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**SAN DIEGO GAS & ELECTRIC COMPANY  
SOUTH BAY SUBSTATION RELOCATION PROJECT**

**DEWATERING PLAN**

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**AUGUST 2014**





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## **1 – INTRODUCTION**

This Construction Dewatering Plan (Plan) describes the measures to be taken by San Diego Gas & Electric Company (SDG&E) and its contractors to address implementation of dewatering during construction of the South Bay Substation Relocation Project (Project). The Project is located in Chula Vista, California, and involves the following:

- construction of a new 230/69/12 kilovolt (kV) Bay Boulevard Substation;
- construction of a 230 kV loop-in, including underground and overhead interconnections;
- relocation of six overhead 69 kV transmission lines;
- extension of a 138 kV transmission line via overhead and underground configurations;
- demolition of the existing South Bay Substation; and
- wetland restoration activities at the D Street Fill Site.

This Plan was prepared in accordance with Mitigation Measure (MM) HYDRO-2b of the Mitigation Monitoring, Compliance, and Reporting Program (MMCRP) for the Project and Special Condition 18 of the Coastal Development Permit (CDP), which stipulates protocols for the development of the Plan and implementation of the procedures to be followed in the field in order to minimize impacts to water quality due to construction dewatering activities. This Plan was also developed to demonstrate consistency with the San Diego Regional Water Quality Control Board's (SDRWQCB) Waste Discharge Requirements as outlined in the newly adopted Order R9-2014-0041. This Plan will pertain to all construction components on the Project.

## **2 – OBJECTIVES**

The purpose of this Plan is to provide the SDG&E construction management team with a description of measures that will be implemented to minimize water quality impacts associated with construction of the Project. This Plan provides specific information for implementing the MMs, as well as the means of monitoring the effectiveness of the Plan through implementation of the control measures during Project construction. The management practices and activities in this Plan are intended to accomplish the following objectives:

- Minimize water quality impacts associated with construction of the Project, and
- Maintain consistency with the SDRWQCB Waste Discharge Requirement, as well as the Projects' Storm Water Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs).

## **3 – APPLICABLE DEWATERING REQUIREMENTS**

Dewatering activities are regulated by the SDRWQCB, as well as by MMs in the Project's MMCRP and Special Condition 18 of the CDP. This Plan is designed to minimize water quality impacts associated with the Project dewatering activities.

### **3.0 MM HYDRO-2a**

“Prior to construction, SDG&E shall consult with the San Diego Regional Water Quality Control Board (RWQCB) to determine whether an individual discharge permit is required for dewatering at any of the project areas anticipated to encounter groundwater. A copy of the permit or a waiver from the RWQCB, if required, shall be provided to the California Public Utilities Commission prior to dewatering activities.”

### **3.1 MM HYDRO-2b**

“SDG&E shall submit to California Public Utilities Commission prior to construction a typical dewatering drawing that shall be implemented during dewatering activities. The drawing shall include the location of pumps within secondary containment, fuel storage areas, anticipated discharge point, scour protection measures, intake hose screening, and monitoring procedures to ensure that hazardous materials spills are addressed in a timely manner and discharge hoses are frequently inspected for leaks.”

### **3.2 CDP-18**

“PRIOR TO THE START OF CONSTRUCTION, SDG&E shall submit a Dewatering Plan to the Executive Director for review and approval. This plan shall include a typical dewatering drawing that includes the location of pumps within secondary containment, fuel storage areas, anticipated discharge point, scour protection measures and intake hose screening. The plan shall also include monitoring procedures to ensure that hazardous materials spills are addressed in a timely manner and discharge hoses are frequently inspected for leaks. SDG&E shall also consult with the Regional Quality Control Board (RWQCB) to determine whether an individual discharge permit is required for dewatering at any of the project areas anticipated to encounter groundwater. A copy of the permit or a waiver from the RWQCB, if required, shall be provided to the Executive Director prior to dewatering activities.”

### **3.3 SDRWQCB WASTE DISCHARGE REQUIREMENTS**

The SDRWQCB adopted Order No. R9-2014-0041 (Order) on June 26, 2014, *Conditional Waivers of Waste Discharge Requirements for Low Threat Discharges in the San Diego Region* (Waivers). Discharges to land from short-term construction dewatering operations are covered under *Waiver No. 3—Miscellaneous “Low Threat” Discharges to Land*. “Low threat” discharges include liquid wastes containing pollutant concentration that are not expected to adversely impact the quality of waters of the State under ambient conditions. “Low threat” discharges may include potable water or uncontaminated groundwater. “Low threat” discharges to land should not contain significant concentrations of pollutants that can adversely affect the quality of underlying groundwater.

