

STORMWATER BASICS IN PRINCE GEORGE'S COUNTY

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ENVIRONMENTAL
JUSTICE- THE THREAD
THAT TIES ALL OF DOE'S
PROGRAMS TOGETHER



EPA DEFINITION OF ENVIRONMENTAL JUSTICE

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys:

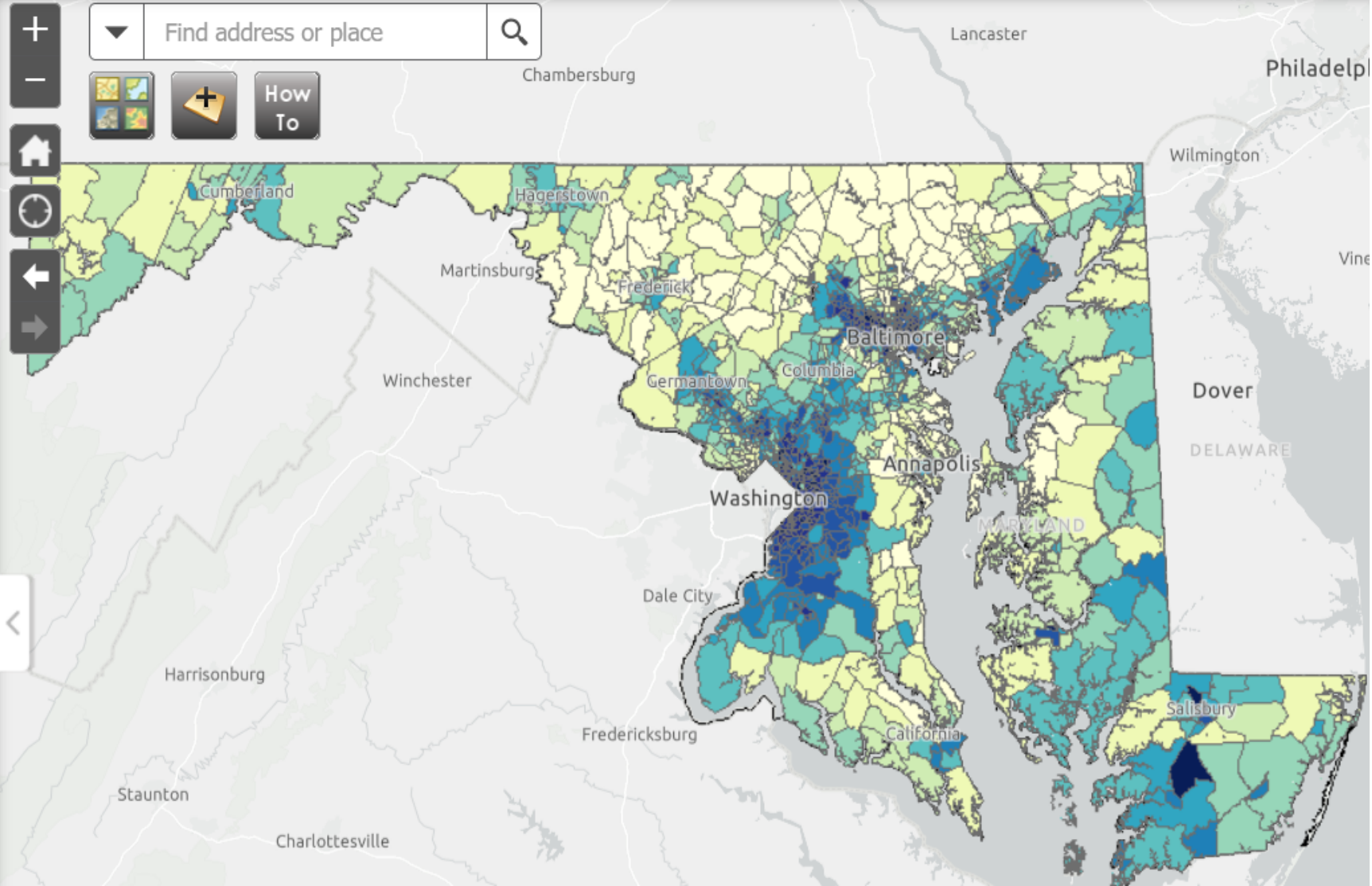
- The same degree of protection from environmental and health hazards, and
- Equal access to the decision-making process to have a healthy environment in which to live, learn, and work.



Layers



- ActiveHighAirEmissions - Active High Emission Facilities - Heat Map (MDE Map Service) ...
- Active High Air Emission Facilities (MDE Map Service) ...
- LRP Sites ...
- MD_Dams - Maryland Dam Locations ...
- MD Ponds _ Maryland Pond Locations ...
- WIMS - Wastewater Discharge Facilities ...
- MD_StateMask - State Boundary Mask ...
- Effective FEMA Floodplain ...
- MDE Historic Mines ...
- MD Point Source Discharges (MD iMap Map Service) ...
- SolidWasteFacilities ...
- MDE EJ Scores Final with 3 key Indicators ...



EJ40 IS CHANGING THE FOCUS, FROM ONLY UTILIZING THE MOST COST-EFFECTIVE WAY TO DEAL WITH WATER QUALITY, GIVING US THE OPPORTUNITY TO GO AFTER THE 'HARD' PROJECTS BY LEVERAGING FUNDING SOURCES

- EJScore (Census Tract)
 - 0 - 0.5
 - 0.51 - 0.75
 - 0.76 - 0.9
 - 0.91 - 1
 - No Data
- EJScore (County) Natural Br
- EJScore (County)
- Exposure
- Environmental Effect
- Sensitive Populations
- Socioeconomic Factors

“we are part of an economic engine, directing perhaps millions of dollars of investment into contracts, consulting, and procurements. These dollars have the power to uplift local, diverse communities.”

- EQUITY GUIDE for Green Stormwater Infrastructure Practitioners

MORE THAN
ANYTHING ELSE-
EQUITY MEANS A
SEAT AT THE
TABLE –
INCLUDING
SUPPORT TO
OVERCOME THE
BARRIERS
BETWEEN YOU AND
THAT SEAT

PHOTO: CLEAN WATER
PARTNERSHIP



WHAT IS STORMWATER- THE BASICS



STORMWATER MANAGEMENT ENTERPRISE FUND

As authorized by Sections 10-262 through 10-264 of the County Code, the Stormwater Management District includes all the land within the boundaries of Prince George's County, Maryland, except for land within the City of Bowie.

For- the planning, designing, acquisition, construction, demolition, maintenance and operation of facilities, practices and programs for the control and disposition of storm and surface waters, including floodproofing and flood control and navigation. These actions ensure the availability to residents and property owners of the Stormwater Management District an efficient and safe operating service. The Stormwater Management Enterprise Fund funds stormwater management activities within the district and responsibility for administering these activities is shared between the Department of the Environment and the Department of Public Works and Transportation.

Sec. 10-263. - Stormwater Management Tax.



- (a) Pursuant to Article 29, Section 3-205 of the Annotated Code of Maryland, there is hereby imposed a direct ad valorem tax on all property assessed for tax purposes within the Storm Management District, except as otherwise provided in this Section, at a rate required to produce the amount needed to pay for stormwater management operations and activities within the District and to pay for the principal, interest and other obligations which shall become due and owing during the ensuing year to the holders of bonds issued by the Washington Suburban Sanitary Commission and by the County for stormwater management.
- (b) Taxes imposed under this Section shall be levied and collected in the same manner, have the same priority, bear the same interest and penalties, and be treated in all respects as other County property taxes, except as provided by State law.
- (c) The following property shall be exempt from the imposition of the Stormwater Management Tax:
 - (1) Property owned by the State or an agency of the State, the County, a municipality, or a regularly organized volunteer fire department; and
 - (2) Property which is not yet provided direct or indirect stormwater management services, but only until such time as the County acquires, extends, or commences stormwater management services, facilities, or programs to the property.

(CB-62-1987)

LOCAL WATERSHED PROTECTION & RESTORATION FUND

- Effective July 1, 2013, the County established a Watershed Protection and Restoration (WPR) Program, in accordance with the provisions of House Bill (HB) 987. County legislation adopted by the County Council established the authority and agency responsibilities needed to administer the WPR program.
- The Local Watershed Protection and Restoration Fund, also known as the Water Quality Fund, supports the requirements to meet federal mandates for impervious area restoration through retrofit, storm water controls and mandated rebate programs intended to improve water quality in the Chesapeake Bay.

WATER QUALITY

Ensuring that water meets certain standards as it moves across surfaces and into the streams, rivers and eventually Chesapeake Bay, generally by slowing it down and allowing it to permeate into the soil to the extent possible

Lead Agency- DoE

Supporting Agencies – DPIE, DPWT, SCD

Regulated by Clean Water Act as implemented through Maryland Department of Environment's NPDES/MS4 permit

Funded with Stormwater Fund and Clean Water Fund, as well as grants and State Revolving Fund (loans)

NPDES/MS4/TMDL/SWPPP

- **National Pollutant Discharge Elimination System (NPDES)** is a program established by the Federal Clean Water Act and implemented by MDE
- **Municipal Separate Storm Sewer System.** A separate storm sewer system is any conveyance that transports storm runoff directly to a receiving stream.
- TMDL stands for "**Total Maximum Daily Load**". A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can accept and still meet the state's Water Quality Standards for public health and healthy ecosystems.
- SWPPP is an acronym for **Stormwater Pollution Prevention Plan**

WATER QUALITY REQUIREMENTS

- The County is in a NPDES/MS4 Consent Decree to make up for past failures to manage water quality- the period of the C/D ends in calendar year 2024
- The County has been issued a NEW permit that began December 2, 2022; the permit is issued for a period of 5 years and will run through December 1, 2027
- For FY23-FY25 we will have to continue to meet the requirements of the C/D and begin work on the new permit.
- We will submit a Financial Assurance Plan to Council for approval after December 31, 2022- which will detail the anticipated costs of compliance with the remaining requirements of the consent decree. As part of the budget process, we will also discuss the costs of the new permit.

WATER QUANTITY (FLOODING)

Reducing the risks to persons, places and things from water flowing rapidly from one place to another, rising from rivers and streams, and pooling in certain locations.

Reducing flooding is often a co-benefit of water quality projects, but is not the primary goal of them.

Supporting Agencies- DOE, DPWT, DPIE, SCD, OEM

Funded with Stormwater Fund dollars, as well as FEMA and ARPA grant dollars.

In DOE, this work is partially in SMD and partially in SD.

