

# PHASE 12 WATER SYSTEM IMPROVEMENTS

FOR THE

## RATTLESNAKE RIDGE WATER DISTRICT CONTRACT 1

AUGUST 2022

**BOARD MEMBERS**

**BILL GILBERT - CHAIRMAN**

**JASON CARROLL**

**MIKE COPLEY**

**STEVE ISON**

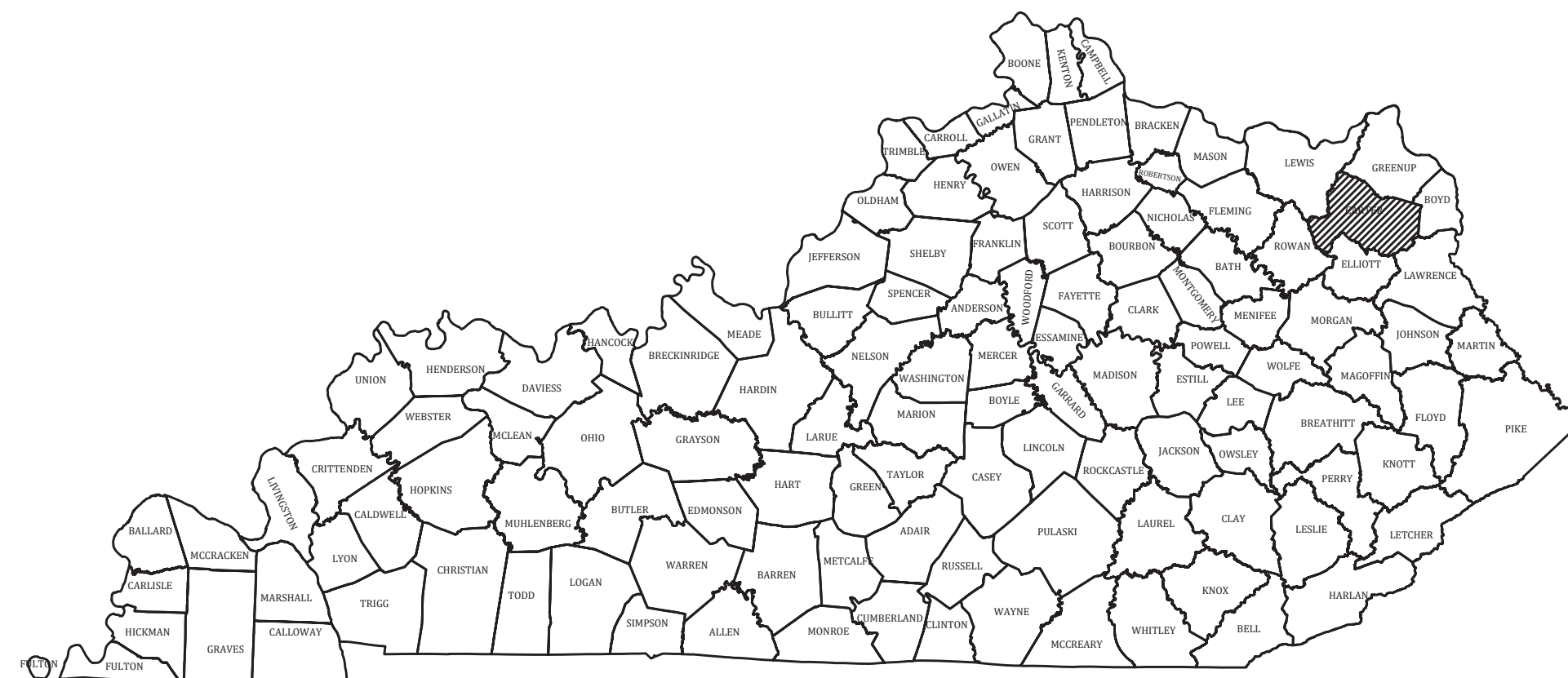
**RANDY STEAGALL**

**DAVID GIFFORD - GENERAL MANAGER**

PREPARED BY:



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



**PROJECT NO. 20002**



IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.

B:\PROJECTS\Rattlesnake Ridge WD\20002 - Phase 12 Water System Improvements\Drawings\20002-01-01.dwg BE 8/29/22

**GENERAL NOTES**

- CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES AND THE ENGINEER TWO WORKING DAYS (MINIMUM) BEFORE BEGINNING CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC IN ACCORDANCE WITH CITY, COUNTY AND STATE REQUIREMENTS.
- THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONSTRUCTION PLANS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION.
- EXISTING UTILITIES, ESPECIALLY GAS LINES AND OIL LINES, MAY BE CATHODICALLY PROTECTED. THEREFORE, DUCTILE IRON PIPE, FITTINGS, GATE VALVES, AND/OR BOXES LAID WITHIN 100' OF LINES WITH CATHODIC PROTECTION SHALL BE WRAPPED IN POLYETHYLENE ENCASUREMENT. MATERIALS AND INSTALLATION SHALL MEET THE REQUIREMENTS OF AWWA'S LATEST REVISION.
- ALL CONSTRUCTION AND INSTALLATION OF MATERIALS BEING USED SHALL BE IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. SUBSTITUTIONS AND DEVIATION SHALL BE PERMITTED ONLY WHEN WRITTEN APPROVAL HAS BEEN ISSUED BY THE ENGINEER.
- SHOP DRAWINGS OF ALL MATERIALS BEING USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- EXISTING UTILITIES HAVE BEEN SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH A REPRESENTATIVE WHEN WORKING NEAR EXISTING UTILITIES.
- THE CONTRACTOR SHALL PROTECT ALL UTILITIES AND OTHER IMPROVEMENTS SHOWN ON THESE PLANS AND ALL OTHER UTILITIES AND OTHER IMPROVEMENTS NOT SHOWN. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR REPAIRS OF UTILITIES AND OTHER IMPROVEMENTS DAMAGED DURING CONSTRUCTION.
- UNLESS OTHERWISE NOTED, A SEPARATE BID ITEM HAS NOT BEEN ESTABLISHED FOR FITTINGS. THE FITTINGS INCLUDED BUT NOT LIMITED TO ARE: TEES, BENDS, PLUGS, REDUCERS, CROSSES, COUPLINGS, ETC. CONTRACTORS SHALL INCLUDE THE COST OF THESE ITEMS IN THE BID PRICE FOR THE PIPE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY REMOVAL/RELOCATION OF TRAILERS, BUILDINGS, FENCES, TREES, SHRUBS, ETC. AND REPLACEMENT OF SAID ITEMS AFTER CONSTRUCTION ACTIVITIES.
- CONTRACTOR IS TO COORDINATE WITH THE PROPERTY OWNERS AS TO WHETHER OR NOT TEMPORARY FENCING IS REQUIRED AND CONSTRUCT IF NECESSARY.
- ALL PIPING SHALL HAVE 30" MINIMUM COVER.
- WHERE UNSTABLE MATERIAL IS ENCOUNTERED OR WHERE THE DEPTH OF EXCAVATION IN EARTH EXCEEDS FIVE (5) FEET, THE SIDES OF THE TRENCH OR EXCAVATION SHALL BE SUPPORTED BY SUBSTANTIAL SHEETING, BRACING, SHORING OR THE TRENCH SIDES SLOPED. SLOPING THE SIDES OF THE DITCH WILL NOT BE PERMITTED IN STREETS, ROADS, NARROW RIGHTS-OF-WAY OR OTHER CONSTRICTED AREAS UNLESS OTHER WISE SPECIFIED. THE STANDARDS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT AND THE KENTUCKY LABOR CABINET SHALL BE FOLLOWED.
- ALL EXCAVATION IS UNCLASSIFIED. COMPENSATION FOR ALL EXCAVATION SHALL BE INCLUDED IN LUMP SUM BID.
- REGRADE OF SITE SHALL BE SUCH THAT DRAINAGE IS AWAY FROM ALL STRUCTURES.
- BACKFILL AROUND ALL STRUCTURES SHALL BE SUFFICIENTLY COMPACTED TO PRECLUDE SETTLEMENT AND PONDING OF WATER AROUND STRUCTURES AND GRADED TO DIVERT RUNOFF AWAY FROM THE STRUCTURES.
- DIMENSIONS, DETAILS AND REINFORCEMENT MAY VARY WITH MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL OBTAIN AND MAINTAIN ON SITE, APPROVED SHOP DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
- ALL VALVES & HYDRANTS SHALL BE LOCATED AT THE BACKSIDE OF THE DITCHLINE.
- FINAL LOCATION OF SERVICES, VALVES, & HYDRANT ORIENTATION ARE TO BE FIELD LOCATED DURING CONSTRUCTION & APPROVED BY THE ENGINEER.
- AT THE CONTRACTORS OPTION, CLASS 350 DUCTILE IRON PIPE MAY BE SUBSTITUTED FOR ANY PIPE PARTICULARLY SPECIFIED, BUT AT NO ADDITIONAL COST TO THE OWNER.
- NO PAY ITEM FOR EXTRA TRENCH DEPTH HAS BEEN SET UP. CONTRACTOR SHALL INCLUDE THE COST OF THE ADDITIONAL DEPTH IN HIS BID PRICE.
- ROCK SOUNDINGS WERE NOT PERFORMED BY THE ENGINEER, THE CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO DETERMINE SUBSURFACE CONDITIONS.
- CONTRACTOR TO DIG/EXPOSE EXISTING WATER MAIN FAR ENOUGH AHEAD OF NEW WATER MAIN CONSTRUCTION TO AVOID DAMAGE TO EXISTING WATER MAIN AND/OR INTERRUPTION OF EXISTING CUSTOMER SERVICES.
- ALL NEW SERVICE LINE FROM THE NEW MAIN TO THE SETTERS SHALL BE 3/4" PE CTS TUBING UNLESS SHOWN DIFFERENTLY ON THE PLANS
- THE MAXIMUM ALLOWABLE LENGTH OF SERVICE LINE FROM THE WATER MAIN TO THE CUSTOMER'S METER SERVICE SHALL BE AS FOLLOWS:
 

SERVICE LINE DIAMETER	MAXIMUM LENGTH
3/4 INCH	125 FEET
1 INCH	150 FEET
1-1/2 INCH	200 FEET
2 INCH	250 FEET
- CONNECTIONS TO EXISTING DISTRIBUTION SYSTEM SHALL BE MADE AS FOLLOWS:
  - CONNECT TO EXISTING (SIZE) W.M. (WET TAP) - CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL FITTINGS, VALVES AND APPURTENANCES TO CONNECT THE PROPOSED WATER MAIN TO THE EXISTING WATER MAIN UNDER PRESSURE.
  - CONNECT TO EXISTING (SIZE) W.M. - CONTRACTOR SHALL PROVIDE, FURNISH AND INSTALL ALL FITTINGS AND APPURTENANCES TO CONNECT THE PROPOSED WATER MAIN TO THE EXISTING WATER MAIN. VALVES ARE A SEPARATE PAY ITEM.
- NO BLASTING WILL BE PERMITTED ON THIS PROJECT
- GRIP RINGS SHALL BE INSTALLED ON ALL FITTINGS
- ALL PVC CASING SHALL BE MINIMUM OF 6" LARGER THAN CARRIER PIPE. STEEL CASING MINIMUM 6" LARGER.
- ALL EXISTING SERVICE LINE SHALL BE REPLACED W/NEW 3/4" PE CL. 250 SERVICE LINE UNLESS EXISTING LINE IS 1".
- ANY MAILBOX THAT IS REMOVED FOR THE INSTALLATION OF THE WATER MAIN MUST BE RE-INSTALLED ONCE THE WATER MAIN HAS BEEN INSTALLED.
- ALL CONNECTIONS BETWEEN THE PVC AND HDPE MUST BE SEALED IN PLASTIC AND CONCRETED.
- ALL OFFSIDE SERVICE LINE REPLACEMENTS SHALL BE INSTALLED WITH THE PIPE BURSTING METHOD.
- ALL NEW METERS SHALL BE IPERL RADIO READ

**GENERAL NOTES**

- NEW LINE AND EXISTING LINES MUST REMAIN IN SERVICE UNTIL ALL METERS ASSEMBLED HAVE BEEN REPLACED AND RECONNECTED TO THE NEW LINE
- NO METERS CAN BE RECONNECTED TO THE NEW WATER MAIN UNTIL TESTING, STERILIZATION AND SAMPLING HAS BEEN SUCCESSFULLY COMPLETED
- COPIES OF ALL BAC-T RESULTS MUST BE PROVIDED TO THE OWNER PRIOR TO RECONNECTS OF ANY METER.
- A NO. 12 AWG INSULATED COPPER LOCATOR WIRE SHALL BE TAPED TO THE TOP OF THE WATER MAIN PIPE. THE INSULATION SHALL BE BLUE FOR WATER. THE WIRE SHALL BE LOOPED OUTSIDE ALL VALVE BOXES W/ ENOUGH SLACK TO ALLOW ACCESS TO THE LOOPS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PLUMBING PERMITS NECESSARY TO RELOCATE OR RECONNECT ANY CUSTOMERS METER SERVICE OR SERVICE LINE. THE CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY ALL FEES AND EMPLOY THE NECESSARY LICENSED PLUMBER.

**FINAL CLEANUP AND RESTORATION**

UNLESS SPECIFICALLY APPROVED BY THE OWNER AND ENGINEER, CLEANUP OF DISTURBED AREAS SHALL BE KEPT CURRENT WITH CONSTRUCTION AND RESTORATION EFFORTS BY THE CONTRACTOR INITIATED NO LONGER THAN SEVEN (7) DAYS AFTER THE TRENCH EXCAVATION WORK HAS STARTED. ALL EXCAVATED MATERIAL NOT REQUIRED FOR BACKFILLING OF THE TRENCH AND ANY LARGE ROCKS, STONES OR DEBRIS SHALL BE REMOVED FROM THE SITE, AND SHALL NOT BE A BURDEN TO THE PROPERTY OWNER(S) AND/OR ADJACENT PROPERTIES. THE CONTRACTOR MAY WINDROW OR TRACK-IN THE EXCAVATED MATERIAL OVER THE TRENCH PRIOR TO FINAL CLEANUP TO ALLOW FOR AND TO ASSIST IN THE INITIAL SETTLEMENT OF THE TRENCH. ALL DISTURBED AREAS MUST BE SEEDED AT LEAST WITH A TEMPORARY SEED MIX IF FOR SOME REASON THE AREA CANNOT BE PERMANENTLY SEEDED WITHIN TWO (2) WEEKS.

