Meadow Creek Projects

Stream Restoration &
RWSA Sewer Interceptor Replacement

November 16, 2009
Key Topics

• General Context
• Project Goals and Basic Facts
• Maps
• Timeline
• Project Management and Communication
• Easement Requests
General Orientation

Meadow Creek Watershed
RWSA Interceptor Upgrade and Meadow Creek Stream Restoration Project Areas

Begin RWSA Interceptor Project Area

Meadow Creek Stream Restoration Project Area

End RWSA Interceptor Project Area

Legend:
- Stream Restoration Project Area
- Existing Stream
- Meadow Creek Conceptual Design
- Trail
- City Boundary
- Existing Sewer Interceptor
- Proposed New Sewer Interceptor
- Permanent RWSA Easement
- Permanent RWSA Access Road
- Temporary RWSA Construction Easement

Scale: 0 - 500 - 1,000 Feet
Meadow Creek Stream Restoration Project

**Project Summary**

Increased sedimentation, due in part to uncontrolled stormwater runoff, stream bank erosion, and the lack of forested buffers in riparian areas, poses a serious threat to the health of Meadow Creek and the Rivanna River. Meadow Creek has been selected to undergo a major restoration to address this threat. The restoration will begin behind Seminole Square Shopping Center and will extend through Greenhrier Park. The restoration will result in a stabilized stream and improved water quality, as well as enhanced aquatic and forest habitats and aesthetic values.

- $3.7M in approved funding from Virginia Aquatic Resources Trust Fund (VARTF)
- Over 8,500 linear feet of Meadow Creek involved (~1.6 miles) plus additional 1,800 linear feet of tributaries
- Protection of over 73 acres of forest and wetland
- Parkland expansion through anticipated land donations
- Status: Conceptual → Final and Construction
Meadow Creek Stream Restoration Project

Project Goals

• Decrease sedimentation
• Enhance/establish forested riparian buffers
• Improve in-stream habitat
• Permanent protection
• Education
Meadow Creek Restoration Project:
Conceptual Design (including portion of RWSA interceptor upgrade project)
Examples of the Construction Phase Activities

- Reshape banks
- Add/reshape meander bends
- Reconnect stream to floodplain
Improve In-stream Habitat (part of construction phase)
Forest & Buffer Enhancement Activities

- Limit removal of trees to those in portions of the new stream channel and those that are invasive or damaged and likely to fall into the stream.
- Plant trees and other vegetation, especially in the buffer area and portions of the old stream channel.
Permanent Protection and Education

- Establish permanent conservation easements over project area
- Establishment of permanent trails
- Contribute to overall conservation efforts in the Rivanna watershed
- Demonstration project
- Engage students and volunteers
Meadow Creek Restoration Project:
City of Charlottesville Conservation Easement Lands
Example Stream Restoration Project: Kingstowne (NoVA)

Before

During

After
Example Stream Restoration Project: Donaldson Run (NoVA)

Section of Donaldson Run in Zachary Taylor Park – about 1 year after restoration
Example Stream Restoration Project:
Azalea Park (Charlottesville, VA)

Before

During (2000)

After (2003)

Recent (2009)
Trails

- ADA accessible / Multi use trail
- Consistent with Bike/Ped/Trail Plan
- Crushed stone surface
- Bridge to remain – relocate slightly
- Boardwalk for wetland access
- Railroad underpass proposal
- 250 Bypass/McIntire connections
- Primitive trails anticipated
Trails

Schenks Greenway

Trees should be located more than 10 feet from sewer lines to minimize root intrusion.
Historical View of Project Area

1974
Meadow Creek Restoration Project:
Conceptual Design (including portion of RWSA interceptor upgrade project)
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Conceptual Design (including portion of RWSA interceptor upgrade project)
The design of the replacement of the Meadow Creek Wastewater Interceptor continues to move forward. The primary objective of RWSA’s design consultant within the past 60 days has been to complete modifications to the project design to reflect the recent requests of the City of Charlottesville (City) and the Albemarle County Service Authority (ACSA). A revised design is expected in early July; after which further review time will be provided for any final comments by the City and ACSA. A period between early July and mid-August will also be favorable for review with interested citizens. The bidding of the project is anticipated by September, and the award of a construction contract is currently anticipated to occur by October.
Meadow Creek Interceptor

PROJECT DETAILS

- Approximately 23,760 linear feet (~4.5 miles) of pipe
- Built in 1954 by the City of Charlottesville
- Conveyed to RWSA in 1973 through a four-party agreement
- Currently conveys wastewater to the Moores Creek Wastewater Treatment Plant
- Estimated Total Project Cost is ~$30 million
Serves City, UVA and County customers where they live, work and play...
Key Facts of Existing Pipe:

- Conveys 4 to 5 million gallons of wastewater daily (60% City and 40% County customers)
- Current Diameter Ranges from 21”-36” in diameter (to be upgraded to 30”-48”)
- Pipe types include clay pipe, clay tile lined concrete pipe and ductile iron pipe stream crossings
- Current sewer line to be abandoned in place
Why does the existing pipe need to be replaced?

