Northlake Apartments, Germantown View and Watkins Meadow

Stormwater Management Projects

July 29, 2014 Public Meeting

Montgomery County Department of Environmental Protection
Watershed Management Division

Department of Environmental Protection
Montgomery County Maryland

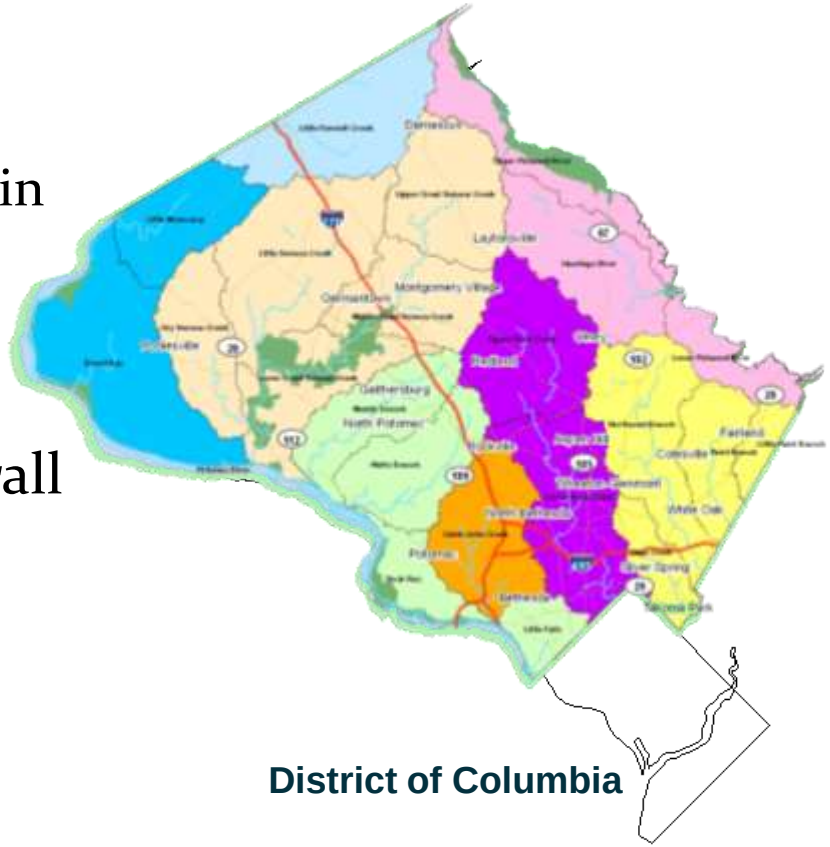
CPJ Associates

Today's Agenda

- Introductions
  - **Doug Marshall– Watershed Planner; Montgomery County DEP**
  - **Zainab Nejati – Project Manager; Montgomery County DEP/JV**
  - **Mike Lichty – Project Engineer; Montgomery County DEP**
  - **Jeff Blass – Project Designer; Charles P. Johnson & Associates, Inc.**
- Background Information – Why County is Doing This
- Stormwater Management Overview
- Project Objectives
- Project Costs and Benefits
- Design and Permitting Timeline
- What to Expect During Construction

Montgomery County, MD

- 500 sq. miles
- 1,000,000 people
  - Second only to Baltimore City within Maryland in average people per square mile
  - 184 languages spoken
- About 12% impervious surface overall
  - About the size of Washington DC
- Over 1,500 miles of streams
- Two major river basins:
  - Potomac
  - Patuxent
- Eight local *watersheds*



Impervious: Not allowing water to soak through the ground.

What is a Watershed?

