

FINAL DRAFT
SUMMARY OF THE DREDGED MATERIAL MANAGEMENT PROGRAM
MANAGEMENT COMMITTEE MEETING
April 19, 2023, 10:00 AM
Virtual Meeting

Attendees:

Anchor QEA: Karin Olsen

Angie Ashley Consulting: Angie Ashley

National Audubon Society Mid-Atlantic Region: David Curson

Chesapeake Bay Foundation: Doug Myers

Citizens Advisory Committee (CAC): Adam Lindquist (Chair)

Council Fire: George Chmael II

Maryland Environmental Service (MES): Marni Dolinar, Claire Spears

Maryland Department of Natural Resources (DNR): Nicole Carlozo, Christine Conn, Richard Ortt,
Ryland Taylor

Maryland Department of the Environment (MDE): Matt Rowe

Maryland Department of Transportation (MDOT): John Denniston,

Maryland Port Administration (MPA): Dave Bibo, Bertrand Djiki, Danielle Fisher, Rachael Gilde,
Margie Hamby, Katrina Jones, Holly Miller, Rachel Miller, Oge Nwafor, Bill Richardson,
Joseph Ross, Darren Swift

*National Oceanic and Atmospheric Administration (NOAA)/National Marine Fisheries Service
(NMFS):* Jonathan Watson

The Terrapin Institute: Marguerite Whilden

University of Maryland Center for Environmental Science (UMCES): Dr. Peter Goodwin, Dave
Nemazie

US Army Corps of Engineers, Baltimore District (CENAB): Eric Lindheimer, Katie Perkins

US Army Corps of Engineers, Philadelphia District (CENAP): Mike Hart

US Fish and Wildlife Service (FWS): Robbie Callahan, Christine Conn

Action Items:

1. Ms. Olsen will reach out to the US Army Corps of Engineers (USACE) regarding a workshop to aid in nature-based solutions as part of the Mid-Bay project.
2. Mr. Chmael will provide Committee members a follow up survey related to the Maryland Commission on Climate Change (MCCC) presentation and collaboration opportunities between DMMP and MCCC and to provide input on the MCCC Next Generation Adaptation Plan.
3. Mr. Swift will follow up with DNR regarding MPA involvement in the Regional Sediment Plan.

1.0 Convene and Welcome

Ms. Holly Miller, MPA

Meeting materials can be found at the following link: [4/19 Management Committee Meeting](#). Ms. Miller welcomed attendees and called the meeting to order. Ms. Miller called for a motion to approve the November 16, 2022, Dredged Material Management Program (DMMP) Management Committee Meeting summary. Dr. Goodwin motioned and Mr. Rowe seconded the motion. The meeting summary was approved as final for posting on the DMMP website. Dr. Goodwin highlighted the successful workshop that the USACE completed with National Academies at the end of November 2022.

2.0 Innovative Reuse & Beneficial Use Program

Darren Swift, MPA

Mr. Swift stated that the property adjacent to the Cox Creek Dredged Material Containment Facility (DMCF) was acquired on December 21, 2022, which provides an opportunity to further long-term capacity recovery efforts at the Cox Creek DMCF through innovative reuse (IR) and future cargo terminal and maritime development. The 140-acre property is situated uniquely for the development of IR due to its location next to the Cox Creek DMCF. The property was included in the 2023 DMMP Annual Report vision to aid capacity recovery and support placement options beyond a 20-year time frame which is also a part of the 2020 IR and Beneficial Use (IRBU) strategy.

For the purposes of remediation implementation, the property was divided into operable units (OU). There are five OUs: the upland area, the settling basins, the batch attack lagoon, the groundwater containment system, and the waste acid neutralization area. The remediation team will assess each OU and developed strategies to address each, considering both schedule and cost. The total remediation cost is estimated at \$75 million over the course of ten years and funding will be split 38/62 percent between Maryland Port Administration (MPA) and the prior owner. The entire property is under an administration consent order that will serve as a blueprint for remediation as the property is developed. MPA is coordinating with Maryland Department of the Environment (MDE) regarding regulatory requirements and acceptability of the remedial plans for each OU.

