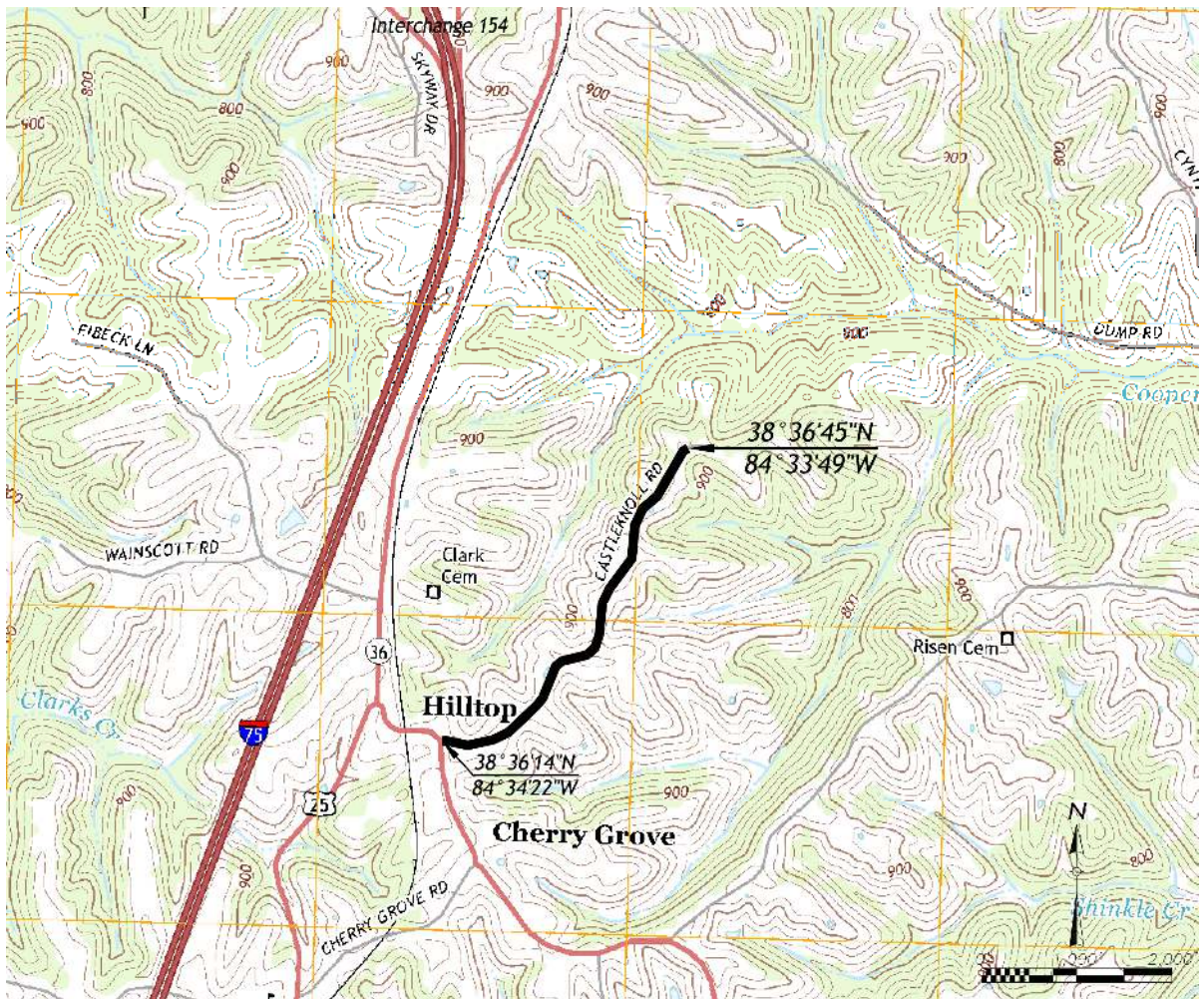


City of Williamstown

Castle Knoll Road

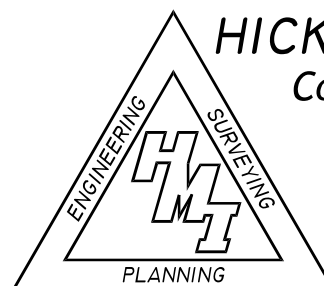
Water Line Extension

CITY OF WILLIAMSTOWN, KENTUCKY



OWNER

City of Williamstown
PO Box 147, 400 North Main Street
Williamstown, Kentucky 41097
(859) 824-3606



HICKS & MANN, INC.

Consulting Engineers
Land Surveyors
Planners

214-B South Main Street
Williamstown, Ky. 41097
(859) 824-5231

Rick Skinner
Mayor

Vivian Link
City Clerk/Treasurer

City Of Williamstown

CITY COUNCIL MEMBERS:
Kim Crupper
Ronnie Maines
Greg Middleton
Robert Perry
Gina Austin Smith
Ronnie West

REQUEST FOR BIDS

**FOR: CITY OF WILLIAMSTOWN
CASTLE KNOLL ROAD, WATER LINE EXTENSION**

Sealed proposals for the following work will be received by the City of Williamstown until 2 p.m. on Thursday, September 29, 2022, at the Mayor's Office, City of Williamstown, 400 North Main Street, Williamstown, Kentucky 41097, for furnishing labor and materials and performing all work as set forth by the Advertisement, General Conditions, Specifications and/or Drawings as prepared by Hicks & Mann, Inc. Immediately following the scheduled closing for time for the reception of bids, all bids which have been submitted in accordance with the above conditions, shall be publicly opened and read aloud at the Williamstown City Building at the above stated date and time.

The work to be bid is described as follows: **Castle Knoll Road, Water Line Extension**

Drawings, Specifications, and Contract Documents may be examined and obtained at the offices of Hicks & Mann, Inc., 214-B South Main Street, Williamstown, Kentucky 41097. **Note: there is a \$100.00 charge for each set of the Bid Documents.**

Sealed Bids for this contract shall be clearly marked on the outside of the envelope as follows: **"Sealed Bids for City of Williamstown, Castle Knoll Road, Water Line Extension, Bid Proposal. Not to be opened until 2 p.m. on Thursday, September 29, 2022."**

If forwarded by mail, the sealed envelope containing the proposal must be enclosed in another envelope and mailed to City of Williamstown, P. O. Box 147, Williamstown, Kentucky 41097 allowing sufficient time for such mailing to reach this address prior to the scheduled closing time for receipt of proposal.

The City of Williamstown may consider informal any bid not prepared and submitted in accordance with the provisions of this advertisement and/or the Specifications and may waive any informalities or reject any and all bids. Contract will be awarded to the lowest, responsible bidder. Contract will be awarded based on the following grading criteria:

Cost:	60 points
Start date:	20 points
References:	20 points

The Successful Bidder will be required to furnish the necessary Certificates of Insurance and Performance and Payment Bonds within ten (10) calendar days after receiving the Notice of Award.

