CITY OF ALEXANDRIA
Transportation and
Environmental Services
Stormwater Management
Division

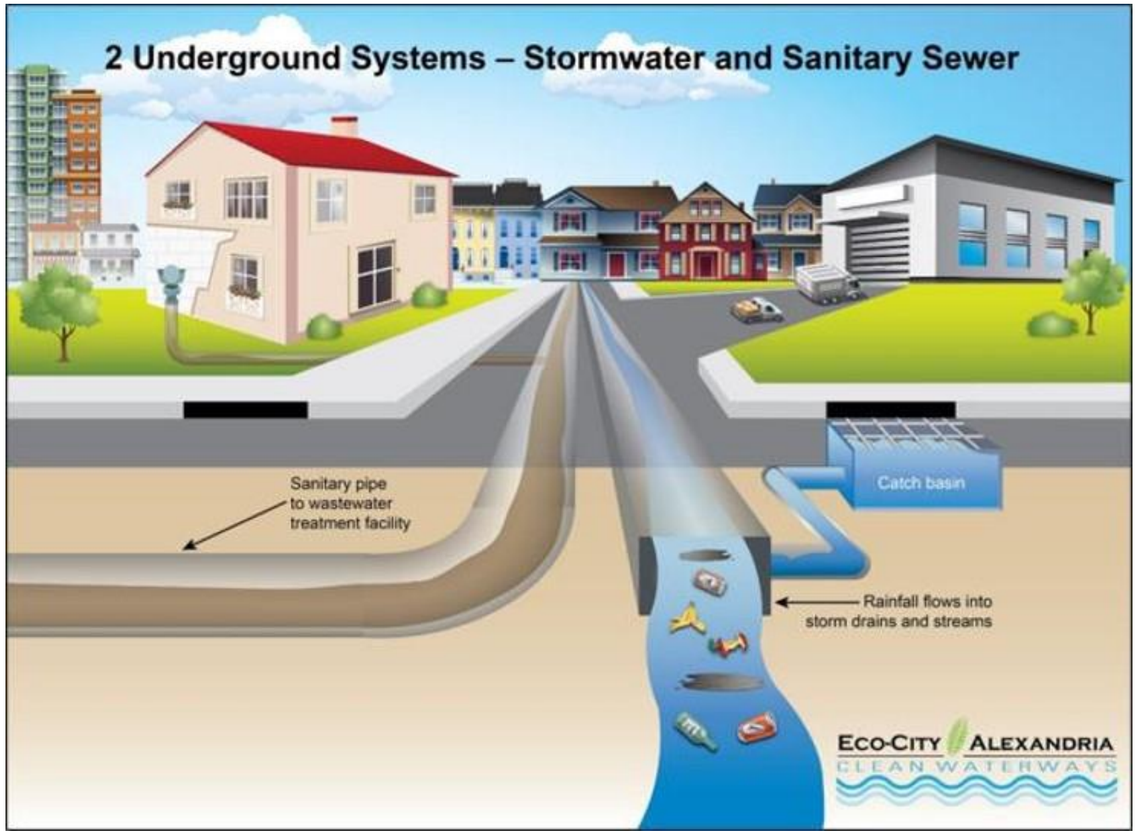
Chesapeake Bay Total Maximum Daily Load Phase 3 Action Plan

9.16.24

Agenda

- Stormwater Management & Water Quality
- Chesapeake Bay TMDL
  - Pollutants
  - Timeline
  - Compliance Update
- Phase 3 Action Plan

Where does all of the stormwater go?



"If it drains to the street, it drains to the creek."

Stormwater Management in Alexandria

- Stormwater Quality
- Stormwater Stewardship
- Illicit Discharges
- Infrastructure O&M
- Flood Action Alexandria
- Stormwater Utility Fee


PARK OPERATION
ENVIRONMENTAL SERVICES
Doetsch

How Do We “Treat” Stormwater?

