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Draft Environmental Assessment

FOR THE

**The Town of Cairo
Ritchie County, West Virginia**

**Proposed
Water System Rehabilitation and Extension Project**

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**Environmental Assessment Section 219
Water System Rehabilitation and Extension Project
Ritchie County, West Virginia**

Executive Summary

The Town of Cairo (Town) owns and operates a potable water distribution system and purchases water from the Hughes River Water Department for redistribution, which serves approximately 200 residential customers. The current system is outdated, leading to routine failure, and is in dire need of repairs. The aging lines constantly leak, leading to the loss of half the water supply. To improve the quality of the service provided to its customers, the Town is proposing to rehabilitate and improve the system.

The Proposed Action is to rehabilitate and improve the system, ensure continuous water supply during repairs, maintain stable pressure for residents, and enhance fire flow capabilities by reducing friction loss and increasing flow to hydrants, making the Town's water system more reliable, efficient, and safe. Specifically, the Proposed action will consist of a constructing a pressure reducing valve station and all necessary appurtenances, the replacement of approximately 380 linear feet of six-inch water line along Route 31, the installation of two leak detection meters, the replacement of the existing one-inch copper water line along Silver Run Road with 300 linear feet of four-inch C-900 PVC water line, and the replacement of 3,750 linear feet of water line to replace existing water lines within the town of Cairo.

The majority of the proposed project would be installed in previously disturbed West Virginia Department of Highway's right of way and utility rights of way.

The proposed Water System Rehabilitation and Extension Project involves a partnership agreement between the Town and the United States Army Corps of Engineers, established under the authority of Section 219 of the Water Resources Development Act of 1992. This is a program for providing environmental assistance to non-Federal interests in northern West Virginia. This Draft Environmental Assessment (DEA) was prepared pursuant to the National Environmental Policy Act (NEPA) and the Department of Defense (DoD)'s NEPA implementing procedures dated June 30, 2025.

The Draft Environmental Assessment has concluded that there are no significant impacts to the human environment associated with the implementation of the proposed Project. A Finding of No Significant Impact from the United States Army Corps of Engineers is anticipated for the Project.

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I. PROJECT DESCRIPTION

A. Project Background

The Town of Cairo (Town) provides water to approximately 140 residential customers, 17 commercial customers, and 3 metered sales to multiple-family dwellings. The purpose of the Draft Environmental Assessment (DEA) is to analyze the potential environmental impacts of the Proposed Action to assist the lead Federal agency in determining whether to issue a Finding of No Significant Impact (FONSI) or draft an Environmental Impact Statement.

B. Purpose, Need, and Authorization

The Town's water system supplies water to approximately 140 residential customers, 17 commercial customers, and 3 metered sales to multiple-family dwellings. The town's original water system was constructed in the 1940s. The last significant improvements to the distribution system were made in the 1960s and 1980s. Currently, the system experiences a 62% water loss due to leaking pipes. As a result, the town purchases water from the Hughes River Water Board through a master meter on West Virginia County Route 5, between Harrisville and North Bend State Park. The purpose of the Water System Rehabilitation and Extension Project (Proposed Action) is to rehabilitate and improve the system, ensure continuous water supply during repairs, maintain stable pressure for residents, and enhance fire flow capabilities by reducing friction loss and increasing flow to hydrants, making the Town's water system more reliable, efficient, and safe.

The project is a partnership agreement between the Town and the United States Army Corps of Engineers (USACE) established under Section 219 of the Water Resources Development Act of 1992 (Public Law No. 102-580), which provides authority for the USACE to establish a program to provide assistance to non-Federal interests for carrying out water-related environmental infrastructure and resource protection projects. Section 219(f) states that the Secretary may provide assistance for design and construction in addition to the assistance provided under Section 219(a). Section 5158 of WRDA 2007 further amends Section 219 of WRDA 1992, as amended. Section 219 of the Water Resources Development Act (WRDA) of 1992 (PL 102-580), authorizes the U.S. Army Corps of Engineers to provide design and/or construction assistance to non-federal interests for carrying out water-related environmental infrastructure and resource protection and development projects within northern West Virginia.

This DEA was prepared pursuant to the National Environmental Policy Act (NEPA), and the DoD's NEPA implementing procedures dated June 30, 2025.

II. PROPOSED ACTION AND ALTERNATIVES TO THE PROPOSED ACTION

A. Proposed Action - Water System Rehabilitation and Extension Project

The Proposed Action includes the Smith Hill-High Street interconnection, Route 31 Water Line Replacement, River Crossing Leak Detection, Silver Run Road Waterline Replacement, and In-Town Waterline Replacement. These improvements aim to create a reliable water system, allow repairs without disrupting service, replace old lines, detect leaks, and upgrade fire hydrants and valves.

