



Local Government Advisory
Committee
Chesapeake Bay Executive Council



2016 & 2017 flooding

"The Bell Island Boys"





Maryland Island Denies Sea Level Rise, Yet Wants to Stop It



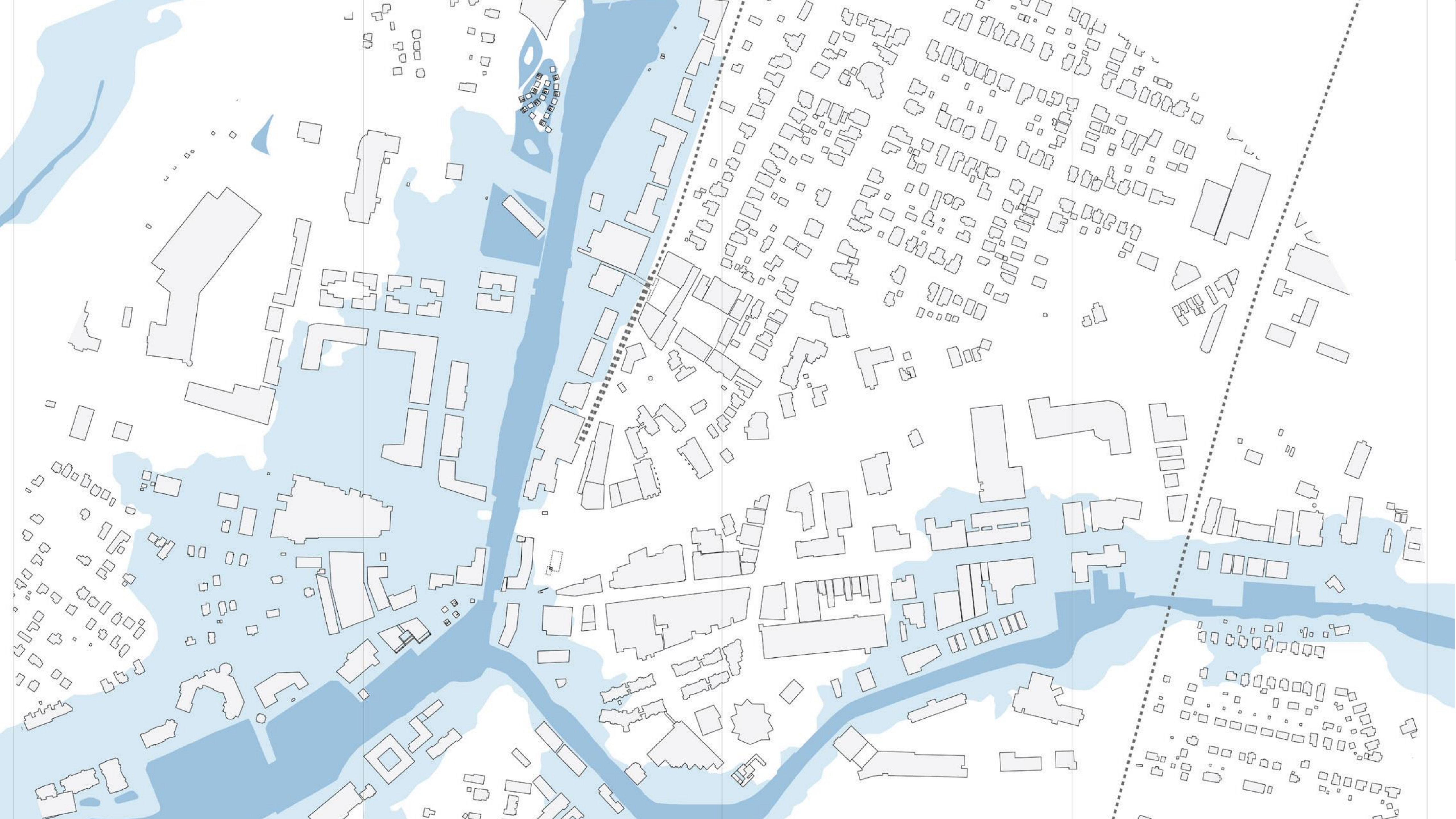
"The national political debate can shrink to irrelevance at the local level", Day said.

"Political leaders often don't even have to do much explaining about why they need to make expensive infrastructure upgrades to handle more extreme weather events, because the evidence is usually in front of people.

They've already seen the evidence. It's what happens when their houses, and those of their neighbors, get flooded.

Which 10 metros will be hardest hit by rising seas?

Metro	Potential Underwater Homes	Share of Homes Underwater	Total Value of Underwater Homes
Miami, FL	481,447	24.2%	\$217.3B
New York, NY	180,267	4.6%	\$123.2B
Tampa, FL	104,809	9.9%	\$40.6B
Fort Myers, FL	53,325	16.7%	\$25.4B
Boston, MA	52,694	4.3%	\$42.7B
Upper Township, NJ	45,757	56.6%	\$29.3B
Salisbury, MD	44,712	21.1%	\$11.7B
Virginia Beach, VA	42,743	8.3%	\$13.5B
Bradenton, FL	39,744	11.6%	\$25.4B
Naples, FL	38,106	20.9%	\$28.1B





Ramping up our MS4 Phase II Program



A dedicated fund



Improved water quality



Reduced flooding



Connection to bay cleanup



**Everything
you need to
know about
the new**

Salisbury Stormwater Utility



Storm-what?

Stormwater is rainwater runoff from surfaces like roofs, lawns, driveways, streets and parking lots. Along the way, it picks up speed and can become polluted with harmful chemicals, fertilizers, motor oil, trash and dirt.

Unchecked polluted runoff leads to:

- Flooding
- Erosion and property damage
- Swimming closures and warnings against water contact
- Limits on how much seafood we can catch or eat
- Trash and debris



Did you know that parts of the City's storm drain system are more than 100 years old?

Did you know that most of this system wasn't designed to filter out pollution?

The City's storm drain network needs repair and upgrades to keep our community clean and dry. But, like many towns, Salisbury has been struggling to keep up.

On November 24, 2014, the City Council approved a better way to take care of the City's storm drain system. Known as a stormwater utility, the new approach:


- Streamlines maintenance and upgrades
- Provides a reliable source of funding for overdue projects
- Was recommended by a task force of local residents and experienced consultants

The City will need to assess fees to ensure a dedicated and reliable source of funding for the utility. When everyone contributes a little, a lot can be done. Revenue collected will stay in Salisbury, accelerating on-the-ground projects that are carefully selected to provide the biggest benefits in return.

Residents and businesses can expect:

- Repairs, maintenance and upgrades to the storm drain system
- Flood relief
- Dam repairs
- Pollution controls, tree plantings and community greening

Most residential properties will be assessed a uniform flat rate. Commercial, industrial and institutional properties will be charged based on the amount of hardened surfaces on the premises.



Salisbury is now one of more than 1,400 communities nationwide to benefit from a stormwater utility:

