WAC Minutes

Friday, April 14

WAC Members (those present in bold) Wayne Chouinard (chair), Kannan Vembu (vice chair), Craig Allen, Philip Ashcroft, George Atallah, Adrianna Cillo, James Ferrara, Stephen Greene, James Guiod, Taber Keally, Karen Lachmayr, Martin Pillsbury, Alfredo Vargas, Dan Winograd

Guests: Eugene Benson, David White, Gwen Speeth (Arlington/Save Alewife), Cambria Ung, Catherine Woobury, Jim Wilcox (Cambridge DPW), Emily Norton, Jen Ryan, Sarah Traore (CRWA), Susy King, Lisa Dallaire, Joe Nerden, David Butler, Laura Schiffman (MassDEP), Judy Pederson (OMSAP), Lexi Dewey (WSCAC), Don Walker (AECOM), Wendy Robinson

Dave Duest, Steve Cullen, Brian Kubaska, Denise Ellis-Hibbett, Devon Winkler, Shonesia Davis, Meg Tabacsko, Wendy Leo (MWRA)

Staff: Andreae Downs, director

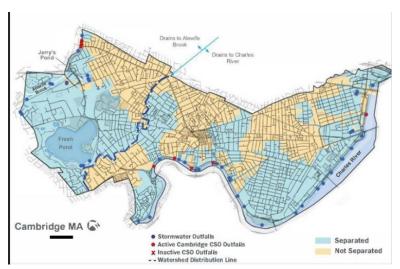
1. PRESENTATION- Cambridge Partial Sewer Separation & Charles River Water Quality

Andreae explained that this presentation looks at the question of why Cambridge DPW and MWRA opted to keep a partial combined sewer in parts of their system in order to improve water quality on the Charles River.

Catherine Woodbury, senior project manager, Cambridge DPW; Jim Wilcox, Cambridge City Engineer, and Assistant Commissioner for Engineering

Cambridge's sewer separation project was in partnership with MWRA.

Overview of Cambridge, stormwater management and details of this project



Cambridge's sewers are 55% separated (blue). Stormwater in those areas goes directly into the rivers. The city sits in two separate watersheds--½ in Alewife/Mystic, rest in Charles. Roughly ½ of the Alewife/Mystic system is separated. Half of the Charles watershed is separated. Cambridge is of the most densely populated cities in the US

Significant, costly CSO work with MWRA. Still trying to reduce CSOs. But Cambridge also needs to reduce nutrients like phosphorus and suspended solids from stormwater discharges as well as sewage.

Stormwater--can be very dirty: phosphorus, nutrients, suspended solids need to be treated before discharge into local water bodies. Besides a permit for combined sewer discharges, Cambridge has an MS4 (municipal separate storm sewer system) permit. So the city needs to treat stormwater before it enters the rivers.

Pollutants of concern named in their MS4 permit: phosphorus, oil and grease, bacteria, solids, metals

Cambridge also experiences more intense localized flooding, and tries to manage for that.

Examples of stormwater management infrastructure:

Alewife stormwater wetland.

480,000 gallon stormwater tank in Central Squares-\$20m+ funded by city and MWRA--this tank diverted 3.5m gallons of stormwater in the wet summer of 2021.

Where possible, Cambridge implements stormwater infiltration.

Also requires private developments to remove 65=100% of phosphorus. Big challenge. Dense city with little open space, clay soils, urban fill, high groundwater. Wetlands and on-site infiltration are not feasible everywhere.

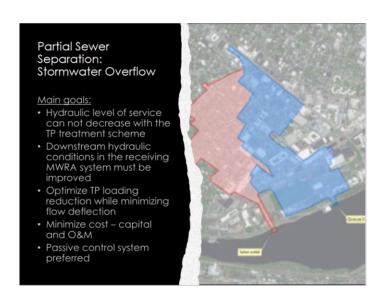


Other control measures: street sweeping, leaf management, cleaning deep sump catch basins. But still have a long way to go to get to the phosphorus control required by MS4.

Partial separation is another tool that can **reduce combined sewer overflows** *and* reduce phosphorus.

Phosphorus is one of the ingredients that makes for cyanobacteria blooms--the algae that can be harmful to humans and animals. It is soluble as well as solid, and often associated with leaves. Only sewage treatment and green infrastructure infiltration systems can remove it from water.

