

FINAL ENGINEERING REPORT

OF

PHASE X

WATER SYSTEM IMPROVEMENTS PROJECT

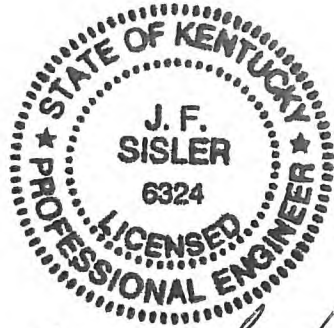
NICHOLAS COUNTY, KENTUCKY

NICHOLAS COUNTY WATER DISTRICT

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COMMISSION



J. F. Sisler

July 24, 2014



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NICHOLAS COUNTY WATER DISTRICT MEMBERS

| | |
|--------------------------------------|-----------------------|
| Debbie Sweet | Chairperson |
| Wendy Sparks | Commissioner |
| Samuel Reynolds | Commissioner |
| Silas Clever | Commissioner |
| Tim Fryman | Commissioner |
| Georgia Livingood | Office Manager |
| Jackie Bromagen/Kirk Robinson | Operator |

**Final Engineering Report
Nicholas County Water District**

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Executive Summary

Phase X
Final Engineering Report
Nicholas County Water District

Executive Summary

FINDINGS

The Nicholas County Water District (NCWD) was first organized in July of 1964. In 1966 a Farmer's Home Administration loan was obtained to begin providing service to nearly 200 customers. Over the years several extensions have been added to the system. After the Phase III project was completed, the total number of customers was approximately 750.

The Phase IV project extended service to outlying areas of Northern Nicholas County. The project provided first time water service to as many as 119 new customers along 26 miles of rural roads.

The Phase V project extended service to outlying areas of Southern Nicholas County. The project provided first time water service to as many as 183 new customers along 47 miles of rural roads.

The Phase VIII project extended water service to as many as 60 potential new customers along approximately 8 miles of rural roads.

The Phase X project will help alleviate much needed operation and maintenance problems caused by a lack of potable water storage and telemetry system. The water problems in Nicholas County have been generally well-known for a number of years, and have continuously been brought to the attention of the Nicholas County Water District and Nicholas County Fiscal Court.

With approximately 1390 customers at the end of Phase IX, at 160 gallons per customer per day, the NCWD average usage is over the City of Carlisle contracted maximum allowable amount of water agreed to sell NCWD 800,000 gallons per month to meet the demands of the prior projects, thus relieving some of the demand from the City of Carlisle. In addition, the City of Millersburg

has agreed to sell NCWD a maximum of 1.5 million gallons per month, thus enabling the district the capacity to serve the potential customers of Phase X and further decrease need to purchase water from the City of Carlisle.

With NCWD current water purchase contracts with the City of Carlisle, Buffalo Trail Water Association (BTWA), the Western Fleming County Water District and the City of Millersburg, an ample supply of water is available to supply Water District's needs for Phase X and any additional future growth. These contracts meet all requirements of Rural Development (RD) (formerly FmHA) and the Public Service Commission (PSC). Based upon the information available at this time, it appears that no rate increase will be required within the near future. However, the District should continue its annual audits to assure that the District will experience no unexpected shortfalls.

A decrease in operation and maintenance costs due to the Phase X project will have a net positive effect that will allow the District to increase revenues using the already developed distribution system and based on the existing supply contracts with the City of Carlisle, Buffalo Trail Water Association, the City of Millersburg and the Western Fleming County Water District.

Recommendations

Based on studies, findings and conclusions and in accordance with other pertinent information contained in this report, it is recommended that the Nicholas County Water District take the following steps:

1. Review this report, then direct the Engineer, upon notification of Rural Development, to immediately complete necessary documentation to RD for further processing of the loan and grant application to construct the extensions and improvements outlined in this report.
2. Begin the process of collecting all tap fees to complete the project funding.
3. Direct the Engineer to complete all necessary plans, specifications and contract documents to receive approvals from regulatory and funding agencies.
4. Upon completion of the above and receipt of approvals, initiate actions to acquire required permits and right of way easements for construction areas.
5. Upon favorable review and funding commitments of RD, advertise for bids.
6. Upon favorable review of RD, make necessary petitions and applications, through local and bond counsel, to the Kentucky Public Service Commission for a "Certificate of Need and Necessity".

Section 1

General

Phase X
Final Engineering Report
Nicholas County Water District

Section 1 - General

Purpose

The purpose of this Phase X project is to develop a plan that will evaluate the potential and feasible methods by which potable water storage tank and water line replacement will be designed and constructed to benefit the entire service area of the Nicholas County Water District.

Scope

The original system service area consisted of 4" lines extending north of Carlisle to Stoney Creek at the Ellisville Community along US 68, northwest of Carlisle along Headquarters Road, along KY 32 to Stoney Creek Road and also including the Lake Carnico area.

