

# REDDING ELECTRIC UTILITY

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## Pollution Prevention Plan



*Smart Service... Bright Ideas!*

Utility Vaults and Subsurface Structures

Established to Comply with National Pollutant Discharge Elimination System  
General Permit CAG990002 Discharges by Utility Companies to Surface  
Waters.

Issue No. REU-0001

Date: February 2007

Certification

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision. The data received from the person or persons who manage the information submitted, to the best of my knowledge and belief, is 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.

Paul R. Sydow  
Utility System Inspector  
Redding Electric Utility

*Paul R. Sydow*

November 12, 2007

# **Redding Electric Utility Pollution Prevention Plan**

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**Redding Electric Utility  
Pollution Prevention Plan**

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**Redding Electric Utility  
Pollution Prevention Plan**

**References**

Porter-Cologne Water Quality Control Act of 1969  
[http://www.swrcb.ca.gov/water\\_laws/docs/portercologne.pdf](http://www.swrcb.ca.gov/water_laws/docs/portercologne.pdf)

U.S. Environmental Protection Agency  
<http://www.epa.gov>

California State Water Resources Control Board (Water Quality)  
<http://www.swrcb.ca.gov/rwqcb5>

Regional Water Quality Control Board – Region 5  
<http://www.swrcb.ca.gov/rwqcb5>

California Stormwater Quality Association  
<http://www.casqa.org>

Stormwater Online  
<http://swonline.org/index.php?itemid=1>

Caltrans Division of Construction  
[www.dot.ca.gov/hq/construc/stormwater/factsheets.htm](http://www.dot.ca.gov/hq/construc/stormwater/factsheets.htm)

California Stormwater BMP Handbook Municipal  
[www.cabmphandbooks.com](http://www.cabmphandbooks.com)

City of Redding  
[http://maps.ci.redding.ca.us/pub/maps/redding\\_pub.mwf](http://maps.ci.redding.ca.us/pub/maps/redding_pub.mwf)

City of Redding Draft Storm Water Quality Improvement Plan  
Attachments D, E, F  
[www.ci.redding.ca.us/devserv/pdfs/swqip/draftplan.pdf](http://www.ci.redding.ca.us/devserv/pdfs/swqip/draftplan.pdf)

City of Redding Municipal Utilities (SWPPP)

# **Redding Electric Utility Pollution Prevention Plan**

## **1.0 Introduction**

The City of Redding Electric Utility (REU) serves an area of approximately 60 sq. miles, with a total of 3,421 underground electric vaults/manholes connected by approximately 350 miles of underground conduit.

REU serves a base population of approximately 90,000 customers. Environmental protection remains a key focus in the REU daily operations. In the process of inspecting, rebuilding, and responding to emergencies, REU crews often need to de-water electric utility underground facilities in order to perform the necessary tasks required to maintain electric reliability and service to customers.

REU has established a Pollution Prevention Plan (PPP) to fulfill the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit CAG990002 for discharges of water from utility vaults and other utility enclosures. To meet permit requirements, REU has filed a Notice of Intent (NOI) to use this General Permit (Attachment A) with the following:

### **1.1 Copies of the REU Pollution Prevention Plan are on file with:**

- a. The Utility Vaults NOI-NPDES Unit, Division of Water Quality State Water Resources Control Board  
P.O. Box 100, Sacramento, CA 95812-0100
- b. California Regional Water Quality Control Board  
Redding Branch Office (5F)  
415 Knollcrest Drive, Ste. 100  
Redding, CA 96002  
(530) 224-4845 FAX: (530) 224-4857  
<http://www.waterboards.ca.gov/centralvalley>

**Redding Electric Utility  
Pollution Prevention Plan**

**2.0 Contact Information**

**2.1 Pollution Prevention Plans will be retained at the following addresses:**

- a. Redding Electric Utility  
Shipping Address: 20055 Viking Way Bldg 2,  
Redding, CA 96003  
Mailing Address: P.O. Box 496071,  
Redding, CA 96049-6071  
Phone: (530) 224-4384 Fax: (530) 224-4393  
Primary Contact: Jack Latiolais, Electric Manager-Line  
Alternate Contact: Paul Sydow, Utility System Inspector
  
- b. 24 hour Emergency Contact:  
Redding Electric Power Control Center  
17120 Clear Creek Rd.  
Redding, CA 96001  
(530) 245-7000  
System Operator: (530) 245-7035
  
- c. City of Redding Municipal Utilities  
20055 Viking Way, Bldg 3  
Redding, CA 96003  
Martha Vuist, NPDES Coordinator  
(530) 224-6030

## **Redding Electric Utility Pollution Prevention Plan**

### **3.0 Purpose of the Plan**

- 3.1 In 1969, the California Legislature enacted the Porter-Cologne Water Quality Control Act (The Act) to preserve, enhance, and restore the quality of the State's water resources. The Act established the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) as the principal state agencies with the responsibility for controlling water quality in California. The SWRCB and the RWQCB regulate all pollutants or nuisance discharges that affect, or might affect, the surface water or ground water from point or non-point sources.
- 3.2 The SWRCB has authority under the Federal Clean Water Act of 1972, to issue Statewide General National Pollutant Discharge Elimination System (NPDES) permits, to regulate the discharge of pollutants into the waters of the United States.

Under the auspices of the U.S. Environmental Protection Agency, the SWRCB and local RWQCB also have the responsibility of issuing, regulating, and monitoring the NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Waters (General Permit CAG990002). The State Board allows utilities to apply for coverage under the General Permit with each RWQCB in which they will have discharges to surface waters.

## **Redding Electric Utility Pollution Prevention Plan**

### **4.0 Plan**

- 4.1 The General Permit requires utilities to develop and implement a PPP which includes the Best Management Practices (BMPs) utilized to prevent or control the discharge of pollutants. The General Permit also requires the utilities to establish an annual monitoring program to test and analyze the discharges from a representative number of utility vaults and submit this test information in a yearly report.
- 4.2 The REU PPP has been prepared in accordance with the NPDES Permit for discharges of utility vault stormwater. The General Permit CAG990002 and SWRCB Water Quality Control Order 2006-0008-DWQ applies to short term intermittent discharges to surface waters by REU.
- 4.3 REU utilizes the BMPs when testing and discharging stormwater from vaults to ensure pollutant concentration does not violate the Clean Water Act quality standards.
- 4.4 The commitment of REU is to continually evaluate this plan and these procedures in order to be prepared for any issues relating to stormwater discharges.
- 4.5 REU has designed this plan using the Best Available Technology (BAT) and Best Control Technology (BCT) available, ensuring compliance with Water Quality Standards. This plan will be amended to reflect any changes that occur in the Water Quality Standards or BAT/BCT design improvements.

**Redding Electric Utility  
Pollution Prevention Plan**

**5.0 Plan Changes**

5.1 The REU shall amend the PPP whenever there is a change in construction methods, operations, or to ensure compliance with current Water Quality Act standards. The PPP will be amended and resubmitted for approval if it deviates from any condition of the General Order Permit or has not achieved the general purpose/objective of controlling pollutants in discharges to surface waters. [40CFR § 122.41 (1)(1)] [40CFR § 122.42 (a)(1)]

## **Redding Electric Utility Pollution Prevention Plan**

### **6.0 Types of Structures**

#### **6.1 Electrical Equipment Vaults**

Electric utility substructures include the following: Concrete vaults and manhole vaults of various sizes that are subject to stormwater intrusion through various points of entry.

- a. Normal operations in subsurface structures do not produce contaminants.
- b. Manhole vaults contain subsurface transformers and subsurface switches. Standard vaults contain high voltage cable and terminations. This equipment can only be operated when the water in the vaults is pumped as low as practicable.

#### **6.2 Manholes**

Automatic discharges occur from “dry structures” referred to as Controlled Environmental Vaults. CEVs typically contain transformers, cable-splices, and switch-gears, which are sensitive to moisture. Unlike wet structures, these dry vaults are equipped with automatic vault pumps, lighting systems, and even cooling fans. When water drains into a vault, the pump will automatically discharge when it reaches a certain level. The water discharged from these vaults is much smaller in quantity than the water discharged from the wet vaults.

**Redding Electric Utility  
Pollution Prevention Plan**

**7.0 Scheduled Discharges**

- 7.1 Discharges from vaults and manholes are related to maintenance and repairs. These operations are generally considered unscheduled rather than scheduled.

**Redding Electric Utility  
Pollution Prevention Plan**

**8.0 Unscheduled Discharges**

- 8.1 Unscheduled discharges occur when the need arises for REU crews to access the underground electric utility vaults/structure to perform maintenance and or repair work.
- 8.2 Twelve to 18 vaults/manholes are pumped each week for an estimated weekly discharge of 600 to 750 gallons.
- 8.3 In emergency situations involving imminent threat to life, serious property damage and/or in cases of natural disaster or catastrophic events, field supervisors have the authority to take whatever action is necessary to mitigate the immediate threat including the discharge of untested water. Once the emergency is controlled, testing of stormwater will be performed and reported as outlined in the PPP.

## **Redding Electric Utility Pollution Protection Plan**

### **9.0 Pollution Prevention Practices**

9.1 The PPP is to be used for the short-term, intermittent discharge of water from electric utility manholes, vaults, and underground structures that must have the water evacuated in order for emergency, maintenance and/or repair work to proceed. These structures will be de-watered to the level required to maintain a safe work environment for the electric crews, and/or the safe operation of the equipment.

### **9.2 Testing**

- a. REU uses two methods of testing water in their electric vaults. The first method is sensory perception (visual and smell), and the second is wastewater classifier strips.
- b. The Spilfyter Wastewater Classifier Strips constitute the BAT and the BCT to reduce pollutants, as called for in SWRCB Water Quality Control Order 2006-0008-DWQ. These Wastewater Classifier Strips are configured to test the vault water for the presence/non-presence of the following pollutants: Acid or base, organic solvent petroleum, hydrogen sulfide, nitrite, and fluoride. This also satisfies Section 301 and 402 of the Clean Water Act.

9.3 Any in-vault accumulated stormwater that fails initial testing will be targeted for further testing by REU personnel and a licensed environmental lab testing facility to determine the nature of the pollutants present and HAZMAT cleanup required, if any.

**Redding Electric Utility  
Pollution Protection Plan**

**9.4 Best Management Practices (BMPs)**

- a. Discharge hoses are fitted with ECO-TEC, Inc. Vault Maintenance Filter Sock System. These products are a geo-textile product designed for stormwater/sediment/oil removal and filtration.
- b. Five gallon CIAgent land/marine spill kits for HAZMAT spill cleanup are available on all primary REU trucks, tool-room, and warehouse. These kits conform to 40CFR § 112 regulations for HAZMAT cleanup.

**Redding Electric Utility  
Pollution Prevention Plan**

**10.0 Potential Pollutant Sources**

- a. Residual oil and grease on transformers and electrical equipment.
- b. Sediment and debris from stormwater runoff.
- c. Landscape chemical runoff.

**Note:** Potential pollutant materials are not stored in REU underground vaults or manholes.

**Redding Electric Utility  
Pollution Prevention Plan**

**11.0 Measures and Controls to Reduce Pollutant Infiltration**

A mastic seal is applied between concrete joints and a high strength grout is applied to where the steel frame/lid assembly mounts on top of the vault. Subsurface vaults and substructures with bare soil surroundings are replaced with gravel landscaping when possible.

**11.1 Annual Inspection of Underground Facilities**

The REU performs a yearly and random visual inspection of all underground facilities. REU has a five year intrusive inspection/maintenance cycle of all underground facilities. The REU underground crew performs general housekeeping and removal of debris and sediment if required.

**11.2 Spills and Leaks**

No known or reported spills or leaks have occurred during the last three years (January 2004 thru January 2007).

**Redding Electric Utility  
Pollution Prevention Plan**

**12.0 Site Compliance**

- a. Visual and sensory observations.
- b. Testing with Spilfyter Wastewater Classifier Strips.
- c. Use of ECO-TEC Inc. Vault Maintenance Filter Sock System.
- d. Storm-Drain inlet silt dams.
- e. Vault/Manhole water-discharge checklist.

**12.1 Record Keeping**

Testing records will be kept and maintained for a minimum of five years.

**12.2 Annual Monitoring**

Annual monitoring will be conducted in accordance with the Monitoring and Reporting Program (MRP) identified in Attachment E of the General Permit. (2003 CFR Title 40 § 136: Guidelines Establishing Test Procedures for the Analysis of Pollutants.)

**Redding Electric Utility  
Pollution Prevention Plan**

**13.0 Training**

13.1 Annual Storm-Water Pollution Prevention Plan training for all field personnel involved in the discharge of water from vaults and manholes. Topics will include the following: Overview of the NPDES General Permit, REU Pollution Prevention Plan, and Illness and Injury Prevention Planning (IIPP) Training.

**13.2 Annual Training**

REU personnel receive First Response HAZMAT.

