

# TAKOMA PARK'S STORMWATER MANAGEMENT PROGRAM

Presented to the City Council

February 8, 2023

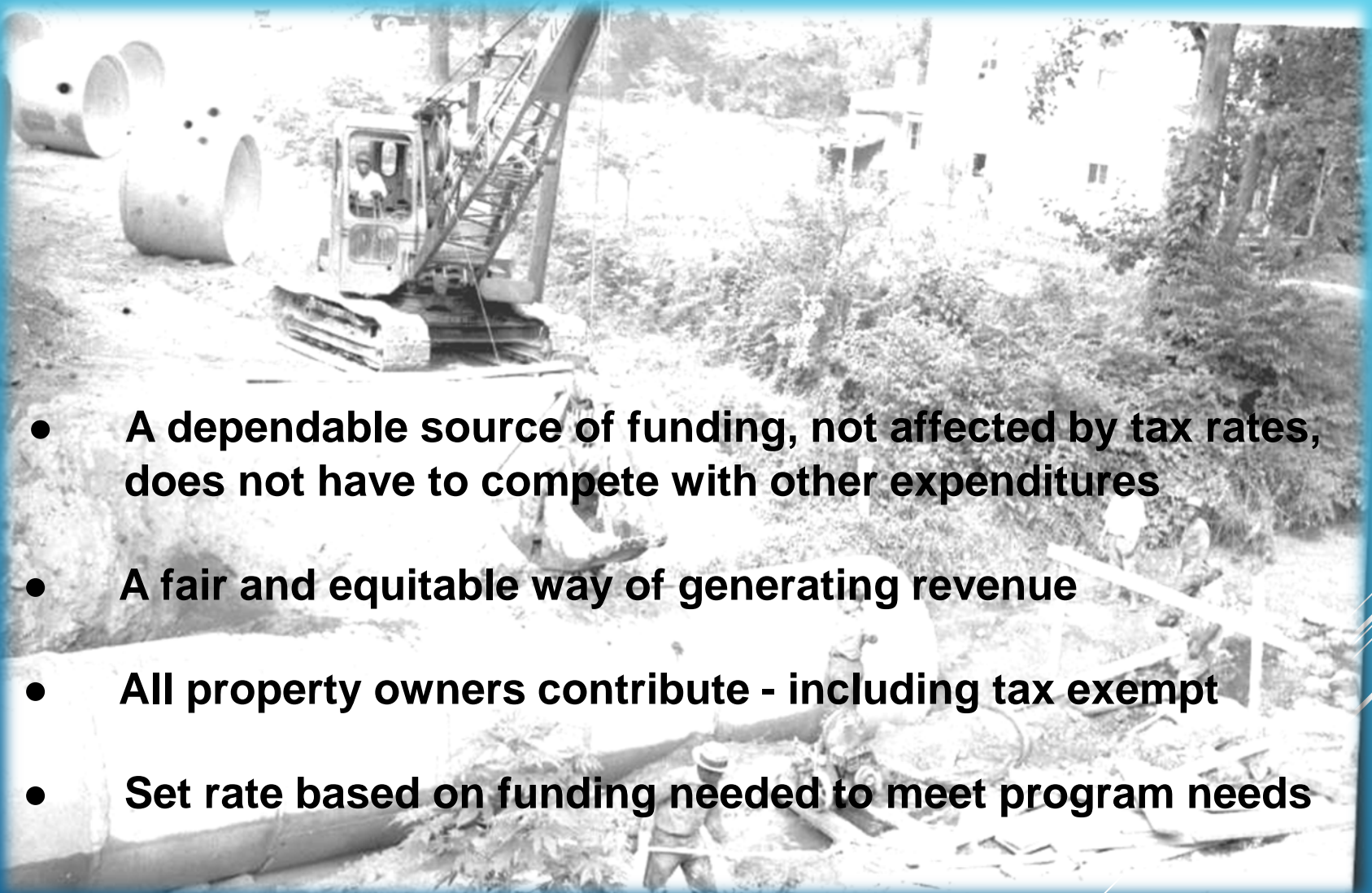


# STORMWATER SYSTEM – PIPES, STRUCTURES AND BMPS



- 19 miles of pipe
- 715 inlets
- 78 Outfalls
- 89 treatment facilities

# WHY A UTILITY FEE?



- **A dependable source of funding, not affected by tax rates, does not have to compete with other expenditures**
- **A fair and equitable way of generating revenue**
- **All property owners contribute - including tax exempt**
- **Set rate based on funding needed to meet program needs**

# STORMWATER UTILITY FEE UPDATED

The City established the **Stormwater Utility Fee** as the funding mechanism in 1996. Single-family properties were billed a flat fee and multi-family, commercial, and institutional properties were billed based on the amount of impervious area.

