



BENEFITS OF QUARTERLY AND POST-STORM MONITORING TO OVERALL PUBLIC RELATIONS AND URBAN STREAM RESTORATION PROJECT SUCCESS

Presented by:

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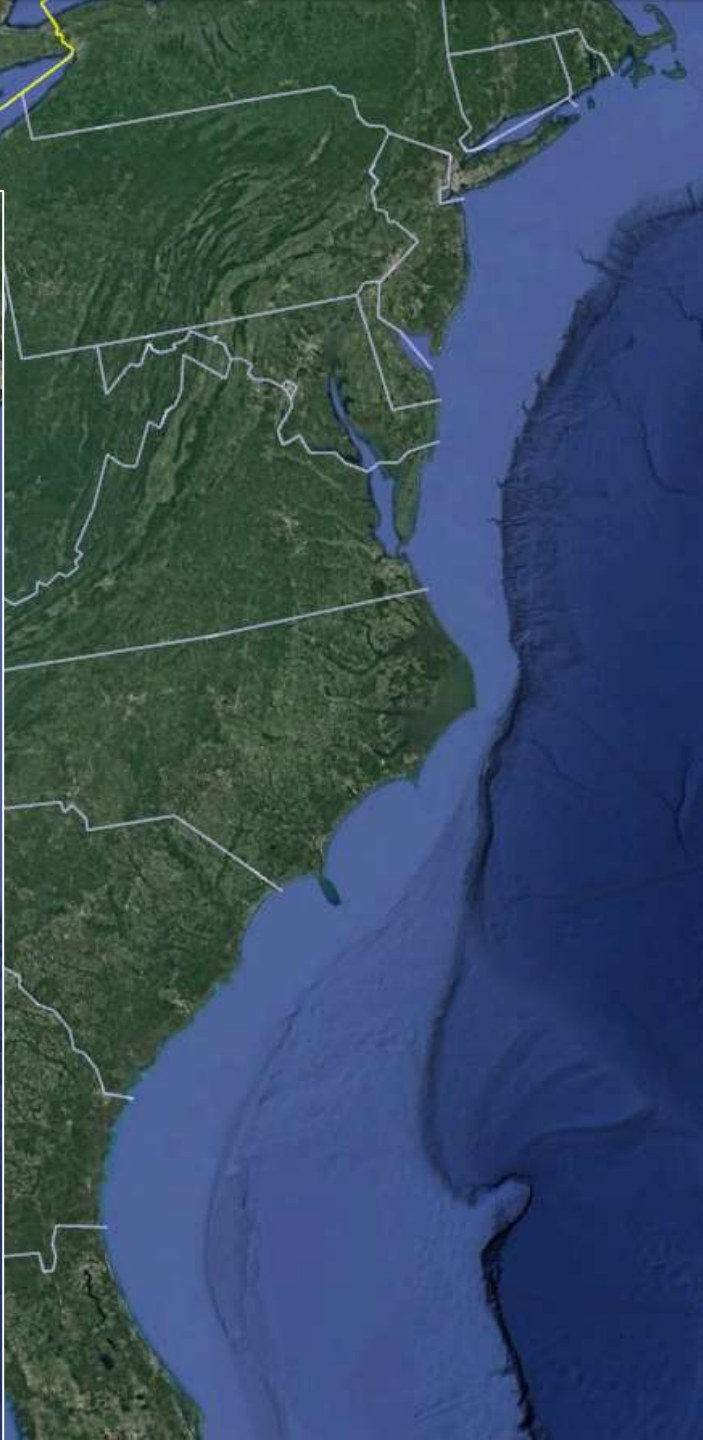
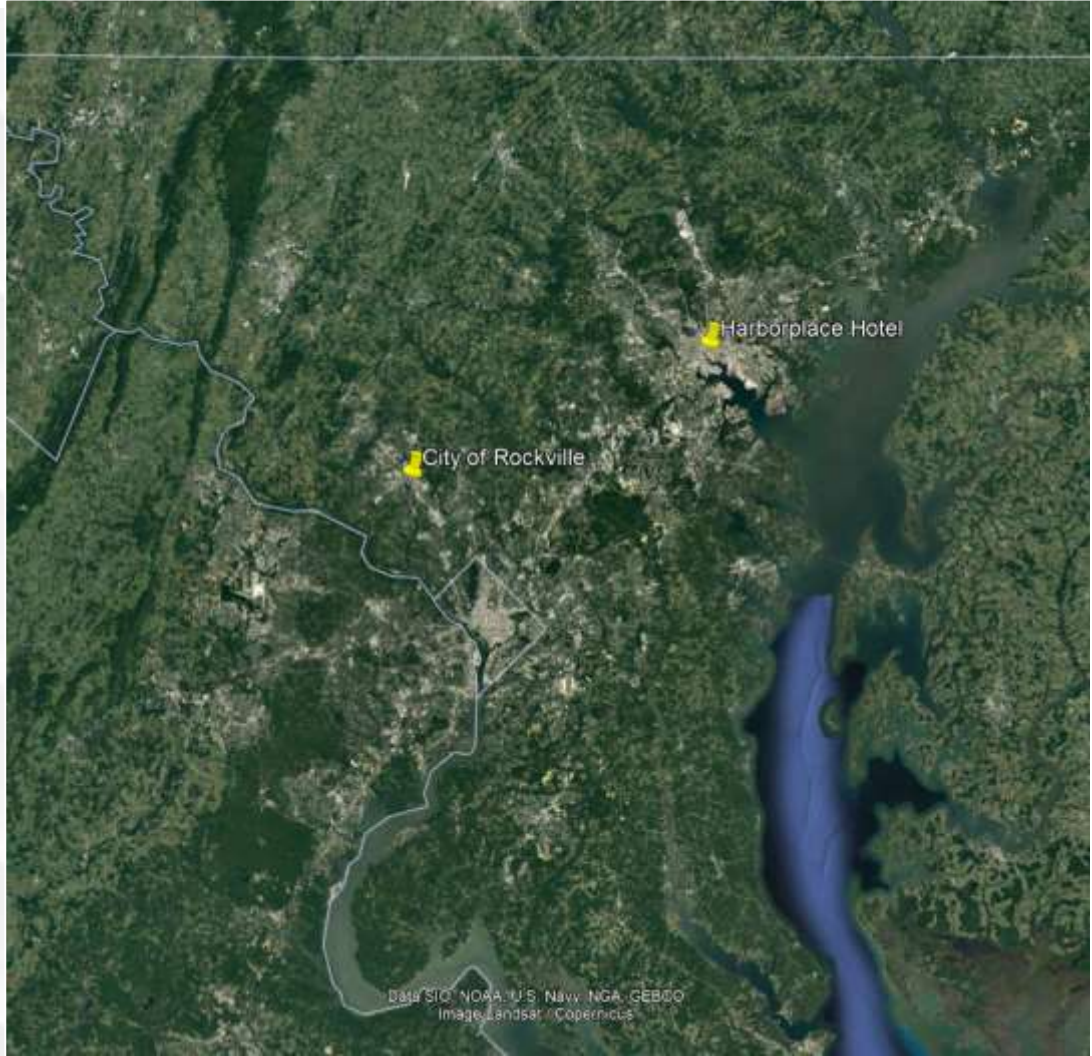
Heather Gewandter and John Hollida