The quantities listed in the Bid Proposal are estimates only. Final payment will be based on Unit Prices and actual or plan quantities or work performed.


Rick Skinner, Mayor
City of Williamstown

**CITY OF WILLIAMSTOWN
CASTLE KNOLL ROAD, WATER LINE EXTENSION
WILLIAMSTOWN, KENTUCKY**

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<i>Part III</i>	<i>BASIS OF PAYMENT</i>	<i>III-1</i>
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I – Bid Proposal: Water Line Extension

**FOR: CITY OF WILLIAMSTOWN
CASTLE KNOLL ROAD, WATER LINE EXTENSION
WILLIAMSTOWN, KENTUCKY**

Proposal of _____ (hereinafter called Bidder) organized & existing under the laws of the State of _____ business as _____ Insert "A Corporation", "A Partnership", or "An Individual" as applicable.

Address: _____

Date: _____

**TO: CITY OF WILLIAMSTOWN
400 NORTH MAIN STREET, P.O. BOX 147
WILLIAMSTOWN, KENTUCKY 41097**

*Having carefully examined the field conditions, specifications and complete Contract Documents for **CITY OF WILLIAMSTOWN, CASTLE KNOLL ROAD, WATER LINE EXTENSION**, the undersigned, hereinafter known as **BIDDER**, proposes to furnish all labor, materials, tools, equipment, etc., and all other necessary supplies and services necessary to complete the project.*

For the construction of the entire and complete project as indicated on the Drawings, Specifications and Contract Documents, the following amounts:

City of Williamstown
Bid Proposal : Castle Knoll Road, Waterline Extension

Item No.	Description	Qty. Unit	Unit Price	Total
1	4" PVC Waterline	4,685 L.F.	_____	_____
2	Connection to Existing Waterline	1 Ea.	_____	_____
3	4" Gate Valves	3 Ea.	_____	_____
4	Flush Hydrants	6 Ea.	_____	_____
5	Trench Restoration	1 L.S.	_____	_____
Total Bid Proposal:				_____

TIME LIMIT FOR THE EXECUTION OF THE CONTRACT BETWEEN OWNER & CONTRACTOR

*In the event that a bidder's proposal is accepted by the Owner and such bidder shall fail to execute the Contract and to furnish satisfactory performance and payment bond within ten (10) consecutive days from the date of notification of the award of the contract, the Owner may at their option determine that the awardee has abandoned the bid guarantee; the check, or bid bond which accompanied it shall be forfeited to and become the property of the Owner as liquidated damages for such failure. Notice to Proceed will be issued by Owner within ten (10) days after receipt of Performance Bond. **Bid Bond shall be 5% of Total Bid.***

RIGHT TO REJECT

The Owner reserves the right to reject any and all bids.

LIQUIDATED DAMAGES

*The Owner will suffer financial damages if the Project is not substantially completed as soon as feasible. The Bidder shall be given **90** calendar days for substantial completion, from written Notice to Proceed date. The Contractor (and his Surety) shall pay to the Owner the sums hereinafter stipulated as fixed, agreed and liquidated damages for each calendar day of delay until the work is substantially completed: Two hundred fifty dollars (\$250.00).*

PROJECT SCHEDULE:

*All Contractors shall submit a written schedule with the earliest start to work date noted. Proposed schedule will be reviewed during contractor selection. **Please note, the Contractor's schedule is very important to the Contractor Selection Process.***

RESPECTFULLY SUBMITTED:

Name of Bidder: _____
By: _____
Title: _____
Date: _____

NOTE: *Submit Bid Proposal in sealed envelope, marked "Bid Proposal" and the name of the Contractor.*

**** BID PROPOSALS ARE TO REMAIN BOUND IN BOOKLETS ****

II - SPECIAL CONDITIONS

1. GENERAL

This Contractor or Sub-contractor shall have visited and examined the Site before submitting a proposal to satisfy himself to the nature and scope of the new construction and any difficulties attending the execution of same. The submission of a proposal will be construed as evidence that a visit and examination has been made. Later claims for labor, equipment or materials required for difficulties encountered, which could have been foreseen had such an examination been made, will not be recognized.

2. INSURANCE

This Contractor shall provide insurance for all work he proposed to furnish, and shall include:

- (1) *Workers Compensation including Employees Liability with all States Endorsement to provide statutory benefits.*
- (2) *Public Liability and Product Liability* *\$200,000/each accident
\$500,000/aggregate*
- (3) *Bodily Injury Liability* *\$500,000/each person
\$1,000,000/aggregate*
- (4) *Property Damage* *\$200,000/each person
\$500,000/aggregate*
- (5) *Automobile* *\$500,000/per person
\$1,000,000/per accident*

3. INDEMNIFICATION

The Contractor shall indemnify and hold harmless the Owner and the Engineer and their agents and employees from and against all claims, damages, losses and expenses, including attorney's fee arising out of or resulting from the performance of the work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including the loss of such resulting therefrom, and (b) is caused in whole or part by any negligent act or omission of the Contractor, any Sub-contractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not is caused in part by a part indemnified hereunder.

III - SPECIAL CONDITIONS cont.

4. PERIOD OF LIABILITY

The Contractor or Sub-contractor shall return to the site of the work at any time within a period of one (1) year after completion and acceptance of this work, and shall repair any defects due to faulty workmanship or materials which may occur within this period, unless extended periods of liability are required by the Owner, and so stated in the Contract Documents.

5. CHANGES

The Owner reserves the right to alter or modify the drawings and specifications in any particular, and the Engineers shall be at liberty to make any reasonable amount of deviation in the construction detail of execution without, in either case invalidating or rendering void the Contract. In case any such alteration or deviation shall increase or diminish the cost of doing the work, the amount to be allowed to the Contractor or Owner shall be such as may be equitable and justly determined.

6. CLEANING UP

The Contractor shall at all times keep the premises free from accumulation of waste material or rubbish caused by his employees' work, and at the completion of the work, he shall remove all of his rubbish, tools, and surplus material from and about the site of the work and shall leave his work in a clean and useable condition, satisfactory to the Engineer, unless more exactly specified. This includes cleaning mud and debris from streets used as an access to and from the site during the entire construction time.

7. CARE OF THE WORK

The Contractor shall have full charge of the premises upon which the new work is to be constructed, and the work under construction until the completion and final acceptance of the work under the Contract.

8. PERMITS

The Owner shall obtain all permits required by state, county or city agencies. However the contractor shall obtain burning permits if required.

III - *SPECIAL CONDITIONS cont.*

9. *PAYMENTS TO CONTRACTOR*

The quantities listed in the bid Schedules are estimate only. Final payment will be based on unit prices and actual work performed, as set forth in Part III, Basis of Payment.