B. No Action Alternative

Under the No Action alternative, the Proposed Action would not be funded by the USACE, and the Proposed Action would not be constructed. The current water system of the Town would remain the same. The current water system of the Town is unacceptable and is extremely outdated, with 40 to 75-year-old pipes causing a 62% water loss due to frequent leaks. The current water system poses

health and public safety risks.

III. ENVIRONMENTAL SETTINGS AND CONSEQUENCES

A. Location

The Proposed Action is located in the United States Geological Survey (USGS) Cairo 7.5-minute quadrangle of Ritchie County, West Virginia (WV). See the USGS and Aerial Site Location Maps in Appendix A. The area of the Proposed Action is identified as "LOD" on the maps provided in Appendix A.

B. Land Use

Land use within the Proposed Action area includes developed areas, open fields, and forested areas. No land use changes will occur as part of the Proposed Action. See the National Land Cover Database (NLCD) Landcover Map in Appendix A.

No land use changes would occur as a part of the No Action alternative.

C. Physiography

The Proposed Action area is in the Appalachian Plateau physiographic province, which consists of relatively flat rock formations with several distinct folds and faults. The Proposed Action area is located within a river valley along the North Fork Hughes River. The Proposed Action will consist of rehabilitating and improving the existing water supply within the Town by replacing and installing new water lines and various appurtenances. Upon completion of the Proposed Action, disturbed areas will be restored to pre-construction contours and conditions. Therefore, there will be no impacts to the physiography of the area as part of the Proposed Action.

No excavation would occur as part of the No Action alternative. Therefore, no physiographic changes would occur.

D. Habitat and Vegetation

Habitat and vegetation within the Proposed Action area consists of upland grasses and noxious weeds within and adjacent to roadways, and grasses and shrubs in residential areas. As the Proposed Action will occur primarily within previously disturbed areas, only temporary minor impacts to habitat and vegetation are anticipated during construction, including removal of existing vegetation and potential compaction of existing vegetation. Any areas disturbed during construction will be reseeded with a native seed mix.

Since no construction activities would occur that could impact habitat and vegetation, no impacts to habitat or vegetation would occur as part of the No Action alternative.

E. Floodplains

A review of the Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) Panel of the Proposed Action area (FIRM 54085C0159C) and the WV Flood Tool indicates that a portion of the Proposed Action is located within the 100-year floodplain classified as Zone AE, which has a 1% annual chance of flood hazard. The Proposed Action will consist of rehabilitating and improving the existing water supply within the Town by replacing and installing new water lines and various appurtenances. Upon completion of the Proposed Action, disturbed areas will be restored to pre-construction conditions and contours. There will be no changes to any 100-year floodplain elevations or widths. Therefore, the Proposed Action will not result in any impact to the 100-year floodplain.

Furthermore, prior to construction, coordination with the Town's floodplain manager will occur to determine if a floodplain permit will be required. Any required floodplain permits would be secured prior to the start of construction. See the 100-Year Floodplain Map in Appendix A.

No construction or excavation would occur with the No Action alternative. Therefore, no impacts to the 100-year floodplain would occur as a part of the No Action alternative.

F. Soils

There are multiple soil map units that are considered to be either prime farmland or farmland of state or local importance within the Proposed Action area. However, all excavation will be contained to previously disturbed areas that are not actively farmed and are not anticipated to revert to farmlands in the future. No impacts to farmland of statewide or local importance would occur as a result of the Proposed Action. See the NRCS Soil Types Map in Appendix A.

No soil disturbance would occur with the No Action alternative. Therefore, no impacts to prime farmland or farmland of statewide or local importance would occur as a part of the No Action alternative.

G. Aquatic Habitat/Water Quality

One stream, Big Run, was identified within the Proposed Action area during desktop reviews and field investigation. See the Wetland Delineation and Stream Identification Report in Appendix C.

Big Run will be crossed and temporarily impacted by utilizing open cut/trench construction methods that will be used to install the water line. In-stream work will be conducted during periods of low flow and will adhere to regulations and guidelines established by the USACE, the WV Department of Environmental Protection (DEP), and the WV Division of Natural Resources (DNR). No permanent impacts will occur to any stream under the Proposed Action. The stream crossing on Big Run associated with the Proposed Action will fall under USACE's Non-Reporting Nationwide Permit 3 for Maintenance.