FY23 STORMWATER BUDGET

Agency- Fund	FY2023 Operating
DoE- SW	75.8M (29.5M debt)
DoE- CW	20.6M (2.2M debt)
DPWT -SW	21.4M
DPIE	-
SCD	-
TOTAL	117.2M

Category/ Description	Total Project Cost	Life to Date Actual	FY 2022 Estimate	Total 6 Years	Budget Year FY 2023
EXPENDITURE					
PLANS	\$142,164	\$75,725	\$18,320	\$48,119	\$13,261
LAND	4,936	181	405	4,350	325
CONSTR	840,973	281,214	126,167	433,592	133,967
EQUIP	—	—	—	—	—
OTHER	97,084	76,903	3,218	16,963	2,200
TOTAL	\$1,085,157	\$434,023	\$148,110	\$503,024	\$149,753
FUNDING					
FEDERAL	\$57,671	\$3,421	\$7,746	\$46,504	\$27,251
STATE	19,474	4,363	11,900	3,211	3,211
SW BONDS	704,034	313,634	54,834	335,566	61,444
OTHER	303,978	57,538	133,179	113,261	54,209
TOTAL	\$1,085,157	\$378,956	\$207,659	\$498,542	\$146,115
OPERATING IMPACT					

ACHIEVING ENVIRONMENTAL COMPLIANCE HAND IN HAND WITH THE COMMUNITY

ENVIRONMENTAL IMPACT (as of 2022):

- 170 water quality and pollution reduction projects completed to date across nine County Council districts
- 4,500 impervious acres treated for EPA Clean Water Act, County NPDES MS4 Permit mandates, and Chesapeake Bay TMDL permit compliance
- 435 Trees planted and over 14,000 plantings

SOCIAL IMPACT (as of 2022):

- 79% Target Class Participation – MBE, CBBE, CBMBE, CBSBE, CLBE, LBSB
- 63% Resident Workforce Utilization
- 45 Mentor-Protege Businesses Incubated
- 100+ paid internships for County youth
- \$1.67M invested in County youth environmental literacy programs.





Flooding near Cheverly Metro Station



Street sweeper



Birchview Drive, Clinton

EXPLORING SOLUTIONS ABOVE & BEYOND REGULATION FOR GREATER RESILIENCY

- Integrated production opportunities to meet County Clean Water regulatory NPDES permit requirements and local flood reduction.
- Continued LSMBE business inclusion; resident workforce utilization; community outreach and investment participation throughout the county.
- Long term retrofit and maintenance of existing County storm drain and storm water infrastructure.
- Increase synergies to include alternative crediting (e.g., street sweeping) and flood reduction for maximum community and environmental benefit.

DIGGING IN ON DRAINAGE



“Too much surface stormwater in my yard and a lack of sufficient storm drain inlets”

“Major stream or swale is causing erosion”

“Clogged storm drains in streets or yards, overflowing onto my property”

“Surface water floods into my parking lot, street, structure, or basement”

“Surface water is ponding in my yard”

“Major stream flooding into my yard, my structure or basement”

“Neighbor’s shed or fence is blocking flow of swale”

“Neighbor’s sump pump discharging into my yard”

“Groundwater and perched water tables draining into my yard areas”



Common Drainage Complaints



Terminology for Discussion



💧 **Flooding (Riverine)**

when the river or stream overtops banks and floods your property, house, building or roads.

💧 **Surface Drainage**

- swales with too much storm flow that inundate your yard or house
- swales blocked causing storm flows to back up or pond on your property
- storm drain pipes and inlets clogged, etc.

💧 **Groundwater Drainage**

- intrusion of groundwater into your basement
- sump pumps not delivering basement water away from your house

💧 **Urban Flooding**

the inundation of property in a built environment, particularly in more densely populated areas, caused by rain falling on increased amounts of impervious surfaces and overwhelming the capacity of drainage systems



Why are we talking flooding?



PDS-based precipitation frequency estimates with 90% confidence intervals (in inches)¹

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.358 (0.325-0.394)	0.430 (0.390-0.473)	0.511 (0.463-0.563)	0.570 (0.515-0.628)	0.646 (0.580-0.712)	0.702 (0.627-0.775)	0.758 (0.672-0.838)	0.812 (0.716-0.902)	0.882 (0.768-0.985)	0.937 (0.809-1.05)
10-min	0.572 (0.519-0.629)	0.688 (0.624-0.756)	0.818 (0.741-0.901)	0.912 (0.824-1.00)	1.03 (0.924-1.14)	1.12 (0.998-1.23)	1.21 (1.07-1.33)	1.29 (1.13-1.43)	1.40 (1.22-1.56)	1.48 (1.27-1.66)
15-min	0.715 (0.649-0.787)	0.864 (0.784-0.950)	1.03 (0.938-1.14)	1.15 (1.04-1.27)	1.31 (1.17-1.44)	1.42 (1.26-1.56)	1.52 (1.35-1.68)	1.63 (1.43-1.80)	1.76 (1.53-1.96)	1.85 (1.60-2.08)
30-min	0.981 (0.889-1.08)	1.19 (1.08-1.31)	1.47 (1.33-1.62)	1.67 (1.51-1.84)	1.93 (1.73-2.13)	2.13 (1.90-2.35)	2.33 (2.07-2.58)	2.53 (2.23-2.81)	2.79 (2.43-3.12)	3.00 (2.59-3.37)
60-min	1.22 (1.11-1.35)	1.50 (1.36-1.65)	1.89 (1.71-2.08)	2.18 (1.97-2.40)	2.57 (2.31-2.84)	2.89 (2.58-3.19)	3.21 (2.85-3.55)	3.55 (3.13-3.94)	4.01 (3.49-4.48)	4.38 (3.78-4.92)
2-hr	1.42 (1.29-1.57)	1.73 (1.57-1.91)	2.19 (1.99-2.42)	2.55 (2.30-2.81)	3.06 (2.74-3.37)	3.47 (3.09-3.83)	3.91 (3.46-4.31)	4.36 (3.83-4.83)	5.01 (4.34-5.58)	5.53 (4.75-6.21)
3-hr	1.52 (1.38-1.69)	1.85 (1.68-2.06)	2.35 (2.12-2.60)	2.75 (2.47-3.04)	3.31 (2.93-3.66)	3.78 (3.35-4.18)	4.27 (3.75-4.73)	4.80 (4.18-5.33)	5.55 (4.77-6.19)	6.17 (5.23-6.93)
6-hr	1.86 (1.69-2.07)	2.26 (2.05-2.51)	2.85 (2.58-3.17)	3.34 (3.00-3.70)	4.06 (3.62-4.50)	4.69 (4.13-5.19)	5.34 (4.67-5.93)	6.06 (5.24-6.76)	7.12 (6.06-8.00)	8.01 (6.71-9.05)
12-hr	2.25 (2.02-2.52)	2.71 (2.44-3.05)	3.45 (3.09-3.87)	4.08 (3.64-4.57)	5.04 (4.44-5.62)	5.87 (5.13-6.57)	6.80 (5.87-7.63)	7.84 (6.67-8.82)	9.42 (7.84-10.7)	10.8 (8.82-12.3)
24-hr	2.60 (2.37-2.90)	3.15 (2.87-3.52)	4.07 (3.69-4.53)	4.87 (4.40-5.41)	6.09 (5.47-6.73)	7.17 (6.39-7.89)	8.40 (7.41-9.20)	9.78 (8.54-10.7)	11.9 (10.2-13.0)	13.8 (11.7-15.0)

June 5, 2020: 50-100-year event

July 3, 2022: 100-200-year event

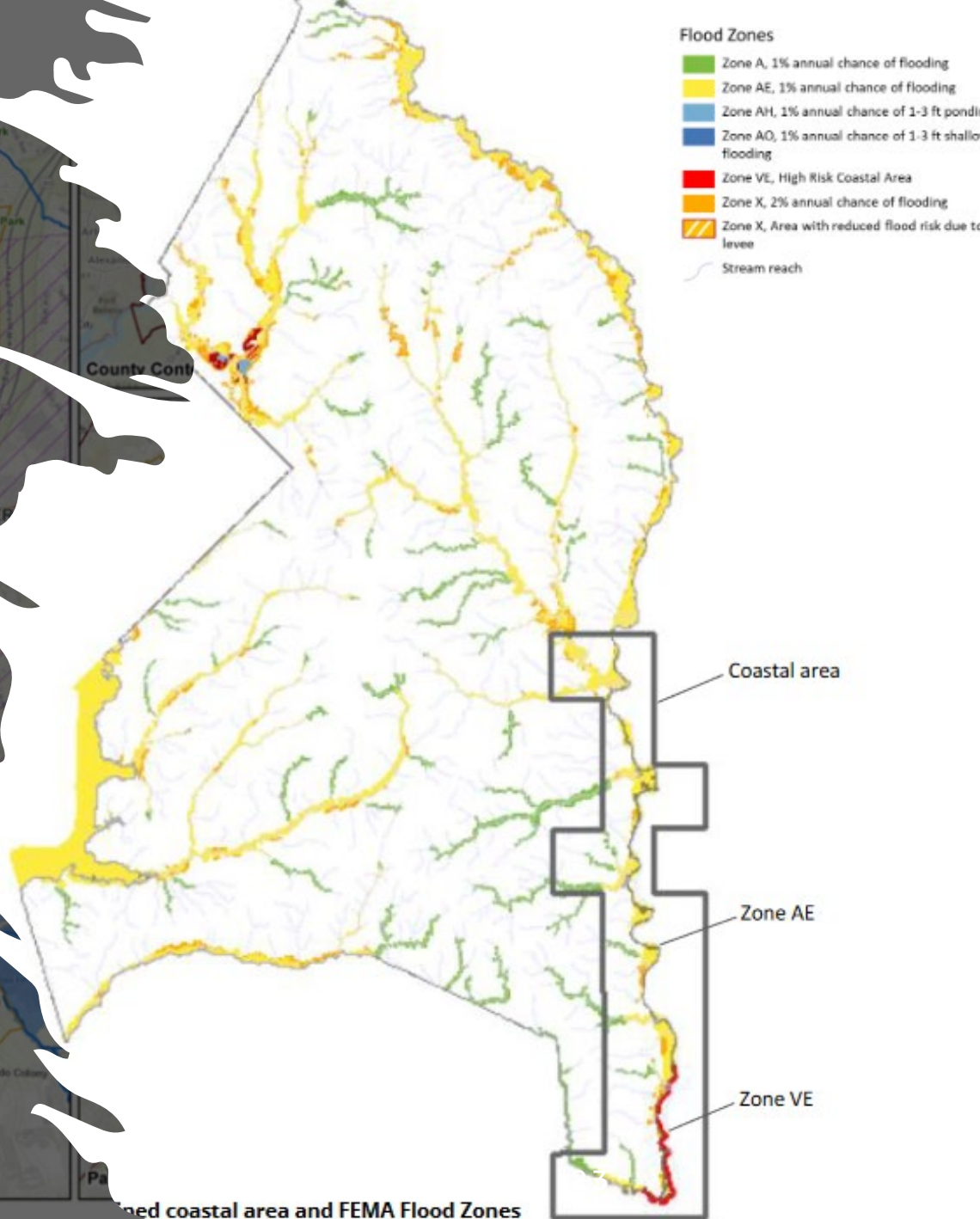
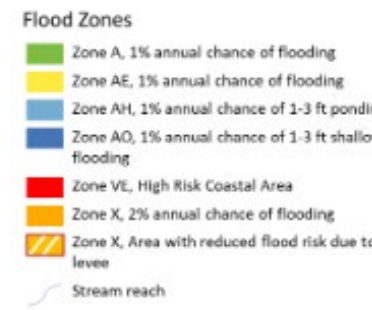
August 3, 2020: 100-500-year event

Sept. 10, 2020: 500-1000-year event

August 8, 2022: 500-year event

NUISANCE FLOOD PLANS

- Phase I- tidal flooding published in December 2020
- Phase II- urban flooding to be published in February 2023





Countywide Drainage Complaints January 2018 thru December 2022



Note: This map only contains service requests in Motorola and Salesforce thru Dec 8, 2022. Does not include 911 calls.

