

ATTACHMENT E – NOTICE OF INTENT
ORDER WQ 2014-0174-DWQ
GENERAL PERMIT NO. CAG990002

RECEIVED
JUL 14 2015

DIVISION OF WATER QUALITY

**STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT FOR DISCHARGES FROM UTILITY VAULTS AND UNDERGROUND
STRUCTURES TO WATERS OF THE UNITED STATES**

I. NOTICE OF INTENT STATUS (See Instructions)

MARK ONLY ONE ITEM	1. <input type="checkbox"/> New Discharger	2. <input checked="" type="checkbox"/> Existing Discharger	WDID# 5000000004
	3. <input type="checkbox"/> Change of Information: WDID # _____		
	4. <input type="checkbox"/> Change of ownership or responsibility: WDID# _____		

II. OWNER/OPERATOR (If additional owners/operators are involved, provide the information in a supplemental page.)

A. Name Redding Electric Utility		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 P.O. Box 496071				
C. City Redding	D. County Shasta	E. State Ca.	F. Zip Code 96001	
G. Contact Person Paul R. Sydow	H. Title Utility System Inspector		I. Phone (530) 510-3421	
J. Email Address psydow@reupower.com				

Additional Owners _____

III. BILLING ADDRESS (Enter information only if different from II. 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. Attach a project map(s) that shows (1) the service area within the a specific Regional Water Board boundary and maps of(2) the corresponding major surface water(s) bodies and watersheds to which utility vault or underground structure water may be discharged. Map features must also include ASBS boundaries, MS4 discharge points to the ASBS, and major roadways. Sacramento River, adjoining creeks
B. Regional Water Quality Control Board(s) where discharge sites are located List the Water Board Regions where discharge of wastewater is proposed, i.e. Region(s) 1, 2, 3, 4, 5, 6, 7, 8, or 9: Region 5

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 for all sites? Yes No

Is land disposal/reclamation applicable to a portion of the total number of sites? Yes No

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

VI. VERIFICATION

Have you contacted the appropriate Regional Water Board or verified in accordance with the appropriate Basin Plan that the proposed discharge will not violate prohibitions or orders of that Regional Water Board? Yes No

VII. TYPE OF UTILITY VAULT OR UNDERGROUND STRUCTURE (Check All That Apply)

Electric Natural Gas Telecommunications Other: _____

VIII. POLLUTION PREVENTION PLAN CONTACT INFORMATION

Each Discharger is required to provide a copy of their PLAN with their completed NOI. The PLAN requirements are provided in Section VII.C.3 of the Order. In the space below, provide the contact information for the person responsible for the development of the PLAN.

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) 510-6768		J. Email Address psydow@reupower.com	

IX. DESCRIPTION OF DISCHARGE(S)

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
(TSS) total suspended solids
(SC) specific conductance
(TOC) Total Organic Carbon
(O&G) Oil & Grease

X. REMINDERS

- A. Have you included service territory/watershed map(s) with this submittal? Yes No
Separate maps must be submitted for each Regional Water Board 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 and 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 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 or imprisonment."

A. Printed Name: Paul R. Sydow

B. Signature: *Paul R. Sydow*

C. Date: 6/18/2015

D. Title: Utility System Inspector

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

**UTILITY VAULTS 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:
Case Handler's Initial:	Fee Amount Received: \$	Check #:	

REDDING ELECTRIC UTILITY

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.

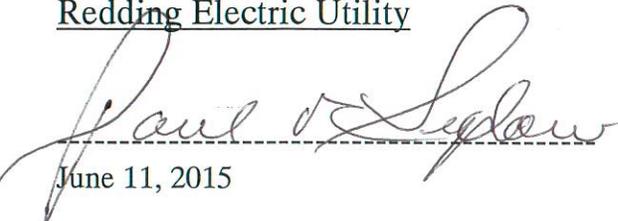
Issue No. REU-0002

Date: June 11, 2015

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



June 11, 2015

Redding Electric Utility Pollution Prevention Plan

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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: Paul Sydow, Utility System Inspector
Alternate Contact: Jon Moore, Safety & Environmental
Compliance Coordinator

- b. 24 hour Emergency Contact: Redding Electric Power Control Center
17120 Clear Creek Rd.
Redding, CA 96001
(530) 245-7000
System Operator: (530) 245-7000

- c. City of Redding Municipal Utility
777 Cypress Ave.
Redding, ca 96001
Attn: Mieke Sheffield
Storm Water Management Program Coordinator

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 storm water. The General Permit CAG990002 and SWRCB Water Quality Control Order 2014-0174-DWQ applies to short term intermittent discharges to surface waters by REU.
- 4.3 REU utilizes the BMPs when testing and discharging storm water 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 storm water 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)]

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.

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 7to 12 vaults/manholes are pumped each week for an estimated weekly discharge of 350 to 600 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 Prevention 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 storm water 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 Prevention 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 storm water/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.

