

STORMWATER & FLOOD RESILIENCE UTILITY CITY COUNCIL WORKSHOP

November 15, 2023

Deputy Mayor; Dennis Shanahan
City Engineer; Ken Mavrogeorge, PE
Stantec; David Hyder & Kelly Westover
VHB; Bill Arcieri

City of Dover, NH



Stormwater

Community Services | Dover, NH



Photo: Rich Beauschesne

Stormwater Utility Development Process

Phase I: Evaluate Feasibility

Ad-Hoc Committee completes
year-long Feasibility Study (January 2022)

Phase II: Develop Implementation Plan and Ordinance

Determine Utility Structure, Fee, and Credit System (2023)

Phase III: Implementation

Utility System Roll-out (2024)

Stormwater Utility Development Process

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Title X Chapter 149-1:6-c Criteria for Stormwater Utilities

The stormwater utility shall address flood and erosion control, water quality management, ecological preservation, and annual pollutant load contained in stormwater discharge.

- I. Utilities may collect reasonable fees that are directly related to the cost of providing services.
- II. Properties charged assessments shall have equal opportunity to receive **proportional benefit** from the utility.
- III. The utility shall offer **credits** or fee abatements based on on-site management of water quality impairment or peak runoff storage, or both. The utility shall adopt design standards to determine the amount of abatement.
- IV. In assessing fees, the stormwater utility district shall **forecast the annual cost** of each component in the district's stormwater management program. This forecast shall be the basis for annual assessments distributed equally among the number of fee units within the district.
- V. A minimum assessment may be established for fee units based on single family residences. This **equivalent residential unit (ERU)** can serve as the fee unit basis for all fees. **Government property and non-profit organizations shall be subject to the fee structure.**
- VI. Boundaries of the district are not required to coincide with municipal boundaries.

Source. 2008, 295:5, eff. Aug. 26, 2008.

Ad Hoc Committee (2020-2022)

Diverse committee with 17 members representing various interests:

- Business representatives
- Developers
- Residential property owners
- Commercial property owners
- Tax-exempt property owners
- Environmental groups
- City Councilors
- City staff
- Engineers & Attorneys



Funding Options Considered

AN EXPLORATORY PROCESS WITH NO PREDETERMINED OUTCOME

Funding Options

- General Fund
- Fee-based
- System Development Charges
- Stormwater Utility
- Sewer User Fees
- Village Districts
- Public-Private Partnerships
- Grants, Loans, and Bonds

Committee Homework Evaluation Criteria

- Primary vs. supplemental
- SAFE criteria
- Advantages and disadvantages
- Concerns/Questions



Ad Hoc Committee Recommendations

UNANIMOUS SUPPORT for the recommendation of a stormwater and flood resilience utility



That's unanimous then

[Stormwater Management \(nh.gov\)](http://nh.gov)

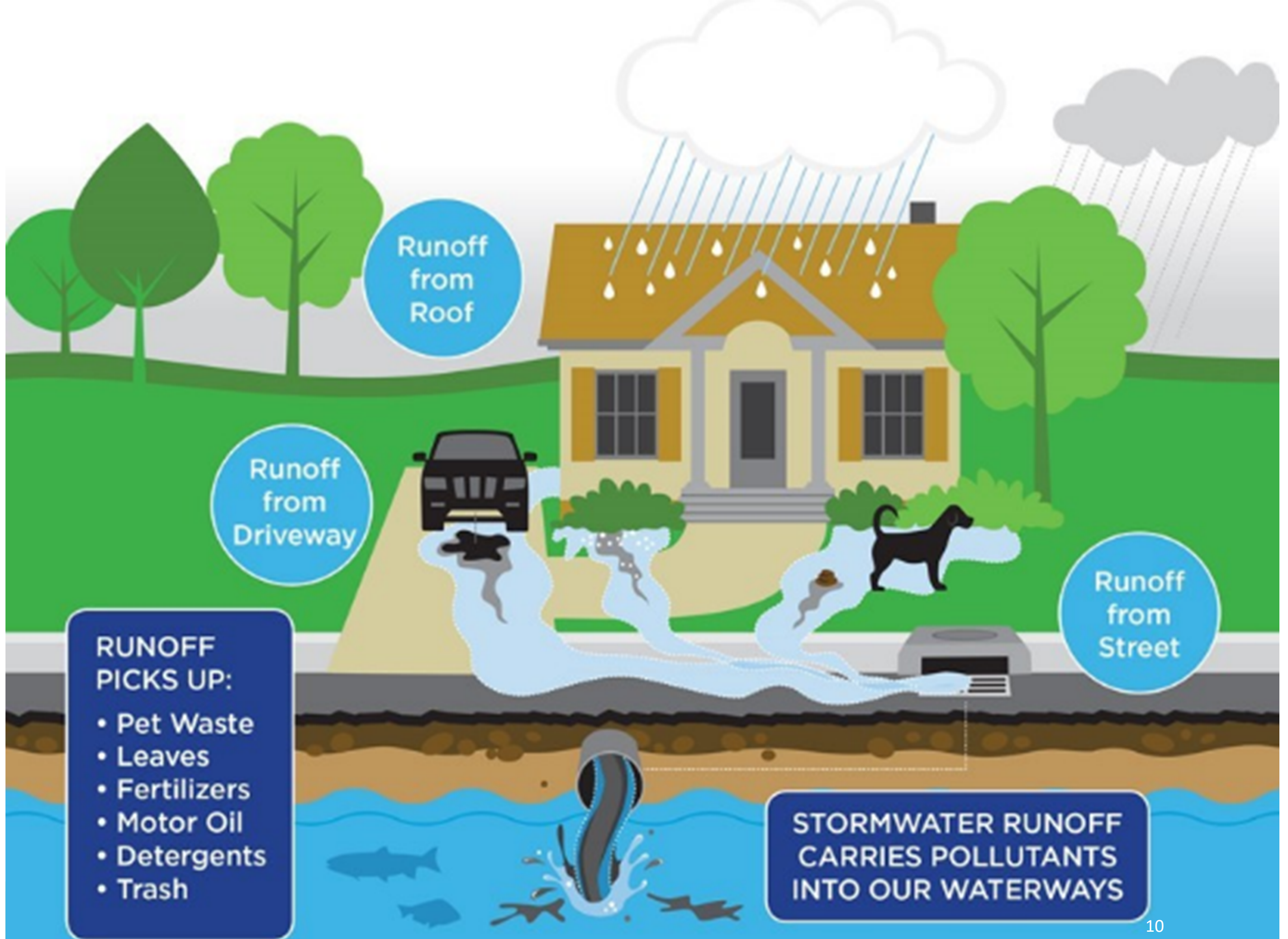


City Council Approval

February 2, 2022: City Council voted 6-3 in favor of accepting the ad hoc Committee's recommendations

“The recommendation of the Committee is hereby accepted. The Council hereby states its intent to form a stormwater utility in the future, by way of...”

What is Stormwater?



Runoff from Roof

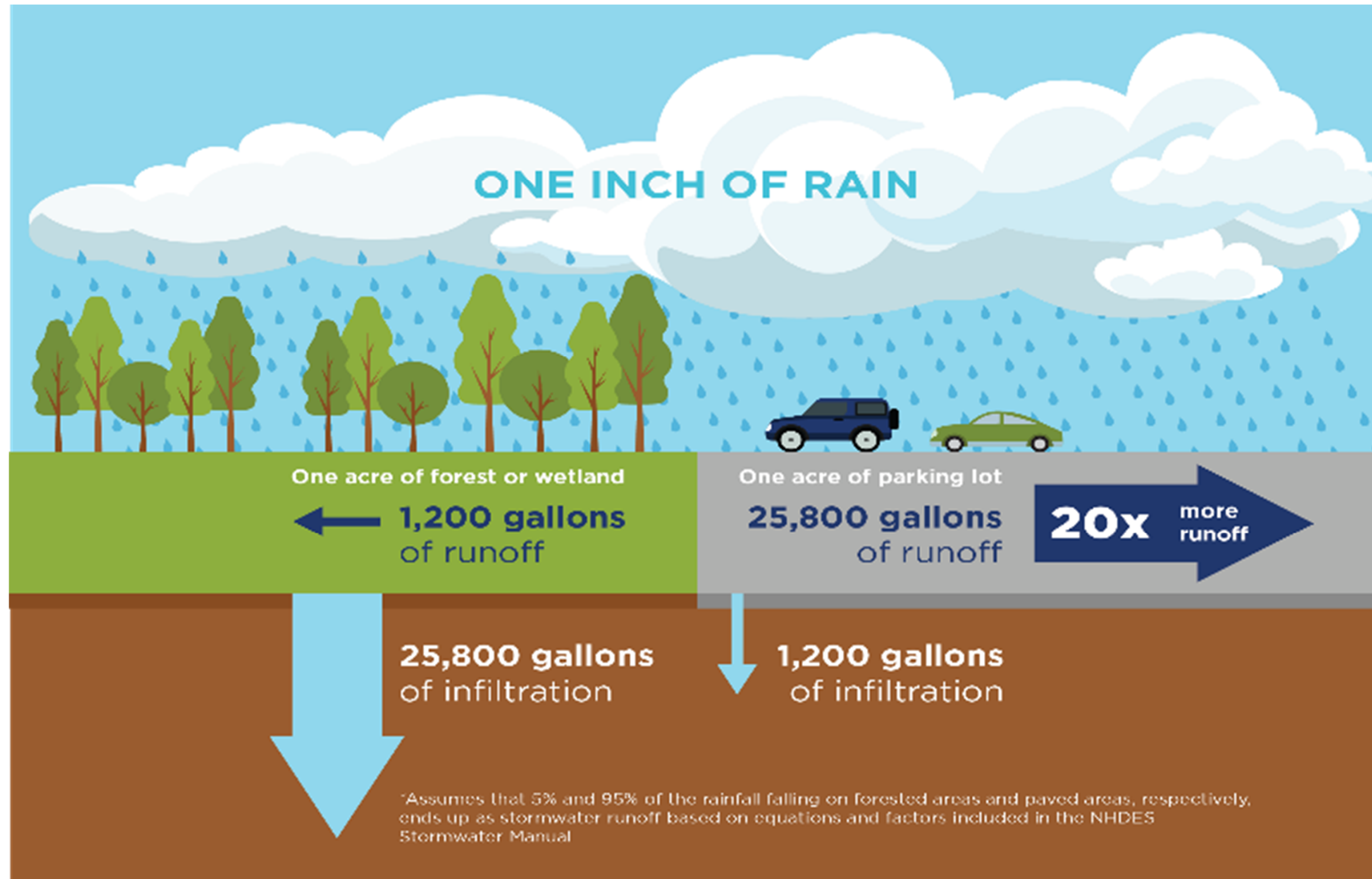
Runoff from Driveway

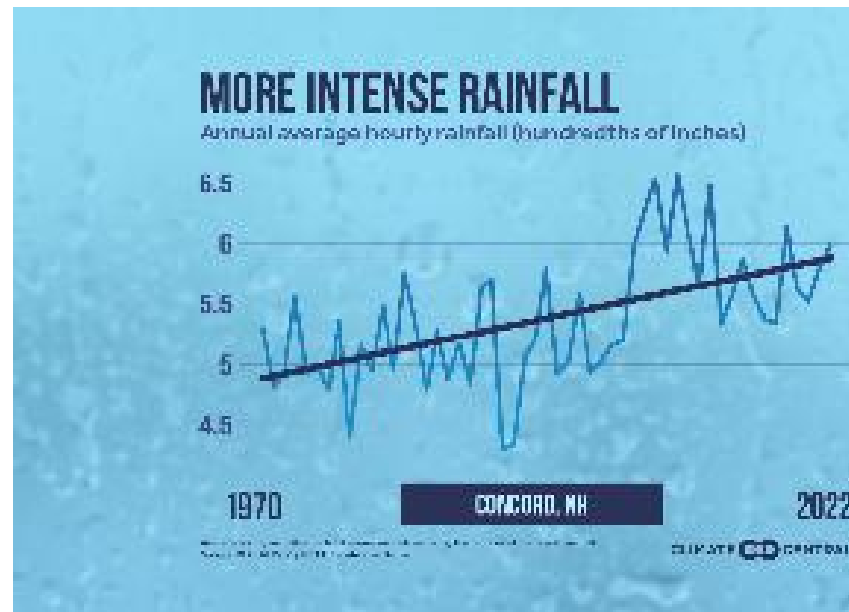
Runoff from Street

- RUNOFF PICKS UP:**
- Pet Waste
 - Leaves
 - Fertilizers
 - Motor Oil
 - Detergents
 - Trash

