Stormwater Utility

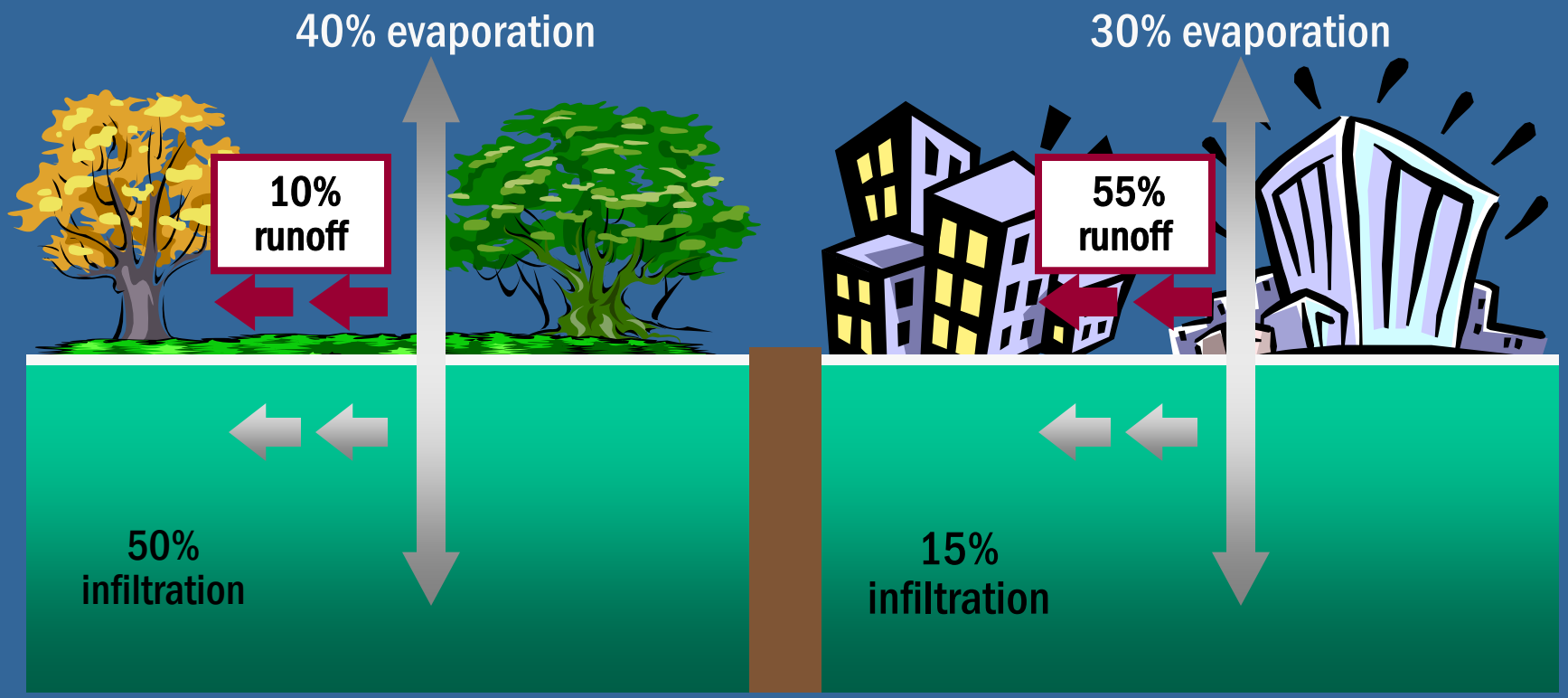
Public Outreach - 2010

ECO-CITY ALEXANDRIA

How can we better address our stormwater flooding needs?

