

PART 1

GREEN PARTNERSHIPS

WORKING WITH NGOs TO INSTALL GREEN INFRASTRUCTURE

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Bradley
Professional
Project Services

PRESENTATION OVERVIEW

- BAY RESTORATION IMPETUS & EFFORTS
- NON-PROFIT AND NGO OVERVIEW, INITIATIVES & PARTNERSHIPS
- PROJECT HIGHLIGHTS & LESSONS LEARNED
- LOOKING FORWARD

WHY RESTORE WATERSHEDS?

- REDUCE POLLUTION
- RESTORE HABITAT
- IMPROVE QUALITY OF LIFE
- ENHANCE ACCESS TO RECREATION AND GREEN SPACE

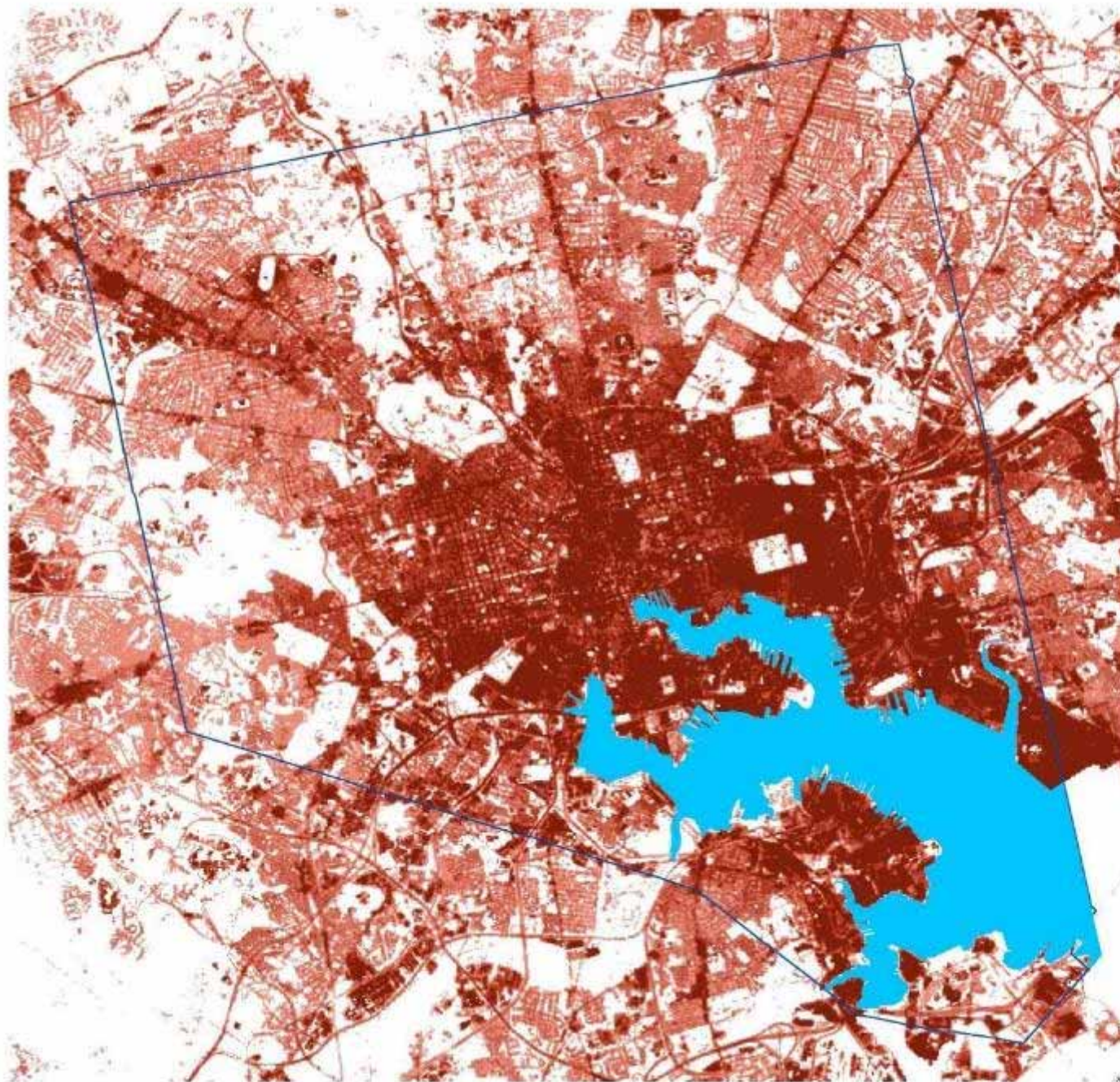


CRIME AND GREEN INFRASTRUCTURE

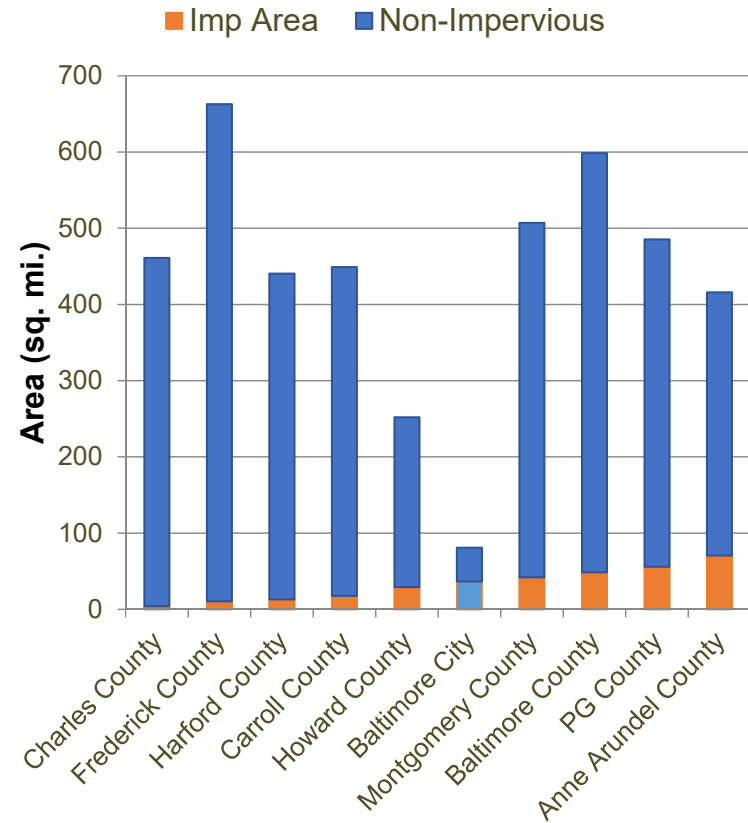
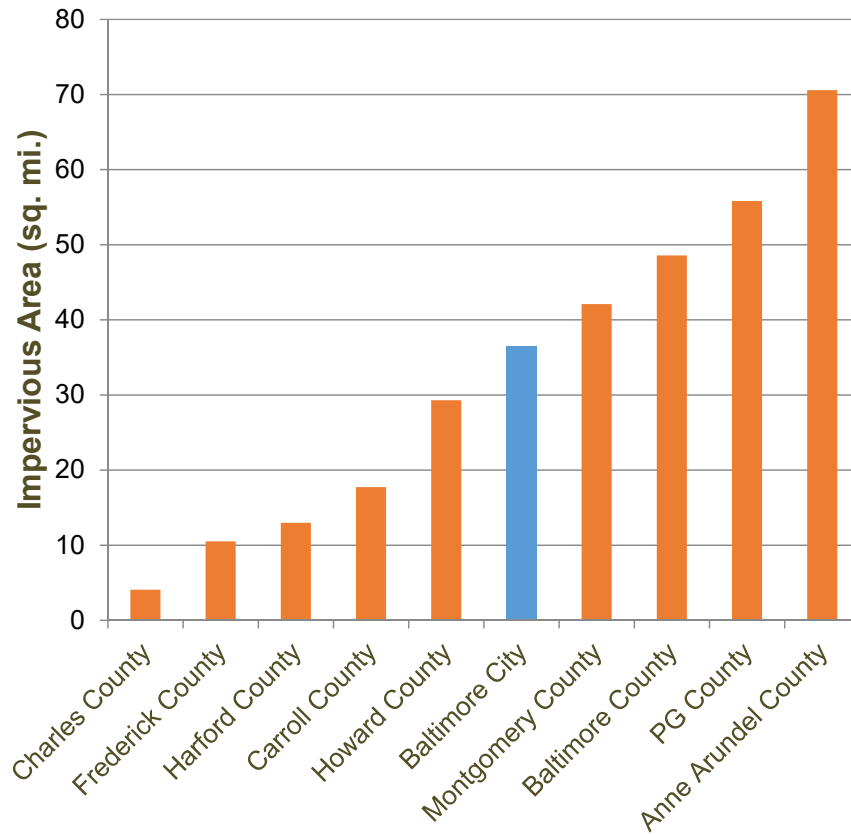
- FOUR THINGS WERE ASSOCIATED WITH A DROP IN CRIME:
 - THE PRESENCE OF A LAWN,
 - THE NUMBER OF BIG YARD TREES,
 - THE PRESENCE OF MULCH AROUND STREET PLANTINGS AND
 - INDICATORS OF TREE AND PLANT PRUNING.
- LITTER, ON THE OTHER HAND, WAS POSITIVELY ASSOCIATED WITH CRIME.

