demonstrated to the satisfaction of the Regional Water Board.

<sup>2</sup> Flow permitted only after the installation of UV disinfection facilities and certified by the Regional water Board.

<sup>3</sup> For Chlorine disinfected effluent: The mass limits (lbs/day) under the Monthly Average column and the Daily Maximum column are based on the concentration limits multiplied by their corresponding design flow (0.5 mgd) and the unit conversion factor of 8.34.

<sup>4</sup> For UV disinfected effluent: The mass limits (lbs/day) under the Monthly Average column and the Daily Maximum column are based on the concentration limits multiplied by their design flow (0.95 mgd) and the unit conversion factor of 8.34.

<sup>5</sup> Full Compliance with this limitation is required by **18 May 2010**.

<sup>6</sup> The effluent limit may be met through the use of USEPA's alternate aluminum testing protocol.

<sup>7</sup> Full Compliance with this limitation is required by **1 June 2009**.

- i. The average monthly **percent removal** of BOD 5-day at 20°C and total suspended solids shall not be less than 85 percent.
- ii. The median concentration of total **coliform** bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed (7-day median). The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.

- iii. The **turbidity** in the effluent shall not exceed a daily average of 2 turbidity units and shall not exceed 5 turbidity units more than 5 percent of the time during any 24-hour period, and shall not exceed 10 turbidity units at any time.
- iv. The maximum 1-hour average **ammonia** (total recoverable) in the discharge shall not exceed 2140 µg/l.
- v. The maximum 1-hour average total **chlorine** shall not exceed 0.02 µg/l, and the 4-day average of total chlorine shall not exceed 0.01 mg/l and 0.041 lbs/day with chlorine as disinfectant or 0.079 lbs/day when disinfected with UV system.
- vi. 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.

#### E. **Interim Effluent Limitations**

As stated in the above Findings, the USEPA adopted the NTR and the CTR, which contains water quality standards applicable to this discharge and the SIP contains guidance on implementation of the NTR and CTR. The SIP, Section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must: be based on current treatment plant performance or existing permit limitations, whichever is more stringent; include interim compliance dates separated by no more than one year, and; be included in the Provisions. The interim limitations in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are ten sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists*, Kennedy and Neville, Harper and Row). Therefore, the interim limitations in this Order are established as the mean plus 3.3 standard deviations of the available data. Where actual sampling shows an exceedance of the proposed 3.3-standard deviation interim limit, the maximum detected concentration has been established as the interim limitation. When there are less than ten sampling data points available, the *Technical Support Document for Water Quality Based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed sampling point to obtain the daily maximum interim limitation (TSD, Table 5-2). The Regional Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with NTR- and CTR-based Effluent

Limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final Effluent Limitations, but in compliance with the interim Effluent Limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. For example, USEPA states in the Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life for copper, that it will take an unstressed system approximately three years to recover from a pollutant in which exposure to copper exceeds the recommended criterion. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the Effluent Limitation can be achieved.

The following interim limitations for Dibromochloromethane, and Dichlorobromomethane establish an enforceable maximum effluent concentration until compliance with the final effluent limitations can be achieved:

Parameter	Units	Maximum Daily
Dibromochloromethane	µg/l	6
	lbs/day <sup>1</sup>	0.02
	lbs/day <sup>2</sup>	0.047
Dichlorobromomethane)	µg/l	13
	lbs/day <sup>1</sup>	0.05
	lbs/day <sup>2</sup>	0.102

<sup>1</sup> Mass limits are based on design flow of 0.5 mgd with chlorine disinfection.

<sup>2</sup> Mass limits are based on design flow of 0.95 mgd with UV disinfection.

#### F. Land Discharge Specifications

1. Anaerobic (lacking in oxygen) processes tend to produce aesthetically undesirable odors. To minimize production of undesirable odors, the Discharger is required to maintain some (at least 1.0 mg/l) dissolved oxygen in the upper one foot of the SCGC receiving pond.
2. The Order contains a limitation for SCGC's receiving pond freeboard. SCGC pond levees can fail for a variety of reasons, typically, a lack of maintenance or overtopping due to wave action. The Order requires a minimum pond freeboard of two feet be maintained to prevent overtopping.
3. More specific land discharge specifications for the secondary effluent and the wastewater collection system are described and/or regulated through a separate Order No. 5-00-136, adopted by the Central Valley Water Control Board on June 16, 2000.

