

SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT
The Power To Do More.®

P.O. Box 15830, Sacramento, CA 95852-1830; 1-888-742-SMUD (7683)

January 31, 2007

Utility Vaults NOI- NPDES Unit
Division of Water Quality
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

ENV07-013

Subject: *Transmittal of the Sacramento Municipal Utility District Notice of Intent and Pollution Prevention Plan.*

Dear NPDES Unit:

On behalf of the Sacramento Municipal Utility District (SMUD), I am pleased to enclose the updated Notice of Intent and Pollution Prevention Plan for coverage under the General Permit CAG990002 for discharges from utility vaults and underground structures. Please amend your files to indicate receipt of the subject documents.

Should you have any questions concerning the information provided, please contact me at (916) 732-6327.

Sincerely

Patrick Durham
Environmental Specialist III
Sacramento Municipal Utility District

cc: File 412.1

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 type="checkbox"/> New Discharger	2. <input checked="" type="checkbox"/> Change of Information – WDID # CAG990002
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II. OWNER/OPERATOR (If additional owners/operators are involved, provide the information in a supplemental page.)

A. Name Sacramento Municipal Utility District		Owner/Operator Type (Check One) 1. <input type="checkbox"/> City 2. <input type="checkbox"/> County 3. <input type="checkbox"/> State 4. <input checked="" type="checkbox"/> Gov. Combo 5. <input type="checkbox"/> Private		
B. Mailing Address P.O. Box 15830				
C. City Sacramento		D. County Sacramento	E. State CA	F. Zip Code 95852-1830
G. Contact Person Patrick Durham		H. Title Env. Specialist III		I. Phone (916) 732-6327

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 Patrick Durham		B. Title Env. Specialist III	
	C. Mailing Address P.O. Box 15830			
D. City Sacramento		E. County Sacramento	F. State CA	G. Zip Code 95852-1830

IV. RECEIVING WATER INFORMATION

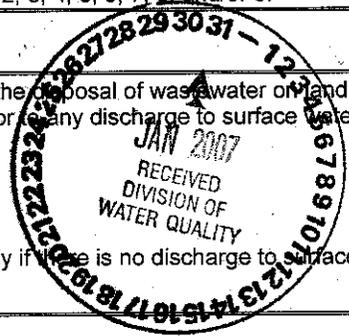
A. Receiving water(s): Sacramento River	B. Describe the types of receiving waters affected: River
C. Regional Water Quality Control Board(s) where discharge sites are located List all regions where discharge of wastewater is proposed, i.e. Region(s) 1, 2, 3, 4, 5, 6, 7, 8, and/or 9: 9	

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"/> Yes <input type="checkbox"/> No

VII. TYPE (Check All That Apply)

<input checked="" type="checkbox"/> Electric	<input type="checkbox"/> Natural Gas	<input type="checkbox"/> Telephone	<input type="checkbox"/> Other:
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VIII. POLLUTION PREVENTION PRACTICES PLAN INFORMATION

A. Company Name Sacramento Municipal Utility District			B. Contact Person Patrick Durham	
C. Street Address Where PLAN is Located 6201 S Street			D. Title of Contact Person Env. Specialist III	
E. City Sacramento	F. County Sacramento	G. State CA	H. Zip Code 95817	I. Phone (916) 732-6327

IX. DESCRIPTION OF DISCHARGE

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

Discharge of storm water that collects in vaults and manholes. Possible pollutants of concern include oil and grease, total petroleum hydrocarbons, and silt. Visual inspections conducted prior to discharge.

X. VICINITY MAP AND FEE

A. Have you included vicinity map(s) with this submittal? Separate vicinity maps must be submitted for each Region 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 type="checkbox"/> No <input checked="" 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 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: Betty Masuoka	
B. Signature: Betty Masuoka	C. Date: 11/31/07
D. Title: Asst. General Mgr	

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 #:

POLLUTION PREVENTION PLAN

GENERAL NPDES PERMIT CAG990002

Prepared By:

Sacramento Municipal Utility District
Environmental Management Services
6201 S Street
Sacramento, California 95817

December 2006
Version 1.0, Rev. 0

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ATTACHMENTS

Attachment A: Notice of Intent

Attachment B: Vault and Manhole Sampling Plan

Attachment C: Case Study Sampling Results

Attachment D: Map of Downtown Underground Network (DUN)

Attachment E: Map of SMUD Service Territory

Attachment F: Vault and Manhole Water Discharge Procedure

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
POLLUTION PREVENTION PLAN**

1.0 INTRODUCTION

The California Water Resources Control Board has issued a state-wide general National Pollutant Discharge Elimination System (NPDES) permit CAG990002 for discharges by utility companies to surface waters. This permit specifically covers the discharge of waters from utility vaults and other utility enclosures.

As part of the requirements of the permit, the Sacramento Municipal Utility District (SMUD) filed a Notice of Intent (NOI) to use this general permit (Attachment A). SMUD is now required to file a Pollution Prevention Plan (PPP) with the Regional Water Quality Control Board that addresses SMUD's operating procedures for minimizing pollutants discharged from electrical system enclosures.

Essential to the development of this plan was the characterization of the discharges normally experienced by SMUD in the operation of its underground electrical system. Representative vaults and manholes were selected and samples of water were obtained and analyzed for pollutants that could reasonably be expected to occur in the water. A summary of the sampling data is presented in Attachment C, Case Study Sampling Results.

