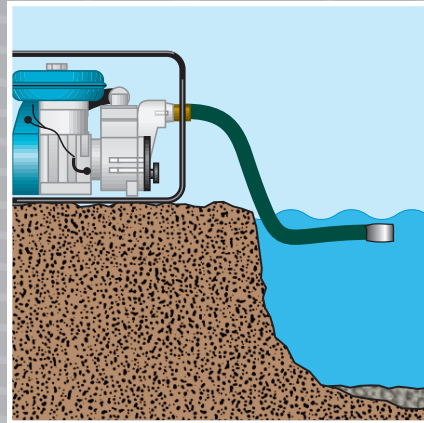


Environmentally Responsible Controls

Dewatering



Controlling
pollutants and sediments
in dewatering discharges



ENVIRONMENTAL SERVICES
CITY OF PORTLAND

CLEAN RIVER WORKS

Dean Marriott, Director

Dewatering

How to keep sediments and pollutants out of the storm drains and sanitary sewer, and protect fish habitat

Deewatering activities can occur at construction sites, and during in-ground utilities maintenance, and site investigations and cleanup. Depending on soil types and site history, stormwater and groundwater pumped from these sites may be contaminated with toxics (such as oil or solvents) and/or laden with sediments.

Discharging any water containing sediments or contaminants into a street, gutter, storm drain, or creek can pollute water, contaminate sediments and harm salmon habitat. Some pollutants can also interfere with the operation of Portland's wastewater treatment plant.

Typical projects that require dewatering:

- Site investigation
- Construction, both large and small sites
- Foundation work
- Utilities infrastructure installation and repair
 - ✓ Electrical conduits
 - ✓ Vaults
 - ✓ Sewer line and storm drain maintenance
 - ✓ Phone lines and cable TV installation/repair
 - ✓ Tank removal

If your site or project requires dewatering,
you should be concerned about:

Toxic pollutants

in soil, groundwater
or impounded stormwater

To determine if contaminants are present, you must:

1. Check for odors, discoloration, or an oily sheen. Check available site records or environmental assessments for soil and groundwater test results

2. AND call Environmental Services at 823-5320, to determine whether groundwater or impounded stormwater must be tested, prior to discharge.

If toxics are NOT present, you need to evaluate for sediments. See page 4

Dealing with contamination

If you or Environmental Services suspect contamination, you must have the water tested by a laboratory. Sampling and testing requirements will be determined on a case-by-case basis depending on site history or suspected pollutants.

After testing, discuss test results with Environmental Services. Depending on results and the volume of water you will pump:

You may be allowed to discharge to the ground. A DEQ permit may be required.

You may be allowed to discharge to the storm drain system if sediments are not present, although you may be required to have a permit.

You may be allowed to discharge to the sanitary sewer. A permit may be required.

In extremely rare instances, you may be required to haul the water off-site for treatment and disposal at an appropriate treatment facility.

What to do if groundwater or impounded stormwater has sediments but no toxics present.

Sediments

can clog storm drains, sewer lines, and smother aquatic life

Ask yourself this question:

Is the water clear?

YES

If yes, you may be able to pump to the ground, street or storm drain. Check with Environmental Services to see if you will need authorization.

NO

You may be allowed to discharge on the ground, providing no runoff occurs.

NO

For discharge to a storm or sanitary sewer, the solids in the water must be filtered or settled out. Some combination of the options shown on pages 5-6 may solve the problem.

Depending on the quality of the water after filtering or settling, you may be allowed to pump to the storm or sanitary sewer. Environmental Services will work with you to determine which option is most appropriate.

Solids disposal

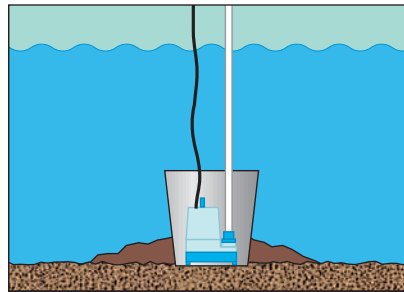
Return settled or filtered solids to the ground, or dry the solids and dispose of them as fill or solid waste.

