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## Erosion & Sedimentation Control Policy

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### **Introduction:**

Soil erosion is the removal of soil by water, wind, ice or gravity and sediment deposition occurs when the rate of surface flow is insufficient for the transport of soil particles. Often, these two situations may arise within active construction areas which disturb the existing site. Undisturbed areas may also be impacted in a similar manner through the introduction of road salt & sand or vehicular debris. The effects of soil erosion and sedimentation may also be transported off-site to municipal storm systems and adjacent properties if not effectively managed. The aggregate sum of improperly managed soil erosion and sedimentation may negatively impact water quality by plugging storm system inlets and pipes, altering natural stream banks and ecosystems or flooding roads and structures.

Proper implementation of construction site erosion and sedimentation best management practices will minimize alterations in water quality throughout construction. The implementation of post-construction maintenance of these best management practices will allow the site to comply with local regulations related to water quality and further contribute to sustainable design, construction and use of the College Campus.

### **Objectives:**

The objectives of the College Erosion & Sedimentation Control Policy are:

- Prevent loss of soil during construction by stormwater runoff and/or wind erosion.
- Prevent sedimentation of storm sewers, combined sewers and receiving streams.
- Prevent air pollution with dust and particulate matter.
- Implement a long-term maintenance plan for the on-going maintenance of post-construction erosion/sedimentation measures.
- Comply with the City of Syracuse Municipal Stormwater Ordinance

### **Compliance:**

The College is located in the City of Syracuse, which has been identified as a Municipal Separate Sewer System (MS4) in the State of New York. As a result, review and enforcement of erosion and sedimentation measures lies with the City. All construction activities that disturb in excess of 10,000square feet (SF) on the College Campus will be required to implement a Storm Water Pollution Prevention Plan (SWPPP) to be reviewed and signed by the Owner, Contractor and Preparer. Per the City Stormwater Ordinance, this plan shall be prepared to the most current New York State Standards and Specifications for Erosion and Sediment Control. For projects not requiring the preparation of an SWPPP, the College shall comply with the New York State Standards and Specifications for Erosion and Sediment Control. Further, all significant construction or improvement & repair activities on the College campus shall be accompanied by an Erosion/Sedimentation Control Plan and Details, which comply with the New York State Standard Specifications. The components of an SWPPP are contained in Attachment 1 and the New York State Standard specifications and construction details for Erosion & Sedimentation Control may be found in the Manual or through the NYS DEC website.

The New York State DEC has adopted stringent and detailed regulatory and enforcement measures to ensure compliance with the NPDES program. The City of Syracuse, as an MS4 meets or in many cases, exceeds these national standards. Through the compliance with these Standards, the College thus exceeds the standards for erosion and sedimentation control set forth in the NPDES program. Further, in compliance with the City of Syracuse Municipal Stormwater Ordinance, the College shall enter an agreement to implement a long-term maintenance agreement for all permanent stormwater quality and quantity measures.

Further attachments follow which detail the preparation of an SWPPP, the inspection of erosion & sedimentation measures and the preparation of a long term maintenance plan.

**ATTACHMENT 1:**

At a minimum the SWPPP shall contain the following information:

- Existing and proposed topography (minimum 1-foot contours recommended)

- Location of perennial and intermittent streams
- Boundaries of existing predominant vegetation and proposed limits of clearing
- Location and boundaries of resource protection areas such as wetlands, lakes, ponds and other setbacks (e.g. stream buffers, drinking water well setbacks, septic setbacks)
- Location of existing and proposed roads, lot boundaries, buildings and other structures
- Location and size of staging areas, equipment storage areas, borrow pits and spoil areas
- Existing and proposed utilities (e.g. water, sewer, gas, electric) and easements
- Location of existing and proposed conveyance systems such as channels, swales, culverts and storm drains
- Location of floodplain/floodway limits
- Location and dimensions of proposed channel modifications, such as bridge or culvert crossings
- Location, size, maintenance access and limits of disturbance of proposed temporary and permanent stormwater management and erosion and sediment control practices, including timing and duration of temporary practices
- Material specifications, dimensions and installation details for erosion and sediment control practices, including the siting and sizing of any temporary sediment basins
- Site map/construction drawing (s) showing the specific location(s), size(s), and length(s) of each erosion and sediment control practice
- Final landscaping plans for structural stormwater management practices and any reforestation or revegetation
- Existing and proposed structural elevations (e.g. invert of pipes, manholes, etc.)
- Site map/construction drawing(s) identifying the specific location(s) and size(s) of each post-construction stormwater control practice
- Description, dimensions, material specifications and installation details for each post-construction stormwater control practice, including outlet structures embankments, spillways, settling basins, grade control structures, conveyance channels, etc.
- Owner/Operator name, legal address, phone number
- Signed owner certification
- Copy of signed Notice of Intent (NOI)
- Contractor (and subcontractors, if applicable) certification statement(s)
- Site address and legal description of site
- Vicinity Map, showing project boundary and receiving water(s)
- Plans stamped and signed by licensed professional
- Note in text: All spills should be reported to the NYSDEC Spills Hotline number (800) 457-7362
- Flow paths for surface and subsurface stormwater management structures
- Boundary and acreage of upstream watershed
- Mapping and description of predominant soils from USDA Soil Survey as well as location of any site specific borehole investigations that may have been performed
- Description of temporary and permanent structural and vegetative measures for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out
- Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practices, and description of temporary practices to be converted to permanent control measures
- Description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable
- Construction phasing plan describing the intended sequence of construction activities, including clearing and

