DRAFT
SUMMARY OF THE JOINT DREDGED MATERIAL MANAGEMENT PROGRAM CITIZENS' ADVISORY COMMITTEE & HARBOR TEAM MEETING
August 7, 2019 6:00 PM
MedStar Harbor Hospital
3001 S. Hanover St. Baltimore, MD 21225

Attendees:

Anne Arundel County Department of Public Works: Chris Phipps
Angie Ashley Consulting: Angie Ashley
Association of Maryland Pilots: Captain Eric Nielsen
Audubon Maryland – D.C.: David Curson
Baltimore County Department of Environmental Protection and Sustainability (DEPS): David Riter
Blue Water Baltimore: Daniel O'Leary
Cox Creek Citizens Advisory Committee: Brian Conrad
EcoLogix Group: Steve Pattison
GEOmatx: Tom McElroy
Greenvest: Adam Ganser, Paul Zanechi
Maryland Environmental Service (MES): Olivia Gulledge, Jeff Halka, Kenna Oseroff, Melissa Slatnick, Danielle Wilson
Maryland Department of Transportation Maryland Port Administration (MDOT MPA): Bertrand Djiki, Kristen Fidler, Katrina Jones, Holly Miller, Amanda Peñafiel, Bill Richardson, John Vasina
MedStar Health, Baltimore City: Ryan Moran
Patapsco/Back River Tributary Team: Stuart Stainman
South Baltimore Business Alliance: Mike McGeady
Straughan Environmental: Dirk Lueders, Jeff Nelson
Terrapin Institute: Felicia Barclar, Margarite Whilden
Tradepoint Atlantic: Pete Haid
Turner Station Conservation Teams: Gloria Nelson
US Army Corps of Engineers, Baltimore (USACE): Justin Callahan, Tom Laczo, Ray Tracy
Waterfront Partnership of Baltimore: Adam Lindquist
W.R. Grace: Mark Galloway

Action Items:
No action items to report.

Statements for the Record:
1. Ms. Fidler stated that Mr. Vasina will be retiring at the end of October. She thanked Mr. Vasina for all his time and work in MDOT MPA Harbor Development.

1.0 Welcome *Ryan Moran, MedStar*
Ms. Ashley convened the meeting at 6:00 pm and welcomed all committee members. Mr. Lindquist asked the attendees to introduce themselves and their affiliated organizations and introduced Mr. Moran from MedStar Harbor Hospital.

Mr. Moran provided information on a hospital's role in the community and their environmental contributions. Mr. Moran stated that all hospitals complete a community health needs assessment every three years and recently MedStar Harbor Hospital and other hospitals in Baltimore City collectively completed an assessment. The assessment provided the hospitals with priority areas for community health needs for the next three years, which will aid in MedStar's planning for community health improvement and economic development within communities that they serve. MedStar's priorities in the next three years are behavior health services, in terms of substance abuse and mental health; chronic disease management and prevention; and investigating how hospitals are looking at the social determinacy of health.

Mr. Moran stated that hospitals must get involved in neighborhood revitalization to assist in improving the health of surrounding communities. MedStar Harbor Hospital in partnership with the Greater Baybrook Alliance recently completed an application for funds through the Maryland Department of Housing and Community Development, which will aid in neighborhood revitalization projects. Currently, there is a gap between the Gwynn's Falls trail, which ends on the MedStar Harbor Hospital campus, and the Baltimore Washington International trail. MedStar applied for approximately $650,000 to complete a 30% engineering design for a bike and pedestrian pathway to help connect the trails. With the funding and a potential partnership with Maryland Department of Transportation Maryland Port Administration (MDOT MPA) Masonville Cove, Middle Brach re-design project, and the Port Covington areas, 11 miles of shoreline could be connected in the community.

Mr. Moran stated that MedStar is an anchor institution that is involved in more than just the healthcare sector. He thanked everyone for attending the meeting and stated that he looks forward to getting to know more of the attendees.