STORMWATER RUNOFF CARRIES POLLUTANTS INTO OUR WATERWAYS

More Impervious Cover = More Runoff





Increasing Flood Risks

Extreme Rain Events on the Rise

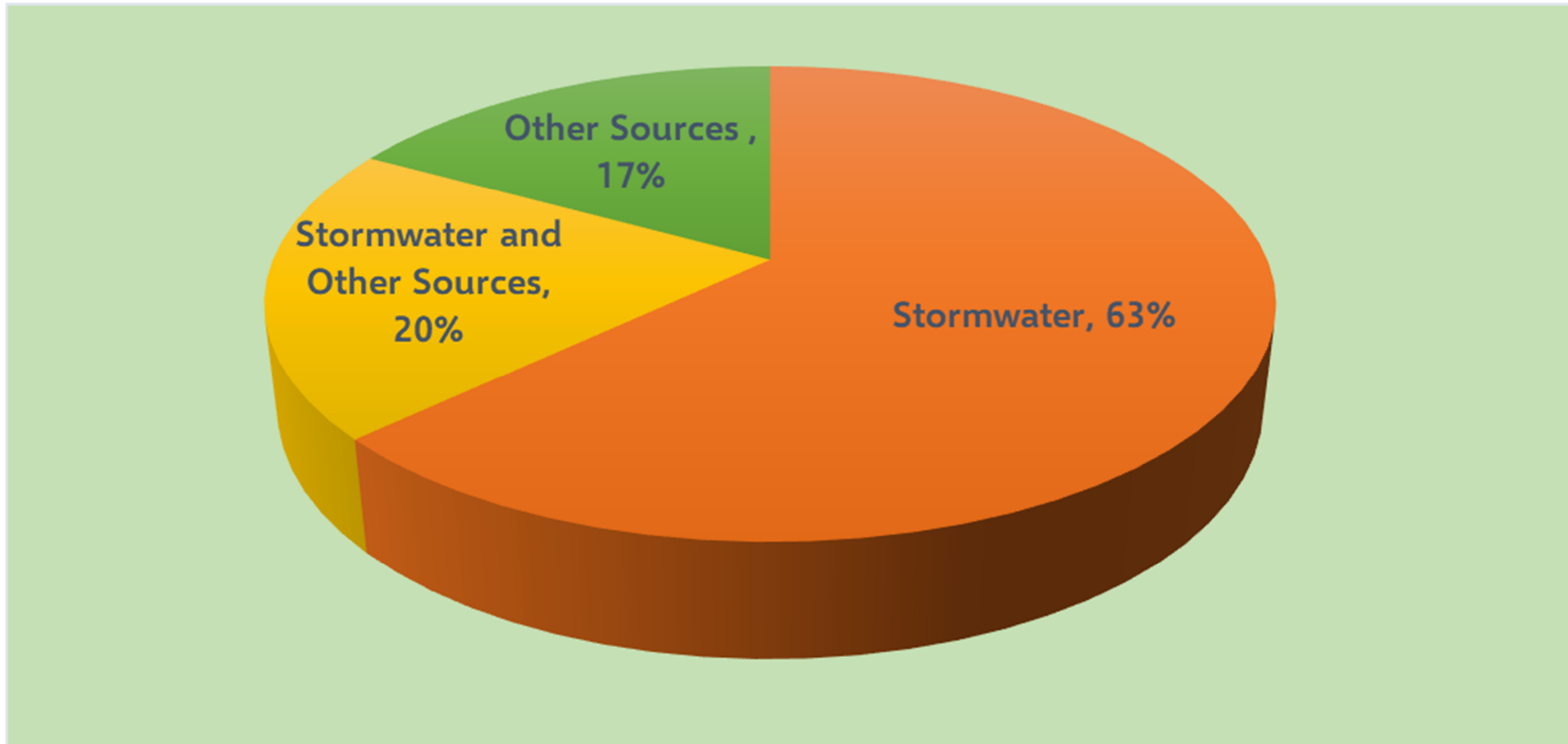
In last 3 months, at least 4 storms in NE with 6-9 inches of rain (> 100 yr. storm event)

Nearly \$80 million in property value and infrastructure in flood prone areas

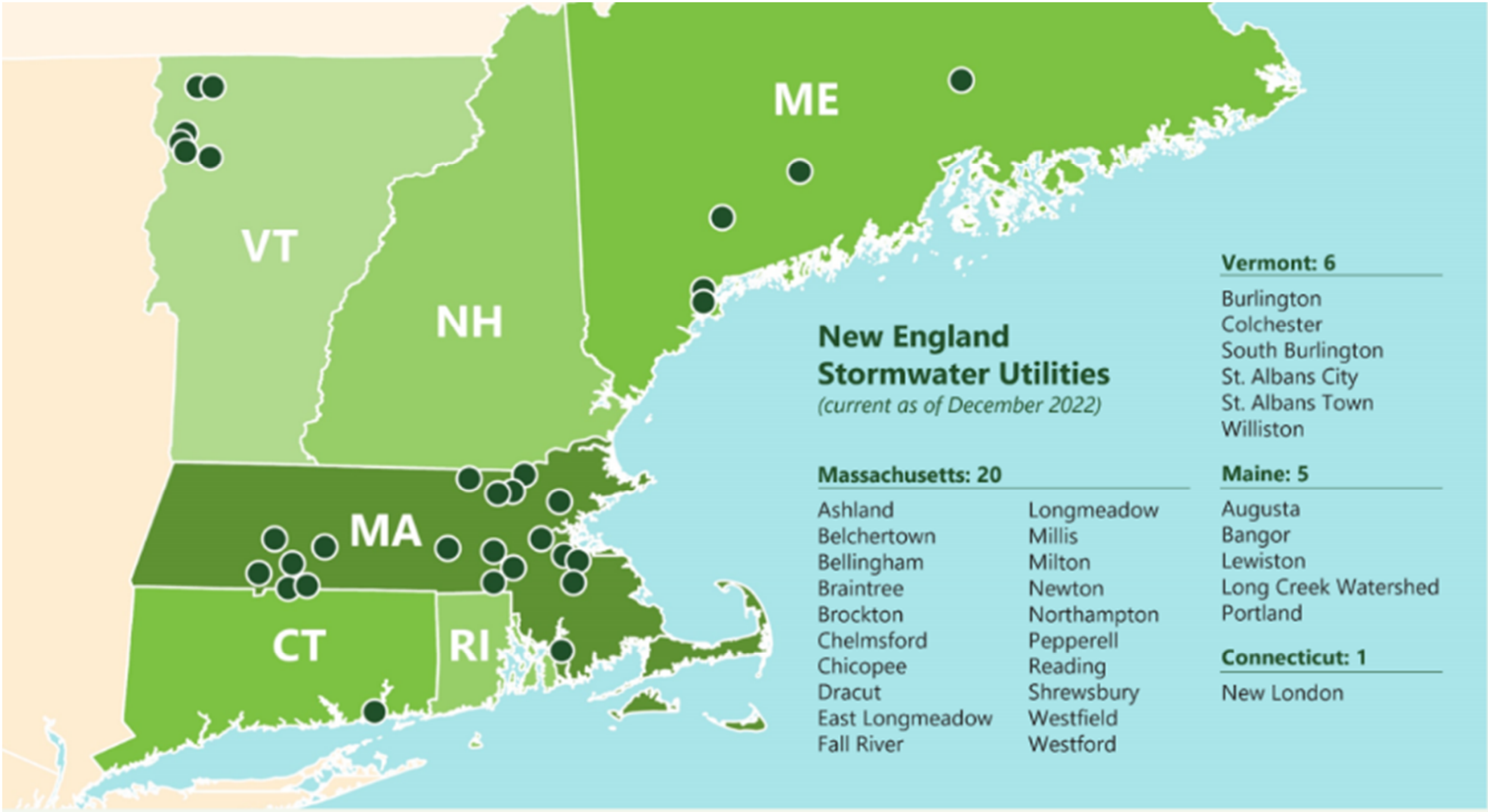
Flood Mitigation Projects on hold

\$5 Million in flood resiliency projects identified to reduce future flooding

Water Quality Impairments in NH

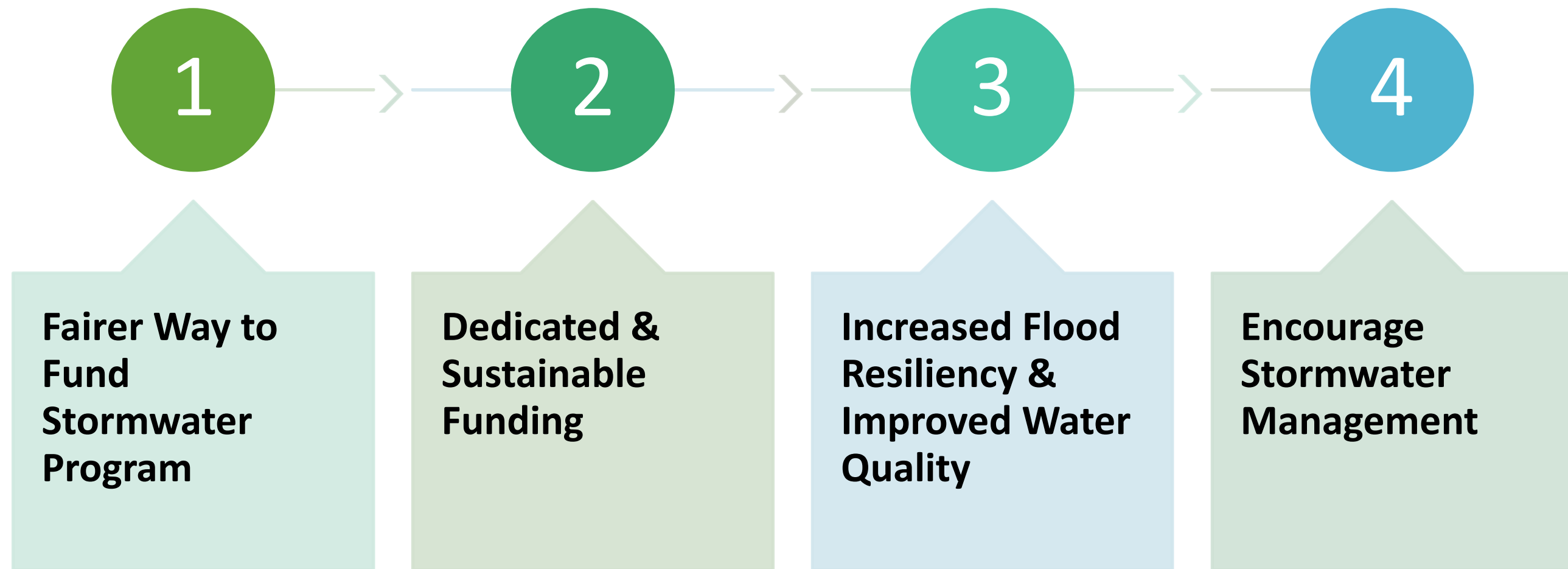


Not a New Concept for Funding Stormwater Over 30 New England Stormwater Utilities