Any Discharger proposing to discharge miscellaneous low threat wastewaters to land must comply with the General Waiver Conditions, and the Specific Waiver Conditions for Short Term Construction Dewatering Operations.

Discharges to land from short-term construction dewatering operations must not exceed an average of 5,000 gallons per day (GPD) for any continuous 180-day period.

Any additives, such as synthetic drilling polymers for wet-hole excavations, must be disclosed in the Notice of Intent (NOI)- (Attachment A of the Order). Information regarding measures that will be taken to ensure that groundwater from drilling operations is compliant with the Waiver conditions prior to being discharged to land should be included in the NOI.

Accordingly, a NOI must be completed by the Discharger in order to enroll in the Waiver. Written notice of enrollment in the Waiver must be submitted to the SDRWQCB prior to initiating a discharge if (1) dewatering operations will exceed an average of 5,000 GPD for a continuous 180-day period or (2) water is exposed to any chemical additives, such as synthetic drilling polymers.

Correspondence with SDRWQCB confirming the requirements stated herein along with a copy of the NOI Form are included as Attachment C: RWQCB Correspondence and Notice of Intent Form.

## **4 – PLAN IMPLEMENTATION**

### **4.0 SDG&E BEST MANAGEMENT PRACTICES FOR DEWATERING**

BMPs will be implemented during construction dewatering operations to ensure that discharges do not enter the Municipal Separate Storm Sewer System (MS4) or any surface waters.

General procedures for dewatering activities are outlined in Attachment B: California Stormwater Quality Association (CASQA) BMP Fact Sheet for Dewatering Operations (NS-2), which provides maintenance and inspection guidelines for equipment used during dewatering operations. The BMPs that may be implemented during dewatering activities include the following:

- Sediment Basins
- Weir Tanks
- Dewatering Tanks
- Gravity Bag Filters
- Sand Media Particulate Filters
- Cartridge Filters

Final BMPs and/or treatment systems employed during Project dewatering operations will be in accordance with the Project's Stormwater Pollution Prevention Plan (SWPPP) and CASQA guidelines.

### **4.1 ANTICIPATED DEWATERING PROCEDURES**

Based on subsurface geotechnical investigations conducted within the Project site, the average groundwater depth at the Bay Boulevard Substation site is expected to be at 3.5 feet Mean Sea Level (MSL). The current approximate surface elevations ranges between eight and 17 feet MSL. Therefore, initial grading activities at the Bay Boulevard Substation site will typically be above the groundwater level. It is not anticipated that dewatering activities will be necessary for initial site grading. However, installation of foundations for equipment and structures, conduit

and pullboxes for control cable and power ducts, and grounding material (copper conductor and ground rods)—collectively referred to as “below grade construction”—will potentially encounter groundwater. The majority of the foundations are slabs on grade or cast-in-place concrete piers approximately nine to 12 feet deep. Larger cast-in-place concrete piers will be installed for the larger tower structures, and will terminate below the existing groundwater elevations. It may be necessary to dewater some of the larger foundations that will be at or below groundwater depths.

The potential methodologies for dewatering may include the following:

- Groundwater will be pumped into staged Baker/frac tanks with appropriate filters and sedimentation devices to reduce turbidity, and will then be used for dust control on site in accordance with SDRWQCB Waiver requirements discussed in Section 3.3. Water would be applied to the Project site using water trucks.
- Groundwater will be pumped into staged Baker/frac tanks, allowed to settle to reduce turbidity, and then discharged into the storm drain or City of Chula Vista sewer system. If this option is exercised, a discharge permit or a sewer permit will be obtained from the appropriate agency prior to discharge and documentation demonstrating compliance will be retained on site.

SDG&E’s contractor will determine the appropriate dewatering methodology as described above at the time that dewatering is necessary. The decision will be based on site conditions and the volume of water encountered. If there is more water than needed for dust control then the contractor will obtain additional permitting to discharge the groundwater as needed. As the contractor does not anticipate encountering a large volume of groundwater, the preferred methodology would be to use the processed groundwater for dust control.

Attachment A: Bay Boulevard Substation Site Map has been developed depicting the location of the Baker/frac tanks that will be staged and used if dewatering activities is necessary.

## **4.2 SWPPP INSPECTIONS AND REPORTING**

In accordance with the Project’s SWPPP (see SWPPP - Section 4.7), weekly site inspections (visual observations) will be conducted at the Project site by the Qualified SWPPP Practitioner (QSP) or a trained individual directed by the QSP. For each inspection required for this Risk Level 1 project, the QSP shall complete a Site Inspection Form, which will be maintained on site within the SWPPP. Inspections will include all BMPs implemented on site at the time of inspection, including dewatering activities. If failures or other shortcomings are identified by the QSP, the BMPs will be repaired or design changes will be implemented within 72 hours of identification and completed as soon as possible.