10.0 Potential Pollutant Sources

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

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

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 2012 thru June 2015).

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.)

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 Bi-Annual Training

REU personnel receive First Response HAZMAT.

Redding Electric Utility Pollution Prevention Plan

Attachments

- Attachment A: Redding Drainage Basin
 - Attachment B: City Limits (REU Service territory)
 - Attachment C: Vault/Manhole Storm water Discharge sample analysis
 - Attachment D: Receiving Water Description

 - Attachment E: Notice of Intent (NOI), NPDES Unit, Div. of Water Quality. SWRCB, Water Quality Order No. 2014-1074-DWQ. NPDES Permit No. CAG990002
 - Attachment F: Notice of Intent (NOI), Utilities NOI, Regulation Unit, Division of Water Quality. General (NPDES) Permit No. CAG990002
 - Attachment G: Underground Inspection Report
 - Attachment H: REU Vault & Manhole Storm Water Discharge Report for NPDES Monitoring Program
 - Attachment I: Vault discharge flowchart
 - Attachment J: Test data for VMS Filter Sock Vault Maintenance System
 - Attachment K: City of Redding List of Designated Emergency Contacts
 - Attachment L: Definitions
-

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

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

California Stormwater BMP Handbook Municipal

www.cabmphandbooks.com

City of Redding

http://maps.ci.redding.ca.us/pub/maps/redding_pub.mwf

City of Redding Draft Storm Water Quality Improvement Plan
Attachments D, E, F

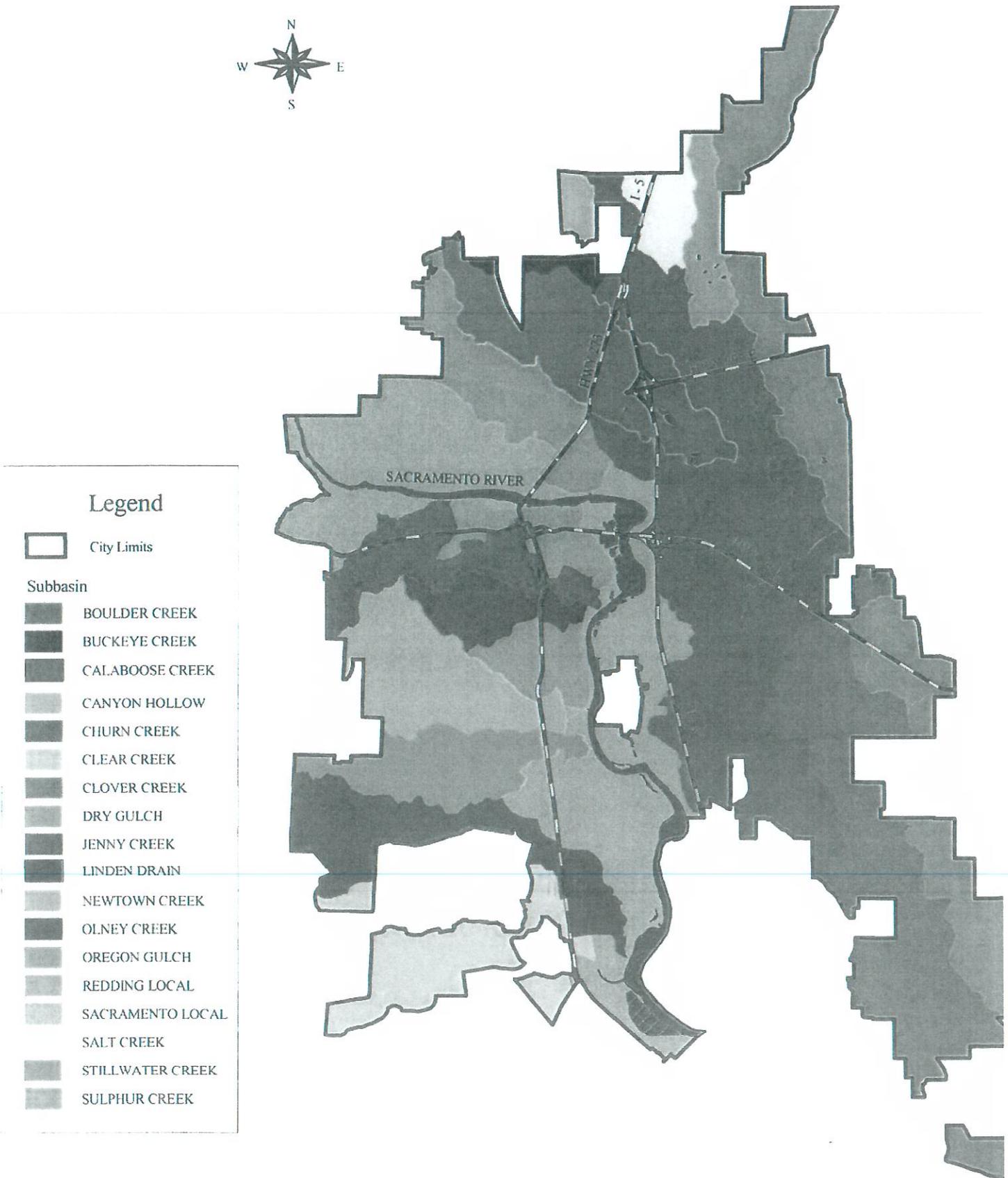
www.ci.redding.ca.us/devserv/pdfs/swqip/draftplan.pdf