- **Dedicated funding reduces reliance on General Fund**
- **Similar to any other utility**
  - **Water**
  - **Sanitary**
  - **Natural Gas**
  - **Electricity**

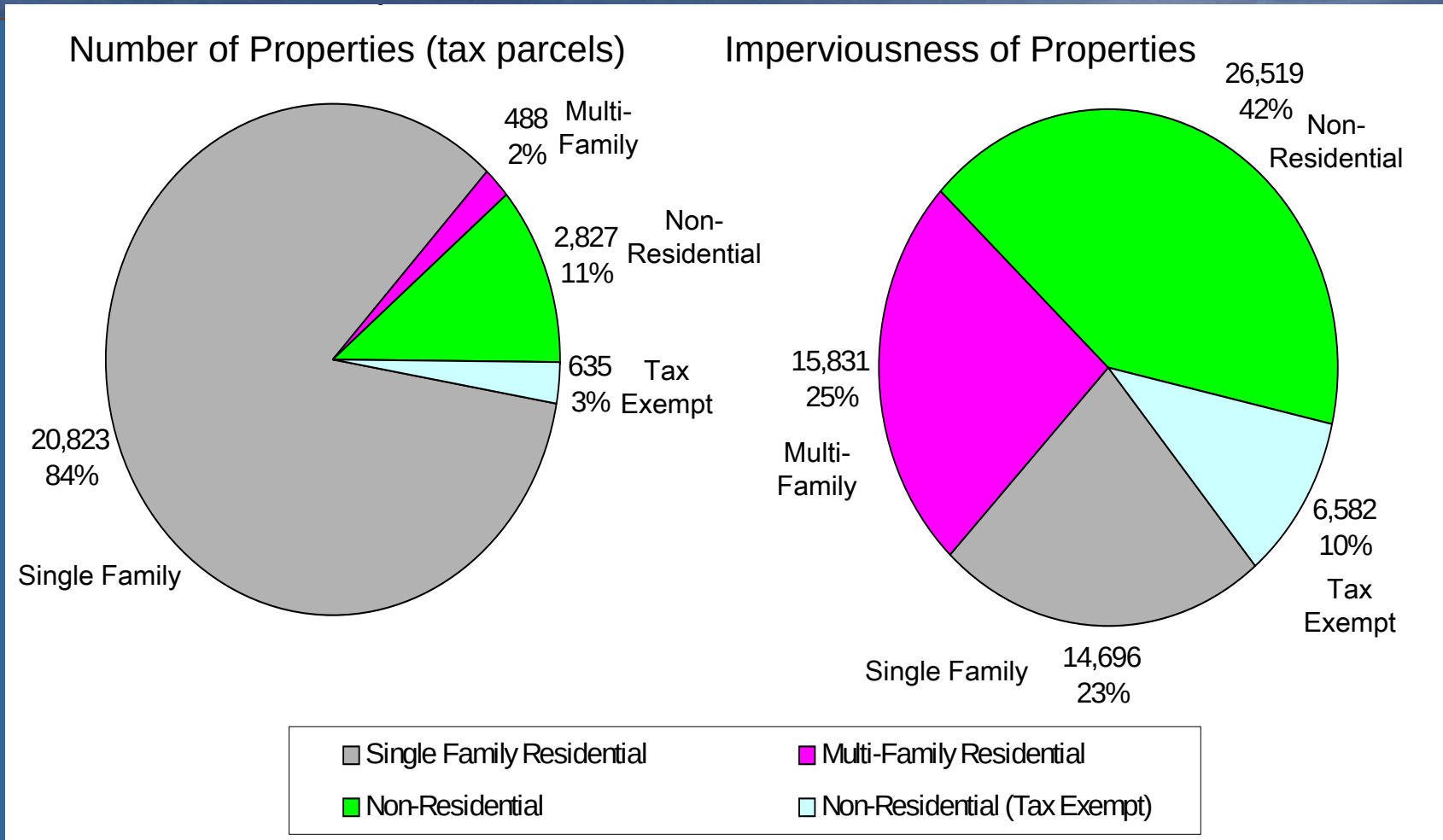
Impervious Surfaces and Stormwater Runoff