A Construction Site Monitoring Program (CSMP) for the Project is included in the SWPPP as Appendix X. The CSMP outlines additional inspection requirements for before, during, and after a Qualifying Rain Events. Inspection reports will be retained on site within the Project SWPPP.

In addition, BMP Fact Sheet for Dewatering Operations (NS-2) recommends daily visual inspections of dewatering operations to ensure that no off-site discharge or erosion occurs.

### 4.3 HAZARDOUS MATERIAL MANAGEMENT

SDG&E has developed a Hazardous Substance Management and Emergency Response Plan (HMER Plan) for the Project. This plan will be implemented during construction to manage hazardous materials. In addition to the HMER Plan, the Project SWPPP includes BMPs for hazardous materials management.

As described in the HMER, Hazardous Material Storage Areas (HMSAs) will be designated within the site's footprint as determined by the Construction Contractor. The HMSAs will be situated in a manner to prevent releases, explosions, or other chemical reactions and will be properly signed, secured, and will follow all storage restrictions, container management rules, and reporting, as required by local, state, and federal requirements. Storage locations of portable pumps, stationary equipment, and requirements for secondary containment will be coordinated on site with the QSP for the Project to protect water resources.

In addition to the SWPPP monitor, as described above in Section 4.2, the site will be additionally monitored by an experienced 40-hour HAZWOPER field representative (field representative) to monitor, enforce, and document adherence to the practices outlined in the HMER Plan during construction activities. The Hazardous Material monitor will evaluate the following:

- Proper storage, handling, cleanup, and disposal of hazardous substances in accordance with federal, state, and local regulations during construction of the Project.
- Provide guidance to prevent and minimize the effect of inadvertent releases of hazardous materials, which could impact soil, groundwater, human health, or resources.
- Provide guidance to Project personnel should hazardous material be encountered during construction activities (e.g. potentially contaminated groundwater, buried drums, or other unknown hazardous materials that could be discovered during construction).

Although all efforts will be taken to prevent an inadvertent release of hazardous materials during construction of the Project, if a release does occur, effective and prompt response will be implemented to minimize the potential for human and environmental exposure to hazardous materials. Section 5.4 of the Project's HMER Plan describes in detail the inadvertent release response and reporting requirements.

## 5 – REFERENCES

SDRWQCB. Order No. R9-2014-0041. Conditional waivers of waste discharge requirements for Low threat discharges in the San Diego Region. Adopted June 26, 2014.

SDG&E BMPs Manual for Water Quality Construction. July 2011.

SDG&E. South Bay Substation Relocation Project, Hazardous Substance Management and Emergency Response Plan. August 2014.

SDG&E. South Bay Substation Relocation Project, Storm Water Pollution Prevention Plan. July 2014.