Benefits of a Stormwater Utility

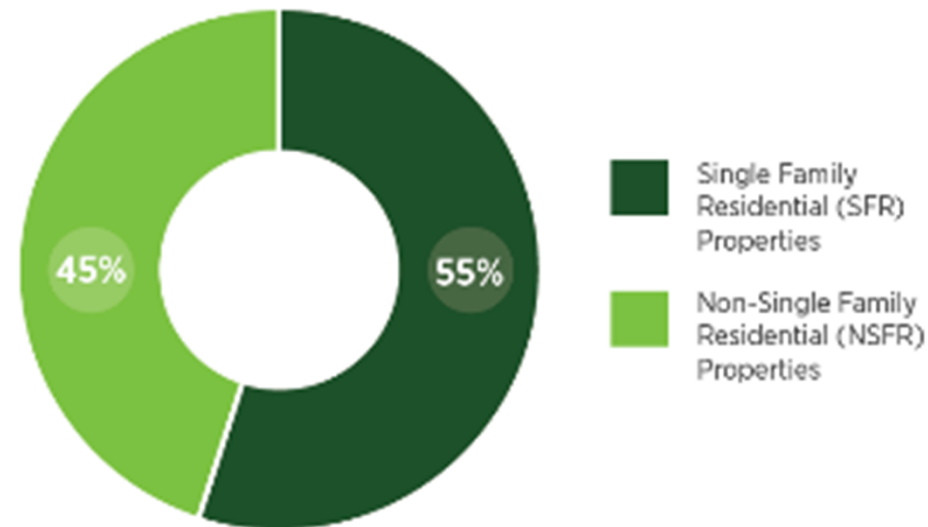
Key Reasons to Adopt a Utility Fee



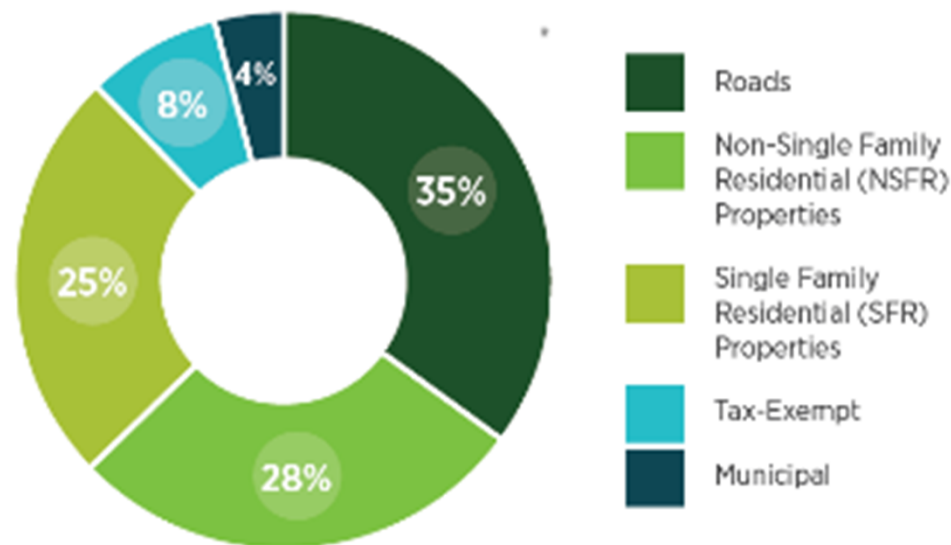
Key Reasons to Adopt a Utility Fee



Current Property Tax Contributions to Fund Stormwater Budget



Potential Revenue Contributions Under Future Utility Fee System



1

Fairer Way to Fund Stormwater Program

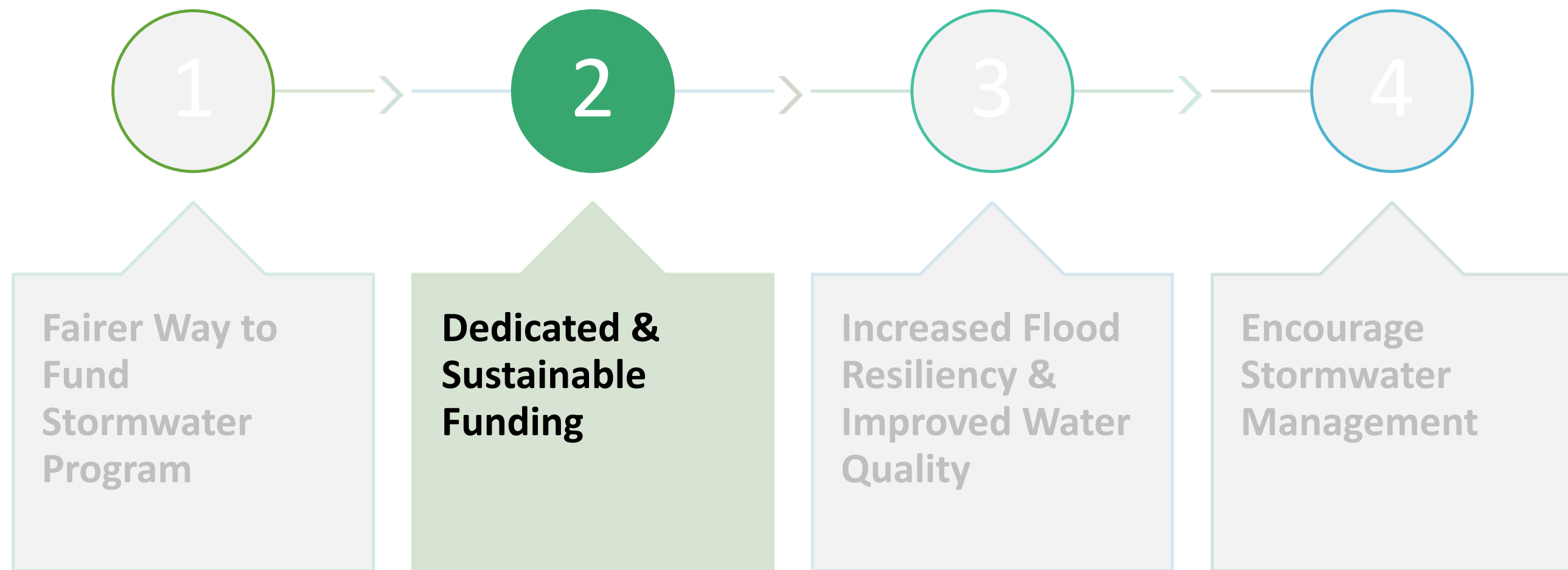
Current

- **SFR property** owners currently **pay ~ 55%** of the SW costs via property taxes but have only 25% of the Impervious Cover area

Proposed Utility

- **SFR property** owners would **pay ~ 25%** of SW costs
- More than 70% of the SW costs funded by commercial property and roads
- Tax-exempt properties would help to fund the Stormwater Program

Key Reasons to Adopt a Utility Fee



2 Dedicated & Sustainable Funding

Current Approach

Stormwater program competes for General Fund dollars, making long-term planning and proactive management of system very difficult

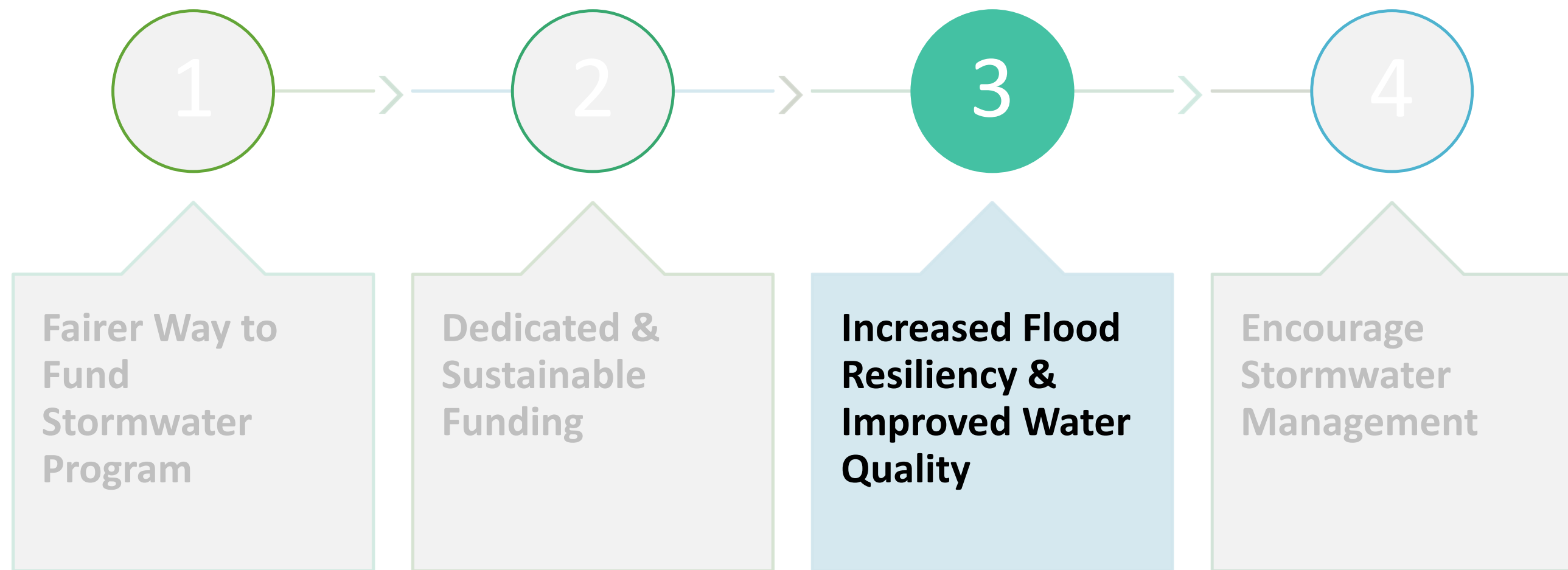
Popular Misconception

Stormwater Utility funds are used to pay for new programs or wish list of new projects.

Reality

- Funds are used to pay for current operations and infrastructure needs.
- Utility Funds can only be used for stormwater expenses.