Mr. O'Leary provided an overview of MedStar Harbor Hospital's many environmental stormwater remediation projects on its campus to reduce stormwater runoff. The large rain garden installation onsite targeted stormwater remediation of approximately 25 acres, including 17 acres of impervious surface and is estimated to reduce approximately 19.6 million gallons of stormwater runoff for an average year of precipitation in Maryland. The rain garden retrofit project team included Bluewater Baltimore who partnered with CityScape Engineering, Rain Underground, and Plisko Sustainable Solutions to implement four best management practices on the project: bio retention, micro bio retention, rain gardens, and conservation landscaping. Payment of a stormwater fee is required for any land and property owned in Baltimore City. By installing rain gardens and treating impervious surfaces, land and property owners not only help the environment, they also can receive reductions in stormwater runoff fees. The entire project cost approximately $1 million and was pursued because of its environmental and socioeconomic benefits, potential to reduce stormwater fees, and the potential to connect to the Gwynn's Falls trail. These projects also connect human health and educate the public.

2.0 Introductions and Summary Approvals

Adam Lindquist, CAC Chair &
Steve Pattison, HT Facilitator

Mr. Lindquist asked if there was a motion to approve the meeting minutes from the May 8 Dredged Material Management Program (DMMP) Citizens Advisory Committee (CAC) meeting. The meeting summary for the May 8 meeting was approved unanimously.

Mr. Pattison asked for a motion to approve the April 25 DMMP Harbor Team meeting summary with an addition. The following statement was recommended for addition by Mr. Pete Kotulak (Moffatt & Nichol) at the end of the fourth section in the innovative and beneficial reuse discussion: "Mr. Kotulak stated that the Cox Creek Dredged Material Containment Facility (DMCF) currently has an unloading pier, which could be used as a loading pier for dredged material from Cox Creek." With the addition of Mr. Kotulak's statement, the April 25 meeting summary was approved unanimously.

3.0 DMMP Coordination (MD State/Corps Federal) *MDOT MPA and USACE*

This section was performed as an informal panel with Mr. Callahan and Mr. Tracy representing the Army Corps of Engineers, Baltimore (Corps) and Ms. Fidler and Ms. Miller representing MDOT MPA.

Ms. Fidler explained that the panel's main goal is to differentiate between the Corps definition of DMMP (Dredged Material Management Plan) and the MDOT MPA's definition of DMMP (Dredged Material Management Program).

Ms. Fidler stated that MDOT MPA's DMMP was formed due to the Dredge Material Management Act of 2001 (DMMA 2001). Several key items came out of this guiding legislation:

1. Prohibition of any further open water placement of material in the Bay or its tributaries.
2. Requirement of the Port of Baltimore (POB) to have a rolling 20-year placement and capacity plan for managing all material.
3. Prioritization of placement options with beneficial reuse and innovative reuse of material as the first, preferred solution.
4. Establishment of an Executive Committee, served by several Administration Secretaries from MDOT, Department of Natural Resources (DNR), Maryland Department of Environment, and, Chesapeake Bay Foundation, University of Maryland Center for Environmental Science, the Philadelphia and Baltimore district of the Corps, and a citizen representative. The Executive Committee serves the Governor by reviewing and approving the 20-year dredged material management plan for sustainability each year.

Ms. Fidler stated that a large part of the success of Maryland's DMMP is the robust stakeholder engagement and citizen involvement within the committee and planning process. The committees are the essential key to ensuring that MDOT MPA's long-term plans are realistic, cost effective, environmentally sound, and obtainable.

Ms. Miller described MDOT MPA's current 20-year dredged material management plan. The Maryland channels are broken up into four separate segments; the Harbor (dredged material is placed at Cox Creek and Masonville Dredged Material Containment Facilities [DMCF]); the Maryland Bay (dredged material is placed at Poplar Island and will be placed at Poplar Island Expanded and the Mid-Bay Islands upon construction completion); Chesapeake & Delaware (C&D) Canal Approaches (dredged material is placed at Pearce Creek DMCF); and Virginia Bay (dredged material placed at Wolf Trap Alternate Placement Site and the Rappahannock Shoals Deepwater Placement Site). The average annual dredging demand from the past 20 years is analyzed to determine the future 20-year demand. MDOT MPA is currently working to refine the dredging demand and capacity numbers, which both change periodically due to design considerations and specific projects.

Mr. Phipps asked if the current numbers stated include any diversion such as beneficial reuse. Ms. Miller replied that currently the numbers do not reflect any capacity recovery. Once more reliable capacity recovery methods are obtained, the numbers will then reflect that.

