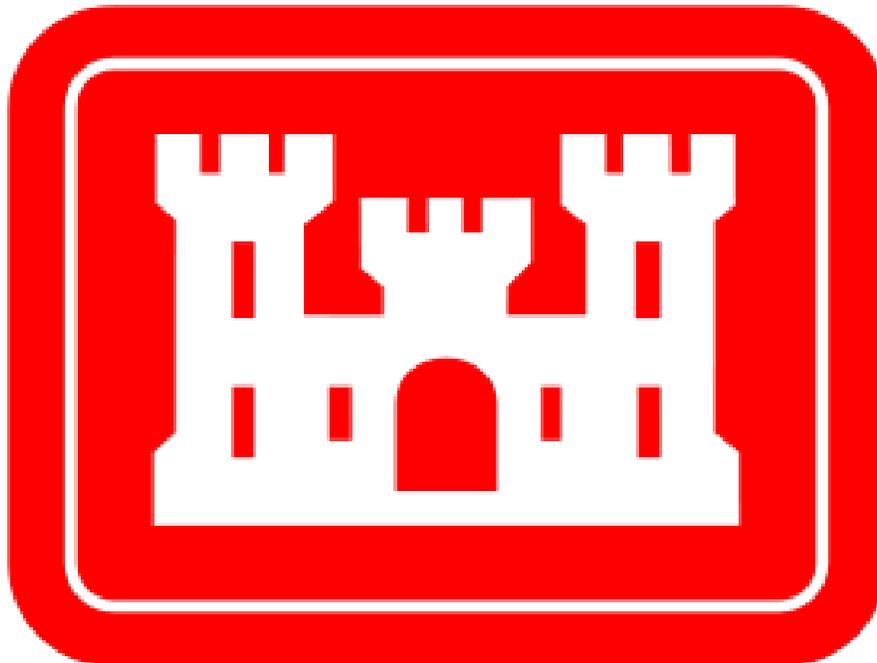


Draft Supplemental Environmental Assessment  
Water Street, Village of Barboursville,  
Section 14 Emergency Streambank Protection Project  
Cabell County, West Virginia



U.S. Army Corps of Engineers  
Huntington District  
Huntington, West Virginia  
August 2020

WATER STREET, VILLAGE OF BARBOURSVILLE  
SECTION 14 EMERGENCY STREAMBANK PROTECTION PROJECT  
CABELL COUNTY, WEST VIRGINIA

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*The brief and concise nature of this document is consistent with the 40 CFR requirements of the National Environmental Policy Act (NEPA) to reduce paperwork and delay by eliminating duplication with existing environmental documentation, incorporating pertinent material by reference, and by emphasizing interagency cooperation.*

## **1.0 INTRODUCTION**

### **1.1 PROJECT BACKGROUND AND AUTHORIZATIONS**

The Water Street, Village of Barboursville Section 14 Emergency Streambank Protection Project was proposed by the U.S. Army Corps of Engineers (Corps) Huntington District in 2016 to address erosion issues threatening Water Street and adjacent utilities under Section 14 of the Flood Control Act of 1946, as amended. Section 14 legislation under the Continuing Authorities Program authorizes the U.S. Army Corps of Engineers to study, design, and construct emergency streambank and shoreline works to protect public services including streets, bridges, schools, and water and sewer lines from damage or loss by natural erosion.

Pursuant to the Section 14 authority, the Corps identified and evaluated alternatives for addressing erosion issues threatening Water Street and adjacent utilities in the approved “CAP Section 14 Emergency Streambank Protection, Guyandotte River, Water Street, Village of Barboursville, West Virginia Detailed Project Report (DPR) and Integrated Environmental Assessment”, dated July 2017. All appropriate levels of review were completed and the Great Lakes and Ohio Rivers Division approved the DPR and Integrated Environmental Assessment on July 12, 2017. Pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, et seq., as amended, the Corps executed a Finding of No Significant Impact (FONSI) July 24, 2017 for the Federal action proposed to carry out emergency streambank protection in the Village of Barboursville, West Virginia.

Following completion of the approved study, the project was selected to receive implementation funding under the Bipartisan Budget Act of 2018. A Project Partnership Agreement (PPA) was executed in May 2019. As a result of this funding and execution of the PPA, construction began in October 2019 to complete the recommended plan as documented in the 2017 DPR and Integrated Environmental Assessment and the May 2019 Memorandum For Record. Included for implementation with Bipartisan Budget Act funding consisted of construction of two stone buttress and one lagging panel replacement, limited and benched excavation of failed soils to stable foundation geometries, placement of filter and reinforcement fabric under 24” stone with a toe of slope key, and wooden lagging replacement within the project area, and disposal of material at an approved landfill.

In 2020, continued site degradation occurred during construction as a consequence of recent high water events. This degradation and additional bank failure necessitated the need for additional stone treatment beyond the limits of the previously defined buttress extents and installation of reinforced lagging underneath the buttress to provide stability during excavation as identified in engineering’s Memorandum for the Commander dated May 14, 2020. This treatment extent was



not identified in the approved 2017 report however, the area is located within the original construction work limit boundary evaluated in the DPR and Integrated Environmental Assessment. Excavated material since initiation of construction has been disposed of at Barboursville Park, owned and operated by the Non-Federal Sponsor, due to cost impacts associated with hauling material to an approved landfill.



Figure 1 - Photograph showing threatened reach, proximity to road and over steepened slope



Figure 2 - Photograph showing top of slop area with misaligned previous H-Pile wall (green paint on top of piles).

The Corps Huntington District identified that failure to take immediate and continued corrective actions could result in further destabilization and severely damage the stabilization progress to date. On May 15, 2020, the Corps Huntington District Commander invoked emergency measures outlined under NEPA and in accordance with 40 CFR § 1506.11, 33 CFR § 230.8, and Engineering Regulation 200-2-2, Procedures for Implementing NEPA, paragraph 8, to continue implementation of the project due to the active failure conditions on the construction site. Coordination with the Great Lakes and Ohio River Division was completed following the decision to invoke emergency procedures. Concurrently with these emergency measures, a Supplemental Environmental Assessment is being prepared pursuant to NEPA, Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508), and Corps implementing regulation, ER 200-2-2, for the adjustments in project design including the off-site disposal area at Barboursville Park. Additionally, the Project Partnership Agreement was amended in June 2020 to reflect these changes.