Natural Ground Cover

75% - 100% Impervious

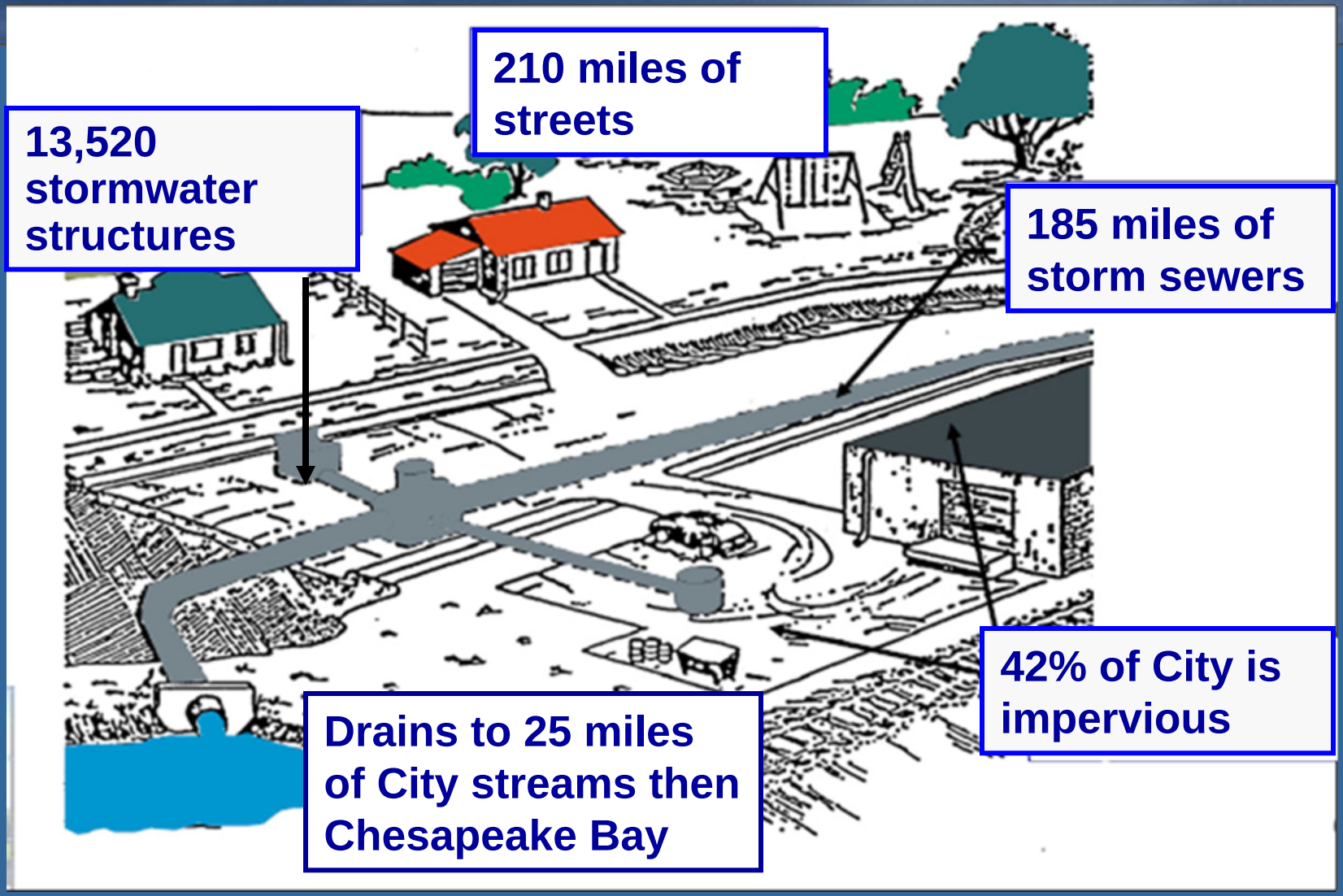
Stormwater Utility Fees Will Be Based on Impervious Area



How would a Stormwater Utility program work?

