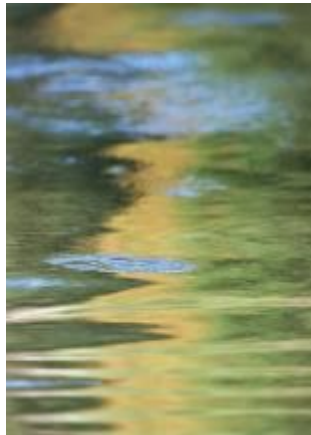


Town of Millis

Public Information Meeting “Understanding the Stormwater Management Issues”

Oct. 19, 2017

**Town Hall
Room 229**

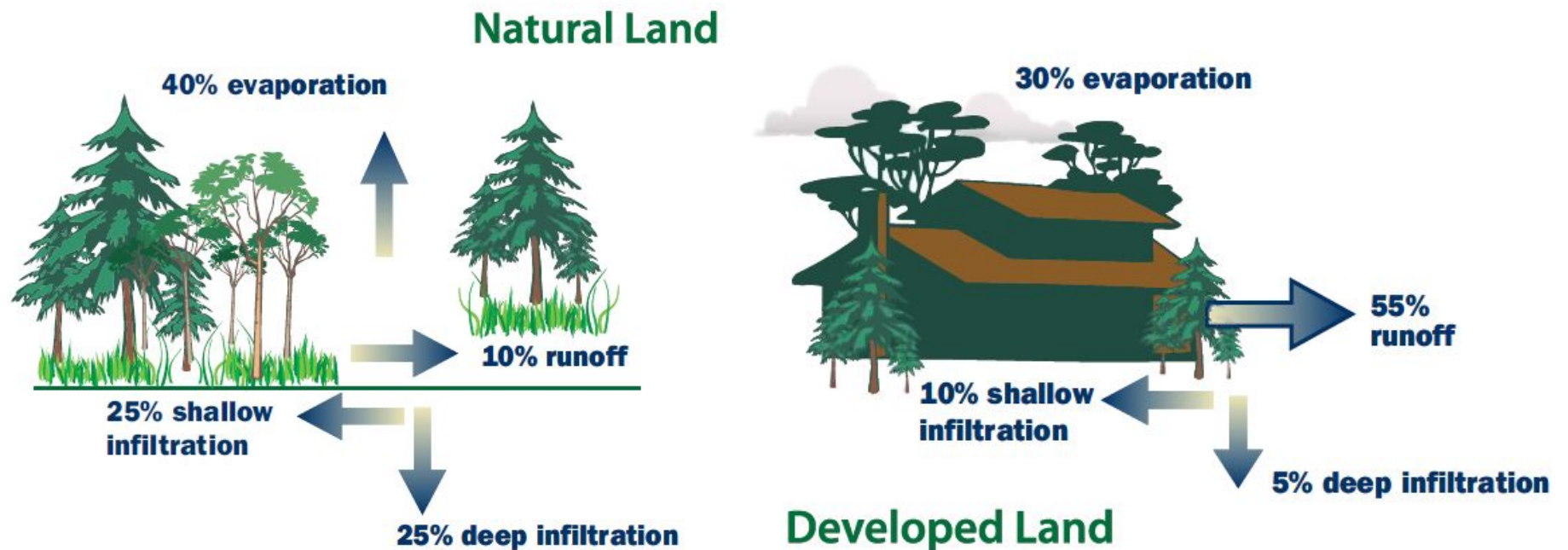


What is Stormwater?

- Precipitation flowing from impervious surfaces to drainage systems and water bodies
 - Roof tops
 - Driveways
 - Sidewalks
 - Parking lots



What is Stormwater?