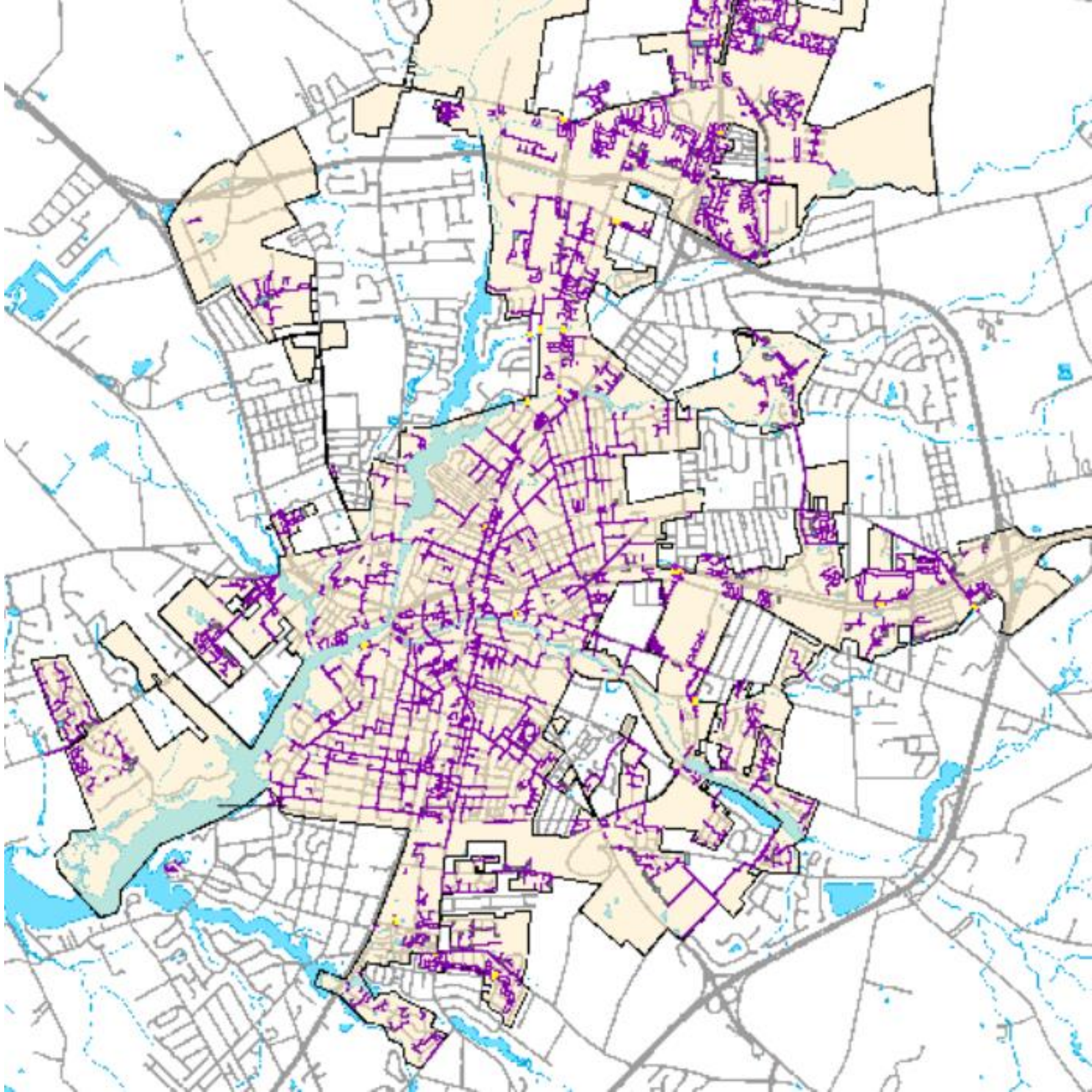
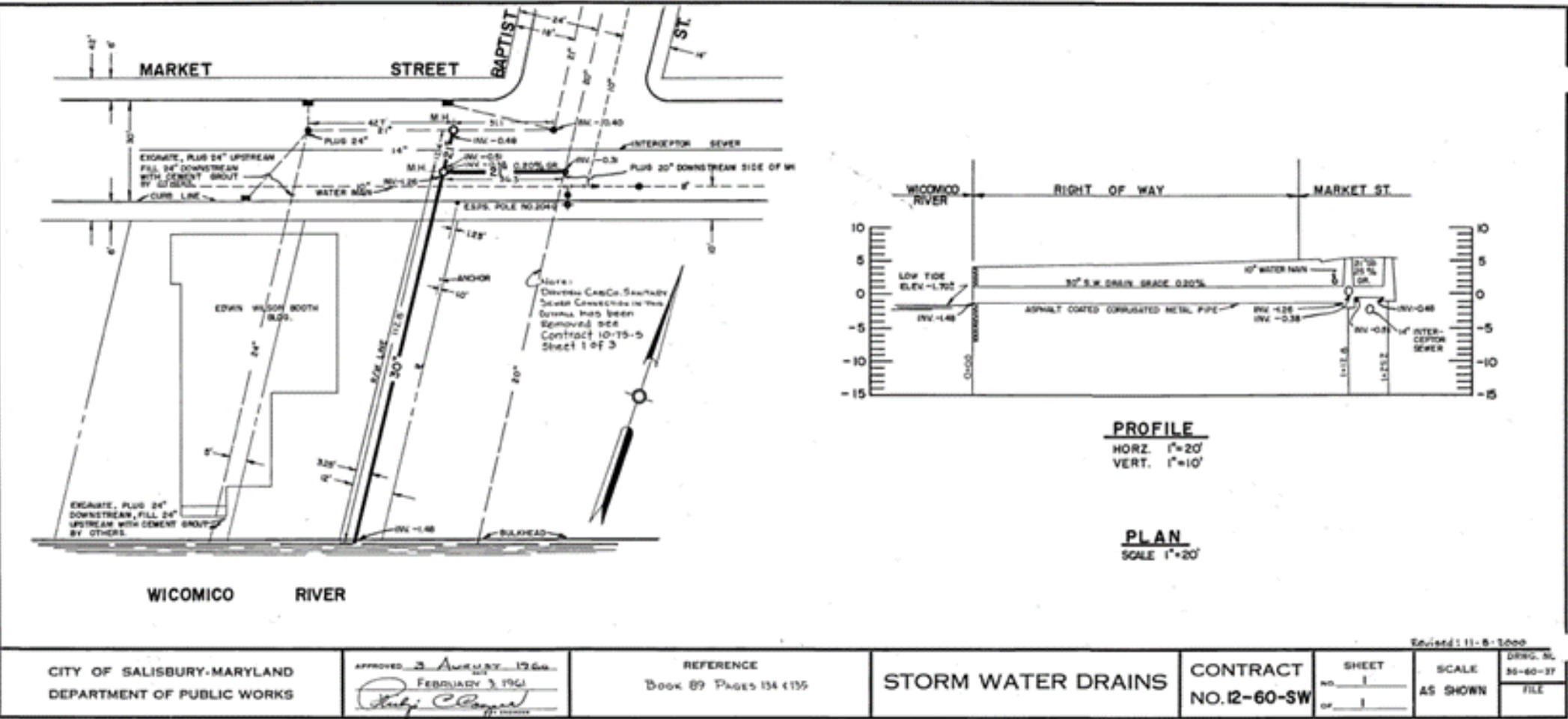
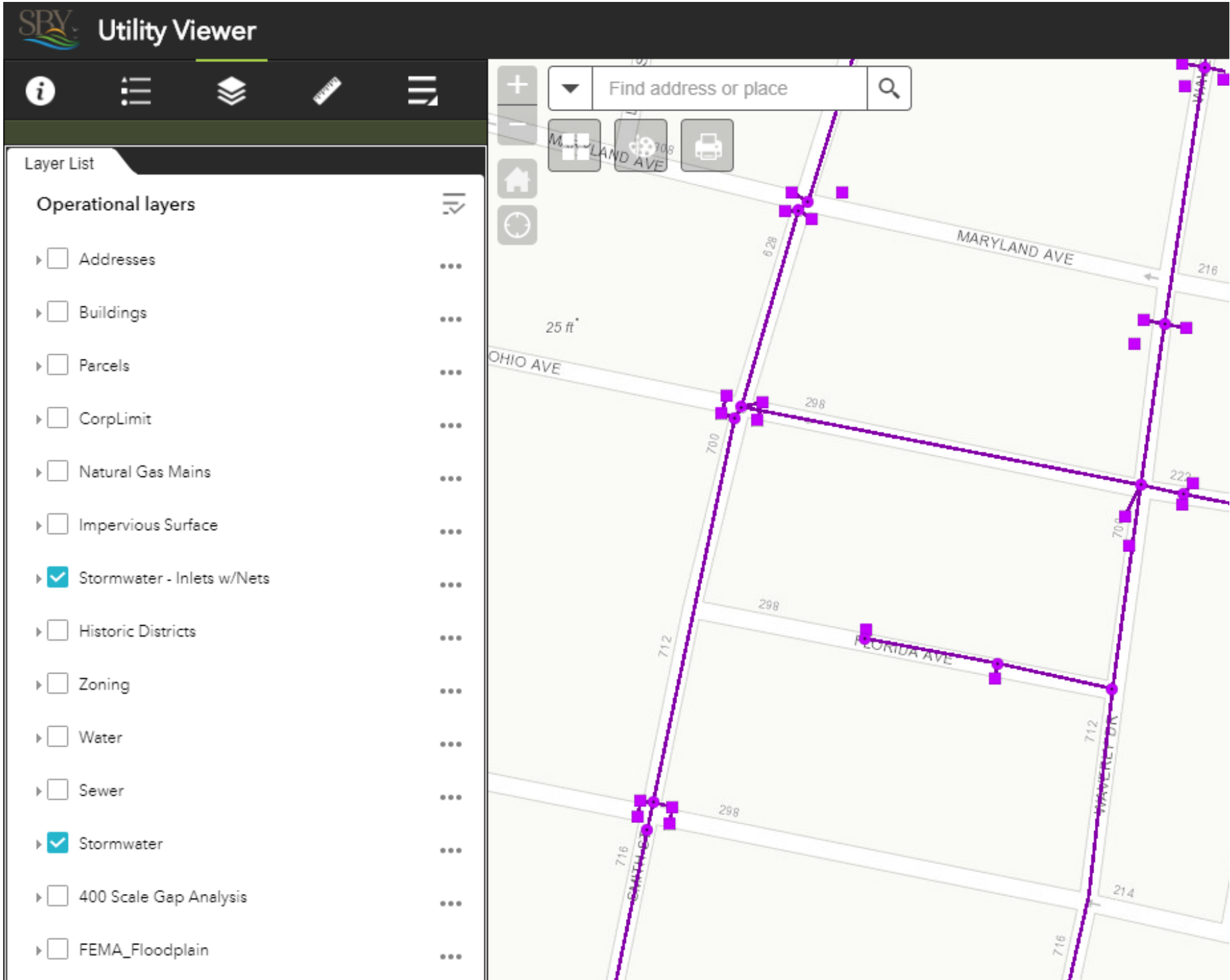
Less flooding, less property damage, less trash.



