

**CALIFORNIA COASTAL COMMISSION**

SOUTH CENTRAL COAST AREA  
89 SOUTH CALIFORNIA ST., SUITE 200  
VENTURA, CA 93001  
(805) 585-1800



# W 14a

## ADDENDUM

**DATE:** August 6, 2007  
**TO:** Commissioners and Interested Parties  
**FROM:** South Central Coast District Staff  
**SUBJECT:** Agenda Item 14a, Application No. 4-04-010 (Las Virgenes Municipal Water District), Wednesday, August 15, 2007

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The purpose of this addendum is to clarify the project description and add language to Special Condition Six (6).

Note: ~~Strikethrough~~ indicates text to be deleted from the July 24, 2007 staff report and underline indicates text to be added to the July 24, 2007 staff report.

1.) The **PROJECT DESCRIPTION** shall be modified as follows:

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Conversion of an approximately 2.5 acre area of existing trenches and berms into percolation ponds for treating creek water and for disposal of tertiary treated wastewater from the Tapia Water Reclamation Facility. Treatment of creek water will occur on a basis of 40 weeks per year, except when creek flows fall below 2.5 cfs. Disposal/treatment of wastewater from Tapia Water Reclamation Facility will occur between April 15<sup>th</sup> and May 31<sup>st</sup> and between October 1<sup>st</sup> and November 15<sup>th</sup> on an annual basis. The proposed project includes: excavation of 17 existing trenches to a depth of three feet and a width of 11 feet, and lengths ranging from 130 to 230 feet; ~~excavation of two additional existing trenches to a depth of three feet, width of 100 feet, and lengths of 100 and 120 feet;~~ removal of non-native brush and weeds within the footprint of the trenches; placement of gravel and planting of native wetland vegetation in the excavated trenches; removal of an existing perimeter chainlink fence; fill of an eroded area east of the proposed trenches original grade; and approximately 10,755 cu. yds. of grading (5,366 cu. yds. cut and 5,389 cu. yds. fill).

2.) Special Condition Six (6), **Oak Tree Protection, Monitoring, and Mitigation** shall be modified as follows:

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- A. To ensure that development does not adversely impact existing oak trees, all development must be located outside of the "protected zone" (five feet beyond the dripline, or fifteen feet from the trunk, whichever is further) for each oak tree. Therefore, any percolation ponds within the protected zone of each oak tree must be

closed to keep all water outside of this zone. **Prior to issuance of the coastal development permit**, the applicant shall submit revised plans for the review and approval of the Executive Director, showing where the percolation ponds encroach into the protected zone of the oak trees and where the percolation ponds will be closed off.

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# W 14a

## SECOND ADDENDUM

**DATE:** August 7, 2007  
**TO:** Commissioners and Interested Parties  
**FROM:** South Central Coast District Staff  
**SUBJECT:** Agenda Item 14a, Application No. 4-04-010 (Las Virgenes Municipal Water District), Wednesday, August 15, 2007

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This project is subject to provisions of Coastal Act Section 30412. Coastal Act Section 30412, in its entirety, reads as follows:

**Section 30412 State Water Resources Control Board & Regional Water Quality Control Boards**

(a) In addition to Section 13142.5 of the Water Code, this section shall apply to the commission and the State Water Resources Control Board and the California regional water quality control boards.

(b) The State Water Resources Control Board and the California regional water quality control boards are the state agencies with primary responsibility for the coordination and control of water quality. The State Water Resources Control Board has primary responsibility for the administration of water rights pursuant to applicable law. The commission shall assure that proposed development and local coastal programs shall not frustrate this section. The commission shall not, except as provided in subdivision (c), modify, adopt conditions, or take any action in conflict with any determination by the State Water Resources Control Board or any California regional water quality control board in matters relating to water quality or the administration of water rights.

Except as provided in this section, nothing herein shall be interpreted in any way either as prohibiting or limiting the commission, local government, or port governing body from exercising the regulatory controls over development pursuant to this division in a manner necessary to carry out this division.

(c) Any development within the coastal zone or outside the coastal zone which provides service to any area within the coastal zone that constitutes a treatment work shall be reviewed by the commission and any permit it issues, if any, shall be determinative only with respect to the following aspects of the development:

(1) The siting and visual appearance of treatment works within the coastal zone.

(2) The geographic limits of service areas within the coastal zone which are to be served by particular treatment works and the timing of the use of capacity of treatment works

for those service areas to allow for phasing of development and use of facilities consistent with this division.

(3) Development projections which determine the sizing of treatment works for providing service within the coastal zone.

The commission shall make these determinations in accordance with the policies of this division and shall make its final determination on a permit application for a treatment work prior to the final approval by the State Water Resources Control Board for the funding of such treatment works. Except as specifically provided in this subdivision, the decisions of the State Water Resources Control Board relative to the construction of treatment works shall be final and binding upon the commission.

(d) The commission shall provide or require reservations of sites for the construction of treatment works and points of discharge within the coastal zone adequate for the protection of coastal resources consistent with the provisions of this division.

(e) Nothing in this section shall require the State Water Resources Control Board to fund or certify for funding, any specific treatment works within the coastal zone or to prohibit the State Water Resources Control Board or any California regional water quality control board from requiring a higher degree of treatment at any existing treatment works.

(Amended by Ch. 285, Stats. 1991.)

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Filed: 12/15/06  
180th Day: 6/13/07  
270th Day: 9/11/07  
Staff: AT-V  
Staff Report: 7/24/07  
Hearing Date: 8/8/07  
Commission Action:

**W 14a****STAFF REPORT: Regular Calendar****APPLICATION NO.:** 4-04-010**APPLICANT:** Las Virgenes Municipal Water District**PROJECT LOCATION:** Malibu State Park at the intersection of Piuma Road and Malibu Canyon Road, Malibu, Los Angeles County

**PROJECT DESCRIPTION:** Conversion of an approximately 2.5 acre area of existing trenches and berms into percolation ponds for treating creek water and for disposal of tertiary treated wastewater from the Tapia Water Reclamation Facility. Treatment of creek water will occur on a basis of 40 weeks per year, except when creek flows fall below 2.5 cfs. Disposal/treatment of wastewater from Tapia Water Reclamation Facility will occur between April 15<sup>th</sup> and May 31<sup>st</sup> and between October 1<sup>st</sup> and November 15<sup>th</sup> on an annual basis. The proposed project includes: excavation of 17 existing trenches to a depth of three feet and a width of 11 feet, and lengths ranging from 130 to 230 feet; excavation of two additional existing trenches to a depth of three feet, width of 100 feet, and lengths of 100 and 120 feet; removal of non-native brush and weeds within the footprint of the trenches; placement of gravel and planting of native wetland vegetation in the excavated trenches; removal of an existing perimeter chainlink fence; fill of an eroded area east of the proposed trenches original grade; and approximately 10,755 cu. yds. of grading (5,366 cu. yds. cut and 5,389 cu. yds. fill).

**LOCAL APPROVALS RECEIVED:** California Water Quality Control Board, Los Angeles Region, Order No. R4-2002-158, Waste Discharge Requirements for Las Virgenes Municipal Water District-Tapia Water Reclamation Facility, Constructed Wetland Discharge (File No. 00-097), September 26, 2002; California Water Quality Control Board, Los Angeles Region, Order No. R4-2005-0074, NPDES NO. CA0056014, Waste Discharge Requirements for Las Virgenes Municipal Water District- Tapia Water Reclamation Facility, November 3, 2005; California State Parks and Recreation Notice of CEQA Exemption, Categorical Exemption, August 9, 2001; California Department of Fish and Game Streambed Alteration Agreement # 1600-2003-5032-R5, September 8, 2003.

**SUBSTANTIVE FILE DOCUMENTS:** "Biological Assessment, Constructed Wetlands Project-Malibu Creek," by Randal Orton, Ph.D, D.Env., Resource Conservation Department, Las Virgenes Municipal Water District, April 29, 2002; " Supplemental Biological Assessment- Constructed Wetlands Project- Malibu Creek," by Randal Orton, Ph.D, D.Env., Resource

Conservation Department, Las Virgenes Municipal Water District, October 6, 2006; Geological Survey of Waste Disposal Ponds Installation, Las Virgenes Municipal Water District, July 30, 1976, by Engineering Geology Consultants, Inc.; "Constructed Wetland for Malibu Creek-Project Description and Construction Plan," by Ginachi Amah, March 2000; Percolation Pond Capacity Study," by Ginachi Amah, Spring 1999, LVMWD Report No. 2227.00; "Los Angeles Regional Water Quality Control Board Report of Waste Discharge Supplemental Requirement Study- Tapia Groundwater Dewatering Operations," by Hopkins Groundwater Consultants, Inc., January 2004; "Oak Tree Inspection Report," Constructed Wetlands Project, by Samuel L. Knapp, RCA, Registered Consulting Arborist, April 4, 2007; "Expanded Oak Tree Inspection Report," Constructed Wetlands Project, by Samuel L. Knapp, RCA, Registered Consulting Arborist, June 12, 2007; Memorandum of Understanding for the Constructed Wetland between the Department of Parks and Recreation and the Las Virgenes Municipal Water District, December 1, 2002.

#### SUMMARY OF STAFF RECOMMENDATION

Staff recommends **approval** of the proposed project with nine (9) special conditions regarding: (1) required agency approvals, (2) discharge period, (3) revegetation, erosion control and monitoring, (4) biological monitoring, (5) water quality monitoring, (6) oak tree protection, monitoring, and mitigation, (7) limited term, (8) educational sign and (9) public access.

The standard for review for the proposed project is the Chapter Three policies of the Coastal Act. In addition, the policies of the Certified Malibu-Santa Monica Mountains Land Use Plan (LUP) serve as guidance. As conditioned, the proposed project is consistent with all Chapter Three policies of the Coastal Act.

#### **I. STAFF RECOMMENDATION**

**MOTION:**        *I move that the Commission approve Coastal Development Permit No 4-04-010 pursuant to the staff recommendation.*

#### **STAFF RECOMMENDATION OF APPROVAL:**

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

#### **RESOLUTION TO APPROVE THE PERMIT:**

The Commission hereby approves the coastal development permit on the ground that the development subject to conditions will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit amendment complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the amended development on the environment, or 2)

there are no feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the amended development on the environment.

## **II. STANDARD CONDITIONS**

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittees or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittees to bind all future owners and possessors of the subject property to the terms and conditions.

## **III. SPECIAL CONDITIONS**

### **1. Required Agency Approvals**

**Prior to issuance of the Coastal Development Permit**, the applicant shall submit evidence, for the review and approval of the Executive Director, of a current Streambed Alteration Agreement from the California Department of Fish and Game. Additionally, prior to issuance of permit, the applicant shall submit evidence of approval from the California Regional Water Quality Control Board, Los Angeles Region for the project. The applicant shall inform the Executive Director of any changes to the project required by the California Regional Water Quality Control Board, Los Angeles Region after the expiration of Order No. R4-2002-158 on September 26, 2007. If a new order is approved by the Water Board and the new order contains additional or changed requirements or limitations from those contained in Order No. R4-2002-158, the applicant shall obtain an amendment to this Coastal Development Permit, unless the Executive Director determines that no amendment is legally required.

### **2. Discharge Period**

Disposal of tertiary-treated wastewater from Tapia Water Reclamation Facility into the percolation ponds shall occur only between April 15<sup>th</sup> and May 31<sup>st</sup> and between October 1<sup>st</sup> and November 15<sup>th</sup> annually, as proposed by the applicant.

### **3. Revegetation, Erosion Control, and Monitoring Plans**

**Prior to issuance of the Coastal Development Permit**, the applicant shall submit revegetation and erosion control plans, prepared by a qualified resource specialist, for review and approval by the Executive Director. The plans shall incorporate the following criteria:

**A) Non-Native Invasive Species Removal**

All conspicuous non-native invasive species shall be removed from the entire 2.5 acre project site. The revegetation plan shall include provisions for ongoing non-native invasive species removal for the life of the project.

**B) Revegetation and Erosion Control Plan**

- 1) All graded and disturbed areas on the project site shall be planted and maintained for revegetation and erosion control purposes within thirty (30) days of completion of percolation pond development. Plantings should be of only native plant species that have been obtained from local Santa Monica Mountains genetic stock. Plants selected must be appropriate for the site soil type, sun exposure, and flooding tolerance. Some plant species recommended for planting in the percolation ponds include Cattails (*Typha domingensis*), Bulrush or Tule (*Scirpus sp.*), Common Spike-rush (*Eleocharis macrostachya*), Rough sedge (*Carex senta*), Bur reed (*Sparganium eurycarpum*), Rush (*Juncus sp.*), and Arroyo willow (*Salix lasiolepis*). The requirement to plant only native species shall apply to all disturbed and graded soils. Invasive, non-indigenous plant species that tend to supplant native species shall not be used. Plantings shall be maintained in good growing condition throughout the life of the project and, whenever necessary, shall be replaced with new plant materials to ensure continued compliance with the revegetation requirements.
- 2) The revegetation plan shall identify the species, location, and extent of all plant materials and shall use the appropriate mixture of seeds, cuttings, transplantation of rhizomes, stolons, or entire plants to increase the potential for successful revegetation. The plan shall also include a detailed description of the type and size of gravel, soil type, and depth of soil and gravel. The plan shall include a description of technical and performance standards to ensure the successful revegetation of the project area. The plan shall also specify the erosion control measures to be implemented and the materials necessary to accomplish short-term stabilization, as needed on the site.
- 3) After restoration takes place, the applicant shall conduct monthly weeding until the native vegetation is sufficiently well-established to resist continued colonization by exotics. Weeding shall be conducted by hand and must be supervised by a resource specialist to insure that the native plants are not disturbed.
- 4) The Permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Coastal Commission - approved amendment(s) to the Coastal Development Permit(s), unless the Executive Director determines that no amendment is required.

**C) Interim Erosion Control Plan**

- 1) The plan shall delineate the areas to be disturbed by grading or construction activities and shall include any temporary pathways, staging areas, and stockpile areas. The



natural areas on the sites shall be clearly delineated on the project site with fencing or survey flags. The plan shall specify that grading shall take place only during the dry season (April 1 – October 31). This period may be extended for a limited period of time if the situation warrants such a limited extension, if approved by the Executive Director. The applicant shall install or construct temporary sediment basins (including debris basins, desilting basins, or silt traps), temporary drains and swales, sand bag barriers, and silt fencing as warranted by the project, and shall stabilize any stockpiled fill with geofabric covers or other appropriate cover, install geotextiles or mats on all cut or fill slopes, and close and stabilize open trenches as soon as possible. These erosion control measures shall be required on the project site prior to or concurrent with the initial excavation operations and maintained throughout the development process to minimize erosion and sediment from runoff waters during construction. All sediment should be retained on-site, unless removed to an appropriate, approved dumping location either outside of the coastal zone or within the coastal zone to a site permitted to receive fill.

- 2) The plan shall also include temporary erosion control measures should grading or site preparation cease for a period of more than thirty (30) days, including but not limited to: stabilization of all stockpiled fill, access roads, disturbed soils, and cut and fill slopes with geotextiles and/or mats, sand bag barriers, silt fencing; temporary drains and swales and sediment basins. The plans shall also specify that all disturbed areas shall be seeded with native species and include the technical specifications for seeding the disturbed areas. These temporary erosion control measures shall be monitored and maintained until grading or construction operations resume.

**D. Yearly Monitoring Reports**

- 1) One (1) year from the date of completion of the proposed development and each year thereafter for the next five (5) years, the applicant shall submit for the review and approval of the Executive Director a revegetation monitoring report, prepared by a qualified resource specialist, that certifies the on-site revegetation is in conformance with the revegetation plan approved pursuant to this special condition. The monitoring report shall include photographic documentation of plant species and plant coverage. Each report shall also include a "Performance Evaluation" section where information and results from revegetation monitoring are used to evaluate the status of the revegetation project in relation to the performance standards.
- 2) The revegetation plan shall include provisions for submission of a final monitoring report to the Executive Director at the end of the five-year reporting period. The final report must be prepared in conjunction with a qualified resource specialist. The report must evaluate whether the site conforms with the goals, objectives, and performance standards set forth in the approved final revegetation plan. The report must address all of the monitoring data collected over the five-year period.
- 3) The permittee shall monitor the revegetation site in accordance with the approved revegetation plan. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved monitoring and revegetation plan shall

occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

- 4) If the revegetation monitoring report indicates the revegetation is not in conformance with or has failed to meet the performance standards specified in the revegetation plan approved pursuant to this permit, the applicant, or successors in interest, shall submit a revised or supplemental revegetation plan for the review and approval of the Executive Director. The revised revegetation plan must be prepared by a qualified resource specialist and shall specify measures to remediate those portions of the original plan that have failed or are not in conformance with the original approved plan.

#### **4. Biological Monitoring of Construction**

By acceptance of this permit, the applicant agrees to have a qualified biologist or resource specialist survey the project site prior to any construction activities, to flag the construction work area and to flag any sensitive tree or plant species, such as oak trees, to be avoided during all work. The applicant also agrees to have a qualified biologist or resource specialist on-site during all grading and construction activities to monitor the work and to ensure that sensitive biological resources are protected. No vegetation removal or other construction activity shall take place within the 2.5 acre subject site from March 1<sup>st</sup> to September 1<sup>st</sup>, the recognized breeding, nesting and fledging season for sensitive bird species.

#### **5. Discharge Requirements and Water Quality Monitoring**

This Coastal Development Permit incorporates all of the discharge requirements, limitations, wetland and groundwater objectives, and other requirements and provisions contained in California Regional Water Quality Control Board, Los Angeles Region Order No. R4-2002-158, including:

##### **A. Discharge Prohibitions**

1. Waste discharge to the constructed wetland shall be limited to Tapia's tertiary-treated and disinfected effluent and a portion of Malibu Creek flow impacted by recreational use and urban runoff, as proposed. The maximum discharge volume shall not exceed 900,000 gallons per day.
2. Discharges of water, materials, thermal wastes, elevated temperatures, toxic wastes, deleterious substances, or wastes other than those authorized by [Order No. R4-2002-158], to the constructed wetland and ground waters of the State are prohibited.
3. The water discharged shall not cause the turbidity of the wetland water to increase to the extent that such an increase causes nuisance or adversely affects beneficial uses; such increase shall not exceed 20% when the natural turbidity is over 50 NTU's or 10% when the natural turbidity is 50 NTU's or less. Effluent shall not exceed average operating turbidity of 2 NTU's and does not exceed 5 NTU's more than 5 percent of the time during any 24-hour period.

4. Discharge, including without limitation discharges caused by surface flow, or subsurface flow and resurfacing, from the constructed wetlands to Malibu Creek, Malibu Lagoon, or both, is prohibited.

**B. Effluent Limitations**

The term “effluent” in the following limitations means the tertiary-treated wastewater effluent from Tapia discharged to the constructed wetland.

The discharge of an effluent containing constituents violating or in excess of the following limits is prohibited:

1. A pH value between 6.0 and 9.0 standard units
2. The wetland application rate shall not cause the effluent to resurface and enter into Malibu Creek, Malibu Lagoon, or both.
3. The effluent shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life.
4. Temperature

-A maximum discharge temperature of 100°F.

-The maximum temperature of the discharge to the wetlands shall not exceed the natural receiving water temperature by more than 20°F.

**5. Discharge Quality**

**Discharge Limitations**

Constituent	Units	Monthly Average	Daily Maximum
BOD5 20°C	mg/L	10.0	20.0
Total suspended solids	mg/L	5.0	10.0
Nitrate+nitrate (as N)	mg/L	---	10.0
Residual chlorine	mg/L	---	0.1
Total dissolved solids	mg/L	---	2,000
Sulfate	mg/L	---	500
Chloride	mg/L	---	500
Boron	mg/L	---	2.0

**C. Incorporation of Workplan and Monitoring Plan**

1. This Coastal Development Permit incorporates the work plan submitted by the applicant to the California Regional Water Quality Control Board pursuant to Section III.9. the permit. Section III.9. requires Las Virgenes to conduct a monitoring plan including, but not limited to:

- a. Baseline monitoring of the quality of groundwater upstream and downstream of the wetland;
  - b. Investigation of the groundwater flow patterns relative to the Malibu Creek and Malibu Lagoon;
  - c. Determination of the optimal wetland application rate to limit the probability of “resurfacing”;
  - d. Measurements of groundwater elevation and flow net diagram; and
  - e. A contingency plan including any operational adjustments to limit the impacts on Malibu Creek in case of resurfacing.
- 2. This Coastal Development Permit is subject to all of the provisions of the work plan and the monitoring plan approved by the Regional Water Board’s Executive Director.
  - 3. This Coastal Development Permit is subject to all provisions of Monitoring and Reporting Program (MRP) CI-8475, required as part of California Regional Water Quality Control Board, Los Angeles Region Order No. R4-2002-158. **(Exhibit 5)**.

**D. Satisfaction of Performance Standards**

If project monitoring indicates that either discharge prohibitions or effluent limitations have failed to meet any of the performance standards specified in this Coastal Development Permit, development shall immediately cease and shall not recommence until after the permittee has received a California Coastal Commission approved Coastal Development Permit amendment.

**6. Oak Tree Protection, Monitoring, and Mitigation**

- A. To ensure that development does not adversely impact existing oak trees, all development must be located outside of the “protected zone” (five feet beyond the dripline, or fifteen feet from the trunk, whichever is further) for each oak tree. Therefore, any percolation ponds within the protected zone of each oak tree must be closed to keep all water outside of this zone.
- B. To ensure that on-site oak trees are protected during percolation pond construction activities, protective barrier fencing shall be installed around the drip line of all oak trees during the construction phase of the project.
- C. All oak trees on the site shall be inspected yearly by a qualified resource specialist who shall submit a yearly report to the Executive Director identifying any changes in oak tree condition. Should any of the on-site oak trees be lost or suffer worsened health or vigor as a result of the project, the permittee shall cease development and shall not recommence development until after the permittee submits, for the review and approval of the Executive Director, an oak tree replacement planting program, prepared by a qualified biologist, arborist, or other qualified resource specialist, which specifies replacement tree locations, planting specifications, and a monitoring program to ensure that the replacement planting program is successful. Upon submittal of the replacement

planting program and before recommencement of development, the Executive Director shall determine if an amendment to Permit No. 4-04-010, or an additional coastal development permit, from the Commission is required.

