

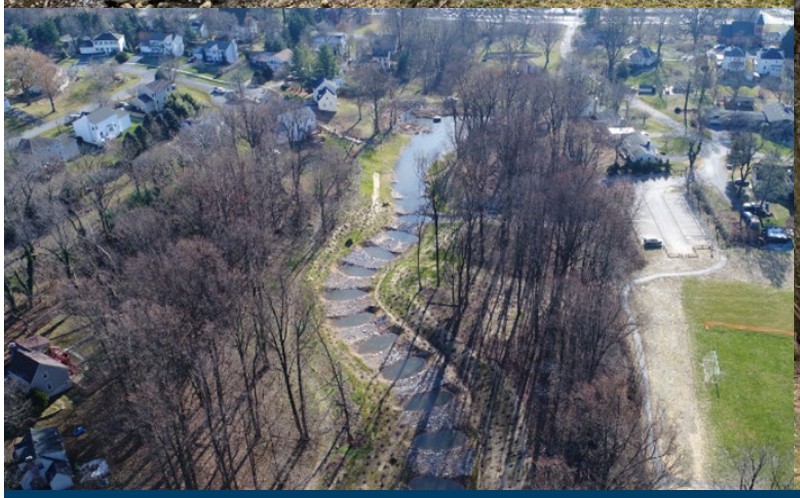


Draft Environmental Assessment

Point of Rocks Significant to High Hazard Dam Decommissioning and Stream Restoration

LPDM-PJ-03-MD-2022-002

Frederick County, Maryland

July 2023

FEMA

Federal Emergency Management Agency
Region #3
Department of Homeland Security
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Acronyms and Abbreviations

APE	Area of Potential Effect
BGEPA	Bald & Golden Eagle Protection Act
BMP	Best Management Practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
dBA	A-weighted Decibels
DBH	Diameter Breast Height
EA	Environmental Assessment
EJ	Environmental Justice
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
IPaC	Information for Planning and Consultation
MARC	Maryland Area Rail Commuter
MBTA	Migratory Bird Treaty Act
MD 28	Maryland State Route 28
MDE	Maryland Department of the Environment
MDNR	Maryland Department of Natural Resources
MDOT	Maryland Department of Transportation
MHT	Maryland Historical Trust

MIHP	Maryland Inventory of Historic Places
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act of 1966
NLEB	Northern long-eared bat
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
PDM	Pre-Disaster Mitigation
SHA	State Highway Administration
SHPO	State Historic Preservation Officer
STP	shovel test pit
THPO	Tribal Historic Preservation Officer
TMDL	Total Maximum Daily Load
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

SECTION 1. Background

1.1. Project Authority

Frederick County, Maryland applied through the Maryland Department of Emergency Management to the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Assistance, Pre-Disaster Mitigation (PDM) grant program for funding for a dam decommissioning project in the Point of Rocks Community Park (park) in Frederick County, Maryland. The PDM funds are made available through Congressionally directed spending in the 2022 Department of Homeland Security Appropriations Act (Pub. L. No. 117-103). Maryland Department of Environment (MDE) classified the existing dam embankment as a significant to high hazard dam based on current analyses; thus, failure of a dam with this classification would likely result in loss of human life and property damage.

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500 through 1508), and FEMA procedures for NEPA compliance (FEMA Directive 108-1 and FEMA Instruction 108-1-1), FEMA must fully understand and consider the environmental consequences of actions proposed for federal funding. The purpose of this Environmental Assessment (EA) is to meet FEMA's responsibilities under NEPA and to determine whether to prepare a Finding of No Significant Impact (FONSI) or a Notice of Intent to prepare an Environmental Impact Statement.

1.2. Project Area

The project area is in Frederick County in central Maryland in the unincorporated community of Point of Rocks, which has a population of approximately 1,900. Specifically, the proposed project would occur within the Point of Rocks Community Park, which is owned by Frederick County, or on private land on which the County has executed perpetual drainage easements. The project area is north of Maryland State Route 28 (MD 28), or Clay Street, and the Maryland Area Rail Commuter (MARC) lot; approximately 0.2 miles north of the Potomac River; and approximately 0.2 miles east of U.S. Route 15. The project area contains a portion of an unnamed tributary of the Potomac River that bisects the project area from north to south, and a portion of Tributary 6, which carries stormwater from the adjacent residential area and flows into the unnamed tributary. A map showing the location of the proposed project is included in Appendix A (Figure 1).

1.3. Purpose and Need

The objectives of FEMA's PDM grant program are to provide technical and financial assistance to states and local governments to assist in the implementation of pre-disaster hazard mitigation measures that are cost effective and designed to reduce injuries, loss of life, and damage and destruction of property, including damage to critical services and facilities resulting from natural disasters. The purpose of the proposed project is to reduce hazards associated with the potential for flooding from catastrophic failure of the dam, from storm events, and to protect life and property.

The need for this project is because the existing dam embankment is classified by MDE as a significant to high hazard dam with an increased likelihood of failure. According to MDE's hazard classification of dams, failure of a significant hazard dam could result in economic loss, disruption of facilities, environmental damage, and other impacts. Failure of a high hazard dam would likely result in loss of human life, and extensive damage to properties, structures, roads and/or utilities (MDE 2023). As detailed in "Point of Rocks: Depth-Velocity Flood Danger Analysis", the hydrologic and hydraulic analysis for the proposed project which is included in Appendix B, the failure of the existing dam embankment would result in an approximately 4-foot "wall of water" being released at one time that would overtop MD 28 and enter the MARC lot.

Soil erosion threatens the integrity of earthen dams and may contribute to dam failure; water that overtops or seeps through an earthen dam may erode the dam embankment and result in the weakening or failure of the dam (Association of State Dam Safety Officials 2023). Because the proposed project and associated dam is within the 100-year flood zone of the Potomac River, backwaters from riverine flooding could cause erosion in the project area (FEMA 2022a). Existing stream banks along the unnamed tributary are already experiencing high rates of erosion. Furthermore, the state of Maryland is experiencing more intense rainfall and severe storms due to climate change, which increases the risk of inland flooding and associated soil erosion, further threatening the existing dam (University of Maryland Extension 2020).

Frederick County's Hazard Mitigation and Climate Adaptation Plan aims to prevent future damage from climate change by assessing community vulnerability to natural hazards and developing a strategy to address those hazards in the long term. One goal of the mitigation and adaptation strategy is to protect public infrastructure, human health, private property, and the environment by implementing physical hazard mitigation and climate adaptation projects that efficiently and equitably reduce risk (Frederick County 2022a).

In accordance with federal laws and FEMA procedures, the EA process for a proposed federal action must include an evaluation of alternatives and a discussion of the potential environmental impacts. This EA was prepared in accordance with FEMA's procedures as required under NEPA. As part of this NEPA review, the requirements of other environmental laws and executive orders are addressed.

1.4. Existing Facility

The existing dam, which impounds a portion of an unnamed tributary to the Potomac River, is located in the park at approximately 39.276035, -77.535942 and is owned by Frederick County. The earthen dam was constructed in 1990 and is approximately 13 feet high (U.S. Army Corps of Engineers 2022). Based on historical imagery, a farm pond existed on-site since at least 1988. According to as-built information provided by Frederick County, the farm pond was reconstructed into the current stormwater management pond, or impoundment area, to provide stormwater attenuation for 2-year and 10-year storm events for a portion of the Potomac Station Subdivision. The principal spillway controls flow from 2-year and 10-year storm events while the emergency spillway controls flow from 25-year and 100-year flood events. The pond's impervious acre equivalent is 2.08 acres (Frederick County 2018).

The stormwater management pond is in-line with the unnamed tributary that flows south through the project area. The project area also includes a portion of Tributary 6, which flows into the unnamed tributary just upstream of the stormwater management pond on the east side of the project area. Both waterways are depicted on Figure 2, Appendix A. As shown in the hydrologic and hydraulic analysis for the proposed project (Appendix B), stormwater from the pond flows into the outflow south of the dam, through the Clay Street Culvert under MD 28, and into the Potomac River. The downstream area protected by the dam includes MD 28 as well as the MARC Commuter Lot. Pedestrians currently walk over the existing dam embankment to cross the park to access park facilities, such as play equipment and tennis and basketball courts or access amenities such as the library and community center northeast of the dam or the MARC community lot south of the dam.

Figure 2, Appendix A, shows the location of key features in the project area, including the stormwater management pond, MD 28 (Clay Street), MARC lot, and the tributaries. Figure 3, Appendix A, provides a view of the existing dam embankment, stormwater management pond, MD 28, and MARC lot.

SECTION 2. Alternative Analysis

This section describes the No Action alternative, the Proposed Action, and alternatives that were considered but dismissed from further evaluation in this EA. Alternatives are evaluated for their ability to address the purpose and need, and engineering constraints, as well as hazard mitigation, resilience, and restoration goals outlined in Frederick County's Hazard Mitigation and Climate Adaptation Plan (Frederick County 2022a).

2.1. Alternative 1 – No Action

Under the No Action alternative, the existing dam would not be decommissioned, the stream would not be restored, and a pedestrian bridge would not be installed. Under this alternative, the risk to people and property from a dam failure and associated inundation would remain. Additionally, any future dam failure would decrease capacity to retain and attenuate stormwater, likely leading to downstream flooding and erosion.

Under this alternative, the existing risk to people and property would likely increase due to climate change effects, including higher intensity storm and flood events (University of Maryland Extension 2020). The project's hydrologic and hydraulic analysis models and documents the current extent of these risks (Appendix B). Under the No Action alternative, 100-year flood events may potentially endanger pedestrians along the MD 28 sidewalk, reaching a maximum depth of 3.5 feet. These risks are more pronounced in the MARC lot, where maximum water depths from 10- and 100-year flood events are greater than 3 and 5 feet, respectively. These risks would exist regardless of whether the dam fails under the No Action alternative. These flood depths are sufficient to endanger people and property.

2.2. Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

The Proposed Action would decommission the existing significant to high hazard dam, restore over 1,000 feet of stream channel using natural design techniques, install a pedestrian bridge over the restored stream, create pocket wetlands and other environmental site design features, and replant vegetation. The Proposed Action is within the park, directly north of MN 28. The coordinates of the project area are 39.276035, -77.535942. The duration of project construction is expected to be approximately 60 working days for dam decommissioning and stream restoration, including site planting.

The Proposed Action would disturb approximately 3.35 acres and approximately 9,803 cubic yards of material would be excavated from the site. Equipment to be used for the dam removal and stream restoration components of the Proposed Action would include an excavator, dump trucks and specially-tracked dump trucks, a bobcat, a woodchipper, pickup trucks, pumping equipment, and a crane. Staging and stockpiling areas would be in the northwest and western portions of the project boundary, as shown on Figure 2 in Appendix A. Detailed information presented below is based on the

100 percent design plans for the Proposed Action; key design plans are also included in Appendix A (see Figures 5–10).

2.2.1. DAM DECOMMISSIONING

The removal of the existing dam embankment would follow MDE's Dam Safety Permit Requirements (Permit Number: 18-0B-0028), which is provided in Appendix C. The permit conditions require Frederick County to implement erosion and sediment controls and best management practices (BMP) for work occurring within the bed and banks of the stream, as detailed in Appendix C. Following the installation of sediment control measures, sandbag diversions within the unnamed tributary channel at the upstream and downstream limits of work would be installed to create cofferdams. The sandbag cofferdams would prevent water from getting into the work zone and keep the construction area dry. The stream flow and impounded water in the existing pond would be diverted around the work area using pumps, hoses, and dewatering devices and associated sediment filtering measures, such as a dewatering basin, sediment bag, or other approved source. Following filtration, the water would be pumped back into the channel below the downstream sandbag diversion. Because the existing unnamed tributary is intermittent, the contractor would adjust the location of the water diversion as necessary to keep the work area dry throughout the duration of construction. Work would only take place within a three-day National Oceanic and Atmospheric Administration forecast for dry weather. The contractor would use excavators, dump trucks, and other heavy equipment to breach and remove the dam. The contractor would excavate to a depth of approximately 18 feet below the existing ground surface to remove the dam embankment and would remove and/or salvage existing riprap. Excavated and salvaged materials for reuse would be disposed of at a licensed facility and would not be stored or disposed of in waterbodies, wetlands, the floodplain, or historic sites.

2.2.2. STREAM RESTORATION AND SITE PLANTING

The Proposed Action would restore approximately 1,000 feet of stream through the project area, including the pond, the dam site, and a portion of the unnamed tributary downstream of the existing dam embankment. The restored stream would be constructed in a meandering alignment between the existing embankment and MD 28. The width of the restored stream would vary and would be wider in the area where the dam is removed and narrower downstream of the existing dam. Following dam removal, a new stream channel and banks would be graded and stream restoration features, such as riffle and cascade structures, would be installed along both the mainstem of the unnamed tributary and Tributary 6, as shown on 100 percent design plans for the Proposed Action (Appendix A). The existing stormwater pond, or impoundment area, would be replaced with constructed riffle and cascade structures, weir grade control structures, and pools. Stream restoration would require excavation of up to approximately 10 feet below the existing ground surface along the length of the mainstem tributary and Tributary 6, with the exception of excavation for the dam embankment, which would be approximately 18 feet below ground surface.

The riffle structures would generally be constructed of stones, with an average diameter of 12 inches, and would have a length of 40 feet, a minimum bottom width of 9 feet, and a typical stone

depth of 2 feet. The outer bank of the riffle structure would have a slope of 2:1 and the inner bank would have a slope of 3:1. These would be installed in the downstream portion of the stream restoration site, below the existing dam's location. Cascade structures would consist of boulders with an average diameter of 30 inches, a length of 20 feet, a top width of 45 feet, and a typical stone depth of 2 feet. Weir grade control structures would primarily consist of the same material and depth as the riffle structures, but they would have a length of 20 feet, follow a steeper grade, and have a downstream edge consisting of cascade boulders. Shallow pools and deeper pools intended to provide flood storage would be built in the existing pond site and downstream portions of the project area, respectively. The deeper pools would help mitigate the loss of some of the existing pond's stormwater attenuation capacity. Floodplain grade control logs would be installed perpendicular to the stream and would have a minimum diameter of 12 inches and length of 6 feet. Woody debris habitat would be placed near the stream channel and would consist of tree top roughness logs and woody debris; material greater than 2 inches would be partially buried in salvaged floodplain soil mix to anchor the material. Stone toe protection would be installed along the eastern downstream portion of the restored stream to provide additional erosion protection and prevent the stream channel from migrating east within the project area, closer to an existing County-owned sewer line near MD 28.

The first Point of Rocks stream restoration project was completed in 2019 and consisted of restoring over 3,000 feet of stream upstream of the Proposed Action. Cumulative effects of this project (referred to as the upstream Point of Rocks stream restoration project in this EA) and the Proposed Action are discussed in Section 4 of this EA.

Following the stream feature construction, the former embankment site would be planted with native trees and other vegetation. Planting zones would be created across the approximately 3.35-acre project area based on proximity to the stream and expected hydrologic regimes. Riparian plants would be planted closer to the stream and along the streambanks, while upland plants would be planted further from the stream. Plant communities would be selected appropriate to the conditions in each zone and would consist of upland areas with small, medium, and large trees with understory; riparian plantings (including wetlands and shrubs); turfgrass; and upland meadow. Planted trees would consist of oak species native to the region, such as black oak (*Quercus velutina*), southern red oak (*Quercus falcata*), white oak (*Quercus alba*), and pin oak (*Quercus palustris*). Other tree varieties appropriate for the site, such as American beech (*Fagus grandifolia*), American holly (*Ilex opaca*), American sycamore (*Platanus occidentalis*), black gum (*Nyssa sylvatica*), black locust (*Robinia pseudoacacia*), eastern red cedar (*Juniperus virginiana*), and red maple (*Acer rubrum*) would also be planted. Excavation depths for planting would range from approximately 7 to 12 inches, depending on tree type and size. Planting of shrubs, such as buttonbush (*Cephalanthus occidentalis*), winterberry (*Ilex verticillata*), and serviceberry (*Amelanchier* spp.) would require excavation to a depth of roughly 9 inches. After planting is complete, Frederick County would monitor the plantings for five years. The County would hire a qualified professional to inspect the plantings at the beginning and end of the growing season each year. The County would be responsible for performing all tasks necessary to maintain and protect the plantings during this period, including but not limited to watering, fertilizing, replacing dead or damaged vegetation, and controlling invasive species.

2.2.3. PEDESTRIAN BRIDGE INSTALLATION

Once the dam is removed, the stream reconfigured, and the stream restoration features installed, a single-span, steel pedestrian bridge would be installed in the same location as the existing dam embankment between Gibbons Road and Bank Street to retain access and walkability for the community. The bridge would be 8 feet wide and would span 85 feet across the new stream channel. A crane would be used to lift the prefabricated bridge into place, where it would rest on concrete slab platforms on each end. Approximate bridge abutments would be located in upland areas where grading for stream restoration begins. The excavation depth for the bridge abutments would be determined with additional geotechnical work during construction; however, this depth is not anticipated to exceed 8 feet. Pedestrian access to the bridge would consist of 8-foot-wide mulch paths, with the path on the east side of the bridge following the existing maintenance access road.

2.2.4. MAINTENANCE

The Proposed Action would occur within County-owned property and permanent easements. Thus, the County would be responsible for conducting long-term inspections and maintenance of the Proposed Action. The County would inspect stream restoration features annually for the first five years and then triennially thereafter. Additional inspections would be triggered after major storm events. The County would repair any instream structural failures that compromise the stream restoration project. The pedestrian bridge would be placed within the County's asset list and would be periodically inspected and repaired as needed. As mentioned in Section 2.2.2 Stream Restoration and Site Planting, the County would be responsible for inspecting and maintaining plantings for five years after planting is complete.

2.3. Alternatives Considered and Eliminated from Further Consideration

One alternative considered was to retain the existing dam and upgrade the facility to meet MDE regulatory requirements for significant to high hazard dams. Although this alternative would reduce the risk of dam failure and associated flooding, it would not eliminate the risk. The dam would remain within the 100-year FEMA floodplain of the Potomac River and backwaters from the Potomac would continue to contribute to the risk of dam failure (FEMA 2022a). In addition, increased storm frequency and intensity due to climate change would continue to pose a risk to the dam from overtopping and failure (University of Maryland Extension 2020). Because of these risks, there would still be the potential for a dam breach and catastrophic failure. Therefore, this alternative was eliminated from further consideration because it would not meet the purpose and need for the project.

SECTION 3. Affected Environment and Consequences

This section describes the environment potentially affected by the alternatives, evaluates the potential consequences under the No Action and Proposed Action alternatives, and recommends measures to avoid or reduce those effects. The consequences were evaluated based on impact intensity and duration. Table 3-1 provides impact determination terms and definitions.

Table 3-1. Impact Intensity Thresholds and Impact Duration Definitions

Impact Scale	Criteria
Intensity	
Negligible	Changes or benefits would be either nondetectable or have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, although the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional-scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resources would be expected.
Duration	
Short-term impact	Recovers in less than three years and does not contribute to a beneficial effect.
Long-term impact	Takes three or more years to recover and does not contribute to the long-term beneficial effect.
Long-term benefit	Takes three or more years to recover and contributes to the long-term beneficial effect.

3.1. Preliminary Screening of Assessment Categories

A preliminary screening was used to narrow the list of categories for which detailed assessments must be performed. The screening was based on available information on the general project area and the No Action and Proposed Action alternatives. The categories eliminated from further assessment were seismic hazards, sole source aquifers, coastal resources, essential fish habitat, and land use and zoning.

According to U.S. Geological Survey (USGS), seismic hazards are very low in Frederick County (USGS 2018) and are thus unlikely to contribute to the failure of the existing dam or affect the No Action or Proposed Action alternatives. Earthen dams, such as the existing dam, do not tend to collapse except where earthquakes of significant magnitude are prevalent (Association of State Dam Safety Officials 2022). Thus, there will be no further discussion of seismicity.

The project area is not over a sole source aquifer (U.S. Environmental Protection Agency [USEPA] 2022a). Therefore, the No Action and Proposed Action alternatives would not affect sole source aquifers and review under Section 1424(e) of the Safe Drinking Water Act governing sole source aquifers is not required.

According to MDE, Frederick County is not within the coastal zone (MDE 2020). Furthermore, this project is not within or near a Coastal Barrier Resource Unit based on the U.S. Fish and Wildlife Service (USFWS) Coastal Barrier Resources System mapper (USFWS 2019). Thus, the No Action and Proposed Action alternatives would not affect coastal resources and there will be no further discussion of coastal zone management or coastal barrier resources.

A search of National Marine Fisheries Service (NMFS) Essential Fish Habitat mapping tool did not reveal any designated essential fish habitat in or around the project area (NMFS 2022). The No Action and Proposed Action alternatives would not have any impact on essential fish habitat in accordance with the Magnuson-Stevens Fishery Conservation and Management Act and review under this law is not required.

The project area is classified as an R3 Zone (Low Density Residential) by the Frederick County Community Development Division (Frederick County Community Development Division 2012). The No Action and Proposed Action alternatives would not change existing land use and would be consistent with the current zoning; therefore, no further discussion of land use and zoning is required.

3.2. Physical Environment

3.2.1. GEOLOGY, TOPOGRAPHY, SOILS

The project area is in the western portion of the Piedmont Plateau physiographic province. Bedrock underlying central Frederick County consists of Cambrian and Ordovician limestone and dolomite (Maryland Geological Survey 2022). The project area and vicinity are relatively level with a gentle slope to the south toward the Potomac River. The elevation ranges from approximately 260 feet above mean sea level along the northern portion of the project area to approximately 240 feet above mean sea level in the southern portion of the project area (USGS 2021). Slopes in the project area generally range from 0 to 8 percent.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, the predominant soil types in the project area are approximately Trego-Foxville complex (66 percent, located in the center of the project area), silt loam (33 percent, including Combs silt loam and Glenelg silt loam),

and Springwood gravelly loam (1 percent). All soils have a moderate to moderately high susceptibility to erosion by water (NRCS 2022).

The Farmland Protection Policy Act requires federal agencies to minimize the unnecessary conversion of farmland into nonagricultural uses. According to NRCS, the Trego-Foxville complex is not designated as prime farmland; however, the silt loam and gravelly loam soils, which comprise approximately 34 percent of the project area, are designated as prime farmland and farmland of statewide importance, respectively (NRCS 2022).

Alternative 1 – No Action

Under the No Action alternative, there would be no construction-related short-term impacts on geology, topography, or soils within the project area. The No Action alternative would not alter existing baseline conditions, so there would be no long-term impacts on geology, topography, or soils.

The No Action alternative would not convert farmland soils to another use, nor would it prevent the future use of the soils for farmland purposes. Thus, there would be no impact on farmland soils.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

The Proposed Action would have minor short-term impacts on geology, topography, and soils from earth-disturbing activities, such as excavation and grading, to decommission the dam, restore the stream, and install the pedestrian bridge. Excavation during the implementation of the Proposed Action would be a maximum of 18 feet deep for dam decommissioning, 10 feet for stream restoration, and 10 feet for bridge installation. Implementation of the Proposed Action would require a total of approximately 9,886 cubic yards of excavation and 83 cubic yards of fill. Construction would be short-term, and the County would install and maintain erosion and sediment control measures in compliance with the latest version of the Maryland Standards and Specifications for Soil Erosion and Sediment Control. Erosion and sediment control BMPs are provided in design plans for the Proposed Action and include, but are not limited to, the following.

- Minimizing unnecessary soil disturbances
- Stabilizing the work area with seed and mulch, soil stabilization matting, or sod at the end of each workday
- Installing floodplain matting in areas designated by project plans
- Keeping roadways and parking areas free of dirt and debris by sweeping these areas daily
- Restoring areas affected by the proposed action, beyond project improvements, to pre-project conditions
- Restoring temporarily impacted area following construction of the Proposed Action

The following measures would be implemented to minimize impacts from fill:

- Placing excavated material, excess fill, salvaged materials, and debris in a location that does not impact surface waters, wetlands, or the 100-year floodplain.

- If additional backfill is required, using clean material free of waste metal products, unsightly debris, toxic material, or another deleterious substance. If excavated materials contain any of these substances, they would not be used as fill.

The Proposed Action would have no long-term permanent impacts on geology, topography, or soils.

The Proposed Action would not convert farmland soils to another use, nor would it prevent the future use of the soils for farmland purposes. Installation of the pedestrian bridge may affect minimal areas of soil by placement of the bridge abutments, but these impacts would be negligible.

3.2.2. WATER RESOURCES AND WATER QUALITY

The Clean Water Act (CWA) of 1977, as amended, regulates discharge of pollutants into water with sections falling under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and USEPA. Section 404 of the CWA establishes USACE permit requirements for discharging dredged or fill materials into waters of the United States and traditional navigable waterways. Under the National Pollutant Discharge Elimination System, USEPA regulates both point and nonpoint pollutant sources including stormwater and stormwater runoff. A National Pollutant Discharge Elimination System permit is required to implement activities that involve 1 acre or more of ground disturbance. For the Proposed Action, the applicable permit would be the MDE General Permit for Stormwater Discharge Associated with Construction Activity (Permit Number 20-CP).

CWA Section 303(d) requires states to identify waters that do not or are not expected to meet applicable water quality standards with current pollution control technologies alone. Under Section 303(d), states must develop Total Maximum Daily Loads (TMDL) for impaired waterbodies. A TMDL establishes the maximum amount of a pollutant or contaminant allowed in a waterbody and serves as a planning tool for restoring water quality. In Maryland, MDE is responsible for compliance with Section 303(d) of the CWA.

The project area is in the Potomac River watershed, in hydrologic unit code 02070008. The project area is approximately 0.2 miles north of the Potomac River and contains a portion of an unnamed tributary of the Potomac River and Tributary 6, as shown on Figure 2, Appendix A. As discussed in Section 1.4, the existing stormwater management pond in the project area provides stormwater attenuation for 2-year and 10-year storm events. As shown in the hydrologic and hydraulic analysis for the proposed project (Appendix B), stormwater from the pond flows into the outflow south of the dam, through the Clay Street culvert under MD 28, and into the Potomac River. Regionally, the Potomac flows southeast into the Chesapeake Bay.

To comply with CWA Section 303(d), MDE maintains a database of waters requiring a TMDL, also known as the 303(d) list or Category 5 waters. The mainstem Potomac River in the project area is

included on the 303(d) list as an impaired water requiring a TMDL; sources of impairment include polychlorinated biphenyls and mercury in fish tissue (MDE 2022a; USEPA 2022b). First through fourth order streams in the watershed, including the unnamed tributary of the Potomac River that intersects the project area and Tributary 6, are impaired because of total suspended solids and sulfates (MDE 2022a; USEPA 2022b).

Surface waterbodies in and near the project area are shown in Figure 2, Appendix A.

Alternative 1 – No Action

Because the No Action alternative would not require construction, it would have no short-term impacts on water resources and quality. The No Action alternative would not alter existing baseline conditions, so there would be no long-term impacts on water resources or water quality.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

On February 1, 2018, USACE issued a verification of Nationwide Permit 27 for the Proposed Action and the upstream Point of Rocks stream restoration project under Section 404 of the CWA (application identification: CENAB-OP-RMN [Point of Rocks/Stream Restoration] 2017-61539). The verification authorizes the fill of 0.27 acre of palustrine open water associated with the stormwater management pond. The permit regulates construction and establishes conditions for the protection of water quality. The Proposed Action would comply with the conditions of the CWA Section 404 permit issued by USACE throughout all phases of the project. This verification is valid until the nationwide permit is modified, reissued, or revoked. Thus, a new permit may be required, and the County is required to coordinate with USACE to determine the required permit authorization needed. The 404 permit specifies that dredged material from the stormwater management basin would not be placed in any jurisdictional stream or wetland, stream banks would be constructed with an average slope of 2:1, and construction would limit scour of the streambed. Permits obtained for the project are included in Appendix C of this EA.

The Proposed Action would have minor short-term impacts on water quality from construction-related activities, which could result in the discharge of pollutants and sediments into surface waters. Construction activities would be temporary, and the County would implement erosion and sediment control BMPs and BMPs related to the use of fill, as discussed in Section 3.2.1. The County would manage construction activities to prevent pollutants and debris from entering stormwater runoff and thus from entering surface waters in compliance with the MDE General Permit for Stormwater Discharge Associated with Construction Activity (Permit Number 20-CP). The County would implement an erosion and sediment control and stormwater management plan prior to construction, in accordance with the general permit for construction activity. Erosion and sediment controls and BMPs for work occurring within the bed and banks of the stream would also be required by MDE's Dam Safety Permit Requirements (Permit Number: 18-0B-0028), issued August 26, 2021, for the Proposed Action. The Dam Safety Permit provides conditions to ensure that dam removal and subsequent operation and maintenance of the site are conducted in a safe manner, as discussed in Section 3.5.6. As discussed in Section 2.2, water would be pumped out of the existing stormwater

management pond and the stream would be diverted around the construction area. The work area would remain dewatered during construction and the Proposed Action would not generate construction-related turbidity within surface waters. Excavated and salvaged materials for reuse would not be stored or disposed of in waterbodies, wetlands, or the 100-year floodplain. Thus, the Proposed Action would have minor short-term impacts on water quality from construction-related activities.

The Proposed Action would eliminate the risk of dam failure and flooding from a potential dam breach and would restore approximately 1,000 feet of stream through the project area with features such as riffles, cascade structures, and wetland pools. Under the Proposed Action, stormwater storage in the project area would be slightly reduced as compared to existing conditions. However, this reduction in storage would not result in changes to the flood velocities or depths during the 100-year storm event, as discussed in Section 3.2.3. Stormwater attenuation slows runoff velocity and reduces peak flows, and thus would protect the project area from erosion and sediment transport during storm events. Wetlands reduce the adverse impacts of flooding from storm events by providing flood storage, moderating the erosive force of floodwaters, and providing a place for sediments and debris carried by floodwater to settle. Approximately 300 feet of stream restoration features would be installed within the existing footprint of the stormwater management pond. According to an analysis by Fredrick County and Straughan Environmental (included in Appendix B), the stream restoration features in the footprint of the dam would represent an equivalent impervious acreage treatment of 3.08 acres. Thus, the treatment provided by the Proposed Action would exceed the impervious acreage treatment provided by the existing stormwater management pond, which is approximately 2.08 acres (as specified in Section 1.4). The Proposed Action would have minor long-term benefits on water resources and quality.

3.2.3. FLOODPLAIN MANAGEMENT (EXECUTIVE ORDER 11988)

Executive Order (EO) 11988, Floodplain Management, requires federal agencies to avoid, to the extent possible, the short- and long-term impacts associated with the occupancy and modification of floodplains and avoid direct or indirect support of development within the floodplain whenever there is a practicable alternative. Each federal agency must take action to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities. FEMA uses an eight-step decision-making process to evaluate potential impacts on and mitigate impacts to floodplains in compliance with EO 11988 and 44 CFR Part 9.

FEMA maintains a list of communities that participate in the National Flood Insurance Program called the Community Status Book. According to the Community Status Book, Frederick County participates in the National Flood Insurance Program (FEMA 2022b). Most of the project area is within the 100-year floodplain as indicated on FEMA Flood Insurance Rate Map Panel 24021C0420D, effective September 19, 2007. According to this map, the project area is within the floodplain, specifically Zone A, which has a 1-percent probability of flooding every year and where predicted floodwater elevations have not been established, as shown in Figure 4, Appendix A.

Alternative 1 – No Action

Under the No Action alternative, the risk to people and property from a potential dam failure and associated inundation would remain. As shown in the hydrologic and hydraulic analysis for the proposed project (Appendix B), the failure of the existing dam embankment would result in an approximately 4-foot "wall of water" being released at one time that would overtop MD 28 and enter the MARC lot. This would threaten the lives of people and damage infrastructure and property downstream of the dam. Failure of the dam would decrease available capacity to attenuate stormwater peaks from storm events. The impact of the decrease in capacity would be exacerbated because of climate change, which is increasing the intensity of rainfall and severe storms in Maryland. This trend, in combination with reduced stormwater attenuation from a potential dam failure, would result in increased downstream flooding. As mentioned in Section 2.1, 100-year flood events already endanger people and property, reaching a maximum depth of approximately 3.5 feet along the MD 28 sidewalk and up to 5 feet in the MARC lot. These risks would be probable and would continue regardless of whether the dam fails under the No Action alternative. Therefore, in the event of dam failure, the No Action alternative would have moderate impacts on people and property within the floodplain as well as on natural floodplain functions.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

The Proposed Action would have minor short-term impacts on the 100-year floodplain because of construction, including excavation and fill activities. Construction activities could cause an accidental release of hazardous waste during the construction period from minor leaks from construction equipment, and ground-disturbing activities could cause sediment to enter the stream and wetland, and therefore impact natural floodplain functions and values. Activities would be temporary, and the County would implement erosion and sediment control BMPs and BMPs related to the use of fill, as discussed in Section 3.2.1. Specifically, excess fill, construction material, salvaged materials, and debris would be placed in a location and manner that does not adversely impact water flow or the 100-year floodplain; fill, material, and debris would not be stored in the 100-year floodplain. As discussed in Section 3.2.2, the work area would remain dewatered during construction, and any streamflow would be routed around the work area as needed. Temporarily impacted areas would be restored following construction of the Proposed Action.

The Proposed Action would comply with the MDE General Permit for Construction Activity, CWA Section 404 authorization, as well as the MDE Dam Safety permit for dam removal activities. The County would coordinate with the local floodplain administrator about any necessary permits to conduct activities within the floodplain.

The Proposed Action would result in a minor short-term impact on the 100-year floodplain because of removal of the stormwater management pond and fill and excavation in the floodplain that would alter the path of stormwater during high-water events. In 2021, a hydrologic and hydraulic study, "Point of Rocks: Depth-Velocity Flood Danger Analysis," was completed for the Proposed Action and is included in Appendix B. The study evaluated the impact of removing the dam and existing pond embankment on downstream floodwater depths and flow rates and assessed the stability of the

proposed stream restoration. According to this hydrologic and hydraulic analysis, removal of the dam and stormwater management pond would not increase the risk of flood loss or flood hazard potential for properties downstream of the project area in the 10-year or 100-year storm event. The analysis also shows that the stream restoration component of the Proposed Action would not increase floodwater surface elevations on private properties between the pond and MD 28 as compared to existing conditions. Under the Proposed Action, the impacts of the 100-year flood event would remain approximately the same as compared to current conditions.

Under the Proposed Action, stormwater storage in the project area would be slightly reduced as compared to existing conditions. However, this reduction in storage would not result in changes to the flood velocities or depths during the 100-year storm event. The impacts of the 100-year flood event would remain approximately the same as compared to existing conditions.

By decommissioning the existing significant to high hazard dam, the Proposed Action would eliminate the flood risk posed by potential failure of the dam including damage to property and endangering public safety. However, the Proposed Action would not change the designation of the area as Flood Zone A, the 1 percent annual chance floodplain, or the associated overall flood risk in the project area vicinity. Additionally, the Proposed Action would restore and support the natural and beneficial values served by floodplains and wetlands by restoring natural stream features, such as riffle and cascade structures, and wetland pools. By restoring stream features and eliminating the risk of dam breach and associated flooding, the proposed action would have minor long-term benefits on floodplains.

The Proposed Action would not directly support any specific development proposal in the floodplain or wetland. It would not include the addition of, or improvements to, roadways or utilities that would be supportive of expanded development. Thus, there would be no long-term indirect impacts on the floodplain from induced development in the floodplain.

The eight-step decision-making process for floodplains is included in Appendix B.

3.2.4. AIR QUALITY

The Clean Air Act (CAA) of 1970 (42 U.S. Code 7401–7661 [2009]) is a comprehensive federal law that regulates air emissions from area, stationary, and mobile sources. The CAA authorized USEPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The NAAQS include standards for six criteria air pollutants: lead, nitrogen dioxide, ozone, carbon monoxide, sulfur dioxide, and particulate matter. Particulate matter includes both particulates less than 10 micrometers in diameter and fine particulates less than 2.5 micrometers in diameter. Areas where the monitored concentration of a criteria pollutant exceeds the applicable NAAQS are designated as being in nonattainment of the standards, while areas where the monitored concentration of a criteria pollutant is below the standards are classified as being in attainment. Maintenance areas are those where air quality has exceeded the standards in the past but that are currently in compliance with the NAAQS.

Federally funded actions in nonattainment and maintenance areas are subject to USEPA conformity regulations (40 CFR Parts 51 and 93), which ensure that emissions of air pollutants from planned federally funded activities would not affect the state's ability to meet the NAAQS. Section 176(c) of the CAA requires that federally funded projects conform to the purpose of the state implementation plan, meaning that federally funded activities would not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone.

Under the general conformity regulations, a general conformity determination for federal actions is required for each criteria pollutant or precursor in nonattainment or maintenance areas. Specifically, areas where the Proposed Action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed de minimis rates for that pollutant would require a conformity determination.

USEPA maintains detailed information about area NAAQS designations, classifications, and nonattainment status, called the Green Book. According to USEPA's Green Book, Frederick County, Maryland is in nonattainment for 8-hour ozone (USEPA 2022c).

Alternative 1 – No Action

Under the No Action alternative, there would be no construction-related short-term impacts on air quality within the project area. There would be no long-term effect on air quality because there would be no new permanent air emissions source.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

The Proposed Action would have minor short-term impacts on air quality from equipment and vehicle use. Emissions from on-site construction equipment, on-road construction-related vehicles, and dust-generating construction activities have the potential to affect air quality. Use of heavy equipment and earth-moving machinery could temporarily increase the levels of some pollutants, including carbon monoxide, volatile organic compounds, nitrogen dioxide, ozone, and particulate matter. Dust generated by construction activities is a source of particulate matter. The Proposed Action would take approximately 60 days to construct; thus, vehicle and equipment use in the project area would be temporary and localized. To reduce the temporary impacts on air quality, vehicles and equipment would be kept running as little as possible and areas of exposed soils would be covered or wetted to reduce fugitive dust. Thus, air emissions would not increase to the extent that a general conformity analysis would be required for the Proposed Action.

The Proposed Action would have no long-term impacts on air quality as it would not include a source of long-term permanent emissions.

3.3. Biological Environment

3.3.1. TERRESTRIAL AND AQUATIC ENVIRONMENT

Vegetation

The Maryland Forest Conservation Act (Natural Resources Article Section 5-1601 through 5-1613) was enacted in 1991 to minimize the loss of Maryland's forest resources during land development. This law requires the identification and protection of forests, primarily near streams or wetlands, steep or erodible soils, or within or near large contiguous blocks of forest or wildlife corridors and other sensitive areas, to be part of the site planning process. While the Maryland Department of Natural Resources administers the Act, it is implemented on a local level. Any activity requiring an application for a subdivision, grading permit or sediment control permit on an area approximately 1 acre or greater is generally subject to the Forest Conservation Act and requires a Forest Conservation Plan prepared by a licensed forester, licensed landscape architect, or other qualified professional.

The project area comprises mature deciduous woodlands, a constructed pond, wetlands, and a stream. The project area is within a community park surrounded by residential development and is currently maintained as open space and a stormwater drainage area for the surrounding neighborhoods. The project area has been previously disturbed by historical agricultural uses and more recent residential development. Residential properties with their associated driveways, lawns, and landscaping border the project area.

The project area is in the Northern Piedmont Eastern Temperate Forest ecoregion (USEPA 2022d). Predominant vegetation includes Oak/Hickory and Elm/Ash/Cottonwood forest types. Oak/Hickory forests are dominated by white oak (*Quercus alba*), red oak (*Quercus rubra*), black oak (*Quercus velutina*), scarlet oak (*Quercus coccinea*), and shagbark hickory (*Carya ovata*) (Natural Heritage and Endangered Species Program 2016). Elm/Ash/Cottonwood forests are dominated by black ash (*Fraxinus nigra*), American elm (*Ulmus americana*), red maple (*Acer rubrum*), and cottonwood (*Populus deltoides*) (U.S. Department of Agriculture 2022). Existing conditions have been highly modified by former agricultural and current residential development.

Invasive Species

EO 13112, Invasive Species, requires federal agencies, to the extent practicable, to (1) prevent the introduction of invasive species and provide for their control and (2) minimize the economic, ecological, and human health impacts that invasive species cause. Invasive species generally prefer disturbed habitats and usually possess high dispersal abilities, enabling them to out-compete native species.

Invasive plants are capable of altering an area's diversity for both plant and animal life by dominating areas where they have become established and crowding out native vegetation (NRCS n.d.). Common invasive plant species in Maryland include autumn olive (*Elaeagnus umbellata*), Canada thistle (*Cirsium arvense*), English ivy (*Hedera helix*), garlic mustard (*Alliaria petiolata*), Japanese barberry (*Berberis thunbergii*), Japanese honeysuckle (*Lonicera japonica*), Japanese stiltgrass (*Microstegium vimineum*), Johnson grass (*Sorghum halepense*), Mile-a-minute vine

(*Persicaria perfoliata*), multiflora rose (*Rosa multiflora*), Tree-of-Heaven (*Ailanthus altissima*), and wintercreeper (*Euonymus fortunei*) (Frederick County Office of Sustainability and Environmental Resources n.d.). These species may occur in the project area.

Invasive animal species can also be detrimental to vegetation. Ash trees are at risk of infestation from the emerald ash borer. Adult emerald ash borers lay eggs on the bark of ash trees. When the eggs hatch, the larvae bore into the bark and feed on the tissues of the tree that transport water and nutrients effectively girdling the tree and causing the tree to die (North Carolina Forest Service 2017). Other invasive insect species that have the potential to occur in Frederick County and damage trees and other vegetation are the spongy moth (*Lymantria dispar*), pine shoot beetle (*Tomicus piniperda*), and spotted lanternfly (*Lycorma delicatula*) (Maryland Manual On-Line 2022a).

Wildlife and Fish

The Maryland Natural Heritage Program is responsible for the conservation and protection of hundreds of species of wildlife and fish that are not hunted, fished, trapped, or commercially harvested in the state, as well as the protection of the natural communities that make up their habitats.

