

EXECUTIVE SUMMARY SHEET
CITY OF SAN DIEGO

DATE ISSUED: July 15, 2009

ATTENTION: Natural Resources & Culture Committee
Agenda of July 22, 2009

ORIGINATING DEPARTMENT: Storm Water Department

SUBJECT: Chollas Creek Dissolved Metals Total Maximum Daily Load Implementation Plan and Cost Share Agreement.

COUNCIL DISTRICTS: 3, 4, 7 and 8

CONTACT/PHONE NUMBER: Drew Kleis, 858.541.4329

REQUESTED ACTION: The Storm Water Department requests that Council: 1) approve the Chollas Creek Dissolved Metals Total Maximum Daily Load Implementation Plan, 2) authorize the Mayor or designee to approve and execute a Cost Share Agreement with the County of San Diego, Caltrans, United States Navy, San Diego Unified Port District, and the incorporated cities of La Mesa and Lemon Grove, 3) authorize the appropriation and expenditure of \$55,000 from the Storm Water Department's FY11 budget for expenses under the Cost Share Agreement, contingent upon Council approval of the FY11 budget, and 4) authorize the reimbursement of \$84,651 from the other parties to the Cost Share Agreement for their fair share costs.

STAFF RECOMMENDATION: Approve requested actions.

EXECUTIVE SUMMARY: The Chollas Creek Dissolved Metals Total Maximum Daily Load (TMDL), approved by the San Diego Regional Water Quality Control Board (Resolution No. R9-2007-0043), the State Water Resources Control Board, and subsequently the State Office of Administrative Law on October 22, 2008, requires the City and the other responsible parties named in the TMDL (hereafter collectively referred to as Dischargers) to reduce dissolved copper, lead and zinc concentrations in Chollas Creek and its tributaries over a 20 year compliance schedule. The TMDL requires the removal of greater than 90% of the dissolved metals in storm water flows in Chollas Creek. The Dischargers must achieve 80% of the reductions in 10 years (by October 22, 2018), and the remaining 20% of the reductions in the final 10 years of the compliance schedule (by October 22, 2028).

The Chollas Creek Dissolved Metals TMDL Implementation Plan (Implementation Plan) represents the Dischargers plan of action during the first 5 years of the 20-year compliance schedule and restoring beneficial uses of Chollas Creek. The goal of the Implementation Plan is to identify the most cost-effective combination of strategies for complying with the TMDL in preparation for increased efforts in subsequent years. Therefore, the Dischargers developed the Implementation Plan using an integrated, tiered and phased approach to realize three key benefits. First, by addressing other pollutants contributing to water quality problems (Diazinon, bacteria, and trash), in addition to dissolved metals in an integrated approach, the Implementation Plan is expected to yield long term cost-savings by reducing the need to retrofit water quality controls to address future TMDLs. Second, by prioritizing activities into "tiers" based on their anticipated effectiveness, the Implementation Plan allows for maximizing more cost effective source controls before implementing more costly treatment. Third, by phasing the implementation schedule, the Dischargers are using the first five-years as an assessment phase to optimize efforts via pilot projects prior to ramping up efforts in subsequent years.

FISCAL CONSIDERATIONS: The Storm Water Department would share expenses for water quality monitoring and reporting work via a Cost Share Agreement with a not to exceed value of \$364,434. The cost sharing formula used in the Cost Sharing Agreement follows the formula previously used in the Storm Water Copermittee's Memorandum of Understanding (MOU): 45% based on a jurisdiction's relative population, 45% based on a jurisdiction's relative land area, and a 10% flat fee. A breakdown of the terms is provided in the table below.

	City's Share	Other Agencies	Totals
FY10	\$240,001	\$69,433	\$309,434
FY11	\$39,782	\$15,218	\$55,000
Grand Totals:	\$279,783	\$84,651	\$364,434

As the contract lead under the Cost Share Agreement, the City would initially pay for all costs each fiscal year, and subsequently accept reimbursement for the other agencies' share of the expenses. The \$309,434 in costs for work to be completed in FY10 (the City's share of \$240,001, plus the other agencies' share of \$69,433), are included in the Storm Water Department's operating budget and would be funded under the Weston Solutions, Inc. 3rd Amendment (Adopted June 23, 2009, R-305002). Therefore, no Council authorization is required as part of this action to complete the FY10 work under the Cost Share Agreement.


The \$55,000 in costs for work to be completed in FY11 (the City's share of \$39,782, plus the other agencies' share of \$15,218), would be funded from the Storm Water Department's FY11 operating budget. Therefore, this action requests 1) authorization to expend \$55,000 for work to be completed in FY11, contingent upon Council approval of the FY11 Appropriations Ordinance, and 2) authorization to accept reimbursement of \$84,651 (the other agencies' FY10 share of \$69,433, plus the FY11 share of \$15,218, respectively).

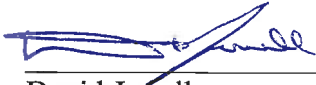
EQUAL OPPORTUNITY CONTRACTING INFORMATION (IF APPLICABLE): N/A

PREVIOUS COUNCIL and/or COMMITTEE ACTION: N/A

COMMUNITY PARTICIPATION and PUBLIC OUTREACH EFFORTS: The City of San Diego and the other responsible parties in the TMDL gathered input from community stakeholders at four public workshops, solicited comments on the Implementation Plan during two public review periods, and sought input and participation via emails and web postings.

KEY STAKEHOLDERS AND PROJECTED IMPACTS: Key Stakeholders: Chollas CREAC; Friends of 32nd Street Canyon; Friends of Famosa Slough; Ground Work – San Diego Chollas Creek; City of San Diego Community Planning Groups; City of San Diego Open Space Canyons Advisory Committee (OSAC); San Diego Canyon Lands; San Diego Coastkeeper; San Diego Unified School District; Sierra Club; Southern California Wetlands Recovery Project. Projected Impacts: the Implementation Plan is undergoing environmental review, and the Development Services Department has preliminarily determined that the Implementation Plan is consistent with Mitigated Negative Declaration (Project No. 134590) certified and adopted by Council in January 2008 (Res. No. 303352) as part of the approval of the City's Urban Runoff Management Plans, and an addendum to the Mitigated Negative Declaration will be prepared.


 Tony Heinrichs
 Storm Water Department Director


 David Jarrell
 Deputy Chief of Public Works

COST-SHARE AGREEMENT

Chollas Creek Hydrologic Unit No. 8.22 Chollas Creek Dissolved Metals Total Maximum Daily Load, Investigation Order No. R9-2004-0277 and Addendum No. 1 Implementation Monitoring

May 2009

This Cost Share Agreement (AGREEMENT) entered into by the County of San Diego (hereinafter called County), California Department of Transportation (hereinafter called Caltrans), United States Navy Commander, Navy Region Southwest (hereinafter called U.S. Navy), San Diego Unified Port District (hereinafter called Port of San Diego), and the incorporated cities of Lemon Grove, La Mesa, and San Diego, (hereinafter collectively called PARTIES and individually called PARTY), establishes the responsibilities of each PARTY with respect to conducting water quality monitoring in accordance with the Chollas Creek Dissolved Metals Total Maximum Daily Load (TMDL) Implementation Plan developed by the PARTIES to comply with Resolution No. R9-2007-0043, and in conformance with the requirements under Investigation Order No. R9-2004-0277 and Addendum No. 1, issued by the California Regional Water Quality Control Board, San Diego Region (hereinafter called SDRWQCB).

RECITALS

WHEREAS, the Clean Water Act (CWA) section 303(d) requires states to develop a list of waterbodies that do not or are not expected to meet water quality standards after implementing technology-based controls; and,

WHEREAS, the Chollas Creek has been listed by the State Water Resources Control Board (SWRCB) as a water quality limited segment for which TMDLs must be developed pursuant to section 303(d) in order to attain water quality objectives and restore the waterbody's beneficial uses; and,

WHEREAS, the SWRCB as a designee of the United States Environmental Protection Agency (USEPA) has delegated authority to the SDRWQCB for administration of the TMDLs within the boundaries of its region; and,

WHEREAS, the SDRWQCB adopted Resolution No. R9-2002-0123 approving an amendment to the Water Quality Control Plan for the San Diego Basin (Basin Plan) to incorporate a TMDL for Diazinon in the Chollas Creek Watershed; and,

WHEREAS, the SDRWQCB adopted Resolution No. R9-2007-0043 approving an amendment to the Water Quality Control Plan for the Basin Plan to incorporate TMDLs for dissolved copper, lead, and zinc in the Chollas Creek Watershed; and,

WHEREAS, the SDRWQCB adopted Investigation Order No. R9-2004-0277 and Addendum No. 1, attached as Exhibit 1 to this Agreement and incorporated herein by reference, and subsequent addenda, which directs the PARTIES to conduct monitoring and to furnish monitoring program reports to assess compliance with the TMDLs for Diazinon and dissolved copper, zinc, and lead; and,

WHEREAS, the SDRWQCB has determined that the responsible parties under Resolution No. R9-2002-0123, Resolution No. R9-2007-0043, and Investigation Order No. R9-2004-0277 are the County,

Caltrans, U.S. Navy, Port of San Diego, and the incorporated cities of Lemon Grove, La Mesa, and San Diego, as outlined in Exhibit 1; and,

WHEREAS, the PARTIES have agreed to work together to conduct the monitoring described in the Chollas Creek Metals TMDL Implementation Compliance Monitoring Plan (Exhibit 2) and the Chollas Creek TMDL Implementation Plan Watershed Special Studies Statement of Work (Exhibit 3); and,

WHEREAS, the PARTIES recognize that expenditures will be needed to complete the Chollas Creek Metals TMDL Implementation Compliance Monitoring Plan (Exhibit 2) and the Chollas Creek TMDL Implementation Plan Watershed Special Studies Statement of Work (Exhibit 3) at a cost not to exceed \$364,434 for Fiscal Year 2009-2010. The cost will be shared among the PARTIES as indicated in Section IV.A.; and,

WHEREAS, the monitoring described in Exhibit 2 is mandatory to support compliance with the requirements of Investigation Order No. R9-2004-0277 and Addendum No. 1, and requires the participation of all PARTIES; and,

WHEREAS, the special studies that address the pollution reduction goals of the Chollas Creek Dissolved Metals TMDL and benefit the Chollas Creek Watershed as described in Exhibit 3 are voluntary, and costs will be shared only among those PARTIES opting to participate; and,

WHEREAS, the PARTIES have agreed upon the scope of work and cost estimates described in Exhibits 2, 3, 4, and 5; and,

WHEREAS, the City of San Diego has agreed to lead the technical effort by providing project management and contract administration services for the PARTIES and has hired a mutually agreed upon consultant to perform the identified scope of work per the cost estimate described in Exhibits 4 and 5; and,

WHEREAS, the required compliance monitoring reports will be submitted to the Port of San Diego, the San Diego Bay Watershed Lead, as outlined in Investigation Order No. R9-2004-0277.

NOW, THEREFORE, the PARTIES incorporate the Recitals set forth above and mutually agree as follows:

- I. **PURPOSE:** This AGREEMENT is entered into for the purpose of outlining the responsibilities of the PARTIES and funding the implementation of monitoring described in Exhibit 2 and Exhibit 3.
- II. **TERM:** The term of this AGREEMENT commences on the date of the last signature of the duly authorized representatives of the PARTIES and shall run until January 31, 2011 as described in Exhibit 6, or until all of the tasks described in Exhibit 2 and Exhibit 3 are completed to the satisfaction of the PARTIES.
- III. **PARTY RESPONSIBILITIES AND PARTICIPATION:**
 - A. **RESPONSIBILITIES OF CONTRACT MONITORING AND TECHNICAL LEAD:** The City of San Diego is hereby designated the Contract Monitoring and Technical Lead. As such, the City of San Diego incurs the responsibility of overall project management, administration of consultant contracts, responsibility of coordinating overall monitoring work products such as the cost share agreement, and submittal of monitoring work products on behalf of the PARTIES as required in Investigation Order No. R9-2004-0277, and other administrative duties as agreed upon by the PARTIES.
 - B. **RESPONSIBILITIES OF ALL PARTIES:** Each PARTY agrees to be participatory in the development and implementation of the Chollas Creek Metals TMDL Implementation Compliance Monitoring Plan and will assign one (1) person to serve as the PARTY representative to participate in meetings, collaborate on developing strategies, making decisions, and reviewing work products and submittals. These responsibilities will also

apply to those PARTIES participating in the voluntary special studies described in Exhibit 3.

IV. FUNDING:

A. The cost of implementing the monitoring described in Exhibit 2 and Exhibit 3 for Fiscal Year 2009-2010 will not exceed \$364,434. The costs are shared as shown in the table below and are based on a formula of 45% land area, 45% population, and 10% equal division fee for each PARTY contributing to the Chollas Creek, as named in the Chollas Creek Dissolved Metals TMDL:

PARTY	Task 1 Costs	Task 2 Costs	Task 3 Costs	Task 4 Costs	Task 5 Costs	Task 6A Costs	Task 6B Costs	TOTAL COST-SHARE
City of San Diego	\$104,977	\$38,201	\$45,602	\$25,607	\$7,396	\$43,443	\$14,557	\$279,783
City of Lemon Grove	\$14,758	\$5,854	\$0	\$0	\$0	\$6,107	\$2,089	\$28,807
City of La Mesa	\$12,689	\$5,108	\$0	\$0	\$0	\$5,251	\$1,802	\$24,850
County of San Diego	\$2,514	\$0	\$1,478	\$1,036	\$240	\$1,040	\$394	\$6,703
U.S.Navy	\$2,814	\$0	\$0	\$0	\$0	\$1,164	\$0	\$3,978
Port of San Diego	\$2,493	\$0	\$1,469	\$1,030	\$238	\$1,031	\$391	\$6,652
Caltrans	\$5,194	\$2,422	\$2,691	\$0	\$436	\$2,150	\$767	\$13,661
Total	\$145,438	\$51,585	\$51,240	\$27,674	\$8,310	\$60,187	\$20,000	\$364,434

B. Each PARTY shall pay its share of expenses within 60 days of receipt of an invoice from the Contract Monitoring and Technical Lead. An invoice for the above TOTAL cost-share amount shall be sent to each PARTY no later than March 31, 2010. Funds collected and not expended at the end of the project shall be refunded to each PARTY.