WHY RESTORE WATERSHEDS?

- REGULATORY REQUIREMENTS
 - TMDL IMPAIRMENTS
 - TRASH, BACTERIA, NUTRIENTS, METALS
 - MS4 REQUIREMENTS
 - IMPLEMENT RESTORATION EFFORTS FOR 20% OF UNTREATED OR UNDERTREATED IMPERVIOUS COVER
 - PUBLIC LAND IS LIMITED
 - PRIVATE HOMEOWNERS, FAITH-BASED ORGANIZATIONS, PRIVATE BUSINESSES COMPRISE LARGE PERCENTAGE OF LAND AREA



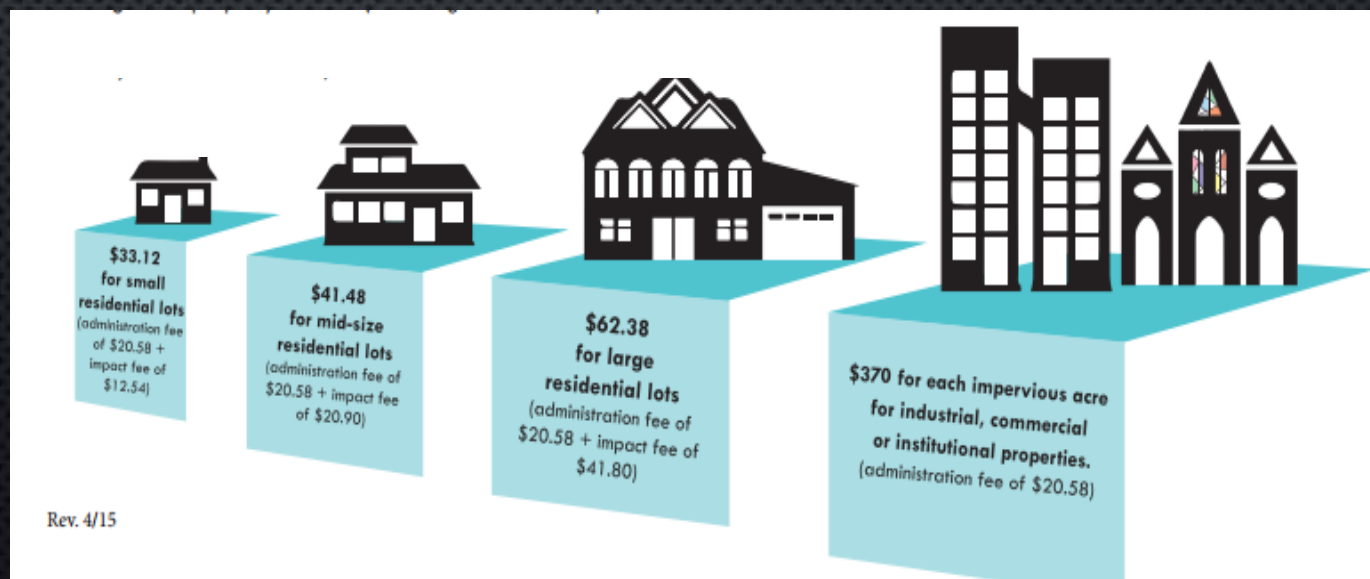
How does the City compare in MD?



52,438 storm drain inlets 27,561 manholes
1,146 miles of pipes
1,709 outfalls
~ 350 BMPs

STORMWATER UTILITY FEES

- BALTIMORE CITY, MONTGOMERY, PRINCE GEORGE'S, ANNE ARUNDEL, HOWARD COUNTIES
- DISCOUNTS OR CREDITS AVAILABLE
- GRANTS/REBATES AVAILABLE FOR PROJECT IMPLEMENTATION



Source: Prince George's County Clean Water Program

NON-PROFIT ORGANIZATIONS

- POSITIVE RELATIONSHIP WITH COMMUNITIES & PRIVATE LAND-OWNERS
- EFFECTIVE OUTREACH, EDUCATION, & COMMUNITY ASSISTANCE
- NUMEROUS AREA NON-PROFITS HAVE ENVIRONMENTAL RESTORATION MISSIONS
- EXPERIENCED IN OBTAINING GRANT FUNDS
- SIMPLIFIED PROCUREMENT & BIDDING PROCEDURES
- PROJECTS DRIVEN BY COMMUNITY GRASS ROOTS EFFORTS, NOT PRIVATE DEVELOPMENT

BALTIMORE CITY NON-PROFITS

- WATERFRONT PARTNERSHIP
- PARKS & PEOPLE FOUNDATION
- BLUE WATER BALTIMORE
- CIVIC WORKS
- LIVING CLASSROOMS
- ALLIANCE FOR THE CHESAPEAKE BAY
- CHESAPEAKE BAY FOUNDATION
- 30+ NEIGHBORHOOD ASSOCIATIONS
- FAITH-BASED PARTNERS