Mr. Stainman asked if the numbers will be affected by the sediment moving over the Conowingo Dam from the Susquehanna River. Ms. Miller replied that the 20-year dredging plan is based on dredging demand from the prior 20 years and these numbers are revisited approximately every three to five years. Mr. Callahan added that the historic averages are very consistent, specifically the Maryland Bay material. Additionally, there are budgetary constraints when it comes to dredging. Each year the Corps and the Association of Maryland Pilots must decide which channels need to be maintained and which channels can be dredged later. Mr. Halka added that regarding Conowingo Dam, the modeling assessments have shown that the dam has been full since the mid-1990's, so it exceeds the 20-year review.

Mr. Callahan stated that a federal dredged material management plan (federal DMMP) is required for navigation channels that require a preliminary assessment. A fact sheet can be viewed at the following website: https://cdm16021.contentdm.oclc.org/digital/collection/p16021coll11/id/465. A federal DMMP is a project-specific plan, which typically addresses the dredging needs over a 20-year horizon, the capacities of both existing and proposed sites, environmental compliance requirements, potential for beneficial use of the dredged materials, and economic justification of continued maintenance. Federal DMMP's are 100% federally funded.

Mr. McGeady inquired about the budgetary timeframe. Mr. Callahan replied that the budget for the Civil Works Program is prepared two years in advance. Federal DMMPs have a 20-year horizon because they are not technically budget documents. Federal DMMPs are used as long-term forecasting tools for large investments in placement sites such as Poplar Island and Mid-Bay Islands because they confirm the timing and the need for the projects.

Mr. Callahan stated that by policy, the Corps is required to perform a preliminary assessment to identify if a new federal DMMP update is needed. For example, if a placement site ran out of capacity or if open water placement is no longer an option, that circumstance would trigger a preliminary assessment.

Mr. Haid inquired about the location of the end of Baltimore Inner Harbor channels. Mr. Callahan replied that the Patapsco River marks the end of the Inner Harbor channels. The Maryland channels are roughly channels between the Chesapeake Bay Bridge and the Francis Scott Key Bridge.

The federal DMMP results in two things; a federal standard and a recommended plan. A federal standard is 100% funded by the federal government and includes the dredging, transportation, and placement to a federal standard. The federal standard requirements include: 1) It must be the least costly alternative; 2) It must be consistent with sound engineering practices; and 3) It must be compliant with federal environmental laws. For example, Pooles Island Open Water Placement Site is the federal standard for C&D Canal Approach channel material.

A recommended plan meets capacity needs, maximizes environmental benefit, and is compliant with federal and state environmental laws. If the recommended plan is used, an alternate source must pay for the dredging, transportation, and placement of material. Mr. Stainman asked for clarification between the federal standard and the recommended plan. Ms. Fidler replied that if the federal standard is open water

placement, but a law banning open water placement is in effect, which is the case in Maryland, anything over the cost of the federal standard must be paid separately.

Mr. Ganser asked for clarification of a confined aquatic disposal (CAD) site, which was referenced on a slide of the presentation. Ms. Miller replied that a CAD site is a depression dug at the bottom of a river, usually to remove sandy material, and dredged material will be placed and contained within the depression. Mr. Richardson asked if a cap is placed on top of the CAD site. Ms. Miller replied that it depends on the type of material that is placed in the CAD site. Because MDOT MPA places maintenance material that is consistent with the surrounding material, a cap is not necessary for the CAD site. However, a certain amount of empty space remains on the top to ensure material does not migrate from site. If material is highly contaminated, then a cap should be considered.

Ms. Whilden inquired about the extent to which environmental benefits are factored into the federal DMMP; she asked if it is specialized to only the site where dredged material is placed or if it is a broader goal. Mr. Callahan replied that the goal is to benefit the environment both where dredged material is placed and anywhere within the vicinity of the sites. Mr. Callahan stated that projects such as Mid-Bay Islands and Poplar Island placement sites are completely justified and authorized based on their environmental benefits. Ms. Whilden asked how the Corps justifies the site based on environmental impacts. Mr. Callahan replied that the Corps uses island community units, which are indicative of an amalgamation of several habitat indices used to determine the overall benefit. Ms. Fidler explained that the federal standard and recommended plan are reported within the federal DMMP. For example, the Mid-Bay Islands project is the recommended plan for a follow-up to Poplar Island. Ms. Fidler recommends all attendees to visit MDOT MPA's website to read the fact sheets and to learn more about the DMMP, which can be found at the following link: https://mpa.maryland.gov/greenport/Pages/publications.aspx.