Numerous extensions have been made since the original service area including but not limited to 4" lines south of Carlisle on Concord Road and East Union Road, also west of Carlisle on US 36 and US 68 and some smaller extensions northeast of Carlisle on Stoney Creek Road, Persimmon Ridge Road and Calcutta Road.

The Phase III service area completed during 1995 includes 6" and 4" mains along the following roads: Old Paris Road, Saltwell-Headquarters Road, Saltwell-Barterville Road, Pleasant Spring Road, Buffalo Trace Road, KY 13, KY 386, Ball Hill Road, Hooktown (KY 36), Barterville Road, KY 32, Arthur Road and Walnut Grove Road.

The Phase IV service area completed during 1998 includes 6" and 4" mains along the following roads: Stoney Creek Road, Short Stoney Creek Road, Holler Road, Persimmon Ridge Road, Suggs

Road (KY 606), Crooked Creek Road (KY 1244), Sugar Creek Road (KY 1244), Rose Hill Road (KY 3314), US 68, Needmore Road, Goose Creek Pike, Hudnall Lane, Crayton Creek Road.

The Phase V service area included 4" and 3" mains along the following roads: Scrubgrass Creek Road, Concord Road, Mint Ridge Road, Ox Bow Road, Taylors Creek Road, Hog Jaw/Taylor Store Road, Ishmael Chapel Road, US 57 (Off Burns Pike), Burris Pike, Smith Lane, Saltwell – Bruncker Road, Upper Jackstown Road, SR 1298 (Hick Hardy), Persimmon Road (KY 1244), Collier Road, SR 648 – Walnut Grove Road, East Union Road, Lower Jackstown Road, Carpenter Pike (SR 386).

The Phase VIII service area included 4" and 3" mains along the following roads: Saltwell – Bruncker Road, Dog Walk Road, Ritchie Road, Snake Ridge, Myers Road, Miller Station Road, Scott Road and Garnett Road.

The Phase IX project included replacing existing undersized lines and asbestos cement line along the following roads: Lake Carnico area, Hickory ridge Road, and Headquarters Road. The project will also include the following loop roads: Ritchie Road, Johnson Road, and Stoney Creek Road. The project will also include new service to the following two roads: Republican Pike and Johnson Road off US 68. The project also included a new 100,000 gallon elevated storage tank on Hickory Ridge Road.

The Phase X project included replacing existing undersized lines and asbestos cement line along Headquarters Road. The project will also include one loop road Crooked Creek Road.

The project did include new telemetry for the existing Concord Pump Station and new master meters placed in the system to help determine high water loss areas but was eliminated due to budget constraints. These items are needed and will be included in a new project to be funded later.

Section 2

Planning Areas

Phase X
Final Engineering Report
Nicholas County Water District

Section 2 – Planning Areas

General Information

Nicholas County is located in the Bluegrass Area of Kentucky just 35 miles northeast of Lexington. It is bordered to the north by Robertson County, Fleming County to the northeast, Bath County to the southeast, Bourbon County to the southwest and Harrison County to the northwest. Carlisle is the county seat of Nicholas County.

Nicholas County is separated by U.S. 68 which follows a northeast-to-southwest direction through the county and by Kentucky Route 36 which runs east-to-west through downtown Carlisle.

The area to be served by this Phase X will include the following roads: Headquarters Road and Crooked Creek Road. This project did also have new telemetry controls for the existing Concord Booster Pump Station and new master meters to help determine high water loss areas but has to be eliminated due to budget constraints.

POPULATION & HOUSEHOLD INCOME

Future population predictions for Nicholas County are based upon the 2000 U.S. Census of Population and Housing.

This publication shows the population of Nicholas County projected to the year 2020 based on data from the Center for Urban and Economic Research/Kentucky State Data Center's 2000 Census information located at the University of Louisville. Nicholas County shows a gradual decrease in population over this time period. The results of that study are presented in the following table:

***Population Projections**

| Year | Projected Population | % Change |
|------|----------------------|----------|
| 2000 | 6,813 | - |
| 2005 | 6,828 | +0.2 |
| 2010 | 6,817 | -0.1 |
| 2020 | 6,684 | -1.9 |
| 2030 | 6,468 | -3.3 |

*Based on middle growth series

This represents an approximate 5.3% decrease in population over the next 30 years for Nicholas County. The 2000 Census indicates there are approximately 2.48 persons per household in this area.

The absence of water and sewer facilities are generally the limiting factor in determining how a particular area may develop and the rate of development. One could expect to see a 10% to 20% increase in population per decade in areas that obtain at least one of these services, with water being the most important to growth.

Household Income

The median household income based on the 2000 census is \$ 29,886 but the median household income for the Headquarters division is \$24,278 which is less than the \$28,585 required by RD for 45% grant eligibility. This should allow the District to qualify for at least a 45% RD grant for this project.