#### G. Reclamation Specifications

1. The California DHS requires that the American Water Works Association (AWWA) *Guidelines for Distribution of Non-Potable Water* and *Guidelines for the On-site Retrofit of Facilities Using Disinfected Tertiary Recycled Water* be implemented in design and construction of recycling equipment. The guidelines require installation of purple pipe,

adequate signs, etc. Adequate separation between the recycled water lines and domestic water lines and sewer lines is also required.

2. DHS has established statewide water recycling criteria in Title 22, CCR, Section 60301 et. seq. (hereafter Title 22). DHS revised the water recycling criteria contained in Title 22 on December 2, 2000. The Facility produces effluent that meets Title 22 disinfected tertiary (tertiary) standards for filtration and disinfection using chlorination. The Reclamation Specifications in this Order require that effluent meet Title 22 requirements for disinfected tertiary recycled water, suitable for use on a restricted access golf course and as a source for landscape impoundments.
3. Section 60323(a) of Title 22 states that no person shall produce or supply reclaimed water for direct reuse from a proposed water reclamation plant unless an engineering report is submitted for review and approval by DHS and the Regional Water Board. Irrigation of golf courses and other landscaping is considered a beneficial reuse, which DHS has granted approval for.
4. The Basin Plan encourages water recycling.
5. **BOD, TSS, Settleable Solids, Total Coliform Organisms, and Turbidity.** The TBELs for BOD, TSS, Settleable Solids, Total Coliform Organisms, and Turbidity when discharging to land (recycled water use) must be met at the discharge point to the recycled water receiving pond NC-2D (Discharge Point 001).
6. **pH.** The discharge shall not have a pH less than 6.5 nor greater than 8.5
7. Effluent limits for reclamation are the same as listed in Table F-1 and they are summarized below in Table F-6.

**Table F-6**  
**Summary of Reclamation Effluent Limitations**  
**Discharge Point – 001 (To SCGC Receiving Pond NC-2D)**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd <sup>1</sup>	0.5	--	0.5	--	--
	mgd <sup>2</sup>	0.95		0.95		
PH	Stand. units	--	--	--	6.5	8.5
BOD 5-day @ 20°C	mg/L	10	--	20	--	--
	lbs/day <sup>3</sup>	42	--	83	--	--
	lbs/day <sup>4</sup>	79		158		
Total Suspended Solids	mg/L	10	--	20	--	--
	lbs/day <sup>3</sup>	42	--	83	--	--
	lbs/day <sup>4</sup>	79		158	--	--
Settleable Solids	ml/L	0.1	--	0.2	--	--



<sup>1</sup> Flow will be limited to 0.5 mgd until UV disinfection facilities are implemented and fully demonstrated to the satisfaction of the Regional Water Board.

<sup>2</sup> Flow permitted only after the installation of UV disinfection facilities and certified by the Regional water Board.

<sup>3</sup> For Chlorine disinfected effluent: The mass limits (lbs/day) under the Monthly Average column and the Daily Maximum column are based on the concentration limits multiplied by their corresponding design flow (0.5 mgd) and the unit conversion factor of 8.34.

<sup>4</sup> For UV disinfected effluent: The mass limits (lbs/day) under the Monthly Average column and the Daily Maximum column are based on the concentration limits multiplied by their corresponding design flow (0.95 mgd) and the unit conversion factor of 8.34.