The proposed Project is consistent with a Project Partnership Agreement between the Village of Barboursville and the Corps. The project is authorized by Section 14 of the Flood Control Act of 1946 (Public Law 79-526), as amended and by the Bipartisan Budget Act of 2018.



## **1.2 PURPOSE, NEED, AND SCOPE**

The purpose of the Water Street Section 14 Project is to provide a cost-effective means to protect Water Street and adjacent public utilities from immediate endangerment as a result of flood erosion and related recessional failures. In absence of a complete solution for the project area, the outside bend of streambank fill would continue to undergo flood-related erosion and failure, resulting in road collapse and utilities breaching. Failure to protect this road would result in loss of public access to the residential area and would preclude truck, school bus, and emergency response vehicles, and breach adjacent public utilities.

This Supplemental Environmental Assessment (SEA) is being prepared by the Corps to further document the actions under the emergency procedures and evaluate potential impacts associated with the off-site disposal site while determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) regarding these actions. This SEA concisely documents environmental considerations and assists in determining whether significant impacts may be associated with the proposal pursuant to 40 CFR 1508.9(a) and tiers pursuant to 40 CFR 1508.28 to the previous EA prepared July 2017. The EA prepared in July 2017 was integrated in the DPR for which a FONSI was executed July 24, 2017.

The scope of this SEA is limited to considerations surrounding adjustments in project design within the existing project area and use of the disposal location at Barboursville Park. This document will be tiered from the 2017 DPR and Integrated Environmental Assessment.

## **1.3 PROJECT LOCATION**

Barboursville is a village in Cabell County, West Virginia. The Section 14 project is located along the right descending bank of the Guyandotte River along Water Street within the Village of Barboursville between river miles 7.7 and 7.9 of the Guyandotte River. Water Street is located along the top of bank. Included in the project area is approximately 850 LF of streambank which is affected by flood flow-related erosion and recessional failure. The disposal area is located within Barboursville Park, west of the intersection of Deer Run Road and Park Run road in Barboursville, West Virginia. The disposal site is approximately four miles from the project area.



Figure 3 - Project Location



Figure 4 – Disposal Location at Barbourville Park (Village of Barbourville Park website photo source)



## **1.4 RELEVANT PRIOR STUDIES, REPORTS, AND AGREEMENTS**

### **1.4.1 Final Detailed Project Report and Integrated Environmental Assessment, Guyandotte River, Water Street, Village of Barboursville, Cabell County, West Virginia, CAP Section 14 Emergency Streambank Protection Project.**

The DPR and Integrated Environmental Assessment provides a detailed analysis of alternative measures in response to the Guyandotte River flood erosion and streambank failure adjacent to the Village of Barboursville, which is endangering Water Street and adjacent utilities. The Integrated Environmental Assessment evaluated and documented impacts on the proposed project specifically the Water Street site, to the human and natural environment. The DPR and Integrated Environmental Assessment was finalized in July 2017. A FONSI for the Federal action proposed to carry out emergency streambank protection measures in the Village of Barboursville, West Virginia was executed July 24, 2017.

The DPR and Integrated Environmental Assessment approved the Recommended Plan which consisted of a stone Buttress and two reaches of lagging panel replacement. Requirements for the construction of this alternative included the construction of a stone buttress, replacement of timber lagging panels, replacement of a catch basin, and storm drain extensions to the Guyandotte River above Ordinary High Water. Within the approximately 240 LF reach where Water Street had subsided and breached, failed soils and rubble would be excavated to form a placement surface for geotextile reinforcement fabric and stone buttress construction. Within the two reaches of adjacent in-place H-pile and lagging walls (400 LF total), timber lagging panels have deteriorated with the resulting loss of road fill and related subsidence. This lagging would be replaced with reinforced concrete lagging panels. Site access would require an approximate 1,100 LF temporary road along the lower terrace to permit equipment and materials delivery, use during excavation and the construction. Following construction, pavement replacement would occur along 240 LF of Water Sheet, curb replacement on the landward and riverward limits of the travel way would be required together with the installation of guardrail along the stone buttress. Any required off-site disposal would be taken to an approved landfill facility.