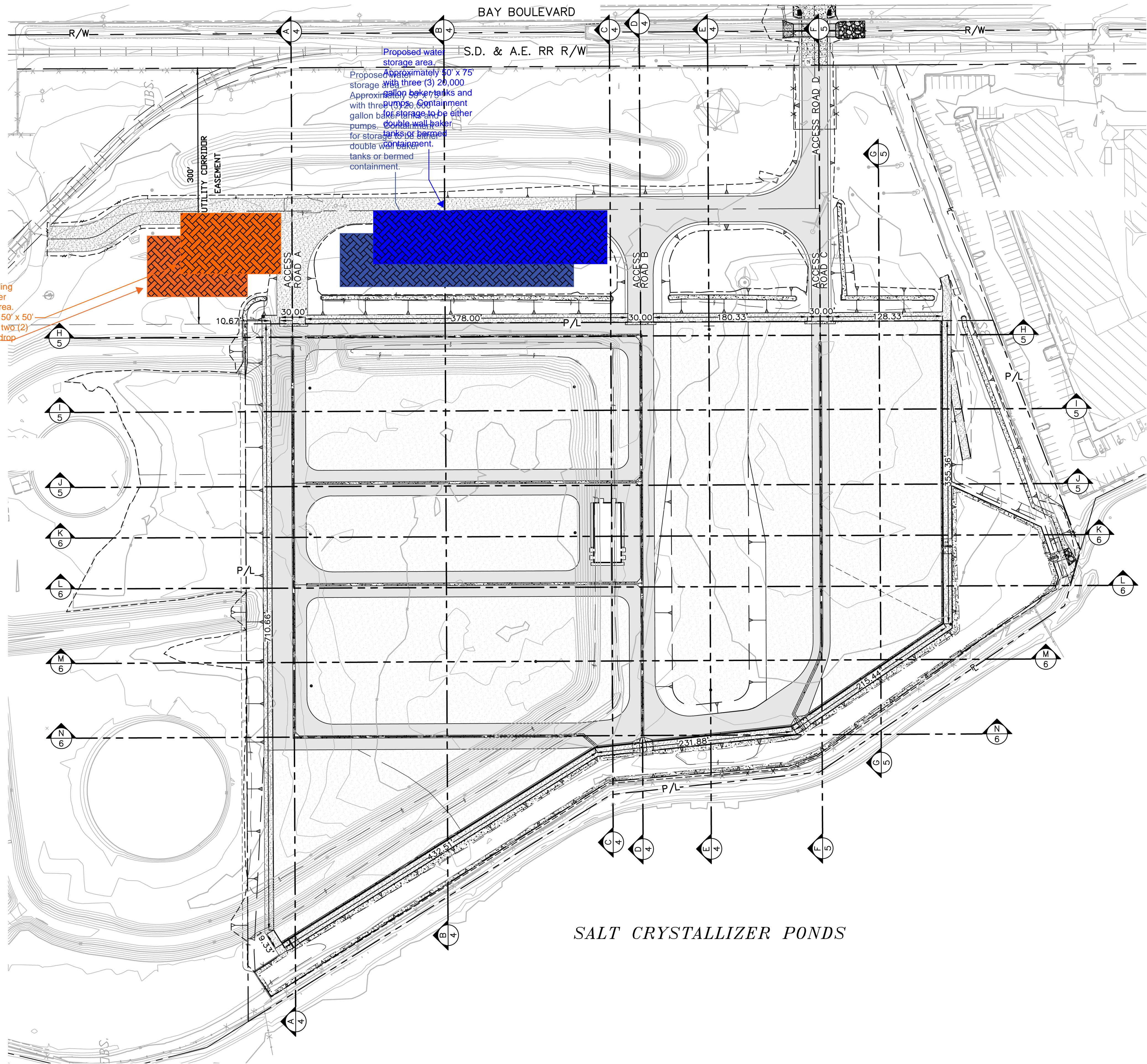
South Bay Substation Relocation Project, Coastal Development Permit E-11-010. Issued May 2014.

South Bay Substation Relocation Project. Final Environmental Impact Report/Environmental Impact Statement. 2012. Online.  
<http://www.cpuc.ca.gov/environment/info/dudek/sbsrp/FinalEIR.htm>. Site visited May 2, 2014.

**ATTACHMENT A: BAY BOULEVARD SUBSTATION SITE MAP**







Proposed grading contractor water storage tank area. Approximately 50' x 50' storage tank area (1) to two (2) 10,000 gallon drop tanks with one (1) to two (2) 10,000 gallon drop tanks.

Proposed water storage area. Approximately 80' x 75' storage area with three (3) 20,000 gallon bare storage tanks and with three pumps. Containment for storage tanks or bermed tanks or bermed containment.

GRAPHIC SCALE  
0' 20' 40' 60' 80' 100' 120' 140' 160' 180' 200' 220' 240'  
SCALE: 1" = 60'

NV5

NOLTE VERTICAL FIVE

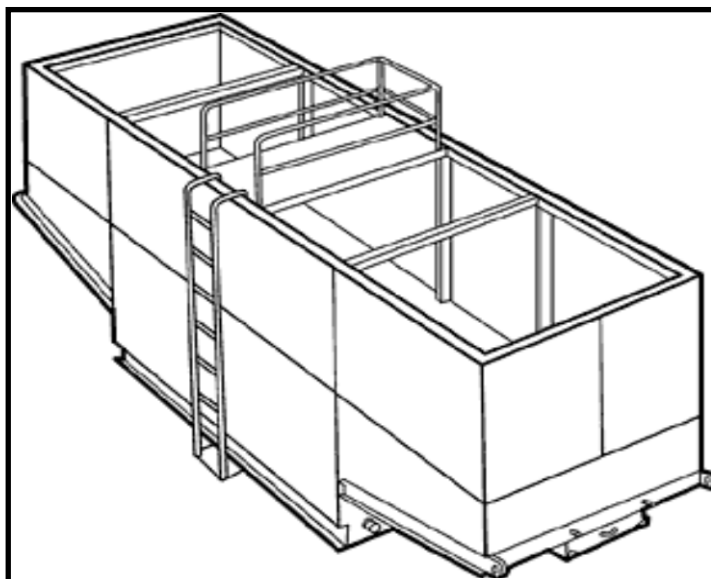
CONSTRUCTION RECORD		REFERENCES	By	REVISIONS	Date	App'd	BENCHMARK	SCALE	Designed By	Drawn By	Checked By	Submitted	Approved	CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT		Drawing No.
Contractor							POINT #1313 SHOWN ON RECORD OF SURVEY 14492; 2" BRASS DISK AND IRON PIPE IN BAY BOULEVARD MEDIAN AT NORTH SIDE OF "L" STREET INTERSECTION. ELEVATION = 54.71 NAVD88 DATUM	Horizontal	RCF	RCF	RWM	By	By	SITE PLAN & SECTION KEY MAP <b>BAY BOULEVARD SUBSTATION</b>		<b>14020-03</b> W.O. No. PG861
Inspector						AS NOTED										
Date completed			NV5	OB-NO CHANGE	6/2/14	Vertical										
			NV5	OA-ISSUED FOR INITIAL CITY REVIEW	5/2/14	N/A										
									Plans Prepared Under Supervision Of		Date		Senior Civil Engineer		City Engineer	
									SCOTT R. VINTON		R.C.E. No. 54703					





