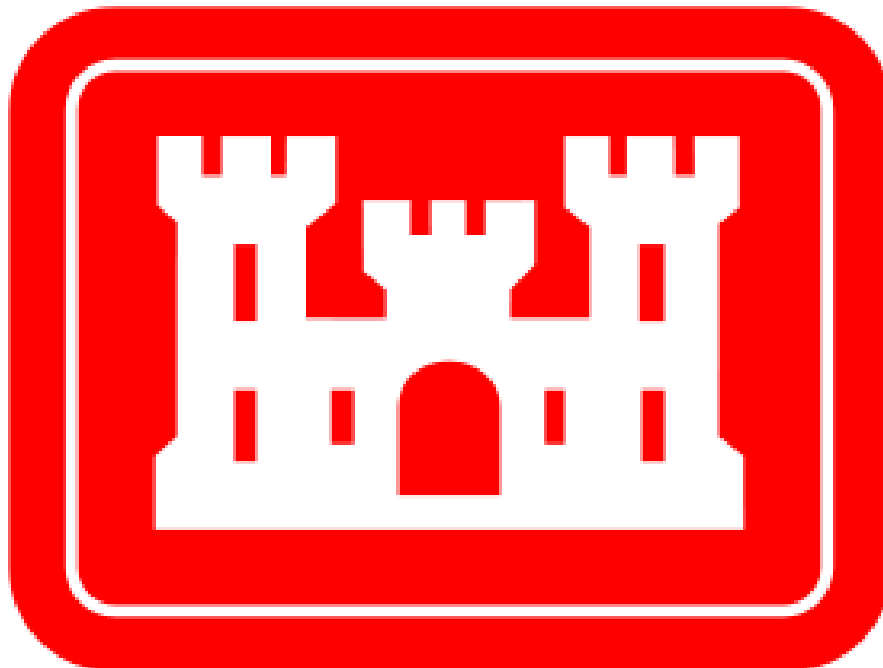


**Environmental Assessment**

**Section 531 Martin County Water District  
Water System Improvements Project  
Martin County, Kentucky**



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

**August 2020**



## Executive Summary

The Martin County Water District (MCWD) is proposing to design and construct a water system improvements project. The improvement project would include the purchase of two raw water pumps; improvements to the raw water intake (RWI) facility located along KY 292; and improvements to the raw water treatment plant (WTP) located along Turkey Creek Road. Improvements and additions to the current infrastructure are required in order to eliminate existing components, of which includes an RWI facility that has not been capable of pumping water to the Crum Reservoir for over one year and a WTP that cannot meet system demands when major water distribution breaks occur. In addition to the above improvements, the proposed project would also include the replacement of water main, service lines, and meter settings in the areas of Beauty, Lovely, and Warfield, Kentucky. This area currently relies on failing or insufficient water distribution systems, which are deteriorating and pose health risks to humans. The proposed infrastructure would establish safe, reliable water service and sustain operations of the MCWD for the next 10 years.

The Proposed Action Alternative would consist of the purchase of one 400 Hp pump and one 600 Hp pump; installation of 19,600 linear feet of 6-inch ductile iron water main, 15,300 linear feet of ¾ inch PE service line, and new meter settings (510 ⅝ inch by ¼ inch); improvements to the RWI facility including the following: construction of a concrete ramp and hoist that would allow movement of pumps; expansion of the existing electrical building; installation of a supervisory control and data acquisition (SCADA) system to allow control of the RWI pumps from the WTP; and miscellaneous construction items such as minimal earthwork, site conduit, wiring, piping, valves, line reactors, and instrumentation; and improvements to the WTP including the following: construction of a new valve to control clarifier #1; sandblasting and rehabilitation of metal work for clarifiers #1 and #2; installation of chemical feed piping, vault hatches, and tube settlers for clarifier #1; rehabilitation of the WTP roofing; replacement of #1 media, and the effluent flow meter; concrete repairs to clarifier #2; and the installation of a 660 KVA generator for emergency power backup.

The proposed project is a partnership agreement between the Martin County Water District, Big Sandy Area Development District, and the U.S. Army Corps of Engineers (Corps) established under the authority of Section 531 of the Water Resources Development Act of 1999 (Public Law 106-109), as amended, which provides authority for the Corps to establish a program to provide environmental assistance to Non-Federal entities in Kentucky. This law provides design and construction assistance for water related environmental infrastructure projects to Non-Federal interests in Kentucky. Funding, as established under Section 531, shall be shared 75% Federal and 25% Non-Federal (State and Local).

This Environmental Assessment is prepared pursuant to the National Environmental Policy Act, Council on Environmental Quality Regulations (40 CFR 1500-1508) and the Corps Implementing regulation, ER-200-2-2.

