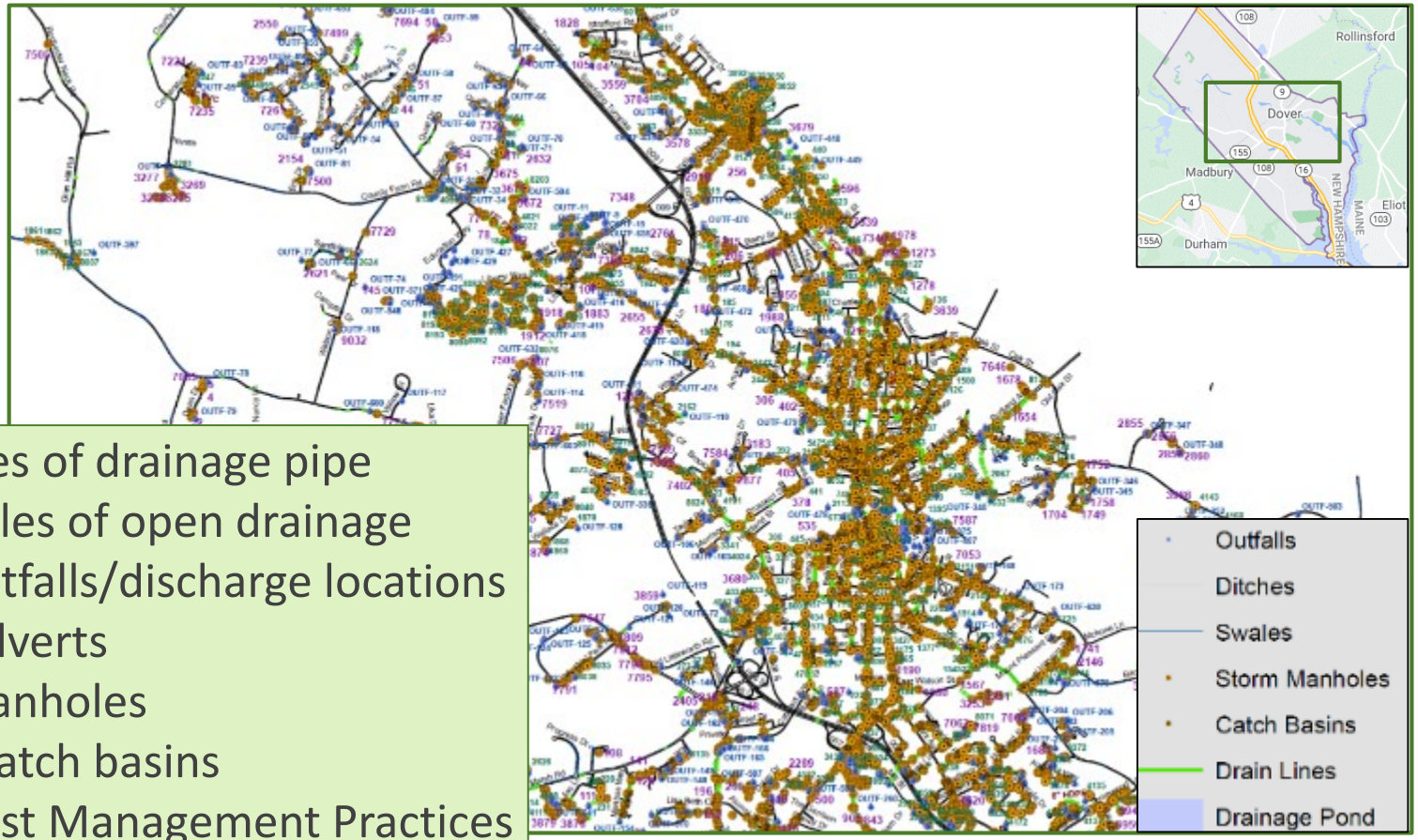
AD HOC COMMITTEE TO STUDY STORMWATER & FLOOD RESILIENCE FUNDING

FINDINGS & RECOMMENDATIONS

City of Dover, NH
City Council Workshop

February 2, 2022

Dover's Stormwater System



65 miles of drainage pipe
101 miles of open drainage
450 outfalls/discharge locations
140 culverts
100 manholes
3200 catch basins
100 Best Management Practices

Stormwater Program Elements

Infrastructure Maintenance

- Catch basin cleaning (approx. 50% of catch basins annually)
- Illicit discharge detection and elimination
- Best Management Practice (BMP) maintenance
- Responding to resident service calls

Planning Board Activities

- Reviewing subdivision and site plan applications
- Inspections of erosion control and stabilization measures

Grant Funded Initiatives (Berry Brook, Willand Pond, etc.)

