


**Nonstructural Stormwater
Management Strategies
Point System**

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Stormwater Management Rules

- 2004 Update to Regulations
- Quantitative Standards
 - Quality – 80 percent TSS removal
 - Quantity – 2, 10, 100 reduced 50, 75, 80
 - Groundwater Recharge – avg annual or 2 yr.
- Qualitative
 - Nonstructural Stormwater Management Strategies

Nonstructural Strategies

- Protect Areas that Provide Water Quality Benefit
- Minimize and Disconnect Impervious Surfaces
- Protect Natural Drainage Features and Vegetation
- Minimize Land Disturbance Including Clearing and Grading

Nonstructural Strategies

- Minimize Soil Compaction
- Minimize Lawn and Provide Low-Maintenance Landscaping
- Minimize Decrease in Pre-Construction Time of Concentration
- Preventative Source Controls
 - Trash and Pet Waste Station
 - Minimize Fertilizers and Pesticides

Nonstructural Strategies 7:8-5.3

- To the maximum extent practicable the standards shall be met by incorporating nonstructural strategies into the design
- If the applicant contends that a strategy is not feasible the applicant shall identify the strategy and provide the basis for the contention
- Any land area used as a nonstructural strategy to meet the standards shall be subject to a conservation restriction.

Nonstructural Strategies and Residential Site Imp. Stds.

- N.J.A.C. 7:8 incorporated into N.J.A.C. 5:21
- Applicant and municipality agree to exceed standard 5:21-3.6
- De minimis exceptions 5:21-3.1(f) include reducing cartway widths, parking spaces
- Special Area Standards 5:21-3.5
- Curbs only where required for stormwater control or edge protection 5:21-4.3

Non Structural Point System (NSPS)

- Incorporates Most Strategies
- Target Points Ratio → Proposed:Existing
- Items to Incorporate
 - Planning area
 - Soil Type
 - Land Use
 - Project Size

Planning Area Input

NSPS Planning Area	Pinelands Management Area
PA 1	Pinelands Towns, Pinelands Villages
PA 2	Regional Growth Area
PA3	Rural Development Area
PA4	Agricultural Production Area and Forest Area
PA4B	Special Agricultural Production Area and Agricultural Production Area
PA5	Forest Area, Preservation Area and Special Agricultural Production Area

Target Ratio

■ Size, Planning Area

Step 1 - Provide Basic Master Development Site Information

1. Specify Total Area (in Acres) of Development Site Described Below in Steps 2 and 3 = Acres

2. Specify by Percent the Various Planning Areas Located within the Development Site:

Main Plan Planning Area: PA-1 PA-2 PA-3 PA-4 PA-4B PA-5 Total % Acres

Percent of Each Planning Area within Site:

NOTE: See User's Guide for Equivalent Zone Designations within NJ's Wetlands, Pinelands, and Highlands Districts

■ Target Percentage for Pass Value

Site Area	PA-1	PA-2	PA-3	PA-4	PA-4B	PA-5
0 - 2 Acres	60% - 80%	75% - 84%	80% - 89%	84% - 92%	89% - 98%	95% - 104%
2 - 10 Acres	69% - 80%	84% - 95%	89% - 100%	92% - 104%	98% - 100%	104% - 115%
>10 Acres	80%	95%	100%	104%	100%	115%

NSPS

- Points based on stormwater impact
 - Some landscapes and soils provide greater runoff attenuation or water quality benefit-
Wetlands and Riparian Areas – Forested Areas
- Some activities create more stormwater impacts
 - Impervious Areas – Direct piping of stormwater

General Input

NJDEP Nonstructural Strategies Points System (NSPS)

Version: January 31, 2006

Note: Input Values in Yellow Cells Only

Project:

Date:

User:

Notes:

- Project Information, Notes

Existing Conditions

- Existing Conditions
 - Establishes Existing Site Points
 - Land Use by Soil Type
 - Similar to TR55 Worksheet

Allowable Impervious Cover

B. Compare Proposed Impervious Coverage with Maximum Allowable Impervious Coverage:

Total Directly Connected Impervious Coverage =
 Total Unconnected Impervious Coverage with Small DS Perious =
 Total Unconnected Impervious Coverage with Large DS Perious =
 Total Site Impervious Coverage =
 Effective Site Impervious Coverage =

Specify Source of Maximum Allowable Impervious Coverage:

Allowable Site Impervious Cover from Maximum Impervious Cover Table:
 Note: See Maximum Impervious Cover Table Worksheet for Details

Allowable Impervious Cover

Maximum Impervious Cover Table				
Project: _____				
Total Site Area:		Acres	Date: _____	
Land Use Zone	Planning Areas PA-1 and PA-2		Planning Areas PA-3, PA-4, PA-4B, and PA-5	
	Maximum % Impervious	Zone Area (Acres)	Maximum % Impervious	Zone Area (Acres)
Single Family Residential				
1/8 Acres or Less	65%		12%	
Greater than 1/8 to 1/4 Acre	35%		12%	
Greater than 1/4 to 1/2 Acre	30%		12%	
Greater than 1/2 to 1 Acre	25%		12%	
Greater than 1 to 2 Acres	20%		12%	
Greater than 2 Acres	12%		12%	
Commercial	10%		10%	
Community	40%		12%	
Business	65%		12%	
Industrial	72%		12%	
Warehouse	72%		12%	
Multi-Family Residential	65%		12%	
Total Zone Area (Acres) =		0.0	0.0	
Maximum % Impervious =		0%	0%	