2.0 DESCRIPTION OF SMUD UNDERGROUND ELECTRICAL FACILITIES

2.1 General

The District is an independent, customer-owned, utility that was established in 1923, under the direction of the California Municipal Utility District Act by a vote of the electorate. Districts formed under this Act have broad powers to acquire, construct, own, and operate facilities to support light, water, heat, power, and other services. The District's primary activity is in the generation, transmission, distribution, and sale of resource with an aggregate capacity of 805 megawatts. The District also purchases power from other utilities. The District serves Sacramento County and part of Placer County, 900-square mile service area comprising over 1,800,000 people and approximately 470,000 commercial, industrial, residential, and agricultural customers

SMUD's underground electrical distribution system is primarily located in the downtown area of the City of Sacramento and portions of Placerville. There are also systems located in areas outside of the city where undergrounding of utilities are common. Sacramento County areas such as Greenhaven/Pocket area and the newer parts of Folsom and Elk Grove are typical examples. However, the greatest number SMUD underground electrical facilities are within

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POLLUTION PREVENTION PLAN**

the City of Sacramento in what is known as the Downtown Underground Network (DUN).

There are two main types of structures in underground electrical facilities: splicing vaults, i.e., manholes, and electrical service equipment vaults. Manholes contain high voltage cables, and usually include a solid cover as general protection from irrigation runoff or debris accumulation. Water does accumulate to some degree, however, primarily from street washing and rain infiltration through the keyhole and around the edges of the cover. Water can also infiltrate through groundwater intrusion.

Electrical equipment service vaults are generally larger than manholes and usually contain from two to five large transformers. The vaults are covered with locked hinged metal grates that allow for circulation of air to aid in cooling the transformers. Water accumulation generally comes from rainfall and irrigation runoff, although some vaults are infiltrated by groundwater.

2.2 Downtown Underground Network (DUN)

SMUD has over 700 underground structures, i.e., vaults and manholes, within the DUN; water may be discharged from a portion of these structures. According to information provided by the City of Sacramento, the storm and sanitary sewer systems are generally combined to the east of 7th Street and separated to the west of 7th Street (Attachment D). Therefore, discharges from the DUN west of 7th Street will enter storm drains and will be regulated by NPDES Permit CAG990002. For the purposes of this report, the area to the west of 7th Street in the DUN will be referred to as the Regulated DUN or RDUN.

2.2.1 Electrical Equipment Vaults

Generally, water is removed from electrical equipment vaults in the RDUN as soon as possible. Because these systems are critical to the maintenance of the power supply to the Sacramento downtown area, they are either pumped manually, or in some cases automatically by in-place submersible pumps. Water is removed during or after rainfall, or other types of events that cause water to accumulate in the vaults.

2.2.2 Manholes

There are approximately 170 manholes within the RDUN. Water is removed from the manholes by using a portable submersible pump, and is usually removed only when it is necessary to enter the manhole.

2.3 Underground Electrical Facilities Outside of the DUN

2.3.1 Discharge of water from underground electrical equipment vaults outside of the DUN is far less frequent than from those in the DUN. There are electrical equipment vaults located in shopping centers, but these vaults are generally protected from water intrusion. Manholes are also common outside of the DUN, although many do not collect water as they do not contain structural bottoms.

3.0 SCHEDULED DISCHARGES

Discharges from vaults and manholes are related to maintenance and repair activities and water accumulation. Therefore, discharges are generally considered unscheduled rather than scheduled.

4.0 UNSCHEDULED DISCHARGES

4.1 Manholes in the RDUN

Approximately 10 to 15 manholes in the RDUN are pumped each week for an estimated total weekly discharge of approximately 4,800 to 10,000 gallons.

4.2 Automatically-pumped Electrical Equipment Vaults in the RDUN

There are 18 vaults in the RDUN that are pumped automatically by in-place submersible pumps. The total discharge from these vaults is highly dependent on rainfall or other surrounding water-related activities, but it is generally estimated that the total weekly discharge from these vaults ranges from approximately 57,000 to 172,000 gallons.

4.3 Manually-pumped Electrical Equipment Vaults in the RDUN

There are 38 vaults in the RDUN that are pumped manually. The total discharge from these vaults is highly dependent on actual maintenance and repair activities, but is generally estimated to range from a negligible amount to approximately 34,000 gallons weekly.

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
POLLUTION PREVENTION PLAN**

5.0 POLLUTION PREVENTION TEAM

The District's Pollution Prevention Team consists of individuals that are responsible for developing and this Pollution Prevention Plan and assisting Underground Network crews with NPDES discharge training, emergency response activities, and vault decontamination activities.

Name	Title	Telephone No.
Patrick Durham	Env. Specialist III	(916) 732-6327
Jim Gardner	Env. Specialist II	(916) 732-5324
Sam Karapinar	Env. Specialist II	(916) 732-5335

6.0 POTENTIAL POLLUTANT SOURCES

6.1 Types of Discharges

Discharges made from automatically-pumped vaults in the RDUN are intermittent and are usually related to storms or other events that cause accumulations of water. Discharges from other vaults within the RDUN are also intermittent and are dependent on either the necessity to discharge water so the electrical system is not compromised or maintenance and repair activities. Discharges made from manholes inside and outside the RDUN are intermittent and related to maintenance or repair activities.

6.2 Drainage Maps

Attachment D, Map of the DUN, contains a map of the DUN with the RDUN highlighted. Attachment E, Map of SMUD Service Territory, contains a District-wide map showing the major electrical service transmission within SMUD's service territory. As previously mentioned, manholes and underground service vaults are not as numerous outside the DUN, and are also very widespread; therefore it is not practical to show all these facilities on a single map.

6.3 Inventory of Exposed Materials

The following list identifies the types of materials that are handled and/or stored at SMUD's electrical underground vaults and manholes that potentially may be exposed to precipitation:

Materials:	Oil and grease residual on transformers and electrical equipment.
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POLLUTION PREVENTION PLAN**

Location:	<ul style="list-style-type: none"> • All transformer oil is contained within the sealed and operating electrical transformers and switches. • Transformers and electrical conduit are sealed to prevent damage from storm water and/or groundwater seepage.
Storm Water BMPs:	<ul style="list-style-type: none"> • Annual inspection of all underground vaults. • Three year inspection of most manholes. • Maintenance and/or replacement of all leaking transformers. • All known transformers in the DUN contain oil with PCBs less than 5 ppm. • Cleanup of all oil releases. • Evaluation of all water for the presence of oil sheens, odors, and discoloration prior to discharge.
Structural Controls:	<ul style="list-style-type: none"> • Structural Controls - None • Non-structural controls - See Section 6.7
Storm Water Treatment:	<ul style="list-style-type: none"> • Sediment traps will be used if water within the vault or manhole contains suspended solids. • Oil sensors on most automatic pumps. • Emergency contractor services to remove any contaminated storm water prior to discharge.