City of Rockville

August 2023








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FLEMING**



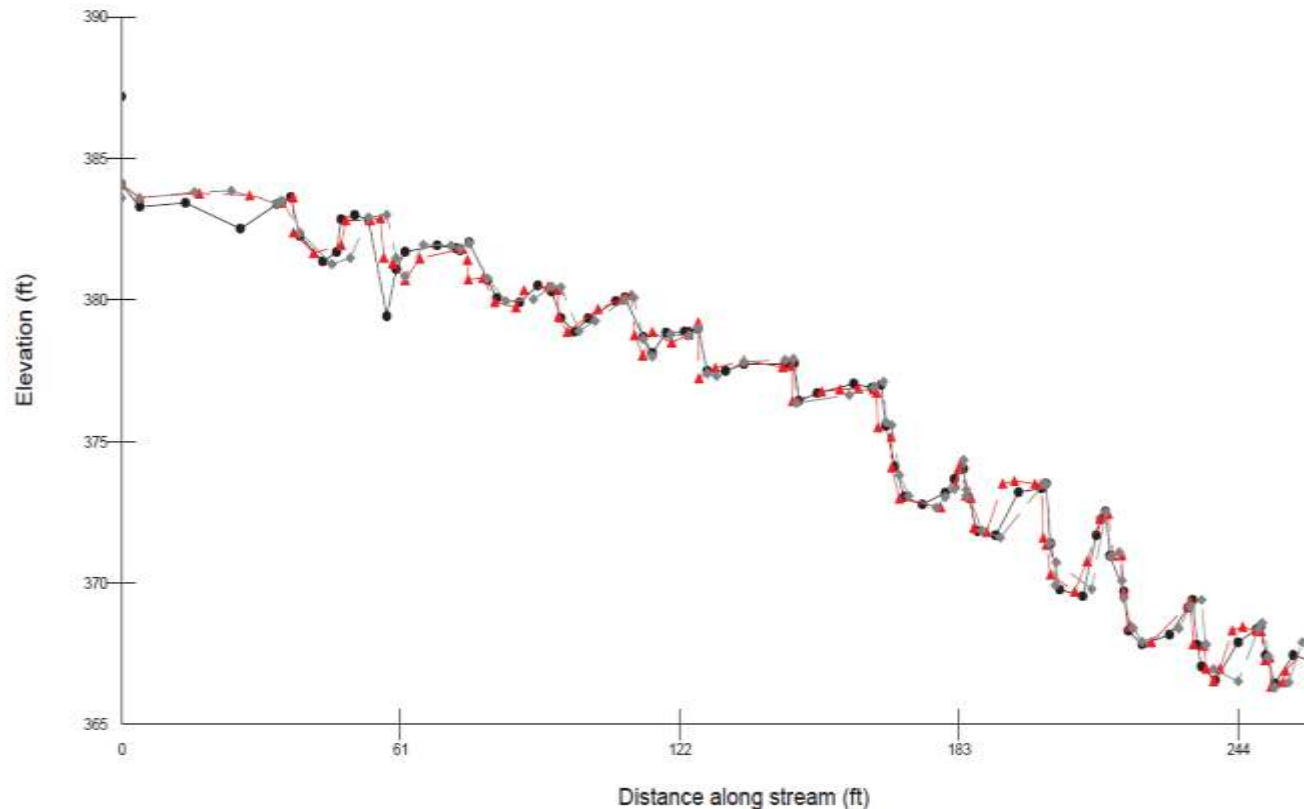
Upper Watts Branch Stream Restoration



-  Approx. Limits of Construction
-  Vegetation Plot Locations
-  Upper Watts Branch Stream
-  Pebble Count Locations
-  Cross Section Locations

- City of Rockville, Maryland
 - Approx. 68,000 Population Size
 - Chesapeake Bay Watershed
- Upper Watts Branch Preserve
 - 78.8 Acres of Forest Preserve
 - Nature Trail Open to the Public
- Stream Restoration Background
 - Over 8 Years of Pre-Construction Planning, 15 Public Meetings
 - Restoration Designed by Hazen and Sawyer and Charles P. Johnson
 - Over 2,200 Linear Feet of Stream Restoration and Outfall Stabilization

