

FINAL ENGINEERING REPORT (REVISED)

PHASE 12 WATER SYSTEM IMPROVEMENTS

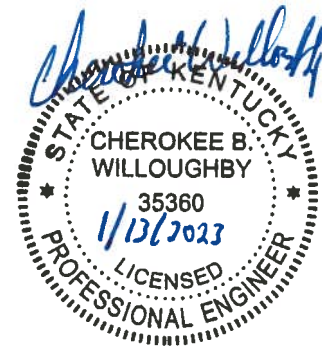
FOR THE

NICHOLAS COUNTY WATER DISTRICT

1639 Old Paris Road
Carlisle, Kentucky 40311

BE Project No. 20016

January, 2023



PREPARED BY:



222 East Main Street, Ste. 1 • Georgetown, KY 40324

SECTION 1 PROJECT PLANNING

1.01 LOCATION

The Nicholas County Water District (NCWD) was organized in 1964 after being privately maintained for approximately four years. The existing system consists of approximately fifty (50) miles of water mains with three (3) water storage tanks and four (4) booster pump stations that serve approximately 1600 customers in Nicholas and Bourbon counties.

NCWD's service area is located in Northeastern Kentucky, approximately thirty miles northeast of Lexington. NCWD covers approximately 204 square miles with the water office a few miles north of the City of Carlisle. NCWD serves all of Nicholas County that is not served by the City of Carlisle, and a few customers in northern Bourbon County, close to the City of Millersburg. Included in these areas are the communities of Barbersville, Hooktown, Miranda, Moorefield, and Pleasant Valley.

The topography of Nicholas County and its service area is an agriculture area with slightly rolling hills in most areas of the county with a more diverse, more highly elevated regions in the western portion of the county. The differences in elevations range from 575 feet in elevation in the northern part of the county in the bottoms of the Licking River basin to over 1000 feet on the hilltops in the northwest. These divergent elevations are reflective in the three (3) pressure zones using three (3) tanks to provide service to its customers. Elevations of communities within the NCWD service area include Myers at 640 feet, Headquarters at 950 feet, East Union at 840 feet and Moorefield at 960 feet. The NCWD service area is rural with scattered residences and agriculture that is primarily used for pasture.

1.02 ENVIRONMENTAL RESOURCES PRESENT

The major environmental features within the proposed area feature a minimum number of landforms and topographic changes are slight from rolling hills to moderately steep inclines. The steeper terrain changes require four (4) booster pump stations, and elevated and ground storage tanks. Water pressures range from 30 psi to over 220 psi in sections of the system. Several of the hollows are in floodplains due to the numerous creeks located in the valleys. Rock walls are evident along the US 68 corridor of the county, but known historic sites are not expected in the planning area.

1.03 POPULATION TRENDS

The calculated population based on the 2010 Census and the number of customers in Nicholas County was 7,135. The Kentucky State Data Center currently projects that both counties will lose population over the next 35 years. The table below shows the

total number of customers by county, medium household incomes, and the estimate of county population served by the Nicholas County Water District.

County	Serviceable Population	No. Customers	MHI
Nicholas	3,413	1,597	\$40,259
Bourbon	15	3	\$47,367
TOTALS:	3,428	1,600	\$40,259

1.04 COMMUNITY ENGAGEMENT

The NCWD held a public meeting on Monday, February 15, 2021 inviting all individuals affected by this project. This meeting communicated the need for the project and the resulting system improvements that will be accomplished through the project.

SECTION 2 EXISTING FACILITIES

2.01 LOCATION

The NCWD is located in northeastern Kentucky near the City of Carlisle in Nicholas County. The NCWD serves all of Nicholas County that is not served by the City of Carlisle and small part of Bourbon County, including the communities of Hooktown, Moorefield, East Union, and Myers. The District does not produce their own water, but instead purchases their water from Western Fleming Water District, Kentucky American Water (Millersburg) and the City of Carlisle. They also have a master meter for emergency connections to the Buffalo Trail Water Association located in Sardis. Maps of the project showing the extent of the water system improvements is located at the end of this report (Appendix A).

2.02 HISTORY

The NCWD system was privately organized in 1960 but did not begin service until about 1964. Besides being a customer of the City of Carlisle, Kentucky American Water and Western Fleming Water District, the District can also purchase water from Buffalo Trail Water Association in case of emergency situations. The District purchases water from Carlisle at three different locations within the system. The District also sells a limited supply of water to the Harrison County Water Association. Several water line extension projects have been developed over the past fifty (50) years to establish the current NCWD customer base which serves approximately 97% of potential customers in the service area of NCWD. Those without service are located in very remote areas of the system that are not financially feasible to serve at this time.

2.03 CONDITION OF EXISTING FACILITIES

The 50-mile distribution system consists of 8", 6", 4", 3" and 2" PVC water mains and a limited amount of ductile iron in the extremely high-pressure areas. The existing water mains are generally located on private easements and road right of ways due to the semi-challenging topography the District has to navigate. This area is difficult in that it has a rock sub-surface in areas that can be detrimental to PVC pipe if not installed correctly. Due to the age of parts of the system, and the rocky subsurface the District has been able to maintain a 29% water loss. Recently completed tank inspections, reveal the need for all three tanks to have interior work completed as well as some minor exterior improvements. The District has four existing pump stations that are all aged and in poor condition, and are in need of replacement.

2.04 FINANCIAL STATUS OF ANY EXISTING FACILITIES

The financial condition of the District is dire and unsustainable if action is not taken in a timely manner to rectify with a new rate increase as part of this project. For whatever reasons, past rate increases were developed to cover the cost of the capital improvement loans, but has not addressed the increases in regular operating costs. Annual audits will be submitted to Rural Development as required by the RD bond issue. A customer breakdown will be provided in the Summary Addendum.

As with the majority of utilities across the country, the NCWD has seen its operating expenses rise over the past several years. Electric costs, material costs, state retirement and health insurance are the expenses that have seen the largest increase.

Currently, NCWD has limited staff and field personnel to conduct daily tasks as well as any unexpected repairs or maintenance activities. NCWD has discussed the possibility of upgrading their meters to a radio read system, reducing the days to read meters from three weeks to 1.5 days. This upgrade will allow the District to save the monthly payments to a subcontractor that currently reads the meters.