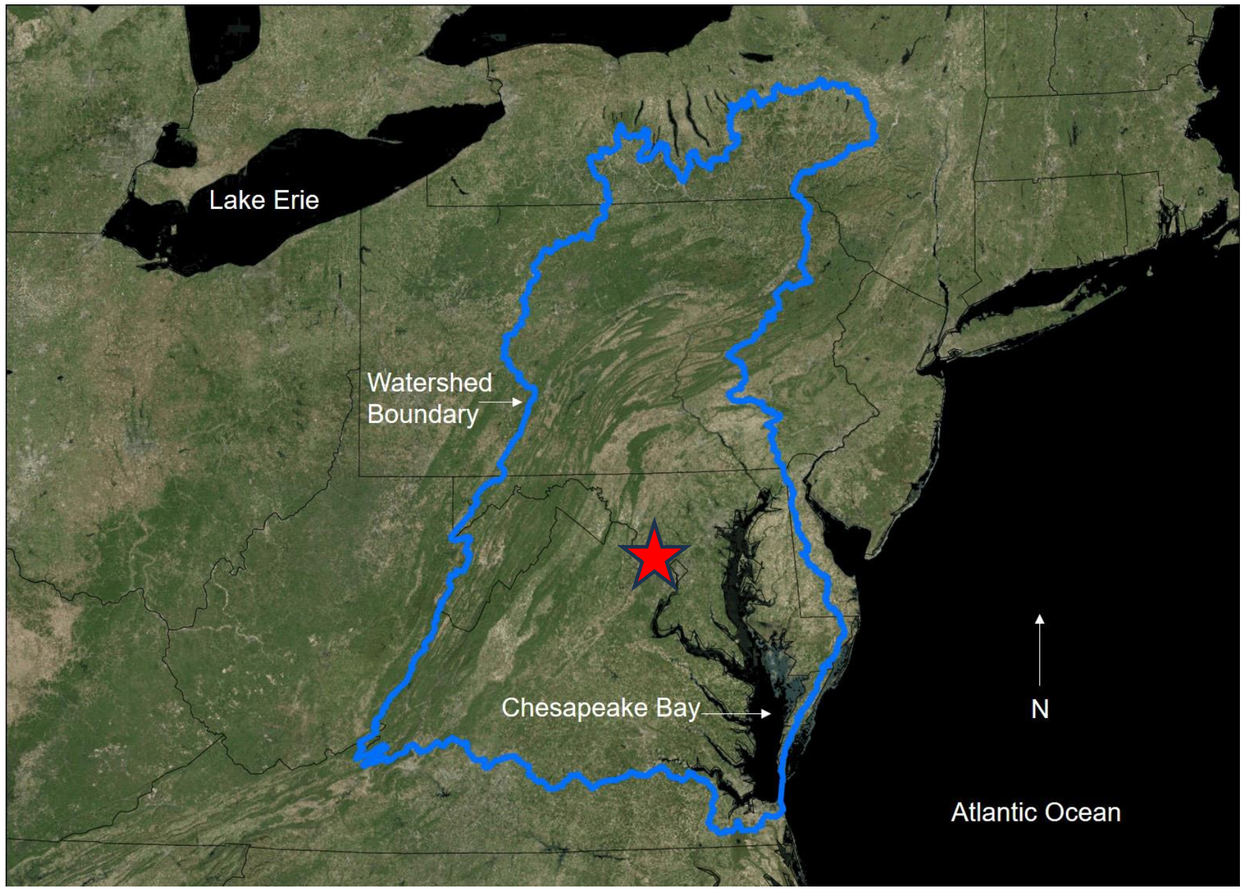
- Best Management Practices (**BMP**) / Stormwater Management Facilities (SMF)
- City has hundreds of “private” BMPs and over 100 “public” BMPs
- BMPs are designed based on technical criteria. Criteria are developed by a team of technical experts at the State-level.
- Pollutant efficiency ratings are developed for BMPs by type
- Virginia Runoff Reduction Method (VRRM) used to calculate pollution removals
- Phosphorus is the “Keystone” pollutant when looking at pollution removal

How Do We Improve Our Environment?