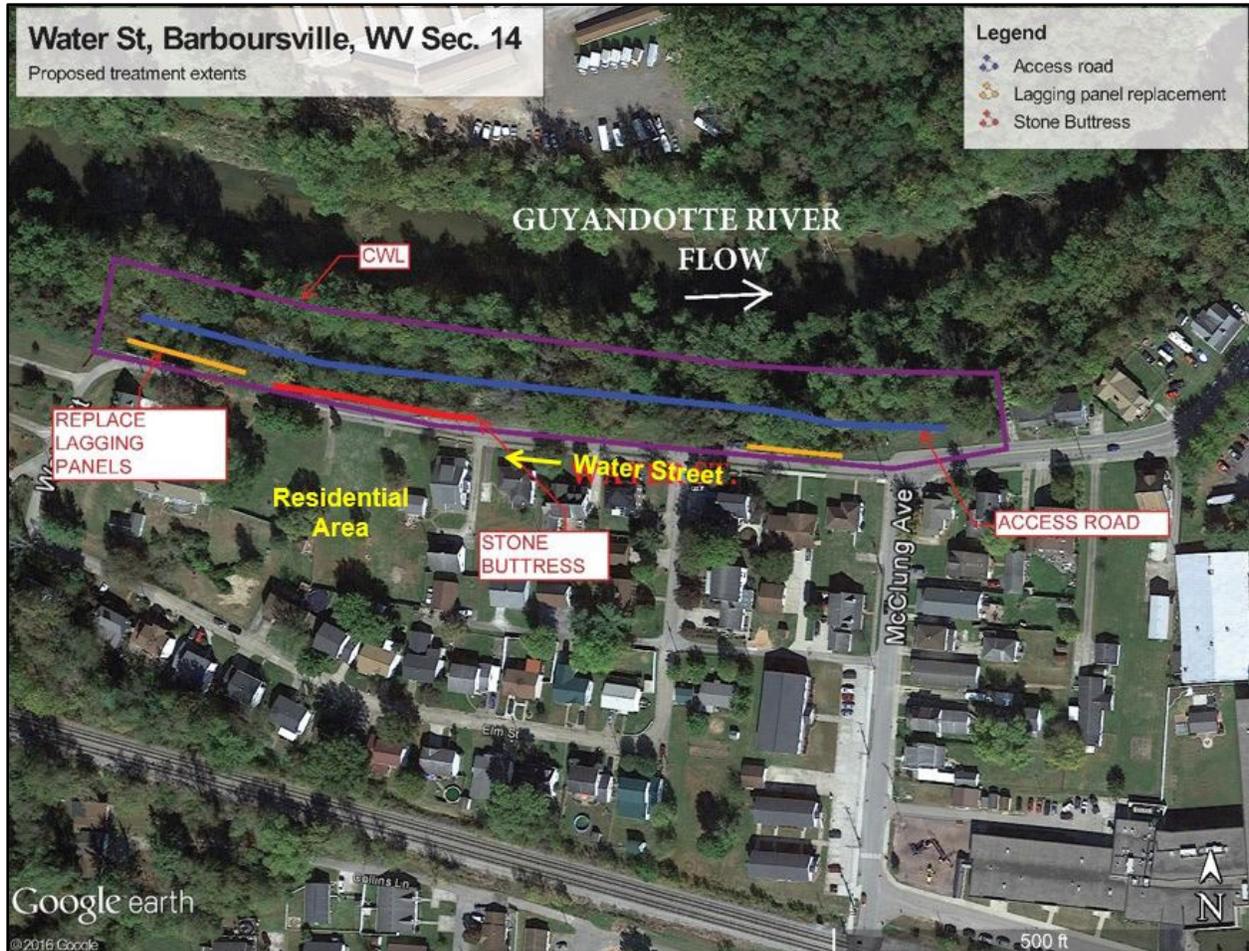


Figure 5 - Recommended Plan as documented in the July 2017 Detailed Project Report

#### 1.4.2 Water Street, Barboursville, WV Section 14 Emergency Streambank Protection Project, Revision to Recommended Alternative in the approved Detailed Project Report - February 2019 Memorandum For Record

A Memorandum For Record was signed in February 2019 documenting modifications to the recommended plan. The revised recommended plan documented in this Memorandum For Record, replaced the stone buttrass with two sections of wall comprised of H-pile and lagging with anchoring (375 linear feet), two sections of lagging replacement (225 linear feet), and armoring of a storm drain outfall (120 linear feet) to prevent undercutting. Due to new information from soil borings, the site was determined suitable to support a stone buttrass instead of the wall and anchor system and this modification documented in the Memorandum For Record was not carried forward.

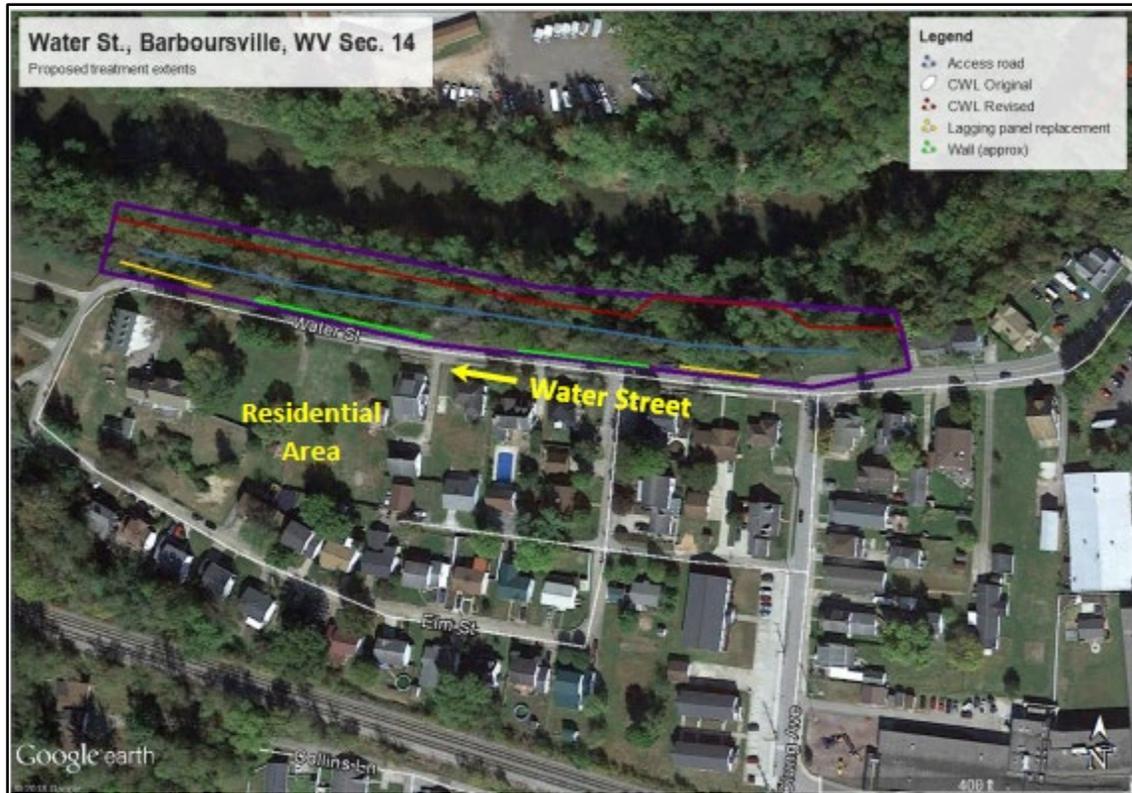


Figure 6 - Revised Treatment in the February 2019 Memorandum For Record

### 1.4.3 Water Street, Barboursville, WV Section 14 Emergency Streambank Protection Project, Revision to Recommended Alternative in the approved Detailed Project Report – May 2019 Memorandum for Record

A Memorandum for Record was signed in May 2019 to revise the recommended alternative from the changes documented in the February 2019 Memorandum and the approved 2017 report. Since approval of the DPR and Integrated Environmental Assessment, multiple high water events in 2018 resulted in additional erosion and bank failure within the project area. The change in site conditions resulted in the need to modify the project in order to meet project objectives. It was determined that the project site was suitable to support a stone buttress and proposed to replace one of the lagging replacements with a buttress concept, creating two buttress reaches and one lagging replacement reach.