Permit Requirements



4. The permittee must monitor the stream restoration project for a minimum of 3 years. The monitoring reports must identify and evaluate changes in cross-section; pattern and profile; bed material; channel stability; structural stability and condition; a description of soil profiles 18 inches below the bottom of the pool bottom; and vegetation viability. The monitoring effort must include topographic surveys of monumental cross-sections within the project area, visual field observations, photographic documentation, vegetation viability measurements, and identify any necessary corrective measures.
5. For a period of 3 years after stream restoration project construction, the permittee must quarterly, and after any major storm event, such as hurricanes and nor'easters, inspect and document stream conditions and determine if structural and/or stream condition deterioration occurs as a result of the project. An annual inspection should include a visual inspection within eyesight of at least 200 feet downstream to determine if excess sedimentation occurs in the stream and wetlands downstream of the project area as a result of this project.
6. The permittee must provide annual reports (1 hard copy and 1 electronic copy) for 3 years. The annual reports are due to this office within 60 days of the conclusion of each year. The annual reports must include a compilation and analysis of the reports outlined above and the following:
 - a. Channel cross section; pattern and profile; and channel and structure stability
 - b. A description of any maintenance performed or needed
 - c. A comparison of pre-construction and post construction project conditions.
 - d. Photographic documentation

Upper Watts Branch Stream Pre-Construction

- U.S. Army Corps of Engineers reviewed this project and granted authorization under the Maryland State Programmatic General Permit (MDSPGP-4), as a Category B, Review Required
- Residential Outfall One of Four
 - Eroded Stormwater Outfall
 - Approx. 15ft Deep within Gully
 - Step Pool Storm Conveyance
 - Runoff from Local Development



Upper Watts Branch Stream Post-Construction





Quarterly Monitoring

- Stream Profile
- Cross Sections
- Pebble Counts
- Native Species Health
- Post-Storm Monitoring
- Visual Observations of Overall Stability

Upper Watts Branch Stream Restoration – Before/After



Upper Watts Branch Stream Pre-Construction



- Tributary One
 - Eroded Stream Bank
 - Undermined and Exposed Sewer Manhole
 - Risk of Failure / Contamination
 - Adjacent Residential Area
 - Runoff from Local Development

Upper Watts Branch Stream Post-Construction





Quarterly Monitoring

- Upper Watts Branch Remains Perennial
- Stream is Vertically and Laterally Stable
- Percent Vegetative Cover is 90%
- Success with Planted Red Fescue (*Festuca rubra*), American Sycamore (*Platanus occidentalis*), and Soft Rush (*Juncus effusus*)

City of Rockville – Lessons Learned

- Public Involvement Success –
City of Rockville Lessons Learned:
 - Public-Task Force At All Stages
 - Public Meetings with Local Presentations to the Community
 - Public Involvement with Site Walks
 - ArcGIS Story Map with Site Photos
- Permitting Success – Upper
Watts Branch Lessons Learned:
 - Complied with the Maryland Forest Conservation Law
 - Exceeded Local Sediment and Erosion Control Requirements

Take a Walk Through Upper Watts Branch Park

Hear about our efforts to restore this important stream valley and learn why tree removals are required.

Join us **6-7:30 p.m. on Wednesday, March 26**, at the Fordham Road and Princeton Place intersection, and **6-7:30 p.m. on Thursday, March 27**, at the dead end on Azalea Drive.

For more information, visit www.rockvillemd.gov/upperwatts or contact: **John W. Hollida, City of Rockville Project Manager**

240-314-8526 or at jhollida@rockvillemd.gov

Rocio Snowdy, City of Rockville Neighborhood Resources
240-314-8345 or at rsnowdy@rockvillemd.gov



**Upper Watts Branch Park Forest Preserve
Environmental Restoration Project**




City of Rockville – ArcGIS Story Map with Site Photos

Upper Watts Branch Stream Restoration

A City of Rockville story map [f](#) [t](#) [e](#)