SWM Flood Control Projects (1993 to Present DOE)

◆ Completed (168)

◆ In Progress (23)

311 Drainage Complaints (Jan 2018 to Dec 2022)

● DOE- Flooding and Water RunOff (1,874)

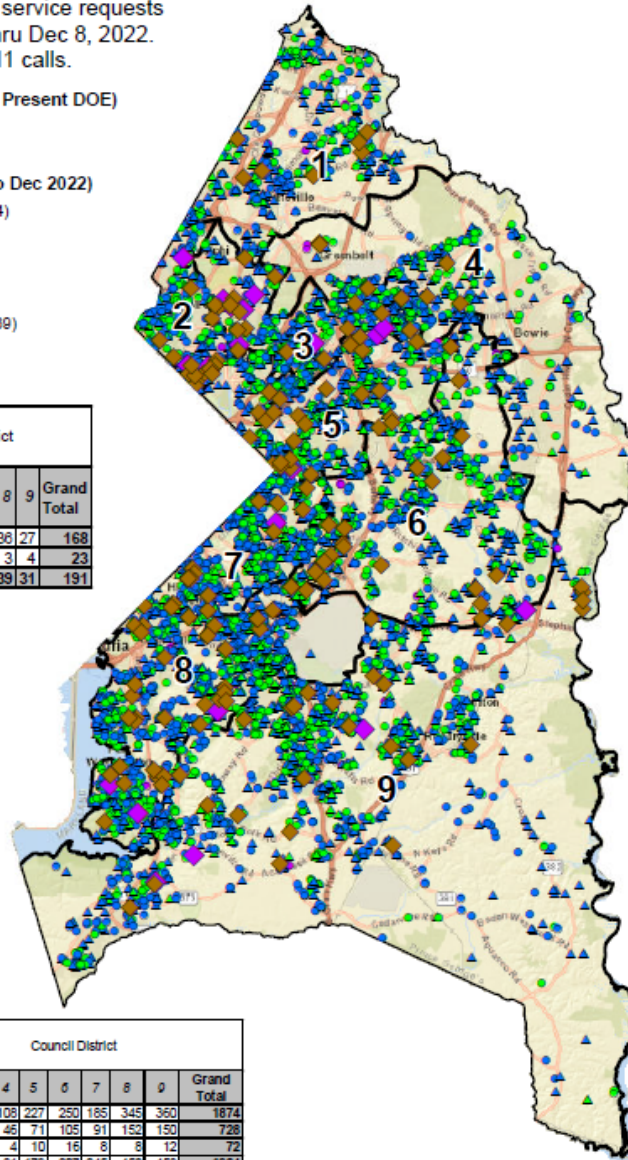
● DPE- Flooding (72)

● DPWT- Flooding (1,984)

▲ DOE- Sinkhole (728)

▲ DPWT- Sinkholes and Storm Drain (3,069)

□ Council Districts



SWM Flood Control Projects (1993 to Present DOE)	Council District									Grand Total
	1	2	3	4	5	6	7	8	9	
Completed	7	14	17	6	20	21	20	36	27	168
In Progress	0	4	8	0	1	0	2	3	4	23
Grand Total	7	17	25	6	21	21	22	39	31	191

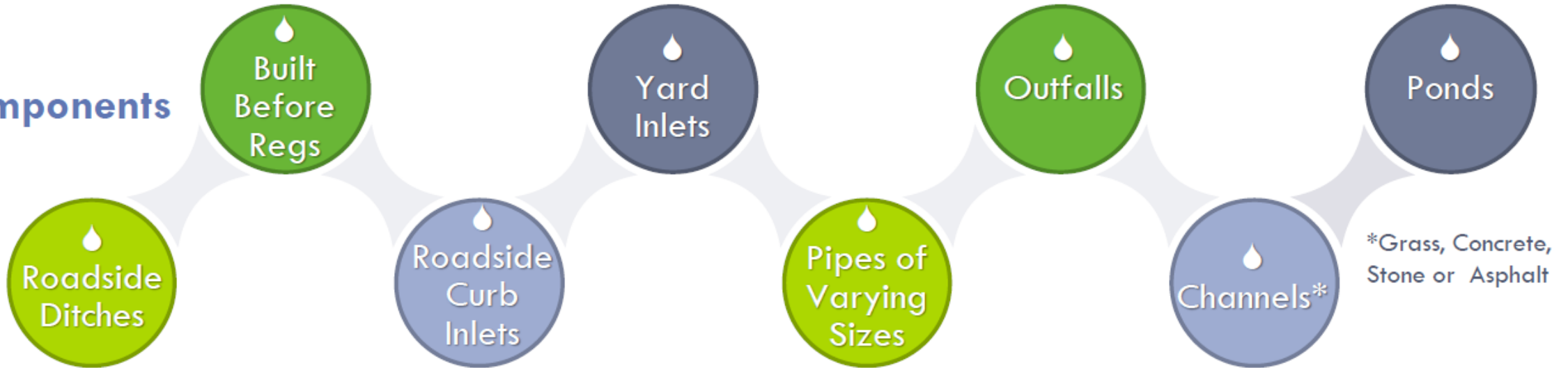
Service Type 311 Drainage Complaints Jan 2018 to Dec 8, 2022	Council District									Grand Total
	1	2	3	4	5	6	7	8	9	
DOE- Flooding and Water RunOff	107	108	184	108	227	250	165	345	360	1874
DOE- Sinkhole	45	13	55	45	71	105	91	152	150	728
DPE- Flooding	5	3	6	4	10	16	8	8	12	72
DPWT- Flooding	99	89	163	91	179	207	245	452	459	1984
DPWT- Sinkholes and Storm Drain	229	101	314	206	348	424	275	528	644	3069
Grand Total	485	314	722	455	835	1002	804	1485	1625	7727

Storm Drain System



It's a network of structures, channels and underground pipes that carry stormwater (rain water) to ponds, lakes, streams and rivers. The network consists of both public and private systems. It's an integral part of the system in the County that is designed to control the quantity, quality, timing and distribution of storm runoff.

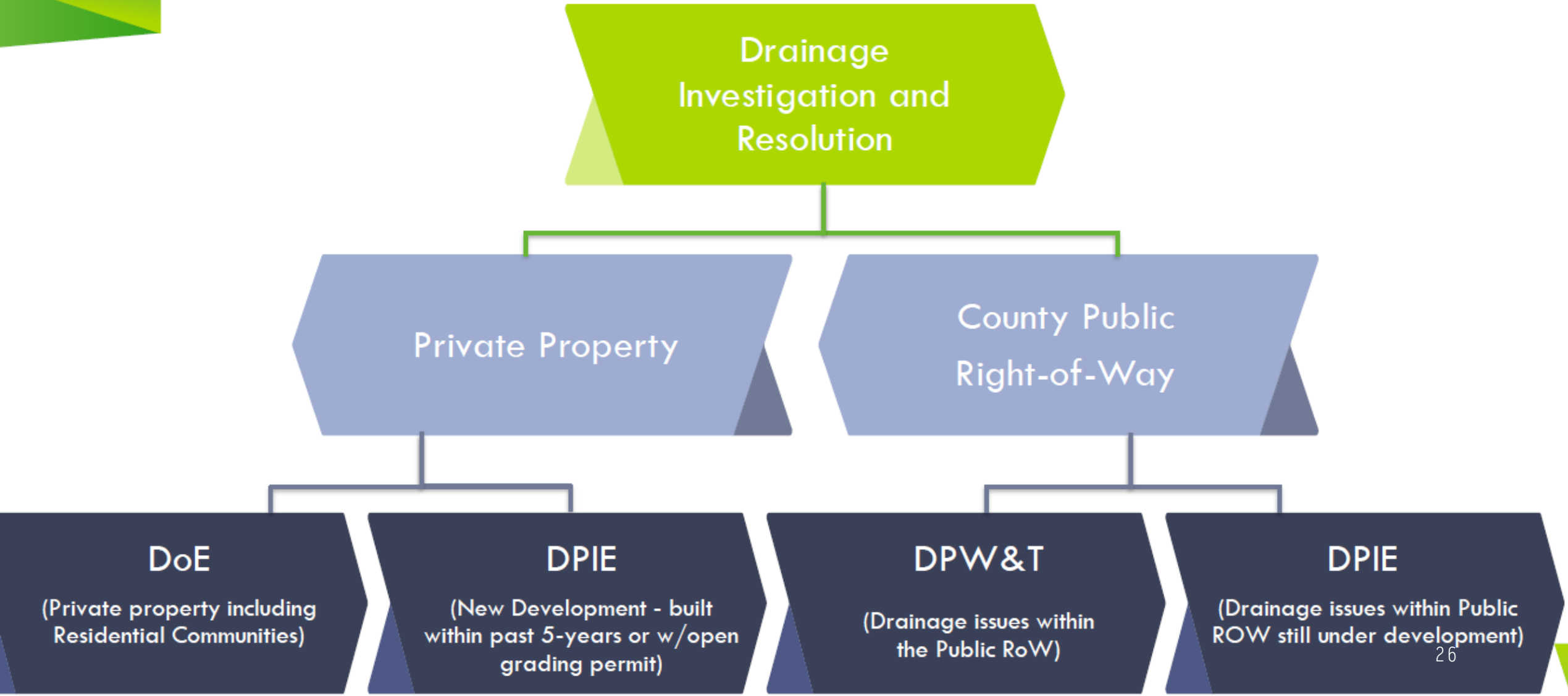
Components



Maintenance of the System

- County maintains the public storm drain system in the public rights of way and those with storm drain easements
- Systems on land owned by others are maintained by the land owner
- Private systems are maintained by the private property owner, including driveway culverts or pipes installed by the property owner outside of the public rights of way

Drainage Relief - Roles of Agencies



ROLES AND RESPONSIBILITIES

— CONTINUED

DPWT

County Right of Way
Public Levees – 7 Public Levees
Pumping Stations – 5 Pumping Stations
Maintenance of BMPs and Ponds

NOT

Private Drainage
Private Roads
State Roads
Municipal Roads

DOE

Drainage Complaints- review and routing
Private Property Drainage Complaints
Flood Mapping
Municipal Stormwater

SHARED

Flood Response
Classified Dams- 19 high and 16 significant hazard dams

State ID	Dam Name
8	Greenbelt Dam
13	Cash Lake Dam
20	T. Howard Duckett Dam
64	Cosca Regional Park Dam
81	Contee Main Settling Pond
82	Lake Arbor (Lake Arbor Way)
234	Laurel Lakes No 1 (Lower)
278	Indian Creek Site 2
286	Indian Creek Site 3
298	Prince George Country Club Dam (Pleasant Prospect)
366	Summerfield SWM Pond No. 1 (Chatsfield Way)
369	Madison Hill SWM Pond 1 (Silk Tree Drive)
371	Fedex Field Pond No. 1
390	UMSTC Lower Dam (Curie Drive)
415	Lake Largo Town Center Dam (Kings Way)
419	Heritage Glen Dam
423	Tall Oaks Crossing (Peach Tree Lane)
444	Ritchie Hill SWM Pond

County Maintained Dam

State ID	Dam Name
474	Cherry Hill Park Dam
487	Cherryvale Neighborhood Park Pond
490	Bowie Town Center Lake
498	Tinkers Creek Regional SWM Pond No. 8
511	Collington Facility 9 Dam (Dunwood Crossing Dr)
515	Northridge SWM Pond (Quisinberry Way)
575	Henson Creek Flood Control Dam #17
583	Allison Street Levee (Mt. Ranier)
584	Frost Pond (MLK Jr. Hwy)
591	New Bald Eagle Road SWM
605	Perrywood (Manor House Drive)
614	Ashcroft Drive - Woodbridge Pond
615	Van Dusen Road
617	Summit Creek - Mount Auburn Dr
622	Hanson Oaks SWM (BMP Structure 1558-002)
623	Aragona Village
625	Summerfield SWM Pond No. 2