Decided to use partial separation for the Talbot Street outfall, which discharges at Cottage Farm.



With this system, stormwater from smaller storms doesn't flood the Cambridgeport area (which is highly impervious), and the pollutants in the water get treated at Deer Island.

During larger rain events, water flows to Cottage Farm--if there's little enough, it will be stored there & pumped to Deer Island. If the flows are big enough, they are treated at Cottage Farm for bacteria and discharged to the Charles.

The area in the partial separation pilot was identified by MWRA as critical to reducing CSO, but was not part of the original long term control plan. About 260 acres of stormwater shed.

Q&A

Will total phosphorus be another parameter in private development stormwater permits? Yes--the city has required stormwater management for many years from private developers. Phosphorus removal is now part of the requirement. The majority of the time this is done through infiltration back into the ground, but we do have some projects using proprietary BMPs (best management practices).

How do you monitor the removal?

The EPA has methodology to determine how much phosphorus is removed based on the BMP.

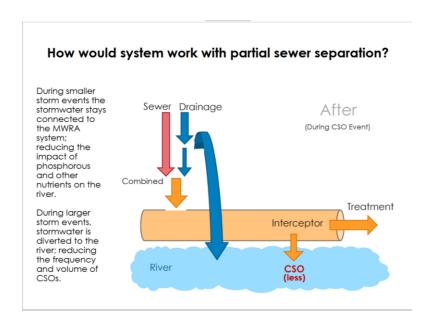
Large projects have a stormwater permit, with a 65% phosphorus removal target. Smaller ones are asked to get as close to 65% as possible on the site. This is not measured at each site, but is entirely based on EPA's methodology. City does sampling and analysis for phosphorus at outfalls.

Is there any annual followup on those installations, in terms of operations & maintenance?

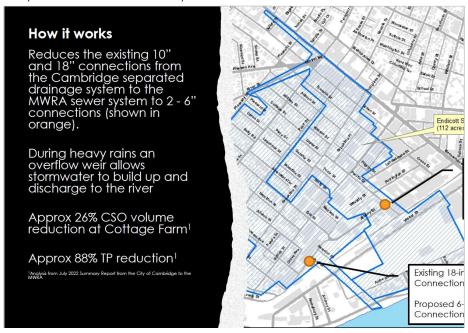
Cambridge visits larger sites annually to ensure that they are maintained. Developing a kind of self-certification with documents to show the maintenance has been done. Smaller sites are visited less regularly, but Cambridge has an engineer dedicated to inspecting smaller installations.

For the Talbot Street sewer separation project, it was important to reduce CSOs, improve river water quality, and to ensure that MWRA could handle all the flow coming to Deer Island.

Here's a schematic drawing of how the partial sewer separation works:



So in this model, less CSO hits the river, and more of that is treated. Details below:



This tool also reduces the risks of sanitary sewer overflows (SSOs).

Q: So is this a first-flush system? (the dirty first inch of stormwater is captured, the rest can flow to the river)

A: No--this always allows some water to go to Deer Island, but it's restricted. The first flush goes to MWRA. The intense peak of the storm flows to the river, but as the storm lets up, water goes to MWRA again. So (as stated above), the original Talbot Street stormwater outfall connections were 10" and 18". Now they are down to the 2-6" range. Cottage Farm is therefore sending 26% less CSO into the Charles, with an approximately 88% reduction in phosphorus.

Partial sewer separation only works in combined systems. Not the kind of system that will work if your community is already totally separated. But it does reduce the flow into the combined system.

Jim Wilcox: did measure flow, including during the wet summer of 2021. Showed the amount of overflow during rainfall events. Complete separation would reduce the CSO flow more, but Cambridge would be even further from its phosphorus reduction goals in that scenario.

There's a tradeoff here--getting reduction in phosphorus to the river, but on the other hand, still have combined sewage discharges. How do you weigh those two?

Kubaska: We did an analysis of that with our hydraulic model. Difference in flows (fully separated vs. this system) is pretty small: .2 mg is the typical year difference.

Q: not as interested in typical year. In 2021, when we had more than typical water.

