

# STORMWATER & FLOOD RESILIENCE UTILITY INFORMATIONAL PRESENTATION

December 5, 2023

City Engineer; Ken Mavrogeorge, PE

City of Dover, NH



**Stormwater**

Community Services | Dover, NH



Photo: Rich Beauschesne

# Agenda

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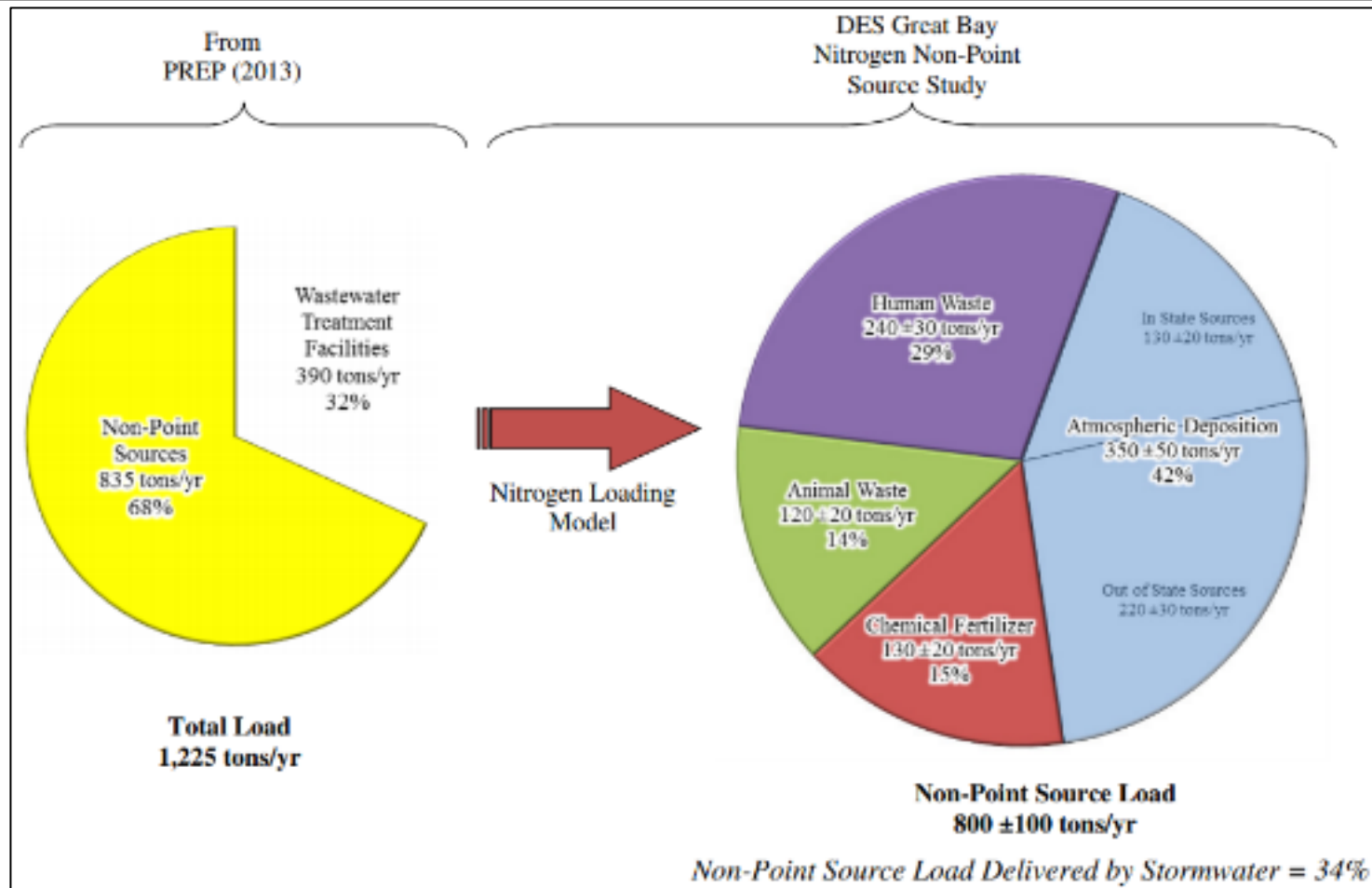
- Why Fund Stormwater Infrastructure?
- Stormwater Utility Development
- Questions

# Why Fund Stormwater Infrastructure?

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- Stormwater impairments are real and affect our quality of life and economy.
- Great Bay Total Nitrogen General Permit Compliance
  - Permit issued by the EPA Region 1 November 24, 2020
  - 13 WWTFs are impacted by the GBTNGP with places limits on Nitrogen from the plants.
  - Costs to reduce Nitrogen from WWTF is prohibitive