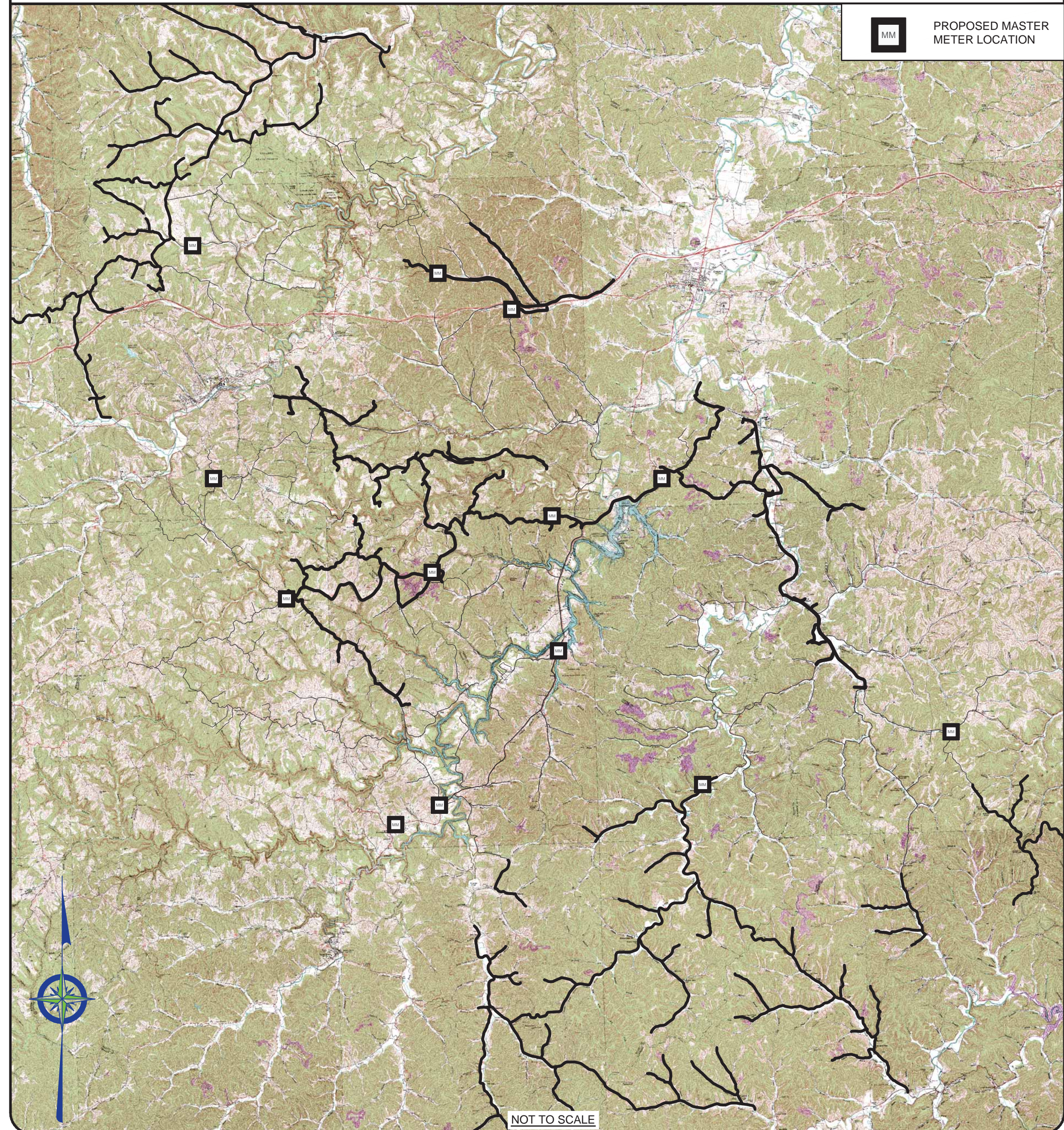
**CONSTRUCTION IN KTC RIGHT-OF-WAY**

- ALL EFFECTED KYTC DITCHLINES SHALL REMAIN FREE OF EXCESS SILT OR EROSION AND CONSTRUCTED TO THE NORMAL TYPICAL SECTION OF THE ROADWAY WITH A MINIMUM DEPTH OF 18 INCHES FROM THE SHOULDER BREAK POINT.
- ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT EROSION OR SILTATION OF THE PUBLIC RIGHT-OF-WAY, ADJOINING PROPERTY AND WATERWAYS.
- ALL VALVES TO BE FLUSH W/ EXISTING GRADE.
- ALL WATER LINE LOCATED WITHIN STATE HIGHWAY R.O.W. SHALL BE CONSTRUCTED OUT AND AROUND THE END OF ALL EXISTING CULVERTS AND HEADWALLS.
- UNDERGROUND UTILITIES INSTALLED INSIDE STATE RIGHT-OF-WAY SHALL BE LOCATED WITHIN 3-5 FEET FROM THE EDGE OF THE RIGHT-OF-WAY UNLESS OTHERWISE SHOWN ON THE PLANS.
- UNDERGROUND UTILITIES SHOWN MORE THAN 5 FEET FROM THE EDGE OF THE RIGHT-OF-WAY SHALL BE INSTALLED WITH A MINIMUM DEPTH OF COVER OF 42 INCHES WITH PRIOR APPROVAL ON A CASE BY CASE BASIS.
- UNDERGROUND UTILITIES CROSSING ANY ENTRANCE OR CROSSROAD PAVED WITH CONCRETE OR ASPHALT SURFACE INSIDE STATE RIGHT-OF-WAY SHALL BE INSTALLED BY BORING UNLESS WRITTEN PERMISSION TO OPEN CUT IS OBTAINED FROM THE PROPERTY OWNER AND APPROVED BY THE KYTC DISTRICT PERMITS ENGINEER.
- UNDERGROUND UTILITIES SHALL NOT BE INSTALLED IN EMBANKMENT FILLS OR BETWEEN EDGE OF PAVEMENT AND DITCHLINE UNLESS SPECIFICALLY NOTED ON PERMITTED PLANS.
- FIRE HYDRANTS OR UTILITY SERVICE BOXES SHALL BE LOCATED WITHIN 2 FEET FROM THE EDGE OF RIGHT-OF-WAY LINE, OR OFF RIGHT-OF-WAY.

**INDEX OF DRAWINGS**

SHT NO.	DESCRIPTION:
--	COVER
01	PROJECT MAP, EXISTING UTILITIES, LEGEND, AND DRAWING INDEX
02	METER REPLACEMENT ZONES
03 - 07	MASTER METERS
08	MASTER METER DETAIL
09 - 10	STANDARD DETAILS

**SHEET LOCATION MAP**



**LEGEND**

- NEW WATER MAIN
- EXISTING WATER MAIN
- EXISTING SANITARY SEWER
- EXISTING GAS MAIN
- EXISTING FORCE MAIN
- NEW STEEL CASING
- EXISTING CULVERT
- NEW FLUSHING HYDRANT
- EXISTING FLUSHING HYDRANT
- EXISTING WATER METER
- EXISTING GATE VALVE & BOX
- NEW GATE VALVE & BOX
- EXISTING MANHOLE

**UTILITIES**

**BUD - Before You Dig**  
**1-800-752-6007**  
**or DIAL 811**

**NOTE:**  
 IN ACCORDANCE WITH KENTUCKY STATE LAW, ANY ACTIVITY THAT RESULTS IN MOVEMENT, PLACEMENT, BORING, PROBING OR DIGGING IN OR ON THE GROUND SHALL CONTACT THE ONE CALL CENTER FOR UNDERGROUND UTILITY LOCATIONS.

**WATER DISTRICT**

**RATTLESNAKE RIDGE WATER DISTRICT**  
**PHONE: 606-474-7570**

NO.	DATE	REVISIONS	BY

PHASE 12 WATER SYSTEM IMPROVEMENTS CONTRACT 1  
 PROJECT MAP, EXISTING UTILITIES, LEGEND, AND DRAWING INDEX



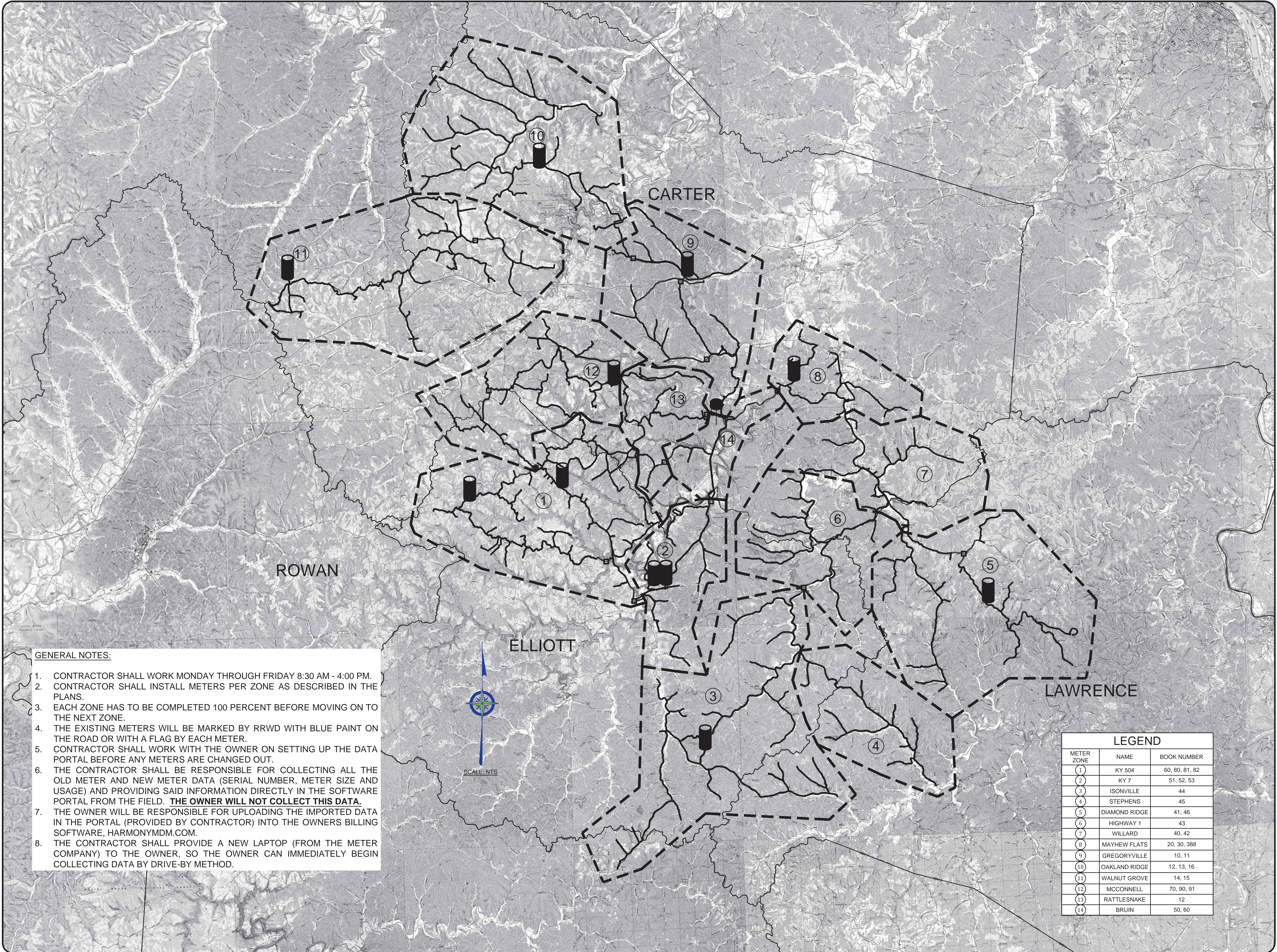
PROJECT #:	20002
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	MRC





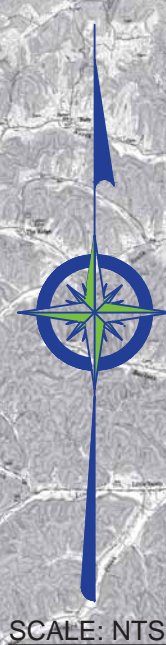
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER. THIS DRAWING HAS BEEN PREPARED AT THE SCALE INDICATED. REPRODUCTION OF THIS DRAWING MAY INTRODUCE INACCURACIES OF THE LISTED SCALE. THE GRAPHIC SCALE BAR SHALL BE USED TO DETERMINE THE ACTUAL SCALE.

B:\PROJECTS\Batesville Ridge WID\200202 - Phase 12 Water System Improvements\Drawings\2020 System Map - Meter Replacement Locations.dwg



**GENERAL NOTES:**

1. CONTRACTOR SHALL WORK MONDAY THROUGH FRIDAY 8:30 AM - 4:00 PM.
2. CONTRACTOR SHALL INSTALL METERS PER ZONE AS DESCRIBED IN THE PLANS.
3. EACH ZONE HAS TO BE COMPLETED 100 PERCENT BEFORE MOVING ON TO THE NEXT ZONE.
4. THE EXISTING METERS WILL BE MARKED BY RRWD WITH BLUE PAINT ON THE ROAD OR WITH A FLAG BY EACH METER.
5. CONTRACTOR SHALL WORK WITH THE OWNER ON SETTING UP THE DATA PORTAL BEFORE ANY METERS ARE CHANGED OUT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTING ALL THE OLD METER AND NEW METER DATA (SERIAL NUMBER, METER SIZE AND USAGE) AND PROVIDING SAID INFORMATION DIRECTLY IN THE SOFTWARE PORTAL FROM THE FIELD. **THE OWNER WILL NOT COLLECT THIS DATA.**
7. THE OWNER WILL BE RESPONSIBLE FOR UPLOADING THE IMPORTED DATA IN THE PORTAL (PROVIDED BY CONTRACTOR) INTO THE OWNERS BILLING SOFTWARE, HARMONYMDM.COM.
8. THE CONTRACTOR SHALL PROVIDE A NEW LAPTOP (FROM THE METER COMPANY) TO THE OWNER, SO THE OWNER CAN IMMEDIATELY BEGIN COLLECTING DATA BY DRIVE-BY METHOD.