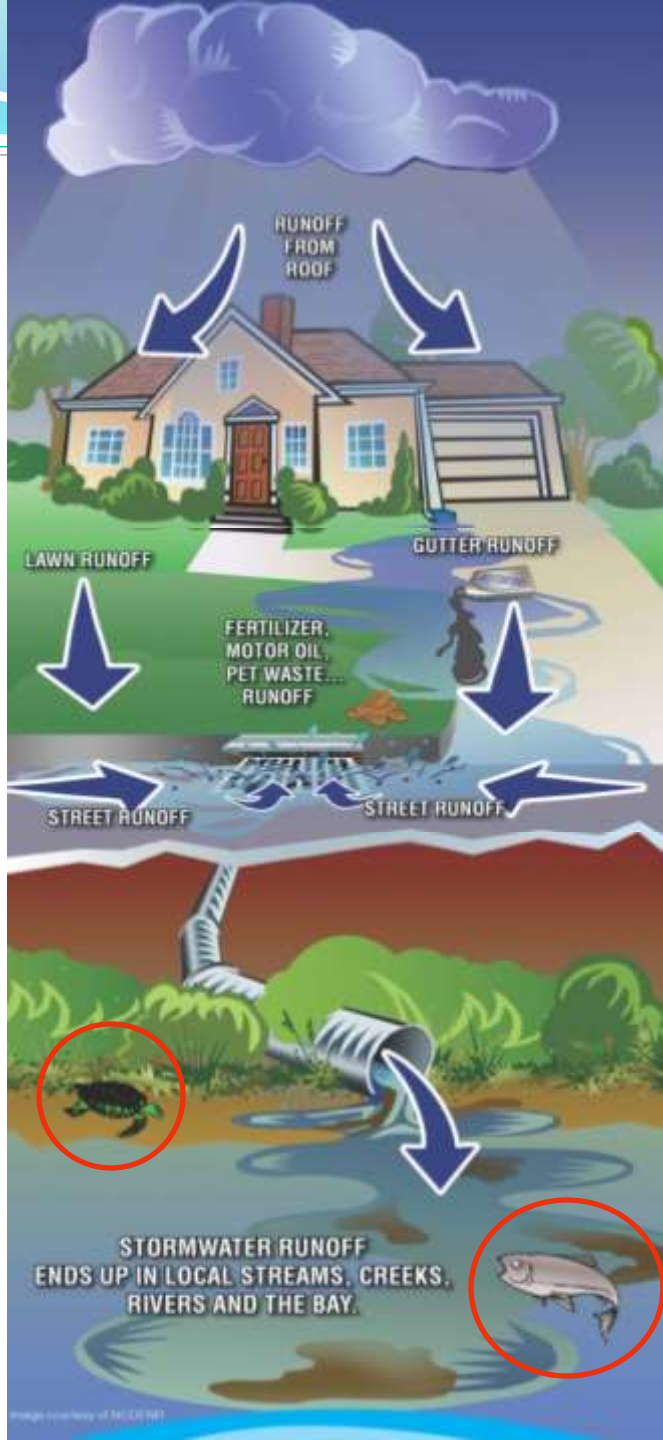
- A ***watershed*** is an area from which the water above and below ground drains to the same place.
- Different scales of watersheds:
  - Chesapeake Bay
  - Eight local watersheds
  - Neighborhood (to a storm drain)

What is Runoff?

Water that does not soak into the ground becomes surface runoff. This runoff flows over hard surfaces like rooftops, driveways and parking lots collecting potential contaminants and flows:

- **Directly into streams**
- **Into storm drain pipes, eventually leading to streams**
- **Into stormwater management facilities, then streams**

Two Major Issues:
Volume/Timing of Runoff
Water Quality



Watershed 101

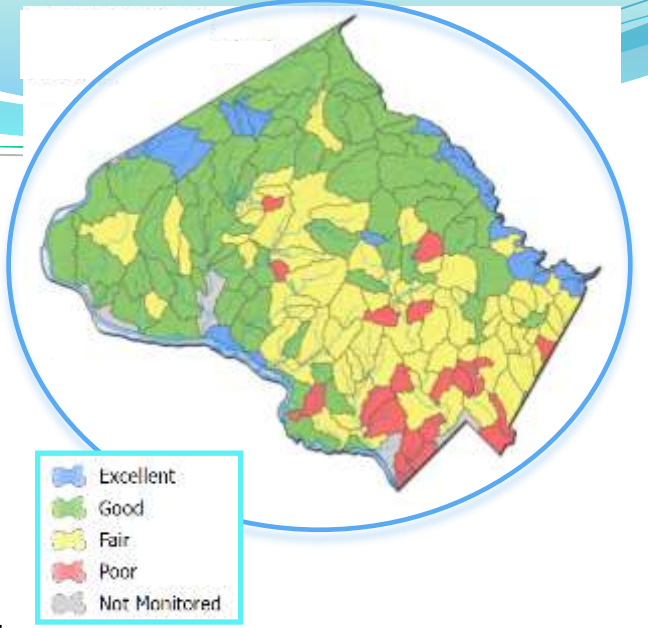
Urban Impacts to Streams

Stream in a Watershed with 20% Impervious Cover

Stream in a Watershed with 8% impervious cover.

