US Army Corps of Engineers
Baltimore District

FINDING OF NO SIGNIFICANT IMPACT AND ENVIRONMENTAL ASSESSMENT

Continuing Authority Program
Section 208 Snagging and Clearing
Swale Brook at Bridge Street

Tunkhannock Borough, Wyoming County, Pennsylvania

May 2025

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FINDING OF NO SIGNIFICANT IMPACT

Swale Brook at Bridge Street Snagging and Clearing

Tunkhannock Borough, Wyoming County, Pennsylvania

In accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, the U.S. Army Corps of Engineers (USACE), Baltimore District, has assessed the environmental effects of the Swale Brook at Bridge Street Project in Tunkhannock Borough, Wyoming County, Pennsylvania. The Section 208 of the Continuing Authorities Program (CAP), Snagging & Clearing for Flood Risk Management (FRM), provides USACE the authority to plan, design, and construct minimal measures to reduce nuisance flood damages caused by debris and minor shoaling of rivers for FRM.

In a letter, dated 23 December 2020, the Wyoming County Emergency Management Agency (WCEMA) requested, under the provisions of the CAP Section 208 authority, that USACE complete a formal study in the interest of snagging and clearing of several waterways located within Wyoming County, Pennsylvania. Of the locations evaluated to determine the eligibility of a project under the CAP Section 208 authority, USACE determined that Swale Brook at Bridge Street had federal interest for further investigation. USACE's findings are documented in the *Federal Interest Determination (FID) Report for Continuing Authority Investigation Section 208 Snagging and Clearing* completed in 2023 (USACE, 2023). Since that time, the WCEMA is no longer the non-federal sponsor. Tunkhannock Borough has submitted a letter of intent to serve as the non-federal sponsor for the proposed project.

The proposed project includes excavating a portion of Swale Brook at Bridge Street in Tunkhannock Borough and constructing an in-stream step-pool system to restore stream slope and grade and to improve sediment transport. This project is a geomorphic remediation approach that will improve sediment transport and eliminate backwater conditions at the downstream end of the Bridge Street crossing. The proposed project will restore approximately 650 feet of Swale Brook through a combination of sediment removal from the existing culvert and stream, clearing of downed trees, and installation of step-pool structures to improve stream velocity. The step-pool structures will create an active baseflow channel approximately 5 feet wide transitioning into a width of 15 feet at the top of the bank. The first step-pool structure will be at least 18 feet from the face of the culvert. Implementing all the above improvements will provide a more functional system, reduce the risk of nuisance flooding, and improve emergency response capabilities during high-water events.

The environmental assessment was prepared in compliance with NEPA and supporting regulations promulgated the USACE. Two alternatives were considered for this project including the proposed action (removal of sedimentation and installation of a step-pool system) and the

no action. Potential direct, indirect, and cumulative impacts to land use; geology and topography; hydrology; soil; prime and unique farmlands; surface waters; wetlands; floodplains; wild and scenic rivers; terrestrial resources; rare, threatened and endangered species; air quality; greenhouse gases; noise; cultural resources; demographics and socioeconomic conditions; hazardous, toxic, and radioactive substances; recreation; and aesthetics were assessed.

Short-term, minor, adverse impacts from the proposed project include dust, air emissions, and noise from construction activities; and loss of vegetation and benthic macroinvertebrates in areas disturbed. Fish and wildlife will be temporarily disturbed during construction but are expected to return to the area following construction. The proposed stream restoration will improve stream flow and reduce the risk of nuisance flooding, thereby benefitting the community through a reduction in flood damages. One of the main objectives of this project is to improve emergency response capabilities during high-water events by reducing the need for local emergency personnel to preemptively stage emergency equipment on both sides of the Bridge Street/Swale Brook crossing to maintain continuity of emergency response during flooding events. Appropriate steps to minimize potential adverse impacts, such as the implementation of best management practices, will be incorporated into the project. The proposed project will have no effect on threatened and endangered species. No impacts to cultural resources or National Register of Historic Places properties are expected. A water quality certification pursuant to section 401 of the Clean Water Act will be obtained from the Pennsylvania Department of Environmental Protection (PADEP) prior to solicitation of the construction contract. All conditions of the water quality certification will be implemented to minimize adverse impacts to water quality.

The accompanying environmental assessment, which has been made available for a 30-day public review, supports the conclusion that the project does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement is not necessary to perform the proposed stream restoration.

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Date

Francis B. Pera
Colonel, U.S. Army
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1.0 INTRODUCTION

1.1 Project Authority

Section 208 of the Continuing Authorities Program (CAP), Snagging & Clearing for Flood Risk Management (FRM), provides the U.S. Army Corps of Engineers (USACE) the authority to plan, design, and construct minimal measures to reduce flood impacts caused by debris and minor shoaling of rivers for FRM.