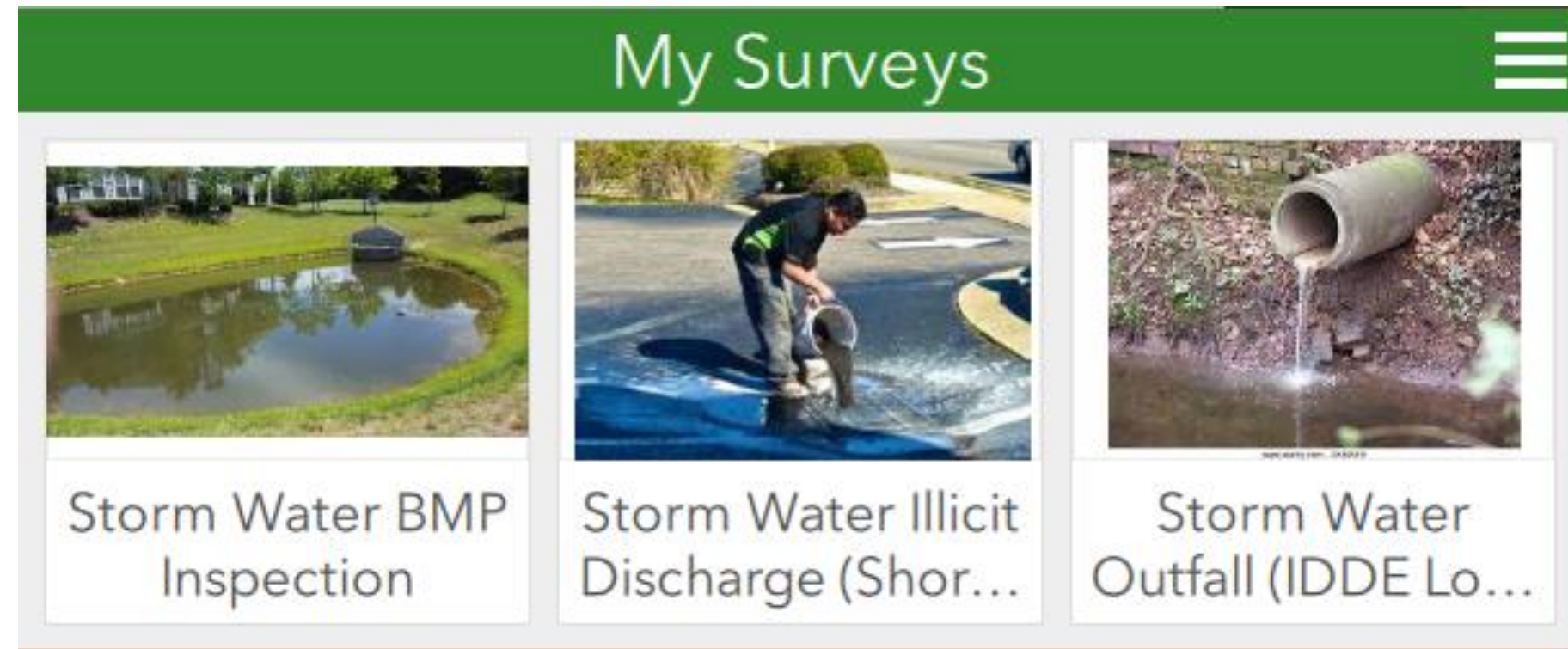
Cleaner water in our river, creeks and ponds.



GIS Development



GIS Development – Collector Apps



ESRI Collector and Survey 123 Applications

- Web Based
- User Definable and User Friendly
- Web or Desktop Capable
- IOS or Windows Compatible
- Map Based
- Linked to database
- Can embed Survey 123 to create form based attachment to a Feature

Survey123 for ArcGIS

Storm Water BMP Inspection

1. VEGETATION CONDITION

A. Embankment slopes & reservoir bottom completely covered with live vegetation:

B. Grass cut (or crown vetch uncut):

C. Embankment erosion occurring:

☐ Acceptable
☐ Not Complete
☐ See "Comments" for explanation
☐ Not Acceptable
☐ Not Applicable

D. Thistle, multiflora rose, noxious weeds, etc:

☒

Survey123 for ArcGIS

Storm Water Outfall (IDDE Long Form)

▼ Outfall

Outfall Dimensions (inches):

Outfall Shape:

Outfall Type:

Flow Observed:

☐ Yes
☐ No

Land Use:

Structural Condition:

☒

Additional Partnerships

Lessons Learned: We cannot do this alone!

In addition to our Stormwater Support Contract partners, we have utilized partnerships to help with MCMs

- City Departments (GIS, Field Operations)
- Chamber of Commerce (clean up days)
- Local watershed groups
- Volunteer Groups (corporate, churches)

Field Operations Department:

- Performs weekly Street Sweeping
- Cleans inlets
- Empties inlet nets
- Maintains BMPs



City's Green Team (Sustainability Committee)

- Staffs tables at Events (Earth Day, 3rd Friday)
- Rain Barrel giveaways



Partnerships – Volunteer Groups

- City purchases inlet markers (500 @ \$2.60/each = \$1,300)
- City provides buckets with adhesive, brushes, gloves, markers
- City provides a map of inlets in a neighborhood
- Volunteer groups install the inlet markers



Partnerships – Healthy Waters Round Table

- Supporting Partners: Chesapeake Bay Foundation, Eastern Shore Land Conservancy, Harry R. Hughes Center for Agro-Ecology, and the University of Maryland Sea Grant Extension
- Identified Priority Actions (2015): Funding, BMP Tracking & Reporting, Sewer Extensions, Circuit Rider, Clearinghouse for information, BMP Maintenance



Maryland
Department of
the Environment



Regional Watershed Manager (2018)

- Grant from National Fish and Wildlife Federation
- Funding support and partnership with MDE
- Serving 6 jurisdictions: Queen Anne's County, Talbot County, Oxford, Easton, Cambridge and Salisbury