**TABLE OF CONTENTS**

|            |  |           |
|------------|--|-----------|
| <b>1.0</b> | <b>Project Description</b>                               | <b>1</b>  |
| 1.1        | Project Background                                       | 1         |
| 1.2        | Purpose, Need, and Authorization                         | 1         |
| <b>2.0</b> | <b>Proposed Actions and Alternatives</b>                 | <b>2</b>  |
| 2.1        | Proposed Action Alternative                              | 2         |
| 2.2        | No Action Alternative                                    |           |
| <b>3.0</b> | <b>Alternatives Dismissed from Further Consideration</b> | <b>3</b>  |
| 3.1        | Alternative A  | 3         |
| 3.2        | Alternative B  | 3         |
| 3.3        | Alternative C  | 3         |
| <b>4.0</b> | <b>Environmental Setting and Consequences</b>            | <b>3</b>  |
| 4.1        | Location   | 4         |
| 4.2        | Land Use   | 5         |
| 4.3        | Climate  | 6         |
| 4.4        | Terrestrial Habitat                                      | 6         |
| 4.5        | Floodplains  | 6         |
| 4.6        | Prime and Unique Farmland                                | 7         |
| 4.7        | Aquatic Habitat/Water Quality                            | 7         |
| 4.8        | Wetlands   | 8         |
| 4.9        | Wild and Scenic Rivers                                   | 8         |
| 4.10       | Hazardous, Toxic, and Radioactive Wastes                 | 8         |
| 4.11       | Cultural Resources                                       | 9         |
| 4.12       | Threatened and Endangered Species                        | 9         |
| 4.13       | Air Quality  | 10        |
| 4.14       | Noise  | 10        |
| 4.15       | Environmental Justice and Protection of Children         | 11        |
| 4.16       | Aesthetics   | 12        |
| 4.17       | Transportation and Traffic                               | 12        |
| 4.18       | Health and Safety  | 12        |
| 4.19       | Cumulative Effects                                       | 13        |
| <b>5.0</b> | <b>Status of Environmental Compliance</b>                | <b>14</b> |
| <b>6.0</b> | <b>Required Coordination</b>                             | <b>15</b> |
| 6.1        | Agencies Contacted                                       | 15        |
| 6.2        | Public Review and Comments                               | 15        |



|            |   |           |
|------------|---|-----------|
| <b>7.0</b> | <b>Conclusion</b>   | <b>15</b> |
| <b>8.0</b> | <b>List of Information Providers and Agency Preparers</b> | <b>15</b> |
| <b>9.0</b> | <b>References</b>   | <b>16</b> |

### **List of Tables**

|                |   |           |
|----------------|---|-----------|
| <b>Table 1</b> | Permissible Non-Department of Defense Noise Exposures | <b>10</b> |
| <b>Table 2</b> | Status of Environmental Compliance                    | <b>14</b> |

### **List of Appendices**

|                   |                     |
|-------------------|---------------------|
| <b>Appendix A</b> | Exhibits            |
| <b>Appendix B</b> | Agency Coordination |
| <b>Appendix C</b> | Mailing List        |



## Acronyms

AML – Abandoned Mine Lands  
BMPs- Best Management Practices  
BSADD – Big Sandy Area Development District  
CEQ – Council on Environmental Quality  
CFR – Code of Federal Regulations  
Corps – U.S. Army Corps of Engineers  
CRECs – Controlled Recognized Environmental Conditions  
DBP – Disinfection Byproduct  
DNL – Day Night Average Noise Levels  
DOT – Department of Transportation  
DOW – Division of Water  
EA – Environmental Assessment  
EEC – Environmental and Energy Cabinet  
EIS – Environmental Impact Statement  
EO – Executive Order  
FAA – Federal Aviation Administration  
FEMA – Federal Emergency Management Agency  
FIRM – Flood Insurance Rate Map  
FONSI – Finding of No Significant Impact  
FPPA – Farmland Protection Policy Act  
HRECs – Historical Recognized Environmental Conditions  
HTRW – Hazardous, Toxic, and Radioactive Waste  
MGD – Million Gallons per Day  
NAA – No Action Alternative  
NEPA – National Environmental Policy Act  
NRCS – Natural Resource Conservation Service  
NWI – National Wetland Inventory Map  
PAA – Proposed Action Alternative  
RECs – Recognized Environmental Conditions  
RWI – Raw Water Intake  
SCADA - Supervisory Control and Data Acquisition  
SHPO – State Historic Preservation Office  
UPUS - Unrestricted Portable Use Standard  
USDA – United States Department of Agriculture  
USEPA – U.S. Environmental Protection Agency  
USFWS – U.S. Fish and Wildlife Service  
WRDA – Water Resource Development Act  
WTP – Water Treatment Plant



*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. The majority of data collection and analysis in this document was performed by the Big Sandy Area Development District and Kentucky Energy and Environment Cabinet's (EEC) Abandoned Mine Lands in conjunction with the U.S. Army Corps of Engineers).*

## **1.0 PROJECT DESCRIPTION**

### **1.1 Project Background**

Under existing conditions, the Martin County Water District (MCWD) has had unaccounted for water in excess of 60 percent. Typically, the Kentucky Public Service Commission and Kentucky Division of Water prefer to see systems operate with unaccounted-for water loss not more than a range of 15 to 20 percent. Excessive amounts of unaccounted-for water drastically impacts water systems. In order to meet daily requirements, water systems with excessive unaccounted-for water have to produce more water than is demanded by the customers. The current Raw Water Intake (RWI) is designed to pump raw water from the Tug Fork River to Crum Reservoir, however the RWI has not been capable of pumping water to Crum Reservoir for over one year. Raw Water from the Tug Fork River is the only viable water source for the MCWD. The MCWD rents one raw water pump at a cost of \$18,000 per month that pumps water from the Tug Fork River to the Crum Reservoir. Should the pump fail to operate, the MCWD could not pump water to its existing reservoir until it is repaired. Additionally, only two of the three clarifiers at the WTP are in operation and one of the clarifiers is in extremely poor condition. When major water distribution breaks occur, the MCWD is not able to meet their current average day water demand.