Areas of the new property will be available for use in phases. The first area that will be available will be the upland area to support IR by providing space for material drying, dewatering, stockpiling, loadout, and other activities. Based on the remediation schedule, the upland area could be available for use as early as 2025. Remediation of the settling basins would not begin until after the initial phase is complete. The batch attack lagoon and waste neutralization area will need further analysis as the first two phases are being completed. Mr. Myers asked where on the property the future terminal and maritime development would take place. Ms. Miller stated that both the Phase 1 and 2 remediation areas will likely be used for IR, and the sites that would eventually be used for terminal and maritime development are likely to be the portions of the property along the water, which includes the lower settling basin, batch attack lagoon, and the acid neutralization area. Mr. Watson asked for clarification on whether the property is a staging area for the IRBU program or an expansion of the containment facility. Mr. Swift stated the project is not complete, but the plan is to use the land as a staging area for research and development projects and large-scale innovative reuse. Part of the goal is to diversify IRBU projects to reclaim capacity at the Cox Creek DMCF. Ms. Miller stated an obstacle with the IRBU program thus far has been finding available space, however, the new property helps to address this for the IRBU program.

Mr. Swift presented an update on the seven contracts that have been awarded to date under the Research and Development Request for Proposals. Belden-Eco Products, LLC (Belden) studied dredged material and the ability for the material to be used in the development of permeable pavers/bricks. The project is complete and was successful in developing a final product of a 100% dredged material brick paver. Belden presented their findings at the June 2022 Innovative Reuse Committee (IRC) meeting. Northgate Environmental Management, Inc. researched the use of dredged material to create concrete traffic barriers and modular shoreline protection structures. In this project, the concrete traffic barriers did not achieve the proper strength for the concrete mixtures, however, the creation of a modular shoreline protection was successful using a 10% dredged material mix. Fastrak Express (Fastrak), Harford Industrial Materials, Inc. (Harford), and Suscon Products (Suscon) projects are all in the final stages and will present results at the upcoming May 2023 IRC meeting which is being held jointly with the DMMP Citizens Advisory Committee (CAC). Fastrak utilized a combination of mushroom compost and dredged

material to create a growing material for sod. The results were successful with a mixture of 50% dredged material, 25% mushroom compost, and 25% sand. Suscon used the sand fraction from the dredged material to incorporate into the precast concrete mix design. Harford Industrial Minerals used the clay portion of the dredged material to create a lightweight aggregate product. Both projects had successful results. In addition, CSI Environmental, LLC (CSI) has an ongoing project located at Cox Creek DMCF using geotubes. These tubes are being used to dry dredged material. Once the desired moisture content is reached, the geotubes will be moved to the BGE Spring Gardens facility to study shoreline erosion and protection. Vegetation will be planted within these geotubes to help stabilize the tubes over time. The University of Maryland (UMD) project is underway and in the early stages of project development with the goal of studying blended materials for vegetated earth berms. An eighth proposal is currently being evaluated for consideration by MPA. Mr. Watson asked if the CSI project used amendments to blend the material, or if it was solely dredged material. Mr. Swift clarified that though CSI uses 100% dredged material, they utilize a polymer created by CSI to help separate solids from the water. The geotextile fabric used is proprietary to CSI and is described as a 3D fabric. With this fabric it helps prevent surface tension so that it allows the water to move freely for quicker dewatering times.

Mr. Swift reviewed the IR goals for 2023. The first goal is to coordinate briefings with other MDOT Modals to provide information on dredged material reuse opportunities with State Highway Administration (SHA) specifications. Outreach is currently underway with Maryland Quality Initiative and SHA. Material specification was a topic of discussion at the Recycled Material Task Force (RMTF) Dredged Material Subcommittee held in February 2023. MPA will present about IR topics at the upcoming April 2023 RMTF meeting. MPA will stress the importance of material specifications in anticipation of a contractor eventually requesting dredged material as a source material for a SHA project.