The adjustments to the recommended plan identified in the Memorandum For Record included limited, benched excavation of failed soils to stable foundation geometries, placement of filter and reinforcement fabric under 24" stone with a toe of slope key in in two areas adjacent to Water Street. Identified upstream extents of construction were approximately 280 linear feet and downstream extents at the Water Street and McClung Ave. intersection were approximately 160 linear feet. Wooden lagging would be replaced in one section of the project area.



Figure 7 - Revised Treatment in the May 2019 Memorandum For Record

#### 1.4.4 Project Partnership Agreement

The Government and the Non-Federal Sponsor entered into a Project Partnership Agreement on December 11, 2017, with Amendment 1 to the agreement in May 2019, and Amendment 2 in June 2020. Under this agreement, the Project will be constructed on lands owned or controlled by the Non-Federal Sponsor, the Non-Federal Sponsor shall be responsible solely for any costs it incurs after the effective date of Amendment Number 1 to this Agreement for providing lands, easements, and rights-of-way, performing relocations, making improvements to lands, easements, and rights-of-way to enable the disposal of dredged or excavated material, and conducting investigations for hazardous substances pursuant to Article XIII.A required to complete construction of the Project, without credit or reimbursement by the Government.

#### 1.4.5 Water Street, Barboursville, WV, Section 14 Project – Memorandum For Commander dated May 14, 2020

The Memorandum for Commander described current conditions as consisting of a very high over-steepened slope with extremely poor soil conditions which have been further destabilized by the current wet weather period and frequent high river stages. Engineering Staff have identified slope and road failure, numerous seeps, and springs which have resulted in extensive additional displacement of relic treatments, a clay/sand lens, and soils. These conditions have become more numerous and extensive as a consequence of the extended periods of precipitation and adjacent Guyandotte River flood stages, resulting in additional recharge and discharge related slope failures. Based on the Memorandum for Commander, without continuing slope



stabilization operations, existing conditions would most likely lead to failure of the slope and would also threaten the adjacent waterline which is three feet from failed areas.

#### **1.4.6 Water Street Section 14 Project, Barboursville, Cabell County, West Virginia – Memorandum For Record dated May 15, 2020**

On May 15, 2020, the Huntington District Commander exercised emergency procedures outlined under NEPA in accordance with 40 CFR § 1506.11, 33 CFR § 230.8, and Engineering Regulation 200-2-2, Procedures for Implementing NEPA, 4 March 1988, paragraph 8, to continue implementation of the project due to the active failure conditions on the construction site. This memorandum also outlined the commitments for the District to perform a SEA and communicate with West Virginia Department of Environmental Protection (WVDEP) the emergency nature of the project for emergency National Pollutant Discharge Elimination System (NPDES) permit evaluation or temporary permission pending permit issuance under Section 402 of the Clean Water Act.

#### **1.4.7 Water Street Section 14 Project, Barboursville, Cabell County, West Virginia – Memorandum For Record dated June 20, 2020**

On June 20, 2020, the District Chief of Planning and Deputy District Engineer signed a Memorandum For Record documenting the May 2020 memorandums, description of the revised Recommended Plan, and path forward. This memorandum was included in the second amendment to the Project Partnership Agreement.

## **2.0 PROPOSED ACTIONS AND ALTERNATIVES**

### **2.1 Recommended Plan**

The Recommended Plan includes construction of limited, benched excavation of failed soils to stable foundation geometries; the placement of filter and reinforcement fabric under 24" top size suitable, well-graded stone to a geometry of approximately 1V:2.5H; together with a toe of slope key adjacent to Water Street, beginning at the Water Street and McClung Avenue intersection and extending approximately 730 linear feet upstream with standalone lagging replacement at the furthest upstream extent and lagging replacement that is integrated with the stone buttress at the Water Street and McClung Avenue intersection; and approximately three stone trench drains spaced approximately 200 feet apart that extends from the toe key to the Guyandotte river normal pool land-water contact. Within the 730 linear feet of total project treatment, 310 linear feet of stone buttress extension was not originally identified in the 2017 DPR and Integrated Environmental Assessment (See Figure 8). Excavated material has been disposed of at the Village of Barboursville City Park, which is owned and operated by the Non-Federal Sponsor.



Figure 8 – Proposed Action Alternative with revised June 2020 treatment extents (additional areas of treatment in yellow)



Figure 9 – Aerial Photograph of Village of Barboursville City Park Disposal Area



Figure 10 – Photo of Disposal Area

## 2.2 No Action Alternative (NAA)

The without project condition assumes no action by the Federal Government to implement additional modifications to the Recommended Plan. It reflects the continuation of the existing project identified in the 2017 DPR and Integrated Environmental Assessment and May 2019 Memorandum For Record which revised the project's Recommended Plan.

In the absence of the proposed measures for the project area, existing conditions such as extensive additional displacement of relic treatments, a clay/sand lens, and soils would most likely lead to failure of the slope, severely damage the stabilization progress to date, and threaten the adjacent waterline which is located three feet from failed areas.

This alternative was considered unacceptable due to the potential safety hazards resulting from future floods and flood damages. However, it is included in the alternatives analysis to establish a baseline condition for existing human and natural environmental conditions, to allow comparison between future without and with project actions, and to determine potential environmental effects of proposed project alternatives.

## 3.0 ENVIRONMENTAL SETTING AND CONSEQUENCE

This section discusses the existing conditions by resource category and any potential environmental impacts associated with the No Action Alternative (NAA) as well as with implementation of the Recommended Plan.



