



Carroll County Environmental Advisory Council

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Karen Leatherwood, Chair
David Hynes, Vice Chair

Brenda Dinne, Staff Liaison
Department of Land
& Resource Management

Meeting Summary for August 17, 2016

Members

Karen Leatherwood, Chair – absent
David Hynes, Vice Chair
Curtis Barret
Ellen Cutsail
Amy Krebs
Frank Vleck
Sandy Zebal

County Government

Brenda Dinne, Special Projects Coordinator / EAC Staff
Liaison
Cindy Myers-Crumbacker, Recording Secretary
Tom Devilbiss, Director, Land & Resource Management

Other Attendees

Kristen Weiss Fidler, Maryland Port Authority

1. CALL TO ORDER –

Mr. Hynes, Vice Chair, officially called the August 17, 2016, meeting to order at 3:00 p.m. in Room 105 of the County Office Building. (Ms. Leatherwood was away this month.)

2. PUBLIC COMMENTS AND CONCERNS –

No public comments were offered.

3. APPROVAL OF MEETING MINUTES –

Approval of the July minutes was discussed, and no changes were offered.

APPROVAL OF MINUTES – Motion 256-16: Motion was made by Frank Vleck and seconded by Ellen Cutsail to approve the July 17, 2016, meeting minutes. Motion carried.

4. CHAIR AND COMMITTEE REPORTS –

a. Solid Waste Subcommittee:

Ms. Cutsail reported that there has been no new activity since last month, as the Solid Waste Advisory Council (SWAC) has not met since then. Mr. Vleck noted that he had recently seen in Westminster area three different haulers picking up the trash. Ms. Cutsail commented it must have been in an unincorporated area, which individuals are responsible for arranging their own hauler. Districting by haulers is being discussed in the SWAC.

5. STAFF LIASION REPORT

Ms. Dinne reported that the September meeting agenda will include a status update on the residential solar requirements amendment, continued discussion on the public MS4

workshop/event, and discussion on the lightweight aggregate fact sheet. In addition, someone will be coming to provide an informational presentation regarding the County's Energy Saver Loan Program.

Ms. Dinne indicated that Glenn Edwards has sent dates for two upcoming event volunteer opportunities. Sykesville Harvest will be on September 10, and Mt. Airy Lions Fall Festival will be on October 1, 2016. More information will be passed along as it becomes available, but anyone interested in volunteering can let Ms. Dinne know.

6. **OLD BUSINESS** –

a. *Lightweight Aggregate – Maryland Port Administration*

Ms. Kristen Weiss Fidler, Senior Policy Analyst and Outreach Strategist with Maryland Port Administration (MPA), presented to the EAC regarding MPA's experience with lightweight aggregate (LWA) in the context of the port's dredging needs. *Attached presentation, "Innovative Reuse Dredged Material," accompanies this summary.*

Slide 2: Ms. Fidler started by pointing out that not all issues experienced by MPA are applicable elsewhere. She explained that MPA is required to have a rolling 20-year plan for dealing with dredge material. The current annual dredging is considered "maintenance dredging." Dredging occurs in the harbor as well as in the shipping channels. They have a couple containment facilities that receive the dredge material – Cox Creek and Masonville. These are relatively smaller facilities. In 2009, the 1,100-acre Hart-Miller Island was closed for additional dredge material, which created a long-term capacity issue. Poplar Island is a site where dredge material is being used to rebuild an eroded island in the Bay. This is considered a beneficial reuse project and is helping to rebuild habitat, restore wetlands, stabilize the shoreline, and enhance aquatic habitat. Solutions for additional capacity must be prioritized, with beneficial and innovative reuse given top priority. An innovative reuse project would be one in which you blend dredge material with something else, such as compost or concrete, to create a usable product.

Innovative reuse was defined in statute in 2001, so it is not a new concept. However, while they are actively making headway, MPA has hit several pitfalls. They found, after a ten-year pilot project, that there could not be one "silver bullet" to address the problem of what to do with the dredge materials.

The material dredged is very fine, not like sand. It is a mix of silts and clays, which impacts what the material can be used for. Metals, such as naturally occurring arsenic and chromium, bind to the fine material. There are some organics, but in low concentration. The materials must be tested by the U.S. Army Corps of Engineers (USACE), which needs to show that the material is not hazardous waste in order for a permit to be issued under the Clean Water Act.