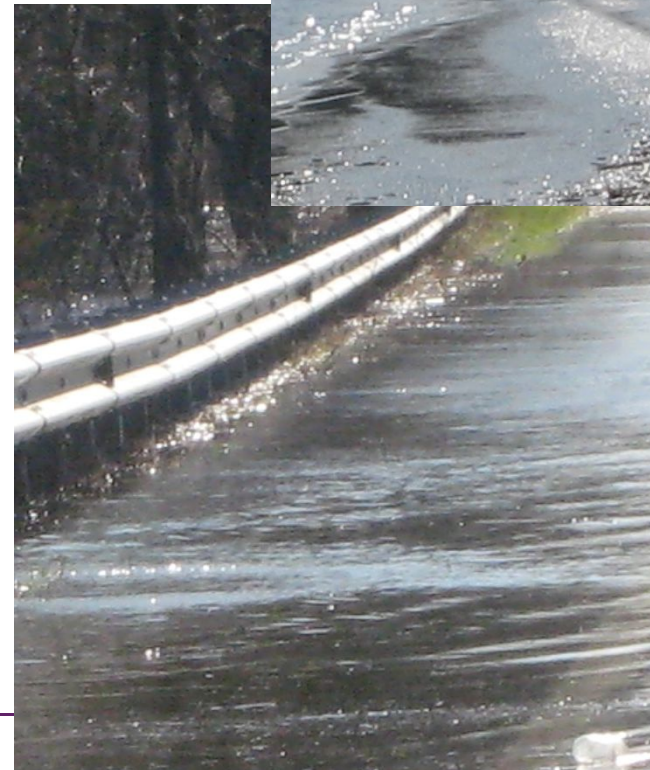


Why are we concerned with
Stormwater?

➤ **Water quantity**

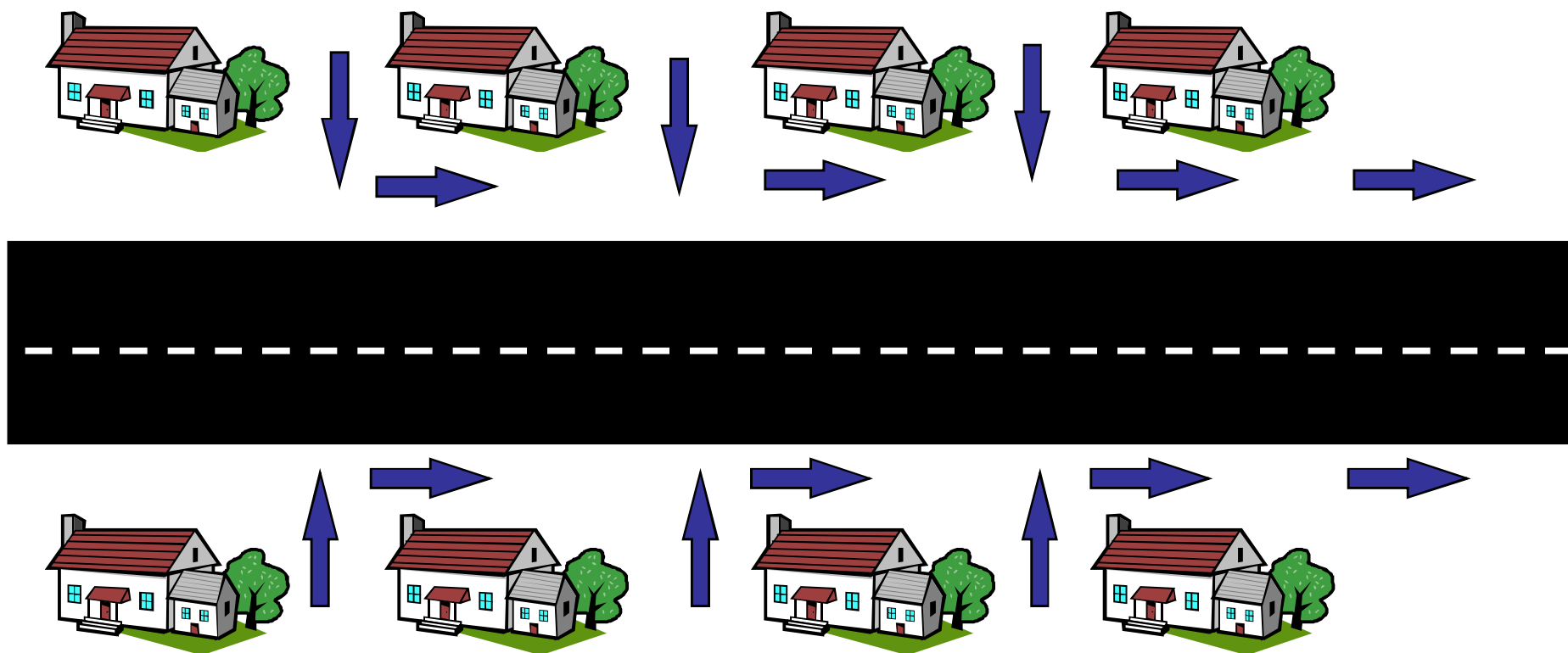
- Good drainage infrastructure promotes public safety and protection of property:
 - well drained roadways
 - clean catch basins
 - Adequate pipe capacity