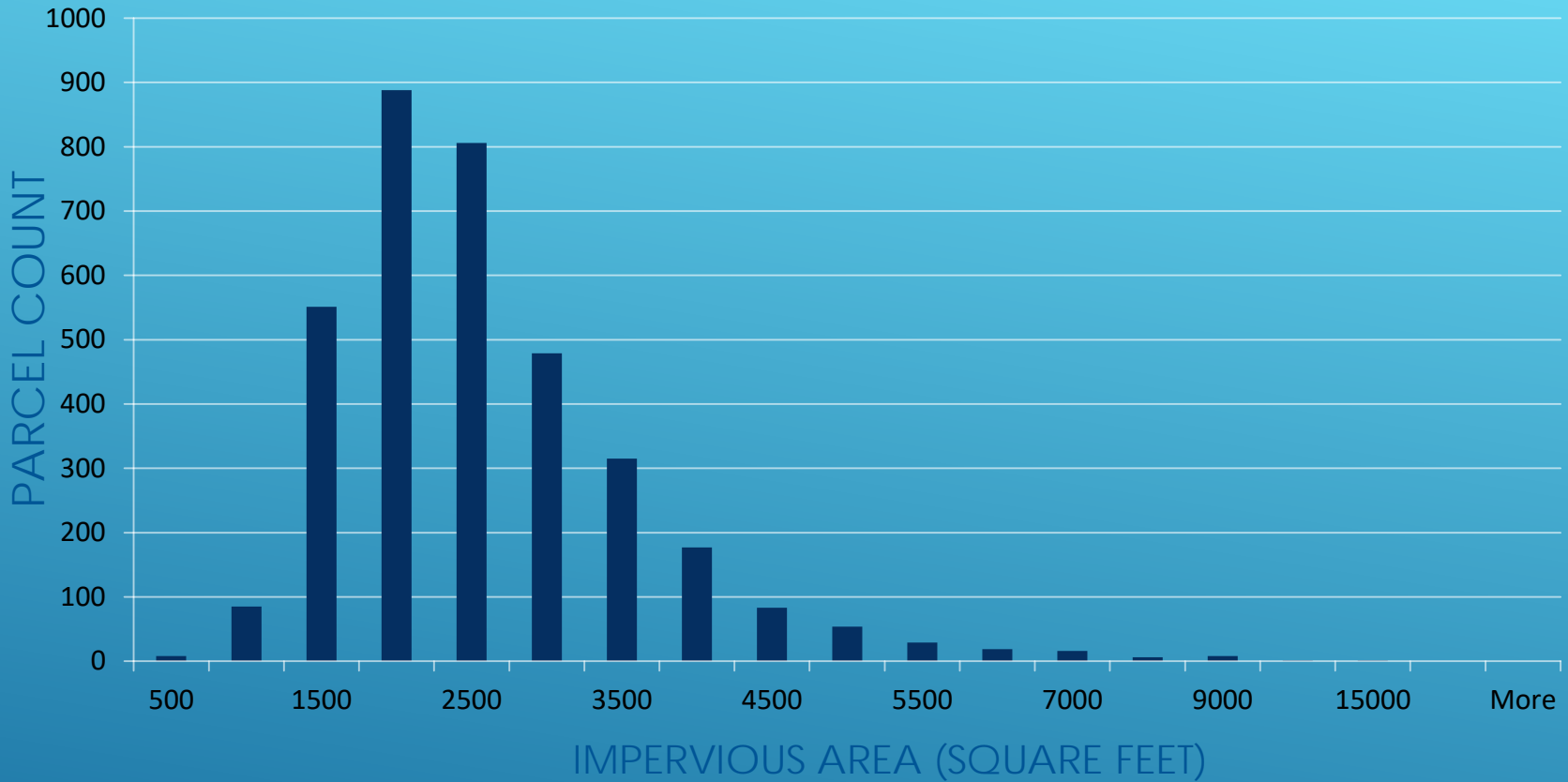
In 2020, the City contracted with Black & Veatch to review the impervious area for all property types and recommend updates to the fee structure. The main findings were that the average impervious area for single-family property was much larger than previously assumed and had a wider variation, ranging from under 500 sf to over 10,500 sf on a single property.