V. NON-COMPLIANCE WITH AGREEMENT REQUIREMENTS: Any participant to this AGREEMENT found to be in non-compliance with the conditions of this AGREEMENT shall be solely liable for any lawfully assessed penalties resulting from such non-compliance. Failure to comply with AGREEMENT conditions within specified or agreed upon timelines shall constitute non-compliance with the AGREEMENT.

VI. AMENDMENTS TO THE AGREEMENT: This AGREEMENT may be amended only by consent of all the PARTIES. No amendment shall be effective unless it is in writing and signed by the duly authorized representatives of the PARTIES.

VII. GOVERNING LAW: This AGREEMENT shall be governed and construed in accordance with the laws of the State of California. If any provision or provisions shall be held to be invalid, illegal, or unenforceable, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired thereby. In addition, each PARTY agrees to comply with all federal, state and local laws and ordinances applicable to the work to be performed under the terms of this AGREEMENT.

- VIII. CONSENT AND BREACH NOT WAIVER:** No term or provision hereof shall be deemed waived and no breach excused, unless such waiver or consent shall be in writing and signed by the PARTIES to have waived or consented. Any consent by any PARTY to, or waiver of, a breach by the other, whether expressed or implied, shall not constitute a consent to, waiver of, or excuse for any other different or subsequent breach.
- IX. DISPUTES:** The PARTIES agree to mediate any dispute prior to filing suit or prosecuting suit against the other parties. In the event suit is brought upon this AGREEMENT to enforce its terms, each PARTY shall be responsible for their own attorneys' fees and costs.
- X. LEGAL RESPONSIBILITY:** Each PARTY to this AGREEMENT (1) shall retain its legal responsibility to comply with Investigation Order No. R9-2004-0277, and (2) shall pay all fines, penalties, and costs which may arise out of such PARTY's non-compliance with Investigation Order No. R9-2004-0277.
- XI. APPLICATION OF PRIOR AGREEMENTS:** This AGREEMENT constitutes the entire Agreement between the parties with respect to the subject matter; all prior agreements, representations, statements, negotiations, and undertakings are superseded hereby.
- XII. TERMINATION:** Termination of participation from this AGREEMENT by any PARTY shall require thirty (30) days written notice to all PARTIES prior to the effective date of termination. Termination of this agreement does not release any PARTY for obligations of Investigation Order No. R9-2004-0277, nor does it release the PARTY from their financial responsibilities as outlined in Section IV of this AGREEMENT. Upon termination, the terminating PARTY shall pay their cost share in full.
- XIII. ENCUMBRANCE:** By reason of constraints in California law and the California Constitution, Caltrans encumbers an amount not to exceed \$13,660.69 as its portion of the shared cost and no further funding will be available to address the Caltrans obligations assumed under this AGREEMENT unless this Section XIII is amended by Caltrans to reflect a new enhanced funding limit. Caltrans funds are subject to legislative appropriation and availability of funds.

- EXHIBIT 1: SDRWQCB, Investigation Order No. R9-2004-0277 and Addendum No. 1
- EXHIBIT 2: Chollas Creek Metals TMDL Implementation Compliance Monitoring Plan
- EXHIBIT 3: Chollas Creek TMDL Implementation Plan Watershed Special Studies Statement of Work
- EXHIBIT 4: Chollas Creek Metals TMDL Implementation Plan Monitoring Scope of Work and Cost Estimates
- EXHIBIT 5: Discharger Shared Costs Budget Chollas Creek Metals TMDL Implementation Plan
- EXHIBIT 6: Schedule for the Cost Share Agreement

COST SHARE AGREEMENT FOR CHOLLAS CREEK WATERSHED FOR IMPLEMENTATION OF THE
SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD ORDER NO. R9-2004-0277

IN WITNESS WHEREOF, the PARTIES have caused this AGREEMENT to be signed and executed the day and year first above written. This AGREEMENT may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This AGREEMENT shall become effective on the date of the last signature of the duly authorized representatives of the PARTIES.

IN WITNESS THEREOF, this AGREEMENT is executed as follows:

For the City of San Diego

Date: _____

Signature

Printed Name

Title

Approved to as Form
Deputy City Attorney

Date: _____

Signature

Printed Name

Title

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

INVESTIGATION ORDER NO. R9-2004-0277 (W.C. 13383)

**CALIFORNIA DEPARTMENT OF TRANSPORTATION AND SAN DIEGO MUNICIPAL
SEPARATE STORM SEWER SYSTEM COPERMITTEES RESPONSIBLE FOR THE
DISCHARGE OF DIAZINON INTO
THE CHOLLAS CREEK WATERSHED,
SAN DIEGO, CALIFORNIA**

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board) finds:

1. **Parties Responsible for the Discharge:** MS4s convey urban storm water containing diazinon and metals into Chollas Creek waters. California Department of Transportation (CalTrans)¹ and the cities of San Diego, La Mesa and Lemon Grove, the County of San Diego, and the San Diego Unified Port District (hereinafter Chollas Creek Watershed Copermittees)² are accountable for these discharges under the terms and conditions of their NPDES Storm Water Permits. Caltrans and the Chollas Creek Watershed Copermittees will also be accountable for achieving the compliance with the diazinon waste load reductions in the Total Maximum Daily Load (TMDL)³ when the waste load reductions are incorporated into their NPDES permits.
2. **Discharge of Waste:** During TMDL development, numerous user groups were found to use diazinon in the Chollas Creek watershed. Most applications are thought to occur in and around residential, commercial and industrial settings, which led to the transport of diazinon to Chollas Creek via the storm water conveyance system.

Metals, such as copper, lead, and zinc, enter surface waters from point and nonpoint sources. Point sources typically discharge at a specific location from pipes, outfalls, and conveyance channels from municipal wastewater treatment plants, industrial waste treatment facilities, and storm water discharges. Nonpoint sources are diffuse sources that reach receiving waters from different routes of entry and originate from multiple land uses. Essentially all sources (point and nonpoint) watershed are discharged through the Municipal Separate Storm Sewer Systems (MS4) into Chollas Creek waters.

3. **Condition of Pollution:** Chollas Creek is located in the Chollas hydrologic sub area within the San Diego Mesa hydrologic area of the Pueblo San Diego hydrologic unit. This sub area is designated with Contact Water Recreation, Non-Contact Water Recreation, Warm

¹ Order No. 99-06-DWQ, NPDES No. CAS000003, 'National Pollutant Discharge Elimination System (NPDES) Permit Statewide Storm Water Permit and Waste Discharge Requirements (WDRs) for the State of California, Department of Transportation (CalTrans)'

² Order No. 2001-01, NPDES No CAS0108758, 'Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer System (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, and the San Diego Unified Port District.'

³ Resolution No. R9-2002-0123, Chollas Creek Diazinon Total Maximum Daily Load, 14 August 2002.

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Freshwater Habitat and Wildlife Habitat Beneficial Uses as found in the Water Quality Control Plan for the San Diego Basin.⁴

- a. The pesticide diazinon is present in Chollas Creek in concentrations that exceed the California Department of Fish and Game Water Quality Criteria for the protection of freshwater aquatic organisms.³ Exceedance of these criteria indicates violation of the Toxicity and Pesticide Water Quality Objectives of the Water Quality Control Plan for the San Diego Basin (9) (Basin Plan).
- b. Storm water concentrations of dissolved copper, lead and zinc (metals) in Chollas Creek frequently exceed California Toxics Rule (CTR)⁵ criteria since 1994.⁶ These exceedances demonstrate violation of the Toxicity and Pesticide Water Quality Objectives of the Basin Plan.
- c. Diazinon and the metals copper and zinc were identified to cause toxicity to freshwater organisms in laboratory tests conducted as part of a Toxicity Identification Evaluation (TIE).³

These circumstances demonstrate that a condition of pollution exists in Chollas Creek due to diazinon, copper, zinc and lead. The condition of pollution led to the development of a Total Maximum Daily Load (TMDL) for diazinon in Chollas Creek in 2002. The TMDL was amended to the Basin Plan upon U.S. Environmental Protection Agency (USEPA) approval in November 2003. The Regional Board is preparing a Basin Plan amendment to establish the TMDL for dissolved metals in Chollas Creek.

4. **Need for Status and Monitoring Program Reports:** Several implementation elements of the TMDL (i.e. use of legal authority, Integrated Pest Management Workshop, Diazinon Toxicity Control Plan) must be completed to achieve the adopted diazinon waste load reductions (an approximately 90 percent reduction in creek diazinon concentrations). Status reports on the implementation of these elements are necessary to assess discharger compliance with the TMDL and the resulting reductions of diazinon loads in Chollas Creek.

Although non-agricultural uses of diazinon are being phased out, monitoring concentrations of diazinon in the creek is still necessary to ensure compliance with the TMDL load allocations, protection of the creek's beneficial uses and to continue to properly assess the condition of pollution due to diazinon in Chollas Creek. Likewise, monitoring concentrations of metals in Chollas Creek is needed to continue to properly assess the condition of pollution due to metals. Monitoring of diazinon and metals also is necessary to assess the condition of toxicity that led to the original Clean Water Act Section 303(d) listing.² Therefore, comprehensive reports detailing monitoring program methods and results are needed.

5. **Regulatory Authority and Necessity:** California Water Code Section 13383 authorizes the Regional Board to require monitoring and reporting for any person discharging pollutants into waters of the United States. The technical and monitoring information obtained from

⁴ Regional Board. 1994. Water Quality control plan for the San Diego basin (9).

⁵ Title 40 Code of Federal Regulations section 131.38

⁶ Storm water monitoring results as contained in Regional Board file 79-0048.02.

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the monitoring reports and status reports will allow the Regional Board to assess the condition of pollution due to dissolved metals and diazinon in the creek and the overall efficacy of the Diazinon TMDL implementation plan. These actions will result in the eventual restoration and protection of the water quality necessary to support the designated beneficial uses of the creek. The associated costs bear a reasonable relationship to the need for the actions, specifically the protection of water quality and beneficial uses in Chollas Creek.

6. **California Environmental Quality Act:** This action is an order to enforce the laws and regulations administered by the Regional Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act pursuant to section 15308 of the California Public Resources Code.

IT IS HEREBY ORDERED, pursuant to Water Code section 13383, that the dischargers shall furnish the following reports required by the Regional Board in its investigation of the quality of waters of the State within the area of the discharge described in the above findings:

1. Reports on the results of monitoring, including a time schedule, showing whether or not the dischargers are complying with the Chollas Creek diazinon TMDL. At a minimum, the reports shall contain the following:
 - a. Concentrations of water column diazinon measured during 3 storm events annually.
 - i) Storm water samples shall be collected using a flow-weighted composite sampling strategy during the wet-weather season in a manner identical (except for station locations which are addressed below) to the current municipal storm water-monitoring program.³ In Order No. 2001-01, the municipal storm water wet-weather season is defined as October 1 through April 30 of each year. Sampling shall be conducted during the first two (2) storm events of the wet- weather season which meet the USEPA's criteria as described in Title 40 CFR section 122.21(g)(7).⁷ For the third storm event, sampling is to take place during the first event after February 1 that meets the USEPA's criteria. The key components of USEPA's storm event criteria [FCR section 122.21 (g)(7)] are summarized below.
 - A rainfall of at least one-tenth (0.1) inch in the drainage area.
 - No storm event in excess of one-tenth (0.1) inch in the drainage for at least seventy-two (72) hours prior to the sampled storm event.
 - A storm event within plus or minus fifty (50) percent of the average or median storm volume and duration for the region.
 - ii) The analytical method shall achieve the diazinon reporting limit of 0.05 µg/L. The monitoring program shall use the USEPA analytical chemistry method for diazinon (e.g., USEPA method 8141A). Alternatively, an equivalent test method may be used in conjunction with the USEPA analytical chemistry method. The diazinon analytical chemistry method USEPA 8141A has a detection limit of 0.20 µg/L, so

⁷ For the purpose of the Monitoring and Reporting Program the federal requirement that there be a one (1) month separation between storm event samples is not required in this order.

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when using this method, extracting diazinon from a sufficient volume of sample to reach the 0.05 µg/L reporting limit is necessary.

If an equivalent test method (ELISA) is used for diazinon testing of ambient water in Chollas Creek, an external standard shall be quantified during every field survey. Split samples for quality assurance must document acceptable accuracy and precision of the equivalent test method. At least 10 percent of the samples measured with ELISA kits are to be measured with the USEPA analytical chemistry method for quality assurance comparisons.

- iii) Samples shall be collected for water column diazinon concentrations on the Chollas Creek south fork at the former Department of Pesticide Regulation (DPR) sample station 2 and at the existing Municipal Storm Water Program sample site SD-8 (1) on the north fork.
- b. Concentrations of diazinon in sediment shall be reported for at least three locations in Chollas Creek.
- i) The samples shall be analyzed using USEPA method 8141A at a detection level of 20 µg/kg.
- ii) One station shall be located in each of the north and south forks, upstream of the confluence of the two forks. The third station shall be located near the mouth of the creek, but upstream of tidal influences.
- c. Concentrations of total and dissolved copper, lead and zinc and hardness (as calcium carbonate) collected during three storm events annually.
- i) Sampling shall be as described for water column diazinon above.
- ii) The analytical method and reporting limit shall be as in the following table:

Constituent	Method	Reporting Limit
Total and Dissolved Copper	USEPA 200.8	5.0 µg/L
Total and Dissolved Lead	USEPA 200.8	0.5 µg/L
Total and Dissolved Zinc	USEPA 200.8	20.0 µg/L
Hardness (as CaCO ₃)	Standard Method 2340 B	1 mg/L

- d. The monitoring and reporting program shall include, at a minimum, one (1) 96-hour acute and one (1) 7-day chronic toxicity bioassay of ambient water in Chollas Creek using the water flea, *Ceriodaphnia dubia* during each of three (3) storm events at the mass loading station SD8 (1) and the DPR 2 sites per year.
- i) The method to be used in the chronic toxicity testing shall be "Survival and Reproduction Test Method 1002.0, Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, USEPA/600/4-91/002"¹ for *Ceriodaphnia dubia*.

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- ii) The methods to be used in the acute toxicity testing will be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA/600/4-90/027F."¹
- iii) The results of ambient chronic and acute water toxicity testing shall be reported as shown in the table below.