- D. As mitigation for development impacts to any oak tree, at least ten replacement seedlings, less than one year old, grown from acorns collected in the area, shall be planted on the project site. An annual monitoring report on the oak tree replacement area shall be submitted for the review and approval of the Executive Director.

**7. Limited Term Permit**

Development authorized pursuant to Coastal Development Permit No. 4-04-010 is limited to a period of five years from the date of approval by the commission. After August 8, 2012, the permit is no longer valid and the Water District must apply for a new coastal development permit for the project in order to continue using the percolation ponds.

**8. Educational Sign**

Within thirty (30) days from the date of operation of the constructed wetlands, the permittee shall post educational signs at the project site describing the project. One sign shall be posted along Malibu Canyon Road.

**9. Public Access**

Within thirty (30) days from the date of operation of the constructed wetlands, to allow public access to the State Park, the permittee shall remove all fencing currently on the site, except fencing necessary to provide public safety around the immediate percolation pond site.

**IV. FINDINGS AND DECLARATIONS**

The Commission hereby finds and declares:

**A. Limitations on Commission's Actions Regarding Water Quality**

Article Two, Chapter Five of the Coastal Act (California Public Resources Code Sections 30410-30420) establishes specific limitations on the actions of the Commission in relation to the authority of other state regulatory agencies. With respect to the administration of water quality, Section 30412(b) directs that the Commission shall not "...modify, adopt conditions, or take any action in conflict with any determination by the State Water Resources Control Board or any California regional water quality control board in matters relating to water quality or the administration of water rights." Specifically, Coastal Act Section 30412(b) states:

***The State Water Resources Control Board and the California regional water quality control boards are the state agencies with primary responsibility for the coordination and control of water quality. The State Water Resources Control Board has the primary responsibility for the administration of water rights pursuant to applicable law. The commission shall assure that proposed development and local coastal programs shall not frustrate this section. The commission shall not, except as provided in subdivision (c), modify, adopt conditions, or take any action in conflict with any determination by the State***

***Water Resources Control Board or any California regional water quality control board in matters relating to water quality or the administration of water rights.***

Exceptions to these limitations are provided to permit the Commission to exercise its authority to regulate development as granted by the Coastal Act. For example, under Sections 30230 and 30231 of the Coastal Act, the Commission is charged with assuring that marine resources, with particular emphasis on the productivity, health, and population levels of its biological components, are maintained, enhanced, and where feasible restored.

The state and regional water control boards have direct and/or delegated authority to regulate the chemical and thermal characteristics of surface and groundwater resources, specifically in order to control the presence and concentrations of chemical constituents within the aqueous environment, in the interest of protecting human health, biological resources, and other “beneficial uses” of the waters of the state and the nation. The Commission acknowledges the distinctions in these responsibilities and limits its actions accordingly to preclude conflicts in instances where a water board has made determinations on a development project that is also subject to the Commission’s authority, particularly with regard to the setting of quantitative limitations on point and non-point source pollutants through the issuance of National Pollution Discharge Elimination Permits, waste discharge requirements, cease and desist directives, and cleanup and abatement orders.

The Commission’s consideration of this coastal development permit is undertaken pursuant solely to the authority duly granted to the Commission by the Coastal Act, is limited to ensuring the approved development’s conformance with the policies of the Coastal Act, and in no way represents actions which modify, supplant, condition, or otherwise conflict with a determination of either the state or any regional water quality control board in matters relating to water quality or the administration of water rights. To avoid such potential conflicts, staff recommendations in this permit are consistent with the permit granted by the California Regional Water Quality Control Board, Los Angeles Region, Order No. R4-2002-158 (**Exhibit 5**). This approval was granted on September 26, 2002 and expires on September 26, 2007.

**B. Project Description and Background**

The applicant, Las Virgenes Water District (“Water District”), proposes to create a 2.5 acre area of “constructed wetlands” adjacent to Malibu Creek in Malibu State Park at the intersection of Piuma Road and Malibu Canyon Road. A Memorandum of Understanding (“MOU”) between the California Department of Parks and Recreation and the Las Virgenes Municipal Water District allows the Water District’s use of State Park Land for the constructed wetland project (**Exhibit 4**). The “constructed wetlands” will consist of vegetated percolation ponds that are proposed to treat a portion of Malibu Creek flows for nutrient and bacteria removal and for the disposal of surplus tertiary-treated recycled water from the Tapia Water Reclamation Facility. In its coastal development permit application, the Water District refers to this project as a “constructed wetland.” The Water District has also referred to this project as a “subsurface flow treatment wetland,” indicating the intent of the project to remove waterborne pollutants via physical filtration and microbial action taking place in the first meter of wetland sediments, including plant root zones and gravel substrate. Therefore, to clarify, the applicants have not proposed to create a natural self-sustaining productive wetland, as wetlands do not naturally occur at this point along Malibu Creek. Rather, this project is a proposal to construct a series of vegetated percolation ponds to serve primarily as a water treatment system and will be hereinafter referred to as such. The percolation ponds will serve as a filtration system because wetland plants will

be planted in order for the roots to provide surface area for beneficial bacterial growth, filtration of solids, nutrient uptake, and oxygen infiltration.

The Las Virgenes Municipal Water District (Water District) operates the Tapia Water Reclamation Facility (Tapia) located at 731 Malibu Canyon Road in unincorporated Los Angeles County about 1,500 ft. to the northwest of the proposed location for the percolation ponds (**Exhibit 1**). Tapia is a wastewater treatment plant adjacent to Malibu Creek that treats up to 16.1 million gallons per day (mgd) of municipal wastewater from domestic, commercial, and industrial sources. The tertiary-treated effluent is either recycled for irrigation and industrial uses, or discharged directly to Malibu Creek (from November 15<sup>th</sup> to April 15<sup>th</sup>). Malibu Creek flows about six miles from Tapia down to the Malibu Lagoon and eventually out to Santa Monica Bay. Discharges from Tapia are regulated pursuant to National Pollutant Discharge Elimination System (NPDES) Permit No. CA0056014 issued by the California Regional Water Quality Control Board, Los Angeles Region. This NPDES permit was amended by Order No. 99-142 to prohibit direct discharges of tertiary-treated wastewater to Malibu Creek during the dry season from April 15<sup>th</sup> to November 15<sup>th</sup>. However, the NPDES permit allows Tapia to supplement flows to Malibu Creek if natural flows fall below 2.5 cubic feet per second (cfs) and during storm events, as determined by the Water Board Executive Officer. Additionally, the California Regional Water Quality Control Board, Los Angeles Region has issued a permit for the proposed percolation pond project (Order No. R4-2002-158) that allows Tapia to divert creek water during a portion of the year and to discharge tertiary-treated wastewater into the percolation ponds (not directly to Malibu Creek), as further explained below. Additionally, the California Department of Fish and Game issued a Streambed Alteration Agreement for this project on September 8, 2003, which expired on December 31, 2004. **Special Condition One (1)** requires the applicant to obtain a current Streambed Alteration Agreement from the California Department of Fish and Game.

The 2.5 acre project site is adjacent to and approximately 10-15 feet above Malibu Creek. During the 1950's, fill from construction of Malibu Canyon Road was deposited on the site and approximately half of the site consists of artificial fill materials. The remainder of the site consists of natural stream sediments. The project site was initially operated by Tapia as a series of percolation ponds beginning in the early 1970's, consisting of 19 parallel trenches, with lengths varying from 80-350 ft. and cross sectional dimensions of 8 ft. in width by 5 ft. in height. Treated water was discharged from an underground pipe from the Tapia Water Reclamation Facility (about 1,500 ft. away) to the first pond and entered the other ponds via overflow pipes between the ponds (**Exhibit 2**). Flood damage has since resulted in a forced channel cutting through the ponds, allowing in-flowing water to exit directly to the creek. Tapia stopped use of the percolation ponds due to damage from severe winter storms in 1993 and 1995; however, the percolation ponds are still present in a deteriorated condition overgrown with vegetation.

The proposed project includes reconstructing 17 existing trenches, about 10-25 ft. in width, 3ft. deep, and lengths varying from 100 to 230 ft. (**Exhibits 2 and 3**). Non-native and invasive vegetation will be removed according to the revegetation plan submitted pursuant to **Special Condition Three (3)**. The estimates of grading materials for the percolation ponds are 5,366 cubic yards of cut and 5,389 cubic yards of fill. All cut and fill is within the limits of existing trenches with no proposed changes to the original ground elevation. Screened overflow pipes will be placed 4.5 feet from the base of the ponds. A 50 foot long, 12 inch diameter PVC inflow line will be installed from the existing pipe valve into the first percolation pond. Sampling wells will be installed in every third percolation pond for in order to monitor performance. The sampling wells will consist of 8 inch PVC pipes placed 2 feet below the trench bottoms and extending 1 foot above the gravel surface.

***California Regional Water Quality Control Board Approval***

The proposed project was approved by the California Regional Water Quality Control Board (RWQCB), Los Angeles Region, in Order No. R4-2002-158 on September 26, 2002 , which expires on September 26, 2007 (**Exhibit 5**).

The RWQCB permit provides that the Las Virgenes Municipal Water District shall comply with discharge requirements, including discharge prohibitions and effluent limitations. The discharge prohibitions require that: 1) waste discharge into the constructed wetlands shall be limited to Tapia's tertiary-treated effluent and a portion of Malibu Creek flow impacted by urban runoff and maximum discharges shall not exceed 900,000 gallons of treated effluent per day, 2) discharges to the constructed wetland and groundwater of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, are prohibited, 3) the water discharged shall not cause the turbidity of the wetland water to increase to the extent that such an increase causes a nuisance or adversely affects beneficial uses, and 4) discharge from the constructed wetlands to Malibu Creek, Malibu Lagoon, or both, is prohibited. The effluent limitations prohibit the discharge of effluent containing constituents violating or in excess of the following limits: 1) a pH value between 6.0 and 9.0 standard units, 2) the application rate shall not cause the effluent to resurface and enter into Malibu Creek, Malibu Lagoon, or both, 3) the effluent shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life, 4) temperature discharges are limited to 100°F and shall not exceed the natural receiving water temperature by more than 20°F, and 5) limitations listed in Section I.B.5. for BOD, total suspended solids, nitrates, residual chlorine, total dissolved solids, sulfate, chloride, and boron.

Additional requirements in Section III of the RWQCB permit for this project provide that: 1) in the event that discharges into the percolation ponds resurface to Malibu Creek and/or Malibu Lagoon, discharges into the percolation ponds shall immediately cease, 2) in the event of observed adverse impact, as determined by the Executive Director [of the California Regional Water Quality Control Board], on Malibu Creek, Malibu Lagoon, Malibu Lagoon berm, or beneficial uses of surface waters or groundwaters, the Executive Officer Director [of the California Regional Water Quality Control Board], shall notify the Discharger and the Discharger shall immediately terminate discharges to the constructed wetlands, 3) the Discharger shall take measures necessary to prevent erosion or overtopping of the constructed wetlands; however, the erosion control measures may not result in increased creek flow velocities to Malibu Creek, and 4) the Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.

Further, Section III of the RWQCB permit also requires Las Virgenes to conduct a study and develop a monitoring program to investigate the impacts of discharges to the percolation ponds on the flow and quality of the groundwater, Malibu Creek, and Malibu Lagoon, including but not limited to the following: baseline monitoring of the quality of groundwater upstream and downstream of the wetland; investigation of the groundwater flow patterns relative to the Malibu Creek and Malibu Lagoon; determination of the optimal wetland application rate to limit the probability of "resurfacing;" measurements of groundwater elevation and flow net diagram; and a contingency plan including any operation adjustments to limit the impacts on Malibu Creek in case of resurfacing. The RWQCB permit required the Discharger to submit a work plan to the RWQCB with a time schedule and milestones for conducting the study and developing the



monitoring program. This work plan was submitted to the RWQCB on December 22, 2002 (**Exhibit 6**). The work plan provides an outline for a monitoring program that uses indirect and direct methods of tracking the fate and quality of percolation pond effluent.

In addition to conducting a study and a monitoring program to investigate the impacts of discharges to the percolation ponds on the flow and quality of the groundwater, Malibu Creek, and Malibu Lagoon, the RWQCB permit also requires Tapia to comply with a standard Monitoring and Reporting Program (MRP) (Attachment T-A to Order No. R4-2002-158) (**Exhibit 5**). The MRP requires Tapia to analyze pollutants in the tertiary treated wastewater discharged to the percolation ponds and submit quarterly and annual reports to the RWQCB.

***Memorandum of Understanding between Las Virgenes Municipal Water District and California Department of Parks and Recreation***

A Memorandum of Understanding (MOU) between Las Virgenes Municipal Water District and the Department of Parks and Recreation (State Parks) governs the Water District's use of the treatment ponds because they are located in State Park Lands- Malibu Creek State Park (**Exhibit 4**). The MOU provides that the project will "mutually benefit the missions of both public agencies, by improving water quality and recreational use in Malibu Creek and Malibu Creek State Park and by providing the district a means of disposing of highly treated surplus recycled water." The four main objectives identified in the MOU are: 1) to remove pathogens and nutrients from Malibu Creek, a waterbody within the Malibu Creek State Park that is currently listed by the State Regional Water Quality Control Board as impaired for both of these pollutants, 2) to dispose of surplus recycled water from the Tapia Water Reclamation Facility, 3) to provide scientific data and technical information for use in other constructed wetland and wetland restoration projects in the watershed, and 4) to showcase and provide public information and educational opportunities on natural treatment systems." This MOU expires on December 1, 2007 and is renewable if both the Water District and State Parks agree.

***Operation of Percolation Ponds***

**Discharge of Tertiary Treated Wastewater to the Percolation Ponds for 12 Weeks/Year**

Tapia proposes to discharge tertiary treated wastewater to the percolation ponds via an existing underground pipeline during 12 weeks of the year, between April 15<sup>th</sup> and May 31<sup>st</sup> and between October 1<sup>st</sup> and November 15<sup>th</sup>. The California Regional Water Quality Control Board, Los Angeles Region, Order No. 99-142, prohibits Las Virgenes to discharge any effluent to Malibu Creek from April 15<sup>th</sup> to November 15<sup>th</sup>. However, California Regional Water Quality Control Board, Los Angeles Region, Order No. R4-2002-158, explained above, authorizes Tapia to discharge tertiary-treated wastewater to the percolation ponds, but not directly to the creek, for six weeks at the beginning and six weeks at the end of the prohibition period in Order No. 99-142.

**Diversion of Creek/Groundwater to Percolation Ponds for 40 Weeks/Year**

As a source of water during the 40 weeks per year when Tapia is not discharging tertiary treated wastewater to the percolation ponds, Tapia was to divert creek water to the percolation ponds (between November 16<sup>th</sup> and April 14<sup>th</sup> and between June 1<sup>st</sup> and September 30<sup>th</sup>). The Water District originally proposed to place a screened intake pipe into Malibu Creek. However, the Water District does not now propose to construct any water intake structures in the creek, but instead proposes that the source of the water to divert to the percolation ponds will come from a

groundwater intake structure within the Tapia Water Reclamation Facility footprint. An existing underground pipeline connects this dewatering structure to the percolation ponds. The intake structure is comprised of a horizontal drain system located at the base of concrete holding chambers, which is a part of a permanent dewatering system within the Tapia facility. According to a hydrogeological study conducted by Hopkins Groundwater Consultants, findings indicated that "groundwater and surface water quality were virtually the same and that dewatering wells were producing groundwater directly recharged by surface water infiltration." Based on this information, the Water District asserts that the groundwater from the intake structure is virtually the same as Malibu Creek water and that there is a direct connection between groundwater and Malibu Creek water at that point.

### **C. Environmentally Sensitive Habitat Areas**

Section 30240 of the Coastal Acts states:

- a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
- b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Section 30107.5 of the Coastal Act, defines an environmentally sensitive area as:

"Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

Section 30250(a) of the Coastal Act states:

New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

In addition, the Malibu/Santa Monica Mountains LUP provides policy guidance regarding the protection of environmentally sensitive habitats. The Coastal Commission has relied upon the following policies as guidance in its review of development proposals in the Santa Monica Mountains:

- P57** *Designate the following areas as Environmentally Sensitive Habitat Areas (ESHAs): (a) those shown on the Sensitive Environmental Resources Map (Figure 6), and (b) any undesignated areas which meet the criteria and which are identified through the biotic review process or other means, including those oak woodlands and other areas identified by the Department of Fish and Game as being appropriate for ESHA designation.*
- P63** *Uses shall be permitted in ESHAs, DSRs, Significant Watersheds, and Significant Oak Woodlands, and Wildlife Corridors in accordance with Table I and all other policies of this LCP.*
- P68** *Environmentally sensitive habitat areas (ESHAs) shall be protected against significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. Residential use shall not be considered a resource dependent use.*
- P69** *Development in areas adjacent to environmentally sensitive habitat areas (ESHAs) shall be subject to the review of the Environmental Review Board, shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.*
- P74** *New development shall be located as close as feasible to existing roadways, services, and existing development to minimize the effects on sensitive environmental resources.*
- P81** *To control runoff into coastal waters, wetlands and riparian areas, as required by Section 30231 of the Coastal Act, the maximum rate of storm water runoff into such areas from new development should not exceed the peak level that existed prior to development.*
- P82** *Grading shall be minimized for all new development to ensure the potential negative effects of runoff and erosion on these resources are minimized.*

**Table 1 (ESHAs)**

*Land alteration and vegetation removal, including brushing, shall be prohibited within undisturbed riparian woodlands, oak woodlands, and any areas designated as ESHAs by this LCP, except that controlled burns and trails or roads constructed for providing access to recreational areas may be permitted consistent with other policies of the LCP.*

*Trails or roads permitted for recreation shall be constructed to minimize grading and runoff. A drainage control plan shall be implemented.*

*Streambeds in designated ESHAs shall not be altered except where consistent with Section 30236 of the Coastal Act. Road crossings shall be minimized, and where crossings are considered necessary, should be accomplished by bridging. Tree removal to accommodate the bridge should be minimized.*

*A minimum setback of 100 feet from the outer limit of the pre-existing riparian tree canopy shall be required for any structure associated with a*

***permitted use within or adjacent to an Environmentally Sensitive Habitat Area.***

***Structures shall be located in proximity to existing roadways, services and other development to minimize the impacts on the habitat. Approval of development shall be subject to review by the Environmental Review Board.***

Section 30250 of the Coastal Act requires that development be located to ensure that significant adverse impacts, both individual and cumulative, be avoided. In addition, Section 30240 of the Coastal Act states that environmentally sensitive habitat areas must be protected against disruption of habitat values.

### **Environmentally Sensitive Habitat Determination**

Pursuant to Section 30107.5, in order to determine whether an area constitutes an ESHA, and is therefore subject to the protections of Section 30240, the Commission must ask four questions:

- 1) What is the area of analysis?
- 2) Is there a rare habitat or species in the subject area?
- 3) Is there an especially valuable habitat or species in the area, based on:
  - a) Does any habitat or species present have a special nature?
  - b) Does any habitat or species present have a special role in the ecosystem?
- 4) Is any habitat or species that has met test 2 or 3 (i.e., that is rare or especially valuable) easily disturbed or degraded by human activities and developments?

The Coastal Commission has found that the Mediterranean Ecosystem in the Santa Monica Mountains is itself rare, as well as being especially valuable, because of its relatively pristine character, physical complexity, and resultant biological diversity. The Commission further finds that because of the rare and special nature of the Santa Monica Mountains ecosystem, the ecosystem roles of substantially intact areas of the constituent plant communities discussed below are “especially valuable” under the Coastal Act. Therefore, the habitat areas discussed below, which provide important roles in that ecosystem, are especially valuable because of that role and meet the second criterion for the ESHA designation. The subject site is next to Malibu Creek, including riparian woodland and oak woodland.

Woodlands that are native to the Santa Monica Mountains, such as oak woodlands and riparian woodlands, have many important and special roles in the ecosystem. Native trees prevent the erosion of hillsides and stream banks, moderate water temperatures in streams through shading, provide food and habitat, including nesting, roosting, and burrowing to a wide variety of wildlife species, contribute nutrients to watersheds, and are important scenic elements in the landscape.

In the Santa Monica Mountains, riparian woodland contains the greatest overall diversity of all the plant communities in the area, partly because of its multi-layered vegetation.<sup>1</sup> At least four types of riparian communities are discernable in the Santa Monica Mountains: walnut riparian areas, mulefat-dominated riparian areas, willow riparian areas and sycamore riparian woodlands. Of these, the sycamore riparian woodland is the most diverse riparian community in

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<sup>1</sup> National Park Service. 2000. Draft: General Management Plan & Environmental Impact Statement, Santa Monica Mountains National Recreation Area, US Dept. of Interior, National Park Service, December 2000.

the area. In these habitats, the dominant plant species include arroyo willow, California black walnut, sycamore, coast live oak, Mexican elderberry, California bay laurel, and mule fat. Wildlife species that have been observed in this community include least Bell's vireo (a State and federally listed species), American goldfinches, black phoebes, warbling vireos, bank swallows (State listed threatened species), song sparrows, belted kingfishers, raccoons, and California and Pacific tree frogs.

Riparian communities are the most species-rich to be found in the Santa Monica Mountains. Because of their multi-layered vegetation, available water supply, vegetative cover and adjacency to shrubland habitats, they are attractive to many native wildlife species, and provide essential functions in their lifecycles<sup>2</sup>. During the long dry summers in this Mediterranean climate, these communities are an essential refuge and oasis for much of the areas' wildlife.

Riparian habitats and their associated streams form important connecting links in the Santa Monica Mountains. These habitats connect all of the biological communities from the highest elevation chaparral to the sea with a unidirectional flowing water system, one function of which is to carry nutrients through the ecosystem to the benefit of many different species along the way.