EXISTING AND FUTURE LAND USE

General

The service areas within the Nicholas County Water District are almost exclusively residential in nature. Single family homes dominate the service area. Studies conducted by the U.S. Census Bureau in 2000 indicate 2.48 persons occupy each household unit in this project area.

Other land uses include small industries, horse farms and agricultural purposes.

The development of the public water system for the Nicholas County Water District has encouraged some economic development in the present service areas, especially in the area around Lake Carnico. This is not expected, however, to significantly alter the predominately rural, residential nature of this proposed service area.

Future development and growth is anticipated on the outskirts of Carlisle's City Limits and along all major Kentucky and U.S. highways.

Description of Existing Service Area Boundary

The existing Nicholas County Water District (N.C.W.D.) service area boundary covers approximately 80% of Nicholas County. The service areas border Robertson County and the Licking River to the north, Fleming County and the Sharpsburg Water District to the east,

Bourbon County and Hinkston Creek to the south, and Bourbon County and the Harrison County Water District to the west. (See Appendix A.)

Proposed Project areas

Headquarters Road Beginning at its intersection with SR 32/36 continuing west – 2.00 miles.

Stoney Creek Road North on Stoney Creek Road – 0.50 miles. Loop Road

Crooked Creek Road South on Crooked Creek Road till its intersection with Barterville Road – 0.50 miles. Loop Road

Section 3
EXISTING FACILITIES

Phase X
Final Engineering Report
Nicholas County Water District

Section – 3 Existing Facilities

The existing sources of water for non-served residents of the Nicholas County Water District include individually dug or drilled wells, cisterns, or pond water, usually with no type of treatment provided.

Bacteriological samples were collected from 44 homes in the north central area of Nicholas County in 1995 and 1996 in the areas proposed to receive water service from this project. The results indicated that 36 of the 44 homes (82%) sampled, showed the presence of E. Coli bacterium. E. Coli organisms are an indication of fecal coliform contamination, which is known to be an unhealthy and potentially dangerous contaminant for any water source.

City of Carlisle Water Treatment Plant

The City of Carlisle water treatment plant (WTP) is currently designed to provide 1.3 million gallons per day (MGD) of potable water. The City recently expanded and upgraded their WTP and constructed a 12 inch raw water main from the Licking River to the plant. This plant is located southwest of Carlisle just off of KY 36. The Licking River is regulated by releases at Cave Run Reservoir which should provide a minimum flow in the River to adequately supply water to the intake facility located off of Flemingsburg Road.

City of Carlisle Water Purchase Agreement

The City of Carlisle has committed 4 million gallons of water per month by Water Purchase Contract (for 40 years) beginning in 1993, to the District. This contract is not sufficient for all of the demand needed for the existing and or potential customers within the service area but will continue to be the major source of supply for the NCWD.

City of Millersburg Water Treatment Plant

The City of Millersburg's water treatment plant is currently designed for .5 million gallons per day (MGD). But with it's current pump capacity it can only produce .36 million gallons per day (MGD). The plant is located in the City of Millersburg and draws its raw water from Hinkston Creek which flows into the Licking River.

City of Millersburg Water Purchase Agreement

The City of Millersburg has committed 1.5 million gallons of water per month by Water Purchase Contract (for 40 years) beginning in 1999, to the District. This contract will allow the district to supply water to the proposed customers of Phase V and future customers, as well as decreasing the need of supply of water from the City of Carlisle.

Buffalo Trail Water Association Water Purchase Agreement (BTWA)

Buffalo Trail Water Association has committed 800,000 gallons per month by Water Purchase Contract (for 40 years) beginning in 1997, to the District. This contract allowed the District to supply water needed for the customers of Phase IV.

Distribution System

The existing distribution system at completion of Phase IX includes approximately 150 miles of 6", 4", and 3" water mains.

Storage Tanks and Pumping Stations

A 50,000 gallon elevated steel storage tank is located off of Hickory Ridge Road in the Lake Carnico area. It was originally built from a Farmers Home Administration loan that was obtained in 1966 to serve the first customers in the Water District. This elevated storage tank was originally supplied from two vertical turbine "can-type" pumps, rated at 50 gpm each. After the completion of Phase III, the new duplex 100 gpm pumps located at the intersection of Old Paris Road and KY 32 and Highway 68 controls the storage tank by the use of a new telemetry system.

A second 139,000 gallon standpipe located in Barterville off of Buffalo Trace Road was constructed in Phase III to meet the required storage. The tank level is controlled by an altitude valve located at the base of the tank.

A third 100,000 gallon standpipe located off Concord road was constructed in Phase VI. This tank is controlled by telemetry from the Millersburg pump station.