The Northern Piedmont ecoregion hosts a variety of wildlife. Typical wildlife in the ecoregion includes beaver (*Castor canadensis*), black bear (*Ursus americanus*), fox (*Vulpes vulpes*), mink (*Neovison vison*), and Cooper's hawk (*Accipiter cooperii*) (Chesapeake Bay Program 2022). Wildlife communities within the project area likely consist of urban-adapted generalist species that can live in semi-disturbed, altered habitat. Examples of these species include opossum (*Didelphis marsupialis*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), eastern chipmunk (*Tamias striatus*), squirrels (*Sciuridae* sp.), whitetail deer (*Odocoileus virginianus*), eastern cottontail (*Sylvilagus floridanus*), and passerine birds such as Northern cardinal (*Cardinalis cardinalis*) and Carolina chickadee (*Poecile carolinensis*) (Maryland Manual On-Line, 2022b). Representative reptile and amphibian species known to occur in the region include Big Levels salamander (*Plethodon sherando*), Eastern newt (*Notophthalmus viridescens*), yellow spotted salamander (*Abystoma maculatum*), American toad (*Anaxyrus americanus*), green frog (*Lithobates clamitans*), and spring peeper (*Pseudacris crucifer*) (MDNR 2022a). The wetland and riverine habitats in the project area have the potential to support several species and may provide a corridor for movement between larger intact terrestrial and aquatic habitats.

It is unknown if fish species occur within the unnamed tributary, Tributary 6, and wetland resources within the project area. A range of fish species are known to occur in the Potomac River, which is hydrologically connected to the project area. These species are fished recreationally and include invasive Northern snakehead (*Channa argus*), smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), spotfin shiners (*Cyprinella spiloptera*), and bluegill (*Lepomis macrochirus*) (Natural Atlas, 2022). There is potential for these species to occur in the streams and wetlands of the project area.

Alternative 1 – No Action

No construction would occur under the No Action alternative; therefore, no short-term impacts on the terrestrial or aquatic environment would occur. This alternative would not alter existing baseline conditions, so there would be no long-term impacts on the terrestrial or aquatic environment.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

The Proposed Action would remove approximately 1 acre of trees, including six specimen trees (i.e., trees with diameter breast height [DBH] over 30 inches), and other vegetation in the project area to provide construction entrances, facilitate the removal of the dam, and subsequent site grading and stream restoration. Upon completion of construction, the project area would be restored to its existing condition through restoration of native trees, wetland and riparian vegetation, turfgrass, and upland meadow, depending on the planting zone within the project area. Construction and excavation activities associated with the Proposed Action would temporarily disturb soils and vegetation, which could create suitable conditions for the growth and spread of invasive plant species. Thus, the Proposed Action would have minor short-term impacts on the terrestrial environment from herbaceous vegetation removal and the creation of conditions suitable for invasive species growth. This short-term degradation of habitats would have a negligible adverse effect on fish and wildlife.

Although native trees would be planted in the project area upon construction completion and in accordance with the Maryland Forest Conservation Act, it would take many years for these trees to reach the maturity of those removed during construction. However, the herbaceous vegetation planted during post-construction restoration would grow quickly, providing more a more diverse habitat than compared to existing conditions. To promote long-term success of the planted trees and other vegetation restoration activities, the County would hire a qualified professional to inspect the plantings at the beginning and end of the growing season each year. The County would be responsible for performing all tasks necessary to maintain and protect the plantings for five years after planting is complete, including but not limited to watering, fertilizing, replacing dead or damaged vegetation, and controlling invasive species. The County would adhere to all conditions described in the CWA Section 404 permit related to restoration and terrestrial and aquatic habitat improvements of the riparian area, such as tree survival rate and density (Appendix C). Thus, the Proposed Action's creation of native plant habitat and control of invasive plant species would have minor long-term benefits on the terrestrial environment.

Throughout the duration of construction, the work area would be dewatered, and any stream flow would be pumped around the work area as needed, which could affect the movement of any fish or other aquatic wildlife that may be present. However, this impact would be short-term (60 days or less) and localized to the project area. Thus, the Proposed Action would have minor short-term impacts on the aquatic environment from construction-related activities.

Implementation of the Proposed Action would replace the existing stormwater pond with constructed riffle and cascade structures, weir grade control structures, pocket wetlands, and pools. This new

stream would more closely mimic the physical structure of a natural stream and create more habitat variability within the aquatic environment. Thus, the Proposed Action would have a minor long-term benefit on the aquatic environment and the species it supports.

3.3.2. WETLANDS (EXECUTIVE ORDER 11990)

EO 11990 Protection of Wetlands requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. The NEPA compliance process requires federal agencies to consider direct and indirect impacts to wetlands, which may result from federally funded actions. Each federal agency shall take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. FEMA uses the eight-step decision-making process to evaluate potential impacts on and mitigate impacts on wetlands, in compliance with EO 11990 and 44 CFR Part 9. USACE and MDE regulate activities within wetlands in the state of Maryland. Section 404 of the CWA regulates the discharge of fill into Waters of the United States, including wetlands. Environmental Article 5, subtitle 5 of Maryland Statutes regulates activities in freshwater wetlands.

According to the Wetland Investigation Report for the Point of Rocks Stream Restoration project (2017), there are three wetlands totaling approximately 0.47 acres in the project area. These wetlands include a 0.27-acre palustrine, open water wetland that is the stormwater management pond; a 0.16-acre palustrine, forested, temporarily flooded wetland that is directly north of the stormwater management pond; and a 0.04-acre palustrine emergent, nonpersistent wetland located in the southernmost portion of the study area, approximately 90 feet northeast of MD-28. The Wetland Investigation Report is unclear whether wetland vegetation is present in the stormwater management pond; therefore, this area may not meet the definition for a wetland.

Alternative 1 – No Action

The No Action alternative would not include any construction and would therefore not fill or alter existing wetlands. Thus, there would be no short-term impacts on wetlands. The No Action alternative would not alter existing baseline conditions, so there would be no long-term impacts on wetlands.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

As discussed in Section 3.2.2, USACE issued a verification of Nationwide Permit 27 for the Proposed Action and the upstream Point of Rocks stream restoration project under Section 404 of the CWA (application identification: CENAB-OP-RMN [Point of Rocks/Stream Restoration] 2017-61539), which permits the placement of fill in the 0.27-acre open water wetland (i.e., the existing stormwater management pond) and the 0.16-acre palustrine forested wetlands associated with the existing stormwater management pond. Because the National Wetland Inventory maps show wetlands extending into the Proposed Action project area, a portion of the wetland fill authorized by the USACE Section 404 permit is assumed to be affected by the Proposed Action. Thus, the Proposed Action would have permanent impacts on up to 0.47 acres of existing wetlands within the project area. This

verification is valid until the Nationwide Permit is modified, reissued, or revoked. Thus, a new permit may be required, and the County is required to coordinate with USACE to determine the required permit authorization needed. The Proposed Action would comply with the conditions of the CWA Section 404 permit, which among other conditions, would require that dredged material from the stormwater management basin would not be placed in any jurisdictional stream or wetland.

The Nationwide permit program generally requires no net loss of wetland area and/or function. The Proposed Action would create approximately 0.80 acres of pocket wetlands along the restored stream in the project area. Thus, wetland creation would offset the approximately 0.47 acres of permanent impacts on wetlands during construction and the Proposed Action would result in a minor long-term benefit on wetlands.

The eight-step decision-making process for wetlands and the wetlands delineation for the Proposed Action are included in Appendix B. Permits obtained for the project are included in Appendix C of this EA.

3.3.3. THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (ESA) provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found. USFWS and NMFS are the lead federal agencies for implementing the ESA. The law requires federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a taking of any listed species of endangered fish or wildlife. “Take” under the ESA is defined as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities (50 CFR 10.12). Because the ESA defines an action area as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (50 CFR 402.02), the action area where impacts on listed species must be evaluated may be larger than the project area where project activities would occur.

Critical habitat, as defined in the ESA, is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

FEMA conducted a database search through the USFWS Information for Planning and Consultation (IPaC) online tool for all federally designated threatened, endangered, candidate, and otherwise protected species. The official IPaC report, dated December 28, 2022, listed one species, the northern long-eared bat (NLEB, *Myotis septentrionalis*) (endangered) with potential to occur in or around the project area (Appendix C). There is no critical habitat in the project area. NLEB spend winter hibernating in caves and mines. During the summer, NLEB roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. According to information provided by the IPaC tool, NLEB may occur statewide; however, no known hibernacula or maternity roost trees occur within the project area or within Frederick County.

Alternative 1 – No Action

No construction would occur under the No Action alternative; therefore, no short-term effects on NLEB would occur. Because existing baseline conditions would remain the same and the NLEB habitat would remain intact, there would be no long-term effect on ESA-listed species as a result of the No Action alternative.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

The project area comprises mature deciduous woodlands, a constructed pond associated with the existing dam, wetlands, and streams. The Park containing the project area is located in a residential community adjacent to a large contiguous tract of forest that extends north and south, as well as a wide riparian corridor along the Potomac River south of the project area. In addition to the stormwater management pond, there is a freshwater forested wetland directly north of the stormwater management pond and a small freshwater emergent wetland located in the southernmost portion of the project area. There are portions of two streams in the project area. The Proposed Action would require the removal of approximately 1 acre of trees, including six specimen trees (i.e., trees with DBH over 30 inches), which have the potential to provide suitable seasonal roosting and foraging habitat for NLEB.

FEMA submitted a Section 7 consultation letter to the USFWS Chesapeake Bay Field Office on January 30, 2023 for a review of the Proposed Action. In this consultation letter, FEMA determined that the Proposed Action may affect, but is not likely to adversely affect the NLEB. A response was received from USFWS on February 17, 2023 with a determination of no effect on the endangered, threatened, or candidate species listed on the IPaC species list because, while the project is within the range of the species, it is unlikely that the species would occur within the project area that was submitted. Therefore, no Biological Assessment or further Section 7 consultation with the USFWS is required. Correspondence with USFWS is included in Appendix C.

3.3.4. MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) of 1918, as amended, provides protection for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions except under the terms of a valid permit issued pursuant to federal regulations. All native birds are protected by the MBTA. In total, 1,094 bird species are protected by the MBTA (USFWS 2020). A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. The Bald and Golden Eagle Protection Act (BGEPA) of 1940 prohibits the take, possession, sale, or other harmful action of any golden or bald eagle, alive or dead, including any part, nest, or egg (16 U.S.C. § 668(a)).

The project area is within the Atlantic Flyway, and migratory bird species could occur in the forested and vegetated areas within the project area between April 1 and September 15. Bald eagles are known to occur regionally along the Chesapeake Bay and its tributaries; they nest in trees near large bodies of water, such as lakes, rivers, and coasts (MDNR 2022b). Bald eagles are known to nest on the Potomac River within approximately 3.5 miles of the project area (Maryland Bird Conservation

Partnership 2022). Thus, bald eagles may occur in the project area; however, because of the distance of the project area from the river, eagles would be unlikely to forage or roost in the project area. Golden eagles are not likely to occur regionally or in the project area as they prefer mountainous habitats and nesting in rocky cliffs. They do not occur commonly in eastern U.S. States (Audubon n.d.).

Alternative 1 – No Action

Under the No Action alternative there would be no construction and no removal of vegetation during the breeding season. Therefore, there would be no short-term construction-related impacts on migratory birds. The No Action alternative would not alter existing baseline conditions, so there would be no long-term impacts on migratory birds.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

If vegetation removal associated with the Proposed Action were to occur during the migratory bird nesting season, the County would coordinate with USFWS to obtain any required authorization and provide documentation of coordination with USFWS to FEMA. Therefore, there would be a minor short-term impact on migratory birds if vegetation removal occurs during the breeding season. Bald eagles nest in large trees close to waterbodies and are sensitive to disturbances within 660 feet of a nest during the breeding season. If a bald eagle nest is discovered close to the project area, tree removal may have minor impacts on bald eagles if construction occurs during the nesting season; therefore, the Subapplicant would coordinate with USFWS to determine an appropriate avoidance buffer and implement other relevant BMPs in the event that a bald eagle nest is discovered before or during construction. Documentation of that coordination would be provided to FEMA.

The Proposed Action would restore native vegetation and restore the stream channel and wetlands, potentially providing more suitable habitat for native bird species in the long term. The stream and habitat restoration would provide additional forage and shelter for a variety of migratory birds. The construction of pocket wetlands and in-stream riffles and pools may provide shelter and aquatic habitat for migrating birds. Thus, the Proposed Action would have minor long-term benefits on migratory birds.

3.4. Hazardous Materials

Hazardous materials and wastes are regulated under several federal laws, including 40 CFR 260, the Resource Conservation and Recovery Act of 1976, the Solid Waste Act, the Toxic Substances Control Act, the Comprehensive Environmental Response, Compensation, and Liability Act as amended by the Superfund Amendments and Reauthorization Act, and the CAA of 1970. Occupational Safety and Health Administration (OSHA) standards under the Occupational Safety and Health Act seek to minimize adverse impacts on worker health and safety (29 CFR 1926). Evaluating hazardous substances and wastes includes consideration of whether any hazardous material would be generated by the proposed activity and/or already exists at or in the general vicinity of the site (40 CFR 312.10).

A Phase I Environmental Site Assessment was not performed as part of the planning for the project. It is not expected that contaminated soils or hazardous materials exist within the project footprint where ground disturbance or excavation would occur. The Canam Steel Corporation Point of Rocks plant is located approximately half a mile away from the project area. Because of the plant's use and disposal of hazardous materials, the facility is registered as a USEPA hazardous waste generator, water discharger, and Toxic Substances Control Act site (USEPA 2022e). Additionally, the facility is a state-listed hazardous waste site (MDE 2022b). No Superfund sites are located within half a mile of the project area (USEPA 2022e).

Alternative 1 – No Action

No construction would occur under the No Action alternative; therefore, no impacts related to hazardous materials would occur as a result of construction equipment use or the exposure of contaminated materials through ground-disturbing activities. Thus, the No Action alternative would have no short-term impacts related to hazardous materials. Because this alternative would not alter existing baseline conditions, there would be no long-term impacts on related to hazardous materials.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

The Proposed Action would include the use of mechanical equipment, such as excavators and trucks, which could release fuels, oils, and lubricants through inadvertent leaks and spills. However, construction activities would be temporary, lasting for an expected 60 working days. The use of equipment in good condition and compliance with BMPs and conditions specified in the MDE General Permit for Construction Activity (Permit Number 14-GP; to be replaced with Permit Number 20-CP), which would be obtained prior to construction, would reduce the impact of leaks and spills. Although subsurface hazardous materials are not anticipated to be present, excavation activities could expose or otherwise affect previously undetected subsurface hazardous wastes or materials. Any hazardous materials discovered, generated, or used during implementation of the Proposed Action would be disposed of and handled in accordance with applicable local, state, and federal regulations. Therefore, there would be a negligible short-term impact from the use of vehicles and equipment or from the potential for inadvertent exposure of previously unknown hazardous materials.

The Proposed Action would have no long-term permanent impacts on hazardous materials.

3.5. Socioeconomics

3.5.1. VISUAL RESOURCES

The analysis of visual resource quality is qualitative and considers the visual context of the project area and the potential for changes in character and contrast. The assessment evaluates whether the project area includes any places or features designated for protection, the number of people who can view the site and their activities, and the extent to which those activities are related to aesthetic qualities of the area.

The project area is located on approximately 3.35 acres of land in the park. The visual character of the park comprises recreational areas such as a basketball court, tennis courts, an open grassy area, and a wooded area that contains the stream and the dam that would be affected by the Proposed Action. Typical viewers of the project area include park visitors and residents who live nearby. There are less than ten residences that abut the project area, and views of the stream and dam are obscured by trees from most of these properties.

Alternative 1 – No Action

No construction or restoration work would occur under the No Action alternative; therefore, there would be no short-term impact on visual resources within the project area. Because the No Action alternative would not alter existing baseline conditions, there would be no long-term impact on visual resources.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

Under the Proposed Action, the existing dam and pond would be decommissioned, the stream channel would be restored using natural design techniques, and a pedestrian bridge would be installed over the restored stream. The construction of these components would require equipment such as excavators and trucks to be used and staged within the park, subjecting park visitors and residents of nearby properties to visual elements that would disrupt the existing visual character of the project area and surrounding park. However, these visual elements would be present for a short period of time (60 working days) and would likely be observed by a relatively small number of people; thus, the Proposed Action would have minor short-term impacts on the visual resources within the project area.

The Proposed Action would decommission the existing dam and restore the stream using natural design techniques. Although approximately 1 acre of trees and 6 specimen trees would be removed during construction, the former embankment site would be planted with native trees and other vegetation. These actions would create an environment that could be perceived as cleaner and safer to viewers and would likely result in the project area appearing to be more consistent with the visual character of the surrounding park and more natural to visitors and residents of nearby properties. Thus, the Proposed Action would have minor long-term benefits on the project area and surrounding park.

3.5.2. NOISE

The Noise Control Act of 1972 required USEPA to create a set of noise criteria. In response, USEPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety in 1974, which explains the impact of noise on humans. The USEPA report found that keeping the maximum 24-hour day-night average sound level below 70 A-weighted decibels (dBA) would protect most people from hearing loss. USEPA recommends an outdoor average sound level of 55 dBA to prevent interference with daily human activities such as sleeping, working, and recreation. The Federal Highway Administration has identified noise levels and ranges for construction equipment that typically would not need noise attenuation measures

(Federal Highway Administration 2006), and OSHA has adopted a standard of 140 dBA for maximum impulse noise exposure for workers in noisy environments. Chapter 1-11-6 (Nuisance – Noise Levels) of the Frederick County Code specifies that during daytime hours (7:00 a.m. to 10:00 p.m.) construction or demolition activities may not exceed 90 dBA – however, Section F.13 exempts construction and repair work occurring on public property from this provision (Frederick County 2022b).

Assessment of noise impacts includes the proximity of the Proposed Action to sensitive receptors, which are defined as areas of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals, nursing homes, libraries, and parks. There are multiple residences located directly adjacent to the project area and the project area is in the passive use area of the park where lower noise levels are a component of the enjoyment and use of the park. The closest residence is approximately 15 feet away from the project boundary. Typical noises in the project area are associated with vehicular traffic, recreational activities, and natural sounds.

Alternative 1 – No Action

No construction or restoration work would occur under the No Action alternative. Therefore, this alternative would have no short-term adverse noise impacts. There would be no long-term effect related to noise because there would be no new permanent source of noise.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

Under the Proposed Action, construction activities would temporarily increase noise levels in the project vicinity. Heavy machinery and equipment that would be used for the Proposed Action would be well maintained, have sound-control devices no less effective than those provided on the original equipment, and have muffled exhaust. As stated in Section 1.2, the Proposed Action would occur within the Point of Rocks Community Park and on private land on which the County has executed perpetual drainage easements. Construction on private land would conform with Frederick County's noise ordinance, which restricts construction work to daytime hours (7:00 a.m. to 10:00 p.m.). Furthermore, in the project design plans, the Subapplicant states that construction within the entire project area, including public land, would occur during the day. With the implementation of the above BMPs and mitigation measures, the Proposed Action would have minor short-term noise impacts in the project area.

The Proposed Action would not result in long-term noise impacts because it would not include a permanent source for noise.

3.5.3. PUBLIC SERVICES AND UTILITIES

Frederick County's Division of Water and Sewer Utilities provides water and sewer collection services to the developed residential area surrounding the project area (Frederick County 2022c). Potomac Edison provides electricity via elevated power lines (First Energy Corporation 2022), and Washington Gas provides natural gas (Washington Gas 2022). The dam embankment and associated stormwater

management pond were built to provide stormwater attenuation for 2-year and 10-year storm events for a portion of the Potomac Village and Point of Rocks Estates subdivisions. An existing County-owned sewer line and 25-foot sewer easement runs along the eastern portion of the project area.

The project area is situated within the park, which provides the public with recreational facilities such as basketball and tennis courts, a soccer field, a picnic area, and walking trails (Frederick County Parks and Recreation n.d.).

Alternative 1 – No Action

No construction or restoration activities would occur under the No Action alternative; therefore, this alternative would not disrupt or increase demand on public services or utilities in the project area in the short term. Because the No Action alternative would not alter existing baseline conditions, there would be no long-term impact on public services and recreation.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

During construction of the Proposed Action, recreational services provided by the park could be affected. The equipment staging site would decommission approximately one-quarter of the open grass area in the park that serves as a soccer field, and construction activities would temporarily impact use of the walking trails in the wooded area of the park. However, these impacts would be localized, and other regions of the park would still be available for public use during construction. Additionally, excavation and grading for the Proposed Action could damage existing sewer infrastructure in the eastern portion of the project area. The contractor would take all necessary precautions to support and protect the existing sewer infrastructure and would repair or replace any damaged facilities at their own expense. The contractor would not disturb utility boxes. Construction work would conform to the Frederick County Division of Utilities and Solid Waste Management standards. No other utilities or public services would be disrupted or relocated during construction. Following construction, the park areas that were impacted by construction activities would be restored to their existing uses, conditions, and level of accessibility. Thus, the Proposed Action would have negligible short-term impacts on public services and utilities in the project area.

The Proposed Action would create a new pedestrian bridge over the restored stream. Currently, pedestrians walk over the existing dam embankment to cross the stream to access park facilities. Compared to the existing condition, replacing the dam with a pedestrian bridge would create a safer and more reliable path for visitors to access park facilities, which would increase the utility of park facilities. Therefore, the Proposed Action would have minor long-term benefits on public services and utilities.

3.5.4. TRANSPORTATION

Regional access to the project area is provided by U.S. Route 15. The segment of U.S. Route 15 near the project area has an average annual daily traffic count of 16,532 vehicles per day (Maryland Department of Transportation [MDOT] 2021). Other main roadways in the project vicinity include

MD 28 (Clay Street) and Ballenger Creek Pike. Local roads used for immediate access to the project area include Kanawha Avenue, Tuck Avenue, Gibbons Road, and Bank Street.

The Point of Rocks MARC Train Station is located approximately a quarter mile away from the dam and provides a method for intra- and interstate public transportation (MDOT 2021). The MARC lot is extensive and is located directly south of the project area, separated from the project area only by MD 28.

As described in the hydrologic and hydraulic study that is presented in Appendix B, the culvert under the MD 28 and MARC lot is not sized to accommodate 10-year or larger storm flows, resulting in floodwater overtopping MD 28 and spreading into the MARC lot during these storm events.

Alternative 1 – No Action

Under the No Action alternative, there would be no construction equipment or personnel accessing the project area. Thus, there would be no short-term impact on traffic on surrounding roads.

However, the risk of a potential dam failure would remain and if the dam failed, the resulting flood could overtop MD 28, flooding the MARC lot, and potentially damaging the roadway and transit lot through scour. If MD 28 were closed because of failure of the culvert and roadway, travelers would need to detour 1.5 to 2 miles through residential neighborhoods to bypass the damaged section. Therefore, in the event of dam failure, the No Action alternative would have moderate impacts on transportation in the project vicinity.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

Under the Proposed Action, construction personnel would access the project area and its staging sites via existing roadways. While there would be some additional construction traffic on the roadways surrounding the project area, these impacts would be temporary and localized, affecting only a small number of roadways. Because none of the surrounding roadways are at capacity and because the work would be conducted during the day, the construction traffic would not create congestion or delays for other users of the roadways. Equipment would not be staged on roadways, but instead on grassy flat areas within the park; therefore, it is not expected that road closures or detours would be required under this alternative. If it is determined that a temporary traffic control plan is required during construction, the County would coordinate with MDOT and obtain any permits necessary. Therefore, the Proposed Action is expected to have negligible short-term impacts on transportation.

Implementation of the Proposed Action would provide stormwater attenuation and would eliminate the risk of a potential dam failure and associated flood impacts that could potentially damage MD 28 and the MARC lot through scour. Because implementation of the Proposed Action would reduce the likelihood of road closures caused by flood damage associated with a dam breach, the Proposed Action could have minor long-term benefits on transportation.

3.5.5. ENVIRONMENTAL JUSTICE (EXECUTIVE ORDER 12898)

In 1994, President Clinton signed EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," which requires agencies to identify and address disproportionately high and adverse human health or environmental impacts its activities may have on overburdened communities to promote the fair treatment of all people with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Overburdened communities include minority, low-income, tribal, or indigenous populations or geographic locations that potentially experience disproportionate environmental harms and risks. The Council on Environmental Quality (CEQ) defines the term "minority" as persons from any of the following groups: Black, Asian, or Pacific Islander, American Indian or Alaskan Native, or Hispanic (CEQ 1997). USEPA's Environmental Justice Screening and Mapping Tool (EJScreen), which was used to complete this environmental justice analysis, uses U.S. Census Bureau data to identify low-income households as those in which the household income is less than or equal to twice the federal poverty level (USEPA 2019).

This environmental justice analysis is focused at the census block group level. The local area included in this analysis is where project-related impacts would occur, including noise, transportation, and water and air quality impacts, potentially causing an adverse and disproportionately high impact on neighboring minority and low-income populations. Additionally, the analysis uses "EJ Indexes," which identify minority and/or low-income populations (including populations which are below the statewide average for minority and/or low-income populations) that are exposed to high levels of environmental risk. The EJ Indexes analyze factors related to air quality, traffic, hazardous waste and pollutants, proximity to environmental risks, underground storage tanks, and wastewater. Minority or low-income populations are defined as meeting either or both of the following criteria.

- The census block group contains 50 percent or more minority or low-income persons compared to the statewide average.

- One or more of the Environmental Justice (EJ) Indexes for the census block group equals or exceeds the 80th percentile compared to the statewide average.

The project area exists within a single census block group (block group 240217523033) in Frederick County that covers approximately 5,900 acres and has a population of approximately 2,200 residents. Table 3-2 provides the percentage of minority population and low-income population for the block group encapsulating the project area and Frederick County for comparison, as reported by USEPA's EJScreen (USEPA 2022f). The full EJScreen report can be found in Appendix D.

Table 3-2. Environmental Justice Demographics

Area	Minority Population	Low-Income Population
Census Block Group 24021752333 (Project Area)	24%	4%
Frederick County	28%	15%

Source: EPA 2022f

As presented in Table 3-2, the population of the census block group that encompasses the project area does not meet the criteria listed above for environmental justice populations. Additionally, all of the EJ Indexes for the census block group are well below the 80th percentile compared to the statewide average (USEPA 2022f). Thus, environmental justice populations are not expected to be present in or near the project area. A review of aerial imagery and housing prices near the project area supports this determination.

Alternative 1 – No Action

Because there are no communities with minority and/or low-income populations present in or near the project area, there would be no short- or long-term disproportionately high or adverse impacts on environmental justice populations as a result of the No Action alternative.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

Because there are no communities with minority and/or low-income populations present in or near the project area, there would be no short- or long-term disproportionately high or adverse impacts on environmental justice populations as a result of the Proposed Action.

3.5.6. PUBLIC HEALTH AND SAFETY

In 1997, President Clinton signed EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, which mandates that federal agencies identify and assess health risks and safety risks that may disproportionately affect children. Public health and safety are also related to accessibility to police, fire, medical services, and the response times for those providers to reach people in need.

The Frederick County Sheriff's Office provides police services near the project area (Frederick County Sheriff's Office 2022). The Frederick County Division of Fire and Rescue Services provides fire and emergency medical services to the project area (Frederick County Division of Fire and Rescue Services 2022). The nearest hospital is Frederick Health Hospital, located approximately 12 miles to the northeast of the project area.

The project site in its current state poses safety and security threats because of the risk of failure of the existing dam embankment. MDE regulates the design, construction, operation, and maintenance of dams to prevent dam failures and the resulting consequences by issuing permits for new construction and repairs to existing structures (MDE 2023). As discussed in Section 1.3, MDE

categorizes dams by "hazard classification" based on downstream hazard conditions. The dam embankment is currently classified as a significant to high hazard dam, meaning that its failure could result in the loss of life, property damage, or increased flood risks to roads and buildings. In the event of dam failure, an approximately 4-foot "wall of water" would be released at one time that would create conditions that would endanger life and property in the surrounding area. Additionally, storms larger than the 10-year storm event currently result in flooding of the dam embankment, which pedestrians use to access many of the facilities within the park.

Alternative 1 – No Action

Under the No Action alternative, there would be no short-term impacts on the health and safety of Point of Rocks residents. However, no actions would be taken to reduce the risk of a potential dam failure and the public safety impacts that would occur as a result of the associated downstream inundation. The potential failure of the existing dam embankment would not only impact lives and result in property damage, but would also overtop the major road MD 28, flooding the MARC lot, and potentially damaging the roadway and transit lot through scour. If MD 28 were closed because of failure of the culvert and roadway, emergency responders would need to detour 1.5 to 2 miles through residential neighborhoods to bypass the damaged section, increasing their emergency response time. Additionally, a dam failure would destroy the crossing that pedestrians currently use to cross the park. These impacts would affect all users of the park and would not disproportionately impact children. Therefore, in the event of dam failure, the No Action alternative would have moderate impacts on the health and safety of residents because flooding from dam breach could damage the roadway through scour and result in disruptions to emergency response times.

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

Under the Proposed Action, the existing dam would be decommissioned, the stream would be restored using natural design techniques, and a pedestrian bridge would be installed. On August 26, 2021, MDE issued a Dam Safety permit for the Proposed Action (Permit No. 18-0B-0028). The Dam Safety permit establishes conditions to ensure that the removal and long-term operation and maintenance of the dam are conducted in a safe manner. The Proposed Action would comply with the conditions of the Dam Safety permit issued by MDE throughout all phases of the project. To minimize risks to safety and human health during construction, all construction activities would be performed using qualified personnel trained in the proper use of equipment, including all safety precautions. Therefore, the Proposed Action would have negligible short-term impacts on public safety in the project area, and these impacts would not disproportionately impact children.

Implementation of the Proposed Action would eliminate the risk of a potential dam failure and associated flooding and would provide stormwater attenuation through the restoration of approximately 1,000 feet of stream throughout the project area. Decommissioning the significant to high hazard dam would alleviate the risks to lives and properties that would result from flooding caused by a dam failure. However, the Proposed Action would not change the designation of the area as Flood Zone A, the 1 percent annual chance floodplain, or the associated overall flood risk in the project area vicinity. Additionally, replacing the dam embankment with a pedestrian bridge would

facilitate safe, continuous pedestrian access across the stream to access park amenities. Therefore, the Proposed Action would result in minor long-term benefits to the health and safety of residents, including children and commuters along MD 28.

3.5.7. HISTORIC AND CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, requires federal agencies to consider the impact an undertaking has on historic properties (54 U.S.C. §306108). The review activities required under NHPA are referred as the Section 106 process. According to 36 CFR 60.4, historic properties are defined as districts, sites, buildings, structures, and/or objects that are listed in or eligible for listing in the National Register of Historic Places (NRHP). In accordance with the 36 CFR 800.4, federal agencies are required to identify historic resources within an undertaking's Area of Potential Effects (APE). As defined in 36 CFR Part 800.16(d), the APE "is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist." In consultation with the appropriate State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officers (THPO), federal agencies must evaluate the identified historic resources for NRHP eligibility and assess the potential effects to those historic properties resulting from the proposed undertaking. If the undertaking is determined to have an adverse effect on historic properties, the agency must attempt to avoid, minimize, or mitigate that adverse effect.

FEMA conducted an archives search of the project area utilizing the Maryland Historical Trust's (MHT) Interactive Geographic Information System Map (MEDUSA). A summary of those results and subsequent consultation is provided in the below paragraphs. With regards to tribal resources, the Delaware Nation, the Seneca-Cayuga Nation, and the Tuscarora Nation have known cultural areas of interest in Frederick County. The Delaware Nation is the only interested Tribal Nation that is a signatory to the 2019 Programmatic Agreement (amended in 2021) among the Federal Emergency Management Agency, the Maryland State Historic Preservation Officer, The Maryland Emergency Management Agency, the Delaware Nation, and the Delaware Tribe of Indians. Despite not being a signatory to the Programmatic Agreement, FEMA is still required to initiate Section 106 with the remaining Tribal Nations with Areas of Interest in the APE. FEMA consulted with all Nations in March 2023.

Alternative 1 – No Action

A search of MEDUSA in the vicinity of the dam identified that there are no buildings listed in the Maryland Inventory of Historic Places (MIHP) within the 3.35-acre APE. Adjacent to the APE is one concrete-slab bridge listed in the MIHP, State Highway Administration (SHA) Small Structure 1086XO (MIHP# F-1-24). There are no resources within or adjacent to the APE that are listed in the NRHP. Continued erosion and dam failure could compromise the contextual setting of any potentially eligible property or structure, and, in extreme circumstances could result in the loss of historic structural fabric should the land under the MIHP resource become unstable. Therefore, in the event of dam failure, the No Action alternative would have moderate impacts on historic resources

Alternative 2 – Point of Rocks Dam Decommissioning and Stream Restoration (Proposed Action)

Under the Proposed Action Alternative, the Town of Point of Rocks would decommission the existing significant to high hazard dam, restore over 1,000 feet of stream channel using natural design techniques, install a pedestrian bridge over the restored stream, create pocket wetlands and other environmental site design features, and replant vegetation. According to MEDUSA, most of the project is located outside of the viewshed of any historic buildings or structures. However, the southernmost portion of the project would be within direct viewshed of SHA Small Structure 1086X0, which was inventoried as part of a project associated with the Point of Rocks MARC Station Parking Lot performed by the Maryland Transit Association in 2003. SHA Small Structure 1086X0 is a concrete slab bridge that spans an unnamed tributary of the Potomac River. The bridge is estimated to have been built in the 1930s as it conforms to the design plans used for bridge structures of this type and shares many structural similarities with other bridges in the area built during this time frame. Though the Maryland Transit Association believed that SHA Small Structure 1086X0 was eligible for listing in the NRHP under Criteria C because it embodied and retained the character-defining elements of concrete slab bridge construction in the 1930s (MHT Site Files 2003; MHT 2022), the MHT found the structure to be an undistinguished example of a standardized concrete bridge that was built throughout Maryland. The structure was not associated with a significant historical event or growth and development of Maryland. In MEDUSA, MHT determined that the bridge was ineligible for listing in the NRHP. SHA Small Structure 1086X0 is outside of the APE and would not be adversely affected by the proposed undertaking.

A Phase I archaeological survey was performed to determine the presence of archaeological sites within the APE in compliance with Section 106 of the National Historic Preservation Act, as amended, and the Maryland Historical Trust Act, Sections 5A-325 and 5A-326 of the Annotated Code of Maryland.

An examination of site files at the MHT Archaeological Site Files in October 2022 indicated that one registered archaeological site is located within the APE – Clay and Bank Street Site (18FR830). Site 18FR830 is an early twentieth-century sawmill and is also known as the Clay and Bank Street Mill. Previous Phase I and II archaeological surveys revealed four features associated with the sawmill, including stone lined channels that were filled with soot and slag and a stone foundation or pier. These features were found on top of two fill layers, likely associated with the construction and use of the sawmill. This feature was covered by two other fill layers, likely associated with the demolition of the mill. No other segments of the channels were uncovered during excavation, and they appear to have been destroyed.

Richard, Grubb, & Associates conducted a Phase I archaeological survey for the proposed project between October 3, 2022 and October 7, 2022. Fieldwork included an inspection of existing conditions and the excavation of 69 shovel test pits (STP) within the APE. Subsurface testing was conducted at 15-meter (50-foot) intervals within the entire APE. A total of 55 STPs were originally plotted at 15-meter (50-foot) intervals within the 3.35-acre APE, and then 14 additional 7.5-meter (25-foot) STPs were placed within portions of the APE that overlap with the boundaries of the

previously recorded archaeological site, 18FR830. Results of the archaeological testing did not locate archaeological evidence of site 18FR830.

No pre-Contact or historic-period cultural material or features were recovered during archaeological testing. Shovel Test Pit 9 contained modern vessel glass and an aluminum beer can. A fieldstone wall was located near STP 34 and is likely part of the existing dam structure due to its proximity to the artificial ridge and the lack of artifacts found in the vicinity. As a result of the survey, no pre-Contact or historic-period cultural materials were recovered, and no pre-Contact or historic-period cultural features were identified. In addition, no intact artifact deposits or features were identified associated with the previously identified archaeological site 18FR830.

In a consultation letter dated December 22, 2022, FEMA determined the Proposed Action would constitute a No Historic Properties Affected determination. In a response on December 28, 2022, MHT concurred with these findings. Consultation with SHPO is included in Appendix C. FEMA also contacted the Delaware Nation, Seneca-Cayuga Nation, and the Tuscarora Nation to seek comment on the project on March 21, 2023. The Tribal Nations were given 30 days to respond. On March 24, 2023, the Delaware Nation accepted FEMA's invitation to consult, determining that the project as proposed should have No Adverse Effect on any known cultural or religious sites of interest to the Delaware Nation. Due to the potential for discovery of archaeological resources in this area, the Delaware Nation asked that if the scope be amended or remains are discovered, that the project cease until the appropriate state agencies and the Nation are notified so an archaeological assessment can be made. No responses from the Seneca-Cayuga Nation nor the Tuscarora Nation were received within the 30-day timeframe. If any archaeological resources are encountered during construction or other phases of this project, the Seneca-Cayuga Nation, Tuscarora Nation, and Delaware Nation should be notified, all work should cease immediately, and consultation should be reinitiated. This concluded the Section 106 Process for the Proposed Action.

The Proposed Action would have no impact on any archaeological sites or historic resources as no significant cultural materials nor archaeological sites were identified within the APE. The following project conditions, also included in Section 6, would provide additional protection to unexpected cultural resources:

- The contactor will monitor ground disturbance during the construction phase. Per FEMA standard project conditions, should human skeletal remains or historic or archaeological resources be discovered during construction, all ground-disturbing activities on the project site shall cease and the Subapplicant will notify the coroner's office (in the case of human remains), the Recipient (Maryland Department of Emergency Management), and FEMA. FEMA will notify the SHPO and the Tribal Nations (the Seneca-Cayuga Nation, Tuscarora Nation, and Delaware Nation), as applicable, and consultation should be reinitiated.

- All excavated material/displaced fill will be temporarily stored within the project limits void of known cultural resources. All excavated material will be disposed of in areas void of cultural resources and all material removed from the project site will be disposed in a licensed permitted facility in accordance with applicable local, state, and federal regulations.

3.6. Comparison of Alternatives

Table 3-3 summarizes the potential impacts and BMPs analyzed for the No Action and Proposed Action alternatives.

Table 3-3. Summary of Environmental Impacts

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
Geology, Topography, and Soils	• No short-term impacts on geology, topography, or soils. • No long-term impacts on geology, topography, or soils. • No impact on farmland soils.	• Minor short-term impacts on geology, topography, and soils, including farmland soils from construction. • No long-term impacts on geology, topography, or soils. • No to negligible impacts on farmland soils.	• Implement erosion and sediment control BMPs and BMPs related to use of fill, as listed in Section 3.2.1.
Water Resources and Water Quality	• No short- or long-term impacts on water resources and quality.	• Minor short-term impacts on water quality from construction. • Minor long-term benefits on water quality.	• Implement erosion and sediment control BMPs and BMPs related to use of fill, as listed in Section 3.2.1. • Comply with conditions in the MDE Construction General Permit and Dam Safety permit and the CWA Section 404 permit. • Dewater construction area using pumps and cofferdams.
Floodplain Management	• Moderate impacts on people and property within the floodplain and natural floodplain functions in the event of dam failure and associated inundation.	• Minor short-term impacts on the floodplain from construction. • Minor short-term impact on the floodplain from fill and removal of the stormwater	• Implement erosion and sediment control BMPs and BMPs related to use of fill, as listed in Section 3.2.1. • Comply with conditions in the MDE Construction General Permit and Dam

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
		management pond. • Minor long-term benefit on the floodplain from reduced risk of flooding. • No long-term indirect impacts on the floodplain from induced development in the floodplain.	Safety permit and the CWA Section 404 permit. • Dewater construction area using pumps and cofferdams. • Coordinate with the local floodplain administrator to receive a permit to conduct any activities that would occur within the floodplain. • Restore temporarily impacted areas following construction.
Air Quality	• No short-term impacts on air quality. • No long-term impact as there would be no new permanent emissions source.	• Minor short-term impacts from construction. • No long-term impacts as there would be no new permanent emissions source.	• Keep vehicles and equipment running as little as possible. • Wet or cover areas of exposed soils to reduce fugitive dust.
Terrestrial and Aquatic Environment	• No short- or long-term impacts on terrestrial or aquatic environment.	• Minor short-term impacts on the terrestrial environment from herbaceous vegetation removal and the creation of conditions suitable for invasive species growth. • Minor long-term benefit on the terrestrial environment from the creation of native plant habitat and control of invasive plant species. • Minor short-term impact on the aquatic	• Comply with conditions in the MDE Construction General Permit and Dam Safety permit and the CWA Section 404 permit. • Restore project area with native trees, wetland and riparian vegetation, turfgrass, and upland meadow species depending on the planting zone.

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
		environment and species from stream/pond dewatering for construction. • Minor long-term benefit on the aquatic environment from improved habitat creation.	
Wetlands	• No short- or long-term impacts on wetlands.	• Minor long-term benefit on wetlands from wetland creation that would offset the impacts of wetland fill.	• Implement erosion and sediment control BMPs and BMPs related to use of fill, as listed in Section 3.2.1. • Comply with conditions in the MDE Construction General Permit and Dam Safety permit and the CWA Section 404 permit. • Restore project area with pocket wetlands.
Threatened and Endangered Species	• No short- or long-term impacts on threatened and endangered species.	• No short- or long-term impacts because listed species are unlikely to occur in the project area.	• No BMPs necessary as there would be no effect on listed species.
Migratory Birds	• No short- or long-term impacts.	• Minor short-term impact on migratory birds and bald eagles if vegetation removal were to occur during breeding/nesting season. • Minor long-term benefit from creation of additional habitat for foraging and sheltering.	• If vegetation removal occurs during the migratory bird nesting season, between April 1 and September 15, the County would coordinate with USFWS to obtain any required authorization and provide documentation of coordination with USFWS to FEMA.

