

**Standardized
Best Management Practices
for
Potable Water Discharges**

**Developed by the
Technical Advisory Committee
Region 9**

Standardized Best Management Practices for Water Discharges

Overview

The passage of the Clean Water Act in 1972 required the United States Environmental Protection Agency (USEPA) to set standards for surface water quality: mandate sewage treatment and regulate wastewater discharges into the nations surface waters. The State of California has assumed responsibility for implementing the Clean Water Act in California, including issuing discharge permits and setting water-quality standards.

The state employs two types of water-quality control plans, one of which is pertinent to the operations of potable water supply systems. The *Regional Board Basin Plan* is adopted by each Regional Board for each of the state's nine (9) regions and is specifically tailored to each unique watershed. All discharges of pollutants to surface waters are regulated with National Pollutant Discharge Elimination System (NPDES) permits.

Locally, the San Diego Regional Water Quality Control Board (SDRWQCB) utilizes the *Water Quality Control Plan for the San Diego Basin (9)* to identify bodies of water and their beneficial uses, establish water quality objectives, and implementation programs.

The California Regional Water Quality Control Board, Region 9 has adopted Order No. R9-2002-0020. This Order establishes General Waste Discharge Requirements for Discharges of Hydrostatic Test Water and Potable Water to Surface Waters and Storm Drains or Other Conveyance Systems. The following Standardized Best Management Practices are designed to comply with this Order and include the following basics.

1. The discharge must be effectively regulated by the public agency.
2. The discharge may not adversely affect the quality or the beneficial uses of the waters of the state.
3. Potable water must be dechlorinated prior to discharge.
4. The discharge may not cause erosion and/or sedimentation.

In order to comply with the requirements of R9-2002-0020 and the SDRWQCB, the goal of Standardized Best Management Practices (SBMP) will be to effectively regulate and monitor all potable water discharges during the following events:

1. Dewatering of water mains.
2. Dewatering of reservoirs or water storage facilities.
3. Unscheduled discharges.

Participating water purveyors will utilize the following SBMPs prior to and during the above mentioned potable water discharge events.

Standardized Best Management Practices

Introduction

These SBMPs should be utilized by potable water agency personnel at all times when responding to or performing any unscheduled or scheduled water discharge events. The purpose of these SBMPs is to ensure that the potable water agency, hereafter referred to as “Discharger”, is in full compliance with the legal requirements as described in the overview section of this document.

Additionally, the Discharger will provide comprehensive education and training to its employees regarding potable water and hydrostatic test water discharges and the type of materials equipment, and methods used to mitigate these events. This training will ensure that all discharge events will be responded to or performed by knowledgeable, experienced personnel that will protect the environment to the maximum extent feasible.

Reporting a Water Discharge Event

In order to be effective in the implementation of the Discharger’s goal, it is imperative that a scheduled or unscheduled water discharge event be reported expediently and comprehensively to the correct personnel of the Discharger.

Typically, all water discharge events must be reported to the Discharger’s person or department charged with reporting to the RWQCB, hereafter referred to as the Discharge Reporting Authority (DRA), and give the following information prior to the discharge event whenever possible:

- Reason for discharge event.
- Location of the event.
- Type of event.
- Potential danger or impact.
- If possible, the estimated discharge flow or size of water main.
- Location of nearest storm drain or drainage swale.

Specific SBMPs follow for water discharge events in each of these categories:

- I. Dewatering Water Mains (include flushing)
- II. Dewatering Reservoirs or Storage Tank Facilities
- III. Unscheduled Water Discharge Events

I.

Dewatering Water Mains

I. Dewatering Water Mains

The dewatering of water mains is scheduled and prepared for in advance. Listed below are typical dewatering events that are covered in this category:

- dewatering mains for maintenance and construction activities
- flushing mains to alleviate water-quality issues
- flow testing fire hydrants
- new pipeline flushing and testing

The following sequential procedures must be carried out in order to meet the SBMP's goal of compliance.

1. Notify the Discharge Supervisor and/or DRA and relay all pertinent information with regard to each specific event.
2. A physical site survey must be conducted to establish the impacts on the environment from proposed dewatering efforts (page 14, P-1).
3. Clear the flow path of all loose debris, surface contaminants and/or hazardous materials that could be carried into storm drains or surface waters during dewatering operations. Do not remove native vegetation. (page 14, P-2).
4. Prevent erosion of the flow path in unpaved or vegetated areas by utilizing burlap gravel bags, sandbags, wattle rolls, silt fencing, asphalt cold patch, and/or hay bales to decrease the velocity of discharged water (page 15, p-3 & P-4). Ensure that all material used to prevent erosion is in proper condition to prevent failure during use.
5. Ensure complete control of discharged flow by means of the blow-off valve, fire hydrant, or other flow regulatory equipment (page 16, P-5).
6. Dechlorinate the stream at the point of discharge, using sodium Thiosulfate or other dechlorinating agent. Monitor and record results downstream to ensure compliance with discharge regulations (page 16, P-5).
7. Upon completion of water main dewatering, ensure that the flow path is free of all temporary erosion prevention materials and that any sediment or silted areas are cleared (page 17, P-7 & P-8).