1.2 Project Background

In a letter, dated 23 December 2020, the Wyoming County Emergency Management Agency (WCEMA) requested, under the provisions of Section 208 of the Continuing Authorities Program (CAP), that USACE, Baltimore District complete a formal study in the interest of snagging and clearing of several waterways located in Wyoming County, Pennsylvania (PA). Of the locations evaluated to determine the eligibility of a project under the CAP Section 208 authority, USACE determined that Swale Brook at Bridge Street, located in Tunkhannock Borough, was determined to have federal interest to pursue further investigation and was eligible under Section 208. USACE's findings are documented in the *Federal Interest Determination (FID) Report for Continuing Authority Investigation Section 208 Snagging and Clearing* completed in 2023 (USACE, 2023). Since this time, the WCEMA is no longer the proposed federal sponsor. The Tunkhannock Borough submitted a letter of intent on 19 January 2024, to serve as the non-federal sponsor for the proposed project.

Wyoming County is a small county (approximately 400 square miles) with a population of approximately 28,000 residents located northwest of Scranton and Wilkes-Barre, PA. In the initial letter of interest, WCEMA requested assistance with several potential study sites in Wyoming County; however, a subsequent site visit conducted on 30 June 2021, narrowed the study focus to one reach of Swale Brook located in Tunkhannock Borough. Swale Brook is a 3-mile-long creek that drains an approximately 4-square-mile area to Tunkhannock Creek near Tunkhannock, PA (Figure 1).

The watersheds and sub-watersheds of Wyoming County are exhibiting signs of aggressive flash flooding considered atypical of historic conditions. Generally, these watersheds experience stream bank instability leading to increasing and sometimes extreme depositional loads, gravel bar formations, and woody debris jams resulting in increased sedimentation. This situation is understood to be the primary reason waterways are leaving their historic channels, causing nuisance flooding during nominal storm events, flooding and damaging residences and property that have not historically received flooding, and causing damage to highways and other infrastructure.

