

Baltimore and Green Infrastructure

Guy Hager



Cleaning Up Our Waters

After centuries of abuse, the Gwynns Falls is being restored as a healthy stream. Government, civic groups, and scientists monitor water quality here and work together to implement restoration projects. Volunteers pick up trash, plant trees and grasses to stabilize stream banks, promote pollution reduction initiatives, and conduct environmental programs at schools and along this trail.

Major storms have devastating effects on the waterway. Since the colonial era, 70 percent of the watershed's forest has disappeared and been replaced by hard, impervious surfaces such as roads and parking lots. The Gwynns Falls' tributaries have been buried in storm drains. As a result, the land cannot absorb the rainfall, and runoff scours the streambeds of the Gwynns Falls.

Unhealthy Stream

Rain runs off roofs, roads, and parking lots in such volume and velocity that it scours and erodes streambeds and banks.



- Eroded banks
- Trash swept into stream
- Sediment and nutrient pollution
- Exposed and leaking sewer pipes
- Storm water outfall pipes
- Wildlife buried in silt

GWYNNS FALLS TRAIL

Healthy Stream

Rain falls on trees and other vegetation and evaporates, reducing water temperatures and slowly seeping into the ground and eventually into the stream, filtered and cleaned of pollutants

Illustration by Frank Ippolito



Caddis-fly



Minnow



American eel

- Shallow banks
- Litter free
- Clear and odorless water
- Reduced number of pipes
- Healthy insects and wildlife
- Natural habitat and tree buffers

Restoring Water Quality

Schoolyard Restoration

22 acres of new green space
city-wide

Franklin Square Elementary Middle School

Status: Completed 2010

Cost: \$115,000 (partner MPA)

Removed 1.35 acres of asphalt





New Rain Garden at Bluford Drew Jamison STEM School

Old splash park converted to rain garden with trees and benches installed; other plants this



1300 W. Baltimore Street



On the right is
a City-owned
vacant lot
covered with
asphalt and
above is a lot
with drainage
from alley on
side of



Fancy Rain Garden by Civic Works in McEllderry





Sunflower Village



Greening Sarah's Hope in Sandtown

Creating new green space by removing asphalt and concrete removal with volunteers



Gilmor Home Asphalt Ct Restoration



Curb and sidewalk Inlets

Three curb extensions in
Franklin Square by Baltimore
City DPW

Cost: range \$25,000 to
\$50,000



Blue Water
Baltimore
Cost: \$2500





Franklin Square Curb Extensions (3)

Drainage area = 2.46
acres

Surface removed = 700
sf

TN removed = 618

TP removed = 3.81

TSS removed = 1237

Design cost = \$82,560

Construction cost =
\$149,765





Two Curb Extensions - N Potomac & E Fayette

Status: completed fall 2012

Cost: \$74,000 (CBT \$67,000 and Trust \$7500)

Scope: removed 1728 sf of sidewalk and roadway to create 2 bio-swales with landscaping and planted 20 trees

Curb Extension in Highlandtown



**Baltimore Medical Systems at 3703
Fleet Street**

This curb extension was constructed in 2009 for stormwater management when the sidewalk was rebuilt as a part of the new LEED Gold building by Chesapeake Real Estate Group, LLC.



Auchentrology Terrace

↳ curb extension
surround site



Highlandtown Sidewalk Removal for Tree Yards