Potential localized, minimal short-term impacts to water quality may occur as a result of the Proposed Action. However, best management practices (BMPs) will be implemented throughout the Proposed Action area, including stream crossings to prevent the discharge of sediment and sediment-laden water into downstream aquatic features, including the Ohio River. BMPs to be used during construction will include, but are not limited to, compost filter sock, silt fence and super silt fence, and rolled erosion control products. A NPDES General Water Pollution Control Permit was filed to the WV DEP Division of Water and Waste Management and has been approved (WVR113025). Please see the approval in Appendix B.

No impacts would occur to water quality or aquatic habitats as part of the No Action Alternative.

H. Wetlands

A review of the National Wetlands Inventory, which identifies potential streams and wetlands, indicated there are multiple riverine habitats within the Proposed Action area. However, it was determined that during an onsite wetland and stream delineation of the Proposed Action area that occurred on April 29, 2024, there is only one resource within the Proposed Area, Big Run.

During the onsite delineation, it was also determined that there are no wetlands within or immediately adjacent to the Proposed Action area. Therefore, there are no anticipated impacts to

wetlands as a result of the Proposed Action. See the Aquatic Resources Map in Appendix A.

While the Proposed Action will not result in impacts to any wetlands during construction, all activities will adhere to all applicable local, state, and Federal regulations and permit approvals in addition to the BMPs, which will be utilized to protect nearby aquatic features.

No impacts to wetlands would occur as a part of the No Action alternative.

I. Wild and Scenic Rivers

There are no designated Wild and Scenic Rivers located within or near the vicinity of the Proposed Action area. Therefore, there are no impacts to Wild or Scenic Rivers as part of the Proposed Action. Since there are no Wild and Scenic Rivers within the area, no impacts to Wild and Scenic Rivers would occur as a part of the No Action alternative.

J. Hazardous, Toxic, and Radioactive Wastes

A Phase I Environmental Site Assessment (ESA) for the Proposed Action area was performed to identify the potential presence of hazardous, toxic, and radioactive waste (HTRW) located within and adjacent to the Proposed Action area. Based on the information gathered and reviewed from the state and Federal regulatory databases, historical sources, and the site visit and area reconnaissance, it is Thrasher's professional opinion that there are two recognized environmental conditions (REC), one historically recognized environmental condition (HREC), and one de minimis condition (DMC) within and or near the Proposed Action.

The Cairo Marble Plant is located adjacent to the Proposed Action area. The facility formerly produced marble products and involved activities such as cutting, polishing, equipment maintenance, and material storage—operations that commonly use or generate potential contaminants. The plant is no longer operating and has since been demolished. Available records indicate documented historical releases of hazardous materials at the Cairo Marble Plant property; however, no impacts to soils or groundwater within the Proposed Action area have been identified. Due to uncertainty regarding the extent of past remediation, the potential for off-site migration via groundwater cannot be fully eliminated. Accordingly, the Cairo Marble Plant is a REC. The Proposed Action has been intentionally designed to avoid the area associated with the Cairo Marble Plant, minimizing the potential to encounter contaminated soil. The non-Federal Sponsor confirmed that groundwater should not be encountered during construction. Based on this, impacts from potentially contaminated groundwater associated with the Cairo Marble Plant site are not expected.

The Cairo Wastewater Treatment Plant (WWTP) was originally located adjacent to the Proposed Action area. The facility experienced documented untreated sewage spills in 2006, 2017, 2018, 2019, and 2024, primarily during heavy precipitation events and due to facility deterioration. Although raw sewage is considered hazardous, available information indicates that these discharges did not impact the Project Area, and no soil or groundwater impacts have been identified. The Cairo WWTP is classified as a REC and the Proposed Action has been designed to completely avoid the vicinity of the WWTP. No work is planned in this location.

The Filling Station, LLC, located adjacent to the Proposed Action area, was documented to contain a leaking underground storage tank (LUST) by the West Virginia Department of Environmental Protection (WV DEP). The release was investigated by the WV DEP and closed with no further action required, and available records indicate no impact on the Project Area. Therefore, the site is classified as a HREC.

Typical household trash piles and debris piles containing old lumber, stone, and bricks were observed throughout the site; these are considered a DMC.

The Phase I ESA identified areas with potential soil and groundwater contamination located within and/or adjacent to the Proposed Action; however, the Proposed Action has been designed to avoid all properties and locations where these conditions were noted. This avoidance strategy ensures that no contaminated soil will be encountered during construction; therefore, no remediation or special handling of contaminated materials is expected. The non-Federal Sponsor confirmed that groundwater should not be encountered during construction. Based on this, impacts from potentially contaminated groundwater are not expected. The non-Federal sponsor will continue to comply with all applicable state and Federal requirements. A copy of the Phase I ESA is included in Appendix D.