FUNDERS

- CHESAPEAKE BAY TRUST
- NATIONAL FISH & WILDLIFE FOUNDATION
- MD DNR CHESAPEAKE & ATLANTIC COASTAL BAY TRUST FUND
- LOCAL AND STATE GOVERNMENT



GRANT FUNDING OPPORTUNITIES FOR BAY-RESTORATION

- USUALLY RESTRICTED TO VOLUNTARY RESTORATION (I.E. NOT NEW OR REDEVELOPMENT REQUIREMENTS)
- OPPORTUNITIES FOR INNOVATION
- COST-EFFECTIVE AND REPLICABLE SOLUTIONS
- DEMONSTRATE EDUCATIONAL VALUE
- FUNDS OFTEN LIMITED TO "GREEN INFRASTRUCTURE" IMPROVEMENTS
- POSSIBLE OPPORTUNITIES TO COMBINE WITH OTHER GRANTS FOCUSING ON COMMUNITY ARTS

PARKS AND PEOPLE FOUNDATION

MISSION STATEMENT

THE PARKS & PEOPLE FOUNDATION IS DEDICATED TO SUPPORTING A WIDE RANGE OF RECREATIONAL AND EDUCATIONAL OPPORTUNITIES; CREATING AND SUSTAINING BEAUTIFUL AND LIVELY PARKS; AND PROMOTING A HEALTHY NATURAL ENVIRONMENT FOR BALTIMORE.

WORKING TO CONNECT PEOPLE TO THEIR ENVIRONMENT AND GREEN SPACES IN FUN WAYS!



PARKS AND PEOPLE FOUNDATION

PROGRAMS

- ENVIRONMENTAL EDUCATION
- YOUTH SUMMER CAMP
- YOUTH LANDSCAPING EMPLOYMENT
- COMMUNITY FORESTRY
- VACANT LOT ADOPTION
- COMMUNITY CLEANUPS
- GREENING RESOURCE NETWORK
- COMMUNITY & PARK GREENING GRANTS
- WATERSHED 263
- CAPITAL IMPROVEMENTS