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
			• If a bald eagle nest is discovered close to the project area, the Subapplicant would coordinate with USFWS to determine an appropriate avoidance buffer and other relevant BMPs to protect the nest and provide documentation of coordination with USFWS to FEMA.
Hazardous Materials	• No short- or long-term impacts.	• Negligible short-term impact from construction. • No long-term impact.	• Comply with conditions in the MDE Construction General Permit and Dam Safety permit and the CWA Section 404 permit. • Handle and dispose of any hazardous materials discovered, generated, or used during implementation of the Proposed Action in accordance with applicable local, state, and federal regulations.
Visual Resources	• No short- or long-term impacts.	• Minor short-term impacts from construction. • Minor long-term benefits from improved visual character.	• No BMPs necessary.
Noise	• No short- or long-term impacts as there would be no new permanent source of noise.	• Minor short-term impacts from construction. • No long-term impacts as there would be no new permanent source of noise.	• Keep heavy machinery and equipment well maintained. Use sound-control devices and mufflers. • Ensure equipment complies with pertinent equipment

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
			noise standards of USEPA. • Complete construction work during daytime hours.
Public Service and Utilities	• No short- or long-term impacts.	• Negligible short-term impacts from construction. • Minor long-term benefits by creating safer park access.	• Take all necessary precautions to support and protect the existing sewer infrastructure within the project area. Follow Frederick County Division of Utilities and Solid Waste Management standards.
Transportation	• No short-term impacts. • Moderate impacts from road closures and damage in the event of dam failure.	• Negligible short-term impacts from construction traffic. • Minor long-term benefits from an anticipated elimination of flood-related road closure caused by dam failure.	• If a temporary traffic control plan is required, coordinate with MDOT and obtain any permits necessary.
Environmental Justice	• No short- or long-term impacts.	• No short- or long-term impacts.	• No BMPs necessary as there are no EJ populations in the project area.
Public Health and Safety	• No short-term impacts. • Moderate impacts from flooding in the event of dam failure that could damage roads and disrupt emergency response.	• Negligible short-term impacts from construction. • Minor long-term benefits by eliminating the risk of dam breach and associated flood conditions that would threaten life and property.	• Complete all construction activities using qualified personnel trained in the proper use of equipment, including all safety precautions. • Conduct all activities in accordance with the standards specified in OSHA regulations.
Historic and Cultural Resources	• Moderate long-term impacts from scour resulting from flooding induced by potential dam failure on	• No short- or long-term impacts.	• If any archaeological resources are encountered during construction or other phases of this project,

Resource	Potential Impacts	Agency Coordination or Permits	Mitigation/BMPs
	existing cultural resources within the surrounding area.		the SHPO, Seneca-Cayuga Nation, Tuscarora Nation, and Delaware Nation should be notified, all work should cease immediately, and consultation should be reinitiated. • All excavated material/displaced fill will be temporarily stored within the project limits void of known cultural resources. All excavated material will be disposed of in areas void of cultural resources and all material removed from the project site will be disposed in a licensed permitted facility in accordance with applicable local, state, and federal regulations.

SECTION 4. Cumulative Effects

Cumulative effects are defined by the CEQ as the impact on the environment resulting from the incremental impacts of the evaluated actions when added to other past, present, and reasonably foreseeable future actions, regardless of the source, federal or nonfederal. According to 40 CFR 1508.7, cumulative impacts can result from individually minor but collectively significant actions taken over time.

The upstream Point of Rocks stream restoration project was completed in 2019. This restored approximately 3,000 feet of stream upstream of the existing dam and stormwater management pond using similar methods as proposed in the Proposed Action (riffle and cascade structures and wetland pools). The purpose of this phase was to reduce stream erosion and protect private property, provide stormwater attenuation and treatment with stream restoration features (e.g., wetland pools), improve the ecological function and habitat of the area, and support Frederick County's Chesapeake Bay Restoration requirements.

There are currently no additional construction projects planned at Point of Rocks Community Park or near the project area.

This EA concludes that the Proposed Action would result in short-term negligible to minor impacts on geology, topography, soils, water resources and water quality, floodplains, air quality, terrestrial and aquatic environments, wetlands, migratory birds, hazardous materials, visual resources, noise, public services and utilities, transportation, and public health and safety. The Proposed Action would result in negligible to minor long-term benefits on soils, water quality, floodplains, terrestrial and aquatic environments, wetlands, migratory birds, hazardous materials, visual resources, public services and utilities, transportation, and public health and safety. The upstream Point of Rocks stream restoration project, when combined with the Proposed Action, would not have short-term cumulative impacts due to the different timing of construction between the two projects. However, as with the Proposed Action, the upstream Point of Rocks stream restoration project provided flood mitigation and reduced erosion along the stream bank. Thus, the upstream Point of Rocks stream restoration project would result in minor long-term cumulative benefits on soils, water quality, floodplains, terrestrial and aquatic environments, wetlands, migratory birds, hazardous materials, visual resources, public services and utilities, transportation, and public health and safety when combined with the Proposed Action.

SECTION 5. Public Participation

To maintain transparency and inform the general public during all phases of project planning and design, the county provided the following opportunities for affected residents and other interested stakeholders to participate.

- Three public meetings within the Point of Rocks community were held between 2013 and 2017 at which the community was presented with information regarding the drainage issues within the project area and were encouraged to provide their input regarding how to solve these drainage issues and move forward with developing the project. Some comments were received from the public during these meetings and used to inform project design.

- A virtual public meeting hosted by the Frederick County Division of Public Works was held on June 23, 2021, at which the project plans were presented to the public and comments from the public were solicited.

This EA will be made available for agency and public review and comment for a period of 30 days. The public information process will include a public notice with information about the Proposed Action posted in the vicinity of the project site and on the FEMA website noted below. The EA will also be available for download at https://www.frederickcountymd.gov/7611/Documents-for-Review and https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa-repository. A hard copy of the EA will be available for review at Frederick County Government, Division of Energy and Environment, 30 North Market Street, 2nd Floor, Frederick, MD 21701.

This EA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will consider any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. The public is invited to submit written comments via email to FEMA-R3-EHP-PublicComment@fema.dhs.gov or mail to: FEMA Region 3, 615 Chestnut Street, Sixth Floor, Philadelphia, PA 19106, ATTENTION: Point of Rocks NEPA Comments.

If no substantive comments are received from the public and/or agency reviewers, the EA will be adopted as final and a FONSI will be issued. Any substantive comments received will be evaluated and addressed before determining whether to issue a FONSI or to revise the EA for additional public comment.

SECTION 6. Best Management Practices, Mitigation Measures, and Permits

The following are standard BMPs, mitigation measures, and conditions applicable to the Proposed Action:

- The applicant is responsible for obtaining and complying with all required local, state, and federal permits and approvals.

- The contactor will monitor ground disturbance during the construction phase. Per FEMA standard project conditions, should human skeletal remains or historic or archaeological resources be discovered during construction, all ground-disturbing activities on the project site shall cease and the Subapplicant will notify the coroner's office (in the case of human remains), the Recipient (Maryland Department of Emergency Management), and FEMA. FEMA will notify the SHPO and the Tribal Nations (the Seneca-Cayuga Nation, Tuscarora Nation, and Delaware Nation), as applicable, and consultation should be reinitiated.

- All excavated material/displaced fill will be temporarily stored within the project limits void of known cultural resources. All excavated material will be disposed of in areas void of cultural resources and all material removed from the project site will be disposed in a licensed permitted facility in accordance with applicable local, state, and federal regulations.

- If deviations from the proposed scope of work result in substantial design changes, the need for additional ground disturbance, additional removal of vegetation, or any other unanticipated changes to the physical environment, the County must contact FEMA so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws.

The following specific conditions are also applicable to the Proposed Action:

- The following permits would be required for the Proposed Action. All work authorized under these permits must be performed in compliance with the conditions of the permits. Copies of these permits are included in Appendix C.

    - MDE General Permit for Stormwater Associated with Construction Activity (Permit Number 14-GP, to be replaced with Permit Number 20-CP).

    - MDE Dam Safety permit (Permit Number: 18-0B-0028) for the Proposed Action.

    - USACE CWA Section 404 permit (CENAB-OP-RMN [Point of Rocks/Stream Restoration] 2017-61539). This verification is valid until the nationwide permit is modified, reissued, or revoked. Thus, a new permit may be required, and the County is required to coordinate with USACE to determine the required permit authorization needed.

- Work must be conducted in the fashion it is proposed in any permit applications. Changes to project design that would alter determinations presented in the EA would require reopening consultations with regulatory agencies.

- Prior to ground-disturbing activities, implement erosion and sediment control BMPs and BMPs related to use of fill, as listed in Section 3.2.1.

- Dewater construction area using pumps and cofferdams.

- Coordinate with the local floodplain administrator to receive a permit to conduct any activities that would occur within the SFHA.

- Restore temporarily impacted areas following construction with native trees, wetland and riparian vegetation, turfgrass, and upland meadow species, depending on the planting zone.

- If vegetation removal occurs during the migratory bird nesting season, between April 1 and September 15, coordinate with USFWS to obtain any required authorization and provide documentation of coordination with USFWS to FEMA.

- If a bald eagle nest is discovered close to the project area, the Subapplicant would coordinate with USFWS to determine an appropriate avoidance buffer and other relevant BMPs to protect the nest. Documentation of coordination with USFWS will be provided to FEMA.

- Handle and dispose of any hazardous materials discovered, generated, or used during implementation of the Proposed Action in accordance with applicable local, state, and federal regulations.

- Keep vehicles and equipment running as little as possible.

- Wet or cover areas of exposed soils to reduce fugitive dust.

- Keep heavy machinery and equipment well maintained. Use sound-control devices and mufflers.

- Ensure equipment complies with pertinent USEPA equipment noise standards.

- Complete construction work during daytime hours.

- Take all necessary precautions to support and protect the existing sewer infrastructure within the project area. Follow Frederick County Division of Utilities and Solid Waste Management standards.

- If a temporary traffic control plan is required, coordinate with MDOT and obtain any permits necessary.

- Complete all construction activities using qualified personnel trained in the proper use of equipment, including all safety precautions.

- Conduct all activities in accordance with the standards specified in OSHA regulations.

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SECTION 8. List of Preparers

The following is a list of preparers who contributed to the development of the Point of Rocks Dam Decommissioning and Stream Restoration draft EA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others contributed, including senior managers, administrative support personnel, and technical staff, and their efforts in developing this EA are appreciated.

CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Giordano, Brock	Cultural Resources Specialist	NEPA Documentation
Argiroff, Emma	Environmental Planner	NEPA Documentation
Quan, Jenna	Environmental Planner	NEPA Documentation
McKnight, Rachel	Biologist	NEPA Documentation
Jadhav, Ajay	GIS Specialist	GIS
Stenberg, Kate	PhD, Senior Biologist, Senior Planner	Quality Control/Technical Review

Federal Emergency Management Agency

Reviewers	Role in Preparation
Hagan, Erin	Environmental Protection Specialist, FEMA Review
Mielke, Megann	Project Officer, FEMA Review
Nolan, Tessa	Regional Environmental Officer, FEMA Review
Rudenstein, Alison	Deputy Regional Environmental Officer, FEMA Review
Sotirhos, Crystal	Environmental Protection Specialist, NEPA Documentation
Cornelius, MacKensie	Environmental Protection Specialist, FEMA Review

Appendix A. Maps and Figures

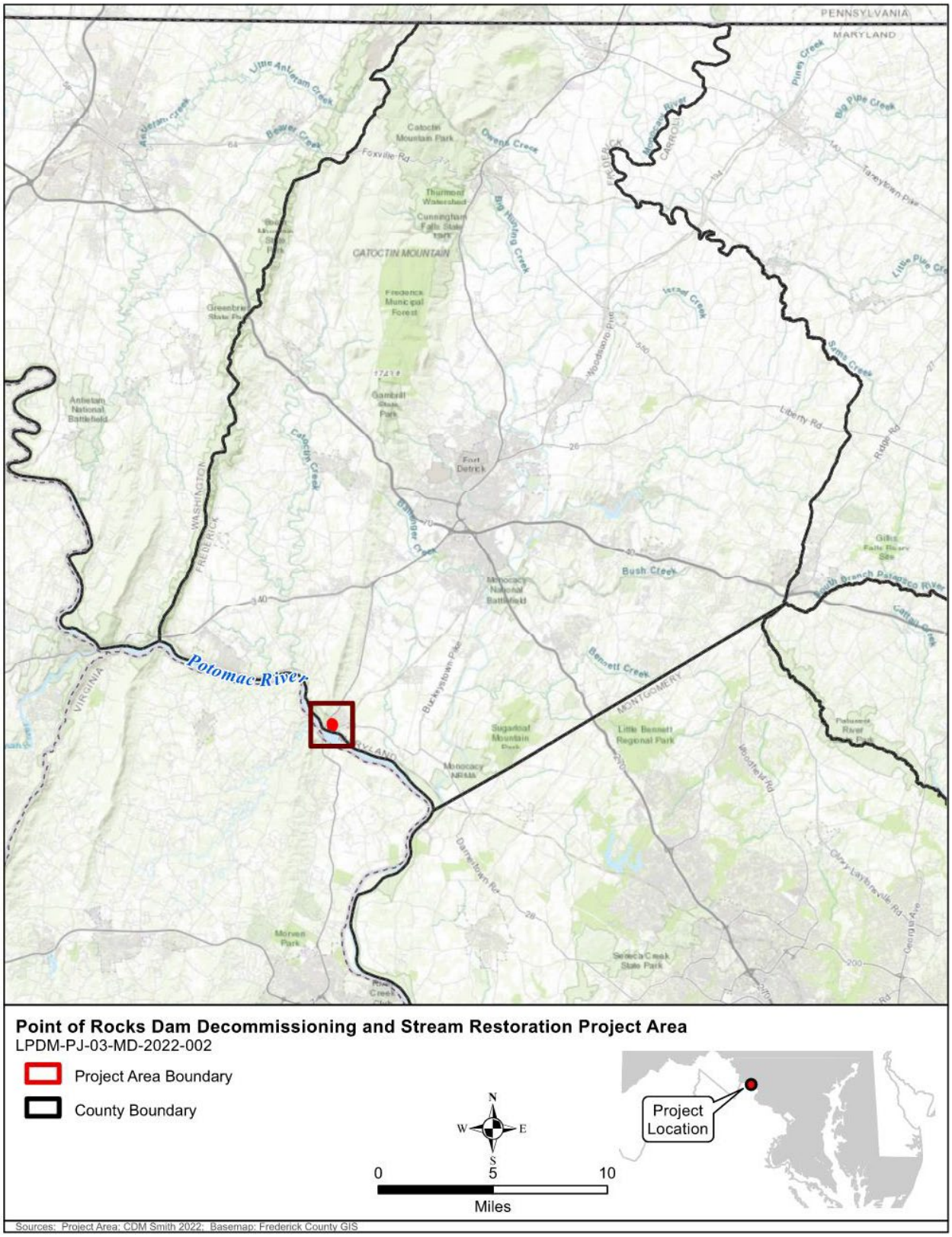

Figure 1. General Project Location Map

Figure 2. Project Area

Figure 3. Existing Dam Embankment, Stormwater Management Pond, MD 28, and MARC Parking Lot (looking south)

Figure 4. Project Area Floodplains

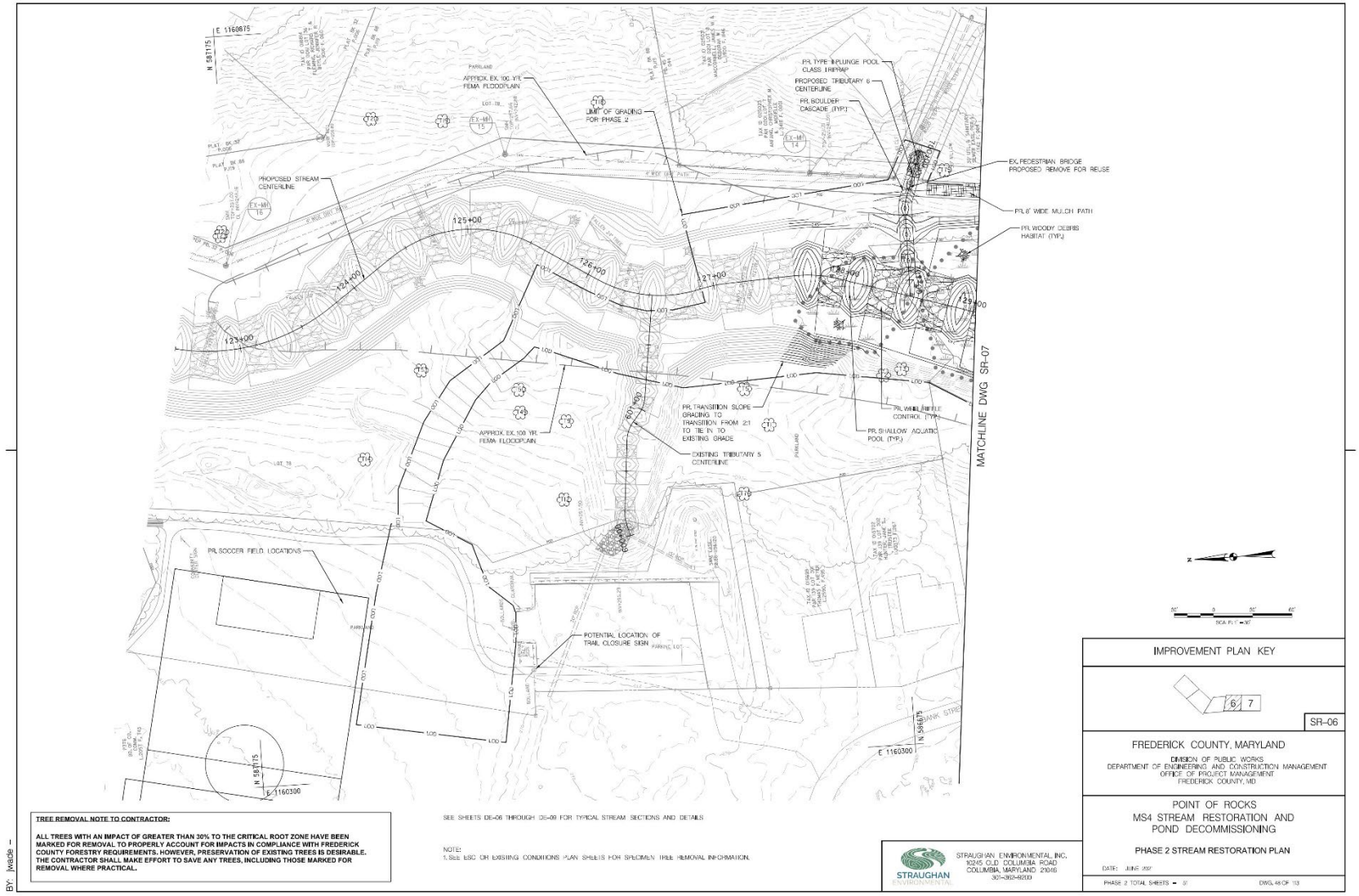

Figure 5. Point of Rocks Stream Restoration Design Plan (SR-06)

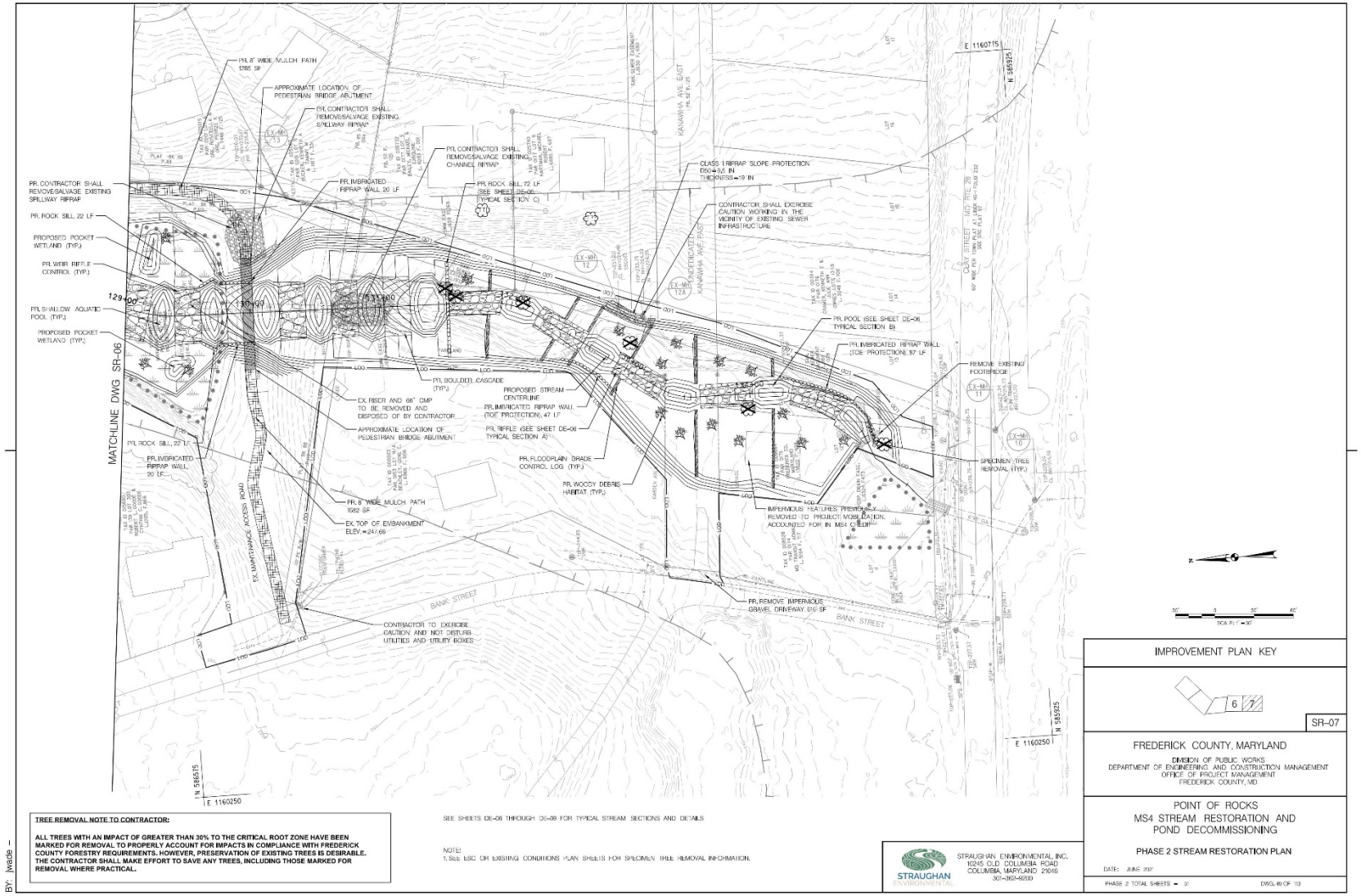

Figure 6. Point of Rocks Stream Restoration Design Plan (SR-07)

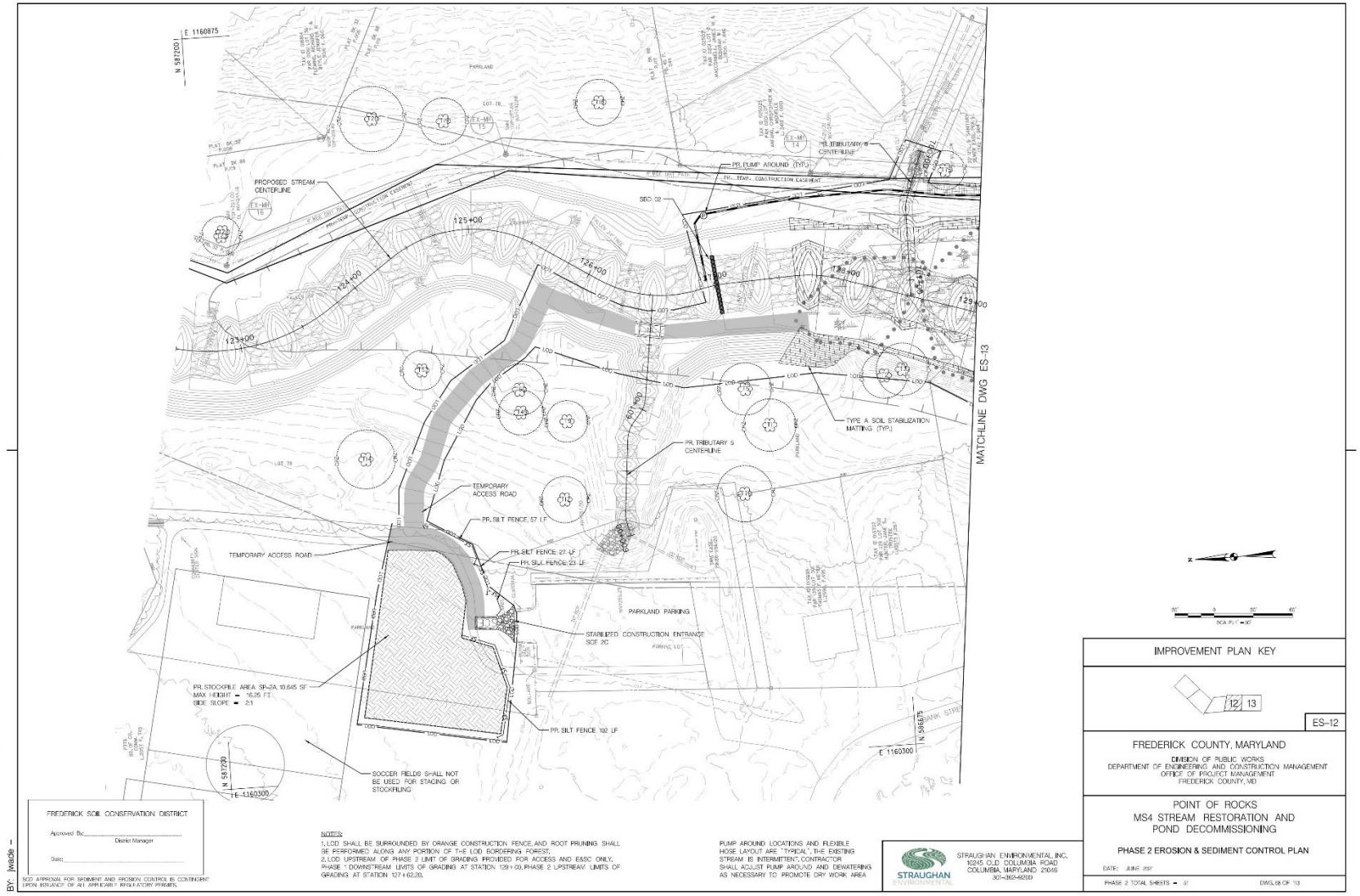

Figure 7. Point of Rocks Erosion and Sediment Control Plan (ES-12)

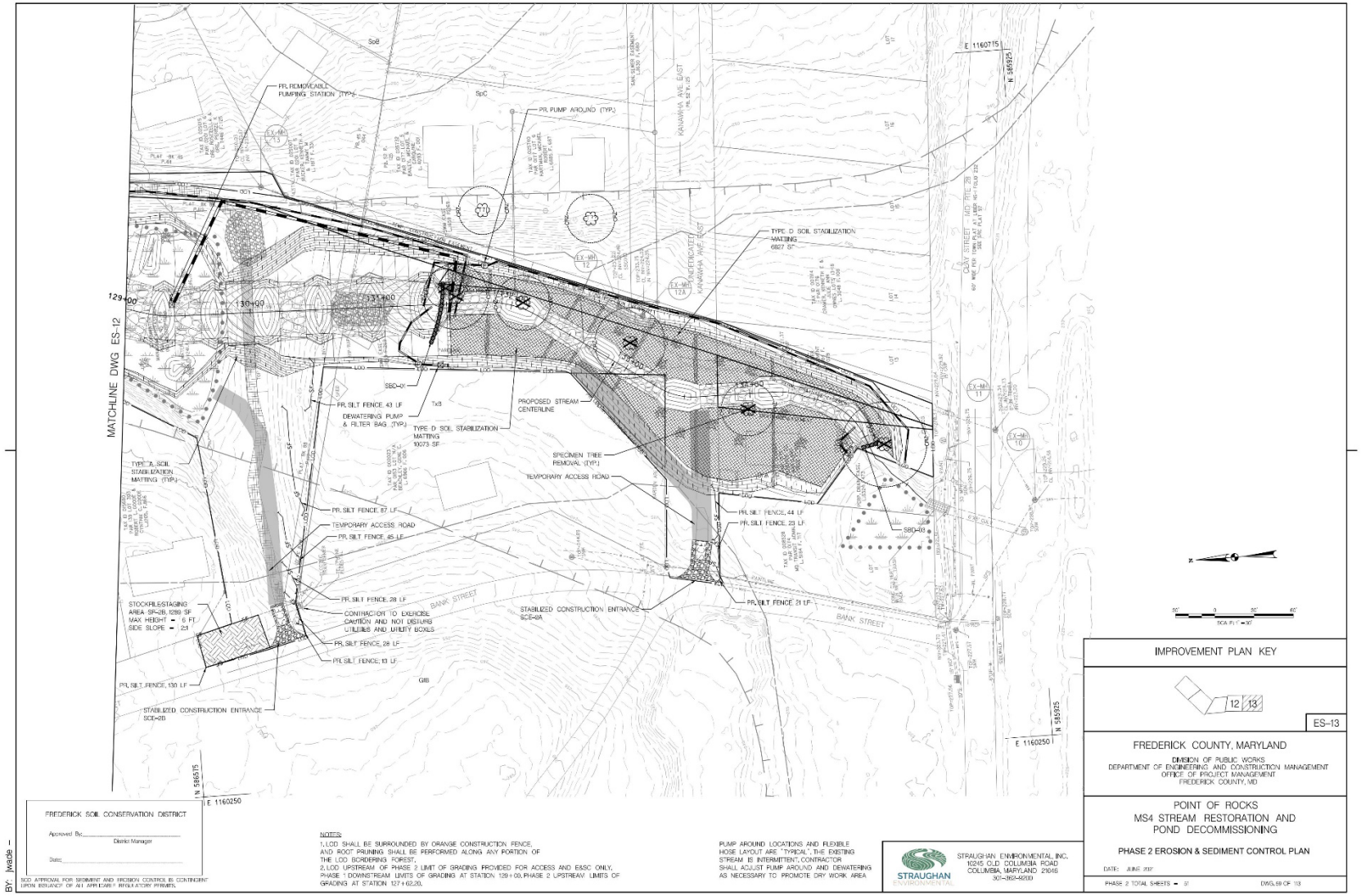

Figure 8. Point of Rocks Erosion and Sediment Control Plan (ES-13)

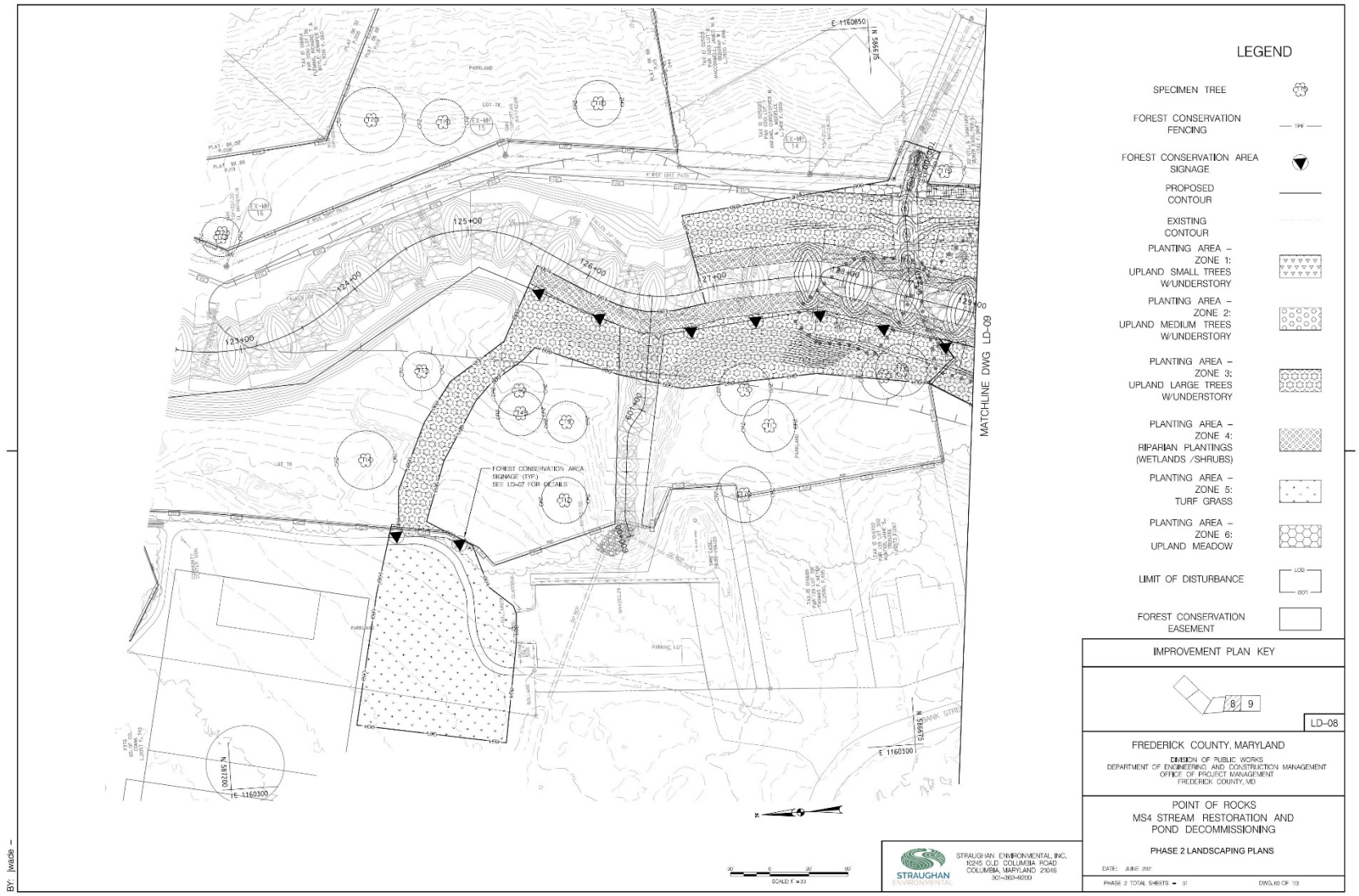

Figure 9. Point of Rocks Landscaping Plan (LD-08)

Figure 10. Point of Rocks Landscaping Plan (LD-09)

Appendix B. Floodplain Management and Wetland Protection 8-Step, Hydrologic and Hydraulic Analysis

Step	Project Analysis
Step 1: Determine whether the Proposed Action is located in a wetland and/or the 100-year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.	**Project Analysis:** According to FEMA Flood Insurance Rate Map Panel 24021C0420D, effective September 19, 2007, the majority of the project area is within Flood Zone A, a Special Flood Hazard Area that has a 1-percent probability of flooding every year and where predicted floodwater elevations have not been established. According to the Wetland Investigation Report for the Point of Rocks Stream Restoration project (2017), there are three wetlands totaling approximately 0.47 acre in the project area. These wetlands include a 0.27-acre palustrine, open water wetland that is the stormwater management pond; a 0.16 acre palustrine, forested, temporarily flooded wetland that is directly north of the stormwater management pond; and a 0.04 acre palustrine emergent, nonpersistent wetland located in the southernmost portion of the study area, approximately 90 feet northeast of Clay Street. The Wetland Investigation Report is unclear whether wetland vegetation is present in the stormwater management pond; therefore, this area may not meet the definition for a wetland.
Step 2: Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland and involve the affected and interested public in the decision-making process.	**Project Analysis:** A public notice for the Proposed Action was issued in [NEWSPAPER] and on [WEBSITE] on [DATE].
Step 3: Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.	**Project Analysis:** The following alternatives were considered in selecting the proposed alternative. <u>No Action alternative</u>: Under this alternative, the existing significant to high hazard dam would not be decommissioned, the stream would not be restored, and a pedestrian bridge would not be constructed. The risk to people and property from a potential dam failure and associated inundation would remain. The failure of the existing dam would result in an approximately 4-foot “wall of water” being released at one time that would overtop MD-28 and enter the Maryland Area Rail Commuter (MARC) lot. This would threaten the lives of people and damage infrastructure and property downstream of the dam. Increased storm frequency and intensity due to climate change would continue to pose a risk to the dam from overtopping and failure. Additionally, any future dam failure would decrease available capacity to retain and attenuate stormwater peaks from storm events, likely leading to additional downstream flooding and erosion. According to the 2021 hydrologic and hydraulic analysis for the Proposed Action, “Point of Rocks: Depth-Velocity Flood Danger Analysis,” current 100-year flood events endanger people and property, reaching a maximum depth of approximately 3.5 feet along the MD 28 sidewalk and up to 5

Step	Project Analysis
	feet in the MARC lot. These risks would be probable and would continue regardless of whether the dam fails under the No Action alternative. Therefore, in the event of dam failure, the No Action alternative would have moderate long-term impacts on the safety of people and property within the floodplain as well as on natural floodplain functions. Proposed Action: The Proposed Action includes removing the existing significant to high-hazard dam, restoring over 1,000 feet of stream channel using natural design techniques, creating pocket wetlands and other environmental site design features, replanting vegetation, and constructing a pedestrian bridge over the restored stream. The Proposed Action would take place within the 100-year floodplain (Flood Zone A) and would impact approximately 0.47 acre of wetlands, as discussed in Step 1 of this checklist. An additional alternative, retaining the existing dam and upgrading the facility in accordance with Maryland Department of Environment (MDE) regulatory requirements for significant to high hazard dams, was considered. Although this alternative would reduce the risk of dam failure and associated flooding, the dam would remain within the 100-year FEMA floodplain of the Potomac River, and backwaters from the Potomac would continue to contribute to the risk of dam failure. In addition, increased storm frequency and intensity due to climate change would continue to pose a risk to the dam from overtopping and failure. Because of these risks, there would still be the potential for a dam breach and catastrophic failure. Therefore, this alternative was eliminated from further consideration.
Step 4: Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands, and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.	**Project Analysis:** The Proposed Action would result in a minor short-term adverse effect on the 100-year floodplain and wetland due to construction, including excavation and fill activities, in the floodplain and wetland. Construction activities could cause an accidental release of hazardous waste during the construction period from minor leaks from construction equipment and ground disturbing activities could cause sediment to enter the stream and wetland. The Proposed Action would result in a minor short-term adverse effect on the 100-year floodplain because of the removal of the stormwater management pond and fill and excavation in the floodplain that would alter the path of water during high water events. According to the 2021 hydrologic and hydraulic analysis for the Proposed Action, removal of the dam and stormwater management pond would not increase the risk of flood loss or flood hazard potential for properties downstream of the project area in the 10-year or 100-year storm event. The analysis also shows that the stream restoration component of the Proposed Action would not increase flood water surface

Step	Project Analysis
	elevations on private properties between the pond and Maryland Route 28 as compared to existing conditions. Under the Proposed Action, stormwater storage in the project area would be slightly reduced as compared to existing conditions. However, this reduction in storage would not result in changes to the flood velocities or depths during the 100-year storm event. The impacts of the 100-year flood event would remain approximately the same as compared to existing conditions. The Proposed Action would have permanent impacts on up to 0.47 acre of existing wetlands. A nationwide permit verification under Section 404 of the Clean Water Act (application identification: CENAB-OP-RMN [Point of Rocks/Stream Restoration] 2017-61539), was obtained for the Proposed Action and another stream restoration project, which was constructed in 2019 and included 3,000 feet of stream restoration upstream the Proposed Action. This project is referred to as the upstream Point of Rocks stream restoration project. The 404 permit verification allows for the placement of fill in the 0.27-acre open water wetland (i.e., the existing stormwater management pond) and the 0.16-acre palustrine forested wetland associated with the existing stormwater management pond. This verification is valid until the nationwide permit is modified, reissued, or revoked. Thus, a new permit may be required and the County shall coordinate with USACE to determine the required permit authorization needed. The Proposed Action would have long-term benefits on floodplains and wetlands. By decommissioning the existing significant to high-hazard dam, the Proposed Action would eliminate the flood risk posed by potential failure of the dam and the corresponding adverse effects on human health and safety, property, and the environment. Additionally, the Proposed Action would restore and support the natural and beneficial values served by floodplains and wetlands because it would restore natural stream features, such as riffle and cascade structures, and wetland pools. By eliminating the risk of dam breach and associated flooding, the Proposed Action would also reduce the risk of erosion and sedimentation into surface waters that results from flooding. The Proposed Action would not directly support any specific development proposal in the floodplain or wetland. While private development decisions are not strictly dependent on floodplain or wetland protection, it is possible that the Proposed Action may indirectly support development by providing such protection. However, it would not include the addition of, or improvements to, roadways or utilities that would be supportive of expanded development.