# Why Fund Stormwater Infrastructure?



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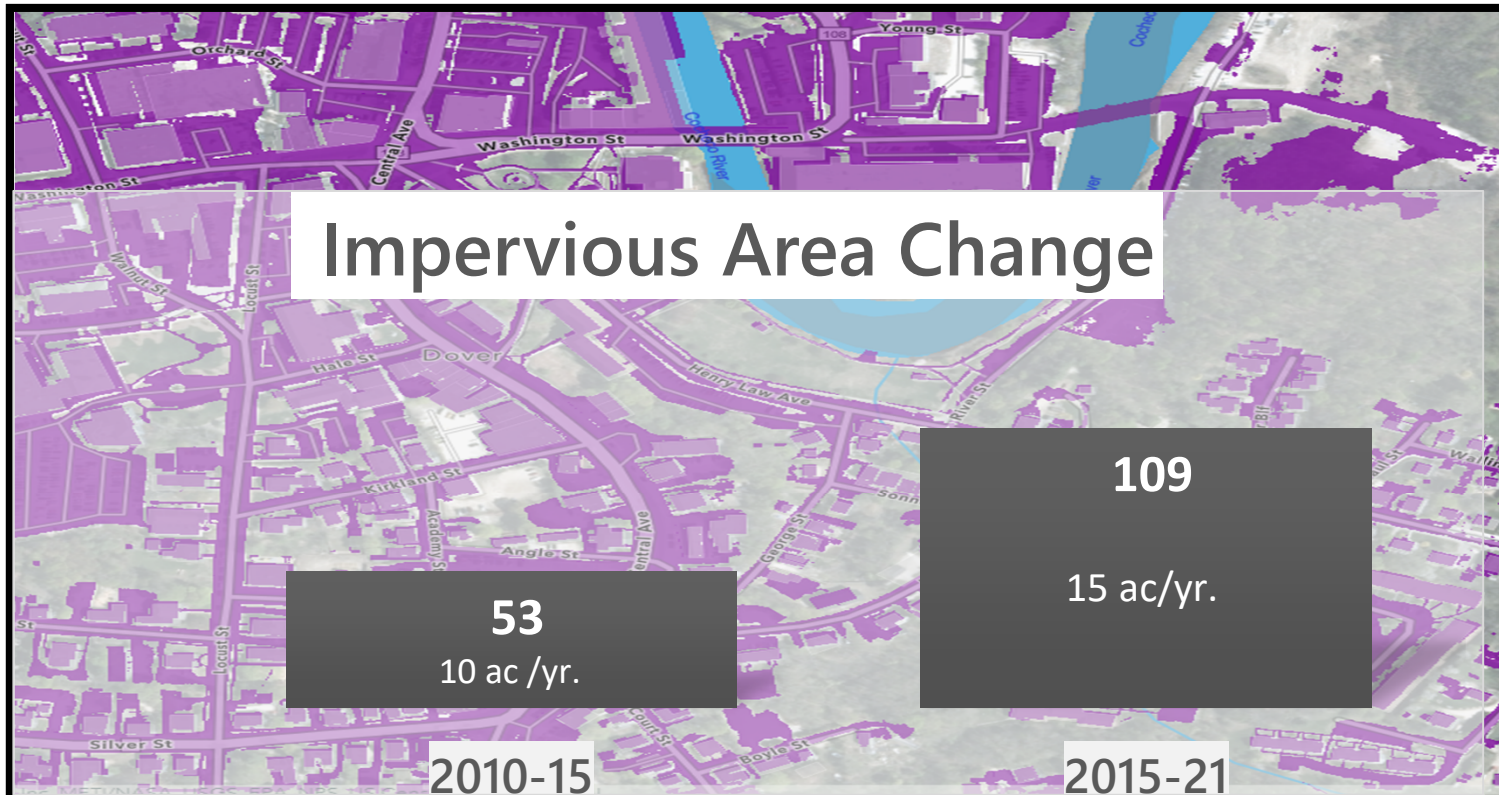
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- Conservation Law Foundation filed a petition for EPA to exercise residual designation authority or RDA to protect the Great Bay in early February 2023
- RDA would mean that EPA would provide additional regulatory oversight on stormwater runoff from commercial, industrial, and institutional properties
- Currently non-residential properties are subject to local and state regulations for development (Dover Code Section 153-14 and NHDES Env-Wq 1500)

# Why Fund Stormwater Infrastructure?

## Increasing Development

- Dover is one of NH's fastest growing cities –add'l 12-15 acres of IC /yr





# **Stormwater Utility Development**

# Stormwater Utility Development Process

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## 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)



# Ad Hoc Committee (2020-2022)

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**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

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## 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

