Anne Arundel County Clean Water Program

Our wAAter
Public Advisory Group Meeting

September 3, 2024

1 Introductions & Agenda

Agenda

1. Introductions & Agenda
2. Mayo Tank Replacement Project
3. MAR Policy Outreach

Break

4. Minor Systems
5. Outreach & Closing Remarks

2 Mayo Tank Replacement Project

Mayo Tank Background

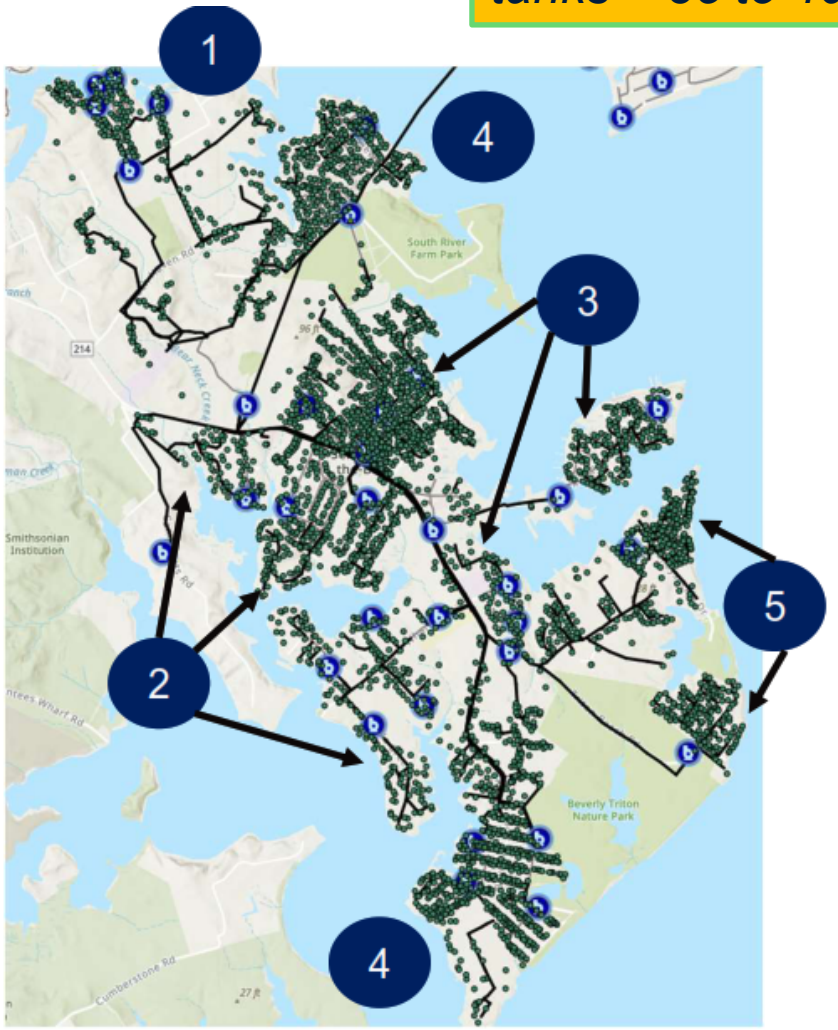
lifespan of fiberglass tanks = 35 to 40 years