Stream in a Watershed with 30% impervious Cover.

Watershed 101



What is the County doing to protect and restore our Streams?

- Must meet regulatory requirements
  - Federal Clean Water Act permit program
  - MS4 Permit - **M**unicipal **S**eparate **S**torm **S**ewer **S**ystem
- Add stormwater management for 20% of impervious surfaces or 4,292 acres (2,815 acres in design & 400 acres completed or under construction)
- County Program Goals
  - Restore our streams and watersheds
    - Add runoff management
  - Meet water quality protection goals
    - Reduce pollutants getting into our streams
  - Educate and engage all stakeholders
    - Individual actions make a difference
  - Focus on watersheds showing greatest impacts

Resources

- Specific Project Information

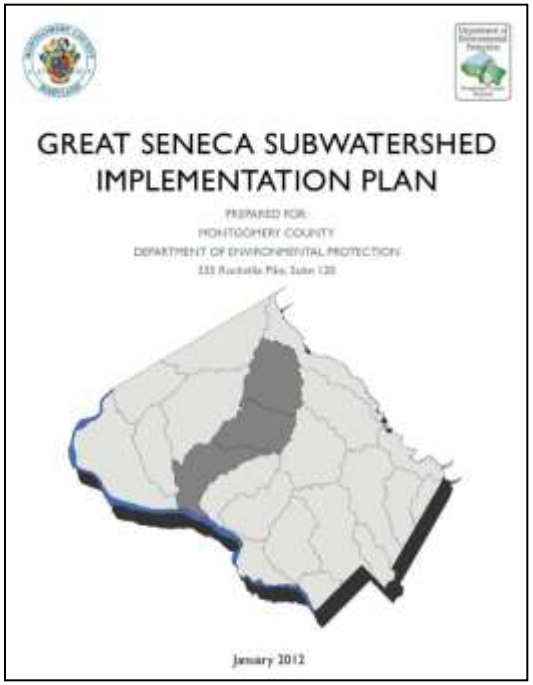
  http://www.montgomerycountymd.gov/DEP/Restoration/germantown-view-gunners-lake-north-lake.html#
- Environmental Information for County Residents

  www.montgomerycountymd.gov/DEP
- Living a Green Life: My Green Montgomery

  http://montgomerycountymd.mygreenmontgomery.org/

Project Selection

- Ponds constructed in early 1980s
- Located in a key watersheds (Great Seneca Creek) for pond retrofits
- Ponds are at or near the end of service life
- Meet current safety and design standards
- Opportunity for water quality treatment and ecological benefits