Another IR goal is to investigate the possibility of dredged material qualifying as a sustainable or recyclable material. In 2022, MPA and UMD applied for the Federal Highway Administration (FHWA) Climate Challenge grant with the vegetative earth berm project. An outcome of the grant would be an environmental product declaration and a life cycle analysis. As a part of this study, UMD will quantify greenhouse gases and constructability of the project. This project has the potential to push dredged material in the direction of being recognized as a recyclable and sustainable material. The Maryland Green Purchasing Committee requested MPA to provide a presentation so the committee can learn more about the IR program. Senate Bill 782 recently passed Maryland legislation which requires the Maryland Green Purchasing Committee to establish specifications for purchasing recycled materials including dredged material.

The final IR goal is to engage with Maryland Department of Natural Resources (DNR) and Maryland Geological Survey to identify coastal resiliency opportunities. MPA has reengaged with DNR to discuss IRBU programs for mutual collaboration and quarterly meetings will be established to continue coordination toward meeting the goal. MPA applied for a Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure and Communities grant. If the funding is received, this would be a great way to identify possible projects to address future risks from natural disasters, storm surges, flooding, and how to make communities more resilient in the future. Mr. Watson expressed interest in the results of this project since the National Oceanic and Atmospheric Administration (NOAA) is investigating growing wetlands in the Baltimore Harbor but there currently is not sufficient data to support moving ahead with coastal projects. Mr. Swift stated there has been some studies conducted with University of Maryland Baltimore County (UMBC) on tidal zones and dredged material placement,

including the constituents and stability of the materials. Research is being done, but there needs to be more research so there is confidence around the use of dredged material.

3.0 Harbor Development Updates

Holly Miller, MPA

Ms. Miller presented a brief recap of the 2022 DMMP Annual Meeting that was held on December 9, 2022. There were 133 attendees representing 66 organizations. All meeting materials can be found on the [Maryland DMMP Website](#).

The Masonville DMCF base dike widening began in January 2022 and is expected to be complete in mid to late April 2023, depending on weather. Currently, the project is approximately 98% complete. The base dike widening will support the vertical DMCF elevation increase first to +30' and then to +42' by 2029, bringing the overall capacity at the Masonville DMCF up to 10.4 million cubic yards (mcy). Dike raising to +30' is anticipated to begin in the summer of 2023.

MPA and partners have secured \$1.5 million in funding from the FHWA Federal Land Access Program to design and construct a shared use path that will connect Masonville Cove to the existing Gwynns Falls Trail and adjacent communities to increase and improve safe and equitable access to the site. The memorandum of agreement (MOA) between partners was executed in the summer of 2022 and is now in the design phase. Once complete, the Masonville Cove Connector will serve as an important link to over 20 miles of walking and biking trails connecting dozens of neighborhoods, a regional hospital, and wellness facilities. Some of the tentative milestones for this project include completing 30% design by the summer of 2023, 100% design by the summer of 2024, and completing construction by summer of 2025. Mr. Myers asked where the closest parking lot is to Masonville Cove. Ms. Jones stated there is a park and ride lot approximately two miles from the site near the intersection of Frankfrust Avenue and Hanover Street.

The Cox Creek DMCF expansion to +60' is underway and projected to be complete 5 months ahead of schedule in January 2024. This will bring site capacity to 14.8 million cubic yards (mcy). The waterside dike portion of the site has already been raised to +60' and the upland dike is at elevation +58'. The final lift is in progress and other work related to drainage structures and conversion of settlement basins is occurring concurrently.