Description of Reporting Values	96-hour Acute	7-day Chronic
Mean % survival for control	Yes	Yes
% Survival in 100% concentration	Yes	Yes
Lethal concentration 50% (LC ₅₀)	Yes	Yes
No-Observed-Effect-Concentration (NOEC reproduction) –	Not Applicable	Yes
Lowest-Observed-Effect-Concentration (LOEC) -	Yes	Yes
Toxic-Unit for acute effects (TU _a) – The TU _a equals 100/NOEC _{survival}	Yes	Not Applicable
Toxic-Unit for chronic effects (TU _c) – The duration of exposure (in the original, 100% sample) that causes mortality in fifty percent (50%) of the test population.	Not Applicable	Yes
TU _c sublethal (reproduction) The TU _c equals 100/NOEC reproduction/growth	Not Applicable	Yes
Lethal-Time for 50% mortality (LT ₅₀)	Yes	Yes

- e. All sampling for metals, hardness and toxicity shall be conducted at the same times and at the same locations as described for water column diazinon above.
- f. All field and laboratory handling shall be conducted using "clean techniques." The monitoring program shall develop and implement a QA/QC plan for field and laboratory operations.
- i) The QA/QC plan for field operations shall cover the following, at a minimum:
- Quality assurance objectives;
 - Sample container preparation, labeling and storage;
 - Chain-of-custody tracking;
 - Field setup;
 - Sampler equipment check and setup;
 - Sample collection;
 - Use of field blanks to assess field contamination;

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- Use of field duplicate samples;
 - Transportation to the laboratory;
 - Training of field personnel; and
 - Evaluation, and enhancement if needed of the QA/QC plan.
- ii) The QA/QC plan for laboratory operations shall cover the following, at a minimum:
- Quality assurance objectives;
 - Organization of laboratory personnel, their education, experience, and duties;
 - Sample procedures;
 - Sample custody;
 - Calibration procedures and frequency;
 - Analytical procedures;
 - Data reduction, validation, and reporting;
 - Internal quality control procedures;
 - Performance and system audits;
 - Preventive maintenance;
 - Assessment of accuracy and precision;
 - Correction actions; and a
 - Quality assurance report.

Furthermore, the QA/QC plan shall meet the standards as set forth in the Quality Assurance Project Plan (QAPP) for the State of California's Surface Water Ambient Monitoring Program (SWAMP). The SWAMP QAPP can be found on the world wide web at: <http://www.swrcb.ca.gov/swamp/index.html>. An adequate QA/QC plan shall be submitted to the Regional Board 30 days before commencement of initial monitoring activities.

- g. Annual reports shall cover the period of July 1 through June 30. The reports shall be submitted to the Regional Board by January 31 of the following year and shall be incorporated within the annual receiving water monitoring reports required in Table 6, Item 28, page 51 of NPDES Order No. 2001-01.
- h. The first monitoring report shall be due in January 2006. Reporting shall continue on an annual basis until beneficial uses impaired by dissolved metals and diazinon in Chollas Creek have been restored and maintained.
2. Reports on the implementation of other elements necessary to assess and reduce the continued toxicity of diazinon in Chollas Creek. The reports shall include the following:
- a. Information on how the Copermittees have implemented their legal authority to remedy the condition of pollution. This information shall include a description of plans and schedules for enforcing existing local ordinances, and the adoption of new legal authorities, as needed to ensure Copermittee compliance with the waste load allocations specified in the Basin Plan.
 - b. Information on the efficacy and date of the Integrated Pest Management Workshop conducted in the Chollas Creek Watershed.

Investigation Order No. R9-2004-0277

- c. Information on the implementation and efficacy of a Diazinon Toxicity Control Plan. The plan's goal shall be to promote Copermittee compliance with the waste load allocations specified in the Basin Plan. The Plan shall consist of pollution prevention and source control best management practices designed to reduce the discharge of diazinon to Chollas Creek. The "pesticide component" of the education program currently under development by the Copermittees pursuant to NPDES Order No. 2001-01 can serve as the Diazinon Toxicity Control Plan required by the TMDL.
 - d. Information on the implementation and efficacy of a Diazinon Public Outreach / Education Program. The program shall be designed to reduce the discharge of diazinon in the Chollas Creek watershed. By reducing the discharge of diazinon, the program will promote Copermittee compliance with the waste load allocations specified in the TMDL. The program shall contain the components described in Attachment M of the Chollas Creek Diazinon TMDL, or equivalent component. The Program shall also contain an evaluation plan for determining the efficacy of the Public Outreach / Education Program. The Diazinon Public Outreach / Education Program may be incorporated into the Diazinon Toxicity Control Plan.
 - e. This report shall be incorporated in the annual Watershed Specific Urban Runoff Management Plan due each January.
4. The reports required by this order must meet all the requirements of Investigation Order No. R9-2004-0277. All work must be done under the direct supervision of the professional who signs the document. By signing these documents the professional takes full responsibility as the responsible professional in charge of work and for the content of the documents. If preparation of the reports involves the professional practice of geology or civil engineering as specified in Business and Professions Code sections 6703 and 7805, the reports shall also be signed by the registered professional in responsible charge of geologic or civil engineering work.
 5. The reports shall be submitted with a transmittal letter signed by an officer or agent of the Copermittees. The transmittal letter shall include a statement by the officer of the Copermittees stating that, under penalty of perjury, to the best of the signer's knowledge the document is true, complete, and correct. All documents requiring signature shall be signed per the requirements of Order No. 2001-01, Attachment C, Section B.9.a (#3), as follows:

For a municipality, State, Federal or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (a) the chief executive officer of the agency; or (b) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of the USEPA).

The submitted reports shall include the following signed certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those

Investigation Order No. R9-2004-0277

persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

6. Pursuant to Water Code section 13383, the Regional Board may inspect the site to ascertain whether the purposes of this order are being met. The inspection shall be made with the consent of the owner or possessor of the area, or if the consent is withheld, with a warrant duly issued pursuant to the procedure set forth in Title 13 (commencing with Section 1822.50) of Part 3 of the Code of Civil Procedure.

Ordered by:

/original signed by/
John H. Robertus
Executive Officer

Date Issued: 13 August 2004

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

ADDENDUM NO. 1

TO INVESTIGATION ORDER NO. R9-2004-0277

**CALIFORNIA DEPARTMENT OF TRANSPORTATION AND SAN DIEGO MUNICIPAL
SEPARATE STORM SEWER SYSTEM COPERMITTEES RESPONSIBLE FOR THE
DISCHARGE OF DIAZINON INTO THE CHOLLAS CREEK WATERSHED,
SAN DIEGO, CALIFORNIA**

The California Regional Water Quality Control Board, San Diego Region finds that:

1. The table in directive 1.d.iii of Investigation Order No. R9-2004-0277 contains errors and omissions which need to be corrected. Some of the reporting values in the table lack informative descriptions, and some descriptions are in error.
2. The Toxic Units for acute effects equation [$TU_a = 100 / 96\text{-hr LC}_{50}$] in directive 1.d.iii cannot be used to calculate toxicity when there is a greater than 50 percent survival of the test species in a 100 percent test solution. In this situation, where survival of test species is between 50 and 99 percent, the following TU_a equation is appropriate:

$$TU_a = \frac{\log(100 - S)}{1.7}$$

where S = percentage survival in 100 percent test solution.
If $S > 99$, TU_a shall be reported as zero.

IT IS HEREBY ORDERED, pursuant to section 13383 of the Water Code that:

1. Directive 1.d.iii of Investigative Order No. R9-2004-0277 is replaced by the following:

The results of ambient chronic and acute water toxicity testing shall be reported as shown in the table below.

Description of Reporting Values	96-hour Acute	7-day Chronic
Mean % survival for control – the mean percent survival of the test organism in the control solution.	Yes	Yes
% Survival in 100% concentration – the percent survival of the test organism in 100% test solution.	Yes	Yes

Description of Reporting Values	96-hour Acute	7-day Chronic
Lethal concentration 50% (LC ₅₀) – the toxicant concentration that would cause death in 50% of the test population.	Yes	Yes
No-Observed-Effect-Concentration(NOEC) – the highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable effect on survival (NOEC _{survival}); and no observable effect on growth and reproduction (NOEC _{growth/reproduction}) of the test population. This would mean that there is no significant difference between the test solution and the control, as determined by hypothesis testing.	Not Applicable	Yes
Lowest-Observed-Effect-Concentration (LOEC) – the lowest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, which causes adverse effects on the test organisms. The LOEC _{survival} is the lowest toxicant concentration that causes adverse effects on survival; and the LOEC _{growth/reproduction} is the lowest toxicant concentration that causes effects on growth and reproduction. This would mean that there is no significant difference between the test solution and the control, as determined by hypothesis testing.	Yes	Yes
<p>Toxic-Unit for acute effects (TU_a) – equals the reciprocal of the water sample concentration that causes 50% mortality to test organisms by the end of the acute exposure period.</p> $TU_a = \frac{100}{96\text{-hr } LC_{50}}$ <p>When it is not possible to measure the 96-hour LC 50 due to greater than 50% survival of the test species in 100% test solution, the toxicity concentration shall be calculated by the expression:</p> $TU_a = \frac{\log(100 - S)}{1.7}$ <p>where: S = percentage survival in 100% test solution. If S > 99, TU_a shall be reported as zero.</p>	Yes	Not Applicable

Description of Reporting Values	96-hour Acute	7-day Chronic
Toxic-Unit for chronic effects (TU _c) – the TU _c equals the reciprocal of the water sample concentration that causes no observable effect to organisms by the end of the chronic exposure period. $TU_c = \frac{100}{NOEC}$	Not Applicable	Yes
TU _c sublethal (growth and reproduction) – The TU _c sublethal equals 100/NOEC _{growth/reproduction} . A TU _c sublethal value of 1 indicates that no toxicity was observed.	Not Applicable	Yes
Lethal-Time for 50% mortality (LT ₅₀) – The duration of exposure in the original 100% test solution that causes mortality in 50% of the test population.	Yes	Yes

2. All directives, other than directive 1.d.iii, of Investigation Order No. R9-2004-0277 remain unchanged and in effect.

Original Signed by

JOHN. H. ROBERTUS
Executive Officer

Date issued: December 8, 2006

Chollas Creek Metals TMDL Implementation Compliance Monitoring Plan

**Prepared For:
State Water Resources Control Board**

In Coordination With:
City of Lemon Grove
City of La Mesa
City of San Diego
County of San Diego
Port of San Diego
California Dept. of Transportation
United States Navy

May 8, 2009



Chollas Creek Metals TMDL Implementation Compliance Monitoring Plan

**Prepared For:
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**City of Lemon Grove
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County of San Diego
Port of San Diego
California Dept. of Transportation
United States Navy**

Prepared By:

**Weston Solutions, Inc.
2433 Impala Drive
Carlsbad, California 92010**

May 8, 2009

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- 2 – Chain-of-Custody Form

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1.0 INTRODUCTION

This Chollas Creek Dissolved Metals Total Maximum Daily Load (TMDL) Implementation Monitoring Plan (Monitoring Plan) describes monitoring that will be used to assess Chollas Creek water quality for the purpose of developing Best Management Practices (BMPs) and determining compliance with TMDL criteria. This Monitoring Plan was specifically prepared in response to Resolution No. R9-2007-0043 in which the San Diego Regional Water Quality Control Board (Regional Board) incorporated the dissolved metals TMDLs into the *Water Quality Control Plan for the San Diego Region* (Basin Plan). The Office of Administrative Law reviewed and approved the metals TMDL on October 22, 2008. The scope of this Monitoring Plan is to perform long-term water quality monitoring within the Chollas Creek Watershed. Results from this monitoring will be useful in the identification, reduction, and elimination of sources of dissolved copper, lead, zinc, Diazinon and indicator bacteria. The purpose of this Monitoring Plan is to evaluate whether Chollas Creek receiving waters are meeting the water quality targets.

1.1.1 Compliance Schedule

The compliance schedule and interim goals for achieving the dissolved metals wasteload reductions within the Chollas Creek Watershed are outlined below (Table 1-1). Resolution No. R9-2007-0043 states “Full implementation of the TMDLs for dissolved copper, lead, and zinc shall be completed within 20 years from the effective date of the Basin Plan amendment.” The compliance schedule for implementing the wasteload reductions required under these TMDLs is structured in a phased manner, with an 80 percent reduction in allowable exceedances required within 10 years, and a 100 percent reduction of allowable exceedances required within 20 years. It should be noted that the 20-year compliance schedule is contingent upon Dischargers¹ implementing integrated controls to achieve required copper, lead, zinc, indicator bacteria, Diazinon, and trash reductions.

Table 1-1: Required Waste Load Allocation for the Chollas Creek Dissolved Metals TMDL

Allowable Exceedance of the Wasteload Allocations for Metals (allowable percentage above)			
Compliance Year	Copper	Lead	Zinc
1	100%	100%	100%
10	20%	20%	20%
20	0%	0%	0%

This schedule requires regulated Dischargers to implement BMPs to reduce loads of copper, lead, zinc such that all necessary metals load reductions are met within 20 years and other priority water quality problems such as Diazinon, indicator bacteria, and trash are addressed through integrated projects. During the initial 10 years, Dischargers are expected to develop an implementation plan to identify sources and develop BMPs to eliminate sources.

¹ The Chollas Creek dischargers are Caltrans, the cities of San Diego, Lemon Grove, and La Mesa, San Diego County, the San Diego Unified Port District, and the U.S. Navy.

1.2 TMDL Implementation Plan

The Chollas Creek Dissolved Metals TMDL Implementation Plan (Implementation Plan) represents the Discharger's implementation strategy for conducting watershed activities within Chollas Creek Watershed. The Implementation Plan uses an iterative and adaptive strategy for identifying, planning, implementing, and assessing BMPs over the 20 year compliance schedule. A key component of the Implementation Plan is the Watershed Activity Prioritization. The Chollas Creek Watershed, and its sub-watersheds, were assessed in terms of specific contaminants in order to focus implementation efforts in areas with the greatest water quality concerns or priority water quality problems. Based on this analysis, the Chollas Creek Watershed was separated into five distinct priority sectors (Figure 1-1).

The proposed monitoring plan will use these priority sectors to assess water quality and identify sources of Constituents of Concern (COCs) throughout different regions of the Chollas Creek Watershed. Sector 1, which includes the mouth of Chollas Creek, is designated as the highest priority within the watershed and includes the historic monitoring stations SD8(1) and DPR2. Stations SD8(1) and DPR2 are located at the base of the north and south forks of Chollas Creek, respectively and will act as compliance points for both the Diazinon and the Dissolved Metals TMDLs. In addition to the compliance monitoring described in this monitoring plan, special studies may be conducted outside of this program by each jurisdiction to assess BMPs or to identify sources of pollutants.