The Corps took context and intensity into consideration in determining potential impact significance, as defined in 40 CFR part 1508.27. The intensity of a potential impact is the impact's severity and includes consideration of beneficial and adverse effects, the level of controversy associated with a project's impacts on human health, whether the action establishes a precedent for future actions with significant effects, the level of uncertainty about project impacts and whether the action threatens to violate federal, state, or local laws established for the protection of the human and natural environment. The severity of an environmental impact is characterized as none/negligible, minor, moderate, significant, or beneficial. The impact may also be short-term or long-term in nature.

- **None/negligible** – No measurable impacts are expected to occur.
- **Minor** – A measurable and adverse effect to a resource. A slight impact that may not be readily obvious and is within accepted levels for permitting, continued resource sustainability, or human use. Minor adverse impacts should be avoided and minimized if possible, but should not result in a mitigation requirement.
- **Significant** – A measurable and adverse effect to a resource. A major impact that is readily obvious and is normally not within accepted levels for permitting, continued resource sustainability, or human use. Significant adverse impacts likely result in the need for mitigation.
- **Beneficial** – A measurable and positive effect to a resource. May be minor to major, resulting in improved conditions, sustainability, or viability of the resource.
- **Short-Term** – Temporary in nature and does not result in a permanent long-term beneficial or adverse effect to a resource. For example, temporary construction-related effects (such as, an increase in dust, noise, traffic congestion) that no longer occur once construction is complete. May be minor, significant, adverse or beneficial in nature.
- **Long-Term** – Permanent (or for most of the project life) beneficial or adverse effects to a resource. For example, permanent conversion of a wetland to a parking lot. May be minor, significant, adverse or beneficial in nature.

The Corps used quantitative and qualitative analyses, as appropriate, to determine the level of potential impact from proposed alternatives. Based on the results of the analyses, this SEA identifies whether a particular potential impact would be adverse or beneficial, and to what extent. CEQ regulations also require that a proposed action's cumulative impact be addressed as part of a NEPA document. Cumulative impacts are discussed in section 3.14 below

### 3.1 ENVIRONMENTAL RESOURCES NOT EVALUATED IN DETAIL

Certain resources areas were eliminated from further analysis in this SEA because they were either determined to be addressed adequately in the 2017 DPR and Integrated Environmental Assessment or there would be no effect to resources as a result of the revised Recommended Plan. No further analysis was determined on the following resources: Climate Preparedness and Resiliency, Floodplain, Aquatic Habitat, Land Use, Socioeconomics and Environmental Justice, Air Quality, and Health and Safety. The following discussion focuses only on consideration of



those resources determined to have potential for impacts associated with the alternatives, thus complying with the concise document requirement of 40 CFR 1508.9 (a).

### **3.2 Terrestrial Resources**

The project area consist of low quality riparian habitat as a result of eroding riverbank along the Guyandotte River. The project area is prone to erosion and bank failure, therefore, the riparian vegetation is stressed and sediment is transported from the terrace and river bank, rather than being retained as would occur in a healthy riparian environment. The Recommended Plan included removal of vegetation for placement of the stone buttress and lagging panel replacement treatment and was completed within the project reach under the original plan. The revised Recommended Plan which includes additional placement of stone did not require additional vegetation removal. Disposal material is continuing to be placed in an open field in Barboursville Park and does not require any tree clearing as the disposal location was mowed and maintained area prior to placement of fill. The only disturbance was to the mowed grass parkland which will be reseeded following placement of material. Therefore, impacts to terrestrial habitat under the Recommended Plan would be minor.

Under the NAA, failure to extend the treatment would undermine and damage the stabilization progress to date and would allow for continued erosion and bank failure to existing limited terrestrial habitat along the riverbank. Therefore, terrestrial habitat impacts of the NAA would be minor.

### **3.3 Water Quality**

Water quality in the Guyandotte River adjacent to the project area is relatively poor. In general, industrial pollutants, municipal sewers, storm water discharge, and urban runoff have resulted in long-term impacts on the water quality. Flood flows re-work and transport failed soils and recently deposited sediment, which are then deposited downchannel adjacent to the General McComas Bridge. Per Section 303(d) of the Clean Water Act (CWA) and the Water Quality Planning and Management Regulations (40CFR130.7), the lower Guyandotte River is listed as biologically impaired in the 2016 Final West Virginia Integrated Water Quality Monitoring and Assessment Report. Total Maximum Daily Loads have been developed for fecal coliform and iron in the lower Guyandotte River. The Guyandotte River is not a listed river under the Wild and Scenic Rivers Act.

The Recommended Plan would reduce localized sediment deposition caused by active erosion and failure of the riverbank in the project reach. Temporary impacts of construction would be minimized by following best management practices. The original DPR and Integrated Environmental Assessment identified treatment only placed above the Ordinary High Water Mark. However, during construction three stone trench drains were constructed and extended below Ordinary High Water Mark but did not extend into the Guyandotte River (below normal pool elevation). The project meets the conditions of a Nationwide Permit 13 and an individual 401 Water Quality Certification from the State of West Virginia is not required. The disposal site is located adjacent to wetlands; however, no fill is being placed in waters of the United



States at the disposal area and would not require permits under Section 401/404 of the Clean Water Act. A National Pollutant Discharge Elimination System (NPDES) permit is required for construction storm water management at both the active construction site and the disposal area. Permits for both sites have been obtained through coordination with WVDEP. A Sediment and Erosion Control Plan and Stormwater Pollution Prevention Plan along with best management practices have also been implemented by the Contractor to reduce impacts to water quality. Therefore, implementation of the Recommended Plan is expected to have a positive impact on water quality within the proposed project area as it will prevent further erosion of soils into the adjacent Guyandotte River.

Under the NAA, water quality would continue to be impaired due to uncontrolled soil erosion and potential failure of the riverbank.

### **3.4 Wetlands**

National Wetland Inventory maps were reviewed for the project area and a site reconnaissance was conducted to determine the validity of the National Wetland Inventory maps during development of the 2017 DPR and Integrated Environmental Assessment. This evaluation determined that no wetlands are located within the project area. However, the Barboursville Park disposal area was not identified or evaluated at the time of the approved report.

