SUBJECT: Permit Number: AI 170959/21-NT-3040/202160426

DRG / WSSI Maryland Statewide Umbrella Mitigation Bank

Addendum 1: Lake Elkhorn Stream Mitigation Site

Application Number 2021-60426;

Comments concerning USACE permit number NAB-2021-60426 (DRG MD UMBI)

February 23, 2022

Submitted by Kenneth Bawer

TO:

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SUBJECT: Deny Permit Number: AI 170959/21-NT-3040/202160426, DRG/WSSI Umbrella Mitigation Banking Instrument; COE Application Number NAB-2021-60426 (DRG MD UMBI & Lake Elkhorn Mitigation Bank)

Please note: this is my third comment letter. My previous comment letters were dated Dec. 8, 2021 and Dec. 23, 2021. This comment letter primarily concerns the proposed Lake Elkhorn Mitigation Bank and its compliance with Code of Maryland Regulations 26.23.04.06. Mitigation Banking, but also the Federal Mitigation Rule, and the US Army Corps of Engineers Nationwide Permit 27.

I am asking for a denial of a permit for the Lake Elkhorn Mitigation Bank for the reasons detailed below.

At a minimum, there should be another extension of the public comment period due to the lack of detailed information as described below plus the citing of references without providing links to these documents which violates the requirement of the Federal Mitigation Rule that the Prospectus must

provide information "…at a sufficient level of detail to support informed public and IRT comment." ("Federal Mitigation Rule*", p. 19681).

> ***Federal Register, Thursday, April 10, 2008, Part II, Department of Defense, Department of the Army, Corps of Engineers: 33 CFR Parts 325 and 332; Environmental Protection Agency: 40 CFR Part 230; Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (aka Federal Register / Vol. 73, No. 70 / Thursday, April 10, 2008 / Rules and Regulations) (**hereafter referred to as the "Federal Mitigation Rule") (https://www.epa.gov/sites/default/files/2015-03/documents/2008_04_10_wetlands_wetlands_mitigation_final_rule_4_10_08.pdf)

In addition to the extension of the public comment period, it is in the public interest that MDE and USACE should open another public comment period for the public to review and comment on any revised Prospectus that the vendor may submit after the end of the February 23 public comment period.

On 2/22/2022, Amy Bennett wrote Ms. Kelly Neff, MDE, asking, "…I can't find the regulation that only requires public comments on the original application and not the revised proposal. Can you point me in the right direction." In Ms. Neff's response note to Amy Bennett on 2/23/2022, Ms. Neff said that "Code of Maryland Regulations 26.23.04.06 is related to mitigation banking for nontidal wetlands. Regulations don't discuss stream mitigation banking, so a public notice is actually not required through regulations for stream mitigation." First of all, if a public notice is not required, that does not preclude one from being issued. Clearly, the Corps of Engineers and MDE published a joint Public Notice with MDE on Aug. 2, 2021, "PN 21-33 NAB-2021-60426 (DRG MD UMBI & Lake Elkhorn Mitigation Bank)" (Attachment 5). And clearly MDE and the Corps would not be precluded from opening another public comment period for the public to review and comment on any revised Prospectus that the vendor may submit after the end of the February 23 public comment period.

This would certainly be in the public interest and would avoid the public perception that the interests of the applicant were being advanced, behind closed doors, contrary to the public interest. If the vendor does, in fact, make revisions to the Prospectus which only then provides information "…at a sufficient level of detail to support informed public and IRT comment" per the "Federal Mitigation Rule", p. 19681, then there is a REQUIREMENT to open a second public comment period.

In addition, the Federal Mitigation Rule is named "Compensatory Mitigation for Losses of Aquatic Resources". This encompasses both wetlands and streams. On p. 19598 it states that "Accordingly, we determined that including stream mitigation in this rule would improve current standards and practices for compensatory mitigation of streams. Today's rule, with the addition of the above referenced modifications, includes the necessary provisions to appropriately treat stream mitigation. Additional discussion of this issue can be found in part VI of the preamble." In this case, even if not required by the state, Federal law trumps state law and the Corps of Engineers must provide public notice, as it did in its joint Public Notice with MDE published Aug. 2, 2021, "PN 21-33 NAB-2021-60426 (DRG MD UMBI & Lake Elkhorn Mitigation Bank)". In this notice, it is stated, "The Bank Sponsor proposes to use a combination of restoration, creation, enhancement, and preservation of aquatic resources (wetlands and streams) and uplands for the purpose of generating compensatory mitigation credits for off-site compensatory mitigation…." Again, aquatic resources are defined as including both wetlands and streams.

I also request access to all public comments submitted during the public comment without having to file a FOIA Request. MDE/USACE has already provided the vendor some or all of the public

comments to date and will be providing additional comment received by February 23. (Note: the public comment period was extended from its original end date in January). This is not an issue, since the vendor is required to see public comments and respond to them. However, the issue is that the vendor has transferred these public comments (which are not available to the general public) to Columbia Association (CA). CA has used these public comments to write a rebuttal to some of them and distributed this to CA Board members (and more?) as a public relations campaign. Since the public comments are now already in the public domain, will MDE/USACE provide them to me without a FOIA Request? Were any legal lines crossed by the vendor (did they sign a Non-disclosure Agreement, for example?) and/or CA in releasing these public comments since the public doesn't have access to them? Since the vendor has already released public comments to CA, are MDE/USACE now required to release these same public comments to me and the public at large without requiring a FOIA Request from us?

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Per the "NOTICE OF PUBLIC COMMENT PERIOD EXTENSION" dated January 20, 2022 from Maryland Department of the Environment (MDE),

> RE: Permit Number: AI 170959/21-NT-3040/202160426
> Project: DRG/WSSI Umbrella Mitigation Banking Instrument and
> Addendum #1 Lake Elkhorn Mitigation Bank, Columbia, MD

"In order for any mitigation bank to be approved, it must follow the requirements and process outlined in 33 CFR332, Compensatory Mitigation for Losses of Aquatic Resources (Federal Mitigation Rule) and in Code of Maryland Regulations 26.23.04.06."

My comments reference the requirements in COMAR Sec. 26.23.04.06. Mitigation Banking (http://www.dsd.state.md.us/comar/comarhtml/26/26.23.04.06.htm or http://mdrules.elaws.us/comar/26.23.04)

> **Per COMAR Sec. 26.23.04.06. Mitigation Banking, paragraph A. (3) (g), a mitigation bank concept plan must include "A preliminary assessment of impact, if any, on existing nontidal wetlands, buffers, and 100-year floodplains."**

While the applicant provides in Exhibit 16 (beginning on p. 95 of 104 in the Prospectus pdf file; https://ribits.ops.usace.army.mil/ords/f?p=107:278:14821701732382::NO:RP,278:P278_BANK_ID:5978) seven 1" = 200' scale maps which show the physical outlines of areas to be impacted, the Prospectus fails to provide a preliminary assessment of impact on existing nontidal wetlands, buffers, and 100-year floodplains.

By definition, an assessment of impact must include more than just denoting the limits of disturbance, as provided in Exhibit 16. An "assessment of impact" must include what will happen to the fauna, flora, habitat, hydrology, etc. For example, what plants and animals will be destroyed by construction equipment, and what animals will probably die because they will perish after fleeing the construction site. The Prospectus (p. 12) states that it identifies only "Some of the dominant tree species." That is an understatement. In fact, it identifies only four trees by genus plus specific epithet and one tree by genus only. This can hardly be considered even a preliminary inventory by any stretch of the imagination. Not

only is this not a preliminary assessment of the trees, there is not even a mention of any shrubs, forbs, herbs, or ferns on the project site. Nor is there any survey of soil mycorrhizal fungi that might be removed during construction. Nor is there a quantification of course woody debris which might be removed to the detriment of the local ecosystem function.

To make matters worse, the Prospectus states (p.12) that "WSSI staff performed site reconnaissance of the riparian areas in June 2019 and again in the fall 2020 to assess the general plant communities through the proposed stream restoration reaches." First, that assessment was not part of the Prospectus. This makes it impossible for the public to independently verify its consistency with what might be expected in this area. This violates the Federal Mitigation Rule requirement that "**The Prospectus must provide a summary of the information regarding the proposed mitigation bank or in-lieu fee program, at a sufficient level of detail to support informed public and IRT comment." ("Federal Mitigation Rule", p. 19681)**

Second, since June 2019 and fall 2020 were the times when plant inventories were conducted, the entire population of spring ephemeral plants would have been missed – they would all have disappeared from view by the June time frame. If the "preliminary" assessment had been included as part of the Prospectus, this glaring omission would have become immediately apparent.

It should be noted that **The Maryland Plant Atlas (https://www.marylandplantatlas.org/explore.php) lists a total of 1,405 different plant species documented for Howard County.** One would expect that even a preliminary assessment would list dozens, if not hundreds, of plant species.

It is critical that a proper plant and animal survey be done. Maryland Department of Natural Resources has an extensive listing of both plants and animals in their document "Rare, Threatened, and Endangered Species of Howard County" (https://dnr.maryland.gov/wildlife/Documents/Howard_County_RTEs.pdf). It must be determined whether any of these species exist within the footprint of the proposed restoration easement before a permit can be granted. Most of the RTE plant species are herbs. They would not be visible at all times of the year (e.g., during winter months). Therefore, an RTE survey must be done at a time of year when RTE plants would be observable when performing natural resource inventories (NRI's) and forest stand delineations (FSD's). This cannot be done by a "desktop reconnaissance".

Furthermore, an RTE survey must be done by a person or party with no conflict of interest with Davey/WSSI. Someone in the employment of, or paid by, the applicant might have no incentive to exhaustively search for RTEs as that could slow down or prevent this project. It would be advisable for either MDE or the Corps to select the person or company to do the survey, without informing the applicant of who that might be, and have the applicant pay for it through MDE or the Corps – similar to a blind clinical trial.

However, just a list of the existing plants and animals would still be wholly insufficient. The assessment of impact must take into account the identification of the existing natural communities, defined by MD Department of Natural Resources (DNR) as "recurring assemblages of plants and animals found in particular physical environments". (https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/nhpnatcomm.aspx. The DNR site says that "The conservation of Maryland's natural communities is vital in sustaining our natural diversity and is a priority of the Maryland Natural Heritage Program (MD NHP). Natural communities function as "coarse

filters" because their protection benefits all species and processes." It would be critical to determine if the project area includes any rare or significant plant and animal communities (which is more than just identifying the individual plants or animals). For example, the identification of an acidic seepage swamp would indicate the requirement for special protection status. The vendor has not even made a preliminary assessment of the different species of plants themselves, much less the type of natural communities at the site, and this would have been impossible to do, in any case, during their June 2019 and fall 2020 field trips without a spring survey to identify any spring ephemerals.

Also completely lacking in the Prospectus is a preliminary assessment of the impact of the construction project on ecosystem services (such as lost carbon sequestration, lost oxygen production, lost stormwater absorption capacity, lost biodiversity, lost wildlife habitat, etc.) in aquatic resources (wetlands and streams) and uplands. This alone should be a basis for permit denial.

Another topic missing in the Prospectus is a preliminary assessment of impact on animal life. The vendor made no attempt to estimate the number of animals that will be killed by the construction project – those that can't fly away such as frogs, turtles, toads, snakes, etc. Per DNR, "…box turtles have been declining in Maryland and in other states over the last decade. These declines are due to habitat loss…." (https://news.maryland.gov/dnr/2021/06/21/in-our-hands-giving-local-box-turtles-a-boost/). The Eastern Ecological Science Center states, "Once common to forest and backyard habitats, the eastern box turtle (*Terrapene carolina*) has declined sharply. Threats to box turtles include loss and fragmentation of their habitat…." (https://www.usgs.gov/centers/eesc/science/eastern-box-turtle-usgs-patuxent-wildlife-research-center-md). The proposed construction site is prime box turtle habitat: "*Terrapene carolina* inhabits open woodlands, pastures, and marshy meadows. It is often found near streams and ponds." (Carr, 1952; Ernst, et al., 1994) (https://animaldiversity.org/accounts/Terrapene_carolina/).

Also lacking in the Prospectus is a preliminary assessment of impact on animals that will be displaced (those not killed immediately) by the proposed habitat destruction - the removal of up to 133 acres of forest. For example, what is the estimated number and species of displaced birds, racoons, opossum, squirrels, chipmunks, rabbits, foxes, deer, mice, moles, voles, shrews, etc. What is the impact of those animals crowding into already occupied sections of remaining CA forests and private homeowner property? Since many animals are territorial, what is the impact of new individuals forced from their destroyed territory into another territory? What is their expected mortality? Will the carrying capacity of the remaining forest be overloaded by the newcomers? What is the impact on private property owner's if deer are forced to feed on landscaping plants due to the loss of 133 acres of forest? These are just examples of questions that a professional wildlife ecologist should be able to answer.