SECTION 3 NEED FOR PROJECT

3.01 HEALTH, SANITATION, AND SECURITY

The proposed project will address several conditions that can cause unsatisfactory health, sanitary and security of the distribution system: replace problematic water lines, replacement of existing booster stations..

The problematic water lines on Myers Road (deleted from project) and Stoney Creek/Scott Road have created problems for the District and its customers both financially and with regard to public relations. These line breaks require boil water advisories, flushing and water quality sampling.

The booster station replacement portion of the project would replace two booster pump stations that have severed beyond their useful life. The new booster stations will include new highly efficient motors and controls allowing for a more financial efficient pumping source. The US 68 (Blue Licks), and East Union Road (deleted until NCWD receives Cleaner Water Funds) will be replaced. The existing Office pump station may receive new pumps with contingency monies (if available) at the end of the project. The Concord pump station will be decommissioned and the service area of the booster station will be supplied by the East Union Road booster station. The Blue Licks station will be moved out of the flood plain to protect from flood events, easier access and better security.

The proposed project will help to improve the overall service from a water quality and reliability standpoint to the Nicholas County Water District customers.

3.02 AGING INFRASTRUCTURE

The existing water mains, Stoney Creek, KY 32 (deleted), and Myers Roads (deleted) to be replaced with this project are about thirty (30) years old and have been problematic for an extended period of time. Due to the age of these water mains the District has experienced continued operational issues that have only increased over time. These issues include breaks and leaks of the PVC water mains which create financial strains on the District through the allocation of its limited resources. All of the four pump stations that require replacement are approximately thirty years old, and are beyond the state of rehabilitation. The fourth pump station will be removed from service as it will not be required with larger pumps going into the third pump station.

3.03 REASONABLE GROWTH

The Kentucky State Data Center currently projects very little to no growth in the next thirty-five years. However, the existing customers will pay a heavy price financially in the cost of water if some of these problems are not rectified in the short term.

SECTION 4 ALTERNATIVES CONSIDERED

4.01 Description

Several alternatives were considered for all aspects of the project: water mains, booster station, tanks and meters.

The alternatives for the water mains were limited as the only recourse to remedy the current reliability of the existing water mains was to replace the lines with the only alternative being the material of the pipe. Consideration was given to using PVC pipe, but the subsurface in this area is very rocky and the pressures are very high, therefore it was determined to use Ductile Iron pipe , class 350.

The booster station alternatives included, rehabilitation of the existing booster stations and replacement. Due to existing conditions of the booster stations, it was determined that replacement was the most cost-effective alternative. The existing booster stations were also determined to have limited access during maintenance and were located in close proximity to the flood plain.

NCWD considered a traditional meter system and a drive by radio read system as the alternatives for meter replacement. However, it was determined the District could pay for the radio read meters in several years for what the District was paying an outside sub-contractor to read each month. This will provide flexibility to the District with their limited manpower and financial means, as it is expected the radio read meter readings would only take 1.5 days to read by one employee and provide a consistency to the readings.

4.02 Design Criteria

The design criteria that will be used on the project include hydraulic analysis of the existing system to determine that adequate pressures are available throughout the distribution system along with examining flushing velocities. By properly sizing the distribution mains to be installed the District will provide improved service to its customer base while also maintaining potable water of high quality.

4.03 Map

Maps of the project, showing the water main replacement, water main extension, location of the new booster pump stations are located at the end of this report (Appendix A). The meter replacements are system wide.

4.04 Environmental Impacts

An environmental report detailing the potential impacts of the project may be undertaken with this project. Once the report is finalized any potential impacts will be taken into consideration and any necessary remediation measures will be taken to avoid any negative impact to the environment.

4.05 Land Requirements

Land requirements associated with this project will include the need for easements and encroachment permits, both public and private, for the installation of the extension and replacement water mains. In some areas the existing easements may be utilized. Those easements and permits will be obtained prior to any construction beginning. The new pump stations will either be installed on new purchased property or new easements will be obtained from the impacted property owners.

4.06 Potential Construction Problems

The replacement of existing water mains can be problematic, when installing the new water main on the existing easement. Working too closely to the existing line could cause some unexpected outages if the District does not have command of where the existing line is located. These problems are considered during the design of the project and all precautions are taken to limit this potential risk.

4.07 Cost Estimates

Certified Bid Tabs and Letters of Recommendation are included at the end of this report (Appendix B).

SECTION 5 SELECTION OF AN ALTERNATIVE

5.01 Life Cycle Cost Analysis

In the selection of the preferred alternative for this project the life cycle cost of the materials to be utilized has been considered. The main material to be utilized is the water main. The water main will be of PVC material and the reconnected service line will be HDPE material. Recent studies estimate a service life of both the HDPE and the PVC up to one hundred years. In addition, the new pump stations will all utilize Variable Frequency Drives which should reduce electrical costs as much as thirty percent and also provide flexibility to the system if the storage tanks need to be removed from service for any reason. This length of service life and VFD's provides for lower operating and maintenance costs to be realized by the District.

5.02 Non-Monetary Factors

The non-monetary factors considered are the ability to provide reliable service to the existing customer base. With new water mains the existing customer base will have improved service and a higher quality product due to the elimination of problematic water lines and the increased reliability of accurate meter readings. The new pump stations are desperately needed in this project to provide consistency and reliability to the entirety of the water distribution system.

SECTION 6 PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)

6.01 Preliminary Project Design

The proposed project consists of a wide variety of capital improvements that will enhance the operation of the NCWD in the years ahead. Approximately 7000 LF of new water main will be installed to replace existing problematic PVC water main, while another 1600 LF of new water main will be installed to provide service to the prospective customers on the west side of the newly realigned US 68 highway (deleted). The District will also replace two existing pump stations (US 68, deleted), Blue Licks, and East Union (deleted) that are in distress, and demo a fourth pump station (Concord). The new East Union pump station is located in an area of the system that can be designed to replace the existing Concord and East Union pump stations. A new RTU will also be installed in order to allow the system to operate in an automatic mode which currently requires daily attention from the District personnel. The proposed project will also include 1600 new radio read meters and the labor to install each. These new meters will replace old outdated meters and should improve water loss with more accurate readings, and will also allow the District to save money by not paying outside contractors for this monthly service.

Various other items included in this project are the purchase of a portable generator for emergency situations; removing an existing secondary AC water main from service by a simple cutting and plugging of the main. Five (5) new meter setters in one area on Headquarters Road that never received setters when they were originally installed (deleted); and payment for three (3) tank inspections;

Additionally, should project funds be available the project may include the purchase of general day to day equipment such as a new truck(s); water pumps; trailer; backup lap top; computers and software updates; improvements to their storage facilities. and other miscellaneous tools to maintain the water distribution system in a professional and efficient manner.