The Owner shall pay 90% of actual work completed and tested within thirty (30) days of completion. The retainage will be paid within thirty (30) days after final inspection and acceptance of the project by the City of Williamstown.

10. *CONTRACT DOCUMENTS*

The Contract Documents consist of Notice to Bidders, Bid Proposals, Special Conditions, Project Plans & Specifications, Basis of Payment, Agreement and Performance & Payment Bond, including all modifications thereof incorporated in the Documents before their execution. These form the Contract.

11. *DRAWINGS AND SPECIFICATIONS AND FIELD CONDITIONS*

- A. *The Drawings and Specifications are intended to be fully explanatory and supplementary; however, should anything be shown, indicated or specified on one and not the other, it shall be done the same as if shown, indicated or specified in both.*
- B. *Should any error or inconsistency appear in Drawings or Specifications, the Contractor before proceeding with the work, must make mention of the same to the Engineer for proper adjustment, and in no manner proceed with the work in uncertainty nor with insufficient drawings.*
- C. *The various sections of the specifications are intended to recite generally to the Contractor the principal items included and covered thereunder. Should such descriptions fail to mention any item obviously necessary for the completion of that particular branch of work, it shall not relieve the Contractor of the responsibility of furnishing such items not specifically listed.*

III - SPECIAL CONDITIONS cont.

12. LIENS

Neither the final payment nor any part of the retained percentage shall become due until the Contractor delivers to the Owners a complete release of all liens arising out of this Contract, or receipts in full in lieu thereof and, in either case, an affidavit that so far as he has knowledge or information, the releases and receipts include all labor and material or such a lien could be filed, but the Contractor may, if any Sub-contractor refuses to furnish a release or receipt in full, furnish a Bond satisfactory to the Owner, to indemnify him against any lien. If any lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all monies that the latter may be compelled to pay in discharging such a lien, including all costs and reasonable attorney's fee.

13. A. *Interested bidders shall, before submitting a Proposal visit and examine the site to satisfy themselves as to materials and scope of the new construction and any difficulty attending the performance of the work.*
- B. *The submission of the Proposal will be construed as evidence that such an examination has been made. Claims made subsequent to the time of submission of the Proposal for labor, equipment and material required for difficulties encountered which could have been foreseen had an examination been made, will not be recognized.*

14. PERMITS

The Contractor is responsible for compliance with the requirements of the Permits from the Various Agencies.

III - SPECIAL CONDITIONS cont.

15. PROJECT SPECIFICATIONS:

- All Construction Materials and Testing shall be in accordance with City of Williamstown, Standard Specifications and Details.*
16. *The Utility Contractor shall be responsible for any trench settlement, which occurs within one (1) year of final acceptance of the work. If pavement shall require replacement because of settlement within this time, it shall be replaced by the Contractor at no additional cost to the Owner.*
17. *The Contractor shall be responsible for disposing of excess trench excavation, as directed by the Engineer.*
18. *The Contractor shall be responsible for final Subgrade Grading, Compaction, and preparation. Any undercut excavation required by weather or delays in pavement construction will be the responsibility of the Contractor and will be done at no cost to the Owner.*
19. *The Testing required for compliance with the project specifications, are laid out in the plans, subdivision regulations, permits, and regulations from the various government agencies. The Contractor is responsible for obtaining the necessary regulations, and being familiar with said regulations. The governmental agencies have final approval of the project construction, and the Contractor is responsible for obtaining said approval. All deficiencies shall be corrected at the Contractor's expense. If re-tests are required due to the Contractor's failure to meet the project specifications or the governmental regulations, the Contractor shall have fifty (\$50.00) per hour deducted from the contract, to offset the additional engineering fees involved.*
20. *The Contractor shall be responsible for the Best Management Practices (BMP), the Erosion Controls shown on the plans are the minimum required. The contractor shall responsible for revising, adding, and repairing the erosion control as the project progresses. All erosion controls & BMPs shall be inspected and maintained at minimum once every 7 days and after rain events of 0.5" and greater by a qualified Person, and a log of inspections and actions taken, shall be maintained. **Note; The Contractor shall be responsible for the KPDES Notice of Intent and the KPDES Notice of Termination.***
21. *All Contractors and Sub-Contractors are responsible for their own safety inspections and compliance with OSHA Regulations. **The Project Engineer or Hicks & Mann, Inc. will not be responsible for Safety Inspections or the Contractor's Compliance with OSHA Regulations.***

III - BASIS OF PAYMENT

Waterline Extension;

1. *4" PVC Waterline; Payment for Waterline shall be at the Linear Foot Unit Price and the actual length constructed. Pipe Bedding Material, testing, and etc. shall be incidental to the Waterline.*
2. *Connection to Existing Waterline; Payment for the Connection of the Existing 6" Waterline shall be at the Lump Sum Price per Connection. Pipe, Fittings, and Other Materials shall be incidental to the Lump Sum Price.*
3. *Gate Valve; Payment for the Gate Valves shall be at the Unit Price per Gate Valve. Cast Iron Valve Box and concrete pad shall be incidental to the unit price.*
4. *Flush Hydrant Assembly; Payment for Flush Hydrant Assemblies shall be at the Unit Price per Flush Hydrant Assembly. The Flush Hydrant Assembly shall include the Hydrant, Tee, Gate Valve, Anchoring Pipe, Gravel and Blocking.*
5. *Trench Restoration; Payment for Trench Restoration shall be at the Linear Foot Unit Price and the actual length constructed. All Asphalt Pavement, Concrete Pavement, Gravel, Flowable Fill, Seeding, Fertilizer, Mulching & Etc. shall be incidental to the Trench Restoration.*

V- NOTICE TO AWARD

TO:

Project Description: **CITY OF WILLIAMSTOWN, BID PROPOSAL
CASTLE KNOLL ROAD, WATER LINE EXTENSION**

The **OWNER** has considered the **BID** submitted by you for the above described **WORK**
In response to the Notice to Bid dated _____, And Instructions to Bidders:

You are hereby notified that your **BID** has been accepted for items in the amount of:

Bid Proposal; Waterline Extension \$ _____

You are required by the Instructions for Bidders to execute the Agreement and furnish the
Required **CONTRACTOR'S** Certificates of Insurance within ten (10) calendar days from the
Date of this Notice.

If you fail to execute said Agreement or to furnish said Certificates within ten (10) days from the date of this
Notice, said **OWNER** will be entitled to consider all your rights arising out of the **OWNER'S** acceptance of
your **BID** as abandoned. The **OWNER** will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this **NOTICE OF AWARD** to the **OWNER**.

Dated this _____ day of _____, 2019

CITY OF WILLIAMSTOWN
OWNER

BY: _____
Rick Skinner, Mayor

TITLE: Owner

ACCEPTANCE OF AWARD

Receipt of the above **NOTICE OF AWARD** is hereby acknowledged by: _____

_____ this the _____ day of _____, 2021.

BY: _____

TITLE: _____

VI – AGREEMENT

THIS AGREEMENT, made this _____ day of _____, 2021, by and between the **CITY OF WILLIAMSTOWN**, hereinafter called “**OWNERS**” and _____ doing business as (a corporation, a partnership, or an individual as applicable), hereinafter called “**CONTRACTOR**”.

