REGROWING A GREEN CITY

Aesthetically pleasing green solutions address a city's flooding problems

PROJECT GOALS

Combining sound green infrastructure techniques, significant community engagement and unique partnerships in the city of Martinsburg, West Virginia, is strengthening the city's flood protection, while also helping to solve stormwater woes, create an appealing community space and lay the groundwork for future investment.

COMMUNITY AND ECONOMIC BENEFITS

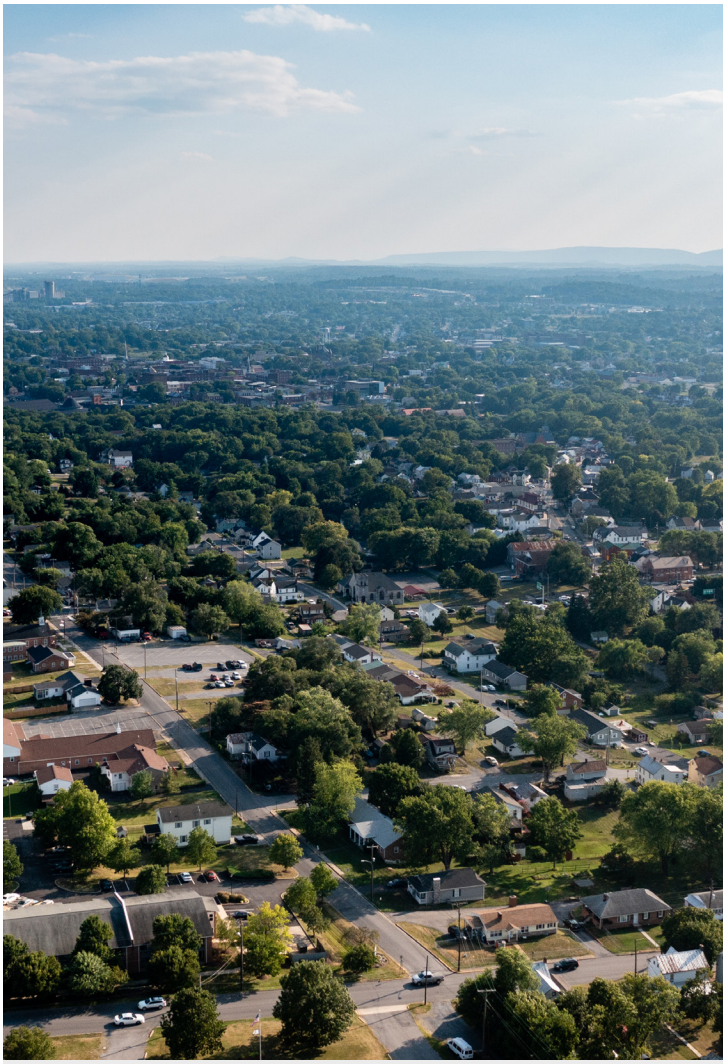
- Creating a walkable community green space that is safer for pedestrians.
- Addressing economic loss due to flooding.
- Creating job opportunities to implement and maintain green infrastructure.
- Increasing awareness and appreciation of the city's historical elements.
- Planting trees to provide additional shading, lowering energy costs.
- Increasing aesthetic appeal of the city.

ENVIRONMENTAL BENEFITS

- Flood mitigation.
- Increased tree cover.
- Improved water filtration.
- Increased habitat for birds and insects.

CONSERVATION PROJECTS INSTALLED

- Permeable pavers.
- Bioretention.
- Native plants.
- Tree plantings.
- Grass swales.



Martinsburg, W.Va., located in the lower Shenandoah Valley, is home to over 17,000 people *(Photos by Ethan Weston/Chesapeake Bay Program)*

> **"This is a pretty big pilot program. It's the first time we've done something like this. Having a reliable map of all of your utilities and networks is really, really important. There are a lot of factors that go into [green infrastructure] more than, 'where does the water go?"**
>
> **- Jared Tomlin**
> *Stormwater Coordinator, City of Martinsburg, West Virginia*

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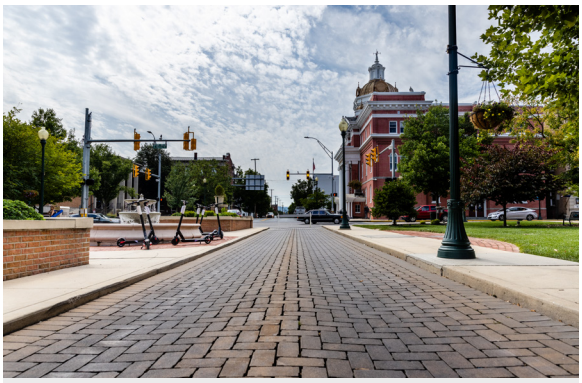
PROJECT SUMMARY

Martinsburg has long experienced recurring flooding and significant stormwater management concerns. When the city learned that West Virginia's Department of Environmental Protection (DEP) would be providing stormwater management technical assistance to West Virginia communities, with a focus on green infrastructure, city planners jumped at the chance to apply. Although the entire city experiences flooding and stormwater issues, the project focuses on a downtown drainage area where inlets are often overwhelmed by high volumes of runoff from large areas of impervious surface. The challenges encountered during this project included an aging stormwater infrastructure that lacks complete documentation showing pipe locations, limited funding for construction and maintenance, utility conflicts and hard to locate utilities, and the desire to retain all on-street parking. The technical assistance received allowed for the significant involvement of the community and other stakeholders during all project steps. Stakeholder sessions were held with city planners, funders and interested residents. At these sessions, residents were given the opportunity to be directly involved with all aspects of green infrastructure planning. The end result is a design that incorporates green infrastructure and creates green spaces along two downtown streets.

THINGS TO CONSIDER

- Community input is essential to obtaining the full potential in a multi-use project.
- Green infrastructure requires local government staff training in new operations and maintenance approaches to maintain the long-term functioning of green infrastructure practices, or the dedicated funds to hire a contractor to address these requirements.
- New avenues of communication must be established for old and new partners.
- Partners should factor in a significant amount of time and energy for the planning process to ensure a quality project that meets both community and stormwater management objectives.
- Designing retrofits in aging cities is challenging when current infrastructure is not fully documented in detailed and reliable maps. The design process should account for, and provide contingencies, to address any unknowns about the existing infrastructure to minimize changes during construction.
- Maintenance needs of green infrastructure should be included in planning and grant funding.



Bricks form pervious pavement on the road along town square in Martinsburg. The pervious pavement allows stormwater to soak through the road instead of creating polluted runoff.

Daylilies sit the basin of a rain garden on in Martinsburg.

THE PARTNERS AND FUNDING SOURCES

- Chesapeake Bay Trust
- City of Martinsburg, West Virginia
- Eastern Panhandle Regional Planning and Development Council
- Environmental Protection Agency
- Opequon Watershed, Inc.
- Tetra Tech
- Tuscarora Creek Project Team
- West Virginia Department of Environmental Protection

CONTACTS

Jared Tomlin – Stormwater Coordinator,
City of Martinsburg, West Virginia

jtomlin@cityofmartinsburg.org

304-263-7187