City of Redding Municipal Utilities (SWPPP)

Attachment A

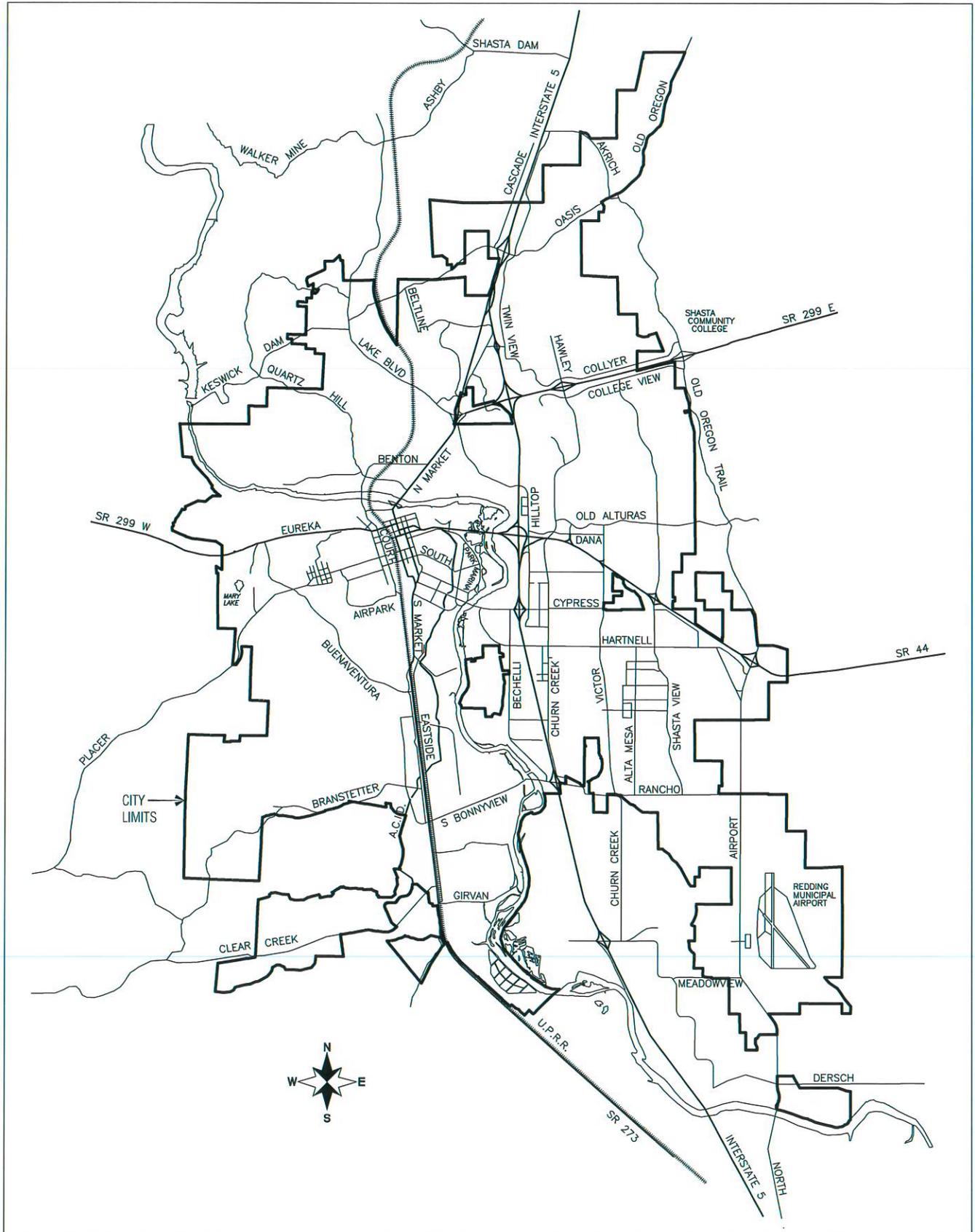
Redding Drainage Basin

Figure 4-1: City of Redding Drainage Basins



Attachment B

City Limits
(REU Service Territory)



Attachment C

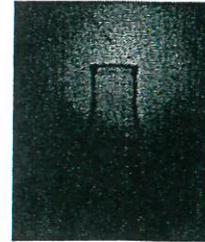
Vault/Manhole Storm water Discharge sample analysis

