

MINUTES

Baltimore County Advisory Commission on Environmental Quality (CEQ)
February 22, 2023 7 PM Online Meeting on Webex

CEQ meeting dates, membership information, and reports are available at www.baltimorecountymd.gov/Agencies/ceq/index.html

Our thanks to Brian Lindley of EPS for coordinating Webex meetings during the pandemic.

Attendance: County Executive Johnny Olszewski, Councilman Wade Kach, Adreon Hubbard, Jenna Mitchell, Carol Newill, Karen Wynn, Lois Jacobs, Rachel Pierson, Radu Zamfirache, Vrindarani Pani, Jennifer Aiosa, Dustin Shearer, Brian Lindley, Andy Miller, Steve Malan, Renee Hamidi, Pat Keller, Chris Overcash, phone caller, Valerie Androutsopoulos, Brough Schamp, Brian Fath, Mahnaz Masaheri Assadi, Ralph Brown, Scott Greatorex, Councilman Mike Ertel, John W, Ben Wright, David Berger, Lynda Eisenberg, Meg McFadden, Brian Bernstein, Councilman David Marks, John Lee

- I. Welcome. Everyone mute please.
- II. Remarks from the County Executive. Thanks Carol for your leadership as well as our dedicated Commission members and guests, agency leaders and their partners at MDE and DNR and Council members. Thanks to Radu for leading tonight's presentation and for his work across DPWT. We are excited to be part of the conversation because increasing resiliency is a critical next step; we need to be a leader and to take actions from maintaining open spaces, reducing reliance on harmful pollutants, planting and preserving trees, renewable energy etc. We know we are not immune from effects of weather and flooding and that extreme and heavy rain cause threats to residents and infrastructure. This is why we created a division of green infrastructure within DPWT and added programs to DEPS, and invested hundreds of millions of dollars to try to strengthen resilience and to combat effects of climate change. This administration looks forward to continuing to work with the Council and CEQ and others to safeguard the future of the County.
- III. This is the 4th evening of the CEQ series on the expected increases in extreme weather and water-related challenges in Baltimore County, their projected impacts and the development of plans for resiliency to protect essential infrastructure and public health. Focus is on the water-related challenges in our county, both coastal and non-coastal, that are expected due to global warming and exacerbated or lessened by local decisions and interventions. Goals are to present information and stimulate discussion in support of increasing resiliency through climate change adaptation, among County and State leaders, academia, private industry, and the public.

The full schedule has been posted on the CEQ webpage, and is at:

<https://resources.baltimorecountymd.gov/Documents/CEQ/speakerseriesonresiliencetoextremestormsandfloodsschedule20230106.pdf>

Radu Zamfirache is speaking tonight on "Resilience, Adaptation and the Drainage Assets Management Program". His presentation will include a summary of the findings

of the report about flood risk to County-owned properties, which is called The Climate Action Plan and Resilience Assessment; the report and its appendices are at: <https://www.baltimorecountymd.gov/departments/executive/initiatives/sustainability/initiatives/>

Mr. Zamfirache is a senior engineer, Engineer III, in the County's Storm Drainage Design Section of DPWT. He holds a degree in Environmental Engineering, Land Reclamation and Drainage, as well as a Master's degree in Physics of Porous Media.

Presentation:

Resilience, adaptation and the Storm Drainage Asset Management (SDAM Program) Hazen report – adaptation plan is part of this.
Resilience and adaptation – Baltimore Co drainage system – SDAM – Climate Action plan – Challenges and response – Q&A

Will go through slides quickly to leave time for Q&A and discussion.

Resilience is the ability to retain drainage function in the county's system in the face of stresses, especially related to climate change. What do we do to manage our drainage assets? How does this relate to the climate action plan?

The Drainage system – concept of watershed – land area encompassing all sources of discharge leading to the outfall point. Drainage flows along drainage paths and we need to know that along any give drainage path – e.g. blue lines – ownership of drainage changes multiple times because unlike other utilities, ownership responsibility stays with the land, not with the water. We all know what happens when water falls on the surface, eventually moves into thousands of structures, drainage pipes, outfalls, and thousands of miles of stream. In Baltimore County this include about 1500 public and 2300 private stormwater management features.

Baltimore County DPWT administers public drainage on county-owned lands and includes drainage and utility easement on otherwise private lands.

Maintaining the system traditionally was reactive; climate change and adaptation require a new approach. This is what led to construction of the Storm Drainage Asset Management System.

Screen shot shows manhole counts, inlet counts, outlet count, feet of pipe, miles of pipe, average age and replacement cost. We need to know the condition of all of this infrastructure.