The streams themselves provide refuge for sensitive species including: the coast range newt, the Pacific pond turtle, and the steelhead trout. The coast range newt and the Pacific pond turtle are California Species of Special Concern and are proposed for federal listing<sup>3</sup>, and the steelhead trout is federally endangered. The health of the streams is dependent on the ecological functions provided by the associated riparian woodlands. These functions include the provision of large woody debris for habitat, shading that controls water temperature, and input of leaves that provide the foundation of the stream-based trophic structure.

The importance of the connectivity between riparian areas and adjacent habitats is illustrated by the Pacific pond turtle and the coast range newt, both of which are sensitive and both of which require this connectivity for their survival. The life history of the Pacific pond turtle demonstrates the importance of riparian areas and their associated watersheds for this species. These turtles require the stream habitat during the wet season. However, recent radio tracking work<sup>4</sup> has found that although the Pacific pond turtle spends the wet season in streams, it also requires upland habitat for refuge during the dry season. Thus, in coastal southern California, the Pacific pond turtle requires both streams and intact adjacent upland habitats such as coastal sage scrub, woodlands or chaparral as part of their normal life cycle. The turtles spend about four months of the year in upland refuge sites located an average distance of 50 m (but up to 280 m) from the edge of the creek bed. Similarly, nesting sites where the females lay eggs are also located in upland habitats an average of 30 m (but up to 170 m) from the creek. Occasionally, these turtles move up to 2 miles across upland habitat<sup>5</sup>. Like many species, the pond turtle requires both stream habitats and the upland habitats of the watershed to complete its normal

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<sup>2</sup> Walter, Hartmut. Bird use of Mediterranean habitats in the Santa Monica Mountains, Coastal Commission Workshop on the Significance of Native Habitats in the Santa Monica Mountains. CCC Hearing, June 13, 2002, Queen Mary Hotel.

<sup>3</sup> USFWS. 1989. Endangered and threatened wildlife and plants; animal notice of review. Fed. Reg. 54:554-579. USFWS. 1993. Endangered and threatened wildlife and plants; notice of 1-year petition finding on the western pond turtle. Fed. Reg. 58:42717-42718.

<sup>4</sup> Rathbun, G.B., N.J. Scott and T.G. Murphy. 2002. Terrestrial habitat use by Pacific pond turtle in a Mediterranean climate. *Southwestern Naturalist*. (in Press).

<sup>5</sup> Testimony by R. Dagit, Resource Conservation District of the Santa Monica Mountains at the CCC Habitat Workshop on June 13, 2002.

annual cycle of behavior. Similarly, the coast range newt has been observed to travel hundreds of meters into upland habitat and spend about ten months of the year far from the riparian streambed.<sup>6</sup> They return to the stream to breed in the wet season, and they are therefore another species that requires both riparian habitat and adjacent uplands for their survival.

Riparian habitats in California have suffered serious losses and such habitats in southern California are currently very rare and seriously threatened. In 1989, Faber estimated that 95-97% of riparian habitat in southern California was already lost<sup>7</sup>. Writing at the same time as Faber, Bowler asserted that, "[t]here is no question that riparian habitat in southern California is endangered."<sup>8</sup> In the intervening 13 years, there have been continuing losses of the small amount of riparian woodlands that remain. Today these habitats are, along with native grasslands and wetlands, among the most threatened in California.

In addition to direct habitat loss, streams and riparian areas have been degraded by the effects of development. For example, the coast range newt, a California Species of Special Concern has suffered a variety of impacts from human-related disturbances<sup>9</sup>. Human-caused increased fire frequency has resulted in increased sedimentation rates, which exacerbates the cannibalistic predation of adult newts on the larval stages.<sup>10</sup> In addition, impacts from non-native species of crayfish and mosquito fish have also been documented. When these non-native predators are introduced, native prey organisms are exposed to new mortality pressures for which they are not adapted. Coast range newts that breed in the Santa Monica Mountain streams do not appear to have adaptations that permit co-occurrence with introduced mosquito fish and crayfish<sup>11</sup>. These introduced predators have eliminated the newts from streams where they previously occurred by both direct predation and suppression of breeding.

More recently, surveys conducted in Spring 2006 found the invasive New Zealand mud snail (*Potamopyrgus antipodarum*) in the Malibu Creek watershed. The tiny snails reproduce rapidly and can achieve densities of up to 500,000 organisms per square meter. Because of their massive density and quantity, the New Zealand mud snail can out-compete and reduce the number of native aquatic invertebrates that the watershed's fish and amphibians rely on for food. This reduction in aquatic invertebrate food supply can disrupt the entire food web with dramatic consequences.

Therefore, because of the essential role that riparian plant communities play in maintaining the biodiversity of the Santa Monica Mountains, because of the historical losses and current rarity of these habitats in southern California, and because of their extreme sensitivity to disturbance, the native riparian habitats in the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

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<sup>6</sup> Dr. Lee Kats, Pepperdine University, personal communication to Dr J. Allen, CCC.

<sup>7</sup> Faber, P.A., E. Keller, A. Sands and B.M. Massey. 1989. The ecology of riparian habitats of the southern California coastal region: a community profile. U.S. Fish and Wildlife Service Biological Report 85(7.27) 152pp.

<sup>8</sup> Bowler, P.A. 1989. Riparian woodland: An endangered habitat in southern California. Pp 80-97 in Schoenherr, A.A. (ed.) Endangered plant communities of southern California. Botanists Special Publication No. 3.

<sup>9</sup> Gamradt, S.C., L.B. Kats and C.B. Anzalone. 1997. Aggression by non-native crayfish deters breeding in California newts. *Conservation Biology* 11(3):793-796.

<sup>10</sup> Kerby, L.J., and L.B. Kats. 1998. Modified interactions between salamander life stages caused by wildfire-induced sedimentation. *Ecology* 79(2):740-745.

<sup>11</sup> Gamradt, S.C. and L.B. Kats. 1996. Effect of introduced crayfish and mosquitofish on California newts. *Conservation Biology* 10(4):1155-1162.

Additionally, the important ecosystem functions of oak woodlands and savanna are widely recognized<sup>12</sup>. These habitats support a high diversity of birds<sup>13</sup>, and provide refuge for many species of sensitive bats<sup>14</sup>. Typical wildlife in this habitat includes acorn woodpeckers, scrub jays, plaintit mice, northern flickers, cooper's hawks, western screech owls, mule deer, gray foxes, ground squirrels, jackrabbits and several species of sensitive bats. Oak woodlands adjacent to grasslands provide valuable perching opportunities for birds of prey who forage in the grasslands. Therefore, because of their important ecosystem functions and vulnerability to development, the Commission finds that oak woodlands and savanna within the Santa Monica Mountains meet the definition of ESHA under the Coastal Act.

Further, in the Santa Monica Mountains, coastal sage scrub and chaparral have many important roles in the ecosystem, including the provision of critical linkages between riparian corridors, the provision of essential habitat for species that require several habitat types during the course of their life histories, the provision of essential habitat for local endemics, the support of rare species, and the reduction of erosion, thereby protecting the water quality of coastal streams. Therefore, the Commission finds that large, contiguous, relatively pristine stands of coastal sage scrub and chaparral in the Santa Monica Mountains meet the definition of ESHA. This is consistent with the Commission's past findings on the Malibu LCP<sup>15</sup>.

### **Biological Characteristics of the Project Site**

The applicant has submitted two biological reports that discuss habitat on site: "Biological Assessment, Constructed Wetlands Project- Malibu Creek," April 29, 2002 and "Supplemental Biological Assessment- Constructed Wetlands Project- Malibu Creek," both by Randal Orton, Ph.D, D.Env., Resource Conservation Department, Las Virgenes Municipal Water District, October 6, 2006. These reports describe the vegetation on the site and surrounding area, as well as a description of what vertebrates were found or may be found on the project site.

The 2.5 acre project site contains riparian vegetation and is adjacent to and approximately 10-15 feet above Malibu Creek in the vicinity of Puma Road and Malibu Canyon Road. During the 1950's, spoils from the construction of Malibu Canyon Road were deposited on the site and approximately half of the site consists of these artificial fill materials. The remainder of the subject site contains natural stream sediments and gravels. Five tree species were identified on the project site, including willows, valley oaks, cottonwoods, walnuts, and Mexican alderberry. The groundcover on the project site is highly disturbed and consists of wild oats, brome grasses, mustard, nettles, poison oak and thistles. The area surrounding the subject site consists of mountainous terrain containing chaparral habitat, Coast live oak woodland, and annual grassland.

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<sup>12</sup> Block, W.M., M.L. Morrison, and J. Verner. 1990. Wildlife and oak-woodland interdependency. *Fremontia* 18(3):72-76. Pavlik, B.M., P.C. Muick, S. Johnson, and M. Popper. 1991. *Oaks of California*. Cachuma Press and California Oak Foundation, Los Olivos, California. 184 pp.

<sup>13</sup> Cody, M.L. 1977. Birds. Pp. 223-231 in Thrower, N.J.W., and D.E. Bradbury (eds.). *Chile-California Mediterranean scrub atlas*. US/IBP Synthesis Series 2. Dowden, Hutchinson & Ross, Stroudsburg, Pennsylvania. National Park Service. 1993. A checklist of the birds of the Santa Monica Mountains National Recreation Area. Southwest Parks and Monuments Assoc., 221 N. Court, Tucson, AZ. 85701

<sup>14</sup> Miner, K.L., and D.C. Stokes. 2000. Status, conservation issues, and research needs for bats in the south coast bioregion. Paper presented at *Planning for biodiversity: bringing research and management together*, February 29, California State University, Pomona, California.

<sup>15</sup> Revised Findings for the City of Malibu Local Coastal Program (as adopted on September 13, 2002) adopted on February 6, 2003.

Malibu Creek and its associated riparian canopy is a designated environmentally sensitive habitat area (ESHA) in the certified Malibu-Santa Monica Mountains LUP. The Commission finds that Malibu Creek and its associated riparian woodland and chaparral meet the definition of ESHA under the Coastal Act. However, Commission finds that the 2.5 acre subject site itself is not ESHA because the site is in an adjacent upland area outside of the riparian habitat, and it has been disturbed, through the placement of road fill and the construction and operation of percolation trenches prior to the effective date of the Coastal Act. Since the trenches have been disused, the area has been colonized by invasive, weedy plant species.

### **Environmentally Sensitive Habitat Protection Policies**

Under Section 30240(a), “environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.” Section 30240(b) requires that development adjacent to ESHA and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade ESHA, and shall be compatible with the continuance of those habitat and recreation areas. Section 30250 of the Coastal Act requires that development be located to ensure that significant adverse impacts, both individual and cumulative, be avoided. Additionally, the Los Angeles County certified Malibu/Santa Monica Mountains Land Use Plan (LUP) contains policies that require the protection of streams and environmentally sensitive habitat areas. While the County does not have a fully certified Local Coastal Plan, and the standard of review for Commission decisions on coastal developments in the Santa Monica Mountains is the Coastal Act, the Commission has used the policies of the LUP as guidance. The Table 1 (ESHA) development standards and stream protection policies of the certified Malibu-Santa Monica Mountains LUP limit uses adjacent to ESHA to permitted uses that are set back a minimum of 100 feet, and that are consistent with appropriate erosion control and stream protection policies, as well as any other LUP Policy. Table 1 also requires that a minimum 100-foot setback be provided from the ESHA for structures associated with a permitted use and that this setback is measured from the outer edge of the riparian canopy.

The applicant proposes to reconstruct 17 previously existing percolation ponds and place wetland vegetation in the ponds in order to serve as a water treatment system. Although the project is located approximately 10-15 feet from Malibu Creek, considered to be ESHA, the 2.5 acre project site is not itself considered to be ESHA because the site is located in an adjacent disturbed upland area outside of the riparian habitat. Development of the percolation ponds will not significantly disrupt habitat values of adjacent Malibu Creek ESHA because it will not require the removal of adjacent ESHA and it will add to the riparian habitat of the immediate area. **Special Condition Three (3)** requires that all invasive and non-native species be removed from the project site and requires the site to be revegetated with native riparian plants and monitored for revegetation success.

Additionally, because the project site is adjacent to Malibu Creek ESHA within Malibu Creek State Park, development must be sited and designed to prevent impacts which would degrade the adjacent ESHA and state park land and must be compatible with the continuance of the habitat and recreation areas. The treatment system is designed and sited to prevent impacts which would significantly degrade Malibu Creek and Malibu Creek State Park because the percolation ponds are designed to filter non-point source pollution in upstream creek/groundwater which would otherwise flow to Malibu Creek. Additionally, the percolation ponds are designed to prevent treated wastewater from flowing directly to Malibu Creek. To assure that the tertiary-treated waste water discharged to the percolation ponds from April 15<sup>th</sup> through May 31<sup>st</sup> and October 1<sup>st</sup> to November 15<sup>th</sup> does not resurface to Malibu Creek or



Malibu Lagoon and significantly degrade Malibu Creek, **Special Condition Five (5)** requires the Water District to conduct groundwater monitoring consistent with RWQCB Order No. R4-2002-158 requirements and **Special Condition Two (3)** requires that Tapia discharge tertiary-treated wastewater only within the time frame proposed. Also incorporated into **Special Condition Five (5)**, through RWQCB Order No. R4-2002-158, is the prohibition of water discharges, including discharges caused by surface flow, or subsurface flow and resurfacing, from the percolation ponds to Malibu Creek, Malibu Lagoon, or both.

In past permit actions, the Commission has consistently required development to be located no closer than 100 feet from ESHA, in order to protect the biological integrity of ESHA, provide space for transitional vegetated buffer areas, and minimize human intrusion. The primary functions of buffers are to keep disturbance at a distance from sensitive environmental resources and to provide ecosystem services in benefit of the adjacent ESHA, including water quality. Riparian buffers adjacent to streams and creeks serve to maintain the integrity of the waterway, stabilize the stream banks, reduce pollution, and provide food, habitat, and thermal protection for both terrestrial and aquatic organisms. Riparian buffers benefit aquatic habitat by improving the quality of nearby waters through shading, filtering, and moderating stream flow. Plant roots hold bank soil together and plant stems protect banks by deflecting the cutting action of storm runoff. The vegetation catches dust and pollutants carried by the wind and helps stabilize banks and reduce water velocity and erosion. With the vegetation slowing down the velocity of the runoff, the riparian buffer allows water to infiltrate the soil to help control flooding and runoff pollution. Water infiltration allows sediments and pollutants to settle out, be modified by soil bacteria, and taken up by plants, thereby minimizing the amount of sediment and pollutants that may enter the waterway. However, it is also important that pollution control measures, such as vegetative swales and bioretention basins, be situated on the outer edge of the riparian buffer if feasible in order to allow additional infiltration and absorption of excess nutrients, sediments, and pollutants within the buffer before they reach the creek. Buffers are a last line of defense against the natural flow of runoff down slopes and streambanks before that runoff reaches a waterway. Vegetated buffer areas are especially critical when the nature of the development creates organic and chemical waste and is highly compacting of site soils. These conditions result in reduced site infiltration capacity and increased potential for nutrient, chemical, and sediment-loading of coastal waters.

According to a California Coastal Commission January 2007 report entitled, "Policies in Local Coastal Programs Regarding Development Setbacks and Mitigation Ratios for Wetlands and Other Environmentally Sensitive Habitat Areas", which documents and provides assessment of the resource protection policies in the Local Coastal Programs that currently exist in the state of California, research on the effectiveness of riparian buffers have found that 30-60m (97.5-195 feet) wide riparian buffer strips will effectively protect water resources through physical and chemical filtration processes. For the purpose of filtering nitrogen compounds, a study determined that "the most effective buffers are at least 30m (97.5 feet) or 100 feet wide composed of native forest, and are applied to all streams, including small ones." Studies of the distribution of plant and bird species in relation to variable riparian buffer dimensions within several riparian systems have found that to include 90% of streamside plants, the minimum buffer ranged from 10m (32.5 feet) to 30m (97.5 feet), depending on the stream, whereas minimum buffers of 75m (250 feet) to 175m (570 feet) were needed to include 90% of the bird species. Research suggests that recommended widths for ecological concerns in riparian buffer

strips typically are much wider than those recommended for water quality concerns, often exceeding 100m (325 feet) in width.<sup>16</sup>

In this particular case, the proposed percolation trenches are located approximately 15 feet from the riparian canopy of Malibu Creek. While this development will not provide a 100 ft. setback from ESHA, it does not include structures or uses that will contribute polluted runoff or that would introduce human intrusion to the Malibu Creek ESHA. Additionally, the percolation trenches will serve one of the functions of a buffer to filter non-point source pollution from Malibu Creek and to filter tertiary-treated waste water from the nearby Tapia Waste Reclamation Facility. Additionally, **Special Condition Three (3)** requires a revegetation, erosion control, and monitoring plan to assure that the functions of pollution removal are maintained. Further, **Special Condition Five (5)** requires water quality monitoring and discharge prohibitions consistent with the California Regional Water Quality Control Board's requirements in order to assure that water quality is maintained in the percolation ponds, Malibu Creek, and Malibu Lagoon and to assure that water discharged to the percolation ponds does not resurface to Malibu Creek, Malibu Lagoon, or both. **Special Condition Five (5)** also provides that if project monitoring indicates that either discharge prohibitions or effluent limitations have failed to meet any of the specified performance standards, the development shall immediately cease and shall not recommence until after the permittee has received a Coastal Development Permit amendment.

For these reasons, the Commission finds that, as conditioned, the project is consistent with Section 30240 of the Coastal Act and the guidance contained in the associated standards provided in the certified LUP for the area.

### Impacts to Oak Trees

The applicant has submitted two oak tree reports, "Oak Tree Inspection" and "Expanded Oak Tree Inspection Report, Constructed Wetlands Project," June 12, 2007, both by Samuel L. Knapp, RCA, Registered Consulting Arborist. According to the reports, 19 Coast Live Oak trees exist in the percolation area. Three are 3 large (36 in.), one fallen, one dying, and one doing well. The rest of the trees are much smaller, 17 in. or less. The arborist recommended retaining the oak trees, maintaining a tree protection zone from the trunk base to the canopy edge or drip line, and requiring yearly inspections of the oaks.

The Commission finds that native oak trees are an important coastal resource. Native trees prevent the erosion of hillsides and stream banks, moderate water temperatures in streams through shading, provide food and habitat, including nesting, roosting, and burrowing to a wide variety of wildlife. The individual oak trees on the subject site provide habitat for wildlife and are an important part of the character and scenic quality of the area.

Oak trees are a part of the California native plant community and need special attention to maintain and protect their health. Damage can often take years to become evident and by the time the tree shows obvious signs of disease it is usually too late to restore the health of the tree. Oak trees provide important habitat and shading for other animal species, such as deer and bees. Oak trees are very long lived, some up to 250 years old, relatively slow growing becoming large trees between 30 to 70 feet high, and are sensitive to surrounding land uses, grading or excavation at or near the roots and irrigation of the root area particularly during the

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<sup>16</sup> "Stream Setback Technical Memo", James D. Robins of Jones & Stokes, October 18, 2002. Prepared for the Napa County Conservation, Development, and Planning Department.

summer dormancy. Improper watering, especially during the hot summer months when the tree is dormant, and disturbance to root areas are the most common causes of tree loss.

The publication entitled "Oak Trees: Care and Maintenance," prepared by the Los Angeles County Department of Forester and Fire Warden, states:

***Damage can often take years to become evident, and by the time the tree shows obvious signs of disease it is usually too late to help. Improper watering...and disturbance to root areas are most often the causes.***

That publication goes on to state:

***Oaks are easily damaged and very sensitive to disturbances that occur to the tree or in the surrounding environment. The root system is extensive but surprisingly shallow, radiating out as much as 50 feet beyond the spread of the tree leaves, or canopy. The ground area at the outside edge of the canopy, referred to as the dripline, is especially important: the tree obtains most of its surface water and nutrients here, as well as conducts an important exchange of air and other gases....The roots depend on an important exchange of both water and air through the soil within the protected zone. Any kind of activity which compacts the soil in this area blocks this exchange and can have serious long term negative effects on the trees....***

In recognition of the sensitive nature of oak trees to human disturbance and to increase protection of these sensitive resources, the Los Angeles County Oak Tree Ordinance defines the "protected zone" around an oak tree as follows:

***The Protected Zone shall mean that area within the dripline of an oak tree and extending therefrom to a point at least 5 feet outside the dripline or 15 feet from the trunk, whichever distance is greater.***

Section 30250 of the Coastal Act requires that development be located to ensure that significant adverse impacts, both individual and cumulative, be avoided. In past permit actions, the Commission has required that the removal of native trees, particularly oak trees, or encroachment of structures into the root zone be avoided unless there is no feasible alternative for the siting of development. The proposed project involves extensive physical modification of the 2.5 acre project site, including approximately 10,755 cu. yds. of grading. The proposed project does not include the removal of any oak trees. Further, no structures or other aspects of the development are proposed to encroach within the protected zone of any oak trees. So, the project will not result in any impacts from removal, root cutting or disturbance, compaction of the root zone, or physical occupation by structures. However, the proximity of the project to the oaks and the introduction of increased amounts of groundwater to the roots of the oaks, including during the summer season has the potential to adversely impact the health of the oaks. **Special Condition Six (6)** requires the percolation trenches to be located outside of the protected zone(s) of all oak trees on the site and that any areas of existing trenches that extend within the protected zone of any oak tree must be closed.