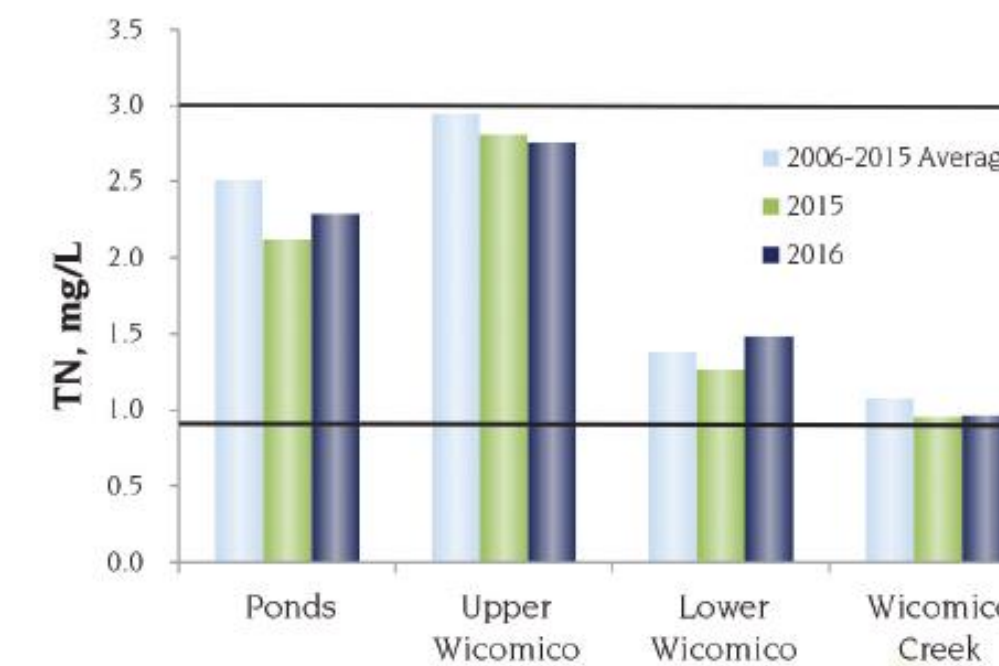
Partnerships – Creekwatchers and WET



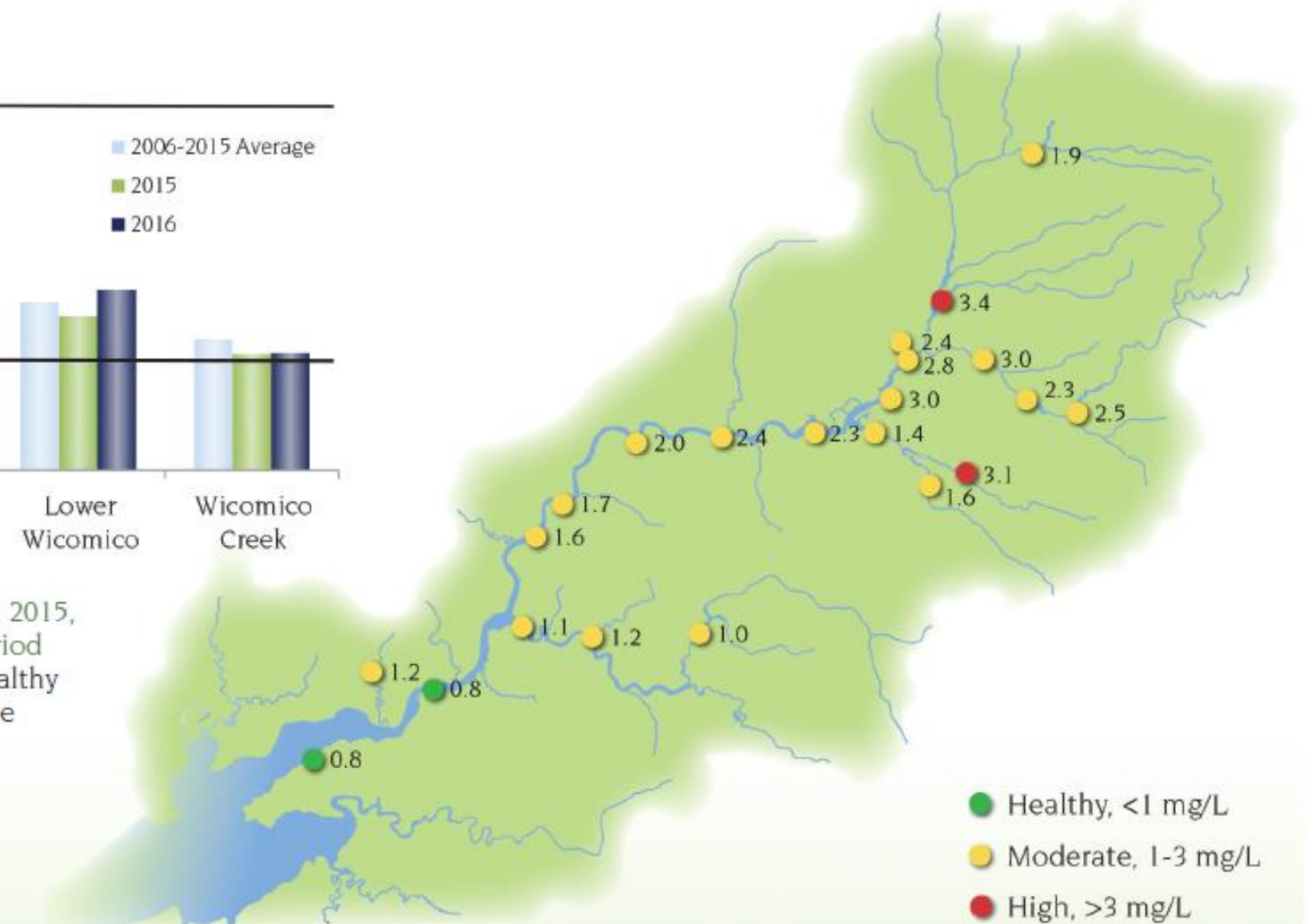
wicomico CREEKWATCHERS



NUTRIENT LEVELS, 2016



Total Nitrogen (TN) for 2016, 2015, and the previous 10-year period. Solid black lines indicate healthy (below 1 mg/L) and moderate (1 to 3 mg/L) values.



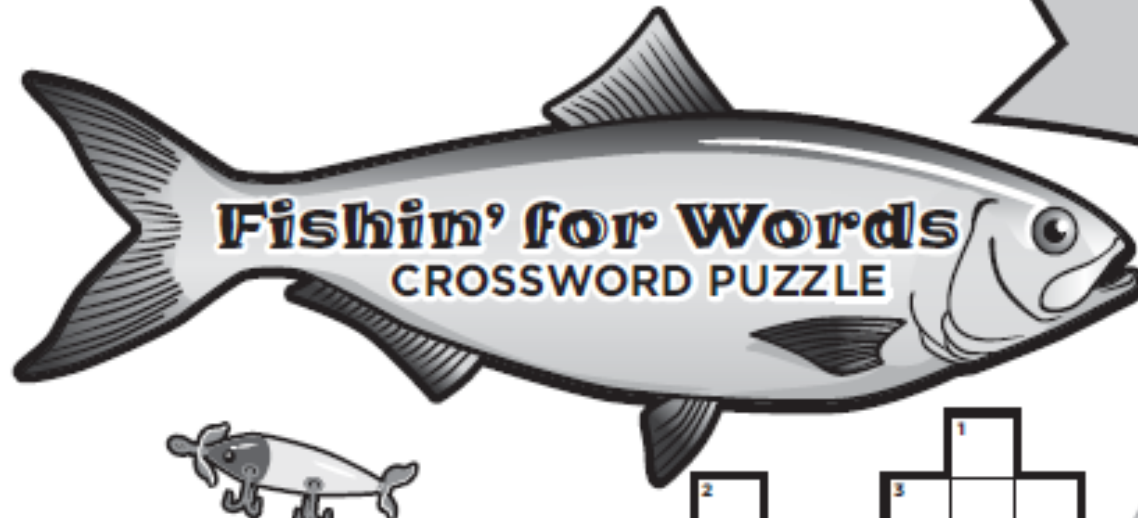
Total nitrogen (TN) yearly averages in the Ponds and Lower Wicomico increased in 2016, and Wicomico Creek and the Upper River segments remained about the same as in 2015. Individual site annual averages were mixed, with healthy sites declining from 6 to 2, and high - N sites dropping from 4 to 2 compared with 2014 averages.