These (3) three storage tanks provide for a total storage capacity of about 339,000 gallons (100,000 gallon elevated, a (Phase III) 139,000 gallon standpipe and a 100,000 gallon standpipe on Concord Road Phase VI). Based on the average customer daily water usage and the current approximate 1290 customers, there exists approximately 1.25 days of storage, which does meet Division of Water, PSC and RD requirements. But most rural systems need at least two days of storage. Therefore, a 100,000 gallon potable water storage tank is needed to bring the district closer to this number.

Two small bladder (hydropneumatic) booster pumps on mains from the City of Carlisle are located on Concord Road and East Union Road (SR 1285) to boost pressure on those dead end lines.

Metering Facilities

Six separate master metering facilities meter the supply of water to the District from the City of Carlisle. The main master meter, which supplies the majority of the water to the distribution system, is located on the west side of Old Paris Road (KY 32) supplied by a 10" line from the City.

The second master meter is located on the west side of Dorsey Road, serving the Concord Road area. This area is supplied by a new 8" line constructed by the City (1996).

The third master meter is located at the end of High Street, serving the East Union Road (SR 1285) area from a 4" supply line.

The fourth master meter is located on Concrete Road (KY 36), west of the City of Carlisle, serving approximately 30 customers along KY 36 up to U.S. 68 and the Miller Station Road.

The fifth master meter is located near the intersection of KY 32 and KY 1455 in Henryville.

The sixth master meter is used to serve approximately 7 customers along Lower Jackstown Road.

Chlorination

No additional chlorinating facilities are provided by the Nicholas County Water District. Sufficient residuals are provided by the City of Carlisle and Buffalo Trail Water Association.

Section 4
Need for Project

Phase X
Final Engineering Report
Nicholas County Water District

Section 4 – Need for Project

Design Criteria and Approvals

All water tank and telemetry will be designed in accordance with Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water, USDA, Rural Utilities Service and Kentucky Public Service Commission guidelines.

Design drawings will be submitted for approval to the Division of Water and RD. The Preliminary and Final Engineering Reports will be filed with the application for a Certificate of Convenience and Necessity from the Kentucky Public Service Commission. The minimum pressure at all customer meter connections will be 30 psi. Individual pressure reducing valves will be provided at all meter settings where main line pressure is to exceed 90 psi.

Land and Rights-of-Way

For all lines constructed on private rights-of-way, a construction and permanent easement will be obtained from the private property owner prior to constructing the lines. If lines and or structures are to be constructed on Kentucky state or county highways, all necessary encroachment permits will be obtained before proceeding with waterline construction.

There will be no requirements for land acquisition for this project.

Source of Water Supply

The main source of water supply to the District will continue to be the City of Carlisle's 1.3 million gallons per day (MGD) treatment plant located west of the city on Lake Drive off of KY 36.

Buffalo Trail Water Association (BTWA) has agreed to sell the district 800,000 gallons per month to supply water to the Phase IV project. This will help alleviate the District's problem with exceeding their water purchase agreement with the City of Carlisle.

The City of Millersburg has agreed to sell the water district 1.5 million gallons per month to supply water for the Phase V project as well as alleviate some of the demand from the City of Carlisle. This will allow the district to drastically reduce the water purchased from the City of Carlisle.

Total Water Storage

The District currently has 339,000 gallons of storage to serve 1390 customers with the completion of the Phase IX project in 2010.

The RD and Kentucky Division of Water requires one (1) day storage based on average daily consumption. The average daily consumption in the Nicholas County Water District is 160 gallons per customer per day (gpcd). Therefore 1390 total customers at 160 gpcd usage would require a one day storage of approximately 222,400 gallons, which is more than the minimum requirement but most rural systems need at least two days of storage.

Distribution System Extensions and Improvements

The proposed Phase X project will include approximately 2.5 miles of new water line and serve a potential of 2 new customers and provide upgraded service for approximately 35 existing residences. The project did include new telemetry for the existing Concord Road booster pump station and did include water master meters to help locate and alleviate water loss in the existing distribution system but these items had to be eliminated due to as – bid budget constraints.

Section 5
Proposals Considered

Phase X
Final Engineering Report
Nicholas County Water District

Section 5 – Proposals considered

General

Phase X water line extension project was considered in Phase IX, but due to budget constraints, it was left out of the project. Due to additional water supply sources and additional customers, the water storage tank is needed. Please see Appendix A for breakdown of the proposed service areas.

Headquarters Road – Replace existing 3” water line with a new 4” water line for approximately for approximately 2 miles.

Crooked Creek Road - Connecting to an existing 4” water line and continuing for approximately 0.50 miles. This will be a loop road.

CONSTRUCTION PROBLEMS

The proposed project as presented in this report does not anticipate any significant problems. There will be a minimal amount of interruptions to existing customers during tie-ins to the existing system.

HYDRAULIC COMPUTATIONS

A hydraulic analysis was performed to determine the overflow elevation of the proposed water tank and the overall effect this project will have on the system. The hydraulic analysis has shown that no negative effects will be experienced by the existing system.