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

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

Notice of Intent (NOI)

Utilities NOI

NPDES Unit

Division of Water Quality

SWRCB

Water Quality Order

No. 2014-1074-DWQ

(NPDES) Permit No. CAG990002

ATTACHMENT E – NOTICE OF INTENT

**ORDER WQ 2014-0174-DWQ
GENERAL PERMIT NO. CAG990002**

**STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT FOR DISCHARGES FROM UTILITY VAULTS AND UNDERGROUND
STRUCTURES TO WATERS OF THE UNITED STATES**

I. NOTICE OF INTENT STATUS (See Instructions)

MARK ONLY ONE ITEM	1. <input type="checkbox"/> New Discharger	2. <input checked="" type="checkbox"/> Existing Discharger
	3. <input type="checkbox"/> Change of Information: WDID # _____	
	4. <input type="checkbox"/> Change of ownership or responsibility: WDID# _____	

II. OWNER/OPERATOR (If additional owners/operators are involved, provide the information in a supplemental page.)

A. Name Redding Electric Utility		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 P.O. Box 496071			
C. City Redding	D. County Shasta	E. State Ca.	F. Zip Code 96001
G. Contact Person Paul R. Sydow	H. Title Utility System Inspector	I. Phone (530) 510-3421	
J. Email Address psydow@reupower.com			

Additional Owners _____

III. BILLING ADDRESS (Enter information only if different from II. 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

<p>A. Attach a project map(s) that shows (1) the service area within the a specific Regional Water Board boundary and maps of(2) the corresponding major surface water(s) bodies and watersheds to which utility vault or underground structure water may be discharged. Map features must also include ASBS boundaries, MS4 discharge points to the ASBS, and major roadways.</p> <p>Sacramento River, adjoining creeks</p>
<p>B. Regional Water Quality Control Board(s) where discharge sites are located List the Water Board Regions where discharge of wastewater is proposed, i.e. Region(s) 1, 2, 3, 4, 5, 6, 7, 8, or 9:</p> <p>Region 5</p>

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 for all sites? Yes No

Is land disposal/reclamation applicable to a portion of the total number of sites? Yes No

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

VI. VERIFICATION

Have you contacted the appropriate Regional Water Board or verified in accordance with the appropriate Basin Plan that the proposed discharge will not violate prohibitions or orders of that Regional Water Board? Yes No

VII. TYPE OF UTILITY VAULT OR UNDERGROUND STRUCTURE (Check All That Apply)

Electric Natural Gas Telecommunications Other: _____

VIII. POLLUTION PREVENTION PLAN CONTACT INFORMATION

Each Discharger is required to provide a copy of their PLAN with their completed NOI. The PLAN requirements are provided in Section VII.C.3 of the Order. In the space below, provide the contact information for the person responsible for the development of the PLAN.

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) 510-6768		J. Email Address psydow@reupower.com	

IX. DESCRIPTION OF DISCHARGE(S)

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
(TSS) total suspended solids
(SC) specific conductance
(TOC) Total Organic Carbon
(O&G) Oil & Grease

X. REMINDERS

A. Have you included service territory/watershed map(s) with this submittal? Separate maps must be submitted for each Regional Water Board where a proposed discharge will occur.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
B. Have you included payment of the filing fee (for first-time enrollees only) with this submittal?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
C. Have you included your PLAN?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

XI. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction and 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 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 or imprisonment."

A. Printed Name: Paul R. Sydow

B. Signature: *Paul R. Sydow*

C. Date: 6/18/2015

D. Title: Utility System Inspector

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

**UTILITY VAULTS 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:
Case Handler's Initial:	Fee Amount Received: \$	Check #:	