Materials:	Copper, lead, and zinc contained in electrical cables, connections, and shielding.
Location:	<ul style="list-style-type: none"> • Copper may be present due to a core of copper contained in most insulated cables. Excess cable is not stored in vaults and manholes. • Lead may be present due to lead shielding on some cables. • Zinc may be present as many of the fittings on electrical equipment and cables are galvanized.
Storm Water BMPs:	<ul style="list-style-type: none"> • Annual inspection of all underground vaults. • Three year inspection of most manholes. • Removal of all metal debris from vaults and manholes upon completion of maintenance activities. • Insulation of all high voltage electrical wiring/cables. • Initial case study of discharge water from select vaults and manholes was conducted to evaluate the presence of copper, lead, and zinc. Analysis indicated that these materials were not detected at or above laboratory detection limits.
Structural Controls:	<ul style="list-style-type: none"> • Structural Controls - None • Non-structural controls - See Section 6.7
Storm Water Treatment:	<ul style="list-style-type: none"> • Sediment traps will be used if water within the vault or manhole contains suspended solids. • Emergency contractor services to remove any contaminated storm water prior to discharge.

See Attachment C for case study results on pollutants present in water in underground service vaults and manholes.

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
POLLUTION PREVENTION PLAN**

6.4 Spills and Leaks

No known or reported spills or leaks of any of the identified exposed materials have occurred during the last 3-years (January 2004 thru January 2007).

6.5 Risk Identification and Potential Pollutant Sources

The constituents most likely to be present in underground service vaults and manholes are suspended solids, petroleum hydrocarbons, oil and grease, copper, lead, and zinc.

6.5.1 Suspended solids result from the accumulation of dust, dirt, leaves, etc., over a period of time.

6.5.2 Petroleum hydrocarbons and oil and grease may be present due to leaking dielectric mineral oil used in electrical equipment for cooling purposes, petroleum lubricants used to aid in pulling electrical cables through ducts, or runoff from parking and road surfaces.

6.5.3 Copper may be present due to a core of copper contained in most cables that may be released into vaults and manholes when repair work is done.

6.5.4 Lead may be present due to lead shielding on some cables that can cause metallic lead to be released during repair work. In addition, lead may be residually present as a result of leaded gasoline previously used in motor vehicles.

6.5.5 Zinc may be present as many of the fittings on electrical equipment and cables are galvanized.

6.5.6 Waste water effluent that may leak into underground vaults or manholes as a result of leaking sewage pipes.

6.5.7 Residues of PCBs are often suspect at electric utility facilities, but SMUD does not use PCB-containing equipment in underground facilities.

6.6 Duration of Discharges

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
POLLUTION PREVENTION PLAN**

Discharges are intermittent and generally of short duration. Manholes, for instance, can be pumped out within approximately 15 to 30 minutes depending on the quantity of water present. Discharges from underground service vaults that are manually pumped are also intermittent, and can take as long as two hours depending on the amount of water present.

7.0 Pollution Prevention Practices

7.1 Housekeeping and Preventative Maintenance

In compliance with General Order 138, SMUD inspects underground service vaults once per year and manholes once every three-years. Trained electricians from SMUD's Underground Network crews conduct all annual inspections. Part of this maintenance activity includes cleaning out accumulated debris, leaves, sediment, and general refuse that has accumulated. A log is kept for all maintenance activities.

7.2 Spill Prevention Control and Countermeasure Controls

Based on the requirements set forth in 40 CFR 112, SMUD has developed and implemented a spill prevention control and countermeasure (SPCC) plan for all transformers containing oil in quantities greater than 1,320-gallons. In developing this plan, underground vaults will contain greater than 110-percent of the oil from a transformer.

SPCC Plan components include: spill response procedures, oil release drainage patterns, oil handling procedures, emergency response contacts, and storm water discharge drainage patterns. In addition, SMUD has a 24-hour on call Hazardous Material Spill Response Team and 24-hour Emergency Response contractors available to response to all oil releases or vault decontamination activities.

7.3 Employee Training

Annual NPDES training is conducted by SMUD's Pollution Prevention Team to all employees involved in the discharge of water from vaults and manholes. Training topics include the following:

- Overview of the Permit and PPP

SACRAMENTO MUNICIPAL UTILITY DISTRICT
POLLUTION PREVENTION PLAN

- Vault and manhole inspections
- Record keeping
- Water discharge evaluation and recording
- Sediment and erosion control
- Oil and effluent spill response reporting procedures
- Vault and manhole safety and personal protective equipment

7.4 Spill Response Reporting

7.4.1 *Spill Response Training.* All SMUD field personnel receive annual spill response training. Based on SMUD's spill response procedures, Environmental Management personnel receive and track all known hazardous material releases involving SMUD electrical and non-electrical equipment. Upon notification of a release, Environmental Management or SMUD's Dispatch System Operator will notify HazMat to respond to the release. HazMat personnel will contain the release, notify Environmental Management of the site conditions, sample the oil for the presence of PCBs, and initiate cleanup activities.

7.4.2 *Spill Notification.* If an oil spill enters a water body, Environmental Management personnel notify the National Response Center, the California Office of Emergency Services, and the Sacramento County Environmental Management Department (EMD). All spill notifications are tracked on a spill response data-base.