The options to address the pollutants in the sediment are to bind them to something else or to burn them off. Each new "touch" or process increases the cost of the final product or placement. Cox Creek and Masonville are the last two sites available with deep-water access and low transportation costs. Potential new sites are surrounded by densely populated areas, making it difficult to find a way forward. The harbor and Bay dredge materials both met the stringent ocean placement standards.

Slide 3: MPA funded several projects from 2008-2013 looking for alternatives to the Bay islands and containment facilities. Lightweight aggregate was among these. This pilot project was successful in that it showed that the dredge material could be made into this product.

Maryland Department of the Environment (MDE) was comfortable with the process and the product, and it came down to whether MPA was comfortable with moving forward.

Slide 4: Ms. Fidler described what LWA is and passed around samples.

Slide 5: A Public-Private Partnership (P3) Request for Information (RFI) was issued. The responses were extremely limited.

Slide 6 & 7: The 2014 General Assembly saw that the MPA was looking at investing in these lightweight aggregate facilities and wanted to know more about it. A work group was formed, and only six months were given to do the market and product research, feasibility, etc. A Joint Chairmen's Report was issued. As a result, the report concluded that there was a severe lack of competition and experience at a large scale, and a Request for Proposal (RFP) was not subsequently issued. Another factor was that, while MPA wants to dredge annually to maintain the harbor and shipping channels, the USACE actually performs the dredging. The USACE will only dredge if it remains authorized and funded.

Slide 8: Ms. Fidler reviewed lessons learned through the process of the report and the pilot projects. One of the big obstacles to marketability is the perception that the material is contaminated. There was market demand, but it was speculative due to the contaminants. The public has challenged the permit many times in the past 30 years, with significant opposition to other uses of the dredge material. Another obstacle is the lack of performance history of a comparable product and inability to guarantee quantity. The USACE has control over the dredge material, so MPA cannot commit to quantities. The cost at the time of the study also proved to be significantly more expensive than traditional methods. Ms. Fidler noted that there may be some operations existing internationally now that did not exist at the time of the study. She also pointed out that most traditional method cost estimates do not take into account the long-term costs of placement options. Since most alternative methods have looked at long-term costs, the cost comparison is difficult. They have not yet been able to put a cost on avoidance of a new "landfill."

Slide 9: Costs per cubic yard escalated at 3 percent per year shown on the chart that eventually the cost of traditional methods would surpass the cost of innovative reuse / beneficial use. Since it takes 5 to 15 years to get a new site, MPA needs to start moving forward with something now. After the Joint Chairmen's Report was issued, MPA decided to move forward with a series of smaller solutions and will have to include public education and outreach.

MDE was brought into discussions for options to move forward. While comfortable with the LWA product, MDE had a slew of uncertainties for other uses. There is no standard for comparison. In addition, it was unclear which MDE agency would actually regulate and approve the use, and no decision was made on this issue.

Slide 10: An IBR (Innovative/Beneficial Reuse) Workgroup was formed one year ago to try to address some of the outstanding issues. The group includes MPA, MDE, USACE, Department of Natural Resources (DNR), and others. Bruce Michael, who was present at the Harbor Rock presentation last month, is on this workgroup. The workgroup will wrap up this time next year. The final report will have to be approved by the secretaries of all of these agencies. It will take another year beyond that to issue an RFI or RFP, which would be for any reuse, not just LWA. While the focus is on Port material, this could address dredge material from anywhere in the state. Therefore, any recommended regulations or framework should not preclude non-Port dredging.

The USACE comes up with the base/plan standards. The U.S. Environmental Protection Agency (EPA) and USACE issued beneficial use guidance but leave the regulation of it up to the State. State law could require placement elsewhere.

Ms. Fidler entertained questions from the EAC members then departed the meeting.

Mr. Devilbiss noted that the Port generates \$2.2 billion per year in revenue, and MPA is still having difficulty getting other agencies to move forward with a solution. Addressing the material behind the Conowingo Dam will not generate any revenue for the State. In addition, the material behind the Conowingo is very old, hasn't been touched, and contains pollutants from agriculture and mining. Given the additional challenges of the contents of this material, getting a decision made at the State and Federal levels seems like an even greater barrier to moving forward than that for the Port of Baltimore.

