Erosion and Sediment Control Plan

PURPOSE:

This document provides guidance for the completion of an Erosion and Sediment Control Plan, which may be required for the submission of an application under the *Planning Act*. All Erosion and Sediment Control Plans shall follow the requirements referenced in this document.

An Erosion and Sediment Control Plan provides information to detail the implementation, staging, inspection, maintenance, and decommissioning of the measures required to reduce the erosive impacts of the development and mitigate the conveyance of sediment to downstream water courses, adjacent properties, and storm sewer infrastructure during construction using the best management practices approach.

An Erosion and Sediment Control Plan may be a stand-alone drawing or be composed of multiple drawings dependent on the type of application.

An Erosion and Sediment Control Plan is required for a Planning Application whenever the proponent proposes to disturb the existing ground conditions. An Erosion and Sediment Control Plan may be required in support of the following planning processes / development application types:

- Site Plan Control (MDA, SPA, DA);
- Niagara Escarpment Commission (NEC) Applications;
- Consent to Sever;
- Draft Plan of Subdivision/Condominium;
- Site Alteration Permit;
- Conservation Authority Permit Application; and,
- Bill 23 – Sewer/Water Permits (3-10 units).

The objectives of the Erosion and Sediment Control Plan are as follows:

- To demonstrate the nature and purpose of any land disturbing activity, identify potential impacts to adjacent lands and water courses and to detail the required control and mitigating measures to be put in place;
- To show the location and details for all erosion and sediment control measures proposed with notes provided to direct their timing / phasing / time of year such that there is an appropriate level of protection provided during all stages of construction;
- To show the location of any existing trees and vegetation that are to be removed or preserved and protected;
- To show locations of any stockpiles and/or berm locations, size, and the diversion route of runoff. Consideration to include proximity to existing homes adjacent properties and regulated features/areas;
- To show the site's construction access and measures to be taken to prevent the transfer of sediment off site via construction vehicles;
- To demonstrate details and phasing and sequencing of the construction project and the proposed works;
- Identify regulated features/areas (i.e. watercourses and associated setbacks/allowances, etc.). Protection and maintaining form and function (i.e. flows) while controlling erosion and sediment; and,
- Outline maintenance, monitoring, and inspection requirements, including timing and scope.

PREPARED BY:

An Erosion and Sediment Control Plan must be prepared by a qualified Civil Engineer (C.Eng.) and may require the input of other engineers and scientists, with experience in: Water Resources, Geotechnical, Hydrogeology, Environmental Science, and/or Fluvial Geomorphology.

The Erosion and Sediment Control Plan must be sealed, dated, and signed by a licensed Professional Engineer (P.Eng.).

CONTENTS:

An Erosion and Sediment Control Plan shall contain the information prescribed in this section and shall be accompanied by a Staging Brief or Report including the information prescribed in this section.

The Erosion and Sediment Control Plan shall be drawn on a standard metric A1 size sheet or an imperial 24’ x 36’ sheet at a scale of 1:500 or included directly onto the Grading Plan (dependent on the size of development and type of application) and shall include the following:

- details of controls for existing and proposed road and rear yard catch basins;
- location and details of erosion and sediments and stabilization measures;
- location and details of construction access and MudMats on the site entrance;
- location of topsoil stockpiles including the height, volume, and slope;
- location and details of temporary sediment basins (if required);
- de-watering details (if required);
- protection of Natural Heritage Features, regulated areas, and associated setbacks;
- identify adequate outlet for surface drainage;
- planning site construction to fit the terrain;
- construction scheduling/timing of grading;
- minimization of soil exposure and re-establishment of vegetative cover;
- provisions of temporary cover for stripped areas scheduled to be dormant for over 30 days;
- provisions of permanent stabilization, including how the site will be stabilized after construction is completed;
- on-site erosion and sediment control techniques (e.g. diversion of runoff away from stripped areas);

- site supervision procedures;
- monitoring and maintenance schedules;
- any/all special timing considerations (i.e. vegetation removal / in-stream construction / crossings, fisheries timing constraints); and,
- any best management practices required on a site-specific basis to mitigate the generation of erosion and the transportation of sediment to downstream creeks, adjacent properties, storm sewer systems and storm water management facilities shall be detailed.