This Environmental Assessment (EA) examines the potential environmental impacts of the water system improvement project as proposed by the MCWD. The purpose of the EA is to analyze the potential environmental impacts of the proposed project and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). An EIS is typically conducted where significant human or natural resources exist and the implementation of a proposed project may have significant effects to those resources. An EA typically involves projects where no significant resources occur or the project is expected to have less than significant impacts to the human and natural environment. In both EISs and EAs, additional project actions can be implemented to help avoid, minimize, or mitigate for potential project impacts.

### **1.2 Purpose, Need, and Authorization**

The purpose of the proposed project would be to extend or replace existing infrastructure within the water distribution system, which is currently experiencing poor water quality, quantity, and reliability due to inadequate maintenance, replacement, improvement, and mismanagement of the municipal water system. These conditions affect the operations of the water distribution



system and could pose health risks to residents if complete failure would occur. Improvements to the RWI facility and WTP would improve the supply and water quality by creating redundancy and reliability in the raw water supply and by minimizing the potential for disinfection byproduct (DBP) production in the system. Installation of waterlines would sustain operations of the MCWD for the next 10 years by reducing the amount of unaccounted for water in the system. The need for replacing and extending the water distribution system in the proposed area is to provide residents with a reliable and safe water service.

The proposed project is a partnership agreement between the MCWD, Big Sandy Area Development District, and the U.S. Army Corps of Engineers (Corps) established under the authority of Section 531 of the Water Resources Development Act of 1999 (Public Law 106-109), as amended, which provides authority for the Corps to establish a program to provide environmental assistance to Non-Federal entities in Kentucky. This law provides design and construction assistance for water related environmental infrastructure projects to Non-Federal interests in Kentucky, including projects for wastewater treatment plants (WWTP) and related facilities, water supply, water storage, water treatment, water distribution facilities, and surface water resource protection and development.

This EA is prepared pursuant to the NEPA, Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508) and the Corps Implementing regulation, ER-200-2-2.

## **2.0 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 Proposed Action Alternative (PAA)**

The PAA would consist of the purchase of one 400 horsepower (Hp) pump and one 600 Hp pump; installation of 19,600 linear feet of 6-inch ductile iron water main, 15,300 linear feet of ¾ inch PE service line, and new meter settings (510 ⅝ inch by ¼ inch) in the areas of Beauty, Lovely, and Warfield, Kentucky; and improvements to the RWI facility located along Turkey Creek Road, and the WTP located along KY 292. The pumps would be purchased with Abandoned Mine Lands (AML) funds. The 400 Hp pump would be utilized until future electrical and structural modifications at the RWI facility are complete, and then the 600 Hp pump would become the primary pump. Construction of the project elements would be within areas previously disturbed by coal mining operations, road construction, utility installation and/or commercial development. Following construction, all areas would be returned to preexisting conditions through soil grading and seed planting.

### **2.2 No Action Alternative (NAA)**

Under the NAA, the Corps would not provide funding for the project. Additionally, the MCWD would not improve the water distribution system or water supply and the community would continue utilizing an inefficient and aging water distribution infrastructure. Further deterioration of the water distribution system would likely continue and result in failure of equipment and water systems. Health and safety risks could become a possibility due to the failing infrastructure. This alternative was considered unacceptable due to the continued failure of



public infrastructure and potential health hazards resulting from these failures. However, it is included in the alternatives analysis to establish a baseline condition for existing human and natural environment conditions, to allow comparison between future without and with project actions, and to determine potential environmental effects of proposed with project alternatives.

### **3.0 ALTERNATIVES DISMISSED FROM FURTHER CONSIDERATION**

#### **3.1 Alternative A (Modify the RWI Pumps, Piping and Screen)**

This alternative would require the depth of the RWI pipe to be approximately 3.75 feet, and involve the core drilling a new 18-inch diameter opening through the existing RWI pump station wall. Approximately 175 linear feet of a new 18-inch ductile iron pipe would be installed from the pump station to the Tug Fork River. The center line elevation from the pipe would be lowered from an elevation of 551.5 feet to 547.75 feet. Additional improvements would include a new raw water screen and air burst system to reduce silt build-up in the screen and pipe. In addition, a new Corps permit would be necessary to allow construction of a permanent concrete structure within the Tug Fork River that would create a pool of water at a depth adequate to supply the raw water pumps. The capital cost, and time required to secure permitting and complete construction made this a non-feasible alternative. Therefore, this alternative has been dismissed from further consideration.

#### **3.2 Alternative B (Relocate the RWI and WTP)**

This alternative would involve relocating the RWI facility from the Tug Fork River to the Levisa Fork of the Big Sandy River on the western edge of the MCWD's water distribution system. In addition, a new WTP would also be relocated near the Levisa Fork. This would require the construction of a 4.0 million gallons per day (MGD) RWI structure; 2,500 linear feet of 16-inch diameter raw water meter transmission main; 4.0 MGD WTP structure; 4.0 MGD high service pump station; SCADA controls; on-site generator; and 64,000 linear feet of 12-inch diameter finished water transmission main into the City of Inez. The capital cost and time to construct these facilities made this alternative not feasible and this alternative has been dismissed from further consideration.