LEGEND		
METER ZONE	NAME	BOOK NUMBER
1	KY 504	60, 80, 81, 82
2	KY 7	51, 52, 53
3	ISONVILLE	44
4	STEPHENS	45
5	DIAMOND RIDGE	41, 46
6	HIGHWAY 1	43
7	WILLARD	40, 42
8	MAYHEW FLATS	20, 30, 388
9	GREGORYVILLE	10, 11
10	OAKLAND RIDGE	12, 13, 16
11	WALNUT GROVE	14, 15
12	MCCONNELL	70, 90, 91
13	RATTLESNAKE	12
14	BRUIN	50, 60

NO.	DATE	REVISIONS	BY

**PHASE 12 WATER SYSTEM IMPROVEMENTS CONTRACT 1**  
**METER REPLACEMENT ZONES**

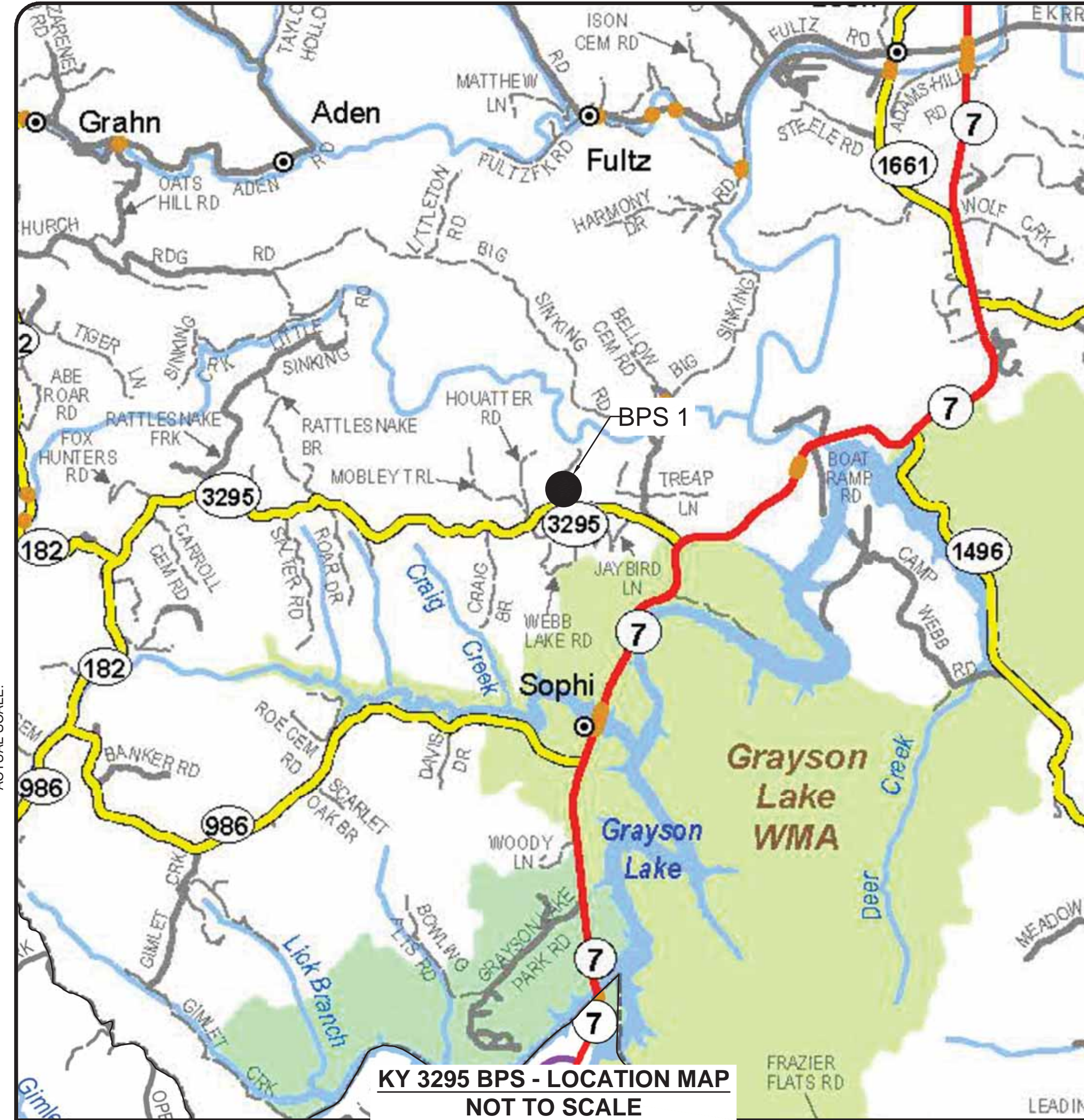


PROJECT #: 20002  
 DATE: AUGUST 2022  
 PROJECT MGR: LRS  
 DRAWN BY: WCM  
 CHECKED BY: MRC

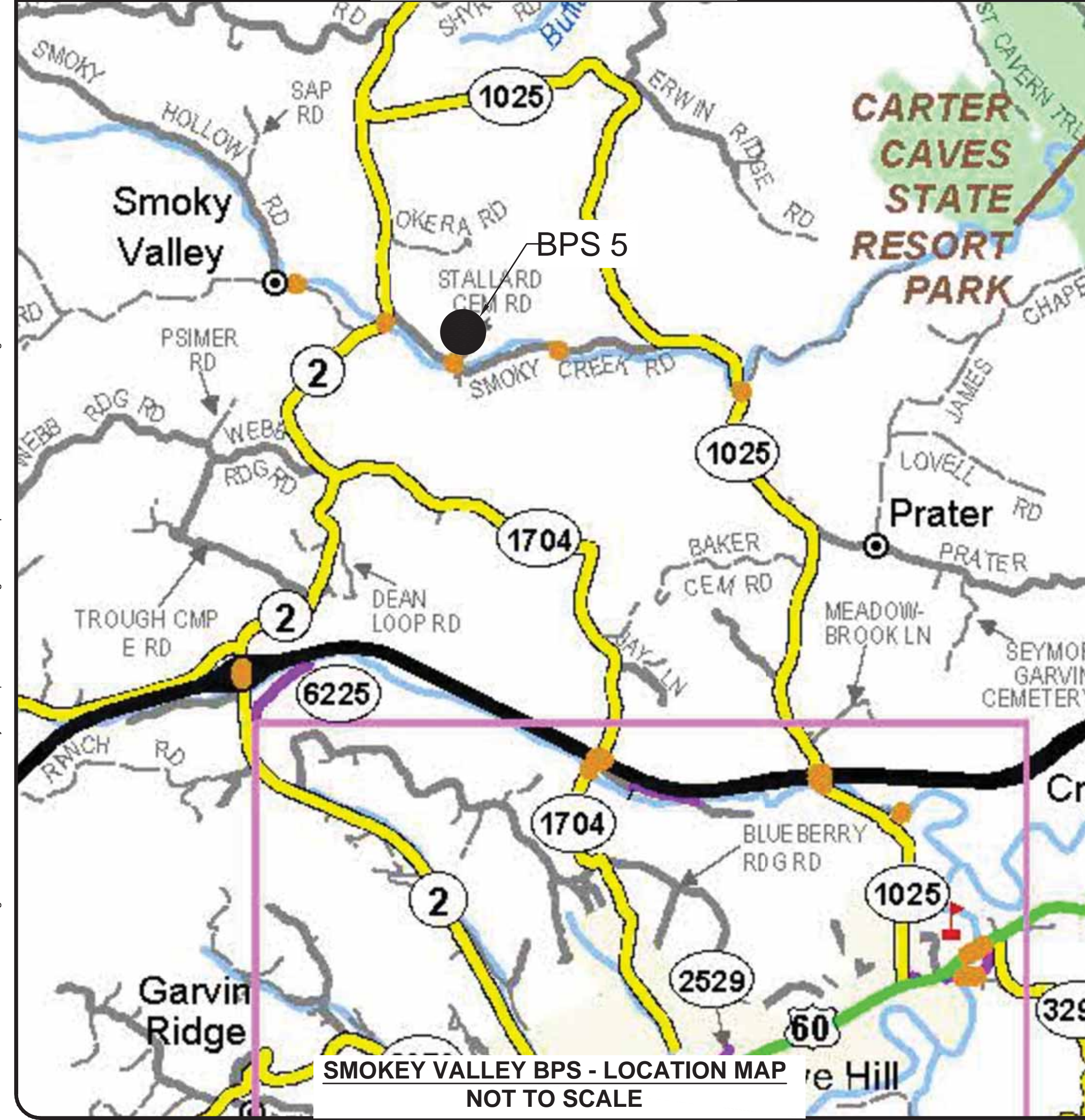
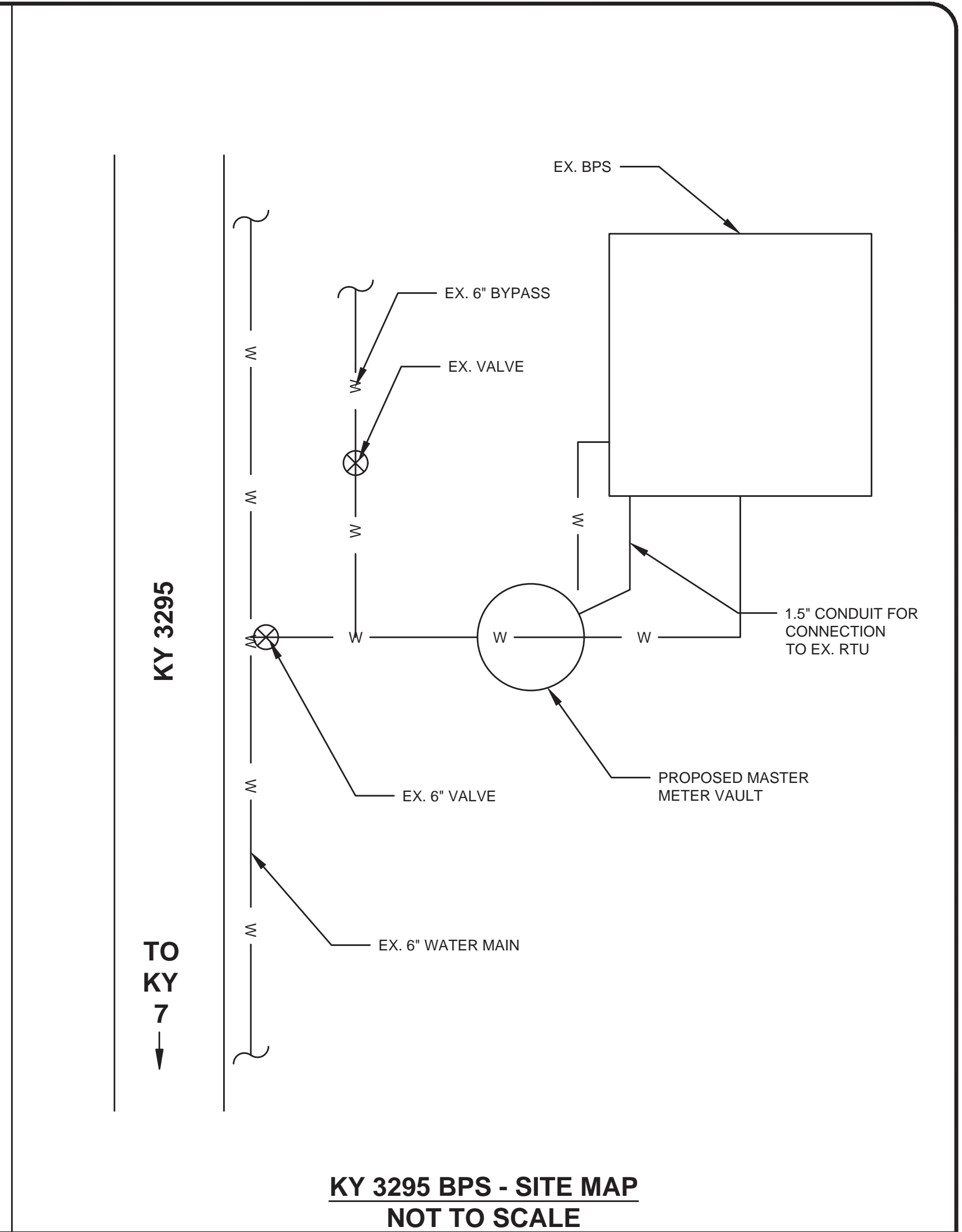




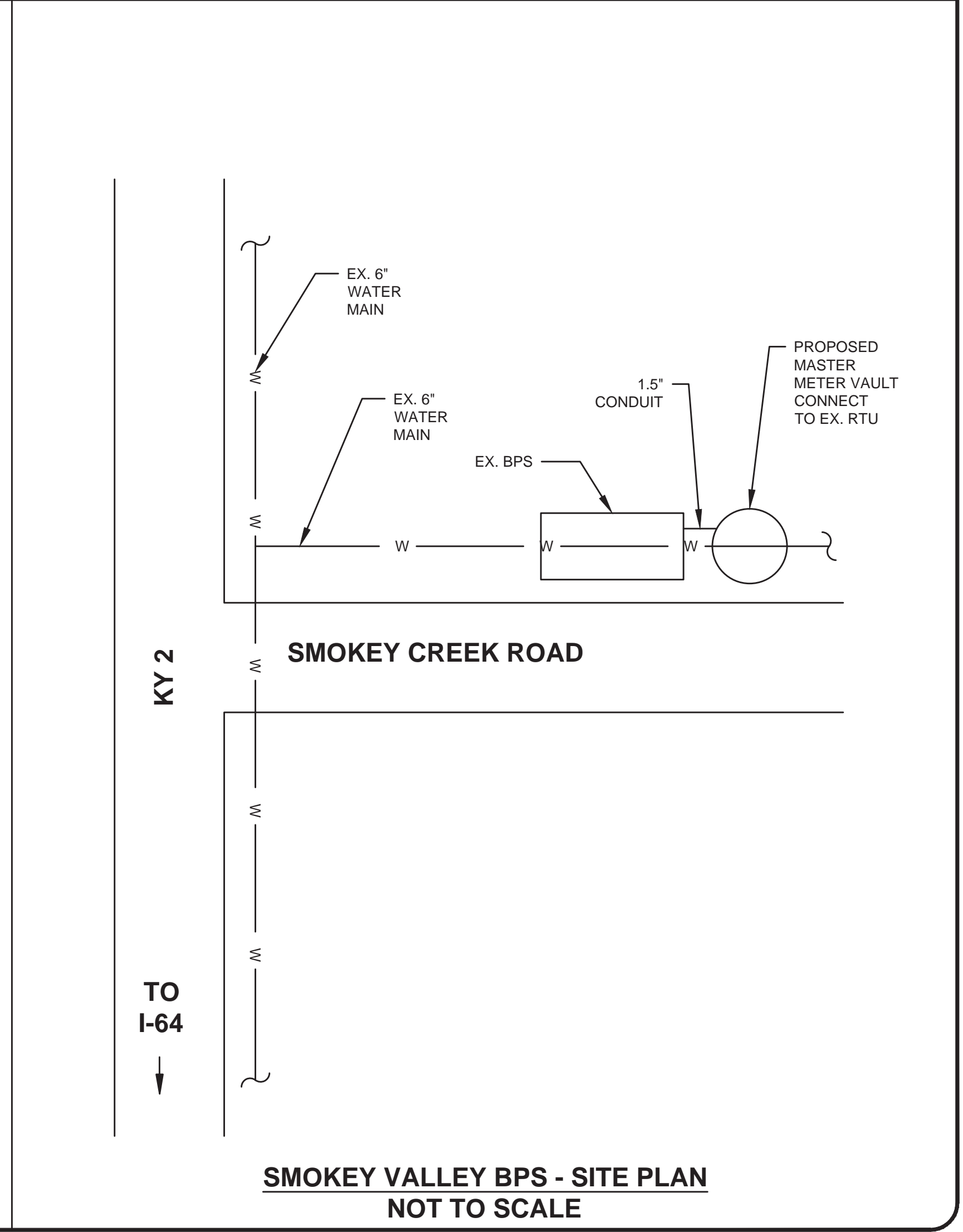
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.



