General Compliance Training
Agenda

• 9:00 – 9:15  Intro/Welcome
• 9:15 – 9:30  Chapter 2, including MSI and MLD
• 9:30 – 10:00 SWRv Calculations
• 10:00 – 10:30 CDA vs. SDA
• 10:30 – 10:45 Break
• 10:45 – 12:00 Chapter 3 Specifications
• 12:00 – 1:00  Lunch
• 1:00 – 1:30  Offv and SRCs
• 1:30 – 2:00  Plan Submittal Process and SWDB
• 2:00 – 2:30  Detention Example
• 2:30 – 3:00  PROW to the MEP
Objectives

• Know when the stormwater rules apply
• Calculate the SWRv for a site
• Understand the difference between SDA and CDA
• Understand the basic concepts of the BMPs in the Guidebook and the important design specifications
• Understand PROW to the MEP
• Know what Offv is and how to comply
• Understand the overall process to have a plan approved
• Know what the SWDB is and how to access
• Understand when detention is required
Stormwater Management Requirements

Chapter 2
What is Retention and Why Do We Care?
Stormwater Retention Volume

\[
SWRv = \frac{P}{12} \times (Rv_I \times I + Rv_C \times C + Rv_N \times N) \times 7.48
\]

- **SWRv** = Volume required to be retained on site (gal)
- **P** = Precipitation (in)
- **Rv_I** = 0.95 (runoff coefficient for impervious cover)
- **Rv_C** = 0.25 (runoff coefficient for compacted cover)
- **Rv_N** = 0.0 (runoff coefficient for natural cover)
- **I** = impervious cover surface area (sf)
- **C** = compacted cover surface area (sf)
- **N** = natural cover surface area (sf)
When Stormwater Rules Apply

Major Land-Disturbing (MLD) Activity

Activity that disturbs, or is part of a common plan of development that disturbs, 5,000 square feet or greater of land area, and either or both:

a) Any portion of the pre-project land cover is natural; and/or

b) 2,500 square feet or greater of the post-project land cover is impervious or BMP area.
When Stormwater Rules are in Effect

Major Substantial Improvement (MSI) Activity

- Construction costs for building renovation/addition are greater than or equal to 50% of the pre-project assessed value of the structure.
- AND Combined footprint of structure(s) exceeding the cost threshold and any land disturbance are greater than or equal to 5,000 square feet, and either or both:
  a) Any portion of the pre-project land cover is natural; and/or
  b) 2,500 square feet or greater of the post-project land cover is impervious or BMP area.
Determining if the Minimum SDA Requirements Are Met

Begin

Does the SDA drain to the combined sewer system?

- Yes: There are no minimum requirements for SDAs
  - Minimum requirements are met to the MEP

- No: Is this a PROW drainage area?
  - Yes: Is the MEP Process used?
    - Yes: Are there vehicular access areas?
      - Yes: Does 100% of the VAA drain to BMPS?
        - Yes: Minimum requirements are met.
        - No: Is 50% of the SWRV for the SDA retained or treated?
          - Yes: Minimum requirements are met for this SDA
          - No: Minimum requirements are not met.
    - No: Is 50% of the volume from the VAA retained or treated?
      - Yes: Minimum requirements are met for this SDA
      - No: Minimum requirements are not met.
Determining if Minimum Retention and Water Quality Treatment Requirements Are Met
Examples of Major Substantial Improvement

Example 1 Site

Existing Building
5,000 ft²

Building Footprint = 5,000 ft²
Assessed Property Value = $1,500,000
Renovation Cost = $750,000
Percent of Property Value = 50%

Land Disturbance Area = 0 ft²
Total Project Footprint = 5,000 ft²
Activity Type = Major Substantial Improvement
SWRv Rainfall Depth = 0.8 inch
Examples of Major Substantial Improvement

**Example 2 Site**

- **Existing Building A**
  - 4,000 ft\(^2\)

- **Existing Building B**
  - 1,000 ft\(^2\)

**Building A Footprint** = 4,000 ft\(^2\)
- **Assessed Property Value A** = $750,000
- **Renovation Cost A** = $500,000
- **Percent of Property Value A** = 67%