#### **3.3 Alternative C (Drill Wells and Discontinue Service)**

This alternative would involve drilling individual wells for approximately 1,000 MCWD customers that are served by the gaining and failing water distribution system and then eliminating service to those customers. The capital cost, unreliable supply of water from wells, and poor water quality made this alternative not feasible. Therefore, this alternative has been dismissed from further consideration.

### **4.0 ENVIRONMENTAL SETTING AND CONSEQUENCES**

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 Proposed Action Alternative (PAA).

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. 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 not within accepted levels for permitting, continued resource sustainability, or human use. 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.

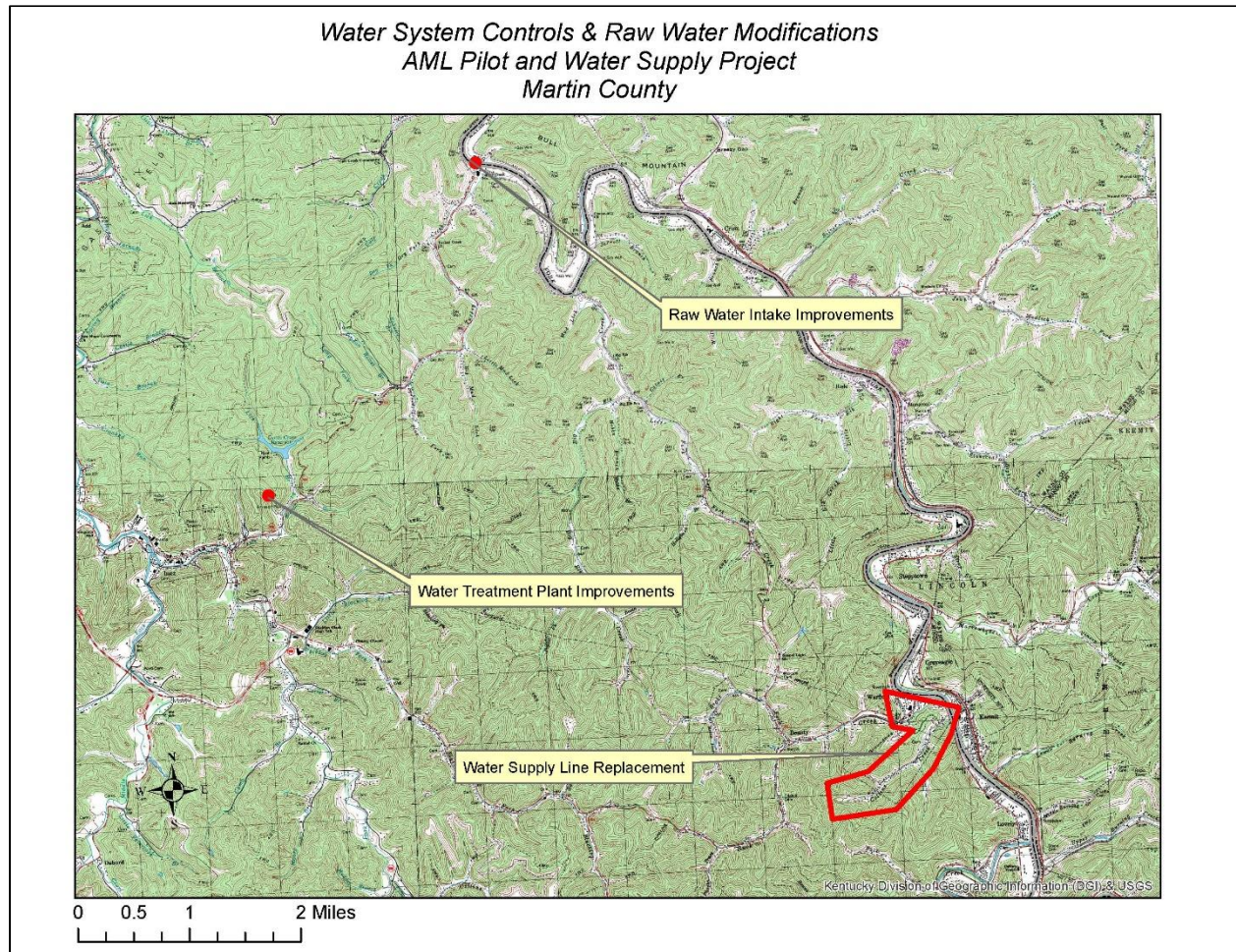
The Corps used quantitative and qualitative analyses, as appropriate, to determine the level of potential impact from proposed alternatives. Based on the results of the analyses, this EA identifies whether a particular potential impact would be adverse or beneficial, and to what extent. CEQ regulations also require that a proposed action's cumulative impact be addressed as part of a NEPA document. Cumulative impacts are discussed in section 3.19 below.

#### 4.1 Location

The affected area is located within Martin County, Kentucky. The project includes the purchase of two raw water pumps; installation of water main, service line, and meter settings in the areas of Beauty, Lovely, and Warfield, Kentucky; and improvements to the RWI facility located along



KY 292, and the WTP located along Turkey Creek Road. See Appendix A for project location maps.



## 4.2 Land Use

Land use in the immediate project area is a mixture of commercial and residential within a rural-type setting. The proposed water main and service lines would be constructed within rights-of-way, which are previously disturbed areas. Land contours would be reclaimed upon completion of the installation. The proposed improvements to the RWI and WTP would be confined to the existing footprints of the plants and would not require any change in land use. Due to the previously disturbed nature of the area, land use is not anticipated to be adversely impacted.