Step	Project Analysis
	Additionally, any development that might occur would be subject to applicable local and state guidelines for floodplains and wetlands. By constructing a pedestrian bridge, the Proposed Action would also provide a social benefit of improved connectivity in the project area. This would also serve to enhance and protect the existing value of existing wetlands as a public space and social resource within the community park.
Step 5: Minimize the potential adverse impacts from work within floodplains and wetlands (identified under Step 4), restore and preserve the natural and beneficial values served by wetlands.	**Project Analysis:** The Proposed Action would comply with the conditions of the Clean Water Act Section 404 Permit issued by U.S. Army Corps of Engineers throughout all phases of the project. The 404 permit provides requirements for the disposal of dredged material, streambank construction, and restoration of the site. The Proposed Action would comply with the MDE General Permit for Stormwater Associated with Construction Activity (for construction activities that would disturb one or more acres of land) as well as the MDE Dam Safety permit for dam removal activities. These permits would require the County to implement measures to control discharges, erosion, and sedimentation from the construction site to protect water quality. Additionally, the County would coordinate with the local floodplain administrator about any necessary permits to conduct activities within the floodplain. Following the installation of sediment control measures, sandbags would be installed within the unnamed tributary channel at the upstream and downstream limits of work to create cofferdams and prevent water from entering the work zone. The stream flow and impounded water in the existing pond would be diverted around the work area using pumps, hoses, and dewatering devices and associated sediment filtering measures. Per the CWA Section 404 Nationwide Permit, excess fill, construction material, salvaged material, and debris would be placed in a location and manner that does not adversely impact water flow or the 100-year floodplain; fill, material, and debris would not be stored in wetlands, waterways, or the 100-year floodplain; and temporarily impacted areas would be restored following construction of the Proposed Action. Compliance with required permits and construction of the project in the dry would minimize construction impacts on the floodplain and wetland by reducing the risk of contamination of nearby waterbodies, regulating the discharge of fill in water, and requiring restoration of the site. In the long term, the Proposed Action would restore approximately 1,000 feet of stream through the project area with natural stream features, such as riffle and cascade structures. These features would help address ongoing erosion concerns in the project area, which

Step	Project Analysis
	would otherwise have the potential to adversely impact the floodplain and wetland. Additionally, the restoration method, step pool stormwater conveyance, is an accepted best practice for stormwater retrofit projects by MDE. The Proposed Action would create approximately 0.80 acre of pocket wetlands along the restored stream in the project area. Thus, wetland construction would offset the approximately 0.47 acre of permanent impacts on wetlands during construction. The Proposed Action would have long-term benefits on floodplains and wetlands.
Step 6: Re-evaluate the Proposed Action to determine: 1) if it is still practicable considering its exposure to flood hazards; 2) the extent to which it will aggravate the hazards to others; 3) its potential to disrupt floodplain and wetland values.	**Project Analysis:** The Proposed Action remains the most practicable action because it meets the purpose and need of the project to reduce flood risk and protect life and property and the measures in Step 5 would minimize adverse impacts on the floodplain and wetland.
Step 7: If the agency decides to take an action in a floodplain or wetland, prepare and provide the public with a finding and explanation of any final decision that the floodplain or wetland is the only practicable alternative. The explanation should include any relevant factors considered in the decision-making process	**Project Analysis:** Public notice of the Proposed Action alternative will be provided as a function of this environmental assessment, informing the public of a potential FEMA funded action, which would occur within the 100-year floodplain and a mapped wetland.
Step 8: Review the Proposed Action to ensure that the requirements of the EOs are fully implemented. Oversight responsibility shall be integrated into existing processes.	**Project Analysis:** This step is integrated into the NEPA process, as well as FEMA project management and oversight functions.

Point of Rocks MS4 Stream Restoration & Pond Removal

Point of Rocks: Depth-Velocity Flood Danger Analysis

Submitted 5/28/2021

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Section Divider

1. Executive Summary

At the request of Frederick County, Straughan performed a two-dimensional hydraulic analysis for the Point of Rocks Stream Restoration project to evaluate the impact of removing the existing pond embankment on downstream flood water depth and flow rate and to evaluate the stability of the proposed stream restoration. The pond embankment is a "significant to high hazard" based on current analysis and conversations with the Maryland Department of the Environment (MDE). Significant and high hazard dams that breach would result in possible to probable loss of life, and major to significant risk of flood levels affecting houses, buildings, and state roads. To eliminate the risk associated with dam failure, Frederick County is proposing the removal of the existing pond and replacement with a surface- stream connection.

Straughan conducted unsteady two-dimensional modeling and produced a MDE depth-hazard analysis for the 10- and 100- year storm events to assess whether the proposed removal of the pond would increase risk to adults, passenger vehicles, and/or pedestrians once flood flows leave the project area and cross MD-28. We evaluated the hazard using model output at two distinct timesteps: maximum depth and maximum velocity. Straughan used the MDE depth-hazard risk guidance (MDE, 2018) as best available published local guidance to evaluate population-at-risk for design flow velocities and depth. The results indicate that removal of the pond storage will not result in a change in Depth-Velocity Flood Danger zone for properties downstream of the project limit.

Note: this analysis does not compare post project conditions against a PMF or dam breach scenario, because the removal of the dam will eliminate that risk. This analysis is limited to a comparison of downstream flooding pre- and post-project for the 10- and 100-year storm events, both with and without the pond.

Straughan conducted a separate regulatory 100-year floodplain analysis with 1-D HEC-RAS modeling assuming ultimate watershed conditions based on guidance from Mr. Bill Seiger at MDE. Based on MDE feedback, the ultimate development condition includes removal of the pond; therefore, any pond storage is excluded from both pre-project and post-project hydrology. Straughan compared the existing stream to the proposed stream restoration flood water surface elevations. The hydraulic model demonstrates that the proposed stream restoration will not increase flood water surface elevations on private property between the pond the project limit near the crossing at Clay Street. The analysis is presented separately in Appendix C of the design report.

2. Model Selection

2.1. Objective

The purpose of the hydraulic model is to help the design team evaluate changes in flood hazard after the removal of the stormwater management pond. Ultimately, the intention of this model is to help isolate and communicate the extent of hydrologic changes that may or may not impact downstream populations-at-risk.

This model includes a level of detail sufficient to demonstrate differences between the existing conditions and the post-project conditions. As with any model, the Straughan design team

must rely on assumptions to simplify complex flooding patterns. Those assumptions are detailed in this report.

2.2. Selection of SRH-2D

The Sedimentation and River Hydraulics Two-Dimensional model (SRH-2D) is a publicly available hydraulic model actively developed by the U. S. Bureau of Reclamation (Bureau of Reclamation, 2008). SRH-2D solves the full two-dimensional continuity and momentum equations (depth-averaged St. Venant equations). In 2014, the Federal Highway Administration (FHWA) formally adopted SRH-2D as one of their approved models (Bureau of Reclamation, 2016). In recent years, the FHWA has partnered with the Bureau of Reclamation to further advance model development and add features. SRH-2D has gained acceptance across a wide variety of state departments of transportation and other federal agencies. For example, the Federal Emergency Management Agency (FEMA) has recognized the SRH-2D program as an acceptable numerical model meeting the minimum requirements of the National Flood Insurance Program (FEMA, 2017).

Straughan selected the SRH-2D program for the Point of Rocks model because it provides a thoroughly vetted and accepted, full two-dimensional solution that meets the project scope and needs. SRH-2D incorporates a highly stable wetting and drying algorithm, which offers increased stability with a comparatively low computational time (Bureau of Reclamation, 2008). The model allows the user to assign Manning's roughness values by polygonal area and provides detailed output, including water surface depth, elevation, velocity, and shear stress.

Straughan used the commercially available Surface-water Modeling System version 12.3.3 (SMS) software for pre- processing and post-processing of SRH-2D data to develop computational meshes, input boundary conditions, and analyze results. SMS uses a Geographic Information System (GIS) to quickly process and manipulate surface terrain, generate a computational mesh, and set boundary conditions.

The SRH-2D model provides a balance of high detail and comparatively low computational time. SMS allows the team to use advanced mesh generation and terrain manipulation tools in conjunction with SRH- 2D. SMS's tools allow Straughan to represent both the existing conditions and the proposed design geometry quickly and accurately into computational meshes that are then used as input for SRH-2D. The SRH- 2D model results provide a comparison of flood depth, velocity, and flow before and after the project.

The SMS pre-processor with SRH-2D module is available free for commercial and regulatory review use under a community license here: https://aquaveo.com/downloads-sms.

3. Terrain

Two-dimensional models require detailed ground surface data (terrain). The terrain for Point of Rocks model consists of surveyed stream elevations, publicly available flown LiDAR, and proposed design surfaces. Terrain can consist of triangulated scatter point data and/or raster digital elevation model datasets. It is typical to combine datasets of varying accuracy and resolution to ensure the terrain has coverage across the entire model domain. Straughan

combined field-run survey data of the project area with the publicly available Maryland iMap DEM (acquired May 2018) downstream of MD-28.

4. Boundary Conditions

4.1. Inflow Hydrographs

The model accepts unsteady flow as input. Straughan input hydrographs generated with TR-20 for the entire 24-hour design event for the 2-year, 10-year, and 100-year storms. The model is set to run for an additional four hours beyond the 24-hour storm duration to ensure adequate time for the storm peak flow to fully pass the downstream extent of the model. Straughan extracted 14 hydrographs from the existing conditions TR-20 model and applied the hydrographs to the two-dimensional model domain at nine inflow boundaries (Table 1). See the *Point of Rocks MS4 Stream Restoration & Pond Decommissioning 100% Design Update Memo* body and Appendix C for details about the hydrologic models. As SRH-2D does not include a model for internal rainfall, Straughan elected to integrate the internal drainage areas with the nearest external drainage area. This combination of hydrographs ensures that internal drainage is applied at the nearest upstream boundary (Figure 1). The composite hydrograph represents both a point inflow (e.g., storm drain outflow) and the sheet flow that enters the stream between the current point inflow and the one downstream (see the example hydrograph for Inflow 3 shown in Figure 2).

Table 1. Input Hydrographs

Inflow	Drainage Areas
1	A
2	B & D
3	C & F
4	E & G
5	H & J
6	I
7	M & K
8	N & L
9	O

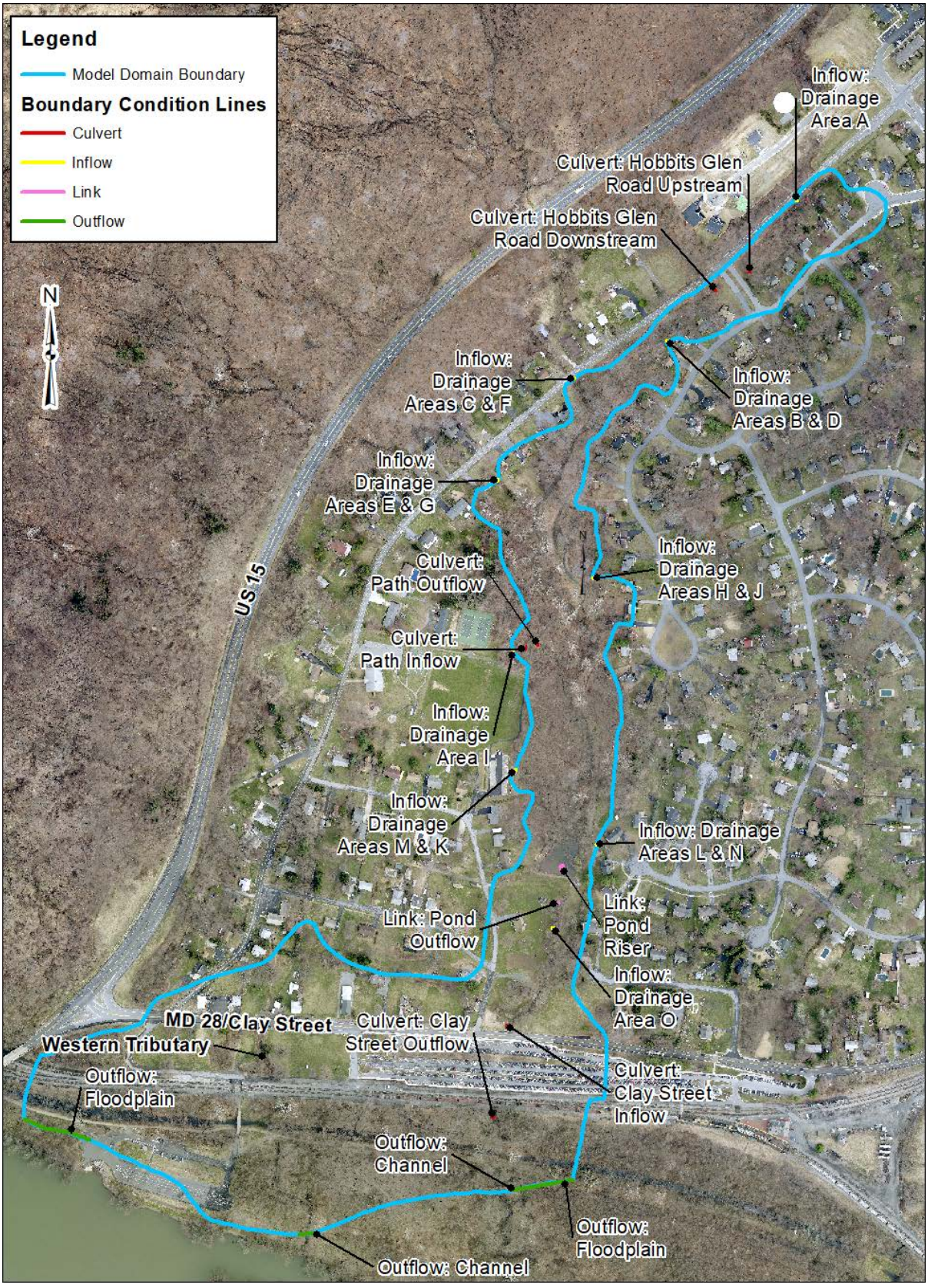

Figure 1. Model Domain and Boundary Condition Locations

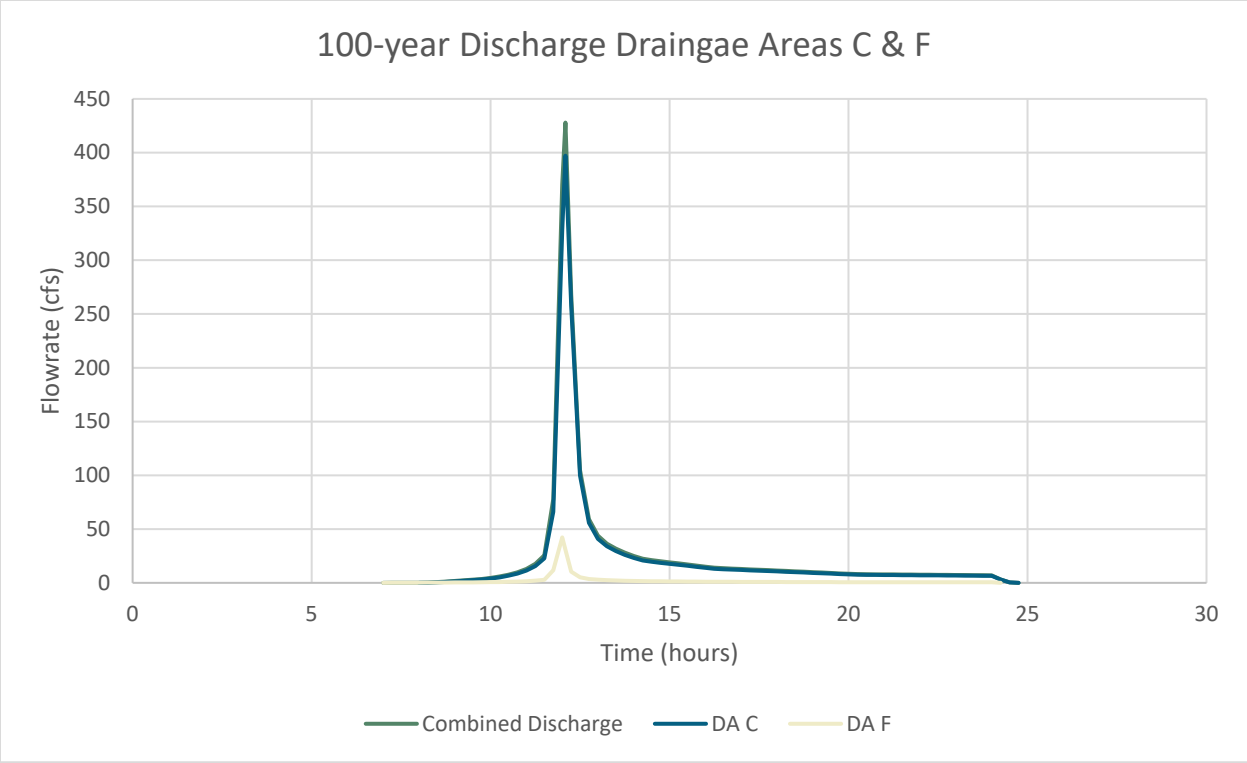

Figure 2. Example Combined Inflow Hydrograph (Drainage areas C & F)

The hydrology and surface modeling for this project do not consider the potential coincident flooding of neighboring tributaries, or the Potomac River. This is because Straughan wanted to isolate the potential effect of the pond removal project separate from other factors.

4.2. Outflow Boundaries

Outflow boundaries represent the areas of the model where flow is permitted to exit the model area (domain). It is critical to set appropriate boundaries with reasonable assumptions to avoid allowing conditions at the exit to improperly influence upstream conditions. They are typically placed beyond the area of interest at the downstream limit of a model. When modeling a typical river, the downstream boundary would cross the downstream river channel and floodplain perpendicular to flow.

Downstream of the Point of Rocks stream restoration project, the stream enters a 284-feet long culvert The first 194 feet of the downstream culvert flows through a newer 5.5-foot by 5-foot concrete box culvert under MD-28 and MDOT MTA parking lot installed by MDOT MTA. The new culvert section connects to a 90-feet long 4-foot by 5-foot 19th century stone culvert under the CSX railroad. The stone culvert outfalls into a short channel between the railroad and the C&O canal, under which is a largely blocked stone arch culvert (Figure 4). The stream continues from the C&O canal culvert to the Potomac River (Figure 3). Straughan did not model the culvert under the C&O canal. The culvert is mostly blocked and likely is inlet controlled, which would create a deep backwater condition for the upstream culvert under the tracks and MD-28. The backwater would increase flooding over MD-28 and the MDOT MTA parking lot and obscure the effect of the

dam removal. To be conservative, Straughan modeled the C&O canal culvert as an open channel to more clearly show any changes caused by the dam removal project.

Figure 3. The largely buried culvert under the C&O canal downstream of the project

Presently, the culvert under MD-28 and the MDOT MTA parking lot does not pass the 10- or 100-year storm flows, causing the water to overflow MD-28 and spread out over the MDOT MTA parking lot. The water then overtops Monroe Street and enters an adjacent tributary during the 100-year storm.

The distribution of existing discharges between the tributaries varies depending on the magnitude of flooding. For example, the model for the two-year storm does not overtop MD-28 and all flood flows are routed through the MD-28 culvert to the C&O canal, and ultimately the Potomac River. However, the 100-year storm results depict significant overtopping discharge on and along MD-28 that reaches the Potomac River through a tributary west of the stream being restored. This western tributary passes under the CSX railroad in a corrugated metal pipe culvert with a cement bottom and then the C&O canal in a stone arch culvert. Straughan did not model these culverts because they do not affect the flow in the MDOT MTA parking lot. The parking lot flow is controlled by the geometry of Monroe Street between the parking lot and the western tributary.

Figure 4. The western boundary between the CSX railroad (CMP culvert on the left) and the C&O canal (stone culvert on the right)

Given complex nature of surface discharge, Straughan chose to place four outflow boundaries along the model edge between the Potomac River and the Chesapeake and Ohio (C&O) canal (Figure 1). The boundaries include the receiving channel downstream of the MD-28 culvert, another stream to the west where water flows after overtopping MD-28, and two areas of overland flow. Each boundary line was assigned a stage discharge curve based on Straughan's assumption that the receiving channel will achieve normal depth with a uniform cross section and slope.

4.3. Culverts

The Surface-water Modeling System (SMS) provides several different methodologies to model culverts within the two-dimensional domain. Straughan applied two different methodologies for the three culverts in the model—a dynamically coupled link with the one-dimensional HY-8 model, and a "simple link" using the stage-discharge relationship from a separate HY-8 file. See Table 2 for the parameters used for each culvert.

Table 2. Culverts in the Point of Rocks 2D Model

Crossing	Methodology	Type
Hobbits Glen Road	Dynamically linked HY-8	54-inch Corrugated Metal Pipe
Asphalt Path	Dynamically linked HY-8	15-inch Corrugated Metal Pipe
MD-28	Simple link	4.0 x 5.0-foot Concrete Box and stone

In a "dynamic link" culvert, SRH-2D integrates with the FHWA's HY-8 culvert program to calculate culvert flow within the model domain. The 2D model calculates the upstream headwater and the downstream backwater, and then uses HY-8, which is based on 1D empirical equations, to calculate the culvert flow. When the culverts overtop, SRH-2D models the overtopping flow as 2D flow along the computational mesh. When using the dynamic link with HY-8, flow directly above the culvert is model as a one- dimensional weir in the direction of the culvert and flows perpendicularly across the culvert are not allowed.

In the MDOT MTA parking lot, any overtopping flows turn perpendicular to the culvert direction, therefore the dynamically linked model does not provide a valid solution. To better model this scenario, Straughan used "simple link" boundaries for the MD-28 culvert. Simple links requires an assumption of inlet control as the headwater/tailwater relationship is no longer calculated dynamically. A simple link passes water between an inflow and an outflow (in this case, through the culvert) based on a user-supplied stage- discharge relationship. Straughan used the desktop version of HY-8 to develop a headwater-discharge relationship for the link. As the road embankment impounds water SRH-2D removes flow from upstream of the culvert and transfers it to its downstream culvert boundary based on this relationship. Flow through the MD-28 culvert is assumed to be inlet controlled.

The culvert under MD-28, the MDOT MTA parking lot, and the CSX railroad is complex. The existing structure includes two different sized boxes built at different times that are connected under the parking lot. The culvert under the tracks is a legacy 4-foot by 5-foot rectangular stone culvert of an unknown origin (Figure 5). It is assumed to belong to CSX. In 2008, MDOT MTA constructed a new 5.5-foot by 5-foot concrete box culvert under MD-28 to accommodate a new parking lot (Figure 6 and Figure 7). Four storm drain inlets drain directly into middle of the new culvert from the parking lot. This culvert connects to the CSX culvert.

Figure 5. MD-28 culvert - legacy 4 ft x 5 ft box culvert under CSX tracks (outflow/downstream face)

Figure 6. MD-28 culvert - 5.5 ft x 5.0 ft box culvert inflow/upstream face

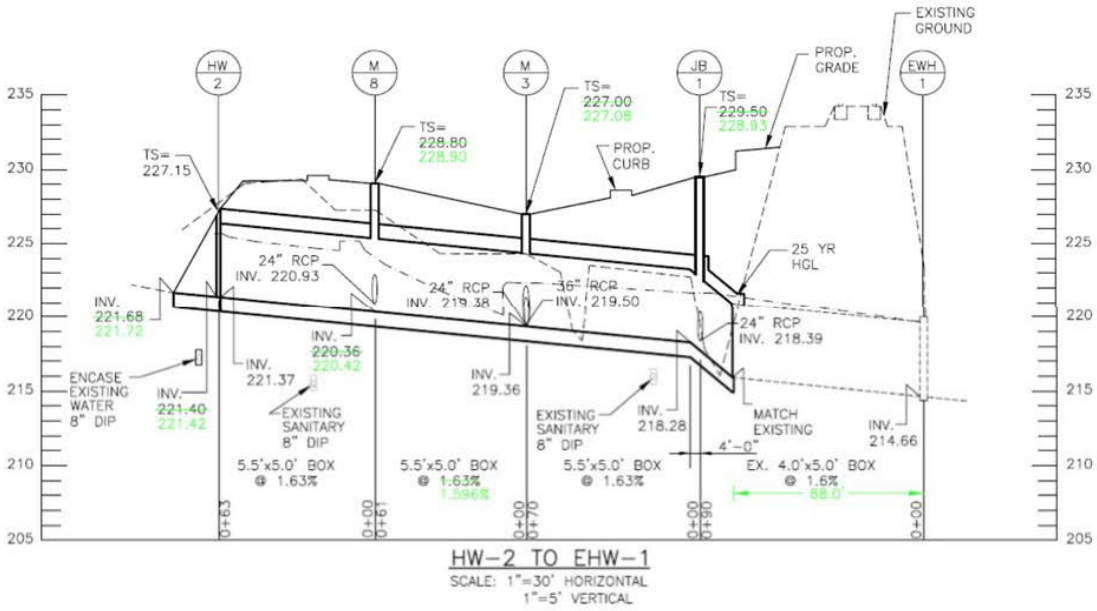

Figure 7. Excerpt from 2008 MDOT MTA Parking Lot As-Built Plans. Note the 5.5 ft x 5 ft culvert joins the legacy 4 ft x 5 ft culvert

Straughan made conservative assumptions to simplify the model for this culvert. The model relies on the assumption that the entirety of the culvert is the smaller sized 4 ft x 5 ft box culvert with an average slope between the upstream headwall of MDOT MTA and the downstream endwall of the railroad culvert. Straughan assumed the culvert is concrete and has square edge wingwalls with no flare. The surface storm-drain inlets are not included in the model and are assumed to be ineffective during the design events. Straughan input these assumptions into HY-8 to establish a headwater discharge curve (Table 3 and Figure 8). Straughan used an artificially high road crest in HY-8 to force the program to extend the culvert discharge curve through the full range of predicted overtopping elevations. Note that in SRH-2D, the road crest elevations affecting overtopping are integrated into the three-dimensional computational grid, therefore, attempting to simulate overtopping discharge separately in HY-8 would not be appropriate.

Table 3. Headwater/Discharge Rating Curve for MD-28 Culvert

Headwater Elevation (ft)	Culvert Discharge (cfs)
221.42	0
224.21	50
226.56	120
228.82	180
231.79	240.00
235.09	292.39

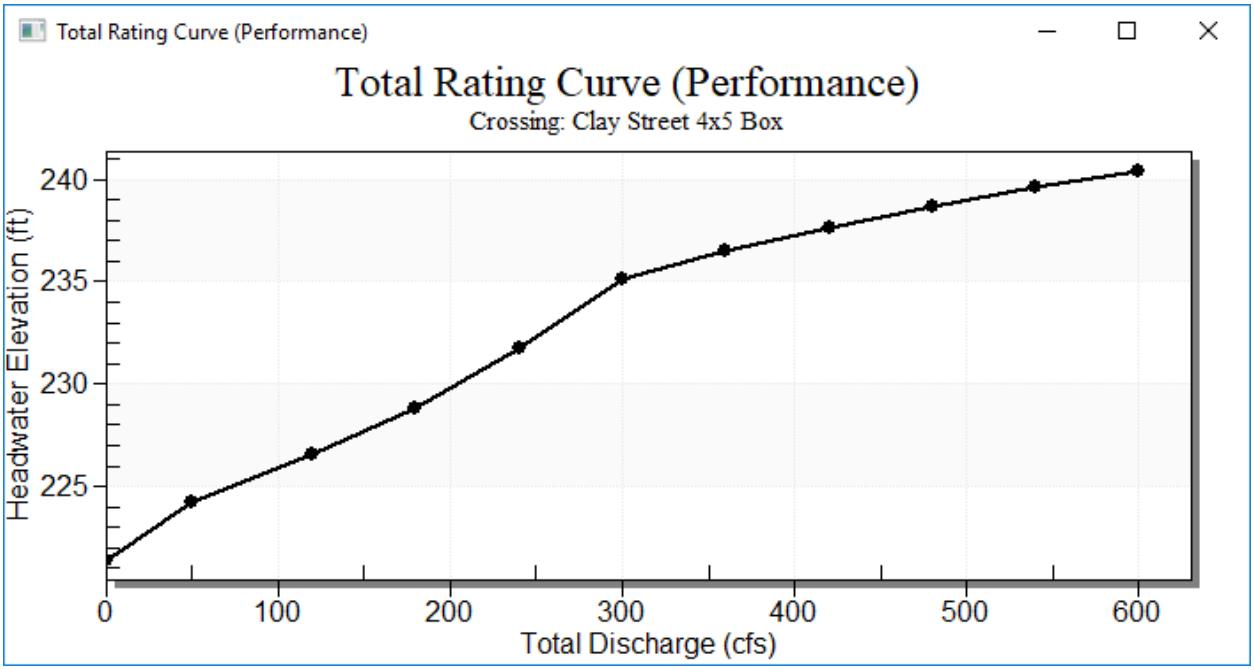

Figure 8. HY-8 Rating curve for MD-28 culvert

4.4. Pond Riser

The existing conditions model includes the stormwater management pond. The stormwater management pond outflows through a CMP riser with a 66-inch diameter CMP principal spillway. The pond is impounded by a large dam with a rip-rap emergency spillway. Straughan used a simple link boundary (See description in section 4.3) to model the riser with a discharge-stage relationship. The discharge relationship models the weir at the top of the riser using the weir equation along the 66-inch pipe's circumference until water is 3 feet above the opening, at which point, the orifice equation is used. Straughan modeled the barrel as an orifice using the height from the riser top to the barrel plus the water above the riser. The riser elevation in the model matches that listed in the original design plans for the pond, which was within a few tenths of a foot of the elevation captured in a recent survey.

The post-project model does not include the riser or the dam embankment as they are removed and replaced with open-channel conveyance in the post-project condition.

4.5. Mesh Development

SRH-2D requires the modeler to use a polygonal mesh to approximate and simplify high resolution terrain data. The mesh divides the model domain into a set of polygonal "cells." Each polygon vertex is a "node." The computational mesh samples the input terrain at each cell node location (x, y) to extract their underlying elevations (z). Within each polygon, the SRH-2D model compares the distance between each node to calculate a representative area. The model algorithm computes flow characteristics at each cell using depth-averaged two-dimensional continuity equations. By integrating across the cell area, the model computes the average hydraulic parameters for a given cell at its center. Therefore, the model output represents the average depth, average directional velocity, and average shear for each cell at its center.

The modeler must carefully select cell sizes and locations to ensure that the cell-center average is an appropriate representation of a more complex terrain. Single cells should not cross flow boundaries such as channel banks, levees, and dikes. Otherwise, the model will smooth these flow obstructions and allow modeled flow to pass through what should be physical blockages. The modeler must align cell faces along these linear boundaries to ensure that the nodes sample the uninterrupted crest elevation.

Smaller cells can capture a higher level of detail then larger cells; however, as the total cell count increases, the computational demand also increases. The modeler can generate a mesh with a varying resolution to balance computational demand with the need for increased resolution along areas with higher complexity.

Straughan used the computational grid generation tools in SMS to build a variable resolution triangular mesh for the model domain. The mesh is made of triangles with an average side length of 3-feet in the stream channels. The downstream boundary near the Potomac River has 24-foot triangles. Triangles that are less than a foot on a side are used to capture the high-velocity flows from storm drain and culvert pipes just outside the model domain. At all culverts, triangles are approximately 1.5-feet long.

4.6. Manning's roughness values

SRH-2D allows for the input of spatially variable Manning's roughness values, which the modeling team assigned based on landcover using GIS information provided by the County as shown in Table 4.

There are several ways to reasonably represent building obstructions in a 2D model. A modeler can choose to represent buildings by increasing the roughness, blocking out elements, or modeling them as outside walls (Syme, 2008). Increasing the roughness value to be very high reduces flow velocity to near zero within the building footprint. The lower flow velocity causes the model to show backward flow and concentration of flow around the buildings, simulating what is observed in the real world. The method also simulates water storage inside the building, which occurs when doors and windows leak. Straughan chose to change the Manning's n value in the building footprints because varying the roughness is simple to implement and provides the necessary level of precision without significantly increasing the cell count. Since a Manning's n value of 1.0 is the highest allowed in SMS, this is the value Straughan assigned to the building land cover.

Table 4. Manning's n values input into the 2D model. Values are consistent with Chow, 1959

Land Cover	Manning's n Value
Streambed	0.035
Grass	0.03
Forest	0.1
Buildings	1.0
Floodplain	0.06
Roadway	0.018
Railroad	0.02

5. Results

5.1. Potential Hazard Cross-Sections

Straughan Identified three locations downstream of the existing pond where flooding may affect human life and property to evaluate the Depth-Velocity Danger Relationship Charts. The locations, shown in Figure 9, are at 3744 Clay Street (evaluated for houses built on foundations), along the MD-28 sidewalk (evaluated for adults) and in the MDOT MVA parking lot (evaluated for passenger vehicles and adults). In the parking lot, the cross sections are selected to show the location of maximum velocity. The maximum velocity in the parking lot occurs in the most northern aisle and moves slightly from existing to proposed. Two cross sections were selected in parking lot to capture the maximum velocity for both existing and proposed conditions. See Figure 10 through Figure 13 for the cross-section locations.

5.2. Depth-Velocity Flood Danger Analysis

At each section, Straughan found the timesteps for both maximum velocity and maximum depths. The maximum depth and velocity were inputted into the Maryland Department of the Environment's Depth-Velocity Danger relationship charts with the corresponding depth or velocity at the same time step as maximum to find the potential hazard for each section (MDE,

2018). Straughan compared the existing non-breach 10-year and 100-year storms to the proposed post pond removal floods at both the maximum velocity and the maximum depth.

The maximum depth and velocity graphs are included as Appendix A. The MDE depth-velocity flood danger charts are provided in Appendix B. The peak depth in the 10-year storm reduced in proposed conditions, possibly because the new stream alignment before the culvert under MD-28 improves the culvert's performance.

Based on MDE's depth hazard classification charts, the area downstream of the Point of Rocks pond is a high danger zone during the 100-year flood both in existing non-breach and proposed conditions. During the 10-year flood, the MDOT MTA parking lot is also a high danger zone in both existing conditions with the pond and in proposed conditions with the dam removed. The charts do not show a change in Depth-Velocity Flood Danger relationships at the studied cross sections because of pond removal.

Figure 9. Downstream flood hazard areas. MD-28 and its sidewalk are in the center. The brown house on the right is 3744 Clay Street. The MDOT MTA parking lot is on the left, separated from the sidewalk by a grass strip

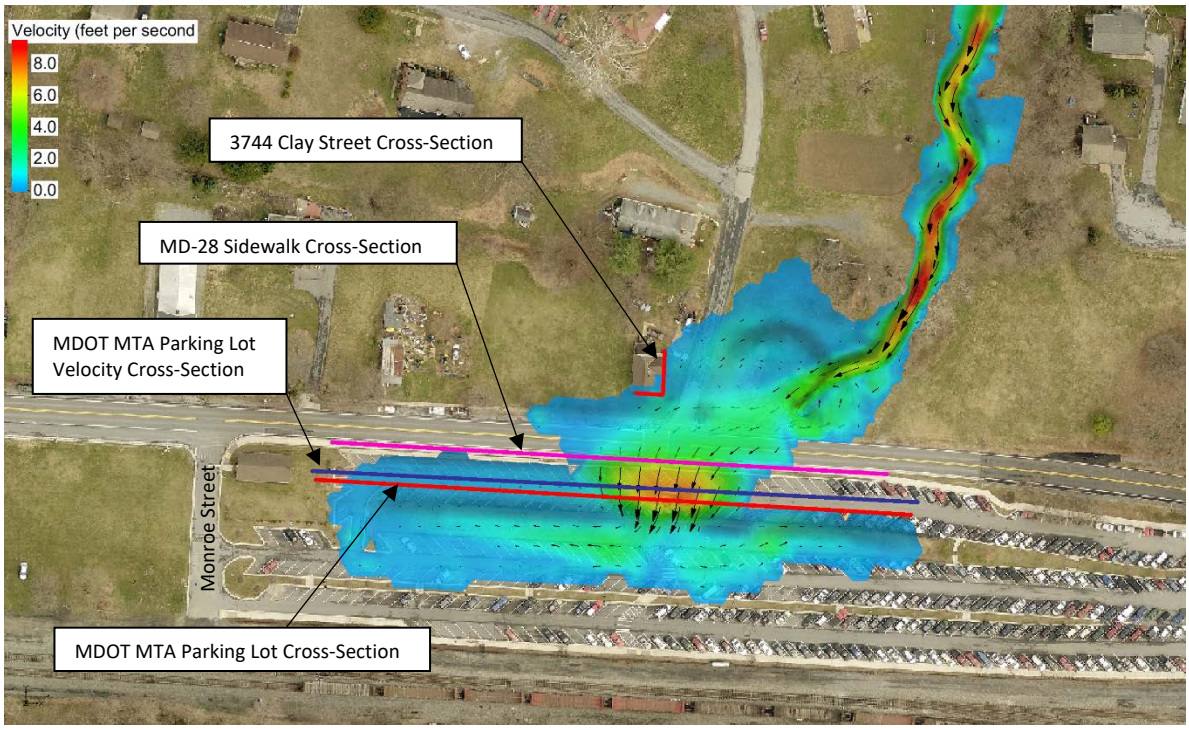

Figure 10. Existing conditions in the 100-year storm showing the velocity distribution when the maximum velocity occurs in the MDOT MTA parking lot

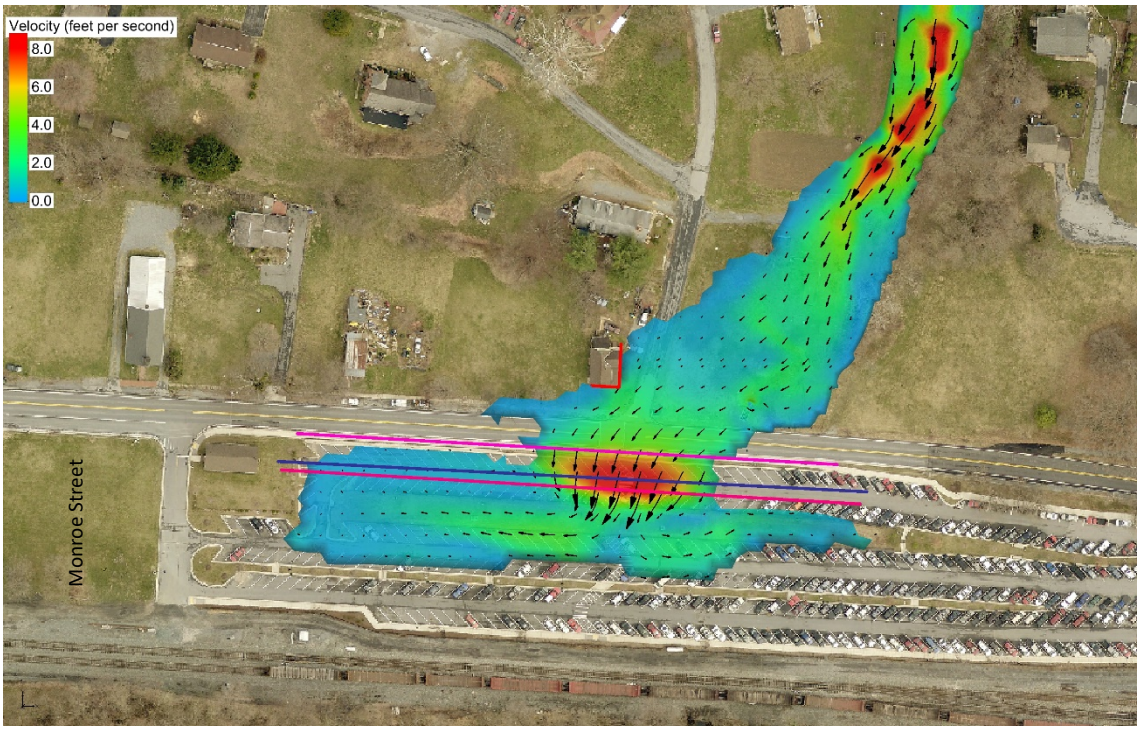

Figure 11. Proposed conditions in the 100-year storm showing the velocity distribution when the maximum velocity occurs in the MDOT MTA parking lot. The red area denoting high velocity is closer to MD-28 in proposed than existing conditions

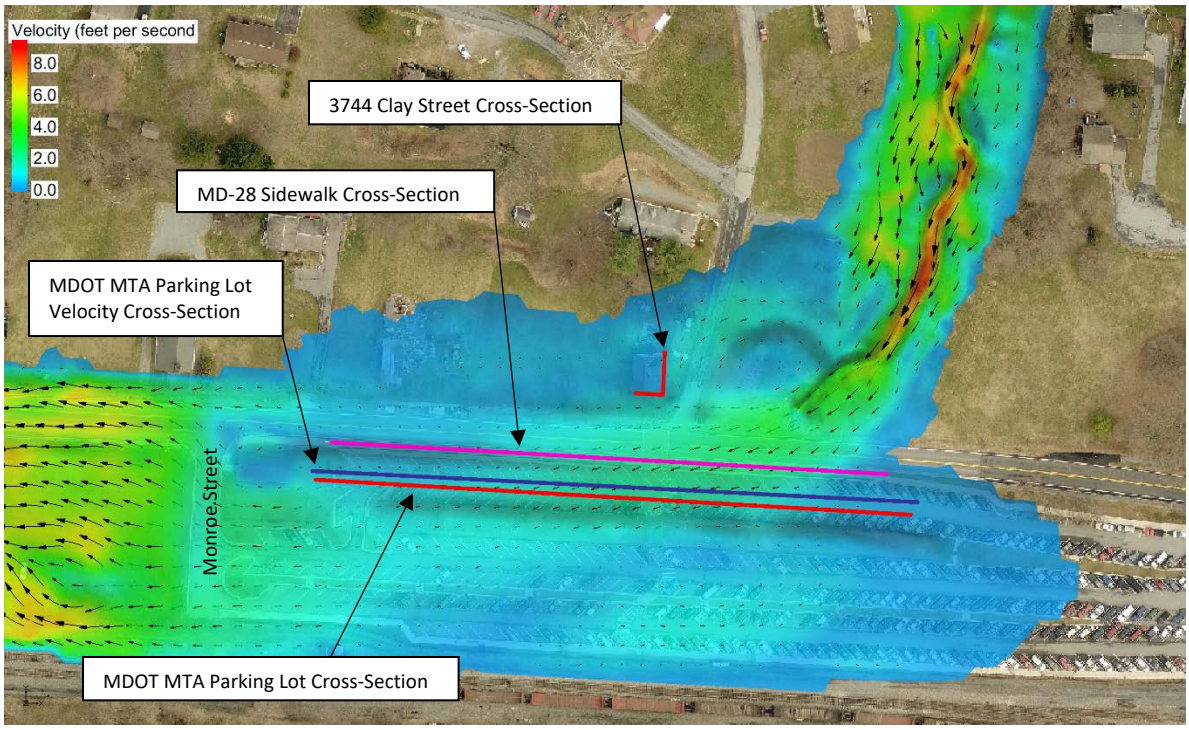

Figure 12. Existing conditions in the 100-year storm showing the velocity distribution when the maximum depth occurs in the MDOT MTA parking lot

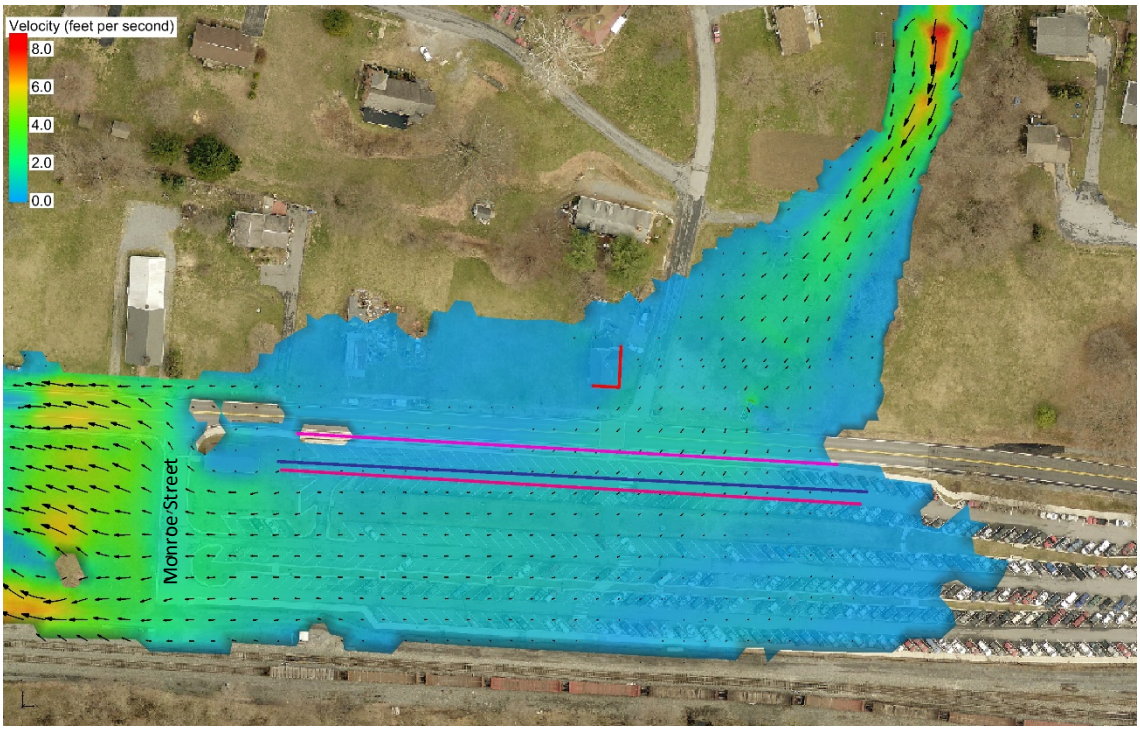

Figure 13. Proposed conditions in the 100-year storm showing the velocity distribution when the maximum depth occurs in the MDOT MTA parking lot. The velocities and depths in the parking lot are controlled by overtopping Monroe Street

6. Summary

Straughan performed a two-dimensional hydraulic analysis for the Point of Rocks Stream Restoration project to evaluate the impact of removing the existing significant to high hazard pond on downstream flood water depth and flow rate and to evaluate the stability of the proposed stream restoration. Frederick County is proposing the removal of the existing pond and replacement with a surface-stream connection to eliminate the catastrophic risks associated with a potential large dam failure.