The source of data on the impervious area is from the County which evaluates impervious surfaces on a three-year cycle. The assessment also includes State Tax database records, and digital maps with planimetric information gathered from aerial and LIDAR analysis.

Property owners can request corrections to their impervious area determination if they think the calculation is in error. The application can be found on the Stormwater Management webpage and includes a link to the County's impervious surface map.

In 2022, the City established a Credit Program to enable property owners who have taken measures to reduce stormwater run-off on their property. The maximum credit available is a 50% reduction of their Stormwater Utility Fee. Property owners can apply for one or multiple eligible credit categories which includes tree planting, rain gardens, bioretention facilities, bioswale, dry wells, permeable surfaces and green roofs. The Guidance document and application are on the Stormwater Management webpage:

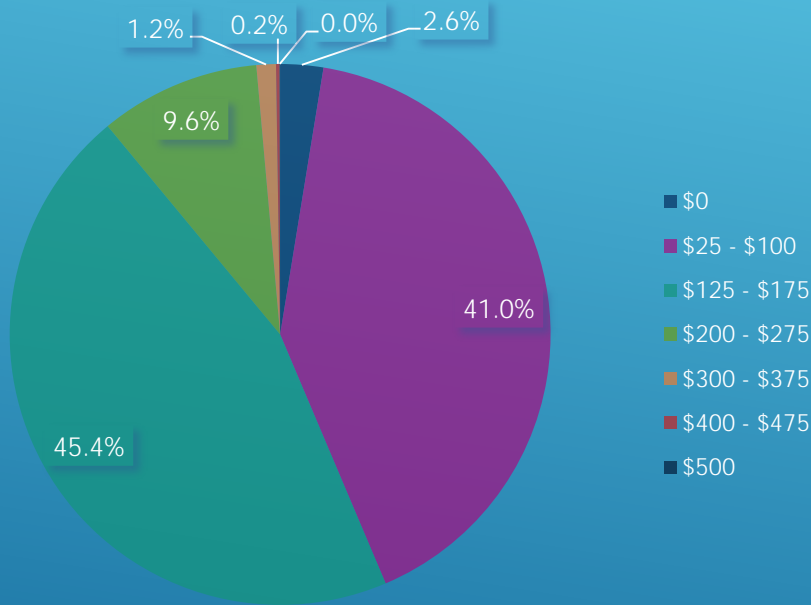
<https://takomaparkmd.gov/government/public-works/stormwater-management-program/>