There would be no significant adverse impacts to land use as a result of either the PAA or NAA.



### 4.3 Climate

Martin County experiences seasonal weather patterns with typical summer conditions of hot and humid days and winters being mild to moderate cold temperatures with snowfall. Fall is typically the driest season, while spring is typically wetter. Average high temperatures during the summer months of May to September are 77 degrees Fahrenheit, with periods of hot and humid conditions in late summer months. The coldest season lasts for three months from December to March with an average high temperature of 45 degrees Fahrenheit and average seasonal snowfall of 12 inches. The coldest month is typically January with an average low of 23 degrees Fahrenheit. Average annual rainfall is 45 inches with spring being the wettest season.

Only short duration, minor discharges of carbon based pollutants would occur during construction activities that could contribute to greenhouse gases. The NAA or PAA would not involve any activity that could significantly affect the environment in regards to climate change and would not likely be influenced by future changes in climate. Therefore, no significant adverse impacts to climate or climate change would occur as a result of the PAA.

### 4.4 Terrestrial Habitat

The PAA would be constructed primarily in previously disturbed areas. The proposed waterline would be installed within rights-of-way, and improvements to the RWI and WTP would be confined to the existing footprints of the plants. Potential impacts to vegetation would be minimal and temporary. It is anticipated that no tree removal would be needed. Areas would be returned to pre-construction conditions upon completion of construction activities through soil grading and grass seeding. Only minor, temporary impacts to existing vegetation during construction are anticipated to occur. Therefore, no significant long-term impacts to terrestrial habitat are anticipated as part of the PAA.

No impacts to terrestrial habitat would occur under the NAA.

### 4.5 Floodplains

Executive Order 11988 requires Federal agencies to consider the potential effects of their proposed actions to floodplains. In order to determine the PAA's potential floodplain impact, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were reviewed for portions of the proposed project that would be located within the floodplain of Tug Fork River (<https://www.fema.gov/floodplain-management/flood-zones>). Project components to be located in Zone AE, 1-percent change of a flood even in a given year, include portions of the water main and service line installation, and the RWI. The northern portion of the water main and service line installation is located within Zone X, which is an area of 0.2% chance of flooding. The WTP is located within a zone with minimal flood hazard.

Underground infrastructure such as water main and service lines would not result in any change in grade or elevation since they would be buried under the ground. Therefore, they would result in no adverse impact to floodplain areas. Improvements to the RWI and installation of water





lines are not expected to obstruct flood flows or usurp flood storage capacity. The WTP and Crum Reservoir are located outside of the floodplain. Coordination with the floodplain manager for Martin County is on-going and will be completed prior to execution of the Finding of No Significant Impact (see Appendix B). Prior to construction, submission of a state floodplain permit would be required. The PAA meets the intent of EO 11988 and no significant impacts to floodplains are anticipated to occur from the PAA.

As no construction related activities would be implemented, no impacts to floodplains are anticipated to occur from the NAA.

#### **4.6 Prime and Unique Farmland**

The Farmland Protection Policy Act (FPPA) requires Federal agencies to minimize the conversion of prime and unique farmland to non-agricultural uses. The majority of the project is within previously disturbed areas and would take place within the MCWD's service boundaries. The Corps' Huntington District has determined that due to the majority of the area being pre-disturbed, the FPPA would not apply to this proposed project and no impacts on prime or unique, statewide, or locally important farmland is expected to occur. Coordination with the Natural Resources Conservation Service (NRCS) determined that the project will have no impact on prime and unique farmland and therefore is not subject to FPPA.

Likewise, there are no direct impacts to Prime and Unique Farmland anticipated as part of the NAA.

#### **4.7 Aquatic Habitat/Water Quality**

The project is located within the Tug Fork River Watershed (HUC 05070201). According to Kentucky's Energy and Environment Cabinet (EEC) 305(b) 2016 List, the Tug Fork River is located within the Big Sandy, Little Sandy, Tygart Rivers Watershed and runs 31.5 miles through Martin County. The Tug Fork River is located along the borders of West Virginia, Kentucky, and Virginia, and flows from its source in McDowell Count, West Virginia, in a northwesterly direction to its confluence with the Levisa Fork in Fort Gay, West Virginia, where the two form the Big Sandy River. There are no Sole Source Aquifers in the project area. The portion of the Tug Fork River located within Martin County is not listed in Kentucky's EEC 303(d) 2016 List; however, portions of the Tug Fork River located within Lawrence and Pike Counties are listed as impaired due to E. coli, lead, and polychlorinated biphenyls.

Implementation of the PAA would not result in new discharge of pollutants. Collins Creek, Buck Creek and a few other small tributaries would be crossed during construction of the waterlines. Stream crossings associated with the PAA would fall under the Nationwide Permit (NWP) 12 for Utility Line Activities. On June 18, 2020, Corps Regulatory Division determined that the PAA would meet a NWP 13 for Bank Stabilization for the riprap associated with the proposed RWI improvements. Additionally on May 16, 2018, the Kentucky Division of Water (KYDOW) determined that the Sponsor must receive written approval from the KYDOW prior to beginning of the construction. The proposed work would follow all conditions of the NWP 12 and NWP 13.



Therefore, a General Water Quality Certification under the Clean Water Act would be required prior to construction.