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

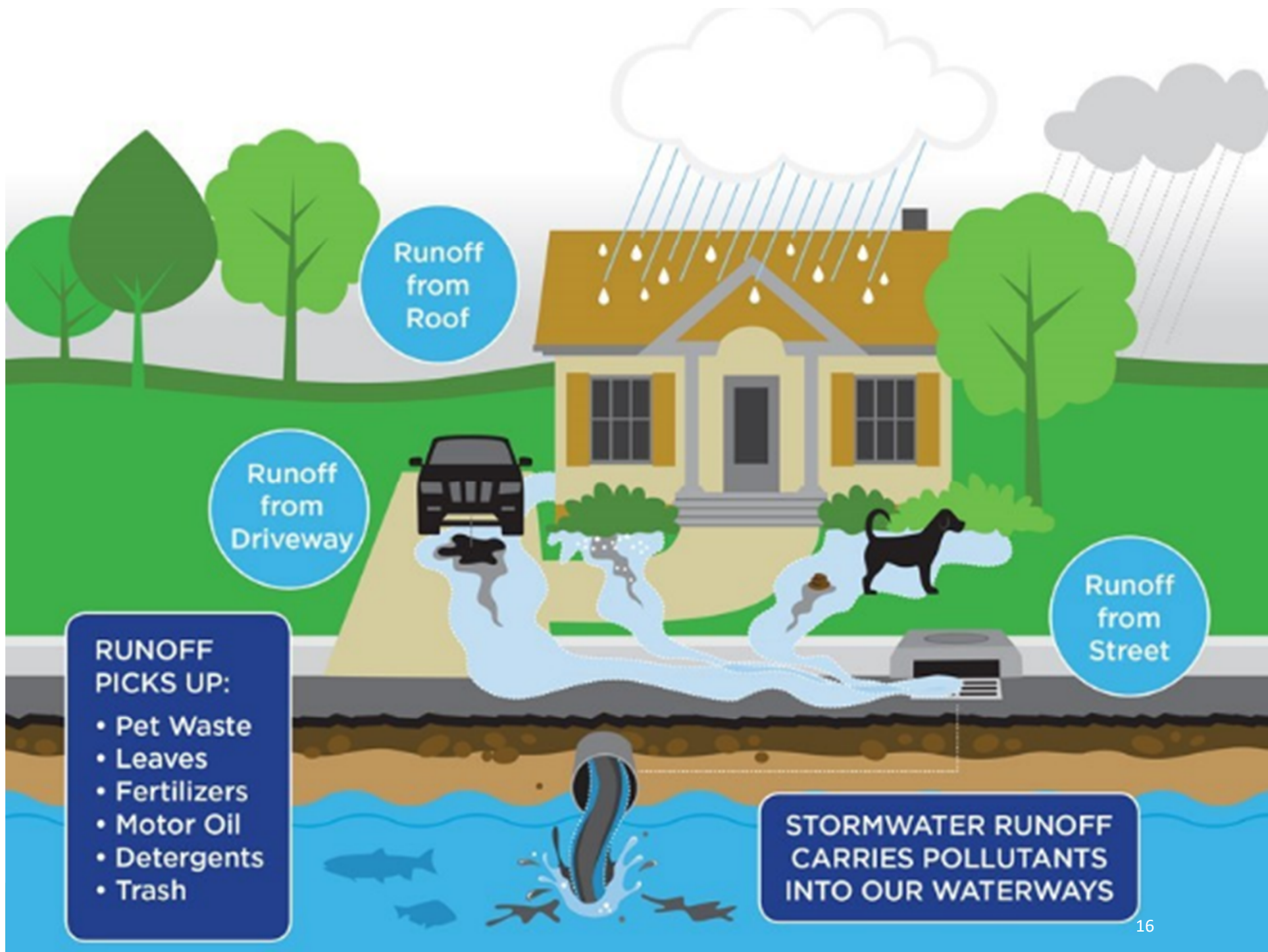
## City Council Approval

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

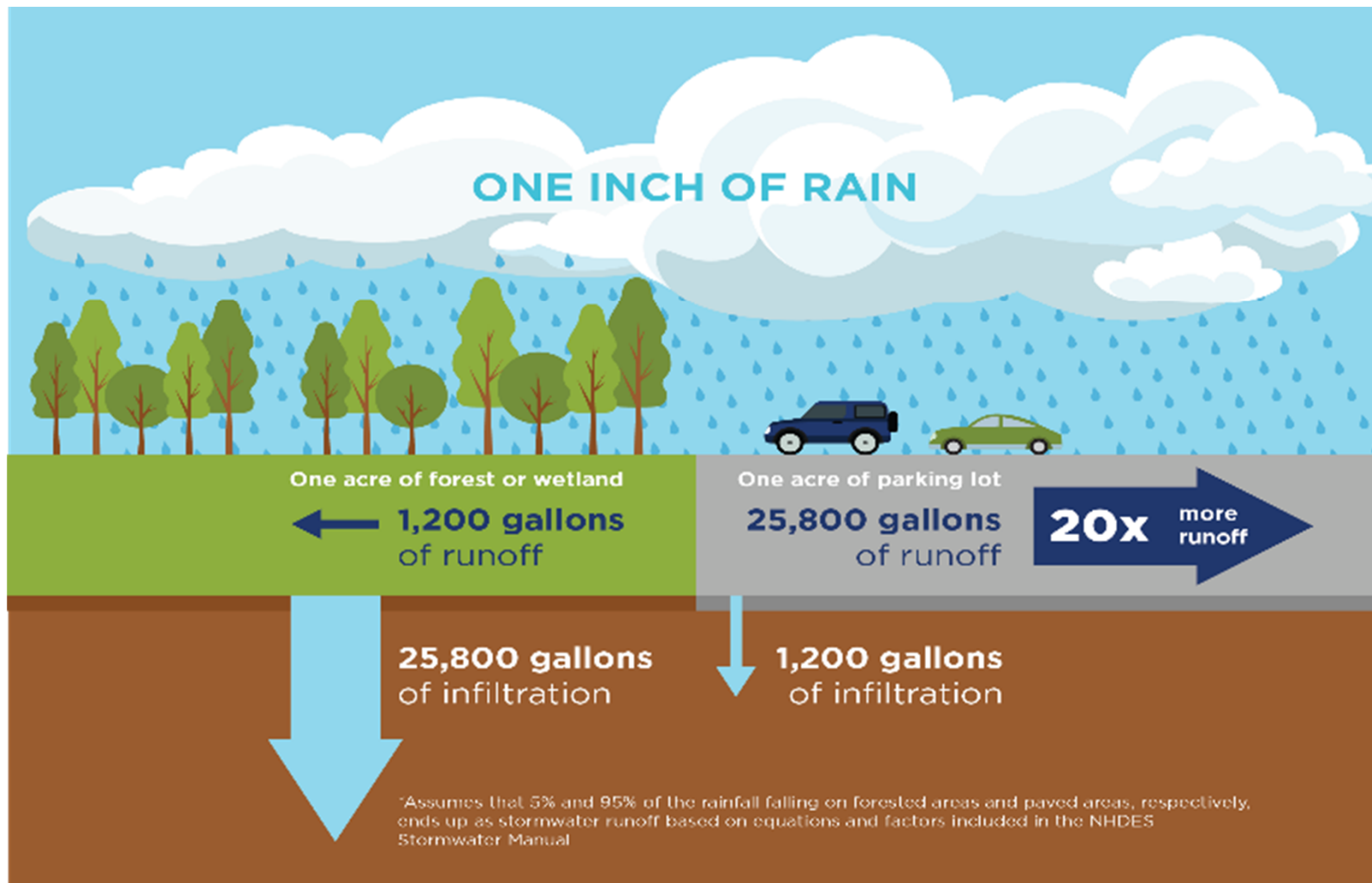
*“The recommendation of the Committee is hereby accepted. The Council hereby states its intent to form a stormwater utility in the future, by way of...”*