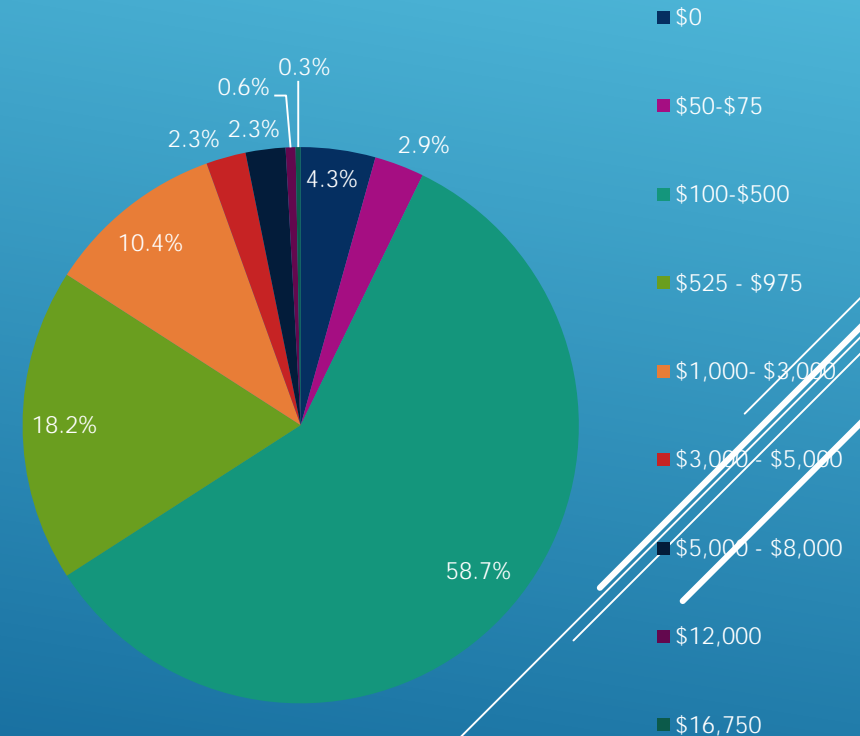
# SINGLE FAMILY RESIDENTIAL IMPERVIOUS AREA DISTRIBUTION

# STORMWATER FEE COMPARISONS

## SINGLE FAMILY FEE AMOUNTS



## MULTI-FAMILY, COMMERCIAL & INSTITUTIONAL FEES



# IMPERVIOUS AREA MAPPING



**Layer List**

**Layers**

- ▶  Takoma Park Boundary
- ▶  Properties - Takoma Park
- ▶  TransformerStations
- ▶  Roads
- ▶  StreetSidewalks
- ▶  Non-Street Sidewalks
- ▶  ParkingLots
- ▶  Hard\_Surface\_Trails
- ▶  Driveways
- ▶  Bridges
- ▶  Patios\_Courts\_Pads
- ▶  Buildings

Map can be found at: <https://takomaparkmd.gov/government/public-works/stormwater-management-program/>



## PROPERTY TYPES IN TAKOMA PARK

- 86% - Single Family Residential
- 14% - Other Developed
  - Multi-family - 5%
  - Commercial - 4%
  - Tax Exempt Properties - 5%

## Impervious Area By Property Type

- 54% - Single Family
  - 46% - Other Developed Property
- 

# FY 23 STORMWATER MANAGEMENT BUDGET

## Expenditures

■ **\$734,226 \***

\$118,000 personnel

\$250,000 capital projects

\$366,000 maintenance & services

## Revenue

■ **\$761,375**

\$754,875 utility fee

\$ 6,500 permit fees

### Personnel

- \$118,000 - .75 FTE (.5 engineer and .25 construction manager)

### Capital Projects

- \$250,000 - new facility construction, FY23 Takoma Branch Steam Restoration

### Engineering Support

- \$ 70,000 - contract technical support, survey, design, As-Built certification, etc

### Repair & Mnt

- \$180,000 - existing system repairs, FY23 Outfall repair on Maple Ave, Poplar Ave system improvements, and pipe repair on Valley View & Willow

### Required Services

- \$113,000 - water quality testing and illicit discharge investigation (mandated)  
- video inspection & inlet and pipe cleaning (1/5 of the system yearly)  
- contract maintenance at bioretention and modular wetland facilities

### Supplies

- \$ 3,000 - software fees and office supplies

\*The SW Budget was amended in July 2022, adding \$657,450 for projects funded in the prior year but not completed including:

\$250K for the purchase of a new sweeper

\$305K for a project on Cockerille Ave and Circle Woods

\$5K for a project at Hillwood Manor Playground

\$76K for the outfall monitoring

\$21.5K for GIS database upgrades

# 5 YEAR CAPITAL BUDGET IDENTIFIES FUTURE PROJECTS

## Capital Improvement

PUBLIC WORKS	Fund	FY 22 Proj	FY 23	FY 24	FY 25	FY 26	FY 27
Takoma Branch Stream Restoration - Phase 2	SW	-	250,000	-	-	-	-
13th and Hillwood Manor Playground	SW	55,000	-	-	-	-	-
Cockerville Ave Pipe Realignment (updated 1/4/2022)	SW	210,000	-	-	-	-	-
Elson Place Project (updated 1/4/2022)	SW	130,000	-	-	-	-	-
Glenside Dr and Carroll Ave	SW	-	-	-	-	-	-
Jefferson Ave Bio Retention Facility	SW	-	-	50,000	-	-	-
Albany and Baltimore Ave SW Treatment	SW	-	-	70,000	-	-	-
Houston Ave SW Treatment	SW	-	-	80,000	-	-	-
Extend SW System in Long Branch/Sligo Area	SW	-	-	-	150,000	-	-
Sligo Mill Dead End Erosion Control	SW	-	-	-	50,000	-	-
Maple Ave Parking Lot Program	SW	-	-	-	-	155,000	-
Flower Ave & Cherry Ave Outfall Stabilization	SW	-	-	-	-	45,000	-
Public Private Project on private property	SW	-	-	-	-	-	200,000
<b>SUBTOTAL - STORMWATER MANAGEMENT (\$)</b>		<b>395,000</b>	<b>250,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>	<b>200,000</b>
<b>TOTAL - PUBLIC WORKS (\$)</b>		<b>2,608,733</b>	<b>2,714,812</b>	<b>2,789,362</b>	<b>1,739,619</b>	<b>4,215,330</b>	<b>3,713,621</b>

# STATE & FEDERAL REGULATORY REQUIREMENTS

The City's Stormwater Management Program must comply with State laws related to the Chesapeake Bay clean-up and the Federal Clean Water Act. These laws have created a regulatory framework known as the:

## National Pollution Discharge and Elimination System NPDES, Municipal Separate Storm Sewer System (MS4) – Phase II

- ▶ The City received its first permit in 2003. The permit required the implementation of **6 *minimum control measures***.
- ▶ The City's current permit was issued in 2018, and requires the same 6 control measures **plus** Impervious Area Restoration (treat run-off from 20% of developed lands without stormwater controls)
- ▶ The permit has a 5-year term, the next update is expected in 2023
- ▶ The annual report - [Takoma Park NPDES Progress Report October 2020 – October 2022](#) can be found here on the stormwater webpage –
- ▶ <https://takomaparkmd.gov/government/public-works/stormwater-management-program/>

# SIX MINIMUM CONTROL MEASURES

- ▶ **Public Education and Outreach**
  - ▶ Newsletter articles, bus shelter ads
  - ▶ Stormwater Program Info on website - <https://takomaparkmd.gov/government/public-works/stormwater-management-program/>
  - ▶ Community Meetings
- ▶ **Public Involvement and Participation**
  - ▶ Tree Takoma tree planting (previously Bulk Buy Program)
  - ▶ Mark a drain campaign
  - ▶ Sweep the Creek Program- Partnership with Friends of Sligo Creek
- ▶ **Illicit Discharge Detection and Elimination**
  - ▶ Annual Water quality testing of outfalls for pollutants
  - ▶ Respond to reports of spills or dumping, investigate and inform County and MD Dept of Environment
  - ▶ Investigates pollutants identified in outfall testing to determine source
  - ▶ Montgomery County provides enforcement action as needed via MOU
- ▶ **Construction Site Runoff Control**
  - ▶ Montgomery County Dept of Permitting Services provides Sediment & Erosion Control Program
  - ▶ City staff observe construction sites for erosion and sediment issues and follow up directly or notify the County
- ▶ **Post Construction SW Management**
  - ▶ The City issues stormwater permits for new construction and provides oversight & inspection of approved plans
  - ▶ System Maintenance Projects including annual video inspection, cleaning, system repairs & maintenance
- ▶ **Pollution Prevention and Good Housekeeping**
  - ▶ Street Sweeping
  - ▶ Vacuum Leaf Collection
  - ▶ Safe Grow Law – bans the use of pesticides for cosmetic lawn care
  - ▶ Polystyrene Ban