The project would also require a KYDOW Construction Permit for Drinking Water Distribution, US Army Corps of Engineers 4345 Permit, Permit to Construct Across or Along a Stream and/or state Water Quality Certification and a National Pollutant Discharge Elimination System (NPDES) Permit. The local Sponsor would be responsible for obtaining these permits. Indirect impacts associated with run-off and erosion due to construction may temporarily impact water quality in the area. These construction related impacts would be short-term and minor and mitigated through the use of Best Management Practices (BMPs) throughout the area to prevent runoff into adjacent waters. For example, hay-bale silt checks and silt fences would be maintained throughout the life of the project, and the completed project would provide non-eroding drainage controls. Based on the above, implementation of the PAA would not result in significant adverse short or long-term environmental impacts to aquatic habitat and water quality. In the long-term, implementation of the PAA is expected to have a positive impact on the aquatic habitat and water quality within the project area. Implementation of the PAA would provide residents with reliable, safe water service.

Under the NAA, no aquatic impacts would occur and water quality in the project area would remain unchanged.

#### **4.8 Wetlands**

National Wetland Inventory Maps (NWI) were reviewed for the proposed project area and a site reconnaissance field investigation was conducted for the project area and adjacent properties on November 6, 2019 by L.E. Gregg Associates to determine the validity of NWI maps. NWI maps indicated that there are no wetlands adjacent to the project area, and the site reconnaissance confirmed NWI findings. No impacts to wetlands are anticipated as part of the PAA or NAA.

#### **4.9 Wild and Scenic Rivers**

No designated State Wild or Scenic Rivers are present within the Project Area. Therefore, no impacts to these resources are anticipated as part of the PAA or NAA.

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

A Limited Phase 1 HTRW Environmental Site Assessment was conducted by LE Gregg Associates on December 17, 2019 for the project to identify environmental conditions and to identify the potential presence of HTRW contamination located in the project's construction work limits. During their assessment, no recognized environmental conditions (RECs), controlled recognized environmental conditions (CRECs), historical recognized environmental conditions (HRECs), or de minimis conditions were found.

After review of the Limited Phase I HTRW investigation, Corps' HTRW staff determined that no further investigation or action is required. Therefore, no impacts to HTRW are anticipated



with the PAA. A clearance memorandum was signed by Corps' HTRW staff on 29 January 2020 and is included in Appendix B.

The NAA would not result in ground disturbing activities. Therefore, no direct construction related HTRW impacts would be associated with the NAA.

#### **4.11 Cultural Resources**

In accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), the Kentucky State Historic Preservation Office (SHPO) was consulted regarding the proposed project. On December 18, 2019, the KYSHPO determined that the proposed project would not impact any properties or sites that are listed in or eligible for the National Register of Historic Places (NRHP). No further cultural resources coordination is required unless the scope of the project changes. Therefore, in accordance with 36 CFR 800.4(d) (1)(i), the Huntington District has fulfilled its obligation under Section 106. See Appendix B for coordination letters.

If unanticipated archaeological deposits or human remains are discovered during construction, all work near the location of the discovery shall cease and the Project Manager and Huntington District Archaeologist shall be contacted immediately. The Kentucky State Police, the Martin County Coroner, and SHPO must also be notified immediately if human remains are discovered.

Under the NAA, no construction related actions would be implemented, so no significant impacts to cultural resources would occur.

#### **4.12 Threatened and Endangered Species**

According to the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) tool, the project area is within the range of the Indiana bat, Northern Long-eared bat, Gray bat, and Big Sandy Crayfish.

The proposed project would primarily occur in previously disturbed areas and it is anticipated that no tree clearing would occur. Additionally, the project would not result in disturbance of any caves or cave-like habitats such as underground mine adits or openings. Therefore, the Corps' Huntington has determined that the proposed action would have no effect on the Indiana bat, Northern Long-eared bat and the Gray bat.

Collins Creek, Buck Creek, and a few other small tributaries would be crossed during construction of the waterlines using directional boring methods. Therefore, the Corps Huntington District has determined that the proposed action may affect, but is not likely to adversely affect, the Big Sandy Crayfish.

Coordination with USFWS under Section 7 of the Endangered Species Act and Fish and Wildlife Coordination Act is on-going and will be completed prior to a FONSI.



#### 4.13 Air Quality

According to the U.S. Environmental Protection Agency (USEPA) website, Martin County is classified as “unclassified/in attainment” for all criteria pollutants. Under the PAA, emissions from construction equipment would occur during the construction period. Contractors would be required to operate all equipment in accordance with local, state and Federal regulations. The PAA is exempt through 40 CFR Part 93.153 from making a conformity determination since estimated emissions from construction equipment would not be expected to exceed de minimis levels, or have direct emissions of a criteria pollutant or its precursor. Any impacts would be short-term, localized and would occur during construction activities. Impacts to air quality under the PAA would be temporary during construction and would be considered minor.

No impacts to air quality are anticipated as part of the NAA.

#### 4.14 Noise

Noise associated with the PAA would be limited to constructed related sounds generated during construction. The noise associated with construction would be short in duration and would only occur during daylight hours. Noise is measured as Day Night average noise levels (DNL) in “A-weighted” decibels that the human ear is most sensitive to (dBA). 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 *A White Paper: Assessment of Noise Annoyance*, 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 3.1 below), for consideration of hearing protection or the need to administer sound reduction controls.