The Prospectus also lacks a verifiable fish survey. While the tables called "Maryland Stream Mitgationframework [sic] – Beta Version, Summary of Reach Level Stream Function-Based Rapid Assessment Field Data Sheets," provide summary observational data, without the raw data it is impossible for the public to independently verify its veracity. The vendor would have us take their word for it. This violates the requirement in the Compensatory Mitigation for Losses of Aquatic Resources Rule that "The Prospectus must provide a summary of the information regarding the proposed mitigation bank or in-lieu fee program, at a sufficient level of detail to support informed public and IRT comment." (p. 19681, Federal Mitigation Rule)

In the Prospectus Section 8.k. "Wetland Delineation and Project Impacts" (p. 13) it states that "For the purposes of this prospectus, a wetland desktop reconnaissance was performed to estimate the wetland areas and associated impacts associated with this project." A "desktop reconnaissance", i.e., looking at GIS maps as the Prospectus describes, is a wholly insufficient and unacceptable method of assessing the impact to flora, fauna, and ecology of the subject area. The only way to accurately assess the impact to the flora, fauna, and ecology is to do an on-site, not a "desktop", assessment of the fauna, flora (both species and community type), geology, and hydrology. To determine wetland areas, site visits must take place when wetland species are observable. For example, skunk cabbage probably won't be visible at the end of summer. For this purpose the vendor must use the National Wetland Plant List (NWPL) (https://www.federalregister.gov/documents/2021/11/02/2021-23891/national-wetland-plant-list and https://www.govinfo.gov/content/pkg/FR-2021-11-02/pdf/2021-23891.pdf and https://wetland-plants.sec.usace.army.mil/nwpl_static/v34/home/home.html). Per the Corps of Engineers, "The NWPL is utilized in conducting wetland delineations under the authority of Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 401 et seq.) and wetland determinations under the authority of the Food Security Act of 1985 (16 U.S.C. 3801 et seq.)."

Prospectus section 8.k also states that "An in-field, formal, wetland delineation and location survey to determine the wetland boundary will be completed prior to the submittal of the MBI and a JD will be provided with the MBI." (p. 13, Lake Elkhorn Stream Mitigation Site, Final Prospectus). First, the MBI was already submitted on June 17, 2021. Per the USACE/MDE Public Notice published Aug. 2, 2021, "The Baltimore District, U.S. Army Corps of Engineers (Corps) and the Maryland Department of the Environment (MDE) have received a complete prospectus…." Yet, "An in-field, formal, wetland delineation and location survey to determine the wetland boundary" was not included in the complete prospectus. Based on the vendor providing this misleading and inaccurate information, the permit should be denied.

Second, even if "An in-field, formal, wetland delineation and location survey to determine the wetland boundary…" were to be done, that is still insufficient, since simply doing a wetland delineation and location survey provides no information on the impact on fauna and flora. This can only be done by an expert in plant and animal identification who can recognize not just rare and endangered species, but significant or rare natural communities deserving protection such as acidic seepage swamps or magnolia bogs (to give a few examples). This site needs a through on-site inventory and natural community study. According to Maryland Department of Natural Resources (https://dnr.maryland.gov/wildlife/Pages/plants_wildlife/nhpnatcomm.aspx), "The conservation of Maryland's natural communities is vital in sustaining our natural diversity and is a priority of the Maryland Natural Heritage Program (MD NHP). Natural communities function as "coarse filters" because their protection benefits all species and processes."

Per COMAR Sec. 26.23.04.06. Mitigation Banking, paragraph A.(3) (i), the plan must include, "As applicable, information regarding consistency with natural resource management plans, approved watershed plans, forest conservation, local growth management policies, and local comprehensive plans".

The Lake Elkhorn Stream Mitigation Site (LESMS) prospectus never explains how it is consistent with the approved Columbia Watershed Management Plan (CWMP) dated April 22, 2009.

(https://www.columbiaassociation.org/community-program/sustainability-initiatives/watershed-management/watershed-reports-plans/). In fact, the LESMS plan is not consistent with the CWMP since the CWMP requires that mitigation practices must first be only upland projects such as bioretentions, bioswales, rain gardens, permeable pavement, etc. on both public and private property and only then should physical "stream restorations" even be investigated. The CWMP says that only after upland stormwater control projects are done, "…physical stream restoration should be investigated for streams that continue to erode after retrofits have been implemented…." (CWP, p. ix). **To date, the amount of upland stormwater control has been wholly insufficient as evidenced by the continued stream bank erosion necessitating the need for costly pond dredging.**

In fact, the CWMP is never even referenced in the LESMES plan. The CWMP states that "…stormwater runoff from the impervious surfaces in the Columbia watersheds is the primary factor degrading streams in this urbanized area…." (CWMP, p. 5) and that "This CWMP directly addresses the stormwater impacts from impervious surfaces that are the dominant problem facing Columbia's watersheds. It does this by identifying and developing conceptual plans for restoration projects and community actions to reduce stormwater flows and pollution in six priority subwatersheds, and to an extent watershed-wide." (CWMP, p. 88). The CWMP states that "Restoration projects (or retrofits), such as bioretention facilities, …can be constructed to restore the natural drainage (predevelopment hydrology) by retaining and infiltrating stormwater that is currently going directly into streams through storm drains and pipes…." (CWMP, p. 88). What this shows is that the Prospectus completely ignores the CWMP that was written by the Versar corporation and paid for by the residents of Columbia. This is in violation of both **COMAR Sec. 26.23.04.06. Mitigation Banking, paragraph A.(3) (i)** and the "Federal Mitigation Rule" which requires that the existing Columbia Watershed Management Plan (CWMP) be used (or at least evaluated) in the watershed approach for compensatory mitigation. (REF: **"Where a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation. In cases where the district engineer determines that an appropriate watershed plan is available, the watershed approach should be based on that plan." (Federal Mitigation Rule, p. 19691, para. 230.93(c)(1)).** The vendor Prospectus provides no analysis of the existing CWMP to allow the Corps district engineer to make that decision. The existing Plan requires the use of upland (out-of-stream) and private property stormwater control. Therefore, the Corps can and must dictate that the mitigation practices for this permit must follow the CWMP and require that mitigation practices must be upland projects such as bioretentions, bioswales, rain gardens, permeable pavement, etc. on both public and private property. This authority is given to the Corps in the "Federal Mitigation Rule" as follows: "Where a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation. In cases where the district engineer determines that an appropriate watershed plan is available, the watershed approach should be based on that plan." **(Federal Mitigation Rule, p. 19691, para. 230.93(c)(1))**

If the district engineer deems the Columbia Watershed Plan not to be appropriate, the district engineer must use a watershed approach based on an analysis of information such as "…chronic environmental problems such as [but not limited to] flooding or poor water quality." **(Ibid, p.19692, para. 230.93(c)(3)(i)).** Certainly, the stormwater that is fire-hosed into these streams from upland impervious surfaces is of such poor quality (containing lawn fertilizers, pesticides, pet waste, vehicle oil, etc.) that it must be controlled upland before it can enter the stream. Of course, another chronic environmental

problem is the volume of uncontrolled stormwater from upland of the streams – this is the primary cause of stream bank erosion which necessitates periodic dredging of the lakes. Control of stormwater volume entering streams can only be accomplished by upland (out-of-stream) practices.

Furthermore, a recent study (McNeal, L. F., Stack, Bill, et. al., March 2021) has shown that, once stormwater is controlled upland, stream banks will begin a natural process of self-recovery. This paper, says that

- … "[stormwater BMP] retrofits reduce the magnitude, duration and frequency of erosive flow rates." (p. 48)
- "…there is strong evidence that the channels below the treatment sites will stabilize and adjust as the frequency of erosive flows diminishes. This will likely translate to corresponding decreases in sediment erosion. (p. 52)
- "…, it is likely the channels are on a trajectory leading towards stabilization as anecdotal evidence (which includes photographs)…." (p. 52)
- "It is expected that, with the reduced hydraulics [from erosive flows] within the catchment, these banks will continue a trajectory toward stability as indicated by reduced bank angles and vegetation establishment." (https://www.cwp.org/the-self-recovery-of-stream-channel-stability-in-urban-watersheds/)

(McNeal, L. F., Stack, Bill, et. al., March 2021 "The Self-Recovery of Stream Channel Stability in Urban Watersheds due to BMP Implementation," Prepared by the Center for Watershed Protection, Inc.; Prepared for the Carroll County Bureau of Resource Management; $176K Funded by: The Chesapeake Bay Trust, the Maryland Department of Natural Resources, the National Fish and Wildlife Foundation through the Environmental Protection Agency's Chesapeake Bay Program Office, Anne Arundel County, the Maryland Department of Transportation State Highway Administration, the Montgomery County Department of Environmental Protection, and other partners via its Restoration Research award program. https://cbtrust.org/wp-content/uploads/Self_Recovery_of_Stream_Channel_Stability_Final_Draft_03-23-21.pdf)

This is evidence of the ability of these streams to self-heal once the stormwater is controlled upland. Thus, the proposed Lake Elkhorn Stream Mitigation project is the wrong solution to the problem, which the Columbia Association has said is the high cost of pond dredging. Controlling the stormwater upland will eliminate the primary cause of pond siltation (which is stream bank erosion), and the stream channels will stabilize by self-recovery.

Per COMAR Sec. 26.23.04.06. Mitigation Banking, paragraph C.(3)(c)(iv), a mitigation banking agreement may include "Evidence to document that the mitigation bank is providing or will provide specific nontidal wetland functions".

No such evidence has not been provided.

Per the Prospectus in Section 5. Identify the general need and technical feasibility of the proposed mitigation bank, Paragraph b. Describe the factors considered during the site selection process, including watershed scale features such as existing watershed plans, aquatic habitat diversity, habitat connectivity, relationships to hydrologic sources, land use trends, ecological benefits, and compatibility with adjacent present and proposed land uses (p. 6)

In response to the above requirement, the Prospectus states, "This proposed mitigation site was identified for multiple reasons, including its proximity to jurisdictional impact areas, high likelihood of success, and location in a contiguous stream valley. There is currently a need for a stream and wetland mitigation bank in this service area as there are currently no approved stream mitigation banks located within the 8-Digit Hydrologic Unit Code (HUC) associated with this project area." First, the vendor has in no way proven that there will be a "high likelihood of success".

First, the published science (Attachment 1) shows that stream restorations rarely if ever result in biologic uplift.

Second, in the Prospectus tables called "Maryland Stream Mitgationframework [sic] – Beta Version, Summary of Reach Level Stream Function-Based Rapid Assessment Field Data Sheets," (hereafter referred to as the "Rapid Assessment") there are 23 numbered Reaches, some broken down into sub-Reaches, for a total of 33 reaches plus sub-reaches.

Using the applicant's own estimates as to the increase in biological function from "Existing" to "Proposed" levels, it becomes clear the dismal performance that even the applicant expects from the Lake Elkhorn project.

For example (calculations in Attachment 2),

- The number of reaches where all 3 biological indicators increase to Functioning level (green) is zero.
- The percent of biological indicators across all 33 reaches w/ NO increase fr/ Non-Functioning (red) to Functioning-at-Risk (yellow) is 22%.
- The percent of biological indicators across all 33 reaches w/ NO increase fr/ Non-Functioning (red) to Functioning (green) is 83%.
- The percent of biological indicators across all 33 reaches w/ NO increase fr/ Functioning-at-Risk (yellow) to Functioning (green) is 38%
- The percent of biological indicators across all 33 reaches w/ NO increase fr/ Non-Functioning (red) to Functioning-at-Risk (yellow) or Functioning (green) is 40%
- The percent of biological indicators across all 33 reaches with NO increase fr/ lower levels to Functioning level (green) is 68%

This is a dismal prediction by the applicant of the expected success of the mitigation project. Based on these figures alone, the Lake Elkhorn project should be rejected. And it should be assumed that the applicant has used the best estimates they could get away with for the "Proposed" conditions. If their own level of confidence of success is so low, the public's level of confidence is at rock bottom as should be MDE's and the Corps'.

Biological uplift is far and away the most important "assessment parameter". If a mitigation project does not improve the biology, then all the other physical and chemical improvements are arguably pointless.

In addition, if biological uplift is not demonstrated by post-construction monitoring, then mitigation credits must be revoked/denied (i.e., clawed back) regardless of the overall "average" score of the Rapid Stream Assessment scorecard.

Rather that refuse or claw back mitigation credits after the environmental damage is already done by a so-called "stream restoration" and the lack of biological uplift is once again shown to be true, this permit must be denied based on past science. Why would a permit be granted to repeat previous failed experiments?

The Prospectus states that "There is currently a need for a stream and wetland mitigation bank in this service area" simply because one does not exist. The only conceivable need for a mitigation bank in this area is that the vendor needs a way to boost its revenues. The lack of a mitigation bank in this area is actually a benefit to the public and the environment since some development projects permits that would cause harm to wetlands and streams may actually be denied.

The Prospectus states on p.16, "We anticipate permitting this mitigation site with a Nationwide Permit 27 (NWP 27) from the USACE and a Letter of Authorization from MDE." However, the Prospectus clearly does not meet the requirements of NWP 27 as described below:

1) **Per the NWP 27 (https://www.swt.usace.army.mil/Portals/41/docs/missions/regulatory/NationwidePermits/Nationwide%20Permit%2027%20-%20Aquatic%20Habitat%20Restoration,%20Enhancement,%20and%20Establishment%20Activities.pdf?ver=2017-03-31-150708-350), this permit allows "Activities in waters of the United States associated with the restoration, enhancement, and establishment of tidal and nontidal wetlands and riparian areas, the restoration and enhancement of non-tidal streams and other non-tidal open waters, and the rehabilitation or enhancement of tidal streams, tidal wetlands, and tidal open waters, *provided those activities result in net increases in aquatic resource functions and services* [emphasis added]."**

   and

2) **Per NWP 27, "To be authorized by this NWP, the aquatic habitat restoration, enhancement, or establishment activity must be planned, designed, and implemented so that it results in aquatic habitat that resembles an ecological reference." And, "This NWP authorizes the relocation of non-tidal waters, including non-tidal wetlands and streams, on the project site *provided there are net increases in aquatic resource functions and services* [emphasis added]."**

   Regarding both referenced sections of NWP 27 in items 1) and 2) above, it is clear that there is no expectation that there will be net increases in aquatic resource functions and services from the Lake Elkhorn project. The above discussion of **COMAR Sec. 26.23.04.06. Mitigation Banking, paragraph C.(3)(c)(iv)** also applies to these two sections of NWP 27. To summarize the above comments: First, the published science (Attachment 1) shows that stream restorations rarely if ever result in biologic uplift. Second, the Prospectus tables called "Maryland Stream Mitgationframework [sic] – Beta Version, Summary of Reach Level Stream Function-Based Rapid

Assessment Field Data Sheets," provide only a dismal prediction by the applicant of the expected success of the mitigation project.