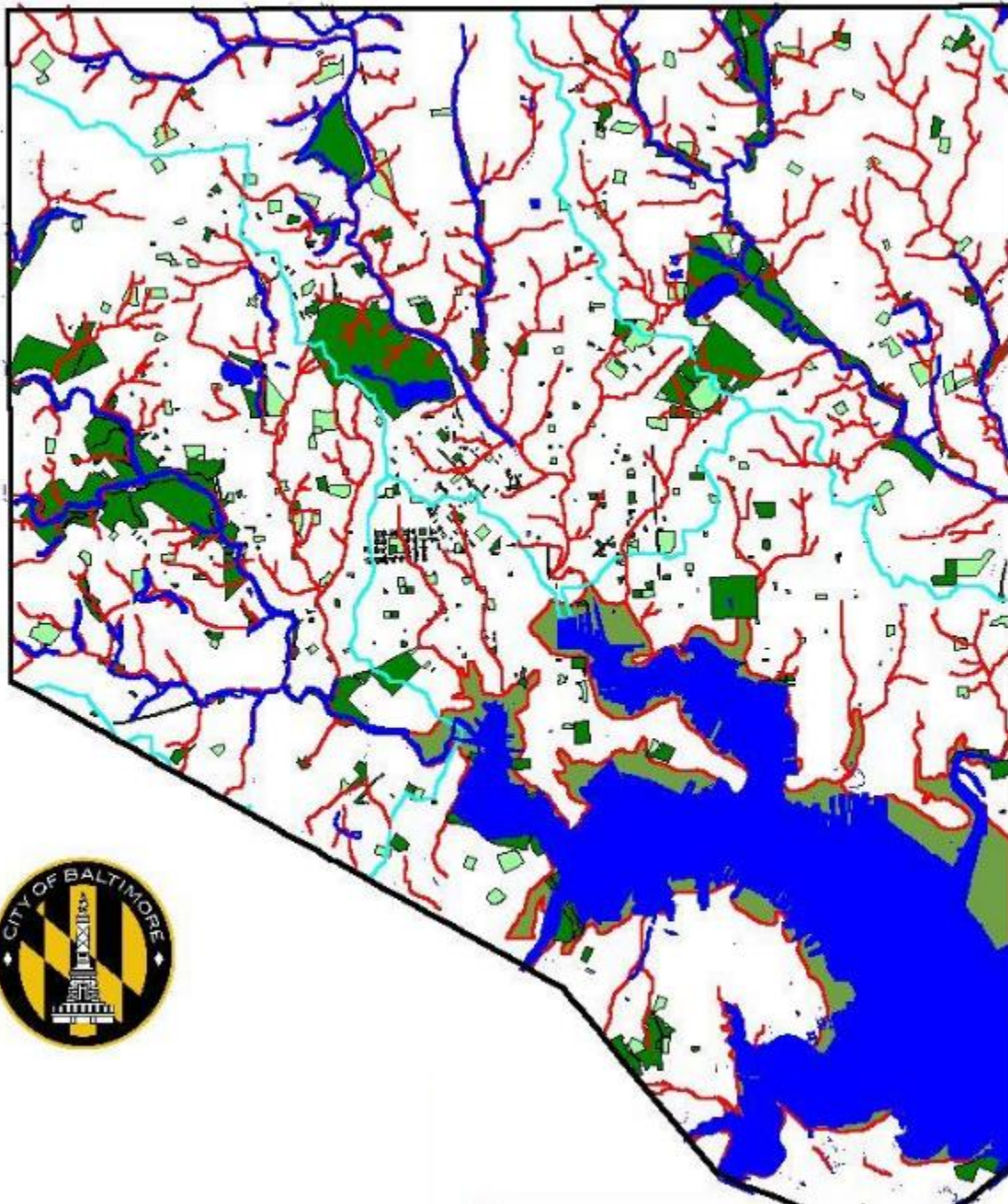


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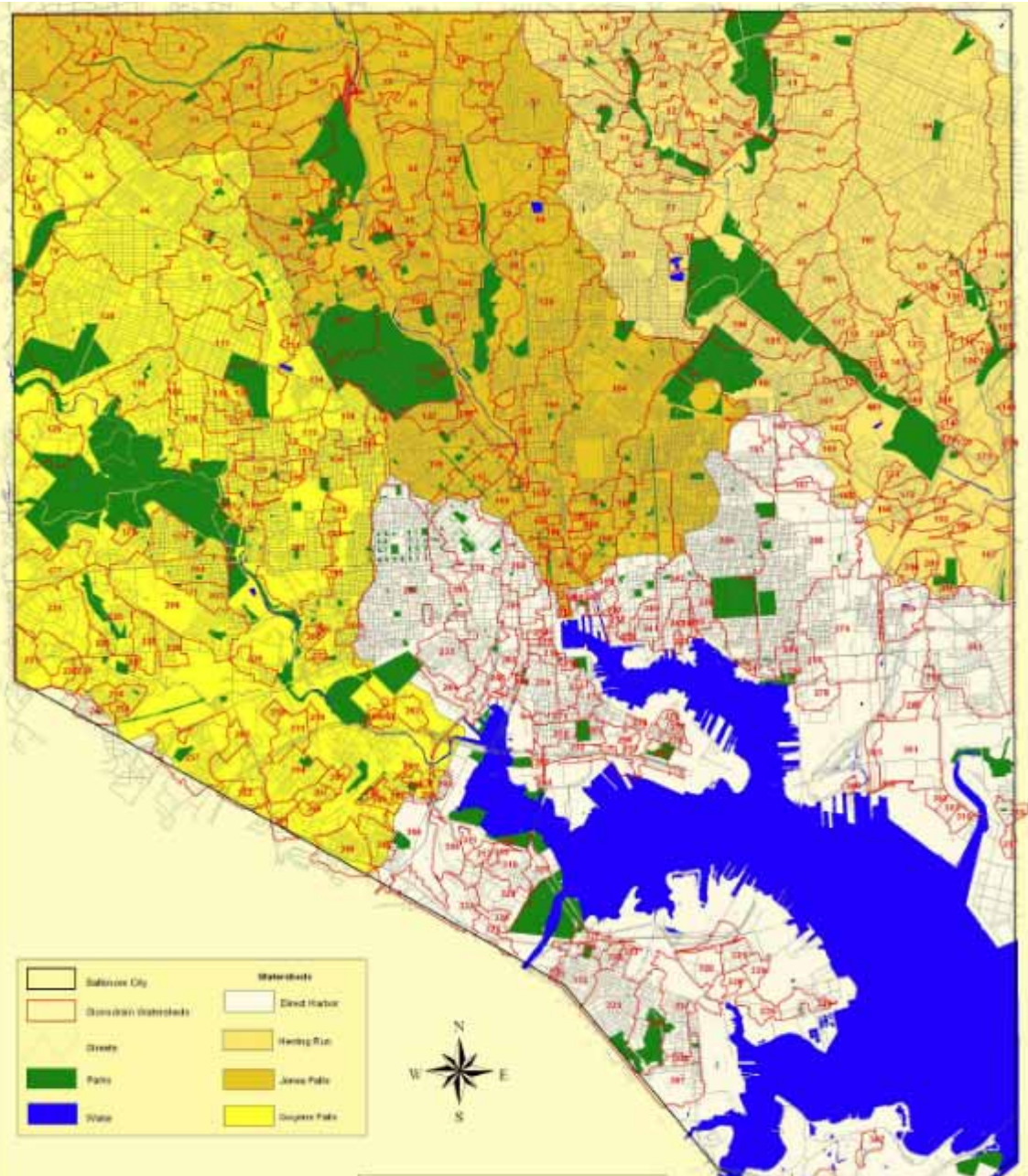




BALTIMORE ECOSYSTEM TRANSFORMED

Redlines are
buried streams

Light green
areas area
wetlands filled in
along the
shoreline



PROJECT APPROACH: PROJECT INSPIRATION

- UNDERSTAND THE COMMUNITY/PARTNER
- UNDERSTAND WHAT FUNDERS ARE LOOKING TO FUND
- WORK WITH COMMUNITY/PARTNER TO IMPROVE THINGS THAT MATTER TO THEM
- DEVELOP A ROUGH PROJECT SCOPE AND ALIGN ANY ADDITIONAL PARTNERSHIPS
- DETERMINE SCHEDULE, BUDGET, & ROLES

WATERSHED 263 PARTNERS



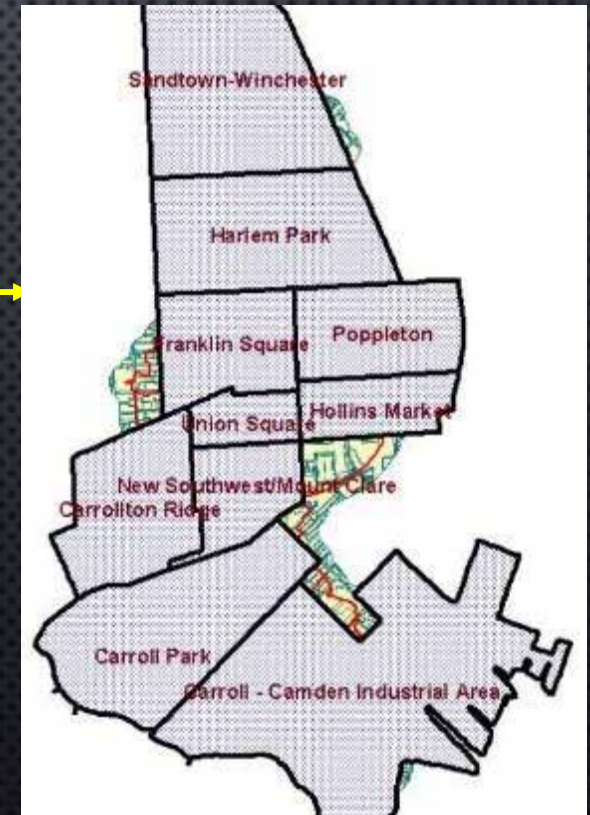
Funding partners



Project Coordination and Stakeholder Involvement



WS263 Communities



Research and implementation partners



Watershed Plan Development and Implementation

WATERSHED 263 GOALS

PREPARE AND IMPLEMENT
AN INNOVATIVE URBAN
WATERSHED RESTORATION
PLAN TO:

- MEASURABLY IMPROVE
STORMWATER
- IMPROVE QUALITY OF
LIFE



GOAL: MEASURABLY IMPROVE STORMWATER

- REDUCE UNNEEDED IMPERVIOUS SURFACE
- CREATE NEW USABLE GREEN SPACE
- IMPROVE MANAGEABILITY OF STORMWATER
- IMPROVE COMMUNITY STEWARDSHIP AND PROJECT INVOLVEMENT



GOAL: IMPROVE QUALITY OF LIFE

- CLEAN NEIGHBORHOODS
- SAFE & DRUG-FREE
- GOOD SCHOOLS AND HOUSING
- RECREATION ON GREEN OPEN SPACES
- GREATER COMMUNITY INVOLVEMENT
- HEALTHY ENVIRONMENT AND CLEAN WATER



ADDITIONAL BENEFITS

- INCREASE WILDLIFE HABITAT
- DECREASE HEAT ISLAND EFFECT
- INNOVATIVE PRACTICES, WITH POTENTIAL FOR RESEARCH
- LOWER MAINTENANCE NEEDS