Attachment F

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 G

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

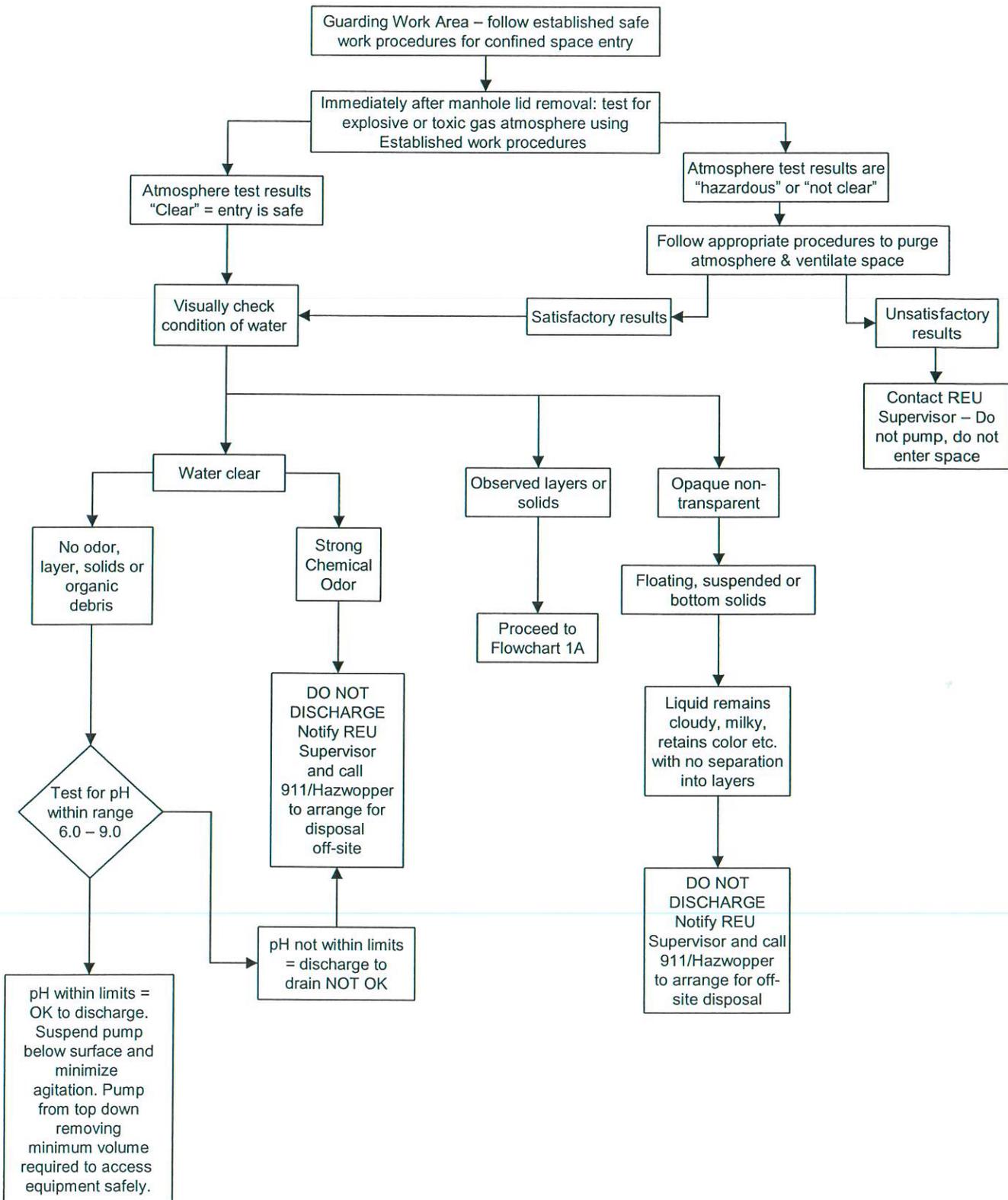
Attachment H

Vault Discharge Flowchart

ATTACHMENT I

Utility Manhole & Vault De-Watering Decision Guide

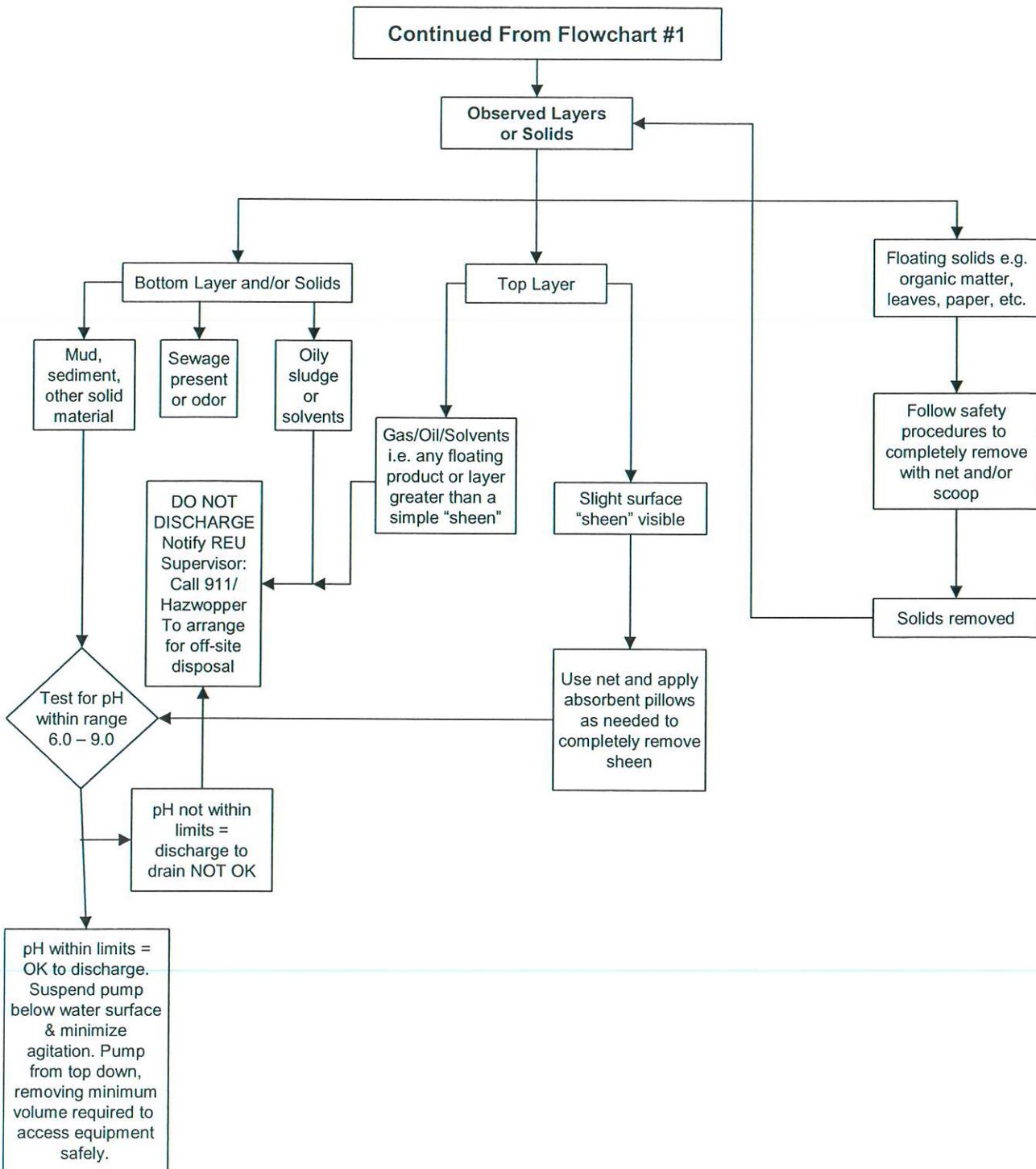
Flow Chart #1



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

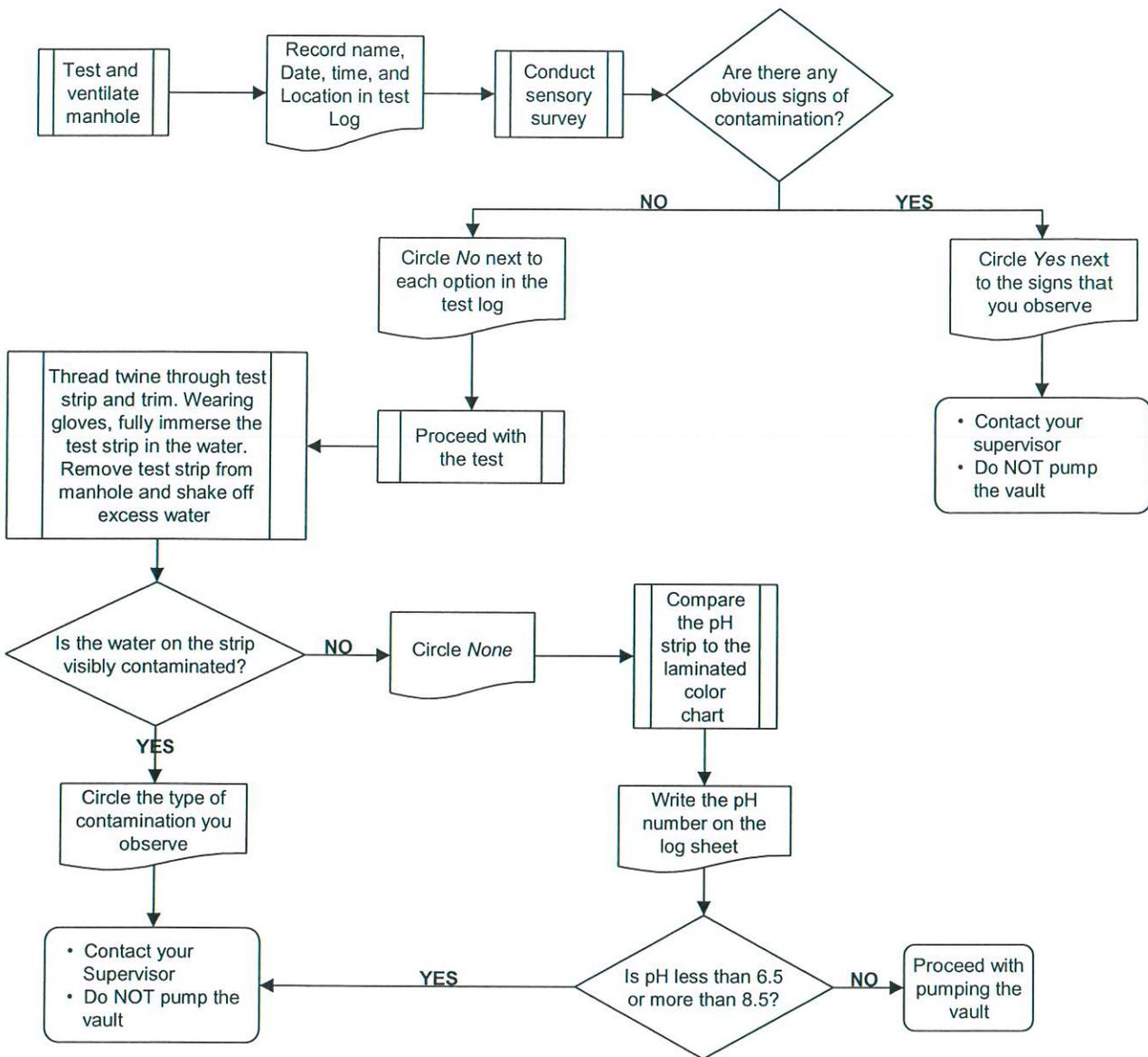


Figure A-1: Flowchart of Pollution Testing Procedure

Contaminated Water

Introduction