More evidence that that this project will not provide net increases in aquatic resource functions and services is found in the August 26, 2021 letter from the U.S. Fish and Wildlife Service (Service) to the USACE (Attachment 3) detailing their reviewed of the proposal. It states that

- "Mitigation banks are established to offset unavoidable stream and wetland impacts and are intended to support Clean Water Act goals to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. However, the Bank's location is dominated by urban land uses and therefore**, its biological restoration potential will be limited** [emphasis added]." NOTE: this means that the proposed project fails the Federal Mitigation Rule litmus test regarding "…site conditions that favor or hinder the success of compensatory mitigation projects." **(Federal Mitigation Rule, p.19692, para. 230.93(c)(3)(i)).**

- "Existing infrastructure (e.g., underground utilities, paved pedestrian trails, and bridges), forested riparian area, and narrow widths of the Columbia Association property along the corridor **will constrain stream restoration design and further limit biological restoration potential of the proposed Bank** [emphasis added]."

- "Any temporary and permanent loss of forest riparian functions should be considered when determining functional uplift and calculating mitigation credits for the proposed Bank."

- "Preliminary Concept Maps indicate Step Pool Stormwater Conveyance (SPSC) are proposed along the upper reaches of several tributaries. The Service generally supports stormwater best management practices in upland areas to treat runoff but **SPSC proposed in streams can displace aquatic habitat function. Any SPSC proposed in intermittent or perennial streams should be evaluated as an impact and should not be eligible for mitigation credit** [emphasis added]**."**

    - This is supported by Hilderbrand, Robert H., et. al., 2020: "In relative terms, RSC [Regenerative Stormwater Conveyance]-dominant restorations performed similarly to NCD [Natural Channel Design]-dominated; both showed limited to no ecological uplift due to restoration activities." (Reference in Attachment 1)

- "The stream corridor appears to be especially constrained between High Tor Hill and Tamar Drive, and is fragmented from the rest of the Bank by Jackson Pond, an inline impoundment. **Considering its limited biological restoration potential, this reach may be better suited for other programs with sediment and nutrient load reduction goals** [emphasis added]."

3) **NWP 27 item 23.(a) states that "The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site)."**

and

Per NWP 27 Section B. District Engineer's Decision. 1. "…the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity."

It is self-evident that a construction project for engineering 33,000 linear feet of stream into an artificial stormwater conveyance and destroying at least 63 acres (approximately 20.9 acres (910,404 square feet) of forested nontidal wetland, 9.6 acres (418,176 square feet) of 25-foot nontidal wetland buffer, 33,323 linear feet of perennial stream, and 35.2 acres (1,533,312 square feet) of 100-year nontidal floodplain) - and up to 133 acres which is the size of the proposed restoration easement - represents "more than minimal individual or cumulative adverse environmental effects" and is "contrary to the public interest". It is certainly in the public interest to retain forested areas in Columbia to avoid habitat destruction, mitigate the effects of climate change, and decrease the urban heat island effect. This proposal would do the exact opposite.

Further evidence that this project will have more than minimal individual or cumulative adverse environmental effects was provided by concerns raised by the Maryland Department of Natural Resources (DNR) letter to Wetland Studies and Solutions, Inc. (WSSI) dated April 14, 2021 which states that, "…our remote analysis suggests that the forested area on this property provides habitat for Forest Interior Dwelling Birds. Many species of forest interior breeding birds are declining in Maryland. This group of bird species requires large, contiguous blocks of forest to successfully breed." (Prospectus, p. 42 of 104 in .pdf file). This project will destroy at least 63 forested acres and up to 133 acres.

More evidence that that this project will have more than minimal individual or cumulative adverse environmental effects is found in the August 26, 2021 letter from the U.S. Fish and Wildlife Service (Service) to the USACE (Attachment 3) detailing their reviewed of the proposal. This has been described above.

4. **Per NWP 27 Section B. District Engineer's Decision. 1. "…the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or**

cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity."

Regarding whether this project will be contrary to the public interest, the Lake Elkhorn Prospectus section titled "Identify any regional or local benefits derived from the bank" (pp. 7-8) makes several statements that are easily refutable:

- It is stated that "The proposed mitigation site will have ecological and societal benefits for Columbia and the greater region. Ecologically the stream restoration will improve water quality through the reduction of stream bank erosion and the downstream transport of associated pollutants, improve instream nutrient processing[3,4,5]." (Prospectus, PP. 7-8)

  Re. REDUCTION OF STREAM BANK EROSION: It is empirically obvious that "…the stream restoration will improve water quality through the reduction of stream bank erosion…" is not a factual statement. If stormwater is not controlled upland before entering the stream, there will be continued scouring of stream banks, blowouts of armored "stream restoration" sections, and erosion of "stream restoration" fill material in sections in which the streambed is proposed to be raised. Attachment 4 shows numerous photographs of regional stream restoration projects that have been blown-out by post-construction storms. Therefore, the use of "stream restorations" for this mitigation bank must be rejected because they will not result in the reduction of stream bank erosion.

  As just one example, the Lower Booze Creek stream restoration project in Montgomery County was originally completed in May 2013 for $700,000. "Storm damage occurred very soon after construction, initiating structural failures." (https://www.montgomerycountymd.gov/water/restoration/booze-creek.html). Restoration repair began in January, 2020 and cost $3.6 million dollars. This is hardly the definition of self-sustaining or a reduction of stream bank erosion.

  The Prospectus does not even define the "reduction of stream bank erosion". Will this be a 1% decrease or a 5% decrease, for example?

  Re. REDUCTION OF ASSOCIATED POLLUTANTS: The statement that "Ecologically the stream restoration will improve water quality through the reduction of …downstream transport of associated pollutants…" is contradicted by the work of Kaushal, Sujay S. et. al., 2018, which says that groundwater sampling studies of five Maryland streams (including Paint Branch) showed that sites where trees were removed had higher riparian groundwater nutrient concentrations than sites where no trees were removed.

They also cite many other studies that show increased nutrient concentrations after tree removal in watersheds. Also, as described above, since "stream restoration" structures will be blown out, the erosion of stream banks will continue the transport of associated pollutants.

Re. SOCIETAL BENEFITS: The statement that "The proposed mitigation site will have …societal benefits for Columbia and the greater region," is made with no explanation or evidence. To the contrary, it is self-evident that a construction project for engineering 33,000 linear feet of stream into an artificial stormwater conveyance and destroying at least 63 acres - and up to 133 acres – will have no "societal benefits for Columbia and the greater region". It is certainly in the public interest to retain forested areas in Columbia to prevent habitat destruction, help mitigate the effects of climate change, and decrease the urban heat island effect. This proposal would do the exact opposite.

- There are three references provided for the Prospectus statements that "The proposed mitigation site will have ecological and societal benefits for Columbia and the greater region. Ecologically the stream restoration will improve water quality through the reduction of stream bank erosion and the downstream transport of associated pollutants, improve instream nutrient processing[3,4,5]." (Prospectus, PP. 7-8). The citing of references without providing links to these documents violates the requirement of the Federal Mitigation Rule that the Prospectus must provide information "…at a sufficient level of detail to support informed public and IRT comment." ("Federal Mitigation Rule", p. 19681).

  Regarding the Prospectus' Reference #3, Craig, L.S., Palmer, M.A., Richardson, D.C., Filoso, S., Bernhardt, E.S., Bledsoe, B.P., Doyle, M.W., Groffman, P.M., Hassett, B.A., Kaushal, S.S., Mayer, P.M., Smith, S.M., and Wilcock, P.R. 2008. Stream Restoration Strategies for Reducing River Nitrogen Loads. Frontiers in Ecology 6(10): 529-538. https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1890/070080. **This reference appears to be a randomly selected paper that was included as a footnote to give the false impression that this scientific paper supports the Prospectus' assertion.** This is not the case since the Craig paper says that, "Because of uncertainties concerning the magnitude of N reduction possible, potential approaches should be tested in various landscape contexts; until more is known, stream restoration alone is not appropriate for compensatory mitigation…."

  Regarding the Prospectus' Reference #4, Ensign, S.H. and Doyle, M.W. 2005. In-Channel Transient Storage and Associated Nutrient Retention: Evidence From Experimental Manipulation. Limnology and Oceanography 50: 1740-51. This paper in no way supports the Prospectus' assertion that "Ecologically the stream restoration will improve water quality through the reduction of stream bank erosion and the downstream transport of associated pollutants, improve instream nutrient processing[3]". This paper showed that the effect of removal of "in-channel flow obstructions such as vegetation and coarse woody debris (CWD) on transient storage and nutrient uptake" was to decrease the transient storage area. Nutrient uptake decreased after CWD removal. **Therefore, a "stream restoration project" which will by definition remove vegetation and CWD**

during the process of Natural Channel Design construction which will entail channel fill, channel re-alignment, armoring, etc. will do the opposite of what the vendor claims.
https://www.academia.edu/8673831/In_channel_transient_storage_and_associated_nutrient_retention_Evidence_from_experimental_manipulations

- **Regarding the Prospectus' Reference #5**, Groffman, P.M., Dorsey, A.M., and Mayer, P.M., 2005. N Processing within Geomorphic Structures in Urban Streams. Journal of the North American Benthological Society 24: 613-25. https://www.researchgate.net/publication/250078797_N_Processing_within_Geomorphic_Structures_in_Urban_Streams. The conclusion of this paper in no way supports the Prospectus's statement that "The proposed mitigation site will have ecological and societal benefits for Columbia and the greater region. Ecologically the stream restoration will improve water quality through the reduction of stream bank erosion and the downstream transport of associated pollutants, improve instream nutrient processing[3,4,5]." (Prospectus, PP. 7-8). The paper concludes "The ultimate effect of different structures on NO3− concentrations in urban streams will depend on the balance of these production and consumption processes, which is a complex function of a stream's ability to retain organic matter and resist hydrologic changes associated with urbanization and elevated NO3− levels." This paper in no way supports the vendors assertion that "The proposed mitigation site will have ecological and societal benefits for Columbia and the greater region." **This seems to be another scientific paper randomly picked to add as a reference in the hopes that no one will bother to verify the reference content**. This adds to my concern about WSSI's past performance as a consultant to the City of Alexandria. In a May 17, 2021 letter to the Alexandria Environmental Policy Commission, the Environmental Council of Alexandria said, "We reserve our strongest criticism for the consultants that the City has engaged to provide them with expert advice. Wetland Studies and Solutions, Inc. continues to give the City Council and staff misleading and inaccurate scientific information regarding stream restoration."
https://www.alexandriava.gov/uploadedFiles/tes/oeq/info/Memo%20to%20EPC%20from%20ECA%2052021.pdf

- It is stated that the project "will provide improvements [to] instream habitat, and to the populations of animal species such as dragonflies, frog and amphibian populations, and forest interior dwelling bird species, and pollution tolerant benthic macroinvertebrates and fish…." (Prospectus, pp. 7-8)

  First, the prospectus has not even done a field survey to identify existing populations of animal species such as dragonflies, frog and amphibian populations, and forest interior dwelling bird species, and fish. How can they say that habitat will improve for species that may or may not even exist at the site? Some species have very specific

habitat requirements. Which habitat improvements will benefit which species? How does removal of up to 133 acres of forest represent a habitat improvement for forest interior dwelling bird species in direct contradiction to the Maryland Department of Natural Resources (DNR) letter to Wetland Studies and Solutions, Inc. (WSSI) dated April 14, 2021 which states that, "…our remote analysis suggests that the forested area on this property provides habitat for Forest Interior Dwelling Birds. Many species of forest interior breeding birds are declining in Maryland. This group of bird species requires large, contiguous blocks of forest to successfully breed." (Prospectus, p. 42 of 104 in .pdf file).

One of Prospectus references (#6 on Prospectus p. 8, https://ibe.colostate.edu/wp-content/uploads/sites/5/2019/01/Urban-River-Restoration_v5.pdf) states that "…it is important to recognize that restoring short sections of rivers cannot alone repair the damage from watershed level impairments." This directly points to the need for upland stormwater control. And the Columbia Watershed Management Plan mandates only upland stormwater control before investigating the need for in-stream measures.

One of their Prospectus (#7: https://publicworks.baltimorecity.gov/pw-bureaus/water-wastewater/surface/restoration) only says, "The City has noticed a significant "improvement" [sic] in biodiversity at Stony Run since the restoration." This is hardly the result of a scientific research paper.

- **Second, the vendor admitting the fact that the results of their construction project will only support "pollution tolerant benthic macroinvertebrates and fish…."** (Prospectus, pp. 7-8). This should be a red flag warning and should be sufficient cause to deny this permit application.