7.4.3 *Spill History.* During the past three years, January 2004 thru January 2007, no oil releases or releases of other hazardous materials entered SMUD vaults and manholes. During 2005, SMUD encountered seven utility manholes that contained sewage. SMUD notified the City of Sacramento of the release so that they could remove the sewage and repair damaged sewage lines adjacent to the identified manholes. All sewage was removed by the City of Sacramento and transported to the nearest Publicly Owned Treatment Works for treatment. Subsequently, a SMUD contractor disinfected the manholes so that work crews could safely work in these areas.

7.5 Sediment and Erosion Control

Identified vaults and manholes in the service area are predominately located in developed urban and residential areas (e.g., paved streets,

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
POLLUTION PREVENTION PLAN**

parking lots, or sidewalks). Visual inspections indicate a limited potential for soil erosion in the vicinity of our vaults and manholes.

If areas that are currently under development that prevent a discharge to a storm water conveyance system, SMUD personnel are instructed to implement one of the following sediment and erosion control best management practices:

- Discharge to an approved sediment discharge basin. Crews are instructed to contact the developer or builder to discharge vault and manhole water in a developed sediment basin.
- Construct or install sediment controls using straw waddles and gravel pads. Discharge water will be pumped across gravel pads and/or pass through a series of straw waddles to minimize suspended sediment erosion. Crews will reduce the discharge pressure by attaching a sediment control sock at the end of the discharge hose. The sock will diffuse the discharge water to minimize soil erosion.
- Notify HazMat to pump out the vault or manhole and appropriately manage the water.

7.6 Management of Runoff

7.6.1 *Runoff Management in Developed Areas.* A component of the Site Compliance Evaluation is to conduct a visual inspection of the proposed discharge location. Prior to the discharge of water from a vault or manhole, the operator inspects the discharge location for the presence of debris, silt, or hazardous materials that may introduce pollutants into a storm drain or the environment. All identified materials are removed from the discharge area prior to the release of water from a vault or manhole. Results of the inspection are recorded on an inspection form.

7.6.2 *Runoff Management in Undeveloped Areas.* See Section 7.5.

8.0 **Site Compliance Evaluation**

The purpose of the Site Compliance Evaluation program is twofold: 1) to visually inspect water in vaults and manholes prior to its manual discharge and 2) to verify the effectiveness of pollution program through annual sampling.

8.1 Visual Inspections.

Water is examined prior to its discharge to determine if total suspended solids, oil and grease, and petroleum hydrocarbons are present to an extent that allowing discharge to the storm sewer system would be detrimental to the receiving water body. Examinations consisted of sampling water by the use of a small white bucket to determine the presence of these constituents. Sensory observations were recorded and then verified using chemical analysis. Based on the results of these case studies, SMUD has determined that using visual observations is a reliable method for determining whether water is suitable for discharge to storm sewers. In addition, chemical analytical data have shown that there were low concentrations of copper, lead, zinc, and no concentrations of PCBs and pesticides at or above the laboratory detection limits.

An Underground Vault Water Management Checklist is completed by SMUD field crews prior to any discharges to storm water drains. The checklist, included in Attachment F, Vault and Manhole Water Discharge Procedure, consists of five sections that lead crews through the inspection process.

- 8.1.1 Section I of the checklist requires that the date, time, vault number estimated water depth, discharge volume, and discharge rate as well as noting whether there have been any recent rains.
- 8.1.2 Section II of the checklist requires crews to visually examine the water to determine the presence of excessive amounts of suspended solids, abnormal colors and odors, i.e., odors from solvents and other petroleum products, sewage, etc., and tars and grease floating in the water. If any of these contaminants are found, then crews are instructed not to pump the water to a storm drain, but instead arrange to have the water removed and contained for discharge into a sanitary sewer. In addition, this section also requires the crews to inspect the discharge location for the presence of debris and contaminants prior to discharge. All contaminants and debris is removed prior to discharge.
- 8.1.3 Section III instructs crews to examine the water for the presence of an oil-sheen. Instructions in the checklist state that if an oil-sheen is present, only the water present may be pumped and the oil-sheen may not be discharged from the vault or manhole. Crews also have the option to place absorbent pads on the surface of the water to absorb the oil, if suitable for the particular situation. If it is necessary to remove the oil sheen through pumping, crews are

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POLLUTION PREVENTION PLAN**

instructed not to pump the water to a storm drain, but instead arrange to have the water removed and contained for discharge into the sanitary sewer.

8.1.4 Section IV of the checklist requires crews to examine the water as it is being discharged and record all observations.

8.1.5 Finally, the responsible crew supervisor signs the checklist in Section V.

8.1.6 Testing records will be retained in SMUD files for a minimum of three years.

8.2 Annual Monitoring

8.2.1 To verify the effectiveness of pollution program, SMUD annually samples water from a representative number of vaults and manholes in its service area. Results of the monitoring program are evaluated and summarized in an annual report that is presented to the California Water Quality Control Board (Regional Board) for review. Attachment B identifies the sites and locations of sampling locations. Note: Sample locations may change in the event of low rain-fall years where water samples are unable to be obtained. In such instances, the SMUD will notify the Regional Board of sampling changes in its annual report. All sampling is conducted in accordance with the Monitoring and Reporting Program identified in Attachment E of the General Permit

ATTACHMENT A

Notice of Intent

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 type="checkbox"/> New Discharger	2. <input checked="" type="checkbox"/> Change of Information – WDID # CAG990002
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II. OWNER/OPERATOR (If additional owners/operators are involved, provide the information in a supplemental page.)