Composite matrices are generated for assessing asset risk. A sample pair was shown for likelihood of failure and consequence of failure matrices for drainage pipes. The higher the likelihood of these failures, the higher the priority.

Matrices are based on four modules:

1. Asset condition assessment
2. Public feedback evaluation (complaints and concerns analysis)
3. Sensitivity to weather-related stressors; climate change resilience planning

4. Drainage network performance assessment and conveyance capacity analysis using PC-SWMM.

Sample questionnaire using tablet and cell phones to assess condition of every asset including ditches, swales and roads as well as all other elements of infrastructure.

Developed metrics to evaluate public feedback – how a certain asset affects people.

Sensitivity to stressors and climate change resilience and then drainage network performance assessment.

Consequence of failure:

Asset specific

Proximity to structures, hospitals, schools, etc; Environmental Justice score; number of people impacted; impacted roads classification.

The whole system is being tested on six pilot areas

Climate action plan is joint enterprise of Sustainability and DPWT. Hazen report focuses on hydrologic risks. The report identifies ranges of future climate change as used for impact evaluation, assesses the extent of potential impacts, makes recommendations for 2050 and 2080.

We are using the RCP 4.5 stabilized emissions scenario for 2040-2050. For sea-level rise we are using the recommended range of 1.6 ft increase for 2050 and 2.6 ft increase for 2080 at the conservative end of the upper (67% upper probability) range.

For precipitation changes, estimates are under development. The County chose to recommend 15% uniform increases in all storm design values through 2050, 30% uniform increases through 2080.

With these assumptions, we conducted a comprehensive impact analysis of flood vulnerability, coastal inundation, and mapped historic streams currently piped through storm drainage systems. The analysis ranks assets by risk and is weighted by importance of the asset.

Hospitals, nursing homes, child care centers etc. are included but not in the ranking.

We assess the extent of potential impacts, including nuisance impacts, up to 1.75 ft above Mean High Water at Baltimore Harbor. The assessment includes 121 sanitary sewer pumping stations at risk.

Climate drives transportation impacts analysis for emergency response based on alteration (expansion) of emergency services response time caused by obstructions to identify road segments that should see priority for funding of projects.

Recommendations: we produced an adaptation catalogue listing possible measures the county needs to take, classified by threat to be mitigated, suggested unit cost, etc.

We have a long list of challenges. We expect the whole SDAM to cost approximately \$40-51 million and to take between 7 and 10 years, and would need about \$5 million/year.

Capital absorption is a challenge; need consultants and contractors capable of spending money effectively and efficiently. There is bureaucratic complexity in securing grants which are mostly structured for single-event funding.

There is also lack of uniform abilities, regional standardization and common approaches among local jurisdictions. Not everyone is on the same page on what to do.

(other points on slide, couldn't keep up)

How do we respond to challenges?

Developed climate assessment

Developed SDAM system

Hired Thorne Environmental to evaluate what and how to secure adequate revenue streams, potential creation of resilience authority

Created green infrastructure design group

Applied for and secured grants and other financial aid

Participate, together with surrounding jurisdictions in the Baltimore metro area, in the Baltimore Metro Council initiative of building a Resiliency & Sustainability framework to tackle these challenges on a regional level. (is that correct?)

Question:

Chris Overcash: could you speak to the resiliency plan for coastal zone pumping stations?

A: Our climate action plan (Hazen) incorporated earlier results of JMP engineering, identified which stations are in need of additional floodproofing and other measures; a suite of recommendations were in that plan. Ben Wright from Hazen is here tonight – he was project manager and can add to this.

Most of the Baltimore County pumping stations are already at an elevation above the 100-year floodplain, some have an additional buffer to account for storm surge but not all. Of 121 pump stations, a much smaller number needed to be considered for additional efforts to make them resilient. These are connected to permanent drainage infrastructure which cannot be moved, so the only solution is to move them up and add some protective infrastructure.

Q: What about backup generators, HVAC improvements?

Wade Kach: with our stormwater management, increased pollution is occurring. Look for instance at Lake Roland – if fishing there whatever is caught has limits on what can be eaten safely. Second, with stormwater management in new developments, over the years the requirements have changed and have gotten more stringent but we need to take a look at today's requirements because they need updating. Yesterday the Council looked at a bill that would result in increased development and it would allow the developer to

ask for variances when it comes to trees, open space, landscaping, etc. So there is increased density yet there is the ability for a developer to remove the very things that help us with stormwater management. I would like to hear comments on that. Third, I know of many communities where the stormwater system is not maintained by the county but by the community association and that does cause concern – we need people inspecting these to make sure they are maintained properly.