1.3 Land Use

The Chollas Creek Watershed is divided into two main drainage areas separated by the northern and southern forks of Chollas Creek. Approximately 8,794 acres drain to station SD8(1), located at the base of the north fork. Approximately 7,575 acres drain to station DPR2 at the base of the south fork. Land use within the Chollas Creek Watershed is comprised of residential (48%), roadways and utilities (27%), freeways (5%), commercial (5%), and industrial use (2%) (Figure 1-2). The majority of the remaining land use within the watershed (18%) is characterized as open space (SANDAG, 2007).

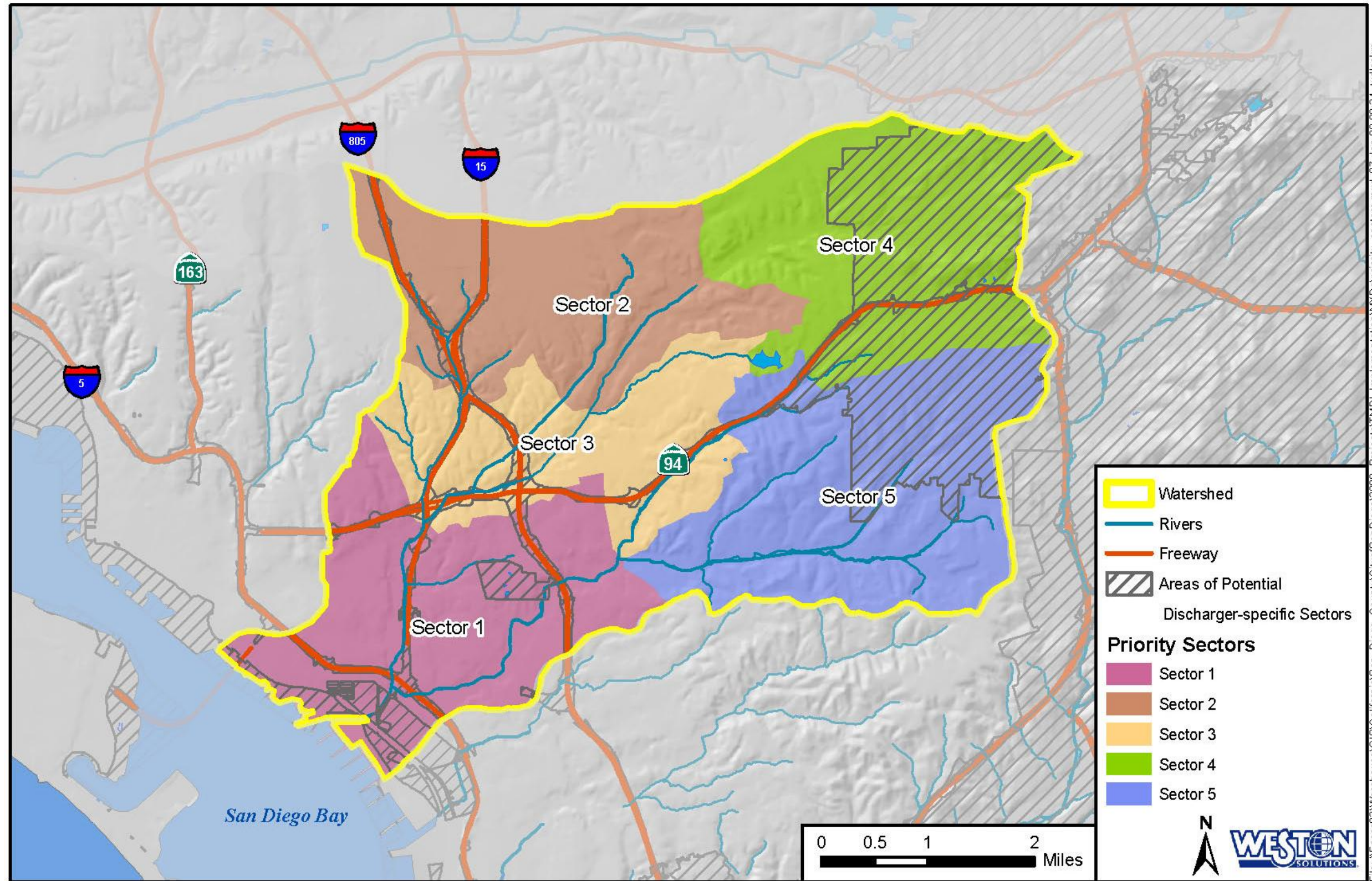


Figure 1-1. Priority Sectors within the Chollas Creek Watershed

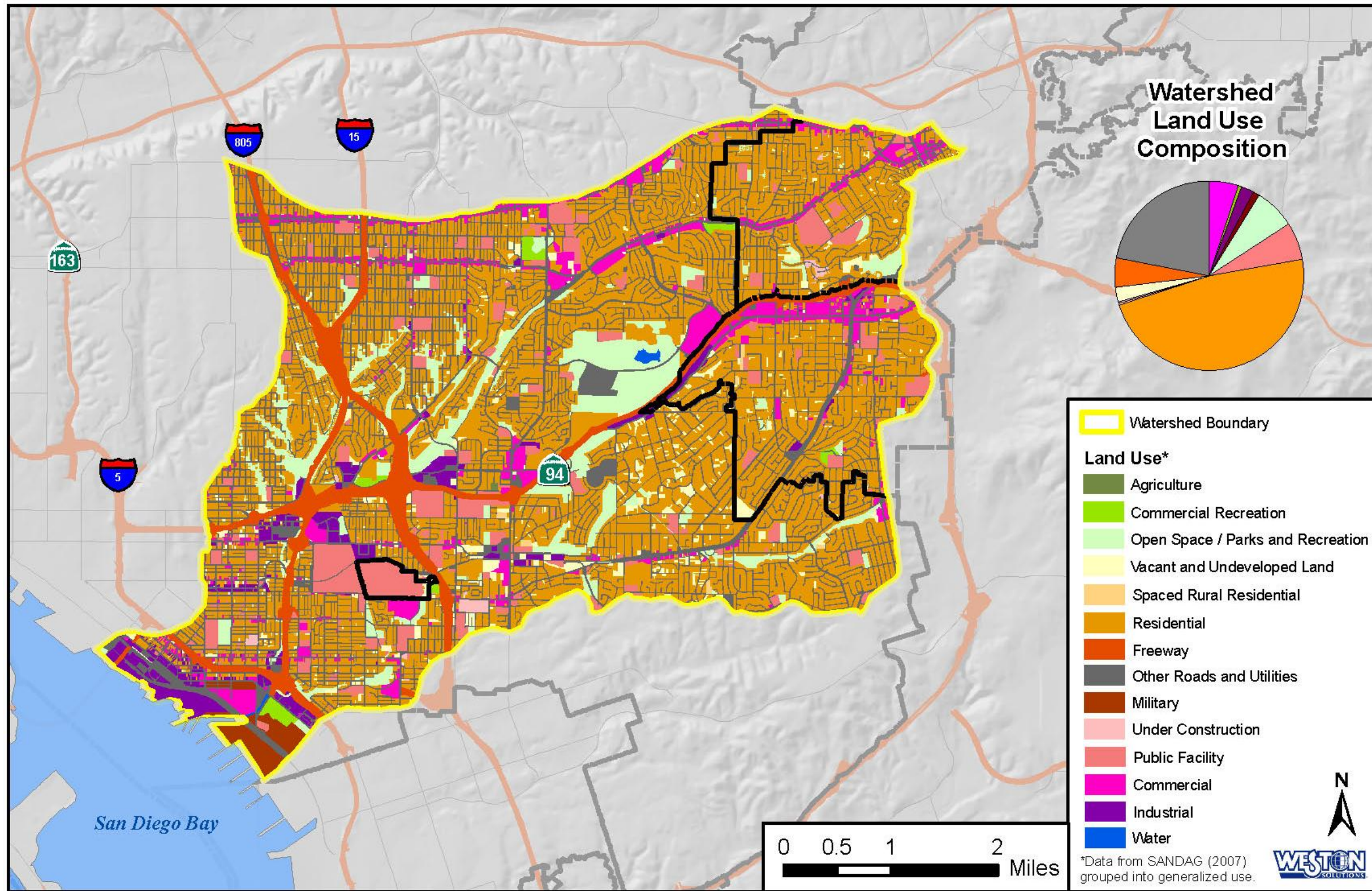


Figure 1-2. Land Use within the Chollas Creek Watershed

2.0 MONITORING PURPOSE

The purpose for conducting water quality monitoring within this watershed is to demonstrate compliance with Regional Board Resolution No. R9-2007-043. This resolution adopted an amendment to the Water Quality Control Plan for the San Diego Basin (Basin Plan) to incorporate TMDLs for dissolved copper, lead, and zinc in the Chollas Creek Watershed. This monitoring plan covers the monitoring requirements for dissolved metals, Diazinon, and toxicity to *Ceriodaphnia dubia* in compliance with Order No. R9-2004-0277. Additionally, PAHs, PCBs, and Chlordane will be analyzed in accordance with Order No. R9-2007-0001, Fact Sheet, Page 104, Section 2.A.1.h.

The Chollas Creek Watershed is currently listed by the Basin Plan as having the following beneficial uses: REC-2 (supports Non-Contact Water Recreation), WARM (supports Warm Freshwater Habitat) and WILD (supports Wildlife Habitat), and the potential to support the REC-1 beneficial use (Contact Water Recreation). The 2006 Clean Water Act (CWA) Section 303(d) list identifies dissolved copper, lead, and zinc as pollutants within the Chollas Creek Watershed as well as indicator bacteria. Both dissolved metals and pesticides have been linked to toxicity in freshwater invertebrates in the Chollas Creek Watershed.

Historical water quality monitoring data has shown that the pesticide Diazinon exceeded water quality standards in most of the region's watersheds, including Chollas Creek, until recent years. While Diazinon was previously identified as the primary agent associated with pesticide pollution in the San Diego region, Diazinon was phased out of manufacturing and has not been available for retail sale since December 2004. As a result, Diazinon concentrations have decreased and are infrequently measured above the TMDL chronic waste load allocation over the past three years of monitoring as site SD8(1). Additionally, toxicity to *Ceriodaphnia dubia* has also markedly decreased and was strongly correlated to the Diazinon concentrations above the TMDL acute waste load allocation.

3.0 WATER QUALITY OBJECTIVE CRITERIA

Diazinon TMDL

In 1996, the Chollas Creek Watershed was placed on the 303(d) list for metals and toxicity. The Southern California Coastal Water Research project (SCCWRP) used the Toxicity Identification Evaluation procedure (TIE) to characterize storm water quality in the Chollas Creek Watershed. According to the TIE study, organophosphate pesticides and trace metals present in storm water runoff caused the toxicity to *Ceriodaphnia dubia*. The Regional Board used this data to develop a TMDL for Diazinon, which was adopted on August 14, 2002 (Resolution No. R9-2002-0123). Non-agricultural (commercial) use of Diazinon was phased out and fully banned in December 2005. To ensure compliance with the TMDL and quantitatively assess changes in pesticide use, the Regional Board required the water quality to be monitored for organophosphate pesticides at two locations in the Chollas Creek Watershed (Order No. R9-2004-0277). The two compliance locations are SD8(1) and DPR2. Waste load allocations (WLA) for acute and chronic Diazinon exposure durations are provided in Table 3-1.

Table 3-1. Acute and Chronic Diazinon Waste Load Allocations.

Exposure Duration	Numeric Targets	Margin of Safety	Waste Load and Load Allocations
Acute	0.08 µg/L	0.008 µg/L	0.072 µg/L
Chronic	0.05 µg/L	0.005 µg/L	0.045 µg/L

Metals TMDL

Order No. R9-2004-0277 also required the metals concentrations of creek water to be monitored. Total and dissolved copper and zinc concentrations have often been detected above the water quality objectives based on the California Toxics Rule (CTR). Lead concentrations have also been detected above the CTR consistently, but less frequently than copper or zinc. In 2007, the Regional Board adopted a TMDL for dissolved copper, lead, and zinc in the Chollas Creek Watershed (Resolution No. R9-2007-0043). The WLA defined in the TMDL requires the water quality in the Chollas Creek Watershed to be, at most 90 percent of the CTR Criteria Continuous Concentration (CCC) and Criteria Maximum Concentration (CMC) (Table 3-2). The remaining 10 percent was explicitly set aside as a margin of safety. The CCC and CMC were selected as the WLAs because they do not vary spatially and they would achieve the narrative water quality objectives for toxicity (for copper, lead, and zinc in the water column). Further analysis and additional justification for these targets are provided in the *Total Maximum Daily Loads for Dissolved Copper, Lead and Zinc in Chollas Creek, Tributary to San Diego Bay*.

Table 3-2. Waste Load Allocations for Dissolved Metals in the Chollas Creek Watershed.

Metal	Target for Acute Conditions: Criteria Maximum Concentration	Target for Chronic Conditions: Criteria Continuous Concentration
Copper	$(0.9) * (0.96) * \{e^{[0.9422 * \ln(\text{hardness}) - 1.700]}\}$	$(0.9) * (0.96) * \{e^{[0.8545 * \ln(\text{hardness}) - 1.702]}\}$
Lead	$(0.9) * [1.46203 - 0.145712 * \ln(\text{hardness})] * \{e^{[1.273 * \ln(\text{hardness}) - 1.460]}\}$	$(0.9) * [1.46203 - 0.145712 * \ln(\text{hardness})] * \{e^{\{1.273 * \ln(\text{hardness})\} - 4.705}\}$
Zinc	$(0.9) * (0.978) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\}$	$(0.9) * (0.986) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\}$

Hardness is expressed as milligrams per liter.

Calculated concentrations should have two significant figures [40 CFR 131.38(b)(2)].

The natural log and exponential functions are represented as “ln” and “e,” respectively.

4.0 MONITORING APPROACH AND SAMPLING METHODS

The approach and sampling methods to be used for conducting this TMDL compliance monitoring program is presented in this section. The approach focuses on monitoring at compliance stations.

4.1 Compliance Monitoring Station Approach and Site Description

Station SD8(1) is located at the end of Durant Street near 33rd St. in the north fork of Chollas Creek (Table 4-1, Figure 4-1 and Figure 4-3). Interstate 15 parallels the creek directly to the east and Imperial Avenue crosses the creek approximately 750 ft upstream of the sampling site. At this location, Chollas Creek is an improved channel consisting of concrete side berms and a concrete bottom.