A. Name Sacramento Municipal Utility District		Owner/Operator Type (Check One) 1. <input type="checkbox"/> City 2. <input type="checkbox"/> County 3. <input type="checkbox"/> State 4. <input checked="" type="checkbox"/> Gov. Combo 5. <input type="checkbox"/> Private	
B. Mailing Address P.O. Box 15830			
C. City Sacramento	D. County Sacramento	E. State CA	F. Zip Code 95852-1830
G. Contact Person Patrick Durham	H. Title Env. Specialist III	I. Phone (916) 732-6327	

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 Patrick Durham	B. Title Env. Specialist III
	C. Mailing Address P.O. Box 15830	
D. City Sacramento	E. County Sacramento	F. State CA
		G. Zip Code 95852-1830

IV. RECEIVING WATER INFORMATION

A. Receiving water(s): Sacramento River	B. Describe the types of receiving waters affected: River
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: 9	

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"/> Yes <input type="checkbox"/> No

VII. TYPE (Check All That Apply)

Electric Natural Gas Telephone Other:

VIII. POLLUTION PREVENTION PRACTICES PLAN INFORMATION

A. Company Name Sacramento Municipal Utility District			B. Contact Person Patrick Durham	
C. Street Address Where PLAN is Located 6201 S Street			D. Title of Contact Person Env. Specialist III	
E. City Sacramento	F. County Sacramento	G. State CA	H. Zip Code 95817	I. Phone (916) 732-6327

IX. DESCRIPTION OF DISCHARGE

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

Discharge of storm water that collects in vaults and manholes. Possible pollutants of concern include oil and grease, total petroleum hydrocarbons, and silt. Visual inspections conducted prior to discharge.

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: BETTY MASUOKA

B. Signature: Betty Masuoka C. Date: 11/31/07

D. Title: Asst. General Mgr

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 B

Vault and Manhole Sampling Plan

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
POLLUTION PREVENTION PLAN**

Vault and Manhole Sampling Plan

Facility No.	Location	Facility Type	Sampling ID	Size & Dimension
6050	P St. & 6 th St.	Manhole	07NPDES-01	8' x 10' x 12'
NA	Trip Blank	NA	07NPDES-02	NA
162AV	K St. & 2 nd St.	Vault	07NPDES-03	20' x 30' x 12'
182	L St. E of Fire.	Vault	07NPDES-04	14' x 13' x 10'
260	2 nd & K	Manhole	07NPDES-05	9' x 9' x 7'
385V	Capitol & 3 rd	Vault	07NPDES-06	20' x 30' x 12'
385 V Dup.	Capitol & 3 rd	Vault	07NPDES-07	20' x 30' x 12'
439V	J St. Between 3 rd /4 th St.	Vault	07NPDES-08	20' x 30' x 12'
U24215	5 th & J St.	Switch box	07NPDES-09	9' x 9' x 7'
490 V	Capitol & 4th	Vault	07NPDES-10	20' x 30' x 12'
Sump Pump #1 LL	Camino Powerhouse (PH) Upper American River	Automatic Discharge	Camino PH Sump Pump #1 LL	5' X 5' x 8'

NA = Not Applicable

ATTACHMENT C

Case Sampling Results

GENEKA NPL SAMPLING

SUMMARY OF ANALYTICAL RESULTS

Facility No.	Location	Date Sampled	Sample ID	pH	Cu (ug/L)	Pb (ug/L)	Zn (ug/L)	1664-HEM			1664-SGT-HEM			Pest. (ug/L)	PCB (ug/L)	
								Oil & Grease (mg/L)	TPH (mg/L)	TSS (mg/L)	Oil & Grease (mg/L)	TPH (mg/L)	TSS (mg/L)			
490V	Cap. & 4th	01/21/98	ENV98-001	7.85	93	20	210	ND	ND	8.0	ND	ND	ND	ND	ND	
		02/24/98	ENV98-011	7.81	ND	5.9	230	ND	ND	ND	ND	ND	ND	ND	ND	ND
		04/30/98	ENV98-021	8.60	20	ND	120	ND	ND	ND	ND	ND	ND	ND	ND	ND
385V	Cap. & 3rd	01/22/98	ENV98-002	7.76	57	38	560	ND	ND	ND	ND	ND	ND	ND	ND	
		02/24/98	ENV98-012	7.71	ND	12	390	ND	ND	ND	ND	ND	ND	ND	ND	ND
		04/30/98	ENV98-022	7.96	31	ND	430	ND	ND	8.0	ND	ND	ND	ND	ND	ND
520V	I & 5th	01/22/98	ENV98-003	7.38	140	52	490	ND	ND	30.0	ND	ND	ND	ND	ND	
		02/24/98	ENV09-013	7.47	ND	6.9	450	ND	ND	ND	ND	ND	ND	ND	ND	ND
		04/30/98	ENV98-023	7.60	220	ND	460	ND	ND	46.0	ND	ND	ND	ND	ND	ND
162	K & 2nd	01/22/98	ENV98-004	7.94	ND	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		02/24/98	ENV98-014	7.84	ND	5.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		04/30/98	ENV98-024	8.14	ND	7.7	22	ND	ND	ND	ND	ND	ND	ND	ND	ND
490	Cap. & 4th	01/21/98	ENV98-005	7.49	49	250	120	ND	ND	43.0	ND	ND	ND	ND	ND	
		02/24/98	ENV98-015	8.02	ND	21	52	ND	ND	10.0	ND	ND	ND	ND	ND	ND
		04/30/98	ENV98-025	8.30	ND	10	54	ND	ND	12.0	ND	ND	ND	ND	ND	ND
6050	P & 6th	01/22/98	ENV98-006	8.10	22	ND	ND	7.3	ND	ND	ND	ND	ND	ND	ND	
		02/24/98	ENV98-016	7.24	ND	10	71	ND	ND	6.4	ND	ND	ND	ND	ND	ND
		04/30/98	ENV98-026	7.80	ND	11	58	ND	ND	20.0	ND	ND	ND	ND	ND	ND
	Haven./Florin	01/30/98	ENV98-007	7.38	ND	ND	220	ND	ND	ND	ND	ND	ND	ND	ND	
		02/25/98	ENV98-017	7.46	ND	ND	250	ND	ND	ND	ND	ND	ND	ND	ND	ND
		04/30/98	ENV98-027	7.62	ND	ND	260	ND	ND	8.0	ND	ND	ND	ND	ND	ND
	Country Club	01/30/98	ENV98-008	7.07	480	ND	460	7.1	ND	17.0	ND	ND	ND	ND	ND	
		02/25/98	ENV98-018	7.88	4100	76	2100	10	ND	290.0	ND	ND	ND	ND	ND	ND
		04/30/98	ENV98-028	7.79	240	13	240	8.7	5.7	73.0	ND	ND	ND	ND	ND	ND