FIGURE 1. APPROXIMATE STUDY LOCATION OF SWALE BROOK IN TUNKHANNOCK, PENNSYLVANIA

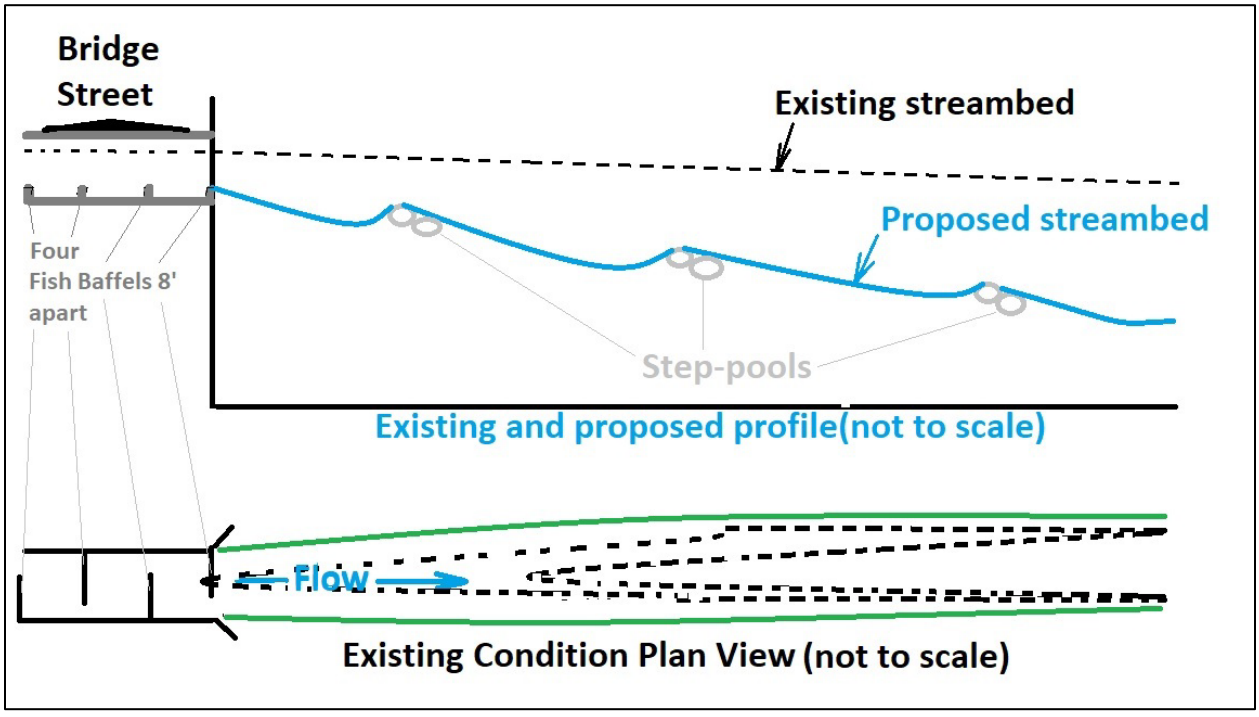

FIGURE 2. EXISTING AND PROPOSED CONDITION CROSS-SECTION

Swale Brook crosses under Bridge Street through a box culvert lined with fish baffles (Figure 2). The box culvert and fish baffles were installed in 2007 by Pennsylvania Department of Transportation (PennDOT) after the bridge collapsed in 2006. The box culvert is 18 feet wide and 5 feet deep. Due to design features and stream geometry, the box culvert acts as a sediment trap and at the time of the project site visit, had approximately 3 feet of accumulated sediment and only 2 feet of clearance. As a result of the sedimentation and lack of clearance, debris jams and sediment blockages cause reduced stream capacity which results in nuisance flooding that has impacted traffic and emergency response capabilities in Tunkhannock Borough. Currently, at least once a year when high-water conditions are expected, the Tunkhannock Borough will preemptively stage emergency equipment on both sides of the Bridge Street/Swale Brook crossing to maintain continuity of emergency response and ensure emergency equipment will be available to respond to events on both sides of the Swale Brook crossing. In turn, this potentially reduces total emergency response capacity in Tunkhannock Borough and remains an ongoing concern for the local community.

1.3 Scope of the Environmental Assessment (EA)

This EA has been prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), and USACE Engineer Regulation 200-2-2, Procedures for Implementing NEPA. Compliance with environmental laws and executive orders is described in Section 5.0. This EA analyzes the effects of the proposed project on environmental, cultural, and socioeconomic resources located in the immediate project location as well as in Wyoming County.

2.0 PROPOSED PROJECT

2.1 Project Description

The proposed project includes excavating Swale Brook and constructing an in-stream step-pool system to restore stream slope and grade and to improve sediment transport. This project is a geomorphic remediation approach that will provide proper sediment transport and eliminate backwater conditions at the downstream end of the Bridge Street crossing. The work will restore approximately 650 feet of Swale Brook through a combination of sediment removal from the culvert and stream, clearing of downed trees, and installation of step-pool structures to improve stream velocity. Material will be removed from the site by the contactor and transported to an appropriate disposal location in the region. Potential disposal areas will be evaluated as part of the Design and Implementation (D&I) phase.

For the purposes of the preliminary design, the top of the fish baffles is considered the bottom of the box culvert. After sediment and downed trees are cleared from the culvert and stream channel, a series of in-stream step-pool structures will be installed to restore stream slope and grade and to improve sediment transport (Figure 2). The step-pool structures will create an active baseflow channel approximately 5 feet wide transitioning into a width of 15 feet at the top of the bank. The first step-pool structure will be at least 18 feet from the face of the culvert.

Implementing all the above improvements will provide a more functional system, reduce the risk of nuisance flooding and traffic impacts, and improve emergency response capabilities during high-water events.

2.2 Purpose and Need

The purpose of the CAP 208 – Swale Brook at Bridge Street project is to: (1) alleviate damages to buildings and infrastructure caused by ongoing nuisance flooding from reduced stream capacity, and (2) improve emergency response capabilities during predicted highwater events by reducing the local resources needed for flooding events at this location. The project is needed because debris jams and sediment blockages in the box culvert cause nuisance flooding to properties surrounding the project area and limit emergency response capabilities in Tunkhannock Borough.

2.3 Coordination

In accordance with NEPA, coordination was conducted with federal, state, and local resource agencies. Coordination letters and responses are included in Appendix A.

In accordance with Section 106 of the National Historic Preservation Act, USACE coordinated with the PA State Historic Preservation Office (SHPO) via letters, dated 13 March 2024. The SHPO concurred with the finding that the proposed undertaking would have no effect on above ground historic resources or archaeological resources in a response, dated 12 April 2024. Consultation letters were mailed on 13 March 2024 to federally listed tribes with potential interest in the project area. No responses were received.

Agency coordination was conducted by USACE through the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation (IPaC) online system on 30 April 2024. A Pennsylvania Natural Diversity Inventory (PNDI) report was generated on 06 June 2023. Additional coordination letters were sent to the Environmental Protection Agency (EPA), Pennsylvania Department of Conservation and Natural Resources (PDCNR), Pennsylvania Fish and Boat Commission (PAFBC), Pennsylvania Game Commission, PennDOT, and the USFWS on 22 August 2024. The USFWS responded on 23 August 2024, and the PAFBC responded on 26 August 2024, with no comments. A meeting with EPA was held on 17 September 2024 to discuss the project. The EPA provided project recommendations on 19 September 2024.

A Clean Water Act (CWA) Section 401 Water Quality Certification (WQC) will be obtained from the PA Department of Environmental Protection (PADEP) prior to solicitation of the construction contract.

3.0 ALTERNATIVES

The USACE considered two alternatives for the project area and evaluated the impacts of each on the natural and human environment in relation to the project's purpose and need. Since the culvert and fish baffles are PennDOT property, alternatives that involve changes to these structures were not evaluated. The two alternatives considered include the following:

3.1 Alternative #1 – No Action

Under the no-action alternative, the stream restoration would not occur. The existing culvert and fish baffle would remain in place and no sediment would be removed from the channel. Backwater conditions at the downstream end of the Bridge Street crossing would persist, increasing the risk for nuisance flood damages to infrastructure surrounding the project area.