In 2016, the Village of Barboursville requested authorization to discharge dredged and/or fill material into waters of the United States in conjunction with the construction of recreational facilities at Barboursville Park. The project included discharge of 1,807 cubic yards of fill material into 0.28 acres of wetland (Wetland A) which is indirectly connected to the Guyandotte River. The Corps Regulatory Division determined that the project met the conditions of a Nationwide Permit 42. Special conditions of the permit included establishing .64 acres of emergent wetland adjacent to an existing wetland at the site, required wetland planting, monitoring, and preservation measures.

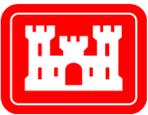


The area permitted in 2016 and authorized under the Nationwide Permit 42 overlaps with the area currently used as a disposal site under the Recommended Plan. However, Wetland A was previously filled under the Nationwide Permit and prior to any disposal activities associated with the Section 14 Project. Therefore, disposal material is currently being placed within upland areas (fill on top of filled Wetland A). A National Pollutant Discharge Elimination System (NPDES) permit for the disposal area was recertified for the site and Best Management Practices (BMPs) would be used to prevent runoff from the project into adjacent surface waters and Wetland B.

No impacts to wetlands are anticipated as part of the Recommended Plan or NAA.

### 3.5 Aquatic Resources

Due to lack of aquatic vegetation on typically un-vegetated sandy bars along the shallow bench in the Guyandotte River adjacent to the project area, the Recommended Plan would have no impacts to aquatic vegetation. The Guyandotte River supports an aquatic community of species which include invertebrates, mussels, fish, amphibians, and reptiles. No in-water work has or will occur at either the project area or the disposal site. The three stone trench drains areas recently constructed within the project area are below Ordinary High Water but do not extend into the water. The disposal site is adjacent to an existing wetland however, no impacts to the wetland or aquatic resources would occur as fill is placed in the upland area at Barbourville Park. Additionally, best management practices have been utilized during construction of the



proposed project to prevent runoff into adjacent surface waters. Therefore, there are no anticipated impacts to aquatic resources under the Recommended Plan.

Under the NAA, some small interim stabilization and road re-surfacing projects would most likely be undertaken to repair unstable reaches. These efforts would have similar impacts to the aquatic resources as the Recommended Plan, but would occur intermittently and for a shorter duration. Bank failure would be expected to continue within the project reach resulting in further degradation of aquatic habitats. Therefore, adverse impacts to aquatic habitat under the NAA could occur.

Under the NAA, some small interim stabilization and road re-surfacing projects would most likely be undertaken by the Village of Barboursville to repair unstable reaches but would occur intermittently. These efforts would have similar impacts to aquatic vegetation as the Recommended Plan. Therefore, aquatic vegetation impacts of the NAA would be null.

Under the NAA, in the absence of the proposed measures for the project area, existing conditions such as extensive additional displacement of relic treatments, a clay/sand lens, and soils would most likely lead to failure of the slope which could potentially impact downstream aquatic resources.

### **3.6 Threatened and Endangered Species**

At the time of the approved 2017 DPR and Integrated Environmental Assessment, three federally listed threatened and endangered species were listed within the project area. These species included the Indiana bat, Northern Long-eared bat, and Pink Mucket mussel. The project area intersects an Indiana bat summer maternity area where Indiana bats were captured/detected, but not tracked to a roost tree. Coordination under the Fish and Wildlife Coordination Act and Section 7 of the Endangered Species act was completed with the U.S. Fish and Wildlife Service (USFWS) on February 23, 2017. The project was approved seasonal tree clearing by the USFWS however, the Corps identified the need to remove trees before November outside of the tree clearing window. Recoordination with USFWS resulted in a summer acoustic survey for the Indiana bat within the footprint of the project area. Based on the survey, the USFWS concluded on October 9, 2019 that no Indiana bats or Northern Long-eared bats are expected to be adversely affected by the project.

Since the approval of the DPR and Integrated Environmental Assessment, five additional federally listed threatened and endangered species were listed within the project area and disposal site. These species include the Gray Bat, Clubshell mussel, Fanshell mussel, Sheepnose mussel, and Snuffbox mussel. There are no cave or mine portals within the project area or disposal site and all necessary tree removal previously occurred in October 2019. No additional tree clearing is required to implement additional treatment or at the disposal site. Therefore, the Huntington District has determined there would be no effect to the Grey bat. Extension of the stone buttress treatment areas would occur along the top of bank and no in-water work would occur. Additionally, fill is being placed in an upland area at Barboursville Park and would not



impact any waterways. Therefore, the Huntington District has determined that there would be no effect to listed mussel species. No further Section 7 consultation is required.

The NAA could result in impacts to bat and mussel species if portions of the bank were left destabilized, causing clay/sand lens and soils to fail into the river impacting potential mussel populations and loss of potential bat roost trees along the riverbank.

### **3.7 Cultural Resources**

During development of the approved DPR and Integrated Environmental Assessment and through coordination with the West Virginia State Historic Preservation Office (SHPO), USACE staff performed a pedestrian survey on May 23, 2016 to determine if archeological resources were present within the Area of Potential Effect. The visual inspection included reconnaissance of the total surface of the Area of Potential Effect in contiguous systematic patterns from east to west augmented with shovel testing. No cultural material was identified as a result of this survey. In accordance with 36 CFR 800.4(d)(1), the Corps Huntington District determined that no historic properties will be affected by the Project. On June 24, 2016, WVSHPO concurred with this determination. Since the additional treatment areas are located within the existing Area of Potential Effect and were previously evaluated, no historic properties would be affected by the project. No further coordination under Section 106 is required.

For the disposal site, the area has been previously disturbed by fill placement and consists of fill material on top of existing fill material. Therefore, in accordance with 36 CFR 800.3 the undertaking at the disposal site is the type of activity that does not have the potential to cause effects on historic properties and no further action under Section 106 is required.