**Building B Footprint** = 1,000 ft\(^2\)
- **Assessed Property Value B** = $300,000
- **Renovation Cost B** = $175,000
- **Percent of Property Value B** = 50%

**Land Disturbance Area** = 0 ft\(^2\)

**Total Project Area** = 5,000 ft\(^2\)

**Stormwater Management is required:**
- **Activity Type** = Major Substantial Improvement
- **SWRv Rainfall Depth for Project** = 0.8 inch
Examples of Major Substantial Improvement

**Example 4 Site**

- **Existing Building**: 4,000 ft²
- **Compacted Cover**: 1,000 ft²

**Building Footprint** = 4,000 ft²
- **Assessed Property Value** = $800,000
- **Renovation Cost** = $400,000
- **Percent of Property Value** = 50%

**Land Disturbance Area** = 1,000 ft²
- **Total Compacted Cover Area** = 1,000 ft²

**Total Project Footprint** = 5,000 ft²

- **Post-Project Impervious cover** = 4,000 ft² > 2,500 ft²
- **Activity Type** = Major Substantial Improvement
- **SWRv Rainfall Depth for Project** = 0.8 inch
Examples of Major Substantial Improvement

**Example 9 Site**

- **Existing Building**
  - 4,000 ft²

- **PROW Land Disturbance Area**
  - 1,000 ft²

**Building Footprint** = 4,000 ft²
- **Assessed Property Value** = $700,000
- **Renovation Cost** = $350,000
- **Percent of Property Value** = 50%

**Land Disturbance Area** = 1,000 ft²
- (Includes PROW = 1,000 ft²)

**Total Project Footprint** = 5,000 ft²

**Activity Type for Building** = Major Substantial Improvement

**Activity Type for Land Disturbance** = Major Substantial Improvement

**SWRv Rainfall Depth for Building** = 0.8 inch

**Building Area** = 4,000 ft²

**SWRv Rainfall Depth for PROW Land Disturbance** = 0.8 inches (MEP)

**PROW Land Disturbance Area** = 1,000 ft²
Example of Major Substantial Improvement and Major Land Disturbance

Example 5 Site

**Building Footprint** = 4,000 ft²  
Assessed Property Value = $800,000  
Renovation Cost = $400,000  
Percent of Property Value = 50%

**Land Disturbance Area** = 7,000 ft²  
Total Compacted Cover = 4,000 ft²  
Total Impervious Cover = 3,000 ft²

**Total Project Footprint** = 11,000 ft²

**Activity Type for Building** =  
Major Substantial Improvement

**Activity Type for Land Disturbance** =  
Major Land Disturbing

**SWRv Rainfall Depth for Building** = 0.8 inch

**Building Area** = 4,000 ft²

**SWRv Rainfall Depth for Land Disturbance** = 1.2 inches

**Land Disturbance Area** = 7,000 ft²
Example of No Stormwater Regulated Activity

**Example 13 Site**

- **Existing Building**: 5,000 ft²
- **Impervious Cover**: 2,000 ft²
- **Compacted Cover**: 4,000 ft²

**Building Footprint**: 5,000 ft²
- **Assessed Property Value**: $500,000
- **Renovation Cost**: $200,000
- **Percent of Property Value**: 40%

**Land Disturbance Area**: 6,000 ft²
- **Total Compacted Cover**: 4,000 ft²
- **Total Impervious Cover**: 2,000 ft²

**Total Project Footprint**: 11,000 ft²
- **Activity Type for Total Project**: N/A
Quantity Control Requirements:

• 2-year storm: control peak discharge to pre-development conditions.

• 15-year storm: control peak discharge to pre-project conditions.
Exemptions and Practicability

**Exempt**
- Detention for Major Substantial Improvement
- Disturbance for BMP Installation
- Athletic Playing Fields, Permeable Athletic Tracks, and Permeable Playground Surfaces
- Utility Work

**Practicable Process**
- Affordable Housing
- Trails
- Small Structures at Parks