Mayo Tanks

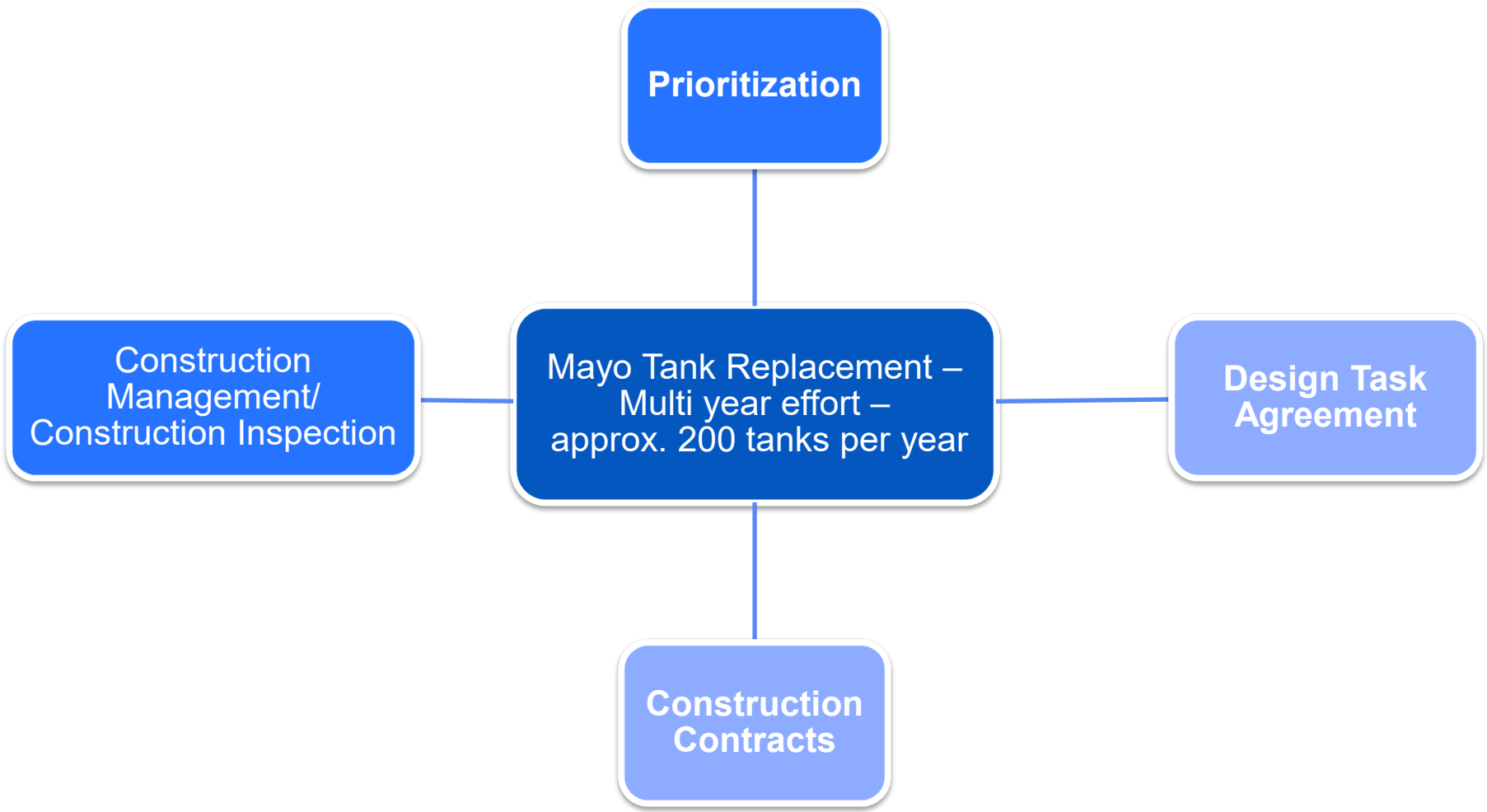
- STEP (septic tank effluent pump) Tanks: 2,224
- Gravity Tanks: 1,125
- Approx 2,000 installed from late 80s to early 90s
- Remaining installed as homes were constructed
- Oldest Tanks are approximately 35 years

Original Phases:

- Phase 1: Glebe Heights, Larkington
- Phase 2: River Club Estates, Holly Hill, Ponder Cove, Carrs Ridge, Germantown
- Phase 3: Selby, Tukey Point, West Shore
- Phase 4: Loch Haven, Beverly Beach
- Phase 5: Shoreham Beach, Saunders Point



Mayo Tank Replacement



Mayo Tank Replacement

Prioritization

- Current: Initial Plan will follow the oldest in – first one out sequence
- Initial Plan was presented

Design Task Agreement

- Current: Consultant Selection Process
- Started in FY25
- First Task: Program Plan

Construction Contracts

- Major materials and Construction Contracts may be separate
- 200 tanks replaced per contract year

Construction Management/ Construction Inspections

- Inspection will be onsite during construction
- POC for residents at the site

Anticipated Public Outreach and Communication Needs

Community	Community Advisory Group	Regulatory Agencies
• Mayo Peninsula • Individual HOA • Individual Residents	• Project plan • Initial issues and challenges • Ongoing issues and challenges	• County • State • Critical Area

