Dewatering   BMP 46

Description
: To assess and appropriately dispose of rising groundwater or rainwater from excavations and other collection areas.

Applications
: Public or private properties with the following:
  - Foundation work excavations
  - Utilities and infrastructure installation and repair projects, including installation, repair and maintenance of:
    - ✓ Electrical conduits
    - ✓ Vaults/tanks
    - ✓ Sewer and storm drain systems
    - ✓ Phone and cable lines
    - ✓ Gas or other fuel lines
  - Other excavations or graded areas requiring dewatering

Limitations
: Drainage area – N/A   Maximum slope – N/A
  Minimum bedrock depth - N/A   Minimum water table - N/A
  NRCS soil type – N/A   Freeze/thaw – N/A
  Drainage/flood control – yes

Targeted Pollutants
: Sediment

Design Parameters
: Depending on season, flow rate, volume, or residual contamination, the discharge will be allowed to flow to:
  - The ground in a manner that ensures no runoff leaving the site. This may require a permit or other authorization from the local drainage authority.
  - The storm drain system. A permit or letter of authorization with discharge restrictions may be required.
  - The sanitary sewer. A permit or letter of authorization with discharge restrictions may be required.

  The site should be assessed for the issues listed below to assist the local drainage authority in determining which discharge option to approve:
  - Water clarity. If the water is cloudy or turbid, there are dissolved and/or settable solids in the water that should be filtered or settled out prior to discharge. Determine if contaminants are present in impounded water. Check for odors, discoloration, or oily sheen. Check any soils and/or groundwater testing results.
  - If contamination may be or is present, a certified laboratory should test the proposed discharge waters with results submitted to the local drainage authority. Sampling and testing requirements will be determined on a case-by case basis depending on site history or suspected pollutants. Contact DEQ or the local authority responsible for receiving system before testing to get assistance in identifying the required parameters of concern and any specific sampling requirements. After review, the local drainage authority will specify if any pretreatment is required prior to discharge.

Construction Guidelines	Sediment should be settled prior to discharge. All settling systems should be engineered and adequately sized for site conditions. In general settling and filtering options include the following:

- Containment in a pond structure for a minimum of 4 hours or until water is clear. Place pump in a gravel bed at bottom of pond.
- Pumping to a settling tank with sampling ports
- Filtering through a sieve or other filter media (swimming pool filter). Simple on-site filter systems can be constructed including: wrapping the ends of the suction and discharge pipes with filter fabric; discharging through a series of drums filled with successively finer gravel and sand; and other filtering techniques like those described in the inlet protection section.
- Manufactured bags, polymers, or other systems. These systems do not always work on fine clay soils, and will only be allowed for use where approved. Chemical treatments should have state approval before they are used.

- The flow path should be lined or protected in some way to prevent mobilization of additional sediment.

Filtered material should be either dried and reused on site in a mixture with other site soils or should be appropriately disposed of based on nature and levels of any contaminants present.

Maintenance
- Remember to check filtering devices frequently to make sure they are unclogged and operating correctly. Adjustments may be needed depending on the amount of sediment in the water being pumping.
- Systems should be filled in or otherwise removed when permanent dewatering controls are in place and connected to an approved treatment and receiving system.