Additionally, **Special Condition Six (6)** requires the applicant to obtain a certified arborist to make yearly inspections to determine whether any of the on-site oak trees have suffered worsened health or vigor as a result of the project or whether any of the on-site oak trees must be removed. **Special Condition Six (6)** requires that the yearly inspection reports be submitted to the Executive Director and if any oak trees have suffered worsened health or vigor as a result of the project or if any of the on-site oak trees must be removed, the applicant must also submit an oak tree replacement planting program and a ten-year monitoring program to ensure that the replacement planting program is successful. Resource specialists studying oak restoration have found that oak trees are most successfully established when planted as acorns collected in the local area or seedlings grown from such acorns. The Commission has found, through permit actions, that it is important to require that replacement trees be seedlings or acorns. Many factors, over the life of the restoration, can result in the death of the replacement trees. In order to ensure that adequate replacement is eventually reached, it is necessary to provide a replacement ratio of at least ten replacement trees for every tree removed or impacted to account for the mortality of some of the replacement trees.

Further, to ensure that oak trees are protected during grading and construction activities, **Special Condition Six (6)** requires the applicant to install protective barrier fencing around the drip line of on-site oak trees during construction operations. Finally, in order to ensure that no impacts outside the scope of work allowed by this permit occur to the oak trees that are in the vicinity of proposed development, **Special Condition Six (6)** requires the applicants to retain the services of a qualified biological consultant or arborist, who shall be present on site during construction and grading operations. The consultant shall immediately notify the Executive Director if unpermitted activities occur or if any oak trees on the site are damaged, removed, or impacted beyond the scope of the work allowed by this permit. The permittee shall submit a tree replacement planting program and shall cease development should any oak tree be lost or suffer worsened health or vigor, or if any unforeseen sensitive habitat issues arise. The permittee shall not recommence development until the permittee has received a Coastal Development Permit amendment unless the Executive Director determines no amendment is legally required. The permittee shall provide on-site oak tree mitigation, at a 10:1 ratio, in the event that any oak tree is damaged or lost.

As conditioned, the proposed project will not have significant avoidable adverse impacts to individual oak trees on the site that are considered an important coastal resource and will be consistent with Section 30240 and 30250 of the Coastal Act.

#### **D. Water Quality and Biological Resources**

As stated in Section A above, the Commission's consideration of this coastal development permit is undertaken pursuant solely to the authority duly granted to the Commission by the Coastal Act, is limited to ensuring the approved development's conformance with the policies of the Coastal Act, and in no way represents actions which modify, supplant, condition, or otherwise conflict with the determination of the State Regional Water Quality Control Board, Los Angeles Region in Order No. R-4-2002-158 in matters relating to water quality or the administration of water rights. However, under Sections 30230 and 30231 of the Coastal Act, the Commission is charged with assuring that marine resources, with particular emphasis on the productivity, health, and population levels of its biological components, are maintained, enhanced, and where feasible restored.

The Commission recognizes that new development in the Santa Monica Mountains has the potential to adversely impact coastal water quality through the removal of native vegetation, increase of impervious surfaces, increase of runoff, erosion, and sedimentation, and introduction of pollutants. Section **30230** of the Coastal Act states:

***Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.***

Additionally, Section **30231** of the Coastal Act states:

***The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, minimizing alteration of natural streams.***

In addition, the Malibu/Santa Monica Mountains LUP provides policy guidance regarding the protection of streams and marine resources. The Coastal Commission, as guidance in the review of development proposals in the Santa Monica Mountains, has applied the following policies:

**P82     *Grading shall be minimized for all new development to ensure the potential negative effects of runoff and erosion on these resources are minimized.***

**P86     *A drainage control system, including on-site retention or detention where appropriate, shall be incorporated into the site design of new developments to minimize the effects of runoff and erosion. Runoff control systems shall be designed to prevent any increase in site runoff over pre-existing peak flows. Impacts on downstream sensitive riparian habitats must be mitigated.***

### **Malibu Creek Hydrology**

The main stem of Malibu Creek originates as an overflow from Malibu Lake. About one mile upstream from Tapia, Las Virgenes Creek joins Malibu Creek from the north. Malibu Creek passes through Malibu Creek State Park, where the percolation ponds are located. Malibu Creek then spills into Rindge Dam and emerges into a small alluvial plain, adjacent to Serra Road and the City of Malibu Civic Center. At its mouth, Malibu Creek flows into Malibu Lagoon. Malibu Creek flows year round except during dry summer periods when flows in the lower reaches of Malibu Creek cease. Baseflows in Malibu Creek watershed increased 10-fold from 1934-1999 due to urbanization.<sup>17</sup> Approximately 20,000 acre-feet of imported potable water,

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<sup>17</sup> "Draft Minimum Flow Recommendation for Malibu Creek," Prepared for Las Virgenes Municipal Water District by Entrix, Inc., Project No. 380001, December 22, 1999, p. 2-7.

used primarily for lawn irrigation and for other urban purposes, supplement the natural stream flow. Average annual flow for the period from 1966 to 1992 was 27,000 acre-feet. Of this average annual flow, about 4,500 acre-feet of permitted reclaimed water is discharged to Malibu Creek annually from Tapia.

The Surfrider Beach is located adjacent to the Malibu Lagoon, and is owned by the State and managed by Los Angeles County. Malibu Lagoon is closed by a sandbar during low flow months in the summer. The sandbar reduces the amount of creek and lagoon water directly reaching the surf zone at Surfrider Beach. The input of imported water into the Malibu Creek watershed has resulted in significant freshwater flows into Malibu Lagoon. Artificial breaching of the sandbar between Malibu Lagoon and Surfrider Beach is prohibited by the Army Corps of Engineers because it results in lower water levels, increased tidal action, and increased salinity which impact lagoon flora and fauna. Rapid changes in salinity after breaching are a likely cause in low species diversity in lagoon invertebrates. However, during the winter months, the Lagoon is usually open to the ocean due to sustained flows in Malibu Creek.<sup>18</sup>

According to the RWQCB, the Malibu Creek Watershed Advisory Council has identified several high priorities for overall watershed management, including the reduction of freshwater flows to the Lagoon, reduction of nutrients to the Creek and the Lagoon, protection of human health in the Creek, Lagoon, and surfzone, and the restoration of a fully functioning Lagoon.<sup>19</sup>

#### **Potential Water Quality Benefits as a Result of Creek Flow Diversion to the Percolation Ponds**

The MOU between the Water District and State Parks identified the removal of pathogens and nutrients from Malibu Creek as a main objective of this project. Although Tapia proposes to use a groundwater intake structure to supply water to the percolation ponds during 40 weeks per year, Tapia asserts that this water is virtually the same as creek water. Given this assertion, potential water quality benefits from filtering water through the percolation ponds may include a reduction in non-point source pollutants because Malibu Creek is listed as an impaired water body (Clean Water Act 303(d) list) by the Los Angeles Regional Water Quality Control Board (LARWQCB). Furthermore, Malibu Creek outlets into Malibu Lagoon and Surfrider Beach, which is consistently one of the most polluted beaches within the Santa Monica Bay.

Non-point source pollution is the pollution of coastal waters (including streams and underground water systems), by sources that do not discharge from a discernible, confined, discrete conveyance point, such as a pipe outfall. Non-point source pollutants include suspended solids, coliform bacteria and nutrients. These pollutants can originate from many different sources such as overflow septic systems, storm drains, runoff from roadways, driveways, rooftops and horse facilities. When the pollutants are swept into coastal waters by storm water or other means, they can cause adverse cumulative impacts such as: eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat, including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity, which both reduce the penetration of sunlight needed by aquatic vegetation

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<sup>18</sup> California Water Quality Control Board, Los Angeles Region, Order No. R4-2005-0074, NPDES NO. CA0056014, Waste Discharge Requirements for Las Virgenes Municipal Water District- Tapia Water Reclamation Facility, November 3, 2005, p. 11.

<sup>19</sup> California Water Quality Control Board, Los Angeles Region, Order No. R4-2005-0074, NPDES NO. CA0056014, Waste Discharge Requirements for Las Virgenes Municipal Water District- Tapia Water Reclamation Facility, November 3, 2005, p. 9.

that provide food and the cover for aquatic species; disruptions to the reproductive cycle of aquatic species; acute and sublethal toxicity in aquatic organisms leading to adverse changes in reproduction and feeding behavior; and human diseases such as hepatitis and dysentery. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes, reduce optimum populations of aquatic organisms, and can have adverse impacts on human health.

It is anticipated that the proposed project will provide additional filtering for reclaimed waster and groundwater and that these actions will not result in adverse impacts to water quality. As described above, the California Regional Water Quality Control Board (RWQCB), Los Angeles Region, Order No. R4-2002-158 sets limitations on the quantity and quality of the water that can be discharged to the trenches. Additionally, in order to ensure that the project does not result in impacts to water quality, **Special Condition Five (5)** requires water quality monitoring consistent with the requirements of the California Regional Water Quality Control Board.

### **Potential Impacts to Endangered Species as a Result of Creek Flow Diversion and Tertiary-Treated Wastewater Discharge to the Percolation Ponds**

A biological assessment conducted by the applicant states that the project will not substantially alter flows in Malibu Creek in winter, nor result in creek flows falling below the state-mandated minimum flow of 2.5 cfs in the summer. Stream flows in Malibu Creek are measured at a stream gage operated by the Los Angeles County of Public Works at a location downstream about 100 meters from the project site. Malibu Creek has relatively high flows in the winter and low flows in the summer through late fall. The applicant's biological assessment states that, on average, project impacts in the winter are negligible, as the diverted flows are small in comparison to winter creek flows overall. Tapia proposes to adjust creek water diversion so that creek flows do not fall below the state-mandated minimum flow of 2.5 cfs. Based on this amount of creek diversion, Tapia's biological assessment concluded that the potential to significantly impact aquatic resources is very low.

Entrix, Inc. undertook a study for Las Virgenes Municipal Water District to determine the minimum stream flow necessary in Malibu Creek to support Southern California Steelhead Trout (*Oncorhynchus mykiss*) and Tidewater Goby (*Eucyclogobius newberryi*) habitat during the period in which Tapia is prohibited to discharge to Malibu Creek (from April 15<sup>th</sup> through November 15<sup>th</sup>). The study described in detail how water flows in Malibu Creek may affect these species. The southernmost population of steelhead trout, a species listed as endangered under the Endangered Species Act in 1997, inhabits portions of Malibu Creek. The steelhead life cycle starts in the winter when with the return of adults from mature adults from the ocean. In many California rivers and streams, access to the river is blocked by a sandbar that forms across the mouth during the summer. In some years in southern California, the sandbar may not breach at all and steelhead may seek another open stream. Steelhead typically migrate upstream after the sandbar is breached and when streamflows rise during a storm event. Depending on rainfall, upstream migration and spawning in most southern California streams typically occurs from January to March. Stream pools provide refuge over the summer from steelhead in small streams during low flow conditions. Coastal lagoons can also provide rearing habitat for juvenile steelhead, potentially providing the majority of the summer and fall rearing habitat in small coastal streams. The productivity and use of lagoon habitat by steelhead depends on lagoon habitat and water quality and proximity to spawning habitat.

Malibu Lagoon also supports a population of tidewater goby, listed as endangered under the Endangered Species Act by the U.S. Fish and Wildlife Service in 1994. The tidewater goby is

found in coastal lagoons and some inland estuaries, prefers still-water habitats, and is generally not found in areas subject to wave-wash (from a breached lagoon) or strong currents (flows from a river). This species is annual (having a lifespan of only about 1 year), spawning occurs throughout the year with peak spawning occurring in April or May. High winter storm water flows may extirpate goby populations. If natural marsh areas and backwaters are dewatered, filled, or otherwise cut off from the main lagoon, populations of tidewater gobies may be concentrated in the main channel, causing an increased risk of washing populations of tidewater gobies out of the stream system. This risk may have increased in recent times due to development of coastal wetlands, stream channelization, and flood control projects, which have eliminated backwater habitat and increased flood peaks. The tidewater goby is unique among fishes along the west coast of North America because it is almost exclusively found in brackish water environments and has no marine phase. This factor makes recolonization of extirpated populations difficult. The tidewater goby is thought to have been wiped out from the Malibu Creek watershed in the late 1960's or early 1970's as a result of habitat alteration. The species was reintroduced to Malibu Lagoon in 1991.

Based on a habitat inventory in Malibu Creek and on various modeling, the Entrix study concluded that releases of water from Tapia sufficient to maintain a total streamflow of 2.5 to 4.5 cfs should be sufficient to maintain steelhead in Malibu Canyon during the summer period and these flows would not adversely impact the tidewater goby populations. Therefore, Tapia's NPDES permit, CA0056014, allows Tapia to discharge to Malibu Creek when water levels fall below 2.5 cfs to maintain a level of 2.5 cfs. This flow was determined to eliminate late-summer low flow days in the reach from Rindge Dam to Cross Creek Road in Malibu Creek, the section of Malibu Creek occupied by steelhead trout, while minimizing flows to Malibu Lagoon that would adversely impact the tidewater goby.

The biological assessment submitted by the Water District as part of its coastal development permit application failed to explain whether or how the input of up to 900,000 gallons per day of tertiary-treated water to the percolation ponds, especially during the creek discharge prohibition period from April 15<sup>th</sup> through November 15<sup>th</sup>, could impact downstream aquatic species in Malibu Creek and Malibu Lagoon. However, the California Regional Water Quality Control Board, Los Angeles Region Order No. R4-2002-158 states on page 2 (item 6) that "Las Virgenes has determined that (based on measurements of flow discharged to the ponds and levels at Malibu Lagoon) when flows to ponds do not exceed 900,000 gallons per day, the effluent does not surface out into Malibu Creek or flow to the lagoon, but flows directly to the ocean as groundwater, without resurfacing." When commission staff asked the Water District to provide data supporting this statement, the Water District provided a percolation pond capacity study conducted in 1999. The eight-week study conducted by Tapia (LVMWD Report No. 2227.00) determined that the optimum percolation rate at the percolation pond site is approximately 700,000 to 800,000 gallons of water per day (or an instantaneous peak flow of 900,000 gallons per day). However, the applicant asserts that the likely operational conditions in the field in order to be in compliance the Regional Water Quality Control Board Waste Discharge Requirements (no discharge to Malibu Creek from April 15<sup>th</sup> through November 15<sup>th</sup>) would be less than 700,000 gallons per day and that effluent loading will be adjusted based on field and seasonal conditions. Additionally, the Water District also stated that they performed a test study in October 2000 to correlate the water levels in Malibu Lagoon to the percolation rate in the constructed wetland and discovered that the lagoon level did not change, but actually decreased, despite maximum flow into the wetland. The Water District did not provide the entire October 2000 study to support this conclusion, but provided only a "2000 Flow Study Summary." So, it is not possible to determine how the conclusion that discharge to the percolation ponds does not affect the water level of Malibu Lagoon was arrived at. For instance, no information



was provided regarding the time delay between discharge and testing of lagoon levels, baseline stream flows, subsurface geologic conditions on the percolation pond site, groundwater levels, or what other factors were considered. It is anticipated that subsurface flow of groundwater from the project site to Malibu Creek, if any, will happen more slowly than direct discharge to the stream, and that the amount of discharge will not significantly increase the level of Malibu Lagoon. However, the applicant has not provided adequate information to demonstrate that the treated wastewater and creek/groundwater inputs into the percolation ponds will not impact Malibu Creek flows and Malibu Lagoon levels.

In order to ensure that possible biological impacts to downstream aquatic species and biological resources are minimized, the California Regional Water Quality Control Board (RWQCB), Los Angeles Region, Order No. R4-2002-158 sets a maximum discharge limit, sets timing restrictions on the discharges, and requires that the application rate of the discharges do not cause the effluent to resurface and enter into Malibu Creek, Malibu Lagoon, or both. In order to ensure compliance with these requirements, **Special Condition Five (5)** requires the Water District to conduct surface and groundwater monitoring, consistent with the requirements of the California Regional Water Quality Control Board, to determine any water quality or quantity impacts to Malibu Creek and Malibu Lagoon due to the tertiary-treated waste water and creek/groundwater inputs into the percolation ponds. Additionally, **Special Condition Five (5)** provides that if monitoring indicates that either discharge prohibitions or effluent limitations have failed to meet any of the specified performance standards, development shall immediately cease and shall not recommence until after the permittee has received a California Coastal Commission approved Coastal Development Permit amendment. **Special Condition Two (2)** allows Tapia to discharge tertiary-treated wastewater to the percolation ponds during the 12 weeks of the year proposed by the Water District, from April 15<sup>th</sup> to May 31<sup>st</sup> and from October 1<sup>st</sup> to November 15<sup>th</sup>, in order to prevent potential adverse downstream biological impacts to the endangered tidewater goby and steelhead trout during the dry season. Additionally, **Special Condition Seven (7)**, limits the period of development authorization to 5 years to allow a re-evaluation and determination of biological impacts at the project site and other possible downstream impacts to Malibu Creek and Malibu Lagoon based on the information provided by the required monitoring studies.

Therefore, the Commission finds that, as conditioned, the development will maintain and enhance water quality and biological productivity consistent with Sections 30230 and 30231 of the Coastal Act.

#### **E. Geology**

The proposed development is located in the Santa Monica Mountains area, an area that is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Santa Monica Mountains area include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wild fires often denude hillsides in the Santa Monica Mountains of all existing vegetation, thereby contributing to an increased potential for erosion and landslides on property.

Coastal Act Section **30253** states in part:

#### **New development shall:**

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.**

**(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.**

Section 30253 of the Coastal Act mandates that new development be sited and designed to provide geologic stability and structural integrity, and minimize risks to life and property in areas of high geologic, flood, and fire hazard.

To ensure that final project design and construction minimizes potential erosion, **Special Condition Three (3)** requires the applicant to landscape all disturbed and graded areas of the site with native wetland plants compatible with the surrounding environment. To ensure that the project site is adequately revegetated, **Special Condition Three (3)** requires the applicant to develop, implement, and monitor revegetation and erosion control plans for the site and the disturbed areas of the site, including a planting plan which indicates species, extent, and location of all plant materials to be used in the revegetation program. To ensure that the revegetation effort is successful, the applicant shall submit for the review and approval of the Executive Director, a yearly revegetation monitoring report that certifies that the on-site landscaping is in conformance with the revegetation plan approved pursuant to this special condition.

Further, in past permit actions, the Commission has found that invasive and non-native plant species are typically characterized as having a shallow root structure in comparison with their high surface/foliage weight and/or require a greater amount of irrigation and maintenance than native vegetation. The Commission finds that non-native and invasive plant species with high surface/foliage weight and shallow root structures do not serve to stabilize soil and that such vegetation can result in adverse effects to the geologic stability of the project site. In comparison, the Commission finds that native plant species are typically characterized not only by a well developed and extensive root structure in comparison to their surface/foliage weight but also by their low irrigation and maintenance requirements. Therefore, in order to further ensure the stability and geotechnical safety of the entire 2.5 acre site, **Special Condition Three (3)** specifically requires that all non-native and invasive vegetation be removed from the project site.

The Commission finds that the proposed project, as conditioned, will serve to minimize potential geologic hazards of the project site and adjacent properties, consistent with Section 30253 of the Coastal Act.

#### **F. Visual Resources**

Section **30251** of the Coastal Act states, in part:

***The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.***

Section 30251 of the Coastal Act requires scenic and visual qualities to be considered and preserved. Section 30251 also requires that development be sited and designed to protect views of scenic areas, minimize alteration of landforms, and be visually compatible with the surrounding area.

The subject property is located in Malibu State Park at the intersection of Piuma Road and Malibu Canyon Road. Tapia Water Reclamation Facility is adjacent to the project site, Malibu Creek is adjacent to the project site and scattered residential development and undeveloped hillsides also surround the project site. The subject site is highly visible from Malibu Canyon Road, as well as from numerous public viewing points, including along the Backbone Trail, in the Santa Monica Mountains. Damaged percolation ponds already exist on the site and are overgrown with some non-native and invasive vegetation.

The natural landscape of the Santa Monica Mountains consists of lush riparian environments, oak woodlands, and chaparral and coastal sage scrub communities. The landscape ranges from steeply sloping canyons, to high rocky mountain peaks, to relatively flat alluvial flood plains. In addition to the varied landscape and vegetative communities, the Santa Monica Mountains provides habitat for such species as cooper's hawk, western screech owl, mule deer, gray foxes, and steelhead trout. This unique natural experience is one that you would find walking, hiking, or driving through the Santa Monica Mountains.

The percolation pond project will not adversely impact views because the 2.5 acre site will be enhanced with wetland vegetation and maintained, as required by **Special Condition Four (4)**. **Special Condition Six (6)** requires that existing oak trees be left undisturbed. Further, the development will not impact the riparian habitat of adjacent Malibu Creek. **Special Condition Nine (9)** also requires the applicant to remove the fencing not immediately surrounding the percolation pond site, which is now visually undesirable.

Therefore, the Commission finds that the proposed development is consistent with Section 30251 of the Coastal Act because it is sited and designed to protect the scenic and visual characteristics of the surrounding area.

#### **G. Public Access and Recreation**

The Coastal Act requires that maximum public access to and along the coast be provided in new development projects. The Coastal Act also requires new development to provide adequate lands suitable for recreation to serve the needs of residents.

Coastal Act Section **30210** states:

***In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.***

Coastal Act Section **30213** states:

***Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.***

Coastal Act Section **30240 (b)** also requires that development not interfere with recreational areas and states:

***(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.***

Coastal Act sections 30210, 30213, and 30240 mandate that maximum public access and recreational opportunities be provided and that development not degrade park and recreation areas or interfere with the public's right to access the coast. All projects requiring a coastal development permit must be reviewed for compliance with the public access and recreation provisions of Chapter 3 of the Coastal Act.

The percolation pond project is located in Malibu Creek State Park. Although an MOU between State Parks and the Water District allows this project, Malibu Creek State Park also provides recreational opportunities for hikers, sightseers, and wildlife viewers. To allow public access to the site while protecting the public, **Special Condition Nine (9)** requires that fencing surrounding the 2.5 acre site be removed, with only fencing surrounding the immediate percolation ponds allowed. Additionally, **Special Condition Eight (8)** requires the applicant to provide educational signs to inform the public about the details of the project.

Thus, the Commission finds that the project, as conditioned, is consistent with Coastal Act Sections 30210, 30213, and 30240.