- Owners of properties that contribute to stormwater runoff will be charged a user fee
- User fee based on amount of impervious surface contributing to stormwater runoff
- Properties with greater impervious area contribute more to stormwater needs
- Credits will be provided for on-site stormwater management

City's Stormwater Infrastructure



How does the City manage stormwater?

- Clean and inspect sewers and catch basins
- Repair and replace storm sewer infrastructure

How does the City manage stormwater?

- Construct improvements to stormwater infrastructure

How does the City manage stormwater?

- Maintain streams and channels
- 5% of tax parcels are vulnerable to flooding

Stormwater Funding Options

Existing Stormwater Funding

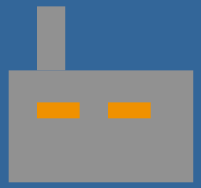
- General Fund
- Competes with other city-wide priorities
- Each property's contribution based on property value

Proposed Stormwater Utility

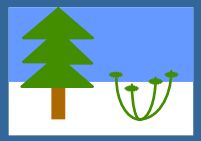
- Typically set up as an enterprise fund
- Dedicated revenue for stormwater program
- Based on extent to which a property contributes to stormwater runoff (impervious area)

The selected rate structure should be fair and simple

Residential → Flat Fees



Non-Residential & Multi-Family Residential → Actual Impervious Area



Undeveloped → No Fees

The typical residence defines the base unit (Equivalent Residential Unit)

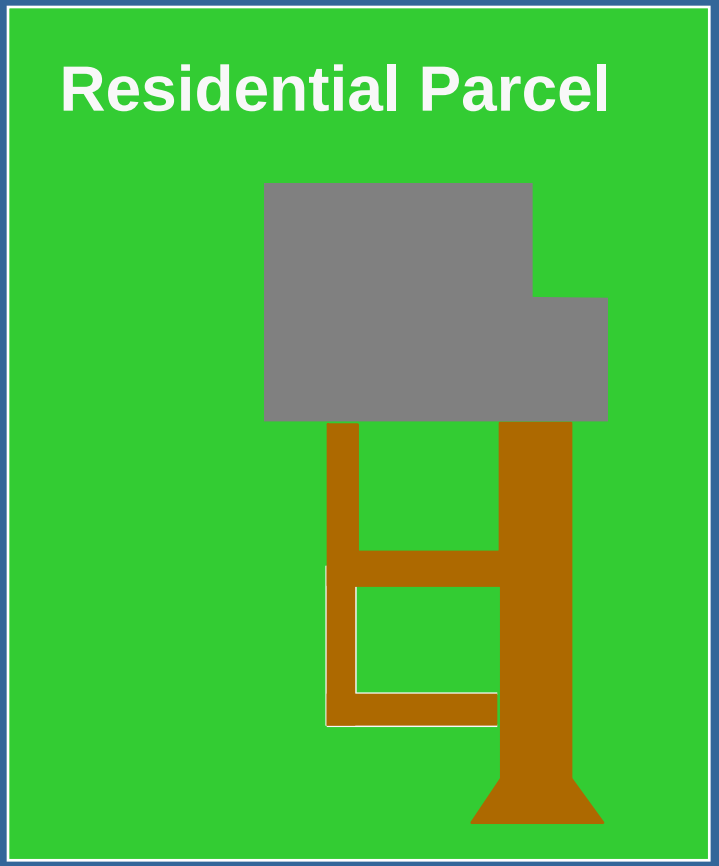
House	1,550 ft^2
Other Impervious	421 ft^2
Total	1,971 ft^2