CIP Initiatives & General Drainage Improvements

Pollutant Reduction/Regulatory Compliance

Supporting Flood Resiliency

Past Flood Events

- 1896 Bracewell Block Flood
- 1936 Flood Event
- 2006 Mother's Day Flood
- 2007 Patriot's Day Flood

} Two 100-year flood events within 11 months

General Fund Expenses for Stormwater & Flood Resilience

Operating Budget + **Capital Projects** + **Other Expenses** = **Stormwater Costs (All from General Fund)**

Stormwater Activity	FY16	FY17	FY18	FY19	FY20
Operating Budget					
Personal Services	$ 471,394	$ 475,981	$ 476,311	$ 487,662	$ 496,216
Supplies	$ 184,505	$ 189,302	$ 209,714	$ 219,876	$ 232,115
Capital Outlay	$ 151,250	$ 150,000	$ 150,000	$ 150,000	$ 152,500
Purchased Services	$ 4,863	$ 71,063	$ 71,273	$ 70,322	$ 104,913
Other Expenses	$ 1,000	$ 1,000	$ 1,500	$ 1,500	$ 1,500
Subtotal - Operating Budget	$ 873,012	$ 887,346	$ 908,798	$ 929,360	$ 987,244
Capital Expenditures					
Nelson	$ 138,447	$ -	$ -	$ -	$ -
Keating/Birchwood	$ -	$ 842,030	$ -	$ -	$ -
Richardson	$ -	$ 577,000	$ -	$ -	$ -
Mast Road	$ -	$ -	$ 182,000	$ -	$ -
Hanson Street	$ -	$ -	$ 120,000	$ -	$ -
Roberts	$ -	$ -	$ 575,000	$ -	$ -
Broadway	$ 103,000	$ -	$ -	$ 4,087,500	$ 4,255,500
Mt. Vernon	$ -	$ -	$ -	$ 12,500	$ -
Chestnut Street	$ -	$ -	$ -	$ 160,000	$ -
Spur Road	$ -	$ -	$ -	$ -	$ 1,147,000
Elm Belk	$ -	$ -	$ -	$ -	$ 726,000
Community Trail	$ -	$ -	$ -	$ -	$ 80,000
Subtotal - Capital Expenditures	$ 241,447	$ 1,419,030	$ 877,000	$ 4,260,000	$ 6,208,500
TOTAL	**$ 1,114,459**	**$ 2,306,376**	**$ 1,785,798**	**$ 5,189,360**	**$ 7,195,744**
Annual Average Historic Operating Budget (FY16-20): $917,152					
Annual Average Historic Capital Expenditures (FY16-20): $2,601,195					
Annual Average Historic Total Stormwater Expenditures (FY16-20): **$3,518,347**					

Competing Funding Needs

Over $5M in Deferred Projects

Project	Description	Estimated Cost
Piscataqua and Rabbit Road Reconstruction	Piscataqua Rd is a thoroughfare to Rte. 4 and in need of repair. Rabbit Rd is a small road off Piscataqua that needs improvements.	$ 1,000,000
Atlantic Avenue Reconstruction	This road is a main artery in and out of the City. Reconstruction is to replace the major drainage component of the road.	$ 1,500,000
Old Colony Drainage	Several homes have major flooding during heavy rain events. New drainage would resolve this problem.	$ 75,000
Outer Sixth Street Replace Bridge & Culvert	Major overflows during heavy rain events. Replace bridge and raise the road.	$ 1,000,000
St. Thomas Street Drainage	Flooding occurs in this area due to the age of the infrastructure. Needs new design and reconstruction.	$ 1,800,000
Install River Gauges	Gauges would be installed on bridges crossing major rivers to assist emergency personnel during flooding events.	$ 15,000 (per gauge)
TOTAL Cost of Deferred Drainage and Flood Resilience Projects		**$ 5,390,000**