Partnerships – Nanticoke Watershed Alliance

Explore the

Chesapeake Watershed

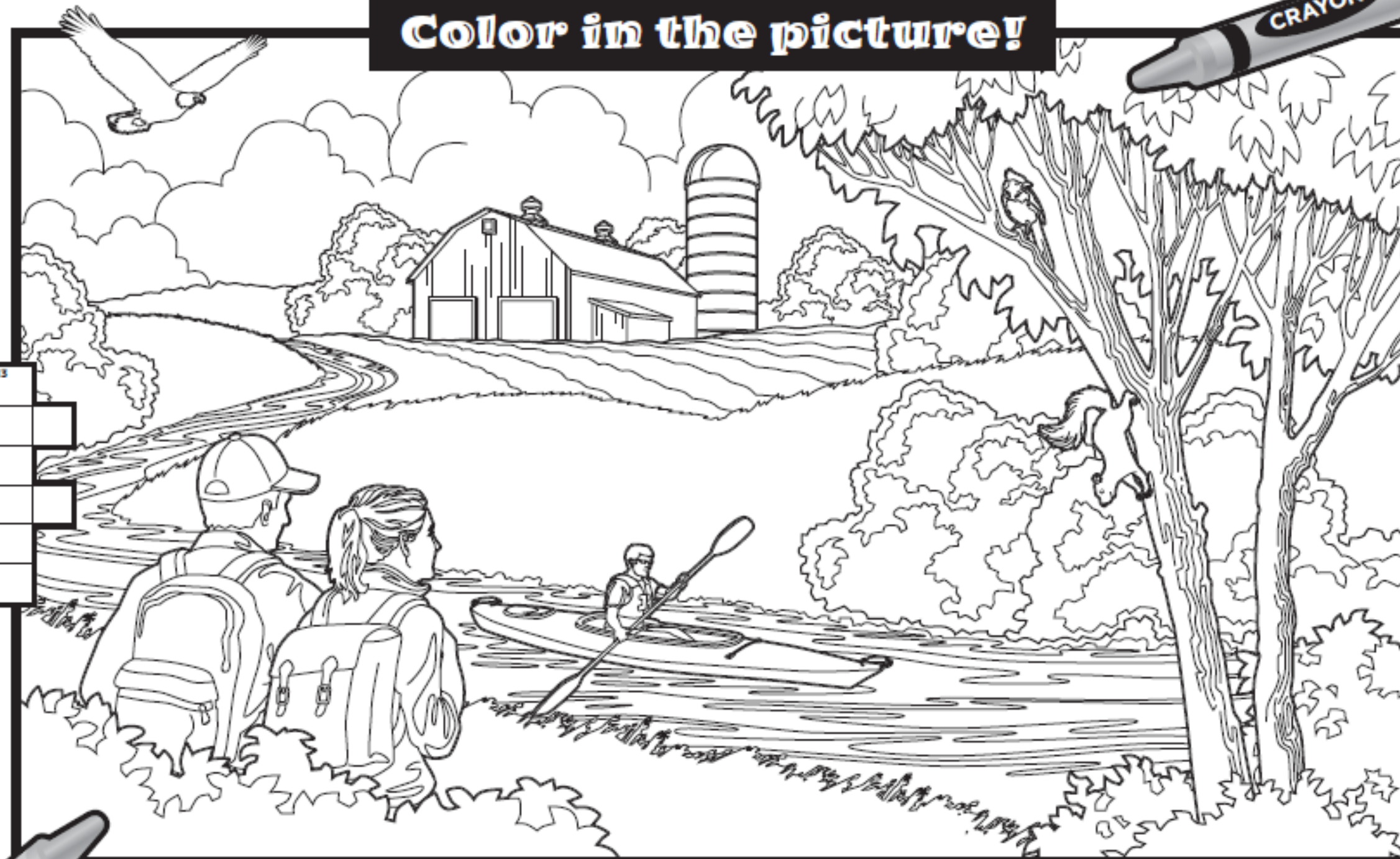
with Fun & Games



Fishin' for Words
CROSSWORD PUZZLE

Show us your artwork!
Take a picture and post it on facebook
Nanticoke Watershed Alliance
www.facebook.com/NanticokeRiver
Or email us at
nantickewatershed@gmail.com

Color in the picture!



ACROSS



3. Sail on the Chesapeake ____.
4. Plant a ____ on arbor day.
7. Visit stops on the Under-ground ____.
8. Pick up after your ____.
9. Give a hoot, don't ____!
14. You need ____ water to survive.
15. ____ at a river cleanup.
16. Reuse ____ with a rain barrel.
18. Eagles, falcons, and wrens are all ____.
19. Nanticoke, Wicomico, and Choptank are all ____.
21. Bald ____ are no longer endangered species.
22. Shad, sturgeon, and bass are all ____.


DOWN

1. Fix leaky faucets to save ____.
2. Take a ride on the Woodland ____.
5. The local Native American tribe that the river is named after.
6. ____ kitchen & yard waste.
10. Use nontoxic ____ supplies in your home.
11. Only ____ in the storm drain.
12. Don't be a litter ____!
13. Let some of your lawn grow into a ____ for birds and animals.
17. Reduce, reuse, and ____.
20. Blue ____ are yummy.




S.P.O.T the D.I.F.F.E.R.E.N.C.E.S

Can you spot the 10 differences between these two blue crabs?



SPONSORS:

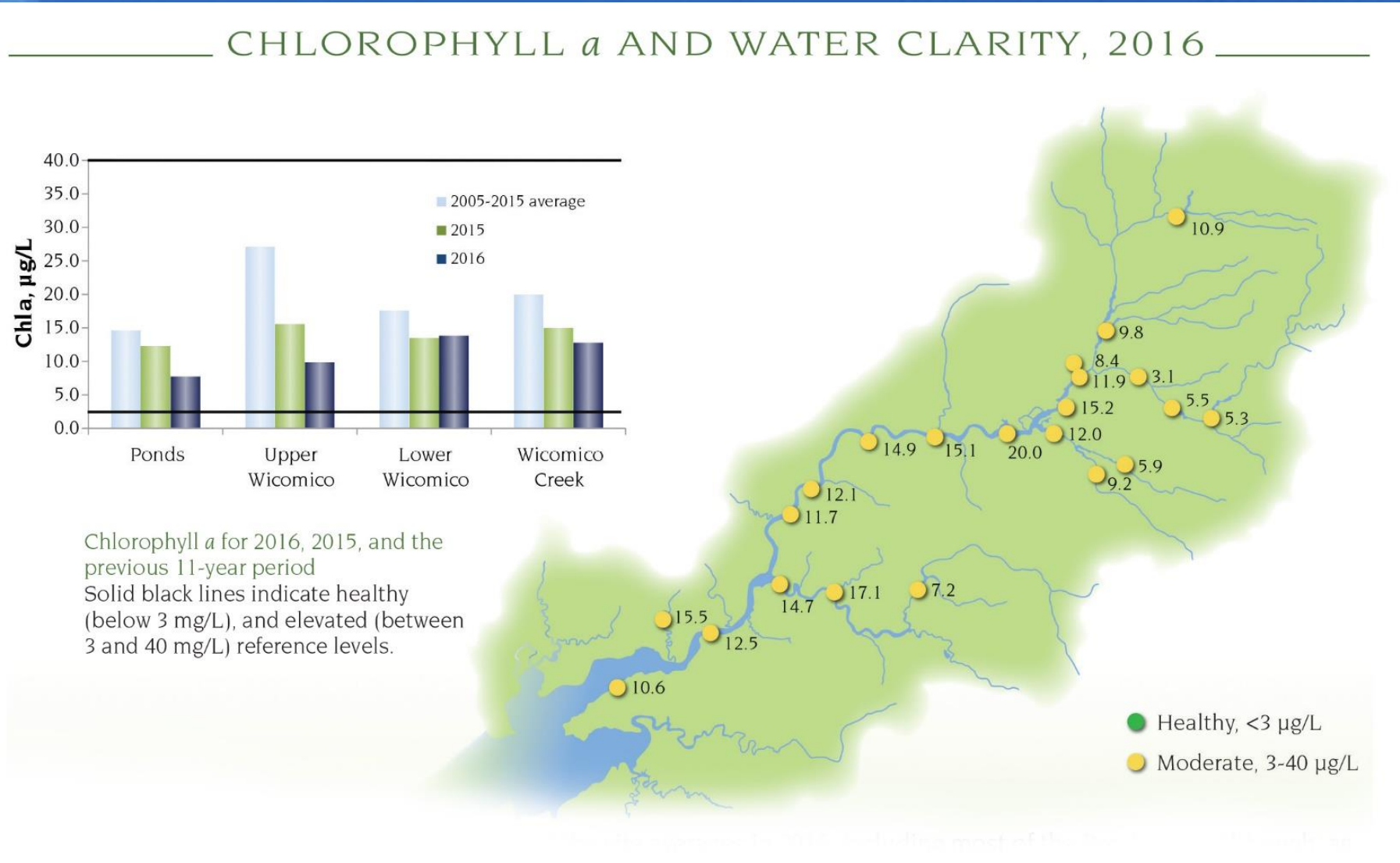




Implementation Barrier: Funding

- Total project costs >\$10M
- Engineering design fully funded first
- Three phases of construction
- Construction Administration and Inspection
- Multi-year funding; numerous budget cycles
 - Requires ongoing Mayor and Council support
 - Grants vary by phase



- Funding Sources
 - City bonds (>\$8.6M)
 - State of Maryland Revitalization Capital Project (\$1,000,000)
 - Green Streets Grant (\$75,000)
 - Community Legacy Grant (\$100,000)
 - MD Broadband Agreement (\$200,000)



wicomico
CREEKWATCHERS



WALK!
Salisbury





A wide-angle photograph of a park pond. In the foreground, a low concrete wall with a waterfall cascades over it. Several ducks are swimming in the pond, and a single wooden post stands in the water. In the background, a white bridge with multiple arches spans the pond. The surrounding area is lush with green trees and grass. A semi-transparent grey box on the right side of the image contains white text.