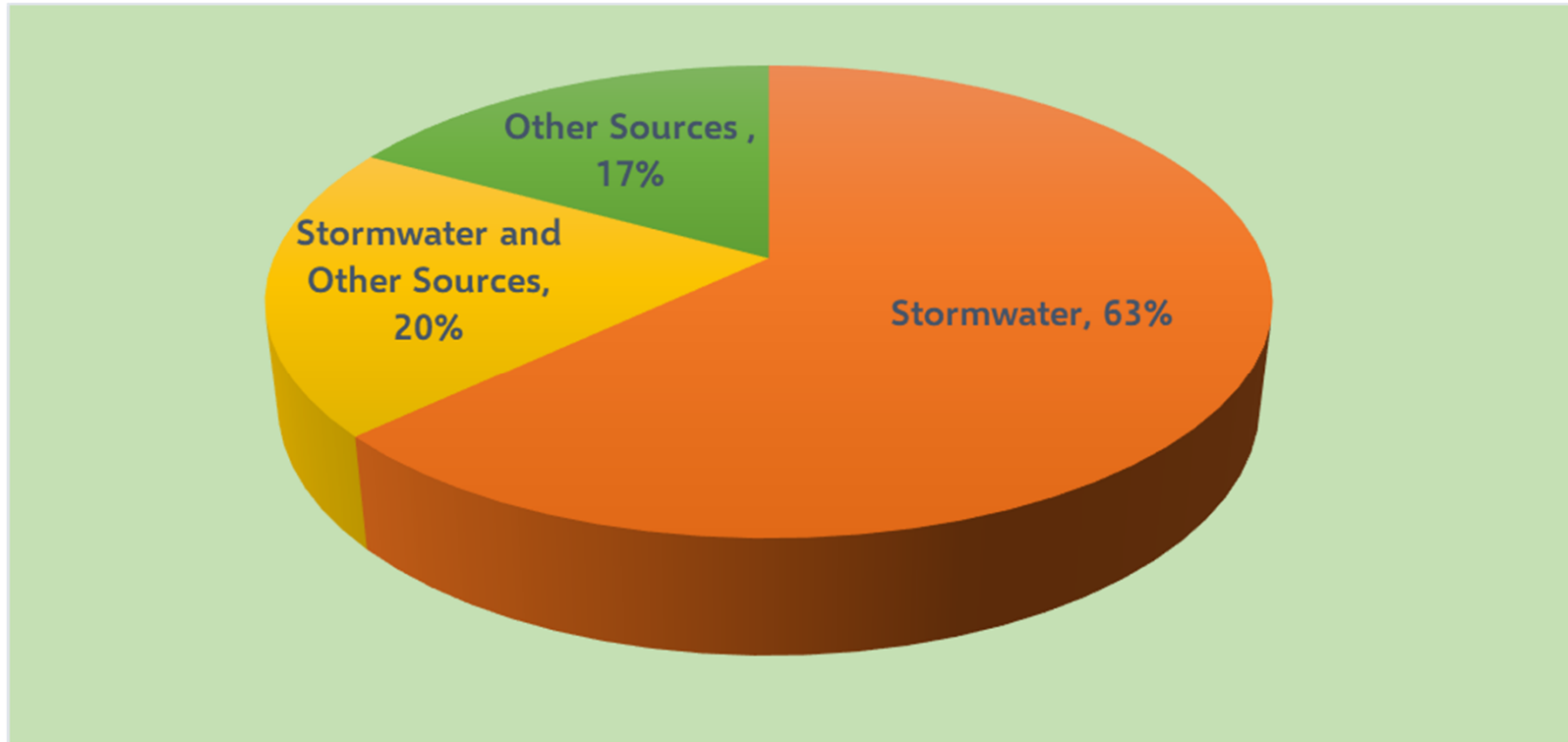
# What is Stormwater?