Project Location

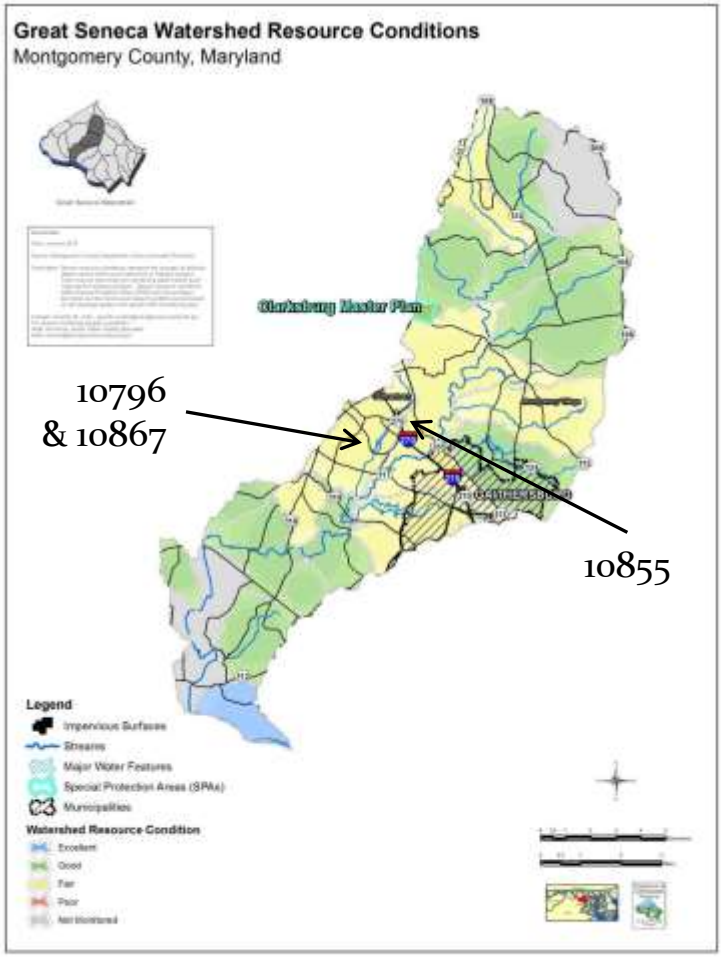


Figure 2: Stream Resource Conditions for the Great Seneca subwatershed

Northlake Apartments, Germantown View and Watkins Meadow SWM Projects

Project Objectives

- STORMWATER MANAGEMENT
  - Add permanent pool for water quality where feasible
- STREAM PROTECTION
  - Modify outlet works to better regulate pond discharge and protect Gunners Branch and Seneca Creek streams
- MAINTENANCE
- Replace existing risers with water-tight structures
  - Replace dam embankment or install impervious liner
  - Install internal drain in downstream embankments
- AESTHETICS/ENVIRONMENT
  - Landscape the pond to improve aquatic habitat and aesthetics
  - Augment existing environmental features such as forest and wetlands where possible

Stormwater Pond Drainage Areas

- Pond 10796
  - 38.45 Acres
  - 30% Impervious
- Pond 10855
  - 56.36 Acres
  - 25% Impervious
- Pond 10867
  - 15.18 Acres
  - 39% Impervious

Pond 10796

- Stormwater Management Wet Pond
  - 14’ High Earth Embankment Dam
  - Adjacent residential properties
  - Does not meet current SWM requirements to achieve any MS4 credit.
  - Long drainage swale inflow from west end.