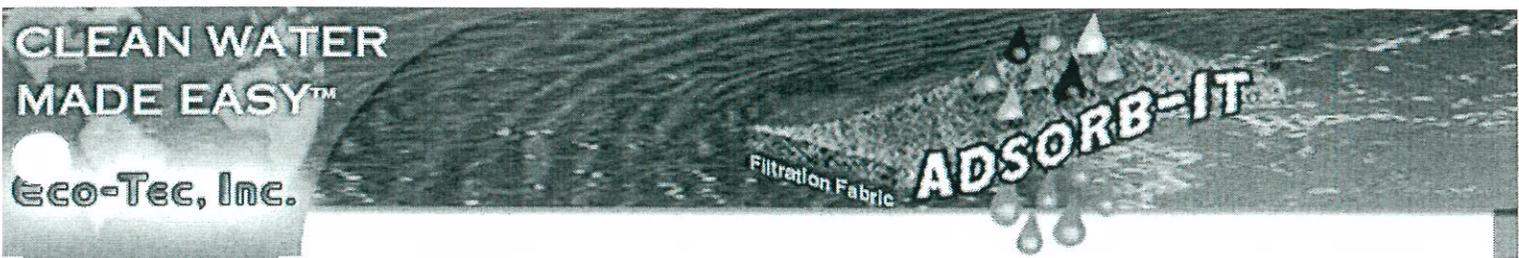
All contaminated water must be disposed of according to federal, state, and local environmental regulations. In some cases, a report must be filed with the regulatory agencies. Failure to do so may result in substantial fines and/or penalties.

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 I

Test Data for VMS Filter Vault Maintenance System



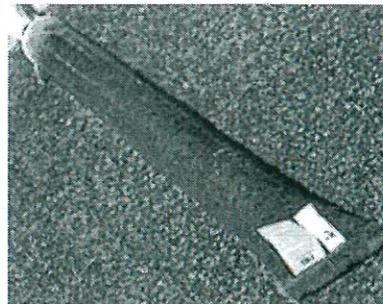
USA Toll Free
888.668.8982
International
001.253.884.6804

