

DRAINAGE SYSTEM MAINTENANCE

OVERVIEW

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff that may contain certain pollutants. Maintaining catch basins, detention basins / retention basins, vegetated swales, rain gardens, stormwater inlets, and other stormwater conveyance structures on a regular basis will remove pollutants, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding. To ensure proper maintenance and effectiveness of these drainage systems, please review and apply the following approaches, protocols, and requirements below. This procedure requires that all controls be maintained to reduce to the maximum extent practicable the contribution of pollutants to stormwater. This maintenance standard operating procedure shall be reviewed and updated/ revised annually following the implementation of a new structural storm water control. This standard operating procedure shall be reviewed and updated/ revised by either the Saginaw Township Community School's appointed Stormwater Program Manager and/or the School's designee. Any updates will be included in future progress reports submitted to the Michigan Department of Environmental Quality (MDEQ).

Procedures

Catch Basins and Storm Drain Conveyance System

- Will be inspected during the dry season (summer).
- Will be inspected according to Catch Basin Prioritization Procedures.
- High priority catch basins will be inspected in every year.
- Medium priority catch basins will be inspected every 2 years
- Low priority catch basins will be inspected every 5 years.
- The condition of the catch basin at the time of the inspection will be documented.
- Catch basins that have sediment within 18 inches of the pipe invert or half full will be cleaned within 90 days by a contractor.
- The contractor will use a vac truck when the catch basins are accessible to vac trucks.
- Catch basins are considered clean when the remaining material is not more than 2 inches in depth.
- The total amount of waste/sediment removed annually from the catch basins will be documented and included in progress reports.
- Waste materials from catch basin and storm sewer line cleaning will not be stored at Saginaw Township Community School properties. The contractor will dispose of all waste materials removed from catch basins and storm sewer lines immediately to an approved disposal area.
- The contractor will dispose of waste materials according to the Department of Environment, Great Lakes, and Energy disposal guidelines for catch basins.

(http://www.michigan.gov/documents/deq/wb-stormwater-CatchBasinGuidance_216198_7.pdf)

- The inventory of catch basins will be updated annually to include new structures. prior to discharging to surface waters of the state.

Vegetated Swales/Bio-Swales

- Inspect grass alongside slopes and the bed of the swale for erosion and the formation of rills and gullies; attend to and correct on an as needed basis.
- Remove trash and debris.
- Replenish vegetation, grass species, and wetland species on an as needed basis.
- Keep grass mowed to a height of 3-4 inches to provide sufficient performance of removing pollutants.
- Any necessary maintenance warranted from inspections will be performed on an as needed basis. Any maintenance waste material extracted should be disposed of properly.

Detention Basins / Retention Basins

- Clean out any accumulated trash in the basin. Dispose of trash properly.
- Inspect for invasive plant species and remove or eradicate following proper procedures.
- Maintain vegetation properly, per applicable ordinances.
- For a detention basin, check the inlet and outlet structures and assure that flow restricting devices are not blocked and are operating properly. (may also need to additionally examine during wet weather event)
- Regularly inspect the embankments to ensure structural stability and for eroded areas.
- Ensure that riprap around the inlet and outlet structures within detention basins is intact and replace when the riprap is clogged with sediment and debris.
- Inspect for sediment accumulation at the inlet pipes.
- Do not use pesticides, herbicides, or fertilizers.
- Any necessary maintenance warranted from inspections will be performed on an as needed basis. Any maintenance waste material extracted should be disposed of properly.
- Document findings and maintenance completed.

Infiltration Basins

- All structural components must be inspected, at least once annually, for cracking, subsidence, spalling, erosion and deterioration. Components expected to receive and/or trap debris and sediment must be inspected for clogging at least four times annually, as well as after every storm exceeding 1-inch of rainfall.
- Sediment removal should take place when all runoff has drained from the planting bed and the basin is dry. Disposal of debris, trash, sediment and other waste

material must be done at suitable disposal/recycling sites and in compliance with all applicable local, state and federal waste regulations.

- Access points for maintenance are required on all enclosed areas within an infiltration basin; these access points must be clearly identified in the maintenance plan. In addition, any special training required for maintenance personnel to perform specific tasks, such as confined space entry, must be included in the plan.
- The basin must be inspected at least twice annually to determine if the permeability of the basin has decreased. Annual tilling of the sand layer, using lightweight equipment, may assist in maintaining the infiltration capacity of a surface type system by breaking up clogged surfaces.

MEASURABLE GOALS

- Volume of sediment removed from the system per year.
- Volume of trash removed from the system per year.
- Number of structures cleaned or maintained per year.