6.02 Project Schedule

The proposed project schedule is:

1. Secure Letter of Conditions from USDA RD – August 25, 2021
2. Secure Land/Easement/Encroachment Permits – August 22, 2022
3. Division of Water Approval – December 15, 2021
4. Advertise for Bids – August 31, 2022
5. Bid Opening – September 13, 2022
6. Contract Award/Initiate Construction – February, 2023
7. Substantial Completion – September, 2023
8. Final Completion/Initiation of Operation – October, 2023

6.03 Permit Requirements

The project has Division of Water Approval, KDOT Encroachment Permits, County Road Permits and other potential permits to be identified within the environmental report.

6.04 Total Project Cost Estimate (Engineer's Opinion of Probable Cost)

A final construction cost estimate for both contracts is included at the end of this report (Appendix B).

6.05 Annual Operating Budget

A Summary Addendum will be prepared for the project which will examine the District's current and future financial position. Included within the Summary Addendum will be an analysis of the District's current income, annual O & M costs, current and future debt repayments and current reserves. This Summary Addendum will propose a suggested rate for the District in order to meet its current and future debt obligations.

SECTION 7 PROJECT BUDGET AND FUNDING

7.01 Bidding and Recommendations

The project was advertised on August 31, 2022 in the Carlisle Mercury and construction bids were opened on Tuesday, September 13, 2022 at 10 am at the Nicholas County Water District office. Listed below is the pertinent information with regarding the bids for the various contracts:

<u>Contract No.</u>	<u>No. of Bidders</u>	<u>Plan Holders</u>	<u>Low Bidder</u>	<u>Amount</u>
1	1	2	Tilton Excavating	\$1,556,392.00
2	1	1	Ferguson Water	\$722,000.20

The low bid for both contracts came in over the engineer's estimate due to several factors, including the severe increase in pipe prices and other related materials that has affected the water industry over the past several months, price increases due to the lack of chemicals and resin that are part of the manufacturing process, battery chips in meters, and the COVID 19 pandemic. Additionally, the availability of PVC pipe, meters and setters will be another issue that will need to be addressed with the successful contractors going forward.

The project budget was \$1,925,000 but as inflation began in January of 2021, Bluegrass Engineering knew it was going to be difficult to be within budget as construction item prices continued to rise at unprecedented levels. The bids came in \$717,000 over budget. Therefore, a combination of additional funding and cuts to the existing project would be required in order to move the project forward.

The Nicholas County Water District met at their regular board meeting on September 27, 2022 to discuss the bids and deem how best to move forward with the project. The District made the following decisions:

1. Since NCWD is not in a position to take on additional debt, and can't qualify for additional RD grant, the board decided to delete parts of the project in order to get within the monies available. If at a later date the District receives committed funds from Cleaner

- Water Grants, then some items may be change ordered back into the project.
2. On Contract 2 there will not be any deletions as this contract is exclusively new radio read meters and the importance of same can not be understated.
 3. Since RD currently does not have any funding at the end of their fiscal year, NCWD has chosen to move forward with the project using line item deletions to be within the available funding. This will allow the meters to be purchased and installed; the 8" water main to be replaced; and the installation of the Blue Licks (US 68) booster pump station. All other items will be change ordered out of the project, with the hope that some of these items may be installed at the end of the project with contingency funds. **We are not sure when the Cleaner Water Funds will be available from KIA, therefore it has been determined to not wait on this funding, but to delete the East Union Pump Station and move forward with the project. Once the Cleaner Water Funding Grant in the amount of \$280,000 is obtained, then the East Union Pump Station can be change ordered back into the contract at a later date.** The new construction amount shall be \$1,472,200 for both contracts, with the total project costs at the original \$1,925,000
 4. The project will move forward to construction with Contracts 1 and 2 once the required reviews have been completed by Rural Development and PSC.
 5. In summation, the project will proceed at the \$1,925,000 amount. If at some time later in the year the NCWD receives the additional \$280,000 from the KIA Cleaner Water Funds then the East Union Pump Station will be Change Ordered back into the project.

See Appendix B (Bid Tabulations for Contracts 1 and 2, and Letter of Recommendations for both contracts)

The funding for the o project consists of the following:

Rural Development Loan	\$1,221,000
Rural Development Grant	\$204,000
ARC Grant	<u>\$500,000</u>
Total	\$1,925,000

The revised budget for this project is as follows:

Legal and Administrative	\$20,000
Interest on Interim Financing	\$40,000
Land, Easements	\$5,000
Preliminary Engineering Report	\$5,000
Rate Study	\$5,000
Environmental	\$10,000
Other Additional Services	\$5,000
Engineering Design and CA	\$123,000
Resident Inspection Services	\$76,000
Construction	\$1,472,200
Tank Inspections	\$5100
Contingencies (10%)	<u>\$158,700</u>
TOTAL	\$1,925,000

It is the recommendation of Bluegrass Engineering, PLLC to proceed with the construction phase of the project, upon completion of the remaining Rural Development submittals and construction conferences.

7.02 Annual Operating Costs and Proposed Rates

The proposed rates will allow Nicholas County Water District to fully fund the debt service for this project. The project will allow NCWD to realize a reduction in annual operating costs over the cost of the loan. The replacement of the old problematic meters and problematic water main and more efficient booster pump stations will see an increase in revenue and much lower water loss rate.

The combination of the proposed rates along with the operational efficiencies that are gained from this project will allow NCWD to further strengthen their financial position over the course of the loan.