A: We are familiar with the situation at Roland Run and Lake Roland; in fact at the Lake Roland dam there are only 7 feet of freeboard left because of 150 years of deposition. Baltimore County took it over from the city; it's not our property but we try to do what we can, however fixing it is beyond our capability.

Regarding stormwater management regulations, that is a very active field nowadays and there have been ongoing changes for 50 years from when we focused exclusively on quantity, then mandated that any developer produces downstream discharge no different from predevelopment flows for 2- and 100-year recurrence intervals. But later when we moved to water quality as a mandated goal for stormwater management, the only mandate was to control the 1-year storm. In 2009 we moved to water quality exclusively at the state level, but we are now talking about having to treat the first three inches of precipitation. There is talk of trying to move back to integrated management of quality and quantity. Green infrastructure can retain some water in aquifers but cannot manage the more extreme precipitation events. Design is for the 10-year storm and even that is changing; and if it overwhelms green infrastructure then much of your investment is not able to do its job. This is true not just for Baltimore County but across jurisdictions and we are trying to work across jurisdictions to coordinate better.

Community stormwater management – the state came in and said that private stormwater management systems still have to be inspected every 3 years and comply with a whole checklist. However, the problem is the upstream conveyance system. The responsibility for the drainage network is a function of the land ownership. Therefore, function and conveyance standards vary widely. Many people are incredulous when told that they are responsible for drainage on their lands and the majority are not even aware of what a drainage device is or that they own any. In addition to dedicated conveyances, roads are common drainage venues. Roads carry drainage, not just cars. However, the County does not own all of those roads and the standard of service only meets travel safety needs, which are not geared towards optimal conveyance, but rather towards preventing flood-related hazards to vehicles travelling at usually lower speeds

Maryland, like other states, refuses to legislatively designate who owns the water – riparian law says it is owned jointly by all users and drainage is owned by the owner of the land. So we can inspect private stormwater conveyance but the property owner is responsible only to avoid harming their neighbors; we don't have authority to intervene other than in public rights of way. Some other states are making attempts to redefine riparian rights legal doctrine but it is a very contentious issue.

Wade Kach – what about variances, removal of trees and planting elsewhere or paying the county for not having as much open space?

A: There is an entire background to this; we don't deal with that in Public Works and Transportation. There are tree conservation banks and forest conservation credits. I don't

want to step on colleagues in other departments – they can explain the philosophy. So many forest conservation projects have failed over the years that the state decided to pay for private banks that build good forests. Variances and waivers – we are consulted on a project by project basis and if we see impacts to drainage we comment and try to stop them but we are not a regulatory agency. Permits go through DEPS and DPDM.

Wade Kach – When you remove trees and plant somewhere else it won't have the same effect as having the trees at the development site and that is a concern I have.

Thanks – this has been very informative. I would like to see the county move with updating all of our regulations and laws. Our reservoirs provide water to 1.6 million people and all of them have various levels of contaminants above acceptable levels.

Marsha McLaughlin – was planner for Howard County, now volunteering with Neighborspace and Baltimore County Green Alliance. Following up on Wade's point – the state only passed stormwater management requirements after most roads and properties had been built out. The followup attempt to get local governments to impose an annual fee was referred to as the rain tax but it was rescinded because it was not popular. So there is no motivation to retrofit management of older impervious surface; so much of the acreage inside the URDL is already impervious. How do you motivate people to reduce the amount of runoff from their properties? Even the amount of parking area is excessive. How do we motivate that?

A: The fee was a very minor amount. A city in Florida went from \$17 to more than \$300 per year per home. The reality is that there are 1500 miles of storm drainage pipes. We are the largest utility. This is the only utility in the County that does not have a dedicated revenue stream. This is where the green infrastructure comes into play. When people have flooding problems, look at green infrastructure practices first rather than put more pipes and more outfalls to damage streams further. Other jurisdictions did maintain their fees but there were other issues with the fee – for example it was limited to Total Maximum Daily Load (TMDL) projects only. When it came to managing quantity to prevent destruction of green infrastructure, the funding was not available.

Carol – I thought with the stormwater fee people could get out of paying the full amount if they did some things on their own property.

A: There was something like that.

Marsha McLaughlin – Apartment building and shopping center owners had higher fees and there could be more incentive to reduce parking area, which is a lot of impervious cover. If there were incentives for removal maybe that could work.

A: Most of the impervious area is still in residential areas that predate any stormwater management and that is actually a lot more than commercial. If you want to redevelop those areas, the guidelines actually require removal or treatment of 50% of the impervious cover.