**Table 1 - Permissible Non-Department of Defense Noise Exposures**

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



Construction noise would be similar to that of farm equipment and other small machinery used in the local area. A backhoe, end loader, road grader and/or vibratory roller are examples of equipment that is likely to be used during construction. Each emits noise levels around 85 dBA at 45 feet. Construction equipment would be operated during daylight hours; therefore a reasonable exposure time of two hours would be expected during the time residents may be home during day. Peak outdoor noise levels ranging from 78-90 dBA would occur during the time in which equipment is directly in front of or in proximity to homes and businesses (within 25-100 feet). A maximum noise exposure of approximately 98 dBA, for one hour should occur if equipment were within 10 feet of homes and business. The noise projections do not account for screening objects, such as trees, outbuildings or other objects that muffle and reduce the noise being emitted. The outdoor construction noise would be further muffled while residents are inside their homes. While the construction noise generated would be considered unacceptable according to HUD and FAA standards, these limited exposures and time intervals are still within allowable Corps safety levels. Further, they are similar to typical neighborhood noise generated by gas powered lawnmowers in the local area, which could range from 90-95 dBA at three feet and 7-75 dBA at 100 feet. Residents being exposed to these noise levels would occur if and/or when residents are home and outdoors.

Due to daytime construction and the short and limited duration of elevated noise levels associated with the PAA, impacts from the noise to local residences would be temporary and minor. No long-term significant noise impacts are expected with the PAA.

There would be no change in noise and thus no impact under the NAA.

#### **4.15 Environmental Justice and Protection of Children**

Executive Order (E.O.) 12898 requires Federal actions to address environmental justice in minority populations and low-income populations. According to the U.S. Census Bureau, the 2018 population estimate for Martin County was 11,323 and does not contain significant minority populations. The census indicates Martin County is 91.9% white and has a median household income of \$35,125 compared with the median household income of \$48,392 for the State of Kentucky. Individuals residing in the county below the poverty line is 39.1% compared to 16.9% statewide.

EO 13045 requires each Federal agency “to identify and assess environmental health risks and safety risks that may disproportionately affect children” and “ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.” This EO was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. The potential for impacts on the health and safety of children is greater where projects are located near residential areas.

Service provided by the MCWD water system improvements would serve existing customers. Implementation of the PAA would provide residents, including children, with safe and reliable





water service, thereby improving the living conditions in the service area. No homes or buildings would be adversely impacted by the proposed project; therefore, the PAA meets the directive of EO 12989 and EO 13045 by avoiding any disproportionately high adverse human health or environmental effects on minority or low income populations or children.

The NAA could result in children being exposed to untreated water from failing water distribution systems, which could pose a safety and long-term health risk.

#### **4.16 Aesthetics**

The project area is a rural community consisting primarily of residential properties and small commercial properties. Temporary disturbance of the local aesthetics would be anticipated during construction of the PAA water system improvements; however after construction the excavated areas would be restored to original conditions.

Neither the PAA nor NAA would significantly impact local aesthetics.

#### **4.17 Transportation and Traffic**

The proposed lines would be within the road rights-of-way. Construction of the PAA in and along road rights-of-way would involve some delays and potential detours in the normal traffic flow. If detours would occur, they would be relatively minor and temporary in nature. Construction on or near road surfaces would be in compliance with standard traffic controls to minimize traffic disruptions and avoid public safety problems. Impacts anticipated to occur from the PAA would be minimal and temporary in nature. An encroachment permit from the Kentucky Department of Transportation (DOT) would be required.

No impacts to transportation and traffic are anticipated to occur from the NAA.

#### **4.18 Health and Safety**

The PAA has been designed to provide a safe, reliable public water distribution system to serve residents in the project area that are currently utilizing failing systems and to improve existing public infrastructure that has deteriorated and is past its useful life. Providing improvements and extending service to new customers is necessary to provide a safe and reliable water service to the community. Therefore, the PAA is anticipated to have a long-term beneficial impact on health and safety of the residents in the project area.

Under the NAA residents would continue to experience a deteriorating public water distribution system and poor quantity, quality, and reliability of municipal water. This would pose health and safety concerns that could cause minor to potentially significant negative impacts on the community.



#### 4.19 Cumulative Effects

The Corps must consider the cumulative effects of the proposed project on the environment as stipulated by 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. The construction of a water system improvement project would have minimal and insignificant negative impacts on the environment. Long-term, beneficial effects would result from the project and would include improved health and safety living conditions and improved operations of an existing water distribution system. The temporal limits for assessment of this impact would initiate in 1972 with the passage of the Clean Water Act and end 50 years after completion of this project. The geographical extent would be broadened to consider effects beyond the PAA. The geographical extent considered is the Tug Fork Watershed, which is located in the Big Sandy, Little Sandy, Tygart Rivers Watershed.