Section 6

Conclusions and Recommendations

Phase X
Final Engineering Report
Nicholas County Water District

Section 6 – Conclusions and recommendations

Recommendations

Based on studies, findings and conclusions and in accordance with other pertinent information contained in this report, it is recommended that the Nicholas County Water District take the following steps:

1. Review this report, then direct the Engineer, upon notification of Rural Development, to immediately complete necessary documentation to RD for further processing of the loan and grant application to construct the improvements outlined in this report.
2. Begin the process of collecting all tap fees to complete the project funding.
4. Direct the Engineer to complete all necessary plans, specifications and contract documents to receive approvals from regulatory and funding agencies.
5. Upon completion of the above and receipt of approvals, initiate actions to acquire required permits and right of way easements for construction areas.
6. Upon favorable review and funding commitments of RD, advertise for bids.
7. Upon favorable review of RD, make necessary petitions and applications, through local and bond counsel, to the Kentucky Public Service Commission for a "Certificate of Need and Necessity".

APPENDIX A
ESTIMATED CONSTRUCTION/PROJECT COSTS

AS – BID PROJECT COST ESTIMATE

**NICHOLAS COUNTY WATER DISTRICT
PHASE X WATERLINE EXTENSIONS**

| Item | Description | Cost |
|---------------------------|---|-------------------|
| 1 | As – Bid Phase X – Water Transmission Lines | \$ 227,964 |
| 3 | Preliminary Engineering Report | \$ 2,000 |
| 4 | Engineering Design | \$ 31,818 |
| 5 | Engineering Inspection | \$ 27,124 |
| 6 | Additional Engineering Services a. Permits b. PSC Assistance c. Site Surveys d. Easement Assistance | \$ 12,000 |
| 7 | RD Legal and RD Administration | \$ 6,000 |
| 8 | Interest during Construction | \$ 0.00 |
| 9 | Contingencies | \$ 12,000 |
| 10 | Other Construction | \$ 621,094 |
| Total Project Cost | | \$ 940,000 |

Nicholas County Water District - Phase X

As - Bid Project Cost Estimate

revised 8/15/14

Total Cost

| | | |
|---|---|------------------|
| 1 | <i>Phase X - Water Transmission Line Contract</i> | \$227,964.00 |
| TOTALS | | \$227,964 |
| TOTAL ESTIMATED CONSTRUCTION COSTS | | \$227,964 |
| CONTINGENCY @ +/- 10% | | \$12,000 |
| ENGINEER RELATED COSTS (DESIGN,INSPECTION,EASEMENTS,ETC..) | | |
| PRELIMINARY ENGINEERING | | \$2,000 |
| DESIGN @ 12.20% | | \$31,818 |
| INSPECTION @ 10.40% | | \$27,124 |
| OTHER ENGINEERING (Easements, Surveying, etc.) | | \$12,000 |
| RD RELATED PROJECT COSTS | | |
| LEGAL & ADMINISTRATIVE | | \$6,000 |
| INTEREST DURING CONSTRUCTION | | \$0 |
| CURRENT PROJECT COSTS | | \$318,906 |
| OTHER CONSTRUCTION (Pay off as of 10/1/14) | | \$621,094 |
| TOTAL AS- BID PROJECT COSTS | | \$940,000 |
| PROPOSED PROJECT FUNDING | | |
| RD GRANT | \$200,000 | |
| RD LOAN | \$555,000 | |
| STATE GRANT | \$185,000 | |
| TOTAL PROJECT FUNDING | \$940,000 | |