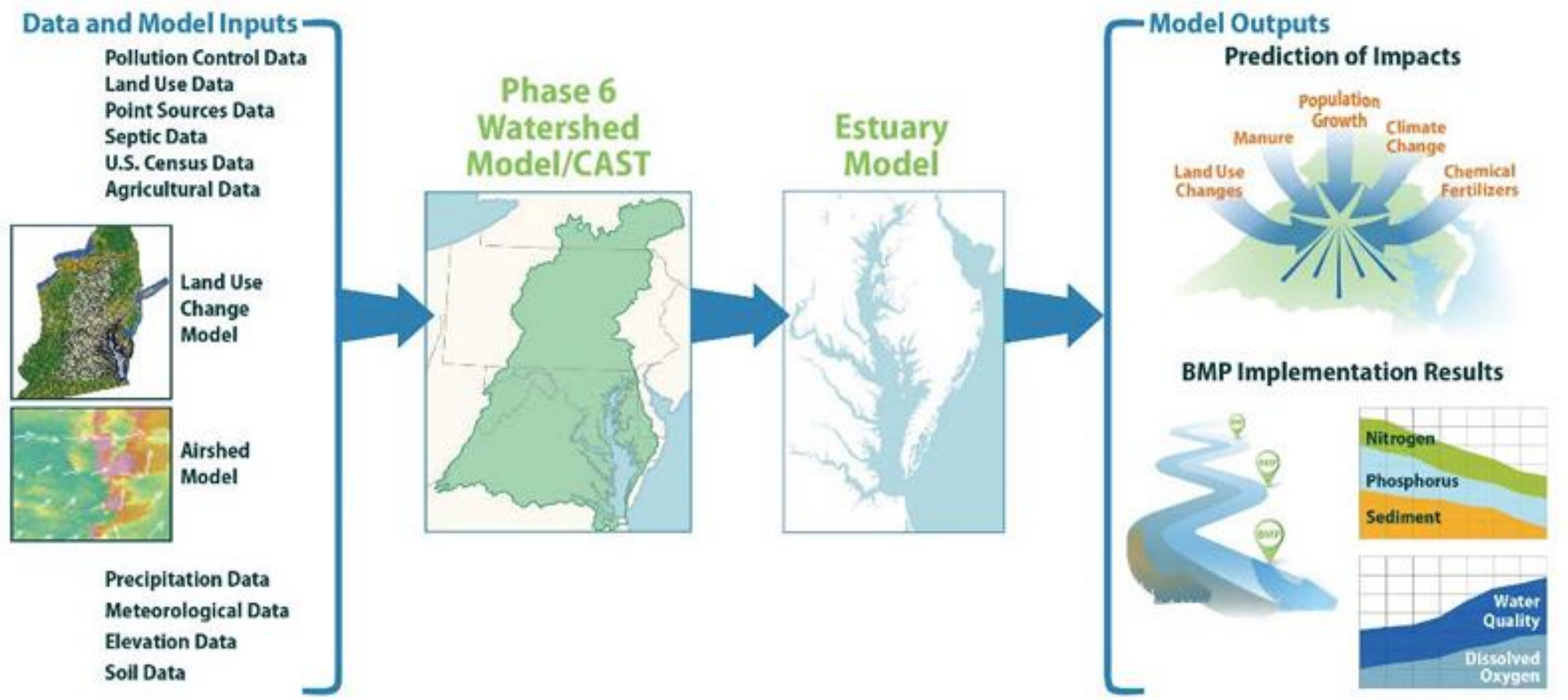
2014 → 2024 Windmill Hill, Alexandria, VA