Program Challenges/Opportunities

Access/Easement – size of existing perpetual easement not sufficient

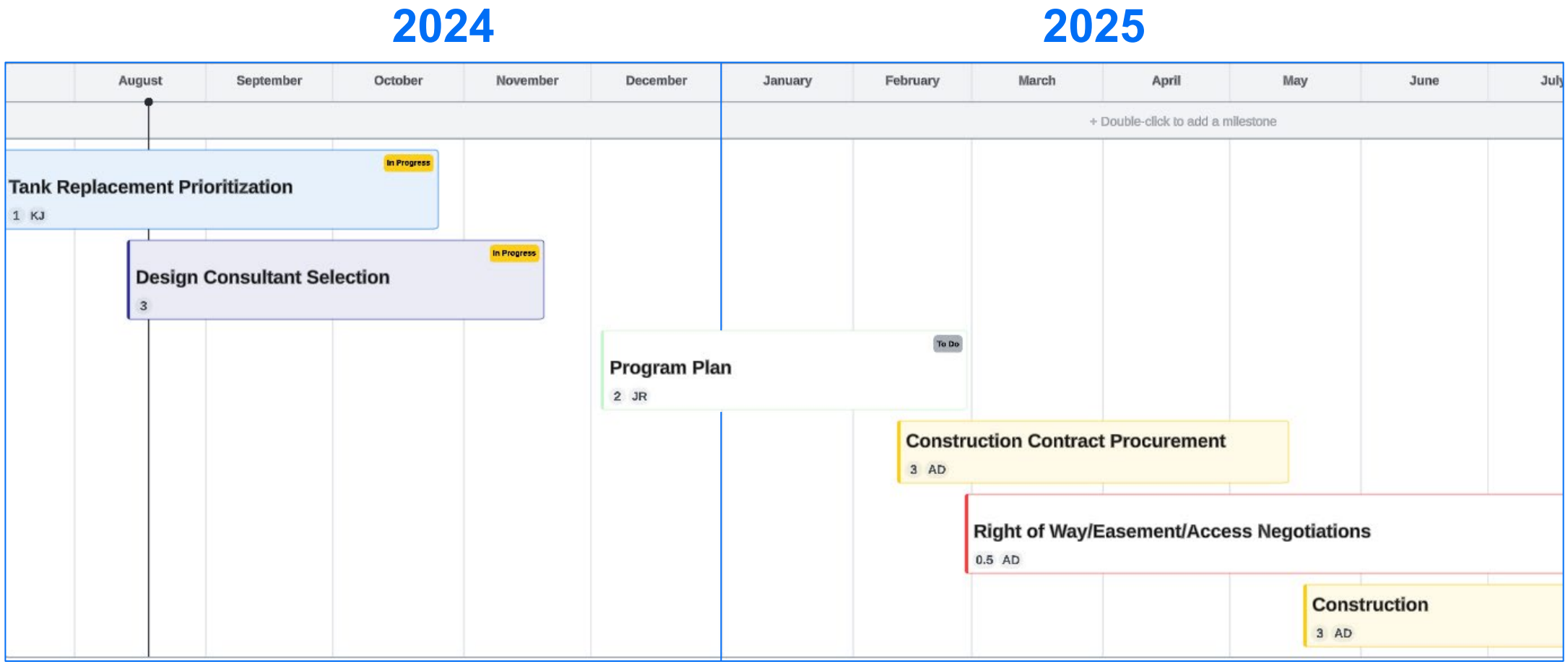
Resident Communication – several communities within the peninsula, will need to employ different ways to communicate,

Construction Mobilization – limited staging areas, narrow streets, construction in private properties, scope of property restoration will differ from property to property

Bypass during installation – demo and installation presents potential impacts that will need to be planned for to avoid service disruption

Avoid Critical Community needs - such as bus stops, dead end roads, access to community center/beach

Anticipated Program Timeline



DPW&YOU

3 MAR Legislation

MAR and the Our wAAter Program

DPW has initiated an applied scientific research program for Managed Aquifer Recharge as a part of the Our wAAter Program.

5 Initiatives I One Strategy

Legislation Desired Approach

- Authorize MDE to allow for **limited demonstration** including treatment and underground injection
- Meet all existing and proposed primary and secondary **drinking water standards**
- Demonstrate pathogen removal consistent with other State indirect potable reuse regulations
- Allow for use of proven technologies for meeting the above goals, **including non-membrane treatment systems**
- Establish requirements for allowing underground injection and monitoring

Demonstration Outcomes

- Provide objective data to confirm approach
- Inform future legislation and regulations
- Limiting negative impacts to existing aquifers while achieving overall net positive environmental impacts

Next Steps

- Review pilot operational data, agree on performance objectives and critical control points
- Develop consensus on number of monitoring wells, aquifer injection testing, and confirmation of testing plan
- Introduce new legislation to allow for limited demonstration of advanced water treatment and underground injection Demonstration Facilities
- Expand regional groundwater modeling - AACo has been advocating for the development of a regional groundwater model

Approach to Treatment Validation

2019

- WRF Effluent Characterization
- Treatment Process Evaluation
- Pilot Plan Development and Procurement
- Pilot Operation and Data Review
- Demonstration Facility Engineering and Permitting
- Demonstration Facility Construction
- Demonstration Facility Operation and Data Review