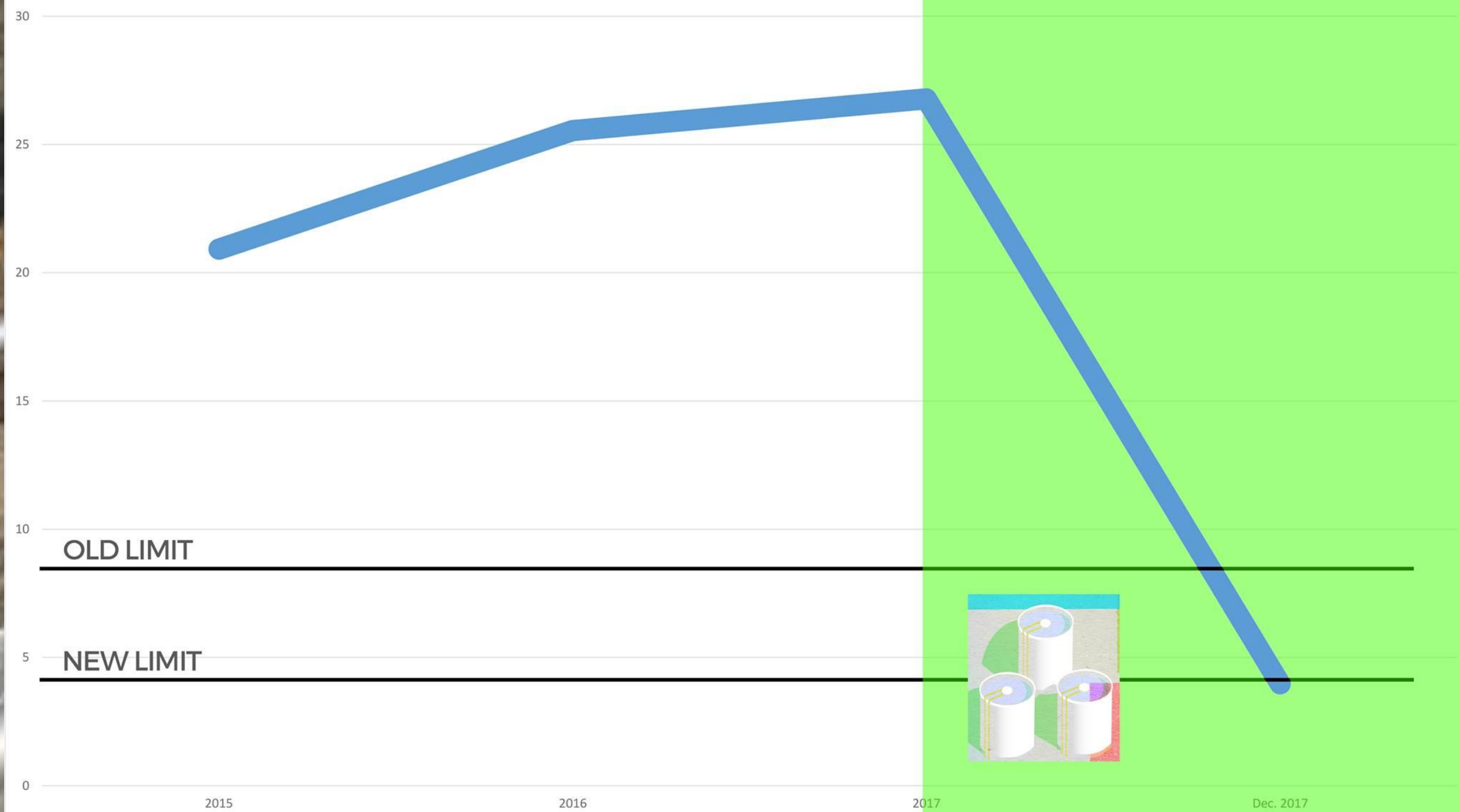
Benches and trash
cans

Shoreline cleanup

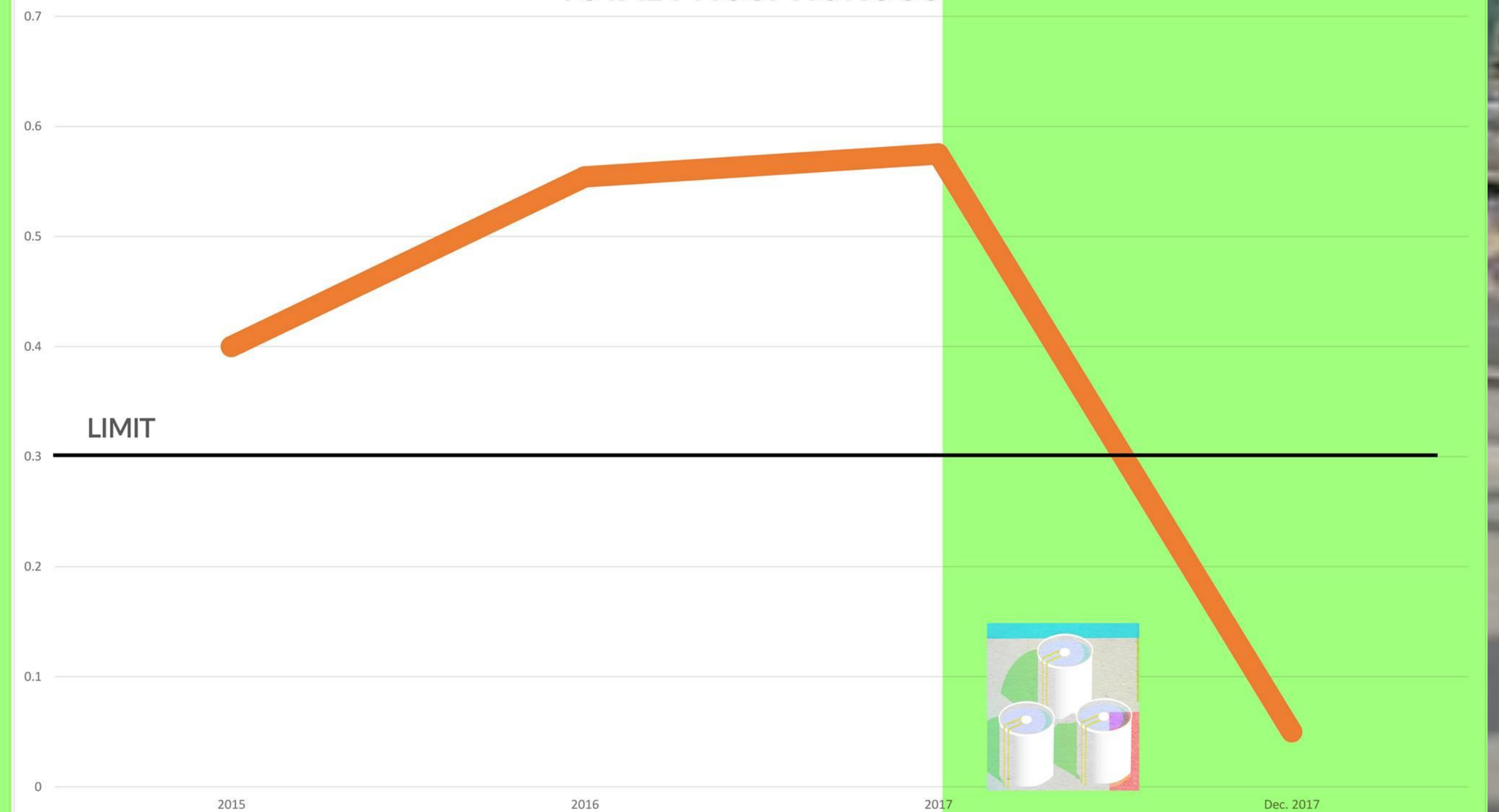
Expanded parking for
Ben's Red Swings and
the Zoo