- The Prospectus stated that the in-stream project will provide "…improvements to stream baseflow" citing 4 references.

  However, one of their references (6: https://ibe.colostate.edu/wp-content/uploads/sites/5/2019/01/Urban-River-Restoration_v5.pdf) does not support their premise since it says that "Storing water where it falls [which is primarily upland] and allowing it to soak into the ground can reduce river flooding, raise groundwater tables, and improve water quality."

  Another of their references (7: https://publicworks.baltimorecity.gov/pw-bureaus/water-wastewater/surface/restoration) does not even mention stream baseflow, infiltration, or even ground water. **This seems to be another scientific paper randomly picked to add as a reference in the hopes that no one will bother to verify the reference content**.

  Regarding two more of their references, (#8: Newcomer Johnson, T.A., Kaushal, S.S., Mayer P.M. and Grese, M.M. 2014. Effects of Stormwater Management and Stream

Restoration on Watershed Nitrogen Retention. Biogeochemistry 121: 81‐106.) and (#9 Daniluk, T.L., Lautz, L.K., Gordon, R.P. and Endreny, T.A. 2013. Surface Water‐Groundwater Interaction at Restored Streams and Associated Reference Reaches. Hydrological Processes 27: 3730-3746.). These are not even related to the topic of stream baseflow. **This seems to be another scientific paper randomly picked to add as a reference in the hopes that no one will bother to verify the reference content**. NOTE: neither of these 2 references had hot-links to the papers and thus the Prospectus violates the requirement of the Federal Mitigation Rule that the Prospectus must provide information "…at a sufficient level of detail to support informed public and IRT comment." ("Federal Mitigation Rule", p. 19681).

These off-topic references that are irrelevant to the subject appear to have been thrown in to approximate the padding of a resume with extraneous information. This is not a one-time mistake but appears to be a pattern of using misinformation and inaccurate information.

- The Prospectus stated that "Additional environmental benefit will be provided by the reduction of the environmental impact associated with sedimentation (from upstream stream bed and bank erosion) in two in-line ponds (Jackson Pond and Lake Elkhorn), and the reduction of the impacts associated with the regular dredging of the ponds and placement of the spoils." (Prospectus, p. 8)

  However, if stormwater is not controlled upland before entering the stream, there will be continued scouring of stream banks, blowouts of armored "stream restoration" sections, and erosion of sections in which the streambed has been raised. Attachment 4 shows numerous photographs of regional stream restoration projects that have been blown-out by post-construction storms. Therefore, the use of "stream restorations" for this mitigation bank must be rejected because they will not result in the reduction of sedimentation of the two ponds.

  As just one example of the temporary nature of "stream restoration" structures, the Lower Booze Creek stream restoration project in Montgomery County was originally completed in May 2013 for $700,000. "Storm damage occurred very soon after construction, initiating structural failures." (https://www.montgomerycountymd.gov/water/restoration/booze-creek.html). Restoration repair began in January, 2020 and cost $3.6 million dollars. This is hardly the definition of a solution that would reduce sedimentation resulting from upstream stream bed and bank erosion.

- The Prospectus stated that "Degraded wetland systems will be enhanced through invasive species removal and supplemental planting with a diverse mix of native tree and shrub species." (Prospectus, p. 8)

  First, it is not stated in what way the wetland system is degraded, so the veracity of this claim is questionable. The lack of adequate information violates the requirement of the

Federal Mitigation Rule that the Prospectus must provide information "…at a sufficient level of detail to support informed public and IRT comment." ("Federal Mitigation Rule", p. 19681). Assuming for the moment that the wetland is degraded, by what scientific mechanism will "supplemental planting with a diverse mix of native tree and shrub species" improve the wetland. Plus, the proposed mix of native shrub species is not in the Prospectus for public and IRT comment. Are these the appropriate species and are they local ecotypes? The Prospectus has not provided an exhaustive on-site survey of the flora, so this statement is pure speculation, to the point of being misleading, that the wetland is even degraded or that supplemental planting is even required.

Second, although the removal of invasive species is desirable, the real challenge is to prevent their reoccurrence and reestablishment by regular maintenance. Plans to control invasive plant species are not provided other than saying "Invasive species will be controlled…." (p. 62 of 104 in Prospectus .pdf document). As a ten-year Montgomery Parks Weed Warrior Supervisor and Field Leader for invasive plant removal on National Park land in the DC area, I can say with certainty that this is easier said than done. The vendor owes a detailed description of their plan including, for example, the number of person-hours per month over how many years that will be dedicated to invasive plant removal. This figure then needs vigorous analysis as to whether that is adequate for the task of controlling invasives over 133 acres. To my knowledge, there is not a jurisdiction in the area that has been able to control invasives due to the insurmountable work effort and lack of sufficient funding for the large number of staff that would be required. If this vendor is simply saying "Invasive species will be controlled" they are being disingenuous. The vendor should also be required to state whether herbicides are proposed to be used (such as glyphosate, etc.) and whether the community will be allowed, upon their request, to block the use of such herbicides.

- It is stated that "There are several societal benefits that will be provided by this project." (Prospectus, p. 8)

  In fact, the cited reference (#10. Kenney, Melissa A., Peter R. Wilcock, Benjamin F. Hobbs, Nicholas E. Flores, and Daniela C. Martinez, 2012. Is Urban Stream Restoration Worth It? Journal of the American Water Resources Association (JAWRA) 48(3): 603-615. DOI: 10.1111/j.1752-1688.2011.00635) does not support their statement. This paper says that "We do not intend to provide a definitive answer regarding the worth of stream restoration…."

  NOTE: the fact that this reference had no hot-link to the paper violates the requirement of the Federal Mitigation Rule that the Prospectus must provide information "…at a sufficient level of detail to support informed public and IRT comment." ("Federal Mitigation Rule", p. 19681).

- The Prospectus stated that ""There are several societal benefits that will be provided by this project. First, the mitigation will be in close proximity to the communities that are disproportionately affected by the jurisdictional impacts (i.e. they will see the beneficial offset to the impact).[11,12]" (Prospectus, p. 8). Foot note #11 reads as follows: "Per

Maryland's Commission on Environmental Justice and Sustainable Communities (CEJSC): *"…environmental justice means that no group of people including racial, ethnic or socioeconomic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, land-use planning and zoning, municipal and commercial operations or the execution of federal, state, local and municipal programs and policies.*"

In terms of Environmental Justice and Sustainable Communities, the last thing we should be doing in these communities comprised of various people including racial, ethnic or socioeconomic groups is cutting down trees to make these communities LESS livable. Cutting down up to 133 acres of trees to construct this mitigation bank will increase the heat island effect in these areas and deprive these communities of the benefits of the enjoyment of nature. Plus, "Several recent studies have identified a relationship between the natural environment and improved health outcomes." https://pubmed.ncbi.nlm.nih.gov/23332329/. The use of non-destructive upland stormwater control practices does not require the cutting of forests in these communities .

- It is stated in non sequitur fashion that this construction project "…will provide an enormous educational opportunity to the community with respect to streams and watersheds." (Prospectus, p. 8).

  The only "educational opportunity" that would be provided by this construction project would be how civil engineering and heavy construction equipment can be used to destroy natural areas for the profit of a billion-dollar corporation. Instead of a lesson on the conservation and preservation of our natural landscapes (even if not pristine), this construction project will show how streams can be blighted by imbricated rip rap walls, and imported boulders used to form unnatural cross veins, J hooks, rock packings, step pools, and stone toe protections, filled and realigned stream channels, and clear-cut forest areas. (Of course, the corporation will leave one tree standing to be able to say that a clear-cut did not happen). School children should be able to about natural stream characteristics instead of destructive civil engineering techniques in these stream valleys.

- The Prospectus states with regard to the supposed societal benefits that will be provided by this project that "Third, it will provide a natural amenity to Columbia's residents that can be passively enjoyed. (Prospectus, pp. 8-9). Not surprisingly, the vendor did not define the term "natural". Columbia's residents will not use the term "natural" to describe the results after this construction project uses heavy construction equipment to destroy their natural areas with imbricated rip rap walls, and imported boulders used to form unnatural cross veins, J hooks, rock packings, step pools, and stone toe protections, filled and realigned stream channels, and clear-cut forest areas. Rather than a "natural amenity", Columbia's residents will use terms such as
    - stream construction project

- stream engineering project
- stormwater management project
- engineered stormwater conveyance project
- engineered drainage ditch
- engineered drainage channels
- industrial stream management
- engineered stormwater drainage ditch
- engineered stormwater conveyance/chute/drain/gutter
- engineered stormwater management facility
- stream construction
- stream destruction
- stream-to-theme park conversion
- SINO: Stream In Name Only
- Moonscraping or
- "$tream restoration"

- The Prospectus states that "This highly visible project will offer a good showcase for the MDE, USACE mitigation program." (Prospectus, pp. 9). While this will certainly be a highly visible project, it will be quite the opposite of a good showcase. To the contrary, this project will become a rallying cry ("Remember Columbia"?) for opponents of these so-called "stream restorations". This project will become a prime example of the destructive nature of the MDE / USACE mitigation program and will hasten its demise by legislation and the electoral process.

5) Per NWP 27, "2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal."

See comments for 3) above.

6) "4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) That the activity does not qualify for authorization under the NWP." (NWP, p. 15)

Given the above evidence that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer must notify the applicant that the activity does not qualify for authorization under the NWP.

7) Per NWP 27 (pp. 7-8), "23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal: 8 (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal."

Clearing mature stream valley forests and engineering streams using imbricated rip rap walls, and imported boulders to form unnatural cross veins, J hooks, rock packings, step pools, and stone toe protections, filled and realigned stream channels, and clear-cut forest areas and replanting with saplings differing from the original forest both in species diversity and numbers of plants is an obvious temporary as well as a permanent, adverse environmental effect that negates any hypothetical increase in function or added ecosystem services required by the terms and conditions of the Nationwide Permit 27 (NWP).

Based on the above information, the Lake Elkhorn Mitigation Bank permit should be denied.

Sincerely,

Kenneth Bawer
Rockville, MD

ATTACHMENT 1: References and extracts of scientific papers and presentations

- Berg, J., et.al., the "Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects," Test-Drive Revisions Approved by the [Water Quality Goal Implementation Team]WQGIT: September 8, 2014, Prepared by: Tom Schueler, Chesapeake Stormwater Network and Bill Stack, Center for Watershed Protection
    - "Three recent studies have documented that the construction of stream restoration projects can lead to local destruction of riparian cover within the project reach. The loss of riparian cover can adversely impact functional responses within the stream, including nutrient reduction. For example, Sudduth et al.(2011)and Violin et al.(2011)compared the functional services provided by four forest reference streams, four NCD-restored streams, and four non-restored urban streams in the North Carolina Piedmont. The studies concluded that the heavy machinery used to reconfigure channels and banks led to significant loss of riparian canopy cover (and corresponding increase in stream temperatures), and these were a major factor in the lack of functional uplift observed in restored streams, compared to non-restored streams." Page 25
    - "It was outside the Panel's charge to resolve the scientific debate over the prospects of functional uplift associated with urban and non-urban stream restoration (i.e., beyond nutrient and sediment reduction)." Page 26.
    - "…the research reinforces the notion that stream restoration should not be a stand-alone strategy for watersheds, and that coupling restoration projects with upland retrofits/"restorations" and other practices can help manage the multiple stressors that impact urban streams (Palmer et al., 2007)." Page 26.
    - "Stream restoration is a carefully designed intervention to improve the hydrologic, hydraulic, geomorphic, water quality, and biological condition of degraded urban streams, and must not be implemented for the sole purpose of nutrient or sediment reduction." Page 29.

- Christopher J., T. D. Fletcher, M. J. Burns, 2012, "Urban Stormwater Runoff: A New Class of Environmental Flow Problem,", PLOS ONE (www.plosone.org), September 2012, Volume 7, Issue 9
    - "Urban stormwater is a new class of environmental flow problem: one that requires reduction of a large excess volume of water to maintain riverine ecological integrity." P. 1
    - "Urban stormwater runoff, delivered through conventional drainage systems, is a complex enviro-mental flow problem that can, in large part, be solved by harvesting stormwater before it reaches aquatic ecosystems." P. 8
    - "Degradation of stream biotic assemblages occurs at very low levels of (connected) imperviousness. Therefore, protection of the ecological integrity of stream ecosystems is likely to require interception and treatment of runoff from almost all catchment impervious surfaces, including the prevention of excess runoff from reaching streams." P. 9

- Dance, Scott, 2020, "As Maryland pours millions of dollars into ailing streams, research shows some projects don't help clean the bay." https://www.baltimoresun.com/news/environ'ment/bs-md-stream-restoration-20200102-hqwyeoa4m5bgfhtxybgdalrhby-story.html. Baltimore Sun. January 2, 2020.
    - "…the only monitoring most rebuilt streams receive are visual checks to see that the streambeds haven't eroded away. Few are studied closely to measure how much pollution is flowing from the streams into rivers and, eventually, the bay."
    - "…in cases where streams face the heaviest onslaught of polluted runoff, scientists say the investment isn't paying off with cleaner waterways, teeming with aquatic life. 'There's limited evidence these restorations work, as far as ecology is concerned,' said Robert Hilderbrand, an associate professor at the University of Maryland Center for Environmental Science's Appalachian Laboratory. 'Many of these watersheds are just too degraded.'"
    - "Stream restoration projects are often an easier sell because they have aesthetic value, and because other stormwater-reducing alternatives can be disruptive and expensive and require cooperation of private landowners. 'To avoid political heat, local governments have defaulted to stream restoration,' said Doug Myers, Maryland senior scientist at the Chesapeake Bay Foundation, which instead advocates for greater spending on pavement removal, tree planting or stormwater basins."