Station DPR2 is located at 38th Street and Alpha St. in the south fork of Chollas Creeks (Table 4-1, Figure 4-2, and Figure 4-3). National Avenue, a major east-west arterial is located approximately 0.25 mi to the north and Interstate 5 is located approximately 0.25 mi to the south. This station is approximately 0.75 mi upstream from the confluence of the main stem and southern stems of Chollas Creek. It is above the tidally influence area from San Diego Bay. At this location, Chollas Creek is an improved channel consisting of concrete side berms and earthen bottom.

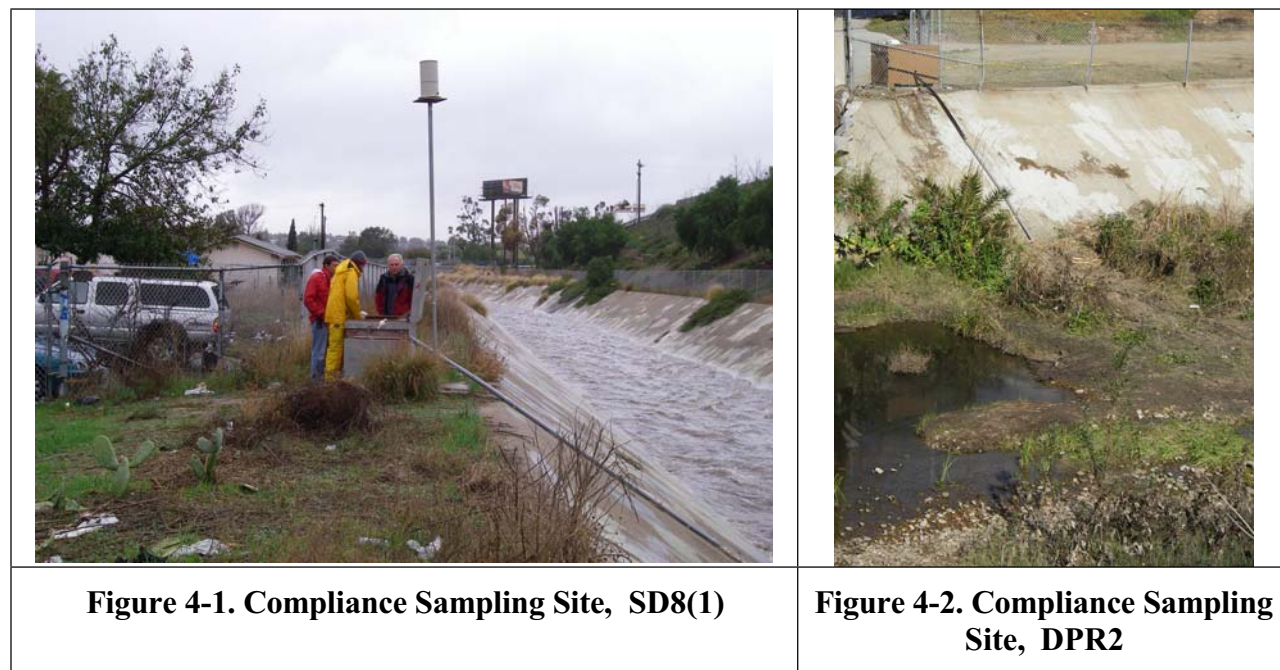


Table 4-1. Chollas Creek Site Descriptions, Site IDs, Targeted Land Uses, and Locations

Site Description/ Sector Location	Site ID	Targeted Land Use	Latitude	Longitude
Compliance Sites	DPR2	NA	32.69227	117.11232
	SD8(1)	NA	32.70493	117.12132

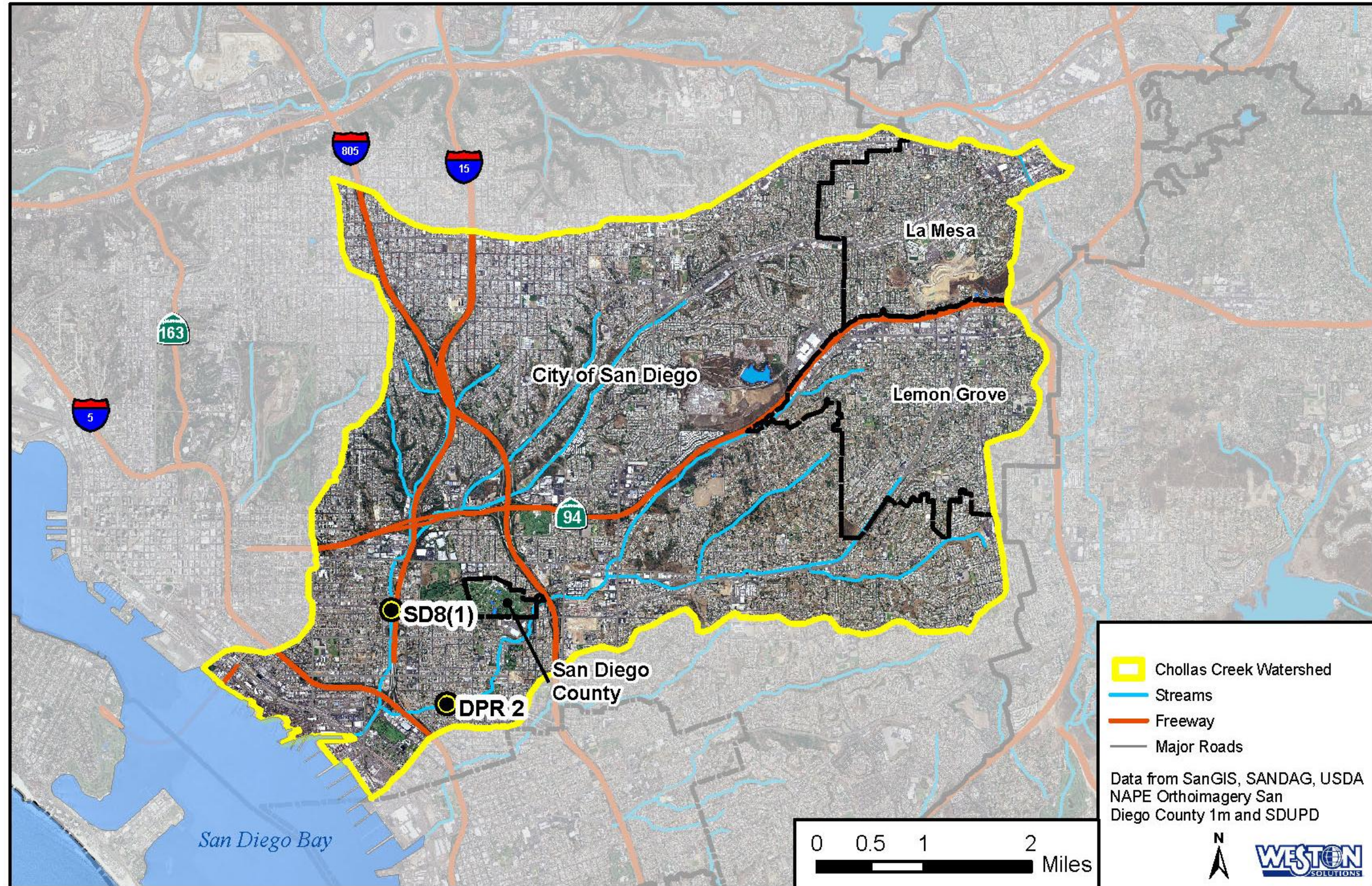


Figure 4-3. Compliance Monitoring Station Locations for Year 1-2 of the Dissolved Metals TMDL Compliance Schedule

4.2 Frequency of Sampling

Three storm events will be sampled at each compliance station during each monitoring season in compliance with Regional Board Order R9-2004-0277. Storm events will be considered viable for monitoring activities if they achieve greater than 0.10 inches of rainfall and are preceded by 72 hours or more of dry weather. All monitoring events will occur between October 1 and April 30 of each monitoring season. The first and second storm occurring after October 1 during a given monitoring season (first and second flush event), which meets the aforementioned rainfall criteria will be monitored. Similarly, the first storm occurring after February 1, which meets sampling criteria during a given monitoring season will also be monitored as the third storm event.

4.3 Methods and Analyses for Storm Water Quality Monitoring

Compliance Site Monitoring

Storm water runoff will be collected using flow-weighted composite techniques over the duration of each storm event at the compliance points SD8(1) and DPR2 (Figure 4-3). Sample collection at these locations will occur at the storm's onset and continue until the flow within Chollas Creek returns to within approximately 10 percent of the base flow condition or up to 8 hours of sampling, as long as the hydrograph is continuing to decline prior to termination.

Automated flow and sampling equipment will remain installed at the two compliance sites (SD8(1) and DPR2) to collect flow-weighted composite samples during storm events. Samples will be analyzed for the constituents listed in Table 4-2. The monitoring stations will log continuously for the entire storm season defined as October 1 through April 30 of each year. American Sigma flow meters with pressure transducers or bubblers will be used to measure velocity and stage height. The flow sensors will be installed on the channel bottom in the center of the channel. In the event that a flow sensor is rendered inoperable during a storm event, meter tapes will be used to measure the stage height of the main channel in order to determine velocity of the flow.

Using the data collected by the flow meters, sample intervals will be set to collect approximately 40-liters of water throughout the storm event. The sample intake point will be located adjacent to the flow meter, on the channel bottom in the center of the channel. American Sigma automated samplers will be used to collect 1-liter sample grabs at a flow dependent rate. The 1-liter grabs will be composited into 20-liter borosilicate glass sample bottles.

The automated sampler collects grab samples via a peristaltic pumping mechanism. Water samples are pumped through a Teflon intake device and Teflon tubing into a 20-liter borosilicate glass sample bottle. Bottles will be kept on ice during the storm event. Field crews will maintain and replace the sampling bottles as they are filled to capacity. If multiple bottles are collected, the bottles will be composited and subsampled for delivery to the appropriate laboratory for chemical analyses.

Grab samples will be collected at SD8(1) and DPR2 for general field parameters (pH, temperature, specific conductivity). Extended sampling poles or clean buckets may be used to collect the grab samples from the horizontal and vertical center of the Chollas Creek channel.

Table 4-2. Wet Weather Water Quality Analytical Parameters for Sites DPR2 and SD8(1).

Analytical Parameter	Analytical Method	Sample Volume	Container Type	Collection Method	Preservation (chemical, temperature, light protected)	Maximum Holding Time: Preparation/ Analysis
pH	Meter	1L	Plastic	Grab	None	Measured in field
Temperature	Meter	1L	Plastic	Grab	None	Measured in field
Conductivity	Meter	1L	Plastic	Grab	None	Measured in field
Total Hardness	SM 2340-B	100 mL	Plastic	Composite Sample	HNO ₃	6 Months
Organophosphorus Pesticides	EPA 625	2L	Amber Glass	Composite Sample	Store Cool at <4°C	Extraction-7 Days Analysis-40 Days
Organochlorine Pesticides						Extraction-7 Days Analysis-40 Days
PAHs	EPA 625	2L	Amber Glass	Composite Sample	Store Cool at <4°C	Extraction-7 Days Analysis-40 Days
PCB congeners	EPA 625	2L	Amber Glass	Composite Sample	Store Cool at <4°C	Extraction-7 Days Analysis-40 Days
Total & Dissolved Copper	EPA 200.8	1L	Plastic	Composite Sample	Store Cool at <4°C	24 hours/6 Months Filter and preserved on receipt at laboratory for dissolved metals. Preserved on receipt for total metals.
Total & Dissolved Lead						
Total & Dissolved Zinc						
Acute Toxicity to Ceriodaphnia dubia	EPA/600/4-90/027F	10L	Glass	Composite Sample	Store Cool at <4°C	36 Hours
Chronic Toxicity to Ceriodaphnia dubia	EPA/600/4-91/002					

A field data log will be completed at each site (Attachment 1). The field data log will include empirical observations of the site and water quality characteristics. Observations will include parameters such as meteorological conditions at time of sampling; odor, color, and general turbidity of the runoff. Changes in the condition of vegetation as well as any observed erosion along the channel's side slopes will also be noted on field data logs. Photographs will be taken during each site visit as warranted.

4.4 QA/QC Procedures

Quality assurance and quality control (QA/QC) for sampling processes will include proper collection of the samples in order to minimize the possibility of contamination. All samples will be collected in laboratory supplied, laboratory-certified, contaminant free sample bottles. Field staff will wear powder-free nitrile gloves (or similar) at all times during sample collection. All sampling personnel will be trained according to field sampling SOPs. Additionally, the field staff will be made aware of the significance of the project's detection limits and the requirement to avoid contamination of samples at all times. A temperature blank will be used to ensure sample holding temperatures were maintained from sample collection through delivery to the laboratory, and equipment rinse blanks will ensure cross contamination from equipment to the water sample has not occurred. Duplicate samples will also be analyzed to assess variability in sampling and to remain compliant with Surface Water Ambient Monitoring Program protocols. Each batch of samples that is submitted to the laboratories for analyses will be accompanied by an equipment rinse blank, field blank, and a duplicate sample, as specified under Surface Water Ambient Monitoring Program (SWAMP).

Samples will be analyzed by a laboratory certified by the California Environmental Laboratory Accreditation Program (ELAP) for the analyses of inorganics, toxic chemical elements, and organics in wastewater.

Field measurements for pH, conductivity, and temperature will be made using an Oakton CON10 pH/temperature/conductivity water quality probe or similar probe according to the manufacturer's specifications. Calibration of the instruments will be conducted prior to each sampling event.

4.4.1 Equipment Decontamination and Cleaning

QA/QC for sampling processes begins with proper collection of the samples in order to minimize the possibility of contamination. All water samples collected at compliance sites will be collected in laboratory-certified, contaminant-free borosilicate glass bottles. All borosilicate glass bottles are thoroughly washed and rinsed with acid before reuse according to EPA procedures. All water samples collected at source assessment sites will be collected in laboratory-certified, contaminant-free HDPE or amber glass bottles. Appropriate sample containers and field measurement and sampling gear are transported to the sample site according to the appropriate SOP. Temperature, pH, and conductivity, as well as other field data, will be measured and recorded using the appropriate equipment. Samples will be put on ice and appropriately shipped to the processing laboratory.