Key Reasons to Adopt a Utility Fee



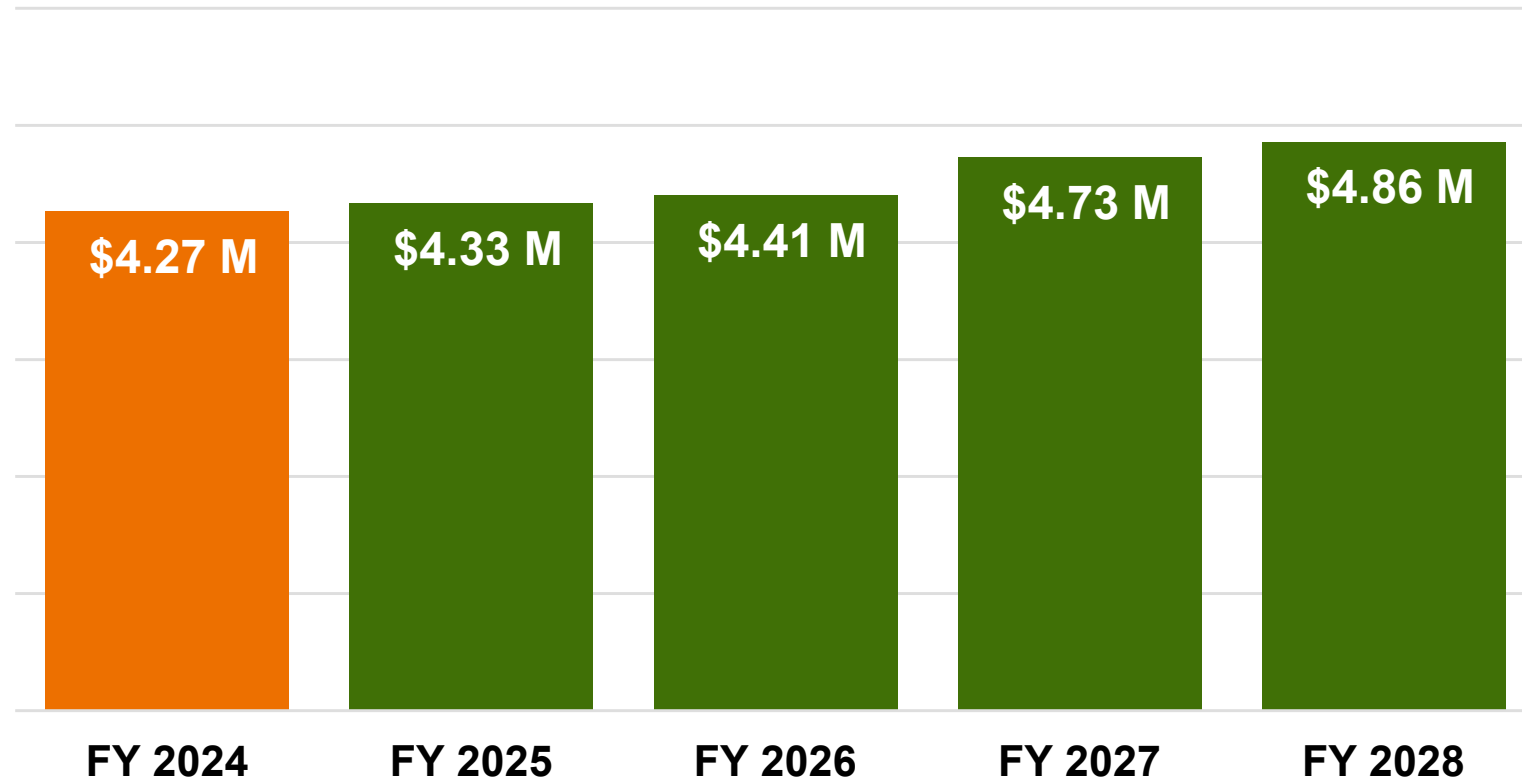
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Increased Flood Resiliency & Improved Water Quality

Expenditures include:

- Operating and maintaining stormwater system
- Capital investments to improve system
- Debt payments for prior capital projects

Total Annual Stormwater Expenditures



Key Reasons to Adopt a Utility Fee



4

Encourage Stormwater Management

- **Stormwater Utility CREDIT** able to reduce utility fees for qualifying onsite and/or offsite stormwater management measures.
- Credits for:
 - ✓ Infiltration
 - ✓ Rain gardens
 - ✓ Dry wells
 - ✓ Porous pavement
 - ✓ Nitrogen pledge
 - ✓ Stormwater BMPs
 - ✓ Public participation
 - ✓ Offsite stormwater management



NEW HAMPSHIRE HOMEOWNER'S
GUIDE TO STORMWATER MANAGEMENT
DO IT YOURSELF STORMWATER SOLUTIONS
FOR YOUR HOME



Stormwater Utility Development Process

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Utility Development Process:

Impervious Cover Analysis

- 1) Quantify impervious cover on parcels and right of way**
 - High resolution aerial imagery from NearMap.
- 2) Determine impervious cover by land use/property ownership**
- 3) Determine an Equivalent Residential Unit (ERU)**
 - Median amount of Impervious Cover on single-family properties
- 4) Determine ERUs/fee per property owner or water meter account**

Impervious Cover Data Collection



NearMap Aerial Imagery

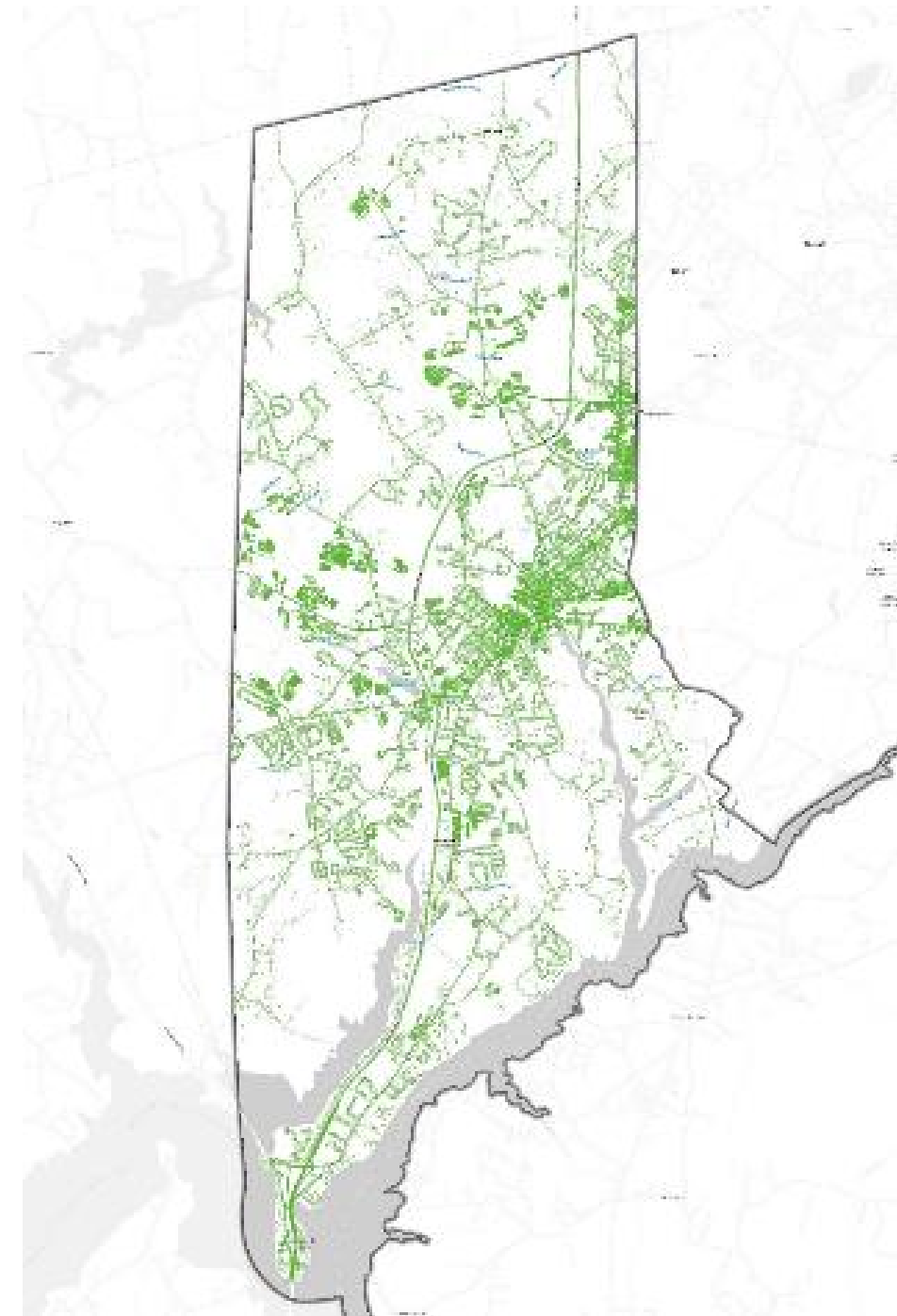
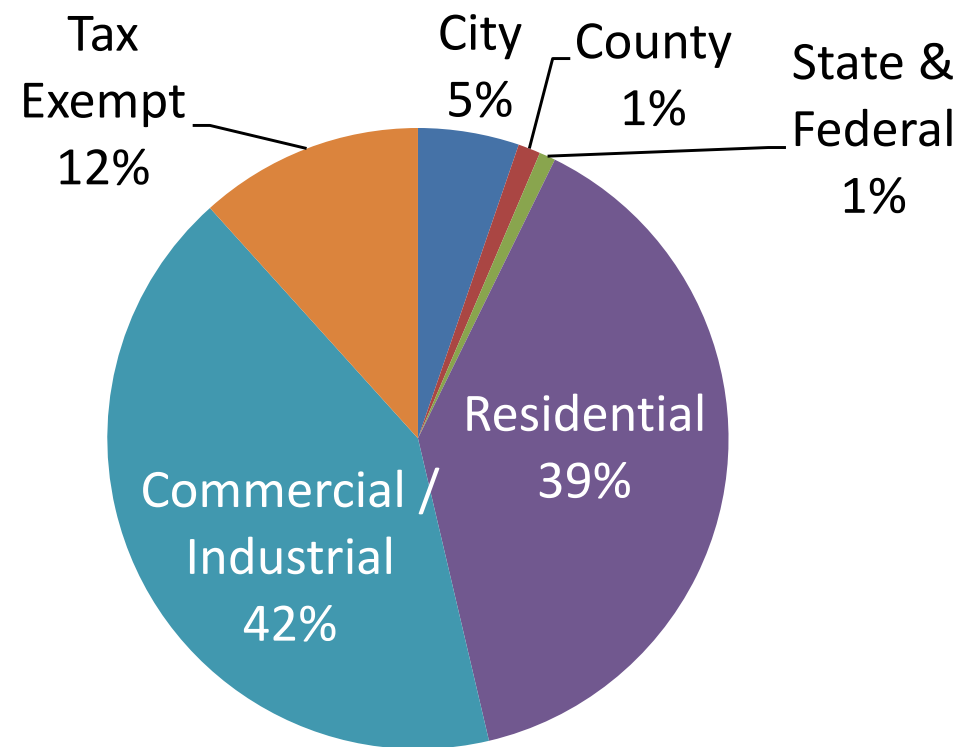
- Impervious cover data has greater resolution than the GRANIT data

Two data sources:

- Light green = GRANIT 2021 data
- Dark green = NearMap 2022 data

Impervious Cover Results

Impervious Cover
(not including right-of-way)
67,415,262 sq. ft.