- i. The average monthly **percent removal** of BOD 5-day at 20°C and total suspended solids shall not be less than 85 percent.
- ii. The median concentration of total **coliform** bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed (7-day median). The number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30 day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
- iii. The **turbidity** in the effluent shall not exceed a daily average of 2 turbidity units and shall not exceed 5 turbidity units more than 5 percent of the time during any 24-hour period, and shall not exceed 10 turbidity units at any time

## V. RATIONALE FOR RECEIVING WATER LIMITATIONS

### A. Surface Water

1. The Clean Water Act, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Water Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). State Water Board Resolution No. 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.” This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for Biostimulatory Substances, Chemical Constituents, Color, Dissolved Oxygen, Floating Material, Oil and Grease, pH, Pesticides, Radioactivity, Salinity, Sediment, Settleable Material, Suspended Material, Tastes and Odors, Temperature, Toxicity and Turbidity.
2. **Fecal coliform**—Littlejohns Creek has been designated as having the beneficial use of contact recreation (REC-1). For water bodies designated as having REC-1 as a beneficial use, the Basin Plan includes a water quality objective limiting the “...*fecal coliform*

*concentration based on a minimum of not less than five samples for any 30-day period...*” to a maximum geometric mean of 23 MPN/100 ml. The objective also states that “...[no] *more than ten percent of the total number of samples taken during any 30-day period [shall] exceed 240/100 ml.*” This objective is included in the Order as a receiving water limitation.

3. **Dissolved Oxygen**—Little Jophns Creek has been designated as having the beneficial use of cold freshwater aquatic habitat (COLD). For water bodies designated as having COLD as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 7.0 mg/l of dissolved oxygen. Since the beneficial use of COLD does apply to Littlejohns Creek, a receiving water limitation of 7.0 mg/l for dissolved oxygen was included in the Order.

For surface water bodies outside of the Delta, the Basin Plan includes the water quality objective that “...*the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation.*” This objective was included as a receiving water limitation in the Order.

4. **pH**—For all surface water bodies in the Sacramento River and San Joaquin River basins, the Basin Plan includes water quality objectives stating that “[t]he pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.” The Order includes receiving water limitations for both pH range and pH change.

The Basin Plan allows an appropriate averaging period for pH change in the receiving stream. Since there is no technical information available that indicates that aquatic organisms are adversely affected by shifts in pH within the 6.5 to 8.5 range, an averaging period is considered appropriate and a monthly averaging period for determining compliance with the 0.5 receiving water pH limitation is included in the Order.

5. **Temperature**—Littlejohns Creek has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.” The Order includes a receiving water limitation based on this objective.
6. **Turbidity**—The Basin Plan includes the following objective: “*Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:*

- *Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.*
- *Where natural turbidity is between 5 and 10 NTUs, increases shall not exceed 20 percent.*
- *Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTU.*
- *Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.”*

7. ***Ammonia and Chlorine***—USEPA has developed Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life for ammonia and for chlorine. The Order contains effluent limitations for ammonia and for chlorine equal to the Ambient Water Quality Criteria. Compliance with the effluent limitations for ammonia and for chlorine means that the discharge cannot cause an exceedance of the criteria in the receiving stream; in other words, the limitations are fully protective of water quality. Therefore, no receiving water ammonia or chlorine limitations are included in the Order.

## B. Groundwater

1. The beneficial uses of the underlying ground water, as identified in the Basin Plan, are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. Basin Plan water quality objectives to protect the beneficial uses of groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity of groundwater, and taste and odor. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The Basin Plan requires the application of the most stringent objective necessary to ensure that groundwaters do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect municipal and domestic water supply, agricultural supply, or any other beneficial use.
3. State Water Resources Control Board (State Water Board) Resolution No. 68-16 (hereafter Resolution 68-16) requires the Regional Water Board in regulating discharge of waste to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Water Board's policies (*e.g.*, quality that exceeds water quality objectives). Resolution 68-16 requires that the discharge be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State be maintained.
4. The Discharger utilizes aeration lagoons and disposal ponds. Domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the lagoons and ponds may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to the people of the State of California. Some degradation of groundwater by the Discharger is

consistent with Resolution 68-16 provided that:

- a. the degradation is limited in extent;
- b. the degradation after effective source control, treatment, and control is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order;
- c. the Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures; and
- d. the degradation does not result in water quality less than that prescribed in the Basin Plan.

## **VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, 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 Monitoring and Reporting Program for this facility.

### **A. Influent Monitoring**

1. Domestic influent monitoring for the treatment facility is required in this Order. The Monitoring and Reporting Requirements in Attachment E includes influent monitoring requirements.