High Hazard & Significant Hazard Dams in Prince George's County

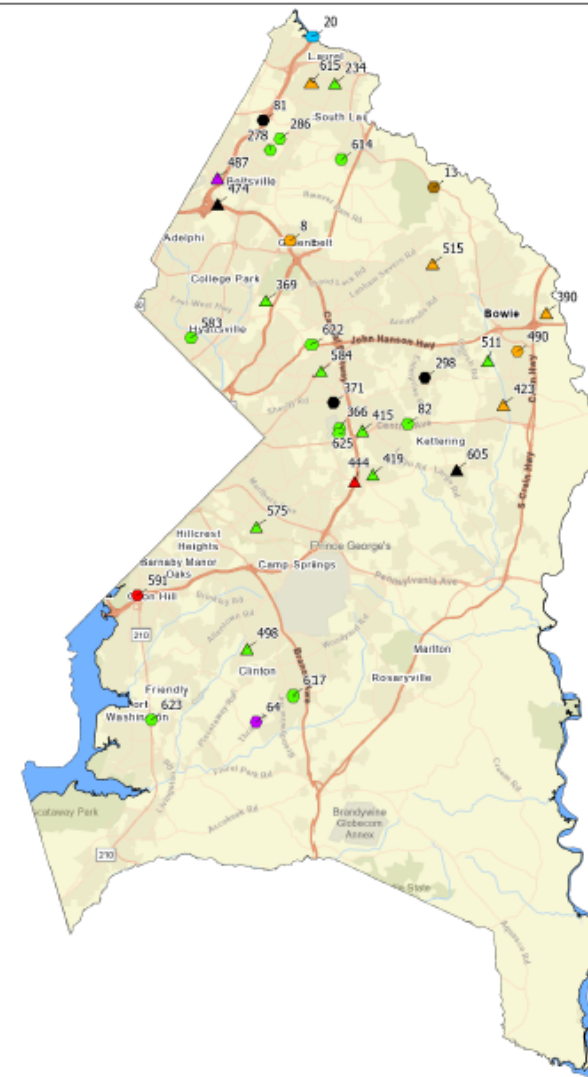


High Hazard Dams - 19

- Private (3)
- City Of Laurel; City of Bowie; City of Greenbelt (2)
- MD SHA (1)
- Prince Georges County (10)
- MNCPPC (1)
- USDI Fish & Wildlife Service - Patuxent Research Refuge (1)
- WSSC (1)

Significant Hazard Dams - 16

- ▲ Private (2)
- ▲ City Of Laurel; City of Bowie (4)
- ▲ MD SHA (1)
- ▲ Prince George's County (8)
- ▲ MNCPPC (1)





Angela D. Alsobrooks
County Executive

Infrastructure



Michael D. Johnson, P.E.
Director

18,000

drainage complaints
annually



resolve customer service
requests (311)

800+

stormwater drainage
facilities



1200+ by 2025

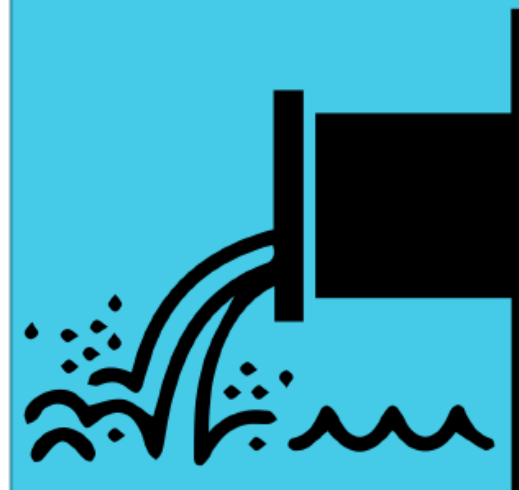
100 - 200

small drainage
projects per year



750+

miles of storm drain





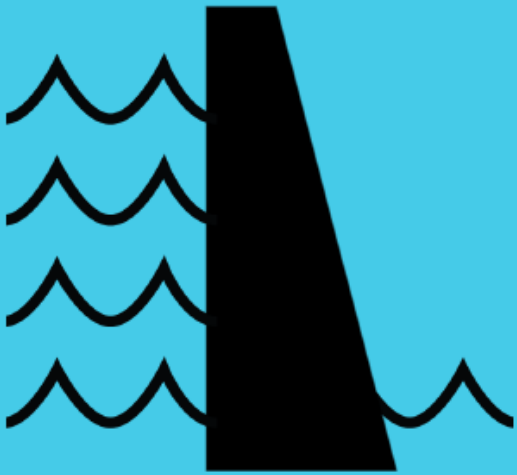
Angela D. Alsbrooks
County Executive

Infrastructure



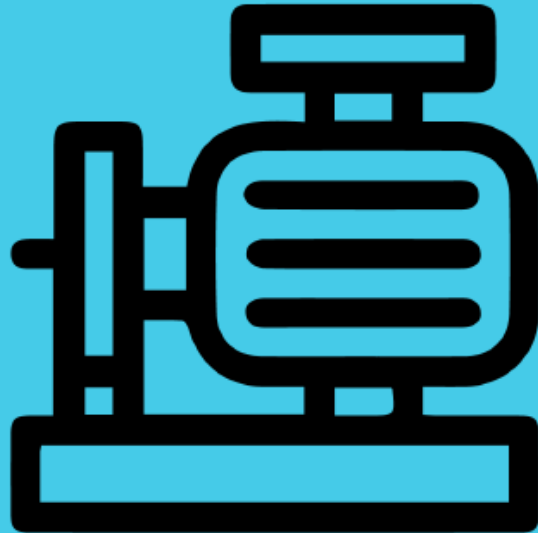
Michael D. Johnson, P.E.
Director

8 Levees
over 7 miles



Average age is
56 years

5 Pumping Stations



67 Permitted Channels



18 additional
channels maintained

Jurisdiction

County Right of Way
Public levees
Pumping stations

NOT

Groundwater issues
Private drainage
issues
State roads
Municipal roads

Pumping Stations & Levee Systems



Pumping Stations

Stormwater pump stations help protect areas by pumping away large volumes of water, thereby preventing the occurrence of flooding from nearby large bodies of water.



Levees

Levees are man-made barriers along a water course constructed for the primary purpose of providing flood, storm and hurricane protection.

WATERSHED STUDIES

DoE is undertaking watershed studies of nine major watersheds, with flood mitigation recommendations for each watershed.

Flood Management Plans: The Watershed Studies are designed in a way to identify flood risk, including pluvial flooding as a result of unrestrained development in areas with insufficient infrastructure

Drainage Investigation and Resolution

Service Request

Flooding Complaints

Investigation

Field investigation and record research

Drainage area, flow and conveyance estimates

Resolution

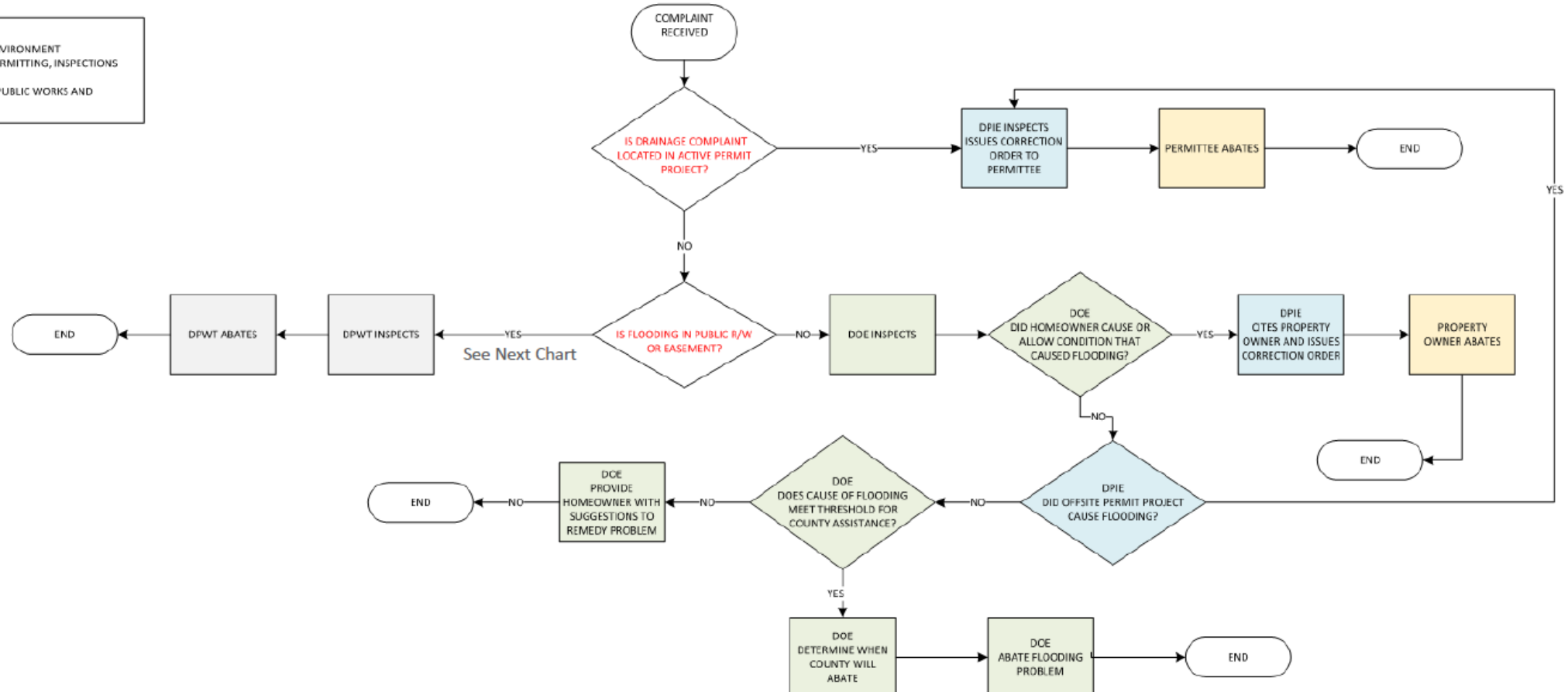
Technical advice for homeowner-led improvement

