# NJ SOIL EROSION AND SEDIMENT CONTROL PROGRAM

# *Plan Preparation and Review Checklist*

New Jersey Department of Agriculture
State Soil Conservation Committee

Comprehensive guide for applicability of erosion control standards for New Jersey Construction Sites
March 2018

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# NJ Soil and Sediment Control Program Plan Review Checklist

This guide has been prepared by the **New Jersey Department of Agriculture – State Soil Conservation Committee** as a resource to plan preparers and reviewers to aid in the development of a comprehensive and effective soil erosion and sediment control plan. The guide has been formatted as a simple check list that functions as a reminder to evaluate salient portions of the various erosion control standards which may be applicable to the development project being considered.

While it is intended to be comprehensive, it cannot address every possible scenario. Unique conditions and situations may arise which exceed the scope of the checklist, and therefore it should not be viewed as exhaustive. Individual soil conservation districts may require additional information not shown on the checklist.

**Disclaimer:** Use of this guide is voluntary and should not be construed as having any regulatory weight or authority with respect to plan (permit) denial or approval. Nor should this guide be viewed as a design document in and of itself and its use does not constitute the practice of engineering.

Project Name:_____

District: _____

Chpt. 251 Number: _____

Review Date: _____

Reviewer: _____

Notes:_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

# NJ Soil and Sediment Control Program Plan Review Checklist

## I. Administrative Review – see back of application form for complete list.

- ☐ Application Form
- ☐ Fee
- ☐ Affidavit
- ☐ Erosion Control Plan Set
- ☐ Complete Site Plan Set
- ☐ Drainage Report (if applicable)
- ☐ H&H Summary Form
- ☐ PDF grading/drainage plan file

## II. Basic E&S Plan Requirements

- ☐ Delineation of the proposed Limit of Disturbance, including all off-site utility lines, stockpiles, staging areas etc.
- ☐ Location of proposed drains and culverts, storm sewer piping
- ☐ Inlet/outlet elevations
- ☐ Contours at 2.0' intervals
- ☐ Location of streams, wetlands etc.
- ☐ Soil Delineation per NRCS Web Soil Survey
- ☐ Land Use on adjacent parcels
- ☐ E-copies of HEC RAS and other models
- ☐ Non-growing season stabilization methods
- ☐ Residential Development -controls apply to individual lots and liability is transferable to subsequent owners (during construction)
- ☐ Notes indicating what party is responsible for maintenance of permanent (basins, riprap, vegetation, etc) E&S measures

## III. Sequence of Construction

- ☐ Temporary controls (silt fence, stone pads, stockpile protection, etc.)
- ☐ Use of temporary sediment basin during construction
- ☐ Inlet protection after storm sewer installation
- ☐ Basin stabilization once majority of site is stabilized
- ☐ Soil Restoration prior to stabilization
- ☐ Permanent stabilization

## IV. Temporary Controls

### 1. Dewatering

- ☐ Tank, bag, sump pits, etc. are located so that discharge cannot enter waterways or water bodies
- ☐ Size of the dewatering device (bag, tank, etc.) is appropriate for size of pump and flow rate
- ☐ Temporary filters (stone, haybales etc.) have proper detail and notes
- ☐ Note indicating periodic maintenance is required along with proper disposal of contaminated filters

### 2. Dust Control

- ☐ Notes describing method, frequency and location of control measures

### 3. Sediment Barrier

- ☐ Location graphically depicted at key locations at lower elevations
- ☐ Location receives sheet flow only (not to be installed across a channel
- ☐ Design detail addresses Standards requirements for height, embedding, materials, etc.
- ☐ Drainage area less than 1 acre; slope upgradient of barrier less than 5%
- ☐ Super siltfence detail includes wire backed fence
- ☐ Not proposed in lieu of properly designed diversion
- ☐ For filter tube products, details address Sections A and B (bale barrier) of the Standard