Kubaska: The percentage of the difference there would be less in a higher rain event--Bigger events are restricted by this 6" connection. With this reconfiguration, the greater the storm event, the more stormwater discharge into the river than through Cottage Farm.

Is the data of pollutants discharged graphed? Cambridge DPW has the report--attached below.

Is phosphorus coming from Industrial Users?

No--it's a nutrient that comes usually from fertilizer use, leaves

Is Cambridge cleaning its catch basins more often?

Catch basin cleaning--cambridge has been installing deeper sumps (6' rather than 2.5') to capture more sediment. Gets cleaned out before they hit 60% full. If catch basins get to that level, the solids re-suspend in a storm. Cambridge has a catch basin optimization program to ensure all catch basins never get more than 50% full between cleanings. Can't do all of them more than once/year, but putting them on a priority list so DPW is always getting to the basins with the highest levels of sediment.

Does Cambridge have regulations on how large green areas are fertilized to contain phosphorus?

Fertilizers with phosphorus are banned for sale in MA, with some exceptions. But Cambridge does work with DCR and parks around fertilizer application.

2. Discussion of pending draft Deer Island NPDES permit and WAC's possible comments

The draft is due in May, and WAC will probably finalize language for its own comments at its June meeting.

Language that WAC may want to comment on: co-permitee language is likely. The Advisory Board has suggested language that would clearly define responsibilities and liability within the permit.

Climate change planning requirement--still fairly new. Oil storage in Chelsea needs a plans for the worst case scenario. Seems to have grown way beyond that, and MWRA is not sure of where it came from and not aware of other regions that have this requirement.

Quite extensive requirements. Pages. Have to have a plan within 12 months, which will be extremely challenging, particularly for smaller communities.

This would be an unfunded mandate. Might be quite difficult for smaller, poorer communities to do this kind of planning.

MWRA has been drawing up climate plans to ensure that their facilities and system are resilient in extreme weather. It may make sense for facilities to figure out what they need to plan for.

There is language from other permits that Andreae will circulate to WAC for review.

Why not keep the water conservation language in the permit?

Wendy-- the permit is a National Pollutant Discharge Elimination System permit, not a water conservation permit. No other NPDES permit has this. As the water system grows, the amount of water that we sell and the amount of wastewater we treat is increasingly disconnected. And the water we treat is increasingly smaller. It was originally put in to ensure not too much water hitting the treatment plan.

Does water conservation prevent CSOs?

No--controlling inflow and infiltration is the most effective way to prevent CSOs.

3. Announcements & Briefs:

- Director's report--attached. Most critical content: possible Deer Island draft permit requirements. Wipes bill is now S480 and H 805, looking for legislative cosponsors!
- MWRA Advisory Board update—James Guiod
- MWRA update—Wendy Leo: MWRA issued press releases on Combined Sewer Overflow Controls for the <u>Charles</u> and the <u>Mystic</u>. End of April, MWRA will publish its report on rainfall and CSO discharges in 2022. CSO notification programthe signs that must be installed at outfalls are at the printer, and should be up by Memorial Day.

Clinton WWTP has a new permit in effect. Currently replacing the huge Archimedes screw pumps that lift water into the station.

Deer Island projects coming up include a clarifier project. EPA expects to publish a draft permit in May.

New mailing address: 33 Taft Ave., Boston--effective June 1

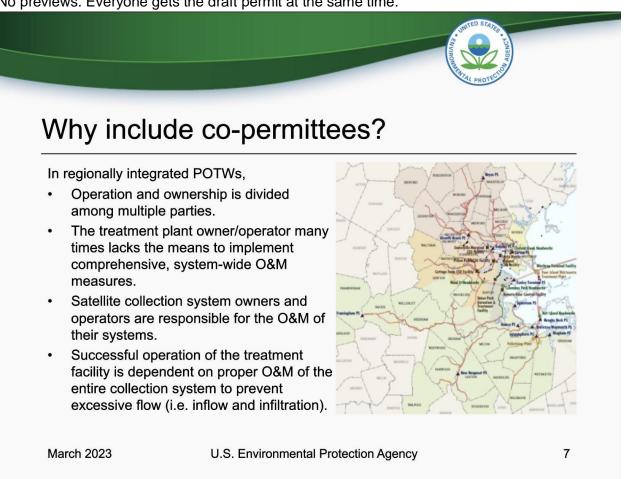
Director's Report April 2023

EPA Region 1 (New England) meeting with co-permittees in the draft Deer Island NPDES (National Pollution Discharge Elimination System) Permit

The draft permit calls municipalities "satellite collection systems."