Perform maintenance

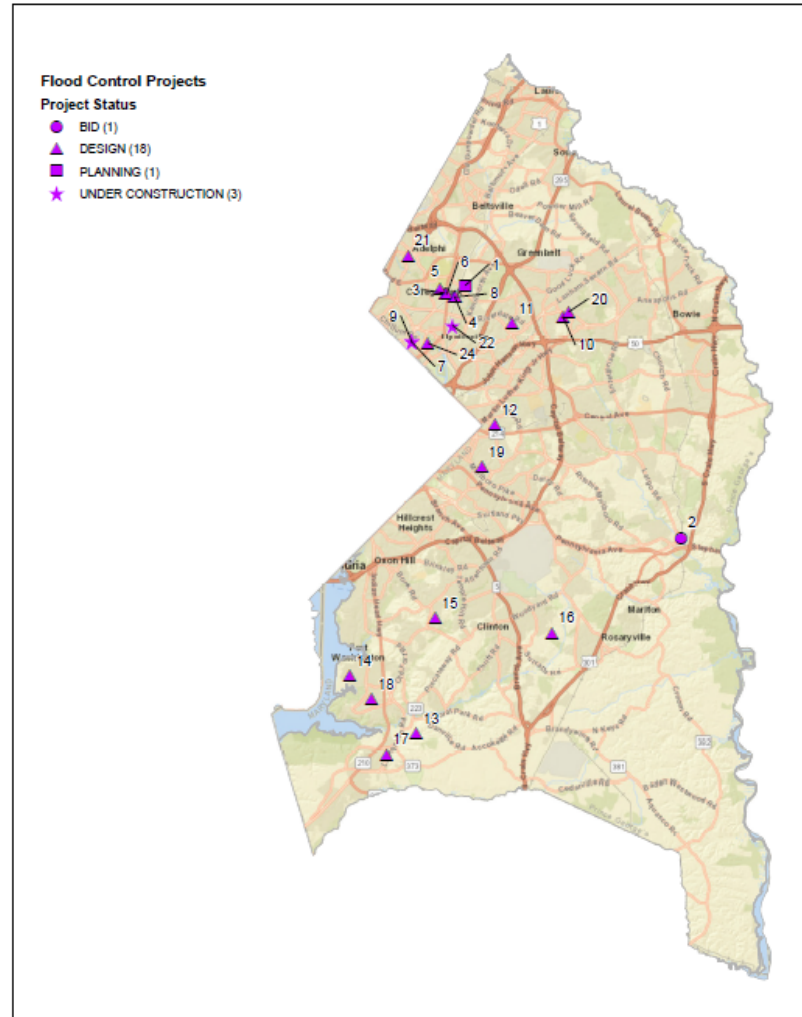
Capital Improvement Project

PRINCE GEORGES COUNTY DRAINAGE COMPLAINT RESOLUTION PROCESS

DOE – DEPARTMENT OF ENVIRONMENT
 DPIE – DEPARTMENT OF PERMITTING, INSPECTIONS
 AND ENFORCEMENT
 DPWT – DEPARTMENT OF PUBLIC WORKS AND
 TRANSPORTATION



CURRENT DOE WATER QUANTITY (FLOOD CONTROL) PROJECTS



Solutions for Homeowners

Private Residential Properties

DoE Capital Improvement Program (Priority Drainage Relief Program)

- ▶ The Department of the Environment (DoE) responds to and evaluates requests from residential property owners (private property) experiencing adverse flooding, drainage and erosion conditions originating from non-public sources.

Eligibility

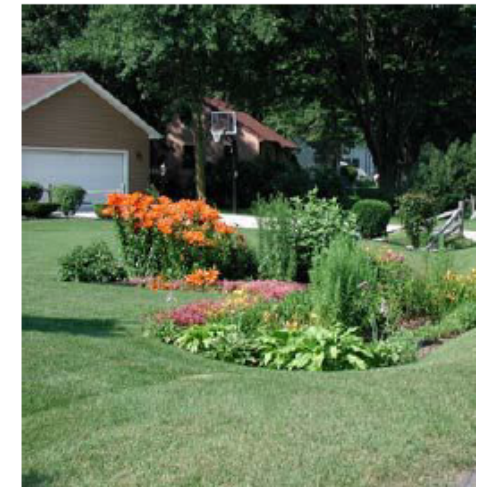
- ▶ DoE utilizes a three-tiered priority system to outline criteria for storm drainage projects to be included in the Capital Improvements Program. Drainage improvement projects are categorized and prioritized by severity and proximity to private residential structures.
- ▶ Residential Properties experiencing qualified recurrent habitable structural flooding or threat to habitable structural integrity due to severe erosion will have the highest priority.

Non-Qualifying Conditions

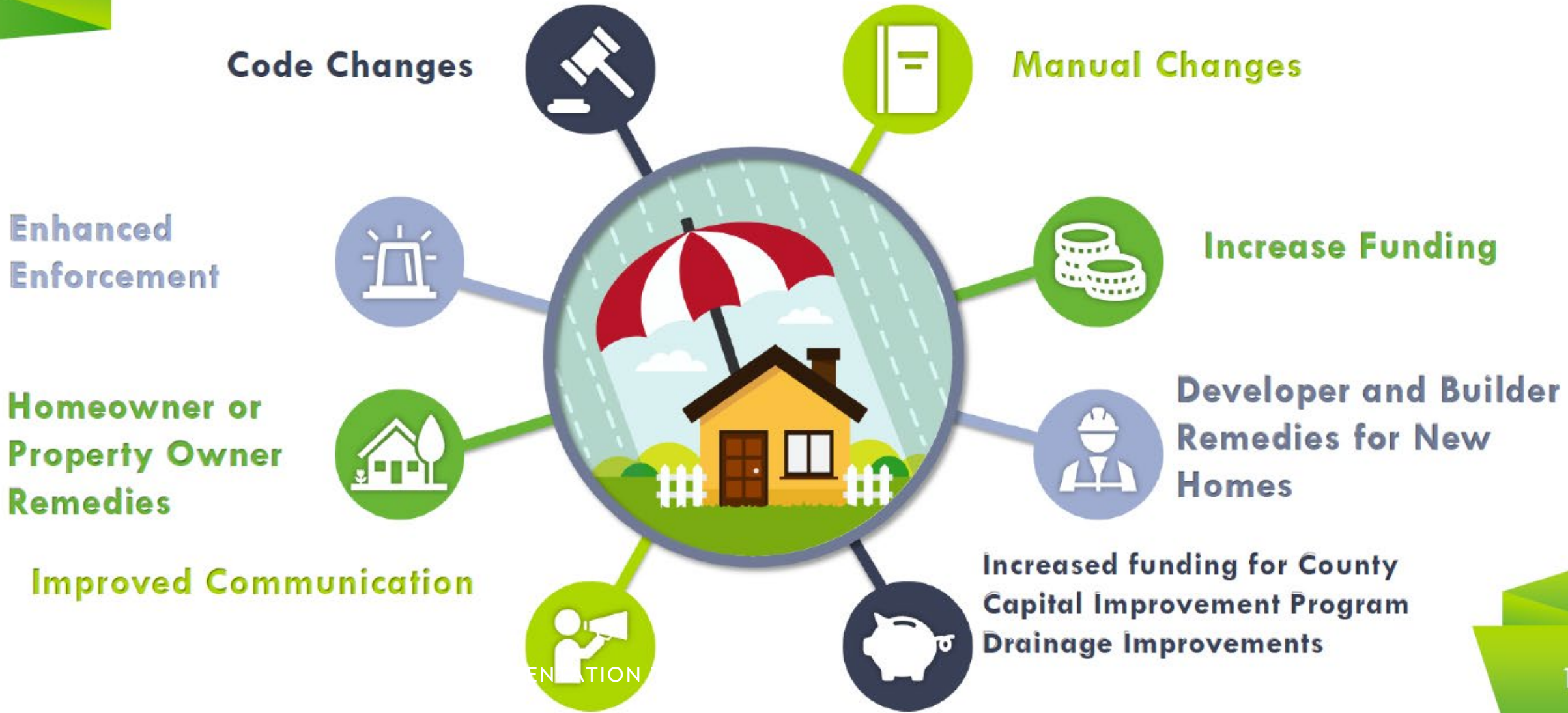
- ▶ Groundwater. Remediation of issues associated with groundwater conditions are considered the responsibility of the property owner.
- ▶ 100-Year Floodplain delineation. Remediation of issues associated with floodplain conditions are considered the responsibility of the property owner.
- ▶ Commercial, Industrial, Institutional properties will not be considered for public CIP funded projects

Types of Solutions (Best Management Practices)

- ▶ Storm Drain and Yard Inlets
- ▶ Grassed Swales
- ▶ Rain Gardens



How Do We Fix these Problems?



UPDATE OF HOMEOWNER GUIDE

will be making a continuous effort to relieve the pressure it has built up on the outside of the basement walls by leaking into the basement. Since foundation walls are often constructed of concrete blocks which are hollow, a defect on the exterior surface of the wall may result in the lower courses of block becoming filled with water. If the interior side of the block is sound, this condition may go unnoticed for a considerable period of time until the interior surface begins to leak (Figure 4).

The most common water removal method is to place a perforated pipe under the slab around the inner perimeter of the basement. This pipe collects the water and is sloped in such a way that it will deliver the collected water to a suitable discharge point, such as a sump pump pit (Figure 5).

Indications that suggest this source of flooding include leaking cracks in the interior basement walls, and depressions or cracks in the soil which appear to be well drained in the ground surface adjacent to the house.

Prevention-Grading to insure positive drainage away from all sides of the house, will aid in preventing the

entrance of surface water into the All material adjacent to the basement walls (Figure 6). Where All material is being used to raise the ground surface elevations, be sure to use a non-organic and root-free soil that is relatively impervious to water (such as clay). A word of caution concerning clay: clay materials can swell or "bulk," causing additional pressure

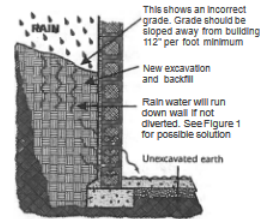


Figure 4

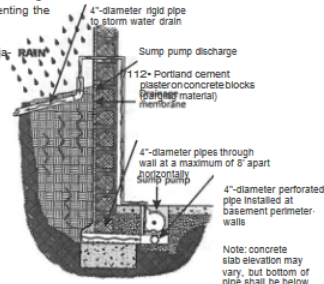


Figure 5

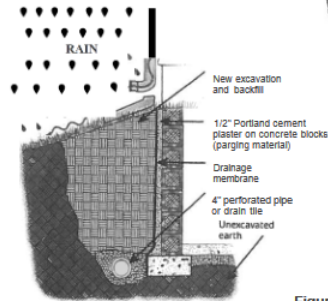
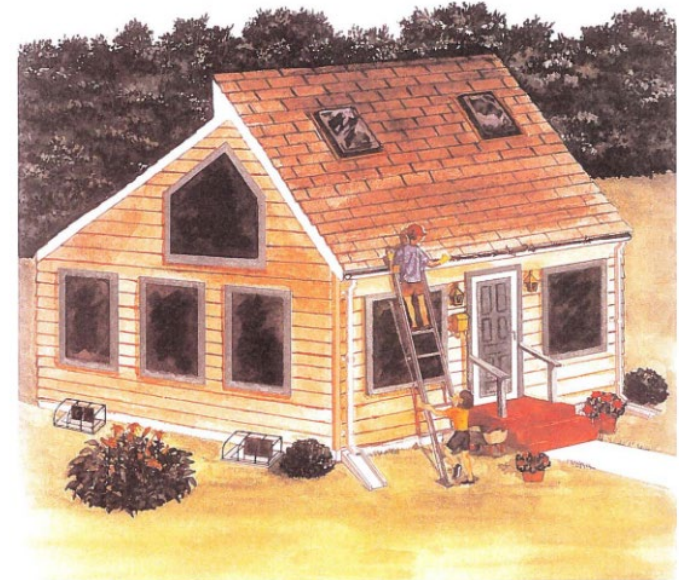


Figure 6

4 • RESIDENTIAL DRAINAGE: A HOMEOWNER'S GUIDE TO WATER DRAINAGE PROBLEMS

Residential Drainage

A HOMEOWNER'S GUIDE TO DRAINAGE PROBLEMS AND SOLUTIONS



STORMWATER- COOL STUFF



CLEAN WATER PARTNERSHIP

“Our community-based model is founded on training and working with small, local and minority-owned businesses, enabling them to participate in projects that provide benefits to the environment, the community and likewise to their business as an opportunity for long-term sustainability,”

4,000+ impervious acres treated to manage runoff that otherwise could have polluted streams, wetlands, lakes and the Chesapeake Bay.