*Not an exhaustive list of deferred projects

Unavoidable Increases in Cost

Increasing Development

- Dover is one of NH's fastest growing cities
- New buildings and parking lots prevent infiltration of stormwater
- Can cause increases in flooding and water pollution

Aging Infrastructure

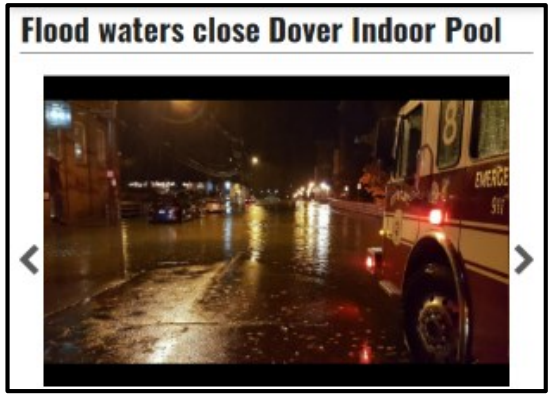
- 25% of drain pipes in downtown have a moderate to high likelihood of failure
- Older pipes are not sized to handle stormwater volumes from current or future storms




Unavoidable Increases in Cost

Increasing Flood Risk

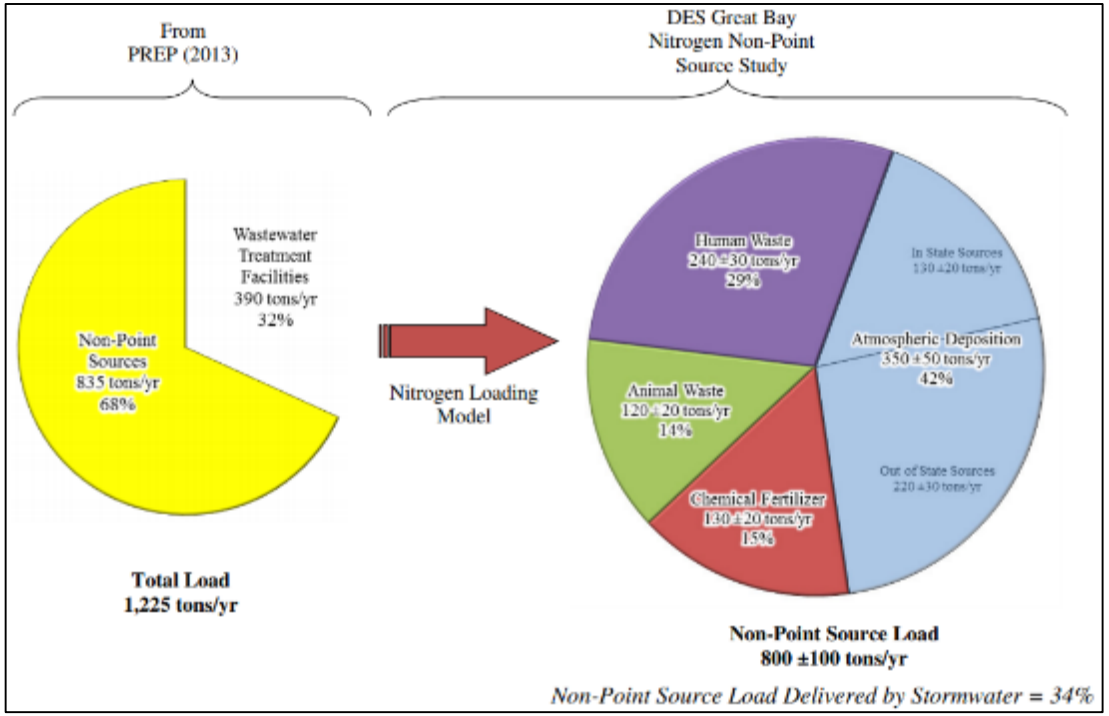
- National Climate Assessment (2018) observed increasing rainfall intensity in the northeast over the last 50 years
- New Hampshire Coastal Flood Risk Summary, Part II: Guidance (2020) recommends planning for at least a 15% increase in extreme precipitation and 2.9-6.2 ft. of sea-level rise by 2100
- Funding is needed to retrofit infrastructure to handle changing conditions