VMS Filter Sock Vault Maintenance System

See VMS Filter Sock Field Test Data

Sediment Removal Efficiency Test and Oil Removal Efficiency Test

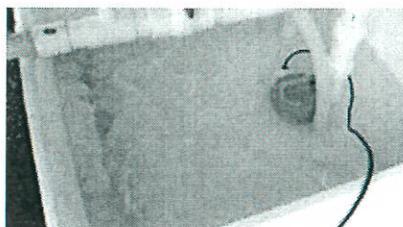
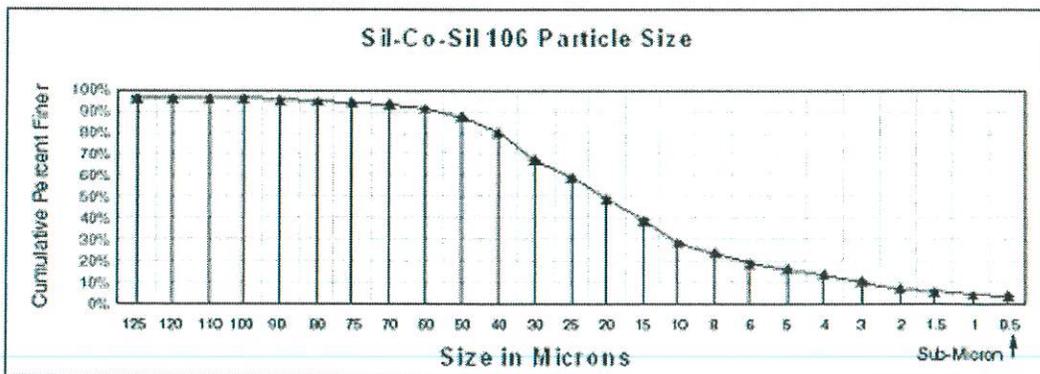
A full scale test was performed to determine the sediment removal efficiency of the Vault Maintenance System (VMS). The VMS was designed to allow the direct discharge to the environment of waters accumulated in underground vaults while complying with discharge guidelines set forth by regulatory agencies.