Straughan conducted unsteady two-dimensional modeling and produced a MDE depth-hazard analysis for the 10-year and 100-year storm events to assess whether the proposed removal of the pond would increase risk to adults, passenger vehicles, and/or pedestrians once flood flows leave the project area and cross MD-28. Based on MDE's guidance document (MDE, 2018), the results indicate that removal of the dam will not result in a change in the zone of the Depth-Velocity Flood Danger relationship MDE Charts for populations downstream of the project limit.

7. References

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Appendices

Appendix A. Maximum Velocity and Depth Graphs

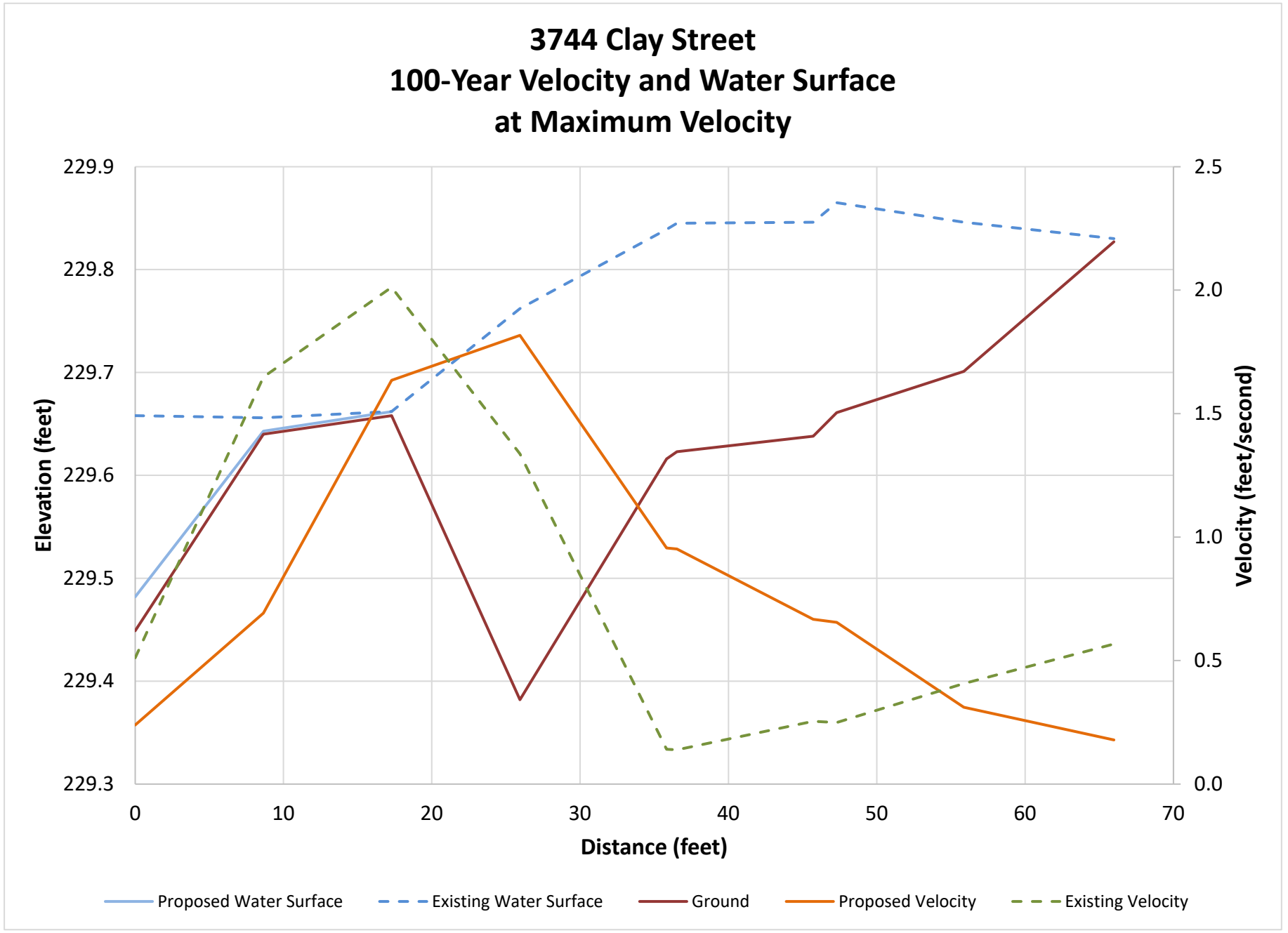
Content for Appendix A, if applicable.

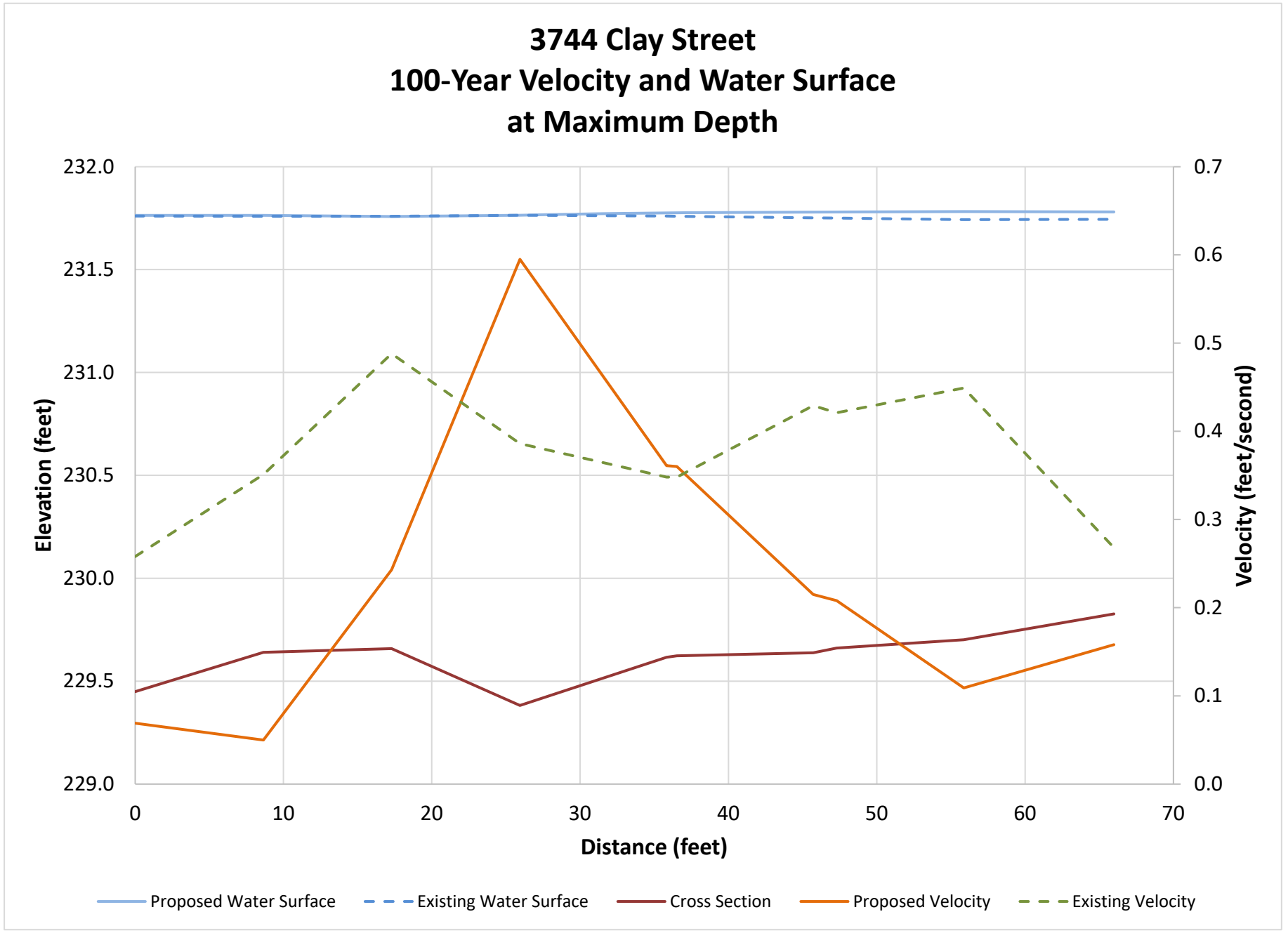
Appendix B. Depth-Velocity Flood Danger Relationships

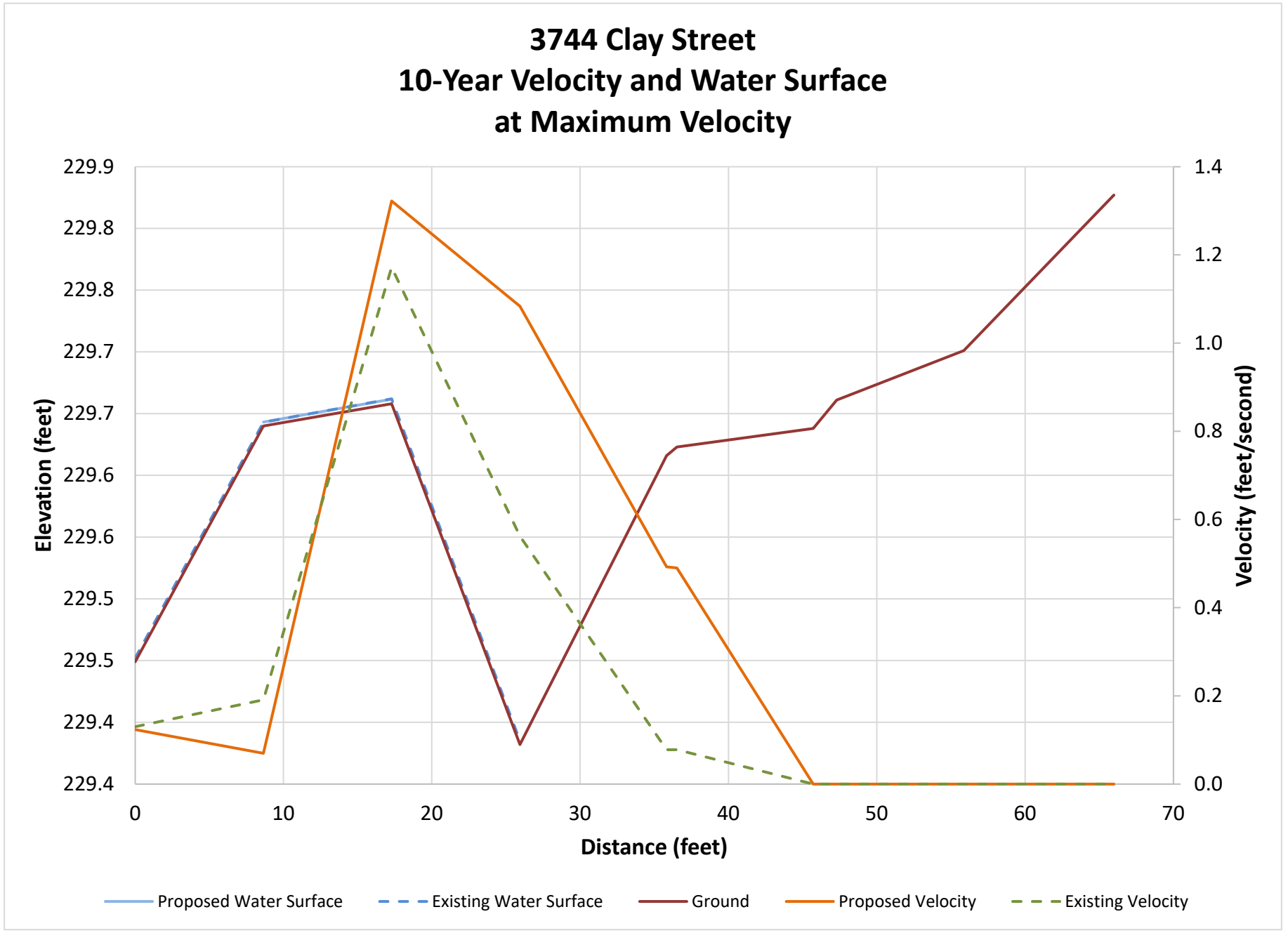
Content for Appendix B, if applicable.

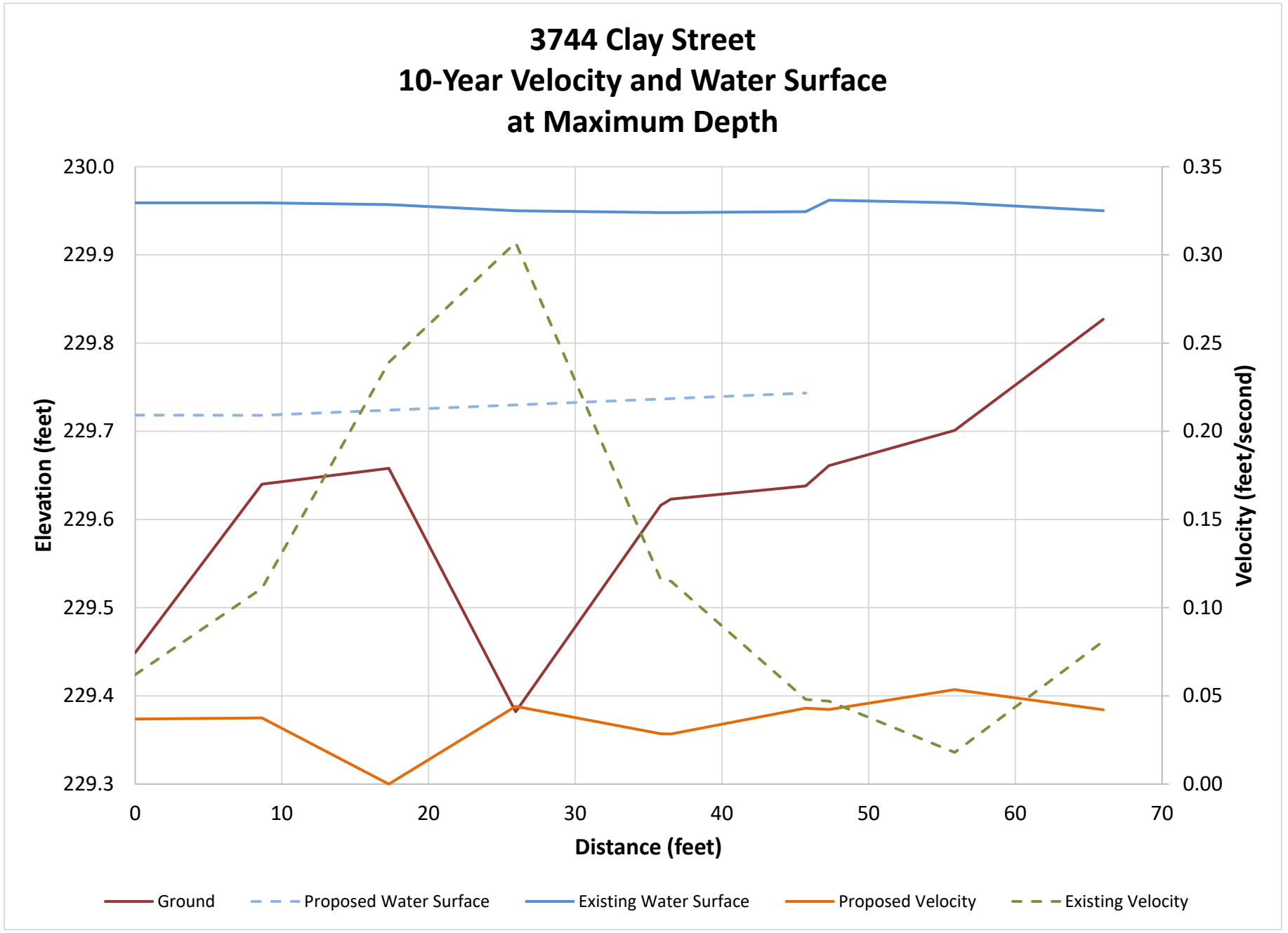
Appendices

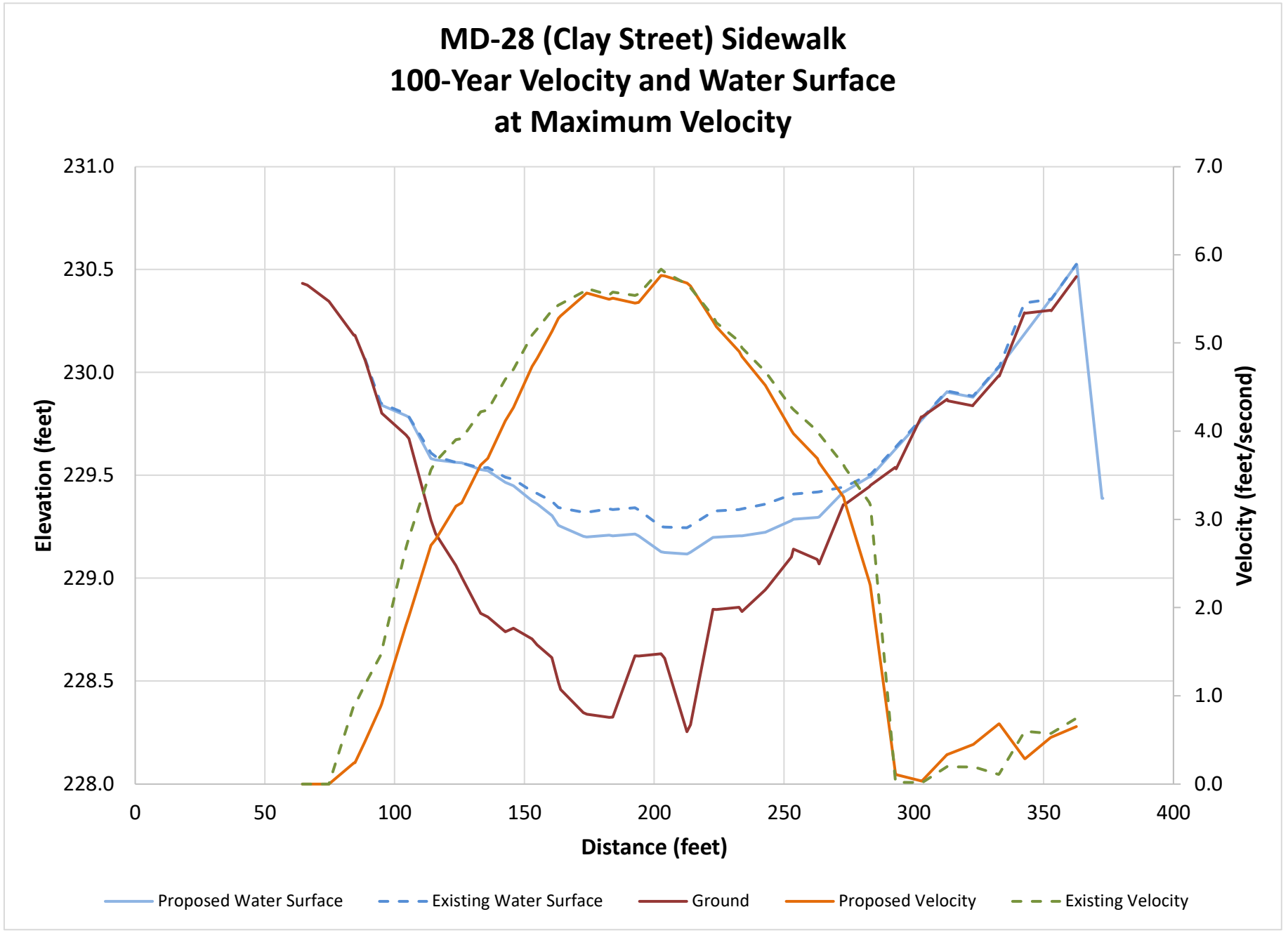
Appendix A. Maximum Velocity and Depth Graphs

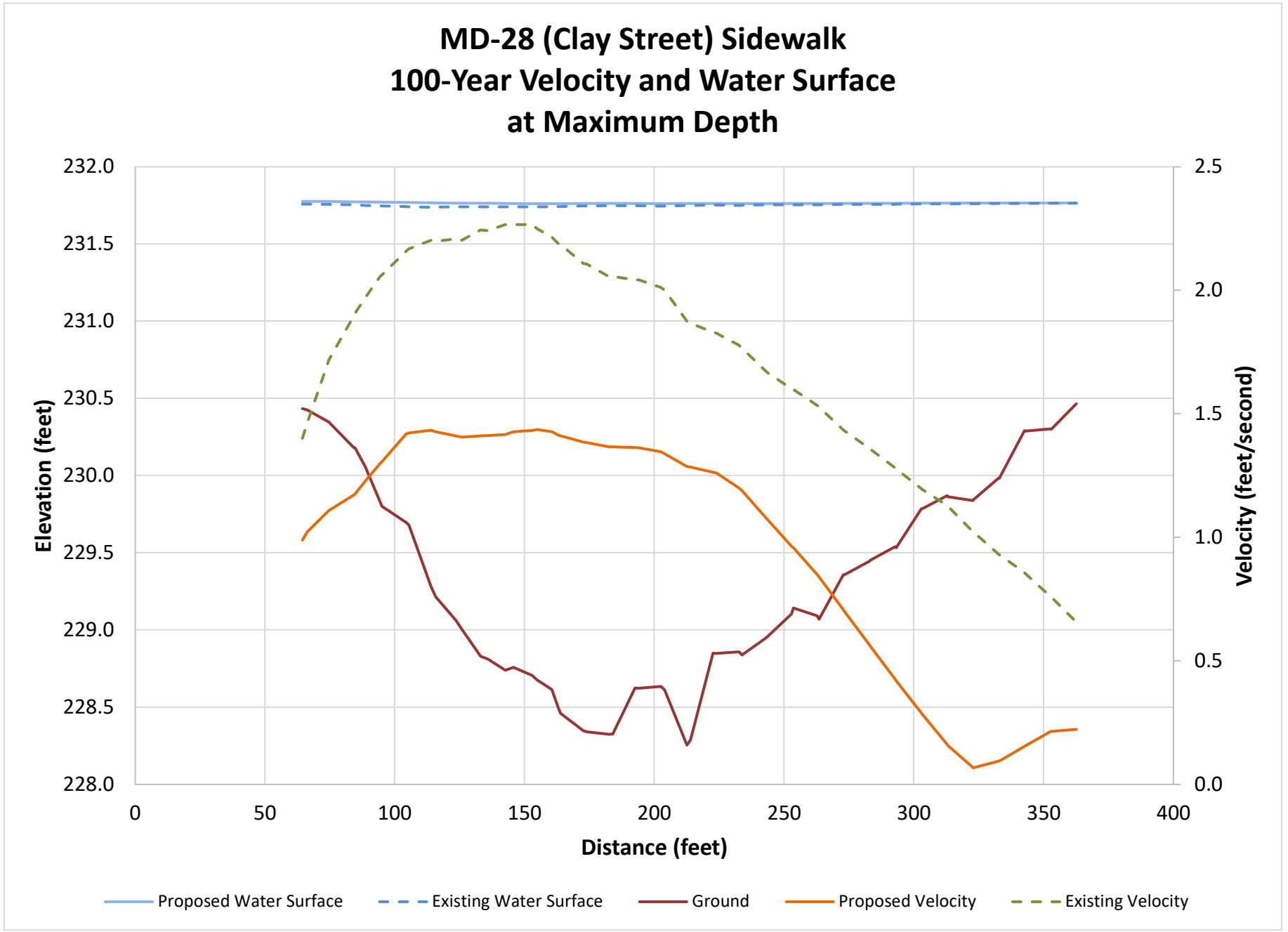

3744 Clay Street
100-Year Velocity and Water Surface
at Maximum Velocity
Elevation (feet)
229.9
229.8
229.7
229.6
229.5
229.4
229.3
Velocity (feet/second)
2.5
2.0
1.5
1.0
0.5
0.0
0
10
20
30
40
50
60
70
Distance (feet)
Proposed Water Surface
Existing Water Surface
Ground
Proposed Velocity
Existing Velocity

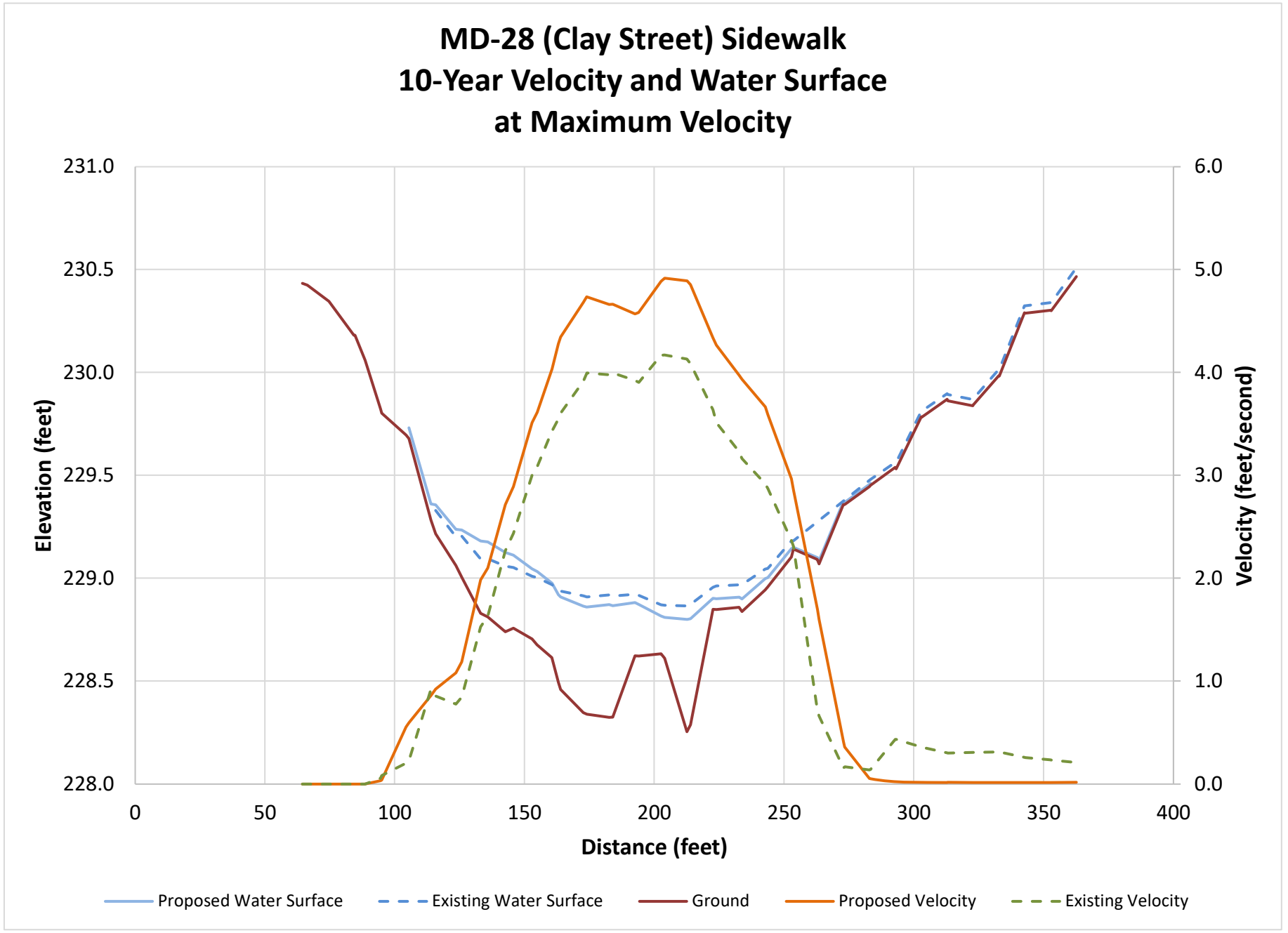

3744 Clay Street
100-Year Velocity and Water Surface
at Maximum Depth
Elevation (feet)
232.0
231.5
231.0
230.5
230.0
229.5
229.0
Velocity (feet/second)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
10
20
30
40
50
60
70
Distance (feet)
Proposed Water Surface
Existing Water Surface
Cross Section
Proposed Velocity
Existing Velocity

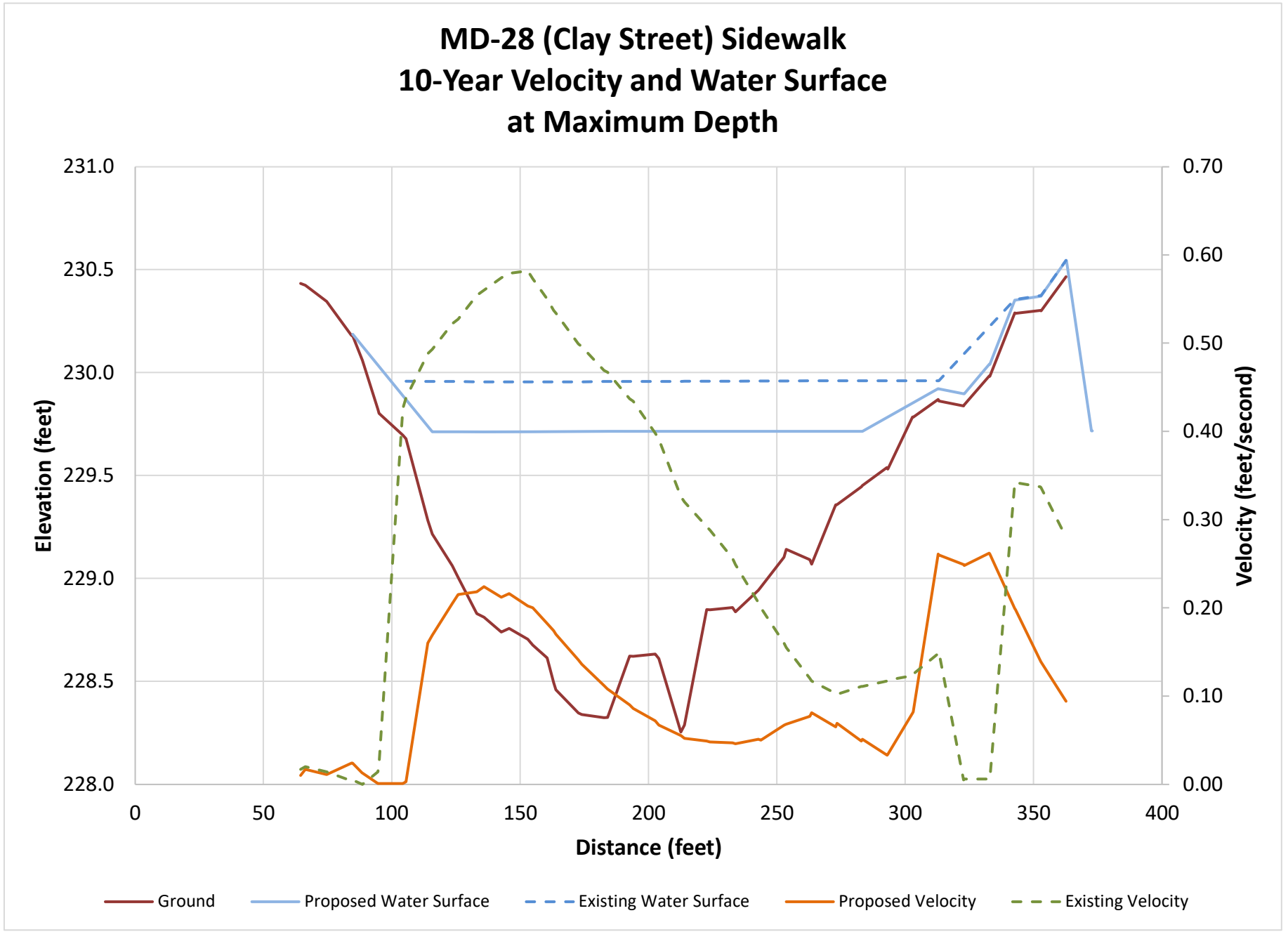

3744 Clay Street
10-Year Velocity and Water Surface
at Maximum Velocity
Elevation (feet)
229.9
229.8
229.8
229.7
229.7
229.6
229.6
229.5
229.5
229.4
229.4
Velocity (feet/second)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
10
20
30
40
50
60
70
Distance (feet)
Proposed Water Surface
Existing Water Surface
Ground
Proposed Velocity
Existing Velocity


3744 Clay Street
10-Year Velocity and Water Surface
at Maximum Depth
Elevation (feet)
230.0
229.9
229.8
229.7
229.6
229.5
229.4
229.3
Velocity (feet/second)
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
10
20
30
40
50
60
70
Distance (feet)
Ground
Proposed Water Surface
Existing Water Surface
Proposed Velocity
Existing Velocity

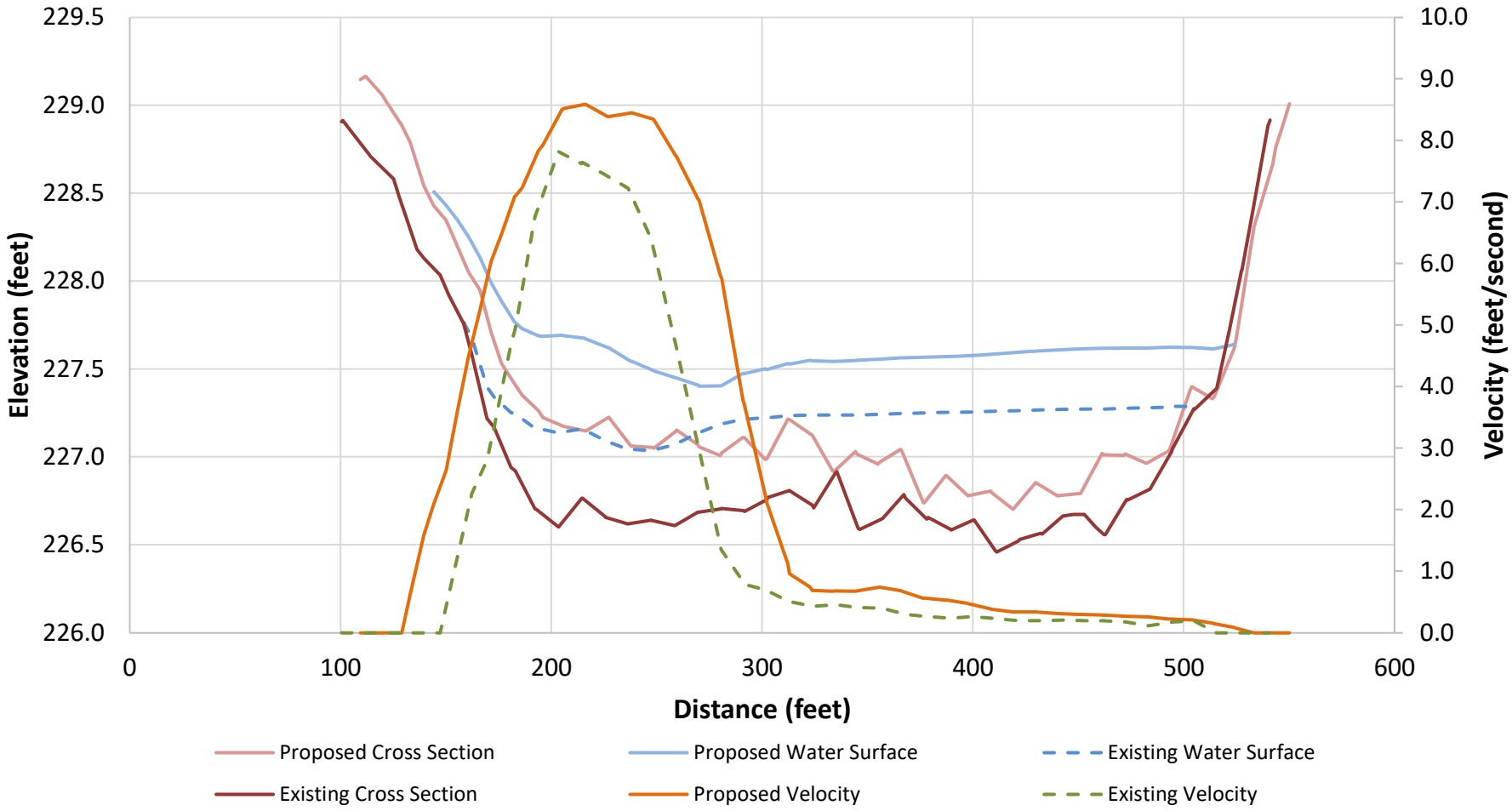

MD-28 (Clay Street) Sidewalk
100-Year Velocity and Water Surface
at Maximum Velocity
231.0
230.5
230.0
229.5
229.0
228.5
228.0
Elevation (feet)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Velocity (feet/second)
0
50
100
150
200
250
300
350
400
Distance (feet)
Proposed Water Surface
Existing Water Surface
Ground
Proposed Velocity
Existing Velocity


MD-28 (Clay Street) Sidewalk
100-Year Velocity and Water Surface
at Maximum Depth
Elevation (feet)
232.0
231.5
231.0
230.5
230.0
229.5
229.0
228.5
228.0
Velocity (feet/second)
2.5
2.0
1.5
1.0
0.5
0.0
0
50
100
150
200
250
300
350
400
Distance (feet)
Proposed Water Surface
Existing Water Surface
Ground
Proposed Velocity
Existing Velocity