4.0 Pilot's Perspective: Importance of Dredging *Captain Eric Nielson, USACE*

Captain Nielson stated that the Association of Maryland Pilots is a direct beneficiary of the dredged channels. The Association of Maryland Pilots includes 67 men and women who are licensed by the State of Maryland and the U.S. Coast Guard (USCG) to pilot large ships moving through the Chesapeake Bay. They provide 24/7 pilotage for oceangoing ships on the Chesapeake Bay, C&D Canal, and the Potomac River which serves the POB, Washington DC, Annapolis, Cove Point, Piney Point, and other destinations in Maryland waters. The Association of Maryland Pilots moves more than 5,000 ships per year.

Pilots provide specialized skills needed to successfully transit the narrow, restricted waterways of the Chesapeake Bay and dock safely. They provide two specialized skills that deep sea ship officers lack: ship handling specific to the complex and narrow hydrological conditions of the Chesapeake Bay and overall local expertise. All pilots were either former chief officers or masters that the State selected to train as expert pilots in the Chesapeake Bay. There is a five-year training program, and once through, a pilot does not move to another location. Pilots represent the citizens of the State by protecting natural resources while efficiently moving maritime commerce that fuels Maryland's economic engine.

There are four pilot stations for the Maryland channels: Baltimore, C&D Canal, Solomon's Island, and Cape Henry, VA; three launch stations in Baltimore, Annapolis, and the Potomac River; 11 high-speed diesel launches that range from 44 to 53 feet; and 80 portable pilot units that aid in precise cross track information.

Captain Nielson stated that there are aspects above and below the water that can potentially affect the maneuvering of the ship. Above the water, wind and current forces ships to move slightly sideways (crab) in order to stay within a confined channel, causing a ship to sweep a much larger path than their usual width. The faster the ship moves the less crabbing occurs. Under the water, there is the hydrodynamic interaction, which includes the interactions between the ship, the bottom and sides of the channel, and other ships. High and low air pressure areas can also affect the way the ships move. The bank effect occurs when a ship's stern is close to the channel's bank and the high-pressure area between the ship's bow and the bank pushes the ship towards the middle of the channel.

Ships also interact while they are moving past each other. When the two bows approach each other, the high pressure is pushing the ships away from the center of the channel. As they pass and the sterns are close, the low pressure is pulling the ships closer to the center of the channel, while the high pressure at the bows are pushing them towards the ends of the channel. All of this must be anticipated by the pilot before the ships move past each other.

Bottom clearance is another aspect that pilots must consider. Bottom clearance becomes an issue when the water level is less than twice that of the draft of the ship. The shipping channels through the entire Chesapeake Bay are maintained at 50 feet which is less than one times the draft of many ships that move through the channels. The bow of ships will have a negative pressure area causing them to sink down, or squat. The faster the ship is moving, the worse the squat becomes. With a bow squat, the rudder becomes much less affective. Impacts of above water forces are increased at lower speeds, while impacts of underwater forces are increased at higher speeds. The pilot's job is to balance the two forces and maneuver the ships through the channels safely.

Association of Maryland Pilots work with the Corps to determine which channels need to be dredged, within the limited budget and capacity of the containment facilities. They also work with MDOT MPA to conduct studies through the Maritime Institute of Technology and Graduate Studies on port improvement projects. The latest study conducted was to dredge the least amount of material while widening the Seagirt Marine Terminal.

Mr. Stainmen asked how the accident rate in Baltimore compares to other ports on the east coast. Mr. Nielson replied that he is unaware of accident rates from Maryland ports or other ports. He stated that pilots around the country are taught to be very safe and to avoid potential dangers.

Ms. Whilden asked if guided passage by the Association of Maryland Pilots is mandatory for ships entering the POB. Captain Nielson stated that pilots are state mandated and all foreign trade vessels must have a state licensed pilot to pilot them into and out of a port. There is a federal exemption for US ships with US crews moving from one US port to another; their pilot needs to be licensed by the USCG.

5.0 GreenPort: MPA Sustainability Initiatives *Bill Richardson, MDOT MPA*

Mr. Richardson stated that MDOT MPA's environmental policy states "stewardship and sustainability of the environment and protection of human health are essential elements of its mission." MDOT MPA accomplishes this mission through economic development, environmental stewardship, and social responsibility. The POB is rated first in the country for roll on/roll off cargo, first in imported sugar, second in imported alumina, and exported coal, ninth in overall foreign cargo value, and eleventh in overall foreign cargo tonnage.