WITNESSETH: That for an consideration of the payments and agreements hereinafter mentioned:

1. **CONTRACTOR** will commence and complete the construction of;
BID PROPOSAL, CASTLE KNOLL ROAD, WATERLINE EXTENSION
2. The **CONTRACTOR** will furnish all of the materials, equipment, and other services necessary for the construction and completion of the **PROJECT** described herein.
3. The **CONTRACTOR** will commence the work required by the **CONTRACT DOCUMENTS** within ten (10) calendar days after the date of the **NOTICE TO PROCEED**.
4. The **CONTRACTOR** agrees to provide the items described in the **CONTRACT DOCUMENTS** and comply with the terms therein for the sum of:
5. The term “**CONTRACT DOCUMENTS**” means and includes the following:
 - (A) Notice to Bidders
 - (B) Bid Proposals
 - (C) Special Conditions
 - (D) Project Specifications
 - (E) Basis of Payment
 - (F) Notice of Award
 - (G) Agreement
 - (H) Certification of Insurance
 - (I) Change Orders
 - (J) Plans entitled “**CASTLE KNOLL ROAD WATERLINE EXTENTION**”. Prepared by Hicks & Mann, Inc., latest revision.
 - (K) Permits from the Ky. Transportation Cabinet, and Ky. Division of Water.

VI – AGREEMENT, Cont.

IN WITNESS WHEREOF, the parties hereto have executed or caused to be executed by their duly authorized officials, this **AGREEMENT** in three (3) copies each of which shall be deemed an original on the date first above written.

CITY OF WILLIAMSTOWN
OWNER

BY: _____
Rick Skinner, Mayor

TITLE: Owner

(Seal)

ATTEST:

NAME: _____
Print or Type

TITLE: _____

CONTRACTOR: _____

BY: _____

NAME: _____
Print or Type

ADDRESS: _____

(Seal)

ATTEST:

NAME: _____
Print or Type

TITLE: _____

VII – NOTICE TO PROCEED

TO:

DATE:
PROJECT: **CITY OF WILLIAMSTOWN**

*YOU are hereby notified to commence **WORK** in accordance with the **AGREEMENT** Dated _____, 2019, on or before _____, 2021, and you are to complete the **WORK** within _____ Calendar days, thereafter. The date of completion of all **WORK** is therefore _____, 2021.*

CITY OF WILLIAMSTOWN
OWNER

BY: _____
Rick Skinner, Mayor

TITLE: Owner

ACCEPTANCE OF NOTICE:

*Receipt of the above **NOTICE TO PROCEED** is hereby acknowledged by _____ this the _____ day of _____, 2021.*

BY: _____

TITLE: _____

Part VI

Permits

***KY. DIVISION OF WATER PERMIT
Water Line Extension (AI #: 1506, APE2021003)
5 Pages***

ANDY BESHEAR
GOVERNOR



REBECCA W. GOODMAN
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

ANTHONY R. HATTON
COMMISSIONER

300 SOWER BOULEVARD
FRANKFORT, KENTUCKY 40601

May 13, 2021

Josh Stinson
Williamstown Municipal Water Dept
400 N Main St
Williamstown, KY 41097

RE: Castle Knoll Road WLE
Grant County, KY
Williamstown Municipal Water Dept
AI #: 1506, APE20210003
PWSID #: 0410472-21-003

Dear Josh Stinson:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 4,685 LF of 4-inch PVC waterline. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit.

If you have any questions concerning this project, please contact Mollye Malone at 502-782-0148.

Sincerely,

A handwritten signature in black ink, appearing to read "T. Humphries".

Terry Humphries, P.E.
Supervisor, Engineering Section
Water Infrastructure Branch
Division of Water

TH:MM
Enclosures

c: Hicks & Mann Inc
Grant County Health Department
Division of Plumbing

Distribution-Water Line Extension
Williamstown Municipal Water Dept
Facility Requirements

Activity ID No.:APE20210003

PORT000000029 (Castle Knoll Road WLE) 4685 LF of 4-inch PVC WLE:

Narrative Requirements:

Condition No.	Condition
T-1	Construction of this project shall not result in the water system's inability to supply consistent water service in compliance with 401 KAR 8:010 through 8:600. [401 KAR 8:100 Section 5]
T-2	The public water system shall not implement a change to the approved plans without the prior written approval of the cabinet. [401 KAR 8:100 Section 4(3)]
T-3	A proposed change to the approved plans affecting sanitary features of design shall be submitted to the cabinet for approval in accordance with Section 2 of this administrative regulation. [401 KAR 8:100 Section 4(2)]
T-4	During construction, a set of approved plans and specifications shall be available at the job site. Construction shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 3(1)]
T-5	Unless construction begins within two (2) years from the date of approval of the final plans and specifications, the approval shall expire. [401 KAR 8:100 Section 3(3)]
T-6	Upon completion of construction, a professional engineer shall certify in writing that the project has been completed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 4(1)]
T-7	The system shall be designed to maintain a minimum pressure of 20 psi at ground level at all points in the distribution system under all conditions of flow. [Recommended Standards for Water Works 8.2.1, Drinking Water General Design Criteria IV.1.a]
T-8	Water lines should be hydraulically capable of a flow velocity of 2.5 ft/s while maintaining a pressure of at least 20 psi. [Drinking Water General Design Criteria IV.1.b]
T-9	The normal working pressure in the distribution system at the service connection shall not be less than 30 psi under peak demand flow conditions. Peak demand is defined as the maximum customer water usage rate, expressed in gallons per minute (gpm), in the pressure zone of interest during a 24 hour (diurnal) time period. [Drinking Water General Design Criteria IV.1.d]
T-10	When static pressure exceeds 150 psi, pressure reducing devices shall be provided on mains or as part of the meter setting on individual service lines in the distribution system. [Drinking Water General Design Criteria IV.1.c]
T-11	The minimum size of water main in the distribution system where fire protection is not to be provided should be a minimum of three (3) inch diameter. Any departure from minimum requirements shall be justified by hydraulic analysis and future water use, and can be considered only in special circumstances. [Recommended Standards for Water Works 8.2.2, Drinking Water General Design Criteria IV.2.b]

Distribution-Water Line Extension
Williamstown Municipal Water Dept
Facility Requirements

Activity ID No.:APE20210003

PORT000000029 (Castle Knoll Road WLE) 4685 LF of 4-inch PVC WLE:

Narrative Requirements:

Condition No.	Condition
T-12	Water mains not designed to carry fire-flows shall not have fire hydrants connected to them. [Recommended Standards for Water Works 8.4.1.b]
T-13	Flushing devices should be sized to provide flows which will give a velocity of at least 2.5 feet per second in the water main being flushed. [Recommended Standards for Water Works 8.2.4.b, Recommended Standards for Water Works 8.4.1.b]
T-14	No flushing device shall be directly connected to any sewer. [Recommended Standards for Water Works 8.2.4.b, Recommended Standards for Water Works 8.4.1.b]
T-15	Pipe shall be constructed to a depth providing a minimum cover of 30 inches to top of pipe. [Drinking Water General Design Criteria IV.3.a]
T-16	Water mains shall be covered with sufficient earth or other insulation to prevent freezing. [Recommended Standards for Water Works 8.7]
T-17	A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a depth of at least six inches below the bottom of the pipe. [Recommended Standards for Water Works 8.7]
T-18	Water line installation shall incorporate the provisions of the AWWA standards and/or manufacturer's recommended installation procedures. [Recommended Standards for Water Works 8.7]
T-19	All materials used for the rehabilitation of water mains shall meet ANSI/NSF standards. [Recommended Standards for Water Works 8.1]
T-20	Packing and jointing materials used in the joints of pipe shall meet the standards of AWWA and the reviewing authority. [Recommended Standards for Water Works 8.1]
T-21	All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.7]
T-22	All materials including pipe, fittings, valves and fire hydrants shall conform to the latest standards issued by the ASTM, AWWA and ANSI/NSF, where such standards exist, and be acceptable to the Division of Water. [Recommended Standards for Water Works 8.1]
T-23	Water mains which have been used previously for conveying potable water may be reused provided they meet the above standards and have been restored practically to their original condition. [Recommended Standards for Water Works 8.1]

Distribution-Water Line Extension
 Williamstown Municipal Water Dept
 Facility Requirements

Activity ID No.:APE20210003

PORT000000029 (Castle Knoll Road WLE) 4685 LF of 4-inch PVC WLE:

Narrative Requirements:

Condition No.	Condition
T-24	Manufacturer approved transition joints shall be used between dissimilar piping materials. [Recommended Standards for Water Works 8.1]
T-25	The minimum size of water main which provides for fire protection and serving fire hydrants shall be six?inch diameter. [Recommended Standards for Water Works 8.2, Drinking Water General Design Criteria IV.2.a]
T-26	Pipes and pipe fittings containing more than 8% lead shall not be used. All products shall comply with ANSI/NSF standards. [Recommended Standards for Water Works 8.1]
T-27	Gaskets containing lead shall not be used. Repairs to lead?joint pipe shall be made using alternative methods. [Recommended Standards for Water Works 8.1]
T-28	Pipe materials shall be selected to protect against both internal and external pipe corrosion. [Recommended Standards for Water Works 8.1]
T-29	Dead end mains shall be equipped with a means to provide adequate flushing. [Recommended Standards for Water Works 8.2]
T-30	The hydrant lead shall be a minimum of six inches in diameter. Auxiliary valves shall be installed on all hydrant leads. [Recommended Standards for Water Works 8.4.3]
T-31	A sufficient number of valves shall be provided on water mains to minimize inconvenience and sanitary hazards during repairs. [Recommended Standards for Water Works 8.3]
T-32	Wherever possible, chambers, pits or manholes containing valves, blow?offs, meters, or other such appurtenances to a distribution system, shall not be located in areas subject to flooding or in areas of high groundwater. Such chambers or pits should drain to the ground surface, or to absorption pits underground. The chambers, pits and manholes shall not connect directly to any storm drain or sanitary sewer. B?low?offs shall not connect directly to any storm drain or sanitary sewer. [Recommended Standards for Water Works 8.6]
T-33	At high points in water mains where air can accumulate provisions shall be made to remove the air by means of air relief valves. [Recommended Standards for Water Works 8.5.1]
T-34	Automatic air relief valves shall not be used in situations where flooding of the manhole or chamber may occur. [Recommended Standards for Water Works 8.5.1]
T-35	The open end of an air relief pipe from automatic valves shall be extended to at least one foot above grade and provided with a screened, downward?facing elbow. [Recommended Standards for Water Works 8.5.2.c]

Distribution-Water Line Extension
Williamstown Municipal Water Dept
Facility Requirements

Activity ID No.:APE20210003

PORT000000029 (Castle Knoll Road WLE) 4685 LF of 4-inch PVC WLE:

Narrative Requirements:

Condition No.	Condition
T-36	Discharge piping from air relief valves shall not connect directly to any storm drain, storm sewer, or sanitary sewer. [Recommended Standards for Water Works 8.5.2.d]
T-37	Water pipe shall be constructed with a lateral separation of 10 feet or more from any gravity sanitary or combined sewer measured edge to edge where practical. If not practical a variance may be requested to allow the water pipe to be installed closer to the gravity sanitary or combined sewer provided the water pipe is laid in a separate trench or undisturbed shelf located on one side of the sewer with the bottom of the pipe at least 18 inches above the top of the gravity sanitary or combined sewer pipe. [Drinking Water General Design Criteria IV.3.b]
T-38	Water lines crossing sanitary, combined or storm sewers shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sanitary, combined or storm sewer with preference to the water main located above the sanitary, combined or storm sewer. [Drinking Water General Design Criteria IV.3.c]
T-39	At crossings, one full length of water pipe shall be located so both joints will be as far from the sewer as possible. [Recommended Standards for Water Works 8.8.3.b]
T-40	There shall be no connection between the distribution system and any pipes, pumps, hydrants, or tanks whereby unsafe water or other contaminating materials may be discharged or drawn into the system. [Recommended Standards for Water Works 8.10.1]
T-41	Water utilities shall have a cross connection program conforming to 401 KAR 8. [Recommended Standards for Water Works 8.10.1]
T-42	Installed pipe shall be pressure tested and leakage tested in accordance with the appropriate AWWA Standards. [Recommended Standards for Water Works 8.7.6]
T-43	New, cleaned and repaired water mains shall be disinfected in accordance with AWWA Standard C651. The specifications shall include detailed procedures for the adequate flushing, disinfection, and microbiological testing of all water mains. In an emergency or unusual situation, the disinfection procedure shall be discussed with the Division of Water. [Recommended Standards for Water Works 8.7.7]
T-44	A minimum cover of five feet shall be provided over pipe crossing underwater. [Recommended Standards for Water Works 8.9.2]
T-45	Valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair; the valves shall be easily accessible, and not subject to flooding for pipes crossing underwater. [Recommended Standards for Water Works 8.9.2.b]
T-46	Permanent taps or other provisions to allow insertion of a small meter to determine leakage and obtain water samples on each side of the valve closest to the supply source for pipes crossing. [Recommended Standards for Water Works 8.9.2.c]