#### **H. Local Coastal Program**

Section 30604(a) of the Coastal Act states:

***Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the Commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a local program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200).***

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program that conforms to Chapter 3 policies of the Coastal Act. The preceding sections provide findings that the proposed project will be in conformity with the provisions of Chapter 3 if certain conditions are incorporated into the project and accepted by the applicants. As conditioned, the proposed project will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3. Therefore, the Commission finds that approval of the proposed development, as conditioned, will not prejudice the County of Los Angeles' ability to prepare a Local Coastal Program for the Malibu/Santa Monica Mountains area that is also consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604(a).

**I. California Environmental Quality Act**

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a Coastal Development Permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect that the activity may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed above, the proposed development, as conditioned, is consistent with the policies of the Coastal Act. Feasible mitigation measures which will minimize all adverse environmental effects have been required as special conditions. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

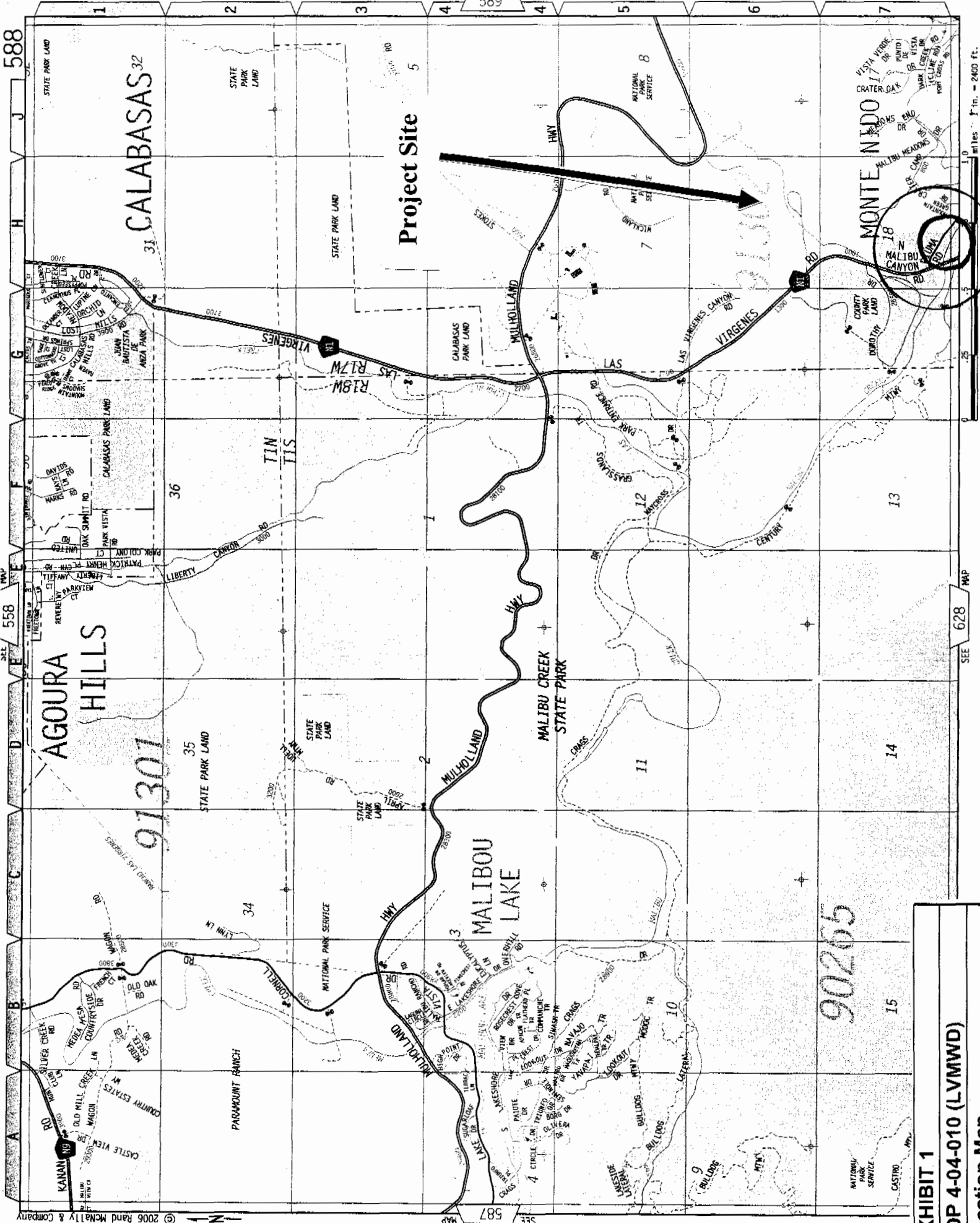
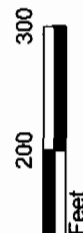


EXHIBIT 1

CDP 4-04-010 (LVMWD)

Location Map



**Las Virgenes Municipal Water District**  
4232 Las Virgenes Road  
Calabasas, Ca 91302



## Constructed Wetlands Site Plan A

**EXHIBIT 2**

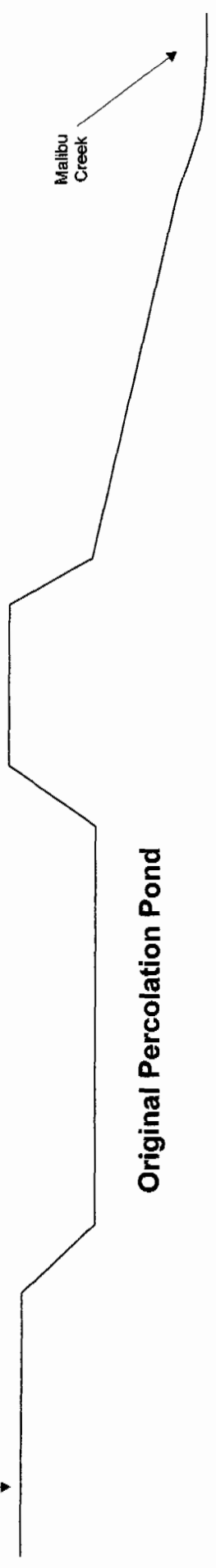
**CDP 4-04-010 (LVMWD)**

## Site Plan

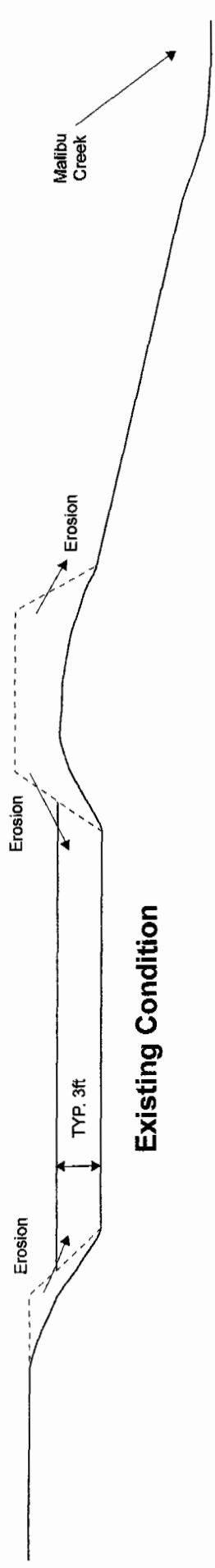
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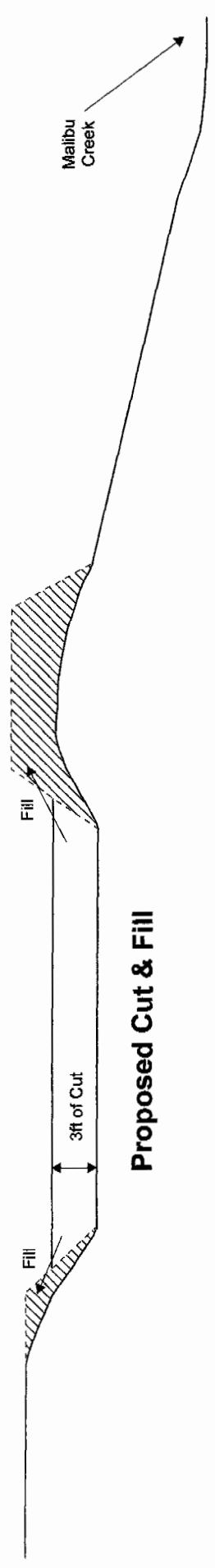
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**Original Percolation Pond**



**Existing Condition**



**Proposed Cut & Fill**

<div data-bbox="1347 1890 1388 2068" data-label="Text"><p><b>EXHIBIT 3</b></p></div> <div data-bbox="1388 1690 1437 2068" data-label="Text"><p><b>CDP 4-04-010 (LVMWD)</b></p></div> <div data-bbox="1437 1848 1485 2068" data-label="Text"><p><b>Grading Plan</b></p></div>	<p>Las Virgenes Municipal Water District 4232 Las Virgenes Road Calabasas, Ca 91302</p>		<p>Cut &amp; Fill Area Site Plan D</p>
--	---	---	--



**MEMORANDUM OF UNDERSTANDING  
CONSTRUCTED WETLAND**



**December 1, 2002**



**EXHIBIT 4**

**CDP 4-04-010 (LVMWD)**

**Memorandum of Understanding**

c) No precedent

State Parks' consideration of this project sets no precedent for any future use of state park land, either at this location or any other within the park. The district's use of the project site is compatible with the State Park's mission due to several unique circumstances, including the district's historical use of the site for water treatment, the site's existing condition (i.e. artificial fill, trenching and preponderance of non-native plant species), and the location of the site at the confluence of Malibu Creek's major tributary streams, which makes it highly desirable for treating urban runoff. Consideration is also based on the project's main objectives, all of which will benefit natural and recreational resources downstream, as described below.

## **2. Objectives**

The wetlands are intended to serve multiple uses and purposes. The main objectives are:

- To remove pathogens and nutrients from Malibu Creek, a waterbody within the Malibu Creek State Park that is currently listed by the State Regional Water Quality Control Board as impaired for both of these pollutants.
- To dispose of surplus recycled water from the Tapia Water Reclamation Facility.
- To provide scientific data and technical information for use in other constructed wetland and wetland restorations projects in the watershed
- To showcase and provide public information and educational opportunities on natural treatment systems

The use of the wetlands to remove creek pollutants shall be for 40 weeks each year for two periods, from November 16th through April 14<sup>th</sup> and from June 1<sup>st</sup> through September 30<sup>th</sup>.

The use of the wetlands for recycled water disposal shall be for 12 weeks each year for two periods, from April 15<sup>th</sup> through May 31<sup>st</sup> and from October 1 through November 15<sup>th</sup>.

## **3. Term**

The term of this agreement shall be for five (5) years commencing with the acceptance of this MOU by both parties, and shall be renewable thereafter if both parties agree.

### **2) Consideration for Access**

In consideration for the district's use of state park land, the district shall:

- a) Design, construct, operate and maintain, in conformance with applicable laws, permits and water quality regulations, a treatment wetland located on State Park lands as shown in Exhibit A.



William H. Hickox  
Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board

## Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties  
Recipient of the 2001 Environmental Leadership Award from Keep California Beautiful

320 W. 4th Street, Suite 200, Los Angeles, California 90013  
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.swrcb.ca.gov/rwqcb4>



Gray Davis  
Governor

October 7, 2002

James Colbaugh, General Manager  
Las Virgenes Municipal Water District  
4232 Las Virgenes Road  
Calabasas, CA 91302

Dear Mr. Colbaugh:

### WASTE DISCHARGE REQUIREMENTS FOR LAS VIRGENES MUNICIPAL WATER DISTRICT-TAPIA WATER RECLAMATION FACILITY, CONSTRUCTED WETLANDS (ORDER NO. R4-2002-158, CI 8475)

Our letter dated September 12, 2002, transmitted revised tentative Waste Discharge Requirements for your discharge of tertiary treated municipal wastewater into constructed wetlands.

Pursuant to Division 7 of the California Water Code, this Regional Board at a public hearing held on September 26, 2002, reviewed the revised tentative requirements and considered all factors in the case, and adopted Order No. R4-2002-158 (copy attached) relative to this waste discharge. This Order serves as your permit and expires on September 26, 2007.

The monitoring and reporting program requires you to implement the monitoring program immediately. Your first monitoring report must be received in the Regional Board office by February 15, 2003, and will cover the October-December 2002 sampling period.

When submitting monitoring or technical reports to the Regional Board, as required by your "Monitoring and Reporting Program", please send them ATTN: Information Technology Unit and include a reference to "Compliance File No.8475". This will assure that the reports are directed to the appropriate file and staff. Also, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

Orig → John

CC Norm  
Randa  
Carlos

Jacqui  
JC has another copy.

California Environmental Protection Act

\*\*\*The energy challenge facing California is real. Every Californian needs to take immediate action.  
\*\*\*For a list of simple ways to reduce demand and cut your energy costs, see the tips at: <http://www.energy.ca.gov>

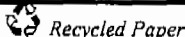


EXHIBIT 5

CDP 4-04-010 (LVMWD)

RWQCB Permit

Mr. James Colbaugh  
Las Virgenes Municipal Water District  
Tapia Water Reclamation Facility  
Constructed Wetlands

- 2 -

October 7, 2002

We are sending the final copy of Order No. R4-2002-158 to everyone on the mailing list. However, to save printing and postage costs, the Standard Provisions (Attachment N), is being sent only to the Discharger. For those on the mailing list, please refer to the documents previously sent to you in the tentative package or contact Board staff for an additional copy.

If you have any questions, please contact Namiraj Jain at (213) 620-6003 or Blythe Ponek-Bacharowski at (213) 576-6720.

Sincerely,



Dennis A. Dickerson  
Executive Officer

Enclosures

cc: see the mailing list

**California Environmental Protection Agency**

\*\*\*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption\*\*\*  
\*\*\*For a list of simple ways to reduce demand and cut your energy costs, see the tips at: <http://www.swrcb.ca.gov/news/echallenge.html>\*\*\*

## Mailing List

Dan Meer, U.S. Environmental Protection Agency, Region IX, (WTR-7)  
Robyn Stuber, U.S. Environmental Protection Agency, Region IX, (WTR-5)  
Anthony Spina, National Marine Fisheries Service  
Kirk Waln, U.S. Fish and Wildlife Service  
David Pritchett, U.S. Fish and Wildlife Service  
Ray Sauvajot, National Park Service  
Hon. Tom Hayden, Senator, California State Senate, Twenty-Third District  
Hon. Shiela James Kuehl, California Assembly, Forty-First District, Attn: Laura Plotkin  
Jorge Leon, Office of Chief Counsel, State Water Resources Control Board (SWRCB)  
John Youngerman, Division of Water Quality, SWRCB  
Gary Timon, California Coastal Commission  
Julia McIver, California Coastal Conservancy  
Chris Kroll, California Coastal Conservancy  
Ray Ally, California Department of Fish and Game  
Suzanne Goode, Los Angeles District, California Department of Parks and Recreation  
Daniel Preece, California Department of Parks and Recreation  
Stephen Jewett, Natural Resources Conservation Service, Somis Office  
Don Wolfe, Los Angeles County Department of Public Works  
Angus Alexander, Los Angeles County Lifeguard Association  
Steven Saylors, Northern Section, Los Angeles County Fire Department  
Barton Slutske, Malibu Health Center, Los Angeles County, Department of Health Services  
Hon. Ed Corridori, Mayor, City of Agoura Hills  
Hon. Lesley Devine, Mayor, City of Calabasas  
Hon. Dennis Washburn, Councilmember, City of Calabasas  
Hon. Jeffrey Jennings, Mayor, City of Malibu  
Hon. Andrew Fox, Mayor, City of Thousand Oaks  
Hon. Ken Rufener, Mayor, City of Westlake Village  
Barbara Cameron, City of Malibu, Planning Division  
Jed Ireland, Department of Public Works, City of Malibu  
Donald Nelson, Department of Public Works, City of Thousand Oaks  
Brian Torsney, City of Agoura Hills  
Rick Morgan, City of Malibu  
Dennis Washburn, Resource Conservation District  
Kathleen Bullard, Resource Conservation District of Santa Monica Mountains  
Rosi Dagit, Resource Conservation District of Santa Monica Mountains  
Sean Manion, Resource Conservation District of Santa Monica Mountains  
Joe Edmonston, Santa Monica Mountains Conservancy  
Chuck Almdale, Santa Monica Bay Audobon Society  
Renne Guzman, Weston, Benshoof, ET.AL  
Mark Gold, Heal The Bay  
Surfrider  
Steve Fleischli, Santa Monica Baykeeper  
Damon Wing, Wishtoyo Foundation  
Suzanne Goode, State Parks&Rec.  
Jim Maughan, Division of Water Quality  
Barton Slutske, Environmental Health

Mailing List (continued)

Marilyn Levin, Office of Attorney General  
Tom Barnes, Environmental Science  
Ellen Cooley-Woodland Hills  
Michael Maisner, Dept. of Water Resources  
Mark Gold, Heal the Bay  
David Beckman, Natural Resources Defense Council  
Terry Tamminen, Santa Monica BayKeeper  
Jeff Harris, Environment Now  
David Brown, Sierra Club  
Jim Edmondson, California Trout  
Mary Frampton, Save Our Coast  
Ben Hamilton, Surfrider Foundation  
Janet McPherson, Malibu Surfriders  
Mark Cousineau, Surfrider Foundation/National Office  
Anne Payne, Sierra Retreat  
Bob Purvey, Surfrider Foundation/Malibu Chapter  
Patrick Rogan, Malibu Surfing Association  
Mark Ball, Malibu Chamber of Commerce  
Paul B. Blatz, Blatz Law Firm  
Louis Busch, Louis T. Busch Associates  
Debbie Davis, Tacata Associates  
Ned Evans/Jim Ganzer, Beatnik Brand  
Scott Halley, Scott Halley Associates, Inc.  
Ellen Jenkins, Ellen Ross Jenkins, RPT, B.A.  
Judi Jensen, Judy Jensen Costume Design  
John Kaufman, The Kaufman Group  
Kenneth Wike, Cold Creek Community Council  
John Perenchio, Malibu Bay Company  
Jim Ries, Malibu Bay Company  
Gregg Simon, Oppenheimer & Co., Inc.  
Frances Spivy-Weber, Mono Lake Committee  
Rich Lawson, Malibu High School  
John Walsh, University of Southern California  
Rich Ambrose, University of California, Los Angeles  
Susan Nissman, Supervisor Yaroslavsky's Office  
Ann Zobel, Malibu News  
Megan Birkins  
C.W. Carson  
Rhea Damon  
Madelyn Glickfield

Richard Harris  
Nick Kaeller  
Leemon McHenry  
Tom Nefcy  
Victor D. Newcomer, M.D.  
Peter Marshall  
Virginia Drasnin  
Ozzie Silna

State of California  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

ORDER NO. R4-2002-158

WASTE DISCHARGE REQUIREMENTS (WDRs)  
FOR  
LAS VIRGENES MUNICIPAL WATER DISTRICT  
(Tapia Water Reclamation Facility – Constructed Wetland Discharge)  
(File No. 00-097)

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

Regulation of Discharge

1. The Las Virgenes Municipal Water District (Las Virgenes or Discharger) operates the Tapia Water Reclamation Facility (Tapia) located at 731 Malibu Canyon Road, in an unincorporated area of Los Angeles County. Figure 1 depicts the location of Tapia, including the service area. Tapia is jointly owned by Las Virgenes and Triunfo Sanitation District (Triunfo). It is a tertiary wastewater treatment plant, with a design capacity of 16.1 million gallons per day (mgd) treating municipal wastewater from domestic, commercial, and industrial sources.
2. The tertiary-treated effluent is either recycled for irrigation and industrial uses, or discharged to Malibu Creek near the facility. Malibu Creek flows approximately six miles from the treatment plant via Malibu Canyon to the Malibu Lagoon, and then to Santa Monica Bay, a water of the United States. This discharge is regulated under National Pollutant Discharge Elimination System (NPDES) Permit No. CA0056014 contained in Order No. 97-135, as amended. Discharge to Malibu Creek is prohibited during the dry season (May 1 to November 1). The NPDES permit also contains a requirement that flows in Malibu Creek cannot fall below the minimum level of 2.5 cubic feet per second (cfs) to protect aquatic life. All provisions of the NPDES permit, including without limitation the minimum flow requirements and seasonal discharge prohibition, remain in full force and effect, and are not altered by this Order.
3. Order No. 97-135, as amended, prohibits Las Virgenes to discharge any effluent to Malibu Creek from April 15<sup>th</sup> to November 15<sup>th</sup>. When allowed to discharge to Malibu Creek, the Tapia effluent is discharged through Discharge Serial No. 001 (Latitude: 34° 04' 55", Longitude: 118° 42' 28"). Las Virgenes proposes to rehabilitate the percolation

July 18, 2002  
Revised September 10, 2002  
Revised September 26, 2002



ponds and convert them to a constructed wetland to treat a portion of Malibu Creek flows to remove pathogens and nutrients. The wetlands will also be used approximately six weeks in the spring and six weeks in the fall to provide additional nutrient removal and to dispose of surplus recycled water. The constructed wetlands are designed to ensure that any water applied to the constructed wetlands does not reach Malibu Creek or Malibu Lagoon. These WDRs authorize Las Virgenes to discharge a portion of Malibu Creek flows and Tapia's tertiary-treated effluent to this constructed wetland.