Since no ground disturbance or construction would occur with the No Action alternative, no impacts regarding HTRWs would occur as part of the No Action alternative.

K. Cultural Resources

A review of the WV State Historic Preservation Office (SHPO) online map viewer indicated one National Register of Historic Places (NRHP) listed sites or sites eligible for listing on the NRHP near the area of the Proposed Action. A project review request letter was submitted to the WV SHPO, requesting information on potential impacts to archaeological or architectural resources within the Proposed Action area. The response from WV SHPO states that “there are likely resources along the proposed pipeline replacement path that are eligible for or included in the National Register of Historic Places, including the Bank of Cairo (NR# 96000986) which was listed in the National Register as an individual resource in 1996; however, due to the nature of the project, we concur that the proposed project will have no adverse effect on the Bank of Cairo or any other architectural resources eligible for or included in the National Register. No further consultation is necessary regarding architectural resources.”

The response from WV SHPO states in regard to archaeological resources: “According to our records, a small portion of the proposed project area was previously investigated by a Phase I archaeological survey. One archaeological site was identified within the current project area and determined to be not eligible for inclusion in the National Register of Historic Places. According to the submitted information, a vast majority of the proposed ground disturbing activities will be confined to previously disturbed areas. Therefore, it is unlikely that significant archaeological resources will be encountered. In our opinion, the proposed project will have no effect on archaeological historic properties. No further consultation is necessary regarding archaeological resources.”

As such, the Proposed Action is expected to have no effect on archaeological resources and will have no adverse effect on the Bank of Cairo or any other architectural resources eligible for or listed in the National Register.

A Phase I Cultural Resource Investigation was performed by Weller and Associates, Inc. A copy of the Cultural Resource Investigation included in Appendix E.

Since no ground disturbance or construction would occur with the No Action alternate, no impacts to cultural resources would occur as part of the No Action alternative.

L. Threatened and Endangered Species

The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system was reviewed on January 23, 2026, to identify potential federally listed threatened and endangered (TE) species and/or critical habitats within the Proposed Action area. An updated IPaC Species List was generated on January 23, 2026 which identified the following TE species for

consideration in the effects analysis: Indiana bat (*Myotis sodalis*), northern long-eared bat (NLEB, *Myotis septentrionalis*), tricolored bat (*Perimyotis subflavus*), longsolid (*Fusconaia subrotunda*), round hickorynut (*Obovaria subrotunda*), snuffbox mussel (*Epioblasma triquetra*) and its proposed critical habitat, salamander mussel (*Simpsonias ambigua*), and monarch butterfly (*Danaus plexippus*). A Northeast Determination Key and a Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key were also prepared on January 23, 2026 in IPaC (Appendix B).

Utilizing the Northeast Determination Key, it was determined that the Proposed Action is not likely to adversely affect (NLAA) the Indiana bat. The Northeast Determination Key also determined that the Proposed Action may affect the longsolid, round hickorynut, snuffbox mussel, and may affect the proposed critical habitat for the snuffbox mussel. Additionally, the Northeast Determination Key determined that the project would have no effect on the salamander mussel. The NLEB and Tricolored Bat Range-wide Determination Key determined that the Proposed Action will have no effect on the NLEB or tricolored bat.

As the lead federal agency, USACE is in the process of coordinating with the USFWS to ensure Endangered Species Act (ESA) compliance, and has made the following effects determinations for the Proposed Action

- **Indiana Bat, *Myotis sodalis* (Endangered)**- According to information obtained from the USFWS, the project is located within the range of the federally endangered species, the Indiana Bat (*Myotis sodalis*). The Northeast Determination Key resulted in an effects determination of not likely to adversely affect (NLAA) for the Indiana bat. The Corps has determined that the project will have no effect to the Indiana bat with the rationale being that there will be no tree cutting associated with the proposed project and that the work associated with the proposed project will occur in already disturbed habitats, such as along roads and other manicured areas.
- **Northern Long-eared Bat, *Myotis septentrionalis* (Endangered)**- According to information obtained from the USFWS, the project is located within the range of the federally endangered species, the Northern Long-eared Bat (*Myotis septentrionalis*). The Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key resulted in an effects determination of no effect to the Northern Long-eared Bat. The Corps agrees with this determination with the rationale being that there will be no tree cutting associated with the proposed project and that the work associated with the proposed project will occur in already disturbed habitats, such as along roads and other manicured areas.
- **Tricolored Bat, *Perimyotis subflavus* (Proposed Endangered)** - According to information obtained from the USFWS, the project is located within the range of the federally proposed endangered species, the tricolored bat (*Perimyotis subflavus*). The Corps has reviewed the tricolored bat habitat description and stressors provided by the USFWS (<https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus>; <https://ecos.fws.gov/ecp/species/10515>) and has determined the proposed project is not likely to jeopardize the continued existence of the proposed species (tricolored bat). At this time, no critical habitat has been proposed for the tricolored bat; therefore, the proposed

project would not destroy or adversely modify any proposed critical habitat for the proposed species. Based on the information provided and the habitat/stressors, the Corps has determined the project will not jeopardize the continued existence of the species; therefore, further consideration and/or conference under Section 7 (a)(4) is not warranted at this time.