As presented at the June 2022 Management Committee meeting a location southeast of Cox Creek DMCF was selected for detailed site-specific analysis to develop preliminary design concepts for the next CAD pilot project. The area of interest is 220 acres, which is larger than anticipated and therefore could support multiple CAD cells. It was presented to the Joint Evaluation Committee in February 2023 for feedback on the project and permitting strategies. Subsequent to that meeting, federal and state resource agencies expressed concern about environmental impacts on the area, so further evaluations will be needed. There will be additional site studies and modeling, including benthic studies and dissolved oxygen modeling. Over the next few months, focused engagement with stakeholders will be conducted to ensure that all feedback is incorporated into the projects before moving forward. Mr. Watson stated that there are general environmental concerns about the CAD project specifically regarding the purpose and need. Historically, CAD was used as a last resort alternative to open water placement, and to dredge a previously untouched area creates more environmental issues than other projects.

Capacity planning and projections are assessed annually for four main channel segments: the

Baltimore Harbor channels, the Maryland Chesapeake Bay channels, the Virginia Approach channels, and the Chesapeake and Delaware (C&D) Canal and Approach channels. Projections are based on data from the past 20 years including federal, state, local, and private industry maintenance dredging needs.

This is then compared to the cumulative placement capacity available for each channel segment. The Baltimore Harbor channels are currently in a deficit, and this evaluation was completed conservatively including Cox Creek DMCF, Masonville DMCF, and some conservative IRBU projections. At the time, the property adjacent to Cox Creek DMCF and CAD were not taken into consideration, so capacity will likely move out of a deficit once those projects are included. Mr. Myers asked if Baltimore Harbor dredging includes plans for Tradepoint Atlantic. Ms. Miller stated it does include maintenance dredging for Tradepoint Atlantic, but not any new work dredging plans. They will be required to find solutions for their expansion projects, and she believes that they may already have plans. Dr. Goodwin asked if there have been any records of increased sedimentation rates due to an increase in rainfall and wave action in the Chesapeake Bay. Ms. Miller stated that MPA has not yet seen this trend, but it is something MPA is monitoring. Mr. Ortt added that there is currently a lot of efforts to decrease sedimentation, so if a study was completed, it would have to be on a small scale and investigate whether the rate of sedimentation increases from environmental changes or decreases from our known actions.

4.0 U.S. Army Corps of Engineers Report

**Mike Hart, CENAP
Eric Lindheimer, CENAB**

North Atlantic Division – Philadelphia District

Mr. Hart stated that CENAP concluded dredging in the upper Chesapeake Bay in March 2023, which puts an end to the FY22-FY23 contract. Approximately 1.5 mcy of material was removed from the channel and placed at the Pearce Creek DMCF. Mr. Hart anticipates awarding another contract at the end of 2023 based on the spring and summer surveys with an estimated 300,000 to 400,000 cy of material expected to be removed and placed at the Pearce Creek DMCF. Remediation began at Saint George's Bridge, which kicks off the 18-month long project. There are no vertical obstructions associated with the project. However, there will be barges along the northern or southern piers that will enter the 450-foot-wide channel by about 60 feet. Pilots are aware of the barge placement, and there is a 2-hour notice for the barge to move out of the way if there are clearance issues. Chesapeake City Bridge construction includes a vertical reduction by about 18 inches on the southern half of the main span, which is in progress. The bridge is expected to be unrestricted by the end of April 2023.

North Atlantic Division – Baltimore District

Mr. Lindheimer stated that the contract for the Baltimore Harbor and Maryland Approach channels should be awarded in the near future. The plan is to dredge 350,000 cy from Brewerton Angle that will be placed at the Cox Creek DMCF. There will be 1,000,000 cy of material removed from Craighill Angle, Brewerton Eastern Extension, and Tolchester, and placed at the Paul S. Sarbanes Ecosystem Restoration Project at Poplar Island (Poplar Island). The plan for the FY23 contract is to dredge from June to September of 2023. The FY24 contract will have dredging take place in the winter and dredging will be split into two separate contracts, one for the Virginia Approach channels and one for the Maryland Approach channels. In Maryland, dredging will take place at Curtis Bay, Brewerton Eastern Extension, and Craighill Angle, and will be placed at Cox Creek DMCF and Poplar Island. In Virginia, dredged material from York Spit channel will go to Wolf Trap.