**ATTACHMENT B: CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA) BMP  
FACT SHEET FOR DEWATERING OPERATIONS (NS-2)**





## Description and Purpose

Dewatering operations are practices that manage the discharge of pollutants when non-stormwater and accumulated precipitation (stormwater) must be removed from a work location to proceed with construction work or to provide vector control.

The General Permit incorporates Numeric Action Levels (NAL) for turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Discharges from dewatering operations can contain high levels of fine sediment that, if not properly treated, could lead to exceedances of the General Permit requirements or Basin Plan standards.

The dewatering operations described in this fact sheet are not Active Treatment Systems (ATS) and do not include the use of chemical coagulations, chemical flocculation or electrocoagulation.

## Suitable Applications

These practices are implemented for discharges of non-stormwater from construction sites. Non-stormwaters include, but are not limited to, groundwater, water from cofferdams, water diversions, and waters used during construction activities that must be removed from a work area to facilitate construction.

Practices identified in this section are also appropriate for implementation when managing the removal of accumulated

## Categories

EC	Erosion Control	
SE	Sediment Control	<input checked="" type="checkbox"/>
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	<input checked="" type="checkbox"/>
WM	Waste Management and Materials Pollution Control	

## Legend:

- ☒ Primary Category
- ☒ Secondary Category

## Targeted Constituents

Sediment	<input checked="" type="checkbox"/>
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	<input checked="" type="checkbox"/>
Organics	

## Potential Alternatives

- SE-5: Fiber Roll
- SE-6: Gravel Bag Berm

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precipitation (stormwater) from depressed areas at a construction site.

Stormwater mixed with non-stormwater should be managed as non-stormwater.

## Limitations

- Dewatering operations will require, and should comply with applicable local and project-specific permits and regulations. In some areas, all dewatering activities, regardless of the discharge volume, require a dewatering permit.
- Site conditions will dictate design and use of dewatering operations.
- The controls discussed in this fact sheet primarily address sediment. Other secondary pollutant removal benefits are discussed where applicable.
- The controls detailed in this fact sheet only allow for minimal settling time for sediment particles. Use only when site conditions restrict the use of the other control methods.
- Avoid dewatering discharges where possible by using the water for dust control.

## Implementation

- A Construction Site Monitoring Plan (CSMP) should be included in the project Stormwater Pollution Prevention Plan (SWPPP).
- Regional Water Quality Control Board (RWQCB) Regions may require notification and approval prior to any discharge of water from construction sites.
- The destination of discharge from dewatering activities will typically determine the type of permit required for the discharge. For example, when discharging to a water of the U.S., a dewatering permit may be required through the site's governing RWQCB. When discharging to a sanitary sewer or Municipal Separate Storm Sewer System (MS4), a permit may need to be obtained from the owner of the sanitary sewer or MS4 in addition to obtaining an RWQCB dewatering permit. Additional permits or permissions from other agencies may be required for dewatering cofferdams or diversions.
- Dewatering discharges should not cause erosion at the discharge point. Appropriate BMPs should be implemented to maintain compliance with all applicable permits.
- Maintain dewatering records in accordance with all local and project-specific permits and regulations.

## Sediment Treatment

A variety of methods can be used to treat water during dewatering operations. Several devices are presented below and provide options to achieve sediment removal. The sediment particle size and permit or receiving water limitations on sediment or turbidity are key considerations for selecting sediment treatment option(s); in some cases, the use of multiple devices may be appropriate. Use of other enhanced treatment methods (i.e., introduction of chemicals or electric current to enhance flocculation and removal of sediment) must comply with: 1) for storm drain or surface water discharges, the requirements for Active Treatment Systems (see SE-11); or 2) for sanitary sewer discharges, the requirements of applicable sanitary sewer discharge permits.