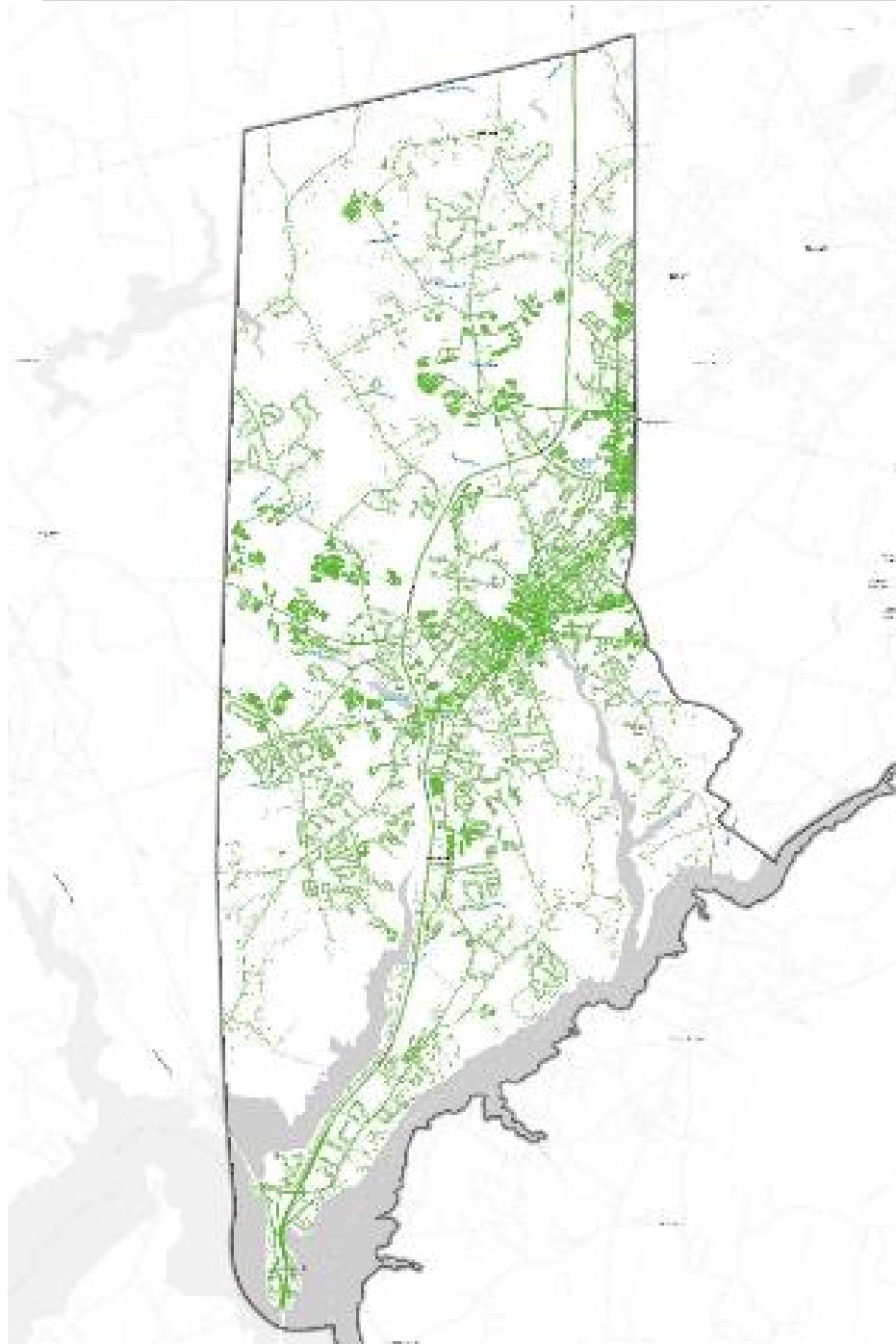


Impervious Cover* By Land Use

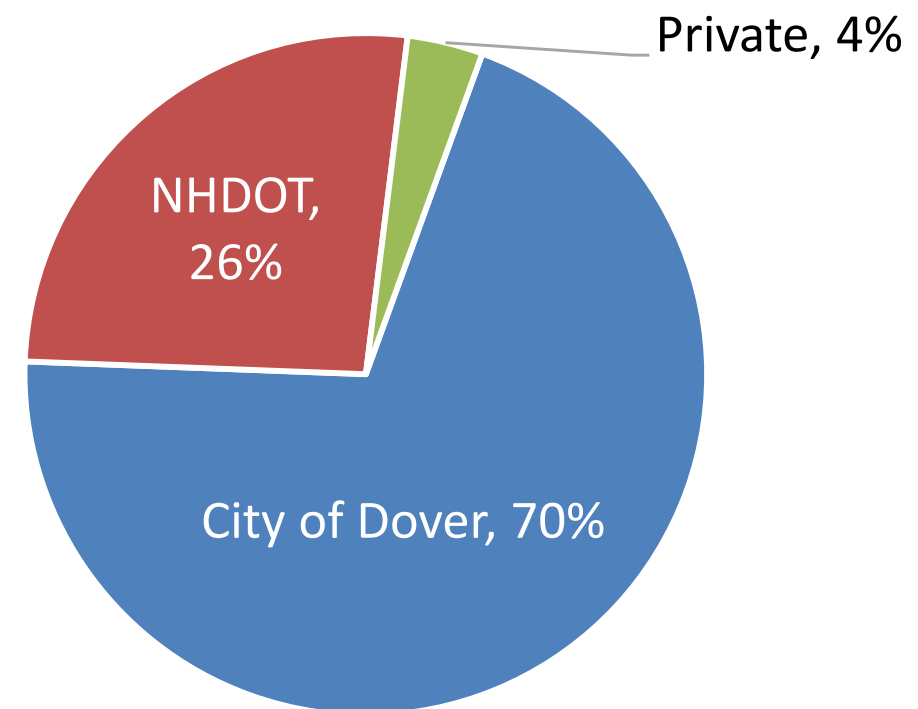
Land Use Type	IC Area (sq. ft.)	% Total
Commercial/Industrial/Utility	28,306,333	42%
Residential	26,328,739	39%
Non-Govt. Tax Exempt	7,873,490	12%
City-Owned	3,552,041	5%
County	772,623	1%
State & Federal	582,037	1%
Parcel Total (no ROW)	67,415,262	100%

**Not including right of ways*

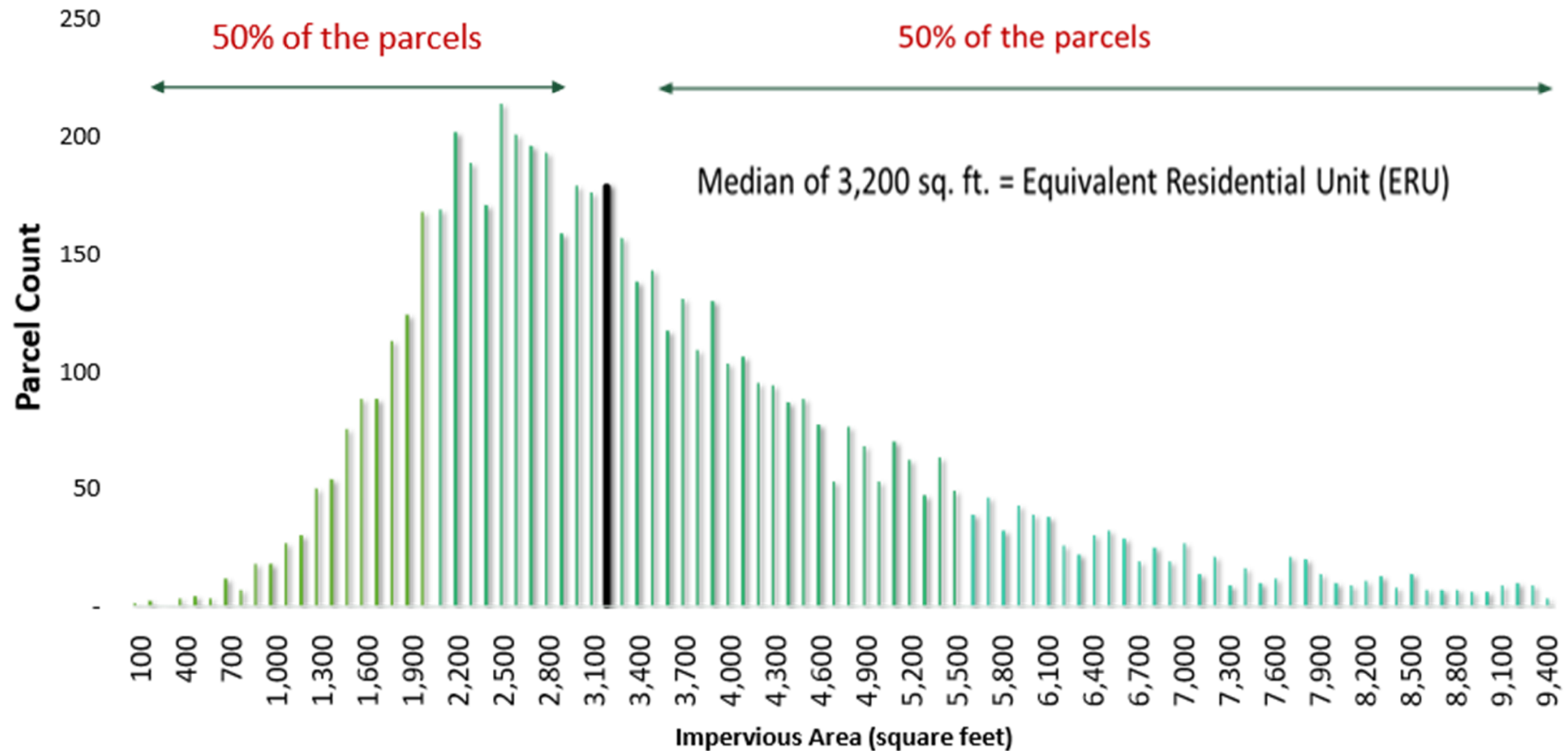
Impervious Cover Results



Right-of-way Impervious Cover
34,171,051 sq. ft.




Determination of an ERU for SFH Properties



Utility Development Process:

Financial Analysis

- 1) Existing stormwater department operating expenses**
- 2) Additional allocated utility costs associated with:**
 - 25% of expenditures within FY24 Budget within Community Services Engineering Division
 - Estimate of staffing needs to manage administrative aspects of a stormwater utility
 - Municipal Alliance Adaptive Management contribution
 - Street Sweeping initial estimate
- 3) Existing debt for prior stormwater capital investments**
- 4) Capital project expenditure plan (FY24 - FY 29) + unissued authorized funding**
 - Portion of street reconstruction projects
 - 50% of General Permit Compliance



Financial Analysis Assumptions

CIP escalated at 3% annually beginning in FY 2025

Capital plan funded with debt issuance 4.75% interest rate over 20 years

Baseline - Assume no growth in impervious area

Gradually fund reserve over 6 years (Target 15% of annual appropriation)

Stormwater Expenditures

Stormwater Activity	Funding Source					
		FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Stormwater Department Operating Budget						
Personnel Services	GF	\$ 529,845	\$ 548,390	\$ 567,583	\$ 587,449	\$ 608,009
Supplies	GF	342,424	354,409	366,813	379,652	392,939
Capital Outlay	GF	2,500	2,588	2,678	2,772	2,869
Purchased Services	GF	148,186	153,373	158,741	164,296	170,047
Other Expenses	GF	1,650	1,708	1,768	1,829	1,893
Subtotal: Operating Budget		\$ 1,024,605	\$ 1,060,466	\$ 1,097,582	\$ 1,135,998	\$ 1,175,758
Community Services Engineering Division						
Personnel Services	GF	\$ 92,222	\$ 95,449	\$ 98,790	\$ 102,248	\$ 105,826
Purchased Services	GF	15,276	15,810	16,363	16,936	17,529
Supplies	GF	3,552	3,677	3,805	3,938	4,076
Capital Outlay (transfers out)	GF	82,261	85,140	88,120	91,204	94,396
Stormwater Utility Staffing						
Personnel Services	New	\$ -	\$ 207,000	\$ 214,245	\$ 221,744	\$ 229,505
Sewer Fund						
Municipal Alliance Adaptive Management Contribution	Other	\$ 75,000	\$ 77,625	\$ 80,342	\$ 83,154	\$ 86,064
Streets						
Street Sweeping	GF	100,000	103,500	107,123	110,872	114,752
Subtotal: Allocated Expenditures		\$ 368,310	\$ 588,201	\$ 608,788	\$ 630,096	\$ 652,149
Cash Funded Capital Expenditures						
Community Services - Public Works						
Drainage System Improvements	GF	\$ 250,000	\$ 350,000	\$ 400,000	\$ 450,000	\$ 500,000
Community Services - Sewer Fund						
General Permit Compliance	Other	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Subtotal: Cash Funded Capital Expenditures		\$ 450,000	\$ 550,000	\$ 600,000	\$ 650,000	\$ 700,000
Debt Service						
Existing Debt	GF	\$ 1,567,283	\$ 1,275,302	\$ 1,240,536	\$ 1,195,884	\$ 1,165,083
Future Debt (Based upon Approved CIP)	GF	\$ 860,028	\$ 860,028	\$ 860,028	\$ 1,118,236	\$ 1,165,398
Subtotal: Debt		\$ 2,427,311	\$ 2,135,330	\$ 2,100,564	\$ 2,314,120	\$ 2,330,480
TOTAL		\$ 4,270,226	\$ 4,333,997	\$ 4,406,934	\$ 4,730,213	\$ 4,858,387

Funding Source: **General Fund (GF)** **Non-General Fund Sources**

General Fund Impact

Stormwater Expenses funded by General Fund (FY24):	\$3,995,226
City of Dover Stormwater Charge*:	<u>\$1,379,731**</u>
Net Reduction in General Fund:	\$2,615,495

**Annual amount City would be responsible for from General Fund. Includes fees for municipally owned city roads and buildings (27,471,776 square feet of impervious cover) in addition to the City of Dover's share of Strafford County's Stormwater Fees (33% of \$38,593)*

***Does not include reduction in fees from stormwater credits.*

How would a stormwater fee work?