Ms. Perkins stated that the 3-year study between USACE and MPA on Seagirt Loop concluded and the final report was submitted to USACE headquarters on February 23, 2023. The project determined that

it is economically justified to deepen and widen the west portion of the Seagirt Loop to -50' mean lower low water (MLLW). Pending funding ability, the goal is to begin design work in Federal Fiscal Year (FFY) 2024 and construction in late FFY 2025.

Regarding the Mid-Bay project, construction is currently underway at Barren Island and Phase 1 of the contract is ongoing. This is a 2-year contract and construction will continue through the summer of 2024. Barren Island Phase 2 is at approximately 35% design. The decision was made to include the Honga River dredging as part of the Phase 2 contract. There is a contract solicitation date of late 2023, which would put the award of the contract in early 2024. James Island design has been initiated and the project team is working towards additional geotechnical investigations that are needed for the initial design work. MPA and USACE are preparing a geotechnical investigation contract for additional boring work to be completed by the end of the summer of 2023. Construction of James Island is targeted to begin in FFY25.

Poplar Island is currently preparing for the next inflow contract which will begin in June or July of 2023. The project has concentrated on long term planning, wetland design, and restarting discussions with the upland habitat design and development team.

5.0 Committee Reports

Adam Lindquist, CAC Chair
Karin Olsen, Anchor QEA

Citizens Advisory Committee (CAC)

Mr. Lindquist stated that the CAC meeting was held on February 8, 2023. The acquisition of the property adjacent to Cox Creek DMCF and outreach efforts were mentioned at the meeting. There will be a joint CAC and IRC meeting on May 23, 2023, at which there will be a tour of the Cox Creek DMCF along with a review of IR R&D projects.

Mr. Lindquist highlighted his involvement in the Baltimore Blueway project, which is in the process of creating a masterplan for connecting paddle sports and Baltimore Harbor. The project is being coordinated with MPA, the Harbor Safety Committee, and Fort McHenry. Mr. Myers asked whether there will be easy access to watersports rentals. Mr. Lindquist stated they are not facilitating that aspect; however, part of the project is to encourage those in the area to come to the area or set up those kinds of sites. Mr. Ortt mentioned that the Maryland Department of Natural Services has the resources to help complete scans and bathymetry if needed. Additionally, Mr. Trash Wheel is going to have an event for its birthday on Saturday, April 22. There are 400 expected participants. The trash wheels have removed more trash in 2022 than any year prior.

Mid-Bay Resiliency Workgroup

Ms. Olsen stated that the Mid-Bay Resiliency Workgroup has been integrated into formal workgroups (Habitat Development, Monitoring, and Wildlife Management) to reduce redundancy and the workgroups have begun to meet. The last Resiliency Workgroup meeting was held in February 2023. Phase 1 has begun for Mid-Bay, which was a huge milestone for all the committees. Mr. Myers emphasized that nature-based solutions as part of the Mid-Bay project requires more coordination and offered the idea of setting up a workshop with USACE. Ms. Olsen offered to communicate with USACE and MPA to follow up on this plan. Mr. Ortt offered support for Mr. Myers' idea for a workshop and that DNR would support this event as well. Dr. Goodwin stated, in reference to James Island, if contracting begins in FFY25 that the employees at USACE may need to start looking at innovative designs that may require both physical and numerical modeling to have enough time to plan. Mr. Myers mentioned that inflow over the life of the project should also be discussed. Nature-based solutions may

need to begin considering engineering since the solutions are softer by design and will need to be a long-term solution. Ms. Olsen will reach out to USACE and get an update on the engagement with Natural Nature Based Features (NNBF), which is the natural features group. Ms. Miller acknowledged that MPA is interested in including nature-based solutions, but also needs to balance the future maintenance and costs required for these solutions.