Andy: Those who were on CEQ at the time recall what happened when the fee was removed. We were not happy about it and there was no interest in discussing with us about this when it happened.

Kach – The state still requires a plan and there is some accountability

A: The entire stormwater fee gravitates around the TMDL values. We do have a plan that we submit every year and we meet our TMDL reduction values but that does not help with water quantity and flooding. What else is actually to be done; NYC and Philadelphia tied everything to their water service. Recognize that we have a water supply system serving 1.6 million people, but not a penny of that comes to stormwater.

Ben Wright – It's not that everything is ignored with existing impervious surfaces; Baltimore County has an existing municipal separate stormwater permit geared to meeting TMDL requirements for Chesapeake Bay covering existing and new impervious surface, and covers a number of Best Management Practice (BMP) opportunities. Which is not to say that more natural pervious surfaces are not better.

There was a comment in the chat about a building at Orgeon Ridge identified as high risk. That is not the nature center – those are historic structures built right next to the stream before upstream impervious surface was put in, and now they are well within the 100-year floodplain but they are not facilities maintained by the County; some are nothing more than remnants of foundations.

Carol – It would be useful for the Oregon Ridge Master Plan to indicate which of those areas are at risk for flooding, since more buildings near the stream and more roads and parking lots are anticipated.

Wade Kach: The county has submitted to the state, or even the federal government, the latest survey regarding the 100- or 500-year floodplain, and that information is probably available now to see what parts of Oregon Ridge are within that boundary. It's not in effect yet because it hasn't yet been approved by the federal government. A lot of flood insurance rates are dependent on that map coming out. We are also concerned about road salt and impacts on wells and reservoirs.

David Marks: thank you for participating. I agree about the proclivity of developers to destroy localized open space. My revised district boundaries now include a lot of areas with coastline at risk with a lot of development approved by my predecessor, and I would love to hear recommendations about this. I also served on the Critical Areas Commission.

Mike Ertel: I have a question about the sanitary sewer line that runs under Lake Roland. The line runs into an interceptor in the city that is over capacity and close to failure.

Thanks to Radu for an excellent presentation.

IV. Minutes of 1/25/2023 meeting, correct and approve. Thank you, Andy.
Correct Chris Overcash's degree attribution and spell out SAV (Submersed Aquatic Vegetation).
Approved unanimously.

V. We are creating a new award for a farmer who is using creative and effective measures to save soil from erosion due to extreme storms and flooding, following up on recommendations by Dr. David Ruppert, Soil Scientist at U MD College Park, at his

talk at CEQ 12/7/2022. Steve Malan, Dustin Shearer, Andy Miller volunteered to discuss and make recommendations.

Update from Steve Malan, who has a good sub-nomination panel. He knows many people in the federal Soil Conservation Service. Many of the county farmers farm in multiple counties, so he has talked with other jurisdictions and the Baltimore County Farm Bureau president, also has talked with some local businesses to see if they would provide some funds to support a prize. Some successful ag- based businesses may respond to that. Confident we will pick a good candidate. Hope to have a candidate selected in time for the State Fair. Gunpowder Valley Conservancy may also be able to provide a small prize to go along with this and we are looking to partner with other nonprofits as well.

VI. Update on efforts to ban single-use plastic bags at stores. Karen Wynn, Lynda Eisenberg, Valerie Androutsopoulos, Andy Miller

Andy reported on the bill as passed by the County Council by a 5-2 vote, with 10 amendments that were considered. Andy offered oral testimony in support of the bill and although he did not speak for CEQ he did highlight the importance of the CEQ 2011 report and pointed out that we have been waiting for a change in policy over the years since that reports was issued. The new bill bans single-use plastic bags with specific exceptions for plastic bags above a minimum thickness that can be reused and for some small businesses and carryout restaurants (but not including convenience stores). There is also a 5-cent fee for paper bags which is kept by stores to defray their cost and to encourage shoppers to bring their own reusable bags.

VII. Update on Oregon Ridge Master Plan final report

The report was due on Feb. 15 and is now in the County's hands; it is mostly unchanged from the public meeting, but did take some citizen input emphasizing the importance of conservation and maintaining and improving trails.

VIII. Update on Forest Conservation code changes

Nothing new to report beyond what was said last time. Interesting that the topic came up tonight with regard to green infrastructure.

IX. Closing comments: Carol Newill

There are some hopeful signs that issues we have been concerned about for a long time may get some traction. Some of these issues are problematic because of private property issues.

X. CEQ meeting dates: 3/22, 4/26, 5/24

Adjourned at 8:38 p.m.