

Project Name: _____

Contract No.: _____

**SEDIMENT & STORMWATER MANAGEMENT
PROJECT DESIGN & REVIEW CHECKLIST
FOR THE
DELAWARE DEPARTMENT OF TRANSPORTATION**

Introduction

All applicable information in the following checklist must be submitted to the Stormwater Engineer at the plan design stages indicated for any project disturbing over 5,000 square feet of land. Include this checklist with each plan submission. Mark the items “N/A” which do not apply to your project. Projects submitted without this checklist or incomplete submittals (i.e. no stormwater management report) will not be reviewed.

All erosion, sediment control and stormwater management measures must be designed in accordance with the latest version of the Delaware Sediment and Stormwater Regulations, DeIDOT Standard Construction Details, DeIDOT Standard Specifications and Design Guidance for drainage, erosion control and stormwater management. Select projects, depending on the particular watershed, will also have to be designed for volume management and the latest standards to meet TMDL (Total Maximum Daily Load) requirements as per the NPDES (National Pollutant Discharge Elimination System) permit and any approved pollution control strategies. To verify if a project will need to follow these extra design requirements, contact the Stormwater Engineer.

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Preliminary Project Submittal

DelDOT's Project Manager shall review this checklist with the Designer/Consultant at each submission to verify that all necessary information is included in the plan set and sign below for each submission.

Designer: _____ Project Manager: _____

Date: _____

Letter of transmittal

- _____ 1. An appropriate letter of transmittal requesting review of the plans, specifications and design computations.

Draft Stormwater Management Report (required)

- _____ 1. The report shall include the following information:
- Project Description
 - Discussion of the stormwater management approach being considered for each drainage area.
 - Requests for any exemptions, waivers or variances.
 - Maps showing the information necessary to perform the hydrologic analysis.
 - Back-up computations showing the existing and proposed peak rates of discharge from each drainage area.

Preliminary Construction Plans

Title Sheet shall include:

- _____ 1. Project Name and Contract Number.
_____ 2. A map showing the general location of the project in the State.
_____ 3. A map showing the general vicinity of the project at an appropriate scale.
Mark project's beginning and end stations on this map.
_____ 4. Length of project.
_____ 5. Provide a signature block for the Stormwater Engineer.

Legend Sheet, General and Project Notes sheets shall include:

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- _____ 1. A legend showing plan designation symbols for all erosion, sediment control, and stormwater management practices
- _____ 2. Site Reviewer Requirement, stabilization of staging areas, and size of Disturbed Area within the limits of construction (LOC) in acres..
- _____ 3. "Project Notes For Sediment And Stormwater Management".

Typical Section sheets shall include:

- _____ 1. Locations and types of all roadside permanent seeding and mulching items. For instance, Soil Retention Blanket Mulch (SRBM) Type 3 on slopes steeper than 3:1 and outside limits of SRBM Types 5, 6 or 7. Straw Mulch or SRBM Type 4 on slopes 3:1 and flatter and outside limits of SRBM Types 5, 6 or 7.
- _____ 2. Call out that all grass ditches and swales are to be matted with SRBM Types 5, 6 or 7 based on design requirements.

Roadway Construction Plans Shall Include:

- _____ 1. Proposed location of all permanent stormwater management facilities in schematic form only. Detailed grading and construction details will be developed by semi-final plan stage and shown in the Stormwater Management sheets of the Plans.
- _____ 2. Directional flow arrows for all runoff conveyance systems. (Ex: channels, ditches, pipes, etc.)

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Semi - Final Project Submittal

DelDOT's Project Manager shall review this checklist with the Designer/Consultant at each submission to verify that all necessary information is included in the plan set and sign below for each submission.

Designer: _____ Project Manager: _____

Date: _____

Letter of transmittal

- _____ 1. An appropriate letter of transmittal requesting review of the plans, specifications and design computations.
- _____ 2. A copy of the Review Comment Response Spreadsheet from the Preliminary Project Submittal concerning E&S issues indicating how the comments have been addressed

Final Stormwater Management Report (if applicable)

- _____ 1. In addition to the information required on the Draft Stormwater Management Report, a loose-leaf binder containing the stormwater management report and sections of the report shall be indexed and separated by tabs. See Section 2 of the ES₂M Design Guide for more detailed information on how to arrange the stormwater management report.

Semi - Final Construction Plans

In addition to the information required on the preliminary plans, semi- final plans shall include:

Profile sheets showing:

- _____ 1. Profiles for storm drain pipes in accordance with the Plan Development Checklist.

Stormwater Management Plans and Details showing:

- _____ 1. Details for all permanent stormwater management facilities (i.e. pond outlet structures) shown on the construction plans including plan views, sections, profiles, notes and any additional information as required to properly convey the intent of the design.
- _____ 2. Grading plan of sediment basins (but not sediment traps) and stormwater management facilities. Existing and proposed grading contours of all

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temporary sediment basins and permanent stormwater management facilities shall be based on mean sea level datum and provided at one (1) foot intervals.