3.2 Alternative #2 – Proposed Action (Preferred Alternative)

This alternative involves a geomorphic remediation approach that will provide proper sediment transport and eliminate backwater conditions at the downstream end of the Bridge Street crossing. The proposed action will restore approximately 650 feet of Swale Brook through a combination of sediment removal from the culvert and stream, clearing of downed trees, and installation of step-pool structures to improve stream velocity. Based upon the considered alternatives, construction of the proposed project at Swale Brook is the preferred alternative because it will meet the project purpose and need by reducing sedimentation and the risk of nuisance flooding.

4.0 Affected Environment and Environmental Consequences

4.1 Land Use

The proposed project is located within the banks of Swale Brook at Bridge Street. No work would occur on the land aside from staging of construction equipment. The proposed action would not result in any change to existing land use at the project site. Therefore, no significant direct or indirect impact is expected.

4.2 Water Quality

Swale Brook lies within the Upper Susquehanna/Tunkhannock Watershed, 8-digit United States Geological Survey (USGS) Hydrologic Unit Code (HUC) 02050106. Swale Brook is a tributary of Tunkhannock Creek, which itself is a tributary of the North Branch of the Susquehanna River. Swale Brook originates as outflow from Cruver Pond then flows south and then southeast for approximately 3 miles to its confluence with Tunkhannock Creek. Swale Brook is mapped by the USFWS National Wetlands Inventory (NWI) as “upper perennial with unconsolidated bottom” that is permanently flooded (NWI code R3UBH; USFWS, 2024c)). In the area of interest, Swale Brook receives flow from an un-named southward-flowing tributary located approximately 675 feet upstream of Bridge Street. The un-named tributary is mapped by the NWI as “unknown perennial with unconsolidated bottom” that is permanently flooded (NWI code R5UBH; USFWS, 2024c).

Swale Brook is designated for cold water fish and migratory fish water uses under Pennsylvania State Code (Chapter 93: Pennsylvania Water Quality Standards) (USEPA, 2023c). However, Swale Brook is not currently designated as high-quality waters or exceptional value waters in Chapter 93 (PDCNR, 2023a). No water quality data for Swale Brook was located for this evaluation.

Google Earth imagery reveals that Swale Brook in Tunkhannock Borough consists of multiple straight reaches with minimal sinuosity. The stream was likely historically straightened and channelized for agriculture, milling, and urbanization of the borough.

Water quality may temporarily be impacted by construction activities due to the in-stream work required for the project that may increase turbidity in the water. However, following cessation of construction, there will be a net benefit to the water quality of Swale Brook and downstream reaches due to the elimination of sediment and debris in the waterway and the addition of step-pool structures to improve stream velocity. Best management practices (BMPs) will be used in the limits of disturbance (LOD) such as silt fences to minimize turbidity and sedimentation in the downstream reaches during construction. Temporary, minor direct and indirect impacts to water quality are anticipated but beneficial long-term impacts are expected.

The USACE will obtain all necessary permits, including a CWA Section 401 WQC, which includes completing a 404(b)(1) analysis, for in-stream activities prior to solicitation of the construction contract.

4.3 Aquatic Resources

The proposed project will restore approximately 650 feet of Swale Brook through a combination of sediment removal from the culvert and stream, clearing of downed trees within the channel, and installation of step-pool structures to improve stream velocity. At most, approximately 800 feet of stream reach could be disturbed for construction related activities.

In addition to the stream, the NWI maps two wetlands near the project area but only one is possibly within the LOD for the project (USFWS, 2024c). According to the NWI, approximately 0.41 acres of freshwater forested/shrub wetland is located within the proposed LOD. The NWI wetland is located along the bank/floodplain of the stream, possibly within the temporary LOD where construction access may occur. A field survey for wetland resources has not occurred. Once a survey is conducted, an evaluation will occur to address avoidance/minimization options. Wetlands located in the temporary LOD may be temporarily disturbed during construction. Any wetland vegetation that is impacted during construction is expected to return following project completion.

Wetlands in the project area will be delineated during the D&I phase and shown on the plans. The plans will show the wetland boundaries and provide the square footage of direct and indirect wetland impacts. Wetland impacts will be avoided to the maximum extent practicable. No mitigation for the temporary impact to wetland vegetation is proposed because wetland vegetation is expected to return within one year following completion of construction.

Aquatic resources in Swale Brook include macro invertebrates and fish. Impacts to aquatic resources are unavoidable due to the proposed in-stream construction activities; however, all adverse impacts will be temporary. Potential impacts may include temporary disturbance to fish due to noise and turbidity in the water column; however, the restoration of this portion of Swale Brook may improve fish passage in the waterway. Additionally, there may be temporary loss of

benthic macroinvertebrates due to in-stream bottom disturbance, but species will quickly recolonize following cessation of construction activities. BMPs will be used in the LOD during construction to minimize impacts to aquatic resources within and around the project area by reducing the sediment load entering the water. Temporary, minor direct and indirect impacts to aquatic resources are anticipated but following construction of the proposed project, there will be a net benefit to aquatic resources from the improved stream quality as a result of sediment and debris removal and improvement of stream velocity from the installation of step-pool structures.