The proposed rates are as follows:

PROPOSED RATES

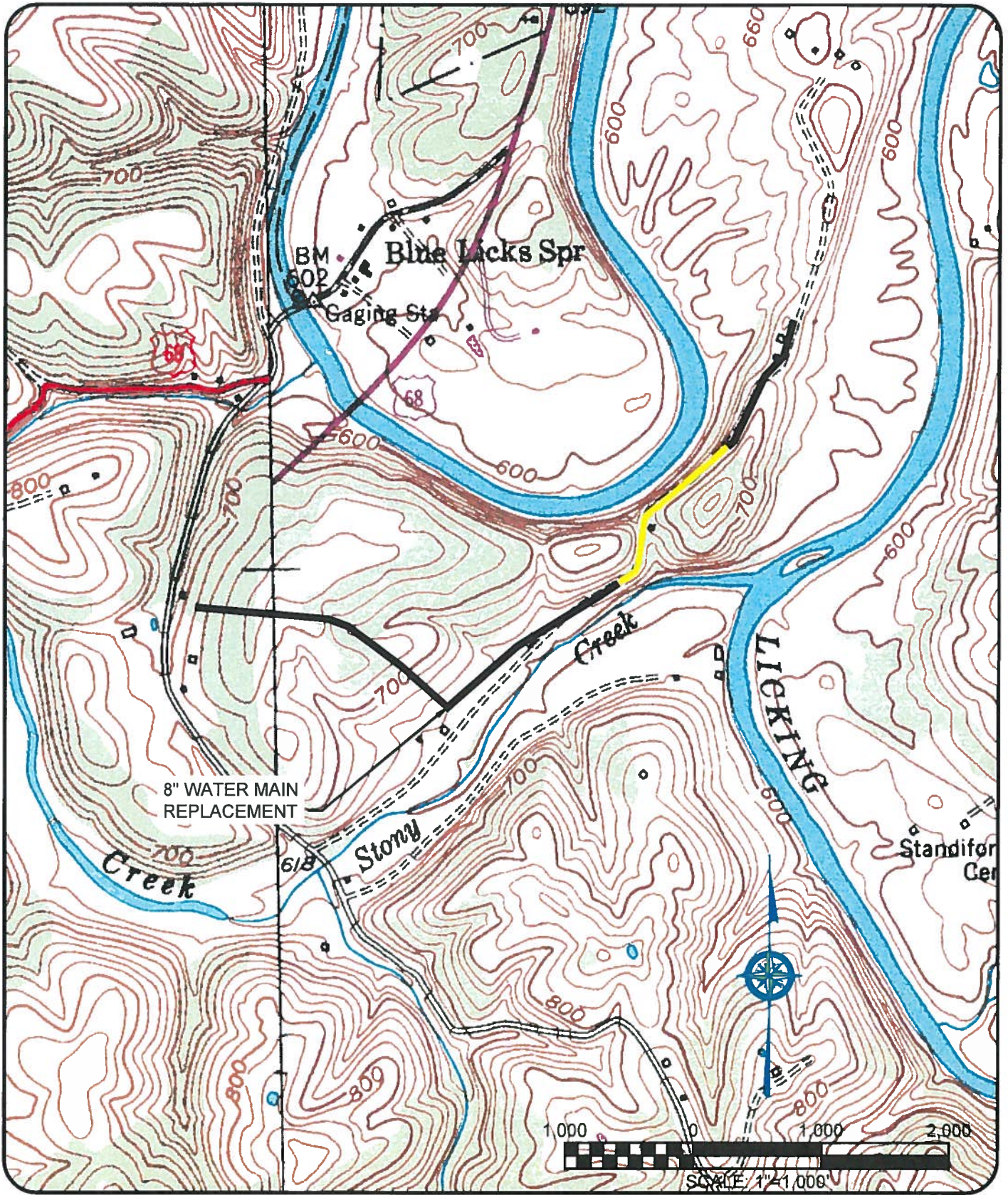
<u>5/8" x 3/4"</u>			
first 1000	\$ 21.93		minimum
next 2000	\$ 10.43		per 1000 gallons
next 2000	\$ 8.55		per 1000 gallons
next 5000	\$ 6.83		per 1000 gallons
next 15,000	\$ 6.15		per 1000 gallons
All Over 25,000	\$ 5.81		per 1000 gallons
<u>1"</u>			
first 3000	\$ 42.78		minimum
next 2000	\$ 8.55		per 1000 gallons
next 5000	\$ 6.83		per 1000 gallons
next 15,000	\$ 6.15		per 1000 gallons
All Over 25,000	\$ 5.81		per 1000 gallons
<u>1 1/2"</u>			
first 5000	\$ 59.88		minimum
next 5000	\$ 6.83		per 1000 gallons
next 15,000	\$ 6.15		per 1000 gallons
All Over 25,000	\$ 5.81		per 1000 gallons
<u>2"</u>			
first 10,000	\$ 94.01		minimum
next 15,000	\$ 6.15		per 1000 gallons
All Over 25,000	\$ 5.81		per 1000 gallons
<u>3"</u>			
first 15,000	\$ 124.76		minimum
next 10,000	\$ 6.15		per 1000 gallons
All Over 25,000	\$ 5.81		per 1000 gallons
<u>4"</u>			
first 25,000	\$ 186.26		minimum
All Over 25,000	\$ 5.81		per 1000 gallons

SECTION 8 CONCLUSIONS AND RECOMMENDATIONS

8.01 Phase 12 Water System Improvements

- Once Rural Development has completed their review, then the Convenience and Necessity can commence between the bond attorney and PSC.
- Shop drawing review shall be completed quickly so that materials can be ordered to help reduce the slow delivery due to supply chain issues.
- Change Order for Contract 1 shall be made a part of the contract documents.