**Attachment A**

**Notice of Intent (NOI)**

**Utilities NOI**

**NPDES Unit**

**Division of Water Quality**

**SWRCB**

**Water Quality Order**

**No. 2006-0008-DWQ**

**(NPDES) Permit No. CAG990002**

**ATTACHMENT B – NOTICE OF INTENT FORM**

**NOTICE OF INTENT (NOI)  
WATER QUALITY ORDER NO. 2006-0008-DWQ  
STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
PERMIT FOR DISCHARGES FROM UTILITY VAULTS AND UNDERGROUND STRUCTURES TO  
SURFACE WATERS OF THE UNITED STATES  
GENERAL PERMIT NO. CAG990002**

**I. NOTICE OF INTENT STATUS (See Instructions)**

MARK ONLY ONE ITEM	1. <input checked="" type="checkbox"/> New Discharger	2. <input type="checkbox"/> Change of Information – WDID #
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**II. OWNER/OPERATOR** (If additional owners/operators are involved, provide the information in a supplemental page.)

A. Name <b>REDDING ELECTRIC UTILITY</b>		Owner/Operator Type (Check One) 1. <input checked="" type="checkbox"/> City    2. <input type="checkbox"/> County    3. <input type="checkbox"/> State 4. <input type="checkbox"/> Gov. Combo    5. <input type="checkbox"/> Private		
B. Mailing Address <b>P.O. BOX 496071</b>				
C. City <b>REDDING</b>	D. County <b>SHASTA</b>	E. State <b>CA</b>	F. Zip Code <b>96049</b>	
G. Contact Person <b>JACK LATIOLAIS</b>	H. Title <b>ELECTRIC MANAGER -LINE</b>	I. Phone <b>(530)224-4387</b>		

**ADDITIONAL OWNERS**

**III. BILLING ADDRESS** (Enter information only if different from above)

Send to: <input checked="" type="checkbox"/> Owner/Operator <input type="checkbox"/> Other	A. Name	B. Title		
	C. Mailing Address			
D. City	E. County	F. State	G. Zip Code	

**IV. RECEIVING WATER INFORMATION**

A. Receiving water(s): <b>SACRAMENTO RIVER</b>	B. Describe the types of receiving waters affected: <b>RIVER, CREEKS</b>
C. Regional Water Quality Control Board(s) where discharge sites are located List all regions where discharge of wastewater is proposed, i.e. Region(s) 1, 2, 3, 4, 5, 6, 7, 8, and/or 9: <b>5</b>	

**V. LAND DISPOSAL/RECLAMATION**

The State Water Resources Control Board's water rights authority encourages the disposal of wastewater on land or re-use of wastewater where practical. You must evaluate and rule out this alternative prior to any discharge to surface water under this Order.

Is land disposal/reclamation feasible?     **Yes**     **No**

If **Yes**, you should contact the Regional Water Board. This Order does not apply if there is no discharge to surface waters. If **No**, explain:

**VI. VERIFICATION**

Have you contacted the appropriate Regional Water Board or verified in the appropriate Basin Plan that the proposed discharge will not violate prohibitions or orders of that Regional Water Board? <input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b>
---

**VII. TYPE (Check All That Apply)**

Electric     Natural Gas     Telephone     Other:

**VIII. POLLUTION PREVENTION PRACTICES PLAN INFORMATION**

A. Company Name REDDING ELECTRIC UTILITY		B. Contact Person PAUL SYDOW		
C. Street Address Where PLAN is Located 20055 VIKING WAY		D. Title of Contact Person UTILITY SYSTEM INSPECTOR		
E. City REDDING	F. County SHASTA	G. State CA	H. Zip Code 96003	I. Phone (530)224-4390

**IX. DESCRIPTION OF DISCHARGE**

Describe the discharge(s) proposed. List any potential pollutants in the discharge. Attach additional sheets if needed.

Electric Utility Vault/manhole stormwater discharge.  
We will test for PH levels - total suspended solids (TSS) (TPH)  
Specific conductance (SC) - total organic carbon (TOC) oil &  
~~grease (O&G)~~

**X. VICINITY MAP AND FEE**

A. Have you included vicinity map(s) with this submittal?     Yes     No  
Separate vicinity maps must be submitted for each Region where a proposed discharge will occur.

B. Have you included payment of the filing fee (for first-time enrollees only) with this submittal?     Yes     No     N/A

C. Have you included your PLAN?     Yes     No

**XI. 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 ensure 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 directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the criteria for eligibility and the development and implementation of Pollution Prevention Practices, if required, will be complied with."

A. Printed Name:  
PAUL SYDOW

B. Signature: *Paul Sydow*    C. Date: 10/26/07

D. Title:  
UTILITY SYSTEM INSPECTOR

PLEASE SUBMIT THE NOI, FIRST ANNUAL FEE, PLAN AND MAP TO THE FOLLOWING ADDRESS:

UTILITIES NOI  
NPDES UNIT  
DIVISION OF WATER QUALITY  
STATE WATER RESOURCES CONTROL BOARD  
P.O. BOX 100  
SACRAMENTO, CA 95812-0100

**STATE USE ONLY**

WDID:	Regional Board Office	Date NOI Received:	Date NOI Processed:
		Fee Amount Received: \$	Check #:

**ATTACHMENT C – INSTRUCTIONS FOR COMPLETING THE NOI**

**WATER QUALITY ORDER NO. 2006-0008-DWQ  
STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
(NPDES) PERMIT FOR DISCHARGES FROM UTILITY VAULTS & UNDERGROUND  
STRUCTURES TO SURFACE WATERS OF THE UNITED STATES  
GENERAL PERMIT NO. CAG990002**

These instructions are intended to help you, the Discharger, complete the NOI form for General Permit No. CAG990002. **Please print clearly or type when completing the NOI form and vicinity map(s). Illegible applications will not be processed.** For any field, if more space is needed, submit a supplementary letter with the NOI.

Send the completed and signed form, filing fee, PLAN, supporting documentation, and vicinity map(s) to the State Water Resources Control Board (State Water Board). Submit one permit application to cover all discharges within the boundaries of a Regional Water Quality Control Board (Regional Water Board). If the proposed discharges occur in more than one Region, submit a permit application for each Region where a discharge will occur. Only one annual fee is required.

**Section I – Notice of Intent Status**

Indicate whether this request is for first time coverage or a change of information for a utility already covered under this General Permit. For a change of information, enter the eleven-digit Waste Discharge Identification (WDID) number for the utility.

**Section II – Owner/Operator**

- A. Name** – Enter the name of the owner/operator. Check the appropriate box for which type of agency best describes the owner/operator. "Gov. Combo." is an abbreviation for "Government Combination" for a joint powers agency created by two or more government agencies. Private businesses should check the "Private" box.
- B. Mailing Address** – Enter the street number and name where correspondence should be sent (P.O. Box is acceptable).
- C. City** – Enter the city that applies to the mailing address given.
- D. County** – Enter the county that applies to the mailing address given.
- E. State** – Enter the state that applies to the mailing address given.
- F. Zip Code** – Enter the zip code that applies to the mailing address given.
- G. Contact Person** – Enter the name (first and last) of the contact person.
- H. Title** – Enter the contact person's title.
- I. Telephone** – Enter the daytime telephone number of the contact person.

**Additional Owners** - Please check this box if there is more than one owner/operator and list.

**Section III – Billing Address**

**Send To:** - Check the appropriate box and enter the information **only** if it is different from section II. above.

- A. Name** – Enter the name (first and last) of the person who will be responsible for the billing.
- B. Title** – Enter the title of the person responsible for the billing.
- C. Mailing Address** – Enter the street number and name where the billing should be sent  
(P.O. Box is acceptable).
- D. City** – Enter the city that applies to the billing address.
- E. County** – Enter the county that applies to the billing address.
- F. State** – Enter the state that applies to the billing address.
- G. Zip Code** – Enter the zip code that applies to the billing address.

**Section IV – Receiving Water Information**

- A. Enter the names(s) of the waterbody to which the wastewater is discharged.
- B. Describe the type(s) of receiving waters affected (river, lake, creek, stream, bay, ocean, wetland).
- C. List all Region numbers where discharge is proposed. Regional Water Board boundaries are defined in section 13200 of the California Water Code. Each Region number is given below and a map is attached to these instructions. For coverage in Region 5, send two additional copies of the map and for coverage in Region 6, send one additional copy.

- |                          |  |  |
|--------------------------|--|--|
| 1 - North Coast          | 2 - San Francisco Bay                            | 3 - Central Coast                            |
| 4 - Los Angeles          | 5 - Central Valley (Sacramento, Fresno, Redding) | 6 - Lahontan (South Lake Tahoe, Victorville) |
| 7 - Colorado River Basin | 8 - Santa Ana                                    | 9 - San Diego                                |

**Section V - Land Disposal/Reclamation**

Check "YES" if land disposal and/or reclamation is/are feasible. If you check "YES," contact the appropriate Regional Water Board. Your discharge may not be covered under the NPDES Program. If you checked "NO," explain in the space provided the reason why these alternatives are not feasible.

**Section VI – Verification**

Indicate by checking "YES" or "NO" whether verification has been done to determine if the discharge(s) are in compliance with prohibitions or orders of the Regional Water Board.

**Section VII - Type**

Check the appropriate box(s) to indicate the type of utility for which you are seeking coverage.

**Section VIII - Pollution Prevention Plan (PLAN) Information**

- A. **Company Name** – Enter the legal name of the company applying for coverage.
- B. **Contact Person** – List the company contact person responsible for preparation and implementation of the PLAN.
- C. **Street Address Where the PLAN is Located** - Indicate the street number and name where you will keep the PLAN for reference and review by personnel.
- D. **Title of Contact Person** – Enter the official company title of the contact person.
- E. **City** – Enter the city where the PLAN will be kept.
- F. **County** – Enter the county where the PLAN will be kept.
- G. **State** – Enter the state where the PLAN will be kept.
- H. **Zip Code** – Enter the city zip code where the PLAN will be kept.
- I. **Telephone** – Enter the daytime telephone number of the contact person.

**Section IX- Description of Discharge**

Describe the types of operations that occur and potential pollutants that may be found in the discharge.

**Section X – Vicinity Map and Fee**

- A. If you have included vicinity map(s) with your NOI submittal, check the "YES" box. If not included, check "NO." **NOTE: Vicinity map(s) of the proposed discharge site must be received before you can obtain coverage under this General Permit.** Submit separate vicinity map(s) for each Regional Water Board where a discharge is proposed. If applying for coverage in the Central Valley Region, send two additional copies of the required map and if applying for coverage under Lahontan Region, send one additional copy of the required map.

The map must show the essential features of the distribution system for the service area within a specific Regional Water Board boundary and show the corresponding surface waters to which water may be discharged.

- B. Check "YES" if you have included the annual fee with your submittal. Check "NO" if you have not included payment. **NOTE: Payment of this fee must be received before you can obtain coverage under this General Permit.** You will be invoiced annually and payment is required to continue coverage.
- C. Check "YES" if you have included the PLAN. Otherwise, check "NO." **NOTE: You must submit the PLAN to the State Water Board and appropriate Regional Water Board(s) to obtain coverage under this General Permit.**

**Section XI - Certification**

- A. Printed Name** – Print your name legibly. The person responsible according to the Signatory Requirements section of the Standard Provisions (Attachment D) must fill out this section.
- B. Signature** – Provide a signature of name printed above.
- C. Date** – Indicate the date signed.
- D. Title** – Include the professional title of the person signing the NOI.

**Attachment B**

**Notice of Intent**

**Utilities NOI**

**Regulation Unit**

**Division of Water Quality**

**SWRCB**

**General (NPDES) Permit No. CAG990002**

**California Environmental  
Protection Agency**



State of California  
State Water Resources Control Board



**NOTICE OF INTENT (NOI)**  
TO COMPLY WITH THE TERMS OF THE STATEWIDE  
GENERAL NATIONAL POLLUTANT DISCHARGE SYSTEM  
(NPDES) PERMIT  
GENERAL PERMIT NO. CAG990002  
FOR DISCHARGE FROM UTILITY VAULTS  
AND UNDERGROUND STRUCTURES  
TO SURFACE WATERS

Mark Only One Item	1. <input checked="" type="checkbox"/>	New Discharge Under General Permit No. CAG990002
	2. <input type="checkbox"/>	Change of Information - WDID # _____

**I. LAND DISPOSAL/RECLAMATION**

The State Water Resources Control Board's water rights authority encourages the disposal of wastewater on land or re-use of wastewater when practical. You must evaluate and rule out this alternative prior to any discharge to surface water under this Order.

Is land disposal/reclamation feasible? Yes  No

If No, explain. If Yes, you should contact the RWQCB. This Order does not apply if there is no discharge to surface waters.