4. The percolation ponds are located immediately adjacent to Malibu Creek (Figure 2), near the Tapia plant. When functioning properly, the ponds allow the effluent to slowly seep into groundwater. The ponds, however, have not functioned properly because of damage caused by severe winter storms in 1993 and 1995.
5. Las Virgenes proposes to discharge a portion of the Tapia's effluent to the constructed wetland during the first six weeks (April 15 to May 31), and the last six weeks of the prohibition period (October 1 to November 15), when demand for recycled water is low. During the remainder of the year, the constructed wetland will be used to treat a portion of Malibu Creek flow that is impacted by recreational use and urban runoff.
6. Las Virgenes has determined that (based on measurements of flow discharged to the ponds and levels at Malibu Lagoon) when flows to ponds do not exceed 900,000 gallons per day, the effluent does not surface out into Malibu Creek or flow to the lagoon, but flows directly to the ocean as groundwater, without resurfacing.
7. Pursuant to California Water Code, section 13260(a)(1), Las Virgenes has filed a report of waste discharge and has applied for Waste Discharge Requirements to discharge Tapia's tertiary-treated effluent to the groundwater through the constructed wetland on a demonstration basis for five years. Scientific literature (U.S.EPA General Guidelines for Wetlands Restoration and Creation Projects, June 1999) suggests that adequate monitoring of constructed wetlands performance takes five years after the initial construction period. Shorter or longer periods may be appropriate depending upon the scope and complexity of the restoration or creation efforts undertaken. Current construction schedules indicate that it will take until August 2004 for the wetlands to be fully constructed and that performance monitoring can only occur after that date.
8. During the five-year period, Las Virgenes will monitor the performance of the constructed wetland as to nutrient (nitrogen and phosphorous) removal, impact on the receiving groundwater, and impact of flows on the Malibu Creek and Malibu Lagoon. Las Virgenes will also monitor the performance of the wetland on treatment of urban runoff, particularly in the removal of bacteria. After the five-year demonstration period, the Regional Board will evaluate the results of monitoring to determine whether to allow Las Virgenes to continue operating the wetland.

Description of the Constructed Wetland

9. The percolation ponds area is owned by the California Department of Parks and Recreation (the State Parks), and Las Virgenes has an agreement with the State Parks to discharge to the pond area. Las Virgenes has also secured permission from the State Parks to rehabilitate the percolation ponds provided that the wetland can be used periodically to treat a portion of Malibu Creek flows, in addition to treating Tapia effluent the six weeks each during the spring and fall.
10. The percolation ponds were built in the mid 1970's and consisted of 19 parallel trenches approximately five feet deep, eight feet wide, and ranging in length from 80 to 350 feet. Water was conveyed to the head of each trench by feeder pipes connected to a mainline from Tapia. This system was later replaced by a single feeder pipe at the head of the first trench, with distribution to the other trenches via a series of overflow pipes draining one trench into another.
11. In 1993 and 1995, heavy rains and high creek flows deposited sediment into the ponds and eroded the perimeter of the site adjacent to the creek and several trench walls. As a result, flow through the ponds has been interrupted and pond volume was lost. Also, the perimeter erosion created a surface connection between the ponds and Malibu Creek.
12. Rehabilitation will consist of converting open trenches to planted gravel beds for the purpose of pollutant reduction (Figure 3). This adaptation is based on a subsurface flow constructed wetland concept. The plant roots and gravel provide surfaces for the attachment and growth of microorganisms that perform degradation processes such as denitrification prior to percolation. In addition, sedimentation and filtration reduce pathogens, while adsorption and precipitation remove metal ions and phosphorous. Further treatment will occur during the downward passage of the water through the vadose zone.
13. The Discharger has developed the following schedule for construction of the wetlands:

Task	Description	Schedule
1	Non-native plant removal	October 2002
2	Perimeter erosion controls (willows)	October-November 2002
3	Excavation-geological survey	November 2002
4	Excavation-treatment cells	November-December 2002*
5	Piping/pump excavation	December 2002*
6	Gravel/soil installation	December 2002-May 2003*
7	Monitoring wells installation	June 2003

8	Surficial contouring	June 2003
9	Non-native plant removal	July 2003
10	Revegetation-site cover	Fall 2003
11	Revegetation-Treatment cells-Phase 1	August 2003
12	Monitoring well assessment	Fall/Winter 2003
13	Treatment cell revegetation-Phase 2	August 2004
14	Treatment cell monitoring-maturation and startup	May 2003-August 2004
15	Project Monitoring	August 2004-July 2007

\*weather permitting

#### Pilot Test Treatment Data

14. Las Virgenes conducted a study to evaluate the expected treatment performance of the wetland. The study was performed on self-contained pilot cells constructed adjacent to the project site. Pilot cell performance data are summarized in Table 1.

**Table 1. Results of nitrate reduction in pilot wetland cells**

Sample period	Influent nitrate (mg/L)		Effluent nitrate (mg/L)		Net reduction (mg/L)		Performance (%)	
	18-hr	48-hr	18-hr	48-hr	18-hr	48-hr	18-hr	48-hr
Summer 1999 (grab)	11.3	*	5.6	*	5.7	*	50.4	*
Summer 1999 (composite)	18.6	10.25	13.5	0.7	5.1	9.6	27.4	93.2
Fall 1999 (composite)	9.5	8.29	7.3	4.16	2.2	4.13	23.2	49.8
Winter 2000 (composite)	16.5	16.3	14.9	12.3	1.6	4	9.7	24.5
Spring 2000 (composite)	8.4	8.4	6.7	4.5	1.7	3.9	20.2	46.4

\* Not tested

#### Applicable Plans, Policies, and Statues

15. Basin Plan - The Board adopted a revised *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) on June 13, 1994, as amended on January 27, 1997, by Regional Board Resolution No. 97-02. This updated and consolidated plan represents the Board's

master quality control planning document and regulations. The revised Basin Plan was approved by the State Water Resources Control Board (State Board) and the California Office of Administrative Law (OAL) on November 17, 1994, and February 23, 1995, respectively. The Basin Plan (i) designates beneficial uses for surface water and groundwater, (ii) sets narrative and numerical objectives that must be attained or maintained to protect the designated (existing and potential) beneficial uses and conform to the state" antidegradation policy, and (iii) includes implementation provisions, programs, and policies to protect all waters in the Region.

16. Beneficial Uses - The 1994 Basin Plan contains water quality objectives, and designates the following beneficial uses for waterbodies and groundwater basins in Malibu Creek Watershed, downstream of the Tapia discharge:

Malibu Valley (groundwaters)- Basin No. 4-22

Existing:        Agricultural Supply

Potential:       Municipal and domestic water supply and Industrial Service Supply.

The requirements in this Order are intended to protect designated beneficial uses and enhance the water quality of the Malibu Creek.

17. Antidegradation Policy - The State Board (Resolution No. 68-16) restricts degradation of surface or groundwaters. In particular, this policy protects waterbodies where existing quality is higher than is necessary for the protection of beneficial uses. According to this policy, "[A]ny 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."

Monitoring data indicate existing groundwater nitrate levels in the range of 0.4 – 2.0 mg/L and existing phosphate levels in the range of 0.4 – 0.6 mg/L. Influent nitrate levels have been reported to be in the range of 8.4 – 11.3 mg/L. Las Virgenes shall ensure that the existing quality of the groundwater is not impacted as a result of this discharge.

18. The requirements contained in this Order are established by considering, and are consistent with, the aforementioned water quality control policies, plans, and regulations and, if they are met, will protect the beneficial uses.
19. The State Parks is the California Environmental Quality Act (CEQA) lead agency for this

project, and has determined that the project is categorically exempt in accordance with the CEQA, Sections 15301 and 15303.

20. The Regional Board has notified the Discharger and interested agencies and persons, including stakeholders of the Malibu Creek Watershed, of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.
21. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and to the tentative requirements.

**IT IS HEREBY ORDERED** that Las Virgenes Municipal Water District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

**I. Discharge Requirements**

**A. Discharge Prohibitions**

1. Waste discharge into the constructed wetland shall be limited to Tapia's tertiary-treated and disinfected effluent and a portion of Malibu Creek flow impacted by recreational use and urban runoff, as proposed. The maximum discharge volume shall not exceed 900,000 gallons per day.
2. Discharges of water, materials, thermal wastes, elevated temperature wastes, toxic wastes, deleterious substances, or wastes other than those authorized by this Order, to the constructed wetland and ground waters of the State are prohibited.
3. The water discharged shall not cause the turbidity of the wetland water to increase to the extent that such an increase causes nuisance or adversely affects beneficial uses; such increase shall not exceed 20% when the natural turbidity is over 50 NTU's or 10% when the natural turbidity is 50 NTU's or less. Effluent shall not exceed average operating turbidity of 2 NTU's and does not exceed 5 NTU's more than 5 percent of the time during any 24-hour period.
4. Discharge, including without limitation discharges caused by surface flow, or subsurface flow and resurfacing, from the constructed wetlands to Malibu Creek, Malibu Lagoon, or both, is prohibited.

**B. Effluent Limitations**

The term "effluent" in the following limitations means the tertiary-treated wastewater

effluent from Tapia discharged to the constructed wetland.

The discharge of an effluent containing constituents violating or in excess of the following limits is prohibited:

1. A pH value between 6.0 and 9.0 standard units.
2. The wetland application rate shall not cause the effluent to resurface and enter into Malibu Creek, Malibu Lagoon, or both.
3. The effluent shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life.
4. Temperature
  - A maximum discharge temperature of 100°F.
  - The maximum temperature of the discharge to the wetlands shall not exceed the natural receiving water temperature by more than 20°F.

5. Discharge Quality

<u>Constituent</u>	<u>Units</u>	<u>Discharge Limitations</u>	
		<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD <sub>5</sub> 20°C	mg/L	10.0	20.0
Total suspended solids	mg/L	5.0	10.0
Nitrate + nitrite (as N)	mg/L	---	10.0
Residual chlorine	mg/L	---	0.1
Total dissolved solids	mg/L	---	2,000
Sulfate	mg/L	---	500
Chloride	mg/L	---	500
Boron	mg/L	---	2.0

## **II. Wetland and Groundwater Objectives**

- A. Natural hydrologic conditions necessary to support the physical, chemical, and biological characteristics in the wetland shall be protected to prevent significant adverse effects on:
  - Natural temperature, pH, dissolved oxygen, and other natural physical/chemical conditions,
  - Movement of aquatic fauna,
  - Survival and reproduction of aquatic flora and fauna, and
  - Water levels.
- B. The habitats and associated populations of wetlands fauna and flora shall be maintained by:
  - Maintaining substrate characteristics necessary to support flora and fauna which would be present naturally,
  - Protecting food supplies for fish and wildlife,
  - Protecting reproductive and nursery areas, and
  - Protecting wildlife corridors.
- C. The waste discharged shall not cause the concentration of coliform organisms in the groundwater to exceed 1.1 most probable number (MPN) per 100 mL.
- D. A mean annual dissolved oxygen concentration in the wetland water of at least 7 mg/L must be maintained, with no single determination of less than 5.0 mg/L.
- E. The Discharger shall ensure that the existing quality of the groundwater is not adversely impacted as a result of this discharge.

## **III. Requirements And Provisions**

1. Discharge of wastes to any point other than specifically described in this Order and permit is prohibited and constitutes a violation thereof.

2. In the event of any violation of Discharge Prohibition I.A.4 or Effluent Limitation I.B.2, the discharge of effluent to the constructed wetlands shall immediately cease. The Discharger shall prepare a workplan, acceptable to the Executive Officer, to prevent further resurfacing, and shall only recommence discharges to the constructed wetlands after approval of and in conformance with the approved workplan.
3. In the event of observed adverse impact, as determined by the Executive Officer, on Malibu Creek, Malibu Lagoon, Malibu Lagoon berm, or beneficial uses of surface waters or groundwaters, the Executive Officer shall notify the Discharger and the Discharger shall immediately terminate discharges to the constructed wetlands.
4. The Discharger shall take measures necessary to prevent erosion or overtopping of the constructed wetlands; however, the erosion control measures may not result in increased creek flow velocities to Malibu Creek.
5. This Order includes the attached "Standard Provisions Applicable to Waste Discharge Requirements" (Standard Provisions). If there is any conflict between provisions stated herein and the attached Standard Provisions, those provisions contained herein prevail.
6. This Order includes the attached Monitoring and Reporting Program (Attachment T). If there is any conflict between provisions stated in the Monitoring and Reporting Program and the Standard Provisions, those provisions stated in the Monitoring and Reporting Program prevail.
7. The Discharger shall provide standby or emergency power facilities and/or storage capacity or other means so that in the event of plant upset or outage due to power failure or other cause, discharge of raw or inadequately treated sewage does not occur.
8. This Order may be modified, revoked, and reissued or terminated in accordance with the provisions of the Porter-Cologne Water Quality Control Act, Chapter 4, Water Code section 13263 (e).
9. Las Virgenes shall conduct a study and develop a monitoring program (with input from interested parties and subjected to approval by the Executive Officer, pursuant water code section 13267) to investigate the impacts of the wetland discharge on the flow and quality of the groundwater, Malibu Creek and Malibu Lagoon. This study shall include, but not be limited to, the following:
  - Baseline monitoring of the quality of groundwater upstream and downstream of the wetland;



- Investigation of the groundwater flow patterns relative to the Malibu Creek and Malibu Lagoon;
- Determination of the optimal wetland application rate to limit the probability of "resurfacing";
- Measurements of groundwater elevation and flow net diagram; and
- A contingency plan including any operational adjustments to limit the impacts on Malibu Creek in case of resurfacing.

Within 90 days from the effective date of this Order, the Discharger shall develop and submit a workplan with a time schedule and milestones, for the Executive Officer's approval, for conducting the above-mentioned study.

Based on the results of the foregoing study, the Regional Board may reopen, revise, or terminate this Order.

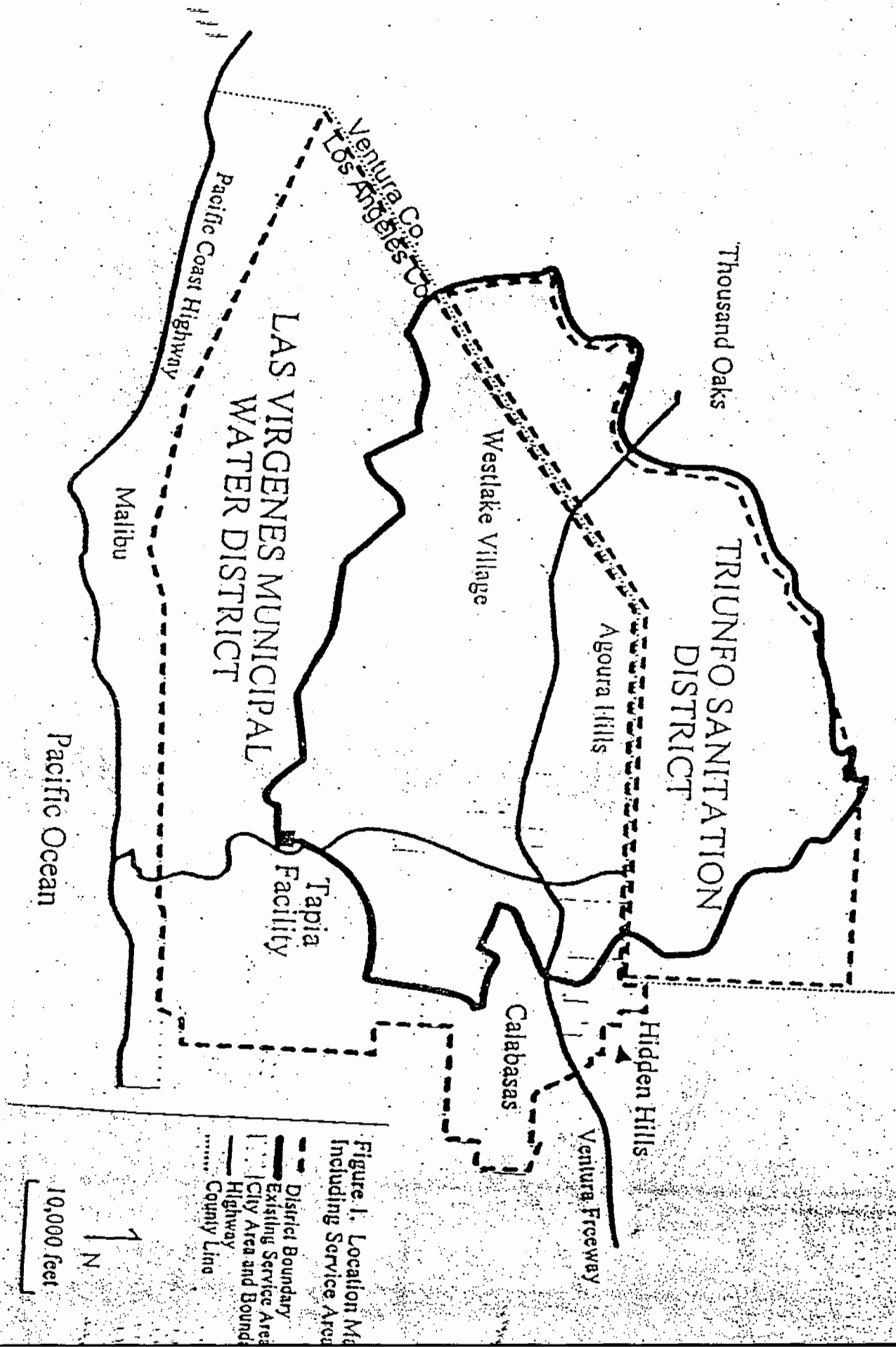
#### IV. EXPIRATION DATE

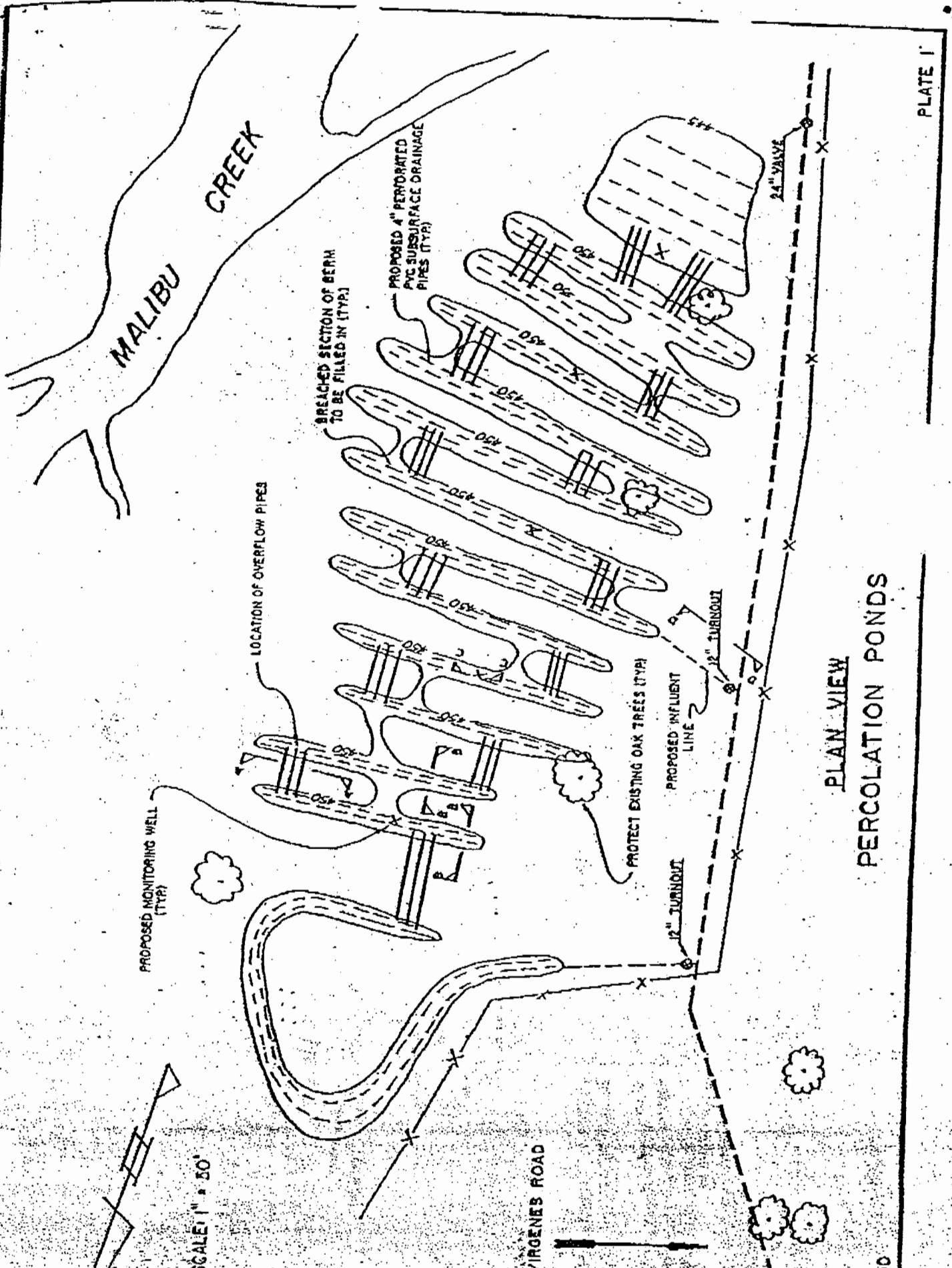
This Order expires on September 26, 2007.

I, Dennis A. Dickerson, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region on September 26, 2002.