APPENDIX A PROJECT MAPS

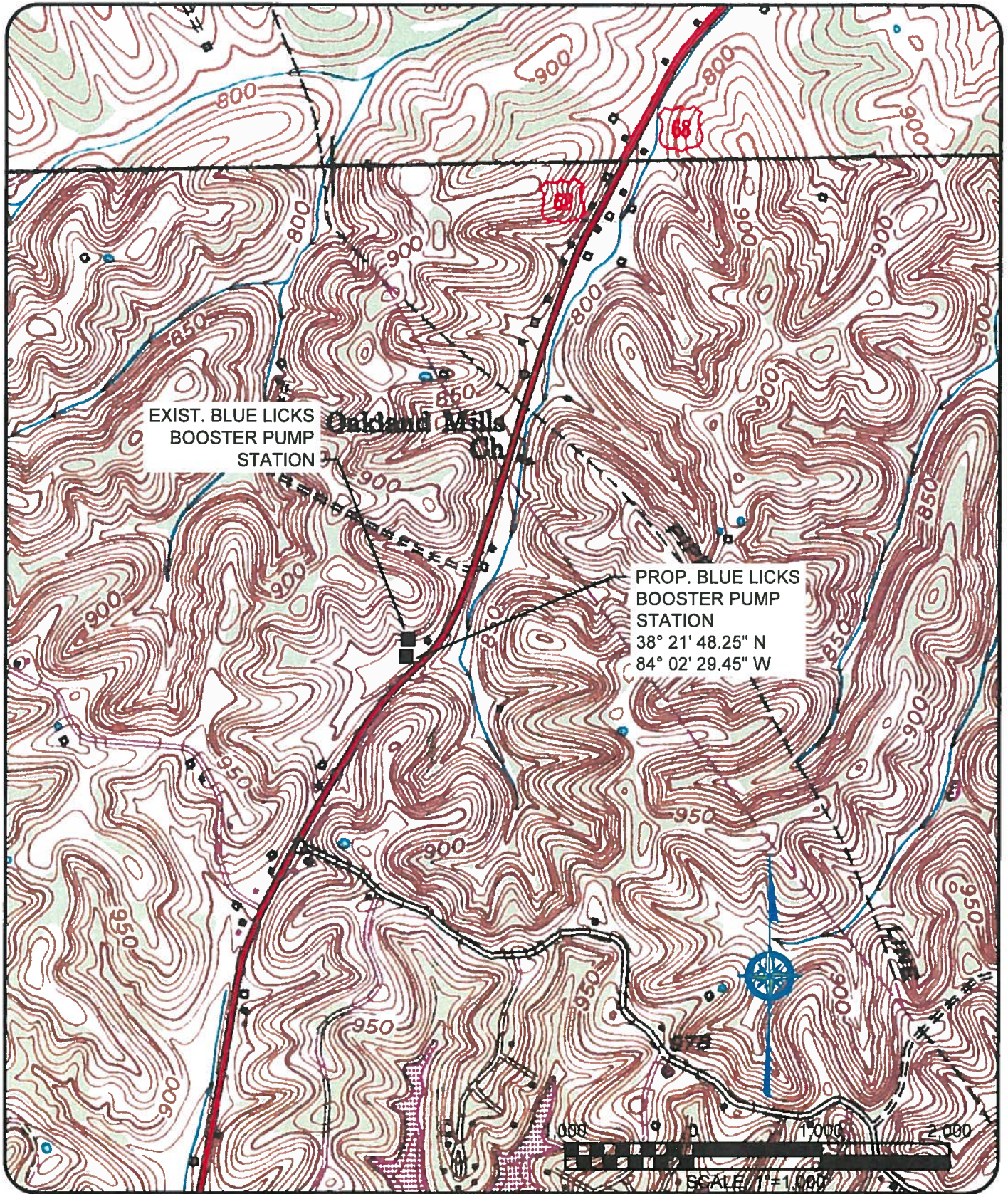


BE BLUEGRASS
ENGINEERING
PLLC

222 East Main Street Ste. 1 • Georgetown, KY 40324

PHASE 12 WATER SYSTEM IMPROVEMENTS
NICHOLAS COUNTY
STONEY CREEK - SCOTT ROAD
WATER MAIN REPLACEMENT

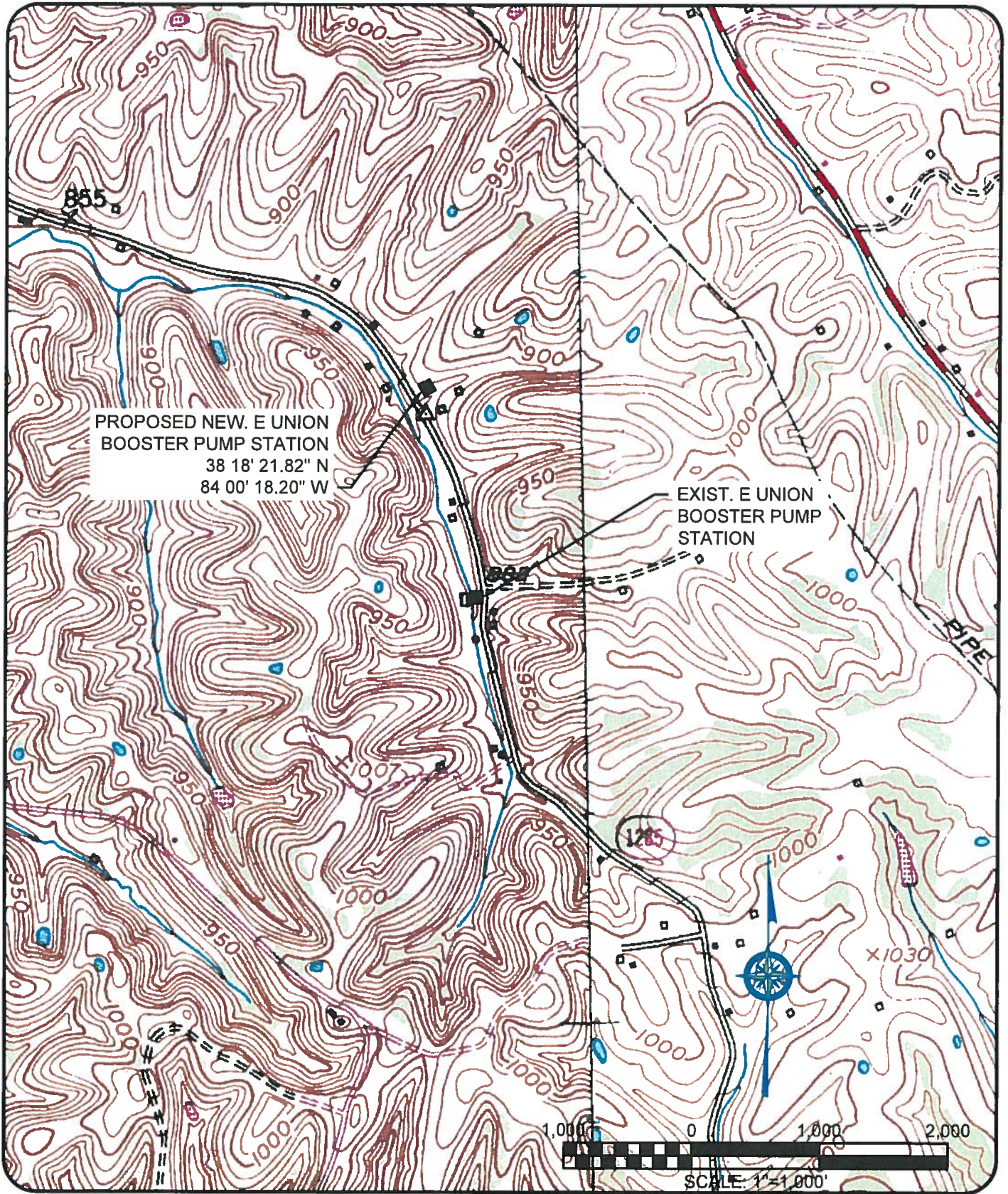
Project
No. 20016
Date
DEC. 2020
Dwg.
No. 1