**II. VERIFICATION**

Have you contacted the appropriate RWQCB or verified in the appropriate WQCP that the proposed discharge will not violate prohibitions or orders of that RWQCB?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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**III. TYPE (Check All That Apply)**

Electric     Natural Gas     Telephone     Other \_\_\_\_\_

**IV. OWNER/OPERATOR** If additional owners/operators are involved, provide the information in a supplemental letter.

A. Name <b>REDDING ELECTRIC UTILITY</b>		Owner/Operator Type (Check One) 1. <input checked="" type="checkbox"/> City    2. <input type="checkbox"/> County    3. <input type="checkbox"/> State 4. <input type="checkbox"/> Gov. Combo    5. <input type="checkbox"/> Private		
Mailing Address <b>P.O. BOX 496071</b>				
City <b>REDDING</b>	State <b>CA</b>	Zip Code <b>96049</b>	Phone <b>(530) 224-4387</b>	
B. Contact Person <b>JACK LATIOLAIS</b>		1. <input checked="" type="checkbox"/> Owner    2. <input type="checkbox"/> Operator    3. <input type="checkbox"/> Owner/Operator		
<input type="checkbox"/> Additional Owners				

**V. BILLING ADDRESS**

Send to: <input checked="" type="checkbox"/> Owner/Operator	Name <b>JACK LATIOLAIS</b>			
<input type="checkbox"/> Other	Mailing Address <b>P.O. BOX 496071</b>			
	City <b>REDDING</b>	State <b>CA</b>	Zip Code <b>96049</b>	

**STATE USE ONLY**

WDID:	Regional Board Office	Date NOI Received:	Date NOI Processed:
		Fee Amount Received: \$	Check #:

**VI. REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) JURISDICTION**

In what RWQCB's jurisdiction are you applying for coverage? 5 REDDING

**VII. POLLUTION PREVENTION PRACTICES PLAN INFORMATION**

A. Company Name <b>REDDING ELECTRIC UTILITY</b>		Contact Person <b>JACK LATIOLAES</b>	
Street Address Where the Pollution Prevention Practices Plan is Located <b>20055 VIKING WAY</b>		Title of Contact Person <b>ELECTRIC MANAGER -LINE</b>	
City <b>REDDING</b>	State <b>CA</b>	Zip Code <b>96003</b>	Phone <b>(530) 224-4387</b>

**VIII. DESCRIPTION OF DISCHARGE**

Describe the discharge(s) proposed. List any potential pollutants in the discharge. Attach additional sheets if needed.

**UTILITY VAULT & MANHOLE STORMWATER DISCHARGE.**  
**WE WILL TEST FOR PH LEVELS, TSS, TOC, (TPH)**  
**SPECIFIC CONDUCTANCE, OIL & GREASE**

**IX. CERTIFICATION**

"I certify under penalty of law that this document and all attachments were prepared under my direct 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 directly responsible for gathering the information, the information submitted is, true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including the criteria for eligibility and the development and implementation of Pollution Prevention Practices, if required, will be complied with."

Printed Name: PAUL SYDOW

Signature: *Paul Sydow* Date: 10/26/07

Title: UTILITY SYSTEM INSPECTOR

**X. OTHER INFORMATION REQUIRED**

A 8 1/2 " x 11" map of scale =1:24000 is suggested unless the service area is too large for such a scale to be practical, in which case a scale of up to 1:250000 may be used. If the scale =1:250000 is still impractical, a map larger than 8 1/2 " x 11" may be used. The map shall show the essential features of the distribution system for the service area within a specific RWQCB boundary and show the corresponding surface waters to which water may be discharged. For discharges in the Central Valley Region, please submit an additional two copies of the map, and in the Lahontan Region, please submit one additional copy of the map.

**PLEASE SUBMIT THE NOI, FIRST ANNUAL FEE, AND MAP TO THE FOLLOWING ADDRESS:**

**UTILITIES NOI  
 REGULATION UNIT  
 DIVISION OF WATER QUALITY  
 STATE WATER RESOURCES CONTROL BOARD  
 P.O. BOX 100  
 SACRAMENTO, CA 95812**

**Attachment C**

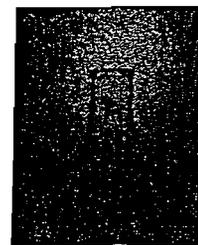
**Vault/Manhole Storm water Discharge**  
**sample analysis**

## Required Laboratory Analysis



## Required Laboratory Analysis

The Industrial Activities Storm Water General Permit requires you to analyze storm water samples for at least four parameters. These are pH, Total Suspended Solids (TSS), Specific Conductance (SC), and Total Organic Carbon (TOC). Oil and Grease (O&G) may be substituted for TOC. In addition, you must monitor for any other pollutants which you believe to be present in your storm water discharge as a result of industrial activity and analytical parameters listed in Additional Laboratory Analysis. There are no numeric limitations for the parameters you test for.



The four parameters are considered indicator parameters. In other words, regardless of what type of facility you operate, these parameters are nonspecific and general enough to usually provide some indication whether pollutants are present in your storm water discharge. The following briefly explains what each of these parameters mean:

- **pH** is a numeric measure of the hydrogen-ion concentration. The neutral, or acceptable, range is within 6.5 to 8.5. At values less than 6.5, the water is considered acidic; above 8.5 it is considered alkaline or basic. An example of an acidic substance is vinegar, and a alkaline or basic substance is liquid antacid. Pure rainfall tends to have a pH of a little less than 7. There may be sources of materials or industrial activities which could increase or decrease the pH of your storm water discharge. If the pH levels of your storm water discharge are high or low, you should conduct a thorough evaluation of all potential pollutant sources at your site.
- **Total Suspended Solids (TSS)** is a measure of the undissolved solids that are present in your storm water discharge. Sources of TSS include sediment from erosion of exposed land, and dirt from impervious (i.e. paved) areas. Sediment by itself can be very toxic to aquatic life because it covers feeding and breeding grounds, and can smother organisms living on the bottom of a water body. Toxic chemicals and other pollutants also adhere to sediment particles. This provides a medium by which toxic or other pollutants end up in our water ways and ultimately in human and aquatic life. TSS levels vary in runoff from undisturbed land. It has been shown that TSS levels increase significantly due to land development.
- **Specific Conductance (SC)** is a numerical expression of the ability of the water to carry an electric current. SC can be used to assess the degree of mineralization, salinity, or estimate the total dissolved solids concentration of a water sample. Because of air pollution, most rain water has a SC a little above zero. A high SC could affect the usability of waters for drinking, irrigation, and other commercial or industrial use.
- **Total Organic Carbon (TOC)** is a measure of the total organic matter present in water. (All organic matter contains carbon) This test is sensitive and able to detect small concentrations of organic matter. Organic matter is naturally occurring in animals, plants, and man. Organic matter may also be man made (so called synthetic organics). Synthetic organics include pesticides, fuels, solvents, and paints. Natural organic matter utilizes the oxygen in a receiving water to biodegrade. Too much organic matter could place a significant oxygen demand on the water, and possibly impact its quality. Synthetic organics either do not biodegrade or biodegrade very slowly. Synthetic organics are a source of toxic chemicals that can have adverse affects at very low concentrations. Some of these chemicals bioaccumulate in aquatic life. If your levels of TOC are high, you should evaluate all sources of natural or synthetic organics you may use at your site.
- **Oil and Grease (O&G)** is a measure of the amount of oil and grease present in your storm water discharge. At very low concentrations, O&G can cause a sheen (that floating "rainbow") on the surface of water (1 qt. of oil can pollute 250,000 gallons of water). O&G can adversely affect aquatic life and create unsightly floating material and film on water, thus making it undrinkable. Sources of O&G include maintenance shops, vehicles, machines and roadways.

To purchase this General Lab Testing please go to Products and Available Services

If you have any questions regarding whether or not your constituent concentrations are too high, please contact your local Regional Board office. The United States Environmental Protection Agency (USEPA) has published stormwater discharge benchmarks for a number of parameters. These benchmarks may be helpful when evaluating whether additional BMPs are appropriate. These benchmarks can be accessed at our website at <http://www.swrcb.ca.gov>. It is contained in the Sampling and Analysis Reduction Certification.

Close



www.basiciab.com

voice 530.243.7234

fax 530.243.7494

2218 Railroad Avenue

Redding, California 96001

TPH-Gas-BTEX

## VOA SAMPLING INSTRUCTIONS

*Please follow these instructions carefully!*

You have been given one or more clear or amber glass vials. These are sterile containers and they contain a small amount of preservative, so please do not rinse them. When collecting the sample, you must fill the vial completely so that there are *no* air bubbles. Fill the vial until it overflows slightly and screw the lid on allowing little water to escape. Then turn the vial upside-down and tap it against the palm of you hand. If there are any air bubbles, remove the lid and add a few more drops of water.

Taking the sample:

1) Run the well for 15 minutes. If you do not want to sample at the well, remove the aerator from the kitchen faucet, open all spigots, and run the water for 15 minutes.

2) Turn off all the other spigots except the one you plan to sample from. At this spigot, turn the force down to an even stream.

3) Fill all vials completely, checking for air bubbles.

A Travel Blank may be included. This is a sealed vial filled with organic free water. It is only along for the ride, so please do not tamper with it or break the seal

4) Note the date and time sampled on the label and on the Chain of Custody, if you have one.

5) Refrigerate the sample. You have 24 hours to return it to the lab. A ziplock bag with ice is adequate for chilling the samples.

*Note: Please include payment with your sample (s).  
Test results cannot be released until payment has been received.*

*Thank You*

# City of Redding

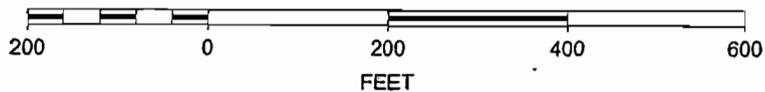
**Airport Clear Zone**

**Storm Drain System**

-  **Detention Basin**
-  **Stormdrain Inlets**
  -  **Area Drain**
  -  **Catch Basin**
  -  **Manhole**
  -  **Bubble Out**
  -  **Rodhole**
  -  **Unknown**
-  **Stormdrain Outfalls**
-  **Stormdrain Pipes**
-  **Improved Channels**
-  **Creeks**
  -  **Main**
  -  **Secondary**
  -  **Tertiary**
-  **Minor Roads2**
- Text Example**
-  **Major Road Labels**
-  **Local Road Labels**
-  **Parcels**

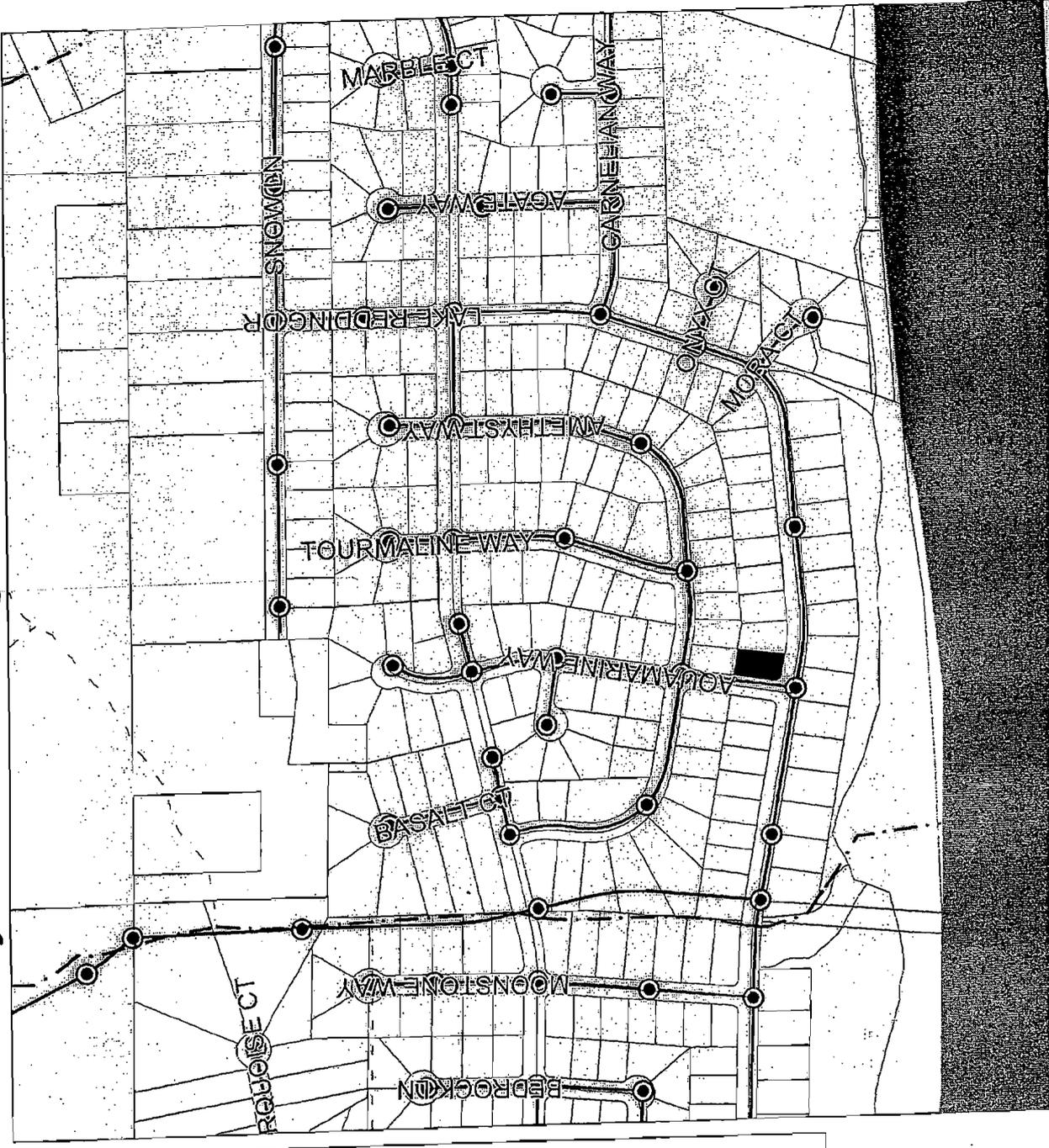


SCALE 1 : 2,593



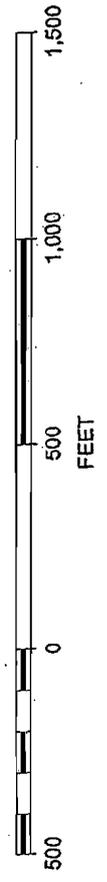


# City of Redding



	Misc. Features
	Creeks
	- Main
	- Secondary
	- Tertiary
	Minor Roads2
	Manholes
	● MH
	▲ RH
	Wastewater
<b>GIS MAPS</b>	
	Southbdy
	Westbdy
	Northbdy
	Eastbdy
	Major Road Labels
	Local Road Labels
	Parcels
	Right-of-Way
	Mixed Use
	Critical Mineral