- Property owners would fund the stormwater system based on amount of potential runoff from their property
- Potential runoff is based on impervious cover on property
- Median single-family property in Dover has 3,200 square feet of impervious cover
- 1 Equivalent Residential Unit: ERU



Impervious Cover

Roof: 1,700 sq. ft.

Walkway: 300 sq. ft.

Driveway: 1,200 sq. ft.

Total: 3,200 sq. ft. = 1 ERU

How would a stormwater fee work?

- Property owners with more impervious cover would pay more to fund the stormwater system



Impervious Cover

Roof: 22,000 sq. ft.

Parking Lot: 10,000 sq. ft.

Total: 32,000 sq. ft. = 10 ERUs

Stormwater Fee Structure

Impervious Cover (sq. ft.)	ERUs	Monthly Fee	Annual Fee**
400 - 1,600	0.5	\$6.66	\$80
1,601 - 4,800	1.0	\$13.32	\$160
4,801 - 8,000	2.0	\$26.65	\$320
8,000 - 11,200	3.0	\$39.97	\$480
Over 11,200	Per 3,200 sq. ft.*	\$13.32	\$160

*Rounded up to nearest whole ERU

** Does not include credits

Example Single-Family Properties



Impervious Cover (sq. ft.)	1,332	3,200	12,000
ERUs	0.5	1	4
Annual Stormwater Fee	\$80	\$160	\$640

Example Commercial Properties



Impervious Cover (sq. ft.)	10,658	19,689	70,200
ERUs	3	7	22
Annual Stormwater Fee	\$480	\$1,120	\$3,520

Example Industrial Properties



Impervious Cover (sq. ft.)

111,390

120,038

ERUs

35

38

Annual Stormwater Fee

\$5,600

\$6,080



HOA Example

39 units within Community

Impervious Cover = 129,783 sf

Number of ERUs: $(129,783 / 3,200) = 41$ ERUs

Annual Total Community Stormwater Bill:
\$6,553

Divided per Unit: SW Bill = \$168/year without credits

Property Tax vs. Stormwater Fee

Single Family Property	ERUs	Property Assessment	Fully Fund \$4.5M with Property Taxes	Funded With Stormwater Fee**	Property Tax Portion	Total	Net Change
Property A	1	\$300,000	\$234	\$160	\$69	\$229	(\$5)
Property B*	1	\$460,000	\$359	\$160	\$106	\$266	(\$93)
Property C	1	\$600,000	\$468	\$160	\$138	\$298	(\$170)

*Average residential property assessment is \$458,334

**Prior to applying credits.

Non-Residential Property	ERUs	Property Assessment	Fully Fund \$4.5M with Property Taxes	Funded With Stormwater Fee***	Property Tax Portion	Total	Net Change
Commercial	16	\$2,900,000	\$2,262	\$2,560	\$667	\$3,227	\$965
Industrial	42	\$4,600,000	\$3,588	\$6,720	\$1,058	\$7,778	\$4,190
Tax-Exempt	8	\$-	\$-	\$1,280	\$-	\$1,280	\$1,280

***Prior to applying credits

Credits

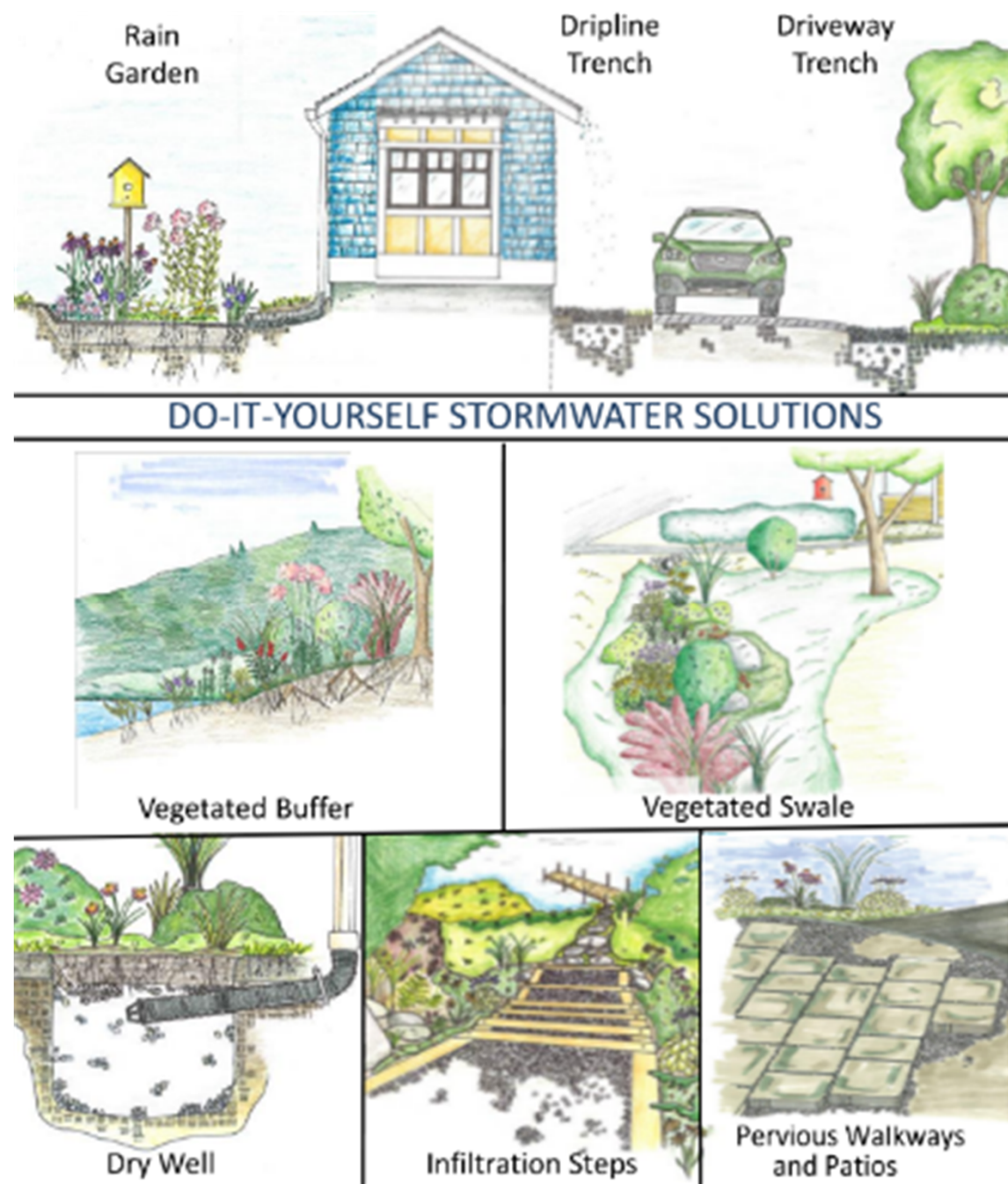
Stormwater Utility Fee Credits



Stormwater Utility CREDIT

- Users can apply for credits to reduce their stormwater utility fee
- Fee available for qualifying onsite and/or offsite stormwater management measures.
- Credits capped at 50% of fee for management of stormwater generated on site
- Credits can exceed 50% if offsite stormwater is managed

Stormwater Utility Fee Credits



Example:

- SFR Property with 3200 sf of impervious cover and \$460,000 assessment
- Annual Stormwater Fee: \$160
- Owner takes advantage of the following credits:
 - Nitrogen Pledge
 - Driveway Infiltration Trench

Stormwater Utility Fee Credits

Example:

- Owner takes advantage of the following credits:
 - Nitrogen Pledge (5%)
 - 5% credit x \$160 = \$8

Credit Type	Resources and Guidelines	Credit Amount
Dripline Infiltration Trench		
Driveway Infiltration Trench	Stormwater Credit Manual and the NHDES Soak Up the Rain Program for guidance.	Up to 25% credit for Impervious Area Managed per credit type
Dry Well		
Porous Pavement, Patio, Walkway		
Intensity of Development		
Rain Garden		
Vegetative Buffer	Stormwater Credit Manual and/or the NHDES Soak Up the Rain Program for guidance.	10% credit per credit type
Public Participation		
Manage Offsite Stormwater	Must own and maintain a stormwater facility that is fully functioning as designed and permitted that meets local design standards and regulations.	Up to 50% credit for management of offsite impervious area equivalent to or exceeding onsite impervious area
Nitrogen Pledge	Pledge to not use lawn fertilizer or to only use slow-release organic nitrogen.	5% credit during the year of pledge

Stormwater Utility Fee Credits

Example:

- Owner takes advantage of the following credits:
 - Driveway Infiltration Trench for 1000 sf
 - $(1000 \text{ sf} / 3200 \text{ sf}) = 31.25\%$ of total IC treated
 - $31.25\% \times \$160 \times 25\%$ credit = \$12.50 savings annually or 7.8% of fee.