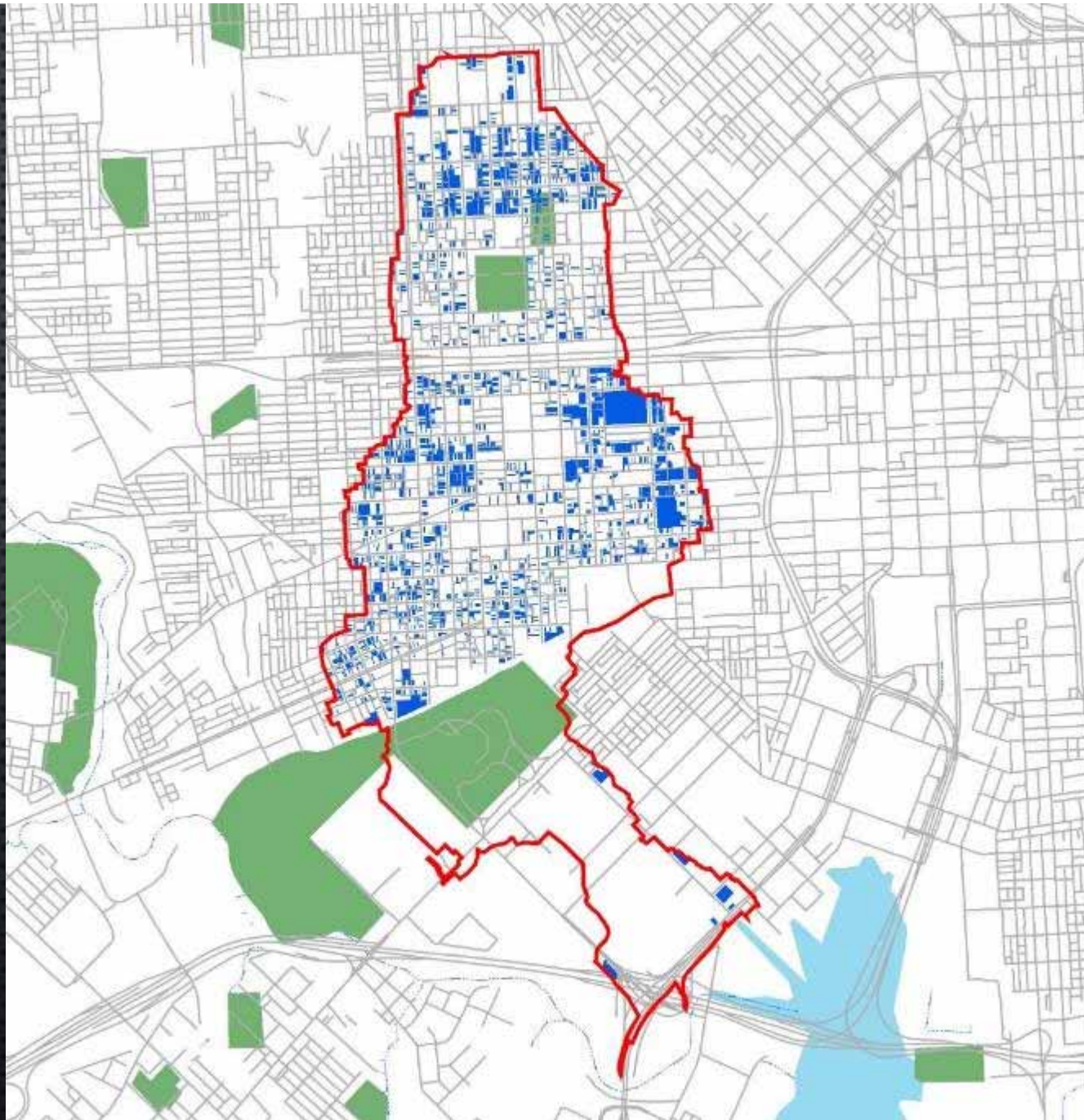
OPPORTUNITIES

- GREEN & COMPLETE STREETS, ALLEYS
- RECREATION SPACES
- SCHOOLYARDS
- VACANTS TO VALUES – DEMOLITION CLUSTERS AND ADOPTED VACANT LOTS
- COMMUNITY-MANAGED OPEN SPACES
- TREE BALTIMORE (40% TREE CANOPY GOAL)

WATERSHED 263

- 12 NEIGHBORHOODS IN A 935 ACRE STORMWATER SEWERSHED WITH A BURIED STREAM.
- HOME TO 27,870 PEOPLE IN MINORITY AND ECONOMICALLY CHALLENGED NEIGHBORHOODS (31% DECLINE 1990)
- ENTIRELY URBANIZED WITH 1/3 COMMERCIAL / INDUSTRIAL AND 2/3 RESIDENTIAL LAND USES (27% BUILDINGS).
- HIGH IMPERVIOUS SURFACE (74% WITH 47% PUBLIC INFRASTRUCTURE), SMALL AREA IN GROUND COVER (20%) AND VERY LOW TREE CANOPY (5.9%).
- SIGNIFICANT BUT DISPERSED PUBLIC OPEN SPACE OF 30% IN PARKS AND SCHOOL AND OVER 2000 VACANT LOTS (2%).