Part VII

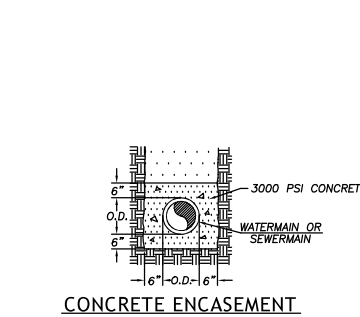
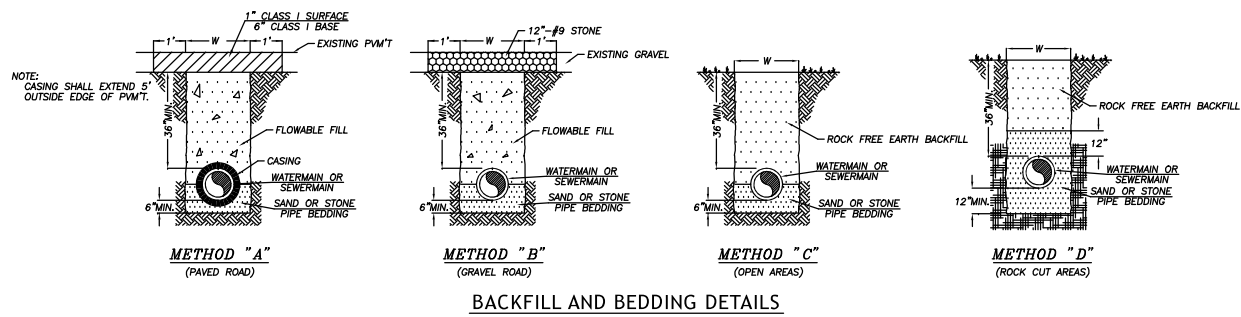
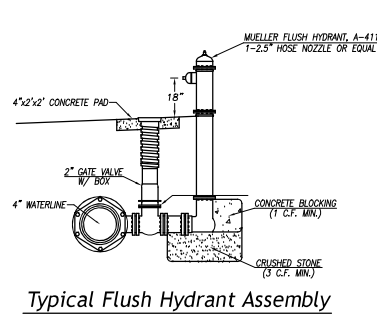
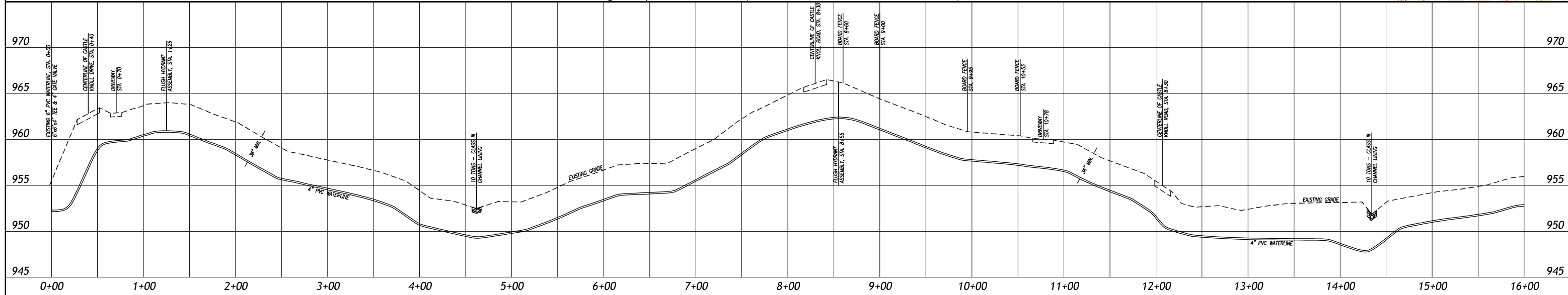
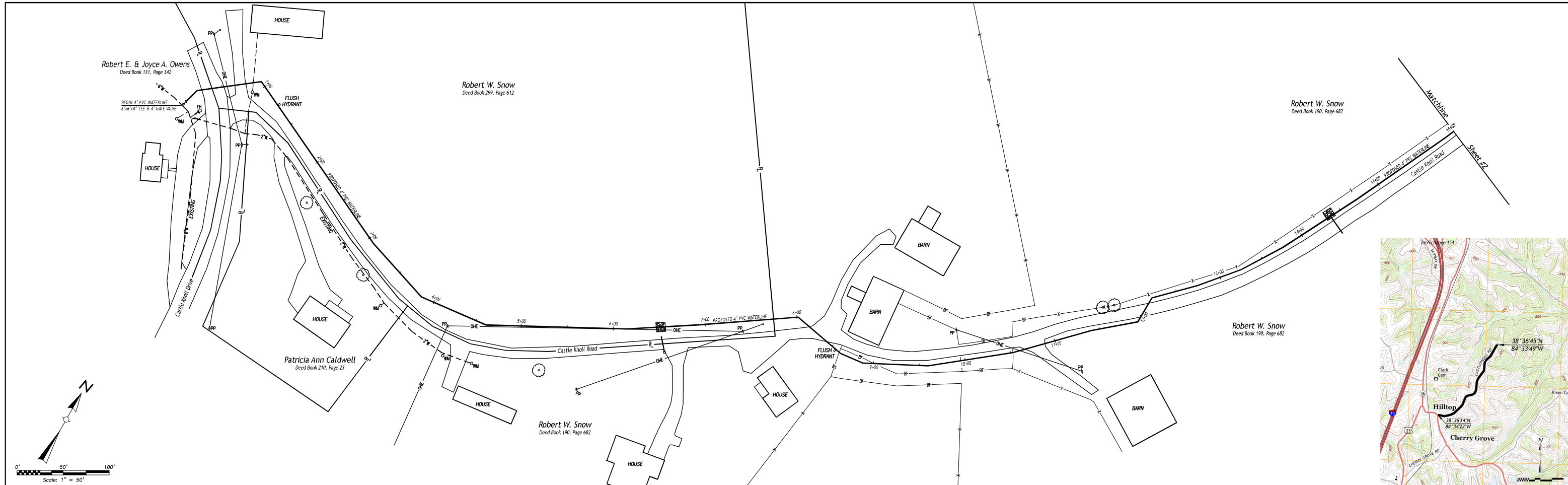
Project Plans