2028

Building a Community of Support

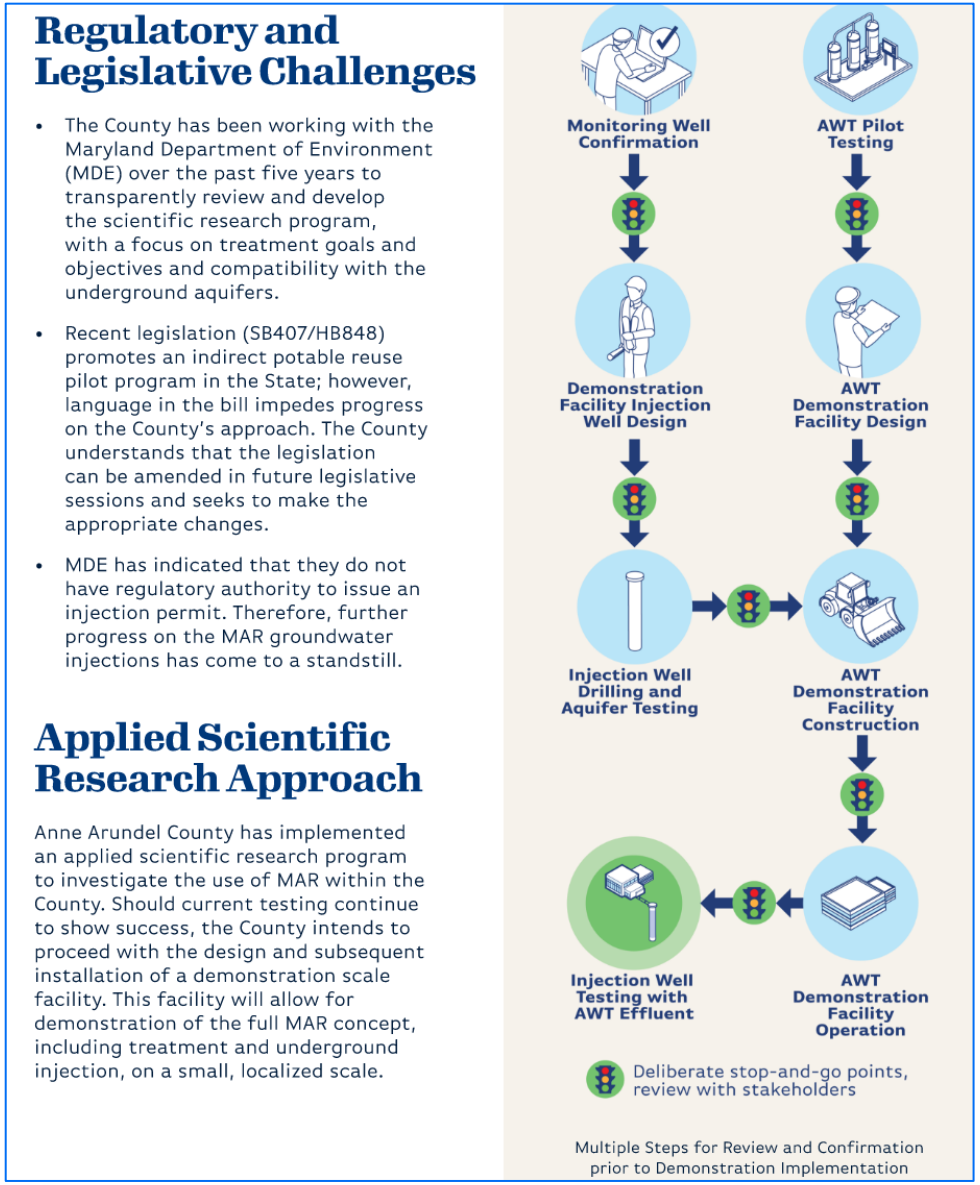
Identify Supporters	Request Support	Update Outreach Materials	Legislative Briefings
• Early supporters • Likely supporters • Other supportive actors	• Email and phone requests • Maintain consistent communication	• Fact sheets *(1 page for legislators, 4 page for details)* • OurwAAter website	• County legislative staff • Elected officials • EPA Office of Chesapeake Bay • MDE and DNR

Public Outreach to Date

- NACWA
- CWEA Water Reuse attendees
- Mid-Atlantic utilities conference attendees
- CBF
- Our wAAter Public Advisory Group
- Patuxent Riverkeeper
- Arundel Rivers staff
- Magothy and Severn Riverkeepers
- County Executive
- MDE Secretary
- Watershed Stewards Academy staff
- Regional Health Dept Directors
- Resilience Authority
- SERC Public Engagement Tour
- Philadelphia Water
- Department of Natural Resources
- Septic to Sewer Community Meetings – Chestnut Hill, Crain West, Gingerville Manor, Glen Eden/Indian Hills, Popular Point, Ulmstead Estates, Oak Court
- 5 River Days events
- DPW Outreach Day
- Environmental Youth Summit
- Pilot Tours
- 2 Public Advisory Group Meetings

Factsheet Review

- Emphasize desired legislative outcomes on the first page
- Explains definition and reasons to pursue MAR
- Regulatory and legislative challenges
- Emphasize small scale demonstration facility
- Outline potential legislative approach



Regulatory and Legislative Challenges

- The County has been working with the Maryland Department of Environment (MDE) over the past five years to transparently review and develop the scientific research program, with a focus on treatment goals and objectives and compatibility with the underground aquifers.
- Recent legislation (SB407/HB848) promotes an indirect potable reuse pilot program in the State; however, language in the bill impedes progress on the County's approach. The County understands that the legislation can be amended in future legislative sessions and seeks to make the appropriate changes.
- MDE has indicated that they do not have regulatory authority to issue an injection permit. Therefore, further progress on the MAR groundwater injections has come to a standstill.