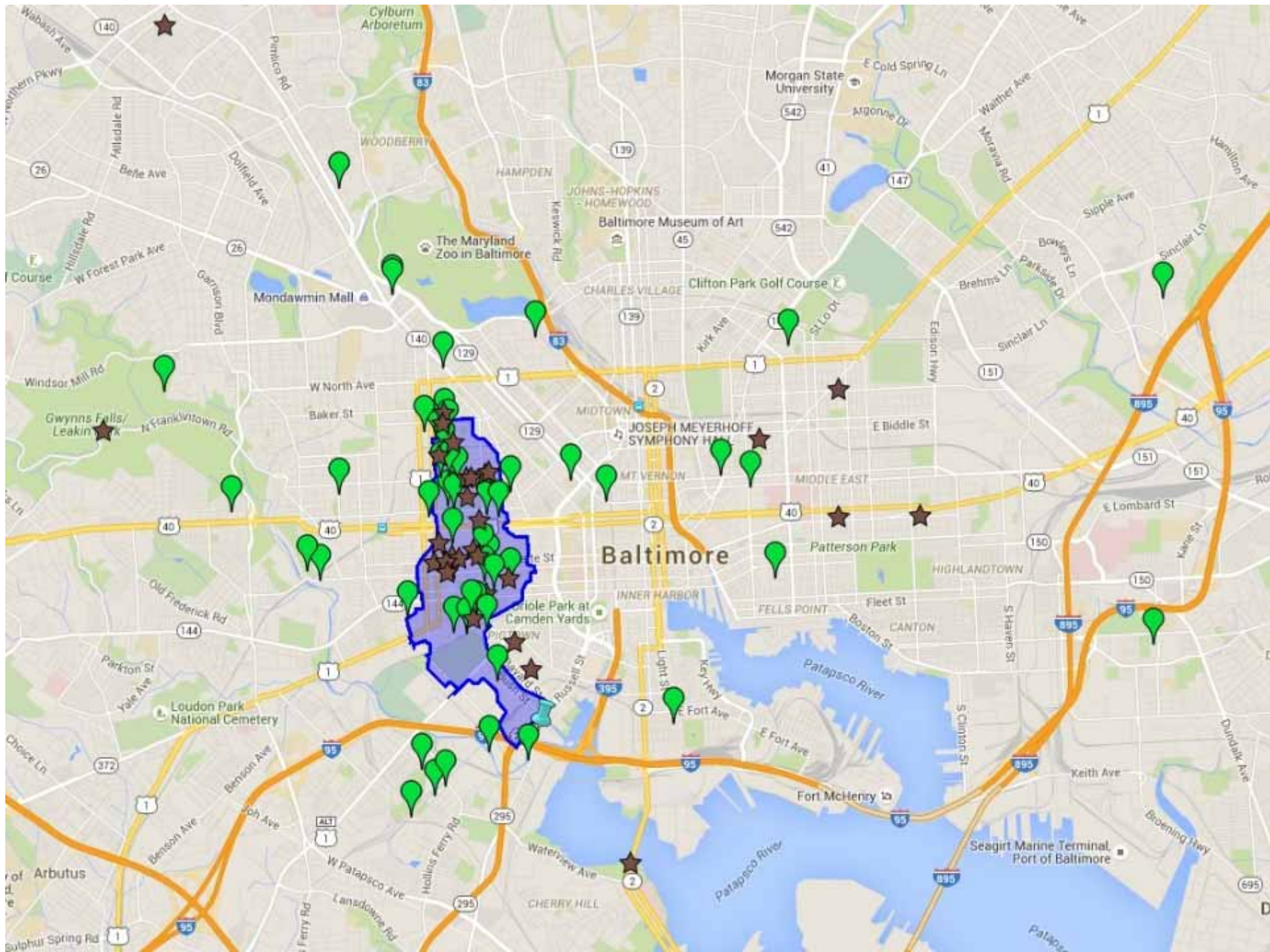




2001 Vacant Parcel Map: City of Baltimore

85 MULTI-YEAR PROJECTS (\$10 MIL) COMPLETED OR UNDERWAY CLASSIFIED BY TYPE:

- REMOVAL OF ASPHALT FROM SCHOOLYARDS, ADDING RAIN GARDENS AND OUTDOOR CLASSROOMS/READING CIRCLES
- REMOVAL OF ASPHALT FROM OLD TRANSPORTATION AND PLAYGROUND FACILITIES, SCHOOLYARDS, "HARDSCAPE" PARKS, PUBLIC HOUSING COURTS
- STORMWATER INFILTRATION INTO STREET TREE WELLS
- STORMWATER HARVESTING FOR URBAN FARMS
- ROADWAY CURB EXTENSION BIO-SWALES TO CAPTURE STORMWATER
- REPURPOSE VACANT LOTS AS STORMWATER BIO-INFILTRATION FACILITIES
- SOIL STABILIZATION OF SLOPES AND RIPARIAN AREAS
- BEAUTIFICATION, AND RAIN GARDENS



PROJECT APPROACH: PROJECT DESIGN

- UNDERSTAND THE COMMUNITY/PARTNER & GET THEIR INPUT TO NARROW DOWN DESIGN
- SOLICIT & AWARD BIDS FOR DESIGN
- REVIEW DESIGN & BUDGET WITH COMMUNITY/PARTNER, AFTER VERIFYING CONSTRUCTABILITY
- FOSTER THE PERMITTING & APPROVAL PROCESSES

PROJECT APPROACH: PROJECT IMPLEMENTATION

- KEEP EVERYONE ON SCHEDULE!! COMMUNICATE A LOT.
- SOLICIT & AWARD BIDS FOR CONSTRUCTION
- REVIEW ACTIVE CONSTRUCTION FOR COMPLIANCE
- APPROVE, PAY, AND TRACK ALL BILLS

2015 ACCOMPLISHMENTS:



35 PROJECTS (\$3.5 MIL)
2.6 ACRES OF NEW BMPS



775 TREES (470 SHRUBS
& 7000 PERENNIALS)



100,000 SF OF
IMPERVIOUS

730,000 SF OF DRAINAGE
AREA

245 NEW STREET
TREE PITS

3,000 SF OF
PERMEABLE SURFACING

9800 SF OF SOILS
STABILIZED

790 VOLUNTEERS (270
OF WHICH ARE YOUTH)

BLUE WATER BALTIMORE

- PURPOSE: USE COMMUNITY BASED RESTORATION, ADVOCACY, AND EDUCATION TO ACHIEVE CLEAN WATER IN THE BALTIMORE WATERSHEDS
- PROGRAMS:
 - URBAN FORESTRY
 - SCHOOL RESTORATION
 - STORMWATER MANAGEMENT
 - BLUE WATER CONGREGATIONS
 - PUBLIC POLICY AND LEGISLATIVE ADVOCACY
 - ADOPT-A-STREAM



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BLUE WATER BALTIMORE

- WORKING WITH COMMUNITY GROUPS, SCHOOLS, AND FAITH BASED ORGANIZATIONS TO IMPLEMENT LARGE-SCALE GREEN INFRASTRUCTURE PROJECTS



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Blue Water Congregations

Is your congregation ready for a Rain Garden? Or to remove impervious pavement? Put in some rain barrels?

Interfaith Partners for the Chesapeake in partnership with [Blue Water Baltimore](#) and grant funding provided by the [National Fish & Wildlife Federation](#) are excited to offer this outstanding program FREE to congregations in Baltimore City/County [within the Gwynns Falls, Jones Falls, Herring Run and Baltimore Harbor watersheds](#).



Based upon the results of water audits completed by Blue Water Baltimore, the following congregations are considering plans such as installing rain gardens, cisterns or rain barrels, removal of impermeable surfaces, etc., in addition to pursuing any other issues they feel called to address within their communities. Ultimately, we will be helping these congregations apply for grant funding to help make their greening vision a reality. IPC wants to work together to get YOUR congregation started in the program, too! For more information contact Bonnie Sorak at bonnie@interfaithchesapeake.org. Downloadable informational flyer [HERE](#).