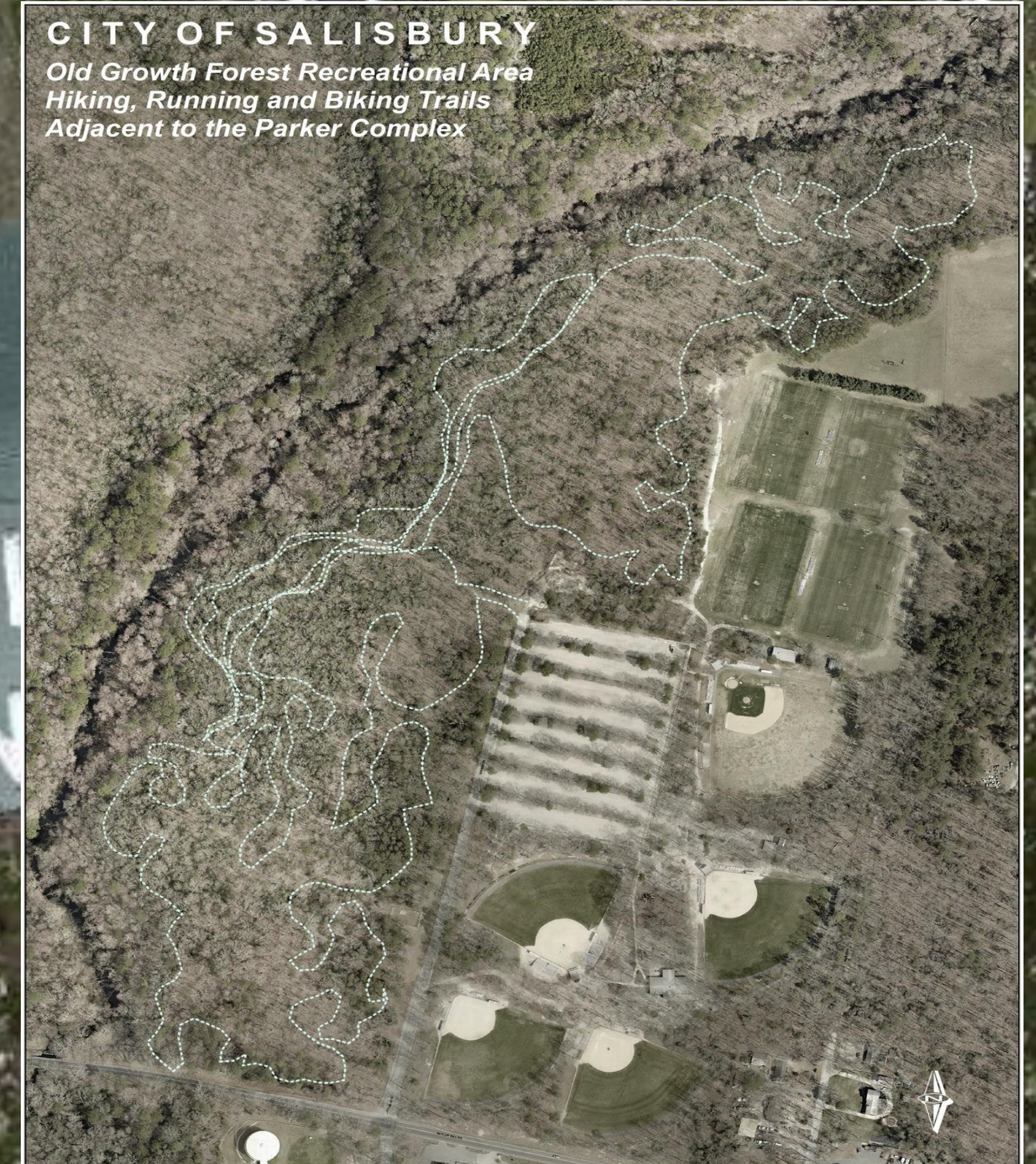
TOTAL NITROGEN



TOTAL PHOSPHOROUS



the largest conservation easement in any municipality in the state of Maryland





132 tons so far this
year!

www.salisbury.md/services/recycling







Alyssa Massey
Sustainability
Coordinator

Implementation Barrier: Construction Issues

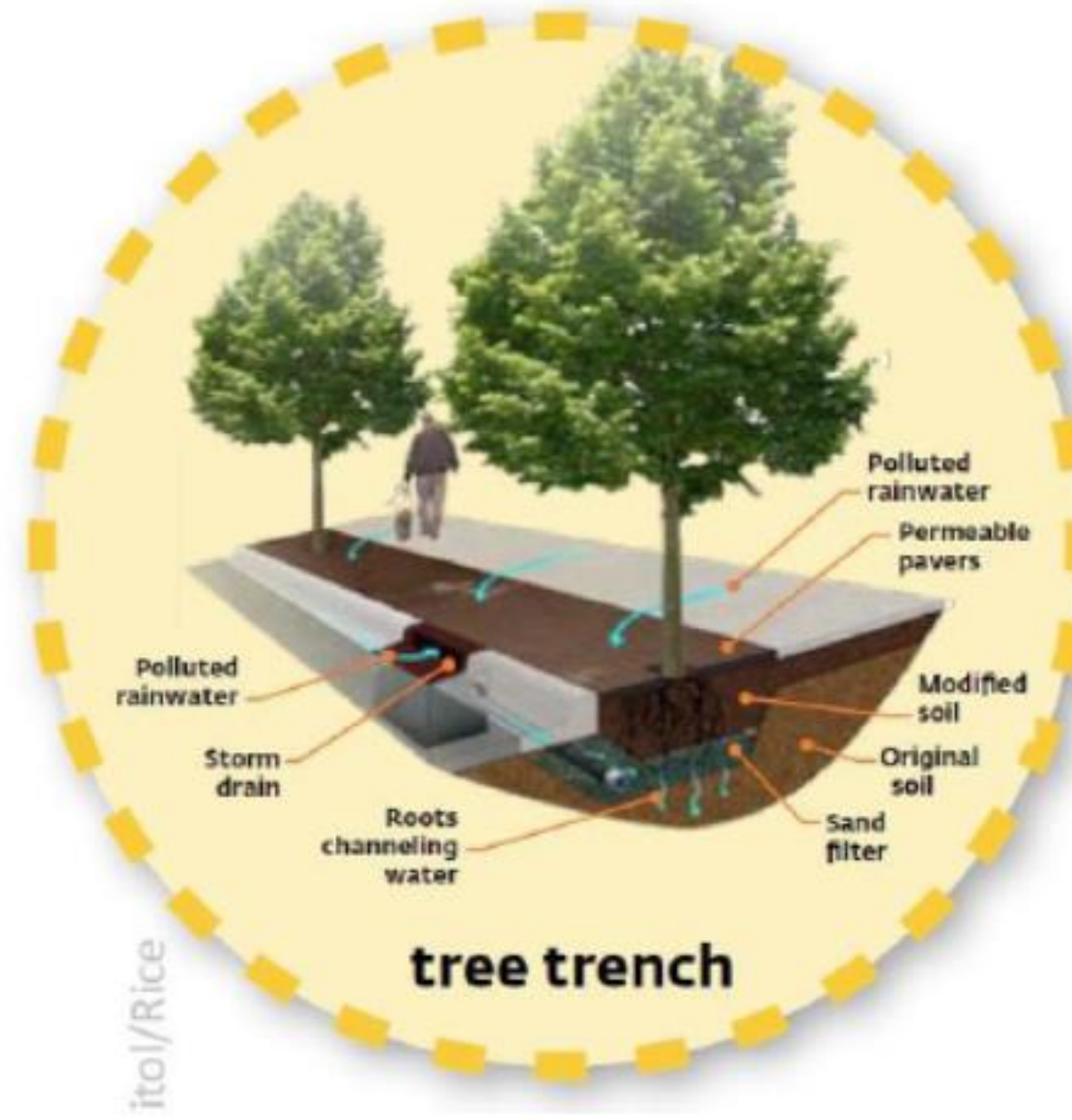


- Soil Contamination
- Unforeseen underground conflicts
- Old Utilities, valves
- Temporary Street lights
- Lack of contractor performance