Single Family Detached < 3,942 ft^2 = 1 ERU

Single Family Detached > 3,942 ft^2 = 2 ERU

Single Family Attached = 0.43 ERU

Single Family Semi-Detached = 0.43 ERU

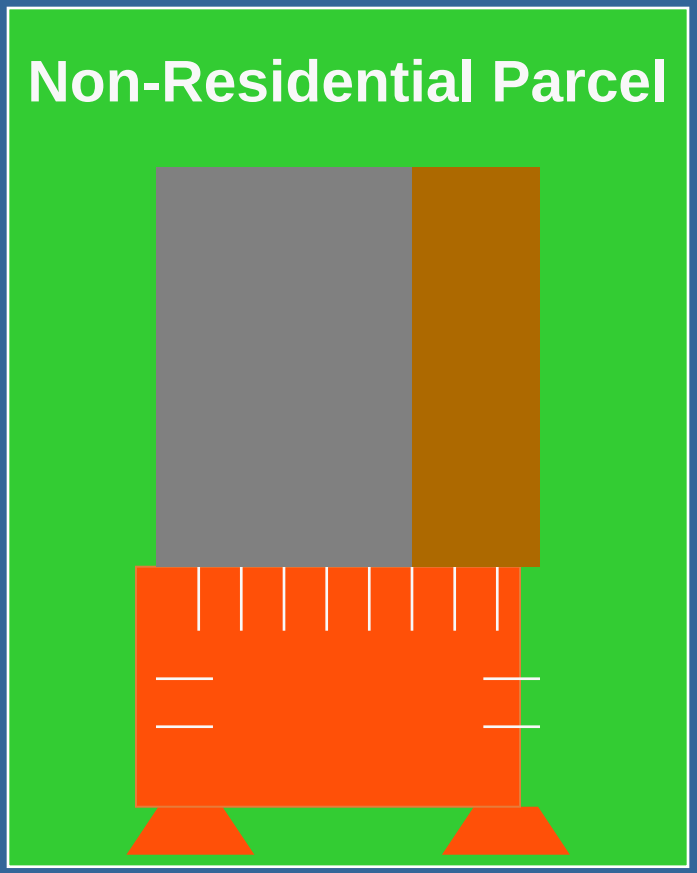


Single Family Detached

Non-Residential & Multi-Family billed as multiples of the base unit

Building	6,000 ft^2
Parking	10,000 ft^2
Other Impervious	3,710 ft^2
Total	19,710 ft^2

$$\frac{19{,}710\ ft^2}{1{,}971\ ft^2} = \mathbf{10\ ERU}$$



Stormwater Utility Jurisdictions Comparison Virginia & Washington Metro Area

Jurisdiction	Land Area (Sq. Miles)	Approximate Population	Rate ($/Yr/Unit)
Norfolk, VA	66	241,727	96.96
Virginia Beach, VA	310	439,467	73.00
Portsmouth, VA	33	99,617	72.00
Newport News, VA	69	181,647	58.20
Hampton, VA	55	146,878	55.20
Chesapeake, VA	353	210,834	53.40
Takoma Park, MD	2	18,540	48.00
Montgomery Co., MD	496	932,131	45.00
Gaithersburg, MD	10	57,365	45.00
Richmond, VA	60	193,777	45.00
Prince William Co., VA	345	357,503	26.36

Rates as of June 2009

Proposed Stormwater Utility Rate

- **Single Family (20,823 parcels)**
  - **Typical detached (8,570 parcels) $48/yr**
  - **Larger detached, 2 x typical (546 parcels) $96/yr**
  - **Attached & semi-detached (11,707 parcels) (0.43 x median) $20.64/yr**

Proposed Stormwater Utility Rate

- **Multi-Family (488 parcels) & Non-Residential (3,090 parcels)**
  - **Annual fee is dependent on impervious area**
  - **($48 per 1,971 ft^2) x (ft^2 of impervious area)**

Is There a Credit Policy?