GENERAL NPDES SAMPLING

RESULTS OF GENERAL NPDES SAMPLING performed on 1/21/98, 1/22/98 and 1/30/98

Sample ID	Facility No.	Location	pH	1664-HEM				1664-SGT-HEM				
				Cu (ug/L)	Pb (ug/L)	Zn (ug/L)	Oil & Grease (mg/L)	TPH (mg/L)	TSS (mg/L)	Pest. (ug/L)	PCB (ug/L)	
ENV98-001	490V	Cap. & 4th	7.85	93	20	210	ND	ND	8.0	ND	ND	ND
ENV-98-002	385V	Cap. & 3rd	7.76	57	38	560	ND	ND	ND	ND	ND	ND
ENV-98-003	520V	I & 5th	7.38	140	52	490	ND	ND	30.0	ND	ND	ND
ENV-98-004	162	K & 2nd	7.94	ND	5	ND	ND	ND	ND	ND	ND	ND
ENV-98-005	490	Cap. & 4th	7.49	49	250	120	ND	ND	43.0	ND	ND	ND
ENV-98-006	6050	P & 6th	8.10	22	ND	ND	7.3	ND	ND	ND	ND	ND
ENV-98-007	Haven./Florin		7.38	ND	ND	220	ND	ND	ND	ND	ND	ND
ENV-98-008	Country Club		7.07	480	ND	460	7.1	ND	17.0	ND	ND	ND
ENV-98-009	Duplicate		8.12	32	17	340	ND	ND	ND	ND	ND	ND
ENV-98-010	Field Blank		5.33	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

1. Duplicate sample for Oil & Grease, TPH, and Pest & PCB was taken at 490V. Therefore analytical results for ENV 98-009 for Oil & Grease, TPH, and Pest & PCB should correlate with analytical results for ENV 98-001.
2. Duplicate sample for Cu,Pb, Zn was taken at 385V. Therefore, analytical results for ENV98-009 for Cu,Pb,Zn should be correlate with analytical results for ENV 98-002.
3. Duplicate sample for pH and TSS was taken at 6050. Therefore, analytical results for ENV 98-009 for pH and TSS should correlate with analytical results for ENV 98-006.
4. ENV 98-010 is a field blank sample.

GENERAL NPDES SAMPLING

RESULTS OF GENERAL NPDES SAMPLING performed on 2/23/98 and 2/24/98

Sample ID	Facility No.	Location	pH	Cu (ug/L)	Pb (ug/L)	Zn (ug/L)	1664-HEM		TSS (mg/L)	Pest. (ug/L)	PCB (ug/L)
							Oil & Grease (mg/L)	1664-SGT-HEM TPH (mg/L)			
ENV98-011	490V	Cap. & 4th	7.81	ND	5.9	230	ND	ND	ND	ND	ND
ENV-98-012	385V	Cap. & 3rd	7.71	ND	12	390	ND	ND	ND	ND	ND
ENV-98-013	520V	1 & 5th	7.47	ND	6.9	450	ND	ND	ND	ND	ND
ENV-98-014	162	K & 2nd	7.84	ND	5.1	ND	ND	ND	ND	ND	ND
ENV-98-015	490	Cap. & 4th	8.02	ND	21	52	ND	10.0	ND	ND	ND
ENV-98-016	6050	P & 6th	7.24	ND	10	71	ND	6.4	ND	ND	ND
ENV-98-017	Haven./Florin		7.46	ND	ND	250	ND	ND	ND	ND	ND
ENV-98-018	Country Club		7.88	4100	76	2100	10	290.0	ND	ND	ND
ENV-98-019	Duplicate		7.43	ND	ND	250	ND	ND	ND	ND	ND
ENV-98-020	Field Blank		7.02	ND	ND	ND	ND	ND	ND	ND	ND

- Notes:
1. Duplicate sample taken at Havenside and Florin.
 2. ENV 98-020 is a field blank sample.

ATTACHMENT D

Map of Downtown Underground Network (DUN)

