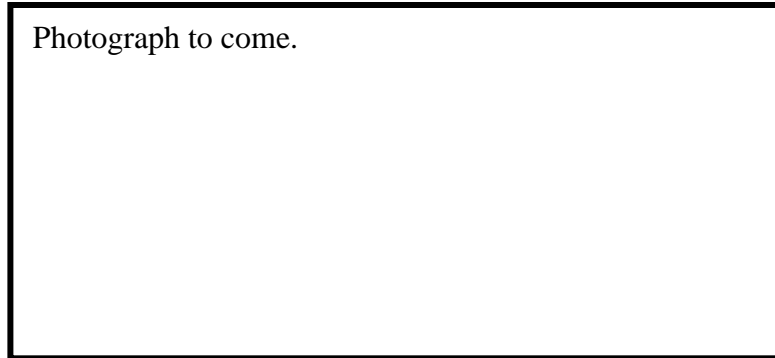


PC-26 *SEDIMENT CONTROL BOX*

Refer to: ITD Standard Specifications, Sections 605 and 609.

ITD Standard Drawings E-6-A through F, P-1-H, P-3-A, P-3-B, and P-3-D.

**BMP Objectives**

- Perimeter Control
- Slope Protection
- Borrow and Stockpiles
- Drainage Areas
- Sediment Trapping
- Stream Protection
- Temporary Stabilizing
- Permanent Stabilizing

Definition and Purpose

A sediment control box is a structure constructed from reinforced concrete or corrugated metal pipe (underground tank) that receives runoff from drainage areas or facilities and stores or conveys the runoff into an underground system.

Sediment control boxes consist of catch basins, oil/water separators, and wet vaults/tanks.

Appropriate Applications

- Catch basins capture sediment and convey runoff to a pipe system so that ditch flow or gutter flow capacity is not exceeded. A catch basin can also dissipate flow energy. Catch basins may be used along roadways or other paved surfaces as needed. If local conditions and permit restrictions allow, dry wells may be incorporated into the catch basin design.
- Oil/water separators are multi-chambered devices designed to remove trace metals and petroleum hydrocarbons from stormwater runoff as it moves through the device. The primary use of oil/water separators will be in areas where oil spills dripping from vehicles or parking lot residues are an issue.
- Wet vaults and tanks are underground facilities used for the collection of surface water and are designed to provide runoff treatment and sediment capture by settling pools or baffles.

Limitations

- Catch basins may not be as effective in reducing sediment loading or pollutants as other sediment control box measures.
- Oil/water separators have limited application in stormwater treatment because their treatment mechanisms are not well suited to the characteristics of stormwater runoff (high variable flow with high discharge rates, turbulent flow regime, low oil concentration, high suspended solids concentration). Oil/water separators require intensive maintenance.

- Wet vaults/tanks cannot provide the equivalent level of treatment accomplished by retention (wet) basins and constructed wetlands. Wet vaults and tanks are difficult to monitor and maintain.
- Sediment control boxes that are within a separate municipal storm sewer system must satisfy all requirements of that system. The municipality shall be notified before installing devices that will affect the quantity or quality of runoff discharging into the municipal storm sewer system. An NPDES Permit is required for this application.

Design Parameters

Catch Basins

- Spacing shall be determined so that catch basins will intercept all drainage and inlet capacity will not be exceeded.
- The design shall be completed in accordance with the Hydrology Section in the ITD Design Manual.
- Catch basins shall be located at all low spots in a street gutter and at abrupt grade changes. The gutter flowline may be depressed at inlet points to permit increased gutter grades and to reduce ponding.
- Hydraulic grade line should be a minimum of 6 inches below the bottom of the inlet grade elevation for the design storm.
- The length of a rectangular inlet should be at least two times as long as the inside diameter of the inlet/outlet pipes. The width of the inlet should be at least equal to the pipe diameter with a minimum of 24 inches. Circular inlets should be at least two times as wide as the pipe diameter. Determine the capacity by assuming that one-half of the grate is blocked by debris.
- Several catch basin designs are available. Consult the ITD Design section for standardized or previously accepted drawings.

Oil/Water Separators

- Oil/water separators may require design by a professional engineer licensed in the State of Idaho.
- For roadway projects, refer to the Standard Specifications. If treatment that is more extensive is necessary or required, refer to oil/water separators as described in the IDEQ Catalog of Stormwater Best Management Practices for design parameters.

Wet Vaults/Tanks

- May require design by a professional engineer licensed in the State of Idaho.
- Design notes are provided in the Standard Specifications.

Construction Guidelines

- Dispose excavated soils at an approved location.

- Compact the area around the sediment control box to the appropriate standards as specified in the plans and specifications.

Catch Basins

- Construct according to contract plans and specifications.
- Install and operate when construction of the drainage system is completed.
- Install outlet protection for all pipe outfalls.

Oil/Water Separators

- Construct or install according to design and manufacturer's recommendations.

Wet Vaults/Tanks

- Construct according to plans and specifications.
- Seal all construction joints watertight by an approved method.

Maintenance and Inspection

- Conduct inspections as required by the NPDES permit or contract specifications during construction.
- Periodic inspection and maintenance will be required based on post-construction site conditions.
- Make any repairs necessary to ensure the measure is operating properly.
- Remove any debris trapped on the grate or in the inlet.
- Make sure that street sweeping occurs frequently enough to prevent clogging of inlets.
- Clean oil/water separators frequently to keep accumulated oil from escaping during a storm event or snowmelt.
- Replace oil absorbent pads as necessary in pad type separators.
- Dispose waste oil and residues in accordance with 40 Code of Federal Regulations 279.