- Hilderbrand, Robert H., et. al., 2020, "Quantifying the ecological uplift and effectiveness of differing stream restoration approaches in Maryland," Final Report Submitted to the Chesapeake Bay Trust for Grant #13141, 2020 (https://cbtrust.org/wp-content/uploads/Hilderbrand-et-al_Quantifying-the-Ecological-Uplift.pdf)
    - "The over-arching goal of this research was to determine whether stream restoration activities produce ecological uplift compared to sections on the same stream that have not been restored." P. 7/70.
    - "We sampled 40 urban stream restorations across the Piedmont and Coastal Plain physiographic regions in the grater Baltimore/Washington DC Metropolitan area of Maryland.
    - Despite the promise and allure of repairing damaged streams, there is little evidence for ecological uplift after a stream's geomorphic attributes have been repaired.
    - Unfortunately, the ecological aspects rarely improved despite the improved physical measures.
    - There simply were few ecological differences between restored and unrestored sites. In fact, the unrestored sections upstream were often ecologically better than the restored sections or those downstream of restorations.

- Our results suggest that restoration activities do not mitigate the reasons causing the ecological declines. Higher levels of Impervious Surface Cover (ISC) in the watershed has an overarching influence on Piedmont streams (but not in the Coastal Plain). Restorations actually decreased in ecological health measures to a greater extent as ISC increased than their unrestored counterparts upstream
- The time since restoration completion partially mitigated these effects when focusing only on responses in restored sections, bu tit did not produce significant trends when compared against unrestored sections.
- We conclude there is little evidence that urban stream restorations can produce meaningful improvements in traditional measures of stream condition as measured with benthic macroinvertebrates. Unfortunately, the possibility of restoring the ecology of urban streams to resemble conditions of streams in lesser disturbed watersheds is limited."
- "Justifying degrading activities by claiming that restoration will solve the problems the activities caused is untrue and will lead to misdirected human and financial resources. The steep declines in IBI and richness in restored sections as ISC increases are particularly troubling and suggest that restorations in high ISC watersheds may do more ecological harm than good."
- "In relative terms, RSC [Regenerative Stormwater Conveyance]-dominant restorations performed similarly to NCD [Natural Channel Design]-dominated; both showed limited to no ecological uplift due to restoration activities."

- "Assessing Watershed-scale Restoration Effectiveness: Treatment Impacts and Monitoring Requirements," Arundel Rivers Federation (South River Federation prior to January 2019) and Smithsonian Environmental Research Center, February 9, 2020, Prepared by Jesse Iliff, Wayne Martin, and Sarah Giordano, ARF
  - "A suburban watershed with septic systems and fertilized turf might release more nutrients than a more highly impervious watershed lacking turf and septic systems. In some cases, nutrient releases from urban watersheds may come from leakage of sewer pipes." (p. 17)
  - "With knowledge of the sources of nutrients in a watershed, regulators may decide to address the sources directly rather than constructing BMPs to remove the nutrients after they are released into the streams. If necessary, improving sewage and septic systems could be more effective at reducing nutrient discharges than would restoring streams." (p. 17)

- Kaushal, Sujay S. et. al., 2018, "Tree Trade-offs in Stream Restoration Projects: Impact on Riparian Groundwater Quality," University of Maryland, State University of New York ESF, Maryland Department of Transportation State Highway Administration, 2018 Presentation.

- Groundwater sampling studies of five Maryland streams (including Paint Branch) showed that sites where trees were removed had higher riparian groundwater nutrient concentrations than sites where no trees were removed. They also cite many other studies that show increased nutrient concentrations after tree removal in watersheds.

- Noe, G.B., C.R. Hupp, E.R. Schenk, and N.R. Rybicki., 2013, "Science Summary—Sediment and Nutrient Trapping in the Floodplain of Difficult Run, Virginia, and Implications for the Restoration of Chesapeake Bay." U.S. Geological Survey.
  - "Nitrate production by floodplain soils is minimized where the forests are shady, trees are most abundant, and herbs and grasses are least abundant."

- Palmer, M. A., K. L. Hondula, and B. J. Koch, 2014, "Ecological Restoration of Streams and Rivers: Shifting Strategies and Shifting Goals,", Annu. Rev. Ecol. Evol. Syst. 2014. 45:247-269. (https://palmerlab.umd.edu/publications/Palmerpublications/Palmer2014a.pdf)
  - "Improvements in the five metrics within the water quality category (Table 2) were found for only 7% of the channel reconfiguration projects and for none of the in-stream channel projects (Table 2)." P. 259
  - "Unfortunately, recovery of biodiversity was rare for the vast majority of stream restoration projects." P. 259
  - "Unlike diversity, taxa richness is not a particularly informative indicator of project outcome because it does not distinguish between tolerant and intolerant taxa. One of the most comprehensive studies of restoration outcomes (24 channel reconfiguration projects assessed) reported no significant change in diversity for two-thirds of the projects and only a slight increase in taxa richness in the other third that was associated with the addition of a few tolerant taxa characteristic of urban streams (Tullos et al. 2009)." P. 262
  - "A recent study has shown that watershed-scale, out-of-channel management practices to restore urban streams can be quite successful… (Smucker & Detenbeck 2014)." P. 262
  - "We found that the highest success rates biologically were for those projects that involved a primary focus on enhancing the riparian zone as the restoration action. Typically, these involved either planting native vegetation or removing nonnative vegetation." P. 262.
  - "…the problematic ecological outcomes of many or most structurally based restoration projects are only now becoming more widely acknowledged. … We show that a major emphasis remains on the use of dramatic structural interventions, such as completely reshaping a channel, despite growing scientific evidence that such approaches do not enhance ecological recovery, and the data we assembled (Table 2) suggest they are often ineffective in stabilizing channels

when stability is the primary goal. Efforts at the watershed and riparian scales that target restoration of hydrological processes and prevention of pollutants from entering the stream appear to offer the most promise." P. 262
    - "Restoration is hard, and forestalling the socio-economic incentives to invent new ecosystems rather than restore existing ones or to manipulate channels rather than rehabilitate watersheds will require great revolutions indeed." P. 263

- Pedersen ML, Kristensen KK, Friberg N (2014), "Re-Meandering of Lowland Streams: Will Disobeying the Laws of Geomorphology Have Ecological Consequences?" PLoS ONE 9(9): e108558. doi:10.1371/journal.pone.0108558. (brackets added to extract below)
    - "Despite significant differences in physical habitat conditions, macroinvertebrate taxonomic richness, abundance and diversity showed a similar lack of response in channelized and restored reaches. A similar absence of response was reported from a meta-analysis study of 24 projects by Miller et al. Ernst et al. found that only one macroinvertebrate metric responded to restoration in small forested headwater streams in the Catskill Mountains in New York State."
    - "Such a lack of response is consistent with the results of numerous other studies recording little or no response of macroinvertebrates to restoration. Lepori et al. concluded that local scale restoration had little effect on macroinvertebrate communities compared to watershed scale factors. In a meta-analysis of stream restoration projects from 1975to 2008, Palmer et al. found that only 2 of 78 restoration projects generated increases in macroinvertebrate diversity."
    - "More investigations should be carried out with focus on developing biological indicators of habitat improvements. Macroinvertebrates are an important organism/functional group in streams, but their mixed response to restoration and habitat improvement suggests that other organism groups should be included [such as native plant diversity, habitat quality, soil microorganisms, etc.]."

- Stack, B., 2019, "Chesapeake Bay Program Stream Restoration Credits: Moving Toward Functional Lift?", Bill Stack, PE, Deputy Director of Programs, Center for Watershed Protection, September 12th, 2019; https://www.cwp.org/chesapeake-bay-program-stream-restoration-credits-moving-toward-functional-lift/
    - "I helped lead the effort in developing the *Recommendations of the Expert Panel to Define Removal Rates for Individual Stream Restoration Projects* with Tom Schueler of the Chesapeake Stormwater Network. …I can no longer hide from the turmoil that I helped to create in the stream restoration industry. …This action unleashed an unprecedented flurry of stream restoration projects identified in Watershed Implementation Plans and MS4 implementation plans across the Bay watershed which are now being implemented by a thriving billion-dollar stream restoration industry comprised of engineers, hydro-

geomorphologists and a few biologists. I forgot to mention big-time financiers. Also, take notice of what I said about "few biologists.""

- The Expert Panel noted "the root causes of stream bank erosion: impervious cover. …As a result, municipalities are spending enormous amounts of money on projects that generate the necessary water quality credit but have no real impact on stream function. …Perhaps [change] will come after we spend billions of dollars on these projects and the taxpayers ask "why can't I catch fish in this stream?""

- Simmons, R.H, 2020_2, "A Review of Little Hunting Creek Watershed, Paul Spring Segments 1 & 2 (Brickelmaier Park and Goodman Park), Hollin Hills Stream Restoration 100% Plans," in Northern Virginia, March 2020, unpublished report.

  - "While the Clean Water Act has accomplished many great things and benefited society, of late it has driven some unintended negative consequences by inducing inappropriate stream restoration projects. The driving force behind most geomorphic stream restoration projects in the Chesapeake Bay Watershed in recent years is local jurisdictions seeking to find ways to meet Clean Water Act requirements focused on reducing nutrient and sediment loads - principally Chesapeake Bay and individual river/stream Total Maximum Daily Load (TMDL) requirements, but also Municipal Separate Storm Sewer Systems (MS4) permits. TMDLs for sediment are set based upon what is necessary to reduce phosphorus loading because phosphorus is transported to the Bay in large quantities adsorbed to sediments."
  - "Managing excess phosphorus (P) delivery is probably the greatest concern. The most important measures to curb excess phosphorus sediments are by improved agricultural practices, sanitary sewer rehabilitation, and better urban stormwater runoff management. So-called stream restoration projects, however, do not actually target phosphorus-rich deposits."
  - "The stream bank and channel sediments that geomorphic projects prevent from eroding can be rich in phosphorus if they consist of recent erosion of topsoil (i.e., through inadequate silt fencing around soil disturbance of cropland), erosion of floodplain overbank deposits, and the like. Conversely, eroding geologic materials in upper headwater streams typically have minimal phosphorus in them compared to mid and lower stream reaches that contain floodplain sediments. Yet, headwater streams are often targets for geomorphic restoration work because substantial erosion can occur there."

- Wheeler, Timothy B., "Stream restoration techniques draw pushback," Bay Journal, Oct. 7, 2020, (https://www.bayjournal.com/news/pollution/stream-restoration-techniques-

draw-pushback/article_ffc96960-0895-11eb-b36f-efa466158524.html?utm_medium=social&utm_source=email&utm_campaign=user-share); extracts below

- In addition to reducing sediment and nutrient pollution, stream restoration projects are supposed to provide “ecological uplift” to degraded streams, bringing back long-lost aquatic insects and fish like trout, which need cold, clear water to maintain their populations.
- In reviewing 40 different projects across Maryland, researchers at the University of Maryland laboratory didn’t find many ecological benefits. The number and type of aquatic insects — food for fish and key indicators of stream health — didn’t improve.
- According to ecologist Bob Hilderbrand, the study’s lead author, there’s evidence that a stream’s ecosystem can benefit from restoration if the stream wasn’t severely impaired to begin with. But in badly degraded urban and suburban streams, he added, “there’s not much evidence … that we can bring the ecology back.”
- And in some cases, he said, his research suggests the aquatic habitat and life in streams that have undergone restoration work actually wind up worse off than if left alone.
- Hilderbrand said his team’s study didn’t look specifically at how tree removal during restoration affected a stream’s ecology. But he noted that even if contractors replace the cleared vegetation along the banks, which is customary in restoration projects, “it’s going to take decades for those trees to become re-established.”
- With their root networks, trees help prevent stream bank erosion. They also soak up rainfall, helping to keep nutrients and sediment from washing off into a stream during a storm. In dry weather, they shade the water from the sun, keeping the temperature down to help sustain fish and amphibians.

ATTACHMENT 2: Calculations of biological uplift success from Prospectus

Data from:

DRG / WSSI Maryland Statewide Umbrella Mitigation Bank, Addendum 1: Lake Elkhorn Stream Mitigation Site, Howard County Maryland, Final Prospectus, June 17, 2012 (https://ribits.ops.usace.army.mil/ords/f?p=107:278:::::RP,278:P278_BANK_ID:5978), (hereafter referred to as "the Prospectus"), pp. 51-54.