2013 Flooding of Route 109 @Charles River Bridge



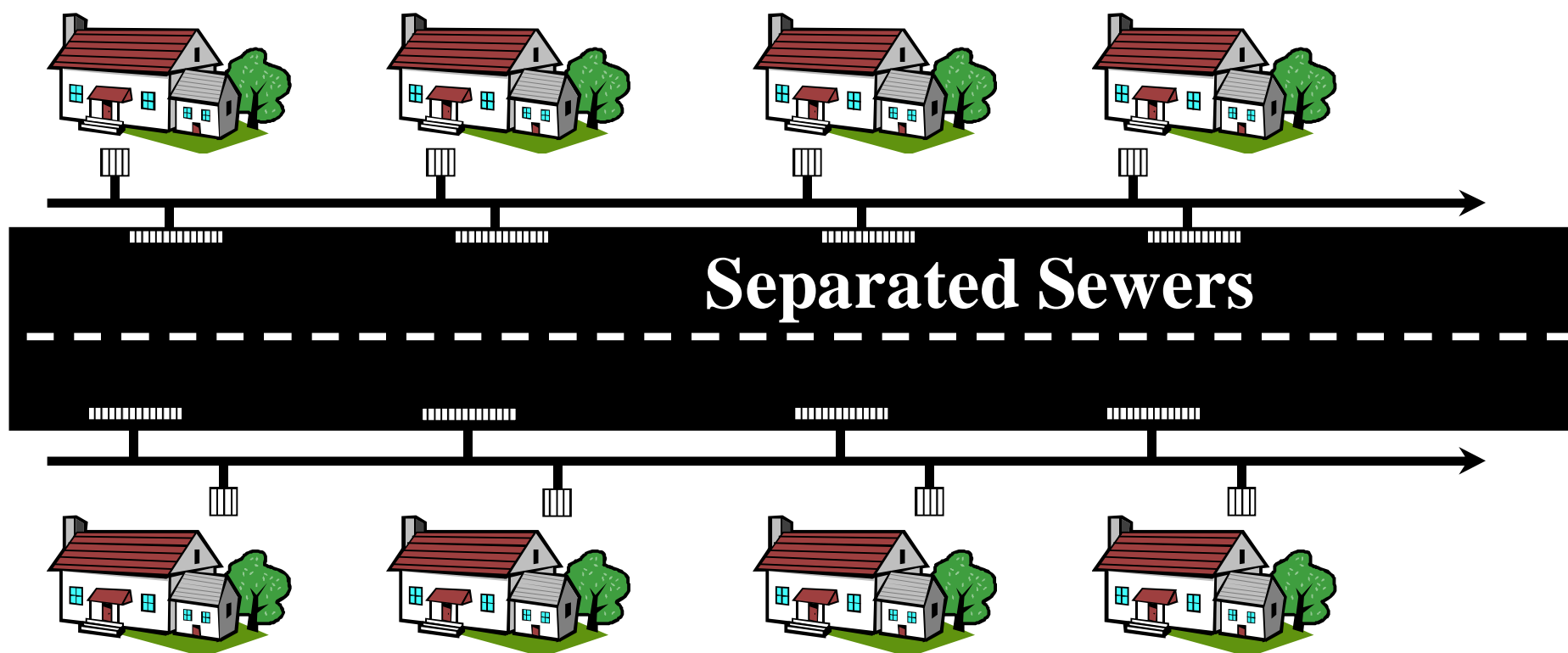
The Changing Face of Stormwater Management