grubbing; excavation and grading; implementation, timing and duration of temporary and permanent erosion and sediment control practices; installation of utilities and infrastructure; or any other soil disturbing activity.

- Description of pollution prevention measures to control construction litter, chemicals and debris
- Description of construction and waste materials expected to be stored on-site, controls to reduce pollutants from these materials, storage practices to minimize exposure of the materials to stormwater, and spill prevention and response
- Evidence of acquisition of all necessary legal agreements (e.g. easements, covenants, land trusts)
- Existing condition analysis for time of concentrations, runoff rates, volumes, velocities and water surface elevations showing methodologies used and supporting calculations
- Proposed condition analysis for time of concentrations, runoff rates, volumes, velocities and water surface elevations showing methodologies used and supporting calculations
- Comparison summary of post-development stormwater runoff conditions with pre-development conditions for 1-year, 10-year, 100-year design storms in accordance with the NYS Stormwater Management Design Manual
- Pollutant removal efficiencies of stormwater treatment practices, where necessary
- Infiltration/percolation tests, where required
- Logs of borehole investigations and supporting geotechnical report, if borings have been taken
- Post-construction maintenance schedule to ensure continuous and effective operation of each post-construction stormwater control practice, including monitoring and maintenance frequency, identification of responsible parties, description of applicable easements, vegetative requirements, access and safety issues, and testing and disposal of sediments as they are removed
- Weekly and 1/2" 24 hour inspection checklist identifying measures to be inspected on site visits
- Request to disturb greater than five acres at any given time including reasoning for practice selection and certification by a licensed professional that assures compliance with NYS Water Quality Standards and the substantive intent of the Permit
- Documentation of downstream analysis or discharge to fourth-order stream to justify waiving control of Channel Protection Volume, Overbank Flood Control or Extreme Flood Control
- Justification for deviation from NYS Stormwater Management Design Manual, including reasoning for practice selection and certification by a licensed professional that assures compliance with NYS Water Quality Standards and the substantive intent of the Permit
- Signature and certification by licensed professional for projects discharging a pollution of concern to a TMDL watershed or 303(d) waterway

## **ATTACHMENT 2: Contractor Requirements**

Submittals to be required of the contractors by the project specifications include the following:

1. Schedule of Operations (SOO): Prior to the initiation of any construction activity which disturbs the site or has the potential of creating erosion or soil loss from the site, contractor(s) must prepare and submit a detailed SOO for review by the Owner's Representative. The SOO shall list by area to

be disturbed each of the construction activities, the sequence of installation of erosion and sediment control practices and the sequence of stabilizing the disturbed areas. Proposed dates shall be provided for all the construction activities including temporary and permanent measures.

2. Maintenance Practices: Contractor to describe in detail the inspection and maintenance practices to be employed for each SWPPP practice installed or practiced at the site.
3. Notice of Non-Storm Water Discharges: Sources of non-storm water may not be combined with storm water or discharged to a storm sewer or to the waters of the United States unless specifically allowed by the GP, and if allowed by the GP, only after filing a notice of the proposed non-storm water discharge with the Owner's Representative for his review. The notice shall include the following information:
  - a. Nature and source of the discharge.
  - b. Estimated quantity and duration of the discharge.
  - c. Location of the discharge.
  - d. Controls to be employed to maintain water quality and prevent water pollution in accordance with the GP.
  - e. Inspection and maintenance practices for the controls to be employed.

**ATTACHMENT 3: GUIDELINES FOR CONSTRUCTION PROJECTS IN ORDER TO MINIMIZE  
EROSION & SEDIMENTATION**

**SEQUENCING / PHASING OF MAJOR ACTIVITIES:** all activities must follow Schedule of Operations approved by Owner's Representative.