Credit Type	Resources and Guidelines	Credit Amount
Dripline Infiltration Trench	Stormwater Credit Manual and the NHDES Soak Up the Rain Program for guidance.	Up to 25% credit for Impervious Area Managed per credit type
Driveway Infiltration Trench		
Dry Well		
Porous Pavement, Patio, Walkway		
Intensity of Development		
Rain Garden	Stormwater Credit Manual and/or the NHDES Soak Up the Rain Program for guidance.	10% credit per credit type
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Stormwater Utility Fee Credits

Example:

- Credits Obtained
 - Driveway Infiltration Trench for 1000 sf = \$12.50 savings
 - Nitrogen Pledge = \$8
 - \$12.50 + \$8 = \$20.50 or 12.8% of fee
 - Stormwater Fee:
\$160 - \$20.50 = \$139.50

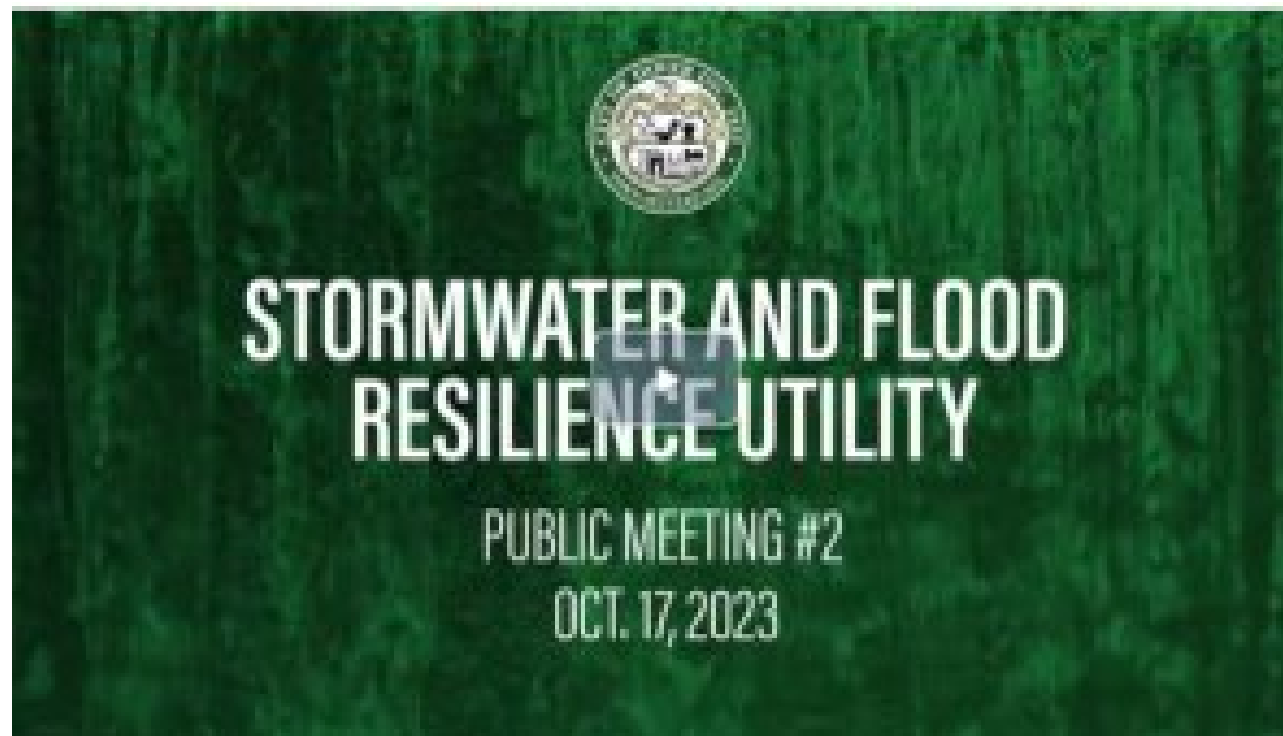
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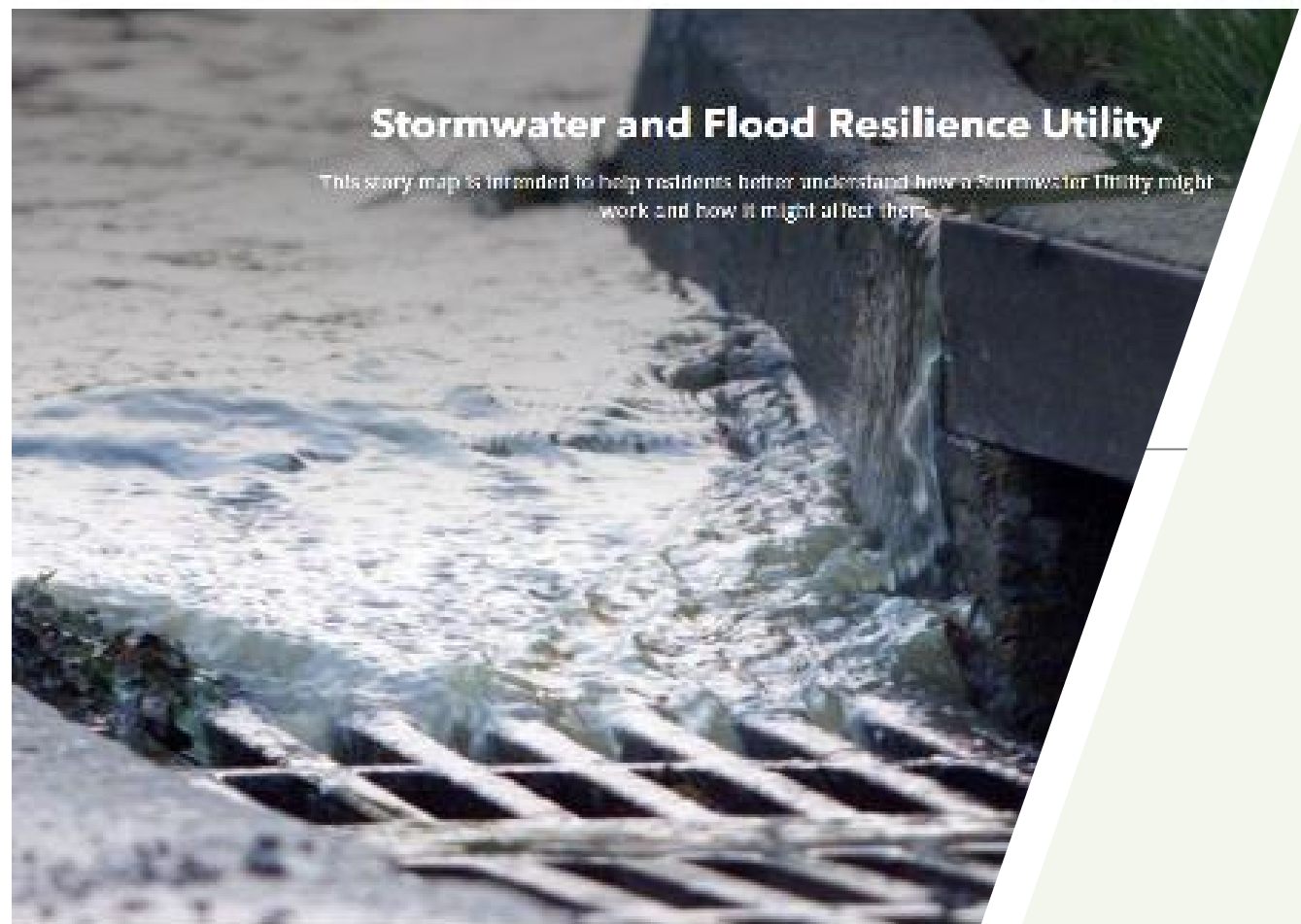
Public Outreach



Public Outreach

- First Stormwater Utility Committee (2011)
- Ad-hoc Committee (2020-2022)
- Public Meetings May & Oct. 2023
- Online Storymap (<https://arcg.is/09OXyn>)
- Apple Harvest Day (Handouts)
- Dover Download/ City Stormwater Web Page
- FAQ Mailer
- Responses to Comments





Stormwater and Flood Resilience Utility

This story map is intended to help residents better understand how a Stormwater Utility might work and how it might affect them.

Business and Flood Resilience Utility

Stormwater? | Business in Dover | Planning & Regulations | Aging Infrastructure | Flood Mitigation | Meeting Needs and Goals | Proposed Stormwater Utility? | Survey and Comments | Contact Us

Stormwater Survey and Comments

Dover Stormwater Utility Survey

Please consider completing the following multiple choice survey questions to provide feedback on your interests and level of concern regarding flood protection and the effects of stormwater on water quality. The survey also provides some interesting fun facts on stormwater runoff generation and water usage to raise awareness on the connection between land use changes and the availability of water resources.

If you prefer, you can separately provide comments and suggestions on the proposed Stormwater and Flood Resilience Utility for an alternative funding mechanism through the available link.

1. How familiar are you with the Dover Stormwater and Flood Resilience Utility Advisory Committee Findings and Report, completed in January 2022?

Dover Stormwater Utility Comments

Please provide any additional thoughts/opinions/suggestions:

2000

Submit

City Government > City Operations > Community Services > Stormwater Management

- Contact Us
- Engineering
- Environmental
- Facilities, Grounds And Cemeteries
- Fleet Services
- Highway
- Permitting
- Projects
- Solid Waste And Recycling
- Stormwater Management
- Utilities

STORMWATER MANAGEMENT

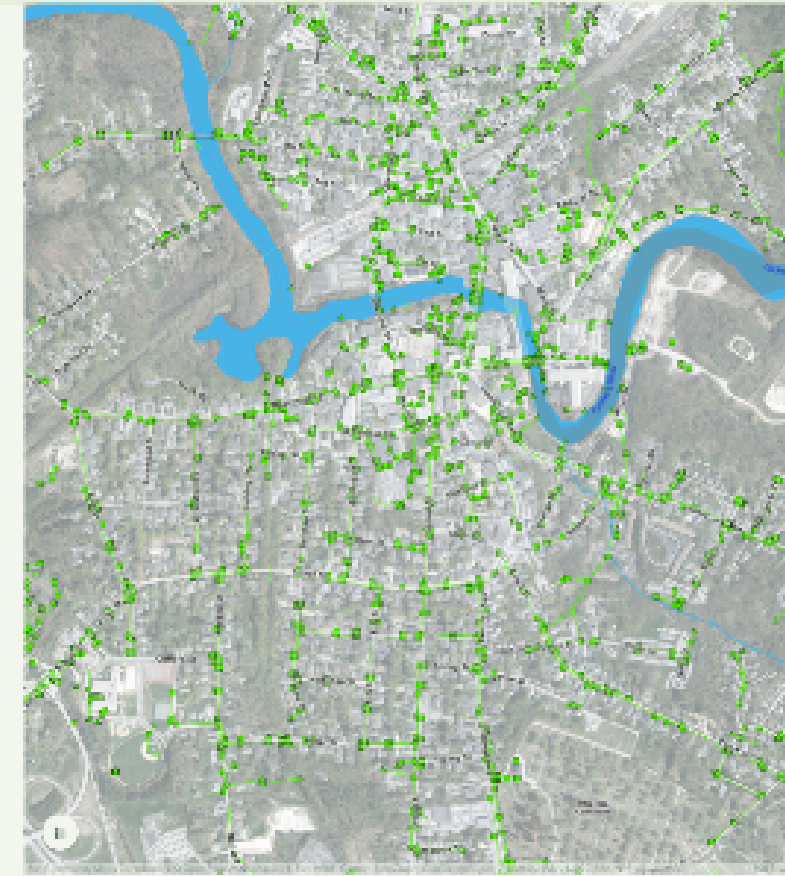
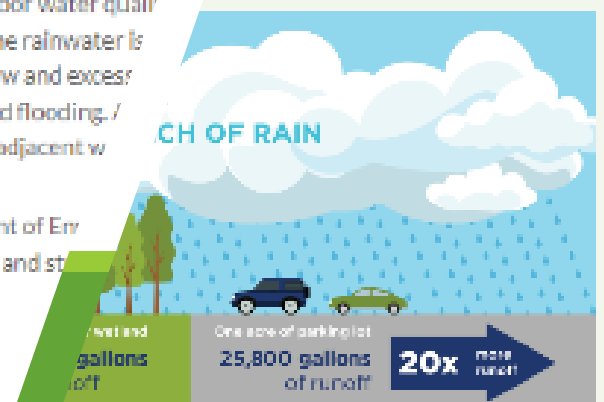
WHAT IS STORMWATER

Stormwater is a valuable resource as it replenishes our groundwater and surface waters and sustains drinking water, recreational and aquatic resources. It is also essential for our natural environment/ landscaped areas.

But when not properly managed, it can contribute to increased flooding and poor water quality. When rainwater falls on rooftops, pavement and other impervious surfaces, the rainwater is soaking into the ground and instead runs across the land quickly. This rapid flow and excess overwhelm storm drains and streams, resulting in more frequent and increased flooding. / across the land, it picks up pollutants along the way and discharges them into adjacent water bodies.