Get it off our property - Run it in ditches & culverts

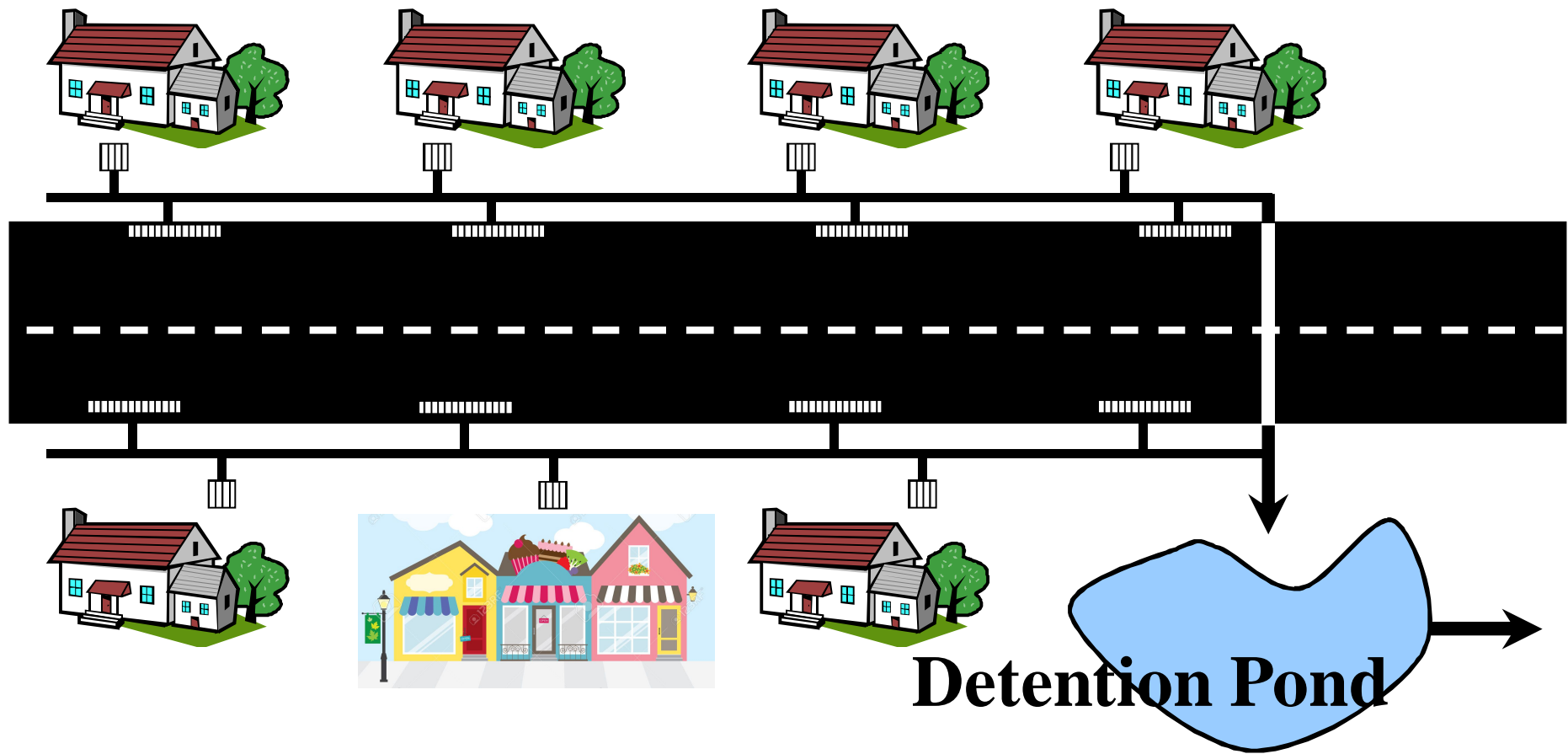


SW Management becomes a “public” service through roadway drainage design

Run it in Stormwater Pipes (when most of Millis’ system was installed)