Applied Scientific Research Approach

Anne Arundel County has implemented an applied scientific research program to investigate the use of MAR within the County. Should current testing continue to show success, the County intends to proceed with the design and subsequent installation of a demonstration scale facility. This facility will allow for demonstration of the full MAR concept, including treatment and underground injection, on a small, localized scale.

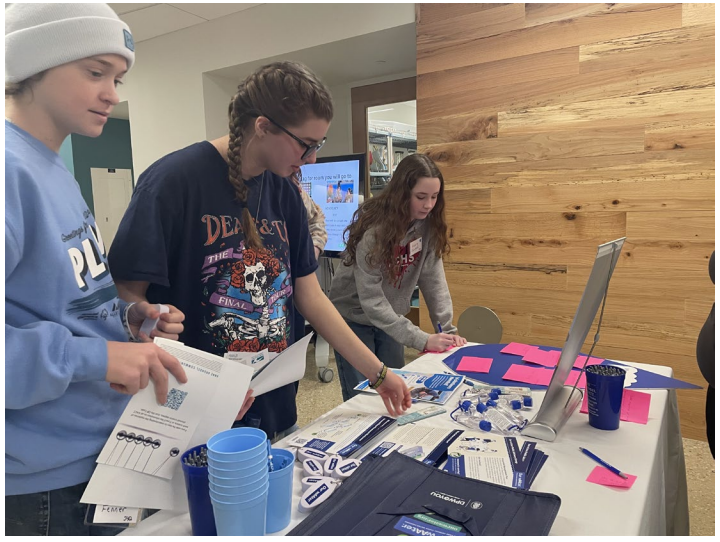
MAR Benefits

- Strengthens the aquifer (drinking water resources)
- Reduces nutrient discharge to the Chesapeake Bay
- May counteract saltwater intrusion
- May mitigate land subsidence

Risk Mitigation Strategies

RISK	MITIGATION STRATEGY
Chemical interaction of finished water with native geology	County established an independent science advisory panel of with reuse experience and expertise.
Emerging contaminants	County is monitoring effluent quality from the AWT pilot plant to understand presences and removal Currently meeting all drinking water MCLs County is performing rapid small-scale tests to understand how to make progress on difficult to remove compounds – will expand on separate slide