## ***Sediment Basin (see also SE-2)***

### *Description:*

- A sediment basin is a temporary basin with a controlled release structure that is formed by excavation or construction of an embankment to detain sediment-laden runoff and allow sediment to settle out before discharging. Sediment basins are generally larger than Sediment Traps (SE-3) and have a designed outlet structure.

### *Appropriate Applications:*

- Effective for the removal of trash, gravel, sand, silt, some metals that settle out with the sediment.

### *Implementation:*

- Excavation and construction of related facilities is required.
- Temporary sediment basins should be fenced if safety is a concern.
- Outlet protection is required to prevent erosion at the outfall location.

### *Maintenance:*

- Maintenance is required for safety fencing, vegetation, embankment, inlet and outlet, as well as other features.
- Removal of sediment is required when the storage volume is reduced by one-third.

## ***Sediment Trap (See also SE-3)***

### *Description:*

- A sediment trap is a temporary basin formed by excavation and/or construction of an earthen embankment across a waterway or low drainage area to detain sediment-laden runoff and allow sediment to settle out before discharging. Sediment traps are generally smaller than Sediment Basins (SE-2) and do not have a designed outlet (but do have a spillway or overflow).

### *Appropriate Applications:*

Effective for the removal of large and medium sized particles (sand and gravel) and some metals that settle out with the sediment.

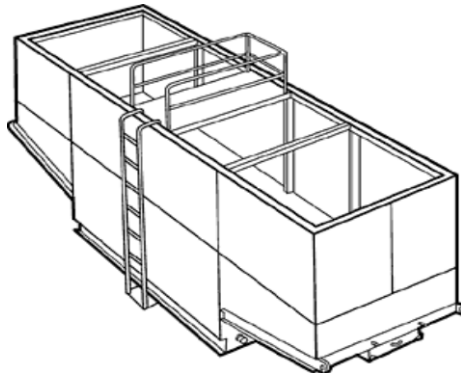
### *Implementation:*

- Excavation and construction of related facilities is required.
- Trap inlets should be located to maximize the travel distance to the trap outlet.
- Use rock or vegetation to protect the trap outlets against erosion.

### *Maintenance:*

- Maintenance is required for vegetation, embankment, inlet and outfall structures, as well as other features.
- Removal of sediment is required when the storage volume is reduced by one-third.

## ***Weir Tanks***



### ***Description:***

- A weir tank separates water and waste by using weirs. The configuration of the weirs (over and under weirs) maximizes the residence time in the tank and determines the waste to be removed from the water, such as oil, grease, and sediments.

### ***Appropriate Applications:***

- The tank removes trash, some settleable solids (gravel, sand, and silt), some visible oil and grease, and some metals (removed with sediment). To achieve high levels of flow, multiple tanks can be used in parallel. If additional treatment is desired, the tanks can be placed in series or as pre-treatment for other methods.

### ***Implementation:***

- Tanks are delivered to the site by the vendor, who can provide assistance with set-up and operation.
- Tank size will depend on flow volume, constituents of concern, and residency period required. Vendors should be consulted to appropriately size tank.
- Treatment capacity (i.e., volume and number of tanks) should provide at a minimum the required volume for discrete particle settling for treatment design flows.

### ***Maintenance:***

- Periodic cleaning is required based on visual inspection or reduced flow.
- Oil and grease disposal should be conducted by a licensed waste disposal company.



## ***Dewatering Tanks***



### ***Description:***

- A dewatering tank removes debris and sediment. Flow enters the tank through the top, passes through a fabric filter, and is discharged through the bottom of the tank. The filter separates the solids from the liquids.

### ***Appropriate Applications:***

- The tank removes trash, gravel, sand, and silt, some visible oil and grease, and some metals (removed with sediment). To achieve high levels of flow, multiple tanks can be used in parallel. If additional treatment is desired, the tanks can be placed in series or as pre-treatment for other methods.

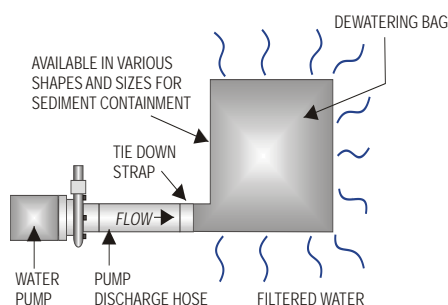
### ***Implementation:***

- Tanks are delivered to the site by the vendor, who can provide assistance with set-up and operation.
- Tank size will depend on flow volume, constituents of concern, and residency period required. Vendors should be consulted to appropriately size tank.