Unavoidable Increases in Cost

EPA Great Bay Total Nitrogen General Permit

- City must reduce nitrogen loading into Great Bay
- City must increase investment in stormwater treatment
- Compliance may require nitrogen reductions from private property



The Need for SAFE Funding

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

Recommended Solution: Stormwater & Flood Resilience Utility

- Similar to water and sewer utilities
- User fees charged to property owners based on total square feet of impervious area (rooftops, driveways, sidewalks, roads, etc.)
- Revenue generated goes into an enterprise fund, separate rom the General Fund
- Revenue can ONLY be used for stormwater and flood resilience activities
- Over 1,800 stormwater utilities in the U.S. across 41 states
- Dover could be the first municipality in NH to adopt a stormwater and flood resilience utility

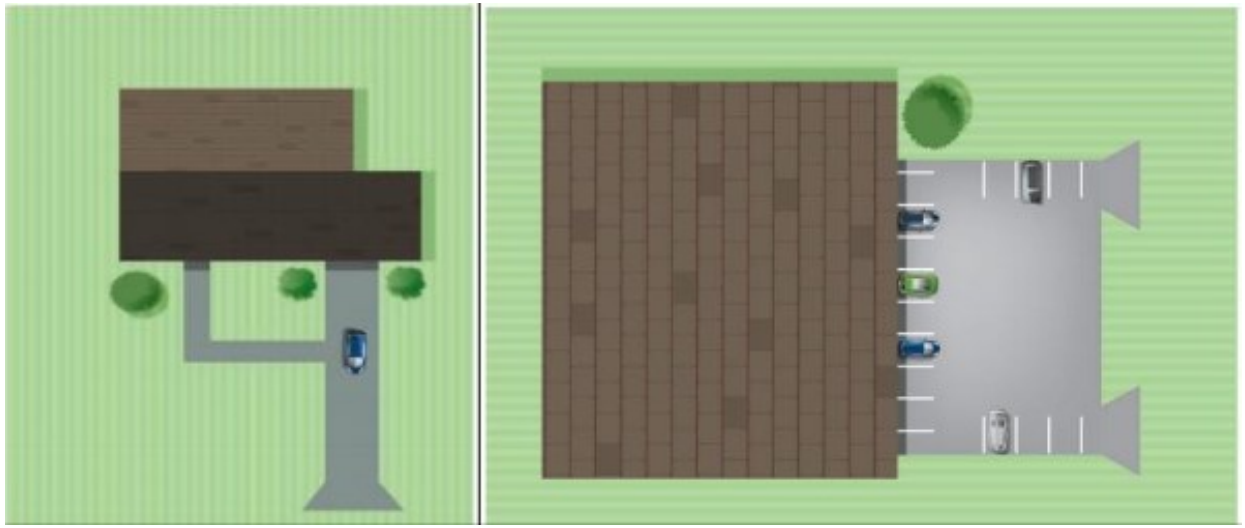
Determining Utility Rates

Equivalent Residential Unit (ERU)

- Median impervious area on typical residential property
- For Dover, 1 ERU = 3,430 sq. ft.

Typical Residential Property
Impervious area: 3,430 sq. ft.
# of ERUs = 1 ERU

Example Commercial Property
Impervious area: 17,150 sq. ft.
# of ERUs = 17,150/3,430 = 5 ERUs



Potential Utility Rates

Number of ERUs in Dover

Property Type	Total Impervious Area (sq. ft.)	# of ERUs	Percent of Total
Single Family Residential	26,230,478	7,647	25%
Non-Single Family Residential	30,123,126	8,782	28%
Tax-exempt/nonprofit	9,018,743	2,629	8%
Municipal	4,100,604	1,196	4%
Roads	37,018,812	10,793	35%
TOTAL	**106,491,763 sq. ft.**	**31,047**	**100%**

Committee recommendations:

- Utilize a proportional (per ERU) fee
- No exemptions – all developed properties should contribute
- Example utility rates were calculated based on funding $3.5 million Stormwater Program

Estimated stormwater and flood resilience utility rate based on Committee recommendations (rounded): $9/month/ERU

*Rate shown is only a preliminary estimate. Additional analysis would be needed prior to finalizing rates.