"Maryland Stream Mitgationframework [sic] – Beta Version, Summary of Reach Level Stream Function-Based Rapid Assessment Field Data Sheets"

	Total #	# with no uplift	**% with no uplift**
Total # reaches	33		
Total # bio indicators across all 33 reaches where Existing = Non-Functioning (red)	65		
Total # bio indicators across all 33 reaches where Existing = Functioning-at-Risk (yellow)	34		
Total # bio indicators across all 33 reaches = 33 reaches x 3 bio indicators/reach = 99	99		
Reaches where all 3 bio indicators increase to Functioning level (green)		0	**0**
Bio indicators across all 33 reaches w/ NO increase fr/ Non-Functioning (red) to Functioning-at-Risk (yellow)		14	**22**
Bio indicators across all 33 reaches w/ NO increase fr/ Non-Functioning (red) to Functioning (green)		54	**83**
Bio indicators across all 33 reaches w/ NO increase fr/ Functioning-at-Risk (yellow) to Functioning (green)		13	**38**
Bio indicators across all 33 reaches w/ NO increase fr/ Non-Functioning (red) to Functioning-at-Risk (yellow) or Functioning (green)		26	**40**
Bio indicators across all 33 reaches with NO increase fr/ lower levels to Functioning level (green)		67	**68**

ATTACHMENT 3:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
http://www.fws.gov/chesapeakebay

August 26, 2021

Mr. Jack Dinne
U.S. Army Corps of Engineers, Baltimore District
Regulatory Branch
2 Hopkins Plaza
Baltimore, MD 21201-2930

RE: NAB-2021-60426 (DRG MD UMBI & Lake Elkhorn Mitigation Bank), Howard County, MD

Dear Mr. Dinne:

The U.S. Fish and Wildlife Service (Service) has reviewed Public Notice NAB-2021-60426 dated August 2, 2021 and the DRG/WSSI Maryland Statewide Umbrella Mitigation Bank Final Prospectus (Prospectus) dated June 17, 2021. The Davey Resource Group, Inc. dba Davey Mitigation (Sponsor) proposes to establish the Lake Elkhorn Mitigation Bank (Bank) along an unnamed tributary to the Little Patuxent River in Howard County, Maryland. The proposed Bank will restore approximately 33,000 linear feet of stream, enhance approximately 20 acres of palustrine forested wetlands, and create approximately 5 acres of palustrine forested wetlands within the Columbia Association property to generate mitigation credits to offset unavoidable impacts to waters of the United States (U.S.) authorized under Section 10 of the Rivers and Harbors Act (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344). The Service has reviewed the Public Notice and Prospectus and offers the following comments pursuant to Section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C., 1531 *et seq.*), and the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*) for your consideration.

Section 7 of the Endangered Species Act

The Sponsor submitted an online project review request through the Service's Information for Planning and Consultation (IPaC) system on May 20, 2021. The federally listed threatened northern long-eared bat (*Myotis septentrionalis*) may be present within the project action area. If less than 15 acres of tree clearing is required, then the project will have 'no effect' to northern long-eared bat. However, if tree clearing will exceed 15 acres, the *Northern Long-Eared Bat 4(d) Rule Determination Key* should be completed to determine if the project may cause prohibited incidental take under the 4(d) rule or is 'not likely to adversely affect' the species (https://www.fws.gov/midwest/endangered/mammals/nleb/determination_key_instructions_nleb.html). If project plans change or new information on federally threatened or endangered species becomes available, this determination may be reconsidered.

TAKE PRIDE IN AMERICA

Fish and Wildlife Coordination Act

Mitigation banks are established to offset unavoidable stream and wetland impacts and are intended to support Clean Water Act goals to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. However, the Bank's location is dominated by urban land uses and therefore, its biological restoration potential will be limited. According to the Prospectus, the Bank's drainage area has an average impervious percentage of 26 percent, but the United States Geological Survey StreamStats webtool calculates the drainage area as 42.8 percent impervious. While not suitable for mitigation credits, current and planned stormwater management improvements (e.g., Watershed Implementation Plan and site redevelopment projects) should be inventoried to determine if these activities might complement proposed Bank restoration work and support uplift of the aquatic community.

Existing infrastructure (e.g., underground utilities, paved pedestrian trails, and bridges), forested riparian area, and narrow widths of the Columbia Association property along the corridor will constrain stream restoration design and further limit biological restoration potential of the proposed Bank. Forest clearing along the corridor and especially within Forest Interior Dwelling Species (FIDS) habitat mapped by the Maryland Department of Natural Resources should be reduced to the maximum extent practicable. Any temporary and permanent loss of forest riparian functions should be considered when determining functional uplift and calculating mitigation credits for the proposed Bank.

Preliminary Concept Maps indicate Step Pool Stormwater Conveyance (SPSC) are proposed along the upper reaches of several tributaries. The Service generally supports stormwater best management practices in upland areas to treat runoff but SPSC proposed in streams can displace aquatic habitat function. Any SPSC proposed in intermittent or perennial streams should be evaluated as an impact and should not be eligible for mitigation credit.

The stream corridor appears to be especially constrained between High Tor Hill and Tamar Drive, and is fragmented from the rest of the Bank by Jackson Pond, an inline impoundment. Considering its limited biological restoration potential, this reach may be better suited for other programs with sediment and nutrient load reduction goals.

The Service supports the Sponsor's goal to provide aquatic organism passage through Lake Elkhorn Dam and disconnected roadway culverts. However, it is unclear if the Sponsor has field assessed roadway culverts or developed concept plans to improve passage. The Service recommends the following references related to road-stream crossing assessment and design:

- North Atlantic Aquatic Connectivity Collaborative (NAACC) has developed a field protocol (https://streamcontinuity.org/naacc) to assess fish and wildlife passage conditions at road-stream crossings. The Service recommends the NAACC protocol be used to standardize road-stream crossing barrier assessments throughout the Northeast region including in Maryland.
- *Recommendations for Aquatic Organism Passage at Maryland Road-Stream Crossings* (https://www.chesapeakebay.net/channel_files/43044/recommendations_for_aquatic_org

anism_passage_at_maryland_road-stream_crossings_draft_05262021.pdf) is a guidance document of recommendations to promote stream continuity and aquatic organism passage at road-stream crossings. This document was developed by the Chesapeake Bay Program Fish Passage Workgroup in collaboration with partners and other stakeholders.

Nature-like fishways are generally more effective to pass aquatic communities than structural approaches designed for a specific species or group of species. Absent a target species, the Service recommends a nature-like fishway to provide passage for the broader aquatic community at Lake Elkhorn dam. The Sponsor should be aware Lake Elkhorn dam is classified by the Maryland Department of the Environment Dam Safety Program as a high hazard dam and special considerations will be needed to ensure the dam's structural integrity is not compromised by any proposed aquatic connectivity work.

The Service appreciates the opportunity to provide comments for the project. Should you have any questions or concerns regarding this letter please contact Raymond Li of my staff at ray_li@fws.gov.

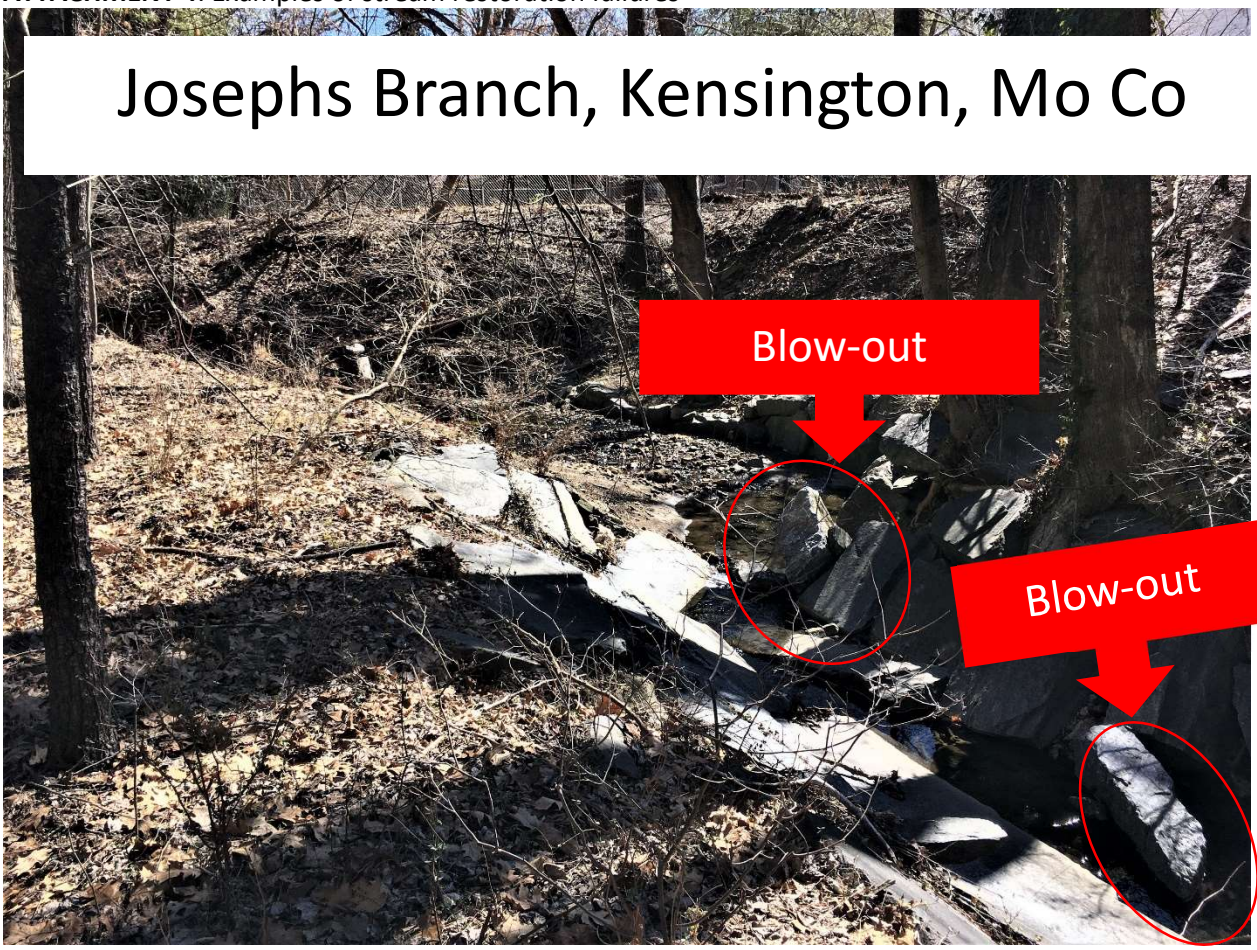
Sincerely,

GENEVIEVE PULLIS Digitally signed by GENEVIEVE PULLIS
Date: 2021.08.26 17:02:30 -04'00'

Genevieve LaRouche
Field Supervisor

cc: Kelly Neff, Maryland Department of the Environment

ATTACHMENT 4: Examples of stream restoration failures



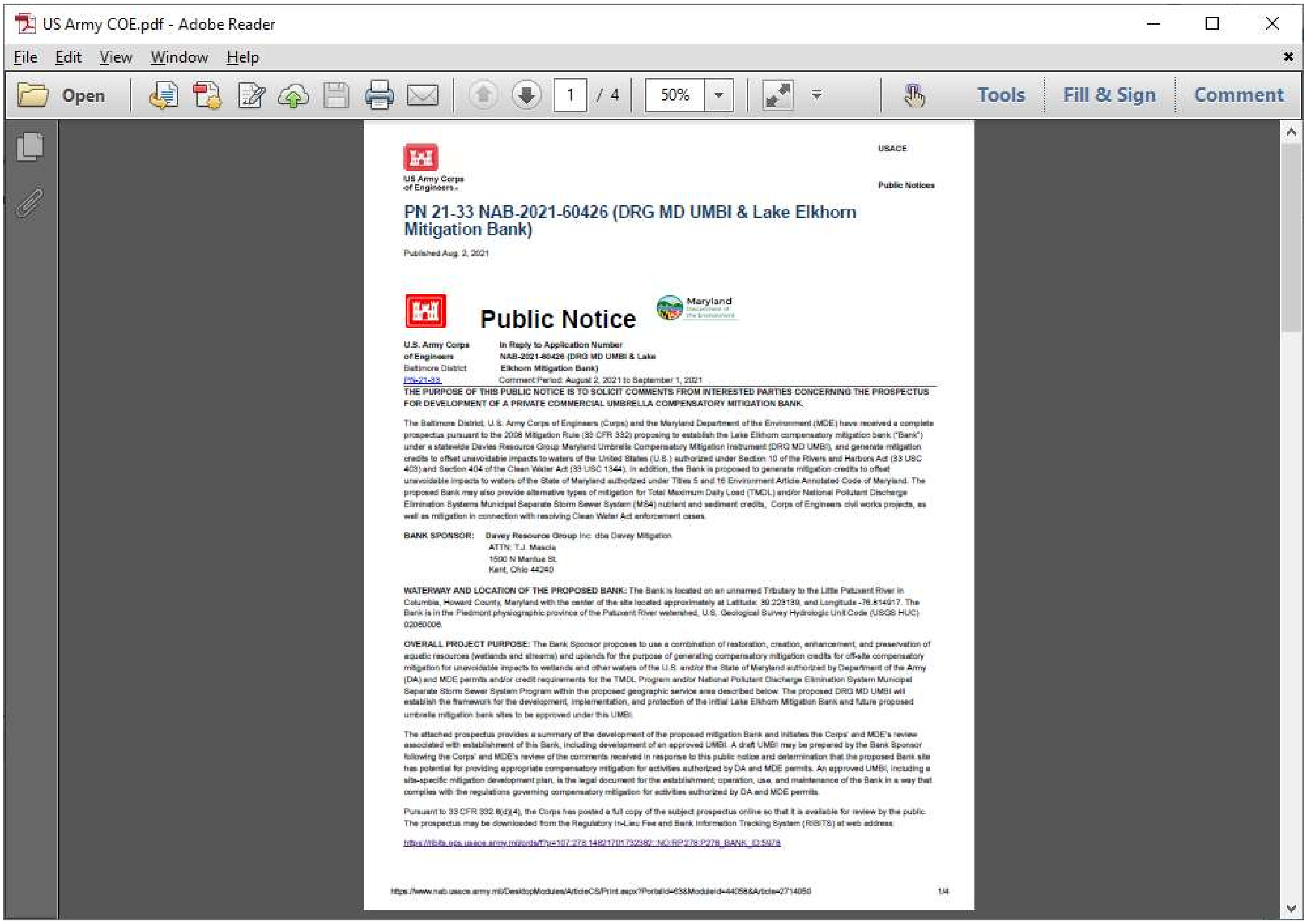
Long Branch, Takoma Park, Md

Little Pimmit Run, Fairfax, VA

Snakeden Branch, Montgomery Co, MD

Lower Booze Creek, Montgomery Co, MD

Attachment 5:



US Army Corps of Engineers

USACE

Public Notices

PN 21-33 NAB-2021-60426 (DRG MD UMBI & Lake Elkhorn Mitigation Bank)

Published Aug. 2, 2021

Public Notice

Maryland Department of the Environment

U.S. Army Corps of Engineers Baltimore District PN-21-33

In Reply to Application Number NAB-2021-60426 (DRG MD UMBI & Lake Elkhorn Mitigation Bank)
Comment Period: August 2, 2021 to September 1, 2021

THE PURPOSE OF THIS PUBLIC NOTICE IS TO SOLICIT COMMENTS FROM INTERESTED PARTIES CONCERNING THE PROSPECTUS FOR DEVELOPMENT OF A PRIVATE COMMERCIAL UMBRELLA COMPENSATORY MITIGATION BANK.