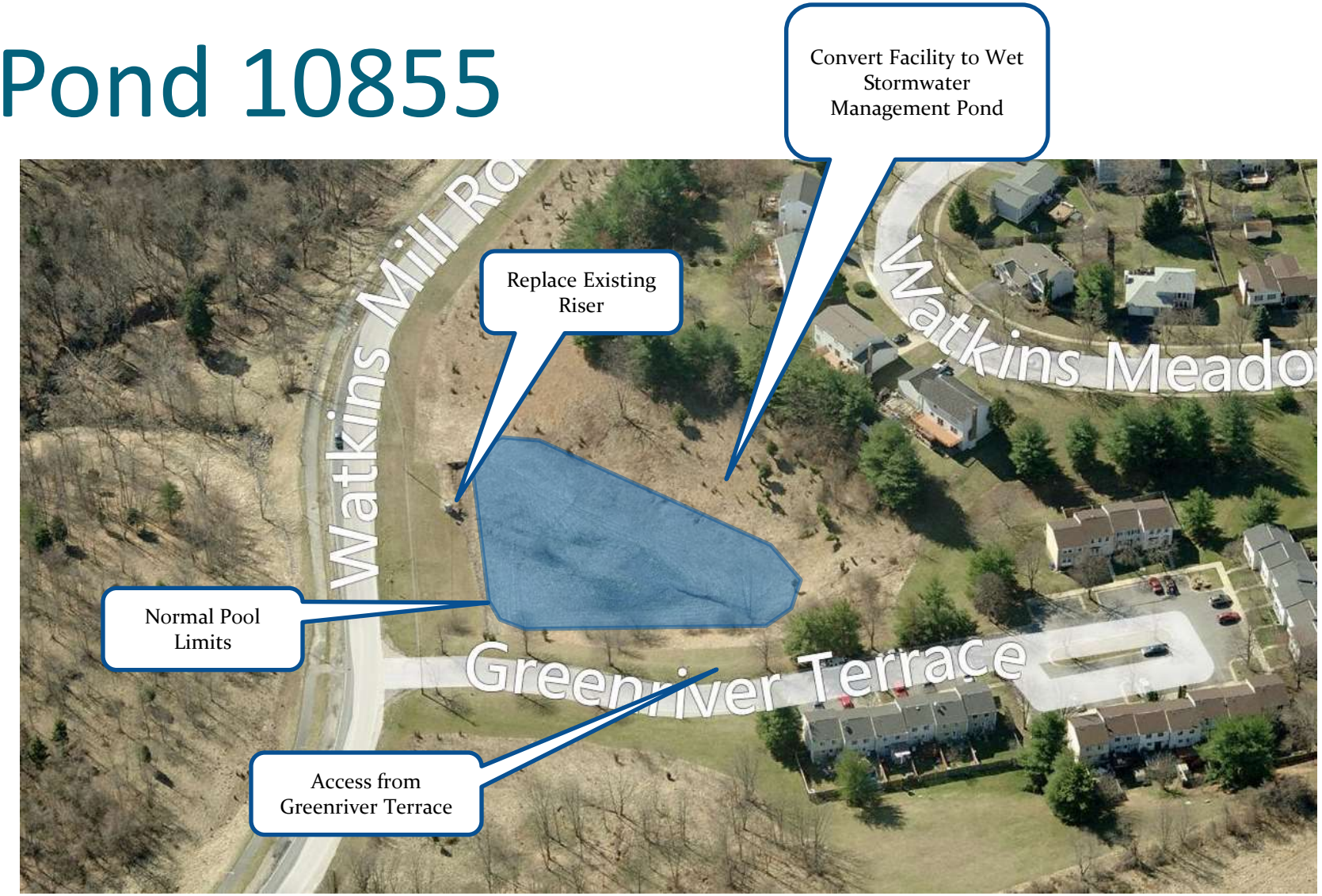
Pond 10796


Remove and Replace Existing Asphalt Path
Replace Metal Risers
Proposed Pond Access
Convert Wet Stormwater Management Pond
Improve Existing Swale
Repair Damaged Drainage Swale
Grotto Ln

Pond 10855

- Stormwater Management Wet Pond
  - 13’ High Earth Embankment Dam
  - Adjacent road
  - Does not meet current SWM requirements to achieve any MS4 credit.