**KY 3295 BPS NO. 1**



**KY 3295 BPS NO. 5**

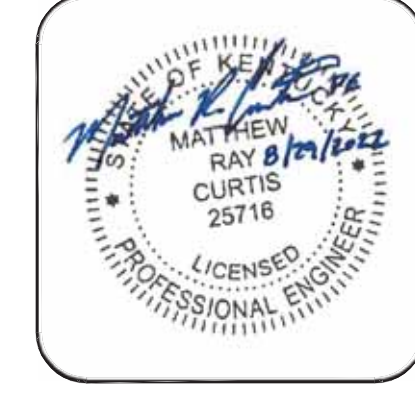


NO.	DATE	BY	REVISIONS

**PHASE 12 WATER SYSTEM IMPROVEMENTS CONTRACT 1**  
KY 3295 & MADDOX TRAIL MASTER METERS

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

PROJECT #: 20002  
DATE: AUGUST 2022  
PROJECT MGR: LRS  
DRAWN BY: WCM  
CHECKED BY: MRC





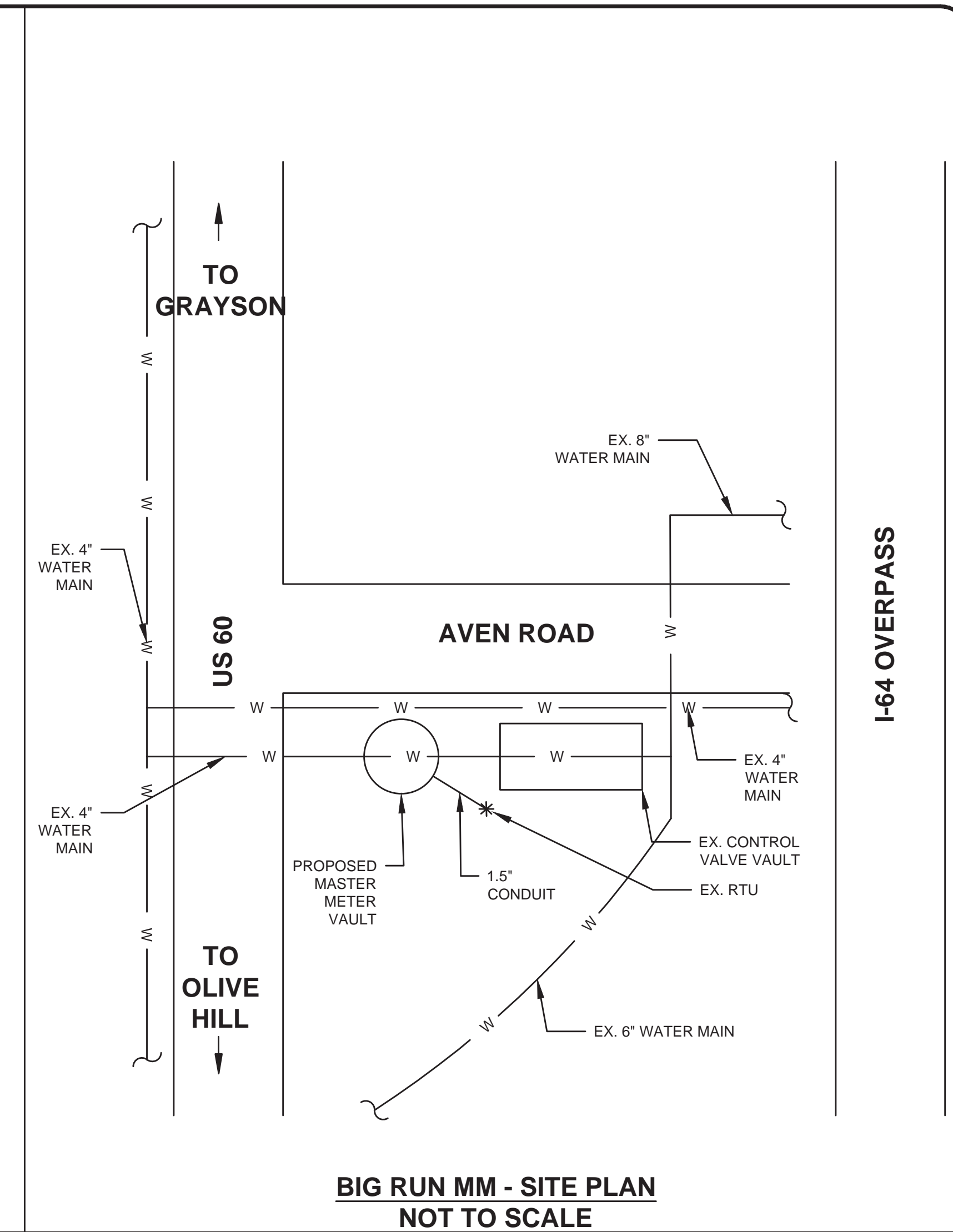
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER. BE 82922  
 B:\PROJECTS\Batterdale Ridge\WD\2002 - Phase 12 Water System Improvements\Drawings\2002-Proposed Master Meter Locations.dwg



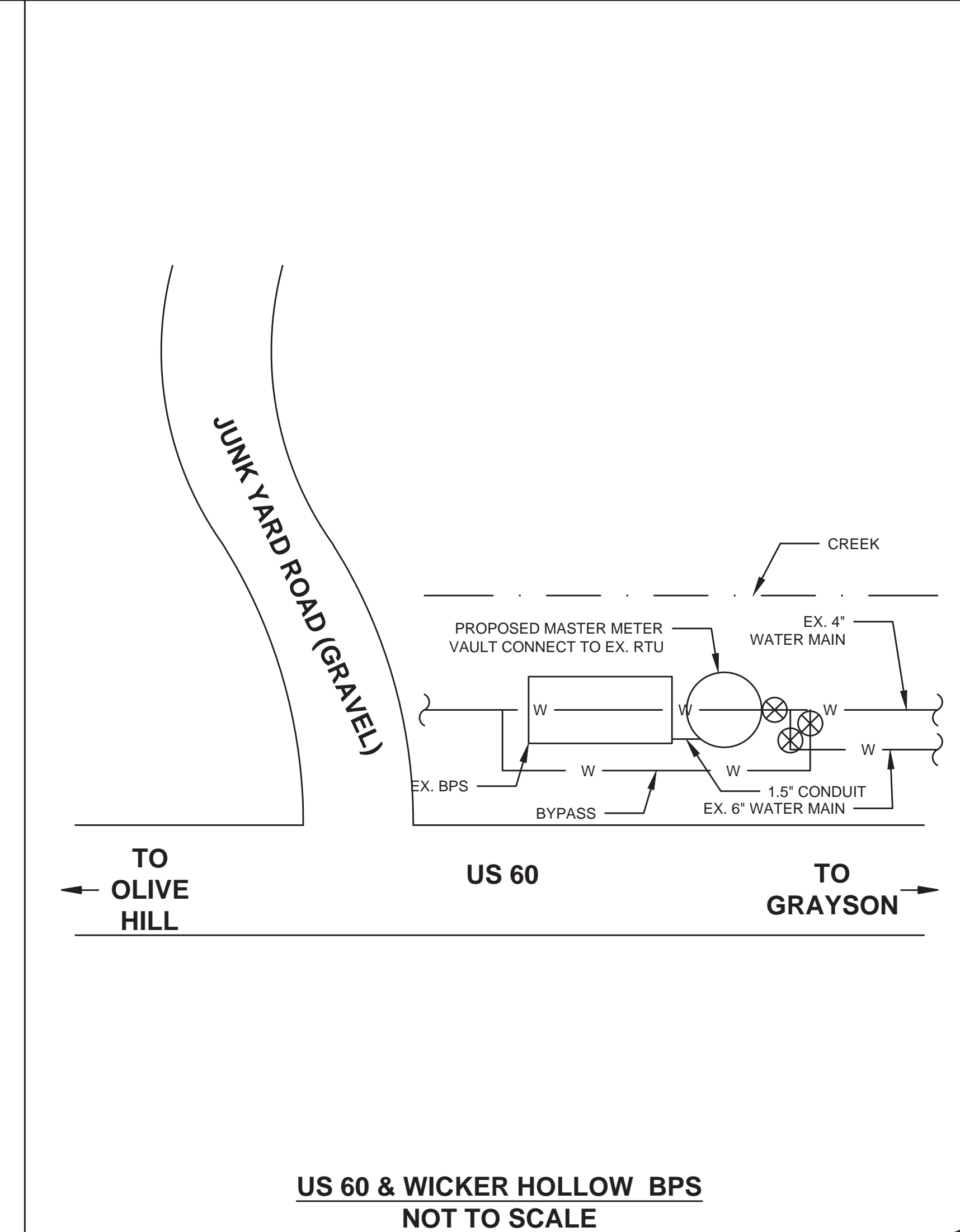
BIG RUN MASTER METER NO. 3



US 60 & WICKER HOLLOW ROAD BPS NO. 4



BIG RUN MM - SITE PLAN NOT TO SCALE



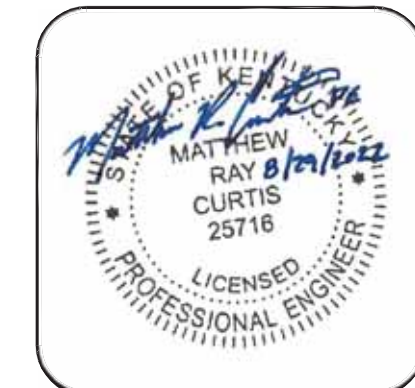
US 60 & WICKER HOLLOW BPS NOT TO SCALE

NO.	DATE	BY	REVISIONS

PHASE 12 WATER SYSTEM IMPROVEMENTS CONTRACT 1  
 US 60 & BIG RUN MASTER METERS

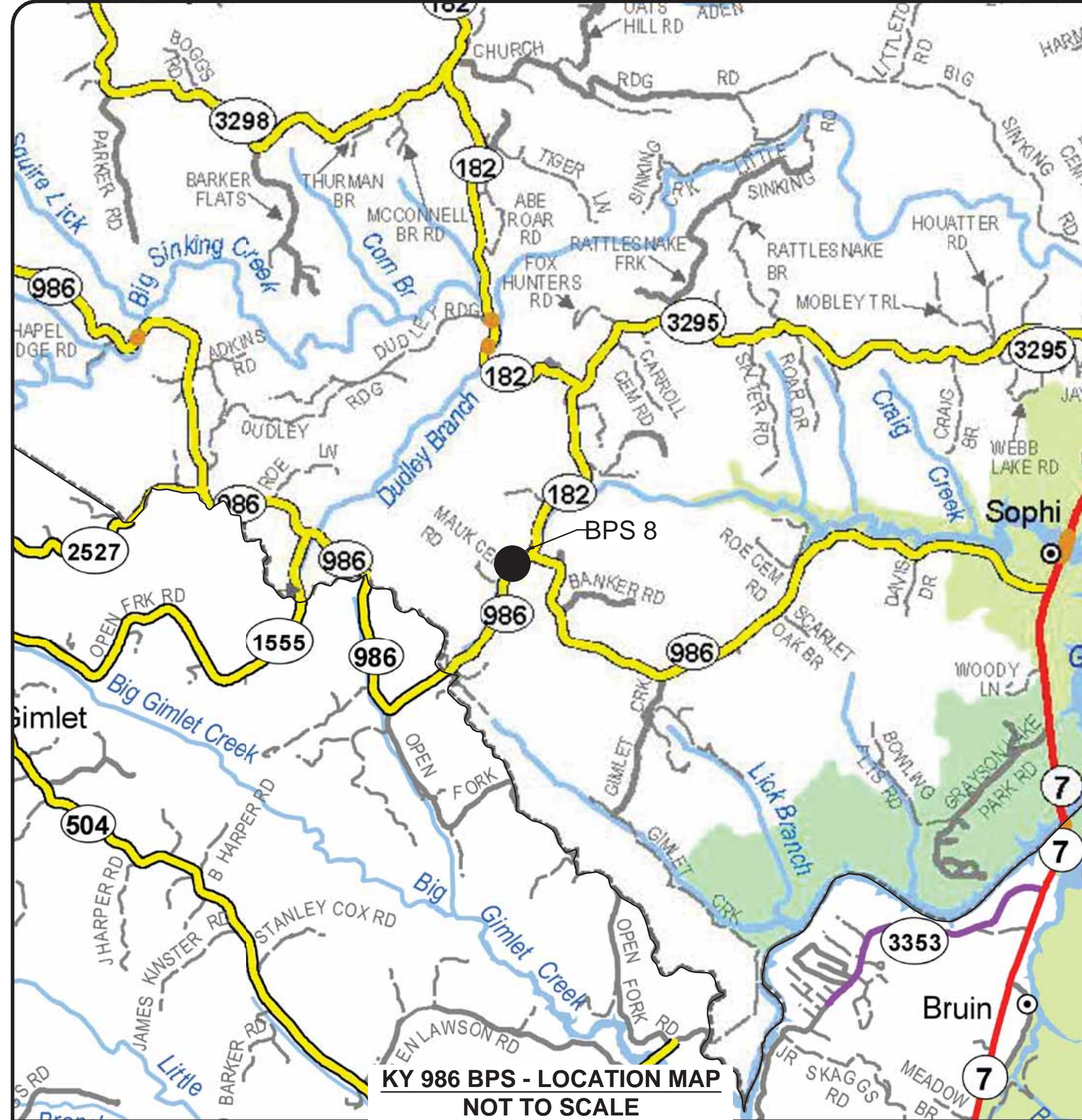
**BLUEGRASS ENGINEERING PLLC**  
  
 222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #: 20002  
 DATE: AUGUST 2022  
 PROJECT MGR: LRS  
 DRAWN BY: WCM  
 CHECKED BY: MRC