8. Notify the Discharge Supervisor and/or DRA of the completion of the discharge event and any other pertinent information regarding the operation.

It is imperative that the flow rates be controlled during discharge events so necessary adjustments to erosion-prevention material and dechlorination efforts can be made in order for the Discharger to efficiently and effectively meet its goals.

II.

Dewatering Reservoirs or Water Storage Facilities

II. Dewatering Reservoirs or Water Storage Facilities

Dewatering reservoirs and water storage facilities is required in order to perform preventive maintenance and inspection of interior coatings and to remove any objectionable materials inside the structures.

Because reservoirs and water storage facilities are critical elements of the public water supply system, close coordination efforts are required between the Distribution System Operators, Water Quality Specialist, and the Discharge Supervisor to minimize any disruptions to the public water supply. In addition, returning potable water reservoirs to service requires strict adherence to sanitary procedures including disinfection and bacteriological analysis prior to supplying the public. It is not the intention of this document to address operational issues as they are often system specific and covered in operational guidelines.

The following sequential procedures must be carried out in order to meet the SBMP's goal of compliance with discharge regulations.

1. Notify the Discharge Supervisor and/or DRA of the event and relay all pertinent information for each specific event.
2. Perform a site survey to establish the impacts on the environment from proposed dewatering efforts (page 14, P-1).
3. Clear the flow path of all loose debris, surface contaminants and/or hazardous materials that could be carried into storm drains or surface waters during dewatering operations. Do not remove native vegetation. (page 14, P-2).
4. Prevent erosion by discharging water in a manner not too disruptive to the flow path or unpaved or vegetated areas by utilizing sand bags, asphalt cold patch, and/or hay bales to decrease the velocity of discharged water (page 15, P-3 & P-4). Ensure that all material used to prevent erosion is in proper condition to prevent failure during use.
5. Lower the water level of the reservoir to the minimum operating level by not replenishing the distribution system demand.

Caution: Ensure that the minimum operating level is sufficient so as not to starve any associated pumping facilities supplied by the reservoir and not allow any sediment from the reservoir to enter the distribution system.

6. Isolate the reservoir from the distribution system.
7. Ensure complete control of discharged flow from the reservoir by controlling the means of discharge in use (page 16, P-5).

8. Dechlorinate the discharge using sodium Thiosulfate or other dechlorination agent. Monitor and record results downstream as necessary to ensure regulatory compliance (page, P-6).

Note: To establish the minimum dosage of dechlorination agent required to neutralize the chlorine residual of the effluent, incrementally increase the dose and monitor with Colormetric test kit until the desired results are obtained.

9. Upon completion of reservoir or water storage facility dewatering, ensure that the flow path is free of all temporary erosion prevention materials and that any sediment or silted areas are cleared (page 17, P-7 & P-8).
10. Notify the Discharge Supervisor and/or DRA of the completion of the discharge event and any other pertinent information regarding the operation.

It is imperative that the flow rates be controlled during discharge events so necessary adjustments to erosion prevention material and dechlorination efforts can be made in order for the Discharger to efficiently and effectively meet its goals.

III.

Unscheduled Water Discharge Events

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Such events cannot be *scheduled or planned* for in advance. However, the Discharger can mitigate the effects of these occurrences by ensuring that a fully equipped leak crew is available 24-hours a day to respond to each reported incident.

Typically, unscheduled discharge events are the results of the following activities:

1. Water main breaks due to natural disasters, i.e., earthquakes, undermining of pipelines due to excessive flooding, or runoff.
2. Damage to existing pipelines by various construction activities.
3. Demolition of fire hydrants by vehicular accidents.
4. Vandalism and theft of backflow prevention devices or fire hydrants.
5. Water distribution infrastructure material or equipment failures.

During the above mentioned unscheduled discharge events, the water released will generally enter the storm-drain system or drainage swale uncontrolled until the leak crew isolates pertinent valves within the system to prevent further uncontrolled discharge.

The following sequential procedures must be carried out in order to meet the SBMP's goal of compliance:

1. Notify the Duty Response Supervisor of the event.
2. Isolate the affected section of the distribution system.
3. If necessary, employ standard traffic management operating procedures to protect vehicular and pedestrian traffic, e.g., area barricades, and caution tape.
4. Perform a site survey to evaluate the impact to the surrounding environment caused by the uncontrolled discharge to determine if any endangerment to health or the environment has occurred.
5. Perform the necessary activities to determine the cause of failure and accomplish the required repairs.
6. Begin clean-up operations to the affected flow path by removing sediment or silt and repair all erosion.

7. Excavation dewatering efforts must be preceded by standard procedures for clearing of flow path and erosion prevention, as well as dechlorination of controlled discharge to storm-drain system or drainage swale.
8. Having completed the necessary repairs, and prior to placing the affected service on-line, a water-main flush should be carried out. Refer to Section I, Dewatering Water Mains for specific sequential procedures.

Attachments: Examples and/or drawings

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manuals/bmp-potable water dischgs



P-1 Site Survey



P-2 Site Cleanup



P-3 Drainway Protection



P-4 Storm Drain Inlet Protection



P-5 Control Discharge Rate



P-6 Ensure Complete Dechlorination



P-7 Cleanup Flow Path



P-8 Cleanup And Remove All Material And Debris