SCALE 1 : 5,682





Maraglia St. Redding, CA 96002

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basic  
laboratory

www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue  
fax 530.243.7494 Redding, California 96001

March 07, 2007

**Lab ID: 7020724**

JACK LATIOLAIS  
CITY OF REDDING ELECTRIC UTILITY  
POST OFFICE BOX 496071  
REDDING, CA 96049-6071  
RE: GENERAL TESTING

Dear JACK LATIOLAIS,

Enclosed are the analysis results for Work Order number 7020724. All analysis were performed under strict adherence to our established Quality Assurance Plan. Any abnormalities are listed in the qualifier section of this report.

If you have any questions regarding these results, please feel free to contact us at any time. We appreciate the opportunity to service your environmental testing needs.

Sincerely,

  
For



Ricky D. Jensen  
Laboratory Director

California ELAP Certification Number 1677



**basic**  
laboratory

www.basiclab.com

phone 530.243.7234 2218 Railroad Avenue  
fax 530.243.7494 Redding, California 96001

**Report To:** CITY OF REDDING ELECTRIC UTILITY  
POST OFFICE BOX 496071  
REDDING, CA 96049-6071

**Lab No:** 7020724  
**Reported:** 03/07/07  
**Phone:** 224-4390  
**P.O. #**

**Attention:** JACK LATIOLAIS  
**Project:** GENERAL TESTING

**Description:** SWITCH VAULT #4735

**Lab ID:** 7020724-01

**Sampled:** 02/21/07 13:10

**Matrix:** Storm Water

**Received:** 02/21/07 15:25

**General Chemistry**

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
pH	pH Units	8.04		0.01	0.01	SM 4500H+	02/21/07	02/21/07	B7B0423
Total Suspended Solids	mg/l	ND		2	6	SM 2540D	02/27/07	02/27/07	B7B0548
Oil & Grease	"	4.2	J	1.4	5.0	EPA 1664	03/06/07	03/01/07	B7C0005

**TPH Gasoline Range Organics**

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	ND		3.5	50.0	EPA 8015/8260B	02/22/07	02/22/07	B7B0464
Benzene	"	ND		0.03	0.5	"	"	"	"
Toluene	"	ND		0.04	0.5	"	"	"	"
Ethylbenzene	"	ND		0.02	0.5	"	"	"	"
Xylenes (total)	"	ND		0.07	1.0	"	"	"	"
Methyl tert-Butyl Ether (MTBE)	"	ND		0.04	1.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		93.6 %			43-155	"	"	"	"

**Diesel & Motor Oil**

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	ND		20	50	EPA 8015	03/02/07	02/28/07	B7B0588
Surrogate: Octacosane		131 %			50-150	"	"	"	"

*Lizy Jensen*

proved By  
Basic Laboratory, Inc.  
California D.O.H.S. Cert #1677



**basic**  
LABORATORY

www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue  
fax 530.243.7494 Redding, California 96001

**Report To:** CITY OF REDDING ELECTRIC UTILITY  
POST OFFICE BOX 496071  
REDDING, CA 96049-6071

**Lab No:** 7020724  
**Reported:** 03/07/07  
**Phone:** 224-4390  
**P.O. #**

**Attention:** JACK LATIOLAIS  
**Project:** GENERAL TESTING

**Description:** J-BOX #1174  
**Matrix:** Storm Water

**Lab ID:** 7020724-02

**Sampled:** 02/21/07 14:10  
**Received:** 02/21/07 15:25

**General Chemistry**

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
pH	pH Units	7.85		0.01	0.01	SM 4500H+	02/21/07	02/21/07	B7B0423
Total Suspended Solids	mg/l	ND		2	6	SM 2540D	02/27/07	02/27/07	B7B0548
Oil & Grease	"	5.7		1.4	5.0	EPA 1664	03/06/07	03/01/07	B7C0005

**TPH Gasoline Range Organics**

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	ND		3.5	50.0	EPA 8015/8260B	02/22/07	02/22/07	B7B0464
Benzene	"	ND		0.03	0.5	"	"	"	"
Toluene	"	ND		0.04	0.5	"	"	"	"
Ethylbenzene	"	ND		0.02	0.5	"	"	"	"
Xylenes (total)	"	ND		0.07	1.0	"	"	"	"
Methyl tert-Butyl Ether (MTBE)	"	ND		0.04	1.0	"	"	"	"
Surrogate: 4-Bromofluorobenzene		84.0 %			43-155	"	"	"	"

**I Diesel & Motor Oil**

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Diesel	ug/l	ND		20	50	EPA 8015	03/02/07	02/28/07	B7B0588
Surrogate: Octacosane		144 %			50-150	"	"	"	"

*Patricia Jensen*

Approved By  
Basic Laboratory, Inc.  
California D.O.H.S. Cert #1677



**basic**  
Laboratory

www.basiclab.com

voice 530.243.7234 2218 Railroad Avenue  
fax 530.243.7494 Redding, California 96001

**Report To:** CITY OF REDDING ELECTRIC UTILITY  
POST OFFICE BOX 496071  
REDDING, CA 96049-6071

**Attention:** JACK LATTOLAI  
**Project:** GENERAL TESTING

**Description:** TRIP BLANK  
**Matrix:** Blank

**Lab ID:** 7020724-03

**Lab No:** 7020724  
**Reported:** 03/07/07  
**Phone:** 224-4390  
**P.O. #**

**Sampled:** 02/21/07 00:00  
**Received:** 02/21/07 15:25

**TPH Gasoline Range Organics**

Analyte	Units	Results	Qualifier	MDL	RL	Method	Analyzed	Prepared	Batch
Gasoline	ug/l	ND		3.50	50.0	EPA 8015/8260B	02/22/07	02/22/07	B7B0464
Surrogate: 4-Bromofluorobenzene		83.4 %		43-155		"	"	"	"

**Notes and Definitions**

- J Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). The J flag is equivalent to the DNQ Estimated Concentration flag.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the detection limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- < Less than reporting limit
- ≤ Less than or equal to reporting limit
- > Greater than reporting limit
- ≥ Greater than or equal to reporting limit
- MDL Method Detection Limit
- RL/ML Minimum Level of Quantitation
- MCL/AL Maximum Contaminant Level/Action Level
- mg/kg Results reported as wet weight
- TTLIC Total Threshold Limit Concentration
- STLC Soluble Threshold Limit Concentration
- TCLP Toxicity Characteristic Leachate Procedure

Reviewed By

City of Redding Laboratory, Inc.  
California D.O.H.S. Cert #1677



# Invoice

Invoice Number  
0701766  
Invoiced On  
03/07/07

Project  
GENERAL TESTING  
Project Number

PO Number

Invoice To  
CITY OF REDDING ELECTRIC UTILITY  
JACK LATIOLAIS  
POST OFFICE BOX 496071  
REDDING, CA 96049-6071

Work Order(s)  
7020724



Remit To  
Accounts Receivable  
Basic Laboratory, Inc  
2218 Railroad Avenue  
Redding, CA 96001-2504  
530-243-7234 x203

Terms: Due Upon Receipt

Quantity	Matrix	Analysis/Description	Unit Cost	Extended Cost
		Project turn around      Standard		
2	Water	O&G 1664	\$60.00	\$120.00
2	Water	pH 4500-H+	\$16.00	\$32.00
2	Water	TPH Diesel 8015	\$80.00	\$160.00
2	Water	TPH G/BTEX/MTBE	\$80.00	\$160.00
1	Water	TPH Gas 8015/8260 Trip Blank	\$0.00	\$0.00
2	Water	TSS 2540D	\$20.00	\$40.00
			Invoice Total	\$512.00



7020724

**Basic Laboratory, Inc.**

**Client:** CITY OF REDDING ELECTRIC UTILITY  
**Project:** GENERAL TESTING

**Project Manager:** Ricky Jensen  
**Project Number:** [none]

**Report To:**

CITY OF REDDING ELECTRIC UTILITY  
 JACK LATIOLAIS  
 POST OFFICE BOX 496071  
 REDDING, CA 96049-6071  
 Phone: 224-4390  
 Fax: 224-4393

**Invoice To:**

CITY OF REDDING ELECTRIC UTILITY  
 PAUL SYDOW  
 POST OFFICE BOX 496071  
 REDDING, CA 96049-6071  
 Phone :224-4390  
 Fax: 224-4393

Pick up  
 Thurs.  
 3-15-07  
 around 3:00 PM

Date Due: 03/08/07 17:00 (10 day TAT)

Received By: Penny Oilar

Date Received: 02/21/07 15:25

Logged In By: Penny Oilar

Date Logged In: 02/21/07 15:45

**Samples Received at:**

Labels	No	TSCA	No
Seals Intact	No	RCRA	No
Received on ice	No	FedEx	No
Smelled bad	No	UPS	No

Analysis	Due	TAT	Expires	Comments
<b>7020724-01 SWITCH VAULT #4735 [Water] Sampled 02/21/07 13:10 Pacific</b>				
TSS 2540D	03/06/07 13:00	8	02/28/07 13:10	
TPH G/BTEX/MTBE	03/06/07 13:00	8	03/07/07 13:10	
TPH Diesel 8015	03/06/07 13:00	8	02/28/07 13:10	
pH 4500-H+	03/06/07 13:00	8	02/22/07 13:10	
O&G 1664	03/06/07 13:00	8	03/21/07 13:10	
<b>7020724-02 J-BOX #1174 [Water] Sampled 02/21/07 14:10 Pacific</b>				
TSS 2540D	03/06/07 13:00	8	02/28/07 14:10	
TPH G/BTEX/MTBE	03/06/07 13:00	8	03/07/07 14:10	
TPH Diesel 8015	03/06/07 13:00	8	02/28/07 14:10	
pH 4500-H+	03/06/07 13:00	8	02/22/07 14:10	
O&G 1664	03/06/07 13:00	8	03/21/07 14:10	
<b>7020724-03 TRIP BLANK [Water] Sampled 02/21/07 00:00 Pacific</b>				
TPH Gas 8015/8260 Trip Blank	03/06/07 13:00	8	03/07/07 00:00	

**Attachment D**

**Receiving Water Description**

## Receiving Water Description

### 4. RECEIVING WATER DESCRIPTION

#### 4-1 Sacramento River

The Sacramento River, with a watershed encompassing 27,210 square miles, is the largest river system in California and accounts for an average annual discharge of 21.6 million acre-feet (AF) into the Sacramento-San Joaquin Delta. The City of Redding is located in the upper Sacramento River 14 miles downstream from Shasta Dam, 1.5 miles downstream of Keswick Dam and 167 miles north of Sacramento, which drains approximately 6,500 square miles and has an average annual discharge rate of 7.1 million AF. The Sacramento River bisects the City.

#### *Hydrology*

The Bureau of Reclamation Central Valley Project controls the hydrology of the Sacramento River through the Redding area. Shasta Dam is the primary controlling facility with a storage capacity of 4.5 million AF. Keswick Dam is an afterbay power generation facility with minimal storage capacity and serves to regulate releases from Shasta Dam and water transfers from the Trinity River via Carr Powerhouse and Whiskeytown Lake. Following construction of Shasta Dam, the 100-year flood release from Shasta and Keswick Dams has been restricted to approximately 79,000 cubic feet per second (cfs). Prior to construction of the Central Valley Project facilities the 100-year peak flow was estimated to be 280,000 cfs (FEMA, 1989).