The best way to submit a comment is at the public hearing or during the public comment period (60-days starting in May--they expect).

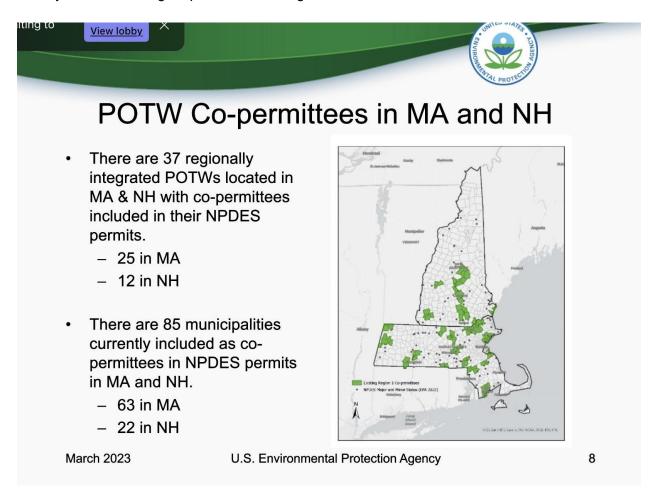
No previews. Everyone gets the draft permit at the same time.



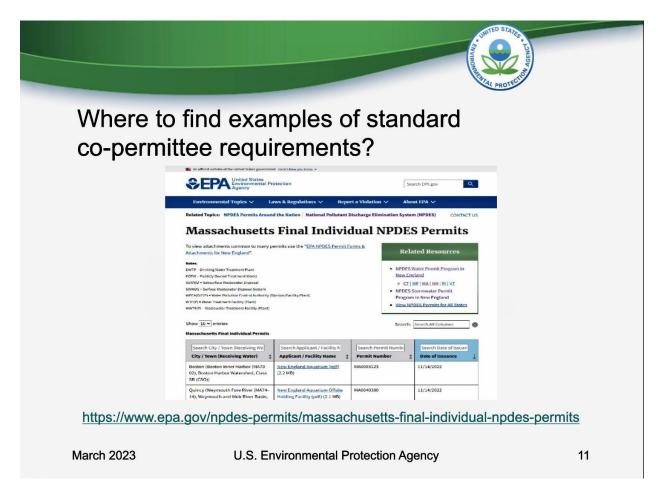
The current permit dates from 2000. Includes a reference to the possibility of co-permittees in the next permit (this one).

MassDEP and EPA used to issue joint surface water permits. Now have 2 permits, and MassDEP's will reflect EPA's.

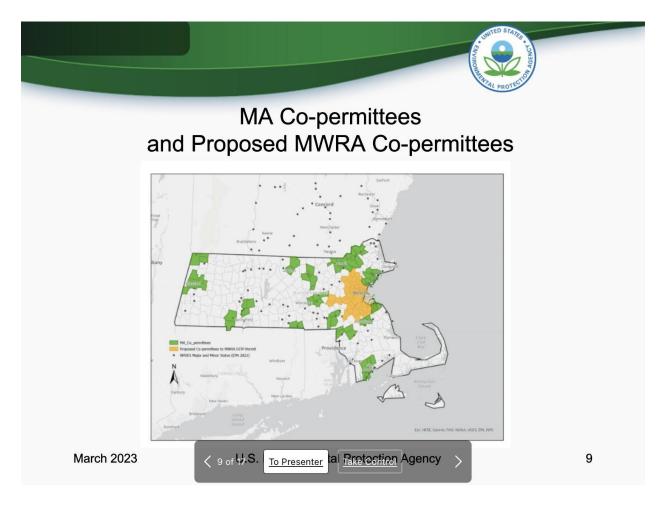
History--started adding co-permittees in Region 1 in 2000.



Included in municipalities' responsibilities -- unauthorized discharges, operations and maintenance (O&M) including planning to reduce inflow and infiltration (I/I), reduce sanitary sewer overflows (SSOs), mapping. Many of these requirements are already in state law. Also requiring an alternate power source sufficient to cover operations in a power outage (in state law now).