- Minimize Sewer Overflows to Meadow Creek
- Provide Reliable Capacity (including wet weather flows)
- Address Deteriorated Infrastructure (broken pipes, root intrusion, etc.)
Stream Migration & Erosion
Ongoing Project Coordination With...

- VDOT for the Meadow Creek Parkway and McIntire Extended projects
- City and The Nature Conservancy for the Meadow Creek Stream Restoration Project
- City Parks and Recreation for work in Pen Park Golf Course and Greenbrier Park
- City Trails and Rivanna Trails Foundation
Typical Construction Activities

Norfolk Southern RR Emergency Repair

Banbury Street Emergency Repair

Holmes Avenue Emergency Repair
Easement Clearing

Initial Clearing
(May 2007)

14 months later with re-growth and maintenance mowing
(July 2008)
Example - Site Restoration at Holmes Avenue Repair

During Construction
(May 2006)

After Construction
(July 2006)
Example - Site Restoration at Tarleton Road Repair

During Construction
(Sept 2005)  

After Construction
(Sept 2008)
Example - Site Restoration at Banbury Street Repair

During Construction  
(Dec 2006)

After Construction  
(Sept 2008)
Core Project Purpose

- Provide the community with reliable sewer service into the future
- Restore deteriorated infrastructure
- Minimize costly emergency repairs
- Enhance and protect the environment and public health
Meadow Creek Projects Timeline

- **Fall 2009**: Finalize utility easement on City parcels
- **Winter ’09/’10**: RWSA sewer interceptor project
- **Spring 2010**: Stream Restoration Project
- **Summer 2010**: Complete final stream design
- **Fall 2010**: Project construction (Area A & B concurrent)
- **Winter ’10/’11**: Complete permitting process
- **Spring 2011**: Project completion (re-vegetation)

**NOTE**: Construction of these projects occurs in a linear fashion. It does not occur at any one location for the duration of the project construction period.

- Area A is east of the railroad
- Area B is west of the railroad
Anticipated Issues for Project Consideration and Coordination

- Children and school access
- Daily travel routines and traffic disruptions
- Noise and work hours
- Management and enhancement of vegetation
- Temporary trail and park closures and detours
## Park Impacts

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<th>With MC projects</th>
<th>Without MC projects</th>
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| **Stream System**| • Stabilized stream banks  
|                  | • Reduced erosion and sedimentation  
|                  | • Improved habitat  | • Unstable stream banks - ongoing erosion and sedimentation  
|                  | • Stream migration and threat to sewer line  |                                                                                  |
| **Sewer System** | • Reliable sewer service with improved infrastructure  
|                  | • Enhance and protect public health and the environment  | • Expect continued sewer overflows to park and creek  
|                  |                                                                                   | • Unreliable capacity  
|                  |                                                                                   | • Continued system deterioration and emergency repairs  |
| **Parkland Protection** | • Permanent conservation easement | • Part of the Park System |
| **Vegetation**   | • Limited clearing of vegetation in project corridors  
|                  | • Maintenance of utility easement corridor  
|                  | • Revegetation of stream corridor  
|                  | • Invasive species management  | • Limited invasive species management  
|                  |                                                                                   | • Continued evolution of existing forest  
|                  |                                                                                   | • Anticipated tree loss due to stream migration  |
Communications – To Date

- Staff from RWSA, City, and TNC coordinated during the design phases of both projects to ensure compatibility
- Communication with neighbors in the form of presentations, neighborhood meetings, project websites, project update mailings

http://www.charlottesville.org/meadowcreek
http://www.rivanna.org/meadowcreek.htm
Communications – Moving Forward

- Specific language in the contracts addresses public outreach, coordination between contractors, and ongoing involvement of appropriate stakeholders.
- Website updates
- Updated mailings
- Public information sessions at key project milestones
- Regular meetings with project team representatives will continue to ensure effective communication and coordination between the two projects.
- The three primary project teams have committed to fielding questions about the projects in this corridor.
RWSA Interceptor Upgrade and Meadow Creek Stream Restoration Project Areas

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