Operation of the Central Valley Project has changed the seasonal hydrology of the Sacramento River by storing high winter flows and increasing discharges later in the year to support downstream agricultural, municipal and industrial and environmental demands.

Analysis of the historic flow records since construction of Shasta Dam has revealed two high flow periods: January-February and July-August. The January-February period corresponds with winter peak flow events, while the July-August period represents peak agricultural and environmental water deliveries.

Beneficial uses of the Sacramento River from Shasta Dam to Colusa Basin Drain are listed in the Water Quality Control Plan (Basin Plan) for the California Water Quality Control Board Central Valley Region. The Sacramento River water has beneficial use designations of Municipal and Domestic Supply, Agriculture, Irrigation, Stock Watering, Industrial Service Supply, Power Generation, Contact Recreation, Canoeing and Rafting, Non-contact Recreation, warm and cold Freshwater, Spawning and Migration Habitat and Navigation. The Sacramento River is listed as a navigable waterway as far north as Redding under control of the State Lands Commission.

#### 4-2 Local Streams

Local hydrology consists of 16 primary drainage basins and numerous smaller creeks tributary to the Sacramento River within the City. The largest stream with substantial drainage area within the City Limits, Churn Creek, has five significant tributary sub-basins. Table 4-1 provides a basic characterization of the receiving water, listing the basins, approximate tributary areas, primary channel length and land uses. Figure 4-1 shows the major City of Redding drainage basins.

The only other water with specific beneficial uses listed within the City of Redding sphere of influence is Clear Creek. The vast majority of Clear Creek is located in Shasta County with a

## Section 4 - Receiving Water Description

small percent of the low end of the basin passing through the City prior to reaching the Sacramento River. Clear Creek beneficial uses include Municipal and Domestic Supply, Irrigation, Stock Watering, Contact Recreation,

Canoeing and Rafting, Non-contact Recreation, Warm and Cold Freshwater Habitat, Cold Water Migration, Warm and Cold Spawning Habitat and Wildlife Habitat.

**Table 4-1  
Basic Watershed Characteristics**

Watershed	Watershed Area, sq mi	Main Channel Length, mi	Area in City, sq mi	Land Use, % (1)			
				Open	Residential	Commercial	Industrial
Sacramento River	27210	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
Boulder Creek	3.53	5.02	3.39	25	57	1	17
Buckeye Creek	1.99	0.13	0.3	6	33	13	48
Calaboose Creek	(N/A)	3.03	0.98	41	47	12	0
Canyon Creek	3.22	3.26	2.83	38	56	1	5
Churn Creek	38.23	8.07	10.8	24	73	2	1
Clear Creek (lower)	48.91	1.24	0.67	23	68	0	9
Clover Creek	6.84	5.46	5.02	27	48	0	25
Dry Gulch Creek	1.0	2.09	0.98	1	99	0	0
Jenny Creek	1.69	2.52	1.21	29	64	7	0
Linden Drain	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
Newtown Creek	2.15	0.87	0.34	0	100	0	0
Olney Creek	14.18	4.08	2.87	7	91	0	2
Oregon Gulch Creek	3.85	3.57	2.16	56	43	0	1
Salt Creek	4.85	0.97	0.83	48	50	2	0
South Bonnyview Drain	(N/A)	1.46	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
Stillwater Creek	66.0	2.31	6.3	33	54	2	11
Sulphur Creek	4.42	3.94	2.28	35	64	1	0

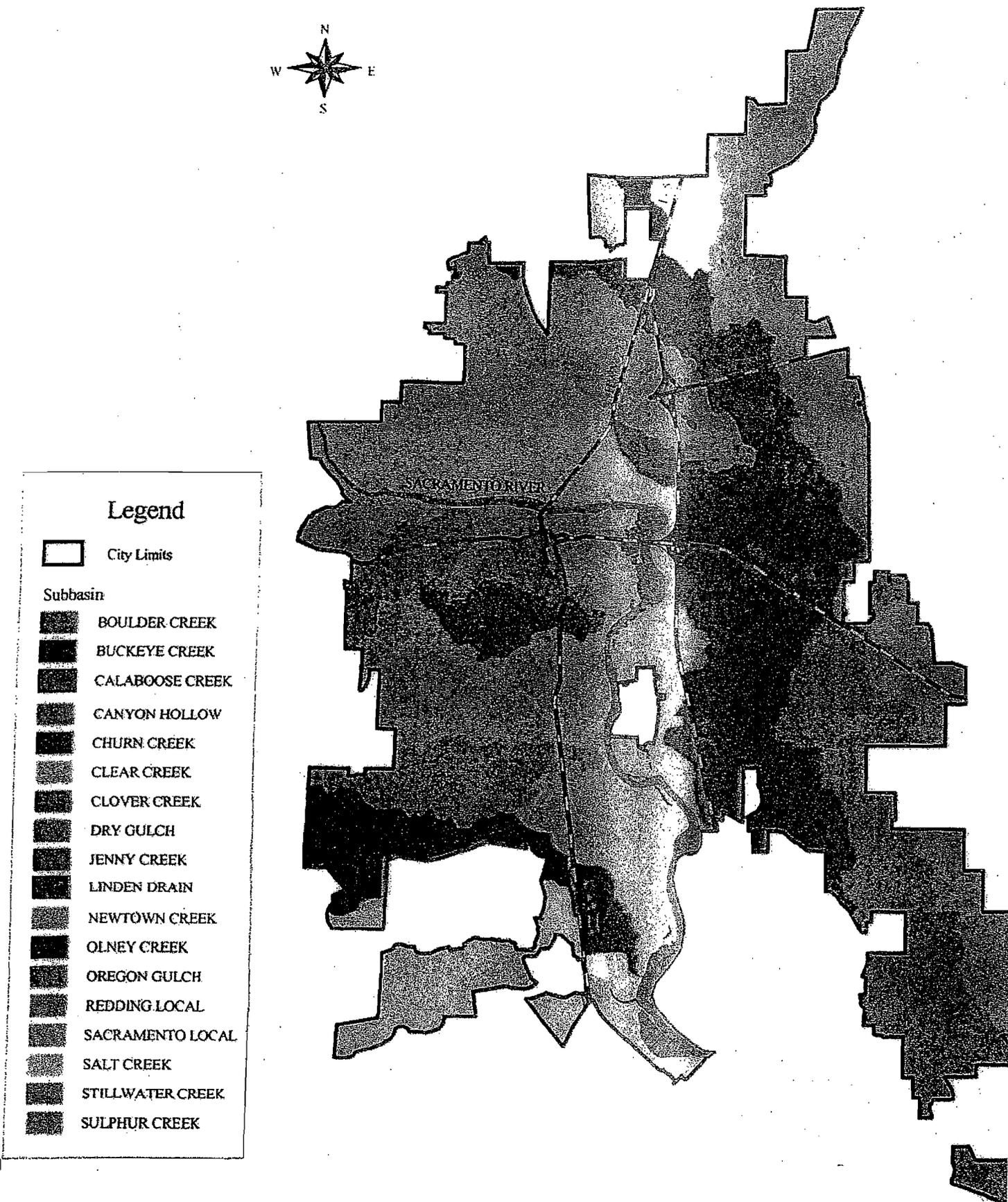
(1) Percent of watershed within City Limits. 100% represents the entire watershed within City Limits.

(N/A) Not available or developed at the time of publication of this report

**Attachment E**

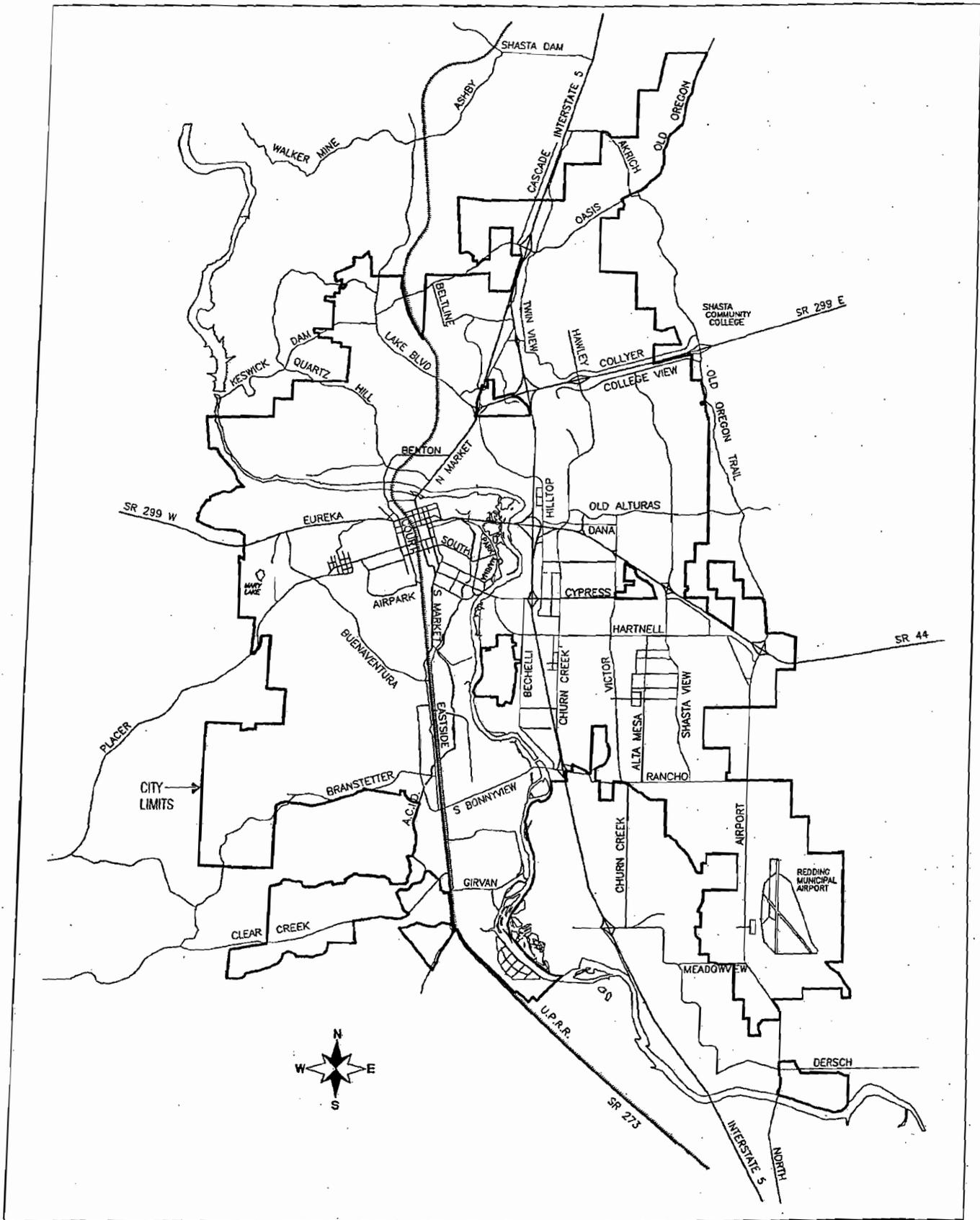
**Redding Drainage Basin**

Figure 4-1: City of Redding Drainage Basins



Attachment F

City Limits  
(REU Service Territory)



**City of Redding**

**Attachment G**

**Underground Inspection Report**



# REDDING ELECTRIC UTILITY

*Smart Service... Bright Ideas!*

## U.G. INSPECTION PROGRAM

### UNDERGROUND INSPECTION CODES

Comments	Description	Comments	Description
AP	Annual Patrol	OL	Oil Leaking
BB	Box Broken/damaged	OP1	Clearance Issue (High Priority)
BD	Bolt Down (Transformers only)	OP2	Clearance Issue (Medium Priority)
BN	Barrier post Needed	OP3	Clearance Issue (Low Priority) Non-Removable
BP	Barrier Post (straightened, painted, tape)	PA	Pad Adjustment (too small, etc.)
CC	Cable Connections (sec, grounds, ground rods)	PB	Pad Broken
CD	Cable Damaged	PC	Pest Control
CT	Cable Tags (not installed, wrong location)	PG	Primary Ground (bleeder wires on caps & elbows, etc.)
EB	Esna Bails (rusted, missing)	PL	Pad Locks
EC	Equipment Covered (water, dirt)	RP	Requires Painting (graffiti, rust, etc.)
ED	Equipment Damaged	RR	Struts or Racks (corroded or rusting)
ES	Elbow Swelled	RS	Rotation Sticker (rotation confirmed & sticker installed)
GA	Grade Adjustment	RW	Retaining Wall
GR	Graffiti Removal	SC	Stress Cones (burned, tracking, tape, etc.)
HK	Housekeeping required (cobwebs, debris, weeds, etc.)	SD	Secure or (bolts missing, lid bent, door handle or hinges not working)
LB	Locate Box	SL	Secure Lids (springs, bolts, plates, drill, tap, grind, etc.)
LD	Lids Damaged (rusting, corroded, broken)	SM	Sump pump Maintenance
LO	Oil (Low, gauges, etc.)	SS	Secure Switch
LR	Ladder Rusted (missing, bolts, etc.)	TH	Tripping Hazard
ML	Manhole Light or switch	TP	Tamper Proof (vault, cabinet, pad)
MU	Mapping Update	TR	Temp. Reading (primary, sec.)
NB	New Bolt and nut assembly needed	TS	Equipment needs straightened
NN	Number Needed	WN	Welding Needed
OH	Operating Handle (missing, broken)	WS	Warning Signs

**Attachment H**

**REU Vault & Manhole Storm water**  
**Discharge**  
**Report for NPDES Monitoring Program**

REU Vault & Manhole Storm water Discharge Report  
NPDES Monitoring Program

Date: \_\_\_\_\_ Vault or Manhole# \_\_\_\_\_ Circle One 3x5 4x8 6x12

Start time of discharge: \_\_\_\_\_ End time of discharge: \_\_\_\_\_

Amount of discharge: \_\_\_\_\_ Gallons

Weather conditions: Dry/Clear Rain/Cloudy Rainy/Season Dry/Season

Recent Rain: \_\_\_ Yes \_\_\_ No Comment: \_\_\_\_\_

What is the condition of the water in vault or manhole?