Chesapeake Bay TMDL

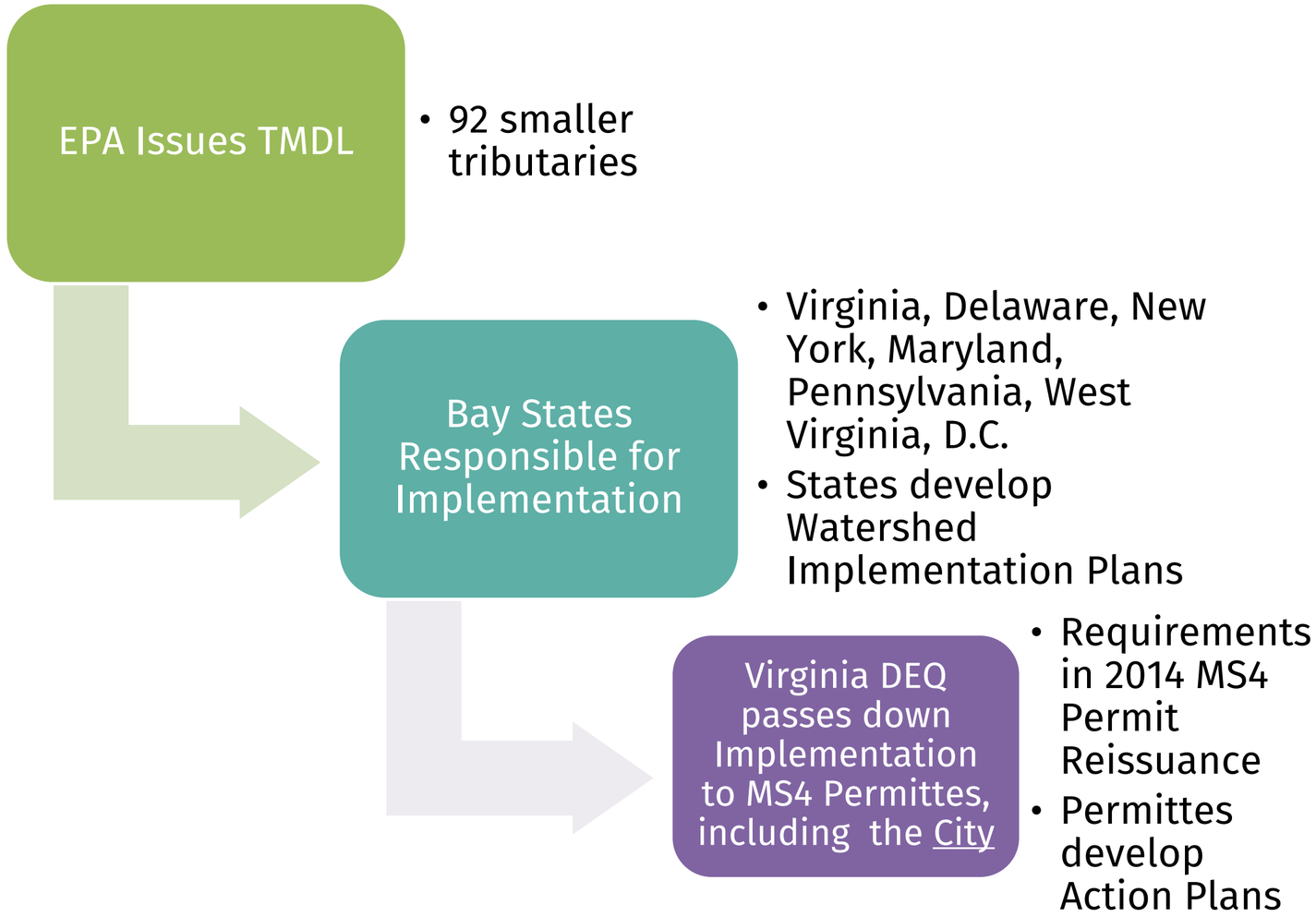
- ✓ TMDL = Total Maximum Daily Load or a “Pollution Diet” / “Clean Up Plan” for the Bay
- ✓ EPA established the TMDL in 2010 and passed on reduction requirements to tributaries / states
- ✓ The **largest TMDL** ever developed for the **largest estuary** in the U.S.



