



STORMWATER MANAGEMENT IN BINGHAMTON

Prior to January 2012

Chapter 227 – Erosion Control Ordinance

- Stormwater Pollution Prevention Plan (SWPPP) required for land development activities disturbing >1 acre as mandated by the EPA and DEC. Use of GI practices required for Post Construction Stormwater Management per DEC design manual.
- Engineering Department required retention of 10 year storm event for some smaller developments but not codified.

WHY REQUIRE RETENTION OF 10 YEAR STORM EVENT?

- **Built urban environment with few large developments subject to SWPPP**
- **Stormwater management is still necessary on smaller sites**
- **History of urban flooding**
- **Increase in the frequency and severity of floods & higher flood levels**
- **Combined sanitary and stormwater sewer system often overflowing during heavy rain events**
- **Increased cost to ratepayers due to treatment of high volumes of stormwater**
- **Increased pollution of streams and rivers**

WHY REVISE THE CITY CODE?

- **Codify existing Engineering practice (10 yr storm retention) and create clear and consist standards and procedures**
- **‘Get out ahead’ of EPAs planned revisions to stormwater regulations and TMDL standards for the Chesapeake Bay watershed**
- **And the list goes on...**



DOWNTOWN – 2011 FLOOD



CONKLIN AVE – 2011 FLOOD



Post January 2012

Chapter 227 – Erosion Control and *Stormwater Management* Ordinance **Added provisions for *Urban Runoff Reduction Plans (URRP)*** ***applying to:***

- Parking areas containing 20 or more parking spaces or covering 5,000 square feet or more of site area; any stand alone parking area;
- Commercial, Mixed Use, Multi-family Residential replacing or adding 1,000 square feet or more of impervious surface area
- Single-family or Two-family Residential creating, replacing or adding 2,500 square feet or more of impervious surface area
- any project creating, replacing or adding new impervious surface area located within the Federal Emergency Management Agency's (FEMA) Special Flood Hazard Area
- and subdivisions under 1 acre.