Break – 5 minutes



4 Minor Systems

Minor Systems

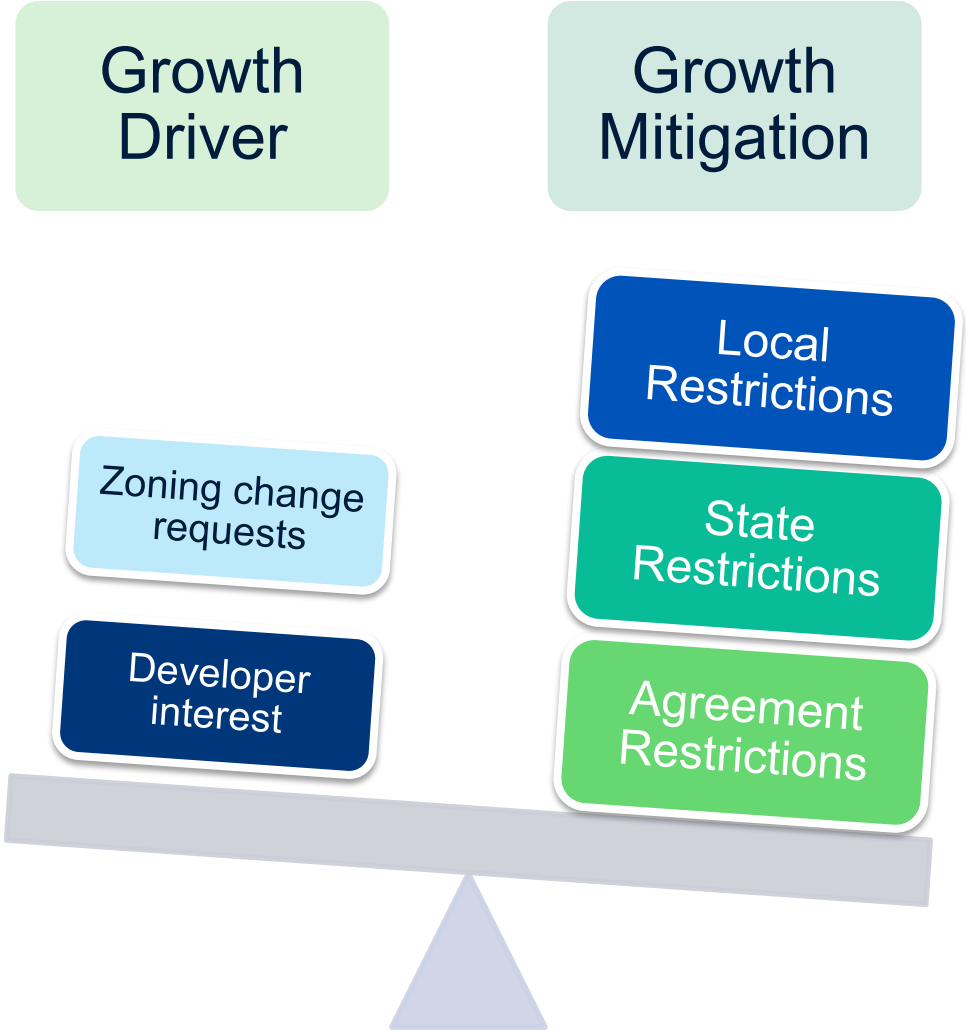
Land Use Considerations

- Current growth potential
- Future requests for zoning changes
- Coordination with Stakeholder Advisory Committees to continue through 2025

Potential Strategies

- Attempt to keep alignments out of public right of way
- Denied access infrastructure for any assets in public right of way
- Terms in takeover agreement that provide limitations on the land use.

Land Use Considerations



Local Restrictions

- Limited growth potential per zoning
- Precedent for denied access utilities
- Ex. MHP were allowed through exception process

State Restrictions

- Growth Tier IV - Areas not planned for sewerage service and which are planned or zoned for land, agricultural, or resource protection, preservation or conservation
- Bay Restoration Fund – Funding is not intended to support growth; areas would need special exceptions for funding
- MD Dept. of Planning – Would not support connections of areas designated as no planned service

Agreement Restrictions

- Conditions could be placed on the land use as part of the terms and conditions in any agreement

Affordability Challenges

Long term affordability of the program presents several key challenges

- **DPW user rates** - If the residents pay current standard County sewer rates, the revenue generated would be much less than the estimated operations and maintenance costs. Absorbed costs would strain the Utility Fund's current rate structure.
- **Resident Affordability** - Current tenants of the properties pay for water and sewer service through rent owed to the property owners. Significant increases in the living expenses of the current residents may impact the ability of some residents to remain in their homes.
- **Maintaining Affordable Housing** – A cessation of operations due to financial instability could impact the availability of these housing options for residents.

Total Preliminary Cost Estimates

MHP	O&M	Capital		
		Total	BRF Grant	"Other"*
Boone's + Patuxent	$608,000	$13,950,000	$10,462,500	$3,487,500
Lyons Creek	$425,000	$8,420,000	$6,315,000	$2,105,000
MD Manor	$445,000	$8,640,000	$6,480,000	$2,160,000
Summerhill	$233,000	$6,950,000	$5,212,500	$1,737,500
Waysons	$428,000	$8,020,000	$6,015,000	$2,005,000
Totals	$2,139,000	$45,980,000	$34,485,000	$11,495,000

* Other = Total less BRF grant, assumed at 75%

Funding Gaps

MHP	O&M Analysis			Debt Service Analysis			Total
	Annual O&M	User Rate Revenue	O&M Cost Gap	Annual Debt Service	EPF Revenue	Annual DSF Gap	
Boone's + Patuxent	$608,000	$160,200	**$447,900**	$226,900	$56,100	**$170,800**	$618,700
Lyons Creek	$425,000	$67,900	**$357,100**	$136,900	$23,800	**$113,100**	$470,200
MD Manor	$445,000	$70,600	**$374,400**	$140,500	$24,700	**$115,800**	$490,200
Summerhill	$233,000	$40,800	**$192,300**	$113,000	$14,300	**$98,700**	$291,000
Waysons	$428,000	$76,000	**$352,000**	$130,500	$26,600	**$103,900**	$455,900
Totals	$2,139,000	$415,500	**$1,723,700**	$747,800	$145,500	**$602,300**	$2,326,000

- Debt Service assumes 75% of capital costs are BRF and 25% are "other", used in this analysis
- User rate revenue based on $6.06/1000 gallons at 14,000 gal/quarter assessed at 80% (plant only, not collection system
- Costs based on draft cost study

Fund Sources

Utility Fund

- **Water and Sewer Operating Fund:**
  - To cover the cost of operating and maintaining the utility system while maintaining a 2-month operating fund balance. Sewer charges currently set at $6.06/1,000 gallons
- **Debt Service Fund:**
  - To cover the cost of expanding the system and extending useful life
  - Environmental Protection Fee assessed on existing customers (upgrades/useful life)
  - Current assessment is 1.35 surcharge on Sewer charges
  - Funds are dedicated to the Debt Service Fund for capital improvements