The Erosion and Sediment Control Plan shall be accompanied by a Staging Brief or Report and shall include the following:

- **Site Context and Background**
  - Brief description of the proposed development, including any proposed buildings, structures, excavations, stockpiles of fill, proposed roadways, utility installations and grading alterations; and
  - Description of the existing site, which should include a map, diagrams, or photos, with regards to its location, current land uses, and topography as well as adjacent land uses and their potential impacts on the site.
- **Site conditions and procedures**
  - Site conditions should be outlined for the duration of the proposed development, from pre-construction through to post-construction;
  - Outline the temporary construction sediment and erosion control measures that will be installed prior to any site disturbance, including how they will be checked, remain in good working order until the site is stabilized, and be cleaned on a regular basis;
  - Once the site has been stabilized and excess sediment removed, detail how these temporary sediment and erosion controls will be removed. All sediment deposition, catch basins, sediment forebays, sediment fences, etc., should be cleaned prior to the municipality assuming ownership (for

public facilities), or prior to the owner paying the final instalment to the contractor (for private facilities). All permanent sediment and erosion controls should be in good working order prior to assumption, or final payment;
    - When the project involves construction activity extending beyond one construction season, it must be demonstrated which measures will be employed to stabilize the site for the over-winter period;
    - A comprehensive procedure for addressing emergency scenarios and spills must be included; and,
    - Relevant Info from Mud/Dust control report/document needs to be added to plan.
- **Maintenance, Monitoring, and Inspections**
    - Erosion and sediment controls should be monitored on a regular basis and immediately upon wet weather conditions. Inspection reports should be submitted to the City for their review and record;
    - Erosion and sediment control devices should be maintained in good working order, and any required repairs should be made immediately; and,
    - Modifications to the site's erosion and sediment controls may be modified at any time during the course of construction per the direction of City Staff.

OTHER INFORMATION:

City of Hamilton – Comprehensive Development Guidelines and Financial Policies Manual:

https://www.hamilton.ca/build-invest-grow/planning-development/planning-policies-guidelines/comprehensive-development

Greater Golden Horseshoe Area Conservation Authorities' Erosion and Sediment Control Guideline for Urban Construction

https://npca.ca/images/uploads/common/ErosionandSedimentControl-Guidelines.pdf

Sustainable Technologies Evaluation Program – Erosion and Sediment Control Guideline:

https://sustainabletechnologies.ca/home/erosion-and-sediment-control/

City of Hamilton By-Law No. 03-173 “A By-Law to Prohibit and Regulate the Accumulation of Standing Water at Specified Times of Year”:

https://www.hamilton.ca/sites/default/files/2022-01/standing-water-by-law-03-173.pdf

REVIEWED AND APPROVED BY:

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APPENDIX:

Erosion and Sediment Control Plan – Summary Checklist

Erosion And Sediment Control Plan – Summary Checklist

The form is to be completed by the Professional that prepared the Erosion and Sediment Control Plan.

Use of the form by the City of Hamilton is not to be construed as verification of engineering/scientific content.

Refer to the Terms of Reference for the Erosion and Sediment Control Plan:Link to Terms of Reference

If any of the requirements listed below have not been included in the erosion and sediment control plan, the study will be considered incomplete.

Summary of Key Information:

Item	Erosion and Sediment Control Plan Information	Notes	Drawing Includes this Information City Staff (Check)
1.	Is the site address included on the plan?		
2.	Is the City file or application number included on the plan?		

3.	Is a Key Plan including the site boundary limits included on the plan?		
4.	Is the owner's/ applicant's information and address included on the plan?		
5.	Is the Engineer's information and address included on the plan?		
6.	Is a Legend identifying ESC measures included on the plan?		
7.	Is the drawing provided on the standard sheet size and scale?		
8.	Is a North Arrow provided on the plan?		
9.	Are locations of any existing or proposed buildings shown on the plan?		
10.	Are existing elevations of the site at 0.5m-1.0m intervals to determine drainage patterns. Spot elevations may also be required. Extend existing contours to beyond property limit by a minimum of 10 metres?		
11.	Are locations of any trees, shrubs, grasses, and unique vegetation to be preserved or removed shown on the plan? Tree hoarding area(s) are to be clearly shown.		
12.	Are locations of any water bodies such as wetlands, lakes, rivers, streams, or drainage course on or adjacent to the site shown on the plan?		

13.	If applicable are Regulatory flood line level, fill regulated line and appropriate setbacks, and reference to relevant hydraulic model cross-sections shown on the plan?		
14.	Does the plan show areas within or near the proposed development with potential for erosion or sediment transfer?		
15.	Are proposed changes in existing elevation contours for each stage of grading provided on the plan?		
16.	Are proposed spot elevations shown/ illustrated on the plan?		
17.	Are the site boundary and the limits of all proposed land disturbance activities clearly delineated on the plan?		
18.	Are locations and direction of any existing/proposed storm drainage system (e.g. storm sewers, swales, ditches, etc.) and overland flow drainage patterns within and adjacent to the site shown on the plan?		
19.	Are stockpile and/or berm locations, sizes and the diversion route of the runoff shown on the plan?		
20.	Are locations and details for all ESC measures proposed provided on the plan?		
21.	Are notes directing timing/phasing of ESC measures provided such that there		