PROPOSED PROJECT FUNDING

PROPOSED PROJECT FUNDING

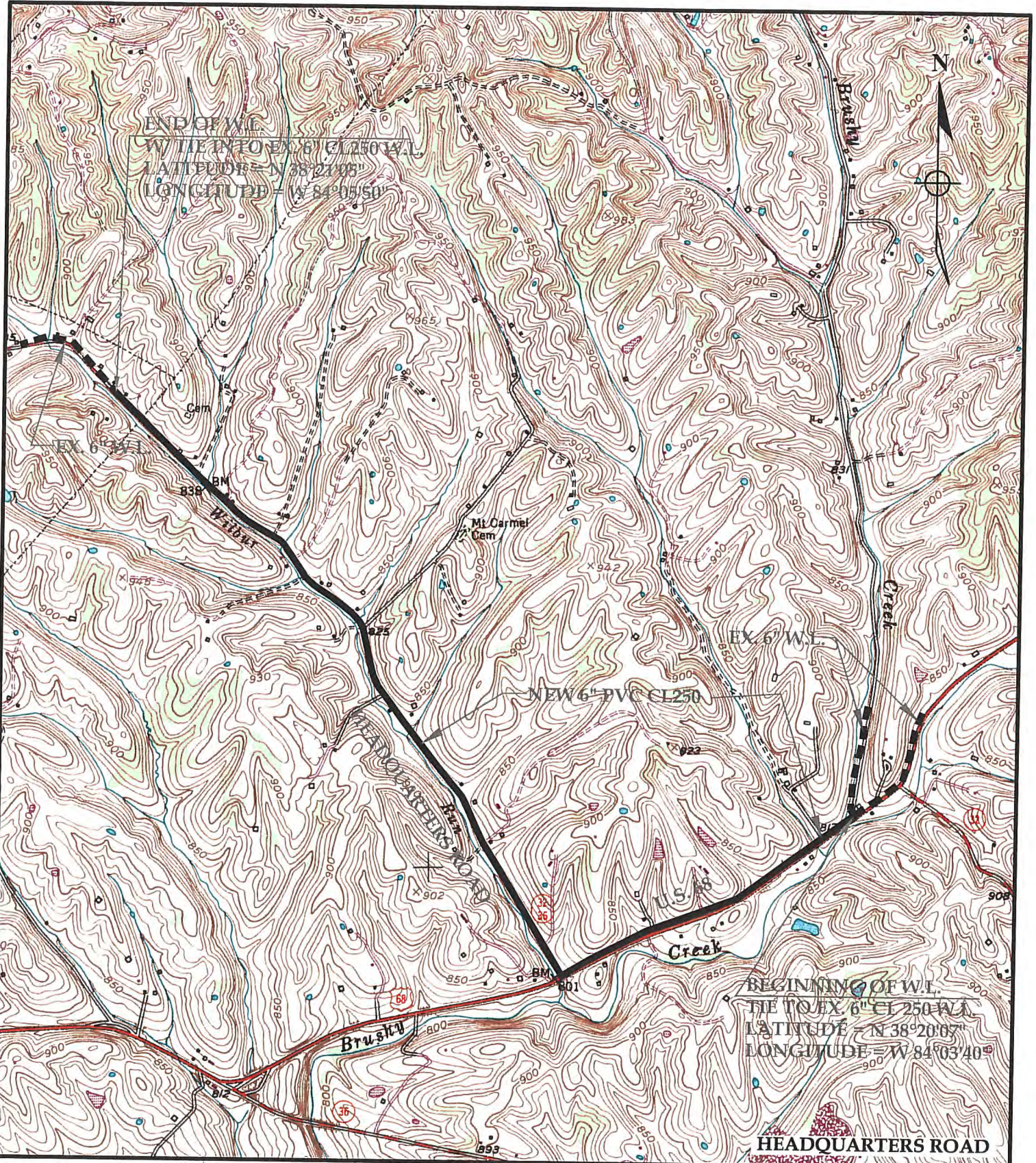
**NICHOLAS COUNTY WATER DISTRICT
PHASE X WATERLINE EXTENSIONS**

| | |
|---------------------------|-------------------|
| RD Loan | \$ 555,000 |
| RD Grant | \$ 200,000 |
| State Grant | <u>\$ 185,000</u> |
| Total Project Cost | \$940,000 |

APPENDIX B
PROPOSAL AREA MAPS

Application
CONTAINS
LARGE OR OVERSIZED
MAP(S)

RECEIVED ON:
September 8, 2014



| | |
|--------------|-------------|
| SCALE: | 1" = 2,000' |
| DATE: | 1/14 |
| DRAWN BY: | BCM |
| CHECKED BY: | MKM |
| APPROVED BY: | JFS |



PHASE-X WATERLINE EXTENSIONS NICHOLAS COUNTY WATER DISTRICT

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| | |
|--------------|--------|
| CAD FILE NO: | #09002 |
| DRAWING NO: | 1 of 2 |



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|--------------|-------------|
| SCALE: | 1" = 2,000' |
| DATE: | 1/14 |
| DRAWN BY: | BCM |
| CHECKED BY: | MKM |
| APPROVED BY: | JFS |



PHASE-X WATERLINE EXTENSIONS NICHOLAS COUNTY WATER DISTRICT

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| | |
|--------------|--------|
| CAD FILE NO: | #09002 |
| DRAWING NO: | 2 of 2 |

APPENDIX C
FINANCIAL SECTION

EXISTING RATE SCHEDULE

NICHOLAS COUNTY WATER DISTRICT Phase X Waterline Extensions EXISTING RATE SCHEDULE – 11/1/2006

GALLONAGE BLOCK FOR EACH METER SIZE 5/8 inch x 3/4 inch Meter

MONTHLY RATE FOR EACH GALLONAGE BLOCK

| | | |
|-------|----------------|---------------------------|
| First | 1,000 gallons | \$ 13.13 (Minimum Bill) |
| Next | 2,000 gallons | \$ 6.17 per 1,000 gallons |
| Next | 2,000 gallons | \$ 5.38 per 1,000 gallons |
| Next | 5,000 gallons | \$ 4.19 per 1,000 gallons |
| Next | 15,000 gallons | \$ 3.80 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.40 per 1,000 gallons |