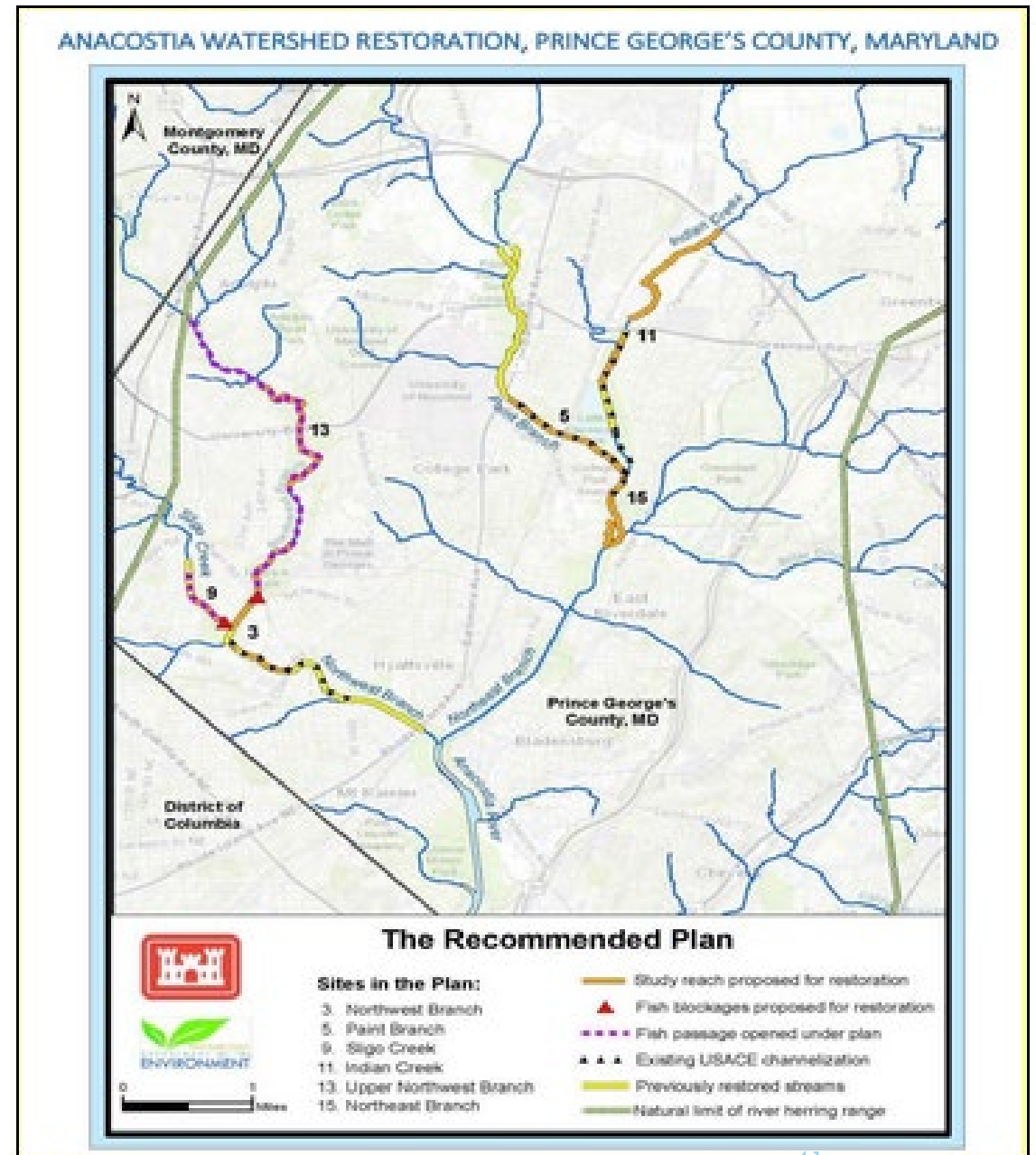
\$175 million in subcontracts to qualified local and disadvantaged, minority business enterprises.

79% county-based, small, women, and minority owned business participation, exceeding a 40% goal
76% local business participation, exceeding a 50% goal

63% resident participation, exceeding a 51% goal

USACE PARTNERSHIP- ANACOSTIA RESTORATION

- Project Cost: ~\$54M
- County Cost: ~\$18M





POLICY DEVELOPMENT



- Took a program that had big impacts in a number of areas (water quality, engagement, nuisance flood mitigation, urban canopy), had limitations (residents had to put up to \$4000 towards a project, apply for a rebate, and wait for a check).
- Widened availability, by building a County-cost share, with no upfront cost from resident and increased maximum amount to make more project types available (\$6000) to residents with limited ability to fund any portion.



PROJECT DESIGN-
BRIER'S MILL STREAM
& ADA BRIDGE

PHOTO: CLEAN WATER PARTNERSHIP

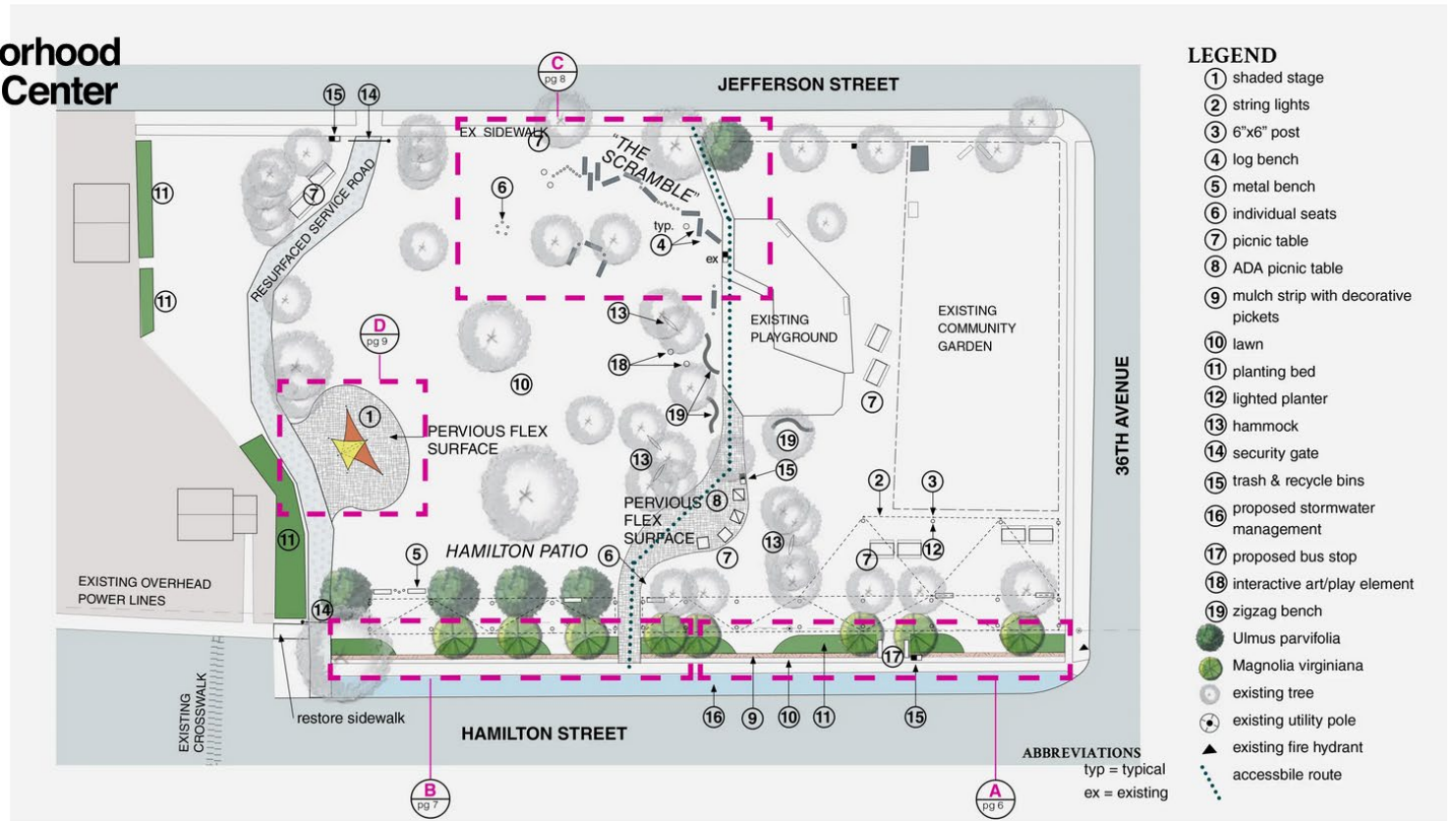


STORMWATER AND PUBLIC ART

- <https://www.arts.gov/impact/creative-placemaking/exploring-our-town/chattanooga-tn-main-terrain-art-park>
- <https://cnt.org/blog/public-art-installations-meet-green-stormwater-infrastructure>

HYATTSVILE PARK

the
Neighborhood
DesignCenter



- LEGEND**
- ① shaded stage
 - ② string lights
 - ③ 6"x6" post
 - ④ log bench
 - ⑤ metal bench
 - ⑥ individual seats
 - ⑦ picnic table
 - ⑧ ADA picnic table
 - ⑨ mulch strip with decorative pickets
 - ⑩ lawn
 - ⑪ planting bed
 - ⑫ lighted planter
 - ⑬ hammock
 - ⑭ security gate
 - ⑮ trash & recycle bins
 - ⑯ proposed stormwater management
 - ⑰ proposed bus stop
 - ⑱ interactive art/play element
 - ⑲ zigzag bench
 - Ulmus parvifolia
 - Magnolia virginiana
 - existing tree
 - existing utility pole
 - ▲ existing fire hydrant
 - ⋯ accessible route