# IMPERVIOUS AREA RESTORATION

- ▶ Since 2006 Takoma Park has installed **89 Treatment facilities**
  - ▶ 66 Bioretention facilities
  - ▶ 13 modular wetland & Filtera systems
  - ▶ 6 permeable paver and infiltration basins
  - ▶ 1 green roof
  - ▶ 2 wet ponds and a step-pool
- ▶ Completed **798 feet of stream restoration** (4 projects) and 277 feet of outfall stabilization (8 projects)
- ▶ Additional treatment credit is provided through annual **street sweeping, storm drain system cleaning, and tree planting**
- ▶ Required Restoration amount is 109 equivalent acres, Actual Restoration credit to date is 80 acres

# BIORETENTION FACILITIES



# Modular Wetland System





# OUTFALL STABILIZATION & STREAM RESTORATION



# ALTERNATIVE TREATMENT MEASURES



# CONSTRUCTION PERMIT FOR STORMWATER MANAGEMENT

Stormwater Management permit is required for:

- ▶ Additions or modifications to existing single-family detached residential structures disturbing 5,000 sf or more
- ▶ Any exterior construction on commercial, industrial or institutional property, regardless of the size of the disturbance

The City requires the submittal of a Stormwater Plan for review and approval at the Concept Stage and the Final Construction Phase. For Multi-Family or large commercial projects, there may also be a Site Development Stage review.

- ▶ The submission requirements for the permit application are outlined in the City Code, [Section 16.04.140](#) and Maryland Department of the Environment Stormwater Management Design Manual.
- ▶ [Stormwater Management Plan Review Process \(PDF\)](#)

## STORMWATER PERMIT FEES

- ▶ Concept or Site Development
  - ▶ **\$50** Single Family
  - ▶ **\$10 per unit (Minimum of \$50.00)** Multi-family
  - ▶ **\$0.05 per square foot of impervious area (minimum \$250, maximum \$500)** Commercial, Industrial, Multi-Family 21 units or more.
- ▶ Final Construction
  - ▶ **\$500** Single Family
  - ▶ **\$100** per unit Multi-family up to 20 units
  - ▶ **10% of system construction costs (reduction up to 50% possible if controls exceed requirements)** Commercial, Industrial, Institutional, Multi-Family of 21 units or more.

# FLOWER AVENUE GREEN STREET

The Flower Ave Green Street project was the largest single project undertaken by the City. It covered a 1-mile section of Flower Avenue and provided:

- *traffic calming,*
- *sidewalk installation and crosswalk improvements,*
- *improvements to bus stops for transit users,*
- *added 7 stormwater treatment facilities,*
- *new water main, hydrants and updated house connections*
- *upgraded street lighting to LED and added pedestrian scale lighting,*
- *planted trees*

The project planning was initiated in 2014 and completed in 2021. The project required coordination with SHA, Montgomery County, and the utilities - most significantly WSSC who partnered with the City to include upgrading the 100-year-old water main as part of the project. Substantial funding for the project was provided by grants from the Maryland Transportation Alternative Program, the National Fish and Wildlife Federation, Community Development Block Grant, Montgomery County, and project cost sharing with WSSC.

<u>Project cost:</u>	\$6,721,359
Funding from others:	\$5,480,389
City expenditure:	\$1,240,970

Funding sources = WSSC \$3,091,079, TAP grant \$1,040,330, SHA \$696,000, CDBG \$284,230, Montgomery County, \$200,000, NFWF \$168,750

# STORMWATER RESILIENCY STUDY

This is a one-year effort completed by the Low Impact Development Center

- ▶ **Task 1** – provides a suite of stormwater management solutions for public information to help residents understand options for stormwater management.
- ▶ **Task 2** – Review flood-prone areas of the City and select 20 locations to develop initial recommendations for improvements. This analysis will use GIS information, satellite imagery, and field visits. Two of these locations will be studied in detail to illustrate the possible reduction in run-off volume through the implementation of the recommended measures.
- ▶ **Task 3** – Provide a list of proposed incentives and Code changes that the City may consider to enhance stormwater requirements, both at the City level and to recommend at the County level.
- ▶ **Task 4** – Establish a dashboard that will enable property owners to estimate the amount of run-off produced by various sized storm events based on property size and terrain as well as the amount of impervious surface within their property. The dashboard will also include links to available city incentives and State grant programs.
- ▶ **Additional Information** - <https://takomaparkmd.gov/government/public-works/stormwater-management-program/stormwater-resiliency-study/>