### **B. Effluent Monitoring**

1. The SIP states that if "...all reported detection limits of the pollutant in the effluent are greater than or equal to the C [water quality criterion or objective] value, the RWQCB [Regional Water Board] shall establish interim requirements...that require additional monitoring for the pollutant..." All reported detection limits as listed in Attachment E, Section IV are greater than or equal to corresponding applicable water quality criteria or objectives. Monitoring for these constituents has been included in this Order in accordance with the SIP.
2. Pursuant to the requirements of 40 CFR §122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.

**Table F-7**  
**Summary of Effluent Monitoring**  
**Monitoring Locations RECL-001**

Parameter(s)	Monitoring Frequency	Rationale
Chlorine	Grab	Determine whether the discharge is causing an exceedance of receiving water objectives..
pH, Turbidity	Continuous	Determine whether the discharge is causing an exceedance of receiving water objectives.
Temperature	1/week	Determine whether the discharge is causing an exceedance of receiving water objectives.
Chloroform	1/month	Determine compliance with CalEPA OEHHA
Aluminum	1/month	Determine compliance with AMEL and MDEL.
Ammonia	1/week	Determine compliance with AMEL,
Iron, and Manganese,	1/month	Determine compliance with AMELs.
Dibromochloromethane, and Dichlorobromomethane	1/month	Determine compliance with CTR human health criteria
Standard Minerals	Annually	Determine whether the discharge is causing an exceedance of secondary MCLs.
Priority pollutants	1/permit duration	This monitoring has been assigned to determine compliance with primary and secondary MCL

**C. Whole Effluent Toxicity Testing Requirements**

- Acute Toxicity:** Chapter III of the Basin Plan, establishes narrative toxicity water quality objectives and requires that at a minimum compliance with this objective shall be evaluated with a 96-hour bioassay. This Order also requires acute toxicity testing quarterly during discharge season.
- Chronic Toxicity:** 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. Therefore, in accordance with the SIP, the Discharger will be required to conduct chronic toxicity testing in order to determine reasonable potential and establish WQBELs as necessary. This Order also requires chronic toxicity testing quarterly during discharge season.

**D. Receiving Water Monitoring**

**1. Surface Water**

Littlejohns Creek monitoring is necessary to assess compliance with receiving water limitations, to assess the impacts of the discharge on the receiving stream, and to assess the potential for mixing zone for dilution credits, when applicable.

## 2. Groundwater

- a. Section 13267 of the California Water Code states, in part, “(a) *A Regional Water Board, in establishing...waste discharge requirements... may investigate the quality of any waters of the state within its region*” and “(b) (1) *In conducting an investigation..., the Regional Water Board may require that any person who... discharges... waste...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.*” The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the Regional Water Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports. The attached Monitoring and Reporting Program is issued pursuant to California Water Code Section 13267 and it is necessary to assure compliance with these waste discharge requirements.
- b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with Resolution 68-16 and the Basin Plan.
- c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Regional Water Board plans and policies, including Resolution 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

### E. Other Monitoring Requirements

- a. **Priority Pollutant Monitoring.** Section 1.3 of the SIP requires the Regional Water Board to require periodic monitoring for pollutants, at least once prior to the reissuance of a permit, for which criteria or objectives apply and for which no effluent limitations have been established. To comply with the SIP, this Order requires the Discharger to sample effluent and upstream receiving water for priority pollutants at least once during this permit term and the samples shall be collected no more than 365 days and no less than 180 days prior to expiration of this Order.
- b. **Receiving Pond Monitoring.** Pond monitoring is required to assess compliance with land discharge specifications. Additional monitoring of all ponds located within the SCGC area, receiving reclaimed water, is required to assess compliance with effluent and receiving water limitations.
- c. **Golf Course Monitoring.** Monitoring of the effluent recycling site (golf course) is required to assess compliance with land discharge specifications and the water recycling criteria contained in Title 22, CCR Section 60301 et.seq. Monitoring is also required to identify any equipment malfunction or other circumstances that might allow irrigation runoff to leave the irrigation area and/or create ponding conditions that violate the Waste Discharge Requirements.