Standard conditions--go to MA NPDES permits on the EPA page. Includes reporting on the EPA NetDMR <u>site</u> (training available)



After the draft permit is issued, there will be 60 days to comment. Around day 30, EPA will hold a virtual public meeting and a public hearing. EPA will respond to all comments in writing. Final permit expected in 2024. There is a 30-day appeal period after that, but to appeal you must have first submitted comments on the appeal topic.

Advice: be constructive & suggest alternatives to things you can't do.

State permit will go out the same day as the EPA's. Send comments to massdep.npdes@mass.gov

Questions:

Lou Taverna: How will EPA insulate communities and MWRA from each other?

Communities are not responsible for effluent limits. For the collection system O&M, power supply for that system, etc. communities are already responsible. MWRA also owns part of the collection system & is responsible for that.

This permit does not require MWRA to enforce co-permittee responsibilities. Previous permits urged cooperative work, and that continues here.

Q: What's the annual reporting requirement?

A: Look at individual permits (Westboro). We won't share the details of the permit before the public gets access.

Q: Any changes to liability and responsibility for communities since the last one?

A: Not yet.

Q: How will the responsibilities of co-permittees be structured? Will there be separate sections for combined and sanitary systems?

A: yes—EPA will specify who is responsible for what. CSO communities will have both combined and sanitary sewer duties outlined.

Q: Will each co-permittee continue to be responsible for collection systems and discharges?

A: Yes. Combined systems have always had additional requirements. They will be folded into this permit.

Q: Will separate sewer communities have additional responsibilities beyond what is now in the medium-sized NPDES permit?

A: no, but the EPA is looking to change some standard responsibilities. So have a look at draft permits in the next few weeks for examples--such as planning for flood events.

Martin Pillsbury: how will EPA apportion compliance if an SSO occurs.

A: So far, EPA has taken no action against co-permittees, although they have had them for 20 years. Hope is that planning will help avoid such enforcement actions. Expect communities to submit plans and abide by them. SSOs require reporting.

Q: Will communities need to apply for permits for each of their CSO outfalls?

A: Yes, CSO communities will still need a separate permit application because MWRA can't be responsible for municipal outfalls. But they won't have to do it for 5 years from the issuance of this permit. It would not be more than the current obligations for those same CSOs.

Betsy Reilley: MWRA is not a big fan of co-permittee language and have commented on it every time it comes up. Among our concerns: how to handle SSO liability and CSO communities, where there's a lot of overlap.

A: There are distinct sections for CSO requirements & sanitary sewers. Go read the draft permit language to get a better idea, but DITP is unique.

Enforcement questions--Lynn Jennings, branch head of NPDES programs for EPA. Agency's reason for designating co-permittees is to assign responsibilities to maintain and report on maintenance for each owner of the infrastructure. EPA usually doesn't do enforcement. She wants to be clear about who has which duties, but where we have a gray area, EPA will work with you to figure that out.

Betsy: Why add communities--they already have permits

A: Efficiency. Everything would be in one place. It's how EPA has done things in other permits. That's what a "general" permit is all about.

Betsy: Where else does EPA have co-permittees?

A: EPA only issues permits in NH and MA

Stellwagen Bank permit won't be ready before the DI permit, but doesn't need to be.

DEP will incorporate the EPA permit by reference, so you won't need to redline the two permits to find the differences.

Betsy: In the letters, it seems that municipalities should consult with MWRA on the condition of their systems. Why and what was meant by that?

A: That may be an oversight. EPA uses a boilerplate to start its permit writing, and may have neglected to take that out.

Betsy: This is a very long permit. 60-days is double the usual, but would you entertain a longer comment period knowing how much work it will take to read and understand this one?

A: If you need more time (everyone asks), it would be good to state your reasons and how much time you need. You can do that in the comments.

The CSO language will look very similar in the general permit to what is now in the CSO permits.

WSCAC 4/11

Forestry: WSCAC sent a letter to the MWRA Board of Directors on forestry maintenance—they maintain that heavy equipment being used in logging have compacted soils, encouraged

erosion, damaged mature trees, and hindered regeneration of new forest. Note deer browsing the seedlings.