Ms. Dinne concluded the discussion by saying that the topic will be on the EAC agenda for discussion for the next couple months to complete the Fact Sheet tasked to the EAC in its 2016 work plan.

b. General Public Workshop – Discussion

Ms. Dinne initiated discussion regarding the format for the public workshop. The format needs to be nailed down before a facility can be reserved, as the type of event will dictate the type of facility needed. She reminded the members that Ms. Leatherwood suggested that George Schooley speak about care of septic systems. She also informed the group that she had contacted Maria Myers about partnering to hold the rain barrel and compost bin sale at the same date and location, but it wouldn't work out because Ms. Myers could not transport the bins to other locations.

It was suggested that solar could be another topic for the workshop. Ms. Krebs asked if the workshop is a requirement in the NPDES MS4 permit, as solar would not fall under the topic of stormwater. Ms. Dinne replied that the permit indicates the type of information that must be addressed but does not specify the delivery methods. It does not specifically say a workshop must be held. She went on to say that we would still be able to take credit for the effort as long as stormwater was a topic addressed at the event. It would not have to be limited to addressing stormwater.

There was some discussion on the recent flooding in Ellicott City. Mr. Devilbiss clarified that the purpose of stormwater management is not for flood control; it is to address water quality. Ms. Cutsail suggested that stormwater as it relates to homeowners should be a workshop topic – what stormwater is and what homeowners can do.

Ms. Krebs suggested partnering with industry in some way to be able to provide information to homeowners on products they may want to learn more about.

Ms. Dinne said that staff will begin looking for a facility for the event.

c. Residential Solar Size Requirements – Discussion

Ms. Krebs reported on the EAC meeting with the Carroll County Planning Commission on the evening of August 3. Ms. Leatherwood indicated the issues they discussed subsequent to the June 29 meeting with the Planning Commission and the EAC's decision not to change its recommendation. She said that Commissioner Rothschild offered a brief presentation and comments. The Planning Commission then voted unanimously to support the EAC's recommendations without any changes.

Ms. Dinne shared the next steps. At this point, the process transfers to staff. The EAC gave their report and recommendations to the Board. The staff will now take those recommendations and bring a code amendment proposal to the Board that would implement the EAC's recommendations. Staff requested time on the BCC agenda. EAC members would still be needed at that meeting to answer questions on their discussion and decision. Staff will request approval from the Board to proceed with scheduling a public hearing.

Ms. Dinne brought up that, at that time, staff will need to make the Board aware that a minor change was made to clarify the intention of the EAC with regard to the maximum surface area of solar panels on lots over three acres. The language was originally based on the roof, or roofs, of all structures on the property. At the Planning Commission meeting, Ms. Leatherwood indicated that this was intended to refer to the building footprint. Mr. Voight agreed at that time. Members of the EAC questioned if this was their intent. Ms. Cutsail read the wording from the minutes for the meeting at which the issue was voted on, which specifically read that the solar surface area was based on the area of the roof, or roofs, of all structures on the property. After some discussion, all agreed that this should not be changed to read that the maximum surface area is based on the building footprint. The basis should remain with roof area. Ms. Dinne will ensure the language that is presented to the Board reflects this.

7. **NEW BUSINESS –**
None

8. **OTHER –**
None

9. **ADJOURN REGULAR MEETING –**

ADJOURNMENT OF MEETING – Motion 257-16: Motion was made by Sandra Zebal and seconded by Ellen Cutsail to adjourn the August 17, 2016, meeting. Motion carried.

The meeting adjourned at 4:51 p.m. The next regular monthly meeting is scheduled for Wednesday, September 21, 2016, at 3:00 p.m. in Room 311 of the County Office Building.