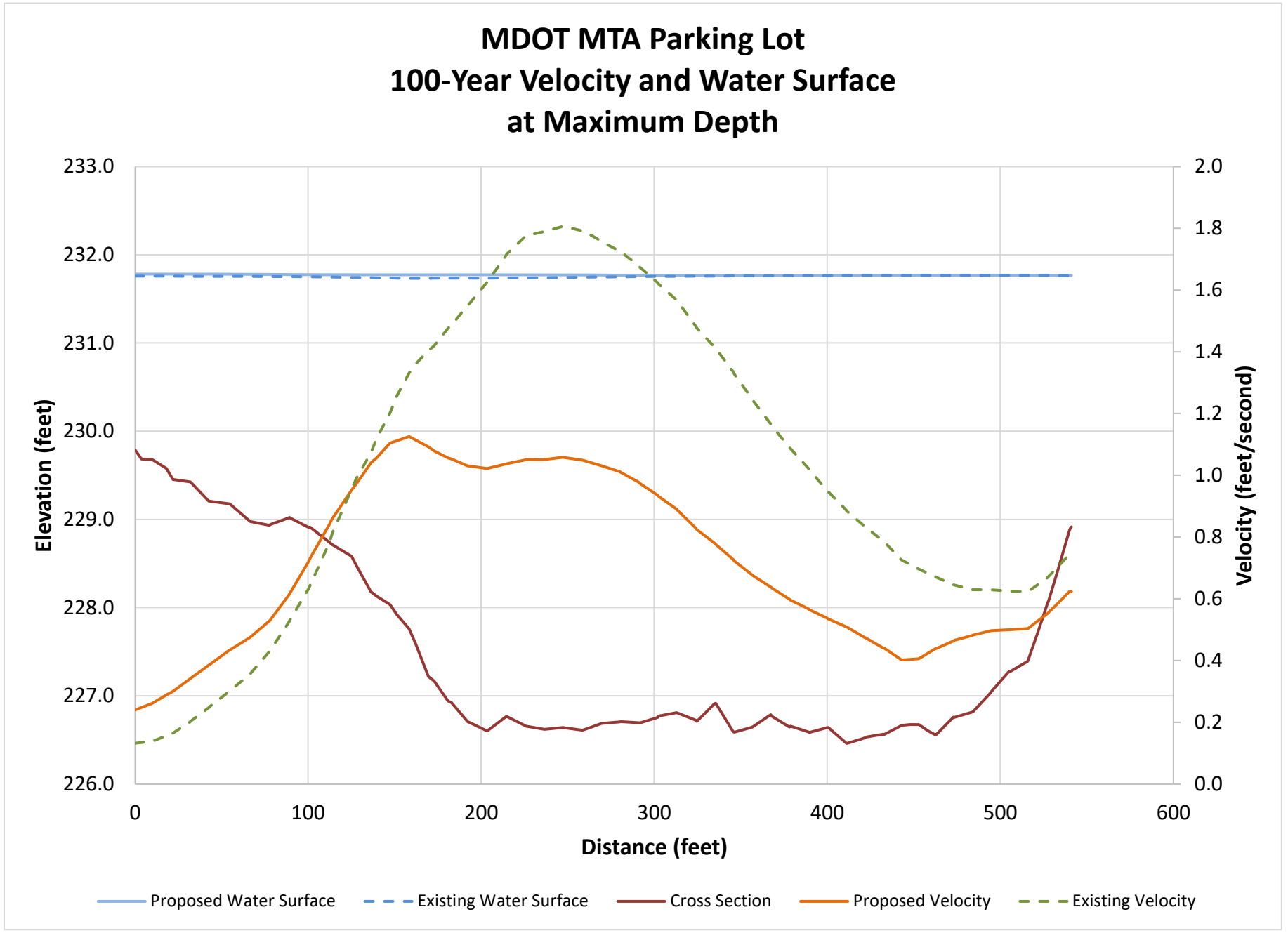

MD-28 (Clay Street) Sidewalk
10-Year Velocity and Water Surface
at Maximum Velocity
231.0
230.5
230.0
229.5
229.0
228.5
228.0
Elevation (feet)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Velocity (feet/second)
0
50
100
150
200
250
300
350
400
Distance (feet)
Proposed Water Surface
Existing Water Surface
Ground
Proposed Velocity
Existing Velocity

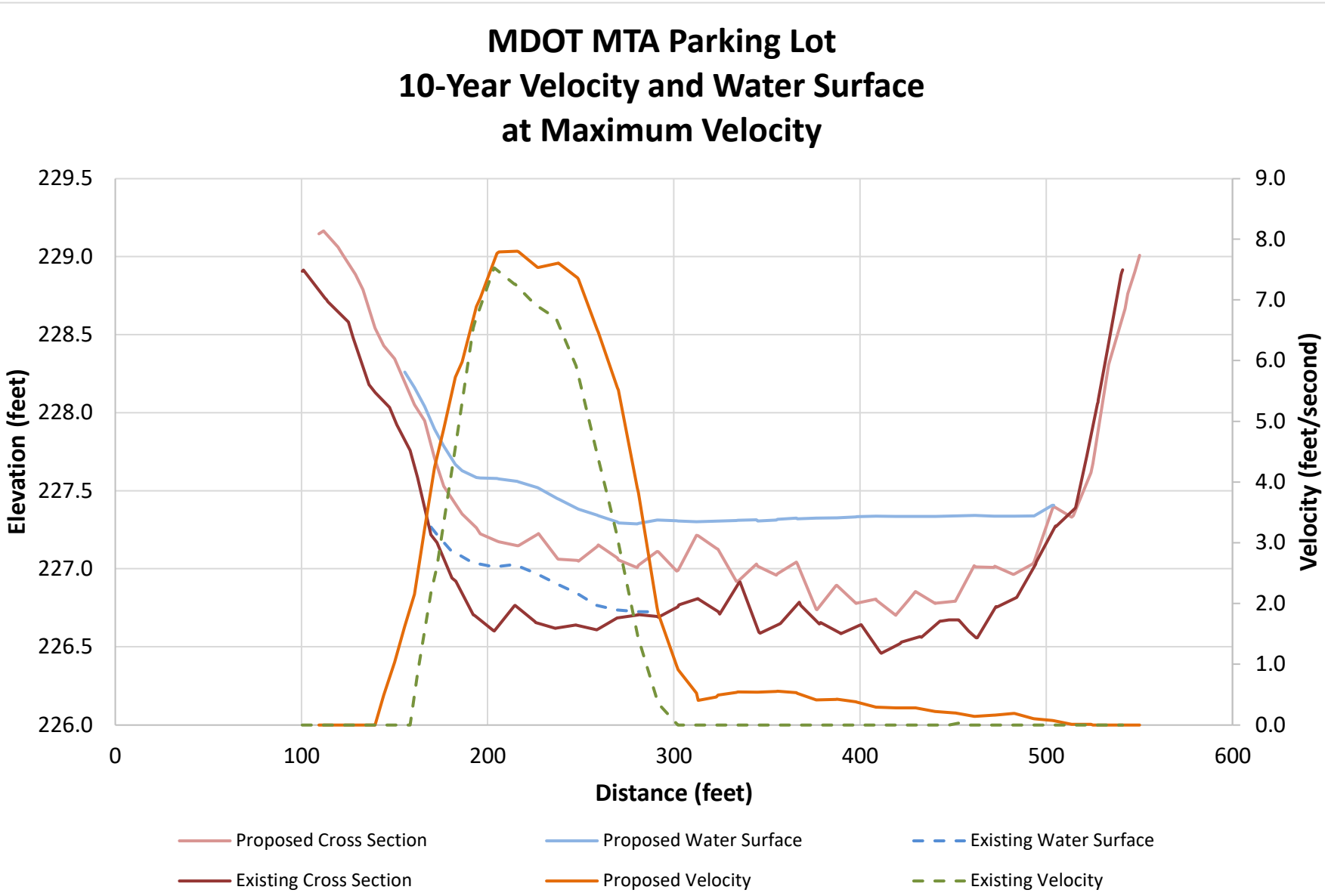

MD-28 (Clay Street) Sidewalk
10-Year Velocity and Water Surface
at Maximum Depth
231.0
230.5
230.0
229.5
229.0
228.5
228.0
Elevation (feet)
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Velocity (feet/second)
0
50
100
150
200
250
300
350
400
Distance (feet)
Ground
Proposed Water Surface
Existing Water Surface
Proposed Velocity
Existing Velocity

MDOT MTA Parking Lot
100-Year Velocity and Water Surface at Maximum Velocity

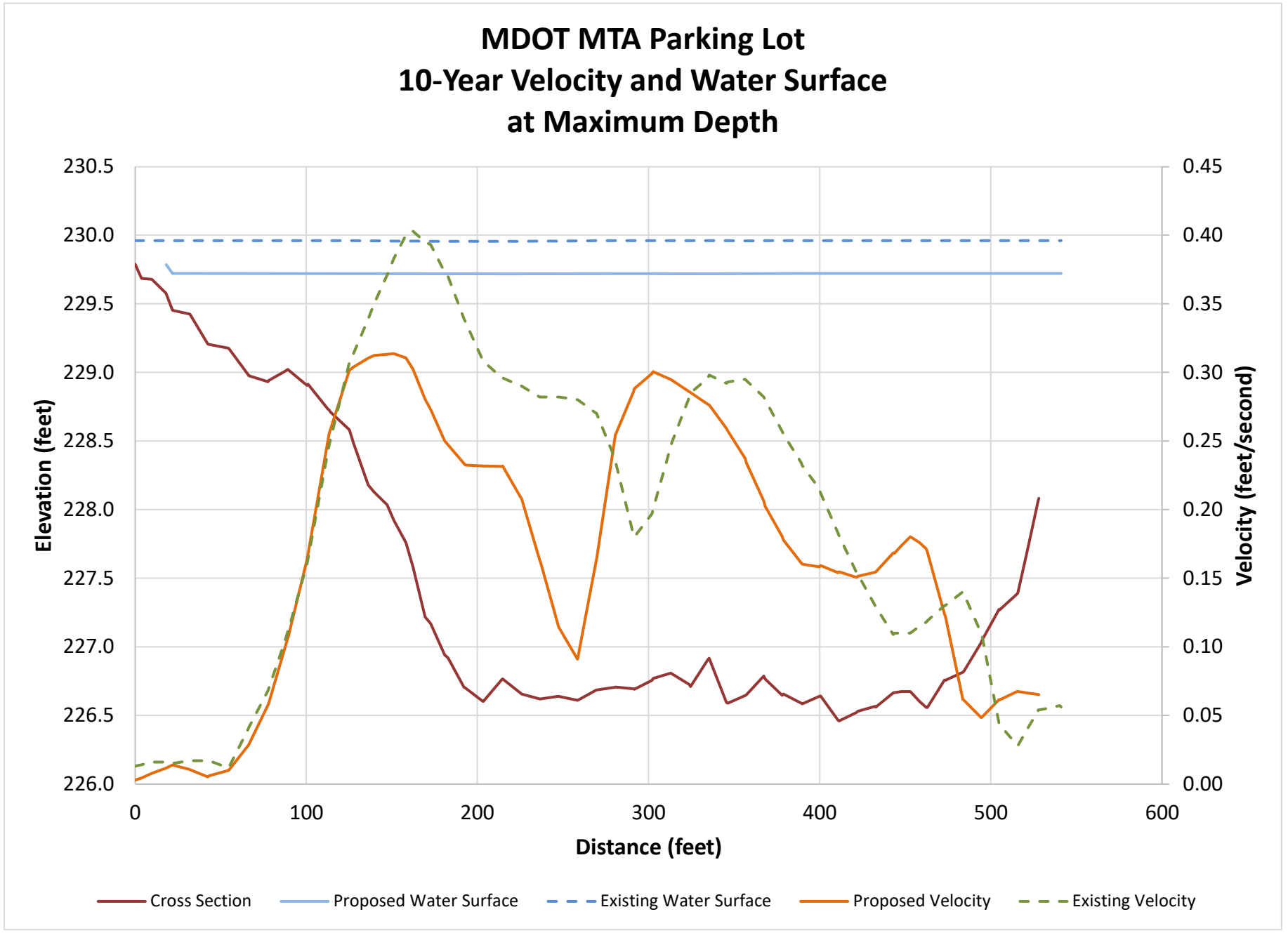


Note: Maximum velocity in the proposed conditions in the MDOT MTA parking lot occurs 10' north of the maximum velocity in existing conditions. A separate cross section was used for the proposed conditions maximum velocitiy.


MDOT MTA Parking Lot
100-Year Velocity and Water Surface
at Maximum Depth
Elevation (feet)
233.0
232.0
231.0
230.0
229.0
228.0
227.0
226.0
Velocity (feet/second)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
100
200
300
400
500
600
Distance (feet)
Proposed Water Surface
Existing Water Surface
Cross Section
Proposed Velocity
Existing Velocity



Note: Maximum velocity in the proposed conditions in the MDOT MTA parking lot occurs 10' north of the maximum velocity in existing conditions. A separate cross section was used for the proposed conditions maximum velocitiy.

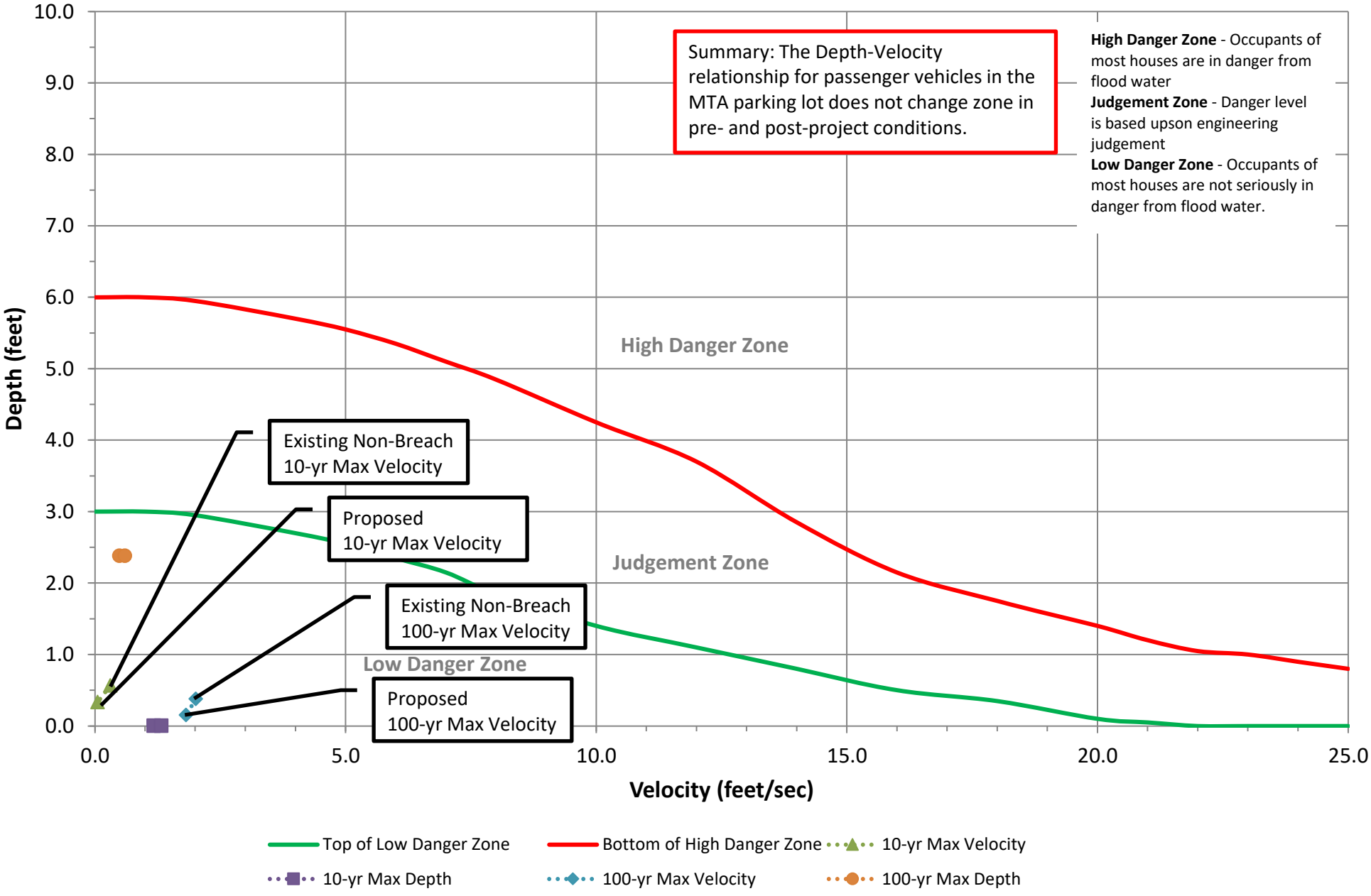

MDOT MTA Parking Lot
10-Year Velocity and Water Surface
at Maximum Depth
Elevation (feet)
230.5
230.0
229.5
229.0
228.5
228.0
227.5
227.0
226.5
226.0
Velocity (feet/second)
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
0
100
200
300
400
500
600
Distance (feet)
Cross Section
Proposed Water Surface
Existing Water Surface
Proposed Velocity
Existing Velocity

Appendix B. Depth-Velocity Flood Danger Relationships

3744 Clay Street

Depth-Velocity Flood Danger Relationship for Houses Built on Foundations

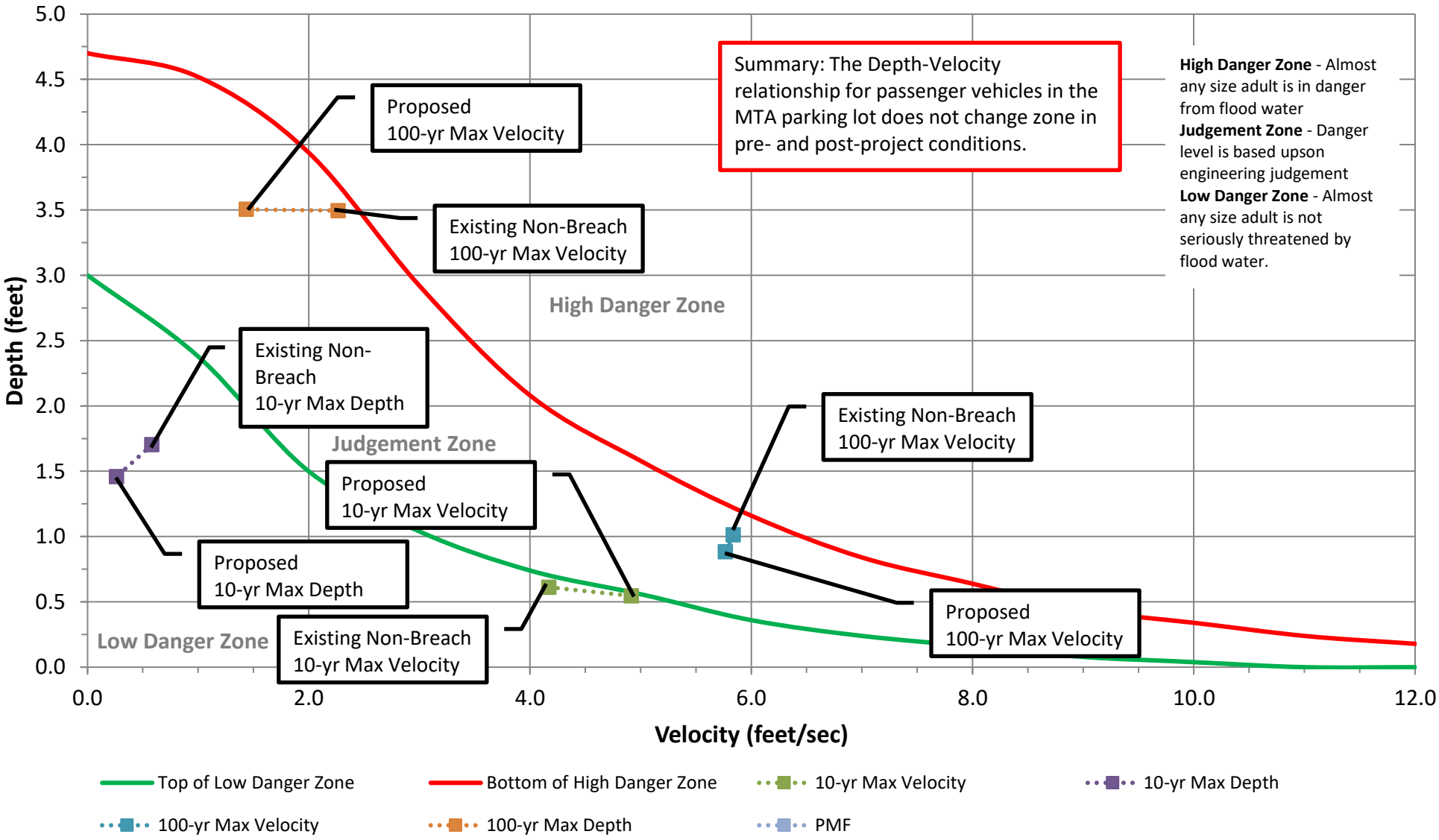
(Adapted from USBR ACER TM11, "Downstream Hazard Classification Guidelines", 1988)



Department of the Environment

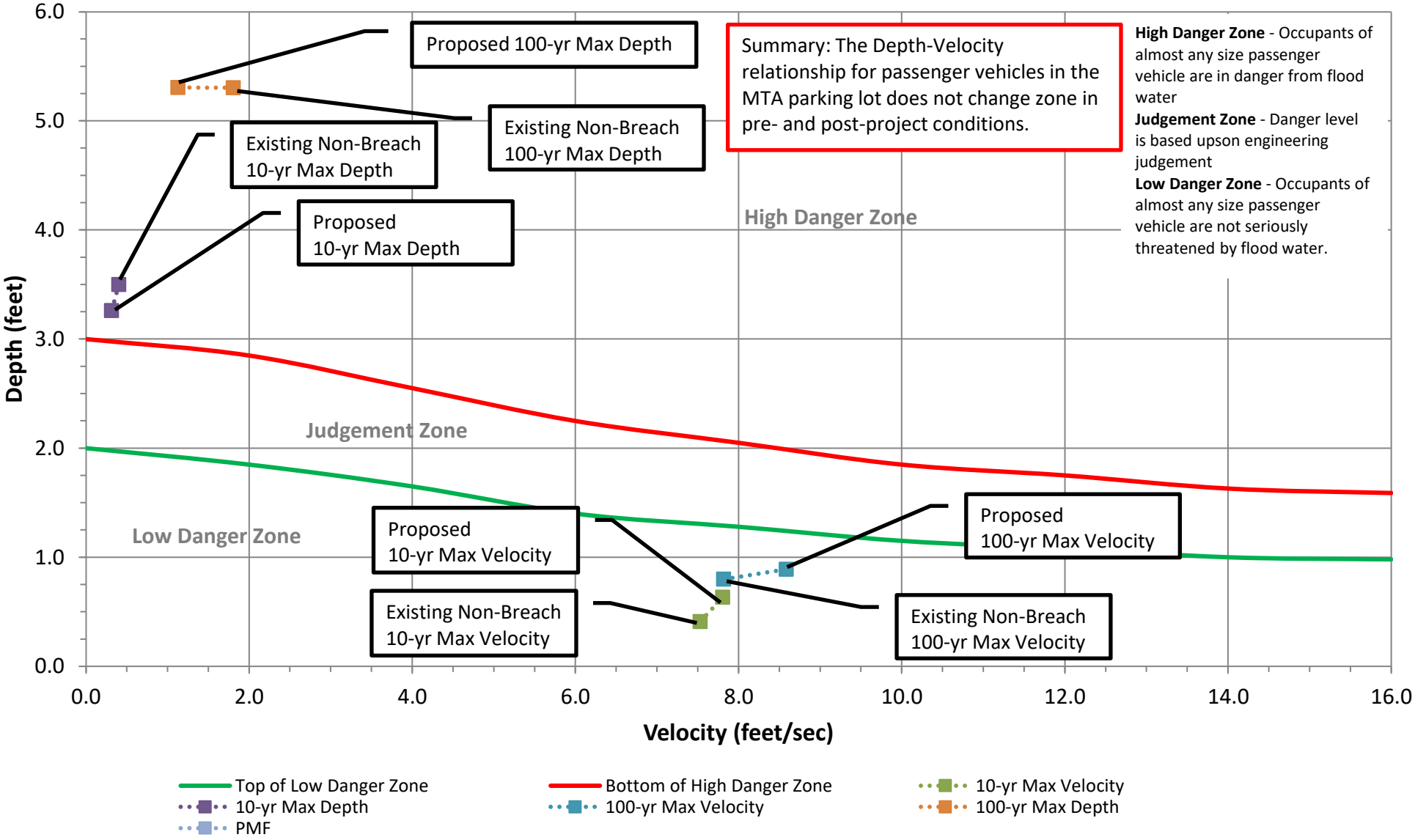
April 2018

MD-28 (Clay Street) Sidewalk
Depth-Velocity Flood Danger Relationship for Adults
(Adapted from USBR ACER TM11, "Downstream Hazard Classification Guidelines", 1988)



Note: Proposed 10-year and 100-year water surface elevation is reduced because more flow is routed through the culvert under MD-28 and the Parking lot.

MDOT MTA Parking Lot
Depth-Velocity Flood Danger Relationship for Passenger Vehicles
(Adapted from USBR ACER TM11, "Downstream Hazard Classification Guidelines", 1988)



Summary: The Depth-Velocity relationship for passenger vehicles in the MTA parking lot does not change zone in pre- and post-project conditions.

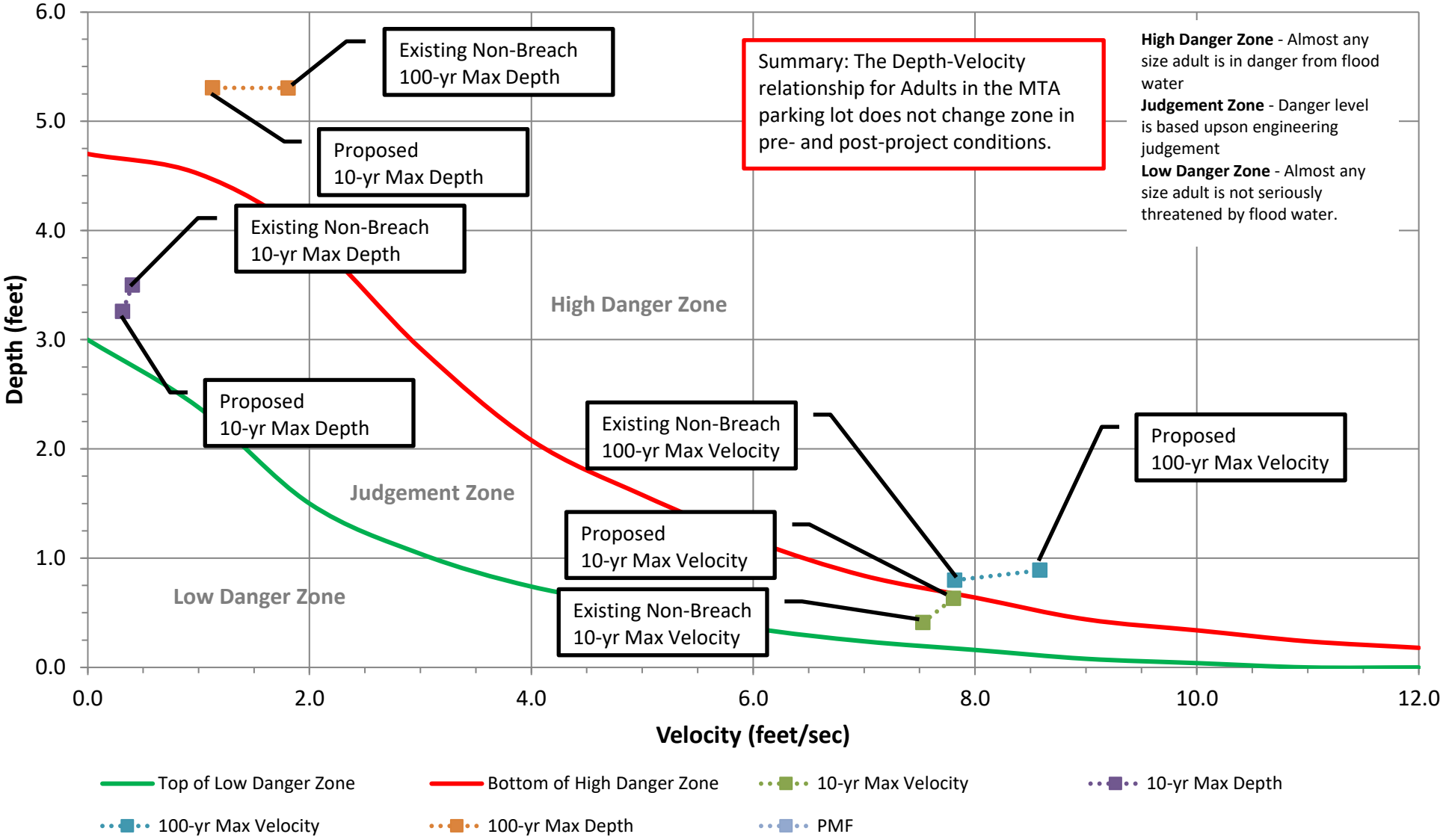
High Danger Zone - Occupants of almost any size passenger vehicle are in danger from flood water

Judgement Zone - Danger level is based upson engineering judgement

Low Danger Zone - Occupants of almost any size passenger vehicle are not seriously threatened by flood water.

Note: Proposed 10-year and 100-year water surface elevation is reduced because more flow is routed through the culvert under MD-28 and the Parking lot.
Note: The 100-year Depths are above 4.0 feet in both existing and proposed conditions, placing both in the High Danger Zone

MDOT MTA Parking Lot
Depth-Velocity Flood Danger Relationship for Adults
(Adapted from USBR ACER TM11, "Downstream Hazard Classification Guidelines", 1988)



Note: Proposed 10-year and 100-year water surface elevation is reduced because more flow is routed through the culvert under MD-28 and the Parking lot.
Note: The 100-year Depths are above 4.0 feet in both existing and proposed conditions, placing both in the High Danger Zone

Appendix C. Agency Correspondence

U.S. Department of Homeland Security
Federal Emergency Management Agency
Region 3

One Independence Mall
615 Chestnut Street, 6th floor
Philadelphia, PA 19106-4404

FEMA

January 26, 2023

Genevieve LaRouche
Project Leader, Ecological Services
U.S. Fish & Wildlife Service
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401

Re: Endangered Species Act Section 7 Consultation
Frederick County, Maryland
Point of Rocks Significant to High Hazard Dam Decommissioning and Stream Restoration
FEMA Project Number: LPDM-PJ-03-MD-2022-002
IPaC Project Code: 2023-0029035

Dear Genevieve LaRouche:

Please consider this a request for consultation pursuant to Section 7 of the Endangered Species Act (ESA) to determine the above project's effects on federally listed threatened and endangered species. The existing dam located within the Point of Rocks Community Park (Park), which impounds a portion of an unnamed tributary to the Potomac River, is currently classified as a significant to high hazard dam by the Maryland Department of the Environment (MDE). Frederick County has requested funding through the Federal Emergency Management Agency's (FEMA's) Hazard Mitigation Assistance Pre-Disaster Mitigation (PDM) grant program to decommission the existing dam to reduce the hazards associated with potential dam failure and to protect life and property.

Project Information

Project Need

Frederick County has applied for FEMA PDM grant funding to decommission a significant to high hazard dam within the Park in Point of Rocks, Maryland (see Attachment 1, Figures 1 and 2). According to MDE's hazard classification of dams, the failure of a significant hazard dam could result in the loss of life and/or increased flood risk to roads and buildings, impacting up to two homes and six lives. Failure of a high hazard dam would likely result in the loss of human life, extensive property damage, and/or flooding of major state roads or interstates. Additionally, the existing stream banks along the unnamed tributary within the project area are experiencing high rates of erosion, increasing the likelihood of future dam failure.

Environmental Setting

The project area comprises mature deciduous woodlands, a constructed pond associated with the existing dam, wetlands, and streams. The project area is in the Northern Piedmont and Blue Ridge ecoregions (USEPA 2022). Predominant vegetation includes Oak-Hickory-Pine forests including hickory (*Carya* spp.), Virginia pine (*Pinus virginiana*), pitch pine (*Pinus rigida*), chestnut oak (*Quercus prinus*), white oak (*Quercus alba*), black oak (*Quercus velutina*), sugar maple (*Acer saccharum*), loblolly pine (*Pinus taeda*), shortleaf pine (*Pinus echinata*), and longleaf pine (*Pinus palustris*) (Woods et al. 1999). The Park containing the project area is located in a residential community adjacent to a large contiguous tract of forest that extends north and south, as well as a wide riparian corridor along the Potomac River south of the project area. In addition to the stormwater management pond, there is a freshwater forested wetland directly north of the stormwater management pond and a small freshwater emergent wetland located in the southernmost portion of the project area, close to MD-28. There are portions of two streams in the project area. Tributary 6 flows into the pond upstream of the existing dam and an unnamed tributary to the Potomac River is located upstream and downstream of the dam. Figure 1 in Attachment 3 presents an aerial view of the project area situated amidst portions of the surrounding forest and riparian habitats.

Proposed Project

The proposed project is within the Park, directly north of Maryland Route 28 (MD 28). The latitude/longitude coordinates of the center point of the project area are 39.276035, -77.535942. Frederick County is proposing to decommission the existing dam, restore over 1,000 feet of stream channel using natural design techniques, replant native vegetation, and construct a pedestrian bridge over the restored stream. Total ground disturbance would be approximately 3.35 acres. These components are described in more detail below:

1. Dam Decommissioning: The dam would be removed in compliance with MDE's Dam Safety Permit Requirements (Permit Number 18-OB-0028; see Attachment 2), which require Frederick County to implement erosion and sediment controls and best management practices for work occurring within the bed and banks of the stream. Excavators, dump trucks, and other heavy equipment would be used to breach and remove the dam. Sandbag diversions at the upstream and downstream limits of work would be installed to prevent water from getting into the work zone. The streamflow would be diverted around the work area using pumps, hoses, and dewatering devices and would be pumped back into the channel downstream of the sandbag diversion following filtration. Implementation of the proposed project would require the removal of approximately 1 acre of trees, including six specimen trees (i.e., those with diameter breast height [DBH] over 30 inches). Removed vegetation would include mostly native tree species but may include invasive species such as tree-of-heaven (*Ailanthus altissima*). Figure 2 in Attachment 3 provides a view of the existing conditions of the project area and shows the density of trees present in the area. Although taken during the winter, Figure 3 in Attachment 3 presents multiple photos that show the density and general type of vegetation present around the project area.
2. Stream Restoration and Site Planting: The restored stream would be constructed in a meandering alignment in the area south of the existing embankment and north of MD 28 (see

Attachment 1, Figure 2). Stream restoration features, such as riffle and cascade structures, would be installed along the stream channel. The existing stormwater pond would be replaced with constructed riffle and cascade structures, weir grade control structures, and pools. These structures have already been installed upstream of the project area during previous phase of construction and are shown in Figure 2 in Attachment 3. Following stream restoration construction, the former embankment site would be planted with native trees and other native vegetation. Planting zones would be created across the approximately 3.35-acre project area based on proximity to the stream and expected hydrologic regimes. Riparian vegetation would be planted closer to the stream and along streambanks, while upland vegetation would be planted farther from the stream. Frederick County would be responsible for maintaining the plantings for five years following project completion.

3. Pedestrian Bridge Installation: A single-span, steel pedestrian bridge would be constructed in the same location as the existing dam embankment between Gibbons Road and Bank Street to retain access to the Park and walkability for the community. A crane would be used to lift the bridge into place, where it would rest on concrete slab platforms on the stream bank at each end.

All work would occur within County-owned property and permanent easements. Thus, the County would be responsible for conducting long-term inspections and maintenance of the proposed project. Construction of the project is anticipated to take approximately 60 working days. Staging and stockpiling areas would be in the northwest and western portions of the project boundary.

Potential Impact

Based on a search of the USFWS Information for Planning and Consultation (IPaC) tool, dated December 28, 2022, one species has the potential to occur within the proposed project area (USFWS 2022a):

Northern Long-Eared Bat (*Myotis septentrionalis*); Endangered (effective January 30, 2023)

Northern long-eared bats (NLEB) typically hibernate during the winter months in caves and mines. During the summer, NLEB roost singly or in colonies underneath bark or in cavities and crevices of both live and dead trees. NLEB may occur statewide in Maryland, though no known hibernacula or maternity roost trees occur within the project area or within Frederick County (Maryland Department of Natural Resources 2021; USFWS 2022b) and the nearest known NLEB hibernaculum is located over 80 miles southwest in Virginia (Virginia Department of Wildlife Resources 2023). The project would include the removal of approximately 1 acre of mature trees, which provide potential roosting habitat. However, the proposed project is of a small scale, and native trees would be replanted following completion of construction activities. Given the small amount of tree removal and the availability of similar trees within the large stretch of contiguous forest adjacent to the project area as well as much larger forested areas in the vicinity to the south and west, the proposed tree removals are unlikely to substantially decrease or degrade the amount of roost habitat available for NLEB regionally. Therefore, FEMA has determined that the proposed project *may affect, but is not likely to adversely affect* NLEB (*Myotis septentrionalis*).

We respectfully request your concurrence with the above determination, and your input regarding the need for specific mitigation or avoidance measures. If you have any questions or require any

additional information, please do not hesitate to contact Erin Hagan, Environmental Protection Specialist, at erin.hagan@fema.dhs.gov or at 215-760-9374.

Sincerely,

TESSA W NOLAN

Digitally signed by TESSA W NOLAN
Date: 2023.01.27 08:44:29 -05'00'

Tessa Nolan

Regional Environmental Officer

Enclosures

Attachment 1: Figures

Attachment 2: Dam Safety Removal Permit

Attachment 3: Photos

Attachment 4: IPaC Report

References

Maryland Department of Natural Resources. 2021. List of Rare, Threatened, and Endangered Species of Frederick County. Accessed on January 3, 2023. Available at: https://dnr.maryland.gov/wildlife/Documents/Frederick_County_RTEs.pdf.

United States Environmental Protection Agency (USEPA). 2022. EPA Region 3 Ecoregions Downloads. Accessed on January 3, 2023. Available at: https://www.epa.gov/eco-research/ecoregion-download-files-region#pane-03.

USFWS. 2022a. Information for Planning and Consultation (IPaC). Accessed on December 28, 2022. Available at: https://ipac.ecosphere.fws.gov/.

———. 2022b. Special Status Assessment Report for the Northern long-eared bat (*Myotis septentrionalis*). Version 1.2. August 2022. Accessed on January 3, 2023. Available at: https://ecos.fws.gov/ServCat/DownloadFile/225001.

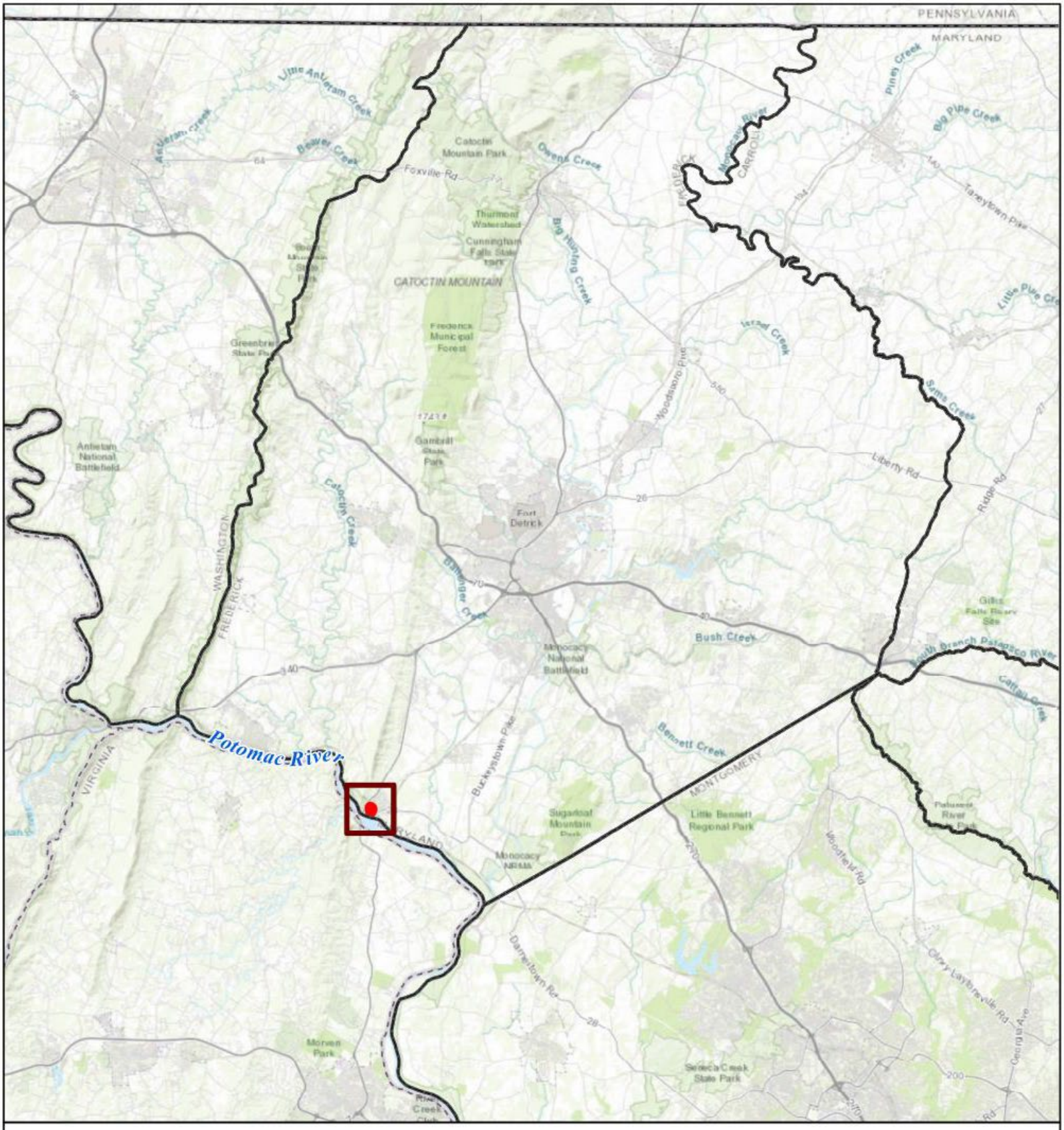
Virginia Department of Wildlife Resources. NLEB Winter Habitat and Roost Trees Mapper. Accessed on January 6, 2023. Available at: https://dgif-virginia.maps.arcgis.com/apps/webappviewer/index.html?id=32ea4ee4935942c092e41ddcd19e5ec5.

Woods, A.J., J.M. Omernik, D.D. Brown. 1999. Level III and IV Ecoregions of Delaware, Maryland, Pennsylvania, Virginia, and West Virginia. Accessed on January 3, 2023. Available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fgaftp.epa.gov%2FEPADataCommons%2FORD%2FEcoregions%2Freg3%2Freg3_eco_desc.doc&wdOrigin=BROWSELINK.