### 4. Sediment Basin

- ☐ Compare two design volume options per standard
- ☐ Length vs. Width ratios
- ☐ Use proposed detention basin note on plan
- ☐ Dewatering
  - ____ 50% TE 4" hole
  - ____ Floating Riser
  - ____ Underdrain
- ☐ Riser
  - _____ Use outlet control box
  - _____ Use add-on riser (no perforations)

_____ Watertight connection
_____ 1' freeboard

**5. Stabilized Construction Entrance**

- ☐ 1-2 " clean stone, 6" thick x entrance width x 50' long
- ☐ Steep sloped entrance per table 27-1
- ☐ Over 5% slope, stabilized with hot mix base course
- ☐ Tire Wash needed

**6. Storm Sewer Inlet Protection**

- ☐ Less than 3 acres of contributory drainage
- ☐ Does not close opening of the inlet
- ☐ Does not cause traffic or flooding hazard
- ☐ Capture/filter/detain 1-year event; larger storms are bypassed into system

**7. Traffic Control**

- ☐ Entrance/Exit points clearly identified on plan
- ☐ Avoids trouble areas such as slopes, watercourses, vegetated areas
- ☐ Tire washing used? ____ Yes or ____ No
- ☐ Compaction remediation needed on traffic route? ____ Yes or ____ No

**8. Turbidity Barrier (Floating)**

- ☐ Materials used meet design criteria page 32-1
- ☐ Barrier placement correct

## V. Hydrology/ Existing Conditions

- ☐ Existing Drainage Area Map
- ☐ Contours at 2.0' intervals, clearly denoted
- ☐ Tc Flow Path Delineated
- ☐ Point of Analysis Identified
- ☐ Land Use/ Land Cover Defined
- ☐ Soil Type and HSG Defined
- ☐ Field verification of physical features
- ☐ Rainfall Depth (2 &10, 25 yr) Defined
- ☐ TR-55 or Rational Method (as appropriate)
- ☐ HEC-RAS Stream Channel Analysis

## VI. Hydrology / Proposed Conditions

- ☐ Proposed Drainage Area Map
- ☐ Contours at 2.0' intervals, clearly denoted
- ☐ Tc Flow Path Delineated
- ☐ Point of Analysis Identified
- ☐ Land Use/ Land Cover Defined
- ☐ Soil Type and HSG Defined
- ☐ Field verification of physical features
- ☐ Rainfall Depth (2 &10, 25 yr) Defined
- ☐ TR-55 or Rational Method (as appropriate)
- ☐ HEC-RAS Stream Channel Analysis

## VII. Offsite Stability Analysis

**1. Point Stability (Use flow chart from Standard to assist in evaluation)**

- ☐ Specific Narrative/Analysis in Report

Point Stability (Choose One)

___ Defined
___ Undefined
___ Same Point of Discharge

- ☐ If Defined or Same Point, how do peak flows compare? _____
- ☐ If Undefined, does table 21-1 apply? Yes ___ or No ____
- ☐ Infiltration failure analysis for point discharge peak flow_____
- ☐ Is conveyance structure (pipe or water way) needed? Yes ___ or No ____

**2. Downstream Stability**

- ☐ Peak Flow Reductions (50% of 2yr pre, 75% of 10 yr pre)
- ☐ Infiltration used to meet reduction levels? (infiltration should not account for more than the reduction levels)
- ☐ Downstream obstructions (culverts, narrow channel, debris)
- ☐ Alternate Stability Analysis (watershed model, stream velocity model, etc.) Yes ___ or No ____

## VIII. Permanent Structures

**1. Stormwater Management**

- ☐ Detention
- ☐ Detention + Infiltration
- ☐ Wet Pond
- ☐ Underground Storage

- ☐ 2 and 10-year peak flows reduced? Yes ___ or No ____
- ☐ Infiltration component in basin or structure? Yes ___ or No ____
- ☐ Design report outlet structure matches outlet structure details? Yes ___ or No ____