BE BLUEGRASS
 ENGINEERING
 PLLC
 222 East Main Street Ste 1 • Georgetown, KY 40324

PHASE 12 WATER SYSTEM IMPROVEMENTS
 NICHOLAS COUNTY
 EXISTING & PROPOSED BLUE LICKS BPS

Project
 No. 20016
 Date
 DEC. 2020
 Dwg.
 No. 4



222 East Main Street Ste. 1 • Georgetown, KY 40324

PHASE 12 WATER SYSTEM IMPROVEMENTS
NICHOLAS COUNTY
EXISTING & PROPOSED E. UNION BPS

Project
No. 20016

Date
DEC. 2020

Dwg.
No. 12

APPENDIX B BID TABULATIONS, CONSTRUCTION ESTIMATES, CONTRACT
1 CHANGE ORDER, AND LETTERS OF RECOMMENDATION





BID TABULATION

CONTRACT NO. 1 - PHASE 12 WATER SYSTEM IMPROVEMENTS PROJECT
 NICHOLAS COUNTY WATER DISTRICT
 CARLSLE, KENTUCKY
 BE PROJECT NO. 20016
 BID OPENING: Tuesday, September 13, 2022 - 10:00 am

BASE BID: Contract No. 1 - Phase 12 Water System Improvements Project				Tilton Excavating, LLC	
Item No.	Description	Quantity	Unit	\$/unit	Bid Amount
1	4" PVC Class 200 Water Main	2,100	LF	\$ 18.00	\$ 37,800.00
2	8" Ductile Iron Class 350 Water Main	7,000	LF	\$ 60.00	\$ 420,000.00
3	4" Gate Valve & Box	3	EA	\$ 1,600.00	\$ 4,800.00
4	8" Gate Valve & Box	1	EA	\$ 2,100.00	\$ 2,100.00
5	4" Tapping Sleeve and Valve	3	EA	\$ 3,000.00	\$ 9,000.00
6	8" Tapping Sleeve and Valve	2	EA	\$ 5,000.00	\$ 10,000.00
7	Blow Off Assembly	2	EA	\$ 7,000.00	\$ 14,000.00
8	4" Flush Hydrant Assembly	1	EA	\$ 6,000.00	\$ 6,000.00
9	10" Steel Casing Bore and Jack	160	LF	\$ 200.00	\$ 32,000.00
10	Cut and Plug Existing Water Main	4	EA	\$ 1,500.00	\$ 6,000.00
11	Connection to Existing W.M.	2	EA	\$ 2,000.00	\$ 4,000.00
12	New Setters in Existing Meter Box	5	EA	\$ 800.00	\$ 4,000.00
13	Reconnect Existing Meters	3	EA	\$ 600.00	\$ 1,800.00
14	1" Additional PE Class 250 Service Line	300	LF	\$ 8.00	\$ 2,400.00
15	3/4" Air Release Valve	1	EA	\$ 800.00	\$ 800.00
16	Demolition of E. Union and Concord BPS	1	LS	\$ 6,000.00	\$ 6,000.00
17	Portable Generator	1	EA	\$ 100,000.00	\$ 100,000.00
18	New East Union Booster Pump Station	1	LS	\$ 311,000.00	\$ 311,000.00
19	New US 68 (Office) Booster Pump Station	1	LS	\$ 274,842.00	\$ 274,842.00
20	New Blue Licks Booster Pump Station	1	LS	\$ 305,500.00	\$ 305,500.00
21	PVC Casing Open Cut	50	LF	\$ 75.00	\$ 3,750.00
22	Pipeline Markers	12	EA	\$ 50.00	\$ 600.00
TOTAL BASE BID AMOUNT - (ITEMS No. 1 - 22):					\$1,556,392.00

Numbers in Red indicate errors in Contractor's Bid Amount Calculation

The above is a true and complete tabulation of the bids received on Tuesday, September 13, 2022 10:00 am
 I certify that this is true and accurate tabulation of the bids

Bluegrass Engineering PLLC
 By 
 Riley Sumner
 Co-Project Manager



BID TABULATION

NICHOLAS COUNTY WATER DISTRICT
 PHASE 12 - WATER SYSTEM IMPROVEMENTS - CONTRACT 2
 CARLSLE, KENTUCKY
 BE PROJECT NO. 20016
 BID OPENING: Tuesday, September 13, 2022, 10 am

BASE BID:		FERGUSON WATERWORKS Lexington, Kentucky					
Item No.	Description	Quantity	Unit	\$/unit	Bid Amount	\$/unit	Bid Amount
1	Purchase and installation of 68" x 3/4" Radio Read Meters in Existing Seters. Also included is new also read software and the transfer of information from the old/new meters to the software digitally from the field	1,600	EA	\$ 437.99	\$ 700,784.00		
2	Replace Existing Meter Box	20	EA	\$ 197.40	\$ 3,948.00		
3	Replace Existing Meter Box Lid	20	EA	\$ 130.15	\$ 2,603.00		
4	Replace Existing Seter	20	EA	\$ 733.26	\$ 14,665.20		
TOTAL BASE BID AMOUNT - (ITEMS NO. 1 - 4):					\$722,000.20		

Numbers In Red Indicate Errors In Contractors Bid Calculations

The above is a true and complete tabulation of the bids received on Tuesday, September 13, 2022, 10 am
 I certify that this is true and accurate tabulation of the bids

Bluegrass Engineering PLLC
 By: 
 Riley Sumner
 Co-Project Manager



September 27, 2022

Mr. Silas Cleaver III
Nicholas County Water District
1639 Old Paris Road
Carlisle, Kentucky 40311

Re: Phase 12 Water System Improvements – Contract 1
Recommendation of Award

Dear Mr. Cleaver;

Bids for the above referenced project were opened on Tuesday, September 13, 2022 at 10 am EST at the Nicholas County Water District office. There were two (2) plan holders, but only one bidder. Tilton Excavating, LLC of Mount Olivet, was the low and only bidder with a bid of \$1,556,392.