RESTORATION PROJECTS

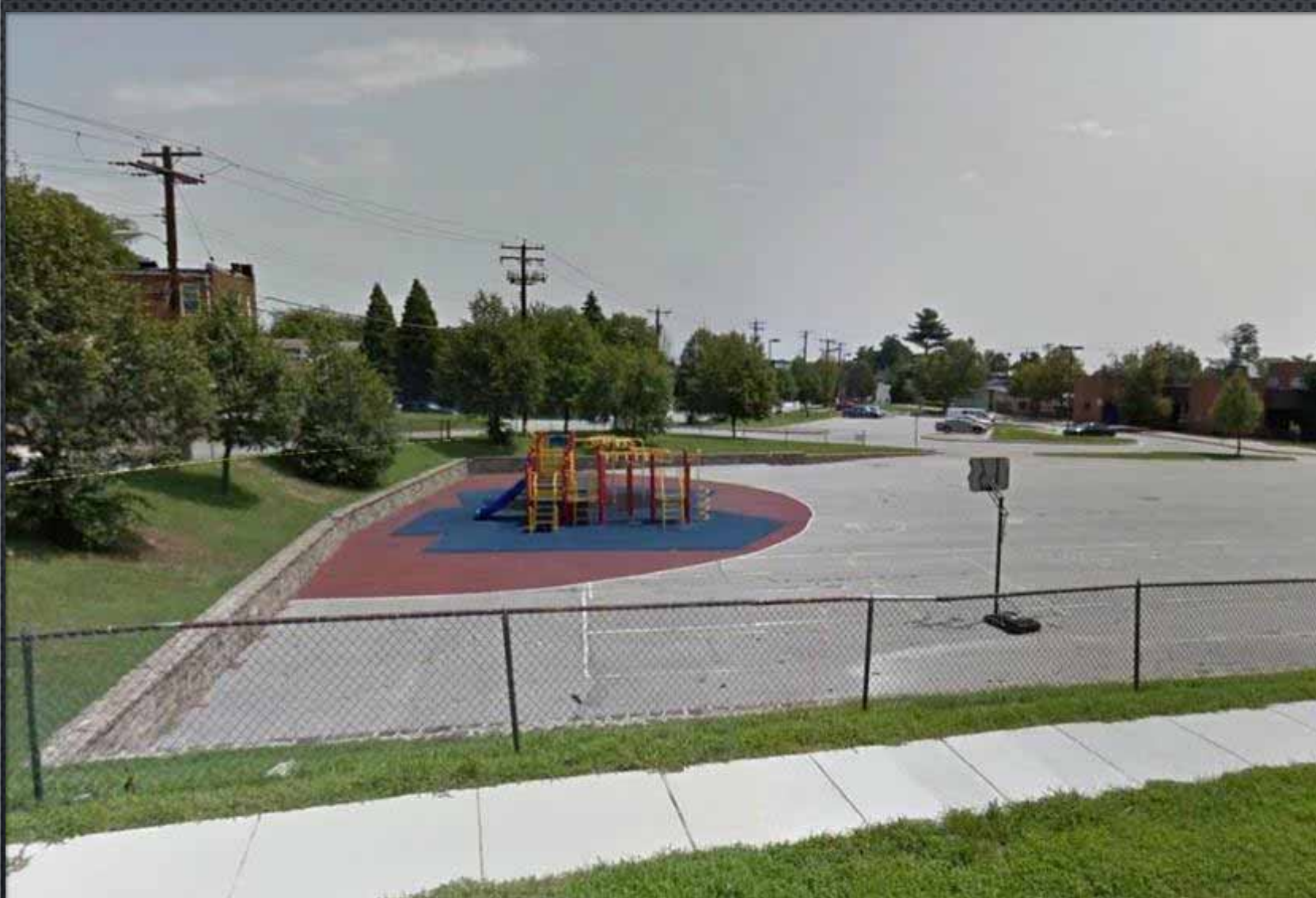
IMPERVIOUS REMOVAL



ACADEMY FOR COLLEGE AND CAREER EXPLORATION IMPERVIOUS REMOVAL AND RAIN GARDEN

BLUE WATER BALTIMORE, JMT, STORMWATER MAINTENANCE LLC, P. FLANIGAN & SONS
CHESAPEAKE BAY TRUST





GUILFORD ELEMENTARY SCHOOL IMPERVIOUS REMOVAL

BLUE WATER BALTIMORE, JMT, STORMWATER MAINTENANCE LLC

DNR CHESAPEAKE & ATLANTIC COASTAL BAY TRUST FUND, CHESAPEAKE BAY TRUST

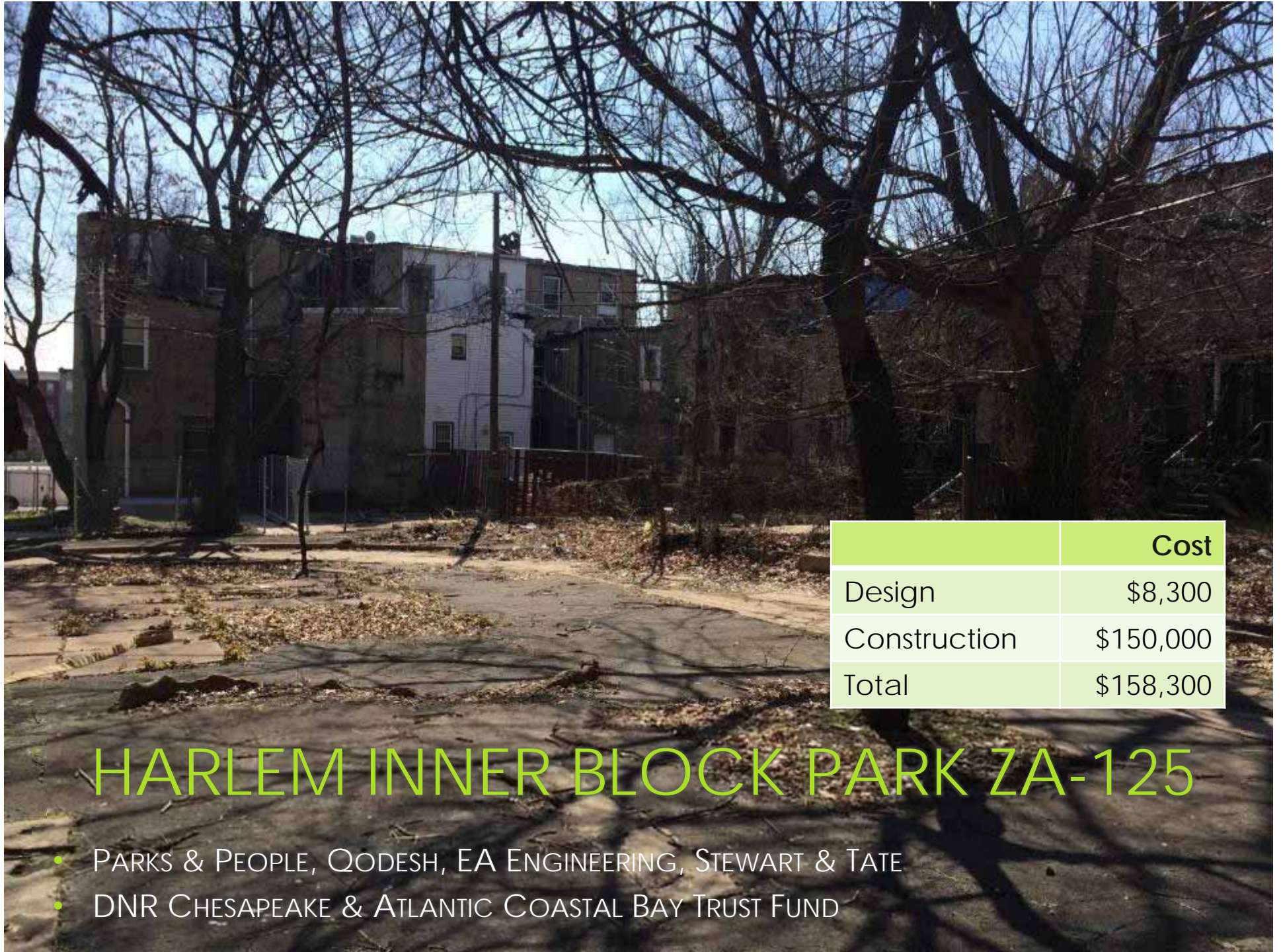




	Cost
Design	\$26,000
Construction	\$260,000
Total	\$286,000

BALTIMORE INTERNATIONAL ACADEMY IMPERVIOUS REMOVAL AND STORMWATER PLANTER DESIGN

BLUE WATER BALTIMORE, CITYSCAPE ENGINEERING, P. FLANIGAN AND SONS
DNR CHESAPEAKE & ATLANTIC COASTAL BAY TRUST FUND



	Cost
Design	\$8,300
Construction	\$150,000
Total	\$158,300

HARLEM INNER BLOCK PARK ZA-125

- PARKS & PEOPLE, QODESH, EA ENGINEERING, STEWART & TATE
- DNR CHESAPEAKE & ATLANTIC COASTAL BAY TRUST FUND







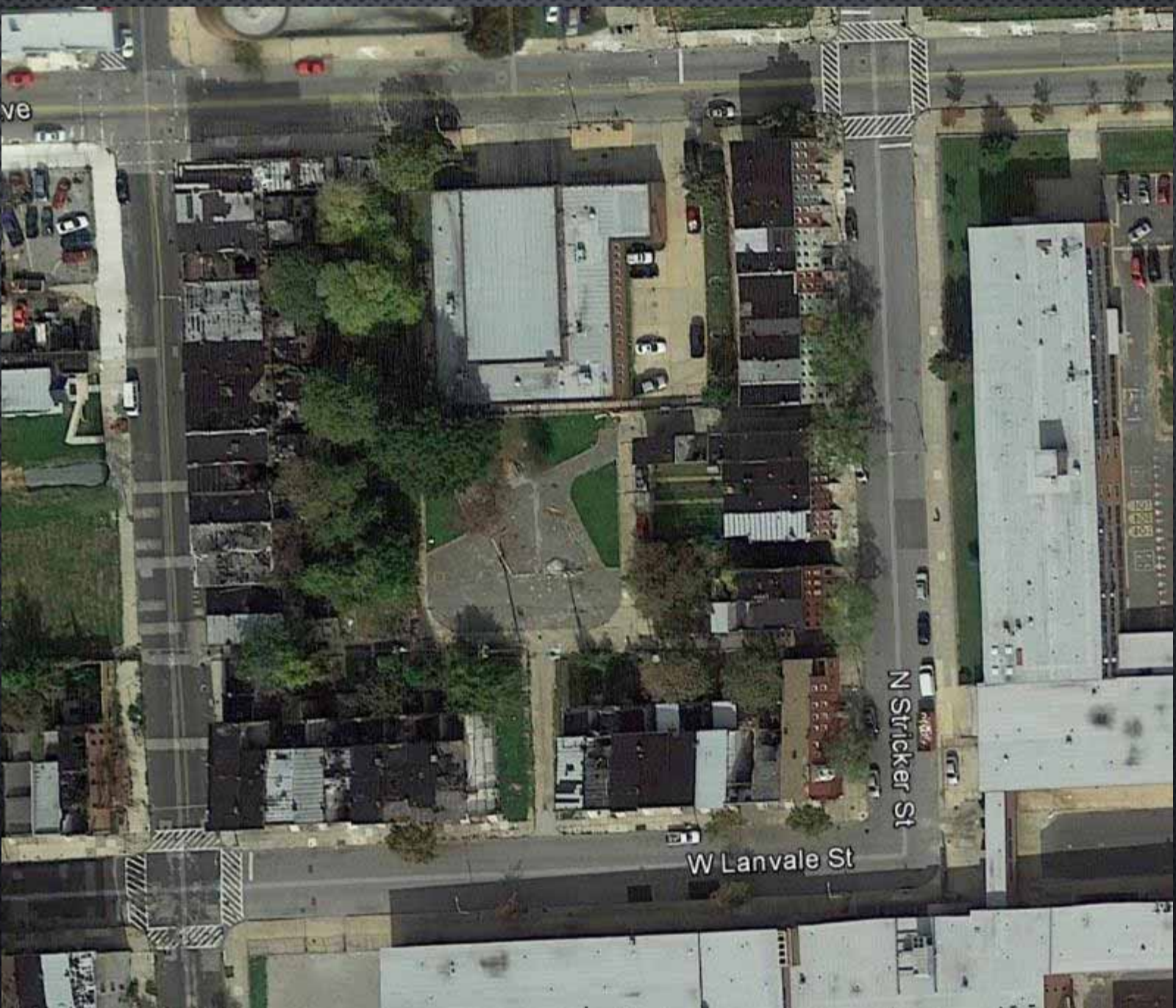
Treatment Summary

IA Removed	14,000 sf
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HARLEM PARK INNER BLOCK PARKS IC REMOVAL

PARKS AND PEOPLE FOUNDATION, STEWART & TATE CONSTRUCTION, NEIGHBORHOOD DESIGN CENTER, CITYSCAPE
ENGINEERING, DESIGN WITH NATURE
DNR CHESAPEAKE & ATLANTIC COASTAL BAY TRUST FUND











Harlem Park Inner Block 127

Edmondson Avenue, North Arlington Avenue, West Franklin Street, and North Carrollton Avenue, Baltimore, MD



Key

-  Asphalt: Remove and Replace Topsoil, Seed with Grass
-  Concrete: Remove and Replace Topsoil, Seed with Grass