The Baltimore District, U.S. Army Corps of Engineers (Corps) and the Maryland Department of the Environment (MDE) have received a complete prospectus pursuant to the 2008 Mitigation Rule (33 CFR 332) proposing to establish the Lake Elkhorn compensatory mitigation bank ("Bank") under a statewide Davies Resource Group Maryland Umbrella Compensatory Mitigation Instrument (DRG MD UMBI), and generate mitigation credits to offset unavoidable impacts to waters of the United States (U.S.) authorized under Section 10 of the Rivers and Harbors Act (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344). In addition, the Bank is proposed to generate mitigation credits to offset unavoidable impacts to waters of the State of Maryland authorized under Titles 5 and 16 Environment Article Annotated Code of Maryland. The proposed Bank may also provide alternative types of mitigation for Total Maximum Daily Load (TMDL) and/or National Pollutant Discharge Elimination Systems Municipal Separate Storm Sewer System (MS4) nutrient and sediment credits, Corps of Engineers civil works projects, as well as mitigation in connection with resolving Clean Water Act enforcement cases.

BANK SPONSOR: Davey Resource Group Inc. dba Davey Mitigation
ATTN: T.J. Mascia
1500 N Mantua St.
Kent, Ohio 44240

WATERWAY AND LOCATION OF THE PROPOSED BANK: The Bank is located on an unnamed Tributary to the Little Patuxent River in Columbia, Howard County, Maryland with the center of the site located approximately at Latitude: 39.229139, and Longitude -76.814917. The Bank is in the Piedmont physiographic province of the Patuxent River watershed, U.S. Geological Survey Hydrologic Unit Code (USGS HUC) 02060006.

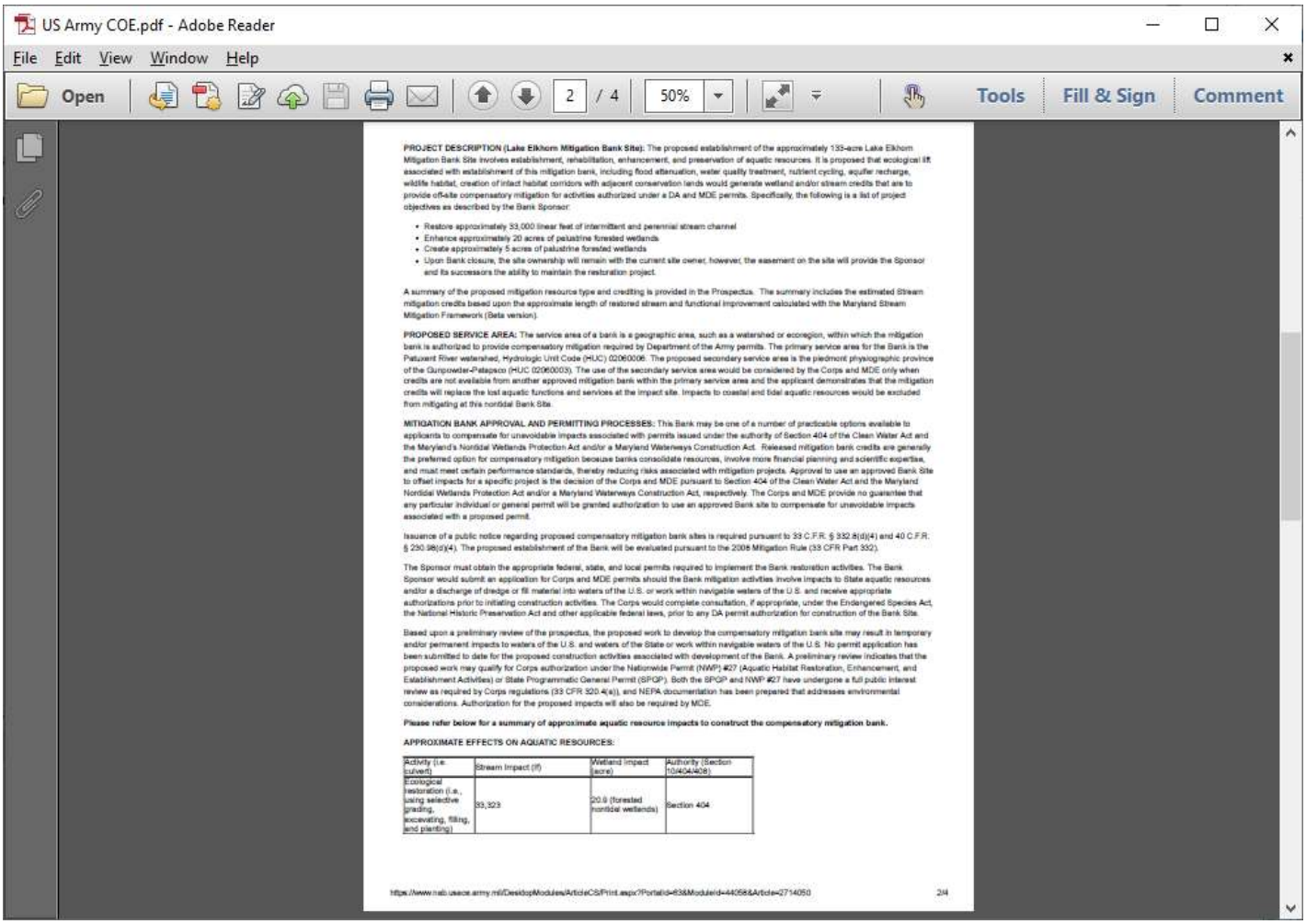
OVERALL PROJECT PURPOSE: The Bank Sponsor proposes to use a combination of restoration, creation, enhancement, and preservation of aquatic resources (wetlands and streams) and uplands for the purpose of generating compensatory mitigation credits for off-site compensatory mitigation for unavoidable impacts to wetlands and other waters of the U.S. and/or the State of Maryland authorized by Department of the Army (DA) and MDE permits and/or credit requirements for the TMDL Program and/or National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System Program within the proposed geographic service area described below. The proposed DRG MD UMBI will establish the framework for the development, implementation, and protection of the initial Lake Elkhorn Mitigation Bank and future proposed umbrella mitigation bank sites to be approved under this UMBI.

The attached prospectus provides a summary of the development of the proposed mitigation Bank and initiates the Corps' and MDE's review associated with establishment of this Bank, including development of an approved UMBI. A draft UMBI may be prepared by the Bank Sponsor following the Corps' and MDE's review of the comments received in response to this public notice and determination that the proposed Bank site has potential for providing appropriate compensatory mitigation for activities authorized by DA and MDE permits. An approved UMBI, including a site-specific mitigation development plan, is the legal document for the establishment, operation, use, and maintenance of the Bank in a way that complies with the regulations governing compensatory mitigation for activities authorized by DA and MDE permits.

Pursuant to 33 CFR 332.8(d)(4), the Corps has posted a full copy of the subject prospectus online so that it is available for review by the public. The prospectus may be downloaded from the Regulatory In-Lieu Fee and Bank Information Tracking System (RIBITS) at web address:

https://ribits.ops.usace.army.mil/ords/f?p=107:278:14821701732982::NO:RP,278:P278_BANK_ID:5978

https://www.nab.usace.army.mil/DesktopModules/ArticleCS/Print.aspx?PortalId=63&ModuleId=44058&Article=2714050 1/4



PROJECT DESCRIPTION (Lake Elkhorn Mitigation Bank Site): The proposed establishment of the approximately 133-acre Lake Elkhorn Mitigation Bank Site involves establishment, rehabilitation, enhancement, and preservation of aquatic resources. It is proposed that ecological lift associated with establishment of this mitigation bank, including flood attenuation, water quality treatment, nutrient cycling, aquifer recharge, wildlife habitat, creation of intact habitat corridors with adjacent conservation lands would generate wetland and/or stream credits that are to provide off-site compensatory mitigation for activities authorized under a DA and MDE permits. Specifically, the following is a list of project objectives as described by the Bank Sponsor:

- Restore approximately 33,000 linear feet of intermittent and perennial stream channel
- Enhance approximately 20 acres of palustrine forested wetlands
- Create approximately 5 acres of palustrine forested wetlands
- Upon Bank closure, the site ownership will remain with the current site owner, however, the easement on the site will provide the Sponsor and its successors the ability to maintain the restoration project.

A summary of the proposed mitigation resource type and crediting is provided in the Prospectus. The summary includes the estimated Stream mitigation credits based upon the approximate length of restored stream and functional improvement calculated with the Maryland Stream Mitigation Framework (Beta version).

PROPOSED SERVICE AREA: The service area of a bank is a geographic area, such as a watershed or ecoregion, within which the mitigation bank is authorized to provide compensatory mitigation required by Department of the Army permits. The primary service area for the Bank is the Patuxent River watershed, Hydrologic Unit Code (HUC) 02060006. The proposed secondary service area is the piedmont physiographic province of the Gunpowder-Patapsco (HUC 02060003). The use of the secondary service area would be considered by the Corps and MDE only when credits are not available from another approved mitigation bank within the primary service area and the applicant demonstrates that the mitigation credits will replace the lost aquatic functions and services at the impact site. Impacts to coastal and tidal aquatic resources would be excluded from mitigating at this nontidal Bank Site.

MITIGATION BANK APPROVAL AND PERMITTING PROCESSES: This Bank may be one of a number of practicable options available to applicants to compensate for unavoidable impacts associated with permits issued under the authority of Section 404 of the Clean Water Act and the Maryland's Nontidal Wetlands Protection Act and/or a Maryland Waterways Construction Act. Released mitigation bank credits are generally the preferred option for compensatory mitigation because banks consolidate resources, involve more financial planning and scientific expertise, and must meet certain performance standards, thereby reducing risks associated with mitigation projects. Approval to use an approved Bank Site to offset impacts for a specific project is the decision of the Corps and MDE pursuant to Section 404 of the Clean Water Act and the Maryland Nontidal Wetlands Protection Act and/or a Maryland Waterways Construction Act, respectively. The Corps and MDE provide no guarantee that any particular individual or general permit will be granted authorization to use an approved Bank site to compensate for unavoidable impacts associated with a proposed permit.

Issuance of a public notice regarding proposed compensatory mitigation bank sites is required pursuant to 33 C.F.R. § 332.8(d)(4) and 40 C.F.R. § 230.98(d)(4). The proposed establishment of the Bank will be evaluated pursuant to the 2008 Mitigation Rule (33 CFR Part 332).