Bluegrass Engineering has worked with Tilton Excavating on numerous projects over the years and we would recommend that Nicholas County Water District accept the low bid from Tilton Excavating.

If you have any questions, please contact me at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Riley Sumner', with a long horizontal flourish extending to the right.

Riley Sumner
Co-Project Manager

C Teresa Shields, RD
File



September 27, 2022

Mr. Silas Cleaver III
Nicholas County Water District
1639 Old Paris Road
Carlisle, Kentucky 40311

Re: Phase 12 Water System Improvements – Contract 2
Recommendation of Award

Dear Mr. Cleaver;

Bids for the above referenced project were opened on Tuesday, September 13, 2022 at 10 am EST at the Nicholas County Water District office. There was only one plan holder, and bidder. Ferguson Waterworks of Lexington, with a bid of \$722,000.20.

Ferguson Waterworks is the vendor and installer for the Master Meter brand meter that Nicholas County Water District had wanted, therefore Bluegrass Engineering would recommend that Nicholas County Water District accept the low bid from Ferguson Waterworks.

If you have any questions, please contact me at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Riley Sumner', with a long horizontal flourish extending to the right.

Riley Sumner
Co-Project Manager

C Teresa Shields, RD
File

Date of Issuance: _____ Effective Date: _____
 Owner: **Nicholas County Water District**
 Contractor: **Tilton Excavating, LLC**
 Engineer: **Bluegrass Engineering, PLLC** Engineer's Project No.: **20016**
 Project: **Phase 12 - Water System Improvements** Contract Name: **Contract 1**

The Contract is modified as follows upon execution of this Change Order:

Description: Delete items below in order to reduce contract amount for budget purposes.

Attachments: N/A

Description of Changes (Supplemental Plans and Specifications Attached)	DECREASE	INCREASE
	In Contract Price	In Contract Price
Item 1 - 4" PVC Class 200 Water Main	\$ 37,800.00	
Item 3 - 4" Gate Valve and Box	\$ 4,800.00	
Item 5 - 4" Tapping Sleeve and Valve	\$ 9,000.00	
Item 7 - Blow Off Assembly	\$ 7,000.00	
Item 8 - 4" Flush Hydrant Assembly	\$ 6,000.00	
Item 9 - 10" Steel Casing Bore and Jack	\$ 32,000.00	
Item 10 - Cut and Plug Existing Water Main	\$ 3,000.00	
Item 11 - Connect to Existing Water Main	\$ 4,000.00	
Item 12 - New Setters in Existing Meter Boxes	\$ 4,000.00	
Item 14 - 1" Additional PE Class 250 Service Line	\$ 2,400.00	
Item 16 - Demoliton of Existing E. Union and Concord BPS	\$ 6,000.00	
Item 17 - Portable Generator	\$ 100,000.00	
Item 18 - East Union BPS	\$ 311,000.00	
Item 19 - New US 68 (Office) Booster Pump Station	\$ 274,842.00	
Item 21 - PVC Casing Open Cut	\$ 3,750.00	
Item 22 - Pipeline Markers	\$ 600.00	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
	\$ -	
TOTALS	\$ 806,192.00	

NET CHANGE IN CONTRACT PRICE \$ **(806,192.00)**

ORIGINAL CONTRACT TIME

ORIGINAL CONTRACT PRICE \$ **1,556,392.00**

CONTRACT TIME INCORPORATING THIS AND PREVIOUS CHANGE ORDERS

CONTRACT PRICE INCORPORATING THIS AND PREVIOUS CHANGE ORDERS \$ **750,200.00**

RECOMMENDED:

ACCEPTED:

ACCEPTED:

By: _____
 Engineer (if required)

By: _____
 Owner (Authorized Signature)

By: _____
 Contractor (Authorized Signature)

Title: Project Manager

Title: Chairman

Title: President

Date: _____

Date: _____

Date: _____

Approved by Funding Agency (if applicable)

By: _____ Date: _____

Title: RD State Engineer



222 East Main Street, Ste. 1 • Georgetown, KY 40324

Client: Nicholas County Water District
 Project: Phase 12 Water System Improvements
 Date: 9-23-22 (Post Bid)

Construction Costs					
Item #	Description	Quantity	Unit	Estimate	Bid
	Contract 1			\$ 974,000	\$ 1,556,392
	Contract 2			\$ 587,000	\$ 722,000
	Subtotal			\$ 1,561,000	\$ 2,278,392
					(over \$717,392)
	Contract Modifications with Change Orders				
	Contract 1				
	Delete Office Pump Station & East Union Pump Station			(\$585,842)	
	Delete All Items except for the US 60 (Blue Licks) BPS			(\$220,350)	
	and 8" Water Main			\$0	
	Contract 2				
	Subtotal			\$ 806,192	\$ 88,800
	Additional Funding (Later Date)				
	Cleaner Water Grant Funds			\$80,000	
	Cleaner Water Grant Funds			\$200,000	
	Subtotal			\$280,000	
	Project Funding:				
	RD Loan \$1,221,000				
	RD Grant \$204,000				
	ARC Grant \$500,000				
	Total \$1,925,000				
	Added Funding (Later) \$280,000				
	Total \$2,205,000				
Total - Construction Cost					\$ 1,472,200
Non-Construction Costs					
	Contingencies @ 10.0%			\$	158,700
	Administrative & Legal Expenses			\$	20,000
	Interest Expenses			\$	40,000
	Land, Appraisals, Easements			\$	5,000
	Planning - PER, Environmental, SA			\$	25,000
	Engineering Fees - Design			\$	98,000
	Engineering Fees - Construction Administration			\$	25,000
	Engineering Fees - Inspection			\$	76,000
	Tank Inspections - 3 x \$1700			\$	5,100
Total - Non-Construction Costs					\$ 452,800
Total - Project Costs					\$ 1,925,000

PARTIAL PAY ESTIMATE

NO.

NAME Phase 12 Water System Improvements

PERIOD OF ESTIMATE

CONTRACT NO. 1

OWNER: Nicholas County Water District 1639 Old Paris Road Carlisle, Kentucky 40311

CONTRACTOR: Tilton Excavating, LLC 828 Tilton Lane Mt. Olivet, Kentucky 41064

PROJECT NO. 20016

DATE

CHANGE ORDERS

ESTIMATE

Table with columns: Agency Approval (No., Date), Amount (Additions, Deductions), and rows for change order 1 and totals.