Bruce Spencer, retired DCR forester, has been visiting the DCR watershed forests and evaluating the cuts.

Whit Beals advocates for third-party green forestry certification to ensure that the DCR contractors are doing the work correctly.

WSCAC has advocated for fencing out the deer. Some of the stands felled since Bruce retired were among the finest and oldest--and were recommended by the green certification forestry groups to be kept uncut.

Legislation: Sen Comerford's bill on the Quabbin and regional equity. Bill drafted hastily based on the Advisory Board's workshop on system expansion. Comerford wants WSCAC support. Lexi feels bill has weak points.

Provisions:

- 1. \$3m+ Quabbin fund--based on water withdrawals
- 2. A second watershed member on MWRA board & term limits for board members
- 3. Watershed feasibility study--in case watershed communities have PFAS issues and want more water-- and no more water system expansions until that work is done

Martin Pillsbury--a little surprised by the bill, but it has a long history. Thought many of the issues were resolved with demand management (conservation) years ago. Unclear what the Quabbin fund would be used for. Proposals all need more work and specificity.

Lexi--some of the provisions would require reworking of the enabling act (MWRA board), which is a heavy lift.

What about term limits? Martin--would need to see the benefits

If there's a Quabbin fund--what would happen to PILOT payments?

Advisory Board hasn't really analyzed the bill, in part because it does not seem to be going anywhere this term.

Some discussion of whether open space land is properly valued.

There does not seem to be any grassroots support for this bill. The cost of expansion may well be a deterrent.

North shore is looking at expansion regionally. South shore is also, but not as far along.

Consensus on the bill is to wait and see if there's grassroots support.

MWRA Board 4/12

REPORT OF THE EXECUTIVE DIRECTOR: Pellet plant operations contract going out to bid. NEFCo has been bought by Synagro, its major competitor. PFAS is a concern.

MWRA's DEI program has invited in speakers: Biobot and now the MA climate chief.

May-budget hearing and personnel and compensation committee as part of the board meeting.

New signs to be posted at every **CSO outfall**. Sailing and rowing clubs are say these warnings are alarmist and may scare away customers, when only 2x year max have discharges (and those are treated). MWRA meeting with DEP about how to apply the law. Board wants to know why not put up only when have a discharge. Note that even when they do discharge, the sewage dissipates quickly. Fiore: DEP is not flexible at all on this. Public Health departments determine where these warnings should go. Board: Issue may be that the prohibitions on swimming and boating are large, the word "may" is too small. 31 signs. Mostly in Cambridge and Somerville, but some also in Boston.

Comerford legislation "water withdrawal tax." Work to do there.

Last meeting in Charlestown today. The MWRA will have moved fully to Chelsea and Deer Island by the end of April.

EXECUTIVE SESSION

- Approval of March 15, 2023 Executive Session Minutes
- Real Estate
 - Watershed Land Acquisition
- Collective Bargaining
 - Collective Bargaining All Bargaining Units (verbal)

PERSONNEL & COMPENSATION

1. PCR Amendments – April 2023

WASTEWATER POLICY & OVERSIGHT

1. Approval of **Appointment of Alfredo Vargas** to the Wastewater Advisory Committee--voted unanimously & without discussion

ADMINISTRATION, FINANCE & AUDIT

A. Information

1. 2023 Amendment and Change Order Report--explain how the amendments and change orders have been the result of either unforeseen conditions (like the walls not being sound at Chelsea Creek Headworks, or supply chain issues), or because MWRA decided to expand the job to include either flood adaptations or zero energy retrofits.

The costs in general have been within 10% of the original bid. Some of the more expensive projects are now outside of the 10-year lookback. The higher numbers are from outlier contracts. Most contracts come in at or below bid.

2. Update on **MWRA's Maintenance** Program--preventive maintenance, minimizing lifecycle costs, keep the system reliable. Continual search for more efficient operation. \$6.5m per year. Plan for maintenance to spread costs over years and put aside needed funds.

Laskey reminds people that the creation of MWRA was in response to a lack of maintenance under MDC.

