Case Studies in Connecticut & Other New England States

Presentation to NEWMOA
November 6, 2019

Outline

1. Overview
2. Montgomery Mill, Windsor Locks, CT
3. I-195 Redevelopment District, Providence, RI
4. Lexington Fire Station, Lexington, MA
5. 78 Fountain Street, Providence, RI
### Overview - Conflicting Objectives

<table>
<thead>
<tr>
<th>Remediation Goals</th>
<th>Stormwater Goals</th>
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<tbody>
<tr>
<td>• Limit off-site soil disposal</td>
<td>• Excavate for stormwater structures</td>
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<tr>
<td>• Maximize separation to contaminants</td>
<td>• Reduce impervious area to decrease runoff</td>
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<tr>
<td>• Limit leaching and dissolved migration</td>
<td>• Promote infiltration and groundwater recharge</td>
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<td>• Re-use soil on-site</td>
<td>• Import freely draining soil</td>
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<tr>
<td>• Keep construction costs low and the client happy</td>
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### Overview - Site Feasibility

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<th>Remediation</th>
<th>Stormwater</th>
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<tbody>
<tr>
<td>• Review environmental files</td>
<td>• Review existing information</td>
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<tr>
<td>• Perform Phase I ESA</td>
<td>• Check local regulations</td>
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<td>• Review historic mapping</td>
<td>• Perform initial stormwater calculations</td>
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<tr>
<td>• Identify RECs</td>
<td>• Identify BMP locations</td>
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<td>• Coordinate REC locations with Stormwater Engineer</td>
<td>• Coordinate locations with Environmental Engineer</td>
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Overview - Design Considerations

• Remediation
  – Perform Phase II ESA with emphasis on BMP areas
  – Identify and delineate contaminated areas
  – Identify soil removal areas
  – Coordinate with Stormwater Engineer

• Stormwater
  – Excavate test pits to evaluate subsurface conditions
  – Perform necessary design calculations
  – Locate and size BMPs to handle stormwater
  – Coordinate with Environmental Engineer

Montgomery Mill, Windsor Locks, CT
Montgomery Mills – Windsor Locks, CT

Historic Conditions

• Historic manufacturing mill, 200 plus years of industrial history
• Between Windsor Locks Canal and Connecticut River

Montgomery Mills – Windsor Locks, CT

Existing Conditions – Typical CT Brownfield

• Sat vacant in center of town for decades
• Heavily vandalized, half of the facility burned to the ground
Montgomery Mills – Windsor Locks, CT

The Master Plan

• Unknown soil/groundwater conditions, unfulfilled regulatory obligations
• Extensive hazardous building materials in damaged condition
• Traffic nightmare, rail-road right away, multiple intersections
Montgomery Mills – Windsor Locks, CT

Environmental Investigations
• Town obtained $200,000 DECD brownfield grant to investigate and quantify unknown liabilities
• Through focused investigation, active remediation was limited to removal of 100 tons of fire debris
• Managed all impacted soil in place
• Obtained DECD Brownfield funding of $4 Million to address extensive hazardous building material issues

Montgomery Mills – Windsor Locks, CT
I-195 Redevelopment District: One Mile of Opportunity

Development and Park Parcels
**Common Goals and Permitting Approach**

Develop creative Environmental Remediation and Stormwater Management permitting strategies to:

1. Maximize property value and marketability
   - Minimize uncertainties for developers
   - Minimize permitting times
   - Maximize developable space
2. Expedite development
3. Facilitate swift economic impact
4. Protect human health and the environment
5. Conserve natural resources
6. Create urban green space

**Multi-Disciplinary Coordination**

- **RIDEM**
  - Office of Waste Management
    - State Site Remediation Program
    - Underground Storage Tank Program
  - Office of Water Resources
    - RIPDES Program
    - Water Quality Certification Program
  - Office of Customer & Technical Assistance
    - Pre-application assistance
    - Streamlined approach
- **RIDOT**
  - Owner and operator
  - Road re-creation & utility alignment
- **Commerce RI**
  - Company recruitment
  - Job creation
- **I-195 Commission**
  - Sale, marketing, and oversight authority
- **CRMC**
  - Onsite storm water management
  - Coastal features & green space
- **Federal Highway Administration**
  - Sale money -> development of utilities and street alignments
- **City of Providence**
  - Individual building permits
  - Catch basin maintenance, curb cuts, storm water management in streets
- **Utilities**
  - NBC
  - National Grid
  - Providence Water Authority
  - Telephone
Environmental Assessment and Remediation

Master Plan Approach - District wide strategy

Environmental Results

- District wide urban fill
- Petroleum VOC in GW
- Chlorinated VOC in GW
Stormwater Management

Conventional Regulatory Process:
- RIDEM
  - Water Quality Certification
  - RIDEM Underground Injection Control
  - RI Pollutant Discharge Elimination System
- City Stormwater Ordinance
- Coastal Resource Management Council
- Narragansett Bay Commission Connections
- 90+/- day review period per development

Stormwater Management

Conventional process requires each development to manage stormwater on site
- Stormwater design vs. urban design
- Decreases density
- Adds to site constraints
- Hinders development flexibility
Stormwater Management

Master Plan Regulatory Approach:
- District-wide stormwater treatment volume
- Allows stormwater BMPs to be installed anywhere within or even outside the district to bank credit
- Expedited development review process (30 days)

Stormwater Strategy - Shared Controls
End Result

- Quantify remediation cost and obligations
- Provide maximum stormwater management flexibility
- Drastically reduce permitting times
- Increase property values and marketability
- Facilitate rapid development and economic stimulus
Development and Park Parcels

Wexford Providence Innovation Center
Chestnut Commons

Lexington Fire Station, Lexington, MA
Design Considerations

Permitting & Construction
Permitting & Construction

Design Considerations
Permitting & Construction

78 Fountain Street, Providence, RI
Before Redevelopment

Subsurface Conditions
Ground Improvements

Stormwater Management Plan
Green Stormwater Infrastructure – Tree Filters

Tree Filter Installation
Green Roof Courtyards

Green Roof Courtyards
Current Construction Status

Questions?

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