- **Longsolid, *Fusconaia subrotunda* (Threatened)** – According to information obtained from the USFWS, the project is located within the range of the federally threatened species, the Longsolid, (*Fusconaia subrotunda*). The Northeast Determination Key resulted in an effects determination of may affect for the Longsolid. Based on the information provided about the project, the Corps has determined that the project may affect, but is not likely to adversely affect the Longsolid. Rationale for this effects determination is that the project will adhere to the construction plans and utilize Erosion & Sedimentation Controls/Best Management Practices. One stream crossing is proposed as part of the project. Temporary impacts to Big Run will occur as it will be crossed using open-cut methods. This process will employ a cofferdam and temporary pump-around system and will be scheduled during low-flow periods to minimize environmental impact. Upon completion, all excavated areas will be restored to their original condition to the extent feasible.
- **Round Hickorynut, *Obovaria subrotunda* (Threatened)** – According to information obtained from the USFWS, the project is located within the range of the federally threatened species, the Round Hickorynut, (*Obovaria subrotunda*). The Northeast Determination Key resulted in an effects determination of may affect for the Round Hickorynut. Based on the information provided about the project, the Corps has determined that the project may affect, but is not likely to adversely affect the Round Hickorynut. Rationale for this effects determination is that the project will adhere to the construction plans and utilize Erosion & Sedimentation Controls/Best Management Practices. One stream crossing is proposed as part of the project. Temporary impacts to Big Run will occur as it will be crossed using open-cut methods. This process will employ a cofferdam and temporary pump-around system and will be scheduled during low-flow periods to minimize environmental impact. Upon completion, all excavated areas will be restored to their original condition to the extent feasible.
- **Salamander Mussel, *Simpsonaias ambigua* (Proposed Endangered)**- According to information obtained from the USFWS, the project is located within the range of the federally proposed endangered species, the salamander mussel (*Simpsonaias ambigua*). The Corps has reviewed the salamander habitat description and stressors provided by the USFWS (<https://www.fws.gov/species/salamander-mussel-simpsonaias-ambigua>; <https://ecos.fws.gov/ecp/species/6208>) and has determined the proposed project is not likely to jeopardize the continued existence of the proposed species (salamander mussel). At this time, critical habitat has been proposed for the salamander mussel. However, the proposed project is not located within the designated limits and therefore would not destroy or adversely modify any proposed critical habitat for the species. Based on the information provided and the habitat/stressors, the Corps has determined the project will not jeopardize the continued existence of the species; therefore, further consideration and/or conference

under Section 7 (a)(4) is not warranted at this time.