Innovative Reuse Dredged Material

Lessons Learned: Lightweight Aggregate Pilot Project

Carroll County Commissioners
Environmental Advisory Council
August 17, 2016



Background

- ▶ Maryland's Dredged Material Management Program
 - **Dredging Needs** – maintain a safe and clear shipping channel
 - Bay material
 - Harbor material
 - C&D Canal approach channels material
 - **Placement Capacity** – availability; cost-effectiveness; public acceptance
 - **Management Solutions: Priorities for the Program**
 - Beneficial Use
 - Innovative Reuse
 - Goal: Recycle 500,000 cy of Harbor material per year
 - **What's in the Material?**
 - Sediment Quality
 - Physical Characteristics
 - Chemical Characteristics



Innovative Reuse

- ▶ **Innovative Reuse:** includes the use of dredged material in the development or manufacturing of commercial, industrial, horticultural, agricultural, or other products.
 - MPA Demonstration Projects 2008 – 2013
 - Schnabel Engineered Fill
 - Shirley Plantation Reclamation
 - Lightweight Aggregate
 - Manufactured Topsoil Processing
 - Agricultural Amendments
 - Request for Information (RFI) for LWA 2013
 - Joint Chairmen's Report (JCR) 2014
 - Revised Innovative & Beneficial Reuse Strategy 2014
 - Interagency Regulatory Workgroup 2015-2016

Lightweight Aggregate

- ▶ Lightweight Aggregate (LWA)
 - LWA is a coarse aggregate used in the creation of lightweight products such as concrete block or pavement.
 - Thermal processing technology proven to meet industry standards for a marketable product on a demonstration scale.
 - MPA conducted small-scale pilot project 2009 - 2012





RFI - LWA

- ▶ Public-Private Partnership RFI issued December 2013
 - **Purpose:**
 - obtain information on capacity recovery at Cox Creek DMCF by converting dredged material to LWA.
 - Sent to over 375 companies and academic institutions, advertised on MPA's main and Safe Passage websites, and eMaryland Marketplace.
 - **Response:**
 - one turn-key provider,
 - seven equipment/systems suppliers,
 - one mining and processing firm
 - **Conclusion:** severe lack of competition therefore ultimately no RFP was pursued. Unsuccessful effort to expand the LWA pilot project into a full scale operation.



Joint Chairmen's Report

Considerations



- ▶ **Technical Feasibility**
 - Effort, Time, Costs, Practicality
 - Only limited pilot scale experiences; no analysis of production level scale projects
- ▶ **Commercial Viability**
 - Project Costs
 - Revenue from Sale of LWA
 - Marketability – Competing Products / Demand / Contaminants
- ▶ **Environmental Impacts / Permits**
- ▶ **Competition**
- ▶ **Regulatory Questions**
- ▶ **Public Acceptance Questions**



Joint Chairmen's Report

Analysis



- ▶ Technically feasible, but no full-scale implementation anywhere
- ▶ Market demand for LWA, but due to contaminants in Harbor dredged material demand is speculative
- ▶ Estimated commercial value comparable to existing LWA products, however, competing products are not associated with contaminants – likely barrier to market acceptance
- ▶ Understanding/assessing full value of LWA needs a performance history of a comparable product
- ▶ 1.5 times more expensive than the most expensive traditional methods of dredged material management
- ▶ Recommended implementing **Revised IR Strategy**