CITY OF WILLIAMSTOWN

Castle Knoll Road

Waterline Extension Plans

3 Sheet



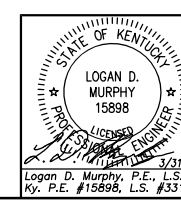
NO.	DATE	REVISIONS
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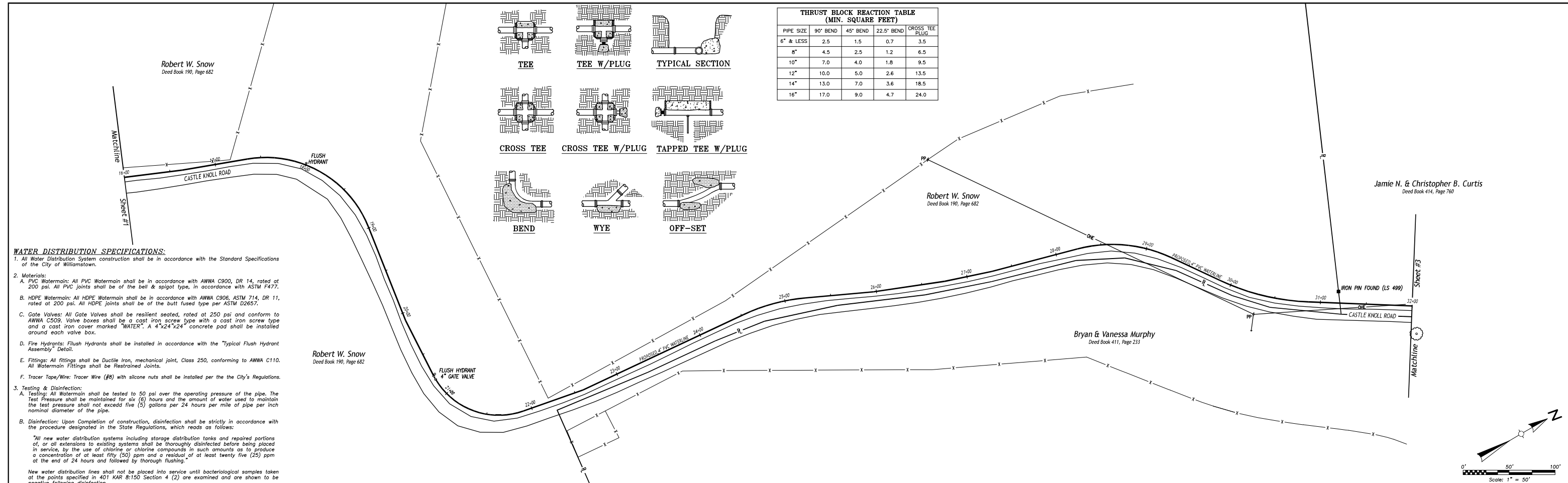
City of Williamstown

**Castle Knoll Road
Water Line Extension, Plan & Profile
Williamstown, Grant County, Kentucky**

Scale: As Noted
Design By: L.D. Murphy
Drawn By: L.D. Murphy
Checked By:

Date: March 31, 2021
Job No. 21-007
Sheet No. 1 of 3
Filename: 21007OCR-SHEET1

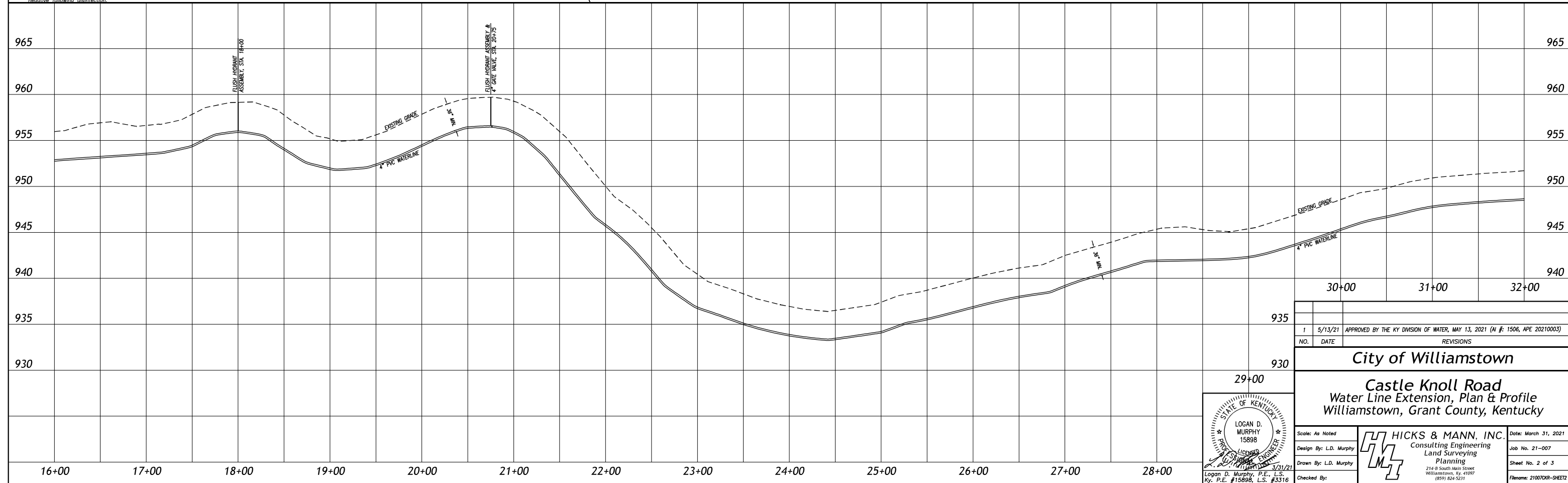




**THRUST BLOCK REACTION TABLE
(MIN. SQUARE FEET)**

PIPE SIZE	90° BEND	45° BEND	22.5° BEND	CROSS TEE PLUG
6" & LESS	2.5	1.5	0.7	3.5
8"	4.5	2.5	1.2	6.5
10"	7.0	4.0	1.8	9.5
12"	10.0	5.0	2.6	13.5
14"	13.0	7.0	3.6	18.5
16"	17.0	9.0	4.7	24.0

- WATER DISTRIBUTION SPECIFICATIONS:**
- All Water Distribution System construction shall be in accordance with the Standard Specifications of the City of Williamstown.
 - Materials:
 - PVC Watermain: All PVC Watermain shall be in accordance with AWWA C900, DR 14, rated at 200 psi. All PVC joints shall be of the bell & spigot type, in accordance with ASTM F477.
 - HDPE Watermain: All HDPE Watermain shall be in accordance with AWWA C906, ASTM 714, DR 11, rated at 200 psi. All HDPE joints shall be of the butt fused type per ASTM D2657.
 - Gate Valves: All Gate Valves shall be resilient seated, rated at 250 psi and conform to AWWA C509. Valve boxes shall be a cast iron screw type with a cast iron screw type and a cast iron cover marked "WATER". A 4"x24"x24" concrete pad shall be installed around each valve box.
 - Fire Hydrants: Flush Hydrants shall be installed in accordance with the "Typical Flush Hydrant Assembly" Detail.
 - Fittings: All fittings shall be Ductile Iron, mechanical joint, Class 250, conforming to AWWA C110. All Watermain Fittings shall be Restrained Joints.
 - Tracer Tape/Wire: Tracer Wire (#8) with silicone nuts shall be installed per the City's Regulations.
 - Testing & Disinfection:
 - Testings: All Watermain shall be tested to 50 psi over the operating pressure of the pipe. The Test Pressure shall be maintained for six (6) hours and the amount of water used to maintain the test pressure shall not exceed five (5) gallons per 24 hours per mile of pipe per inch nominal diameter of the pipe.
 - Disinfection: Upon Completion of construction, disinfection shall be strictly in accordance with the procedure designated in the State Regulations, which reads as follows:
 "All new water distribution systems including storage distribution tanks and repaired portions of, or all extensions to existing systems shall be thoroughly disinfected before being placed in service, by the use of chlorine or chlorine compounds in such amounts as to produce a concentration of at least fifty (50) ppm and a residual of at least twenty five (25) ppm at the end of 24 hours and followed by thorough flushing."
 New water distribution lines shall not be placed into service until bacteriological samples taken at the points specified in 401 KAR 8:150 Section 4 (2) are examined and are shown to be negative following disinfection.