City of Sacramento

Combined Sewer System



Legend

-  City Limits
-  Combined System
-  Sample Location

R:\maps\sewer\2004\03\03\sew.mxd

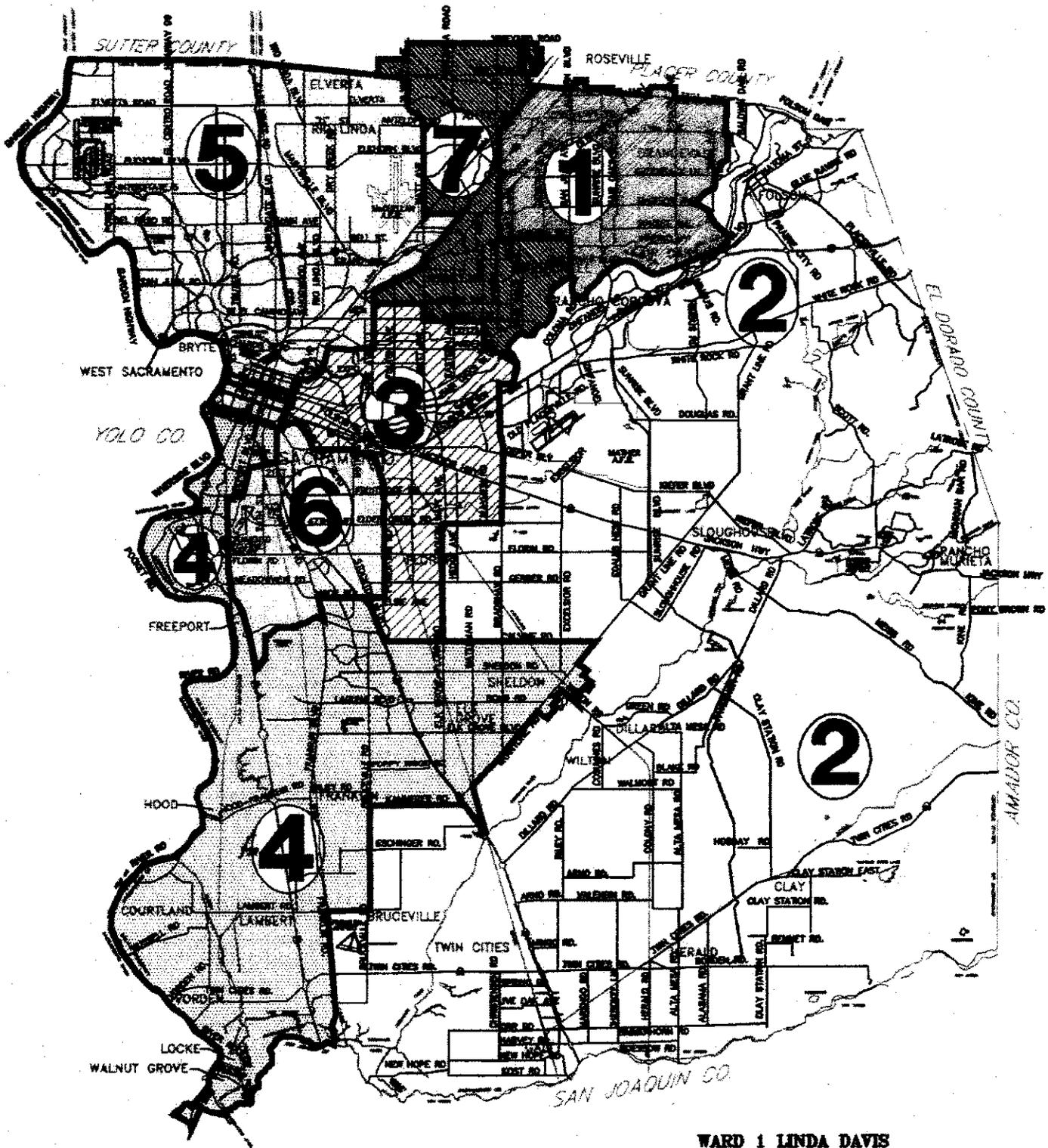


Figure 1
Vault and Manhole Sampling Locations

ATTACHMENT E

Map of SMUD Service Territory

SACRAMENTO MUNICIPAL UTILITY DISTRICT BOARD OF DIRECTORS WARD BOUNDARIES



- WARD 1 LINDA DAVIS**
- WARD 2 SUSAN PATTERSON**
- WARD 3 HOWARD POSNER**
- WARD 4 GENEVIEVE SHIROMA**
- WARD 5 PETER KEAT**
- WARD 6 LARRY CARR**
- WARD 7 BILL SLATON**

ATTACHMENT F

Vault and Manhole Water Discharge Procedure



SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT
SAFETY, HEALTH & ENVIRONMENTAL SERVICES DEPARTMENT

NO: 10-16PR

DISTRICT SAFETY, HEALTH & ENVIRONMENTAL POLICY MANUAL	SECTION	HAZARDOUS MATERIALS MANAGEMENT	SUBJECT	UNDERGROUND STRUCTURE WATER DISCHARGE PROCEDURE
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1.0 PURPOSE

The purpose of this procedure is to provide direction on the monitoring of water discharges from District-owned underground structures (i.e., vaults, manholes, j-boxes, etc.).

2.0 SCOPE

All District vaults, manholes and similar underground enclosures where water is removed and discharged to a storm sewer drain.

3.0 REFERENCE

3.1 National Pollutant Discharge Elimination System General Permit CAG90002, Discharges by Utility Companies to Surface Waters

4.0 RESPONSIBILITIES

4.1 It is the responsibility of the Supervisor of Work Performance to insure that the provisions of this policy are being implemented and that there is compliance with requirements of the NPDES Permit. It is the responsibility of Safety, Health and Environmental Services to conduct the annual monitoring that is required by the permit and to submit that information to the Regional Water Quality Control Board.

5.0 APPLICABILITY

5.1 This procedure is applicable to all manual discharges of water from underground vaults, manholes and similar enclosures to storm sewer systems.

5.2 This procedure does not apply to the discharge of water to land, sanitary sewer, and combined sanitary and storm sewer systems. This procedure also does not apply to automatic discharges from critical electrical vaults in the Downtown Underground Network. This procedure does not apply in emergency situations. However, under no circumstances is heavily contaminated water to be discharged to the environment.

NOTE: At the time of the writing of this procedure, the downtown part of the City of Sacramento is divided into two parts in terms of how discharges are managed. Any discharges from the underground network west of 7th Street will enter into a storm

EFFECTIVE DATE 10/08/01	REVISION NUMBER 0	REVISION DATE	APPROVED BY Executive Safety, Health & Environmental Committee	PAGE Page 1 of 2
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SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT
SAFETY, HEALTH & ENVIRONMENTAL SERVICES DEPARTMENT

NO: 10-16PR

DISTRICT SAFETY, HEALTH & ENVIRONMENTAL POLICY MANUAL	SECTION HAZARDOUS MATERIALS MANAGEMENT	SUBJECT UNDERGROUND STRUCTURE WATER DISCHARGE PROCEDURE
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sewer and are therefore subject to the provisions of this procedure. Any discharges from the underground network east of 7th Street will enter into a combined storm and sanitary sewer system and are therefore not subject to the provisions of this procedure. Any discharges from areas other than the underground network enter into a storm sewer system and therefore must comply with the provisions of this procedure.