# More Impervious Cover = More Runoff



# Water Quality Impairments in NH



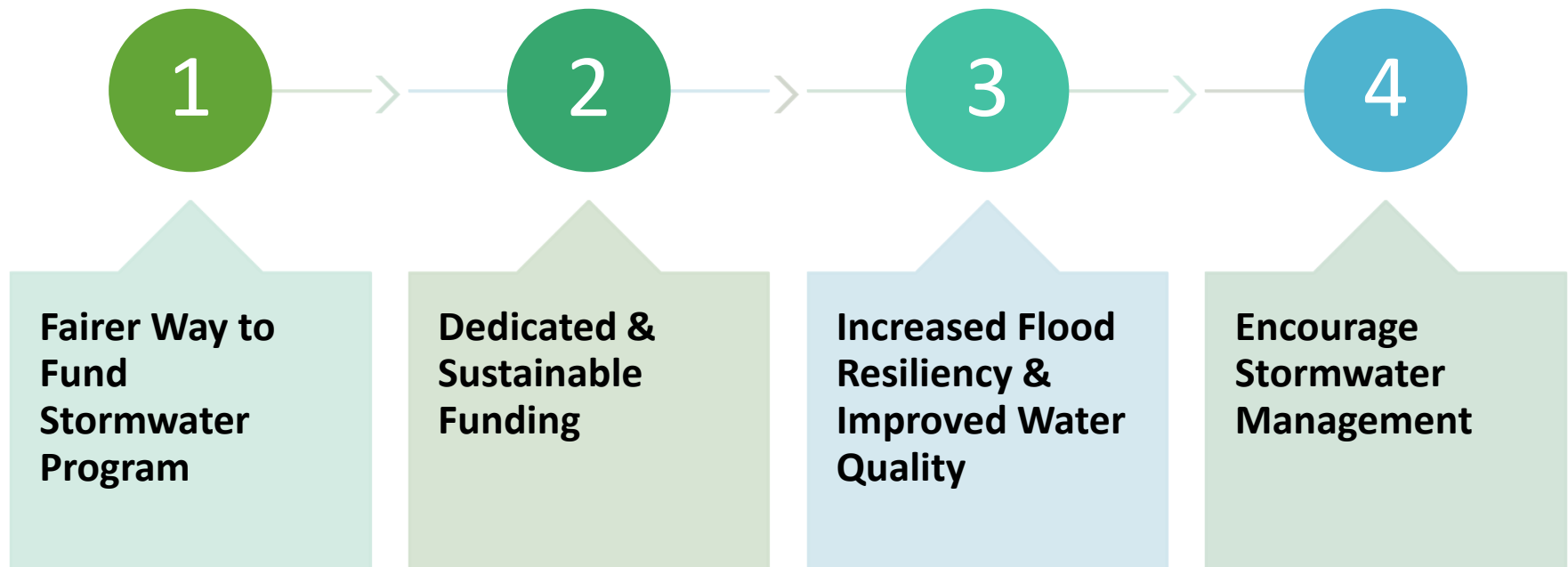


# **Benefits of a Stormwater Utility**



# Key Reasons to Adopt a Utility Fee

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# Key Reasons to Adopt a Utility Fee

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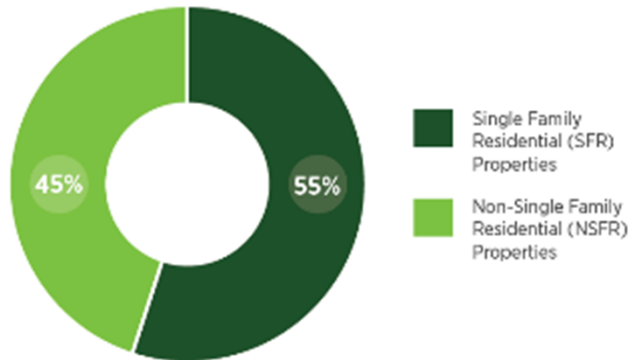


# Key Reasons to Adopt a Utility Fee

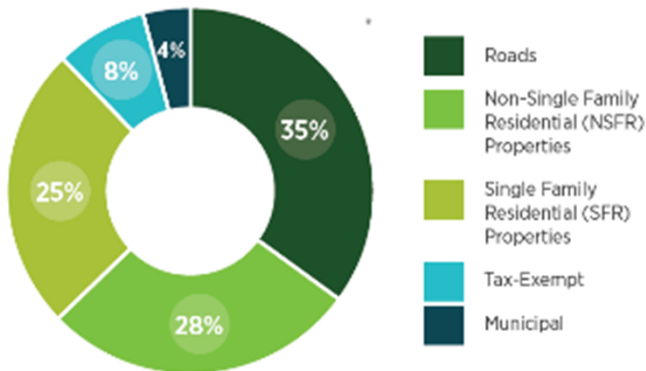
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Current Property Tax Contributions to Fund Stormwater Budget



Potential Revenue Contributions Under Future Utility Fee System



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# 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

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## 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:

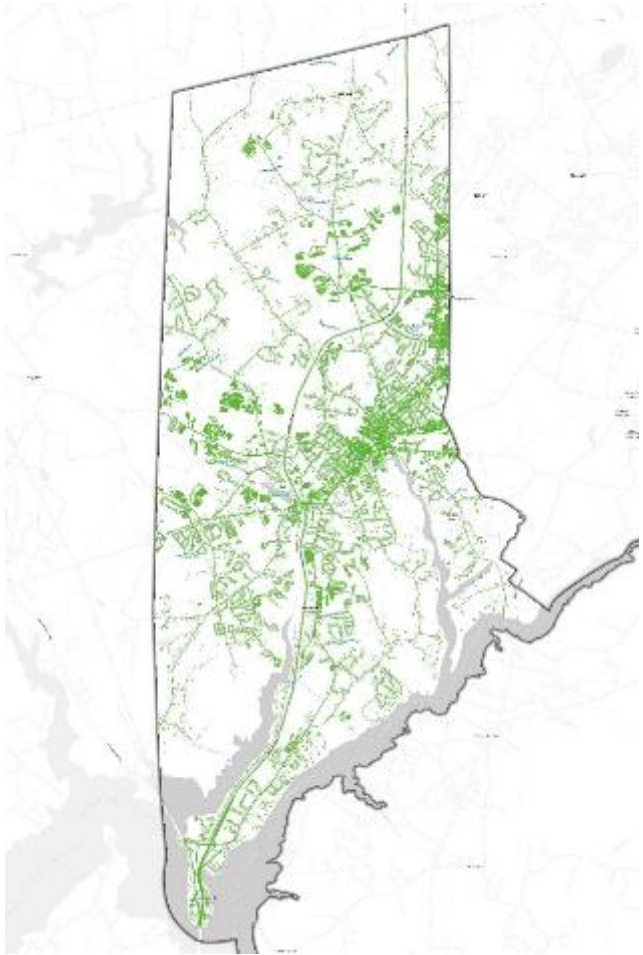
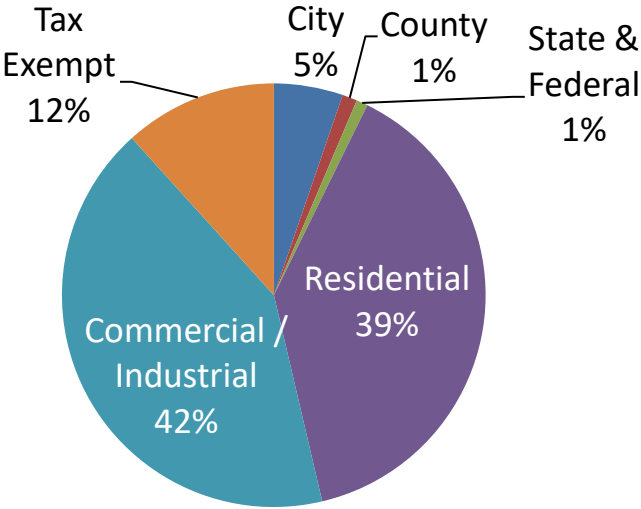
## Impervious Cover Analysis

- 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**

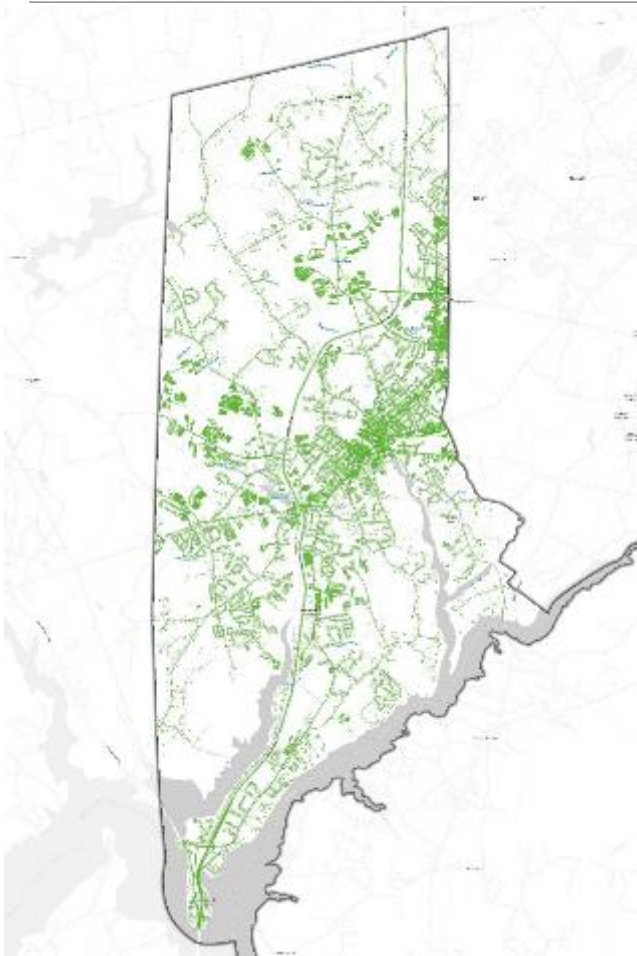


# Impervious Cover Results

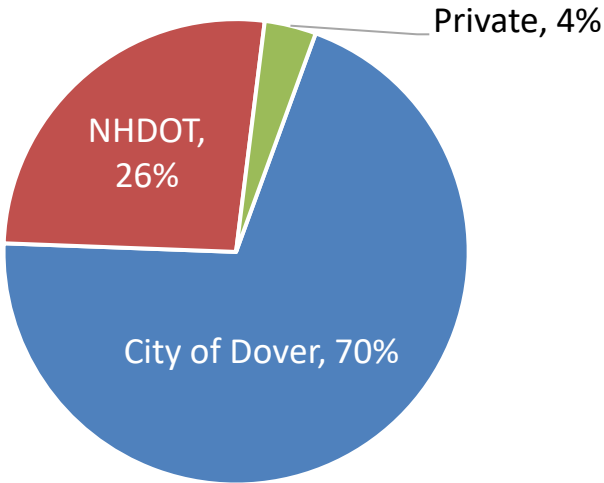
Impervious Cover  
(not including right-of-way)  
**67,415,262 sq. ft.**