湿地
WETLAND



亲水平台
WATER-FRIENDLY JETTY



儿童乐园
CHILDREN'S PLAYGROUND



滑板公园
SKATE PARK



生态滞留池
BIO-BASIN



人工沙滩
ARTIFICIAL BEACH



商业水景
COMMERCIAL WATERSCAPE



瀑布
WATERFALL

SPONGE CITIES



绿道
GREENWAY

PRESENTATION TITLE

a true sponge city project. Sanya Dong'an Wetland Park, Sanya
ape

the Neighborhood DesignCenter

MICRO ECOSYSTEM CAN
INFORM CURRICULUM

CONCRETE REPLACED BY GRAVEL
WHICH REDUCES RUNOFF

NATIVE PLANTS ENCOURAGE
BIODIVERSITY



GLENRIDGE ELEMENTARY

VARIED SURFACES ACT
AS A ROBOT COURSE



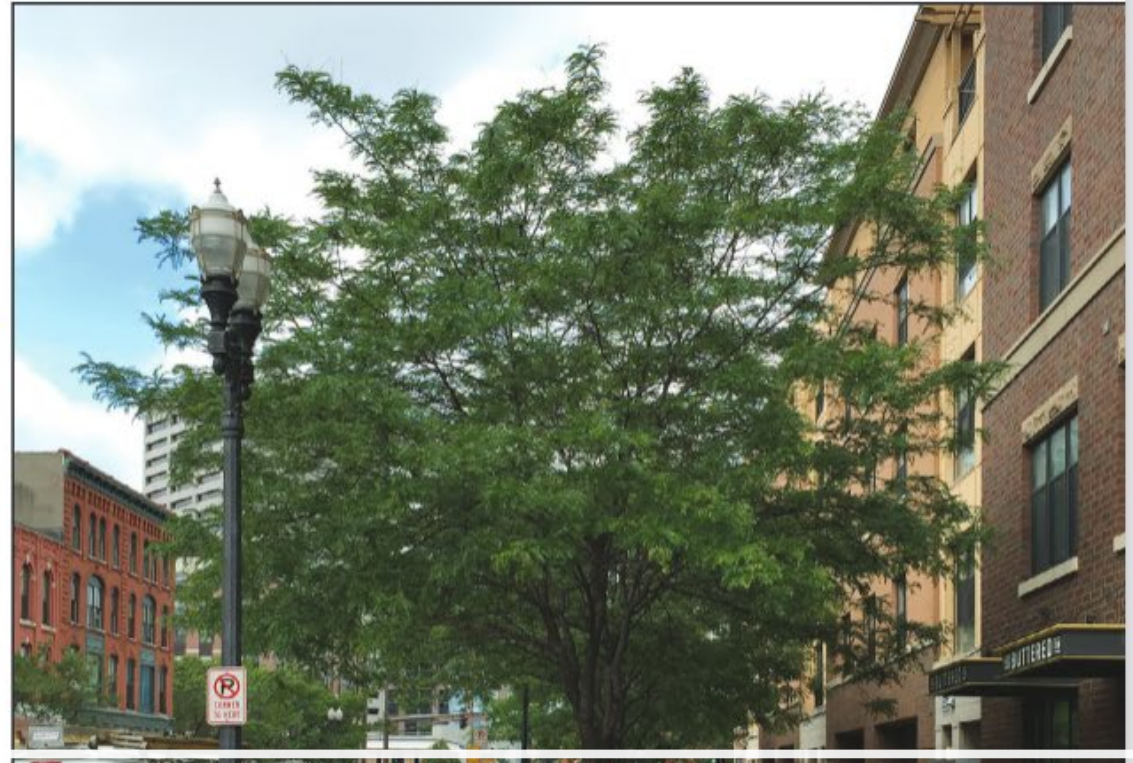
PROJECT DESIGN- IN DEVELOPMENT- NEW CARROLTON METRO



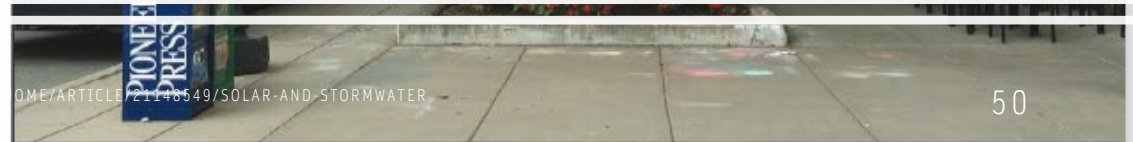
STREAM RESTORATION- RECREATION OPPORTUNITY

Stormwater Trees

Technical Memorandum



STORMWATER AND URBAN COOLING





STORMWATER AND BUILDING EFFICIENCY

RESPONSIBILITIES OF TASK FORCE

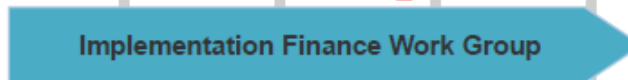
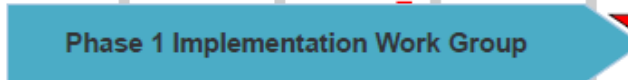
- To develop strategies and actions to achieve these emissions and resilience goals guided by the Draft Climate Action Plan and Supplemental Public Comments, the Environmental Justice Commission Report of 2019, and the continuously evolving best practices across the State and region
- To develop strategies and actions to prioritize Climate Solutions in County Government Operations and to incorporate environmental justice and climate equity policy into decision making across the County Government's portfolio
- To deliver a preliminary report to the County Executive, before the development of the Fiscal Year 2024 budget, recommending implementation strategies for Climate Action across the County Government that shall include a prioritization of these strategies as well as costs and proposed funding mechanisms
- **To oversee the development of, and approve the Climate Action Implementation Plan for Prince George's County, to be published in Calendar Year 2023**

Proposed Climate Action Task Force Timeline

October 2022	November 2022	December 2022	January 2023	February 2023	March 2023	April 2023	May 2023	June 2023	July 2023	August 2023	September 2023	October 2023	November 2023	December 2023
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Deliverable #1
January 2022



Deliverable #3
5/5/23

Deliverable #2
County Council Briefing
on Progress of Task Force

- DELIVERABLE #1: Deliver a Task Force memo to the County Executive
- DELIVERABLE #2: County Council Briefing on Progress of Task Force
- DELIVERABLE #3: Preliminary Climate Implementation Plan for Phase 1(only)

CR-032-2022
Sunset Clause
TBD

MEMBERSHIP OF TASK FORCE- COUNTY GOVERNMENT AGENCIES

- Department of the Environment - Chair
- Office of Central Services (OCS) – Vice Chair
- Department of Permitting, Inspections and Enforcement (DPIE)
- Department of Public Works and Transportation (DPWT)
- Office of Emergency Management (OEM)
- Department of Housing and Community Development (DHCD)
- Housing Authority
- Redevelopment Authority
- Deputy Chief Administrative Officer for Economic Development
- Health Department
- Prince Georges County Planning Department
- Prince George's County Department of Parks and Recreation
- Office of Management and Budget*

MEMBERSHIP OF COMMITTEE - ADDITIONAL REPRESENTATIVES

- A representative designated by County Council
- A representative designated by the Resident Advisory Group
- Economic Development Corporation
- Maryland-National Capital Park and Planning Commission
- Prince George's County Public Schools
- Prince George's County Municipal Association
- FSC First

Table VI-1. Priority Recommendations

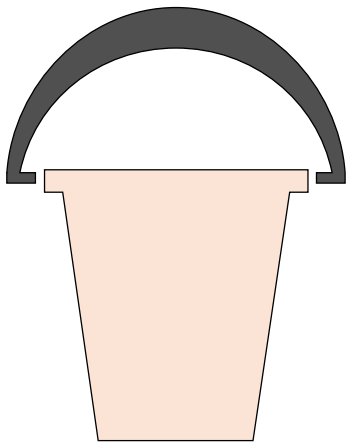
Rec #	Recommendation
COUNTY OPERATIONS	
CO-1	Build internal capacity to plan and implement climate action
CO-2	Lead by example and ensure transparency in climate action
CO-3	Ensure meaningful, equitable community engagement
CO-4	Commit to clean and renewable energy
CO-5	Strengthen land use regulations to better align individual land use decisions with State and County policies related to smart growth, natural resource conservation, and green infrastructure
MITIGATION	
M-1	Power County operations with 100% renewable energy
M-2	Increase deployment of solar PV in the residential and commercial sectors by expanding partnerships, incentives, and financing solutions
M-3	Accelerate deployment of resilient energy systems
M-4	Accelerate deployment of EVs and charging infrastructure by County and other public agencies
M-5	Develop a community-wide EV deployment strategy
M-6	Support telecommute policies to reduce VMT and enhance County resiliency
M-7	Increase investment in Activity Centers
M-8	Accelerate implementation of deep energy retrofits and community-wide efficiency and weatherization efforts
M-9	Establish building benchmarking requirements and energy and water consumption standards
M-10	Expand County waste reduction and diversion efforts
M-11	Enact and enforce "No Net Loss" tree conservation regulation and policy to maintain and expand street tree canopy and forest as a land cover

Rec #	Recommendation
ADAPTATION	
A-1	Integrate climate resilience criteria into long-range County plans, policies, and CIP programs by 2026
A-2	Implement climate resilient stormwater management and expand flood mitigation programs
A-3	Prioritize preserving and restoring natural resource areas and agricultural open space to reduce flood risk
A-4	Evaluate and address climate risk to dams and levees
A-5	Require community-wide climate resilient green infrastructure
A-6	Expand information and assistance to the public regarding impacts of climate risks and opportunities to implement climate actions
A-7	Reduce exposure of vulnerable populations to extreme heat
A-8	Establish resilience hubs to serve the needs of vulnerable communities
A-9	Adopt codes, standards, and practices to support climate-ready green buildings and development
A-10	Promote a healthy food system supported by low-carbon, regenerative agricultural practices

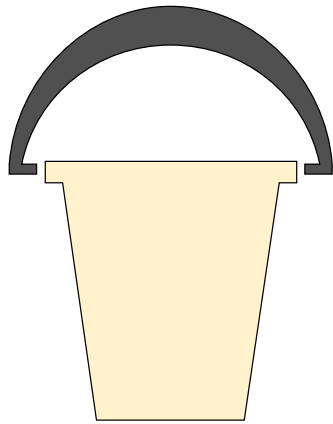
All of these recommendations – as well as the broader strategies that underpin them – are designed to align with the climate goals of our state and regional partners, so that Prince George’s County can support these larger goals at our local scale. Where possible, we have also organized our discussion according to the sectors found in the Maryland Greenhouse Gas Reduction Act and in the Metropolitan Washington Council of Government’s Climate and Energy Action Plan.

CO-1	Build internal capacity to plan and implement climate action	Step 1. Adopt the CAP in early 2022.	Step 2. Secure climate action expert consultants to develop and deliver a Prince George's County Climate-Ready Leadership Summit.	Step 3. Perform a valuation analysis of County resources to identify opportunities for leveraging County assets and property value to secure new financing for climate resilience projects.	Step 4. Host Prince George's County Climate-Ready Leadership Summit in 2022.	Step 5. Appoint Climate-Ready Leadership Team.	Step 6. Create and enable through County Council legislation a Prince George's County Resilience Authority.	Step 7. Require climate change training and ongoing professional development for all government employees annually.	Step 8. Integrate climate change knowledge and skills in filling job descriptions when hiring new staff or when filling open positions.	Step 9. Allocate budget for new staff to help implement CAP.
M-6	Support telework policies to reduce VMT and enhance County resiliency	Step 1: Conduct an employee commute survey.	Step 2: Promote participation in telework and alternative work schedules.	Step 3: Expand outreach efforts to encourage participation in TAP and AWS programs.	Step 4: Adopt green IT and office equipment best practices.	Step 5: Promote teleconferencing to reduce employee travel.				
M-10	Expand County waste reduction and diversion efforts	Step 1. Conduct a feasibility study to assess and provide implementation recommendations for carbon emissions analysis of landfill operations.	Step 2. Community Survey.	Step 3. Rollout of the countywide curbside composting program.	Step 4: Enable residents to properly dispose of hazardous wastes encountered during climate resiliency and energy efficiency retrofits.	Step 5. Expand and promote community-wide recycling and waste diversion programs.	Step 6. Build Partnerships.			
A-1	Integrate climate resilience criteria into long-range County plans, policies, and CIP programs by 2026	Step 1. Office of Climate Resilience Integration (OCRI):	Step 2. Office of the County Executive must introduce and support a County Council resolution requiring the County to integrate extreme weather and energy-efficiency criteria into building codes	Step 3. Enlist regional, state, and federal regulatory support	Step 4. Host a training series	Step 6. Establish a County Council climate resilience	Step 7. Provide annual updates to the County Council on the progress of integrating climate resilience	Step 8. Publish annual reports and maintain a web-based CAP implementation dashboard		
A-6	Expand information and assistance to the public regarding Impacts of climate risks and opportunities to implement climate actions	Step 1. Identify and connect existing support programs to CAP recommendations.	Step 2. Develop a Climate Resilience Website.	Step 3. Create a Prince George's County Climate Action Operations Toolkit:2	Step 4. Build Partnerships to Expand Climate Education.	Step 5. Require and establish cross-sector collaboration for climate change funding and community-wide initiatives.				