1 inch Meter

| | | |
|-------|----------------|---------------------------|
| First | 3,000 gallons | \$ 25.47 (Minimum Bill) |
| Next | 2,000 gallons | \$ 5.38 per 1,000 gallons |
| Next | 5,000 gallons | \$ 4.19 per 1,000 gallons |
| Next | 15,000 gallons | \$ 3.80 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.40 per 1,000 gallons |

1-1/2 inch Meter

| | | |
|-------|----------------|---------------------------|
| First | 8,400 gallons | \$ 48.80 (Minimum Bill) |
| Next | 1,600 gallons | \$ 4.19 per 1,000 gallons |
| Next | 15,000 gallons | \$ 3.80 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.40 per 1,000 gallons |

2 inch Meter

| | | |
|-------|----------------|---------------------------|
| First | 12,667 gallons | \$ 68.58 (Minimum Bill) |
| Next | 12,333 gallons | \$ 3.80 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.40 per 1,000 gallons |

3 inch Meter

| | | |
|-------|----------------|---------------------------|
| First | 41,125 gallons | \$ 165.18 (Minimum Bill) |
| Over | 41,125 gallons | \$ 3.40 per 1,000 gallons |

4 inch Meter

| | | |
|-------|----------------|---------------------------|
| First | 66,125 gallons | \$ 250.18 (Minimum Bill) |
| Over | 66,125 gallons | \$ 3.40 per 1,000 gallons |

PROPOSED RATE SCHEDULE

NICHOLAS COUNTY WATER DISTRICT

Phase X Waterline Extensions

| GALLONAGE BLOCK FOR EACH METER SIZE | | MONTHLY RATE FOR EACH GALLONAGE BLOCK |
|--|----------------|--|
| <u>5/8 inch x 3/4 inch Meter</u> | | |
| First | 1,000 gallons | \$ 14.42 (Minimum Bill) |
| Next | 2,000 gallons | \$ 6.75 per 1,000 gallons |
| Next | 2,000 gallons | \$ 5.50 per 1,000 gallons |
| Next | 5,000 gallons | \$ 4.35 per 1,000 gallons |
| Next | 15,000 gallons | \$ 3.90 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.67 per 1,000 gallons |
| <u>1 inch Meter</u> | | |
| First | 3,000 gallons | \$ 27.92 (Minimum Bill) |
| Next | 2,000 gallons | \$ 5.50 per 1,000 gallons |
| Next | 5,000 gallons | \$ 4.35 per 1,000 gallons |
| Next | 15,000 gallons | \$ 3.90 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.67 per 1,000 gallons |
| <u>1-1/2 inch Meter</u> | | |
| First | 5,000 gallons | \$ 38.92 (Minimum Bill) |
| Next | 5,000 gallons | \$ 4.35 per 1,000 gallons |
| Next | 15,000 gallons | \$ 3.90 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.67 per 1,000 gallons |
| <u>2 inch Meter</u> | | |
| First | 10,000 gallons | \$ 60.67 (Minimum Bill) |
| Next | 15,000 gallons | \$ 3.90 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.67 per 1,000 gallons |
| <u>3 inch Meter</u> | | |
| First | 15,000 gallons | \$ 80.17 (Minimum Bill) |
| Next | 10,000 gallons | \$ 3.90 per 1,000 gallons |
| Over | 25,000 gallons | \$ 3.67 per 1,000 gallons |
| <u>4 inch Meter</u> | | |
| First | 25,000 gallons | \$ 119.17 (Minimum Bill) |
| Over | 25,000 gallons | \$ 3.67 per 1,000 gallons |

Nicholas County

Loan - RUS

TABLE DATA

| | | |
|---------------------|--------------|--|
| Loan amount: | \$603,000.00 | Table starts at date: or at payment number: 1 |
| Ann. interest rate: | 2.750% | |
| Term in years: | 38 | |
| Payments / year: | 1 | |
| First payment due: | 1/1/2015 | |

Payment: **\$25,776.83**

| No. | Payment Date | Beginning Balance | Interest |
|-----|--------------|-------------------|-----------|
| 1 | 1/1/2015 | 603,000.00 | 16,582.50 |
| 2 | 1/1/2016 | 593,805.67 | 16,329.66 |
| 3 | 1/1/2017 | 584,358.51 | 16,069.86 |
| 4 | 1/1/2018 | 574,651.54 | 15,802.92 |
| 5 | 1/1/2019 | 564,677.63 | 15,528.63 |

Use payment of: \$25,776.83 Beginning balance at payment 1: 603,000.00
 Payment in table: 1 Cumulative interest prior to payment 1: 0.00