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City of Williamstown

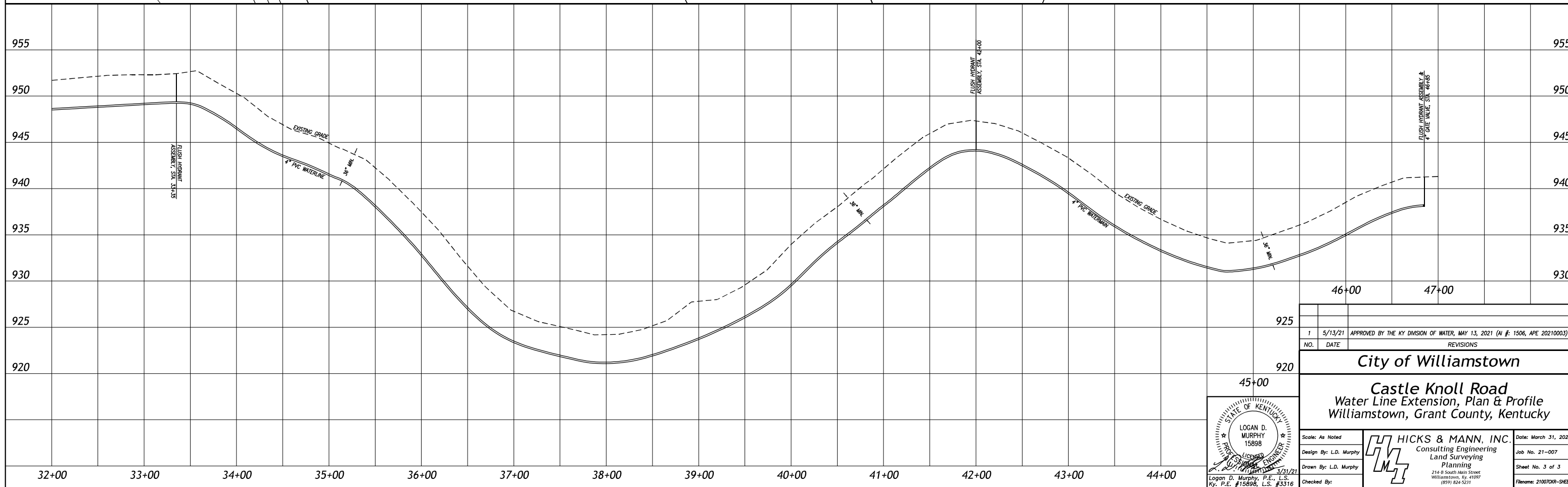
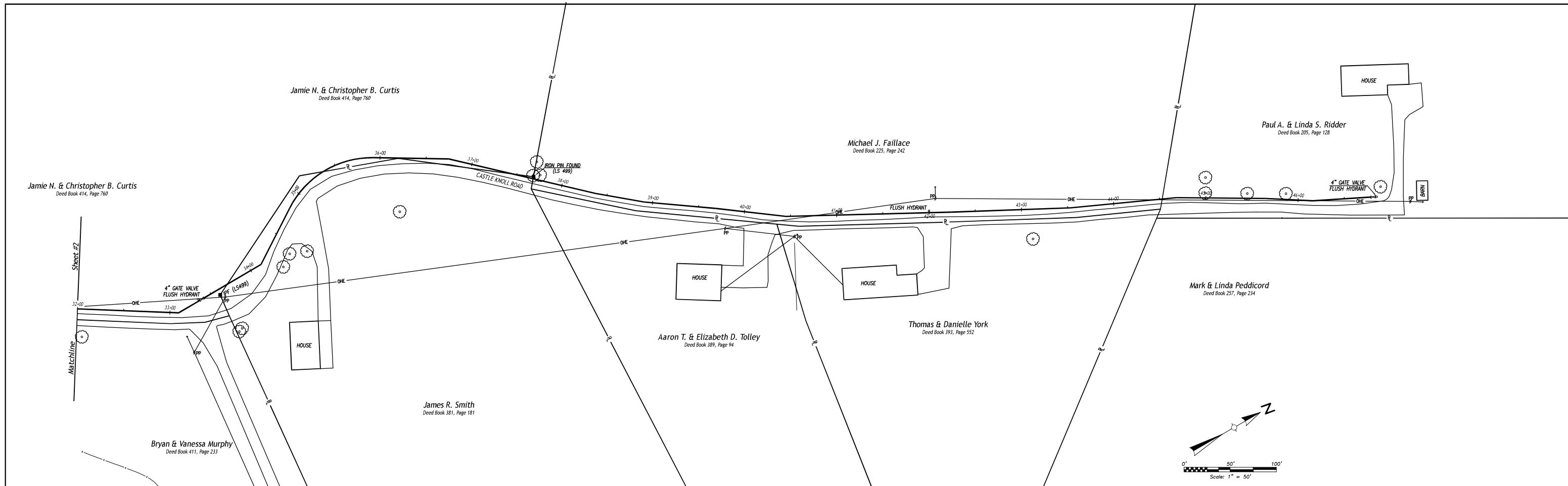
**Castle Knoll Road
Water Line Extension, Plan & Profile
Williamstown, Grant County, Kentucky**

Scale: As Noted
 Design By: L.D. Murphy
 Drawn By: L.D. Murphy
 Checked By:

LOGAN D. MURPHY
 15898
 LICENSED PROFESSIONAL ENGINEER
 3/31/21
 Logan D. Murphy, P.E., L.S.
 Ky. P.E. #15898, L.S. #3316

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 Williamstown, Ky. 41097
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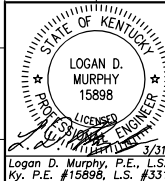
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 Sheet No. 2 of 3
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NO.	DATE	REVISIONS
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City of Williamstown

**Castle Knoll Road
Water Line Extension, Plan & Profile
Williamstown, Grant County, Kentucky**



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 Design By: L.D. Murphy
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Date: March 31, 2021
 Job No. 21-007
 Sheet No. 3 of 3
 Filename: 21007QR-SHEETS