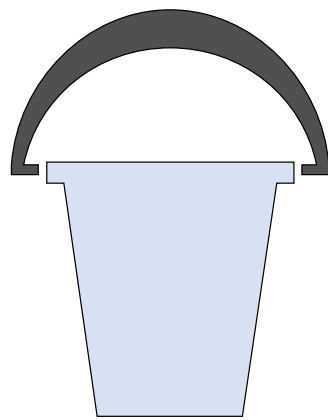
“SIX BUCKETS” TO GROUP PRIORITY RECOMMENDATIONS



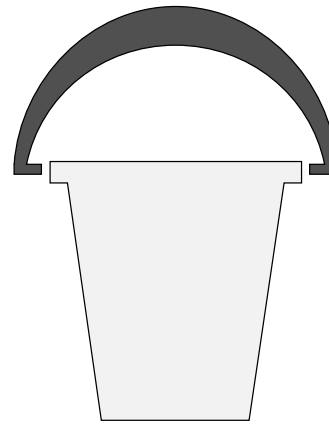
County Operations



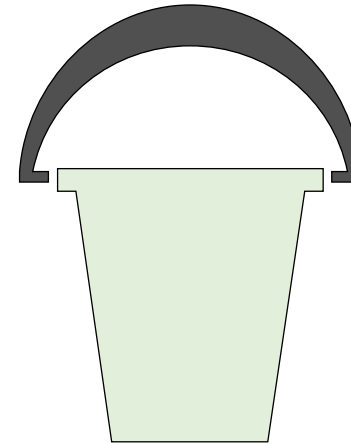
Energy



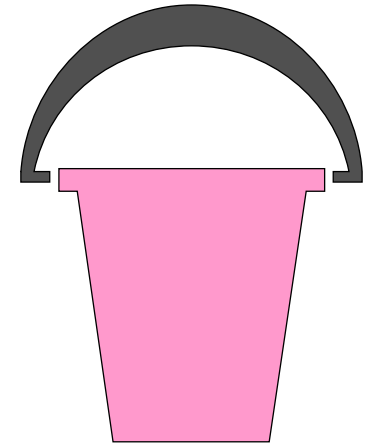
Infrastructure



Codes & Standards

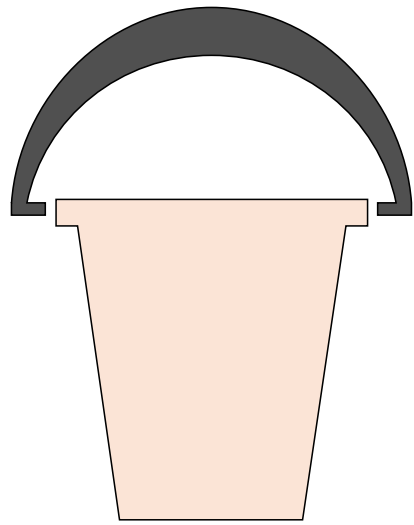


Land Use

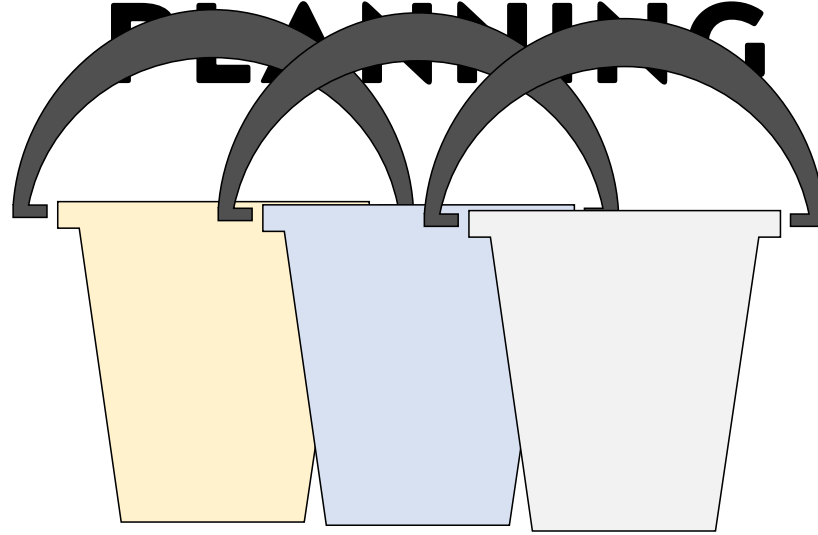


Transportation

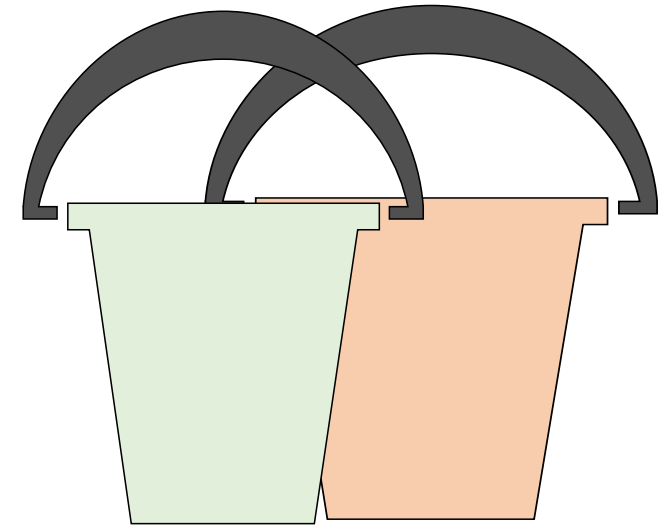
INTERRELATED SECTOR ACTIONS GROUPED TO DIRECT TASK FORCE IMPLEMENTATION PLANNING



County Operations



Energy/Infrastructure/Code



Land Use/Transportation

COUNTY OPERATIONS & OUTREACH

COUNTY OPERATIONS

- CO-1 Build internal capacity to plan and implement climate action
- CO-2 Lead by example and ensure transparency in climate action
- CO-3 Ensure meaningful, equitable community engagement
- M-1 Power County operations with 100% renewable energy
- M-4 Accelerate deployment of EVs and charging infrastructure by County and other public agencies
- M-6 Support telecommute policies to reduce VMT and enhance County resiliency
- M-10 Expand County waste reduction and diversion efforts
- A-1 Integrate climate resilience criteria into long-range County plans, policies, and CIP programs by 2026
- A-6 Expand information and assistance to the public regarding Impacts of climate risks and opportunities to implement climate actions

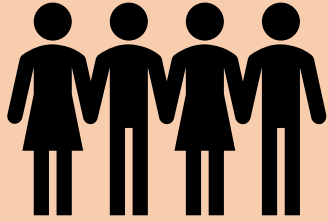
ENERGY & INFRASTRUCTURE

ENERGY	CO-4	Commit to clean and renewable energy
	M-2	Increase deployment of solar PV in the residential and commercial sectors by expanding partnerships, incentives, and financing solutions
	M-3	Accelerate deployment of resilient energy systems
	M-8	Accelerate implementation of deep energy retrofits and community-wide efficiency and weatherization efforts
	M-9	Establish building benchmarking requirements and energy and water consumption standards
INFRASTRUCTURE	A-2	Implement climate resilient stormwater management and expand flood mitigation programs
	A-4	Evaluate and address climate risk to dams and levees
	A-7	Reduce exposure of vulnerable populations to extreme heat
	A-8	Establish resilience hubs to serve the needs of vulnerable communities
CODES AND STANDARDS	A-9	Adopt codes, standards, and practices to support climate ready green buildings and development

LAND USE, DEVELOPMENT & TRANSPORTATION

LAND USE	CO-5	Strengthen land use regulations to better align individual land use decisions with State and County policies related to smart growth, natural resource conservation and green infrastructure
	M-7	Increase investment in Activity Centers
	M-11	Enact and enforce “No Net Loss” tree conservation regulation and policy to maintain and expand street tree canopy and forest as a land cover
	A-3	Prioritize preserving and restoring natural resource areas and agricultural open space to reduce flood risk
	A-5	Require community-wide climate resilient green infrastructure
	A-10	Promote a healthy food system supported by low-carbon, regenerative agricultural practices
TRANSPORTATION	M-5	Develop a community-wide EV deployment strategy
STORMWATER	A-2	Implement climate resilient stormwater management and expand flood mitigation programs

TASK FORCE CORE WORK GROUPS



County Operations & Engagement Work Group

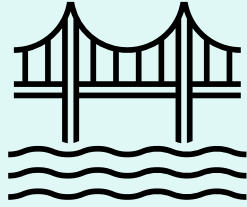


Energy & Infrastructure Work Group



Land Use, Development & Transportation Work
Group

TASK FORCE ROADMAP WORK GROUPS

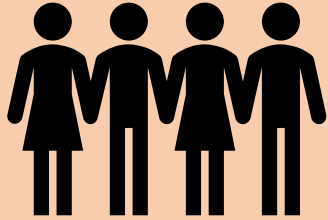


Economic Development Roadmap Work Group

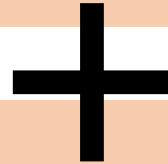
Water???

TBD

TASK FORCE CORE WORK GROUPS



County Operations & Engagement
Work Group



Parallel Efforts DoE will work with consultants to propose:

- A website/dashboard for public reporting and tracking process
- Develop a climate action statement for county
- Develop template or protocol for evaluating equity
- Develop a template or protocol for evaluating climate action in other priorities

WORKGROUP PROCESS

- DoE and Consultants will provide tools and templates, let us know what other tools and data you need
- Define what data you need (DoE/consultant will help determine what we already have vs. what we need to gather/study)
- Define what studies/analyses you need
- Develop near term recommendations for CEX for FY24
 - Also recommend anything that is a current barrier to the agency/sector/org's core work– that needs to be immediately addressed by CEX in any updated exec order
- Review proposed priorities- update and organize
- Review proposed steps- update and prioritize, determine prudence, add, amend, add nuance
 - FY24 steps – based on capacity building and studies, near term actions that can be taken
 - Note steps that contradict or are redundant
 - Note steps that contradict other county priorities – conflicts that need to be resolved
 - (consultants will also review comments made to draft CAC - and separate them by proposed recommendations so you can see them in one place)
 - Identify who would be the actors and responsible parties in the steps
 - What is the County's role- are we responsible/is it in our control, advocating, convening, funding, regulating, etc?
 - Who are the stakeholders needed to accomplish the goal
 - Who needs a seat at the table- to ensure buy in, accountability, and equity

NEXT STEPS