- **Snuffbox Mussel, *Epioblasma triquetra* (Endangered)** According to information obtained from the USFWS, the project is located within the range of the federally endangered species, the Snuffbox Mussel, (*Epioblasma triquetra*). The Northeast Determination Key resulted in an effects determination of may affect for the Snuffbox Mussel. Based on the information provided about the project, the Corps has determined that the project may affect, but is not likely to adversely affect the Snuffbox Mussel. Rationale for this effects determination is that the project will adhere to the construction plans and utilize Erosion & Sedimentation Controls/Best Management Practices. One stream crossing is proposed as part of the project. Temporary impacts to Big Run will occur as it will be crossed using open-cut methods. This process will employ a cofferdam and temporary pump-around system and will be scheduled during low-flow periods to minimize environmental impact. Upon completion, all excavated areas will be restored to their original condition to the extent feasible.
- **Snuffbox Mussel, Proposed Critical Habitat-** According to information obtained from the USFWS, the project is located within the range of proposed critical habitat for the federally endangered species, the Snuffbox Mussel, (*Epioblasma triquetra*). The Northeast Determination Key resulted in an effects determination of may affect for the Snuffbox Mussel proposed critical habitat. A portion of the Proposed Action lies within 0.25 miles of the North Fork Hughes River, which is included within the proposed critical habitat for the snuffbox mussel. Although no tree clearing or removal of riparian vegetation will occur, the Proposed Action includes in-stream work within Big Run, consisting of an open-cut stream crossing to install the water line. While this in-stream work is not within the North Fork Hughes River, it occurs within the broader proposed critical habitat boundary mapped by USFWS; therefore, the Proposed Action is conservatively considered to may affect proposed critical habitat. Effects are expected to be limited to temporary, localized in-stream disturbance at the Big Run crossing, and adverse modification of proposed critical habitat is not anticipated. The temporary crossing of Big Run will employ a cofferdam and temporary pump-around system and will be scheduled during low-flow periods to minimize environmental impact. Upon completion, all excavated areas will be restored to their original condition to the extent feasible. Based on this information provided about the project, the Corps has determined that the proposed project would not adversely modify any proposed critical habitat for the species; therefore, further consideration and/or conference under Section 7 (a)(4) is not warranted at this time. The project will adhere to the construction plans and utilize Erosion & Sedimentation Controls/Best Management Practices.
- **Monarch Butterfly, *Danaus Plexippus* (Proposed Threatened)** -According to information obtained from the USFWS, the project is located within the range of the federally proposed threatened species, the monarch butterfly (*Danaus plexippus*). The Corps has reviewed the monarch butterfly habitat description and stressors provided by the USFWS (<https://www.fws.gov/species/monarch-danaus-plexippus>; <https://ecos.fws.gov/ecp/species/9743>) and has determined the proposed project is not

likely to jeopardize the continued existence of the proposed species (monarch butterfly). At this time, critical habitat has been proposed for the monarch butterfly. However, the proposed project is not located within the designated limits and therefore would not destroy or adversely modify any proposed critical habitat for the species. Based on the information provided and the habitat/stressors, the Corps has determined the project will not jeopardize the continued existence of the species; therefore, further consideration and/or conference under Section 7 (a)(4) is not warranted at this time.

A project review request was submitted to the West Virginia Division of Natural Resources (WV DNR) to identify potential impacts to state-listed rare, threatened, and endangered (RTE) species and habitats. WV DNR did not identify any federally listed threatened or endangered species or designated critical habitat within the Project Area. The WV DNR concurrence letter is included in Appendix B.

Since no construction would occur, no TE or state RTE species would be impacted by the No Action alternative.

M. Bald and Golden Eagle Protection Act Compliance

Although bald eagles are not listed under the federal Endangered Species Act, they are protected under the Bald and Golden Eagle Protection Act (BGEPA). The West Virginia Division of Natural Resources (WVDNR) recommended that a ground-based bald eagle nest survey be conducted to ensure compliance with BGEPA and to minimize the potential for unintentional disturbance to nesting eagles. The survey will be conducted during the leaf-off period (December 1 through March 15), which provides optimal visibility for identifying eagle nests.

If an eagle and/or eagle nest is identified within or near the Project Area, the U.S. Fish and Wildlife Service (USFWS) National Bald Eagle Management Guidelines will be followed. Conservation measures may include species-specific buffer distances, seasonal restrictions on construction activities, and coordination with the USFWS, as necessary, to determine whether additional avoidance or minimization measures are warranted.

The eagle nest survey has not yet been completed; therefore, potential impacts cannot be fully evaluated at this time. However, the proposed project does not involve tree clearing or habitat removal, and activities are not expected to affect bald eagles or their nests. The project will comply with all applicable BGEPA requirements, and any necessary conservation measures will be implemented based on survey results.

N. Air Quality

According to the United States Environmental Protection Agency (USEPA) EnviroMapper, Ritchie County, WV is in attainment for all criteria air pollutants. Ritchie County, West Virginia meets all federal air quality standards. Construction of the proposed project may result in minor, short-term air emissions, primarily from construction equipment and dust. These emissions would be temporary and would occur only during construction activities. Contractors will follow all applicable regulations, and water spraying will be used as needed to control dust.

Air quality impacts associated with the proposed project are not expected to be significant. Any effects would be localized, temporary, and limited to the construction period.

Since no construction would occur, no impacts to air quality would occur as part of the No Action

alternative.

O. Noise

Some noise will be generated during the construction phase of the Proposed Action from construction and transportation equipment. Although construction noise will be audible, it is expected to fall within the typical range associated with short-term utility and infrastructure work and is not expected to exceed ambient conditions at levels that would result in significant impacts. This expectation is based on the temporary duration of the work, the relatively small scale of equipment likely to be used, and the distance between construction areas and nearby residences and businesses.