☐ Uncontrolled surface flows down basin slopes? Yes ___ or No ____

☐ Suitable vegetation used in basin? Yes ___ or No ____

☐ Rip rap design for COP in basin Yes ___ or No ____

☐ Location of outlet structure consistent with OSS? Yes ___ or No ____

☐ Forebay used? Yes ___ or No ____

☐ Stability of Berm for forebay

☐ Sand bottom for Infiltration? Yes ___ or No ____

- ☐ Other_____

**2. Open Channels**

**(a) Channel Stabilization**

☐ Temporary by-pass channel (2 year storm)

☐ "Bank full" or 10-year storm design

☐ Side slopes less than 2:1

**(b) Grass Water Way (GWW)**

☐ Inlet and Outlet

☐ Design Storm

☐ Max bed slope _____

☐ Velocity _____

☐ Froude number less than 0.9

☐ D&E Retardance

☐ Turf Reinforcement Mat (Tx DOT table)

☐ Side Slope _____

☐ Stone center lining

☐ Drain down basin slope/ break in grade at foot of slope

☐ Proper selection of vegetation?

**(c) Diversions**

☐ Same design issues as GWW?

☐ Temporary or Permanent?

☐ Diversion outlet

☐ Design Storm based on level of risk to downstream area

☐ Supporting ridge

☐ Diversions on slopes use down chutes

**(d) Lined Waterway**

☐ Vegetated lining not appropriate

☐ Lining material uses proper n-value per table 20-1

☐ Flow depth, velocity and freeboard per table 20-2

☐ Side slopes per table 20-3

☐ Liner thickness Slope less than 10%? Yes __ or No ___

☐ If not, then use slope protection

**3. Conduit Outlet Protection (COP)**

Bridge opening (check applicability) ____

Conduit _____

☐ Velocity in last section of pipe requires COP

☐ Soil type at outlet _____

☐ Slope of area at outlet _____

☐ Tailwater calculated correctly

☐ Calculated D50 very large; gabions or reno matts appropriate

**(a) Apron**

☐ L, W and Thickness correct

☐ D50 size with filter layer

☐ Installed inside a detention basin with deep tail water? Yes ___ or No ____

☐ Can installation occur with no slope or overfall at end? Yes ___ or No ____

☐ Appropriate equation used for tailwater

**(b) Scour Hole**

☐ Depth = full or ½ pipe diameter

☐ Dimensions correct using side slopes and depth

☐ Elevation of top of hole flush with surrounding elevation

☐ Slope around and below scour hole flat

**(c) Multiple Conduits**

☐ Spacing greater or less than ¼ width of conduit(s)

☐ Width of apron accounts for spacing, S

- ☐ Largest values used for dis-similar conduits

**4. Rip Rap**

- ☐ Greater of design discharge or 25- year storm
- ☐ Channel bend accounted for
- ☐ Sized for bioengineering using Lane ___ or ____ Ishbash
- ☐ D50 and thickness (2x D50 with filter fabric
- ☐ Angular stone (no river or round stone - prone to rolling)
- ☐ Gabion thickness and velocity per table 22-1
- ☐ Shore line / wave protection needed

**5. Slope Protection Structure**

- ☐ Flume Design
- ☐ Rip Rap Chute
- ☐ Pipe Drop
- ☐ Unconcentrated Runoff from paved surfaces

**6. Grade Stabilization Structure**

- ☐ Design depth, width and velocity per the Standard
- ☐ Capacity per Table 17-1

**7. Land Grading**

- ☐ Cut and fill areas noted
- ☐ Existing and Proposed contours at 2.0' intervals shown
- ☐ Cut face of slope stabilization
- ☐ Protection of adjacent properties
- ☐ No fill adjacent to stream channels without proper controls
- ☐ No trash or debris in fill material
- ☐ Sufficient compaction in load bearing areas

**Soil Compaction Restoration**

- ☐ Exclusions Apply?
- ☐ Urban Redevelopment -Excluded except:
  - ☐ Woody vegetation areas on site
- ☐ Delineate test/remediation areas on plan
- ☐ Denote test locations-
  ____ 1+ acres: 2/ac
  ____ <1 acre: 2 tests minimum
  ____ residential min 1 test per lot
- ☐ NJDA compaction notes and details on plan
- ☐ Compaction Verification Form given to applicant