4.4 Threatened and Endangered Species

The USFWS IPaC system was consulted to identify federally listed and candidate species under Section 7 of the Endangered Species Act (ESA) that could potentially occur in the project area. The IPaC system identified one endangered species, the northern long-eared bat (*Myotis septentrionalis*), possibly occurring in the area (USFWS, 2024b; Appendix A). According to the initial screening, the project does not overlap any critical habitat for these species. Additional consultation with USFWS reached a determination of "No Effect" for the northern long-eared bat because suitable habitat is not present in or surrounding the project area for the species (Appendix A).

Two species proposed for ESA listing were also identified by the IPaC system, the tricolored bat (*Perimyotis subflavus*) listed as proposed endangered, and the green floater (*Lasmigona subviridis*) listed as proposed threatened. Tricolored bats are a nocturnal species often found in forested habitats where they roost in trees, primarily among leaves, in the spring, summer, and fall months (USFWS, 2024e). During the winter, tricolored bats hibernate. For this proposed action, no impacts to forests or trees are anticipated that would disturb tricolored bats.

Green floaters are small freshwater mussels that prefer streams with slow to medium flows, good water quality, and are often found in sand or small gravel substrates where they establish a foothold and bury themselves as deep as 15 inches (USFWS, 2024a). Swale Brook has historically exhibited frequent flash flooding and high velocity waters that would likely be unsuitable habitat for green floaters. No effects to tricolored bats or green floaters are anticipated from the proposed project.

The IPaC system also identified one ESA candidate species that could potentially occur in the project area requiring further consideration: monarch butterfly (*Danaus plexippus*). It is likely that the monarch butterfly will occur in the proposed action area in the late spring, summer, and fall. Monarchs arrive in the area in May and migrate to Mexico beginning in the late summer. Female monarchs deposit eggs on milkweed leaves (*Asclepias sp.*), which the larvae exclusively feed on. Pennsylvania is home to 11 species of native milkweeds, which are frequently found in sunny roadsides, fence lines, fields, prairies, and pastures (Bird Watching HQ, 2024; PennState Extension, 2018). Adult monarch butterflies visit and pollinate at least 33 species of flowers each year, including many asters and goldenrods. It is possible that milkweed and pollinator species that the monarch relies on could be located in the proposed project area. No direct effects to

individual monarchs are expected. However, indirect effects to monarchs could occur if milkweeds and other pollinator plant species were impacted during construction activities. During the D&I phase, USACE will determine if any milkweed and pollinator plant species are present in the proposed project area or within the temporary LOD.

USACE also consulted the PNDI Conservation Explorer website to identify state and federally listed species potentially occurring in the project area. The PNDI system did not identify any known impacts to threatened, endangered, or special concern species and resources within the project area (PDCNR, 2023a). Therefore, no further review is required by the Pennsylvania Game Commission, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Fish and Boat Commission, or USFWS (PDCNR, 2023a). No direct or indirect effects on rare, threatened, or endangered species are expected.

4.5 Migratory Birds

The USFWS IPaC system identified nine migratory birds of conservation concern that have the potential to occur within the project area (See Table 1; USFWS, 2024b). The Migratory Bird Treaty Act (MBTA) (16 U.S. Code 703-712) prohibits the take (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect), or attempt to engage in any such conduct, of any migratory bird without authorization from the USFWS. Unintentional take includes disturbance to species and nests during ground-clearing activities where unobserved nests of migratory birds could be located. The breeding seasons for the migratory bird species are listed in Table 1 below. None of the species listed in Table 1 have been observed in or near the project area (USFWS, n.d.). Finally, bald eagles (*Haliaeetus leucocephalus*) were previously a federally listed endangered species but were removed from the federal list in August 2007. Although the bald and golden eagle are not listed as endangered or threatened, they are protected under the Bald and Golden Eagle Protection Act, as noted by the USFWS IPaC system. No bald eagle nests are mapped in the vicinity of the project area (USFWS, 2024d). There have been no golden eagle documented sightings in or near the project area (USFWS, n.d.). No direct or indirect impacts on migratory bird species are expected from the proposed project.

TABLE 1. LIST OF MIGRATORY BIRD SPECIES FROM USFWS

Common Name	Scientific Name	Bird of Conservation Concern (BCC) Status	Breeding Season
Bald Eagle	*Haliaeetus leucocephalus*	No	Sep 1 to Aug 31
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Yes	May 15 to Oct 10
Black-capped Chickadee	*Poecile atricapillus practicus*	Only in BCR* Regions	Apr 10 to Jul 31
Bobolink	*Dolichonyx oryzivorus*	Yes	May 20 to Jul 31
Cerulean Warbler	*Setophaga cerulea*	Yes	Apr 27 to Jul 20
Chimney Swift	*Chaetura pelagica*	Yes	Mar 15 to Aug 25
Golden Eagle	*Aquila chrysaetos*	No	Breeds elsewhere
Rusty Blackbird	*Euphagus carolinus*	Only in BCR* Regions	Breeds elsewhere
Wood Thrush	*Hylocichla mustelina*	Yes	May 10 to Aug 31