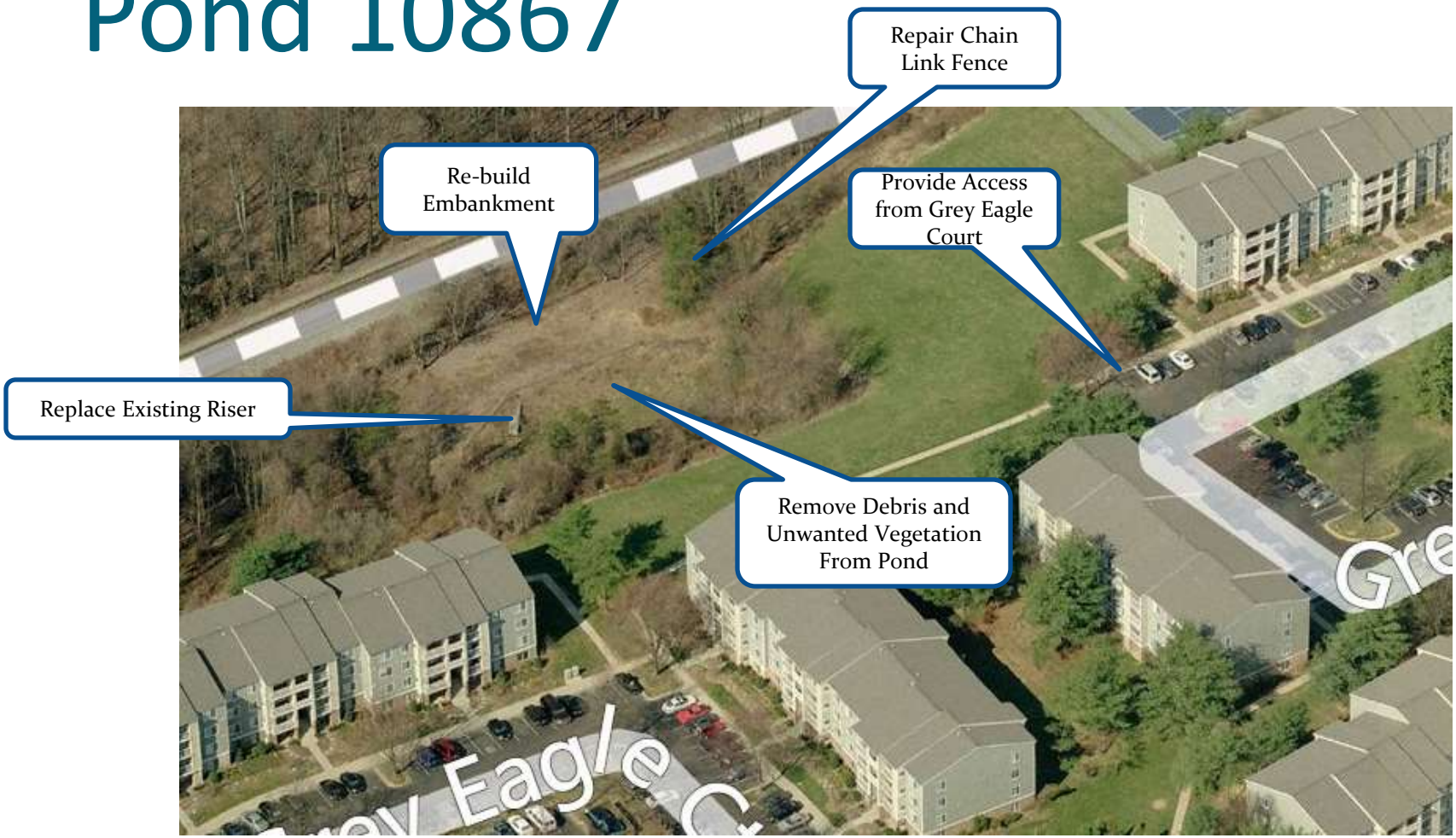
Pond 10855


Convert Facility to Wet Stormwater Management Pond
Replace Existing Riser
Normal Pool Limits
Access from Greenriver Terrace
Watkins Mill Ro
Watkins Meado
Greenriver Terrace

Pond 10867

- Stormwater Management Dry Pond
  - 10’ High Earth Embankment Dam
  - Adjacent to CSX Railroad
  - Does not meet current SWM requirements to achieve any MS4 credit.

Pond 10867


Repair Chain Link Fence
Re-build Embankment
Provide Access from Grey Eagle Court
Replace Existing Riser
Remove Debris and Unwanted Vegetation From Pond

Project Objectives - SWM

- Germantown View (Asset #10796)
  - Permanent wet pool for water quality
- Watkins Meadow (Asset #10855)
  - Permanent wet pool for water quality
- Northlake Apartments (Asset #10867)
  - Dry Pond, 24-hour detention for stream channel protection

Project Objectives - Streams

- Stream protection
  - Modify outlet works to better regulate pond discharge and protect Gunners Branch and Great Seneca Creek
  - Achieve partial to full channel protection volume requirement (depending on pond)
  - Achieve partial to full water quality treatment(depending on pond)

Project Objectives - Maintenance

- Maintenance
  - Replace existing risers with water-tight structures
  - Install impervious liner on dam embankments
  - Install internal drain in downstream embankments

Project Objectives - Aesthetics

- Landscape all facilities with native vegetation to improve aquatic habitat and aesthetics

Project Costs

- **Financial** – estimated cost of $1.7M financed through MCDEP CIP Program using funds generated through the Water Quality Protection Charge
- **Recreational** – temporary construction impacts to pedestrian path on top of embankments at Pond 10796.
- **Forest** – tree clearing for to comply with state dam safety laws along the downstream toe of the dam.
- **Traffic** – construction traffic enter and exit roadways Monday – Friday, 7AM to 4PM
- **Neighborhood** – construction traffic and noise will typically occur Monday – Friday, 7AM to 4PM

Project Benefits

- **Water** – improved water quality and stream water temperature through better management of runoff
- **Environmental** – reduced downstream discharge allows for natural self-repair of stream channel. Increased aquatic and riparian habitat through landscaping and reforestation.
- **Recreational** – increased aesthetic appeal of ponds
- **Maintenance** – safer operating structure that will require minimal structural maintenance in future.

Estimated Design and Permitting Timeline

- **Design** – March 2013 – November 2014
- **Approvals –** November/December 2014
- **Permits** – January 2015
- **Bidding** –February 2015
- **Construction (estimated)** – March – June 2015

What to expect during construction

- **Duration**
  - Approximately 3 months
- **Construction Hours**
  - Monday through Friday, 7AM – 4PM
- **Safety**
  - Open sides of site will be fenced with orange construction safety fence to separate construction from residents.
- **Traffic**
  - Minor impacts to traffic from entering and exiting construction traffic and contractor parking during the day.
- **Noise**
  - Contractor is required to comply with Montgomery County Noise Ordinance – site elevation will help alleviate noise pollution.
- **Sediment**
  - Contractor will be required to comply with Montgomery County Sediment Control Permit and not track dirt onto roads

Questions?

For more information:

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