Enclosures

Endangered Species Act Section 7 Consultation
Frederick County, Maryland
Point of Rocks Significant to High Hazard Dam Decommissioning and Stream Restoration
FEMA Project Number: LPDM-PJ-03-MD-2022-002
IPaC Project Code: 2023-0029035

Attachment 1: Figures



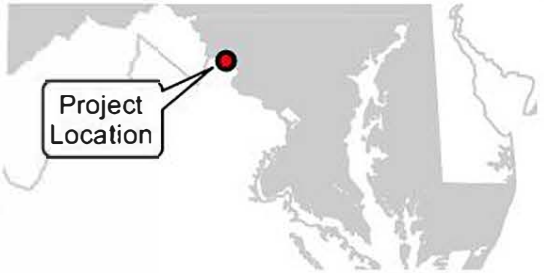
Sources: Project Area: CDM Smith 2022; Basemap: Frederick County GIS

Figure 2: Point of Rocks Dam Decommissioning and Stream Restoration Project Area
LPDM-PJ-03-MD-2022-002

- Project Area Boundary
- (1) Dam Removal/Ped. Bridge Location
- (2) Restoration Features (Along Entire Stream)
- (3) Tributary 6
- (4) Staging Areas
- (5) Unnamed Tributary to the Potomac River

N W E S

0 100 200 400
Feet



Sources: Project Area: CDM Smith 2022; Basemap: Frederick County GIS

Attachment 2: Dam Safety Removal Permit

August 26, 2021

Mr. Kyle Baker
Frederick County Dept. of Public Works
Dept. of Eng. & Construction Mgmt.
355 Montvue Lane, Suite 200
Frederick, MD 21702

Permit No.: 18-OB-0028
Tracking No.: 201761539
Agency Interest (AI): 158352
Project: Point of Rocks SWM Pond Removal
County: Frederick

Dear Mr. Baker:

The Maryland Department of the Environment (the Department) has issued the enclosed Dam Safety Permit No. 18-OB-0028 for the Point of Rocks SWM Pond Removal project. This permit does not preclude the need to obtain required authorizations or approvals from other State, Federal, or Local agencies as required by law.

Please note the conditions of the permit including the requirement to notify the Dam Safety Division five (5) days prior to starting construction. Failure to comply with the permit conditions will constitute grounds for enforcement action.

If you take exception to any of the conditions attached to the Permit, you may file a petition for judicial review in Frederick Circuit Court. The petition for judicial review must be filed within thirty (30) days of the publication of the permit decision.

If you have any questions or require any additional information, please contact me by email John.Roche@maryland.gov, or call me at (410) 537-3552.

Sincerely,

John Roche, P.E., Chief
Dam Safety Permits Division

Enclosures
cc: Michael Blose, P.E., Straughan Environmental, Inc w/enclosures
MDE Inspection & Compliance Program, w/enclosures

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

August 26, 2021

Mr. Michael Blose, P.E.
Straughan Environmental, Inc.
10245 Old Columbia Road
Columbia, MD 21046

Permit Application No. 18-OB-0028
Point of Rocks SWM Pond Removal
Engineer-In-Charge Requirements

Dear Mr. Blose:

The Maryland Department of the Environment (the Department) has issued Dam Safety Permit No. 18-OB-0028 to Kyle Baker, Frederick County Dept. of Public Works, Dept of Eng. & Construction Mgmt. 355 Montvue Lane, Suite 200, Frederick, MD 21702 for the Point of Rocks SWM Pond Removal project. A copy of the permit is enclosed for your records

As the designated Engineer-In-Charge, it is your responsibility, pursuant to Code of Maryland Regulations (COMAR) 26.17.04.05A(1) governing Construction on Nontidal Waters and Floodplains, to assure that the work is completed in accordance with the approved construction plans and the assumptions made during the design.

Please refer to the permit conditions, in particular those that describe your responsibilities as the Engineer-In-Charge. The Department strongly encourages you to have a preconstruction conference with us to discuss the progress reports and other submittals to the Dam Safety Division. **Weekly construction progress reports shall be submitted electronically to John.Roche@maryland.gov by the close of business of the Tuesday following the report period.** The Department also encourages you to have a final "walk through" inspection with the Dam Safety Division after construction is complete but prior to the demobilization of the contractor. Please find attached a checklist to assist you in completing the construction inspection and As-Built plan certification.

Also, enclosed is a set of the approved final construction plans, stamped by the Department. The Permit was issued based on these plans. Therefore, please make certain that any plans used for construction are the same plans stamped by the Department and referenced in the Permit.

If you have any questions or require any additional information, please contact me by email John.Roche@maryland.gov, or call me at (410) 537-3552.

Sincerely,

John Roche, P.E., Chief
Dam Safety Permits Division

Maryland Department of the Environment
Water and Science Administration
Dam Safety Permits Division

PERMIT

DAM SAFETY PERMIT NO.	**EFFECTIVE DATE OF PERMIT**
18-OB-0028	**August 26, 2021**

In accordance with §§5-501 through 5-514, et seq. of the Environment Article, Annotated Code of Maryland (2013 Replacement Volume, as amended), permission is hereby granted to **Kyle Baker, Frederick County Dept. of Public Works, Dept of Eng. & Construction Mgmt. 355 Montvue Lane, Suite 200, Frederick, MD 21702,** hereinafter referred to collectively as "the Owner" or "the Permittee", by the Maryland Department of the Environment, Dam Safety Permits Division (the Department) for the **Point of Rocks SWM Pond Removal project** as shown on sheets 1-14, 33-34, 40, 47-62 and 96 -113 of 113 on plans prepared by **Michael Blose, P.E., Straughan Environmental, Inc** and approved by the Department on August 24, 2021.

The site is located near Bank Street, upstream of the intersection of Bank Street and Clay Street on an unnamed tributary to the Potomac River in Frederick County, at latitude 39.276 degrees north, longitude -77.536 degrees west.

Sincerely,

Jennifer Smith

Jennifer M. Smith, P.E.
Program Manager
Sediment, Stormwater, and Dam Safety Program

* *

This **PERMIT** is granted subject to the following:

GENERAL CONDITIONS

1. This Permit is valid only for use by the Permittee. Permission to transfer the Permit must be obtained from the Department in writing.

2. This Permit is issued based on this structure being classified as a high hazard dam. Changes in downstream development within the dam break flood zone may require updates of the Emergency Action Plan incorporating the changes.

3. This Permit shall become null and void if the construction authorized herein has not begun within two (2) years from the date of this Permit. If the construction authorized herein has not been completed within five (5) years from the date of this Permit, approvals contained herein shall become null and void except that these limits may be extended at the discretion of the Department. After construction has been completed, the Operation and Maintenance Conditions shall remain in effect unless modified by the Department.

4. This Permit is subject to all laws and regulations now in effect and may be revoked if it becomes at variance with the laws of the State, or if the Permittee fails to comply with the conditions of this Permit. It is understood that the obligations attendant to this Permit shall run with the land and shall attach to all Successors in Title. In accepting this Permit, the Permittee shall record or allow a "Memorandum of Land Restrictions for Dam or Reservoir" to be recorded in the land records of Frederick County, Maryland in accordance with §5-508(b) of the Environment Article, Annotated Code of Maryland (2013 Replacement Volume, as amended). The Permittee shall allow the Department to record the Memorandum if the Department so chooses.

5. The Permittee shall notify the Dam Safety Division at least five (5) days prior to commencement of construction and no later than five (5) days following completion of construction at (410) 537-3552.

6. This permit does not preclude the need to obtain required authorizations or approvals from other State, Federal or local agencies as required by law.

CONSTRUCTION CONDITIONS

7. The Permittee is responsible for implementing all required erosion and sediment controls as approved by the Frederick Soil Conservation District. The approved erosion and sediment control plan shall be maintained at the construction site for reference during the construction period. The Permittee is responsible for implementing the erosion and sediment control plan.

8. The bed and banks of the waterway shall be disturbed as little as possible. Following initial soil disturbance or redisturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading. Should construction be interrupted or delayed for more than seven (7) days, the Permittee, as directed by the Department, shall implement temporary measures to prevent soil erosion during that period. All erosion and sediment control practices during construction shall be in accordance with the 2011 Maryland Standards and Specifications for Erosion and Sediment Control or an approved equivalent. The discharge of untreated sediment laden waters is strictly prohibited.

9. Instream construction in Use I waters is prohibited between the dates of March 1st and June 15th, inclusive, of each calendar year.

10. Motor driven construction equipment is allowed to be used within the stream channel only for that work that is authorized by this Permit and located within the project right-of-way. Spoil material/debris shall be disposed of outside the floodplain. Any temporary excavation or filling within the stream channel or floodplain shall be restored to the elevation existing prior to construction unless the Department requires otherwise.

11. Construction activities, operation, and maintenance shall be carried out in strict accordance with Code of Maryland Regulations (COMAR) 26.17.04.05 and this Permit. The location, dimensions and type of all structures, excavation, or filling is to be in strict accordance with the Approved Plans and specifications unless written approval for any changes is granted by the Department. If any changes to the Approved Plans are found to be necessary, they shall be submitted to the Department for approval prior to ordering the execution of such change.

12. A person (including Permittee, its employees, agents or contractors) who violates or fails to comply with the terms and conditions of this Permit, Approved Plans or an administrative order may be subject to penalties in accordance with §5-514 and §5-911, Environment Article, Annotated Code of Maryland (2013 Replacement Volume, as amended).

13. A copy of the Approved Plans and this Permit shall be kept at all times at the construction site for reference during the construction period.

14. If the Permittee, its employees, agents or contractors fail to comply with this Permit or Approved Plans, the Department may, in its discretion, issue an administrative order requiring Permittee, its employees, agents and contractors to cease and desist any activities that violate this Permit, or the Department may take any other enforcement action available to it by law, including filing civil or criminal charges.

15. This Permit may be suspended or revoked by the Department for cause, including violation of permit conditions, obtaining a permit by misrepresentation, failing to disclose a relevant or material fact, or change in conditions. The Department shall notify the violator in writing and provide an opportunity for a hearing, if the Permittee: (a) submits false or inaccurate information in the Permit application or subsequently required submittals; (b) deviates from the Approved Plans, specifications, terms and conditions; (c) violates, or is about to violate terms and conditions of this Permit; (d) violates, or is about to violate, any regulation promulgated pursuant to Title 5, Department of the Environment Article, Annotated Code of Maryland as amended; (e) fails to allow authorized representatives of the Department to enter the site of authorized activities at any reasonable time to conduct inspections and evaluations; (f) fails to comply with the requirements of an administrative action or order issued by the Department; or (g) does not have vested rights under this Permit and new information, changes in site conditions, or amended regulatory requirements necessitate revocation or suspension.

16. Overall design of the project has been under the supervision of Michael Blose, P.E. (Maryland PE Registration No. 30704), Straughan Environmental, Inc, hereinafter referred to as Engineer-In-Charge (EIC). The EIC may not be changed without written approval from the Department. Construction shall be under the supervision of the EIC, who shall notify the Dam Safety Division upon the commencement of construction activities and thereafter submit a progress report (Form 1) to the Department each week. The progress reports shall be submitted electronically by email to: John.Roche@maryland.gov by close of

business on Tuesday following the report period. Included along with the progress report shall be the results of all field and laboratory material testing, delivery tickets for materials, shop drawings, and several representative digital photographs of the work.

17. A history of the construction shall be maintained by the EIC and shall include: 1) the date, location and results of field and laboratory material testing, 2) a narrative of problems encountered during construction and changes in design, and 3) "As-Built" plans. The EIC or his representative shall be present during all phases of construction and shall document his findings upon completion of the following construction phases: a) site preparation, b) excavation of the breach channel, and c) upon completion of construction.

18. Within sixty (60) days following construction of the embankment to the final design elevation, the EIC shall submit a completed “Project Completion Report” (Form 2), the project history, and "As-Built" drawings to the Dam Safety Division. The "As-Built" drawings shall include the contract drawings annotated with all changes in elevation, location, quantity, material specification, and any supplemental drawings issued during the construction period. The “As-Built” drawings as well as the project history and test results shall be submitted in electronic form (.pdf or .tif format) and in printed copy. Special attention shall be directed toward documenting the foundation conditions encountered during construction. Where "... or equal" substitutions are made, the As-Built plans shall reflect these installed items.

OPERATION AND MAINTENANCE CONDITIONS

19. The Permittee and any heirs, successors, or assigns are responsible for the safety of the dam and the continued operation, surveillance, inspections, and maintenance in accordance with the conditions described herein until the dam is removed. The Permittee shall promptly notify the Department of significant changes in conditions.

20. In accepting the Permit, permission is hereby granted to representatives of the Department to enter in or upon the subject premises at any reasonable time for the purpose of conducting inspections pursuant to the provisions of Title 5 of the Environment Article, Annotated Code of Maryland, as amended.

21. The costs of the inspection, regular maintenance and emergency repairs will be accomplished by the Owner as warranted or at the direction of the Department.

Form 1: Weekly Construction Progress Report
To be submitted electronically by COB Tuesday to: John.Roche@maryland.gov

Date _____

TO: MDE Dam Safety Division
Water and Science Administration
1800 Washington Blvd, Suite 440
Baltimore, Maryland 21230-1708

Re: Weekly Construction Progress Report No. ____
WMA Permit No. **18-OB-0028**

The work on **Point of Rocks SWM Pond Removal** in **Frederick** County is progressing as follows:

Phase	**Percent Completed**
Clearing and grubbing (dam site)	
Breach Channel Excavation	
Site Stabilization	
Other	

REMARKS (Enter any remarks or details pertinent to the status and conditions of construction)

_____
_____
_____
_____
_____
_____

Submitted By:

Michael Blose, P.E.
Engineer-In-Charge

Please attach several representative digital photographs of the work (.jpg format) and the results of field and laboratory testing (.pdf or .tif format).

Form 2: Project Completion Report

STATE OF MARYLAND
WATER AND SCIENCE ADMINISTRATION
DAM SAFETY DIVISION

MDE Dam Safety Division
Water and Science Administration
1800 Washington Blvd, Suite 440
Baltimore, Maryland 21230-1708

PROJECT COMPLETION REPORT
WMA Permit No. **18-OB-0028**
Date _____

I (We) hereby certify that the **Point of Rocks SWM Pond Removal** project in **Frederick** County was completed on _____, 20___, in accordance with the plans and specifications approved by the Department. Any minor differences between the As-Built plans and the approved construction plans will not affect the safety of the dam including hydraulic performance or the minimum freeboard criteria.

Very truly yours,

Michael Blose, P.E.
Engineer-In-Charge

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No._____, Expiration Date:_____.

Signature of Permittee

_____
Kyle Baker
Frederick County Dept. of Public Works

_____
Title
Enclosed: As-Built plans (both paper and electronic), project history

CONSTRUCTION INSPECTION CERTIFICATION CHECKLIST PAGE 1

18-OB-0028 Point of Rocks SWM Pond Removal

LEGEND: OK ACCEPTABLE X UNACCEPTABLE N/A NOT APPLICABLE

Date	Initials	Check Mark	
			Soils Certification:
_____	_____	___	Cut-off Trench. Unified Soil Classification _____
_____	_____	___	Cut-off Trench Compaction (test every 50 ft)
_____	_____	___	Cut-off Trench Dimensions & Location
_____	_____	___	Cut-off Trench Extended Down to Impervious Soil
_____	_____	___	Structural Backfill. Unified Soil Classification _____
_____	_____	___	Structural Backfill Compaction (test every 25 ft on each side of structure)
_____	_____	___	Compacted in 4-inch Soil Lifts
_____	_____	___	Embankment Soils. Unified Soil Classification _____
_____	_____	___	Embankment Compaction (test every 5000 sq ft)
_____	_____	___	Compacted in 8-inch Soil Lifts
_____	_____	___	Filter Diaphragm Gradation _____
_____	_____	___	Filter Diaphragm Dimensions & Placement
_____	_____	___	Filter Diaphragm Compaction
			Principal Spillway Certification:
			Barrel:
_____	_____	___	Barrel Classification (pipe class, joints)
_____	_____	___	No Gravel Under Spillway
_____	_____	___	Spillway Pipe Barrel Installed Before Embankment Fill
_____	_____	___	Watertight Joints (joint separation OK) Gap: ____
_____	_____	___	Articulated Joint within 2 ft of Riser-Barrel Connection
_____	_____	___	Full Concrete Cradle
			Riser:
_____	_____	___	Bearing Capacity
_____	_____	___	Base Dimensions
_____	_____	___	Concrete Strength
_____	_____	___	Watertight Joints
_____	_____	___	Rebar Size & Spacing
_____	_____	___	Drain Pipe

CONSTRUCTION INSPECTION CERTIFICATION CHECKLIST PAGE 2

18-OB-0028 Point of Rocks SWM Pond Removal

LEGEND: OK ACCEPTABLE X UNACCEPTABLE N/A NOT APPLICABLE

Date	Initials	Check Mark		
Emergency Spillway Certification:				
_____	_____	___	Dimensions	
_____	_____	___	Constructed on Existing Ground	
_____	_____	___	Level Section Length	
_____	_____	___	Exit Slope	
As-Built Elevations & Dimensions*:				
Barrel:				Elev/Size
_____	_____	___	Inlet EL	_____
_____	_____	___	Outlet EL	_____
_____	_____	___	Slope & Length	_____
_____	_____	___	Size	_____
Riser:				
_____	_____	___	Trash Rack	
_____	_____	___	Low Flow Size	_____
_____	_____		Slot/Weir Sizes:	
_____	_____	___	Slot 1	_____
_____	_____	___	Slot 2	_____
_____	_____	___	Slot 3	_____
_____	_____	___	Top Weir	_____
Embankment:				
_____	_____	___	Top of Dam	_____
_____	_____	___	Minimum Freeboard	_____
_____	_____	___	Embankment Slopes	_____
Volume Certification:				
_____	_____	___	2-Year Volume	
_____	_____	___	10-Year Volume	
_____	_____	___	100-Year Volume	
_____	_____	___	As-Built Contours Shown on Plans	
Stabilization Certification:				
_____	_____	___	Seed & Mulch Applied to Embankment & Bare Soils Areas	
_____	_____	___	Soils Stabilized	

*Note: If elevations differ by more than 0.2 ft, or pipe diameters differ by more than 2 inches, or areas of riser openings differ by more than 5% of those shown on the plans, then submit revised hydraulics for approval.

Dam:_____ **Weather:** _____ **Date:** _____

Inspectors:_____ **Pool Level:**_____

MARYLAND DAM INSPECTION CHECKLIST	Y	N	Monitor Repair
1. CREST			
Ground cover in good condition			
Settlements Depressions Cracks			
2. UPSTREAM SLOPE			
Ground cover in good condition			
Riprap in good condition			
Erosion Animal Burrows Trees Shrubs			
Settlements Depressions Bulges Cracks			
3. DOWNSTREAM SLOPE			
Ground cover in good condition			
Erosion Animal Burrows Trees Shrubs			
Settlements Depressions Bulges Cracks			
Seepage _____ gpm			
4. INTERNAL DRAINAGE SYSTEM			
Seepage/drain flow: Left _____ gpm Right _____ gpm Other _____ gpm			
Does seepage contain fines?			
5. ABUTMENT CONTACTS			
Trees Shrubs Erosion			
Seepage _____ gpm			
6. SPILLWAY/RISER STRUCTURE Concrete or Metal Pipe			
Spalling Cracking Corrosion Erosion Scaling Exposed Reinforcement			
Joints: Displacement Leakage Loss of joint material			
Trash racks: Operational Broken Bent Rusted Debris Obstructed			
Sluice/Drain gates: Operational Broken Bent Corroded Leaking			
7. SPILLWAY CONDUIT Concrete or Metal Pipe			
Debris Cracking Leakage Spalling Exposed reinforcement			
Joints: Displacement Leakage Loss of joint material			
8. STILLING BASIN/PLUNGE POOL Riprap or Concrete			
Spalling Cracking Erosion Scaling Exposed Reinforcement Joint Deterioration			
Undercutting Eroding			
Outlet channel condition:			
Tailwater elevation and flow condition:			
9. EMERGENCY SPILLWAY			
Ground cover in good condition			
Erosion Trees Shrubs Obstructions			
OVERALL CONDITION: Excellent Good Fair Poor Unsafe			

Notes:

FACT SHEET
JUDICIAL REVIEW PROCESS

Dam Safety permits issued by Maryland Department of the Environment (Department) can be challenged through a request for direct judicial review in the Circuit Court for the county where the activity authorized by the permit will occur. Applicants, and persons who meet standing requirements under federal law and who participated in a public comment process by submitting written or oral comments (where an opportunity for public comment was provided), may seek judicial review. Judicial review will be based on the administrative record for the permit compiled by the Department and limited to issues raised in the public comment process (unless no public comment process was provided, in which case the review will be limited to issues that are germane to the permit).

Who Has Standing?

Anyone who meets the threshold standing requirements under federal law and is either the applicant or someone who participated in the public participation process through the submission of written or oral comments, as provided in § 5-204 of the Environment Article, Annotated Code of Maryland (2013 Replacement Volume, as amended). The three traditional criteria for establishing standing under federal law are injury, causation, and redressability, although how each criterion is applied is highly fact-specific and varies from case to case. Further, an association has standing under federal law to bring suit on behalf of its members when its members would otherwise have standing to sue in their own right, the interests at stake are germane to the organization's purpose, and neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.

What is the Procedure for Seeking Judicial Review?

Petitions for judicial review of a final determination or permit decision subject to judicial review must be filed in accordance with § 1-605 and § 5-204(i)(2) of the Environment Article no later than thirty (30) days following publication by the Department of a notice of final determination or final permit decision and must be filed in the circuit court of the county where the permit application states that the proposed activity will occur. Petitions for judicial review must conform to the applicable Maryland Rules of Civil Procedure.

Attachment 3: Photos

Figure 1
Aerial View of Project Area

Figure 2. Existing Dam Embankment, Stormwater Management Pond, MD 28, and MARC Parking Lot (Looking South). Stream Restoration (Performed During Phase 1) Shown in Foreground

Figure 3. Vegetation In Project Area (In Winter)

Attachment 4: IPaC Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

In Reply Refer To:
Project Code: 2023-0029035
Project Name: Point of Rocks

December 28, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
(410) 573-4599

Project Summary

Project Code: 2023-0029035
Project Name: Point of Rocks
Project Type: Flooding
Project Description: The project would replace an existing dam, which is currently classified by MDE as a significant to high hazard dam. According to MDE's hazard classification of dams, failure of a significant hazard dam would possibly result in loss of life or increased flood risk to roads and buildings, impacting up to two homes and six lives. The project would decommission the existing dam, restore over 1,000 feet of stream channel using natural techniques, and construct a pedestrian bridge over the channel.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.2759913,-77.53607064757031,14z

Counties: Frederick County, Maryland

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ The monarch is a candidate species and not yet listed or proposed for listing. There are generally no section 7 requirements for candidate species (FAQ found here: https://www.fws.gov/savethemonarch/FAQ-Section7.html). Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

Agency:	Federal Emergency Management Agency
Name:	Jenna Quan
Address:	2295 Gateway Oaks Dr.
Address Line 2:	Suite 250
City:	Sacramento
State:	CA
Zip:	95833
Email	quanjr@cdmsmith.com
Phone:	9165767482

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

February 17, 2023

Erin Hagan
Federal Emergency Management Agency, Region 3
615 Chestnut Street, 6th Floor
Philadelphia, PA 19106

RE: Point of Rocks High Hazard Dam, Frederick County, Maryland 21777

Dear Ms. Hagan:

This responds to your letter, received, January 30, 2023, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened within the vicinity of the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

This project as proposed will have "no effect" on the endangered, threatened, or candidate species listed on your IPaC species list because while the project is within the range of the species, it is unlikely that the species would occur within the project area that was submitted. Therefore, no Biological Assessment or further section 7 Consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. For information on the presence of other rare species, you should contact Lori Byrne of the Maryland Wildlife and Heritage Division at (410) 260-8573.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Chesapeake Bay's remaining wetlands, and the long-term goal of increasing the quality and quantity of the Chesapeake Bay's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if construction in wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Raquel Wetzell at raquel_wetzell@fws.gov .

Sincerely,

G. LaRouche

Genevieve LaRouche
Supervisor

U.S. Department of Homeland Security
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

December 22, 2022

Beth Cole, Administrator
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032

Re: Point of Rocks Significant/High Hazard Dam Decommissioning and Stream Restoration
Frederick County, MD
FEMA Project #LPDM-PJ-03-MD-2022-002

MHT Log #202203661

Dear Beth Cole:

This letter serves as continuing consultation pursuant to Section 106 of the National Historic Preservation Act for the undertaking identified above. Initial project notification was submitted to the Maryland Historical Trust (MHT) on August 11, 2022; MHT acknowledged receipt of the notification on August 12, 2022. The Federal Emergency Management Agency (FEMA) provides funding through the Legislative Pre-Disaster Mitigation (LPDM) grant program for implementing cost-effective hazard mitigation planning and projects before disasters occur. LPDM projects are Congressional directives authorized to reduce the overall risk to people and property from future disasters, while also reducing reliance on funding from disaster declarations.

Undertaking

The proposed project is located within the Frederick County-owned Point of Rocks Community Park (39.276035, -77.535942), as well as on private land on which the County has executed perpetual drainage easements. The project area is north of Maryland State Route 28 (MD 28), also known as Clay Street, and the Maryland Area Rail Commuter (MARC) lot; approximately 0.2 miles north of the Potomac River; and approximately 0.2 miles east of U.S. Route 15 . The project area contains a portion of an unnamed tributary of the Potomac River that bisects the project area from north to south, and a portion of Tributary 6, which carries stormwater from the adjacent residential area and flows into the unnamed tributary (see Figures 1-3).

The proposed project would include decommission and removal of an existing earthen dam (constructed in 1990), restoration of over 1,000 feet of stream channel using natural design techniques, the construction of a pedestrian bridge over the restored stream, the creation of pocket wetlands and other environmental site design features, and vegetative plantings (see Figure 2). The existing dam embankment is considered to be a significant-to-high hazard dam based on current analyses and conversations with the Maryland Department of the Environment (MDE); failure of a dam with this classification would likely result in loss of human life and property damage. A hydrologic and hydraulic analysis prepared for the proposed project found that failure of the existing dam embankment would result in an approximately 4-foot “wall of water” being released at one time that would overtop MD 28 and enter the

MARC lot (Frederick County and Straughan Environmental 2021). The removal of the existing dam embankment would follow MDE's Dam Safety Permit Requirements (Permit Number: 18-OB-0028).

Following dam removal, a new stream channel and banks would be graded and stream restoration features, such as riffle and cascade structures, would be installed along both the mainstem of the unnamed tributary and Tributary 6. The existing stormwater pond, or impoundment area, would be replaced with constructed riffle and cascade structures, weir grade control structures, and pools. Stream restoration would require excavation of up to approximately 10 feet below the existing ground surface along the length of the mainstem tributary and Tributary 6, except for excavation for the dam embankment, which would be approximately 18 feet below ground surface.

Area of Potential Effects

Pursuant to 36 CFR 800.16(d), the Area of Potential Effects (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. Based on the proposed scope of work, FEMA has determined that the APE for this Undertaking is limited to the proposed footprint of the construction activities. The proposed limits of ground disturbance (LOD) for the project encompasses an approximately 3.35-acre area, within which is planned the excavation of 9,886 cubic yards of cut material on the site and the addition of 83 cubic yards of fill. Staging and stockpiling areas are planned for the northwest and west portions of the project's boundary. Land disturbances include areas subject to excavation or deep grading, wetlands mitigation sites, construction staging areas or borrow areas opened expressly for the project. The LOD consists of an approximately 3.35-acre area where ground disturbance is proposed. The LOD for the project is shown on Figure 2 and constitutes the APE.

Determination of Eligibility

Historic Architectural Resources

Background research was conducted to establish cultural contexts for the APE and to determine the existence of any previously recorded archaeological sites or historic properties, or whether previous surveys were completed within and/or adjacent to the APE. Files available through the MHT's Cultural Resource Information System (MEDUSA) were checked for the presence of registered archaeological sites and historic properties within or near the APE. Additional background research consisted of a review of pertinent primary and secondary sources, including land records, historic maps and atlases, and local and county histories available online and at the Maryland State Archives in Annapolis. Previous historic sites survey reports and regulatory survey reports on file at the MHT Library were also reviewed.

A review of site files maintained by the MHT in October 2022 indicated that there are no above ground resources within the APE (see Figure 3). Immediately adjacent to the APE, one structure has been identified as eligible for consideration for inclusion in the National Register of Historic Places (NRHP): SHA Small Structure 1086XO (inventory number F-1-24). SHA Small Structure 10186X0 is a concrete slab bridge that spans an unnamed tributary of the Potomac River. The bridge is estimated to have been built in the 1930s as it conforms to the design plans used for bridge structures of this type and it shares many structural similarities with other bridges in the area built during this time frame. SHA Small Structure 1086XO was evaluated in 2003 and was recommended eligible for listing in the NRHP under Criteria C, as it embodies and retains the character-defining elements of concrete slab bridge construction in the 1930s (MHT Site Files 2003). SHA Small Structure 10186X0 is outside of the APE and will not be adversely affected by the proposed undertaking. Based on the nature of the proposed project and existing conditions of the area, there will be no visual impacts by the stream restorations. Therefore, FEMA has determined that there will be **No Historic Properties Affected**.

Archaeological Resources

A Phase I archaeological survey was carried out in advance of the proposed undertaking. The Phase I archaeological survey was conducted to determine the presence of archaeological sites within the APE in compliance with Section 106 of the National Historic Preservation Act, as amended, and the Maryland Historical Trust Act, Sections 5A-325 and 5A-326 of the Annotated Code of Maryland.

An examination of site files at the Maryland Historic Trust Archaeological Site Files (MHT) in October 2022 indicated that one registered archaeological site is located within the APE - Clay and Bank Street Site (18FR830). Site 18FR830 is an early twentieth-century sawmill and is also known as the Clay and Bank Street Mill (see Figure 3). The site is not currently listed in the NRHP. Previous Phase I and II archaeological surveys revealed four features associated with the sawmill, including stone lined channels that were filled with soot and slag and a stone foundation or pier. These features were found on top of two fill layers, likely associated with the construction and use of the sawmill. This feature was covered by two other fill layers, likely associated with the demolition of the mill. No other segments of the channels were uncovered during excavation, and they appear to have been destroyed. Based on this information, the site was recommended **not eligible** for listing in the NRHP.

Richard, Grubb, & Associates (RGA) conducted a Phase I archaeological survey for the proposed project between October 3, 2022 and October 7, 2022. The fieldwork included an inspection of existing conditions and the excavation of 69 shovel test pits (STP) within the APE. Subsurface testing was conducted at 15-meter (50-foot) intervals within the entire APE. A total of 55 STPs were originally plotted at 15-meter (50-foot) intervals within the 3.35-acre APE, and then 14 additional 7.5-meter (25-foot) STPs were placed within portions of the APE that overlap with the boundaries of the previously recorded archaeological site, 18FR830. Results of the archaeological testing did not locate archaeological evidence of site 18FR830.

In summary, no pre-Contact or historic-period cultural material or features were recovered during archaeological testing. Shovel Test Pit 9 contained modern vessel glass and an aluminum beer can. A fieldstone wall was located near STP 34 and is likely part of the existing dam structure due to its proximity to the artificial ridge and the lack of artifacts found in the vicinity. As a result of the survey, no pre-Contact or historic-period cultural material were recovered, and no pre-Contact or historic-period cultural features were identified. In addition, no intact artifact deposits or features were identified associated with the previously identified archaeological site, 18FR830. As no archaeological resources were identified, no further archaeological work was recommended within the APE. Therefore, FEMA has determined that there will be **No Historic Properties**, in regard to archaeological resources.

Determination of Effect

Based upon the information stated above, FEMA has determined that no resources within the APE are eligible for listing on the National Register of Historic Places and the proposed undertaking results in **No Historic Properties Affected**. We respectfully request your concurrence with this determination. If you have any questions or require any additional information, please contact MacKensie Cornelius, Senior Environmental Protection Specialist, at 202-880-7539 or mackensie.cornelius@fema.dhs.gov.

Sincerely,

SARAH E MARLITT

Digitally signed by SARAH E MARLITT
Date: 2022.12.22 13:42:28 -05'00'

Sarah Marlitt
Senior Environmental Protection Specialist
FEMA Region 3

Enclosures
Appendix A: Figures
Appendix B: *Phase I Archaeological Survey, Point of Rocks Significant/High Hazard Dam Decommissioning and Stream Restoration*, prepared by Richard Grubb and Associates, December 2022

Appendix A: Figures

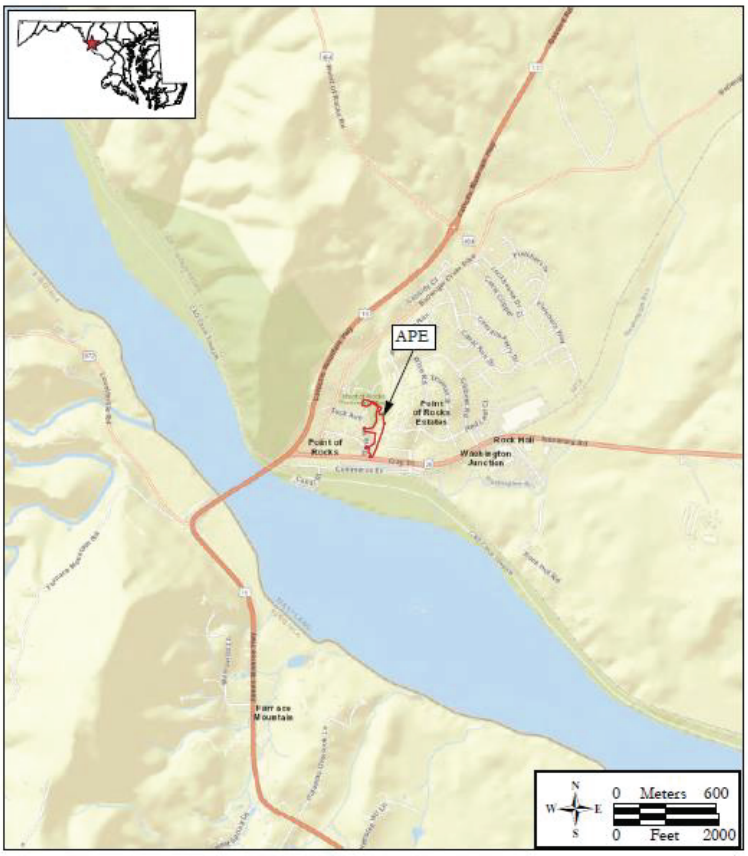

Figure 1: Road Map (World Street Map, ESRI 2021).of the APE as indicated by the red line. (Source RGA, 2022)

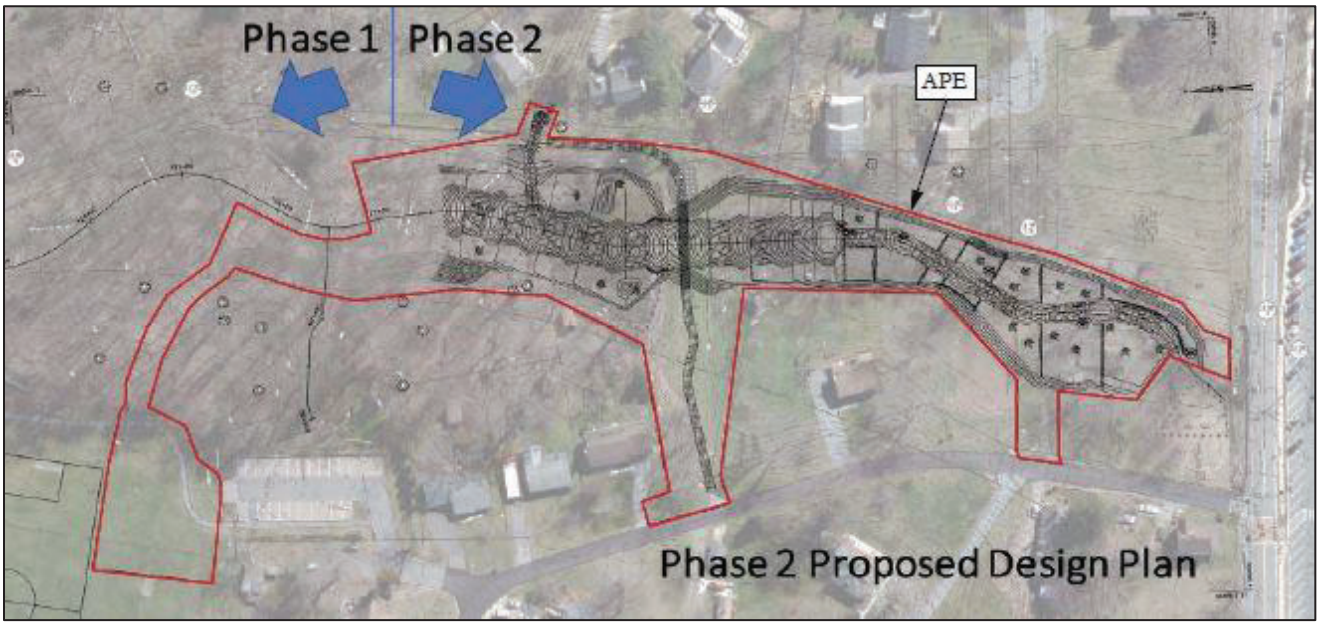

Figure 2: Proposed Project Design and APE. (Source RGA, 2022)

Figure 3: Proposed Project Design and APE. (Source RGA, 2022)

Figure 4: Shovel Test Pits Location Map in the APE. (Source RGA, 2022)

Appendix B: *Phase I Archaeological Survey, Point of Rocks Significant/High Hazard Dam Decommissioning and Stream Restoration*, prepared by Richard Grubb and Associates, December 2022

Redacted due to inclusion of sensitive archaeological information

202205385

F
FEMA
ESZ

U.S. Department of Homeland Security
One Independence Mall, Sixth Floor
615 Chestnut Street
Philadelphia, PA 19106-4404

FEMA

December 22, 2022

Beth Cole, Administrator
Maryland Historical Trust
100 Community Place
Crownsville, MD 21032

Re: Point of Rocks Significant/High Hazard Dam Decommissioning and Stream Restoration
Frederick County, MD
FEMA Project #LPDM-PJ-03-MD-2022-002

MHT Log #202203661

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#1A BL 12/28/2022 Ph. I Apt.

MARC lot (Frederick County and Straughan Environmental 2021). The removal of the existing dam embankment would follow MDE's Dam Safety Permit Requirements (Permit Number: 18-OB-0028).

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Determination of Effect

Based upon the information stated above, FEMA has determined that no resources within the APE are eligible for listing on the National Register of Historic Places and the proposed undertaking results in **No Historic Properties Affected**. We respectfully request your concurrence with this determination. If you have any questions or require any additional information, please contact MacKensie Cornelius, Senior Environmental Protection Specialist, at 202-880-7539 or mackensie.cornelius@fema.dhs.gov.

The Maryland Historical Trust has determined that there are no historic properties affected by this undertaking.

Beth Cole 12/28/2022
Date

Sincerely,

SARAH E MARLITT
Digitally signed by SARAH E MARLITT
Date: 2022.12.22 13:42:28 -05'00'

Sarah Marlitt
Senior Environmental Protection Specialist
FEMA Region 3

Enclosures
Appendix A: Figures
Appendix B: *Phase I Archaeological Survey, Point of Rocks Significant/High Hazard Dam Decommissioning and Stream Restoration*, prepared by Richard Grubb and Associates, December 2022

August 26, 2021

Mr. Kyle Baker
Frederick County Dept. of Public Works
Dept. of Eng. & Construction Mgmt.
355 Montvue Lane, Suite 200
Frederick, MD 21702

Permit No.: 18-OB-0028
Tracking No.: 201761539
Agency Interest (AI): 158352
Project: Point of Rocks SWM Pond Removal
County: Frederick

Dear Mr. Baker:

The Maryland Department of the Environment (the Department) has issued the enclosed Dam Safety Permit No. 18-OB-0028 for the Point of Rocks SWM Pond Removal project. This permit does not preclude the need to obtain required authorizations or approvals from other State, Federal, or Local agencies as required by law.

Please note the conditions of the permit including the requirement to notify the Dam Safety Division five (5) days prior to starting construction. Failure to comply with the permit conditions will constitute grounds for enforcement action.

If you take exception to any of the conditions attached to the Permit, you may file a petition for judicial review in Frederick Circuit Court. The petition for judicial review must be filed within thirty (30) days of the publication of the permit decision.

If you have any questions or require any additional information, please contact me by email John.Roche@maryland.gov, or call me at (410) 537-3552.

Sincerely,

John Roche, P.E., Chief
Dam Safety Permits Division

Enclosures
cc: Michael Blose, P.E., Straughan Environmental, Inc w/enclosures
MDE Inspection & Compliance Program, w/enclosures

Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

August 26, 2021

Mr. Michael Blose, P.E.
Straughan Environmental, Inc.
10245 Old Columbia Road
Columbia, MD 21046

Permit Application No. 18-OB-0028
Point of Rocks SWM Pond Removal
Engineer-In-Charge Requirements

Dear Mr. Blose:

The Maryland Department of the Environment (the Department) has issued Dam Safety Permit No. 18-OB-0028 to Kyle Baker, Frederick County Dept. of Public Works, Dept of Eng. & Construction Mgmt. 355 Montvue Lane, Suite 200, Frederick, MD 21702 for the Point of Rocks SWM Pond Removal project. A copy of the permit is enclosed for your records

As the designated Engineer-In-Charge, it is your responsibility, pursuant to Code of Maryland Regulations (COMAR) 26.17.04.05A(1) governing Construction on Nontidal Waters and Floodplains, to assure that the work is completed in accordance with the approved construction plans and the assumptions made during the design.

Please refer to the permit conditions, in particular those that describe your responsibilities as the Engineer-In-Charge. The Department strongly encourages you to have a preconstruction conference with us to discuss the progress reports and other submittals to the Dam Safety Division. **Weekly construction progress reports shall be submitted electronically to John.Roche@maryland.gov by the close of business of the Tuesday following the report period.** The Department also encourages you to have a final "walk through" inspection with the Dam Safety Division after construction is complete but prior to the demobilization of the contractor. Please find attached a checklist to assist you in completing the construction inspection and As-Built plan certification.

Also, enclosed is a set of the approved final construction plans, stamped by the Department. The Permit was issued based on these plans. Therefore, please make certain that any plans used for construction are the same plans stamped by the Department and referenced in the Permit.

If you have any questions or require any additional information, please contact me by email John.Roche@maryland.gov, or call me at (410) 537-3552.