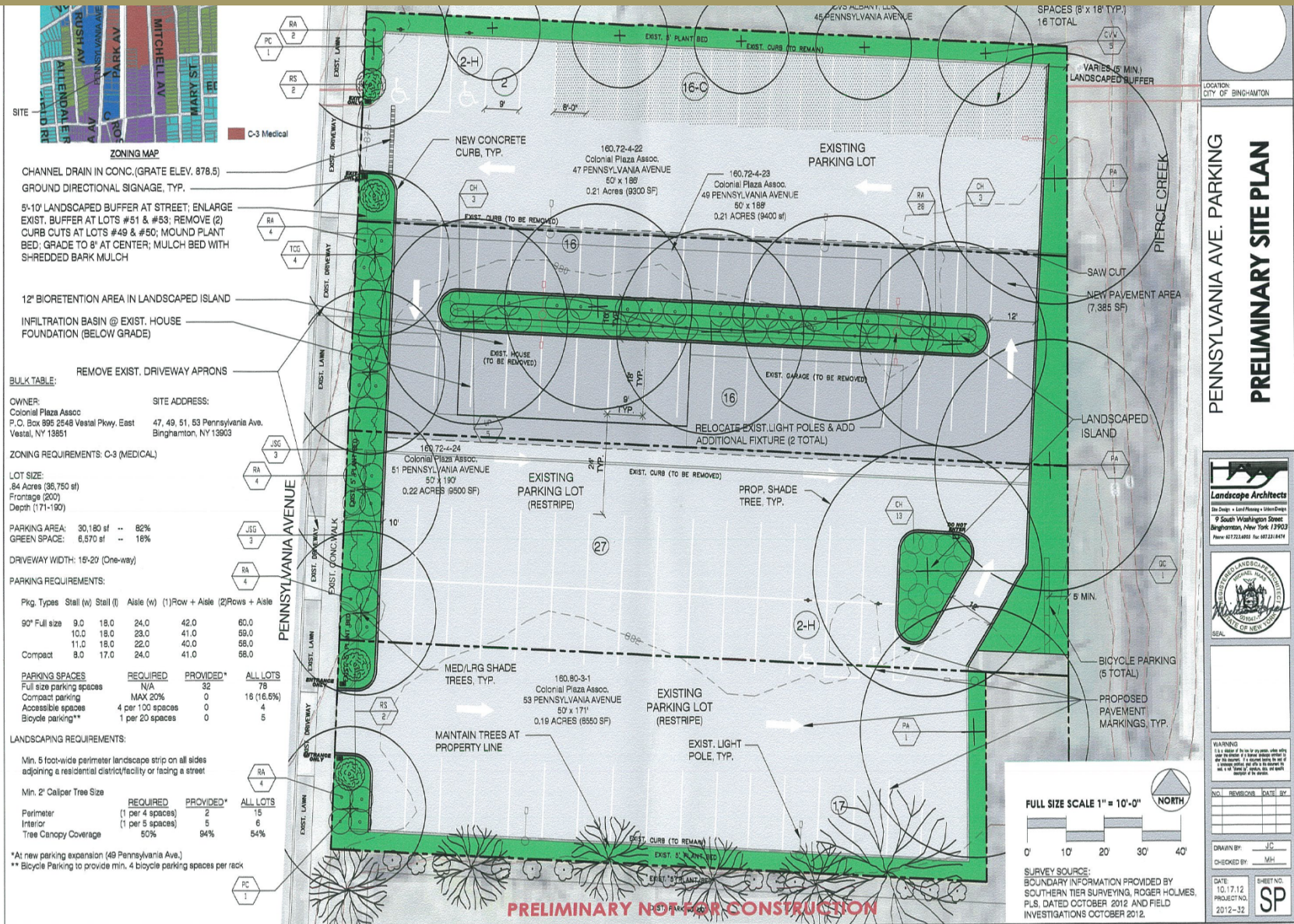
URRP Requirements

On-site retention of a ten (10) year storm event

- Achieved through incorporation of green infrastructure techniques such as rain gardens, bioswales, bioretention areas, stormwater planters, tree box filters, vegetated filter strips and swales, stormwater planters, greenroofs, green gutters and pervious pavement.
- Plans reviewed and approved by the Stormwater Management Officer prior to issuance of grading, building and/or demolition permit for qualifying project. A Preliminary URRP must be submitted with any Planning Application to ensure that developers are considering stormwater management during planning stage.

1500

Post-URRP requirements





**Where is the landscaping?
Where does the water go?**

**Parking lot with rain
gardens, curb inlets,
trees. YES!**



Grant Project Summary

50/50 Stormwater Management Fund

*Improving stormwater management,
reducing pollution and improving aesthetics
through green infrastructure.*

City of Binghamton



The City of Binghamton, through the 50/50 Stormwater Management Fund, will create an incentive program for landowners and developers to implement Green Infrastructure (GI) practices that would exceed the requirements set forth in the City of Binghamton's recently adopted Erosion Control and Stormwater Management (EC/SM) Ordinance. This program, by providing up to a 50 percent match toward the cost of installation of green infrastructure, will incentivize developers to utilize GI practices for stormwater management. Developments funded through this program will function as case studies to demonstrate the cost, construction techniques and maintenance requirements of GI. A series of training events, conducted by the City and its Partners, will be held during design, construction and maintenance phases of chosen sites to create a greater level of public understanding of green infrastructure and stormwater management.

When and Where

The project will be carried out between May 2013 and May 2015 in Binghamton, Broome County, Susquehanna River Watershed, New York.

Results

- nutrient/sediment load reduction
- improve water quality
- reduce stormwater discharge
- reduce localized flooding
- improve aesthetics
- reduce heat island effect

Project Funding

- Grant ID #33995
- NFWF Grant: \$200,000
- Grantee Matching Funds: \$200,000

Funding for this Grant Provided by

Partners

City of Binghamton

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Other Partners:

- Environmental Finance Center
- Southern Tier East Regional Planning Development Board
- Broome County Soil and Water Conservation District
- Broome County Department of Planning



NFWF's Chesapeake Bay Stewardship Fund Program and Sponsors

The National Fish and Wildlife Foundation's Chesapeake Bay Stewardship Fund is dedicated to protecting and restoring the Bay by helping local communities clean up and restore their polluted rivers and streams. We advance cost-effective and creative solutions with financial and technical assistance. Working in partnership with government agencies and private corporations, the Stewardship Fund awards \$8 million to \$12 million per year in grants.



Major funding for the Chesapeake Bay Stewardship Fund is provided by the U.S. Environmental Protection Agency, the U.S. Department of Agriculture's Forest Service and Natural Resources Conservation Service, and Altria Client Services. Additional funding is provided by the D.C. Department of the Environment, FedEx, Northrop Grumman, Wal-Mart Acres for America, and Wells Fargo.



City of Binghamton 50/50 Stormwater Management Fund

Improving stormwater management, reducing pollution and improving aesthetics through green infrastructure.

This incentive program, funded by the National Fish and Wildlife Federation Chesapeake Bay Stewardship Fund, will assist landowners in implementing green infrastructure (GI) practices to fulfill and exceed the City of Binghamton's Urban Runoff Reduction Plan requirements.

Program Goals and Outcomes

- nutrient/sediment load reduction
- improve water quality
- reduce stormwater discharge
- reduce localized flooding
- improve aesthetics
- reduce heat island effect
- demonstrate multi-faceted benefits of green infrastructure to local developers
- creation of 'green' jobs
- Reduce stormwater discharge into the sewer system
- increase in property values
- demonstration of the long-term effectiveness and viability of green infrastructure techniques



Eligible Projects

- located within the City of Binghamton
- subject to Chapter 227, Urban Runoff Reduction Plan (URRP) requirements
- designed to retain *more than* a 10 year storm event in a 24 hour period

Project Selection

- potential number of GI practices that can be achieved
- Stormwater retention achieved
- Amount of nutrient reduction

Review Committee

Consisting of members of the Broome County Soil and Water Conservation District, Southern Tier East Planning Board, Broome County, City of Binghamton, Engineers and Landscape Architects, will review all applications and determine project eligibility.

Applications will be reviewed by the Committee within 30 days of submission.



Funding Specifics

- The 50/50 Fund will reimburse an applicant for up to 50% of the total project cost.
 - Grant awards will not exceed \$25,000.
 - The City will reimburse approved costs for goods, services and labor completed by third party vendors.
 - Diverse types of projects are encouraged. Awards will not be made on a first-come, first-serve basis.
 - The City will accept applications on a rolling basis until grant funds are fully expended.
- The City has until the end of 2015 to expend the grant funds.

Grant Program Requirements

- The grant is a ***reimbursement*** grant, paid upon completion of the approved project, including on-site inspection.
- Invoices to substantiate project costs are required for reimbursement.
- Selected projects will be required to obtain all necessary approvals in accordance with City Code.
- Projects must be completed by October 2015.
- Partial funding for incomplete projects will not be permitted.