1. Install stabilized construction access, inlet protection and silt fence.
2. Clear and grub the site, demolish pavements and utility site structures.
3. Strip topsoil and stockpile off site.
4. Excavate and grade site including temporary stormwater diversion systems.
5. Construct artificial turf field, utilities and infrastructure including stormwater conveyance system, stormwater management system and additional erosion control methods as required to prevent sediments from contaminating these systems.
6. Construct grandstand/press box and adjoining walls.
7. Spread topsoil, fine grade, seed, and mulch and establish lawn around artificial turf field and grand stand.
8. Construct parking lots, drives and remaining walks.
9. Seed, mulch and establish lawn on remaining disturbed area.
10. Remove temporary erosion control methods when contributing drainage areas are stable.

**RESOURCE PROTECTION:**

1. Pollution Prevention Measures:
  - a. Contractors are required to keep site free from construction debris and litter and remove on a daily basis.
  - b. Contractors are required to submit safety data sheets for all hazardous substances, and store and handle substances in accordance with regulatory requirements.
  - c. No solid materials, including building materials, shall be discharged to waters of the United States, except as authorized by federal or state laws.
  - d. Off-site tracking or transport of sediments and the generation of dust shall be minimized.
  - e. Sediment shall be removed from erosion control facilities whenever their capacity has been reduced by fifty percent from the design capacity.
  - f. **All spills should be reported to the NYSDEC Spills Hotline 1-800-457-7362.**
2. Description of Construction and waste materials expected to be stored on-site and controls to reduce pollutants from these materials:
  - a. Debris from, clearing and grubbing activities; remove and legally dispose off site within 7 days.
  - b. Wood, paper, plastic and metal packing materials; dispose immediately in construction dumpster or immediately remove and legally dispose off site.
  - c. Petroleum fuels; utilize approved storage tanks in secure locations away from storm structures and drainage facilities. Park construction equipment in secure locations away from storm structures and drainage facilities.
  - d. Concrete residue; wash equipment away from storm structures and drainage facilities and into temporary holding basins.

## TEMPORARY EROSION CONTROL

1. Temporary structural and vegetative erosion and sedimentation control measures will be used. Every opportunity should be taken to temporarily or permanently stabilize the site.
  - a. Stabilized Construction Access: install prior to disturbing site and maintain through the duration of the project until permanent stabilized surfaces are established.
  - b. Silt fence at down slope perimeter of disturbed areas: install prior to disturbing contributing drainage area of site and maintain through the duration of the project until establishment of lawn and/or permanent stabilized surfaces.
  - c. Stockpile topsoil off site away from drainage channels: protect by silt fencing as constructed.
  - d. Provide inlet protection during construction per contract documents. Provide in any pavement areas where silt is expected to runoff or be tracked out by construction practices.
  - e. Place straw or Excelsior mulch and temporary seeding on all disturbed areas. Straw shall be applied at a rate of 2 tons per acre.
  - f. Stabilization of disturbed areas shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or 21 days after they have permanently ceased.
  - g. Where the initiation of stabilization measures by the 14<sup>th</sup> day is precluded by snow cover or frozen ground conditions, stabilization measures shall be initiated as soon as practicable.
  
2. Maintenance schedule for temporary measures: the contractor shall perform the following maintenance duties during construction.
  - a. Replace stabilized construction access as needed when contaminated with mud. Sweep adjoining pavements as needed to collect accumulated dirt and stones. Suppress dust as needed.
  - b. Repair breaches, or sags in silt fence on a daily basis.
  - c. Remove sediment from inlet protection and temporary sediment basin when they have reached 50% capacity.
  - d. Repair eroded soils and materials after each storm event.
  - e. Refer to Appendix 3 for complete Construction Inspection Checklists for maintenance of the stormwater management practices during construction.

**PERMANENT EROSION CONTROL**

1. Permanent structural and vegetative erosion and sedimentation control measures to be used:
  - a. Vegetative ground cover and a structural storm system will be used to control stormwater runoff.
  
2. Maintenance schedule for permanent measures:
  - a. During construction the Contractor is responsible for the maintenance and management of the stormwater management practices. The Contractor must follow the checklists in Appendix 3, and the listed requirements in section II.4.2.
  - b. After project completion, the Owner is responsible for the maintenance and repair of stormwater management facilities including removal (approximately once per year) of sediments from the proprietary water quality treatment device in accordance with manufacturer recommendations or as indicated by required inspections.

Accepted on behalf of the  
State University of New York  
College of Environmental Science and Forestry

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_