If sampling poles are used for collecting water samples they must be decontaminated between sampling locations. The chemistry analysis of the samples will be performed under the guidelines of the QA/QC programs of each laboratory.

4.4.2 Corrective Action for Field Measurements

The field sampling staff will have the primary responsibility for responding to failures in the sampling or measurement systems. Deviations from defined protocols and the project Quality Assurance Project Plan are documented in the comment section of field notes. If any equipment fails, field personnel will report the problem in the comment section of their field notes and will not record data values for the variables in question. Actions will be taken to replace or repair broken equipment prior to the next field use. No data that are known to be collected with any faulty equipment will be entered into the project database. It is the combined responsibility of all members of the sampling crew to determine if the performance requirements of the specific sampling method have been met, and to collect an additional sample if required. Any deviations from field protocols will be reported to the Project Manager immediately.

4.5 Chain-of-Custody Procedures

Chain-of-custody procedures will be used for all samples throughout the collection, transport, and analytical process. Samples will be considered to be in custody if they are (1) in the custodian's possession or view, (2) retained in a secured place (under lock) with restricted access, or (3) placed in a container and secured with an official seal such that the sample could not be reached without breaking the seal. The principal documents used to identify samples and to document possession will be chain of custody records, field logbooks, and field tracking forms.

The chain of custody procedures will be initiated during sample collection. A chain-of-custody record will be provided with each sample or group of samples (Attachment 2). Each person who had custody of the samples will sign the form and ensure that the samples were not left unattended unless properly secured. Documentation of sample handling and custody will include the following:

- Sample identifier
- Sample collection date and time
- Any special notations on sample characteristics or analysis
- Initials of the person collecting the sample
- Date the sample was sent to the analytical laboratory
- Shipping company and waybill information.

Completed chain-of-custody forms will be placed into a plastic envelope and kept inside the cooler containing the samples. Upon delivery to the analytical laboratory, the chain-of-custody form will be signed by the person receiving the samples. Chain-of-custody records will be included in the final reports prepared by the analytical laboratories and will be considered an integral part of the report.

4.6 Health and Safety

Wet weather sampling events have the potential for dangerous situations to arise. Field personnel need to be aware of safety hazards and take appropriate precautions. A health and safety tailgate meeting will be held prior to the occurrence of any on-site activity. During this meeting, site specific hazards will be discussed and addressed appropriately. There are several health and safety issues that pertain to the proposed storm water sampling and equipment installation within the Chollas Creek Watershed.

4.6.1 Inclement Weather

Extremes of heat, cold, and humidity, as well as rain, snow, and ice, can adversely affect monitoring instrument response and reliability, respiratory protection performance, and chemical protective clothing materials. Rain and wet conditions also increase slipping and tripping hazards, braking distances of vehicles, and the potential for slippage or handling difficulties of field equipment. Rain fills holes and obscures trip and fall hazards. Tools and personnel can slip on wet surfaces. Rain and wet conditions may decrease visibility, increasing potential for driving accidents, and limit the effectiveness of certain direct-reading instruments (e.g., photoionization detectors [PIDs]).

Winter storms will bring in colder than normal temperatures to the area. Field crews should be prepared to work long hours in wet and cold conditions. Field personnel should wear extra layers of clothing under rain gear since there may be a variety of temperature changes.

4.6.2 Traffic Hazards and Traffic Control

There is potential for field crews to be driving in the rain and at night so extra precaution should be taken while driving. All traffic rules and regulations, and all traffic control signs and devices should be obeyed. Field personnel should allow for extra time when planning travel routes. Vehicle traffic is a major concern in storm water monitoring. Traffic presents hazards in two ways: 1) when site workers are working close to roadways, the potential exists to be hit by oncoming traffic, and 2) driving to, from, and on the site poses a potential accident hazard. Whenever possible, field personnel should park as far off the road as possible to avoid interfering with traffic flow and should follow these guidelines while working in traffic:

- Turn on the vehicle's flashing yellow warning light and hazard lights.
- Put out safety cones to mark off the work area and wear a reflective safety vest.
- Place yellow barricade around open manhole to clearly mark the area.
- Avoid steep slopes and stream banks.
- Always use a flashlight in the dark.
- Always wear bright rain gear during storms to be more visible.

4.6.3 Fatigue

During the course of the monitoring event long working hours may occur. If field personnel are too tired to safely continue working, a replacement will be provided or sampling will be terminated.

5.0 DATA ANALYSIS AND REPORTING

This section to be developed further based on stakeholder input.

Data Analysis

Data collection and methods of analyses will be compliant with established SWAMP protocols. Sample results will be compared to water quality objectives specified in the Dissolved Metals TMDL.

Reporting

This section to be developed further based on stakeholder input.

6 . 0 REFERENCES

SDRWQCB (California Regional Water Quality Control Board, San Diego Region). 1994. *Water Quality Control Plan for San Diego Region*.

ATTACHMENT 1

Field Observation Form



**WATER QUALITY FIELD DATA LOG
PROJECT NAME**

PROJECT/SURVEY NAME		DATE		PROJECT MANAGER	
STATION NAME		NAV DATUM		LONGITUDE	
SAMPLE IDENTIFICATION		TIME STARTED (AT SITE)		GRAB SAMPLE TIME	
FIELD TEAM		RECORDER		DEPTH OF SURFACE WATER	
METEOROLOGICAL CHARACTERISTICS				PERCENT CANOPY COVER?	
QA/QC SAMPLES: <input type="checkbox"/> FIELD DUPLICATE <input type="checkbox"/> LAB SPLIT <input type="checkbox"/> MS/MSD <input type="checkbox"/> EQUIPMENT BLANK <input type="checkbox"/> FIELD BLANK					
WATER QUALITY APPEARANCE	ODOR <input type="checkbox"/> HYDROGEN SULFIDE <input type="checkbox"/> MUSTY <input type="checkbox"/> SEWAGE <input type="checkbox"/> AMMONIA <input type="checkbox"/> GASOLINE <input type="checkbox"/> OTHER _____ <input type="checkbox"/> SOAP <input type="checkbox"/> CHLORINE <input type="checkbox"/> NONE <input type="checkbox"/> EARTHY <input type="checkbox"/> PESTICIDE/HERBICIDE				
	COLOR <input type="checkbox"/> YELLOW <input type="checkbox"/> GREEN <input type="checkbox"/> BLUE <input type="checkbox"/> BROWN <input type="checkbox"/> BLACK <input type="checkbox"/> OTHER _____ <input type="checkbox"/> GRAY <input type="checkbox"/> WHITE <input type="checkbox"/> COLORLESS				
	FLOATING MATERIALS <input type="checkbox"/> TRASH OR DEBRIS <input type="checkbox"/> OILY SHEEN <input type="checkbox"/> ORGANIC MATERIAL <input type="checkbox"/> SCUM <input type="checkbox"/> SUDS <input type="checkbox"/> OTHER _____ <input type="checkbox"/> OBJECTS (DESCRIBE) <input type="checkbox"/> FECAL MATTER <input type="checkbox"/> BIOFILM				
	OIL AND GREASE <input type="checkbox"/> NONE <input type="checkbox"/> DEPOSIT <input type="checkbox"/> EMULSION <input type="checkbox"/> SHEEN <input type="checkbox"/> HEAVY FLOATING CONCENTRATION <input type="checkbox"/> TURBIDITY <input type="checkbox"/> HEAVY CLOUDINESS, OPAQUE <input type="checkbox"/> CLOUDY <input type="checkbox"/> SOME CLOUDINESS <input type="checkbox"/> NONE				
	POTENTIAL FECAL SOURCES OBSERVED NEAR SITE <input type="checkbox"/> ANIMALS (Wildlife, pets) write # of each in observations <input type="checkbox"/> RESTAURANT WASHING write restaurant name in comments <input type="checkbox"/> ILLEGAL DUMPING <input type="checkbox"/> ENCAMPMENTS <input type="checkbox"/> IRRIGATION RUNOFF <input type="checkbox"/> SEWER LEAK <input type="checkbox"/> ANIMAL CARE FACILITY <input type="checkbox"/> OTHER _____ DESCRIBE ALL SOURCES				
FIELD MEASUREMENTS		METER NUMBER	pH	TEMP (degree C)	CONDUCTIVITY (uS/cm)
FLOW ESTIMATION Flow Yes / No / Ponded Evidence of overland flow near sampling location? Yes / No Marsh-McBirney used for flow measurements? Yes / No Flowing Creek (Marsh-McBirney or leaf method) Filling a Bottle Flowing Pipe 1. Width (ft or in) _____ 1. Volume (mL or L) _____ 1. Pipe Diameter (ft or in) _____ 2. Depth (ft or in) _____ 2. Time to fill (sec) _____ 2. Depth (ft or in) _____ 3. Velocity (ft or in / sec) _____ 3. Velocity (ft or in / sec) _____ Flow _____ Flow _____ Flow _____					
VISUAL OBSERVATIONS/SAMPLING ACTIVITIES (DESCRIBE ALL ACTIONS TAKEN AT EACH SITE AND PROVIDE ADDITIONAL COMMENTS AS NECESSARY)					
PHOTOS TAKEN: <input type="checkbox"/> YES <input type="checkbox"/> NO PHOTO NUMBERS AND NOTES: _____ _____					

ATTACHMENT 2

Chain of Custody Form



CHAIN OF CUSTODY
1760

2433 Impala Drive • Carlsbad, CA 92010 • (760) 795-6800, FAX 931-1560
 1440 Broadway, Ste. 910 • Oakland, CA 94612 • (510) 808-0302, FAX 891-9710

DATE _____ PAGE ____ OF ____

PROJECT NAME / SURVEY / PROJECT NUMBER		CONTAINER TYPE / VOLUME		TOTAL NUMBER OF CONTAINERS		ANALYSIS/TEST REQUESTED		FOR WESTON USE ONLY	
PROJECT MANAGER / CONTACT									
COMPANY / CLIENT									
ADDRESS									
PHONE / FAX / EMAIL									
SITE ID (Location)	SAMPLE ID	DATE	TIME	MATRIX			PRESERVED HOW	SAMPLE TEMP. (°C) UPON RECEIPT	WESTON LAB ID
Sample Matrix Codes: FW=fresh water GW=ground water SLT=salt water SW=storm water WW=waste water SED=sediment A=air BIO=biologic SS=soil T=tissue O=other (specify) _____ Container Code: G=glass P=plastic B=bags O=other _____ Shipped By: <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> USPS <input type="checkbox"/> Client drop off <input type="checkbox"/> Other _____ Turnaround Time: <input type="checkbox"/> 2-day <input type="checkbox"/> 5-day <input type="checkbox"/> 7-day <input type="checkbox"/> 10-day <input type="checkbox"/> 14-day <input type="checkbox"/> Standard <input type="checkbox"/> Other _____ Reporting Requirements: <input type="checkbox"/> PDF <input type="checkbox"/> EDD <input type="checkbox"/> Hard Copy <input type="checkbox"/> Email <input type="checkbox"/> Other _____					SAMPLED BY: PRINT _____ SIGNATURE _____ COMMENTS / SPECIAL INSTRUCTIONS _____ _____ _____				
RELINQUISHED BY			FIRM		DATE/TIME		RECEIVED BY		
Print Name	Signature	Firm	Date/Time	Print Name	Signature	Firm	Date/Time	Print Name	Date/Time

WHITE – return to originator • YELLOW – lab • PINK – retained by originator

EXHIBIT 3

Chollas Creek TMDL Implementation Plan Watershed Special Studies Statement of Work

The Chollas Creek Dissolved Metals TMDL Dischargers may conduct special studies within the watershed for the purposes of answering specific watershed questions. For implementation year one, the Dischargers have identified four special studies for consideration. The Dischargers will work in a collaborative manner as conditions warrant.

Special Study #1 – Jurisdictional Boundary Monitoring in the Upper Watershed (Implementation Year 1)

Jurisdictional boundary monitoring in the upper watershed will be conducted to understand the load contribution of permit required constituents. Samples will be collected at station LM-1 in the upper tributary subsurface drainage area of the North Fork of Chollas Creek and in the upper South Fork of Chollas Creek at site LG-1. Storm water monitoring will be conducted during two storm events during the 2009-2010 wet weather monitoring period. The first viable storm after October 1st and the first viable storm after February 1st will be monitored. Monitoring will be conducted simultaneously at the two compliance monitoring stations SD8(1) and DPR2. Samples will be analyzed for organophosphate pesticides (Diazinon and Chlorpyrifos), organochlorine pesticides (Chlordane), PAHs, PCBs, total hardness, and dissolved copper, lead, and zinc, and acute and chronic toxicity to *Ceriodaphnia dubia*. Samples will be collected as flow weighted composites.

Special Study #2 – Activity Assessment Grab Samples for Metals (Implementation Year 1)

Activity assessment grab samples will be collected for source identification studies or for BMP assessments. Samples will be collected from specific land use areas in each priority sector during one wet weather event. Specific locations will be pre-determined prior to the storm monitoring season based on land use, activities, or BMPs and will be decided by the Chollas Creek Dissolved Metals TMDL Dischargers. Samples will be analyzed for total and dissolved metals, TSS, and hardness. Activity assessment sites are proposed within each of the five Priority Sectors, for a total of 20 sites.

Special Study #3 – Synthetic Pyrethroid Assessment Monitoring (Implementation Year 1)

While Diazinon was previously identified as the primary agent associated with pesticide pollution in the San Diego region, Diazinon was phased out of manufacturing and has not been available for retail sale since December 2004. In recent years, synthetic pyrethroids have replaced Diazinon as a pesticide and have been identified as the current causative agent of toxicity to the freshwater amphipod, *Hyalella azteca*, in the Chollas Creek Watershed (Weston, 2007). Under this special study, additional samples will be collected at the permit compliance stations (during three events) and the jurisdictional boundary monitoring sites listed in Special Study #1 (during two events) and analyzed for synthetic pyrethroids, TSS, and toxicity to *Hyalella azteca*. The purpose of this study is to collect data that will be submitted to the Department of Pesticide Regulation (DPR) as part of their synthetic pyrethroid re-registration process. The goal of participation with DPR is to have synthetic pyrethroids banned or placed on restricted use.

**Special Study #4 – Bacteria Monitoring
(Implementation Year 1)**

Samples will be collected and analyzed for total coliform, fecal coliform, and enterococci during storm events at the permit compliance stations (during three events) and the jurisdictional boundary monitoring sites listed in Special Study #1 (during two events). Samples will be collected as grab samples during the peak flow of the storm event.