The Tug Fork River is listed in Kentucky's EEC 305(b) 2016 List as a "Warmwater Habitat" with a designated use of "Fish Consumption" and "Domestic Water Supply" and a recreational use designation of "Primary Contact" and "Secondary Contact". Kentucky's EEC 303(d) 2016 List does not identify any causes or sources of impairment in the portion of the Tug Fork River that is located within Martin County; however, portions of the Tug Fork River located within Lawrence and Pike Counties are listed as impaired due to "E. coli", "lead", and "polychlorinated biphenyls" as the causes of impairment and "non-point source", "residential districts", "unspecified urban stormwater", "petroleum/natural gas activities", "upstream source", and "source unknown" as the sources of impairment. In the past, other villages, towns, and cities within the watershed have performed upgrades to existing wastewater and water distribution systems. These past actions had similar temporary impacts but no significant cumulative impact. The Big Sandy Area Development District (BSADD) is a regional planning organization that serves Floyd, Johnson, Magoffin, Martin, and Pike Counties. BSADD performs services in water management and has a water management council that meets to discuss existing projects and needs within the service area. In the future, watershed programs may address obstruction to



stream flow and other maintenance activities. Impairment of the Big Sandy, Little Sandy, Tygart Rivers Watershed is expected to continue but as communities continue to eliminate failing water systems and improve existing public wastewater and water distribution systems, a cleaner, healthier watershed would be possible. Water quality standards and regulations are expected to remain as stringent in the future as today.

Section 4.0 documents the existing environment and potential environmental effects of the PAA and NAA with respect to existing conditions. The effects of the PAA, as discussed beforehand, are localized and minor. Groundwater in northern and eastern Martin County has been shown to be damaged by pre-law coal mining operations. Due to these damages, previous water supply projects, including AML-funded water supply projects, have been installed in these affected areas and may have resulted in similar effects. All required environmental reviews for this proposed project have been completed, which identified no adverse cumulative effects. In scoping cumulative effects issues, no resources were identified as having a potential to be significantly affected with the completion of the PAA. Only minor and temporary impacts to ecological resources would be sustained with the implementation of the PAA. These resources would be reestablished upon completion of construction.

The availability of Federal funds through programs, such as the 531 Program, to assist communities with installation and construction of water-related environmental infrastructure and resource protection and development projects in Kentucky is an additional benefit to the area. The significance of this action on health, safety, and water quality would be positive. Given that the current program remains in place for the foreseeable future and the overall beneficial effect from implementation of the PAA, there is expected to be a positive, though small, cumulative effect on health and safety based on past, present, and reasonably foreseeable actions.

## 5.0 Status of Environmental Compliance

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

| <b>Table 2 - Environmental Compliance Status</b>                                  |             |                |            |
|---|-------------|----------------|------------|
| <b>Statute/Executive Order</b>  | <b>Full</b> | <b>Partial</b> | <b>N/A</b> |
| 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           |                |            |
| Quiet Communities Act   | X           |                |            |

**Table 2 - Environmental Compliance Status**

|  |   |  |  |
|--|---|--|--|
| 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 |  |  |

## 6.0 REQUIRED COORDINATION

### 6.1 Agencies Contacted

Direct coordination with the Corps' Regulatory Division, KYDFWR, NRCS, SHPO, and Martin County Floodplain Coordinator was completed. Agency correspondence is included in Appendix B.

### 6.2 Public Review and Comments

The EA and FONSI will be made 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 Mountain Citizen, advising the public of this document's availability for review and comment. A copy of the EA will also be placed in the Martin County 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 C.

## 7.0 CONCLUSION

The MCWD is proposing to extend and replace existing water distribution system infrastructure. By providing safe and reliable water service, the proposed project is anticipated to have long-term beneficial impacts on health and safety for residents in the project area and surrounding area by eliminating failing water distribution systems. No significant, adverse short-term or long-term impacts have been identified as a result of implementation of the proposed improvement project.

The proposed project would take place on previously disturbed land. Health and safety would be realized immediately with project implementation. 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 PAA would not be expected to have significant impacts on the human or natural environment.

## 8.0 LIST OF INFORMATION PROVIDERS AND PREPARERS

The following agencies were involved in preparation of the EA.



Big Sandy Arena Development District  
110 Resource Court  
Prestonsburg, KY 41653

Kentucky Energy and Environment Cabinet  
Abandoned Mine Lands  
300 Sower Boulevard  
Frankfort, KY 40601

U.S. Army Corps of Engineers Huntington District  
Planning Branch  
502 Eighth Street  
Huntington, WV 25701

## **9.0 REFERENCES**

Climate in Martin County, Kentucky  
<https://www.bestplaces.net/climate/county/kentucky/martin>

Council for Environmental Quality  
1996 Draft Guidance for Addressing Environmental Justice under NEPA. 1996.

Council for Environmental Quality  
1997 Considering cumulative Effects Under the National Environmental Policy Act.

Federal Emergency Management Agency 2019 Floodplain Maps Website:  
<https://msc.fema.gov/portal/home>

Schomer, Paul  
2001 *A White Paper: Assessment of Noise Annoyance*. Schomer and Associates

U.S. Census Bureau  
2019 American FactFinder Website:  
<https://www.quickfacts.census.gov>

U.S. Fish and Wildlife Service  
2019 National Wetlands Inventory Website:  
<https://www.fws.gov/wetlands/data/mapper.html>

U.S. Fish and Wildlife Service  
2019a Information for Planning and Conservation website:  
<https://www.fws.gov/ipac>

U.S. Geological Survey



2019 StreamStats: Streamflow Statistics and Spatial Analysis Tools for Water- Resources  
Application. StreamStats Application Website:  
<https://streamstats.usgs.gov/ss/>

KY Energy and Environment Cabinet  
Integrated Reports Website:  
[https://eec.ky.gov/Environmental-  
Protection/Water/Monitor/Pages/IntegratedReportDownload.aspx](https://eec.ky.gov/Environmental-Protection/Water/Monitor/Pages/IntegratedReportDownload.aspx)