## VII. RATIONALE FOR PROVISIONS

### A. Standard Provisions

#### 1. Federal Standard Provisions

Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

40 CFR Section 122.41(a)(a) 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 Section 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with Section 123.35, this Order omits federal conditions that address enforcement authority specified in 40 CFR Sections 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC Section 13387(e).

#### 2. Regional Water Board Standard Provisions

In addition to the Federal Standard Provisions, the Discharger is required to comply with applicable Regional Water Board Standard Provisions, Section VI.A.2 of the Order.

## B. Special Provisions

### 1. Reopener Provisions

- a. Upon adoption of any applicable water quality standards for receiving waters by the Regional Water Board or the State Water Board pursuant to the CWA and regulations adopted thereunder, this Order may be reopened and receiving water limitations added.
- b. **Provision VI.C.1.b, Aluminum Reopener Provision.** The Discharger's effluent contains *aluminum* that has a reasonable potential to cause or contribute to an instream excursion above a narrative water quality objective for toxicity. Therefore, this Order includes a Provision that allows the Discharger to conduct a water effects ratio study to develop a site-specific objective. Upon approval of this study this Order may be reopened and the *aluminum* limitation reconsidered.
- c. **Provision VI.C.1.c, Mercury Reopener Provision.** The Discharger's effluent contains mercury, a bioaccumulative pollutant, and therefore has a reasonable potential to cause or contribute to an exceedance of the narrative water quality objective. There is inadequate information to establish an interim performance-based limitation for mercury. The Discharger is required to monitor and report mercury concentrations in accordance with Attachment E. After receipt of twelve months of monitoring data, this Order may be reopened and an interim limit established for mercury.

Additionally, if mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL for mercury is adopted, this Order shall be reopened and any interim mass effluent limitation may be modified (higher or lower) or an effluent concentration limitation imposed. If the Regional Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate any interim mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.

- d. **Provision VI.C.1.d, pH and Ammonia Reopener Provision.** The dynamics of pH and ammonia concentrations are driven in part by algae in the storage pond. As a result, this Order allows the Discharger to perform a site specific study of the tertiary treated effluent to identify relationships between concentrations of algae and ammonia, pH, and temperature and ammonia levels and other factors that form the critical discharge condition in the receiving water. Upon completion of the study, this Order may be reopened to modify the pH limitations and commensurately recalculate ammonia limitations based on the findings of this study.
- e. **Provision VI.C.1.e, Fluoride, Tributyltin, and MBAS.** Due to insufficient information available (only two samples), it was not possible to determine if these constituents have a reasonable potential to exceed receiving water quality objectives. Therefore, this Order requires the Discharger to conduct additional monitoring to determine if there is a



- reasonable potential to exceed a water quality objective for these constituents. If the monitoring indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the narrative water quality objective, this Order may be reopened and a limitation included.
- f. **Provision VI.C.1.f, CTR Pollution Prevention Reopener Provision.** This Order requires the Discharger prepare pollution prevention plans following CWC section 13263.3(d)(3) for chloroform, dibromochloromethane, and bromodichloromethane. This provision allows the Regional Water Board to reopen this Order if review of the study results or any effluent monitoring show that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective and establish new effluent limitations for these constituents.
- g. **Provision VI.C.1.g, Bio-Solids Reopener Provision.** If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards to comply with these regulations. Previous Order No. 5-00-136 established sludge disposal requirements consistent with those required for a POTW. This Order continues the previous Order's sludge disposal requirements.
- h. **Provision VI.C.1.h, Whole Effluent Toxicity Reopener provision.** If the whole effluent toxicity testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, this Order shall be reopened and a toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened and a limitation based on that objective included.
- i. **Provision VI.C.1.i, Optional Dilution Study Reopener Provision.** Littlejohns Creek may have assimilative capacity for certain pollutants. If the Discharger elects to conduct a dilution study, the Regional Water Board would consider the information in reevaluating applicable effluent limitations and other requirements established in this Order; and if necessary this Order may be reopened to revise existing requirements.
- j. **Provision VI.C.4.c, Electrical Conductivity Study Reopener Provision.** The Discharger's effluent contains EC, which shows reasonable potential to cause an exceedance of both the recommended agricultural water quality goal and the secondary MCL. Therefore, this Order includes a Provision that requires the Discharger to conduct a site specific study to determine if the more stringent 700  $\mu\text{mhos/cm}$  should be considered. This evaluation is needed in order for the Regional Water Board to determine whether effluent EC levels can cause or contribute to a violation of the chemical constituents narrative objective and to develop an appropriate effluent limit. This Order includes a time schedule to complete the study and to prepare a pollution prevention plan. Once the Regional Water Board determines an appropriate EC value, this Order shall be reopened to include an appropriate limit.