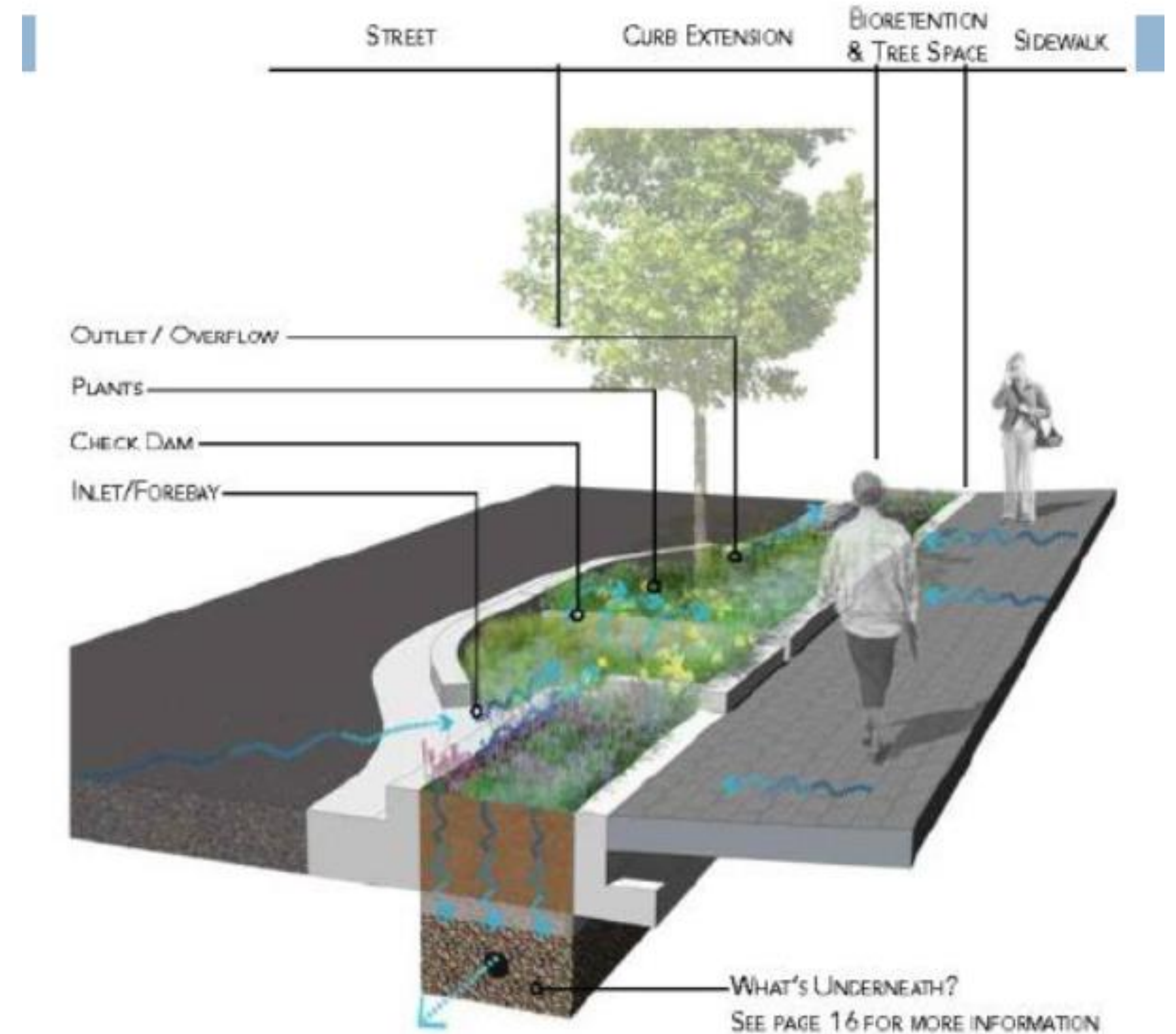
Implementation Barrier: Tree Removal

- Removed 62 existing trees of various size and species
 - Root upheaval of sidewalk
 - Blocking face of buildings
- Planted 107 street trees, smaller caliper, native species
 - Porous pavers over roots
 - Planting soils, tree trench



Implementation Opportunities to overcome the barriers

- Environmental Benefits
- Bioretention Areas/Stormwater Management
- Porous pavers
- Improved Street lights
- Wider Sidewalks, Bike Lanes
- Benches, Trash Cans







The image is a cover for the '2017 Salisbury Bicycle Network Plan'. It features a central blue banner with white text. The year '2017' is written vertically on the left. The title 'Salisbury' is in a large, elegant serif font, and 'BICYCLE NETWORK PLAN' is in a smaller, sans-serif font below it. To the right of the title is the logo for 'ARRO alta PLANNING + DESIGN'. The background of the entire page is a 3D architectural rendering of a city street. It shows a multi-lane road with a dedicated bicycle lane in the center, marked with white arrows and bicycle symbols. Various vehicles are depicted: a blue car, a black car, a green car, a white car, and a red car. A person is shown riding a bicycle in the designated lane. The sidewalks are lined with trees and buildings, creating a realistic urban environment.





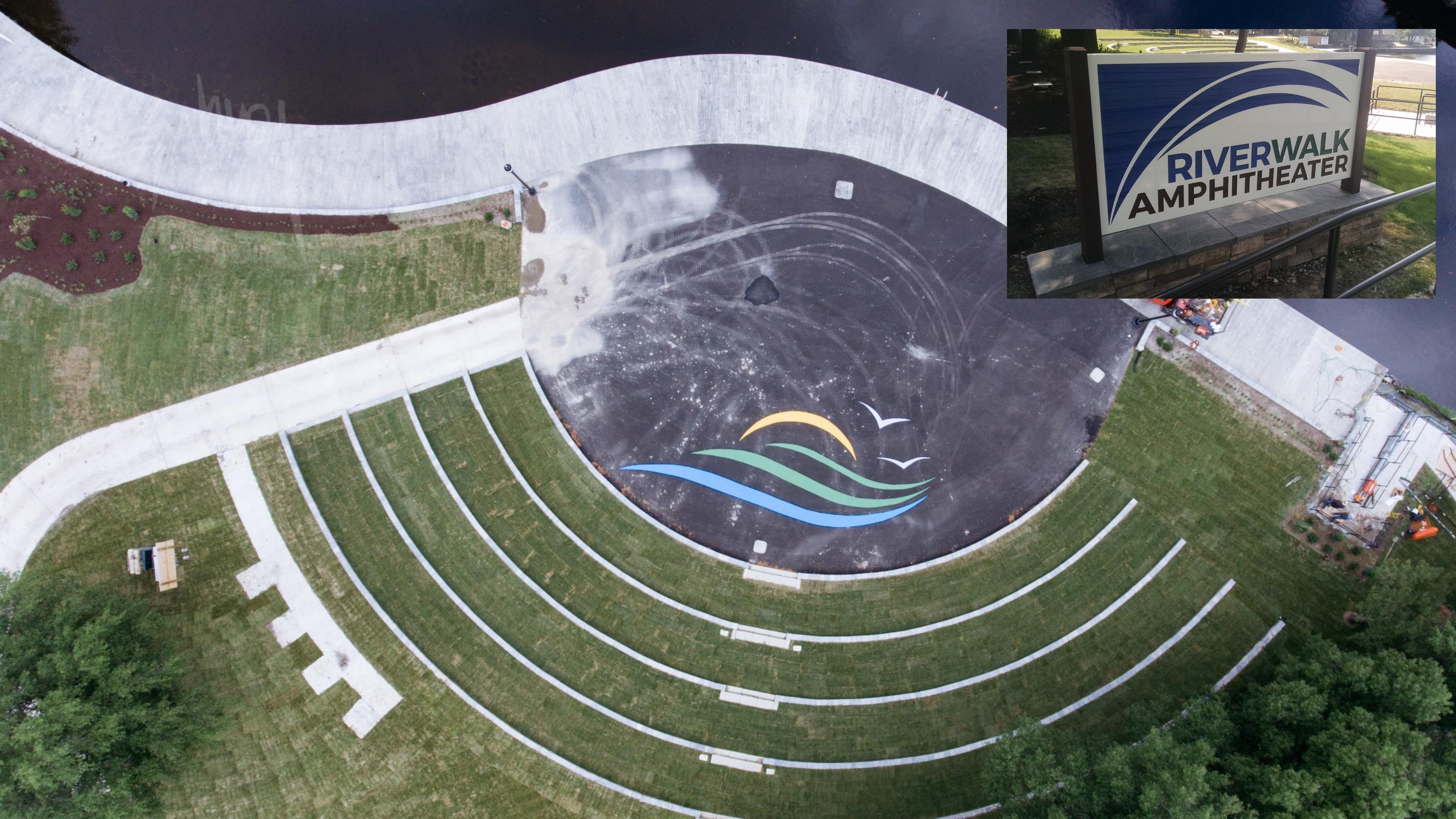




Figure 2.11. Before Photo of Primary Alignment- Segment 5



Figure 2.12. After Photo of Primary Alignment- Segment 5



Figure 2.7. Before Photo of Primary Alignment- Segment 3



Figure 2.8. After Photo of Primary Alignment- Segment 3





136th largest economy in the
U.S.
17% jump in room taxes in 2018
Average home price: up 27% in 2
years

Adding most families making \$50,000+

Median age: 27.2

Fastest growing city in Maryland



Salisbury is Working. Growing

"I have seen on several instances when a business is looking to locate here, or there are business opportunities here, from the City It's always, 'Sure, what can we do?' The Mayor and Council are always available and always very involved - and they have been very helpful. So the City is very responsive, and they also show a tremendous amount of respect and support to my employees. When you're in a room with the Mayor, with the Council, you're just as important as any of the largest businesses in Salisbury."

Katarina Ennerfelt
President & CEO, Toroid Corporation/ARCON Welding

Growing. Building. Working.



\$19.1 Billion
GMP

READY FOR TAKEOFF

SMALLER CITIES POISED TO BECOME POWERHOUSES