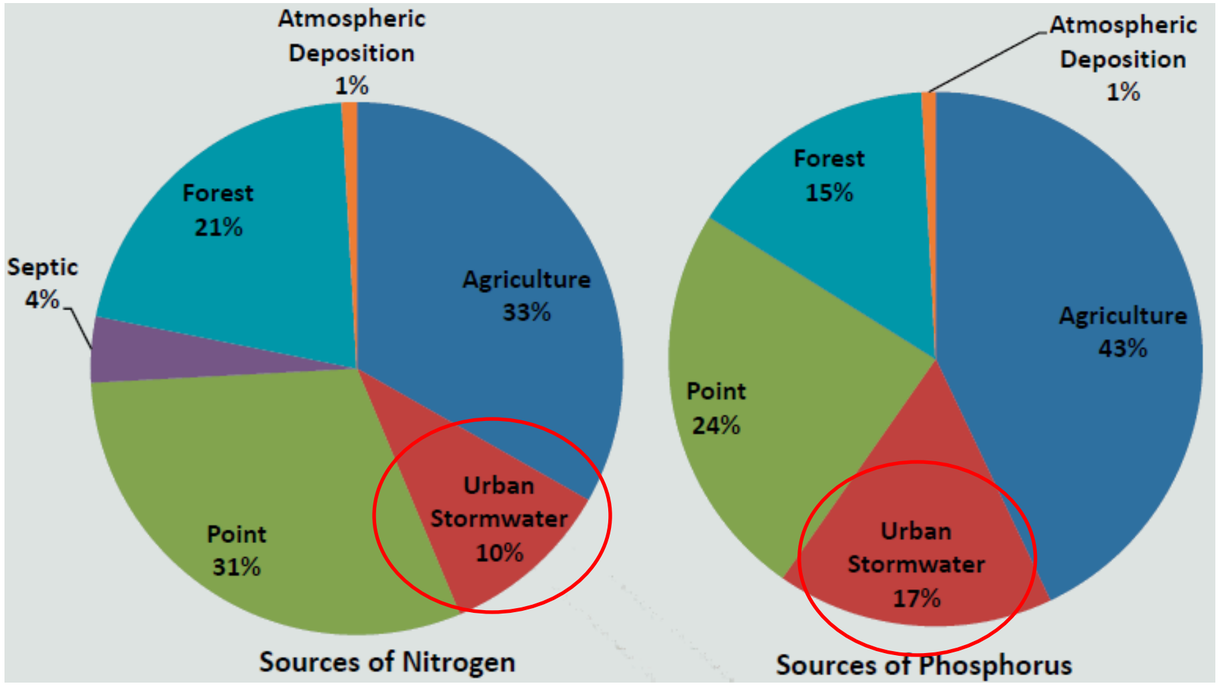
Chesapeake Bay TMDL: Watershed Modeling



Where does the City come in?



Where does the City come in?