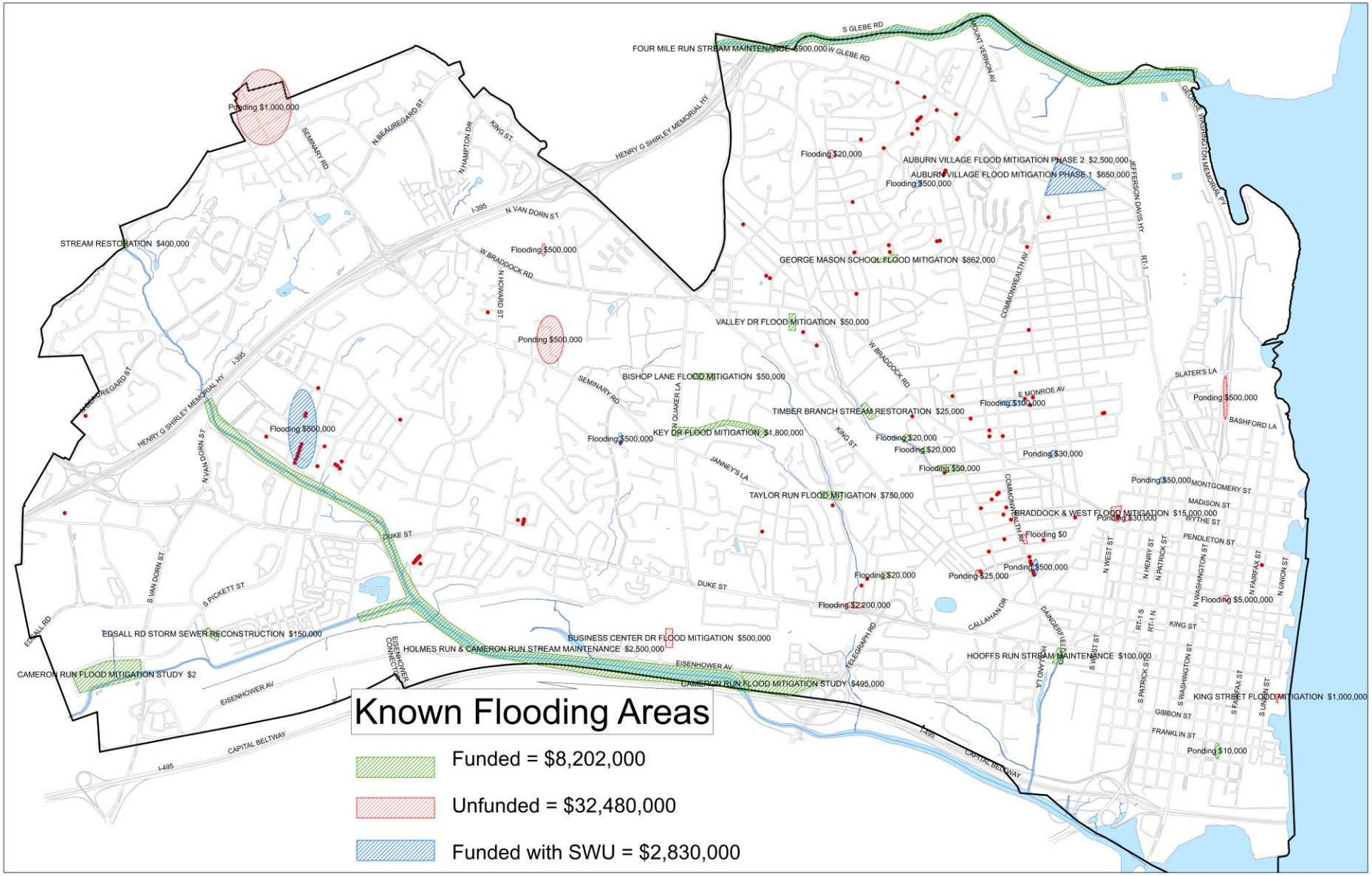
- **Credits will be provided for on-site stormwater management**
  - **Private BMPs**
  - **Private stormwater detention**
  - **Low impact development practices**