-  Vegetation to Remain
-  Healthy Existing Tree
-  Removeable Existing Tree
-  Park Structure/Equip. to Remain
-  Removeable Park Structure/Equip.
-  Stormwater Drain
-  Overhead Utility Line
-  Site Boundary
-  2 ft. Contour Interval

Total amount of asphalt on site: 12,500 sq. ft.
Total amount of concrete on site: 3,000 sq. ft.

Base map is for planning purposes only. See specifications for implementation instructions.













HARLEM INNER BLOCK PARKS

- 5 PROJECTS COMPLETED IN PHASE 1
- 5 ADDITIONAL SITES UNDER DESIGN/CONSTRUCTION

Treatment Summary (5 Projects)	
IA Removed	37,821 sf
WQv Treated	2,994 cf

	Cost
Design	\$15,000
Construction	\$530,000
Total Grant	\$545,000

HARLEM INNER BLOCK PARKS

- COMMUNITY ENGAGEMENT
 - CHANGED PERCEPTION OF NEIGHBORHOOD. FOCUS SHIFTING FROM BLIGHT AND NEGLECT TO UNIQUE VALUE OF 24 PARKS.
 - INVOLVEMENT IS CRUCIAL IN GETTING BUY-IN AND HAVING SUCCESS
 - INCREASED AWARENESS AND REPORTING (I.E. DUMPING, TURF DAMAGE)
- MAINTENANCE
 - BCRP RESPONSIBLE FOR MAINTENANCE (MOWING)
 - EQUAL OR LESS BURDEN THAN PRE-PROJECT MAINTENANCE
 - NEED TO PRIORITIZE IMPORTANCE/QUALITY OF THESE SPACES

IMPERVIOUS REMOVAL PROJECTS

- DESIGN & CONSTRUCTION
 - UNDERLYING SOIL AMENDMENT AND SODDING
 - STABILITY OF REMAINING PAVEMENT EDGES
- WORKED CLOSELY WITH DPW TO STREAMLINE SWM/ESC REVIEW FOR STAND-ALONE IMPERVIOUS REMOVAL PROJECTS
- SERVING AS BASIS FOR SPECIFICATIONS AND STANDARD DETAILS ON FUTURE IMPERVIOUS REMOVAL PROJECTS

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