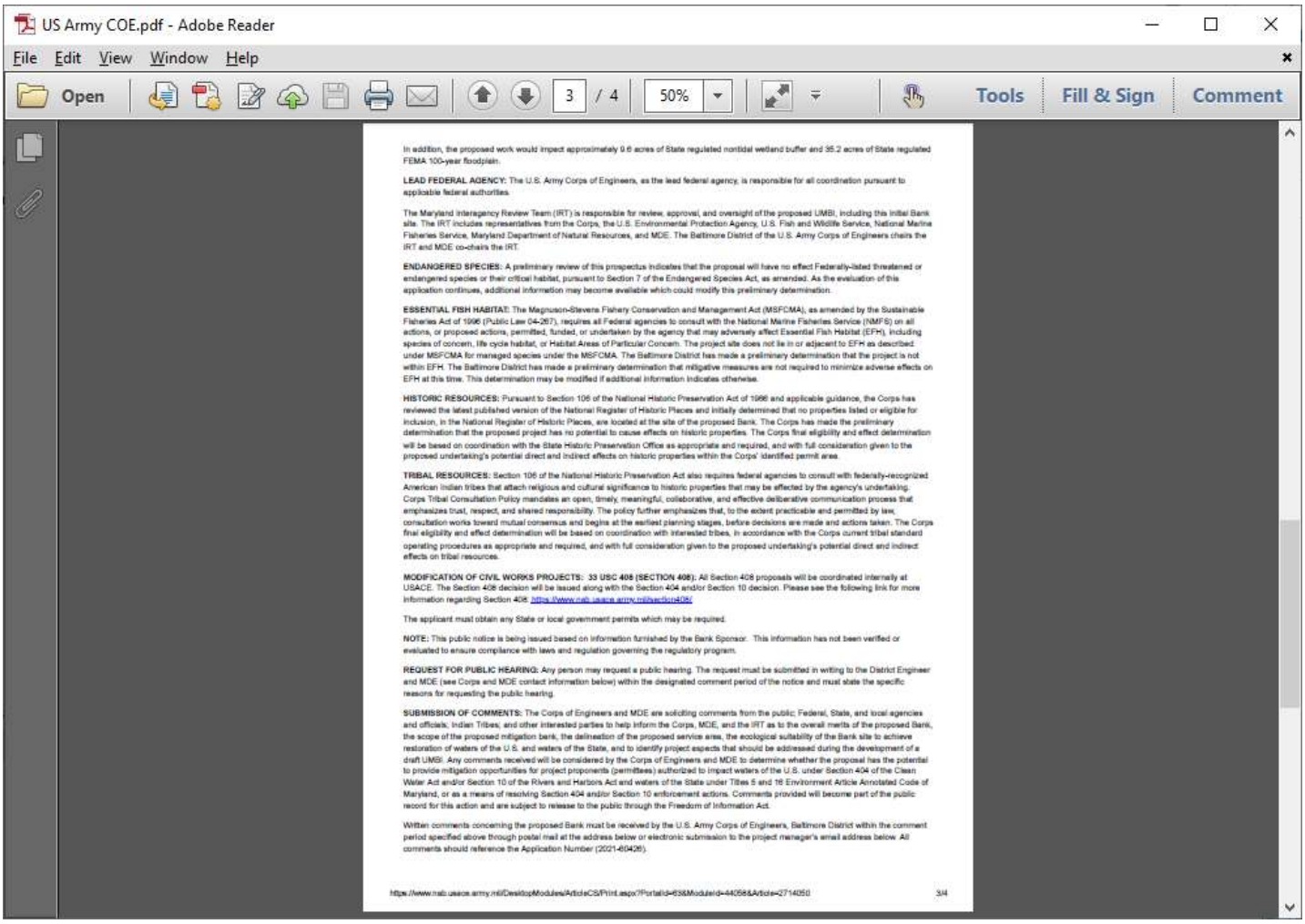
The Sponsor must obtain the appropriate federal, state, and local permits required to implement the Bank restoration activities. The Bank Sponsor would submit an application for Corps and MDE permits should the Bank mitigation activities involve impacts to State aquatic resources and/or a discharge of dredge or fill material into waters of the U.S. or work within navigable waters of the U.S. and receive appropriate authorizations prior to initiating construction activities. The Corps would complete consultation, if appropriate, under the Endangered Species Act, the National Historic Preservation Act and other applicable federal laws, prior to any DA permit authorization for construction of the Bank Site.

Based upon a preliminary review of the prospectus, the proposed work to develop the compensatory mitigation bank site may result in temporary and/or permanent impacts to waters of the U.S. and waters of the State or work within navigable waters of the U.S. No permit application has been submitted to date for the proposed construction activities associated with development of the Bank. A preliminary review indicates that the proposed work may qualify for Corps authorization under the Nationwide Permit (NWP) #27 (Aquatic Habitat Restoration, Enhancement, and Establishment Activities) or State Programmatic General Permit (SPGP). Both the SPGP and NWP #27 have undergone a full public interest review as required by Corps regulations (33 CFR 320.4(a)), and NEPA documentation has been prepared that addresses environmental considerations. Authorization for the proposed impacts will also be required by MDE.

Please refer below for a summary of approximate aquatic resource impacts to construct the compensatory mitigation bank.

APPROXIMATE EFFECTS ON AQUATIC RESOURCES:

Activity (i.e. culvert)	Stream Impact (lf)	Wetland Impact (acre)	Authority (Section 10/404/408)
Ecological restoration (i.e., using selective grading, excavating, filling, and planting)	33,323	20.6 (forested nontidal wetlands)	Section 404



In addition, the proposed work would impact approximately 0.6 acres of State regulated nontidal wetland buffer and 35.2 acres of State regulated FEMA 100-year floodplain.

LEAD FEDERAL AGENCY: The U.S. Army Corps of Engineers, as the lead federal agency, is responsible for all coordination pursuant to applicable federal authorities.

The Maryland Interagency Review Team (IRT) is responsible for review, approval, and oversight of the proposed UMBI, including this Initial Bank site. The IRT includes representatives from the Corps, the U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Maryland Department of Natural Resources, and MDE. The Baltimore District of the U.S. Army Corps of Engineers chairs the IRT and MDE co-chairs the IRT.

ENDANGERED SPECIES: A preliminary review of this prospectus indicates that the proposal will have no effect Federally-listed threatened or endangered species or their critical habitat, pursuant to Section 7 of the Endangered Species Act, as amended. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 04-267), requires all Federal agencies to consult with the National Marine Fisheries Service (NMFS) on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH), including species of concern, life cycle habitat, or Habitat Areas of Particular Concern. The project site does not lie in or adjacent to EFH as described under MSFCMA for managed species under the MSFCMA. The Baltimore District has made a preliminary determination that the project is not within EFH. The Baltimore District has made a preliminary determination that mitigative measures are not required to minimize adverse effects on EFH at this time. This determination may be modified if additional information indicates otherwise.

HISTORIC RESOURCES: Pursuant to Section 106 of the National Historic Preservation Act of 1966 and applicable guidance, the Corps has reviewed the latest published version of the National Register of Historic Places and initially determined that no properties listed or eligible for inclusion, in the National Register of Historic Places, are located at the site of the proposed Bank. The Corps has made the preliminary determination that the proposed project has no potential to cause effects on historic properties. The Corps final eligibility and effect determination will be based on coordination with the State Historic Preservation Office as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps' identified permit area.

TRIBAL RESOURCES: Section 106 of the National Historic Preservation Act also requires federal agencies to consult with federally-recognized American Indian tribes that attach religious and cultural significance to historic properties that may be effected by the agency's undertaking. Corps Tribal Consultation Policy mandates an open, timely, meaningful, collaborative, and effective deliberative communication process that emphasizes trust, respect, and shared responsibility. The policy further emphasizes that, to the extent practicable and permitted by law, consultation works toward mutual consensus and begins at the earliest planning stages, before decisions are made and actions taken. The Corps final eligibility and effect determination will be based on coordination with interested tribes, in accordance with the Corps current tribal standard operating procedures as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on tribal resources.

MODIFICATION OF CIVIL WORKS PROJECTS: 33 USC 408 (SECTION 408): All Section 408 proposals will be coordinated internally at USACE. The Section 408 decision will be issued along with the Section 404 and/or Section 10 decision. Please see the following link for more information regarding Section 408: https://www.nab.usace.army.mil/section408/

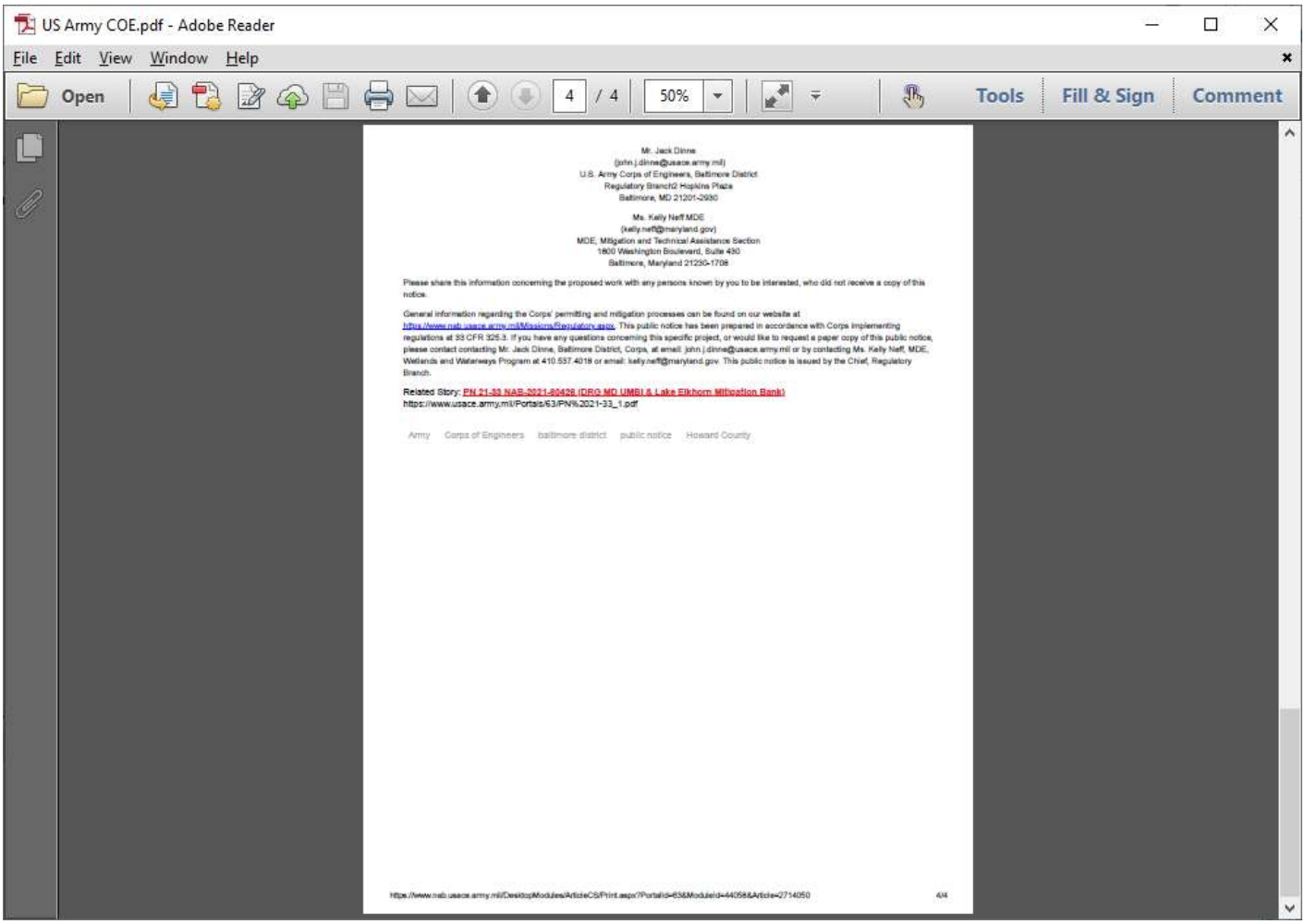
The applicant must obtain any State or local government permits which may be required.

NOTE: This public notice is being issued based on information furnished by the Bank Sponsor. This information has not been verified or evaluated to ensure compliance with laws and regulation governing the regulatory program.

REQUEST FOR PUBLIC HEARING: Any person may request a public hearing. The request must be submitted in writing to the District Engineer and MDE (see Corps and MDE contact information below) within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.

SUBMISSION OF COMMENTS: The Corps of Engineers and MDE are soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties to help inform the Corps, MDE, and the IRT as to the overall merits of the proposed Bank, the scope of the proposed mitigation bank, the delineation of the proposed service area, the ecological suitability of the Bank site to achieve restoration of waters of the U.S. and waters of the State, and to identify project aspects that should be addressed during the development of a draft UMBI. Any comments received will be considered by the Corps of Engineers and MDE to determine whether the proposal has the potential to provide mitigation opportunities for project proponents (permittees) authorized to impact waters of the U.S. under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act and waters of the State under Titles 5 and 16 Environment Article Annotated Code of Maryland, or as a means of resolving Section 404 and/or Section 10 enforcement actions. Comments provided will become part of the public record for this action and are subject to release to the public through the Freedom of Information Act.

Written comments concerning the proposed Bank must be received by the U.S. Army Corps of Engineers, Baltimore District within the comment period specified above through postal mail at the address below or electronic submission to the project manager's email address below. All comments should reference the Application Number (2021-60426).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Mr. Jack Dinne
(john.j.dinne@usace.army.mil)
U.S. Army Corps of Engineers, Baltimore District
Regulatory Branch2 Hopkins Plaza
Baltimore, MD 21201-2930
Ms. Kelly Neff MDE
(kelly.neff@maryland.gov)
MDE, Mitigation and Technical Assistance Section
1800 Washington Boulevard, Suite 430
Baltimore, Maryland 21230-1708
Please share this information concerning the proposed work with any persons known by you to be interested, who did not receive a copy of this notice.
General information regarding the Corps' permitting and mitigation processes can be found on our website at https://www.nab.usace.army.mil/Missions/Regulatory.aspx. This public notice has been prepared in accordance with Corps implementing regulations at 33 CFR 325.3. If you have any questions concerning this specific project, or would like to request a paper copy of this public notice, please contact contacting Mr. Jack Dinne, Baltimore District, Corps, at email: john.j.dinne@usace.army.mil or by contacting Ms. Kelly Neff, MDE, Wetlands and Waterways Program at 410.537.4018 or email: kelly.neff@maryland.gov. This public notice is issued by the Chief, Regulatory Branch.
Related Story: PN 21-33 NAB-2021-60428 (DRG MD UMBI & Lake Elkhorn Mitigation Bank)
https://www.usace.army.mil/Portals/63/PN%2021-33_1.pdf
Army Corps of Engineers baltimore district public notice Howard County
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