Stormwater Program Overview

- **Infrastructure**
  - **Prioritization of projects and needs**
  - **Capital Improvement Projects**
  - **Operation & Maintenance**
- **State and Federal Environmental Regulations**
- **Climate Change**

Proposed Stormwater Utility Budget

- **Stormwater Utility Rate of $48 annual ERU ~ $2.6M annual revenue**
- **Enhanced storm sewer maintenance ~ $250K**
  - **Increased inspection & cleaning of catch basins**
  - **Increased inspection & cleaning of storm sewers**
- **Drainage infrastructure capital improvements ~ $2.35M**


Known Flooding Areas
Funded = $8,202,000
Unfunded = $32,480,000
Funded with SWU = $2,830,000
FOUR MILE RUN STREAM MAINTENANCE $900,000
AUBURN VILLAGE FLOOD MITIGATION PHASE 2 $2,500,000
AUBURN VILLAGE FLOOD MITIGATION PHASE 1 $650,000
GEORGE MASON SCHOOL FLOOD MITIGATION $862,000
VALLEY DR FLOOD MITIGATION $50,000
BISHOP LANE FLOOD MITIGATION $50,000
TIMBER BRANCH STREAM RESTORATION $25,000
KEY DR FLOOD MITIGATION $1,800,000
TAYLOR RUN FLOOD MITIGATION $750,000
BRADDOCK & WEST FLOOD MITIGATION $15,000,000
HOOFFS RUN STREAM MAINTENANCE $100,000
KING STREET FLOOD MITIGATION $1,000,000
BUSINESS CENTER DR FLOOD MITIGATION $500,000
HOLMES RUN & CAMERON RUN STREAM MAINTENANCE $2,500,000
CAMERON RUN FLOOD MITIGATION STUDY $495,000
CAMERON RUN FLOOD MITIGATION STUDY $2
EDSALL RD STORM SEWER RECONSTRUCTION $150,000
STREAM RESTORATION $400,000
Ponding $1,000,000
Ponding $500,000
Ponding $10,000
Ponding $5,000,000
Ponding $30,000
Ponding $50,000
Ponding $25,000
Ponding $2,200,000
Flooding $20,000
Flooding $500,000
Flooding $100,000
Flooding $0
Flooding $50,000
Flooding $2,200,000
S GLEBE RD
W GLEBE RD
HENRY G SHIRLEY MEMORIAL HY
N VAN DORN ST
W BRADDOCK RD
SEMINARY RD
DUKE ST
EISENHOWER AV
CAPITAL BELTWAY
I-395
I-495
KING ST
E MONROE AV
SLATER'S LA
BASHFORD LA
MONTGOMERY ST
MADISON ST
WYTHE ST
PENDLETON ST
N WEST ST
N HENRY ST
N PATRICK ST
N WASHINGTON ST
N FAIRFAX ST
N UNION ST
S PICKETT ST
S VAN DORN ST
EDSALL RD
CALLAHAN DR
DAINGERFIELD RD
HOLLAND LA
TELEGRAPH RD
JANNEY'S LA
N QUAKER LA
N HOWARD ST
N HAMPTON DR
N BEAUREGARD ST
SEMINARY RD
KING ST
JEFFERSON DAVIS HY
GEORGE WASHINGTON MEMORIAL PY
MOUNT VERNON AV
COMMONWEALTH AV
RT-1
RT-1 S
RT-1 N
S WEST ST
S PATRICK ST
S WASHINGTON ST
S FAIRFAX ST
S UNION ST
GIBBON ST
FRANKLIN ST