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 gauge. 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

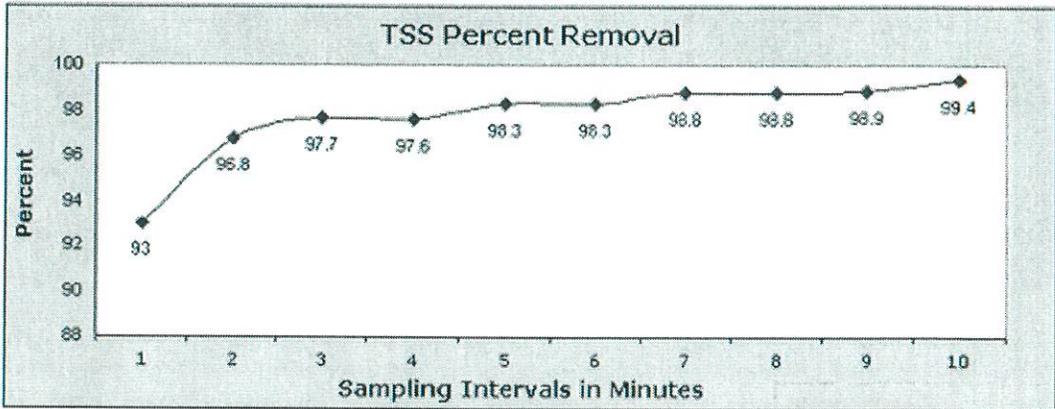
International WINNER
Category: Water
ENERGY GLOBE
Award for Sustainability
[more info](#)

100% Recycled
Reuseable
Eco-Friendly

filtrate from the sock.

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

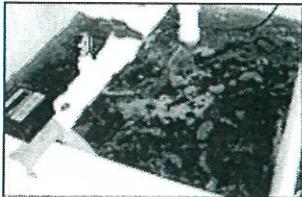
TSS EPA Method 160.2			
Initial Sil-Co-Sil 106 with TSS of 2700 Mg/L unfiltered			
Sample ID	Time Interval	TSS Mg/L	Percent Removal
#1	1 min	222	93
#2	2 min	87	96.8
#3	3 min	72	97.7
#4	4 min	66	97.6
#5	5 min	49	98.3
#6	6 min	46	98.3
#7	7 min	34	98.8
#8	8 min	35	98.8
#9	9 min	33	98.9
#10	10 min	19	99.4



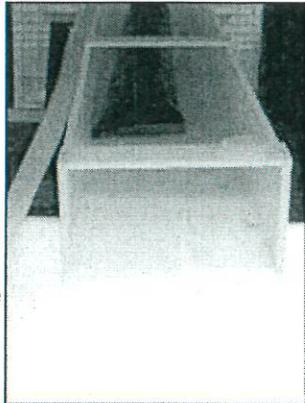
Conclusion: The filtration efficiency increased with time. This was due to sediments being deposited within the VMS, filling in the fabric’s micron pores, allowing enhanced removal of sub micron particles. Flow rates will vary dependent on the sediment’s micron ratings. Sil-Co-Sil 106 is an extremely 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

Global Distributors of Award Winning  Products

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Attachment J

City of Redding

List of Designated Emergency Contacts

Attachment J

SPILL CLEANUP CONTRACTORS

Ben's Truck and Equipment
2060 Montgomery Road
Red Bluff, CA 96080
(530) 527-5040

NRC Environmental Services
1111 Marauder Street
Chico, CA 95973
(530) 513-6210

Asbury Environmental
1618 West 5th Street
Chico, CA 95928

Cronic Disaster Services
2662 Tarmac Road
Redding, CA 96003

DESIGNATED EMERGENCY CONTACTS

CITY OF REDDING DESIGNATED EMERGENCY CONTRACTORS	
Agency	Phone Number
Shasta Cascade Hazardous Materials Response Team (SCHMRT)	911 or (530) 225-4141
Regional Water Quality Control Board	(530) 225-4845
City of Redding Municipal Utilities	(530) 225-4000
State Office of Emergency Services	1-800-852-7550
National Response Center	1-800-424-8802
California Department of Transportation	(530) 225-3426
U S Environmental Protection Agency	1-800-300-2193

Attachment K

Definitions

Section 6

Glossary and List of Acronyms

6.1 Glossary

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

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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

*Section 6
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