EXHIBIT 4

Chollas Creek Metals TMDL Implementation Plan Scope of Work and Cost Estimates

			Land Use
			Population
			Administrative
Task	Program	Estimated Cost Per Project (\$)	Description
1	Compliance Monitoring (SD8(1) and DPR2)	\$ 145,438	Compliance monitoring for SD8(1) and DPR2 based on Order R9-2004-0277 and Order R9-2007-0001 requirements. 3 storm events per year at 2 sites.
2	Special Study #1 (Jurisdictional Boundary Monitoring)	\$ 51,585	Jurisdictional boundary monitoring for compliance constituents based on Order R9-2004-0277 and Order R9-2007-0001 requirements. 2 storm events per year at 2 sites.
3	Special Study #2 (Activity Assessment Grab Samples)	\$ 51,240	Samples will be collected from specific land use areas in each priority sector during one wet weather event. Samples will be analyzed for total and dissolved copper, lead, and zinc, TSS, and hardness. Activity assessment sites are proposed within each of the five Priority Sectors, for a total of 20 sites + QC samples.
4	Special Study #3 (Synthetic Pyrethroid Assessment Monitoring)	\$ 27,674	Under this special study, additional samples will be collected at the permit compliance stations (during three events) and the jurisdictional boundary monitoring sites listed in Special Study #1 (during two events) and analyzed for synthetic pyrethroids, TSS, and toxicity to <i>Hyalella azteca</i> . The purpose is to provide additional supporting data to DPR for the pyrethroids re-registration process to implement restricted use or labelling requirements.
5	Special Study #4 (Bacteria Monitoring)	\$ 8,310	Samples will be collected and analyzed for total coliform, fecal coliform, and enterococci during storm events at the permit compliance stations (during three events) and the jurisdictional boundary monitoring sites listed in Special Study #1 (during two events). Samples will be collected as grab samples during the peak flow of the storm event. The purpose is to provide additional data and trends in support of the Bacteria TMDL for Chollas Creek.
6A	Compliance Monitoring Report	\$ 60,187	Report detailing results for compliance monitoring at SD8(1) and DPR2. Task includes both draft and final reports.
6B	Special Studies Report	\$ 20,000	Report detailing results for all four special studies. Task includes both draft and final reports.

Total \$ 364,434

Compliance Monitoring

Category	Estimated Cost
Project Management	\$ 9,139
MLS Equipment Install, Maint and Flow Downloads	\$ 43,164
MLS WQ Monitoring	\$ 30,363
Analytical Costs	\$ 51,084
Flow Modeling and Loading Assessment	\$ 11,687
Total	\$ 145,438

Jurisdictional Boundary Monitoring - Special Study #1

Category	Estimated Cost
Project Management	\$ 5,961
Jurisdictional Boundary Monitoring	\$ 23,263
Analytical Costs	\$ 17,869
Data Management	\$ 4,492
Total	\$ 51,585

Grab Sample Monitoring-Special Study #2

Category	Estimated Cost
Project Management	\$ 7,501
Grab Sampling	\$ 33,359
Grab Sampling Analytical	\$ 7,260
Data Management	\$ 3,120
Total	\$ 51,240

Synthetic Pyrethroid Monitoring - Special Study #3

Category	Estimated Cost
Chemistry Costs	\$ 7,024
Toxicity Costs	\$ 20,650
Total	\$ 27,674

Bacteria Monitoring - Special Study #4

Category	Estimated Cost
Bacteria Costs	\$ 8,310
Total	\$ 8,310

**Discharger Shared Costs Budget
Chollas Creek Metals TMDL Implementation Plan**

Exhibit 5

EXHIBIT 5

Discharger	Population (a) 0.45 65,447.10			Land Area (b) 0.45 65,447.10			Equal Divisor 0.1 14,543.80	Total Task 1 Invoiced Amount \$145,438	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Equal Division Fee	Share of Total
City of San Diego	237,795	85.43%	\$55,909.99	13,027	71.80%	\$46,989.60	2,077.69	\$104,977.28	72.18%
City of Lemon Grove	21,774	7.82%	\$5,119.47	2,096	11.55%	\$7,560.47	2,077.69	\$14,757.62	10.15%
City of La Mesa	18,789	6.75%	\$4,417.64	1,717	9.46%	\$6,193.38	2,077.69	\$12,688.71	8.72%
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$436.46	2,077.69	\$2,514.14	1.73%
U.S.Navy	0	0.00%	\$0.00	204	1.12%	\$735.85	2,077.69	\$2,813.53	1.93%
Port of San Diego	0	0.00%	\$0.00	115	0.63%	\$414.82	2,077.69	\$2,492.50	1.71%
Caltrans	0	0.00%	\$0.00	864	4.76%	\$3,116.53	2,077.69	\$5,194.21	3.57%
TOTALS	278,358	100.00%	\$65,447.10	18,144	100.00%	\$65,447.10	\$14,543.80	\$145,438.00	100.00%

Discharger	Population (a) 0.45 23,213.25			Land Area (b) 0.45 23,213.25			Equal Divisor 0.1 5,158.50	Total Task 2 Invoiced Amount \$51,585	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Equal Division Fee	Share of Total
City of San Diego	237,795	85.43%	\$19,830.56	13,027	73.58%	\$17,080.83	1,289.63	\$38,201.01	74.05%
City of Lemon Grove	21,774	7.82%	\$1,815.81	2,096	11.84%	\$2,748.25	1,289.63	\$5,835.68	11.35%
City of La Mesa	18,789	6.75%	\$1,566.88	1,717	9.70%	\$2,251.31	1,289.63	\$5,107.81	9.90%
Caltrans	0	0.00%	\$0.00	864	4.88%	\$1,132.87	1,289.63	\$2,422.49	4.70%
TOTALS	278,358	100.00%	\$23,213.25	17,704	100.00%	\$23,213.25	5,158.50	\$51,585.00	100.00%

Discharger	Population (a) 0.45 23,058.00			Land Area (b) 0.45 23,058.00			Equal Divisor 0.1 5,124.00	Total Task 3 Invoiced Amount \$51,240	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Equal Division Fee	Share of Total
City of San Diego	237,795	100.00%	\$23,058.00	13,027	92.21%	\$21,262.59	1,281.00	\$45,601.59	89.00%
County of San Diego	0	0.00%	\$0.00	121	0.86%	\$197.50	1,281.00	\$1,478.50	2.89%
Port of San Diego	0	0.00%	\$0.00	115	0.81%	\$187.70	1,281.00	\$1,468.70	2.87%
Caltrans	0	0.00%	\$0.00	864	6.12%	\$1,410.22	1,281.00	\$2,691.22	5.25%
TOTALS	237,795	100.00%	\$23,058.00	14,127	100.00%	\$23,058.00	5,124.00	\$51,240.00	100.00%

Discharger	Population (a) 0.45 12,453.30			Land Area (b) 0.45 12,453.30			Equal Divisor 0.1 2,767.40	Total Task 4 Invoiced Amount \$27,674	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Equal Division Fee	Share of Total
City of San Diego	237,795	100.00%	\$12,453.30	13,027	98.22%	\$12,231.71	922.47	\$25,607.47	92.53%
County of San Diego	0	0.00%	\$0.00	121	0.91%	\$113.61	922.47	\$1,036.08	3.74%
Port of San Diego	0	0.00%	\$0.00	115	0.87%	\$107.98	922.47	\$1,030.45	3.72%
TOTALS	237,795	100.00%	\$12,453.30	13,263	100.00%	\$12,453.30	2,767.40	\$27,674.00	100.00%

Discharger	Population (a) 0.45 3,739.50			Land Area (b) 0.45 3,739.50			Equal Divisor 0.1 831.00	Total Task 5 Invoiced Amount \$8,310	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Equal Division Fee	Share of Total
City of San Diego	237,795	100.00%	\$3,739.50	13,027	92.21%	\$3,448.32	207.75	\$7,395.57	89.00%
County of San Diego	0	0.00%	\$0.00	121	0.86%	\$32.03	207.75	\$239.78	2.89%
Port of San Diego	0	0.00%	\$0.00	115	0.81%	\$30.44	207.75	\$238.19	2.87%
Caltrans	0	0.00%	\$0.00	864	6.12%	\$228.71	207.75	\$436.46	5.25%
TOTALS	237,795	100.00%	\$3,739.50	14,127	100.00%	\$3,739.50	831.00	\$8,310.00	100.00%

Discharger	Population (a) 0.45 27,084.15			Land Area (b) 0.45 27,084.15			Equal Divisor 0.1 6,018.70	Total Task 6A Invoiced Amount \$60,187	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Equal Division Fee	Share of Total
City of San Diego	237,795	85.43%	\$23,137.38	13,027	71.80%	\$19,445.83	859.81	\$43,443.03	72.18%
City of Lemon Grove	21,774	7.82%	\$2,118.60	2,096	11.55%	\$3,128.77	859.81	\$6,107.19	10.15%
City of La Mesa	18,789	6.75%	\$1,828.16	1,717	9.46%	\$2,563.02	859.81	\$5,251.00	8.72%
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$180.62	859.81	\$1,040.43	1.73%
U.S.Navy	0	0.00%	\$0.00	204	1.12%	\$304.52	859.81	\$1,164.33	1.93%
Port of San Diego	0	0.00%	\$0.00	115	0.63%	\$171.66	859.81	\$1,031.48	1.71%
Caltrans	0	0.00%	\$0.00	864	4.76%	\$1,289.72	859.81	\$2,149.54	3.57%
TOTALS	278,358	100.00%	\$27,084.15	18,144	100.00%	\$27,084.15	\$6,018.70	\$60,187.00	100.00%

Discharger	Population (a) 0.45 9,000.00			Land Area (b) 0.45 9,000.00			Equal Divisor 0.1 2,000.00	Total Task 6B Invoiced Amount \$20,000	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Equal Division Fee	Share of Total
City of San Diego	237,795	85.43%	\$7,688.50	13,027	72.61%	\$6,535.28	333.33	\$14,557.12	72.79%
City of Lemon Grove	21,774	7.82%	\$704.01	2,096	11.68%	\$1,051.51	333.33	\$2,088.85	10.44%
City of La Mesa	18,789	6.75%	\$607.49	1,717	9.67%	\$861.37	333.33	\$1,802.20	9.01%
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$60.70	333.33	\$394.04	1.97%
U.S.Navy	0	0.00%	\$0.00	115	0.64%	\$57.69	333.33	\$391.03	1.96%
Port of San Diego	0	0.00%	\$0.00	864	4.82%	\$433.44	333.33	\$766.78	3.83%
TOTALS	278,358	100.00%	\$9,000.00	17,940	100.00%	\$9,000.00	\$2,000.00	\$20,000.00	100.00%

Discharger	Task 1 Costs	Task 2 Costs	Task 3 Costs	Task 4 Costs	Task 5 Costs	Task 6A Costs	Task 6B Costs	Total Cost for All Tasks Combined
City of San Diego	\$104,977.28	\$38,201.01	\$45,601.59	\$25,607.47	\$7,395.57	\$43,443.03	\$14,557.12	\$279,783.08
City of Lemon Grove	\$14,757.62	\$5,853.68	0	0	0	\$6,107.19	\$2,088.85	\$28,807.34
City of La Mesa	\$12,688.71	\$5,107.81	0	0	0	\$5,251.00	\$1,802.20	\$24,849.72
County of San Diego	\$2,514.14	0	\$1,478.50	\$1,036.08	\$239.78	\$1,040.43	\$394.04	\$6,702.97
U.S.Navy	\$2,813.53	0	0	0	0	\$1,164.33	0	\$3,977.86
Port of San Diego	\$2,492.50	0	\$1,468.70	\$1,030.45	\$238.19	\$1,031.48	\$391.03	\$6,652.35
Caltrans	\$5,194.21	\$2,422.49	\$2,691.22	0	\$436.46	\$2,149.54	\$766.78	\$13,660.69
Total	\$145,438.00	\$51,585.00	\$51,240.00	\$27,674.00	\$8,310.00	\$60,187.00	\$20,000.00	\$364,434.00

Total Program Cost: \$364,434.00

(a) Populations were determined using 2000 Census data and the jurisdictional boundaries identified in the maps developed for the Implementation Plan.
(b) The Land Areas were determined using 2007 SANDAG data. Acreages were calculated based on parcel data and jurisdictional boundaries.

