Site-Scale
Stormwater Management Problems & Practices

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NHDES
NH Homeowner’s Guide &
Soak Up the Rain NH

- Why
- How
  - Property assessment
  - 10 Stormwater Solutions

“Low Impact Development OR Green Infrastructure OR Stormwater BMPs”
This session:

Site Assessment

Stormwater Solutions

Game Time

Project Considerations
Site-Scale Stormwater Solutions

-structural

-good housekeeping
Infiltration Practices

- Rain Garden
- Dripline Trench
- Driveway Trench
- Infiltration Steps
- Porous Pavers
- Dry Well
Dripline Infiltration Trench

A stone-filled trench around the perimeter of a building.
Driveway Infiltration Trench

A stone-filled trench along the perimeter of your driveway.
Dry Well

A hole in the ground filled with stone.
Infiltration Steps

Stabilize sloped paths, reduces erosion.
Porous Pavers

Stone reservoirs under pavers.
Rain Garden

A sunken, flat-bottomed garden
Additional Practices

- Swale
- Rain Barrel
- Water Bars
- Vegetated Buffer
Rain Barrel

A container that captures and stores rainwater from a roof for later use.
Water Bar

Intercepts and diverts water traveling down paths.

Rubber razor
Vegetated Swale

A vegetated channel with or without checkdams.
Vegetated Buffer

A buffer is a vegetated area along a waterbody.
Questions?
Comments?
Site Assessment

Impervious Surfaces:
- Roofs
- Driveways, Parking Areas
- Walkways
- Decks & Patios

Lawn & Landscaped Areas:
- Source or Sink?

Undisturbed Areas:
- Natural buffers
- Wooded Areas

Surrounding Areas
- What’s it doing?
Site Assessment

Follow the Flow

1. Where does it come from?
2. Where does it end up?
3. Does it cause any problems along the way?
Site Assessment – Follow the Flow
Site Assessment – Follow the Flow
Site Assessment – Follow the Flow
Site Assessment - Problems

erosion
Site Assessment - Problems

moving material
Site Assessment - Problems

Signs of fertilizer reaching lake
Site Assessment – Soil Tests

Soil Infiltration Test

1. Dig a hole 12” deep.

2. Fill it with water. Let drain. Fill again.

3. Note water level & time.

Ideally want the hole to drain in 24 hours (or at least 0.5”/hr)
Site Assessment – Soil Tests

Soil Ribbon Test

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Ribbon Length (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sand</td>
<td>soil does not form a ribbon at all</td>
</tr>
<tr>
<td>silt</td>
<td>a weak ribbon &lt;1.5” is formed before breaking</td>
</tr>
<tr>
<td>clay</td>
<td>a ribbon &gt;1.5” is formed</td>
</tr>
</tbody>
</table>
Site Assessment – Soggy Test

Is it:

Soggy?

Squishy?

Spongy?

If "yes", then say “no” to infiltration practices

https://blog.lawneq.com/lawn-too-much-water/

https://www.youtube.com/watch?v=Xqew1YfSEmE

https://www.pinterest.com/landscapeew/soggy-lawn-wet-backyard-see-before-after-photos/?lp=true
Questions?
Comments?
Project Considerations

1. Will the soils soak up the rain?
2. Are there special site constraints?
3. Will it “fit” the location
4. What does the property owner want?
Will the soils soak up the rain?

#1 Rule: Do the infiltration test!

Why do I have a puddle in my yard days after the rain has stopped? Will a rain garden help?

NO!!
Site Constraints

Property setbacks and Right-of-Way.
Underground utilities.
Water well, septic tank, leach field
Roots and rocks
Steep slopes (<12°)
Sun/shade
High water table
Will the practice “fit”?
What does the homeowner want?

Preferences & Concerns

- Beautify?
- Gardeners?
- Utility?
- Out of sight?
Game Time: What Makes Sense?
What makes sense here?

Dripline
Infiltration Trench
What makes sense here?

Infiltration Steps
What makes sense here?

Water Bars
What makes sense here?

Rain Garden
What makes sense here?
This Field Packet contains the information needed to complete a screening and design assessment for potential SOAK projects including:

1. Instructions
2. Site Screening Field Sheet
3. Design Field Sheet

Instructions
Review these instructions before conducting SOAK field assessments.

SITE SCREENING FIELD SHEET
Purpose: Complete the Site Screening field sheet to determine if a property has potential for a SOAK project.

RECORDING TABLE
Use the Recording Table to track multiple stormwater issues on the site and information associated with each area as you work through the field packet.

COMMON STORMWATER PROBLEMS
- Flooding and/or persistent wet areas
- Water in basement
- Erosion - bare soil, exposed rocks, rill/gully formation along path of stormwater flow
- Large amount of stormwater runoff to drainage system or waterbody
- Known or suspected pollutants running off of property - fertilizer or lawn chemicals are applied or pet waste seen at the property
Questions?
Comments?
Site Assessment this Afternoon

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