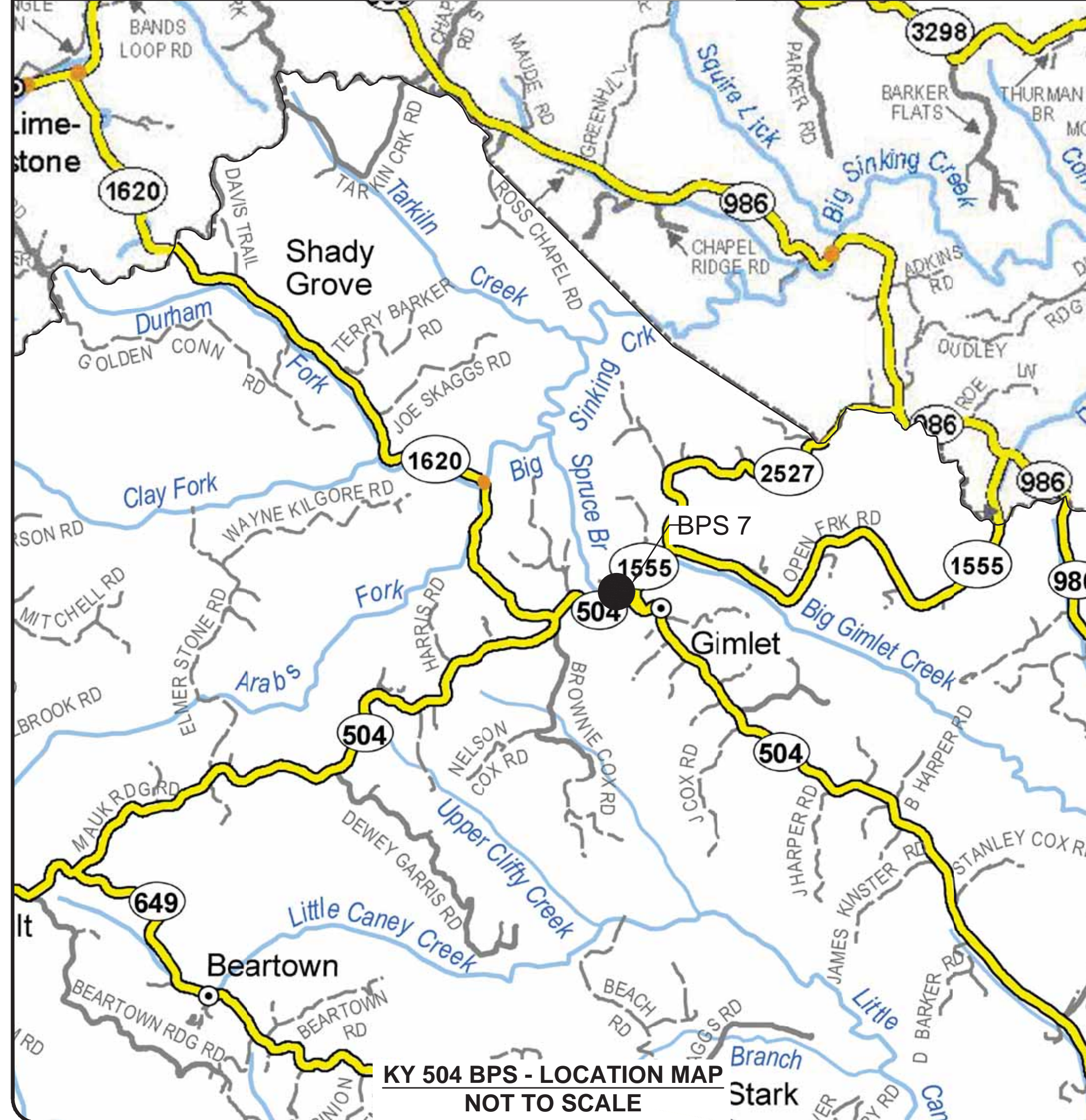




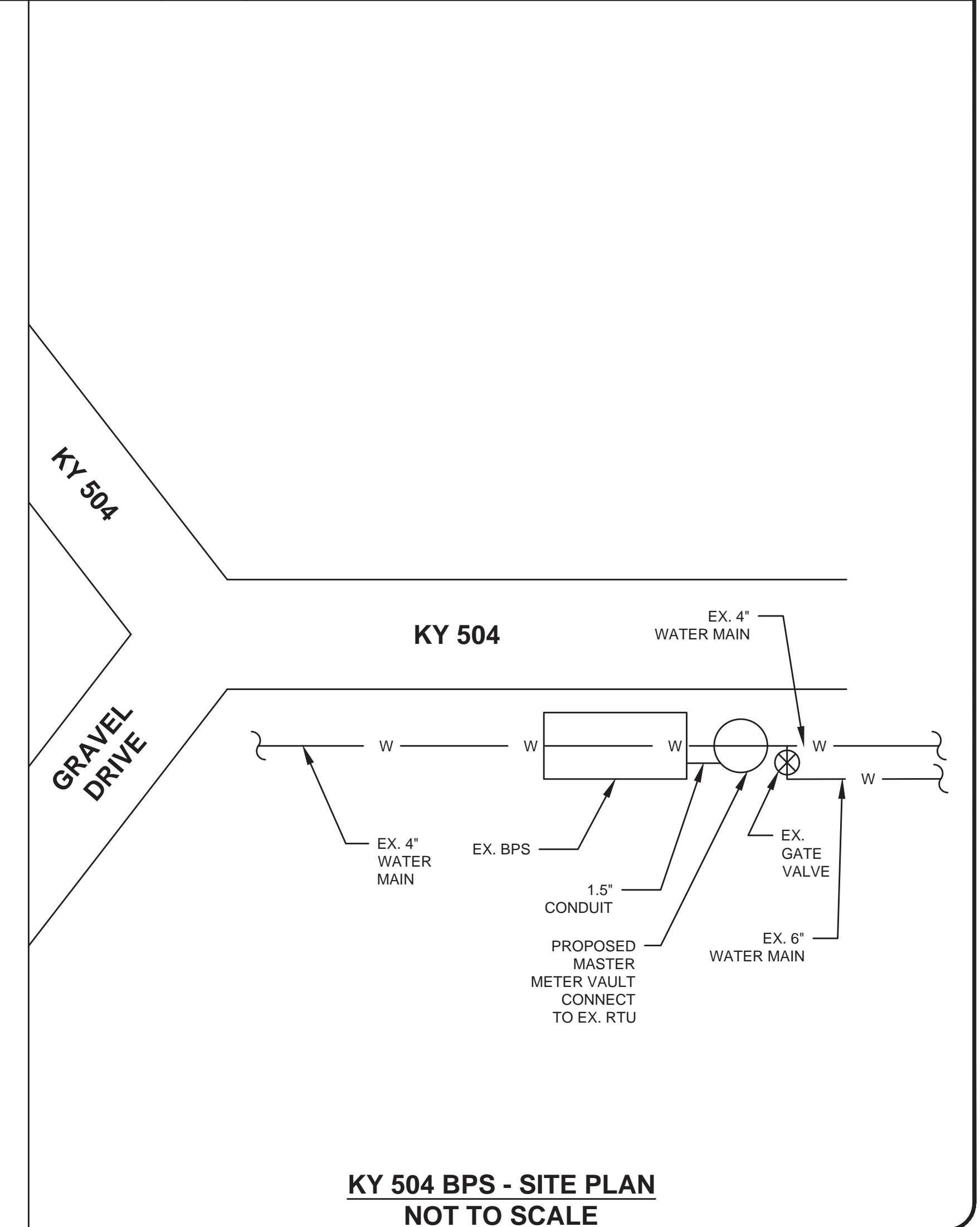
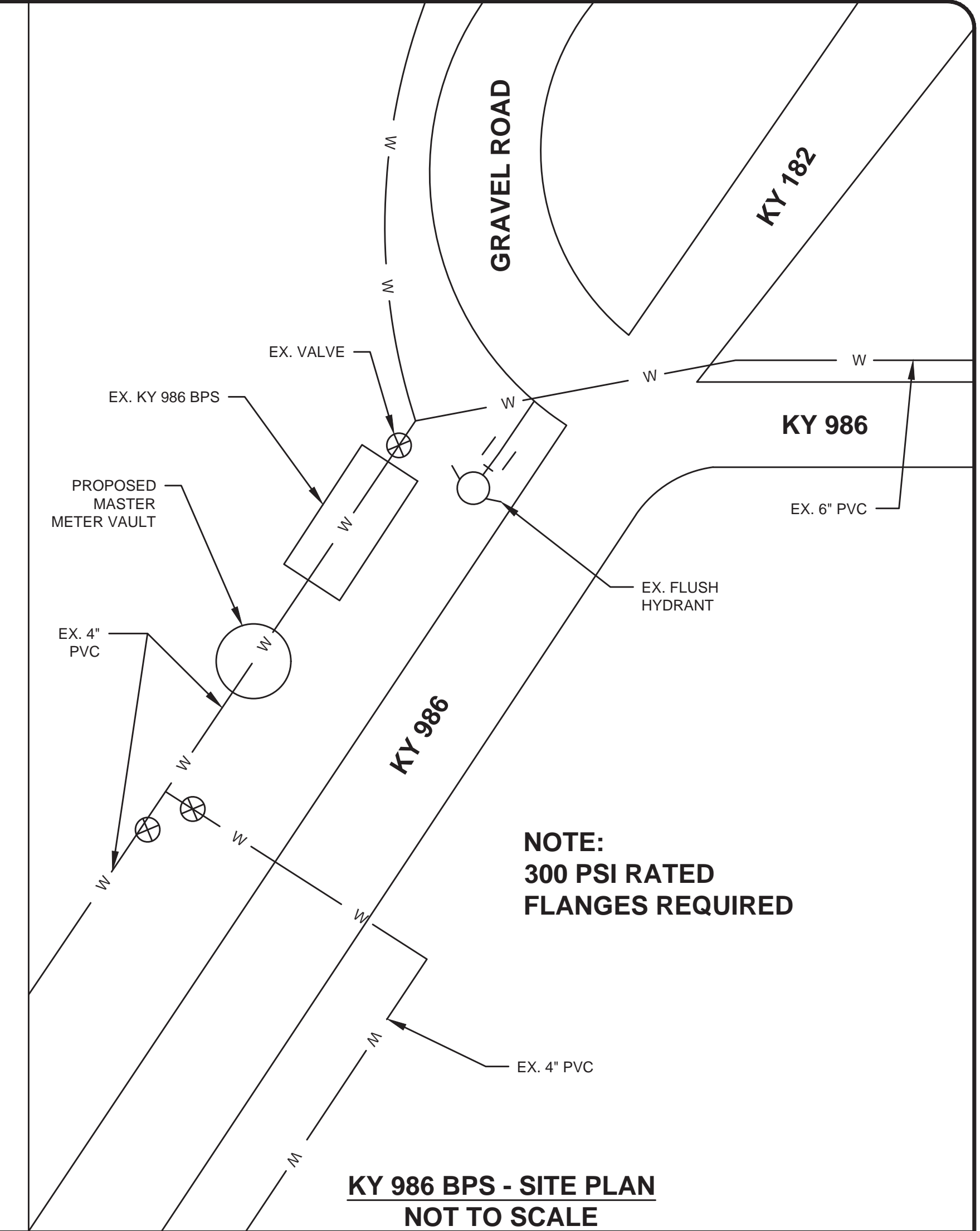
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER. BE 82922 B:\PROJECTS\Battersea\Battersea Ridge WD\20002 - Phase 12 Water System Improvements\Drawings\2002-Proposed Master Meter Locations.dwg