Impervious Areas

- Storm Sewer – Directly Connected
- Complies with Disconnection Criteria - Large Disconnection
- Disconnected with 10-25 DW Area – Small Disconnection
- Discharges to Drywell for GW Recharge Volume Compliance – Large Disconnection
- Vegetated Rooftops– Large Disconnection

Vegetated Conveyance

4. Describe Proposed Runoff Conveyance System:

Total Length of Runoff Conveyance System = Feet
 Length of Vegetated Runoff Conveyance System = Feet
 % of Total Runoff Conveyance System That is Vegetated =

	Feet
	Feet
	%

Points Subtotal:

- Vegetated Conveyance that Replaces Storm Sewer System, Not Added to the End of the System
- Total Conveyance – All the Stormwater System on Site
- Upper Limit of Conveyance Defined by DA
 - Impervious DA \geq 0.1 Acre
 - (Impervious DA * 10) + Pervious DA \geq 1 Acre

Cluster

5. Clustering:

Percent of Total Site Area that will be Clustered =
 Maximum Standard Lot Size on the Zoning (Min: 1/2 Acre or Greater) =
 Maximum Proposed Cluster Lot Size (Max: 1/4 Acre or Less) =
 Percent of Clustered Portion of Site that will be Preserved as Vegetated Open Space =
 (Min: 25% or Greater. Exclude Environmentally Sensitive Areas)

	% of Site
	Acre
	Acre
	% of Clustered Site Portion

Points Subtotal:

- Created Definition of Cluster for NSPS Only
 - Portion of Site to Be Clustered
 - Min Standard Lot Size: 1/2 Acre
 - Max Cluster Lot Size: 1/4 Acre
 - Portion of Cluster As Permanent Vegetated Open Space: Min 25%
 - Exclude Areas Undevelopable Due to Regulations

Other Nonstructural Strategies

7. Will the Following be Utilized to Minimize Soil Compaction?

Proposed Lawn Areas will be Graded with Lightweight Construction Equipment = (Yes or No)
 Percent of Proposed Lawn Areas to be Graded with Such Equipment = % of Lawn Areas

Note: See User's Manual for Details on Proposed Grading Procedures and Equipment

Points Subtotal:

- Compaction
 - Note on Plans
 - Grading with Lightweight Equipment
 - Noncompliance – Agree to Modify to 18 Inches
 - Municipal Inspector Needs to Be Educated
 - Being Modified to Address the Lawn in Comparison to Site

Results

Total Proposed Site Points:	342
Ratio of Proposed to Existing Site Points:	61%
Required Site Points Ratio:	82%
Nonstructural Point System Results:	

Not A Denial, But Requirement For Additional Analysis

242 Acre Commercial Development

Existing Conditions

Existing Points: 340

Land Use/Land Cover Description	HSG B
Wetlands and Undisturbed Stream Buffers	5.0
Lawn and Open Space	106.0
Meadow, Pasture, Grassland, or Range	43.0
Woods - Indigenous	23.0
Directly Connected Impervious	30.0

Target Values for PAs

PA1	80%	272
PA2	95%	323
PA3	100%	340
PA4	104%	354
PA4B	109%	371
PA5	115%	391

242-Acre Commercial Proposed 1

Land Use/Land Cover Description	HSG B
Wetlands and Undisturbed Stream Buffers	5.0
Lawn and Open Space	106.0
Meadow, Pasture, Grassland, or Range	43.0
Woods - Indigenous	23.0
Directly Connected Impervious	30.0

- 47% Vegetated Conveyance
- PA 1-2: 85% Max Imp
- PA 3-5: 12% Max Imp

Planning Area Targets			
PA1	272	PA4	354
PA2	323	PA4B	371
PA3	340	PA5	391

Strategy	PA1, PA2	PA3 Through PA5
Land Use / Land Cover	287	287
Impervious	47	0
Disturbance	0	0
Cluster Development	0	0
Conveyance	81	81
Performance Standards	0	0
Compaction	0	0
TOTAL	388	348

Next Steps

- Looking at Point Revisions at Impervious Less than 10/12% in PA3 – PA5
- Additional Descriptions and Flags to Address Common Errors

Common Errors

- Specifies the Use of Porous Pavement where there is no Distributor
- Connected Impervious Coded as Disconnected
- Discharge to a Conveyance (Swale) Coded as Disconnected
- Assume 100% Allowable Disturbance When No Max Disturbance Exists

Common Errors

- Estimates Max Allowable Disturbance Based on Other Municipal Ordinances
- Incorrect Values for Total Stormwater Conveyance
- Incorrect Value for Vegetated Conveyance
- Conveyance Not Based in Inflow Drainage Area

Common Errors

- Uses Municipal Clustering Definition, Not User Guide Definition
- Assumes All Lawn Can Be Graded with Lightweight Equipment Regardless of Slope
- Assumes Compliance with Municipal Zoning is Automatic Compliance with Nonstructural Requirements
- Didn't Read User Guide

Information

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GIS website: <http://www.state.nj.us/dep/gis/>
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