Removing sediments from groundwater or impounded stormwater

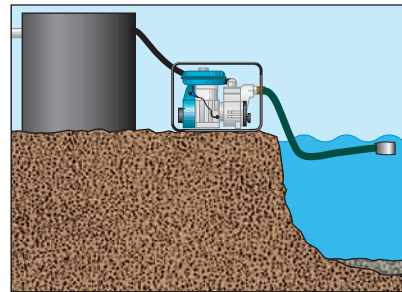
In general, you will need to follow two steps- **1** source control and **2** filtration - to remove sediments from groundwater or impounded stormwater before you pump it off your site. Source control measures should be used before filtration. Use a combination of approaches described below for the best results. These are just some of the Best Management Practices available.

Remember to check sediment removal devices frequently to make sure they are unclogged and operating correctly. You may need to make adjustments depending on the amount of sediment in the water you're pumping.

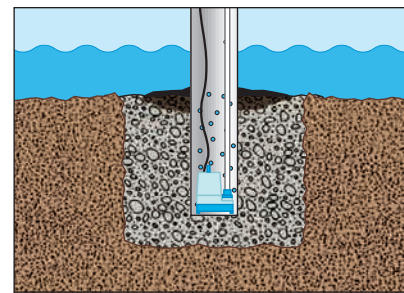
Step 1 Control sediment loading before pumping



Using a submersible pump, pump from a bucket placed below the water level.



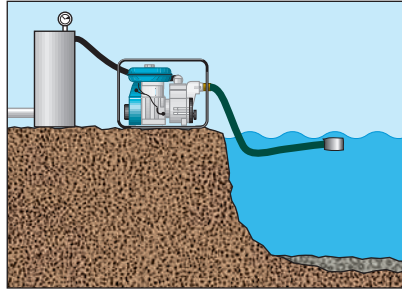
Place the end of the suction pipe on a float or similar device to draw off the top. Pump to a tank with sampling port(s).



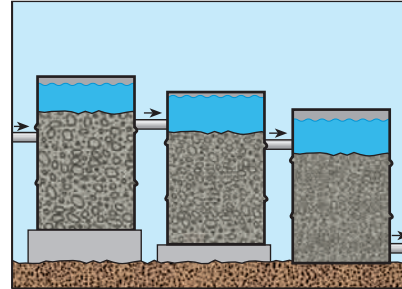
Dig a small pit and fill with fine gravel. Pump through a perforated pipe sunk partway into the gravel.

Step 2 (if necessary) Filter before final discharge

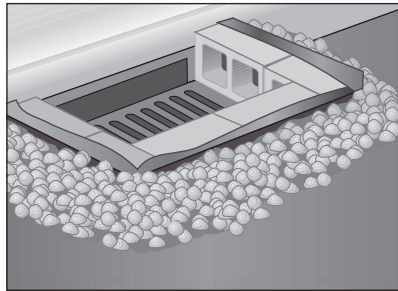
Options:



Pump through a filtering device such as a swimming pool filter with the end of the suction pipe on a float or similar device.

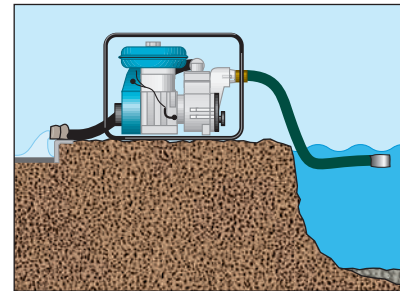


Direct water through a series of drums filled with successively finer gravel and sand.



Although not a preferred option, place filter fabric around the storm drain and anchor in place under the grate. Surround the storm drain with concrete blocks and wrap the fabric around the outside of the blocks. Hold the fabric in place with crushed rock to complete the filtering dam.

This method is best used in conjunction with other options.



Wrap the end of the suction pipe with filter fabric and use a float or similar device to draw off the surface.

Another way to remove low levels of sediment is to discharge stormwater to a properly designed stormwater treatment facility for the type of discharge. This can include vegetated swales and/or structural devices.

It's up to all of us
to keep our waterways healthy.

**For information and assistance,
call Environmental Services
Industrial Source Control Division
at 503-823-5320.**

Environmental Services
City of Portland
Industrial Source Control Division
6543 N Burlington Avenue
Portland, Oregon 97203

503- 823-5320

Website:
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