### **3.8 Hazardous, Toxic, and Radioactive Waste (HTRW)**

A Phase 1 HTRW Environmental Site Assessment was conducted in April 2016 for the project to identify environmental conditions and to identify the potential presence of HTRW contamination located in the project's construction work limits. The Phase 1 HTRW report showed no evidence of recognized environmental contamination and a clearance memorandum was signed by Corps HTRW staff on April 22, 2016. The additional treatment extents are located within the area evaluated under the Phase 1 and no impacts to HTRW are anticipated under the revised Recommended Plan. An amendment to the Phase 1 HTRW assessment is underway to include the disposal site and will be completed prior to signing a FONSI.

The NAA would not result in additional ground disturbing activities, and thus would not disturb areas of potential HTRW contamination. Therefore, there are no HTRW impacts associated with the NAA.

### **3.10 Noise**

Noise is measured as Day Night average noise levels (DNL) in "A-weighted" decibels (dBA) most sensitive to the human ear. There are no Federal standards for allowable noise levels.



According to the Department of Housing and Urban Development Guidelines, DNLs below 65 dBA are normally acceptable levels of exterior noise in residential areas. The Federal Aviation Administration (FAA) denotes a DNL above 65 dBA as the level of significant noise impact. Several other agencies, including the Federal Energy Regulatory Commission, use a DNL criterion of 55 dBA as the threshold for defining noise impacts in suburban and rural residential areas. According to Dr. Paul Schomer in his 2001 Whitepaper, while there are numerous thresholds for acceptable noise in residential areas, research suggests an area's current noise environment, which has experienced noise in the past, may reasonably expect to tolerate a level of noise about 5 dBA higher than the general guidelines. The Corps Safety and Health Requirements Manual provides criteria for temporary permissible noise exposure levels (see Table 3), for consideration of hearing protection or the need to administer sound reduction controls. Ambient noise around the project area is representative of a mixed commercial and residential area.

Table 1: Permissible Non-Department of Defense Noise Exposures

Duration/day (hours)	Noise level (dBA)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105

Additional reaches of treatment would continue to temporarily increase ambient noise levels in the project area due to the operation of construction equipment. The noise levels at the site would continue to fluctuate depending on the types of equipment in use and the way the equipment is operated. Therefore, noise levels would be variable throughout the workday and project duration. Equipment to be used during project construction at the project site and the disposal site includes but not limited to, excavators and end loaders, trucks, etc., which would contribute to ambient noise in the area. Construction could potentially be noticeable to residents located immediately adjacent to the site and recreational users in Barbourville Park. However, construction equipment would be operated during daylight hours when many residents are at work. A reasonable exposure time of two hours would be expected during the time residents may be home during the day.

The Corps Safety and Health Requirements Manual, indicate that temporary noise exposure for a period of eight hours at a level of 90 dBA is permissible for Non-Department of Defense Noise Exposures. Since individual noise receptors would be located more than 50 feet from the project construction area and disposal site, the noise levels and the period of exposure would fall within acceptable limits and would not require additional sound reduction controls.

While the anticipated noise levels resulting from construction would be below the level necessary to protect human health, they have the potential to be a nuisance and interfere with



outdoor activities. However, given the elevated noise levels would be short in duration for individual receptors, and no risk to hearing damage would be present, no significant impacts from the Recommended Plan would be expected.

There would be no impacts to noise under the NAA.

### **3.12 Recreational and Aesthetics**

The Village of Barboursville along Water Street consists of commercial properties, including locally owned businesses and shops, along with residential properties. The immediate project area consists of a residential area located directly adjacent to the Guyandotte River streambank. The Guyandotte River adjacent to the Village of Barboursville provides recreational fishing and boating opportunities. There is no public access to the river at the project area. Public river access exists several miles downstream of the project area in East Huntington, WV at the confluence of the Guyandotte and Ohio River. The disposal area is located at Barboursville Park. The park consists of over 750 acres and includes recreational amenities such as soccer fields, baseball fields, tennis courts, basketball courts, volleyball courts, little league baseball fields, football field, fishing lake and ponds, picnic areas, an amphitheater, walking trails, horse show ring, and an archery range.

Under the Recommended Plan recreational boaters in the river would not be affected by the project as construction is occurring by land. Recreation impacts at Barboursville Park are limited to the disposal site and all other areas and amenities in the park are open to the public. Therefore, only minor and temporary impacts to recreational resources are anticipated under the Recommended Plan.

The NAA would have potential adverse impacts to recreational boaters as the failure of the streambank would lead to increased sedimentation and shoaling adjacent to the project area. However, no impacts to recreational resources would occur at Barboursville Park under the NAA.

### **3.13 Transportation and Traffic**

The project area is located along the Guyandotte River and can be accessed from Water Street. Water Street is the main transportation route for a residential area consisting of approximately 34 homes within the Village of Barboursville and is located directly adjacent to the project area. In addition, the intersection of Water Street and McClung Avenue is the main truck route in the area as the alternate railroad underpass has limited height restrictions. The disposal site is located within Barboursville Park adjacent to Deer Run Road and is approximately 4 miles from the Water Street Project Area.

Adjustments in project design within the project area were addressed adequately in the 2017 DPR and Integrated Environmental Assessment and would be minimal and temporary during construction. Material transported from the project site by the Contractor to the disposal site at Barboursville Park is in compliance with standard traffic controls to minimize disruptions and



assure public safety. Therefore, there would be minimal and temporary impacts to transportation and traffic during the construction of the Recommended Plan.

Under the NAA impacts to transportation and traffic would be significant as failure of the slope could lead to closure of Water Street, which is the primary access to a residential area within the Village of Barboursville. The closure would render parts of the neighborhood and adjacent McClung Avenue intersection inaccessible.

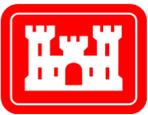
### **3.14 Cumulative Effects**

The Corps must consider the cumulative effects of the proposed project on the environment as stipulated in the National Environmental Policy Act (NEPA). Cumulative effects are "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such actions." Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR Part 1508.7 Council on Environmental Quality [CEQ] Regulations).