1. Is any tar visible? No \_\_\_ Yes \_\_\_
2. Is the water Cloudy? No \_\_\_ Yes \_\_\_
3. Is the water discolored? (red, black, white) No \_\_\_ Yes \_\_\_ Color \_\_\_\_\_
4. Are there any unusual odors? (i.e. gasoline, diesel, sewage, etc.)
5. Describe odors: \_\_\_\_\_
6. Is the area clear of debris? No \_\_\_ Yes \_\_\_
7. Is there an oil sheen (rainbow) on the water? No \_\_\_ Yes \_\_\_
8. Will water be filtered when discharged? No \_\_\_ Yes \_\_\_

BMPs used for vault/manhole water discharge.

1. \_\_\_ VMS Filter Sock Vault Maintenance System
2. \_\_\_ Spilfyter Wastewater chemstrips
3. \_\_\_ Gravel Bag Silt Dams at Storm Drain Inlets
4. \_\_\_ By agreement with the City of Redding Municipal Utilities,  
The Redding Electric Utility may pump vault/manhole stormwater into the  
City of Redding Sanitary Sewer System.

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The above information is true and correct to the best of my knowledge.

\_\_\_\_\_  
Name of Observer/Sampler

\_\_\_\_\_  
Signature

Return form to your supervisor

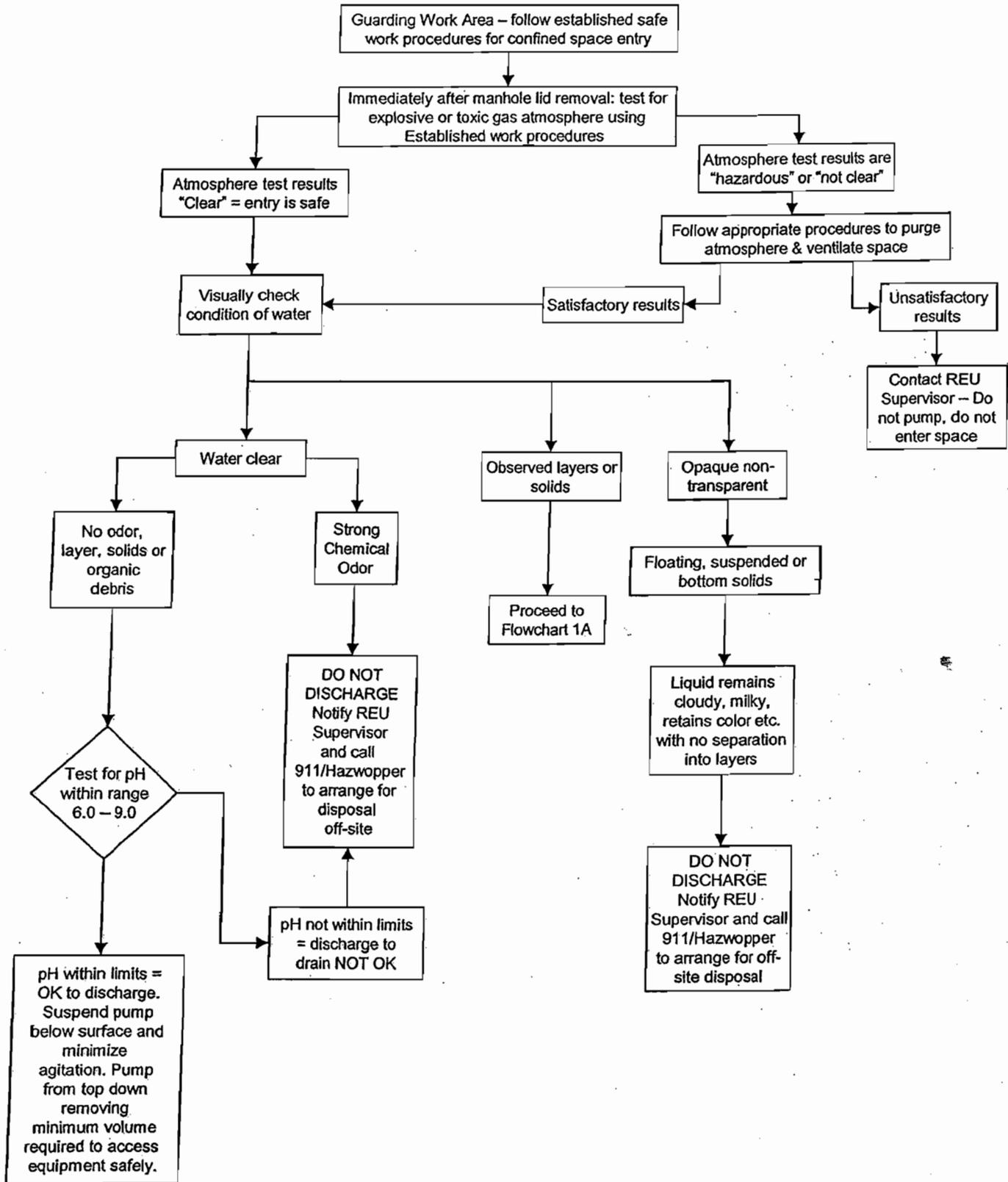
**Attachment I**

**Vault Discharge Flowchart**

# ATTACHMENT I

## Utility Manhole & Vault De-Watering Decision Guide

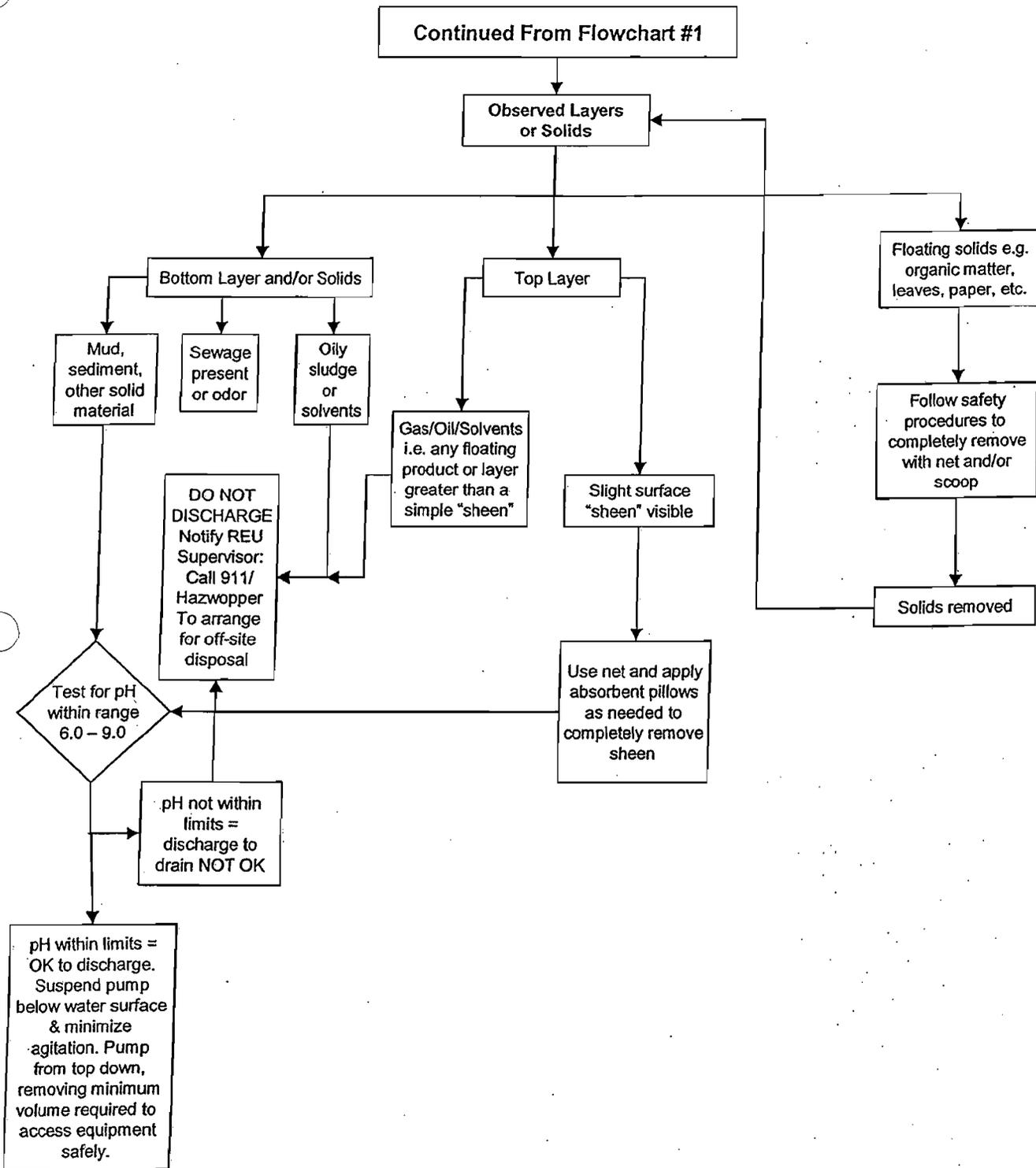
### Flow Chart #1



# ATTACHMENT I

## Utility Manhole & Vault De-Watering Decision Guide

### Flow Chart #1A



# ATTACHMENT I

## MANUALLY-DEWATERED VAULT INSPECTION PROCEDURE

The following describes the inspection procedure for manually dewatered vaults. See Figure A-1 for a summary of this process.

### Waste Water Test Kit

The following items are contained in the Wastewater Test Kit:

- pH test strips,
- laminated color chart for pH test strips,
- weights (e.g. large washers),
- plastic box for kit contents, and
- a roll of synthetic thread.

### Test Kit Use

Use the Wastewater Test Kit to test the water found in vaults, manholes, and other underground structures before pumping the water from the structure.

The following steps outline the water test procedure (Figure A-1).

### Step 1

Test and ventilate the manhole per PWP procedure for confined spaces. Follow confined space permit requirements.

### Step 2

Enter the following in the inspection log (page A-6)

- Date of the inspection.
- Time of the inspection.
- Manhole number or location address.
- Name of individual performing inspection.

ATTACHMENT I  
**MANUALLY-DEWATERED VAULT  
INSPECTION PROCEDURE  
CONTINUED**

### **Step 3**

Conduct a sensory survey of the water in the vault to determine the presence of any obvious signs of contamination. Visual signs of contamination include a sheen on the water surface, murkiness/cloudiness, and presence of debris. Olfactory signs of contamination include petroleum or sewage odors.

**If there are obvious signs of contamination, then:**

- Circle Yes in the test log next to the signs you observed. (page A-6)
- Contact your supervisor.
- Do NOT pump the vault.

**If there is no visible evidence of contamination, then:**

- Circle No next to each option in the test log.
- Proceed with the pH test.

### **Step 4**

Remove one test strip, a weight, and the spool of thread from the test kit container.

### **Step 5**

Run thread through the weight and the hole in the test strip. Secure.

### **Step 6**

Cut the thread to an appropriate length to allow the test strip to reach the bottom of the manhole.

### **Step 7**

Put on gloves or have a rag/paper towel available for holding the strip. Avoid touching the test strip after it has been in the water.

### **Step 8**

Lower the test strip into the manhole water.

**NOTE: In deeper water, stratification may occur. Lower the test strip well into the water to ensure that the strip is exposed to the entire volume of water.**

### **Step 9**

Remove the test strip from the manhole and shake it to remove excess water. Avoid touching the test strip to your bare skin.

