Presentation Goals

Goals

• Review site plans and stormwater management report
• Identify any errors with the design
• Suggest potential solutions
Determining Applicable Design & Performance Standards

Does the Development

- Trigger the municipality’s SCO?
- Disturb one acre or more?
- Increase impervious coverage by ¼ acre or more?
Municipal Stormwater Control Ordinance:

- Major Development:

  “Any development that provides for ultimately disturbing one or more acres of land or would create \( \frac{1}{4} \) acre or more of impervious surface.”
Where are the pre-construction conditions?

- Important in determining the requirements

- Existing land cover

- Has the existing land cover existed for the past 5 years?
Pre-Development Site Condition
Pre-Development Site
Aerial Photo 2007
A runoff coefficient for existing conditions...

May be used if the design engineer verifies that the hydrologic condition *has existed on the site for at least five years*

**If more than one land cover has existed...**

During the five years immediately prior to the time of applications, the land cover with the *lowest runoff potential* shall be used for the computations.
Which has the lowest runoff potential?
What does this mean for stormwater management of the site?
### Stormwater Management Report

#### Based on 2007 conditions...

<table>
<thead>
<tr>
<th>Coverage Item</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof &amp; Paved Driveway</td>
<td>60,342 sf</td>
</tr>
<tr>
<td>Gravel</td>
<td>6,495 sf</td>
</tr>
<tr>
<td>Lawn</td>
<td>4,664 sf</td>
</tr>
</tbody>
</table>

#### Based on 2012 conditions...

<table>
<thead>
<tr>
<th>Coverage Item</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof &amp; Paved Driveway</td>
<td>46,342 sf</td>
</tr>
<tr>
<td>Gravel</td>
<td>6,495 sf</td>
</tr>
<tr>
<td>Lawn</td>
<td>18,664 sf</td>
</tr>
</tbody>
</table>

#### Proposed Coverage

<table>
<thead>
<tr>
<th>Coverage Item</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof &amp; Paved Driveway</td>
<td>59,626 sf</td>
</tr>
<tr>
<td>Gravel</td>
<td>0 sf</td>
</tr>
<tr>
<td>Lawn</td>
<td>11,875 sf</td>
</tr>
</tbody>
</table>
Based on 2007 conditions...

- Impervious coverage was reduced, the time of concentration was maintained
- The post-construction hydrographs did not exceed the pre-construction hydrographs
- Water quantity was met
- Water quality was not required
- No groundwater recharge was required
Based on 2012 conditions...

- Impervious coverage was increased by greater than ¼ acre, time of concentration was decreased
- Water quantity was not met
- Water quality was required
- Groundwater recharge was required
Post-Development Site

[Diagram showing a site plan with various annotations such as 'Limit of Postdevelopment Drainage Area = 1.6 Ac.', 'Point of Analysis', '153 L.F. Pipe Flow', '200 L.F. Shallow Concentrated Flow Pavement', '100 L.F. Sheet Flow Pavement', and soil type 'UdagB: Urban Land, complex, 0-8% slopes'.]
What are some ways to meet the requirements?

- Water quantity:
  - Underground detention system

- Water quality?
  - Green infrastructure
Post-Development Site