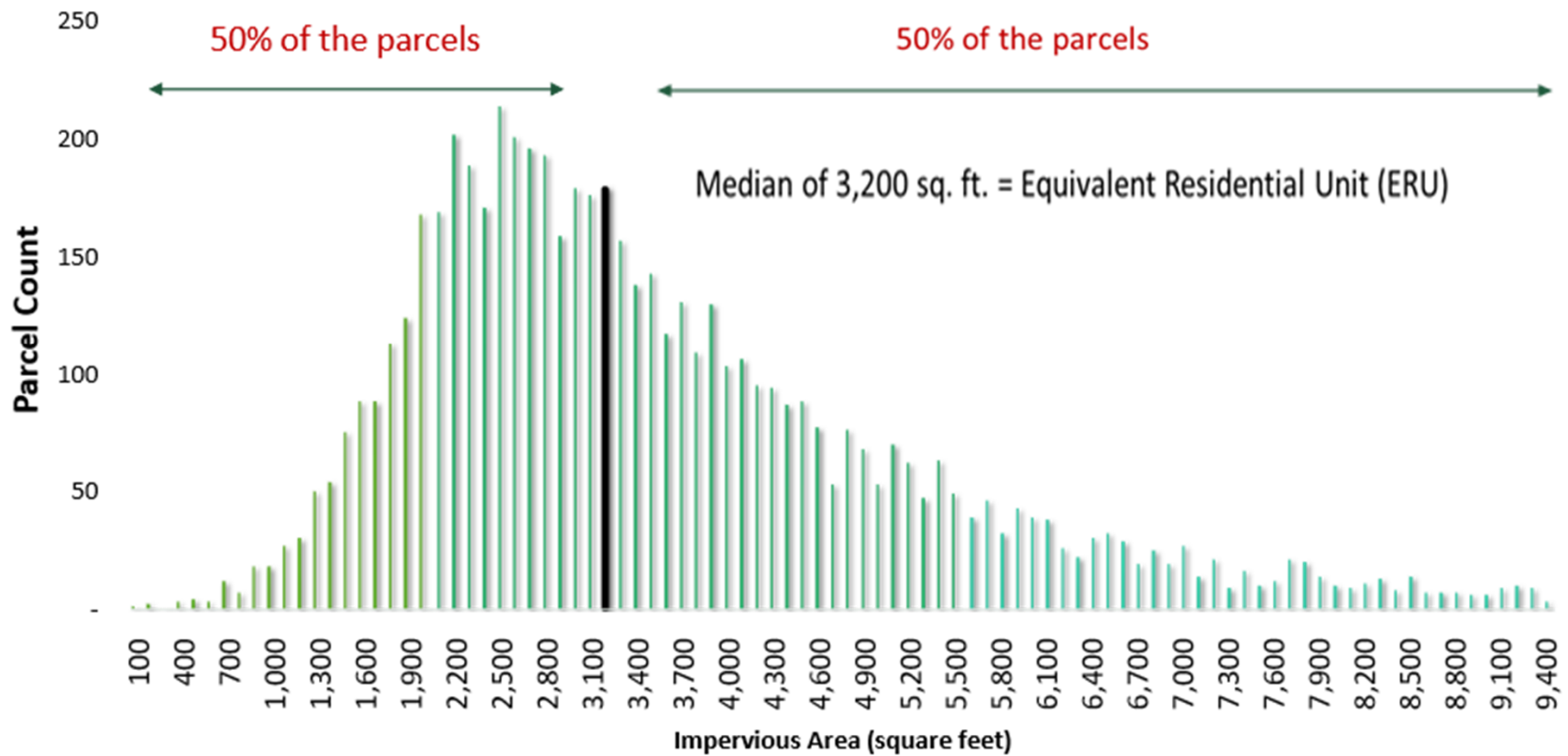
# Impervious Cover Results



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

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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)

# 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:	<b>\$2,615,495</b>

*\*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
- 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 Commercial Properties

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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

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Impervious Cover (sq. ft.)

111,390

ERUs

35

Annual Stormwater Fee

\$5,600

120,038

38

\$6,080

# 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	<b>\$234</b>	\$160	\$69	<b>\$229</b>	<b>(\$5)</b>
Property B*	1	\$460,000	<b>\$359</b>	\$160	\$106	<b>\$266</b>	<b>(\$93)</b>
Property C	1	\$600,000	<b>\$468</b>	\$160	\$138	<b>\$298</b>	<b>(\$170)</b>

\*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	<b>\$2,262</b>	\$2,560	\$667	<b>\$3,227</b>	<b>\$965</b>
Industrial	42	\$4,600,000	<b>\$3,588</b>	\$6,720	\$1,058	<b>\$7,778</b>	<b>\$4,190</b>
Tax-Exempt	8	\$-	<b>\$-</b>	\$1,280	\$-	<b>\$1,280</b>	<b>\$1,280</b>

\*\*\*Prior to applying credits



# Credits

# Stormwater Utility Fee Credits

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## **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

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## Stormwater Utility CREDIT

- All Non-Single Family Properties with 1,600 sq. ft. or greater of impervious area are eligible for credits if found to sufficiently accomplish on-site management of water quality impairment or peak runoff storage, or both.