ATTACHMENT I  
MANUALLY-DEWATERED VAULT  
INSPECTION PROCEDURE  
CONTINUED

**Step 10**

Examine the test strip for visible evidence of contamination, such as mud, oil, or sludge.

**If there is visible signs of contamination, then:**

- Circle the type of residue you observed. If you circle *Other*, include a one-word description. (page A-6)
- Contact your supervisor.
- Do NOT pump the vault.

**If there is no visible evidence of contamination, then:**

- Circle *None* on the test log.
- Proceed with the test.

**Step 11**

Compare the pH strip to the color chart provided in the Water Test Kit. Write the pH number in the black at the bottom of the test log. If the strip indicates that pH is greater than 8.5 or less

- than 6.5, then:
- Contact your supervisor.
- Do NOT pump the vault.

If the strip indicates that the pH is at least 6.5 but no more than 8.5, then:

- Proceed with pumping the vault.

# ATTACHMENT I

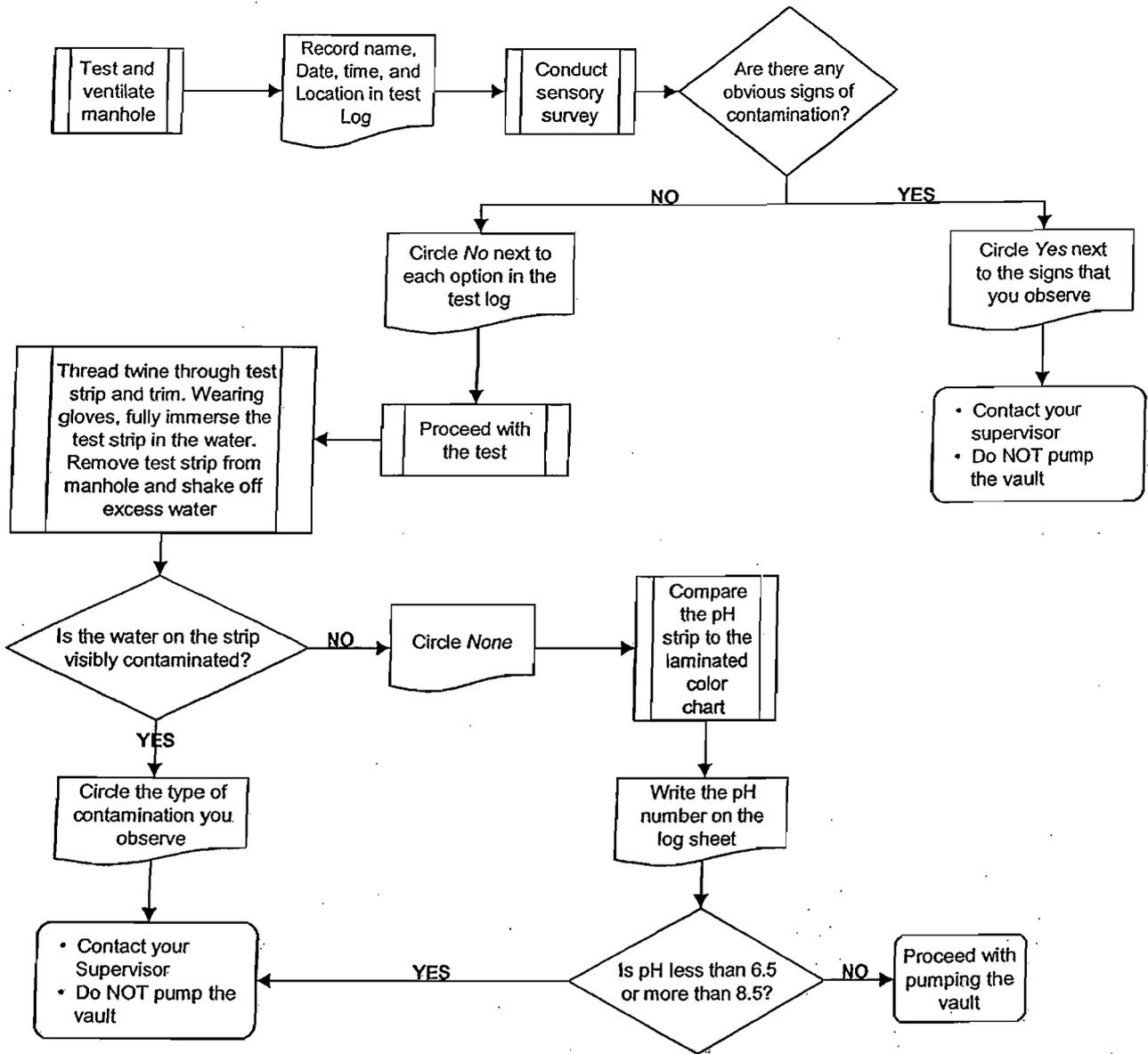


Figure A-1: Flowchart of Pollution Testing Procedure

## Contaminated Water

### Introduction

All contaminated water must be disposed of according to federal, state, and local environmental regulations. In some cases, a report must be filed with the regulatory agencies. Failure to do so may result in substantial fines and/or penalties.

Contact REU Electric Line Manager for further details on the disposal of contaminated water.

See Table A-1 for roles and responsibilities upon discovery of contaminated water.

**Attachment J**

**Test Data for VMS Filter Vault Maintenance  
System**

**CLEAN WATER  
MADE EASY™**

**Eco-Tec, Inc.**

USA Toll Free  
888.888.8932  
International  
001.252.854.5804

Filtration Fabric **ADSORB-IT**

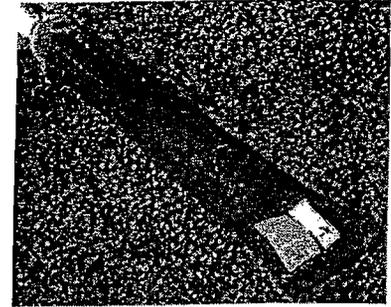


## Filter Sock Vault Maintenance System

See VMS Filter Sock Field Test Data

### Sediment Removal Efficiency Test and Oil Removal Efficiency Test

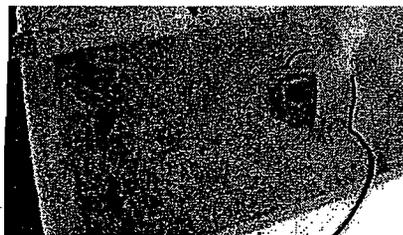
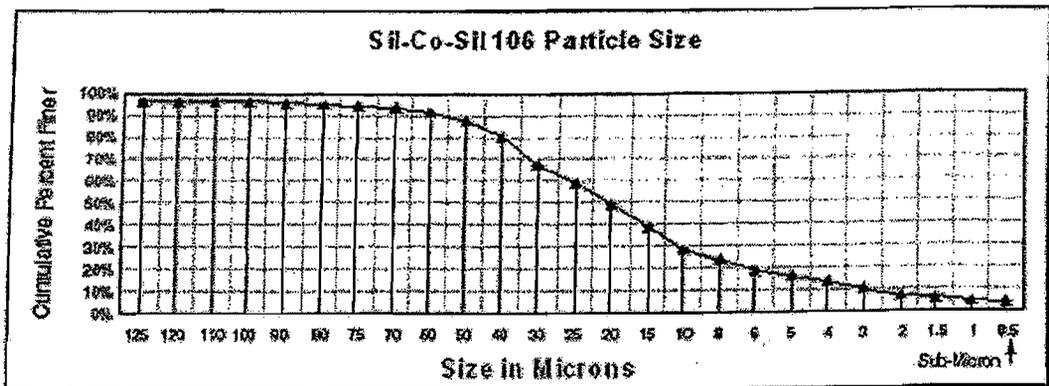
A full scale test was performed to determine the sediment removal efficiency of the Vault Maintenance System (VMS). The VMS was designed to allow the direct discharge to the environment of waters accumulated in underground vaults while complying with discharge guidelines set forth by regulatory agencies.



#### Sediment Removal Efficiency Test:

The standard reference sediment used in this performance test was Sil-Co-Sil 106, obtained from US Silica. This silica powder is the benchmark to test BMPs for efficiency of sediment removal. The regulatory goal for sediment removal efficiency using Sil-Co-Sil 106 is 80%. Anything above this value is considered excellent.

Sil-Co-Sil 106 has 27 percent of its particle sizes between 150-45 microns and 73 percent below 45 microns, with 12 percent 1.5 micron and below, of which 3 percent are sub-micron.



The test was conducted using two 360 gallon open top storage bins. One used as a sediment holding vault, the other as a receiving vessel. A channel connecting the two bins held the VMS. The VMS was connected to a two-inch hose with an in-line turbine flow meter and pressure guage. The assembly was connected to a 110 gpm submersible centrifugal pump.

The holding tank was filled to capacity and Sil-Co-Sil 106 was added to the water. The circulation valve was opened and the water was re-circulated until the Sil-Co-Sil 106 was consistently mixed, at which time the initial sample was taken. Samples were taken from the outfall channel after filtering thru the sock at 1 minute intervals.

A final sample was taken from the receiving tank representing a composite of the total

- Products
- Uses
- Test Data
- Customers
- Customer Reviews
- Distributors
- Contact
- Site Map
- Home
- News & Information

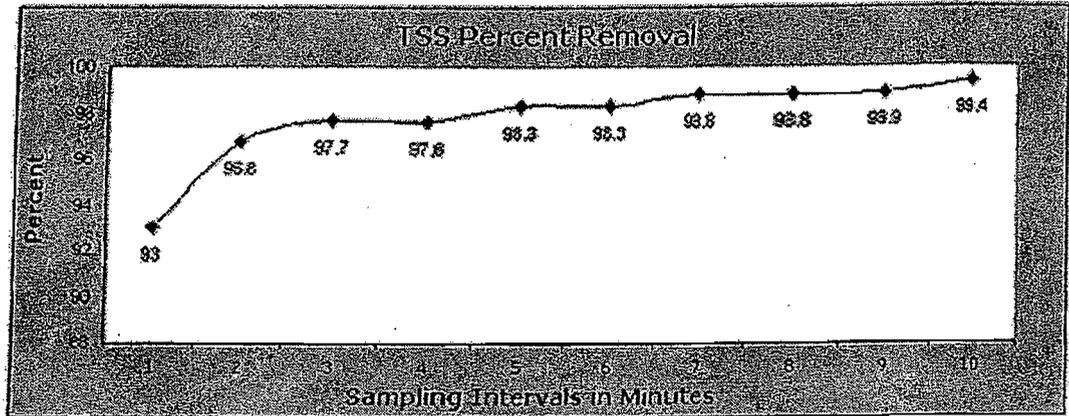
International  
**WINNER**  
2007  
Water  
**ENERGY GLOBE**  
Award for Sustainability  
more info

100% Recycled  
Reusable  
Eco-Friendly

filtrate from the sock.

The samples were analyzed for Total Suspended Solids (TSS) using EPA Method 160.2.

TSS EPA Method 160.2			
Natural Sil-Co-Sil 106 with TSS of 2700 Mg/L unfiltered			
Sample ID	Time Interval	TSS Mg/L	Percent Removal
#1	1 min	222	93
#2	2 min	87	96.8
#3	3 min	72	97.7
#4	4 min	65	97.6
#5	5 min	49	98.3
#6	6 min	48	98.3
#7	7 min	34	98.8
#8	8 min	36	98.8
#9	9 min	33	98.9
#10	10 min	19	99.4



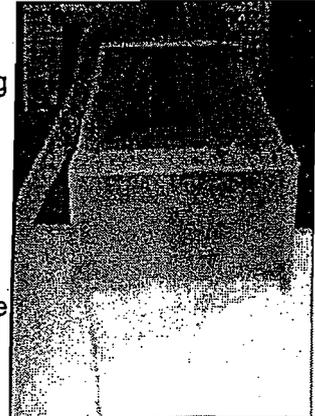
**Conclusion:** The filtration efficiency increased with time. This was due to sediments being deposited within the VMS, filling in the fabric's micron pores, allowing enhanced removal of sub micron particles. Flow rates will vary dependent on the sediment's micron ratings. Sil-Co-Sil 106 is an extremely fine powder, unlike normal sediments. Natural sediments such as soil or cinder clay allow much greater flow rates and loading as the larger particle sizes keep the fabric's micron pores from sealing off. The overall sediment removal rate from the total of the filtrate was 98.3 percent, which far exceeds the 80 percent standards for rating BMP devices.

**Oil Removal Efficiency Test:**

The Vault Maintenance System (VMS) consisting of patented and proprietary technologies, configured as a multi-staged filtration unit, was designed to remove hydrocarbons and sediments from the water.



One half quart of motor oil and cinder clay was added to the holding tank and re-circulated with the centrifugal pump to maintain the oil and clay in suspension.