Precise noise modeling cannot be completed at this stage since the final contractor has not been selected, and the specific equipment list and staging locations have not yet been identified. Construction activities will be limited to daylight hours and weekdays to reduce potential nuisance effects. No permanent equipment or structures are included in the Proposed Action, resulting in only short-term and minimal noise impacts that will cease once construction is complete.

Since construction would not occur, no impacts to noise would occur as part of the No Action alternative.

P. Socioeconomics

According to the United States Census Bureau 2018-2021 American Community Survey 5-Year Estimates, Cairo had a total population of 176, with a median annual household income of \$29,650. The county business patterns listed the total for all employment sectors as 24 establishments with 136 total number of employees for the year 2020. The top sectors listed were health care and social assistance, accommodation and food services, and other services (except public administration).

The area within a one-mile radius of the Proposed Action area contains 52% of the population considered to be low income with 21% having less than a high school education. Low-income populations exist within the area of the Proposed Action; however, the Proposed Action will not have a disproportionate impact on the low-income populations. The minority population was listed at 19% within one mile of the Proposed Action area. The Proposed Action will consist of rehabilitating and improving the existing water supply within the Town by replacing and installing new water lines and various appurtenances. No property acquisitions, condemnations, or demolition of residential properties will be required. Upon completion of the Proposed Action, disturbed areas will be restored to pre-construction conditions. Therefore, the Proposed Action will not have a disproportionate effect on low-income or minority populations.

Since no construction would occur, no impact on minority or low-income populations is anticipated to occur from the No Action alternative.

Q. Aesthetics

The Proposed Action area is situated within residential and commercial properties. Temporary disturbance to the local aesthetics would be anticipated during construction of the Proposed Action; however, after construction, the excavated areas would be restored to previous conditions, as feasible. Therefore, there would be no significant adverse direct or indirect impacts to aesthetics as a result of the Proposed Action. Please see the Recreation Map in Appendix A.

Since no construction would occur, there are no aesthetic impacts as part of the No Action alternative.

R. Transportation and Traffic

Construction of the Proposed Action will occur primarily within existing public rights-of-way. Work within these corridors may result in temporary traffic delays, lane closures, or short detours to accommodate construction equipment and ensure worker safety. Any detours that may be required are expected to be minor and temporary in duration. Standard traffic control measures—such as signage, flaggers, and reduced speed zones—will be implemented in accordance with applicable state and local requirements to minimize disruptions and maintain public safety. Indirect impacts may include brief increases in travel time for motorists, reduced parking availability near work zones, and temporary changes to pedestrian access in areas where sidewalks or road shoulders are affected. All direct and indirect transportation impacts are expected to be temporary and minimal.

Since no construction would occur, no impacts to transportation and traffic would occur as part of the No Action alternative.

S. Child Health and Safety

The Proposed Action has been designed to improve the water system in the Town, thereby minimizing public health and safety and environmental hazards associated with the current outdated water lines and limited water supply. Providing a reliable water system is necessary to address potential health and safety problems. The Proposed Action will provide an overall health benefit to the serviced communities by improving the existing water system. Therefore, the Proposed Action is anticipated to have long-term beneficial impacts on health and safety.

Under the No Action alternative, the current defunct Water system would continue to be used, perpetuating health and safety concerns.

T. Navigation

There are no designated Section 10 traditionally navigable waterways within or near the Proposed Action area, so there are no impacts to navigation as part of the Proposed Action. Consequently, no impacts to Section 10 traditionally navigable waterways would occur under the No Action alternative.

U. Public Infrastructure

Public infrastructure in the area consists of overhead electric lines, buried water, wastewater, and gas utility lines, as well as public roadways and sidewalks. The Proposed Action includes upgrades to the existing public water system, which will improve infrastructure by replacing aging waterlines, increasing system reliability, and reducing the potential for service disruptions or leaks. Prior to construction, WV 811/Call-Before-You-Dig will be contacted to ensure existing utilities are identified and avoided, preventing impacts to other utility lines.

Under the No Action alternative, the current defunct water system would continue to be used, resulting in the continued deterioration of public infrastructure.

V. Tribal Trust Resources

Tribal trust resources were considered as part of the cultural resource evaluation for the Proposed Action. Consultation efforts were coordinated with the West Virginia State Historic Preservation Office (WV SHPO), which did not identify any Tribal lands, sacred sites, or other resources of cultural significance to federally recognized Tribes within the project area. In addition, a review of available cultural resource databases and mapping tools did not indicate the presence of Tribal trust resources within the footprint of the Proposed Action.

The Phase I Cultural Resource Investigation conducted by Weller and Associates, Inc. also did not identify any archaeological sites or features associated with Tribal cultural heritage. Based on these findings and coordination efforts, no Tribal trust resources were identified, and no impacts to such resources are anticipated under either the Proposed Action or the No Action Alternative.