# Stormwater Utility Fee Credits

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Credit Type	Resources and Guidelines	Credit Amount
Stormwater BMP	Management of stormwater with BMPs that meet local stormwater regulations and design standards.	Up to 50% credit for Impervious Area Managed per credit type
Offsite Stormwater Management		
Stormwater BMP Volume	Exceed local stormwater regulations with a minimum reduction of volume of 20% following development of redevelopment.	Up to 20% credit for Impervious Area Managed
Education	Stormwater Credit Manual	25% credit per credit type
Intensity of Development		
Landscape Maintenance Plan	Stormwater Credit Manual and site plan regulations found at Dover Code §153-14 G (1) (H).	5% credit during the year of pledge



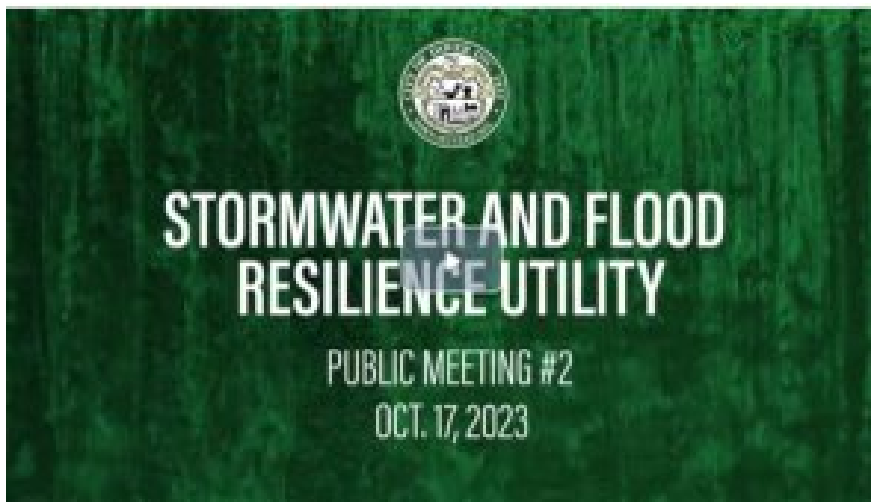
# Public Outreach





# 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



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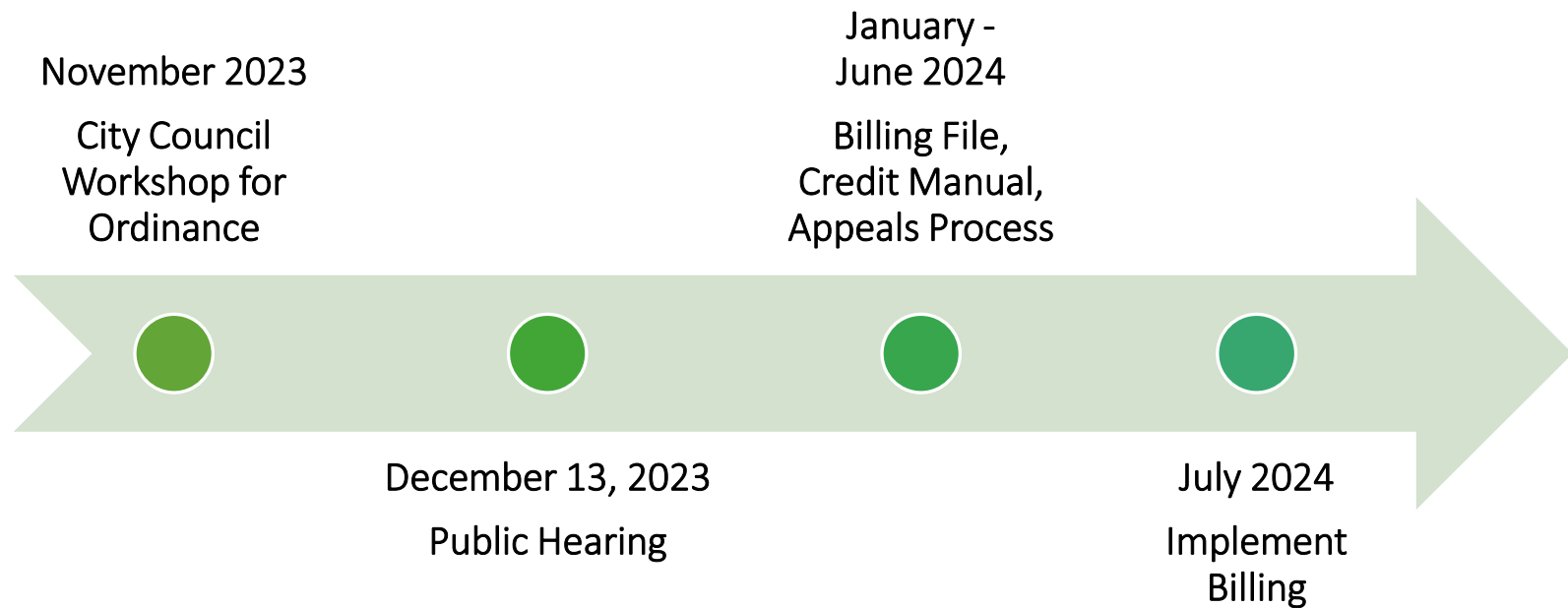
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# Next Steps

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# 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

**Ken Mavrogeorge, PE**  
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City Engineer  
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