	is an appropriate level of protection provided during all stages of construction (e.g. Sediment fence should be installed prior to any land disturbing activities)?		
22.	Are proposed temporary sediment basins and SWM ponds with their location(s), elevations, volumes and discharge shown on the plan?		
23.	If applicable are ESC pond maintenance target volumes and drainage areas to the pond provided on the plan?		
24.	Are details of the site's access and measures to be taken to prevent the transfer of sediment off site via construction vehicles provided on the plan?		
25.	Is a mud-mat identified on the Plan?		
26.	Are the location of the truck washing bays identified on the Plan?		
27.	Are internal haul roads that will be used during construction provided on the plan along with a maintenance schedule?		
28.	Is a schedule of regular inspections, reporting and repairs to erosion and sediment control practices provided on the plan?		
29.	Area Dewatering details and notes included on the plan?		

30.	Are regulated features/ areas shown and labelled on the plan?		
31.	Are Site Supervision procedures noted on the plan?		
32.	Has the Plan been sealed by a licensed Professional Engineer?		

Qualified Professional who completed this report summary:

Name:_____

Email:_____

Phone:_____

Date:_____

Signature and Stamp:_____

Guideline for Applicants completing the Summary Checklist for Erosion and Sediment Control Plan

1. **Is the site address included on the plan?**
   Provide municipal address, or lot and concession
   Yes or No.
2. **Is the City file or application number included on the plan?**
   Yes or No.
3. **Is a Key Plan including the site boundary limits included on the plan?**
   Yes or No.
4. **Is the owner's/ applicant's information and address included on the plan?**
   Yes or No.
5. **Is the Engineer's information and address included on the plan?**
   Yes or No.
6. **Is a Legend identifying ESC measure included on the plan?**
   Yes or No.
7. **Is the drawing provided on the standard sheet size and scale?**
   Yes or No.
8. **Is a North Arrow provided on the plan?**
   Yes or No.
9. **Are locations of any existing or proposed buildings shown on the plan?**
   Yes or No.
10. **Are existing elevations of the site at 0.5m-1.0m intervals to determine drainage patterns. Spot elevations may also be required. Extend existing contours to beyond property limit by a minimum of 10 meters?**
    Yes or No.

11. **Are locations of any trees, shrubs, grasses, and unique vegetation to be preserved or removed shown on the plan? Tree hoarding area(s) are to be clearly shown.**
    Yes or No.
12. **Are locations of any water bodies such as wetlands, lakes, rivers, streams, or drainage course on or adjacent to the site shown on the plan?**
    Yes or No.
13. **If applicable are Regional flood line level, fill regulated line and reference to relevant hydraulic model cross-sections shown on the plan?**
    Yes or No.
14. **Does the plan show areas within or near the proposed development with potential for serious erosion or sediment problems?**
    Yes or No.
15. **Are proposed changes in existing elevation contours for each stage of grading provided on the plan?**
    Yes or No.
16. **Are proposed spot elevations shown/ illustrated on the plan?**
    Yes or No.
17. **Is the site boundary and the limits of all proposed land disturbing activities clearly delineated on the plan?**
    Yes or No.
18. **Are locations and direction of any existing/proposed storm drainage system (e.g. storm sewers, swales, ditches, etc.) and overland flow drainage patterns within and adjacent to the site shown on the plan?**
    Yes or No.
19. **Are stockpile and/or berm locations, sizes and the diversion route of the runoff shown on the plan?**
    Yes or No.
20. **Are locations and details for all ESC measures proposed provided on the plan?**

Yes or No.

21. **Are notes directing timing/phasing of ESC measures provided such that there is an appropriate level of protection provided during all stages of construction (e.g. Sediment fence should be installed prior to any land disturbing activities)?**
    Yes or No.
22. **Are proposed temporary sediment basins and SWM ponds with their location(s), elevations, volumes and discharge shown on the plan?**
    Yes or No.
23. **If applicable are ESC pond maintenance target volumes and drainage areas to the pond provided on the plan?**
    Yes or No.
24. **Are details of the site's access and measures to be taken to prevent the transfer of sediment off site via construction vehicles provided on the plan?**
    Yes or No.
25. **Is a mud-mat identified on the Plan?**
    Yes or No.
26. **Are the location of the truck washing bays identified on the Plan?**
    Yes or No.
27. **Are internal haul roads that will be used during construction provided on the plan along with a maintenance schedule?**
    Yes or No.
28. **Is a schedule of regular inspections and repairs to erosion and sediment control practices provided on the plan?**
    Yes or No.