W. Changing Weather Patterns

The Proposed Action will consist of rehabilitating and improving the existing water supply within the Town by replacing and installing new water lines and various appurtenances. The Proposed Action will not involve tree clearing, an increase in greenhouse gas production or fossil fuel/energy consumption, or habitat conversion. Therefore, the Project will have no effect on changing weather patterns.

As no work would occur under the No Action alternative, the No Action alternative will have no effect on changing weather patterns.

X. Invasive Species

Habitat and vegetation within the Proposed Action area consists of upland grasses and noxious weeds within and adjacent to roadways and grasses and shrubs in residential areas. Any areas disturbed during construction will be reseeded with a native seed mix. Therefore, the Proposed Action will not affect invasive species.

As no work would occur under the No Action alternative, the No Action alternative will have no effect on invasive species.

Y. Hydrology

The Proposed Action will consist of rehabilitating and improving the existing water supply within the Town by replacing and installing new water lines and various appurtenances. Temporary hydrological disturbances are anticipated during construction, particularly where Big Run will be crossed using open-cut methods. This process will employ a cofferdam and temporary pump-around system and will be scheduled during low-flow periods to minimize environmental impact. Upon completion, all excavated areas will be restored to their original condition to the extent feasible. Therefore, no significant adverse direct or indirect impacts to hydrology are expected as a result of the Proposed Action.

As no work would occur under the No Action alternative, the No Action alternative will have no effect on hydrology.

IV. SUMMARY OF EFFECTS

Based on the information provided above, the Proposed Action will have only minor negative impacts to select resources while having a significant, long-term, beneficial impact on public health and safety and public infrastructure. The summary of environmental effects of the Proposed Action is documented below in Table 1

Table 1 - Effects Analysis Summary Table

Environmental Setting	Significant	Minor	No Effect
Land Use			X
Physiography			X
Habitat and Vegetation		X (temporary construction)	
Floodplains			X
Soils			X
Aquatic Habitat/Water Quality		X (temporary construction)	
Wetlands			X
Wild and Scenic Rivers			X
Hazardous, Toxic, and Radioactive Waste			X
Cultural Resources			X
Threatened and Endangered Species		X (temporary construction)	
Air Quality		X (temporary construction)	
Noise		X (temporary construction)	
Socioeconomic			X
Aesthetics			X
Transportation and Traffic		X (temporary construction)	
Child Health and Safety		X (long-term beneficial)	
Navigation			X
Public Infrastructure		X (long-term beneficial)	
Tribal Trust Resources			X
Changing Weather Patterns			X
Invasive Species			X
Hydrology		X (temporary construction)	

V. REQUIRED COORDINATION

A. Agencies Contacted

Direct coordination with the WV SHPO, the WV DNR, the USFWS, and the Town of Cairo has been initiated. Agency correspondence is included in Appendix B.

B. Public Review and Comments

The DEA will be made available for public review and comment, as required under the NEPA. A Notice of Availability will be published in the local newspaper, the Ritchie Gazette, advising the public that this document is available for review and comment. A copy of the DEA will also be made available

online at: <https://www.lrd.usace.army.mil/News/Project-Documents-Notices-Public-Review/>

VI. CONCLUSION

The Town of Cairo's water system is between 40 and 75 years old and experiences a 62% water loss. The water loss is due to frequent leaks from the mains, river crossings, and service lines. The Proposed Action will consist of rehabilitating and improving the existing water supply within the Town by replacing and installing new water lines and various appurtenances.

If federal funding is not secured, the Town of Cairo, WV would be responsible for covering the full cost of the proposed water or sewer infrastructure improvements. Given the town's limited financial resources and the aging condition of its utility systems, this could result in significant delays, reduced project scope, or reliance on temporary repairs. Without timely upgrades, the town may face increased risks of system failure, regulatory non-compliance, and public health concerns. Any alternative funding would likely require increased local utility rates, municipal borrowing, or state-level assistance.

No significant short-term or long-term adverse impacts to the environment have been identified as a result of the implementation of the Proposed Action. Construction will mainly take place on previously disturbed land and largely within existing WVDOH and utility ROWs. Health and safety, as well as water quality benefits, would be realized immediately with the implementation of the Proposed Action. Effects associated with construction would be minor and temporary. BMPs would be implemented during construction to minimize impacts on residents and the environment. Therefore, the Proposed Action is not expected to have significant impacts on the human environment. A FONSI from the USACE is anticipated for the Proposed Action.