3. Spillway profiles, embankment profile and facility cross sections showing pertinent design features such as:
- _____ a) Side slope benching and stabilization such as topsoil, type of seed mix and mulch
 - _____ b) Forebay grading
 - _____ c) Outlet crest elevations
 - _____ d) Embankment elevation, as constructed (usually 5% of embankment height higher than as designed) and as settled (as designed)
 - _____ e) Phreatic line
 - _____ f) Profile along centerline of pond embankment showing top of dam, top and bottom of cutoff core, existing ground line, location of principal spillway and Class A bedding under principal spillway.
 - _____ g) Peak water surface elevations for each design storm
 - _____ h) Method of seepage control
 - _____ i) Scour protection at points of discharge
 - _____ j) Trash Racks (6-inch maximum spacing between all bars)
 - _____ k) Anti Vortex Devices
 - _____ l) Structural details of the facility's principal spillway including dimensions, strength of concrete, type and placement of reinforcing steel, etc.
 - _____ m) Maintenance Set-aside Areas for future disposal of sediment.
 - _____ n) Maintenance Access Road to facility.
 - _____ o) Facility Design Summary for each facility in accordance with the following table:

FACILITY DESIGN SUMMARY

Design Storm	Facility Inflow	Facility Discharge	Water Surface Elev.	Storage Volume

Drainage area to SWM Facility: _____

4. Combine all information necessary to construct each facility on one sheet if possible. If more than one sheet is required, the information should be placed on successive sheets.

Construction Notes on Grading Sheet. Sample notes can be obtained from the Stormwater Engineer or from DelDOT's Design Resource Center.

Erosion & Sediment Control Plan Sheets shall include:

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1. Series of plan sheets at a scale that E&S items shall be clearly visible and include the following information:

- _____ a) North arrow.
- _____ b) Location of all erosion and sediment control measures designated by their standard plan symbol.
- _____ c) Sediment basin and/or stormwater management facility locations.
- _____ d) State and Federal wetlands accurately delineated.
- _____ e) All tributaries and surface water bodies on the plan. If the surface waters are named, label them on the plans.
- _____ f) Proposed location of all temporary soil stockpiles. Placement shall be located on areas with little or no slope, away from live streams and wetlands, with perimeter silt fence around base of pile.
- _____ g) Sediment traps (not basins) and a summary table listing the following information:

Trap No.	Drainage area	Volume Provided	Length	Width	Bottom Elevation	Weir Crest Elevation	Clean Out Elevation

- _____ 2. Sequence of Construction for each phase and stage of construction. A graphical presentation with notes annotating the general location and order of work is preferred:

- a) Clearing and Grubbing of those areas necessary for installation of perimeter controls (i.e. silt fence, sediment traps, earth dikes, etc.).
- b) Construction of perimeter controls.
- c) Remaining clearing and grubbing for the project.
- d) Stream diversions and site dewatering.
- e) Roadway grading, excavation and embankment.
- f) Specify which storm drains and inlets will be used or blocked during construction.
- g) All cut and fill slopes of the highway excavation and embankment shall be permanently stabilized as in accordance with DelDOT Standard Specifications, Section 110.09 Vegetative Stabilization.
- h) Timing and location of temporary stabilization when this can be determined in advance.
- i) Installation of stormwater management practices.
- j) Final grading.
- k) Final Stabilization
- l) Conversion of sediment basins to permanent stormwater ponds.
- m) Removal of temporary sediment control practices.

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Final Project Submittal

This submittal should happen when all stormwater management issues have been addressed. It does not have to wait until the final construction plan submission. DelDOT's Project Manager shall review this checklist with the Designer/Consultant at each submission to verify that all necessary information is included in the plan set and sign below for each submission.

Designer: _____ Project Manager: _____

Date: _____

Letter of transmittal

- _____ 1. An appropriate letter of transmittal requesting final review and approval of the stormwater management report.
- _____ 2. A copy of the Review Comment Response Spreadsheet from the Semi-Final Project Submittal concerning E&S issues indicating how the comments have been addressed

Stormwater Management Facilities, Report and full set of construction plans

- _____ 1. Show DelDOT SWM Facility number on plans and in report (number will be assigned by the Stormwater Engineer's office with semi-final plan comments).
- _____ 2. Submit any changes or corrections to the stormwater management report for final approval.

Quantity Summary

- _____ 1. A quantity summary separate from the plans, showing the item number and quantity of each item, including; erosion, sediment control, stormwater management and drainage items used on the project.

Submission for Stormwater Engineer Signature of Title Sheet (after approval of final SWM report and final plans):

- _____ 1. Title sheet mylar showing signature block signed and sealed by Consultant (if applicable)
- _____ 2. An electronic copy of the stormwater management report in .pdf format, including maps, exhibits, etc.
- _____ 3. Information for NOI (Notice of Intent) form:
 - _____ a. Expected construction start date
 - _____ b. Expected construction end date
 - _____ c. Latitude (d, m, s)
 - _____ d. Longitude (d, m, s)
 - _____ e. Amount of disturbed area (ac)