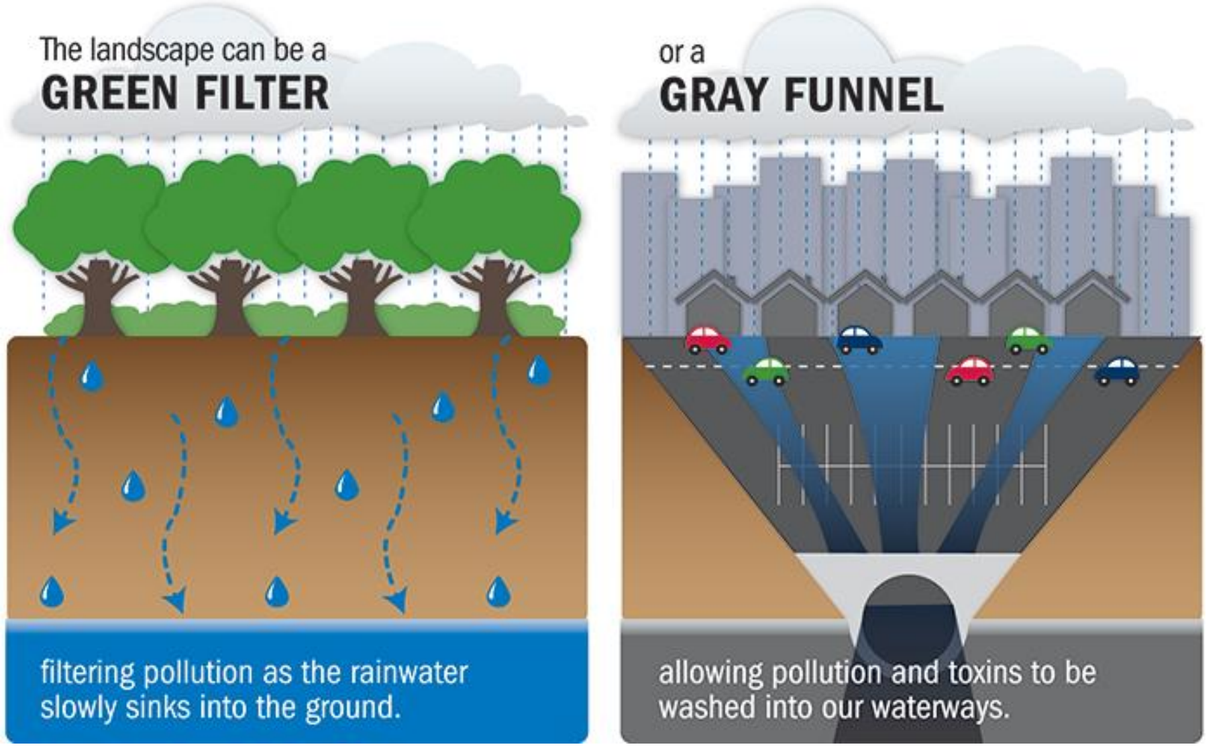


IMAGE: CHESAPEAKE BAY FOUNDATION

Pollution Reduction Mandate Timeline

Phase 1

2013-2018

5% Reduction Requirement

Phase 2

2018-2023

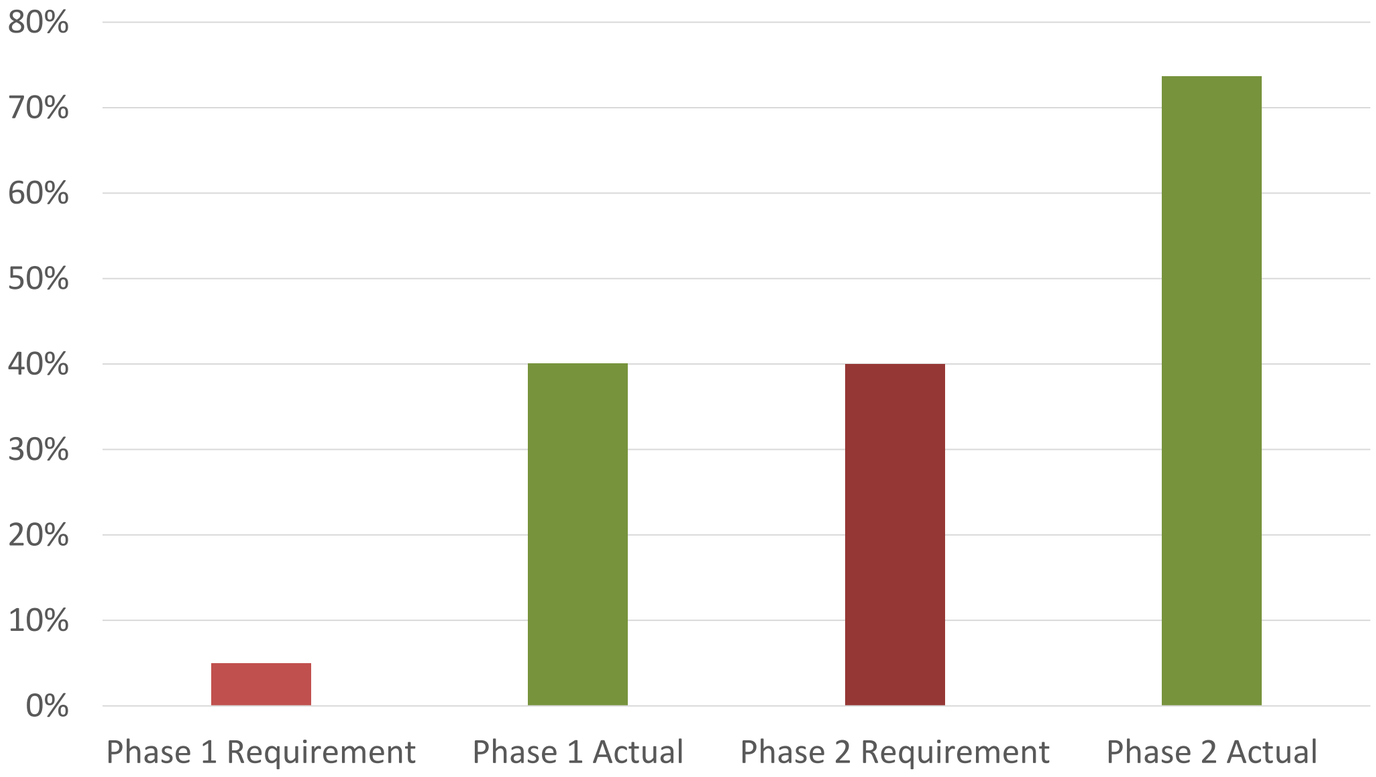
35% Reduction Requirement

Phase 3

2023-2028

60% Reduction Requirement

Progress Towards Bay TMDL Goal

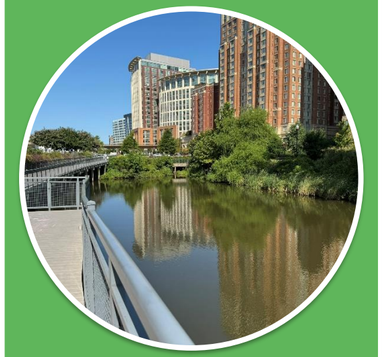


Showing Phosphorus pollution reductions only.

Historical Look at Some of the Stormwater Management Projects Completed

Phase 1

Lake Cook Retrofit



Phase 1

Eisenhower Pond

Phase 1

Four Mile Run Wetland Restoration

Phase 1

Windmill Hill Living Shoreline

Phase 2

Ben Brenman Pond Retrofit

Phase 3

Lucky Run Stream Restoration

Phase 3 Action Plan

Permeable Pavers, Four Mile Run Park

- ✓ Action Plan due to VA Dept. of Env. Quality Nov. 1st
- ✓ Public comments solicited and feedback to be incorporated
- ✓ Updates tracked annually
- ✓ 100% compliance by 6/30/28

FY24 Compliance Update

- **80%** reduction in Nitrogen
- **101%** reduction in Phosphorus
- **126%** reduction in Sediment*

*Va DEQ removed the requirement to track sediment removal in the 2023-2028 MS4 General Permit.

FY24 Compliance Update

	Nitrogen	Phosphorus	Sediment
Pollution Reduction Goal (lbs/yr)	**7,597**	**1,004**	**861,937**
Phase 1 Progress (lbs/yr)	2,690	402	361,990
Phase 2 Progress* (lbs/yr)	2,637	337	221,529
Phase 3, FY24 Progress (lbs/yr)	759	277	499,169
Estimated Phase 3, FY25 – FY28	**1,511**	***Goal Achieved in FY24***	
Progress Towards Goal	100%	>100%	>100%

Strategies for Compliance

Redevelopment BMPs; Green Infrastructure; Outfall Rehabilitation;

Bi-Lateral Trading with AlexRenew

*Phase 2 Progress further refined and updated from draft Phase 3 Action Plan.
All numbers rounded for presentation purposes.

CITY OF ALEXANDRIA
T&ES Stormwater Management

Thank You!