Sincerely,

John Roche, P.E., Chief
Dam Safety Permits Division

Maryland Department of the Environment
Water and Science Administration
Dam Safety Permits Division

PERMIT

DAM SAFETY PERMIT NO.	**EFFECTIVE DATE OF PERMIT**
18-OB-0028	**August 26, 2021**

In accordance with §§5-501 through 5-514, et seq. of the Environment Article, Annotated Code of Maryland (2013 Replacement Volume, as amended), permission is hereby granted to **Kyle Baker, Frederick County Dept. of Public Works, Dept of Eng. & Construction Mgmt. 355 Montvue Lane, Suite 200, Frederick, MD 21702,** hereinafter referred to collectively as "the Owner" or "the Permittee", by the Maryland Department of the Environment, Dam Safety Permits Division (the Department) for the **Point of Rocks SWM Pond Removal project** as shown on sheets 1-14, 33-34, 40, 47-62 and 96 -113 of 113 on plans prepared by **Michael Blose, P.E., Straughan Environmental, Inc** and approved by the Department on August 24, 2021.

The site is located near Bank Street, upstream of the intersection of Bank Street and Clay Street on an unnamed tributary to the Potomac River in Frederick County, at latitude 39.276 degrees north, longitude -77.536 degrees west.

Sincerely,

Jennifer Smith

Jennifer M. Smith, P.E.
Program Manager
Sediment, Stormwater, and Dam Safety Program

* *

This **PERMIT** is granted subject to the following:

GENERAL CONDITIONS

1. This Permit is valid only for use by the Permittee. Permission to transfer the Permit must be obtained from the Department in writing.

2. This Permit is issued based on this structure being classified as a high hazard dam. Changes in downstream development within the dam break flood zone may require updates of the Emergency Action Plan incorporating the changes.

3. This Permit shall become null and void if the construction authorized herein has not begun within two (2) years from the date of this Permit. If the construction authorized herein has not been completed within five (5) years from the date of this Permit, approvals contained herein shall become null and void except that these limits may be extended at the discretion of the Department. After construction has been completed, the Operation and Maintenance Conditions shall remain in effect unless modified by the Department.

4. This Permit is subject to all laws and regulations now in effect and may be revoked if it becomes at variance with the laws of the State, or if the Permittee fails to comply with the conditions of this Permit. It is understood that the obligations attendant to this Permit shall run with the land and shall attach to all Successors in Title. In accepting this Permit, the Permittee shall record or allow a "Memorandum of Land Restrictions for Dam or Reservoir" to be recorded in the land records of Frederick County, Maryland in accordance with §5-508(b) of the Environment Article, Annotated Code of Maryland (2013 Replacement Volume, as amended). The Permittee shall allow the Department to record the Memorandum if the Department so chooses.

5. The Permittee shall notify the Dam Safety Division at least five (5) days prior to commencement of construction and no later than five (5) days following completion of construction at (410) 537-3552.

6. This permit does not preclude the need to obtain required authorizations or approvals from other State, Federal or local agencies as required by law.

CONSTRUCTION CONDITIONS

7. The Permittee is responsible for implementing all required erosion and sediment controls as approved by the Frederick Soil Conservation District. The approved erosion and sediment control plan shall be maintained at the construction site for reference during the construction period. The Permittee is responsible for implementing the erosion and sediment control plan.

8. The bed and banks of the waterway shall be disturbed as little as possible. Following initial soil disturbance or redisturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading. Should construction be interrupted or delayed for more than seven (7) days, the Permittee, as directed by the Department, shall implement temporary measures to prevent soil erosion during that period. All erosion and sediment control practices during construction shall be in accordance with the 2011 Maryland Standards and Specifications for Erosion and Sediment Control or an approved equivalent. The discharge of untreated sediment laden waters is strictly prohibited.

9. Instream construction in Use I waters is prohibited between the dates of March 1st and June 15th, inclusive, of each calendar year.

10. Motor driven construction equipment is allowed to be used within the stream channel only for that work that is authorized by this Permit and located within the project right-of-way. Spoil material/debris shall be disposed of outside the floodplain. Any temporary excavation or filling within the stream channel or floodplain shall be restored to the elevation existing prior to construction unless the Department requires otherwise.

11. Construction activities, operation, and maintenance shall be carried out in strict accordance with Code of Maryland Regulations (COMAR) 26.17.04.05 and this Permit. The location, dimensions and type of all structures, excavation, or filling is to be in strict accordance with the Approved Plans and specifications unless written approval for any changes is granted by the Department. If any changes to the Approved Plans are found to be necessary, they shall be submitted to the Department for approval prior to ordering the execution of such change.

12. A person (including Permittee, its employees, agents or contractors) who violates or fails to comply with the terms and conditions of this Permit, Approved Plans or an administrative order may be subject to penalties in accordance with §5-514 and §5-911, Environment Article, Annotated Code of Maryland (2013 Replacement Volume, as amended).

13. A copy of the Approved Plans and this Permit shall be kept at all times at the construction site for reference during the construction period.

14. If the Permittee, its employees, agents or contractors fail to comply with this Permit or Approved Plans, the Department may, in its discretion, issue an administrative order requiring Permittee, its employees, agents and contractors to cease and desist any activities that violate this Permit, or the Department may take any other enforcement action available to it by law, including filing civil or criminal charges.

15. This Permit may be suspended or revoked by the Department for cause, including violation of permit conditions, obtaining a permit by misrepresentation, failing to disclose a relevant or material fact, or change in conditions. The Department shall notify the violator in writing and provide an opportunity for a hearing, if the Permittee: (a) submits false or inaccurate information in the Permit application or subsequently required submittals; (b) deviates from the Approved Plans, specifications, terms and conditions; (c) violates, or is about to violate terms and conditions of this Permit; (d) violates, or is about to violate, any regulation promulgated pursuant to Title 5, Department of the Environment Article, Annotated Code of Maryland as amended; (e) fails to allow authorized representatives of the Department to enter the site of authorized activities at any reasonable time to conduct inspections and evaluations; (f) fails to comply with the requirements of an administrative action or order issued by the Department; or (g) does not have vested rights under this Permit and new information, changes in site conditions, or amended regulatory requirements necessitate revocation or suspension.

16. Overall design of the project has been under the supervision of Michael Blose, P.E. (Maryland PE Registration No. 30704), Straughan Environmental, Inc, hereinafter referred to as Engineer-In-Charge (EIC). The EIC may not be changed without written approval from the Department. Construction shall be under the supervision of the EIC, who shall notify the Dam Safety Division upon the commencement of construction activities and thereafter submit a progress report (Form 1) to the Department each week. The progress reports shall be submitted electronically by email to: John.Roche@maryland.gov by close of

business on Tuesday following the report period. Included along with the progress report shall be the results of all field and laboratory material testing, delivery tickets for materials, shop drawings, and several representative digital photographs of the work.

17. A history of the construction shall be maintained by the EIC and shall include: 1) the date, location and results of field and laboratory material testing, 2) a narrative of problems encountered during construction and changes in design, and 3) "As-Built" plans. The EIC or his representative shall be present during all phases of construction and shall document his findings upon completion of the following construction phases: a) site preparation, b) excavation of the breach channel, and c) upon completion of construction.

18. Within sixty (60) days following construction of the embankment to the final design elevation, the EIC shall submit a completed “Project Completion Report” (Form 2), the project history, and "As-Built" drawings to the Dam Safety Division. The "As-Built" drawings shall include the contract drawings annotated with all changes in elevation, location, quantity, material specification, and any supplemental drawings issued during the construction period. The “As-Built” drawings as well as the project history and test results shall be submitted in electronic form (.pdf or .tif format) and in printed copy. Special attention shall be directed toward documenting the foundation conditions encountered during construction. Where "... or equal" substitutions are made, the As-Built plans shall reflect these installed items.

OPERATION AND MAINTENANCE CONDITIONS

19. The Permittee and any heirs, successors, or assigns are responsible for the safety of the dam and the continued operation, surveillance, inspections, and maintenance in accordance with the conditions described herein until the dam is removed. The Permittee shall promptly notify the Department of significant changes in conditions.

20. In accepting the Permit, permission is hereby granted to representatives of the Department to enter in or upon the subject premises at any reasonable time for the purpose of conducting inspections pursuant to the provisions of Title 5 of the Environment Article, Annotated Code of Maryland, as amended.

21. The costs of the inspection, regular maintenance and emergency repairs will be accomplished by the Owner as warranted or at the direction of the Department.

Form 1: Weekly Construction Progress Report
To be submitted electronically by COB Tuesday to: John.Roche@maryland.gov

Date _____

TO: MDE Dam Safety Division
Water and Science Administration
1800 Washington Blvd, Suite 440
Baltimore, Maryland 21230-1708

Re: Weekly Construction Progress Report No. ____
WMA Permit No. **18-OB-0028**

The work on **Point of Rocks SWM Pond Removal** in **Frederick** County is progressing as follows:

Phase	**Percent Completed**
Clearing and grubbing (dam site)	
Breach Channel Excavation	
Site Stabilization	
Other	

REMARKS (Enter any remarks or details pertinent to the status and conditions of construction)

_____
_____
_____
_____
_____
_____

Submitted By:

Michael Blose, P.E.
Engineer-In-Charge

Please attach several representative digital photographs of the work (.jpg format) and the results of field and laboratory testing (.pdf or .tif format).

Form 2: Project Completion Report

STATE OF MARYLAND
WATER AND SCIENCE ADMINISTRATION
DAM SAFETY DIVISION

MDE Dam Safety Division
Water and Science Administration
1800 Washington Blvd, Suite 440
Baltimore, Maryland 21230-1708

PROJECT COMPLETION REPORT
WMA Permit No. **18-OB-0028**
Date _____

I (We) hereby certify that the **Point of Rocks SWM Pond Removal** project in **Frederick** County was completed on _____, 20___, in accordance with the plans and specifications approved by the Department. Any minor differences between the As-Built plans and the approved construction plans will not affect the safety of the dam including hydraulic performance or the minimum freeboard criteria.

Very truly yours,

Michael Blose, P.E.
Engineer-In-Charge

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No._____, Expiration Date:_____.

Signature of Permittee

_____
Kyle Baker
Frederick County Dept. of Public Works

_____
Title
Enclosed: As-Built plans (both paper and electronic), project history

CONSTRUCTION INSPECTION CERTIFICATION CHECKLIST PAGE 1

18-OB-0028 Point of Rocks SWM Pond Removal

LEGEND: OK ACCEPTABLE X UNACCEPTABLE N/A NOT APPLICABLE

Date	Initials	Check Mark	
			Soils Certification:
_____	_____	___	Cut-off Trench. Unified Soil Classification _____
_____	_____	___	Cut-off Trench Compaction (test every 50 ft)
_____	_____	___	Cut-off Trench Dimensions & Location
_____	_____	___	Cut-off Trench Extended Down to Impervious Soil
_____	_____	___	Structural Backfill. Unified Soil Classification _____
_____	_____	___	Structural Backfill Compaction (test every 25 ft on each side of structure)
_____	_____	___	Compacted in 4-inch Soil Lifts
_____	_____	___	Embankment Soils. Unified Soil Classification _____
_____	_____	___	Embankment Compaction (test every 5000 sq ft)
_____	_____	___	Compacted in 8-inch Soil Lifts
_____	_____	___	Filter Diaphragm Gradation _____
_____	_____	___	Filter Diaphragm Dimensions & Placement
_____	_____	___	Filter Diaphragm Compaction
			Principal Spillway Certification:
			Barrel:
_____	_____	___	Barrel Classification (pipe class, joints)
_____	_____	___	No Gravel Under Spillway
_____	_____	___	Spillway Pipe Barrel Installed Before Embankment Fill
_____	_____	___	Watertight Joints (joint separation OK) Gap: ____
_____	_____	___	Articulated Joint within 2 ft of Riser-Barrel Connection
_____	_____	___	Full Concrete Cradle
			Riser:
_____	_____	___	Bearing Capacity
_____	_____	___	Base Dimensions
_____	_____	___	Concrete Strength
_____	_____	___	Watertight Joints
_____	_____	___	Rebar Size & Spacing
_____	_____	___	Drain Pipe

CONSTRUCTION INSPECTION CERTIFICATION CHECKLIST PAGE 2

18-OB-0028 Point of Rocks SWM Pond Removal

LEGEND: OK ACCEPTABLE X UNACCEPTABLE N/A NOT APPLICABLE

Date	Initials	Check Mark		
			Emergency Spillway Certification:	
_____	_____	___	Dimensions	
_____	_____	___	Constructed on Existing Ground	
_____	_____	___	Level Section Length	
_____	_____	___	Exit Slope	
			As-Built Elevations & Dimensions*:	
			Barrel:	Elev/Size
_____	_____	___	Inlet EL	_____
_____	_____	___	Outlet EL	_____
_____	_____	___	Slope & Length	_____
_____	_____	___	Size	_____
			Riser:	
_____	_____	___	Trash Rack	
_____	_____	___	Low Flow Size	_____
_____	_____		Slot/Weir Sizes:	
_____	_____	___	Slot 1	_____
_____	_____	___	Slot 2	_____
_____	_____	___	Slot 3	_____
_____	_____	___	Top Weir	_____
			Embankment:	
_____	_____	___	Top of Dam	_____
_____	_____	___	Minimum Freeboard	_____
_____	_____	___	Embankment Slopes	_____
			Volume Certification:	
_____	_____	___	2-Year Volume	
_____	_____	___	10-Year Volume	
_____	_____	___	100-Year Volume	
_____	_____	___	As-Built Contours Shown on Plans	
			Stabilization Certification:	
_____	_____	___	Seed & Mulch Applied to Embankment & Bare Soils Areas	
_____	_____	___	Soils Stabilized	

*Note: If elevations differ by more than 0.2 ft, or pipe diameters differ by more than 2 inches, or areas of riser openings differ by more than 5% of those shown on the plans, then submit revised hydraulics for approval.

Dam:_____ **Weather:** _____ **Date:** _____

Inspectors:_____ **Pool Level:**_____

MARYLAND DAM INSPECTION CHECKLIST	Y	N	Monitor Repair
1. CREST			
Ground cover in good condition			
Settlements Depressions Cracks			
2. UPSTREAM SLOPE			
Ground cover in good condition			
Riprap in good condition			
Erosion Animal Burrows Trees Shrubs			
Settlements Depressions Bulges Cracks			
3. DOWNSTREAM SLOPE			
Ground cover in good condition			
Erosion Animal Burrows Trees Shrubs			
Settlements Depressions Bulges Cracks			
Seepage _____ gpm			
4. INTERNAL DRAINAGE SYSTEM			
Seepage/drain flow: Left _____ gpm Right _____ gpm Other _____ gpm			
Does seepage contain fines?			
5. ABUTMENT CONTACTS			
Trees Shrubs Erosion			
Seepage _____ gpm			
6. SPILLWAY/RISER STRUCTURE Concrete or Metal Pipe			
Spalling Cracking Corrosion Erosion Scaling Exposed Reinforcement			
Joints: Displacement Leakage Loss of joint material			
Trash racks: Operational Broken Bent Rusted Debris Obstructed			
Sluice/Drain gates: Operational Broken Bent Corroded Leaking			
7. SPILLWAY CONDUIT Concrete or Metal Pipe			
Debris Cracking Leakage Spalling Exposed reinforcement			
Joints: Displacement Leakage Loss of joint material			
8. STILLING BASIN/PLUNGE POOL Riprap or Concrete			
Spalling Cracking Erosion Scaling Exposed Reinforcement Joint Deterioration			
Undercutting Eroding			
Outlet channel condition:			
Tailwater elevation and flow condition:			
9. EMERGENCY SPILLWAY			
Ground cover in good condition			
Erosion Trees Shrubs Obstructions			
OVERALL CONDITION: Excellent Good Fair Poor Unsafe			

Notes:

FACT SHEET
JUDICIAL REVIEW PROCESS

Dam Safety permits issued by Maryland Department of the Environment (Department) can be challenged through a request for direct judicial review in the Circuit Court for the county where the activity authorized by the permit will occur. Applicants, and persons who meet standing requirements under federal law and who participated in a public comment process by submitting written or oral comments (where an opportunity for public comment was provided), may seek judicial review. Judicial review will be based on the administrative record for the permit compiled by the Department and limited to issues raised in the public comment process (unless no public comment process was provided, in which case the review will be limited to issues that are germane to the permit).

Who Has Standing?

Anyone who meets the threshold standing requirements under federal law and is either the applicant or someone who participated in the public participation process through the submission of written or oral comments, as provided in § 5-204 of the Environment Article, Annotated Code of Maryland (2013 Replacement Volume, as amended). The three traditional criteria for establishing standing under federal law are injury, causation, and redressability, although how each criterion is applied is highly fact-specific and varies from case to case. Further, an association has standing under federal law to bring suit on behalf of its members when its members would otherwise have standing to sue in their own right, the interests at stake are germane to the organization's purpose, and neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.

What is the Procedure for Seeking Judicial Review?

Petitions for judicial review of a final determination or permit decision subject to judicial review must be filed in accordance with § 1-605 and § 5-204(i)(2) of the Environment Article no later than thirty (30) days following publication by the Department of a notice of final determination or final permit decision and must be filed in the circuit court of the county where the permit application states that the proposed activity will occur. Petitions for judicial review must conform to the applicable Maryland Rules of Civil Procedure.

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, CORPS OF ENGINEERS
ATTN: REGULATORY BRANCH
2 HOPKINS PLAZA
BALTIMORE, MD 21201

FEB 1 2 2018

Operations Division

SUBJECT: **CENAB-OP-RMN (POINT OF ROCKS/STREAM RESTORATION) 2017-61539**

Mr. Tyler Muntz
Frederick County Dept. of Public Works
355 Montevue Lane
Frederick, Maryland 21702

Dear Mr. Muntz:

This is in reference to your application, **CENAB-OP-RMN (POINT OF ROCKS/STREAM RESTORATION) 2017-61539**, for Department of Army (DA) verification of Nationwide Permit (NWP 27) and TMDL Regional General Permit authorization to restore approximately 4,000 linear feet of stream channel along an unnamed tributary to Potomac River and to retrofit an existing stormwater management basin which will result in 0.16 acre palustrine forested wetland impacts and 0.27 acre palustrine open water impacts. The stream restoration project will stabilize the stream bed by grading stream banks, constructing a bankfull bench, installing multiple rock grade control structures and planting trees and live stakes within the riparian buffer. The project is located north of the Ballenger Creek Pike/Hobbits Glen Road intersection to the Bank Street/Clay Street intersection in Point of Rocks, Frederick County, Maryland.

Our evaluation has determined that the proposed 4,000 lf stream restoration, if accomplished in accordance with the enclosed plan(s), is authorized by Nationwide Permit(s) for purposes of Section 404 of the Clean Water Act as published in the January 6, 2017 Federal Register, Final Notice of Issuance, Reissuance, and Modification of NWPs (82 FR 1860), NWP number(s) **(27)**, provided all State authorizations are granted. If any of the information contained in the application and/or plan(s) is later found to be in error, this authorization may be subject to modification, suspension, or revocation.

In addition, the 0.16 acre palustrine forested wetland impacts and 0.27 acre palustrine open water impacts associated with stormwater management basin retrofit is authorized as a Category 1 Activity under the Chesapeake Bay Total Maximum Daily Load (TMDL) Regional General Permit. This general permit for the pond retrofit work is valid until June 30, 2020.

Enclosed is a list of conditions and management practices which must be followed for purposes of the NWP(s) in performing the stream restoration work. In addition to the enclosed list of conditions, you must also comply with the following special conditions:

1. No greater than 5% of the total stream restoration length may show signs of scour (200 lf) based on visual inspection.

2. Stream banks should be constructed with an average slope of 2:1.

3. Trees will be planted at a density no less than 15 lf apart within a minimum 25 lf riparian buffer along each side of the stream channel.

4. Woody vegetation within the riparian buffer must achieve an 85% survival rate by the end of the 5th monitoring period.

5. The riparian buffer must have an 85% aerial coverage by the end of the 5th monitoring period (Combined herbaceous and woody vegetation)

6. Invasive species must not exceed 10% of the total aerial coverage within the restoration area by the end of the 5th monitoring period.

Table 1: Required Success Criteria for DA Permit 2017-61539

Monitoring Requirement	Pre-Construction Baseline Data	Year 1	Year 3	Year 5	Goal To Achieve By Year 5
Stream Bank Scour (%)	*	*	*	*	Less than 200 lf of stream bank scour based on visual inspection
Stream Bank Slope	*	*	*	*	2:1 Average
Tree Density in 25 lf Riparian Buffer	*	*	*	*	No less than 15 lf spacing
Woody Vegetation Survival Rate in Riparian Buffer (%)	NA	*	*	*	85%
Stream Riparian Zone Aerial Coverage (%)	*	*	*	*	85%
Invasive Species Density within Restoration Area (%)	*	*	*	*	< 10%

*Required data during monitoring period

7. Mitigation monitoring reports must be submitted to this office by December 31 following the completion of construction for three monitoring periods (YEAR 1,3 and 5) or until released from this office. Monitoring reports must only contain the following:

    a. Project Name; Applicant/Consultant Contact Information; Corps file number; Directions to restoration site; Coordinates of project

    b. A brief summary of project impacts and restoration.

    c. As-built plans of the restoration site documenting any changes to the approved plans.

    d. Photos of the restoration site every 50 lf along the stream channel and photo location points on the as-built plan.

    e. A determination and supporting documentation indicating whether each of the success criteria listed above have been achieved.

    f. A corrective action plan to address any success criteria that have not been achieved in the table above.

8. Dredge material from the stormwater management basin may not be placed in any jurisdictional stream or wetland. Before construction begins, please forward a letter to our office with a map documenting the proposed disposal area.

The use of this NWP is contingent upon obtaining an individual State 401 water quality certification (WQC). A copy of this letter is being provided to Mr. Paul Busam of the Maryland Department of the Environment. The conditions of the State Section 401 WQC will become conditions of the NWP.

Each permittee who receives a NWP verification from the Corps of Engineers must submit a signed certification regarding completed work and any required mitigation. Therefore, upon completion of the authorized work and required mitigation, you are required to complete the enclosed compliance certification form and return it to the address indicated thereon.

This verification for stream restoration is valid until the NWP is modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2022. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit.

After you have obtained all required Federal, State, and/or local authorizations, you may proceed with the authorized work. When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below. A copy of this nationwide permit verification signed by the transferee must be submitted to the Baltimore District to validate the transfer.

If you have any questions concerning this matter, please call Mr. Donald Bole, of this office, at (410) 962-6079 or e-mail Donald.R.Bole@usace.army.mil.

Sincerely,

Joseph P. DaVia
Chief, Maryland Section Northern

Enclosures

Cc:
Mr. Paul Busam, MDE, Waterway Construction Division
Ms. Nikki Radke, Straughan Environmental, Inc.

_____
(Transferee)

Appendix D. EPA Environmental Justice Screening Report

EJScreen Report (Version 2.1)

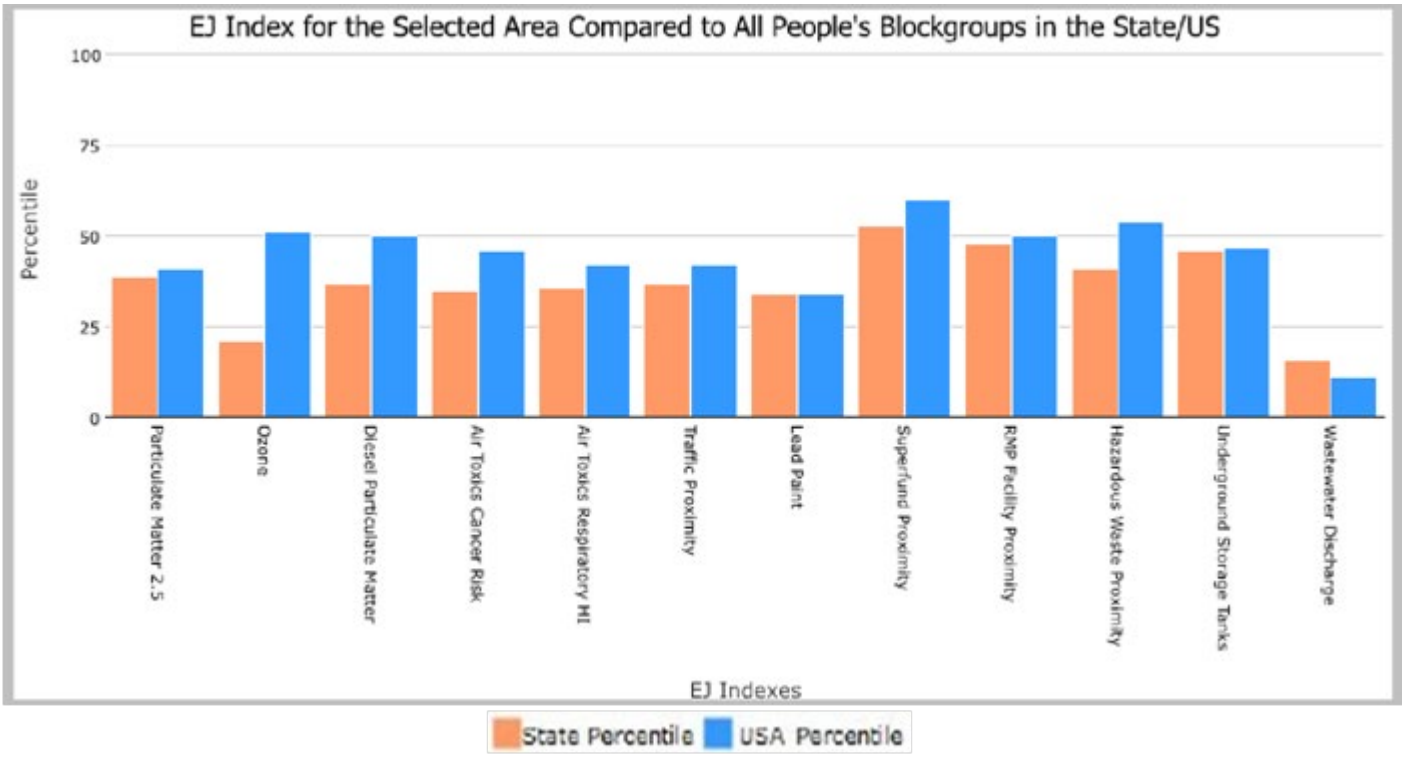
County: Frederick, MARYLAND, EPA Region 3

Approximate Population: 255,955

Input Area (sq. miles): 667.41

(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	39	41
EJ Index for Ozone	21	51
EJ Index for Diesel Particulate Matter*	37	50
EJ Index for Air Toxics Cancer Risk*	35	46
EJ Index for Air Toxics Respiratory HI*	36	42
EJ Index for Traffic Proximity	37	42
EJ Index for Lead Paint	34	34
EJ Index for Superfund Proximity	53	60
EJ Index for RMP Facility Proximity	48	50
EJ Index for Hazardous Waste Proximity	41	54
EJ Index for Underground Storage Tanks	46	47
EJ Index for Wastewater Discharge	16	11



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

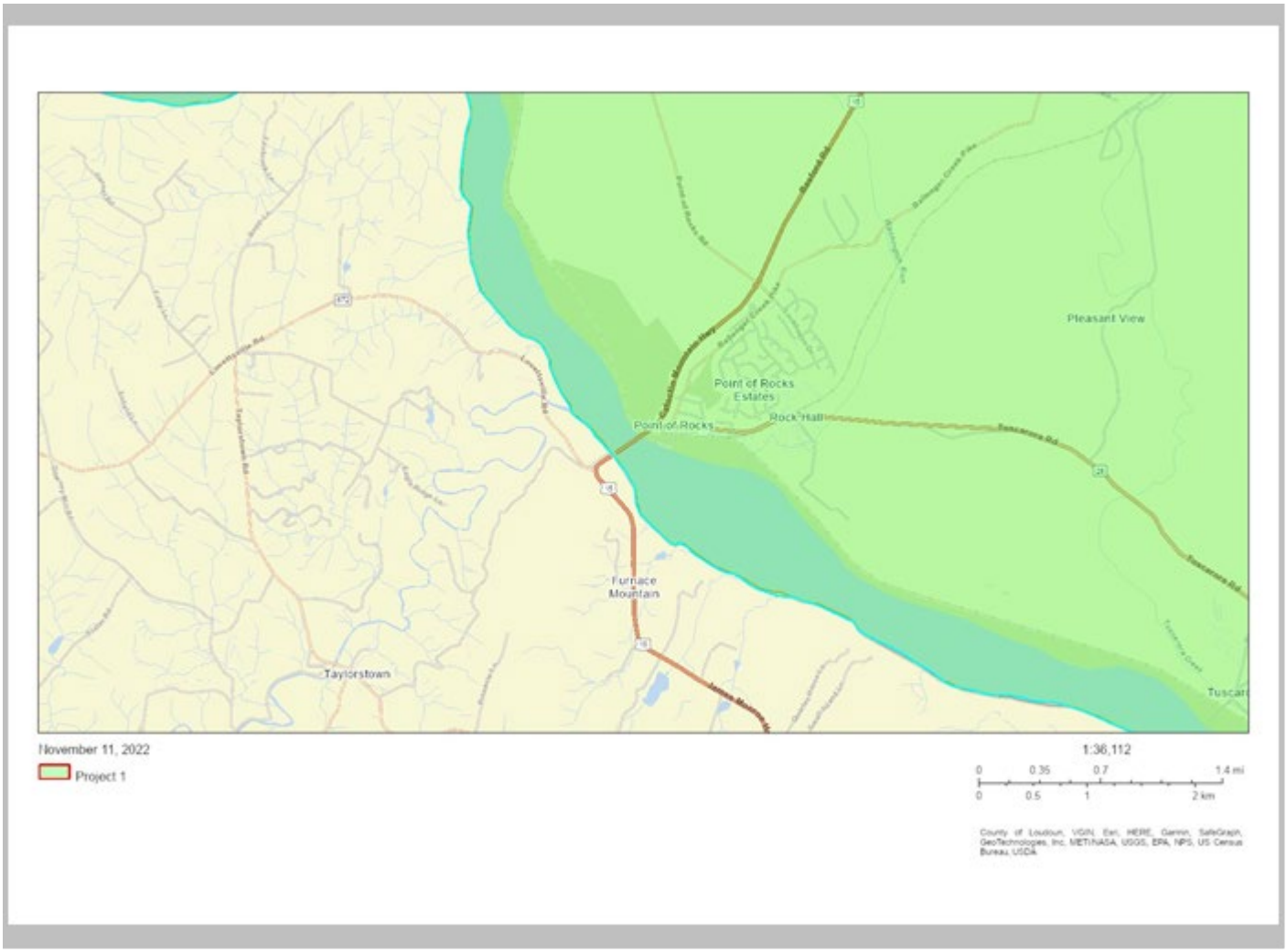
EJScreen Report (Version 2.1)

County: Frederick, MARYLAND, EPA Region 3

Approximate Population: 255,955

Input Area (sq. miles): 667.41

(The study area contains 1 blockgroup(s) with zero population.)



Sites reporting to EPA	
Superfund NPL	1
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	29

EJScreen Report (Version 2.1)

County: Frederick, MARYLAND, EPA Region 3

Approximate Population: 255,955

Input Area (sq. miles): 667.41

(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (µg/m³)	8.28	8.19	38	8.67	41
Ozone (ppb)	42.6	44.2	19	42.5	53
Diesel Particulate Matter* (µg/m³)	0.247	0.324	29	0.294	50-60th
Air Toxics Cancer Risk* (lifetime risk per million)	29	30	79	28	70-80th
Air Toxics Respiratory HI*	0.33	0.37	52	0.36	50-60th
Traffic Proximity (daily traffic count/distance to road)	350	810	48	760	58
Lead Paint (% Pre-1960 Housing)	0.18	0.28	46	0.27	45
Superfund Proximity (site count/km distance)	0.18	0.13	82	0.13	83
RMP Facility Proximity (facility count/km distance)	0.91	0.79	74	0.77	73
Hazardous Waste Proximity (facility count/km distance)	2.4	3.8	46	2.2	73
Underground Storage Tanks (count/km²)	1.3	1.9	54	3.9	51
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.14	0.48	91	12	86
Socioeconomic Indicators					
Demographic Index	21%	35%	34	35%	36
People of Color	28%	50%	36	40%	48
Low Income	15%	21%	44	30%	27
Unemployment Rate	4%	5%	52	5%	52
Limited English Speaking Households	2%	3%	67	5%	64
Less Than High School Education	7%	9%	52	12%	46
Under Age 5	6%	6%	58	6%	58
Over Age 64	15%	15%	49	16%	46

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

For additional information, see: www.epa.gov/environmentaljustice

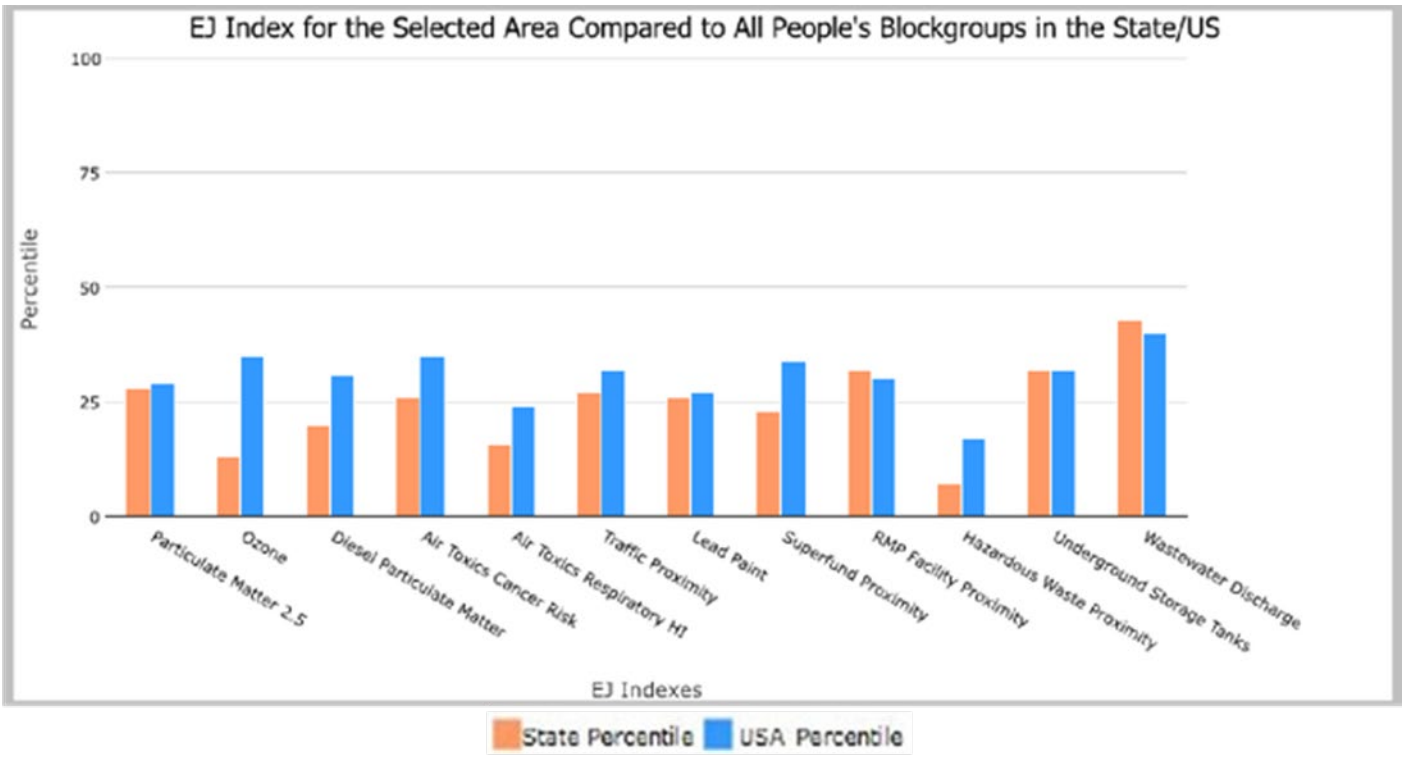
EJScreen Report (Version 2.1)

Blockgroup: 240217523033, MARYLAND, EPA Region 3

Approximate Population: 2,229

Input Area (sq. miles): 9.08

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	28	29
EJ Index for Ozone	13	35
EJ Index for Diesel Particulate Matter*	20	31
EJ Index for Air Toxics Cancer Risk*	26	35
EJ Index for Air Toxics Respiratory HI*	16	24
EJ Index for Traffic Proximity	27	32
EJ Index for Lead Paint	26	27
EJ Index for Superfund Proximity	23	34
EJ Index for RMP Facility Proximity	32	30
EJ Index for Hazardous Waste Proximity	7	17
EJ Index for Underground Storage Tanks	32	32
EJ Index for Wastewater Discharge	43	40



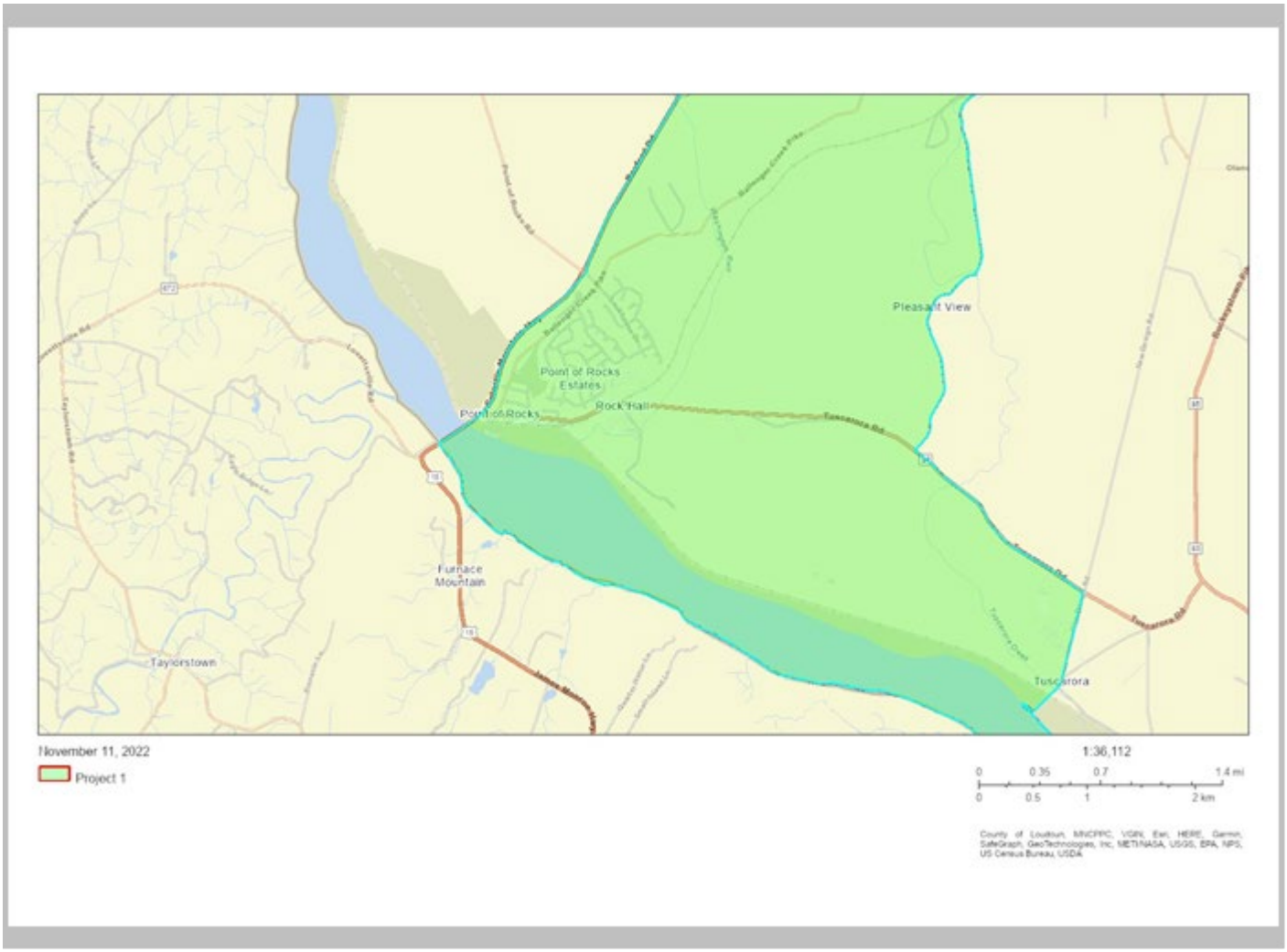
This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

EJScreen Report (Version 2.1)

Blockgroup: 240217523033, MARYLAND, EPA Region 3

Approximate Population: 2,229

Input Area (sq. miles): 9.08



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJScreen Report (Version 2.1)

Blockgroup: 240217523033, MARYLAND, EPA Region 3

Approximate Population: 2,229

Input Area (sq. miles): 9.08

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (µg/m³)	8.21	8.19	34	8.67	39
Ozone (ppb)	42.2	44.2	16	42.5	50
Diesel Particulate Matter* (µg/m³)	0.198	0.324	19	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	30	88	28	80-90th
Air Toxics Respiratory HI*	0.3	0.37	32	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	200	810	38	760	46
Lead Paint (% Pre-1960 Housing)	0.1	0.28	35	0.27	35
Superfund Proximity (site count/km distance)	0.055	0.13	28	0.13	47
RMP Facility Proximity (facility count/km distance)	0.21	0.79	46	0.77	40
Hazardous Waste Proximity (facility count/km distance)	0.1	3.8	5	2.2	19
Underground Storage Tanks (count/km²)	0.31	1.9	33	3.9	35
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.0049	0.48	81	12	63
Socioeconomic Indicators					
Demographic Index	14%	35%	20	35%	19
People of Color	24%	50%	32	40%	44
Low Income	4%	21%	13	30%	7
Unemployment Rate	4%	5%	53	5%	52
Limited English Speaking Households	0%	3%	0	5%	0
Less Than High School Education	5%	9%	35	12%	32
Under Age 5	10%	6%	87	6%	86
Over Age 64	10%	15%	30	16%	29

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

For additional information, see: www.epa.gov/environmentaljustice