Minimize the flow to Stormwater Pipes

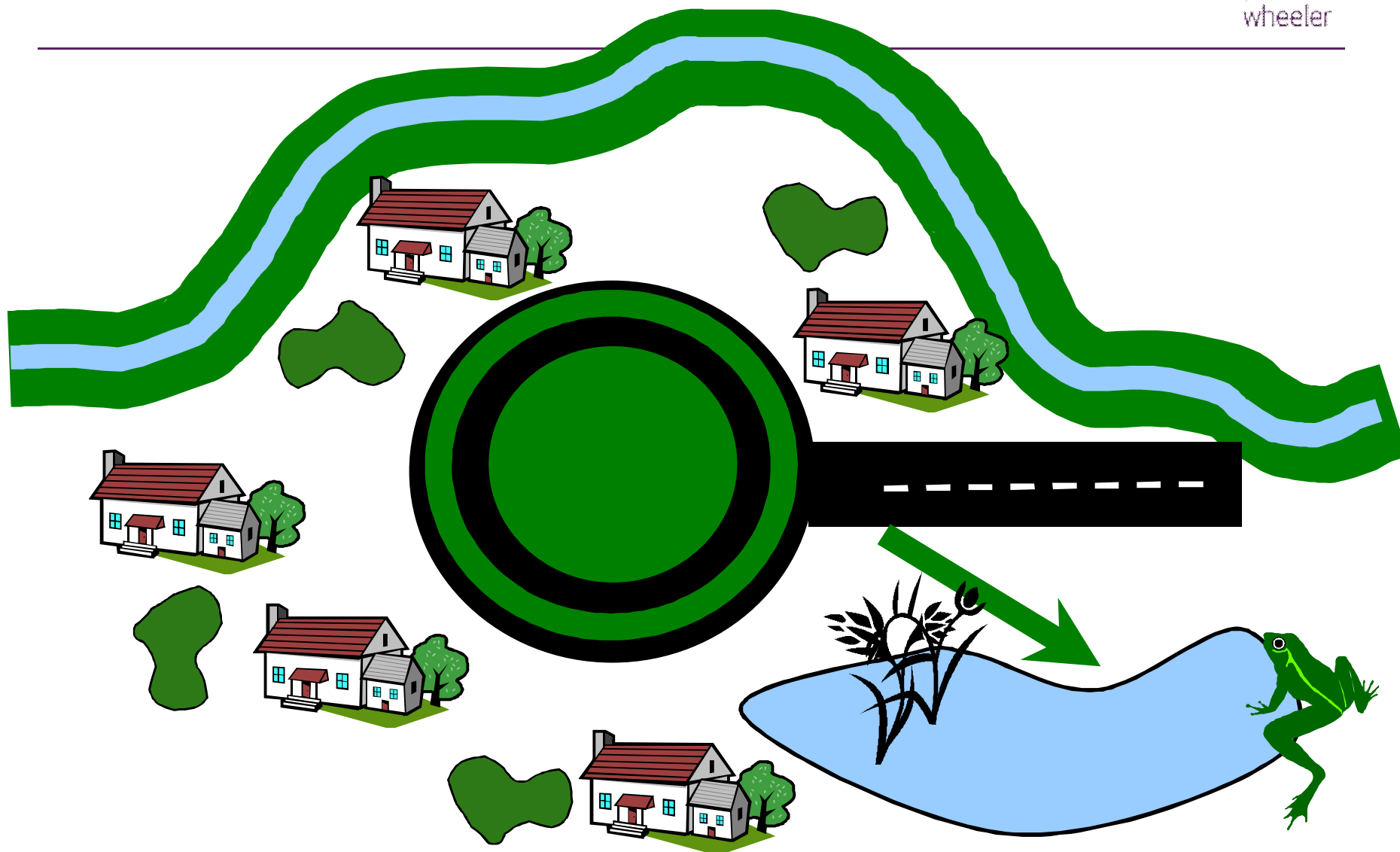


- Stormwater carries pollutants: – metals, oil & grease, nitrogen, phosphorus, salts, sediment
- Stormwater pollution can damage streams, ponds, and wetlands

➤ Water quality



Now add Water Quality protection (MS4 permit) and keep stormwater on-site



What is the NPDES MS4 Permit?

- **National Pollutant Discharge Elimination System (NPDES) Program – Federal (EPA)**
- **Clean Water Act 1972 - regulates point source discharge of pollutants to waters of the US**
- ✓ Wastewater Treatment Plants
- ✓ Industrial Sources
- ✓ Construction Activity
- ✓ **Stormwater Sources (MS4)**



What is NPDES MS4?

Municipal Separate Storm Sewer System (MS4)

- ▶ Stormwater is transported through the MS4, carrying pollutants
- ▶ discharged untreated into waterways

MS4 Permit—

- ▶ allows discharge of stormwater from municipal drainage systems to waterways





Stormwater Regulatory Mandates

New NPDES MS4 Permit – effective July 1, 2018

New requirements:

- ▶ Enhanced operation, maintenance, and mapping requirements
- ▶ Stormwater planning and assessment activities focusing on sanitary sewer overflows (SSO), illicit discharge and detection elimination (IDDE), post construction stormwater management regulations and stormwater pollution prevention plans (SWPPP)
- ▶ Compliance with TMDLs – Phosphorous Control Plan (PCP)

Upper Charles River TMDL:

- ▶ Millis to reduce total phosphorous loads in stormwater by 26% in the MS4 service area
 - ▶ Required to enhance BMPs in the Public Education and IDDE programs to address bacteria and pathogen impairments into the Charles
-

In addition to: Aging & Failing Infrastructure



Flooding Problems

Beaver Activity

Non-Riverine Related Localized Street Flooding

- Main Street (Route 109)



Deferred Maintenance of Culverts and Swales

- ▶ Village Street

Staffing and Equipment Needs

Long Term Program Development

- ▶ Historically “task oriented” for budgeting purposes
- ▶ Has not kept up with water and wastewater infrastructure investments



Budget Concerns

Budget

- ▶ Program budgets must compete with higher profile projects
- ▶ Need a FTE to support necessary tasks – current and future
- ▶ Town borrowing/financing results in more debt

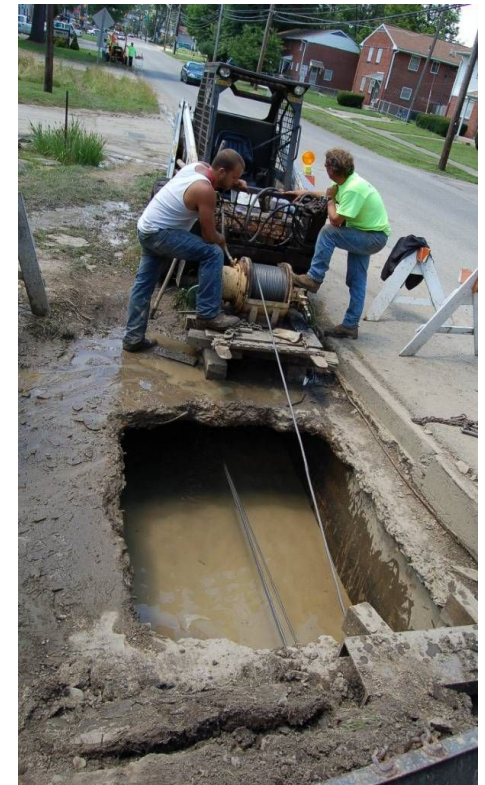
Staffing

- ▶ Staff must wear many hats



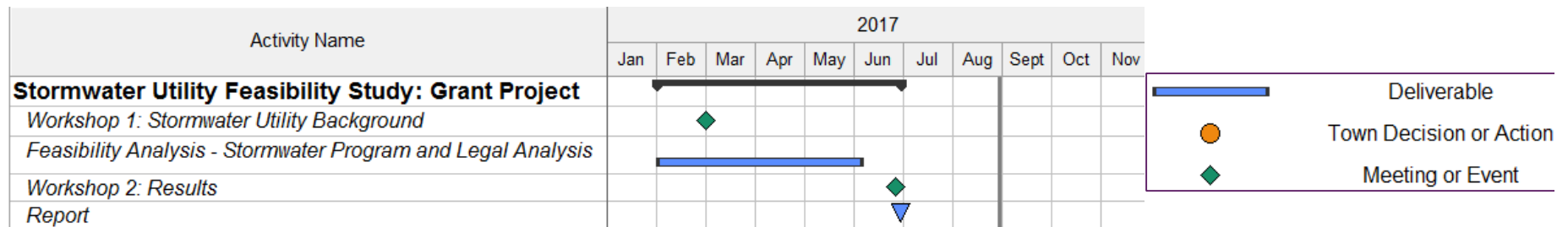
Stormwater Challenges – Summary

- Flood Safety and Mitigation
- Aging Infrastructure
- Regulatory Requirements
- Maintenance Needs
- Water Quality Protection



Even without new challenges, the complexity and cost of stormwater management in Millis will continue to increase.

Background on the Utility Initiative



Stormwater Utility Feasibility Study - Grant Project

Goal

- ▶ Evaluate the technical and legal mechanisms for developing and implementing a stormwater funding mechanism

Scope

- ▶ Stormwater Utility Informational Workshops (2)
- ▶ Stormwater Utility Feasibility Analysis of
 - ▶ Stormwater program needs and costs
 - ▶ Available data to support utility funding approach
 - ▶ Legal mechanisms for adopting a utility fee
 - ▶ Process for implementing a stormwater utility
- ▶ Stormwater Utility Feasibility Study Report

