

## Construction De-Watering

### Description

Construction de-watering involves removing storm water or ground water from bore pits, trenches, and other excavations on a construction site. Typically, this removal of water involves the pumping of the water to an appropriate receiving area. Direct pumping to lakes, rivers, and streams is illegal and must be avoided.

### Design Criteria

Size the pump utilized for de-watering purposes properly. Each pump has its own unique rating curve, therefore it is not feasible to list them in this chapter. The pump rating curve is used to calculate pump design flows based on head loss through the pump system.

Pump sediment-laden groundwater directly to:

- A sediment control structure (sediment basin, sediment trap manufactured de-watering device)
- An infiltration trench
- A buffer strip or zone

### Inspection and Maintenance

#### Pumping to a Sediment Control Structure:

It is recommended that sediment basins or temporary sediment traps receive sediment-laden water from bore pits and trenches. Ensure that the pumping of this water does not cause the sediment control structure to fail. In addition, ensure that erosion does not occur at the outlet of the hose from the pump due to high concentrated flows.

#### Pumping to an Infiltration Trench:

Ensure that erosion does not occur at the outlet of the hose from the pump due to high concentrated flows.

#### Pumping to a Vegetated Buffer Zone:

Ensure that erosion does not occur at the outlet of the hose from the pump due to high concentrated flows.



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**Preventive Measures and Troubleshooting Guide**

| Field Condition   | Common Solutions  |
|---|---|
| Discharge or treated water causes erosion.  | Install outlet protection or velocity dissipation device.                             |
| Treatment unit fills with sediment.   | Remove sediment when unit reaches 1/3 its capacity to preserve settling efficiency.   |
| Dewatering discharge flow is higher than expected.  | Alter the treatment unit to handle increased flow.                                    |
| Water spread on the construction site is not infiltrating fast enough and is entering the storm drain system or receiving water body. | Stop dewatering. Install a sediment treatment system and test discharge as necessary. |