## 2. Special Studies and Additional Monitoring Requirements

- a. **CTR Compliance Schedule Justification Study**—The SIP, Section 2.1, provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1 further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted:... *“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control and/or pollution minimization efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* On February 22, 2006, the Discharger submitted a report documenting the justification and the need for a compliance time schedule. The new water quality-based effluent limitations for dibromochloromethane, and dichlorobromomethane become effective **18 May 2010**.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final dibromochloromethane, and dichlorobromomethane effluent limitations. As part of the compliance schedule for these CTR constituents, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3) and submit an engineering treatment feasibility study.

## 3. Best Management Practices and Pollution Prevention

- a. CCWD contains all storm water generated within the District in their onsite holding ponds and hence, no storm water permit is required.
- b. This Order requires the Discharger prepare pollution prevention plans following CWC section 13263.3(d)(3) for dibromochloromethane, bromodichloromethane, mercury and chloroform. Based on a review of the pollution prevention plans, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these CTR constituents. A work plan and time schedule for the preparation of the pollution prevention plans are included under Provision VIC4.

## 4. Compliance Schedules

- a. The use and location of compliances schedules in the permit depends on the Discharger’s ability to comply and the source of the applied water quality criteria. For **CTR-based** Effluent Limitations, compliance schedule is included within the permit. For non-CTR-based Effluent Limitations, any necessary time schedules are generally included in the accompanying Time Schedule Order.

- b. The Discharger submitted a request, and justification dated On February 22, 2006, for a compliance schedule for dibromochloromethane and dichlorobromomethane. The compliance schedule justification included all items specified in Paragraph 3, items (a) through (d), of Section 2.1 of the SIP. This Order establishes a compliance schedule for the new, final, water quality-based effluent limitations for dichlorobromomethane, and dichlorobromomethane and requires full compliance by **18 May 2010**.

#### 5. **Construction, Operation, and Maintenance Specifications**

- a. **Provision VI.C.5.a, Mosquito Prevention Requirements.** This Provision requires the Discharger to maintain golf course reservoirs to prevent the breeding of mosquitoes. This Provision is established in order to prevent a nuisance condition pursuant to the requirements of CWC section 13050 and protect human health.
- b. **Provision VI.C.5.b, Recycled Water Use Area Requirements.** This Provision establishes recycled water use area requirements, for public contact, that are consistent with the requirements in Title 22 of the CCR, developed by the California DHS for the purveyance and use of disinfected tertiary 2.2 recycled water.
- c. **Provision VI.C.5.e, Flood and Overflow Protection.** In order to protect public health and receiving waters from overflow of treated or partially treated wastewater, this Provision requires that all wastewater disposal and storage facilities be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

#### 6. **Special Provisions for Municipal Facilities (POTWs Only)**

- a. **Pretreatment Requirements - Not Applicable**
- b. **Sanitary Sewer Overflow Requirements – Not Applicable**

#### 7. **Other Special Provisions – None**

### VIII. **PUBLIC PARTICIPATION**

The California Regional Water Quality Control Board, Central Valley 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 **Copper Cove Wastewater Reclamation Facility**. 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. A Notice of Public Hearing (NOPH) was prepared summarizing the project and Regional Water Board procedures. Notification was provided through direct mailing to agencies and known interested parties, posting of the NOPH at the Discharger's offices and the local post office and publication in the local newspaper.

#### **B. Written Comments**

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should 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 should be received at the Regional Water Board offices by 5:00 p.m. on the date indicated in the transmittal letter for the proposed Order(s)

#### **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: **3/4 August 2006**  
Time: **8:30 AM**  
Location: Central Valley Regional Water Quality Control Board, Sacramento Office  
11020 Sun Center Drive, #200  
Rancho Cordova, CA 95670

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/centralvalley> where you can access the current agenda for changes in dates and locations.