**KY 986 BPS NO. 8**



**KY 504 BPS NO. 7**



NO.	DATE	BY	REVISIONS

PHASE 12 WATER SYSTEM  
 IMPROVEMENTS  
 CONTRACT 1  
 SMOKEY VALLEY & SHERMAN  
 WAGNER MASTER METERS

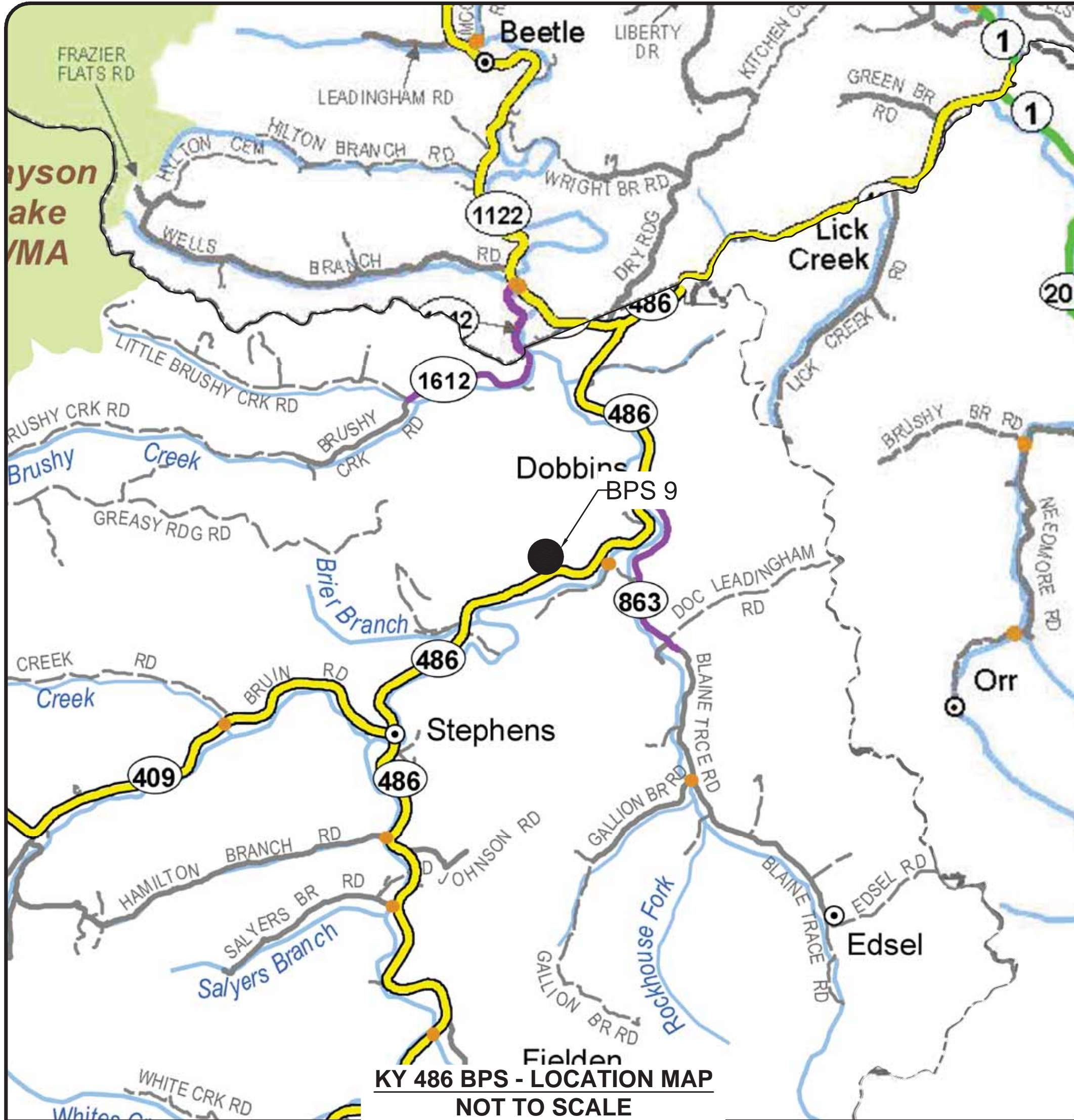


PROJECT #: 20002  
 DATE: AUGUST 2022  
 PROJECT MGR: LRS  
 DRAWN BY: WCM  
 CHECKED BY: MRC

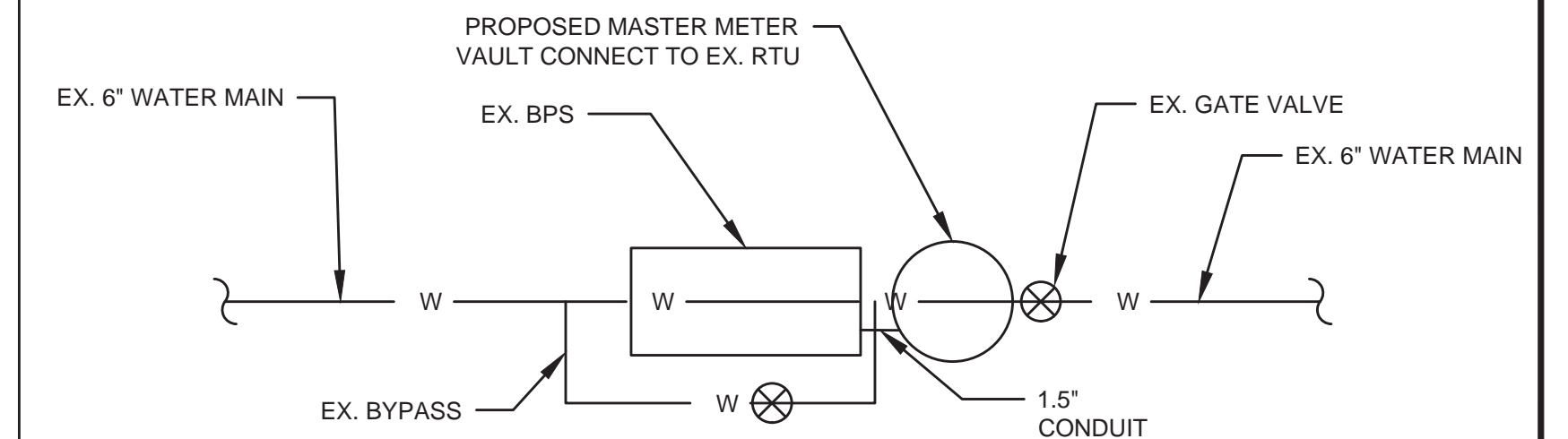




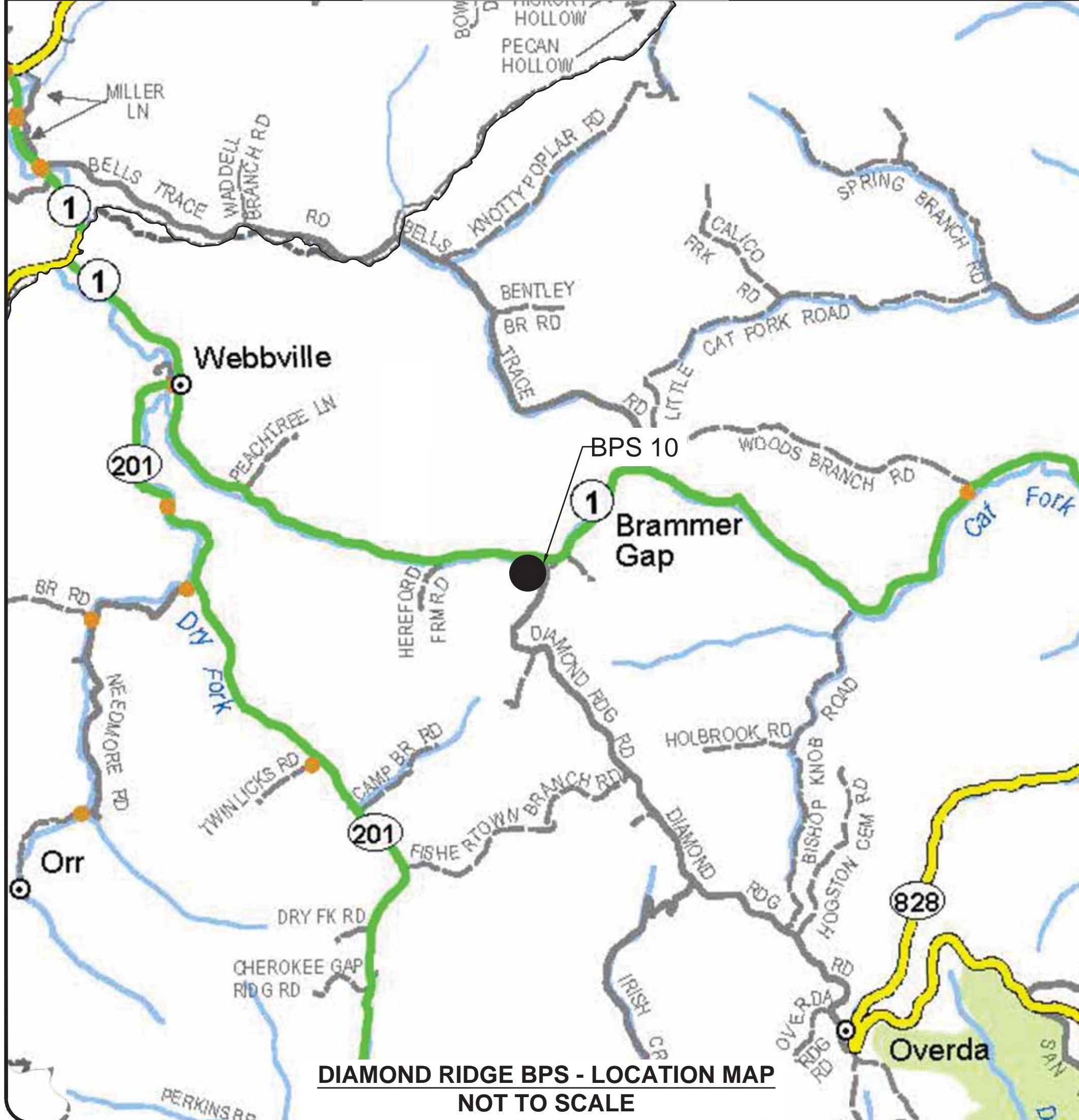
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.  
 BE 8/29/22  
 B:\PROJECTS\Phase 12 Water System Improvements\Drawings\2002-Proposed Master Meter Locations.dwg  
 B:\PROJECTS\Phase 12 Water System Improvements\Drawings\2002-Proposed Master Meter Locations.dwg