Background

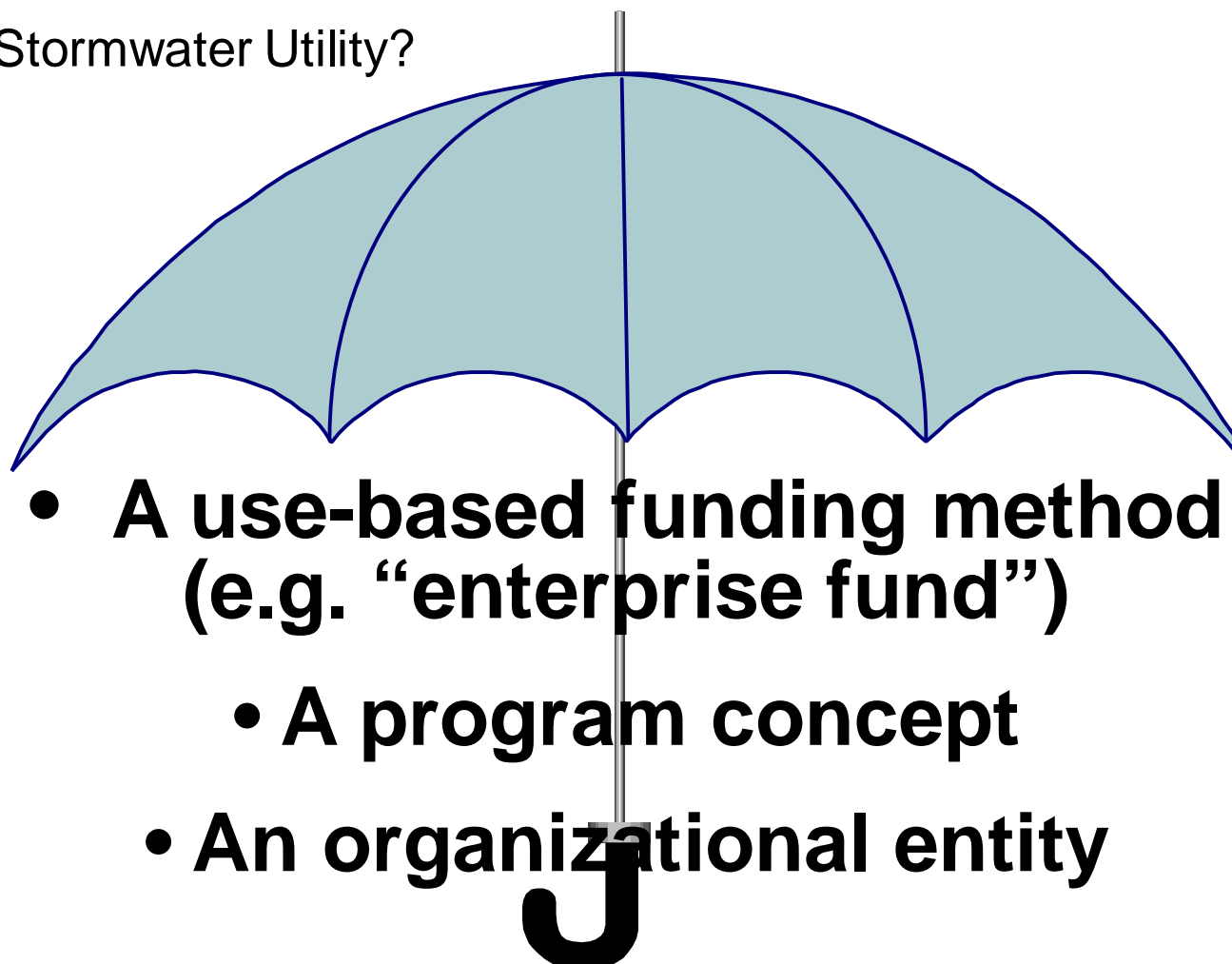
Stormwater Utility Feasibility Study - Grant Project

Findings

- ▶ The Town has historically underfunded the Stormwater Management Program as compared to other water/sewer infrastructure programs in terms of both planning and capital projects. Underfunding can lead to negative impacts on critical infrastructure
 - ▶ A Stormwater Utility can provide a stable, adequate, flexible, and equitable revenue stream to enable the Town to plan investments in stormwater management in a pro-active manner.
 - ▶ The Board of Selectmen expressed strong support for implementing a sustainable funding mechanism. At their recommendation, the Town is moving forward to implement a Stormwater Utility at an accelerated pace (by June 2018).
-

Stormwater Utility Basics

What is a Stormwater Utility?