DENNIS A. DICKERSON  
Executive Officer  
/NJ





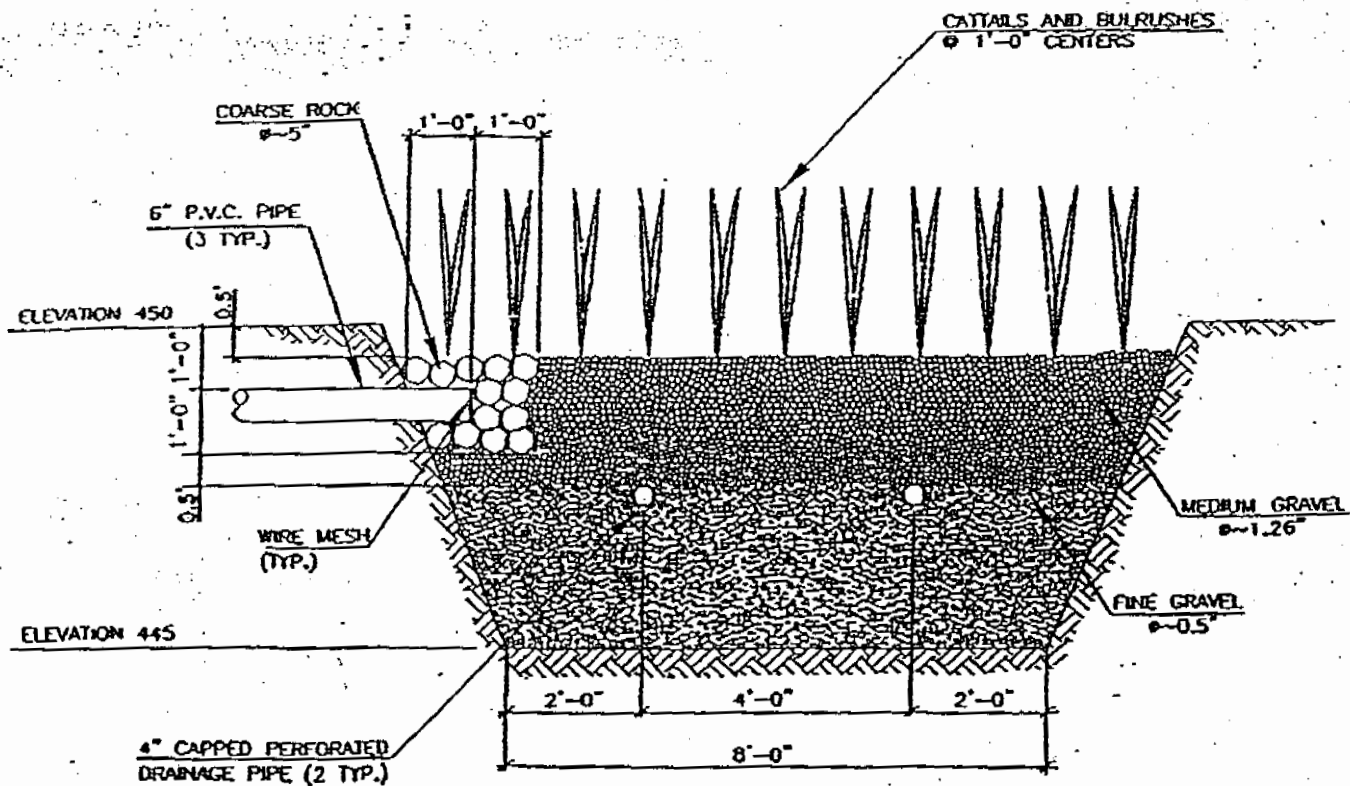
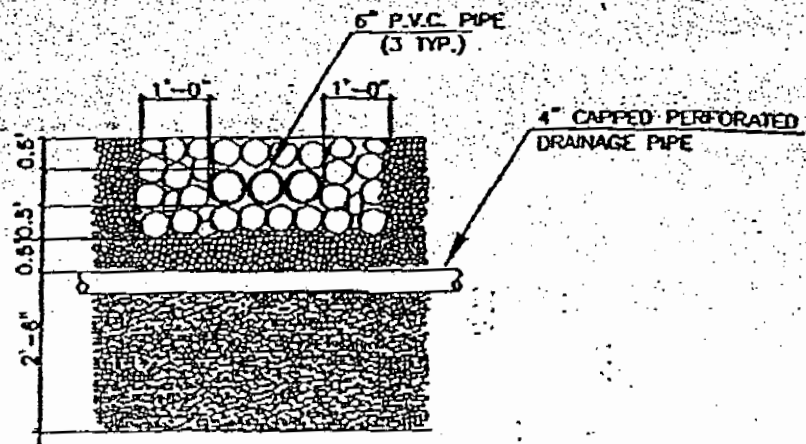


Figure 3

# CROSS SECTIONS OF PROPOSED WETLAND CELL

STANDARD PROVISIONS  
APPLICABLE TO WASTE DISCHARGE REQUIREMENTS

1. DUTY TO COMPLY

The discharger must comply with all conditions of these waste discharge requirements. A responsible party has been designated in the Order for this project, and is legally bound to maintain the monitoring program and permit. Violations may result in enforcement actions, including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board. [CWC Section 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350]

2. GENERAL PROHIBITION

Neither the treatment nor the discharge of waste shall create a pollution, contamination or nuisance, as defined by Section 13050 of the California Water Code (CWC). [H&SC Section 5411, CWC Section 13263]

3. AVAILABILITY

A copy of these waste discharge requirements shall be maintained at the discharge facility and be available at all times to operating personnel. [CWC Section 13263]

4. CHANGE IN OWNERSHIP

The discharger must notify the Executive Officer, in writing at least 30 days in advance of any proposed transfer of this Order's responsibility and coverage to a new discharger. The notice must include a written agreement between the existing and new discharger containing a specific date for the transfer of this Order's responsibility and coverage between the current discharger and the new discharger. This agreement shall include an acknowledgement that the existing discharger is liable for violations up to the transfer date and that the new discharger is liable from the transfer date on. [CWC Sections 13267 and 13263]

5. CHANGE IN DISCHARGE

In the event of a material change in the character, location, or volume of a discharge, the discharger shall file with this Regional Board a new Report of Waste Discharge. [CWC Section 13260(c)]. A material change includes, but is not limited to, the following:

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

Standard Provisions Applicable to  
Waste Discharge Requirements

- (b) Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.
- (c) Significant change in the disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area potentially causing different water quality or nuisance problems.
- (d) Increase in flow beyond that specified in the waste discharge requirements.
- (e) Increase in area or depth to be used for solid waste disposal beyond that specified in the waste discharge requirements. [CCR Title 23 Section 2210]

6. REVISION

These waste discharge requirements are subject to review and revision by the Regional Board. [CCR Section 13263]

7. TERMINATION

Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge or submitted incorrect information in a Report of Waste Discharge or in any report to the Regional Board, it shall promptly submit such facts or information. [CWC Sections 13260 and 13267]

8. VESTED RIGHTS

This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, do not protect the discharger from his liability under Federal, State or local laws, nor do they create a vested right for the discharger to continue the waste discharge. [CWC Section 13263(g)]

9. SEVERABILITY

Provisions of these waste discharge requirements are severable. If any provision of these requirements are found invalid, the remainder of these requirements shall not be affected. [CWC Section 921]

Standard Provisions Applicable to  
Waste Discharge Requirements

10. 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 conditions of this Order. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Order. [CWC Section 13263(f)]

11. HAZARDOUS RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Article 3.7 (commencing with Section 8574.7) of Chapter 7 of Division 1 of Title 2 of the Government Code, and immediately notify the State Board or the appropriate Regional Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of Section 13271 of the Water Code unless the discharger is in violation of a prohibition in the applicable Water Quality Control plan. [CWC Section 13271(a)]

12. PETROLEUM RELEASES

Except for a discharge which is in compliance with these waste discharge requirements, any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Article 3.5 (commencing with Section 8574.1) of Chapter 7 of Division 1 of Title 2 of the Government Code. This provision does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Section 311 of the Clean Water Act or the discharge is in violation of a prohibition in the applicable Water Quality Control Plan. [CWC Section 13272]

Standard Provisions Applicable to  
Waste Discharge Requirements

13. ENTRY AND INSPECTION

The discharger shall allow the Regional Board, or an authorized representative upon the presentation of credentials and other documents as may be required by law, to:

- (a) Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
- (d) Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order, or as otherwise authorized by the California Water Code, any substances or parameters at any location. [CWC Section 13267]

14. MONITORING PROGRAM AND DEVICES

The discharger shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which specifications are subject to periodic revisions as may be warranted. [CWC Section 13267]

All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit to the Executive Officer a written statement, signed by a registered professional engineer, certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required.

Unless otherwise permitted by the Regional Board Executive officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. The Regional Board Executive Officer may allow use of an uncertified laboratory under exceptional circumstances, such as when the closest laboratory to the monitoring location is outside the State boundaries and therefore not subject to certification. All analyses shall be required to be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants" [40 CFR Part 136] promulgated by the U.S. Environmental Protection Agency. [CCR Title 23, Section 2230]



Standard Provisions Applicable to  
Waste Discharge Requirements

15. TREATMENT FAILURE

In an enforcement action, it shall not be a defense for the discharger that it would have been necessary to halt or to reduce the permitted activity in order to maintain compliance with this Order. Upon reduction, loss, or failure of the treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of the treatment facility fails, is reduced, or is lost. [CWC Section 13263(f)]

16. DISCHARGES TO NAVIGABLE WATERS

Any person discharging or proposing to discharge to navigable waters from a point source (except for discharge of dredged or fill material subject to Section 404 of the Clean Water Act and discharge subject to a general NPDES permit) must file an NPDES permit application with the Regional Board. [CCR Title 2 Section 22357]

17. ENDANGERMENT TO HEALTH AND ENVIRONMENT

The discharger shall report any noncompliance which may endanger health or the environment. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five 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 recurrence of the noncompliance. The Executive officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours. The following occurrence(s) must be reported to the Executive Officer within 24 hours:

- (a) Any bypass from any portion of the treatment facility.
- (b) Any discharge of treated or untreated wastewater resulting from sewer line breaks, obstruction, surcharge or any other circumstances.
- (c) Any treatment plant upset which causes the effluent limitation of this Order to be exceeded. [CWC Sections 13263 and 13267]

18. MAINTENANCE OF RECORDS

The discharger shall retain records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used

Standard Provisions Applicable to  
Waste Discharge Requirements

to complete the application for this Order. Records shall be maintained for a minimum of three years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board Executive Officer.

Records of monitoring information shall include:

- (a) The date, exact place, and time of sampling or measurements;
  - (b) The individual(s) who performed the sampling or measurements;
  - (c) The date(s) analyses were performed;
  - (d) The individual(s) who performed the analyses;
  - (e) The analytical techniques or method used; and
  - (f) The results of such analyses.
19. (a) All application reports or information to be submitted to the Executive Officer shall be signed and certified as follows:
- (1) For a corporation -- by a principal executive officer or at least the level of vice president.
  - (2) For a partnership or sole proprietorship -- by a general partner or the proprietor, respectively.
  - (3) For a municipality, state, federal, or other public agency -- by either a principal executive officer or ranking elected official.
- (b) A duly authorized representative of a person designated in paragraph (a) of this provision may sign documents if:
- (1) The authorization is made in writing by a person described in paragraph (a) of this provision.
  - (2) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity; and
  - (3) The written authorization is submitted to the Executive Officer.

Any person signing a document under this Section shall make the following certification:

Standard Provisions Applicable to  
Waste Discharge Requirements

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for committing false information, including the possibility of fine and imprisonment. [CWC Sections 13263, 13267, and 13268]"

20. OPERATOR CERTIFICATION

Supervisors and operators of municipal wastewater treatment plants and privately owned facilities regulated by the PUC, used in the treatment or reclamation of sewage and industrial waste shall possess a certificate of appropriate grade in accordance with Title 23, California Code of Regulations Section 3680. State Boards may accept experience in lieu of qualification training. In lieu of a properly certified wastewater treatment plant operator, the State Board may approve use of a water treatment plant operator of appropriate grade certified by the State Department of Health Services where reclamation is involved.

Each plant shall be operated and maintained in accordance with the operation and maintenance manual prepared by the municipality through the Clean Water Grant Program. [CWC Title 23, Section 2233(d)]

ADDITIONAL PROVISIONS APPLICABLE TO  
PUBLICLY OWNED TREATMENT WORKS' ADEQUATE CAPACITY

21. Whenever a publicly owned wastewater treatment plant will reach capacity within four years the discharger shall notify the Regional Board. A copy of such notification shall be sent to appropriate local elected officials, local permitting agencies and the press. The discharger must demonstrate that adequate steps are being taken to address the capacity problem. The discharger shall submit a technical report to the Regional Board showing flow volumes will be prevented from exceeding capacity, or how capacity will be increased, within 120 days after providing notification to the Regional Board, or within 120 days after receipt of notification from the Regional Board, of a finding that the treatment plant will reach capacity within four years. The time for filing the required technical report may be extended by the Regional Board. An extension of 30 days may be granted by the Executive Officer, and longer extensions may be granted by the Regional Board itself. [CCR Title 23, Section 2232]

ATTACHMENT T-A  
State of California  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION

MONITORING AND REPORTING PROGRAM CI-8475  
FOR  
LAS VIRGENES MUNICIPAL WATER DISTRICT  
(Tapia Water Reclamation Facility – Constructed Wetland Discharge)

Order No. R4-2002-158

**I. Reporting Requirements**

- A. Las Virgenes Municipal Water District (Las Virgenes or Discharger) shall implement this monitoring program on the effective date of this Order. All monitoring reports should be addressed to the Regional Board, Attention: Information Technology Unit.

Monitoring reports shall be submitted according to the following schedule.

<u>Reporting Period</u>	<u>Report Due</u>
January-March	May 15
April -June	August 15
July -September	November 15
October-December	February 15
Annual Summary Report	April 1

- B. If there is no discharge during any reporting period, the report shall so state.
- C. The Discharger shall submit an annual summary report containing a discussion of the previous year's effluent data, as well as graphical and tabular summaries of the data. The data shall be submitted to the Regional Board on hard copy and on a 3 1/2-inch computer diskette. Submitted data must be IBM compatible, preferably using EXCEL software. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with waste discharge requirements. This annual report is to be received by the Regional by April 1 of each year following the calendar year of data collection.
- D. The Discharger shall inform the Regional Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.
- E. The Discharger shall notify Regional Board staff of the date the wetland discharges commence and terminate.

**II. Effluent Monitoring Requirements**

- A. A sampling station shall be established for each points of discharge to the constructed wetland and shall be located where representative samples of that effluent can be obtained.

The existing effluent sample station at Tapia Water Reclamation Plant can be used.

- B. This Regional Board shall be notified in writing of any change in the sampling stations once established or in the methods for determining the quantities of pollutants in the individual waste streams.
- C. Pollutants shall be analyzed using the analytical methods described in 40 CFR 136.3, 136.4, and 136.5 (revised May 14, 1999); or where no methods are specified for a given pollutant, by methods approved by this Regional Board or State Board. Laboratories analyzing effluent and/or receiving water samples must be certified by the California Department of Health Services and must include quality assurance/quality control (QA/QC) data in their reports.

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

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

Current MLs (Attachment M-1) are those published by the State Water Resources Control Board (State Board) in the *Policy for the Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California, March 2, 2000*.

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

The Regional Board, in consultation with the State Board Quality Assurance Program, shall establish an ML that is not contained in Attachment M-1, to be included in the Discharger's permit, in any of the following situations:

- 1. When the pollutant under consideration is not included in Attachment M-1;

2. When the Discharger and the Regional Board agree to include in the permit a test method that is more sensitive than those specified in 40 CFR 136 (revised May 14, 1999);
  3. When the Discharger agrees to use an ML lower than those listed in Attachment M-1;
  4. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Attachment M-1 and proposes an appropriate ML for their matrix; or,
  5. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, the Regional Board, and the State Board shall agree on a lowest quantifiable limit, and that limit will substitute for the ML for reporting and compliance determination purposes.
- E. Water/wastewater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136.3. All QA/QC items must be run on the same dates the samples were actually analyzed, and the results shall be reported in the Regional Board format (when it becomes available) and submitted with the laboratory reports. Proper chain of custody procedures must be followed and a copy of the chain of custody shall be submitted with the report.
- F. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of the laboratory certification shall be submitted with the Annual Report.
- G. If applicable, annual effluent analyses shall be performed during the month of February. Results of annual analyses shall be reported in the appropriate quarterly monitoring report.
- H. All analyses shall be accompanied by the chain of custody, including but not limited to data and time of sampling, sample identification, and name of person who performed sampling, date of analysis, name of person who performed analysis, QA/QC data, method detection limits, analytical methods, copy of laboratory certification, and a perjury statement executed by the person responsible for the laboratory.
- I. Quarterly effluent analyses shall be performed during the months of February, May, August and November. Annual effluent analyses shall be performed during the month of February.
- J. For parameters that both monthly average and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the monthly average limit, the sampling frequency shall be

increased (within one week of receiving the test results) to a minimum of once weekly at equal intervals, until at least four consecutive weekly samples have been obtained, and compliance with the monthly average limit has been demonstrated. The Discharger shall provide for the approval of the Executive Officer a program to ensure future compliance with the monthly average limit.

### III. Effluent Monitoring Program

A. The following shall constitute the effluent monitoring program for the effluent:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Monitoring Frequency</u>
Total flow	gal/day	—	monthly
Temperature	°F or °C	grab	monthly
pH	pH units	grab	monthly
Total dissolved solids	mg/L	grab	monthly
Sulfate	mg/L	grab	monthly
Chloride	mg/L	grab	monthly
Ammonia (total)	mg/L	grab	monthly
Nitrate (as N)	mg/L	grab	monthly
Total Phosphate	mg/L	grab	monthly
Boron	mg/L	grab	monthly
Toxicity – acute	% survival	grab	monthly
Toxicity – chronic	Tuc <sup>1</sup>	grab	monthly

1/  $TUc = 100/NOEC$ , where NOEC is "no observed effect concentration" and is expressed as the maximum percent effluent concentration that causes no observable effect on an organism.

#### B. Effluent Toxicity Testing

##### 1. Acute Toxicity Testing

- a. The Discharger shall conduct the effluent acute toxicity test on a quarterly basis.
- b. If the effluent exceeds the 30-day average acute toxicity limitation, the Discharger shall conduct six additional tests over a six-week period. These additional tests shall begin within 24 hours of receipt of initial failed test results.
  - i. If all of the additional tests are below the 30-day average acute toxicity limitation, the discharger may resume regular monthly testing.

- ii If the results of any of the six accelerated tests are above the 30-day average limitation, the Discharger will continue to monitor weekly, until six consecutive weekly tests are below the 30-day average limitation. At that time, the Discharger may resume regular monthly testing.
  - iii If weekly testing indicates exceedance of the 30-day average limitation (i.e. the average of four consecutive weekly tests exceeds the 30-day average limitation) then the Discharger shall begin a Toxicity Reduction Evaluation (TRE). The TRE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet objective.
  - iv If the results of any of two of the six accelerated tests, or any two tests in a six week period of weekly testing, exceed the weekly average limitation, then the Discharger shall begin a Toxicity Reduction Evaluation (TRE). The TRE shall include all reasonable steps to identify the sources of toxicity. Once the sources are identified, the Discharger shall take all reasonable steps to reduce toxicity to meet objective.
- c. The Discharger shall conduct acute toxicity tests on 100 % effluent grab samples by methods specified in 40 CFR Part 136 which cites USEPA's *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms*, Fourth Edition, August, 1993 (EPA/600/4-90/027F) or the most recent approved method.
  - d. The fathead minnow, *Pimephales promelas*, shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish discharges.

## 2. Chronic Toxicity Testing

- a. **Methods and test species.** The Discharger shall conduct critical life stage chronic toxicity tests on 24-hour composite 100 percent effluent samples in accordance with USEPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Third Edition, July 1994, (EPA/600/4-91/002) or USEPA's *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms*, August 1995, (EPA/600/R-95/136).

### b. **Frequency**



- i. Screening - The Discharger shall conduct chronic toxicity test screening every 24 months for three consecutive months, with first screening under this Monitoring Program to be conducted on the effective date of this Order and permit. Re-screening shall be conducted at a different time of year from the previous screening. Screening tests shall be conducted using a vertebrate, an invertebrate, and a plant.
  - ii. Regular toxicity tests - After the screening period, monitoring shall be conducted monthly using the most sensitive species on a quarterly basis.
- c. **Toxicity Units.** The chronic toxicity of the effluent shall be expressed and reported in toxic units,  $TU_c$ , where,
- $$TU_c = \frac{100}{NOEC}$$
- The No Observable Effect Concentration (NOEC) is expressed as the maximum percent effluent concentration that causes no observable effect on test organisms, as determined by the results of a critical life stage toxicity test.
- d. **Quality Assurance**
- i. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).
  - ii. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manual (EPA/600/R-95/136), then the Discharger must re-sample and re-test within 14 days.
  - iii. Control and dilution water should be receiving water or laboratory water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control using culture water shall be used.
- e. **Accelerated Monitoring**

If the effluent chronic toxicity test result exceeds the limitation, the Discharger shall immediately implement an accelerated chronic toxicity testing that consists of six additional tests, approximately every week,

over a six-week period. Effluent sampling for the first test of the six additional tests shall commence about 24 hours of receipt of the test results exceeding a chronic toxicity limit.

- i If all the results of the six additional tests are in compliance with the chronic toxicity limitation, the Discharger may resume regular quarterly testing.
- ii If the results of any of the six accelerated tests exceeds the limitation, the Discharger shall continue to monitor weekly until six consecutive weekly tests are in compliance. At that time, the Discharger may resume regular quarterly testing.
- iii If the results of two of the six tests, or any two tests in a six-week period, exceed the limitation, the Discharger shall initiate a Toxicity Reduction Evaluation (TRE).
- iv If implementation of the initial investigation TRE workplan (see item 3, below) indicates the source of toxicity (e.g., a temporary plant upset, etc.), then the Discharger shall return to the regular testing frequency.

3. Preparation of an Initial Investigation TRE Workplan

Within 90 days of the effective date of this Order and permit, the Discharger shall submit a copy of its initial investigation TRE workplan to the Executive Officer of the Regional Board for approval. The Discharger shall use the USEPA manual, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833B-99/002, as guidance. This workplan shall describe the steps the Discharger intends to follow if the toxicity limitation is exceeded, and should include, at a minimum, the following:

- a. Description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;
- b. Description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and,
- c. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of the person who will conduct the TIE (i.e., an in-house expert or an outside contractor).

4. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

a. If the results of the implementation of the facility's initial investigation TRE workplan indicate the need to continue the TRE/TIE, the Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 15 days of the completion of the initial investigation TRE. The detailed workplan shall include, but not limited to:

- i Further actions to investigate and identify the cause of toxicity;
- ii Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and,
- iii A schedule for these actions.

b. The following is a stepwise approach in conducting the TRE:

- i Step 1 includes basic data collection;
- ii Step 2 evaluates optimization of the treatment system operation, facility housekeeping, and selection and use of in-plant process chemicals;
- iii If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts using currently available TIE methodologies. The objective of the TIE shall be to identify the substance or combination of substances causing the observed toxicity.
- iv Assuming successful identification or characterization of the toxicant(s), Step 4 evaluates final effluent treatment options.
- v Step 5 evaluates in-plant treatment options, and
- vi Step 6 consists of confirmation once a toxicity control method has been implemented.

Many recommended TRE elements parallel source control, pollution prevention, and storm water control program best management practices (BMPs). To prevent duplication of efforts, evidence of compliance with those requirements may be sufficient to comply with the TRE requirements. By requiring the first steps of a TRE to be accelerated testing and review of the facility's TRE workplan, a TRE

may be ended in its early stages. All reasonable steps shall be taken to reduce toxicity to the required level. The TRE may be ended at any stage if monitoring indicates there is no longer toxicity violations.

- c. The Discharger may initiate a TIE as part of the TRE process to identify the cause(s) of toxicity. The Discharger shall use the EPA acute and chronic manuals, EPA/600/6-91/005F (Phase I)/EPA/600/R-96-054 (for marine), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III) as guidance.
- d. If a TRE/TIE is initiated prior to completion of the accelerated testing required in Part D.2.e. of this program, then the accelerated testing schedule may be terminated, or used as necessary in performing the TRE/TIE, as determined by the Executive Officer.

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

F. Reporting

- a. The Discharger shall submit a full report of the toxicity test results, including any accelerated testing conducted during the month as required by this permit. Test results shall be reported in Toxicity Units (TUa or TUc) with the discharge monitoring reports (DMR) for the month in which the test is conducted.
- b. If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section D.2.e.iv, then those results also shall be submitted with the DMR for the period in which the Investigation occurred.
  - i. The full report shall be submitted by the end of the month in which the DMR is submitted.
  - ii. The full report shall consist of (1) the results; (2) the dates of sample collection and initiation of each toxicity test; (3) the acute toxicity average limit or chronic toxicity limit.
  - iii. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the DMR. Routine reporting shall include, at a minimum, as applicable, for each test:

- a). sample date(s)
  - b). test initiation date
  - c). test species
  - d). end point values for each dilution (e.g. number of young, growth rate, percent survival)
  - e). NOEC value(s) in percent effluent
  - f). TUC values  $\left( TU_c = \frac{100}{NOEC} \right)$
  - g). Mean percent mortality (+standard deviation) after 96 hours in 100% effluent (if applicable)
  - h). NOEC and LOEC (Lowest Observable Effect Concentration) values for reference toxicant test(s)
  - i). Available water quality measurements for each test (e.g., pH, D.O., temperature, conductivity, hardness, salinity, ammonia).
- iv The Discharger shall provide a compliance summary which includes a summary table of toxicity data from at least eleven of the most recent samples.
  - v The Discharger shall notify this Regional Board immediately of any toxicity exceedance and in writing 14 days after the receipt of the results of a monitoring limit or trigger. The notification will describe actions the Discharger has taken or will take to investigate and correct the cause(s) of toxicity. It may also include a status report on any actions required by the permit, with a schedule for actions not yet completed. If no actions have been taken, the reasons shall be given.

#### IV. Groundwater Water Monitoring Requirements

##### A. Groundwater Monitoring

1. Groundwater Monitoring Network – The discharger shall submit a workplan within 90 days from the date of this Order for Executive Officer's approval to construct a


groundwater monitoring network, capable of determining any impact to groundwater quality as a result of this discharge.

2. Groundwater Constituents Monitoring - The groundwater monitoring network shall be sampled quarterly. Groundwater samples shall be obtained and analyzed for the constituents listed below:

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency</u>
pH	pH units	grab	quarterly
Dissolved oxygen	mg/L	grab	quarterly
Temperature	°F or °C	grab	quarterly
Sulfate	mg/L	grab	quarterly
Ammonia (total)	mg/L	grab	quarterly
Nitrate (as N)	mg/L	grab	quarterly
Total Phosphate	mg/L	grab	quarterly
Fecal Coliform	/100 mL	grab	quarterly
Volatile Organic Compounds (EPA Method 8260B)	ug/L	grab	quarterly

#### V. Site Inspection Requirements

During application of reclaimed water the discharger shall inspect the downgradient areas of the constructed wetlands for physical signs of seepage at least twice daily. During application of reclaimed water, the discharger will also perform continuous monitoring of the depth of Malibu Lagoon to determine if groundwater seepage downstream of the project site is impacting the water level of the lagoon. Observation records shall be submitted to the Regional Board in each quarterly monitoring report.

Ordered by:   
Dennis A. Dickerson  
Executive Officer

Date: September 26, 2002

## ATTACHMENT M

### SWRCB Minimum Levels in ppb (µg/L)

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

Table 2a - VOLATILE SUBSTANCES	GC	GC/MS
1,1 Dichloroethane	0.5	1
1,1 Dichloroethene	0.5	2
1,1,1 Trichloroethane	0.5	2
1,1,2 Trichloroethane	0.5	2
1,1,2,2 Tetrachloroethane	0.5	1
1,2 Dichlorobenzene (volatile)	0.5	2
1,2 Dichloroethane	0.5	2
1,2 Dichloropropane	0.5	1
1,3 Dichlorobenzene (volatile)	0.5	2
1,3 Dichloropropene (volatile)	0.5	2
1,4 Dichlorobenzene (volatile)	0.5	2
Acrolein	2.0	5
Acrylonitrile	2.0	2
Benzene	0.5	2
Bromoform	0.5	2
Bromomethane	1.0	2
Carbon Tetrachloride	0.5	2
Chlorobenzene	0.5	2
Chlorodibromo-methane	0.5	2
Chloroethane	0.5	2
Chloroform	0.5	2
Chloromethane	0.5	2
Dichlorobromo-methane	0.5	2
Dichloromethane	0.5	2
Ethylbenzene	0.5	2
Tetrachloroethene	0.5	2
Toluene	0.5	2
trans-1,2 Dichloroethylene	0.5	1
Trichloroethene	0.5	2
Vinyl Chloride	0.5	2

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

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



Table 2b - SEMI-VOLEATILE SUBSTANCES	GC	GC/MS	LC	COLOR
Hexachlorobenzene	5	1		
Hexachlorobutadiene	5	1		
Hexachloroethane	5	1		
Indeno(1,2,3,cd)-pyrene		10	0.05	
Isophorone	10	1		
N-Nitroso diphenyl amine	10	1		
N-Nitroso-dimethyl amine	10	5		
N-Nitroso -di n-propyl amine	10	5		
Naphthalene	10	1	0.2	
Nitrobenzene	10	1		
Pentachlorophenol	1	5		
Phenanthrene		5	0.05	
Phenol **	1	1		50
Pyrene		10	0.05	

\* With the exception of phenol by colorimetric technique, the normal method-specific factor for these substances is 1000, therefore, the lowest standard concentration in the calibration curve is equal to the above ML value for each substance multiplied by 1000.

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

Table 2c INORGANICS	FAA	GFAA	ICP	ICPMS	SPGFAA	HYDRIDE	CVA	COLOR	DPT
Antimony	10	5	50	0.5	5	0.5			1000
Arsenic		2	10	2	2	1		20	1000
Beryllium	20	0.5	2	0.5	1				1000
Cadmium	10	0.5	10	0.25	0.5				1000
Chromium (total)	50	2	10	0.5	1				1000
Chromium VI	5							10	
Copper	25	5	10	0.5	2				1000
Cyanide								5	
Lead	20	5	5	0.5	2				10,000
Mercury				0.5			0.2		
Nickel	50	5	20	1	5				1000
Selenium		5	10	2	5	1			1000
Silver	10	1	10	0.25	2				1000
Thallium	10	2	10	1	5				1000
Zinc	20		20	1	10				1000

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

Table 2d - PESTICIDES - PCBs	GC
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
a-Endosulfan	0.02
a-Hexachloro-cyclohexane	0.01
Aldrin	0.005
b-Endosulfan	0.01
b-Hexachloro-cyclohexane	0.005
Chlordane	0.1
d-Hexachloro-cyclohexane	0.005
Dieldrin	0.01
Endosulfan Sulfate	0.05
Endrin	0.01
Endrin Aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Lindane(g-Hexachloro-cyclohexane)	0.02
PCB 1016	0.5
PCB 1221	0.5
PCB 1232	0.5
PCB 1242	0.5
PCB 1248	0.5
PCB 1254	0.5
PCB 1260	0.5
Toxaphene	0.5

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

#### Techniques:

GC - Gas Chromatography

GCMS - Gas Chromatography/Mass Spectrometry

HRGCMS - High Resolution Gas Chromatography/Mass Spectrometry (i.e., EPA 1613, 1624, or 1625)

LC - High Pressure Liquid Chromatography

FAA - Flame Atomic Absorption

GFAA - Graphite Furnace Atomic Absorption

HYDRIDE - Gaseous Hydride Atomic Absorption

CVAA - Cold Vapor Atomic Absorption

ICP - Inductively Coupled Plasma

ICPMS - Inductively Coupled Plasma/Mass Spectrometry

SPGFAA - Stabilized Platform Graphite Furnace Atomic Absorption (i.e., EPA 200.9)

DCP - Direct Current Plasma

COLOR - Colorimetric



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Director, Division 3

**James E. Colbaugh**  
General Manager

**Wayne K. Lemieux**  
Counsel

HEADQUARTERS  
4232 Las Virgenes Road  
Calabasas, CA 91302  
(818) 251-2100  
Fax (818) 251-2109

WESTLAKE  
FILTRATION PLANT  
(818) 251-2370  
Fax (818) 251-2379

TAPIA WATER  
RECLAMATION FACILITY  
(818) 251-2300  
Fax (818) 251-2309

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MEMBER AGENCY OF THE  
METROPOLITAN WATER  
DISTRICT  
OF SOUTHERN CALIFORNIA

December 20, 2002

Dennis Dickerson  
Executive Officer  
Los Angeles Regional Water Quality Control Board  
320 W. 4<sup>th</sup> Street  
Los Angeles, CA 90013

**Subject: Groundwater Monitoring Workplan – Constructed Wetlands  
(Order No. R4-2002-158, CI 8475)**

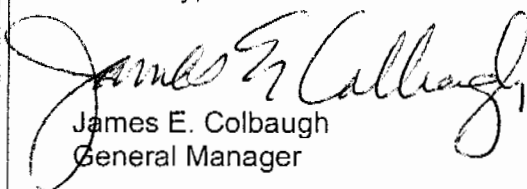
Dear Mr. Dickerson,

Pursuant to the monitoring requirements in the subject permit, Attachment T-4, Section IV, we are submitting the attached Workplan for a Groundwater Monitoring Network to determine any impact to groundwater quality as a result of the constructed wetlands. The workplan incorporates comments and recommendations provided by Heal The Bay at the Regional Board hearing on September 26, 2002 and a meeting at the district on November 16, 2002.

The schedule for implementing this workplan is linked to the approval of permits for this project from the California Coastal Commission, the State Water Resources Control Board Water Rights Division, and the State Department of Fish and Game. We will provide the Regional Board with an updated schedule for this project once these requirements are determined.

Questions on the workplan should be directed to Dr. Randal Orton in our Resource Conservation Department at (818) 251-2145.

Sincerely,

  
James E. Colbaugh  
General Manager

Attachment

RECEIVED  
JUL 19 2007

CALIFORNIA COASTAL COMMISSION  
SOUTH CENTRAL COAST DISTRICT

**EXHIBIT 6**

**CDP 4-04-010 (LVMWD)**

**Monitoring Workplan**

# **Constructed Wetlands Project – Malibu Creek Watershed**

## **Groundwater Monitoring Workplan**



**Las Virgenes Municipal Water District**

**December 20, 2002**



Funding for this project made possible  
by the Las Virgenes Municipal Water  
District and Prop. 12 funds  
administered by the Santa Monica Bay  
Project and the County of Los  
Angeles.

## **Constructed Wetlands Project – Malibu Creek Watershed Groundwater Monitoring Workplan**

### **1. Purpose and objectives.**

On September 26, 2002, the Los Angeles Regional Water Control Board approved waste discharge requirements for a constructed treatment wetland in the Malibu Creek Watershed in the vicinity of Malibu Canyon Road and Piuma Road (Fig. 1). This wetland is a subsurface flow treatment wetland (SSW), wherein waterborne pollutants are removed primarily via physical filtration and microbial action taking place in the first meter or so of wetland sediments, including plant root zones and gravel substrate. Due to the need to avoid impacts on the water level of Malibu Lagoon, treated effluent from the wetland is routed to groundwater in quantities small enough to avoid subsequent resurfacing in Malibu Creek or Malibu Lagoon.

Pre-construction hydraulic testing has established that the wetland is capable of treating up to 900,000 gallons per day (0.9 MGD) in this fashion<sup>1</sup>. However, to address concerns over the potential for post-construction resurfacing and operational hydraulic capacity, the Regional Board directed the district to develop a monitoring program capable of detecting impacts of resurfacing wetlands groundwater on Malibu Creek and Malibu Lagoon. The program also includes groundwater quality monitoring. This workplan describes the monitoring program intended to meet these objectives.

### **2. Methods.**

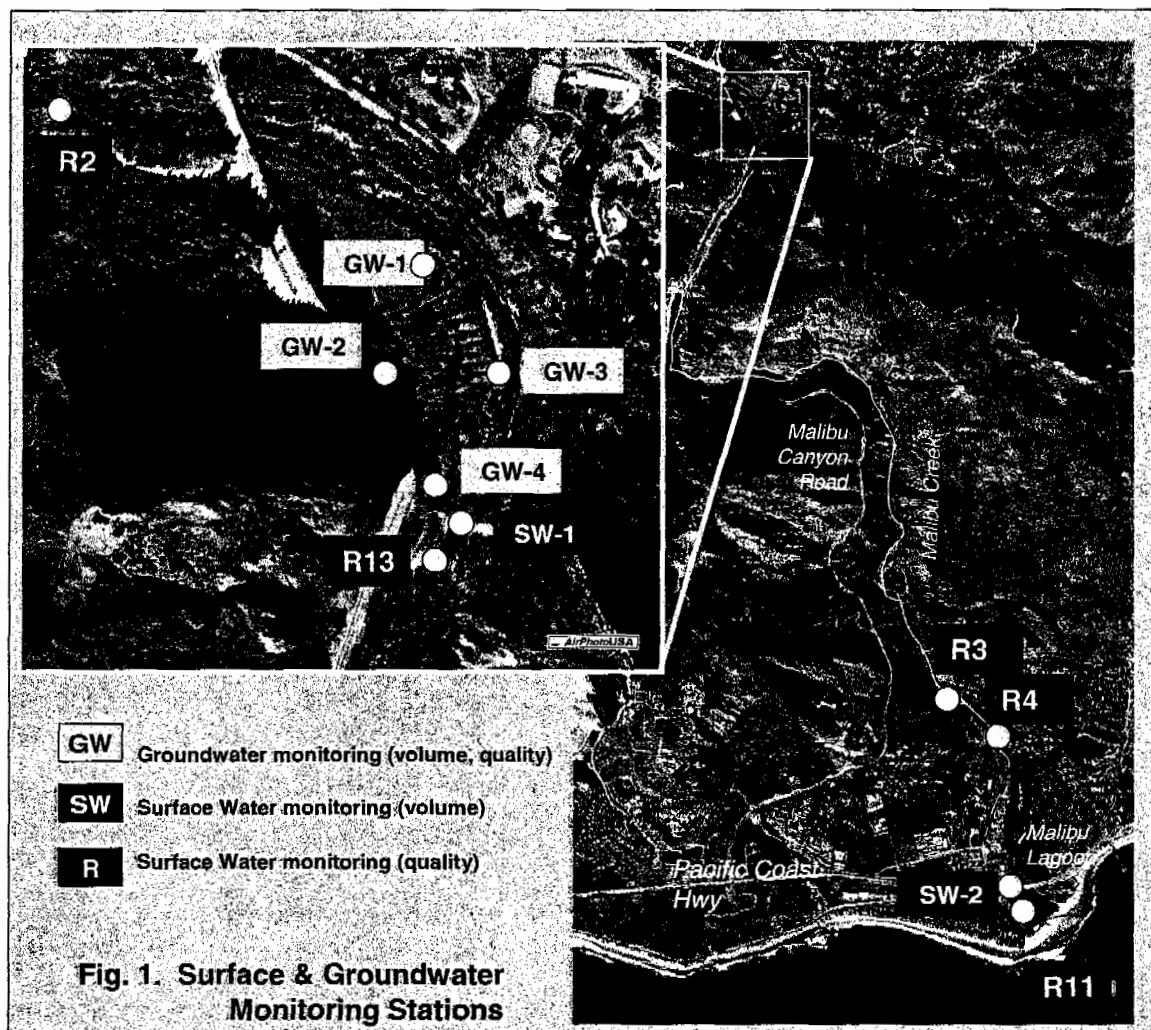
The monitoring program uses several methods, both direct and indirect, for tracking the fate and quality of wetland effluent.

#### **a. On-site Measurements**

- i. Application Volume. Water applied to the wetlands is measured by flow meter and flume height gaging. This provides a daily record of flows into the wetlands that can be compared and correlated with flows measured at the County gaging station and lagoon depth measurements.
- ii. Application quality. Water quality testing prior to treatment provides baseline information on the efficiency of the wetland treatment processes. When the wetlands are receiving creek water, these tests are performed at station R2, located at the creek intake site (Fig. 1). When the wetlands are receiving Tapia effluent, these tests are taken in the plant just prior to conveyance to the wetlands. Parameters and testing frequencies are listed in Appendix A. Pre-treatment bacteriological quality is measured in the surface waters of the treatment cells themselves, as previous tests have demonstrated local sources of bacteria there.

---

<sup>1</sup> Amah, G. 1999. Percolation Pond Capacity Study. LVMWD Report No. 2227.00



- iii. Groundwater quality. Groundwater quality is measured at depths of 0.3, 0.6, 1.0 and 1.5 m at four locations along the site perimeter as shown in Fig. 1. Sampling is via small wells (PVC) in clusters of four wells per depth (16 wells total). Parameters and testing frequencies are listed in Appendix A.
- iv. Groundwater Transport. Groundwater transport (hydraulic gradient) is measured via triangulation from piezometric surfaces (groundwater table) from the monitoring wells described in section iii above.
- v. Visual Inspection and follow-up testing. Following operational start-up, the site perimeter will be visually inspected daily for evidence of groundwater resurfacing and artificial springs. If springs are detected, water quality

samples will be taken and tested for sulfate and TDS. Collectively, these constituents are natural tracers for recycled water, with natural groundwater in the area significantly higher in TDS and sulfate<sup>2</sup>.

b. Off-site Measurements

- i. Visual inspection. The streambank between the southern end of the wetland and the county gaging station will be inspected on a daily basis for the first month of operation, and weekly thereafter, for evidence of groundwater resurfacing (springs) and surface runoff. If detected, surfacing water will be tested per Section A (v) above.
- ii. Streamflow gaging. Elevated streamflow due to groundwater resurfacing is monitored at the Los Angeles County gaging station F-130-R located approximately 100 m downstream of the project site. Gage calibration data provided by the county indicates that the precision of this gage is adequate to detect resurfacing groundwater from the project in excess of about 300,000 gpd, or about 33 percent of the maximum wetland application rate. However, trend data from this station are sensitive to much smaller changes in flow, on the order of 64,000 gpd or flows in excess of about 7 percent of wetland influent flows. In contrast, instream losses due to evapotranspiration and downstream infiltration are on the order of 1.3 million gpd, easily capable of reabsorbing resurfacing groundwater of less-than-detectable volumes<sup>3</sup>. Lagoon gaging provides an independent means of verifying this, as described below.
- iii. Lagoon gaging. Resurfacing beyond the county gaging station is monitored by a depth meter installed on the district's lagoon sonde (YSI 6000). This instrument is sensitive to changes in depth of less than 0.002 feet, equivalent to a change in lagoon volume of approximately 20,000 gallons or resurfacing in excess of 2 percent of the wetland application rate<sup>4</sup>.
- iv. Water quality monitoring. Water quality is monitored at four stations in Malibu Lagoon and Malibu Creek downstream of the project site (Fig. 1). Sulfate and TDS concentrations in recycled water differ significantly from native creek water (both are lower in recycled water), and significant resurfacing can be detected by comparing these parameters in upstream versus downstream stations.

---

2 Malibu Creek TDS and sulfate typically averages about 2250 mg/l and 1050 mg/l, respectively. In contrast, recycled water TDS and sulfate averages about 810 mg/l and 210 mg/l, respectively.

3 Streamflow losses between the gaging station and the lagoon were quantified by a professional hydrographer via multiple flow transects in September 1998 and again in August 1999 by Entrix Corporation (L. Wise).

4 Volume = 1.9524 depth <sup>1.6287</sup>. Lagoon depth vs volume relationship calculated from bathymetric data collected in 10/98 by K. Schwarz (In Ambrose, R. F. and A. R. Orme, 2000. Lower Malibu Creek and Lagoon Resource Enhancement and Management. Final Report to the California State Coastal Conservancy).



### 3. Analysis & Reporting

Results of the monitoring are reported quarterly to the Regional Board per the requirements of the project WDR, Section T-A (attached).<sup>5</sup> An annual report summarizing wetlands performance is submitted by February 15<sup>th</sup> each year the wetlands are in operation. The report includes volumes of water treated by the wetlands, and an estimate of treatment efficiency based on influent versus effluent water quality. The reporting schedule is as follows:

<u>Reporting Period</u>	<u>Report Due</u>
January-March	May 15 <sup>th</sup>
April-June	August 15 <sup>th</sup>
July-September	November 15 <sup>th</sup>
October-December	February 15 <sup>th</sup>
Annual Summary Report	April 1 <sup>st</sup>

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<sup>5</sup> Order No. R4-2002-158, CI 8475, Section T-A