**8. Stream Crossing – General Considerations**

- ☐ ___Temporary OR ___ Permanent
- ☐ 90 degrees to center of stream
- ☐ Temporary Culvert 2-year storm design
- ☐ Temporary Culvert COP 10-year design storm
- ☐ Removal and restoration note(s)
- ☐ Permanent Culvert Stabilization of:
  ___ Outlet COP
  ___ Abutments up and downstream

**9. Subsurface Drainage**

- ☐ Design Inflow
- ☐ Drain sizing by Manning's
- ☐ Minimum grade 0.1%, V greater than 1.4 fps
- ☐ Appropriate measures to prevent soil migration into drain
- ☐ Outlet protected against scour

## VIII. Vegetative Standards

**1. Acid Soil Management**

- ☐ Project location has potential for acid soil
- ☐ Stockpile detail includes covering with plastic after 48 hrs.
- ☐ Burial with 10 TPA lime, 12-24" deep
- ☐ Equipment wash away from streams and storm sewers

**2. Dune Stabilization**

- ☐ Certified cultivars (vegetation) is proposed
- ☐ Details for wind breaks (fencing, etc.) provided
- ☐ Planting instructions & details provided
- ☐ Maintenance plans provided

**3. Maintaining Vegetation**

- ☐ Notes on plan consistent with 'Methods and Materials'

**4. Permanent Vegetative Cover**

- ☐ Seed bed preparation
- ☐ Subsoil prep per Land Grading Standard
- ☐ Topsoil quality and application depth (5")

- ☐ Fertilizer and lime requirements
- ☐ Seed selection appropriate to use
- ☐ Mulch over seed and mulch anchor
- ☐ Hydroseeding: rates appropriate; no mixing of much and seed in tank
- ☐ Irrigation until established
- ☐ Note # 7 (page 4-4) included (recommended)

**Pinelands Reserve Stabilization**

- ☐ Re-use of native O & A horizons
- ☐ Native Pineland seed mix used
- ☐ No Seeding – mulch over native topsoil, monitor until established

**5. Mulch Only Stabilization**

- ☐ Temporary, non-vegetative stabilization after 14 days of inactivity
- ☐ Note indicating non-growing season stabilization
- ☐ Materials specified w/ amounts: hay/straw, soil stabilizers, hydro-mulch, woodchips, stone
- ☐ Anchoring methods (straw/much)

**6. Sod**

- ☐ Seed bed preparation
- ☐ Subsoil prep per Land Grading Standard
- ☐ Topsoil quality and application depth (5”)
- ☐ Fertilizer and lime requirements
- ☐ Irrigation until established
- ☐ Fresh/moist sod specified
- ☐ Sod installation/placement/anchoring (where necessary)

**7. Temporary Vegetative Stabilization**

- ☐ Seedbed preparation, de-compaction, lime and fertilizer requirements
- ☐ Proper seed selection from Tale 7-2
- ☐ Mulching required on all seeding

**8. Topsoiling**

- ☐ Quality – no debris, weeds etc.
- ☐ Minimum organic matter content 2.75% for imported topsoil
- ☐ Topsoil substitute (manufactured topsoil) should be noted if intended for use
- ☐ Stripped topsoil should be stored and stabilized with vegetation
- ☐ Do not work topsoil when wet
- ☐ Scarify/break up compacted subsoil prior to application
- ☐ Topsoil depth must be 5” min., unsettled

**9. Tree Protection**

- ☐ Typical detail on plan sheet noting maximum area of protection (fig 9-3)
- ☐ Trees identified on plan to be protected
- ☐ Notes for tree selection, protection etc. on plan

**10. Trees, Vines & Shrubs**

- ☐ No invasive species specified
- ☐ Tree planting detail provided