3. 2022 Annual Update on New Connections to the MWRA System--review of the policies

6 communities have joined water system since 2002. Prospects:



Communities Pursuing or Considering Admission (OP.10)

- Hopkinton Supplemental Supply via Southboro
- Lynnfield Center Water District Supplemental Supply via Wakefield
- Walpole Supplemental Supply via Norwood
- Wayland Emergency/Partial Supply from MWRA Tunnel System
- Wellesley Currently partial MWRA, seeking increased supply
- Weymouth Supply for Town and former Naval Air Force Station development
 - 4. Delegated Authority Report March 2023
 - 5. FY23 Financial Update and Summary through March 2023--No surprises!

CORRESPONDENCE TO THE BOARD

A. WSCAC Comments on March 15, 2023 MWRA Staff Summary Regarding Watershed Forestry Review

Coppes—letter stresses a need for third-party certification for forestry. Thinks there may be a miscommunication with WSCAC.

Estes-Smargiassi--thinks WSCAC has differences with MWRA around the edges, but shares the same commitment to best practices in the watershed. Thinks an in-person board meeting in the watershed would be helpful.

Laskey--goal to have a diverse, resilient forest. Not a money-maker for us. Cites the STAC forestry report.

Walsh--worries about the pictures. Estes-Smargiassi--most cut pictures are ugly. Need to rejuvenate the forest occasionally.

Laskey: Important discussion ongoing about whether cutting trees at all is good for the environment. MWRA thinks use of forestry for water supply is a particular function.

Operations Committee of the Advisory Board 4/13

Advisory Board perspective on the prospective draft permit: concerned by new language in permits: two climate **change language additions** that require planning for major storm and flood events for both MWRA and co-permitees. Could be expensive. Expect to require plans within a year of the permit becoming effective. Could be continuous planning cycle--every 5 years.

Betsy Reilley: summarized March 28 meeting on co-permittees.

Surprise is that EPA is also adding CSO co-permittees, since they have permits already. (sanitary sewage communities don't yet--so their addition would be giving them a permit for the first time)

Expects a new permit draft in May. 60-day comment period--encourages everyone to comment, and to be as specific as possible. Then EPA will eventually issue a final permit.

Appeal period of 30 days after that, but only open to those who have commented and only on the items that commentor mentioned originally.

Consider comment on how the permit affects municipal systems--responsibilities, legal liabilities, enforcement; duplicative or burdensome requirements, review new permit language for "major storm event plans"

Requirements for co-permitees include SSOs, collection system mapping and O&M plan, new requirements for "major storm event plans" alternate/backup power





New - Sewer System Major Storm and Flood Events Plan x 43!

- Permittee and Co-permittee shall develop, submit and begin to implement a Sewer System Major Storm and Flood Events Plan. The Plan shall contain three components:
 - (1) an asset vulnerability evaluation,
 - (2) a systemic vulnerability evaluation of the system and
 - (3) an alternatives analysis.

At a minimum, the Plan must take future conditions into consideration, specifically midterm (i.e., 20-30 years) and long-term (i.e., 80-100 years) and, in the case of sea level change, the plan must consider extreme sea level change. The Plan shall be updated every five (5) years from the effective date of this Permit.

(Northampton, Amherst, Westfield, Palmer, Montague, Holyoke, Williamstown, and Billerica recently issued draft permits have this new language)

Out 100 years, some communities will be underwater. And the plan needs updating every 5 years. Also needs an implementation plan with action items and lists of accomplishments. May not yet be timeline, may not yet require implementation, but implementation plans are required.

Reilley: Need to comment both on the EPA draft permit and the DEP's. They may be duplicative, but not necessarily.

MWRA thinks there are constraints on what EPA can require. But will need legal analysis.

Joe F: thinks this is an attempt by EPA to sometime in the future to use the co-permitee language to force MWRA to do everything, so MWRA becomes the enforcer.

Guidance on climate plans--up to 500-year storm. Can be fairly expensive.

Advisory Board will do another workshop for communities after the draft permit is issued. Legal council will be helping out.

Advisory board will have all the points raised in this workshop on their website in condensed form.

Water Side--Burlington is joining as a full MWRA water member and the AB vote will be at the May meeting. The April meeting will have a vote on the Advisory Board's MWRA Board member to replace John Carroll. Currently, Lou Taverna of Newton DPW (now the AB Chair) is running