Proposed Stormwater Utility Fee Funded Drainage Improvements

- Street and basement flooding from right-of-way, Commonwealth Ave & Glebe Rd (Auburn Village), $650k
- Basement flooding adjacent to Hooff's Run Park, 60 - 120 blocks Commonwealth Ave, $500k
- Basement flooding from stream overflow, 300 block Beverly Drive, $500k
- Basement flooding from City right-of-way and properties, 900 block N. Paxton, 500 - 600 block N. Pegram, $500k

Proposed Stormwater Utility Fee Funded Drainage Improvements

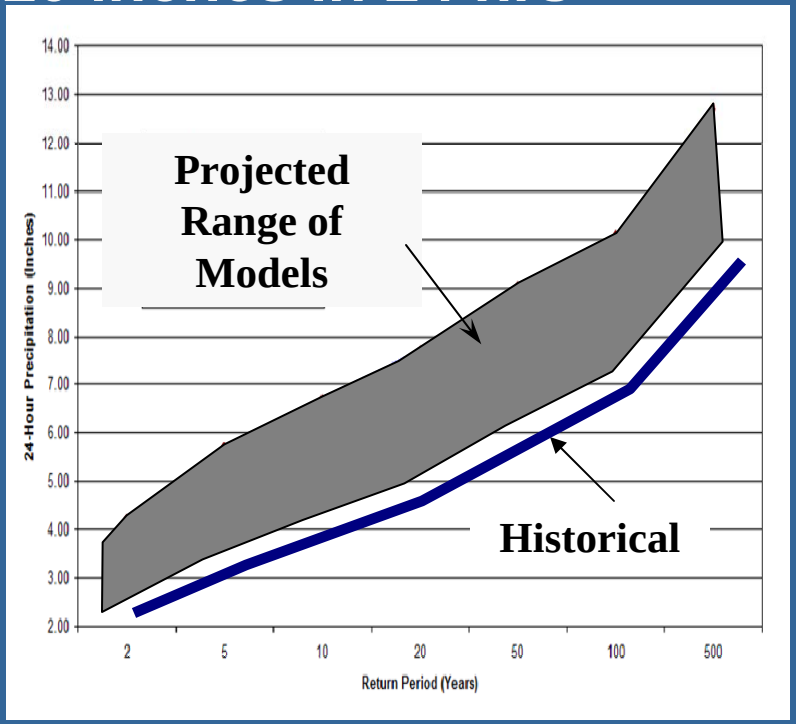
- Property flooding due to stormwater management pond overflow, Templeton Place, $500k
- Alley and basement flooding due to storm drain surcharging, E. Monroe & E. Nelson, 10 - 110 blocks, $100k
- Ponding due to undersized curb inlet, N. Henry at Montgomery, $50k
- Ponding in gutter, Adams Av, 200 block, $30k

Why does the City need to protect stormwater quality?

- Environmental Action Plan 2030, Water Resources Principle Goal to establish funding source such as SWU
- State & Federal requirements:
  - Chesapeake Bay Preservation Act & Regulations
  - Presidential Executive Order and new EPA “Bay czar”
  - Virginia Stormwater Management Act & Regulations
  - VSMP Permit Regulations (amended Oct 2009)
  - VSMP Municipal Separate Storm Sewer System (MS4) Permit
  - Total Maximum Daily Loads (Local and Chesapeake Bay)
  - Erosion & Sediment Control Law & Regulations
  - National Flood Insurance Program requirements

Climate Change Predictions for Stormwater Runoff

- **Storm intensities will be greater**
  - **Storms with a 100 year recurrence currently produce 7.8 inches in 24 hrs and in the future will produce up to 10 inches in 24 hrs**
- **Storm frequencies will increase**
  - **Storms historically occurring once every 100 years will occur every 20 – 50 years**



Next Steps

- **Community and stakeholder outreach: Fall – Winter 09**
- **Recommendations to Council: February 2010**
- **Decisions on funding options: May 2010**
- **Implementation (if approved): May 2011**

Thank You

Questions & Answers
Transportation & Environmental Services
703.746.4025