Table with columns: Description, Amount, and rows for 1. Original Contract, 2. Change Orders, 3. Revised Contract (1+2), 4. Work Completed, 5. Stored Materials, 6. Subtotal (4+5), 7. Retainage (5%), 8. Previous Payments, 9. Amount Due (6-7-8).

CONTRACT TIME

STARTING DATE PROJECTED COMPLETION

TOTAL DAYS 180

REVISED

COPY

CONTRACTOR'S CERTIFICATION:

The undersigned Contractor certifies that to the best of their knowledge, information and belief the work covered by this payment estimate has been completed in accordance with the contract documents...

ENGINEERS CERTIFICATION:

The undersigned certifies that the work has been carefully inspected and to the best of their knowledge and belief, the quantities shown in this estimate are correct and the work has been performed in accordance with the contract documents.

Resident Inspector: _____

Contractor: Tilton Excavating, LLC

Engineer: Bluegrass Engineering, PLLC

By: _____

By: _____

Date: _____

Date: _____

APPROVED BY OWNER

Owner: Nicholas County Water District

ACCEPTED BY AGENCY

The review and acceptance of this estimate does not attest to the correctness of the quantities shown or that the work has been performed in accordance with the contract documents.

By: _____

By: _____

Date: _____

Title: _____

Date: _____

CONTRACTOR: Tilton Excavating, LLC
OWNER: Nicholas County Water District

ESTIMATE NO.
BEGINNING DATE
ENDING DATE

NO.	DESCRIPTION	ORIGINAL CONTRACT			PREVIOUS ESTIMATE		CURRENT ESTIMATE		COMPLETE TO DATE		
		Qty	Unit	Unit Cost	Total	Qty	Total	Qty	Total	Qty	Total
1	4" PVC DR 18 Water Main	2,100	LF	\$18.00	\$37,800.00						
2	8" Ductile Iron Class 350 Water Main	7,000	LF	\$60.00	\$420,000.00						
3	4" Gate Valve and Box	3	EA	\$1,500.00	\$4,500.00						
4	8" Gate Valve and Box	1	EA	\$2,100.00	\$2,100.00						
5	4" Tapping Sleeve and Valve	3	EA	\$3,000.00	\$9,000.00						
6	8" Tapping Sleeve and Valve	2	EA	\$5,000.00	\$10,000.00						
7	Blow Off Assembly	2	EA	\$7,000.00	\$14,000.00						
8	Flush Hydrant Assembly	1	EA	\$6,000.00	\$6,000.00						
9	10" Steel Casing Bore and Jack	160	LF	\$200.00	\$32,000.00						
10	Cut and Plug Existing Water Main	4	EA	\$1,500.00	\$6,000.00						
11	Connect to Existing Water Main	2	EA	\$2,000.00	\$4,000.00						
12	New Setters in Existing Meter Box	5	EA	\$800.00	\$4,000.00						
13	Reconnect Existing Meters	3	EA	\$600.00	\$1,800.00						
14	1" Additional PE Class 250 Service Line	300	LF	\$8.00	\$2,400.00						
15	3/4" Air Release Valve	1	EA	\$800.00	\$800.00						
16	Demolition of East Union BPS	1	EA	\$6,000.00	\$6,000.00						
17	Portable Generator	1	EA	\$100,000.00	\$100,000.00						
18	New East Union Booster Pump Station	1	LS	\$311,000.00	\$311,000.00						
19	New US 68 (Office) Booster Pump Station	1	LS	\$274,842.00	\$274,842.00						
20	New Blue Licks Booster Pump Station	1	LS	\$305,500.00	\$305,500.00						
21	PVC Casing Open Cut	50	LF	\$75.00	\$3,750.00						
22	Pipeline Markers	12	EA	\$50.00	600.00						
TOTAL AMOUNT:											
											\$
											\$

PARTIAL PAY ESTIMATE

NO.

NAME Phase 12 Water System Improvements

PERIOD OF ESTIMATE

CONTRACT NO. 2

OWNER: Nicholas County Water District 1639 Old Paris Road Carlisle, Kentucky 40311

CONTRACTOR: Ferguson Waterworks 1209 Industry Road Lexington, Kentucky 40505

PROJECT NO. 20016

DATE

CHANGE ORDERS

ESTIMATE

Table with columns: Agency Approval (No., Date), Amount (Additions, Deductions), and TOTALES/NET CHANGE.

Table with 2 columns: Description (1-9) and Amount (\$).

CONTRACT TIME

STARTING DATE PROJECTED COMPLETION

TOTAL DAYS 180

REVISED

COPY

CONTRACTOR'S CERTIFICATION: The undersigned Contractor certifies that to the best of their knowledge, information and belief the work covered by this payment estimate has been completed in accordance with the contract documents...

ENGINEERS CERTIFICATION: The undersigned certifies that the work has been carefully inspected and to the best of their knowledge and belief, the quantities shown in this estimate are correct and the work has been performed in accordance with the contract documents.

Resident Inspector:

Contractor: Ferguson Waterworks By: Date:

Engineer: Bluegrass Engineering, PLLC By: Date:

APPROVED BY OWNER: Owner: Nicholas County Water District By: Date:

ACCEPTED BY AGENCY: The review and acceptance of this estimate does not attest to the correctness of the quantities shown or that the work has been performed in accordance with the contract documents. By: Title: Date:

CONTRACTOR: Ferguson Waterworks
OWNER: Nicholas County Water District

ESTIMATE NO. 1
BEGINNING DATE
ENDING DATE

NO.	DESCRIPTION	ORIGINAL CONTRACT			PREVIOUS ESTIMATE		CURRENT ESTIMATE		COMPLETE TO DATE		
		Qty	Unit	Unit Cost	Total	Qty	Total	Qty	Total		
1	Purchase and Installation of 5/8" x 3/4" Radio Read Meters into Existing Setters. Also include is New Auto Read Software and the Transfer of Information from the old/new meters to the software digitally from the field.	1,600	EA	\$437.99	\$700,784.00						
2	Replace Existing Meter Box	20	EA	\$197.40	\$3,948.00						
3	Replace Existing Meter Box Lid	20	EA	\$130.15	\$2,603.00						
4	Replace Existing Setter	20	EA	\$733.26	\$14,665.20						
TOTAL AMOUNT:						\$ 722,000.20			\$ -		\$ -