#### **D. Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition regulations may be found at Title 23 California Code of Regulations section 2050 et seq. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

**E. Information and Copying**

The Report of Waste Discharge (RWD), 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 (916) 464-4645.

**F. 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.

Requests for additional information or questions regarding this order should be directed to **Anand Mamidi** at **916-464-4853**

# ATTACHMENT 'G'

## REQUIREMENTS FOR MONITORING WELL INSTALLATION WORKPLANS AND MONITORING WELL INSTALLATION REPORTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a workplan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approve the workplan. Upon installation of the monitoring wells, the Discharger shall submit a well installation report which includes the information contained in Section 2, below. All workplans and reports must be prepared under the direction of, and signed by, a registered geologist or civil engineer licensed by the State of California.

### SECTION 1 - MONITORING WELL INSTALLATION WORKPLAN AND GROUNDWATER SAMPLING AND ANALYSIS PLAN

The monitoring well installation workplan shall contain the following minimum information:

A. General Information:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions
- Proposed monitoring well locations and rationale for well locations
- Topographic map showing facility location, roads, and surface water bodies
- Large scaled site map showing all existing on-site wells, proposed wells, surface drainage courses, surface water bodies, buildings, waste handling facilities, utilities, and major physical and man-made features*

B. Drilling Details:

- On-site supervision of drilling and well installation activities
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Soil sampling intervals (if appropriate) and logging methods

C. Monitoring Well Design (in narrative and/or graphic form):

- Diagram of proposed well construction details
  - Borehole diameter
  - Casing and screen material, diameter, and centralizer spacing (if needed)
  - Type of well caps (bottom cap either screw on or secured with stainless steel screws)
  - Anticipated depth of well, length of well casing, and length and position of perforated interval
  - Thickness, position and composition of surface seal, sanitary seal, and sand pack
  - Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):

- Method of development to be used (i.e., surge, bail, pump, etc.)
- Parameters to be monitored during development and record keeping technique

Method of determining when development is complete  
Disposal of development water

- E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):  
Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey  
Datum for survey measurements  
List well features to be surveyed (i.e. top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. **Appendix: Groundwater Sampling and Analysis Plan (SAP)**

The Groundwater SAP shall be included as an appendix to the workplan, and shall be utilized as a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities.

Provide a detailed written description of standard operating procedures for the following:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
  - General sampling techniques
  - Record keeping during sampling (include copies of record keeping logs to be used)
  - QA/QC samples
- Chain of Custody
- Sample handling and transport

## **SECTION 2 - Monitoring Well Installation Report**

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved workplan.

A. General Information:

Purpose of the well installation project

Brief description of local geologic and hydrogeologic conditions encountered during installation of the wells

Number of monitoring wells installed and copies of County Well Construction Permits

Topographic map showing facility location, roads, surface water bodies

*Scaled site map showing all previously existing wells, newly installed wells, surface water bodies, buildings, waste handling facilities, utilities, and other major physical and man-made features.*

B. Drilling Details (in narrative and/or graphic form):

On-site supervision of drilling and well installation activities

Drilling contractor and driller's name

Description of drilling equipment and techniques

Equipment decontamination procedures

Soil sampling intervals and logging methods

Well boring log

- Well boring number and date drilled
- Borehole diameter and total depth
- Total depth of open hole (same as total depth drilled if no caving or back-grouting occurs)
- Depth to first encountered groundwater and stabilized groundwater depth
- Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (in narrative and/or graphic form):

Well construction diagram, including:

- Monitoring well number and date constructed
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Length of well casing, and length and position of perforated interval
- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)

E. Well Development:

Date(s) and method of development

How well development completion was determined

Volume of water purged from well and method of development water disposal

Field notes from well development should be included in report

F. Well Survey (survey the top rim of the well casing with the cap removed):

Identify the coordinate system and datum for survey measurements

Describe the measuring points (i.e. ground surface, top of casing, etc.)

Present the well survey report data in a table

Include the Registered Engineer or Licensed Surveyor's report and field notes in appendix