Credit System

Credits must be offered to allow reductions of a property owner's rate

The Committee recommends considering the following types of credits:

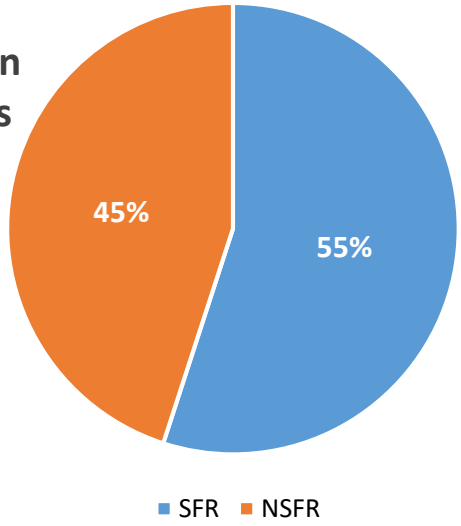
- Performance-based: on-site reductions of stormwater runoff volume and/or pollutants
  - Drywells
  - Infiltration chambers
  - Permeable pavers
  - Rain gardens
  - Other types of green infrastructure improvements
- Social equity: based on existing property tax relief programs
  - Low-income and affordable housing
  - Elderly/Senior citizens
  - Veterans
  - Disability
  - Blind/Deaf
  - Tax-exempt/Nonprofit

Why A Stormwater and Flood Resilience Utility?

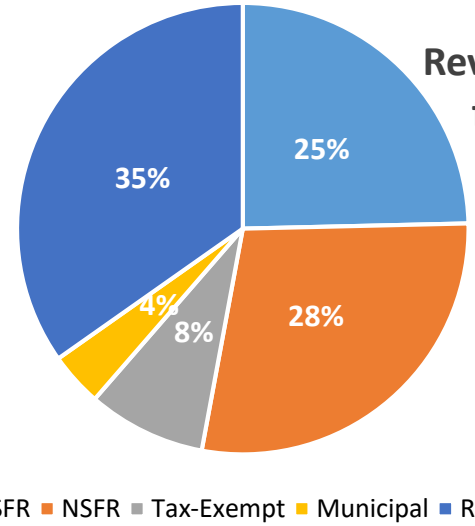
More Equitable Distribution of Costs

- Property owners currently pay based on tax valuation instead of how much stormwater runoff they generate
- Tax-exempt properties would help to fund the Stormwater Program
- Utility based funding for the Stormwater Program will make more General Fund revenue available for other needs