### ***Maintenance:***

- Periodic cleaning is required based on visual inspection or reduced flow.
- Oil and grease disposal should be conducted by licensed waste disposal company.

## ***Gravity Bag Filter***



### ***Description:***

- A gravity bag filter, also referred to as a dewatering bag, is a square or rectangular bag made of non-woven geotextile fabric that collects gravel, sand, silt, and fines.

### ***Appropriate Applications:***

- Effective for the removal of sediments (gravel, sand, silt, and fines). Some metals are removed with the sediment.

### ***Implementation:***

- Water is pumped into one side of the bag and seeps through the top, bottom, and sides of the bag.
- Place filter bag on pavement or a gravel bed or paved surface. Avoid placing a dewatering bag on unprotected bare soil. If placing the bag on bare soil is unavoidable, a secondary barrier should be used, such as a rock filter bed placed beneath and beyond the edges of the bag to, prevent erosion and capture sediments that escape the bag.
- Perimeter control around the downstream end of the bag should be implemented. Secondary sediment controls are important especially in the initial stages of discharge, which tend to allow fines to pass through the bag.

### ***Maintenance:***

- Inspection of the flow conditions, bag condition, bag capacity, and the secondary barrier (as applicable) is required.
- Replace the bag when it no longer filters sediment or passes water at a reasonable rate.
- Caution should be taken when removing and disposing of the bag, to prevent the release of captured sediment
- Properly dispose of the bag offsite. If sediment is removed from the bag prior to disposal (bags can potentially be reused depending upon their condition), dispose of sediment in accordance with the general maintenance procedures described at the end of this BMP Fact Sheet.

## ***Sand Media Particulate Filter***



### ***Description:***

- Water is treated by passing it through canisters filled with sand media. Generally, sand filters provide a final level of treatment. They are often used as a secondary or higher level of treatment after a significant amount of sediment and other pollutants have been removed using other methods.

### ***Appropriate Applications:***

- Effective for the removal of trash, gravel, sand, and silt and some metals, as well as the reduction of biochemical oxygen demand (BOD) and turbidity.
- Sand filters can be used for stand-alone treatment or in conjunction with bag and cartridge filtration if further treatment is required.
- Sand filters can also be used to provide additional treatment to water treated via settling or basic filtration.

### ***Implementation:***

- The filters require delivery to the site and initial set up. The vendor can provide assistance with installation and operation.

### ***Maintenance:***

- The filters require regular service to monitor and maintain the level of the sand media. If subjected to high loading rates, filters can plug quickly.
- Venders generally provide data on maximum head loss through the filter. The filter should be monitored daily while in use, and cleaned when head loss reaches target levels.
- If cleaned by backwashing, the backwash water may need to be hauled away for disposal, or returned to the upper end of the treatment train for another pass through the series of dewatering BMPs.

## ***Pressurized Bag Filter***



### ***Description:***

- A pressurized bag filter is a unit composed of single filter bags made from polyester felt material. The water filters through the unit and is discharged through a header. Vendors provide bag filters in a variety of configurations. Some units include a combination of bag filters and cartridge filters for enhanced contaminant removal.

### ***Appropriate Applications:***

- Effective for the removal of sediment (sand and silt) and some metals, as well as the reduction of BOD, turbidity, and hydrocarbons. Oil absorbent bags are available for hydrocarbon removal.
- Filters can be used to provide secondary treatment to water treated via settling or basic filtration.

### ***Implementation:***

- The filters require delivery to the site and initial set up. The vendor can provide assistance with installation and operation.

### ***Maintenance:***

- The filter bags require replacement when the pressure differential equals or exceeds the manufacturer's recommendation.

## ***Cartridge Filter***



### ***Description:***

- Cartridge filters provide a high degree of pollutant removal by utilizing a number of individual cartridges as part of a larger filtering unit. They are often used as a secondary or higher (polishing) level of treatment after a significant amount of sediment and other pollutants are removed. Units come with various cartridge configurations (for use in series with bag filters) or with a larger single cartridge filtration unit (with multiple filters within).

### ***Appropriate Applications:***

- Effective for the removal of sediment (sand, silt, and some clays) and metals, as well as the reduction of BOD, turbidity, and hydrocarbons. Hydrocarbons can effectively be removed with special resin cartridges.
- Filters can be used to provide secondary treatment to water treated via settling or basic filtration.

### ***Implementation:***

- The filters require delivery to the site and initial set up. The vendor can provide assistance.

### ***Maintenance:***

- The cartridges require replacement when the pressure differential equals or exceeds the manufacturer's recommendation.