*BCR = Bird Conservation Regions

4.6 Cultural Resources

The project's area of potential effect (APE) may be defined as the area of direct construction impacts and the areas within which the undertaking may directly or indirectly cause alterations to the character or use of historic properties, including visual effects. An examination of the PA Historical and Museum Commission's (PHMC) cultural resources information system, PA-SHARE, indicated that three National Register of Historic Places (NRHP)-eligible buildings (1996RE00515; Tunkhannock Borough School (1996RE00661); and 1996RE01079) and one NRHP-listed historic district (Tunkhannock Historic District (1995RE50323)) are located within 500 feet of the APE. None of these historic properties would be affected by the proposed project, which is localized to Swale Brook. No archaeological sites have been previously identified within the APE. The Louis Berger Group conducted archaeological investigations within portions of the APE in 1995 (1995SR00042) and 2006 (2006-7002-042-D), which consisted of shovel testing and geomorphological trenching, respectively. The 1995 investigation documented modern historic material and fill deposits overlying either sterile subsoil or channel lag deposits. The 2006 investigation placed a trench adjacent to Swale Brook, east of the State Route 29 bridge, and documented channel lag deposits overlain by modern alluvium and fill material. These investigations suggest that the landform along Swale Brook lacks the potential to contain intact

archaeological resources. The proposed project will not have any direct or indirect effects on archaeological resources.

USACE sent a letter to the PA SHPO on 13 March 2024. The SHPO concurred with the finding that the proposed undertaking would have no effect on above ground historic resources or archaeological resources in a response, dated 12 April 2024 (Appendix A).

On 13 March 2024, USACE sent letters to the Delaware Nation, the Delaware Tribe of Indians, the Eastern Shawnee Tribe of Oklahoma, and the Seneca-Cayuga Nation notifying them of the proposed project (Appendix A). USACE also sent a letter to the Wyoming County Historical Society on 13 March 2024. No responses were received from any tribe or the historical society.

4.7 Hazardous, Toxic and Radioactive Waste (HTRW)

A screening for known HTRW issues was conducted using the U.S. Environmental Protection Agency's (EPA) EnviroMapper for Envirofacts database (EPA, 2023a). No Superfund or brownfield sites were identified within 1 mile of the project area from which large quantities of hazardous materials would have escaped uncontrolled into the environment. One toxic release inventory (TRI) site is located in close proximity to the project area. According to the EnviroMapper, the TRI facility is called "NU-Feeds, Inc." and is described as preparing feeds and feed ingredients for animals and fowls. The Envirofacts database did not show any recent or active violations for the facility. If the facility is operated properly, it may pose no concerns for the proposed project. Because no HTRW sources are mapped within the proposed project area and the proposed work would mostly occur in previously disturbed areas of Swale Brook, the proposed project is not expected to release hazardous substances at levels of concern. No direct, indirect, or cumulative effects to wildlife or the environment or expected due to release/disturbance of HTRW.

As mentioned in the FID, the Tunkhannock Borough Municipal Authority (TBMA) supplies water and wastewater service to Tunkhannock Borough and parts of Tunkhannock Township and is located west of the borough, upstream of the proposed project area. The TBMA has a National Pollutant Discharge Elimination System (NPDES) permit, and it is possible effluent from the TBMA facility enters Swale Brook upstream of the proposed project area. During the D&I phase, USACE will coordinate with the TBMA regarding potential effluent releases that could impact the proposed project area.

4.8 Air Quality and Greenhouse Gas

Wyoming County is currently in attainment with the National Ambient Air Quality Standards (NAAQS) set by the EPA. According to the EPA's Green Book National Area and County-Level Multi-Pollutant Information database, Wyoming County was formerly in marginal non-attainment for ground-level ozone under the 1-Hour NAAQS from 1992 to 2004, and for the 8-Hour NAAQS from 2004 to 2007 (EPA, 2023b). Since then, Wyoming County has been in attainment for all NAAQS for the six criteria pollutants. In summary, Wyoming County air quality has met standards (is adequate-good) for human health and the environment as a consequence of Clean Air Act-driven environmental improvement measures.

Minor, short-term, localized direct and indirect impacts to air quality may occur as a result of project preparation and construction. These impacts would cease once construction stops; therefore, they do not pose a significant threat to the human environment. Emissions would not pose a significant risk to the environment or the health of workers or the public because they will be minor in quantity and short-term in nature. Because the proposed project area is in attainment and no new stationary emissions sources will be created as part of the proposed project, no air quality conformity analysis is required.

