

CITY OF ROCHESTER HILLS
ENGINEERING DESIGN STANDARDS

CHAPTER 11

Soil Erosion and Sedimentation Control Plan

A. Submittal Procedure

1. Soil Erosion and Sedimentation Control Plans must be incorporated into any plans submitted along with a Land Improvement Permit Application. An Oakland County Soil Erosion Control Permit, administered through the County Drain Office, is required.

~~D~~**B. Definitions in Usage of These Design Standards**

1. Erosion: The process by which the land surface is worn away by action of wind, water, ice, or gravity. Accelerated erosion resulting from works of man is to be controlled.
2. Sediment: Soil or other earth cover transported or deposited as a result of erosion.
3. Waterway: Any natural or man-made drainage course in which waters flow in a definite direction either continuously or intermittently, including ditches, streams ponds, lakes, rivers, storm sewers, and structures or areas adjacent which are subject to flooding.
4. Overland Erosion: Erosion, which occurs on ~~denuded~~ **barren** slopes above natural waterways as a result of rain splash and runoff. This starts as sheet erosion, develops into small rills and finally into gullies.
5. Stream Channel Erosion: Erosion, which occurs in intermittent or continuous waterways along the banks or in the bed of the waterway.
6. Wind Erosion: Erosion, which occurs on ~~denuded~~ **barren** areas by actions of wind to cause dust, hazards to traffic and structures.

~~B~~**C. Plan Requirements**

1. The Soil Erosion and Sedimentation Control Plans shall contain the following data on sheets twenty-four inch by thirty-six inch (24" x 36"), using the USGS Vertical Datum.
 - a. Public and private roads in the area and all adjacent properties, the extent of site grading, all to at least two-hundred and fifty feet (250') outside site boundaries.
 - b. All lakes or streams within five hundred feet (500') of site boundaries shall be shown.
 - c. Topographic plan, scale one inch – fifty foot (1"-50'), to one-hundred feet (100') beyond site boundaries showing:

- i. Existing ground elevations, with either two feet (2') contour intervals or spot elevations on a fifty-foot (50') grid.
- ii. Existing structures and significant features including trees six inches (6") in diameter or larger, existing ground cover, extent and condition.
- iii. Existing drainage and soil information.
- d. Site Grading and Development Plans as required under other ~~sections~~ **Chapters** of City of Rochester Hills Design Standards for all proposed utilities on the site.
- e. The Erosion and Sedimentation Control Plan shall include the following:
 - i. Description and location of the limits for all proposed earth changes.
 - ii. Description and location of all soil erosion measures.
 - iii. Show all trees to be preserved and describe and show the location of all associated tree protection fencing.
 - iv. The timing and sequence of all proposed earth changes.
 - v. Information as to how excavated material will be handled and stored to prevent erosion.
 - vi. Information on trench backfill restoration including schedule of placement.
 - vii. Information concerning the existing drainage system, including a provision for maintenance.

E-D. Principles of Erosion and Sediment Control

1. Plan the development to fit the topography, soils, waterways, and natural vegetation at a site with the least necessary earth disturbance or change.
2. Expose the smallest practical area of land for the shortest practical time through staging the work and early application of temporary or permanent erosion control measures.
3. Apply soil erosion control measures as a first line of defense against on-site damage, to prevent sediment from being produced. These measures included special grading methods, run-off control structures, temporary and permanent vegetation.
4. Apply sedimentation control measures as a perimeter protection to prevent off-site damage. These measures include, **but are not limited to**, diversion ditches, sediment traps, vegetative filters, and sediment basins.
5. **Dust control measures shall be maintained at all times.**
6. Apply follow-up and periodic maintenance for continued effectiveness of control measures.

F E. Design Standards

- ~~1. Larger pipes need larger riprap, look at riprap manual.~~
21. Riprap is required at all locations where storm water velocities may be erosive to soils. Riprap shall be placed at all storm water inlets and outlets and basin outlets. Riprap shall be a nominal four inches (4") to six inches (6") minimum diameter and be clean of any foreign material.
2. Newly constructed storm water facilities shall be constructed to control flow velocities to limit erosion.
3. The plans shall, based on the nature of the proposed development, contain a time schedule for the installation of permanent soil erosion control measures.
4. As a basis of design, the standards set in the Oakland County Soil Erosion Control Manual shall be used.

F F. Notes

The following notes shall appear on the plans:

1. All erosion and sediment control work shall conform to standards and specifications of the Oakland County Drain Commissioner.
2. All temporary and permanent (post construction) soil erosion and sediment control measures shall conform to the City of Rochester Hills current MS4 permit. Any conflict between these standards and the MS4 permit, the permit's conditions shall take precedence.
3. Daily inspections shall be made by the Contractor for effectiveness of erosion and sedimentation control measures, and any necessary repairs shall be performed without delay.
4. Any sedimentation from work on this site shall be contained on the site and not allowed to collect on any off-site areas or in waterways.
5. Contractor shall apply temporary erosion and sedimentation control measures when required and as directed on these plans. ~~He shall remove t~~Temporary measures shall be removed as soon as permanent stabilization of slopes, ditches, and other earth changes have been accomplished per Oakland County Drain Commissioner's standards. This would include temporary sedimentation ponds and temporary SO2 filters.
6. Staging the work will be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
7. Soil erosion control practices shall be established in the early stages of construction by the Contractor. Sediment control practices will be applied as a perimeter defense against any transporting of silt off the site.

8. Failure to comply with approved soil erosion and sedimentation measures may result in work stoppage by appropriate authority.
9. Exceptions to timing of control measures' installation will only be permitted where trees and stumps need to be removed to install soil erosion and sedimentation control measures.
10. Contractor is to provide the City with permit renewals, violation corrections, and/or releases.