- **A use-based funding method (e.g. “enterprise fund”)**
 - **A program concept**
- **An organizational entity**

Background

Stormwater Utility Implementation

Immediate Goals:

- Develop a Draft By-Law by Mid-September ✓
 - Public outreach prior to Town Meeting (of which this meeting is a part!)
-

Stormwater Utility Basics



How Does it Work?

- ▶ Fees assigned to a parcel for services provided
- ▶ Fee is proportional to the stormwater burden on the stormwater system/program
- ▶ More impervious areas...
 - ...more stormwater runoff...
 - ...larger burden on the system...
 - ...larger user fee
- ▶ Therefore, even tax-exempt properties like schools contribute

Stormwater Utility Basics

Key Advantages

- ▶ **It is Stable** because it is not as dependent on the vagaries of the annual budgetary process as taxes are.
- ▶ **It is Adequate** because a typical stormwater fee is based on a well thought out stormwater program to meet the needs and demands of the community, as well as other program drivers (e.g., water quality, regulations).
- ▶ **It is Flexible** because fees can be structured in multiple ways, and the program can be managed to fund activities based on changing priorities and needs.
- ▶ **It is more Equitable** than most other funding sources because the cost is borne by the user on the basis of demand placed on the drainage system.

Stormwater Utility - Billing Information

Process for updating billing information following November Town Meeting:

- **Refine impervious area for accuracy**
 - ▶ Buildings data updated in July 2017
- **Refine Stormwater Management Program Costs**
- **Create Billing Database**
- **Create Credit Manual**



Impervious area example parcels
from June 2017 Feasibility Study

Stormwater Utility - Billing Information

- **Flat rate per Stormwater Billing Unit (SBU)**
- **SBU = 1,000 sq. ft**
- **Final Rates Not Yet Determined (based on Stormwater Program costs)**
 - Range likely to be in \$3 - \$5/SBU per month
- **Impact Reduction Credits will be available (e.g. enhanced on-site management)**

Impervious Area – Example

- Single Family Property
 - Dover Road
 - 2,020 sf impervious area
- (2 Billing Units)

$$2 \times 3 = 6$$

$$2 \times 5 = 10$$

Fee = \$6 - \$10/month
(\$72 - \$120 per year)



Impervious Area – Example

- Single Family Property
 - Dover Road
 - 5,110 sf impervious area

(5 Billing Units)

$$5 \times 3 = 15$$

$$5 \times 5 = 25$$

Fee = \$15 - \$25/month

(\$180 - \$300/year)



Impervious Area – Example

- Single Family Property
 - Ross Avenue
- 1,790 sf impervious area
(2 Billing Units)

$$2 \times 3 = 6$$

$$2 \times 5 = 10$$

Fee = \$6 - \$10/month
(\$72 - \$120 per year)



Impervious Area – Example

- Single Family Property
 - Bow Street
- 3,630 sf impervious area
(4 Billing Units)

$$4 \times 3 = 12$$

$$4 \times 5 = 20$$

\$12 - \$20/month

\$144 - \$240/year



Impervious Area – Example

- Single Family Property
 - Bow Street
- 1,990 sf impervious area
(2 Billing Units)

$$2 \times 3 = 6$$

$$2 \times 5 = 10$$

Fee = \$6 - \$10/month
(\$72 - \$120 per year)



Impervious Area – Example

- Single Family Property
 - Walnut Street
- 3,250 sf impervious area
(3 Billing Units)

$$3 \times 3 = 9$$

$$3 \times 5 = 15$$

\$9 - \$15/month

\$108 - \$180/year



Impervious Area – Example

- Non-Single Family
Property
 - Ross Avenue
- 7,075 sf impervious area
(7 Billing Units)

$$7 \times 3 = 21$$

$$7 \times 5 = 35$$

\$21 - \$35/month

\$252 - \$420/year



Impervious Area – Example

- Non-Single Family Property
 - Main Street
- 11,945 sf impervious area

(12 Billing Units)

$$12 \times 3 = 36$$

$$12 \times 5 = 60$$

\$36 - \$60/month

\$432 - \$720/year



For More Information:

- **Jim McKay, Public Works Deputy Director**
- e| jmckay@millis.net p| 508.376.5424

THANK YOU!