The cumulative effects analysis is based on the potential effects of the proposed project when added to similar impacts from other projects in the region. An inherent part of the cumulative effects analysis is the uncertainty surrounding actions that have not yet been fully developed. The CEQ regulations provide for the inclusion of uncertainties in the analysis and states that "when an agency is evaluating reasonably foreseeable significant adverse effects on the human environment...and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking" (40 CFR 1502.22).

Temporal and geographical limits for this project must be established in order to frame the analysis. These limits can vary by the resources that are affected. Construction of the Recommended Plan would have very localized effects confined to the area immediately in the vicinity of the project, confined to the reach of the Guyandotte River adjacent to the Village of Barboursville. The geographical extent would be broadened to consider effects beyond the Recommended Plan. The geographical extent considered is the lower Guyandotte Watershed. Project life of stone protection projects are considered to be 50 years, therefore, that is the future temporal boundary of this analysis. The boundary for the past would coincide with the construction of the Greenup Locks and Dam when the locks were open to navigation in 1962 with an upper pool length of 61.8 miles.

The Lower Guyandotte Watershed is listed as impaired under Section 303(d) due to biological levels. One of the suspected leading causes of impaired water are failing septic systems. In the past, the West Virginia Conservation Agency (WVCA) has promoted education and environmental stewardship in the region. The WVCA has taken an active role in emergency watershed protection, stream protection, and restoration programs. In the future, watershed programs may address water quality and other maintenance activities. The Great Kanawha Resource Conservation and Development Council is currently seeking approval to recognize a trail along the Guyandotte River from R.D. Baily Lake to the river's confluence with the Ohio River to create opportunities for conservation and education. Reasonable foreseeable actions that



may impact resources include: the completion of additional streambank protection projects, recreational development, sanitary system upgrades, and roadway repairs along Water Street. Future projects could result in additional changes to the riverbank in the Village of Barboursville and have the potential to affect terrestrial and aquatic resources, as well as water quality. In addition, impairment of the Lower Guyandotte Watershed is expected to continue. Water quality standards and regulations are expected to remain as stringent today as in the future.

Section 3.0 documents the potential environmental effects of the Recommended Plan and NAA with respect to existing conditions. The effects of the Recommended Plan, as discussed beforehand, are localized and minor. Past actions have resulted in similar effects that have included small streambank stabilization projects along the Guyandotte River. Construction activities would temporarily increase noise levels and temporarily impact transportation and traffic. However, these impacts are short in duration and would not contribute significantly to cumulative effects. No reasonably foreseeable incremental future actions that would have similar impacts as the proposed action were identified.

The availability of Federal funds through programs such as the Section 14 program, provides assistance to communities to protect public services through study, design and construction of streambank and shoreline projects. The significance of this action on aquatic resources, and water quality would be positive. Given the current program is in place for the foreseeable future and the overall beneficial effect from implementation of the Recommended Plan, there is expected to be a positive, though small, cumulative effect on aquatic resources, and water quality based on past, present, and reasonably foreseeable actions.

#### 4.0 STATUS OF ENVIRONMENTAL COMPLIANCE

The Recommended Plan will be in full compliance with all local, state, and Federal statutes as well as Executive Orders prior to issuance of a FONSI and is documented below in Table 2.

<b>Table 2 - Environmental Compliance Status</b>			
Statute/Executive Order	Full	Partial	N/A
National Environmental Policy Act (considered partial until the FONSI is signed)		X	
Fish and Wildlife Coordination Act	X		
Endangered Species Act	X		
Clean Water Act	X		
Wild and Scenic Rivers Act	X		
Clean Air Act	X		
National Historic Preservation Act	X		
Archeological Resources Protection Act			N/A
Comprehensive, Environmental Response, Compensation and Liability Act	X		
Resource Conservation and Recovery Act	X		
Toxic Substances Control Act	X		



<b>Table 2 - Environmental Compliance Status</b>			
Quiet Communities Act	X		
Farmland Protection Act	X		
Executive Order 11988 Floodplain Management	X		
Executive Order 11990 Protection of Wetlands	X		
Executive Order 12898 Environmental Justice in Minority Populations and Low-Income Populations	X		
Executive Order 13045 Protection of Children	X		

## 5.0 REQUIRED COORDINATION

### 5.1 Agencies Contacted

Direct coordination with federal and state resource agencies such as WVDEP, WV Division of Natural Resources, SHPO, and USFWS was conducted in preparation of the approved 2017 DPR and Integrated Environmental Assessment. Direct coordination between the Corps and WVDEP occurred during preparation of the Supplemental Environmental Assessment. Agency correspondence is included in Appendix B.

### 5.2 Public Review and Comments

The SEA and FONSI will be available for public review and comment for a period of 30 days, as required under NEPA. A Notice of Availability will be published in the local newspaper, The Herald Dispatch, advising the public of this document's availability for review and comment. A copy of the EA will also be placed in the Barboursville Public Library and made available on-line at <http://www.lrh.Corps.army.mil/Missions/PublicReview.aspx>. The mailing list for the EA is located in Appendix D.

## 6.0 CONCLUSION

Emergency measures under NEPA were implemented due to the active failure conditions on the construction site. Continued implementation and additional areas of stone buttress treatment have resulted in addressing erosion issues threatening Water Street and adjacent utilities. By providing emergency streambank protection, the project is anticipated to have long-term beneficial impacts to Water Street by protecting the streambank. No significant, adverse impacts have been identified as a result of implementation of the project. Effects associated with construction would be minor and temporary. BMPs would be implemented during construction to minimize impacts to residents and the environment. Therefore, the Recommended Plan would not be expected to have significant impacts on the human or natural environment.

## 7.0 LIST OF INFORMATION PROVIDERS AND PREPARERS

The following agencies were involved in preparation of the SEA.

U.S. Army Corps of Engineers Huntington District  
Planning Branch



502 Eighth Street  
Huntington, WV 25701

## **8.0 REFERENCES**

- U.S. Army Corps of Engineers. 2008. Safety and Health Requirements EM 385-1-1
- U.S. Army Corps of Engineers. 2017. Final Detailed Project Report and Integrated Environmental Assessment, Guyandotte River, Water Street, Village of Barboursville, Cabell County, West Virginia, CAP Section 14 Emergency Streambank Protection Project
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