According to water quality data collected and published by the NH Department of Environmental Services (NHDES), more than 80% of the water quality impairments in our lakes, rivers and streams are due to excess stormwater runoff.

IMPERVIOUS COVER



Public Outreach



Dover Stormwater and Flood Resilience Utility Fact Sheet



Growing Demands

As the City has grown and developed over time, the demands to keep up its stormwater infrastructure have also grown much like those of the water and sewer systems. The City now has over 100 miles of storm drainpipes and sewers, and over 1,000 catch basins, as well as hundreds of culverts and outfalls. Much of this infrastructure is more than 50 years old and is deteriorating during extreme rain events, resulting in increased flooding and property damage. At the same time, the City is facing more stringent regulatory requirements to manage stormwater and restore water quality to our adjacent water resources. These growing demands are causing the City's annual stormwater operating and capital improvement budgets to rise at an accelerated pace. Critical drainage and flood mitigation projects totaling more than \$5 million have been delayed due to competing funding priorities. Using property taxes to fund the stormwater budget is not sustainable or equitable, as the property tax burden used to fund the stormwater budget is not tied to a property's usage of the system. Not all properties contribute to the City general fund, such as tax-exempt properties, even though all developed properties generate stormwater.

As Dover celebrates its 400th anniversary, the City seeks to secure a more flood resilient and sustainable future with a stormwater and flood resilient utility program.

Stormwater and Effects of Impervious Area

Stormwater runoff is rainfall or snowmelt that flows over land and does not soak into the ground. Impervious areas such as rooftops, driveways, and parking lots can create 20 times more stormwater runoff than forested areas. As it flows, stormwater runoff picks up pollutants in its path, such as oil, grease, and trash, which end up flowing into our local water bodies either directly or through the City's storm drain system.



How will Dover Benefit from a Stormwater and Flood Resilience Utility Program?



As the City continues to grow, City Council seeks to create a stormwater and flood resilience utility as a more sustainable and fair way to fund the growing list of stormwater and flood resilience needs. The following provides information to respond to frequently asked questions about the potential benefits of a proposed utility program and a basic comparative assessment using several property examples to show how an estimated utility fee would compare to the estimated property tax portion currently used to pay for annual stormwater and flood resilience costs, if enacted as currently envisioned. The utility would begin at the start of the 2025 fiscal year on July 1, 2024.

2nd Public Informational Workshop (Tuesday, October 27, 5:30 pm)

The City of Dover will host a Public Informational Workshop to discuss the proposed fee structure and various funding options associated with a stormwater and flood resilience utility. The workshop will be held in Room 303 of the Municipal Center and all public information about the proposed utility for interested residents will be available on-site followed by a public session to solicit public feedback on how best to implement the utility program. For additional details, visit public meetings on other City communications with the Department of Public Works at www.doverdelaware.gov.

Comparison of Estimated Annual Utility Fees vs. Property Tax

Based on an annual stormwater and flood resilience cost of \$40 million, the following provides a comparison of the potential annual stormwater utility fee versus the estimated amount of annual property tax that would be generated on various property types. The estimated utility fee is based on the number of equivalent residential units (ERUs) which is calculated by dividing the total impervious area by 1,000 square feet. These examples are intended to provide a general basis for assessing how the proposed utility might affect your situation based on your property type and estimated amount of impervious area.

Property Examples	Single-Family House	Condominium	Apartment	Commercial Bldg.
Impervious Area (sq. ft.)	1,000	10,000	50,000	100,000
ERUs	1.0	10.0	50.0	100.0
Est. Annual Prop. Tax*	\$80	\$800	\$4,000	\$8,000
Est. Property Tax Increase†	\$80	\$1,200	\$2,400	\$7,200

Dover Stormwater and Flood Resilience Utility



Dover's Stormwater Operating and Capital Improvement Costs

Key Budget Drivers

- ✓ Aging Infrastructure
- ✓ More stringent federal requirements
- ✓ Increasing Flood Risk
- ✓ Declining Water Quality

The combined effect of these various drivers has resulted in steady increases in the City's stormwater Operating Budget as well as its annual allocation to the Capital Improvement Plan.

Dover's Overall Annual Stormwater Budget including Operating and Projected Capital Improvement Costs

	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
Operating Budget						
Operating Budget	\$ 1,324,628	\$ 1,382,144	\$ 1,441,360	\$ 1,501,576	\$ 1,562,792	\$ 1,624,008
Allocated Expenses	984,730	984,730	984,730	984,730	984,730	984,730
Capital Expenditures						
Cost Shared Capital	450,000	397,410	456,630	522,840	590,060	658,270
Building Cost	1,807,332	1,376,502	1,311,028	1,245,554	1,180,080	1,114,606
Public Debt	870,000	870,000	870,000	870,000	870,000	870,000
Total Stormwater Expenditures	\$ 4,472,000	\$ 4,526,056	\$ 4,580,018	\$ 4,633,980	\$ 4,687,942	\$ 4,741,904

How would a Stormwater Utility Effect the Average Hit

The average homeowner with an average assessed home value of \$275 per year in property taxes to fund the current annual operating budget of approximately \$4.5 million. The proposed utility would spread the cost over a broader spectrum of properties, while maintaining the same stormwater budget to \$40 per year, or a 14% increase.

Operating Budget	Capital Projects	Stormwater Utility
\$4.5M	\$4.5M	\$4.5M
\$1.5M	\$3.0M	\$1.0M
\$0.22	\$0.43	\$0.22

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Dover Stormwater and Flood Resilience Utility



Increasing Federal Regulations to Address the Effects of Stormwater Runoff on Water Quality



Like other NJ Communities, the City is faced with having to conduct more stormwater management activities to comply with two stormwater related permits issued by the U.S. Environmental Protection Agency (EPA).

Increasing Regulations

- Nonpoint Source Pollution Control (NPS) Permit**
- A City Stormwater Management Plan and Operations and Maintenance Plan
 - More frequent catch basin cleaning and street sweeping
 - Inspections and sampling of all 450 outfalls
- 2020 Great Bay Total Nitrogen General Permit**
- Contribute shared funding with other municipalities to support additional Great Bay water quality monitoring
 - Additional implementation of structural and non-structural control measures to reduce the City's nitrogen loading
- Additional Stormwater Treatment Measures and long-term inspection and maintenance of these measures**
- Tracking inspection and maintenance of stormwater BMPs on private property
 - Annual Reporting of the Stormwater measures completed
- Track and report nitrogen load increases and reductions on City and private property**
- Annual compliance costs for this Permit are estimated to be ~\$400,000.
 - Additional, very costly upgrades would be required at the Wastewater Treatment Facility

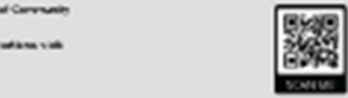
Dover Stormwater and Flood Resilience Utility



Proposed Stormwater Utility Credit Options for Single Family Home Properties

Structural Best Management Practice (BMP) Options*	Photo / Description	Credit
PERMEABLE PAVEMENT	Permeable pavement allows water to infiltrate through the surface, reducing runoff.	25% credit for area managed
GRAVEL FILTER STRIP	Gravel filter strips catch sediment and debris before it enters the storm drain.	
CURB PULL	Curbs are pulled back from the street to allow water to infiltrate into the ground.	
SWALE	Swales are shallow channels that collect and infiltrate runoff.	
NON-STRUCTURAL BEST MANAGEMENT PRACTICE CREDIT OPTION	Description	10% credit
Vegetative Strip	Planting trees and shrubs to reduce runoff and improve water quality.	25% credit
Permeable Pavement	Using permeable pavement for driveways and walkways.	10% credit
Street Poles	Installing street poles to catch and infiltrate runoff.	5% credit

Stormwater Impacts Water Quality & Quality of Life



Stormwater Utility Development Process

Phase I: Evaluate Feasibility

Ad-Hoc Committee completes
year-long Feasibility Study (January 2022)

Phase II: Develop Implementation Plan and Ordinance

Determine Utility Structure, Fee, and Credit System (2023)

Phase III: Implementation

Utility System Roll-out (2024)

Implementation

01

**Impervious
Cover**

02

**Credit
Manual**

03

Billing File

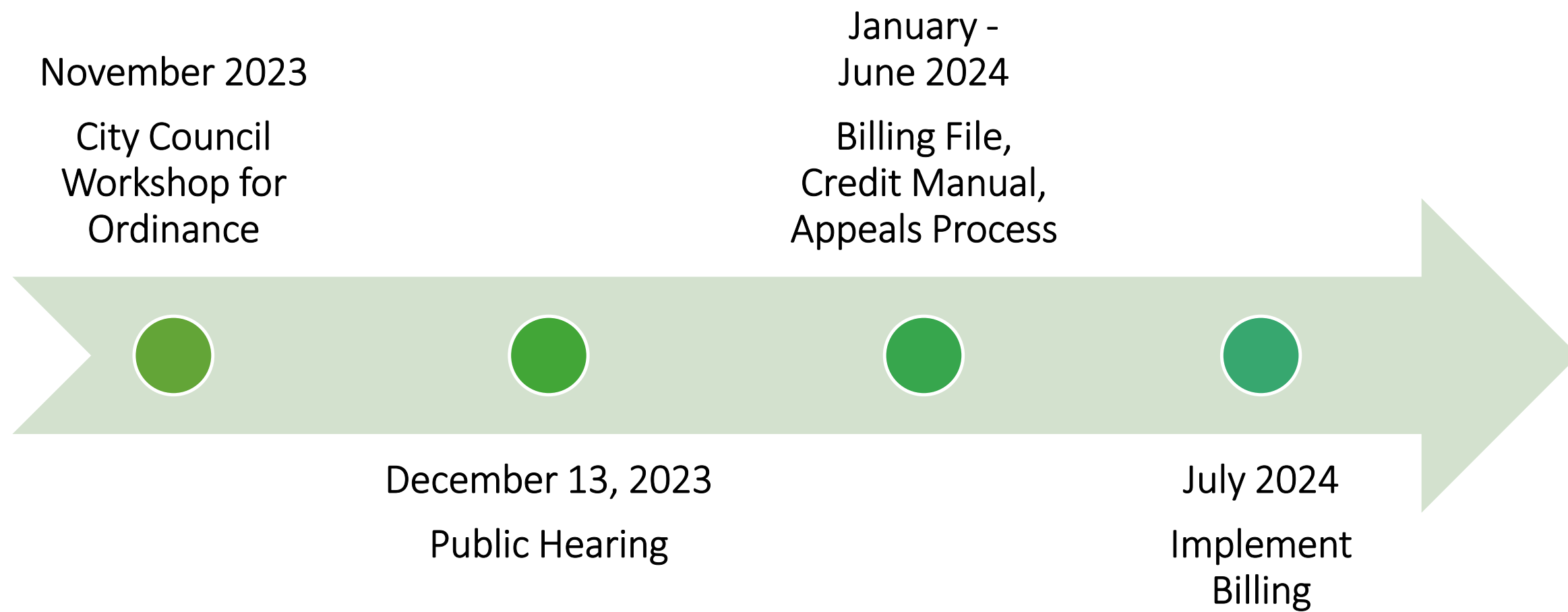
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Staffing

05

Workflows

Next Steps





Summary

- Fee based on impervious cover and contribution of stormwater runoff
- Utility fee can only be spent on stormwater program and improvements for water quality and flood resilience
- Monthly Fee of \$13.32 per Equivalent Residential Unit
- Credits offered to reduce stormwater fee for all developed property
- All property types included in fee



Questions/Discussion

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