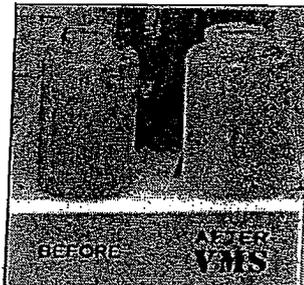


The initial sample was taken from the sampling valve located just before the VMS, and the subsequent samples were taken from the outfall channel after filtering thru the VMS. The flow rate during this test maintained a flow rate above 30 GPM with a pressure of 3.0 PSI. The VMS retained over 5 pounds of sediment during the test.

The samples were analyzed for total Oil & Grease using EPA Method 1664.

The results are as follows:

Oil & Grease EPA Method 1664				
Sample ID	Sample Volume ml	Wt Residue	Oil & Grease Mg/L	Percent Removal
Initial Sample	500	>1.136	2270 Mg/L	Unfiltered
#1 Start - 5 min	500	>0.001	ND	100
#2 Mid - 7 min	500	>0.001	ND	100
#3 End - 10 min	450	>0.001	ND	100



**Conclusion:** The VMS had the ability to remove the 2270 Mg/L oil in the sediment-laden water to non-detectable levels and no oil sheen was visible in the receiving vessel for the duration of the test.

The above testing validates that the Vault Maintenance System when used as directed, is a valuable best management practice — BMP — tool.



updated 9/1/2007

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**Attachment K**

**City of Redding**

**List of Designated Emergency Contacts**

# SPILL CLEANUP CONTRACTORS

Evans Construction  
2800 Fairlane Road  
Yreka, CA 96097  
(530) 842-9191

A/C Industrial Services  
1111 Marauder Street  
Chico, CA 95973  
(530) 343-5488

## DESIGNATED EMERGENCY CONTACTS

CITY OF REDDING DESIGNATED EMERGENCY CONTRACTORS	
Agency	Phone Number
California Department of Transportation	225-3426
California Highway Patrol	242-3200
CHEMTREC	1-800-424-9300
Coast Guard	1-415-399-3547
Department of Conservation	1-916-445-9686
Department of Toxic Substance Control	1-800-698-6942
Department of Fish and Game	225-2300
Environmental Protection Agency	1-800-300-2193
National Response Center	1-800-424-8802
State Office of Emergency Services	1-800-852-7550
Shasta County Air Quality Management District	225-5674
Shasta County Environmental Health Department	225-5787
Shasta County Sheriff's Office	245-6540
Redding Police Department	245-6565
City of Redding Municipal Utilities	225-4000
Shasta County Public Work Department	225-5661
Regional Water Control Board	225-4845

**Note:** All numbers are in the 530 area code unless otherwise indicated.

**Attachment L**

**Definitions**

# Glossary and List of Acronyms

**303(d) Listed:** Water bodies listed as impaired as per Section 303(d) of the 1972 Clean Water Act.

**Best Management Practices (BMPs):** Includes schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent, eliminate, or reduce the pollution of waters of the receiving waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**Catch Basin (Also known as Inlet):** Box-like underground concrete structure with openings in curbs and gutters designed to collect runoff from streets and pavement.

**Clean Water Act (CWA):** (33 U.S.C. 1251 et seq.) requirements of the NPDES program are defined under Sections 307, 402, 318 and 405 of the CWA.

**Construction Activity:** Includes clearing, grading, excavation, and contractor activities that result in soil disturbance.

**Construction General Permit:** A National Pollutant Discharge Elimination System (NPDES) permit issued by the State Water Resources Control Board for the discharge of stormwater associated with construction activity from soil disturbance of five acres or more. Threshold lowered to one acre beginning October 10, 2003. Construction General Permit No. CAS000002.

**Denuded:** Land stripped of vegetation or land that has had its vegetation worn down due to the impacts from the elements or humans.

**Detention:** The capture and subsequent release of stormwater runoff from the site at a slower rate than it is collected, the difference being held in temporary storage.

**Discharge:** A release or flow of stormwater or other substance from a conveyance system or storage container. Broader – includes release to storm drains, etc.

**Effluent Limits:** Limitations on amounts of pollutants that may be contained in a discharge. Can be expressed in a number of ways including as a concentration, as a concentration over a time period (e.g., 30-day average must be less than 20 mg/l), or as a total mass per time unit, or as a narrative limit.

**Erosion:** The wearing away of land surface by wind or water. Erosion occurs naturally from weather or runoff but can be intensified by land-clearing practices related to farming, new development, redevelopment, road building, or timber cutting.

**Facility:** Is a collection of industrial processes discharging stormwater associated with industrial activity within the property boundary or operational unit.

**Grading:** The cutting or filling of the land surface to a desired slope or elevation.

**Hazardous Waste:** A waste or combination of wastes that, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. Possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity) or appears on special EPA or state lists. Regulated under the federal Resource Conservation and Recovery Act and the California Health and Safety Code.

**Illicit Discharges:** Any discharge to a municipal separate storm sewer that is not in compliance with applicable laws and regulations as discussed in this document.

**Industrial General Permit:** A National Pollutant Discharge Elimination System (NPDES) Permit (No. CAS000001) issued by the State Water Resources Control Board for discharge of stormwater associated with industrial activity. Board Order 97-03-DWQ.

**Inlet:** An entrance into a ditch, storm drain, or other waterway.

**Integrated Pest Management (IPM):** An ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism.

**Municipal Separate Storm Sewer System (MS4):** A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) designed or used for collecting or conveying storm water; (ii) which is not a combined sewer; and (iii) which is not part of a Publicly Owned Treatment Works (POTW) as defined at Title 40 of the Code of Federal Regulations (CFR) 122.2. A "Small MS4" is defined as an MS4 that is not a permitted MS4 under the Phase I regulations. This definition of a Small MS4 applies to MS4 operated within cities and counties as well as governmental facilities that have a system of storm sewers.

**Non-Stormwater Discharge:** Any discharge to municipal separate storm sewer that is not composed entirely of stormwater.

**Nonpoint Source Pollution:** Pollution that does not come from a point source. Nonpoint source pollution originates from aerial diffuse sources that are mostly related to land use.

**Notice of Intent (NOI):** A formal notice to SWRCB submitted by the owner of an industrial site or construction site that said owner seeks coverage under a General Permit for discharges associated with industrial and construction activities. The NOI provides information on the

owner, location, type of project, and certifies that the owner will comply with the conditions of the construction General Permit.

**Notice of Termination (NOT):** Formal notice to SWRCB submitted by owner/ developer that a construction project is complete.

**NPDES Permit:** NPDES is an acronym for National Pollutant Discharge Elimination System. NPDES is the national program for administering and regulating Sections 307, 318, 402, and 405 of the Clean Water Act (CWA). In California, the State Water Resources Control Board (SWRCB) has issued a General Permit for stormwater discharges associated with industrial activities (see Appendix A).

**Outfall:** The end point where storm drains discharge water into a waterway.

**Point Source:** Any discernible, confined, and discrete conveyance from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

**Pollutant:** Generally, any substance introduced into the environment that adversely affects the usefulness of a resource.

**Pollution Prevention (P2):** Practices and actions that reduce or eliminate the generation of pollutants.

**Precipitation:** Any form of rain or snow.

**Pretreatment:** Treatment of waste stream before it is discharged to a collection system.

**Reclaim (water reclamation):** Planned use of treated effluent that would otherwise be discharged without being put to direct use.

**Retention:** The storage of stormwater to prevent it from leaving the development site.

**Reuse (water reuse):** (see Reclaim)

**Runoff:** Water originating from rainfall, melted snow, and other sources (e.g., sprinkler irrigation) that flows over the land surface to drainage facilities, rivers, streams, springs, seeps, ponds, lakes, and wetlands.

**Run-on:** Off site stormwater surface flow or other surface flow which enters your site.

**Scour:** The erosive and digging action in a watercourse caused by flowing water.

**Secondary Containment:** Structures, usually dikes or berms, surrounding tanks or other storage containers, designed to catch spilled materials from the storage containers.

**Sedimentation:** The process of depositing soil particles, clays, sands, or other sediments that were picked up by runoff.

**Sediments:** Soil, sand, and minerals washed from land into water, usually after rain, that collect in reservoirs, rivers, and harbors, destroying fish nesting areas and clouding the water, thus preventing sunlight from reaching aquatic plants. Farming, mining, and building activities without proper implementation of BMPs will expose sediment materials, allowing them to be washed off the land after rainfalls.

**Significant Materials:** Includes, but not limited to, raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designed under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges.

**Significant Quantities:** The volume, concentrations, or mass of a pollutant in stormwater discharge that can cause or threaten to cause pollution, contamination, or nuisance that adversely impact human health or the environment and cause or contribute to a violation of any applicable water quality standards for receiving water.

**Source Control BMPs:** Operational practices that reduce potential pollutants at the source.

**Source Reduction (also source control):** The technique of stopping and/ or reducing pollutants at their point of generation so that they do not come into contact with stormwater.

**Storm Drains:** Above- and below-ground structures for transporting stormwater to streams or outfalls for flood control purposes.

**Stormwater:** Defined as urban runoff and snowmelt runoff consisting only of those discharges, which originate from precipitation events. Stormwater is that portion of precipitation that flows across a surface to the storm drain system or receiving waters.

**Stormwater Discharge Associated with Industrial Activity:** Discharge from any conveyance which is used for collecting and conveying stormwater from an area that is directly related to manufacturing, processing, or raw materials storage activities at an industrial plant.

**Stormwater Pollution Control Plan (SWPCP):** A less formal plan than the SWPPP that addresses the implementation of BMPs at facilities/businesses not covered by a general permit but that have the potential to discharge pollutants.

**Stormwater Pollution Prevention Plan (SWPPP):** A written plan that documents the series of phases and activities that, first, characterizes your site, and then prompts you to select and carry out actions which prevent the pollution of stormwater discharges.

**Treatment Control BMPs:** Treatment methods to remove pollutants from stormwater.

**Toxicity:** Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

**Turbidity:** Describes the ability of light to pass through water. The cloudy appearance of water caused by suspended and colloidal matter (particles).

## 6.2 Acronyms

AASHTO	American Association of State Highway and Transportation Officials
AC	Asphalt Concrete
ADL	Aerially Deposited Lead
AIMP	Impervious Area
AINF	Infiltration Area
ANSI	American National Standards Institute
APHA	American Public Health Association
APWA	American Public Works Association
ARS	Agricultural Research Service
AQMD	Air Quality Management District
ASTM	American Society for Testing Materials
AWWA	American Water Works Association
BAT	Best Available Technology (economically available)
BCT	Best Conventional Technology (pollution control)
BFP	Bonded Fiber Matrix
BMPs	Best Management Practices
BOD	Biological Oxygen Demand
CA	Contractor Activities
CAL-EPA	California Environmental Protection Agency
CAL-OSHA	California Division of Occupational Safety and Health Administration
CASQA	California Stormwater Quality Association
CCR	California Code of Regulations

*Glossary and List of Acronyms*

CCS	Cellular Confinement System
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Register
CMA	Congestion Management Program
COE	U.S. Army Corps of Engineers
CPI	Coalescing Plate Interceptor
CWA	Clean Water Act (Federal Water Pollution Control Act of 1972 as amended in 1987)
DCIA	Directly Connected Impervious Area
DTSC	California Department of Toxic Substances Control
EEC	Effect Effluent Concentration
EIR	Environmental Impact Report
EMC	Event Mean Concentration
EOS	Equivalent Opening Size
ESA	Environmentally Sensitive Area
ESC	Erosion and Sedimentation Control
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GIS	Geographical Information System
Hazmat	Hazardous Material
HSG	Hydrologic Soil Groups
IPM	Integrated Pest Management
JURMP	Jurisdictional Urban Runoff Management Program
MEP	Maximum Extent Practicable

MS4	Municipal Separate Storm Sewer System
MSDS	Material Safety Data Sheet
MSHA	Mine Safety and Health Administration
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NPS	Nonpoint Source
NRC	National Response Center
NRCS	Natural Resources Conservation Service
NSF	National Science Foundation
NURP	National Urban Runoff Program
O&G	Oil and Grease
O&M	Operations and Maintenance
OSDS	On-site Disposal System
OSHA	Occupational Safety and Health Administration
P2	Pollution Prevention
PAHs	Polyaromatic Hydrocarbons
PAM	Polyacrylamide
PCBs	Polychlorinated Biphenyls
PCC	Portland Concrete Cement
PPT	Pollution Prevention Team
POTW	Publicly Owned Treatment Works
PSD	Particle Size Distribution
RCRA	Resource Conservation and Recovery Act

*Glossary and List of Acronyms*

RWQCB	Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SIC	Standard Industrial Classification
SPCC	Spill Prevention Control and Countermeasure
SUSMP	Standard Urban Stormwater Mitigation Plan
SWMP	Stormwater Management Program
SWPCP	Stormwater Pollution Control Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TSS	Total Suspended Solids
UFC	Uniform Fire Code
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
WEF	Water Environment Federation