6.0 Maryland Climate Change Commission Presentation Ryland Taylor, DNR

Ms. Taylor stated that the MCCC was set into law in 2015. This group was charged with advising the Governor and general assembly on ways to mitigate the causes of, prepare for, and adapt to the consequences of climate change. Ms. Taylor shared information on how to best achieve this year's DMMP recommendations in reference to climate change and resiliency planning.

Ms. Taylor stated that DNR is working to integrate dredging, restoration, and funding programs to achieve cost efficiency and utilize dredge material to support state resiliency efforts. MCCC was codified into law in 2015 but was originally formed in 2007. There are eight different working groups with the first four being added in the original version including the Greenhouse Gas Mitigation, Adaptation and Resiliency, Scientific and Technical group, and the Outreach and Education group. The four new groups are the Transition Employment and Retraining, Energy Industry Revitalization, Energy Resilience and Efficiency, and the Solar Photovoltaic Systems Recovery, Reuse, and Recycling groups. The four new groups are in the process of being set up.

The Adaptation and Resiliency Working Group supports the MCCC goals. This group will work on creating a strategic plan for the next decade, which is called the Next Generation Adaptation Plan. The main priorities are creating implementable strategies and activities, deciding who is responsible for leading these actions, and developing qualitative and quantitative progress steps. This is in progress and set to be delivered in September or October of 2023. This plan is made up of five main groups: water resources, working lands and natural resource-based economies, protecting critical infrastructure, human health, and natural resources and ecosystems. There are also three focus groups that focus on justice, equity and inclusion, local government and state service, and climate jobs and training.

Dredged material can be integrated into these plans. The natural resources and ecosystems group has proposed to focus on dredged material to help accelerate adaptation. This goal has been approved to be advanced and will be under the larger goal of regulatory and policy cooperation. This is a great opportunity to develop ideas for how to best integrate dredged material management into adaptation and resiliency.

DNR is currently working on plans and policies for better sediment management with a focus on navigation, which includes some beneficial use projects that could have coordinated support with the DMMP. There are current initiatives through DNR to help support projects with funding and technical assistance. These initiatives will help support dredging and rehabilitation.

Ms. Taylor stated that DNR could collaborate with the DMMP partners on topics like capacity funding, technical assistance, data collection, dissemination, and education and outreach. The BUILD tool that is used has some issues, which makes advanced planning difficult if the project is not a regularly dredged channel. It does not contain a lot of data, including material types and layering data, and it is also not widely used. Additionally, layers are outdated and unable to be filtered to include only relevant data. While the tool needs significant support, it has also had some successes. Approximately 72,000 cy of material has been used in nine beneficial use projects with a cost savings of \$3 million. Mr. Chmael will

provide Committee members a follow up survey related to the MCCC presentation and collaboration opportunities between DMMP and MCCC and to provide input on the MCCC Next Generation Adaptation Plan.

The next step is to create a regional sediment management plan. This would use best management practices for efficient and effective use of sediment for a healthy ecosystem. It would also help DNR and MPA track and manage sediment in Maryland waterways to promote navigational safety and utilize dredged material for climate resiliency projects. This plan could enable DNR to understand sediment quality, set up a budget, identify opportunities for restoration, and increase understanding on sediment movement and reestablish law sediment processes.

Mr. Myers asked if there was a way to use the grants available to supplement Mid-Bay and the nature-based solutions, and how to apply since CBF is a nonprofit organization. Ms. Carlozo stated that DNR will work with any state entity, including a state agency or nonprofit. Mr. Swift will be in touch with DNR regarding the regional sediment management plan since it will be something MPA will want to be involved in. Ms. Miller emphasized previous statements regarding MPA's desire to be involved in the regional sediment management plan.

6.0 Closing Remarks and Adjourn

Holly Miller, MPA

The next Management Committee meeting is scheduled for June 28, 2023.