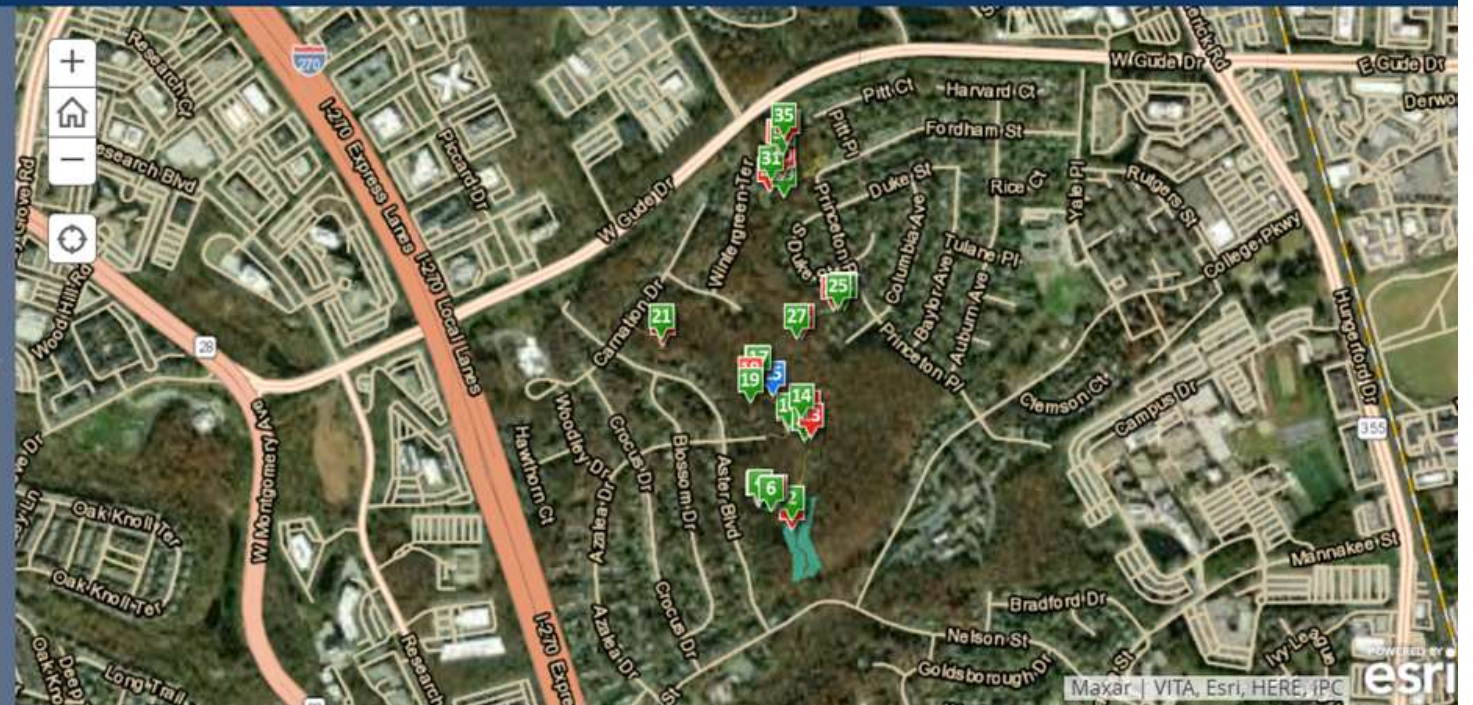


The headwaters of Watts Branch, approximately 16 miles of stream, originate in the western half of the City of Rockville. Due to impacts of development and stormwater runoff, Watts Branch experienced severe erosion, which threatened public utilities and contributed to poor water quality in local streams, the Potomac River, and ultimately the Chesapeake Bay. The Upper Watts Branch Park Forest Preserve Environment Restoration Project enhanced and restored this area of the Watts Branch watershed.

Special thanks to the Upper Watts Branch Park Citizen Task Force for project input and to the Maryland Department of Natural Resources for project funding.



Upper Watts Branch Park Forest Preserve Environment Restoration Project

Design by Charles P. Johnson & Associates, Inc. and Hazen and Sawyer.
Construction by Environmental Quality Resources.



1 Wetland Reforestation Area - Before



2 Wetland Reforestation Area - After (Nov. 2020)



3 Southern Aster Boulevard Outfall - Before



4 Southern Aster Boulevard Outfall - After (Apr. 2021)



5 Southern Aster Boulevard Outfall - Before



6 Southern Aster Boulevard Outfall - After (Apr. 2021)



7 Azalea Drive Outfall - Before



8 Azalea Drive Outfall - After (April 2021)



9 Azalea Drive Outfall - Before

Upper Watts Branch Stream Restoration



Questions & Answers

- THANK YOU!