Table

| No. | Payment Date | Beginning Balance | Interest | Principal | Ending Balance | Cumulative Interest |
|-----|--------------|-------------------|-----------|-----------|----------------|---------------------|
| 1 | ##### | 603,000.00 | 16,582.50 | 9,194.33 | 593,805.67 | 16,582.50 |
| 2 | ##### | 593,805.67 | 16,329.66 | 9,447.17 | 584,358.51 | 32,912.16 |
| 3 | ##### | 584,358.51 | 16,069.86 | 9,706.97 | 574,651.54 | 48,982.01 |
| 4 | ##### | 574,651.54 | 15,802.92 | 9,973.91 | 564,677.63 | 64,784.93 |
| 5 | ##### | 564,677.63 | 15,528.63 | 10,248.19 | 554,429.44 | 80,313.57 |
| 6 | ##### | 554,429.44 | 15,246.81 | 10,530.02 | 543,899.42 | 95,560.38 |
| 7 | ##### | 543,899.42 | 14,957.23 | 10,819.59 | 533,079.83 | 110,517.61 |
| 8 | ##### | 533,079.83 | 14,659.70 | 11,117.13 | 521,962.70 | 125,177.31 |
| 9 | ##### | 521,962.70 | 14,353.97 | 11,422.85 | 510,539.85 | 139,531.28 |
| 10 | ##### | 510,539.85 | 14,039.85 | 11,736.98 | 498,802.87 | 153,571.13 |
| 11 | ##### | 498,802.87 | 13,717.08 | 12,059.75 | 486,743.13 | 167,288.21 |
| 12 | ##### | 486,743.13 | 13,385.44 | 12,391.39 | 474,351.74 | 180,673.64 |
| 13 | ##### | 474,351.74 | 13,044.67 | 12,732.15 | 461,619.58 | 193,718.31 |
| 14 | ##### | 461,619.58 | 12,694.54 | 13,082.29 | 448,537.30 | 206,412.85 |
| 15 | ##### | 448,537.30 | 12,334.78 | 13,442.05 | 435,095.25 | 218,747.63 |
| 16 | ##### | 435,095.25 | 11,965.12 | 13,811.71 | 421,283.54 | 230,712.75 |
| 17 | ##### | 421,283.54 | 11,585.30 | 14,191.53 | 407,092.01 | 242,298.05 |
| 18 | ##### | 407,092.01 | 11,195.03 | 14,581.79 | 392,510.22 | 253,493.08 |
| 19 | ##### | 392,510.22 | 10,794.03 | 14,982.79 | 377,527.42 | 264,287.11 |
| 20 | ##### | 377,527.42 | 10,382.00 | 15,394.82 | 362,132.60 | 274,669.11 |
| 21 | ##### | 362,132.60 | 9,958.65 | 15,818.18 | 346,314.42 | 284,627.76 |
| 22 | ##### | 346,314.42 | 9,523.65 | 16,253.18 | 330,061.25 | 294,151.40 |
| 23 | ##### | 330,061.25 | 9,076.68 | 16,700.14 | 313,361.11 | 303,228.09 |
| 24 | ##### | 313,361.11 | 8,617.43 | 17,159.39 | 296,201.71 | 311,845.52 |
| 25 | ##### | 296,201.71 | 8,145.55 | 17,631.28 | 278,570.43 | 319,991.07 |
| 26 | ##### | 278,570.43 | 7,660.69 | 18,116.14 | 260,454.29 | 327,651.75 |
| 27 | ##### | 260,454.29 | 7,162.49 | 18,614.33 | 241,839.96 | 334,814.25 |
| 28 | ##### | 241,839.96 | 6,650.60 | 19,126.23 | 222,713.73 | 341,464.84 |
| 29 | ##### | 222,713.73 | 6,124.63 | 19,652.20 | 203,061.54 | 347,589.47 |
| 30 | ##### | 203,061.54 | 5,584.19 | 20,192.63 | 182,868.90 | 353,173.66 |
| 31 | ##### | 182,868.90 | 5,028.89 | 20,747.93 | 162,120.97 | 358,202.56 |
| 32 | ##### | 162,120.97 | 4,458.33 | 21,318.50 | 140,802.47 | 362,660.89 |
| 33 | ##### | 140,802.47 | 3,872.07 | 21,904.76 | 118,897.72 | 366,532.95 |
| 34 | ##### | 118,897.72 | 3,269.69 | 22,507.14 | 96,390.58 | 369,802.64 |
| 35 | ##### | 96,390.58 | 2,650.74 | 23,126.08 | 73,264.49 | 372,453.38 |
| 36 | ##### | 73,264.49 | 2,014.77 | 23,762.05 | 49,502.44 | 374,468.16 |
| 37 | ##### | 49,502.44 | 1,361.32 | 24,415.51 | 25,086.93 | 375,829.47 |
| 38 | ##### | 25,086.93 | 689.89 | 25,086.93 | 0.00 | 376,519.36 |