Fund Sources

General Fund (GF)

- To cover the cost of police, fire; roads, education, libraries, social service, etc.
- Primary sources of revenue are (1) property taxes and (2) income taxes
- Current property tax rate is **$0.983/$100** assessed value
- Current income tax rate is:
  - 2.81% for income below $75k (joint filers) and over $480k (joint filers)
  - 2.94% for income between $75k and $480k

Watershed Protection and Restoration Fund (WPRF)

- To cover the cost to comply with the NPDES MS4, CB TMDL and Local TMDL's
- Defined as an "excise tax" and assessed based on impervious area

Mobile Home Park (MHP) Owner Funding

- Revenue that could be provided by the owner to offset other County funds

Closing the Gap - Funding Contribution

	FY25 Budget	MHP Operating Gap	MHP Debt Service Gap	Total Gap	MHP/Total Fund %
General Fund (Property Tax)	$920,388,000	$1,723,600	$602,400	$2,326,000	0.25%
General Fund (Income Tax)	$820,294,000	$1,723,600	$602,400	$2,326,000	0.28%
Utility Fund (Operating)	$120,693,200	$1,723,600	n/a	$1,723,600	1.43%
Utility Fund (Debt Service)	$77,825,300	n/a	$602,400	$602,400	0.77%
Watershed Fund	$29,184,500	$1,723,600	$602,400	$2,326,000	7.97%

- Each Fund shown as covering the entire gap

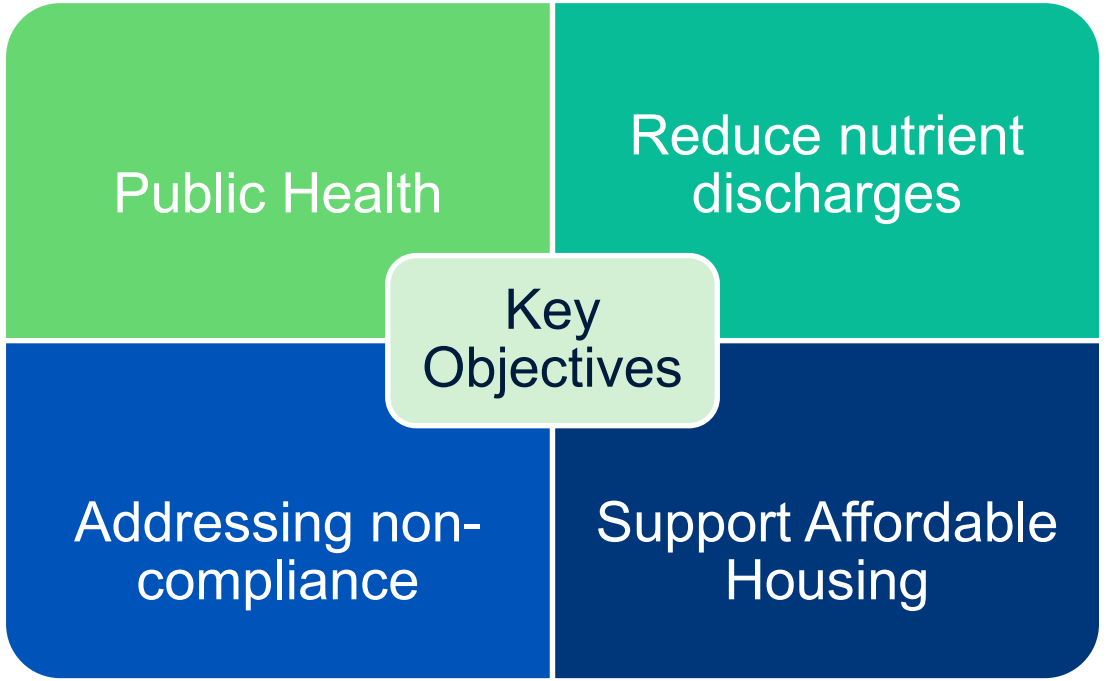
Annual Fiscal Impact to Typical Bill

	Current	Adjusted	Increase
Property Tax	$2,456.00	$2,462.14	$6.14
Income Tax	$2,352.00	$2,358.59	$6.59
Utility Fund			
Utility Fund (Operating)	$339.36	$344.21	$4.85
Utility Fund (EPF)	$118.78	$119.69	$0.91
Total Sewer Utility Bill	$458.14	$463.90	$5.77
Watershed Fund			
Tier 1	$196.80	$212.48	$15.68
Tier 2	$98.40	$106.24	$7.84
Tier 3	$39.36	$42.50	$3.14

- Assumes each fund covers total gap
- Assumes median home value assessment of **$370,100.00;** a median effective property tax rate of **0.66%** of property value at $0.983/$100 assessed
- Assumes per capita annual income of $80,000

Key Objectives

- Public Health
  - Improving water quality at nearby public access points
- Reduce nutrient discharges to support Bay TMDL
- Addressing non-compliance
  - Providing improved service in an underserved community
- Support Affordable Housing
  - Maintains these areas as viable affordable housing options



Mentimeter Activity!