In accordance with Section 202(a) of the Clean Air Act, EPA has the authority to set emission standards for air pollutants associated with motor vehicles or engines. The EPA has used this authority to regulate greenhouse gas emissions from light-duty and heavy-duty vehicles and engines. The proposed project involves minor and temporary construction activities that may involve the use of typical heavy construction equipment. Examples of motorized equipment that may be used include a backhoe, an excavator, and off-highway trucks. Table 2 estimates likely CO_2 emissions from the project, assuming average equipment use and an eight-hour window of construction work per day (South Coast Air Quality Management District (AQMD), n. d.).

TABLE 2. CO2 EMISSIONS

Equipment	Average CO_2 Emitted Per Hour (lbs.)	Daily CO_2 Emissions (metric tons)
Backhoe	66.8	0.242
Excavator	120.0	0.435
Off-Highway Truck	260.0	0.943

While it is unlikely that all equipment will be used continuously for eight hours every day, based on the table above, an aggressive estimate of total direct emissions from construction activities amounts to approximately 1.62 metric tons of CO2 daily. Construction is estimated to take one to two months resulting in up to 97.2 metric tons of CO2. For comparison, construction of a typical family home produces 83.46 metric tons of CO2 (U.S. Department of Energy, 2023) and according to the EPA (2024d), the typical family home emits 10.97 metric tons of CO2 every year for operations (e.g., heating, cooling, etc.). This project can be built within one construction season and requires minimal operations and maintenance emissions. The proposed action would not significantly contribute to greenhouse gas emissions in Wyoming County. The construction of the proposed project is expected to have minor, short-term, localized direct impacts to air quality and greenhouse gases. The project is not expected to produce emissions exceeding the EPA's de minimus threshold standards for ozone.

4.9 Demographics.

According to the U.S. Census Bureau (USCB), there are two Census tracts surrounding the project area (Census tract 42131400600 and 42131400400). The two Census tracts have a total population of 7,038, which is down from the 2010 Census bureau population of 7,880 (USCB,

2023). The 2023 poverty rate in the region was 10.2 percent, slightly lower than the 12.0 percent poverty rate across PA (USCB, 2023). The largest employment sector in the region is the educational services, health care, and social assistance industry. The Proposed Action would not result in any appreciable effects to the local or regional demographic environment.

4.10 Noise

Construction of the proposed project is not expected to generate a significant amount of noise above the ambient noise levels. Minor and temporary increases in noise levels due to equipment used during project construction may directly affect nearby residents and businesses. Construction of the project is expected to take less than two months. As part of the design and implementation phase of this project, USACE will conduct outreach with local residents and nearby neighbors to inform them of the construction activities and minimize noise disruptions where possible. The completed project will not generate any additional noise beyond what currently exists and there will be no permanent impacts to noise. Direct and indirect effects from construction noise will be minor and temporary. No significant effects are expected.

4.11 Floodplain Management

The proposed action would occur within the banks of Swale Brook at Bridge Street and will not permanently adversely affect the surrounding floodplain. The purpose of the proposed action is to reduce flooding in the surrounding floodplain but no changes within the floodplain itself are proposed. Vegetation within the floodplain includes mowed grass, trees, and shrubs. Temporary direct impacts to floodplain vegetation are possible due to temporary staging areas and the operation of equipment in the floodplain during construction. Some trees may need to be removed to access the project area. Impacts to the floodplain and the number and location of trees to be removed will be determined during the D&I phase and indicated on the plans. Any large trees removed will be replanted. Grass seed will be placed in lawn areas that have been disturbed. The proposed action could result in the temporary loss of some vegetation in the floodplain. However, these impacts will be mitigated by replacing the vegetation following construction. No permanent floodplain impacts are expected to occur as a result of the proposed action.

4.12 Wild and Scenic Rivers

There are no designated National Wild and Scenic Rivers located at or near the project area (National Wild and Scenic Rivers System, 2023). Additionally, USACE reviewed PA's Scenic Rivers system and no state scenic rivers are located in Wyoming County, PA (PDCNR, 2023b). Therefore, there will be no direct or indirect impact to the resource.

4.13 Prime and Unique Farmlands

The proposed project area is not suitable for farming activities. Therefore, the project will not result in direct or indirect impact to prime and unique farmlands.

4.14 Recreation

There are no public parks, designated water access areas, or trails located in the proposed project area. Any fishing, bird watching, or other recreational activity in the project area will be temporarily interrupted during construction. There will be no direct impacts to recreation as a result of this proposed project. The proposed project may result in temporary, minor impacts to recreation; however, restoration of this portion of Swale Brook may increase fishing opportunities in the waterway by improving fish passage and water quality.

4.15 Aesthetics

Construction activities related to the proposed action would cause minor and temporary impacts to the aesthetics of the area. Construction equipment, signage, barriers, and other temporary infrastructure and staging would be visible in the area during construction. However, the project area will be restored to its full function and appearance. The proposed action would have minor, temporary indirect adverse effects on aesthetics during construction and would have a long-term beneficial impact on aesthetics by removing existing debris jams and sedimentation in the channel.