6.0 PROCEDURE

6.1 The following procedure shall be followed to discharge water from a vault, manhole, etc. to a storm drain.

6.1.1 Prior to Discharge

6.1.1.1 Personnel shall obtain a sample of water from the vault or manhole using a clean white bucket. The water shall be examined for the presence of the following:

6.1.1.6.1 Visible tar

6.1.1.6.2 Cloudiness

6.1.1.6.3 Unusual Discoloration

6.1.1.6.4 Unusual odors such as solvents, petroleum products, sewage.

6.1.1.6.5 If any of the above is present, do not discharge to a storm drain. Contact the Dispatcher and request that the vault or manhole be pumped into a tanker truck. If sewage is present call the City of Sacramento (916) 264-5252 or if in the County call (916) 875-6900 and request that the sewage be removed.

6.1.1.6.6 Do not attempt to work in or pump water from vaults or manholes contaminated with sewage or petroleum hydrocarbons (i.e. solvents, gasoline, paint, diesel fuel, etc.) until the District's Safety, Health and Environmental Services Department has been contacted and has provided guidance.

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SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT
SAFETY, HEALTH & ENVIRONMENTAL SERVICES DEPARTMENT

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DISTRICT SAFETY, HEALTH & ENVIRONMENTAL POLICY MANUAL	SECTION HAZARDOUS MATERIALS MANAGEMENT	SUBJECT UNDERGROUND STRUCTURE WATER DISCHARGE PROCEDURE
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6.2 Completion of the Underground Vault Water Management Checklist

6.2.1 Section I

Record the date, time, vault or manhole number estimated water depth and indicate if there has been a recent rain (within the last 48 hours). Record the date, time, vault or manhole number estimated water depth and indicate if there has been a recent rain (within the last 48 hours).

6.2.2 Section II

If the answers to all of the questions in Section II are no, then proceed to Section III of the Underground Vault Water Management Checklist.

If the answer to any of the questions in Section II is yes do not pump. Contact the on-call supervisor for assistance in removing the water.

6.2.3 Section III

Complete section III by determining if there is an oil sheen on the water. If there is an oil sheen on the water then the water may be removed from the vault or manhole provided that the oil layer is left undisturbed and no oil is released into the storm drain. If it is necessary to remove the remaining water, then contact the on-call supervisor so they can remove the water for you.

If there is no oil sheen on the water then the water may be pumped into the storm drain.

6.2.4 Section IV

Observe the water as it is flowing into the storm drain and complete questions 6 through 10. If the answer to any of these questions is yes, then immediately stop pumping and notify the on-call supervisor.

If the answers to questions 6 through 10 are no, then continue to pump the water from the vault or manhole.

6.2.5 Section V

The foreman or supervisor shall complete Section V regardless of whether the water could be pumped to the storm drain or not.

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SMUD

SACRAMENTO MUNICIPAL UTILITY DISTRICT
SAFETY, HEALTH & ENVIRONMENTAL SERVICES DEPARTMENT

NO: 10-16PR

DISTRICT SAFETY, HEALTH & ENVIRONMENTAL POLICY MANUAL	SECTION HAZARDOUS MATERIALS MANAGEMENT	SUBJECT UNDERGROUND STRUCTURE WATER DISCHARGE PROCEDURE
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7.0 ANNUAL SAMPLING AND REPORTING

7.1. Sampling

7.1.1. Parameters

The NPDES permit requires that up to five representative samples of water from designated vaults, manholes and other underground structures be sampled and analyzed for the following:

- Total Petroleum Hydrocarbons (TPH)
- Oil and Grease

7.1.2 Sampling locations

The following vaults, manholes, and underground structures are to be sampled:

- Vault 490V located at Capitol and 4th
- Vault 385V located at Capitol and 3rd
- Vault 520V located at I and 5th
- Manhole 162 located at K and 2nd
- Manhole 490 located at Capitol and 4th
- Manhole 6050 located at P and 6th
- J box located at the southwest corner of Havenside and Florin Roads
- Manhole located in the east parking lot of Country Club Plaza located at 2401 Butano Drive, Sacramento County

7.1.3 Sampling Methodology

All samples are grab samples. A small white plastic bucket is lowered into the underground structure and a sample of the water is captured. The sample is then poured into one-liter amber glass bottles. A total of two sample bottles per location are required for TPH and oil and grease analysis. A label is affixed to the bottle indicating sample number, date, and sampler's initials. The samples shall be placed in a cooler on ice. No preservative is required. The samples shall be delivered to the laboratory immediately upon completion of the sampling.

A duplicate sample from one of the locations and a field blank from one location shall also be obtained and analyzed for the parameters listed in section 7.1.1

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**UNDERGROUND VAULT AND MANHOLE
WATER MANAGEMENT CHECKLIST**

NPDES MONITORING

DATE: _____ VAULT or MANHOLE # _____

TIME: _____ ESTIMATED WATER DEPTH: _____

RECENT RAIN? YES NO COMMENT _____

START TIME OF DISCHARGE: _____ END TIME OF DISCHARGE: _____

APPROXIMATE VOLUME OF DISCHARGE: _____ GALLONS

Inspect the water in the vault (manhole) and answer questions 1 - 5:

- | | | |
|--|-----------------------------|--|
| 1. Is any tar visible? | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| 2. Is the water cloudy? | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| 3. Is the water discolored? | <input type="checkbox"/> No | <input type="checkbox"/> Yes Color: _____ |
| 4. Are there any unusual odors?
(i.e. diesel gasoline, sewage, decaying matter, etc.) Describe: _____ | <input type="checkbox"/> No | <input type="checkbox"/> Yes |

- | | | |
|--|-----------------------------|------------------------------|
| 5. Is the discharge area free of debris? | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| 6. Is there an oil (rainbow) sheen on the water? | <input type="checkbox"/> No | <input type="checkbox"/> Yes |
| 7. Will water be filtered prior to discharge? | <input type="checkbox"/> No | <input type="checkbox"/> Yes |

COMMENTS:

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

Name of Observer/Sampler

Signature

RETURN COMPLETED FORM TO YOUR SUPERVISOR