1 On your phone go to:
www.menti.com

Enter code:
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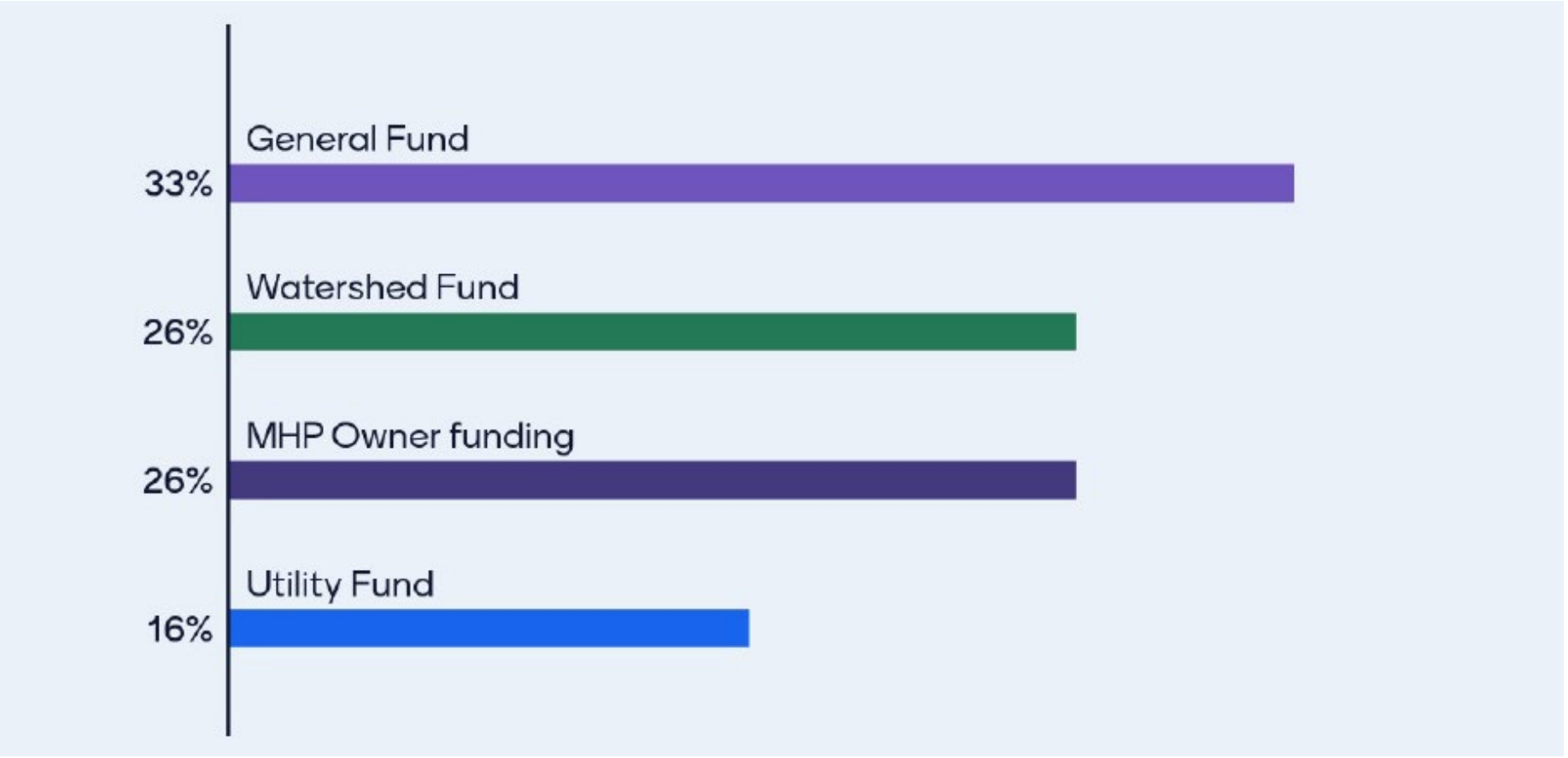
2 Or:
Scan the QR Code

Results from DPW workshop



5 Outreach & Closing Remarks

Our wAAter Website Updates

ourwaater.aacounty.org

River Days

September 14 (Sat)

Fort Smallwood Park

11-3pm

Our wAAter.

THE ANNE ARUNDEL CLEAN WATER PROGRAM

Thank you!