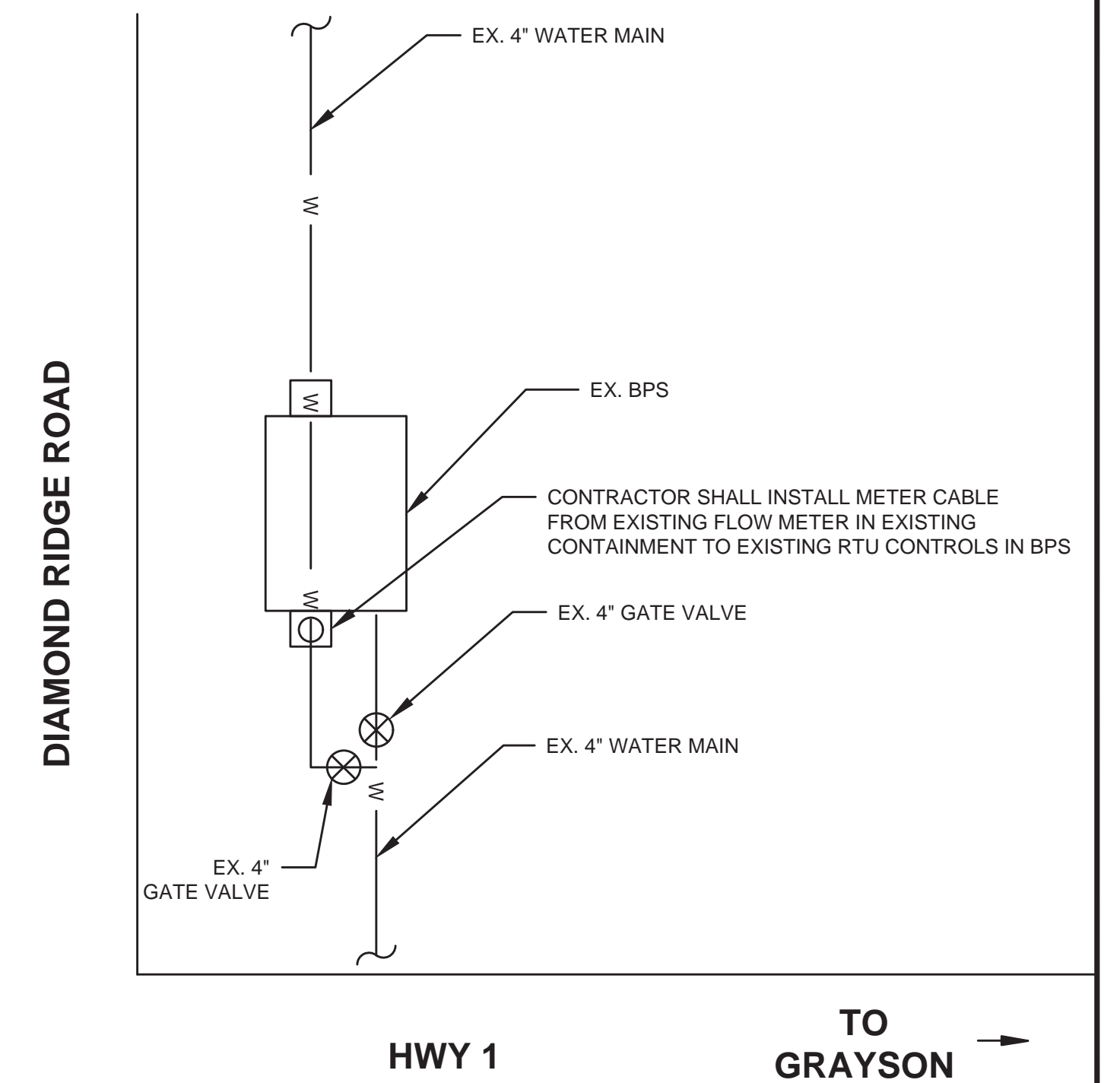
**KY 486 BPS NO. 9**



**KY 486 BPS - SITE PLAN**  
NOT TO SCALE



**DIAMOND RIDGE BPS NO. 10**



**DIAMOND RIDGE BPS - SITE PLAN**  
NOT TO SCALE

NO.	DATE	BY	REVISIONS

PHASE 12 WATER SYSTEM  
 IMPROVEMENTS  
 CONTRACT 1  
 KY 486 & DIAMOND RIDGE  
 MASTER METERS

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

PROJECT #: 20002  
 DATE: AUGUST 2022  
 PROJECT MGR: LRS  
 DRAWN BY: WCM  
 CHECKED BY: MRC

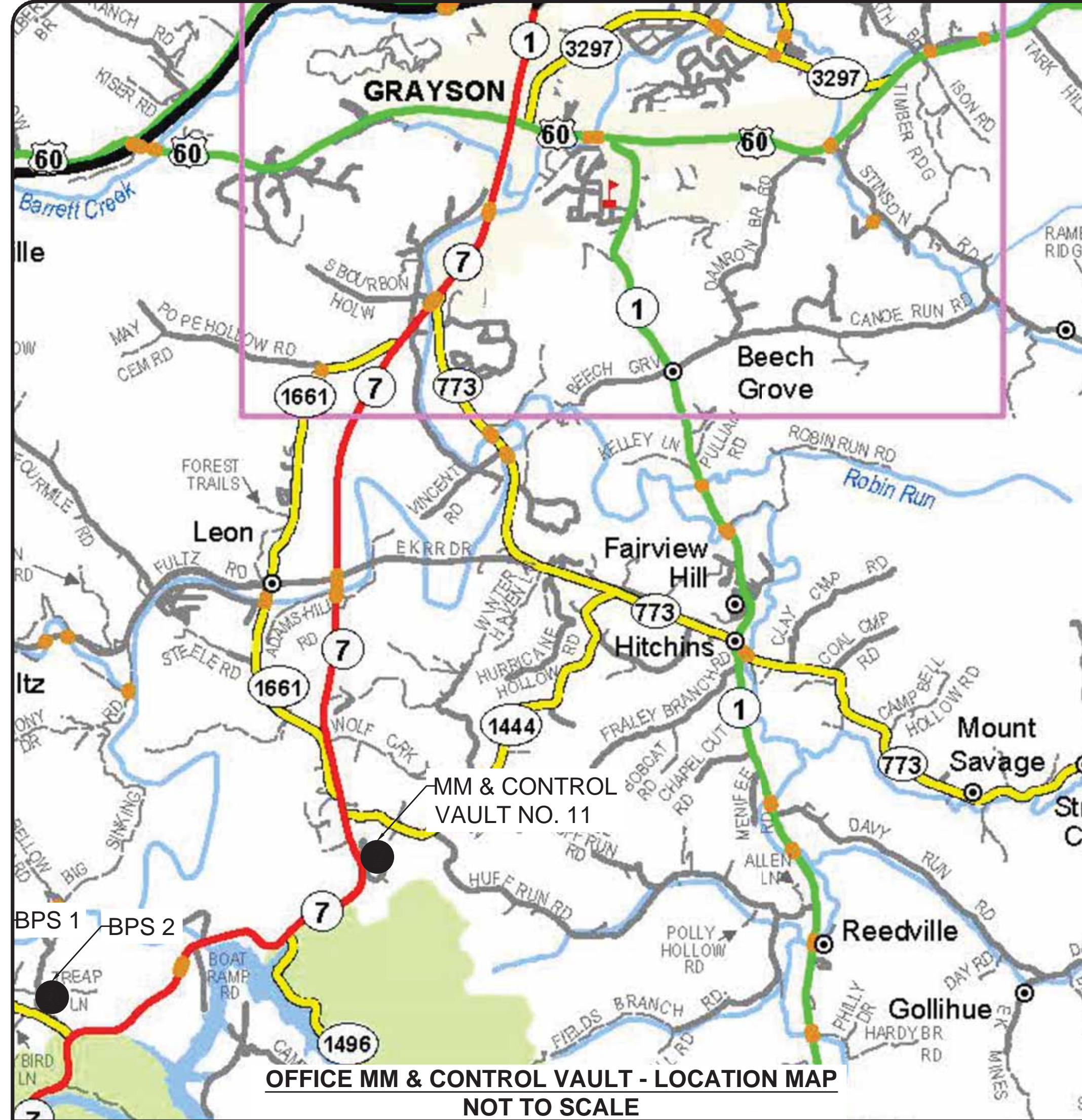




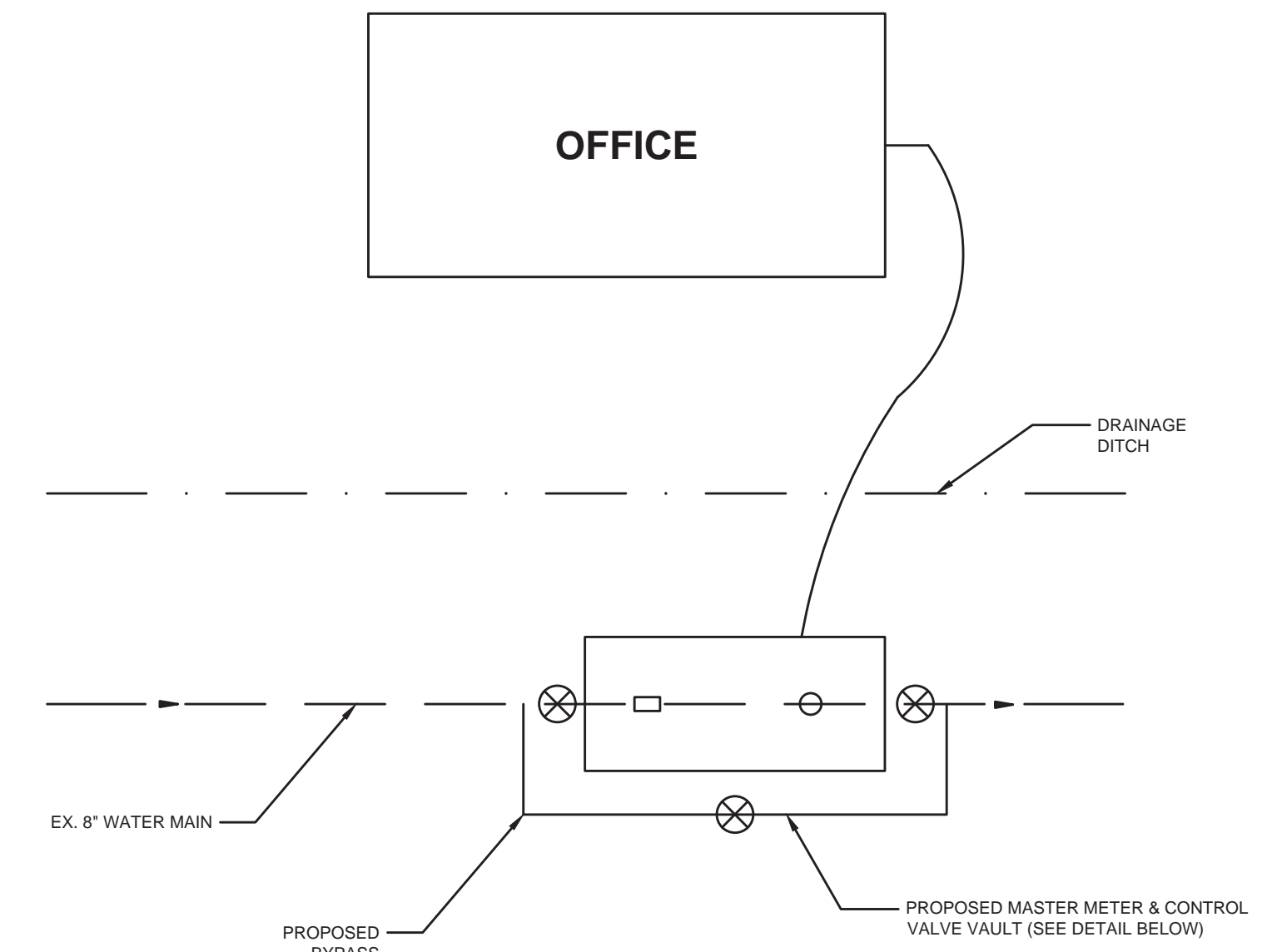
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.

BE 8/29/22

B:\PROJECTS\Batesville Ridge\WD\20002 - Phase 12 Water System Improvements\Drawings\20002-Proposed Master Meter Locations.dwg



**OFFICE MM & CONTROL VAULT NO. 11**

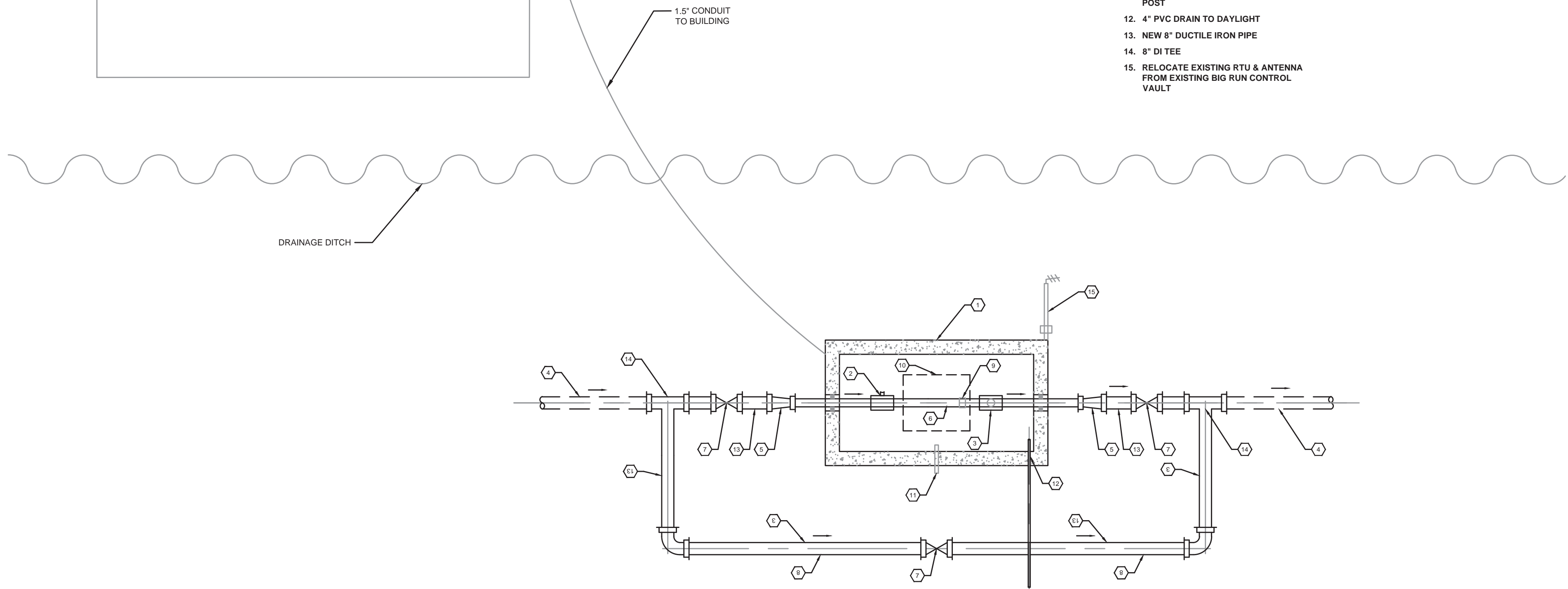


**OFFICE MM & CONTROL VAULT**  
NOT TO SCALE



**REFERENCE NOTES:**

1. 5' W X 6' L X 6' D PRE-FABRICATED CONCRETE VAULT
2. 6" FLOW METER
3. 6" 700 SERIES BERHAD CONTROL VALVE
4. EXISTING 8" PVC WATER MAIN
5. 8" X 6" REDUCER
6. 6" DUCTILE IRON PIPE
7. 8" GATE VALVE
8. 8" BY-PASS
9. 6" FLG. DISMANTLING JOINT
10. 3' X 3' ALUMINUM HATCH
11. ALUMINUM LADDER W/ TELESCOPING POST
12. 4" PVC DRAIN TO DAYLIGHT
13. NEW 8" DUCTILE IRON PIPE
14. 8" DI TEE
15. RELOCATE EXISTING RTU & ANTENNA FROM EXISTING BIG RUN CONTROL VAULT



**OFFICE MASTER METER & CONTROL VALVE VAULT**  
NOT TO SCALE

NO.	DATE	BY	REVISIONS

**PHASE 12 WATER SYSTEM IMPROVEMENTS CONTRACT 1**  
**OFFICE MASTER METER & CONTROL VALVE VAULT**



PROJECT #:	20002
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	MRC

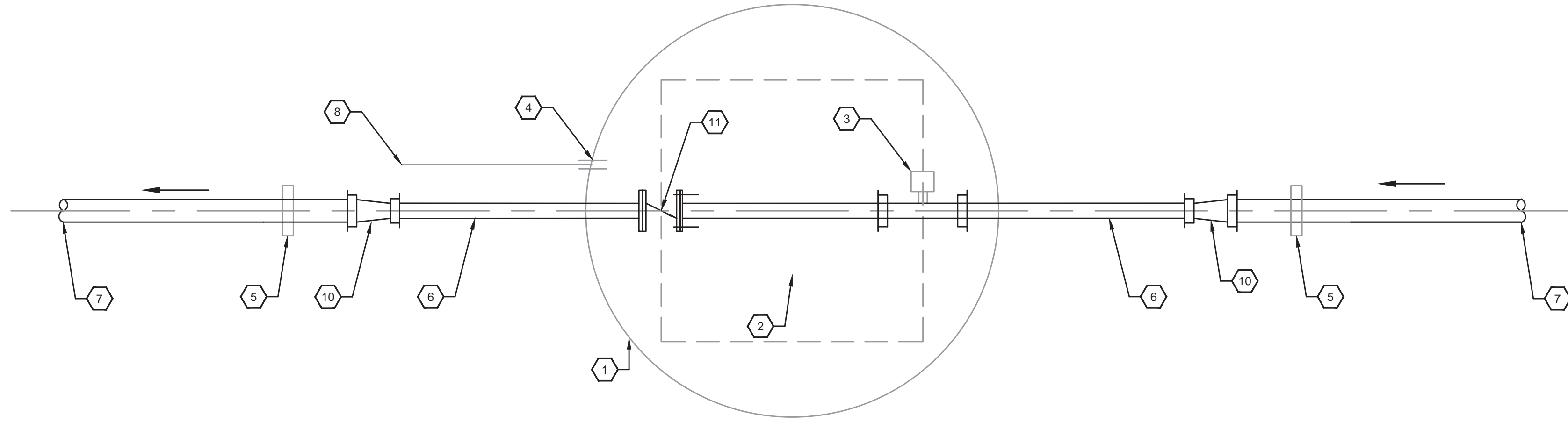




THIS DRAWING HAS BEEN PREPARED AT THE SCALE INDICATED. REPRODUCTION OF THIS DRAWING MAY INTRODUCE INACCURACIES OF THE LISTED SCALE. THE GRAPHIC SCALE BAR SHALL BE USED TO DETERMINE THE ACTUAL SCALE.

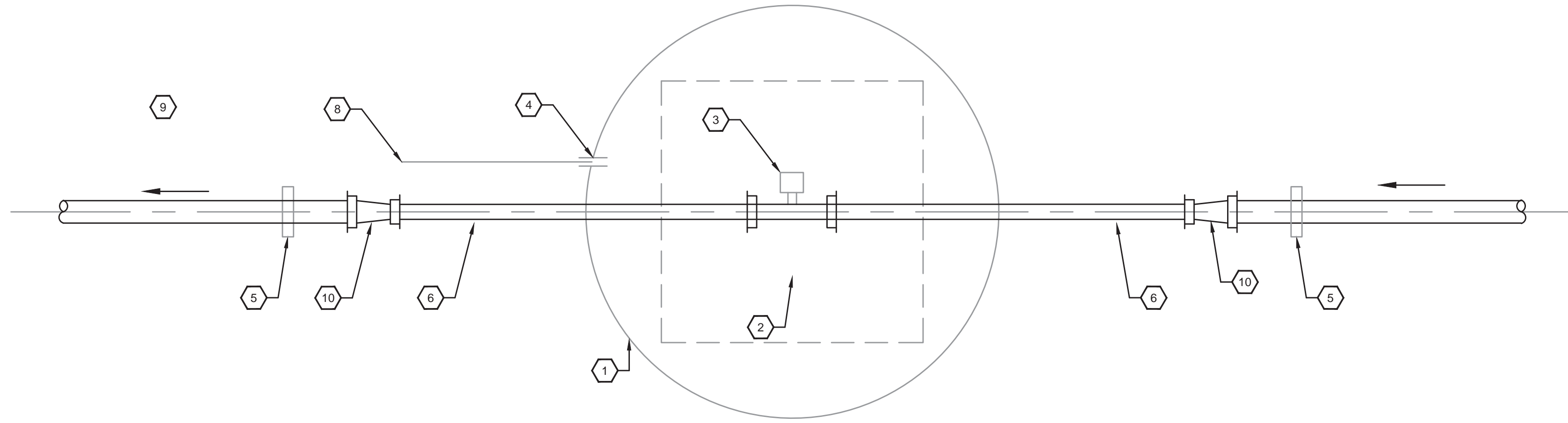
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.

B:\PROJECTS\Batterdale Ridge WD\20002 - Phase 12 Water System Improvements\Drawings\MASTER.METER (4).dwg BE 8/29/22



**MASTER METER W/  
CHECK VALVE**

NOT TO SCALE



**MASTER METER W/O  
CHECK VALVE**

NOT TO SCALE

**SIZE & DIMENSION SCHEDULE**

MASTER METER LOCATION	PIPE SIZE A	PIPE SIZE B	INSTALL CHECK VALVE	PROVIDE SPOOL PIECE
KY 3295 BPS	6"	4"	NO	NO
BIG RUN	6"	4"	YES	YES
US 60 BPS	6"	4"	NO	NO
SMOKEY VALLEY BPS	6"	4"	NO	YES
KY 504 BPS	4"	3"	NO	YES
KY 986 BPS	6"	4"	NO	YES
KY 486 BPS	6"	4"	NO	NO
DIAMOND RIDGE	4"	3"	NO	NO
OFFICE	6"	4"	CONTROL VALVE	YES

**REFERENCE NOTES:**

- 5' DIAMETER PRE-FABRICATED CONCRETE VAULT
- 36" X 36" BILCO HATCH
- NEW "B" ELECTROMAGNETIC FLOW METER
- 1.5" SLEEVE FOR CONDUIT
- NEW "A" FLG. COUPLING ADAPTER
- NEW "A" DUCTILE IRON PIPE
- EXISTING "A" PVC PIPE
- 1" CONDUIT
- CONNECT TO EXISTING RTU PANEL
- NEW "A" X "B" FLG. REDUCER
- NEW "B" FLG. CHECK VALVE
- BERMAD 700 SERIES CONTROL VALVE (OFFICE ONLY)

**NOTE:**  
MIN 30" STRAIGHT PIPE UPSTREAM  
MIN. 12" STRIAIGHT PIPE DOWNSTREAM

NO.	DATE	BY

PHASE 12 WATER SYSTEM IMPROVEMENTS CONTRACT 1  
MASTER METER VAULT DETAIL

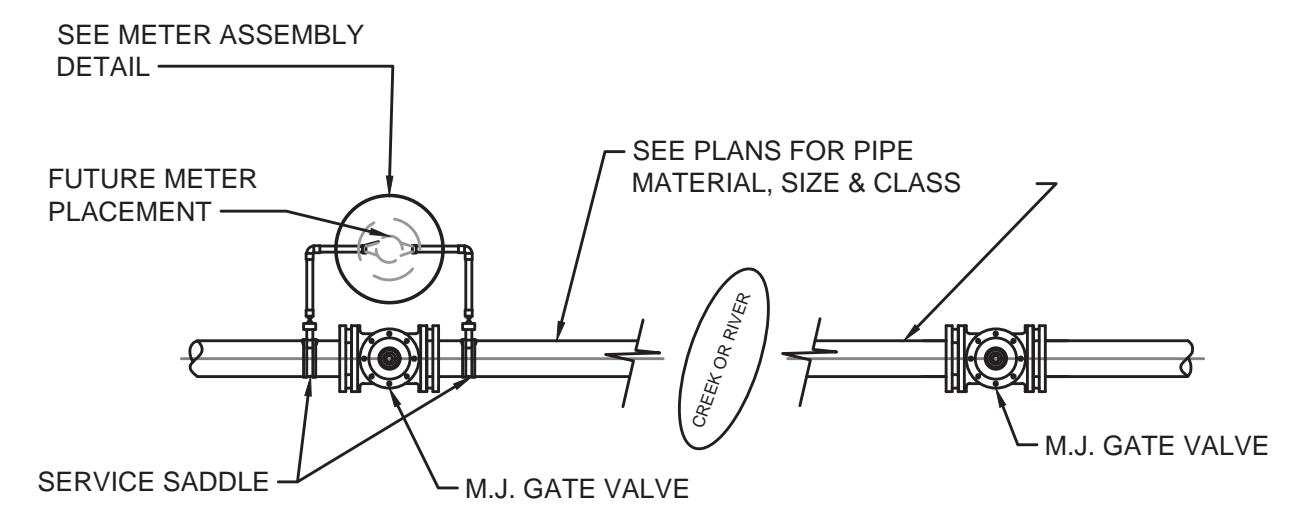
**BLUEGRASS ENGINEERING PLLC**  
222 East Main Street, Ste. 1 • Georgetown, KY 40324