MDOT MPA uses a program to inform, engage, and invest to be a good neighbor to Baltimore City by sharing facts about the POB with the public. MDOT MPA builds relationships with community organizations and invests time into partnering with like-interested organizations to better the community. Community partnerships and advocates have been instrumental in gaining funding and vital regarding completion of projects within the community.

MDOT MPA has seven public terminals that consist of mostly impervious surfaces, which makes water quality projects on the terminals very challenging. MDOT MPA partnered with a local green roof company and DNR to install a light-weight green roof on a building at the Dundalk Marine Terminal. A traditional green roof design weighs approximately 56 lbs. per square foot. However, the buildings at the terminal are old and cannot support that weight. An innovative design was created to reduce the weight to 10 lbs. per square foot. This is the lightest green roof in the country that still provides water quality benefits.

Another challenge for MDOT MPA is to improve water quality without affecting cargo movement, which was accomplished by installing an aboveground sand filter on an already existing gravel slope off a raised lot. A wall was built up, filled with sand, and vegetation was planted on the sand filter.

MDOT MPA also seeks reduction in energy production and consumption. A successful algae-to-energy project was installed using water pulled in from the Patapsco River where it moves over an algae flow-way. The algae growth removes nutrients from the water and improves water quality. The algae are harvested for compost to create a biogas which fuels the cell to develop a closed group system.

MDOT MPA partnered with the Baltimore Zoo to mediate an incised stream bed at the entrance. A step pool conveyance system and a stormwater pond were installed to solve the issue. The Baltimore Zoo is using the two features as education points for visitors and the biology and ecology are being documented and monitored.

MDOT MPA partnered with Arlington Echo to install a living shoreline at their site. The feature is being used to aid in Arlington Echo's environmental education programs.

MDOT MPA partnered with Bluewater Baltimore to plant 1,000 trees in and around Baltimore neighborhoods through the urban forestry partnership. Mr. Richardson played a GreenPort EcoMinute video with details, which can be found at https://mpa.maryland.gov/greenport/Pages/publications.aspx.

Since 2000, air quality in Maryland has improved, however, Baltimore City has one of the highest parts per billion ozone concentrations. With approximately 53% of all emissions in Maryland come from mobile vehicles, MDOT MPA is committed to reducing mobile truck and cargo handling equipment emissions on their ports. MDOT MPA has successfully received federal diesel emissions reduction act (DERA) funds and since 2008, has used the funds to repower or replace 110 pieces of diesel cargo-handling equipment, installed automatic stop-start anti-idling devices on six port switcher locomotives, retrofitted four harbor craft engines, and supported MDOT MPA's dray truck replacement program.

Since 2009, MDOT MPA's dray truck replacement program has replaced 192 dray trucks. Mr. Richardson played a GreenPort EcoMinute video regarding MDOT MPA's dray truck replacement program, which can be found at https://mpa.maryland.gov/greenport/Pages/publications.aspx. An emissions study and a

cargo study were conducted in 2012 and in 2016. Port emissions decreased by 19% while cargo emissions throughout increased by 10%.

Ms. Whilden asked how the offsite remediation projects are chosen. Mr. Richardson replied that the offsite remediation projects and sites are chosen after extended discussion with partners. Ms. Whilden asked if anyone could submit a proposal to MDOT MPA for a remediation project. Mr. Richardson replied yes, anyone can send in a proposal.

6.0 Announcements/Closing Remarks *Kristen Fidler, MDOT MPA*

Ms. Fidler stated that at the February 13 DMMP CAC meeting, MDOT MPA asked for a letter of support from the CAC to the US Department of Transportation (DOT) regarding Maryland's application for federal funding for the Howard Street Tunnel. Ms. Fidler thanked the CAC for their letter of support. US DOT granted $125 million for restoration to the tunnel to allow for double stacked cargo.

Ms. Fidler passed out a handout with harbor development information, which is attached to the end of this summary. Ms. Fidler stated that the 2019 Maryland DMMP Mid-Year Report is complete and is currently on MDOT MPA's website for public view.

Ms. Fidler thanked everyone for coming to the joint meeting and passed around a feedback survey.

7.0 Committee Administration *Steve Pattison & Angie Ashely*

The next Harbor Team meeting will be held on October 24.

Ms. Ashley will inform the DMMP CAC members of the annual fall field trip details once they are available.

The Annual Meeting is scheduled for November 8, 2019 at the Sollers Point Multi-Purpose Center in Dundalk.