## **Costs**

- Sediment control costs vary considerably depending on the dewatering and sediment treatment system that is selected. Pressurized filters tend to be more expensive than gravity settling, but are often more effective. Simple tanks are generally rented on a long-term basis (one or more months) and can range from \$360 per month for a 1,000 gallon tank to \$2,660 per month for a 10,000 gallon tank. Mobilization and demobilization costs vary considerably.

## **Inspection and Maintenance**

- Inspect and verify that dewatering BMPs are in place and functioning prior to the commencement of activities requiring dewatering.
- Inspect dewatering BMPs daily while dewatering activities are being conducted.

- Inspect all equipment before use. Monitor dewatering operations to ensure they do not cause offsite discharge or erosion.
- Sample dewatering discharges as required by the General Permit.
- Unit-specific maintenance requirements are included with the description of each unit.
- Sediment removed during the maintenance of a dewatering device may be either spread onsite and stabilized, or disposed of at a disposal site as approved by the owner.
- Sediment that is commingled with other pollutants should be disposed of in accordance with all applicable laws and regulations and as approved by the owner.

## References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program, 1995.

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003; Updated March 2004.

Stormwater Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices, EPA 832-R-92005; USEPA, April 1992.

Labor Surcharge & Equipment Rental Rates, April 1, 2002 through March 31, 2003, California Department of Transportation (Caltrans).

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February 2005.

**ATTACHMENT C: RWQCB CORRESPONDENCE AND NOTICE OF INTENT FORM**





**Due to its confidential nature, the RWQCB correspondence has been removed.**



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN DIEGO REGION  
ORDER NO. R9-2014-0041  
(ATTACHMENT A)



**NOTICE OF INTENT**  
TO COMPLY WITH THE CONDITIONAL WAIVERS OF WASTE DISCHARGE  
REQUIREMENTS FOR LOW THREAT DISCHARGES IN THE SAN DIEGO REGION

**I. PROPERTY/FACILITY INFORMATION**

Property/Facility Name:			
Property/Facility Contact:			
Property/Facility Address:			
City:	County:	State:	Zip:
Telephone:	Fax:	Email:	
Assessor Parcel Number(s):		Hydrologic Area/Subarea:	

**II. PROPERTY/FACILITY OWNER INFORMATION**

Property/Facility Owner Name:			
Property/Facility Owner Mailing Address:			
City:	County:	State:	Zip:
Telephone:	Fax:	Email:	

**III. PROPERTY/FACILITY OPERATOR INFORMATION**

Property/Facility Operator Name:			
Mailing Address:			
City:	County:	State:	Zip:
Telephone:	Fax:	Email:	

**IV. CONDITIONAL WAIVER FOR NOTICE OF INTENT**

Mark (☒) the waiver proposed for the discharge:

<input type="checkbox"/> Waiver No. 1 - Discharges from on-site graywater disposal systems
<input type="checkbox"/> Waiver No. 2 - Discharges of recycled water to land
<input type="checkbox"/> Waiver No. 3 - "Low" threat" discharges to land
<input type="checkbox"/> Waiver No. 4 - Discharges of winery waste to lined evaporation ponds wineries
<input type="checkbox"/> Waiver No. 5 - Discharges of wastes at composting facilities
<input type="checkbox"/> Waiver No. 6 - Discharges from silvicultural operations
<input type="checkbox"/> Waiver No. 7 - Discharges from animal operations
<input type="checkbox"/> Waiver No. 8 - Discharges from aquatic animal production facilities
<input type="checkbox"/> Waiver No. 9 - Discharges of slurries to land
<input type="checkbox"/> Waiver No. 10 - Discharges/disposal of solid wastes to land
<input type="checkbox"/> Waiver No. 11 - Aerially discharged wastes over land
<input type="checkbox"/> Waiver No. 12 - Discharges of emergency/disaster related wastes

**V. DESCRIPTION OF DISCHARGE**

*Describe the discharge (i.e., source(s) of discharge, pollutants of concern, period and frequency, etc.). Use additional pages as needed. Provide a map of the property/facility if necessary.*

**VI. DESCRIPTION OF MANAGEMENT MEASURES/BEST MANAGEMENT PRACTICES**

*Describe what management measures (MMs) and best management practices (BMPs) will be implemented to minimize or eliminate the discharge of pollutants to waters of the State. Use additional pages as needed. Provide a map of the property/facility showing locations of MMs/BMPs if necessary.*

**VII. ADDITIONAL INFORMATION**

*Please provide additional information, as needed or required, about the discharge and/or how the discharger intends to comply with the waiver conditions of the waiver. Use additional pages as needed.*

**VIII. CERTIFICATION**

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

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 Signature (Owner or Authorized Representative)

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 Date

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 Print Name

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 Title

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 Telephone Number

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 Email