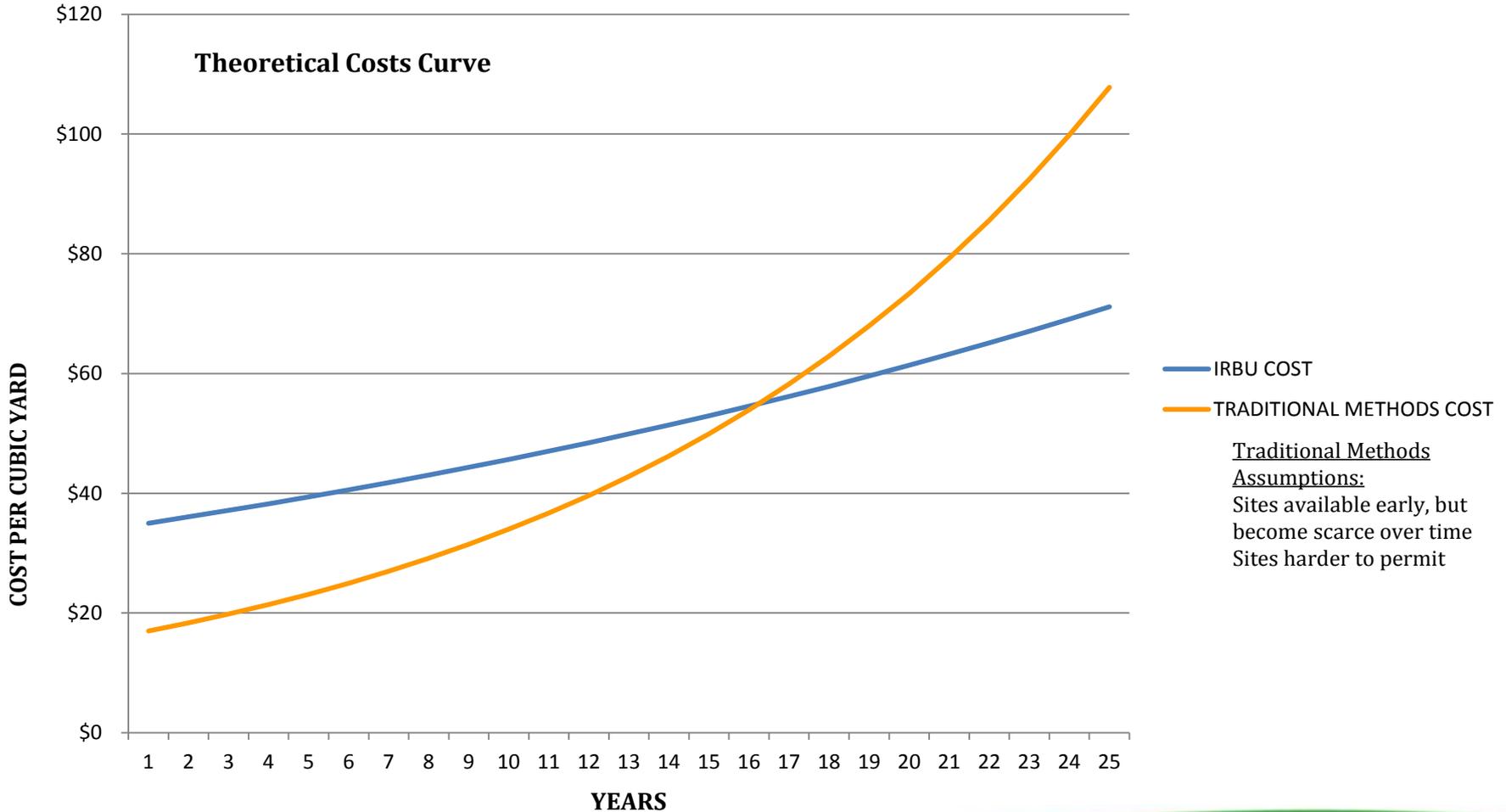


Lessons Learned

- ▶ Market and market sustainability difficult to predict.
- ▶ Reliable volume and quality of available dredged material key to project economics.
- ▶ All IR options studied to date have costs per cy that are significantly higher than those associated with traditional dredged material placement options.
 - However:
 - Most cost per cy estimates do not take account of all future costs or the full suite of benefits.
 - There are fewer and fewer options for long-term placement, and costs for placement and management are expected to increase over time.
 - Cost estimates have not been “apples to apples”.



Cost considerations for decision IRBU vs. traditional land-based containment methods





IBR Regulatory Workgroup

- ▶ **Goal:** As part of the 2014 Revised IBR Strategy, conduct comprehensive review of best practices around the country and identify recommendations for policy changes to establish a more predictable, streamlined regulatory framework within which to implement IR in Maryland.
- ▶ **Key Findings & Recommendations:**
 - Technical Screening Criteria & Guidance Document
 - Close Regulatory Gaps through Existing Permitting Mechanisms where Applicable
 - State Agencies as a Leader in Reuse
 - Outreach & Education – Public Support/Acceptance Needed
 - Continue to Evaluate Need for Statute Change/COMAR
- ▶ **Next Steps:**
 - Outreach/Education Tools: Fall 2016
 - MDE Approved Technical Screening Criteria & Guidance: Spring 2017
 - Executive Order for State Agencies: 2017



Questions?

END