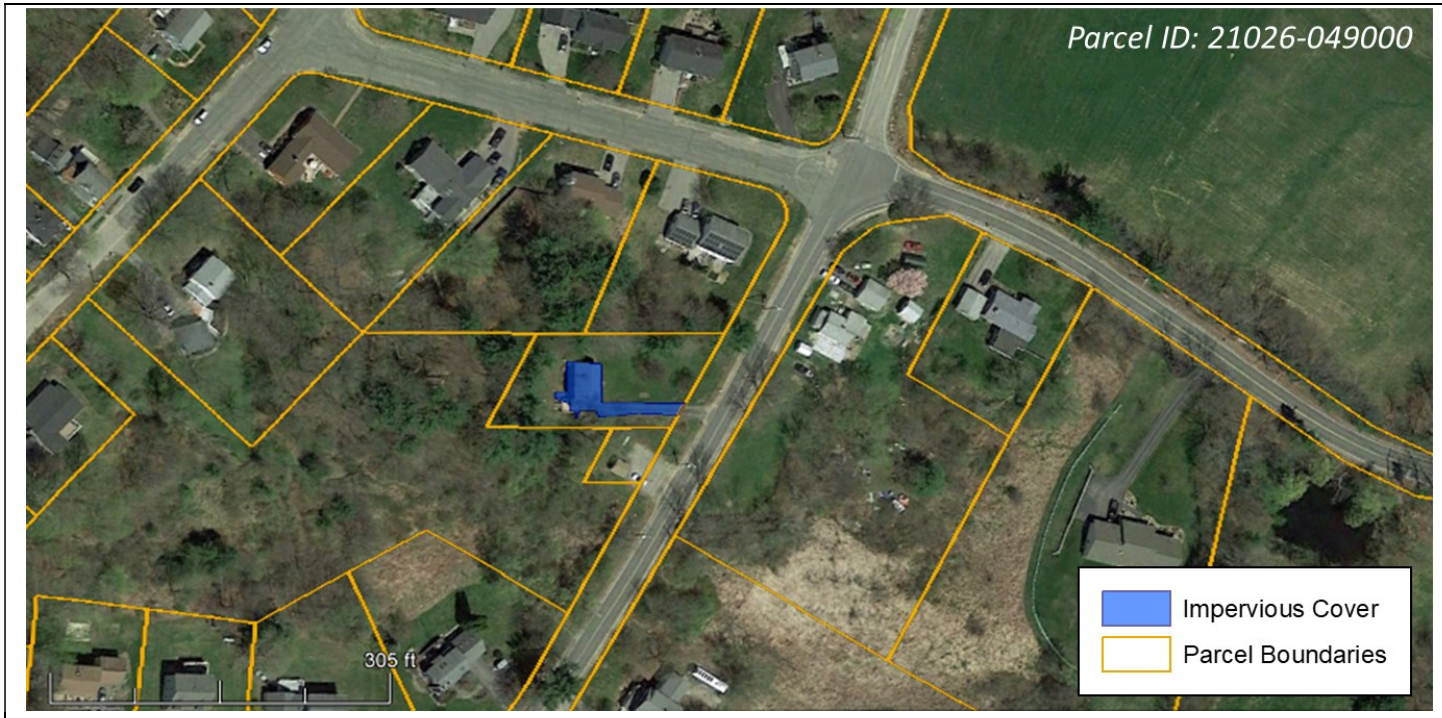
Revenue Distribution from Property Taxes



Revenue Distribution from Utility Fee



Evaluating Example Properties: Single Family Residential



- Estimated total impervious area: 2,337 sq. ft.
- Total ERUs = 2,337 sq. ft./3,430 sq. ft. = 0.68, rounded to the nearest integer = 1 ERU
- Estimated annual utility fee to fund $3.5 million Stormwater Program: **$113**
- Estimated taxable value: $308,500
- Estimated annual portion of property taxes to fund $3.5 million Stormwater Program: **$216**

Evaluating Example Properties: Car Dealership

- Estimated total impervious area: 143,889 sq. ft.
- Total ERUs = 143,889 sq. ft./3,430 sq. ft. = 41.95, rounded to the nearest integer = 42 ERUs
- Estimated annual utility fee to fund $3.5 million Stormwater Program: **$4,733**
- Estimated taxable value: $4,601,800
- Estimated annual portion of property taxes to fund $3.5 million Stormwater Program: **$3,242**

Evaluating Example Properties: Church (Tax-Exempt)

- Estimated total impervious area: 30,494 sq. ft.
- Total ERUs = 30,494 sq. ft./3,430 sq. ft. = 8.89, rounded to the nearest integer = 9 ERUs
- Estimated annual utility fee to fund $3.5 million Stormwater Program: **$1,014**
- Estimated taxable value: $0
- Estimated annual portion of property taxes to fund $3.5 million Stormwater Program: **$0**

Evaluating Example Properties: Downtown Commercial

- Estimated total impervious area: 9,510 sq. ft.
- Total ERUs = 9,510 sq. ft./3,430 sq. ft. = 2.77, rounded to the nearest integer = 3 ERUs
- Estimated annual utility fee to fund $3.5 million Stormwater Program: **$338**
- Estimated taxable value: $2,915,200
- Estimated annual portion of property taxes to fund $3.5 million Stormwater Program: **$2,054**

Proposed Next Steps – Utility Workplan Implementation

Convene Project Team and Key Stakeholders

Secure Funding Through NHDES Grant/Loan Programs

Public Outreach and Education

- Develop and implement public outreach plan (9-12 month process)
- Allow the public to shape the structure of the utility
- Learn from similar (successful or not) outreach efforts

Technical Elements

- Develop the credit system
- Finalize impervious area analysis and calculate individual fees

Administrative & Logistical Elements

- Determine billing process
- Identify customer service and other staffing needs

THANK YOU!

Photo: Rich Beauschesne