4.16 Terrestrial Resources

The project area is adjacent to wooded areas as well as residential, agricultural, and commercial lots. Due to the proximity to borough and state roads, the vegetation within the project area is predominantly grass, shrubs, and cultivated areas. The construction is limited to the existing stream channel and staging of equipment adjacent to the stream and would have temporary, minor impacts to wildlife. Noise from operation of equipment, dust generated by construction activities, and human presence would likely cause wildlife to temporarily avoid the area. Wildlife is expected to return to the project area shortly following construction. The project is not expected to have any direct impacts on terrestrial resources. The project will result in minor and temporary adverse indirect impacts to terrestrial resources during construction. No significant adverse impacts are expected.

4.17 Hydrology

Direct and indirect impacts to hydrology would occur from the proposed in-stream construction activities but would provide long-term benefits to the channel and downstream receiving waters. During in-stream construction activities, channel hydrology will be temporarily altered both in the project area and downstream waters. However, following completion of the proposed project, the stream channel will have restored flows, increased channel depth, and improved sediment deposition and would result in long-term, beneficial impacts to the hydrology of the channel and downstream receiving waters. Based on these factors, there would be minor and temporary direct and indirect impacts to hydrology from the proposed project and long-term, beneficial impacts on human safety and protection of property.

5.0 ENVIRONMENTAL COMPLIANCE

Table 3 summarizes the level of compliance of the proposed project with environmental protection statutes and other environmental regulations.

No direct or indirect impacts are expected to land use, threatened and endangered species, migratory birds, cultural resources, HTRW, floodplains, wild and scenic rivers, and prime and unique farmlands. Temporary, minor direct and indirect impacts to water quality, aquatic and terrestrial resources, hydrology, aesthetics, noise and air quality are anticipated but no adverse long-term impacts are expected. The project would result in beneficial long-term impacts to aquatic resources, hydrology, and water quality from the reduction of sediment and debris in the waterway and the addition of step-pool structures to improve stream velocity. Construction of the proposed project is expected to have minor, temporary, localized direct impacts to air quality and greenhouse gases. The project is not expected to produce emissions exceeding the EPA's *de minimus* threshold standards for ozone or have any indirect or long-term air quality or greenhouse gas impacts. Minor and temporary direct impacts to nearby residents and businesses may occur from increased noise levels due to equipment use during project construction; however, the completed project will not generate any additional noise beyond what currently exists and there will be no permanent impacts to noise.

All necessary federal, state, and local erosion and sediment control and wetlands and waterways permits, including completion of a 404(b)(1) analysis, will be acquired prior to solicitation of the construction contract. Based on these stipulations and the evaluation of environmental effects described in Section 4.0, there are no significant impacts from the proposed action, and a Finding of No Significant Impact has been prepared.

TABLE 3. COMPLIANCE OF THE PROPOSED ACTION WITH FEDERAL STATUTES AND EXECUTIVE ORDERS (EOS)

Federal Statutes and EOs	Level of Compliance	Impact
Archeological and Historic Preservation Act	Full	No archaeological sites identified within the project area; no impact.
Bald and Golden Eagle Protection Act	Full	Species not present within the project area; no impact.
Clean Air Act	Full	See Section 4.8.
Clean Water Act	Partial	See Section 4.2. A Section 401 WQC will be obtained from PADEP prior to the solicitation of the construction contract.
Coastal Barrier Resources Act	N/A	No coastal resources within project area; not applicable.
Coastal Zone Management Act	N/A	No coastal resources within project area; not applicable.
Comprehensive Environmental Response, Compensation and Liability Act	Full	See Section 4.7.
Endangered Species Act	Full	See Section 4.4.
Farmland Protection Policy Act	N/A	No conversion of farmland to other uses within project area; no impact.
Federal Water Project Recreation Act	N/A	No federal water development project within project area; no impact.
Fish and Wildlife Coordination Act	Full	Requisite agencies consulted, see Section 4.4 & Appendix A.
Flood Control Act	Full	The proposed action is critical to reducing flood damages in the vicinity of Swale Brook at Bridge Street.
Floodplain Management (EO 11988)	Full	See section 4.11.
Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA)	N/A	No marine fisheries within project area; not applicable.
National Historic Preservation Act	Full	See Section 4.6.
National Environmental Policy Act	Full	This environmental assessment fulfills the requirements of NEPA.

Table 3. Compliance of the Proposed Action with Federal Statutes and Executive Orders (EOs) (Continued)

Federal Statutes and EOs	Level of Compliance	Impact
Noise Control Act	Full	See Section 4.10.
Prime and Unique Farmlands (Memorandum, Council on Environmental Quality, 11 August 1980)	Full	See Section 4.13.
Protection and Enhancement of Cultural Environment (EO 11593)	N/A	No cultural resources identified within project area; no impact.
Protection of Wetlands (EO 11990)	Full	See Section 4.3.
Resource Conservation and Recovery Act	Full	No HTRW concerns, see Section 4.7.
River and Harbors Act	N/A	No navigable waters within project area; not applicable.
Watershed Protection and Flood Prevention Act	N/A	Project not eligible for technical assistance; not applicable.
Wild and Scenic Rivers Act	N/A	See Section 4.12. Not applicable.

6.0 REFERENCES

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