Discharger Shared Costs Budget - FY10
Chollas Creek Metals TMDL Implementation Plan

Exhibit 5

EXHIBIT 5

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 1 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45			0.45			0.1		
	65,447.10			65,447.10			14,543.80	\$145,438	
Task 1: TMDL Compliance Monitoring							Equal Division Fee		
City of San Diego	237,795	85.43%	\$55,909.99	13,027	71.80%	\$46,989.60	2,077.69	\$104,977.28	72.18%
City of Lemon Grove	21,774	7.82%	\$5,119.47	2,096	11.55%	\$7,560.47	2,077.69	\$14,757.62	10.15%
City of La Mesa	18,789	6.75%	\$4,417.64	1,717	9.46%	\$6,193.38	2,077.69	\$12,688.71	8.72%
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$436.46	2,077.69	\$2,514.14	1.73%
U.S.Navy	0	0.00%	\$0.00	204	1.12%	\$735.85	2,077.69	\$2,813.53	1.93%
Port of San Diego	0	0.00%	\$0.00	115	0.63%	\$414.82	2,077.69	\$2,492.50	1.71%
Caltrans	0	0.00%	\$0.00	864	4.76%	\$3,116.53	2,077.69	\$5,194.21	3.57%
TOTALS	278,358	100.00%	\$65,447.10	18,144	100.00%	\$65,447.10	\$14,543.80	\$145,438.00	100.00%

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 2 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45			0.45			0.1		
	23,213.25			23,213.25			5,158.50	\$51,585	
Task 2: Upstream Boundary Composite Monitoring							Equal Division Fee		
City of San Diego	237,795	85.43%	\$19,830.56	13,027	73.58%	\$17,080.83	1,289.63	\$38,201.01	74.05%
City of Lemon Grove	21,774	7.82%	\$1,815.81	2,096	11.84%	\$2,748.25	1,289.63	\$5,853.68	11.35%
City of La Mesa	18,789	6.75%	\$1,566.88	1,717	9.70%	\$2,251.31	1,289.63	\$5,107.81	9.90%
County of San Diego	0	0.00%	\$0.00	864	4.88%	\$1,132.87	1,289.63	\$2,422.49	4.70%
TOTALS	278,358	100.00%	\$23,213.25	17,704	100.00%	\$23,213.25	5,158.50	\$51,585.00	100.00%

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 3 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45			0.45			0.1		
	23,058.00			23,058.00			5,124.00	\$51,240	
Task 3: Storm Drain System Grab Sample Monitoring							Equal Division Fee		
City of San Diego	237,795	100.00%	\$23,058.00	13,027	92.21%	\$21,262.59	1,281.00	\$45,601.59	89.00%
County of San Diego	0	0.00%	\$0.00	121	0.86%	\$197.50	1,281.00	\$1,478.50	2.89%
Port of San Diego	0	0.00%	\$0.00	115	0.81%	\$187.70	1,281.00	\$1,468.70	2.87%
Caltrans	0	0.00%	\$0.00	864	6.12%	\$1,410.22	1,281.00	\$2,691.22	5.25%
TOTALS	237,795	100.00%	\$23,058.00	14,127	100.00%	\$23,058.00	5,124.00	\$51,240.00	100.00%

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 4 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45			0.45			0.1		
	12,453.30			12,453.30			2,767.40	\$27,674	
Task 4: Synthetic Pyrethroids Composite Monitoring							Equal Division Fee		
City of San Diego	237,795	100.00%	\$12,453.30	13,027	98.22%	\$12,231.71	922.47	\$25,607.47	92.53%
County of San Diego	0	0.00%	\$0.00	121	0.91%	\$113.61	922.47	\$1,036.08	3.74%
Port of San Diego	0	0.00%	\$0.00	115	0.87%	\$107.98	922.47	\$1,030.45	3.72%
TOTALS	237,795	100.00%	\$12,453.30	13,263	100.00%	\$12,453.30	2,767.40	\$27,674.00	100.00%

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 5 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45			0.45			0.1		
	3,739.50			3,739.50			831.00	\$8,310	
Task 5: Bacteria Monitoring							Equal Division Fee		
City of San Diego	237,795	100.00%	\$3,739.50	13,027	92.21%	\$3,448.32	207.75	\$7,395.57	89.00%
County of San Diego	0	0.00%	\$0.00	121	0.86%	\$32.03	207.75	\$239.78	2.89%
Port of San Diego	0	0.00%	\$0.00	115	0.81%	\$30.44	207.75	\$238.19	2.87%
Caltrans	0	0.00%	\$0.00	864	6.12%	\$228.71	207.75	\$436.46	5.25%
TOTALS	237,795	100.00%	\$3,739.50	14,127	100.00%	\$3,739.50	831.00	\$8,310.00	100.00%

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 6A Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45			0.45			0.1		
	8,507.22			8,507.22			1,890.49	\$18,905	
Task 6A: Compliance Monitoring Report							Equal Division Fee		
City of San Diego	237,795	85.43%	\$7,267.53	13,027	71.80%	\$6,108.00	270.07	\$13,645.60	72.18%
City of Lemon Grove	21,774	7.82%	\$665.46	2,096	11.55%	\$982.76	270.07	\$1,918.29	10.15%
City of La Mesa	18,789	6.75%	\$574.23	1,717	9.46%	\$805.05	270.07	\$1,649.36	8.72%
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$56.73	270.07	\$326.80	1.73%
U.S.Navy	0	0.00%	\$0.00	204	1.12%	\$95.65	270.07	\$365.72	1.93%
Port of San Diego	0	0.00%	\$0.00	115	0.63%	\$53.92	270.07	\$323.99	1.71%
Caltrans	0	0.00%	\$0.00	864	4.76%	\$405.11	270.07	\$675.18	3.57%
TOTALS	278,358	100.00%	\$8,507.22	18,144	100.00%	\$8,507.22	\$1,890.49	\$18,904.93	100.00%

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 6B Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45			0.45			0.1		
	2,826.93			2,826.93			628.21	\$6,282	
Task 6B: Special Studies Report							Equal Division Fee		
City of San Diego	237,795	85.43%	\$2,414.98	13,027	72.61%	\$2,052.75	104.70	\$4,572.44	72.79%
City of Lemon Grove	21,774	7.82%	\$221.13	2,096	11.68%	\$330.28	104.70	\$656.11	10.44%
City of La Mesa	18,789	6.75%	\$190.82	1,717	9.57%	\$270.56	104.70	\$566.08	9.01%
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$19.07	104.70	\$123.77	1.97%
U.S.Navy	0	0.00%	\$0.00	115	0.64%	\$18.12	104.70	\$122.82	1.96%
Port of San Diego	0	0.00%	\$0.00	864	4.82%	\$136.15	104.70	\$240.85	3.83%
Caltrans	0	0.00%	\$0.00						
TOTALS	278,358	100.00%	\$2,826.93	17,940	100.00%	\$2,826.93	\$628.21	\$6,282.07	100.00%

Discharger	Task 1 Costs	Task 2 Costs	Task 3 Costs	Task 4 Costs	Task 5 Costs	Task 6A Costs	Task 6B Costs	Total Cost for All Tasks Combined
City of San Diego	\$104,977.28	\$38,201.01	\$45,601.59	\$25,607.47	\$7,395.57	\$13,645.60	\$4,572.44	\$240,000.97
City of Lemon Grove	\$14,757.62	\$5,853.68	0	0	0	\$1,918.29	\$656.11	\$23,185.71
City of La Mesa	\$12,688.71	\$5,107.81	0	0	0	\$1,649.36	\$566.08	\$20,011.95
County of San Diego	\$2,514.14	0	\$1,478.50	\$1,036.08	\$239.78	\$326.80	\$123.77	\$5,719.07
U.S.Navy	\$2,813.53	0	0	0	0	\$365.72	0	\$3,179.25
Port of San Diego	\$2,492.50	0	\$1,468.70	\$1,030.45	\$238.19	\$323.99	\$122.82	\$5,676.65
Caltrans	\$5,194.21	\$2,422.49	\$2,691.22	0	\$436.46	\$675.18	\$240.85	\$11,660.40
Total	\$145,438.00	\$51,585.00	\$51,240.00	\$27,674.00	\$8,310.00	\$18,904.93	\$6,282.07	\$309,434.00

Total Program Cost: \$309,434.00

(a) Populations were determined using 2000 Census data and the jurisdictional boundaries identified in the maps developed for the Implementation Plan.
 (b) The Land Areas were determined using 2007 SANDAG data. The acreages were calculated based on parcel data and jurisdictional boundaries.

Discharger Shared Costs Budget - FY11
Chollas Creek Metals TMDL Implementation Plan

Exhibit 5

EXHIBIT 5

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 1 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45	0.00		0.45	0.00		0.1	\$0	
Task 1: TMDL Compliance Monitoring							0.00		
City of San Diego	237,795	85.43%	\$0.00	13,027	71.80%	\$0.00	0.00	\$0.00	#DIV/0!
City of Lemon Grove	21,774	7.82%	\$0.00	2,096	11.55%	\$0.00	0.00	\$0.00	#DIV/0!
City of La Mesa	18,789	6.75%	\$0.00	1,717	9.46%	\$0.00	0.00	\$0.00	#DIV/0!
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$0.00	0.00	\$0.00	#DIV/0!
U.S.Navy	0	0.00%	\$0.00	204	1.12%	\$0.00	0.00	\$0.00	#DIV/0!
Port of San Diego	0	0.00%	\$0.00	115	0.63%	\$0.00	0.00	\$0.00	#DIV/0!
Caltrans	0	0.00%	\$0.00	864	4.76%	\$0.00	0.00	\$0.00	#DIV/0!
TOTALS	278,358	100.00%	\$0.00	18,144	100.00%	\$0.00	\$0.00	\$0.00	#DIV/0!

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 2 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45	0.00		0.45	0.00		0.1	\$0	
Task 2: Upstream Boundary Composite Monitoring							0.00		
City of San Diego	237,795	85.43%	\$0.00	13,027	73.58%	\$0.00	0.00	\$0.00	#DIV/0!
City of Lemon Grove	21,774	7.82%	\$0.00	2,096	11.84%	\$0.00	0.00	\$0.00	#DIV/0!
City of La Mesa	18,789	6.75%	\$0.00	1,717	9.70%	\$0.00	0.00	\$0.00	#DIV/0!
County of San Diego	0	0.00%	\$0.00	864	4.88%	\$0.00	0.00	\$0.00	#DIV/0!
TOTALS	278,358	100.00%	\$0.00	17,704	100.00%	\$0.00	0.00	\$0.00	#DIV/0!

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 3 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45	0.00		0.45	0.00		0.1	\$0	
Task 3: Storm Drain System Grab Sample Monitoring							0.00		
City of San Diego	237,795	100.00%	\$0.00	13,027	92.21%	\$0.00	0.00	\$0.00	#DIV/0!
County of San Diego	0	0.00%	\$0.00	121	0.86%	\$0.00	0.00	\$0.00	#DIV/0!
Port of San Diego	0	0.00%	\$0.00	115	0.81%	\$0.00	0.00	\$0.00	#DIV/0!
Caltrans	0	0.00%	\$0.00	864	6.12%	\$0.00	0.00	\$0.00	#DIV/0!
TOTALS	237,795	100.00%	\$0.00	14,127	100.00%	\$0.00	0.00	\$0.00	#DIV/0!

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 4 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45	0.00		0.45	0.00		0.1	\$0	
Task 4: Synthetic Pyrethroids Composite Monitoring							0.00		
City of San Diego	237,795	100.00%	\$0.00	13,027	98.22%	\$0.00	0.00	\$0.00	#DIV/0!
County of San Diego	0	0.00%	\$0.00	121	0.91%	\$0.00	0.00	\$0.00	#DIV/0!
Port of San Diego	0	0.00%	\$0.00	115	0.87%	\$0.00	0.00	\$0.00	#DIV/0!
TOTALS	237,795	100.00%	\$0.00	13,263	100.00%	\$0.00	0.00	\$0.00	#DIV/0!

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 5 Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45	0.00		0.45	0.00		0.1	\$0	
Task 5: Bacteria Monitoring							0.00		
City of San Diego	237,795	100.00%	\$0.00	13,027	92.21%	\$0.00	0.00	\$0.00	#DIV/0!
County of San Diego	0	0.00%	\$0.00	121	0.86%	\$0.00	0.00	\$0.00	#DIV/0!
Port of San Diego	0	0.00%	\$0.00	115	0.81%	\$0.00	0.00	\$0.00	#DIV/0!
Caltrans	0	0.00%	\$0.00	864	6.12%	\$0.00	0.00	\$0.00	#DIV/0!
TOTALS	237,795	100.00%	\$0.00	14,127	100.00%	\$0.00	0.00	\$0.00	#DIV/0!

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 6A Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45	18,576.93		0.45	18,576.93		0.1	\$41,282	
Task 6A: Compliance Monitoring Report							4,128.21		
City of San Diego	237,795	85.43%	\$15,869.85	13,027	71.80%	\$13,337.83	589.74	\$29,797.43	72.18%
City of Lemon Grove	21,774	7.82%	\$1,453.14	2,096	11.55%	\$2,146.01	589.74	\$4,188.90	10.15%
City of La Mesa	18,789	6.75%	\$1,253.93	1,717	9.46%	\$1,757.97	589.74	\$3,601.64	8.72%
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$123.89	589.74	\$713.63	1.73%
U.S.Navy	0	0.00%	\$0.00	204	1.12%	\$208.87	589.74	\$798.61	1.93%
Port of San Diego	0	0.00%	\$0.00	115	0.63%	\$117.74	589.74	\$707.49	1.71%
Caltrans	0	0.00%	\$0.00	864	4.76%	\$884.62	589.74	\$1,474.36	3.57%
TOTALS	278,358	100.00%	\$18,576.93	18,144	100.00%	\$18,576.93	\$4,128.21	\$41,282.07	100.00%

Discharger	Population (a)			Land Area (b)			Equal Division	Total Task 6B Invoiced Amount	
	Population	% of Total	Population Fee	Land Area (Acres)	% of Total	Land Area Fee		Share of Total	% of Total
	0.45	6,173.07		0.45	6,173.07		0.1	\$13,718	
Task 6B: Special Studies Report							1,371.79		
City of San Diego	237,795	85.43%	\$5,273.52	13,027	72.61%	\$4,482.53	228.63	\$9,984.68	72.79%
City of Lemon Grove	21,774	7.82%	\$482.88	2,096	11.68%	\$721.22	228.63	\$1,432.73	10.44%
City of La Mesa	18,789	6.75%	\$416.68	1,717	9.57%	\$590.81	228.63	\$1,236.12	9.01%
County of San Diego	0	0.00%	\$0.00	121	0.67%	\$41.64	228.63	\$270.27	1.97%
Port of San Diego	0	0.00%	\$0.00	115	0.64%	\$39.57	228.63	\$268.20	1.96%
Caltrans	0	0.00%	\$0.00	864	4.82%	\$297.30	228.63	\$525.93	3.83%
TOTALS	278,358	100.00%	\$6,173.07	17,940	100.00%	\$6,173.07	\$1,371.79	\$13,717.93	100.00%

Discharger	Task 1 Costs	Task 2 Costs	Task 3 Costs	Task 4 Costs	Task 5 Costs	Task 6A Costs	Task 6B Costs	Total Cost for All Tasks Combined
City of San Diego	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29,797.43	\$9,984.68	\$39,782.11
City of Lemon Grove	\$0.00	\$0.00	0	0	0	\$4,188.90	\$1,432.73	\$5,621.63
City of La Mesa	\$0.00	\$0.00	0	0	0	\$3,601.64	\$1,236.12	\$4,837.77
County of San Diego	\$0.00	0	\$0.00	\$0.00	\$0.00	\$713.63	\$270.27	\$983.90
U.S.Navy	\$0.00	0	0	0	0	\$798.61	0	\$798.61
Port of San Diego	\$0.00	0	\$0.00	\$0.00	\$0.00	\$707.49	\$268.20	\$975.69
Caltrans	\$0.00	\$0.00	\$0.00	0	\$0.00	\$1,474.36	\$525.93	\$2,000.29
Total	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$41,282.07	\$13,717.93	\$55,000.00

Total Program Cost: \$55,000.00

(a) Populations were determined using 2000 Census data and the jurisdictional boundaries identified in the maps developed for the Implementation Plan.
 (b) The Land Areas were determined using 2007 SANDAG data. Acreages were calculated based on parcel data and jurisdictional boundaries.