PROJECT #:	20002
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	MRC



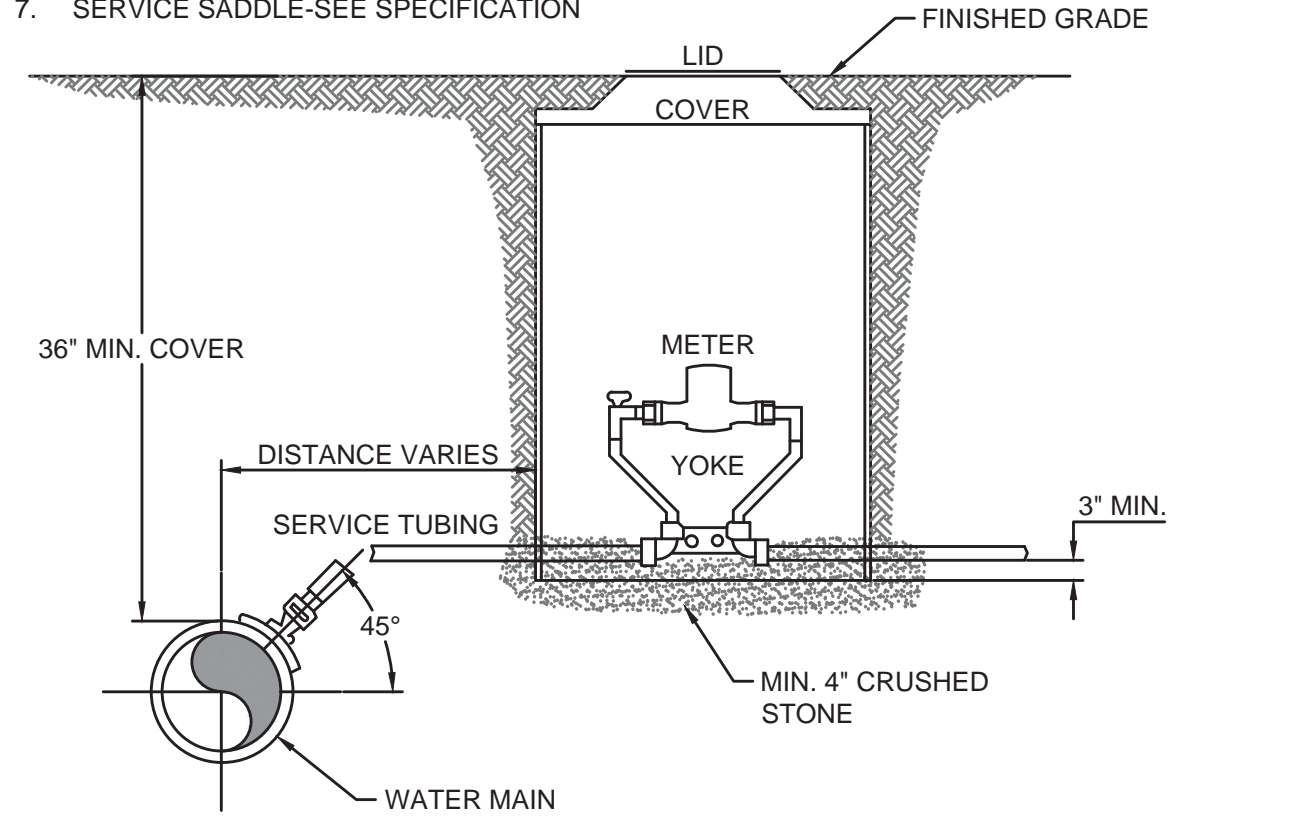


IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER. THIS DRAWING HAS BEEN PREPARED AT THE SCALE INDICATED. REPRODUCTION OF THIS DRAWING MAY INTRODUCE INACCURACIES OF THE LISTED SCALE. THE GRAPHIC SCALE BAR SHALL BE USED TO DETERMINE THE ACTUAL SCALE.

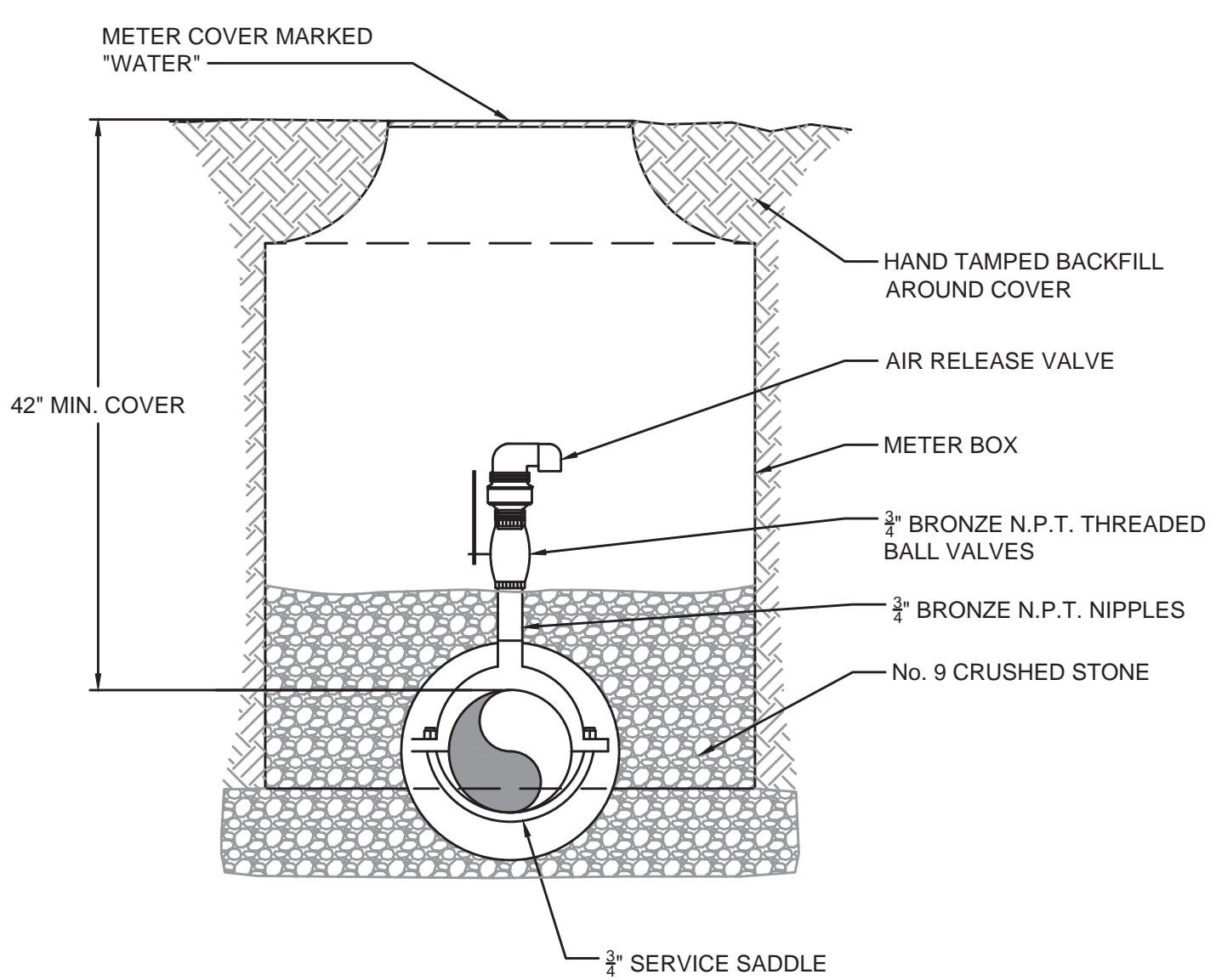


**LEAK DETECTION ASSEMBLY - DETAIL**  
NOT TO SCALE

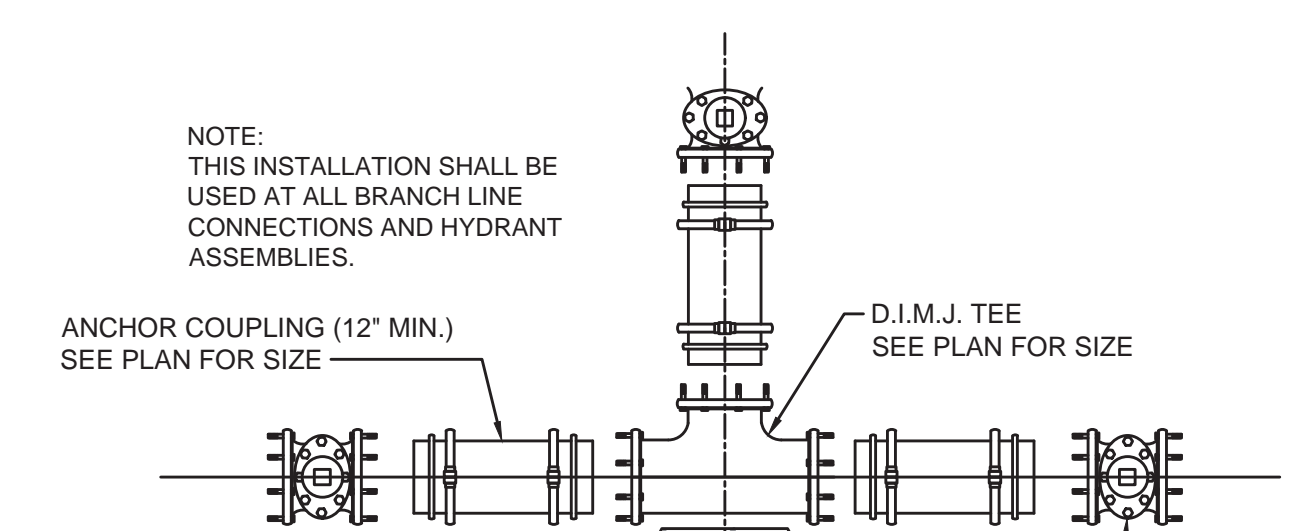
- METER MATERIAL SCHEDULE**
- YOKE-SEE SPECIFICATIONS
  - METER BOX-SEE SPECIFICATIONS
  - COVER-SEE SPECIFICATIONS
  - METER-SEE SPECIFICATIONS
  - INDIVIDUAL PRESSURE REDUCING VALVES REQUIRED ON ALL METERS WHERE PRESSURE EXCEEDS 90 PSI.
  - TRACER WIRE TO BE CONNECTED TO WATER MAIN TRACER WIRE AND RAN ON NEW SERVICE TUBING AND TERMINATING IN THE METER BOX.
  - SERVICE SADDLE-SEE SPECIFICATION



**METER ASSEMBLY - DETAIL**  
NOT TO SCALE

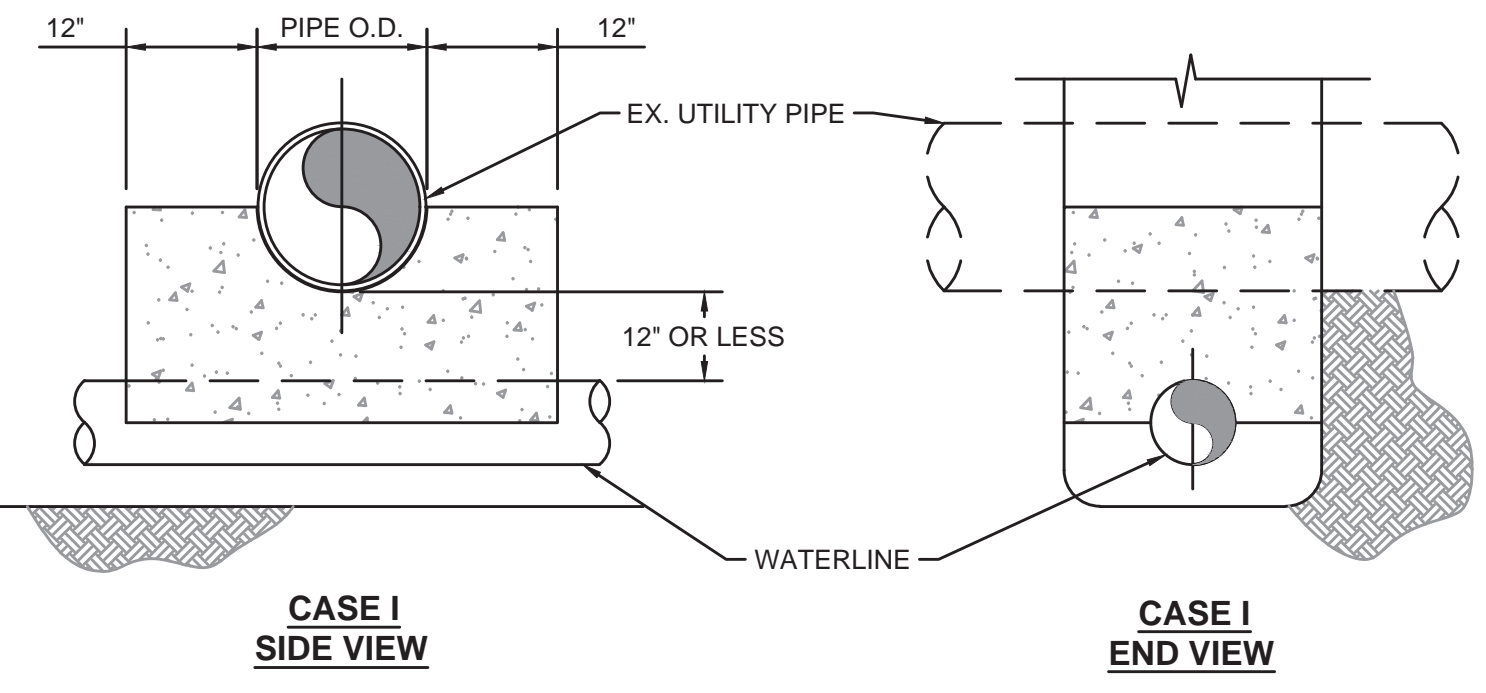


**AIR RELEASE VALVE ASSEMBLY WATERLINE ONLY - DETAIL**  
NOT TO SCALE



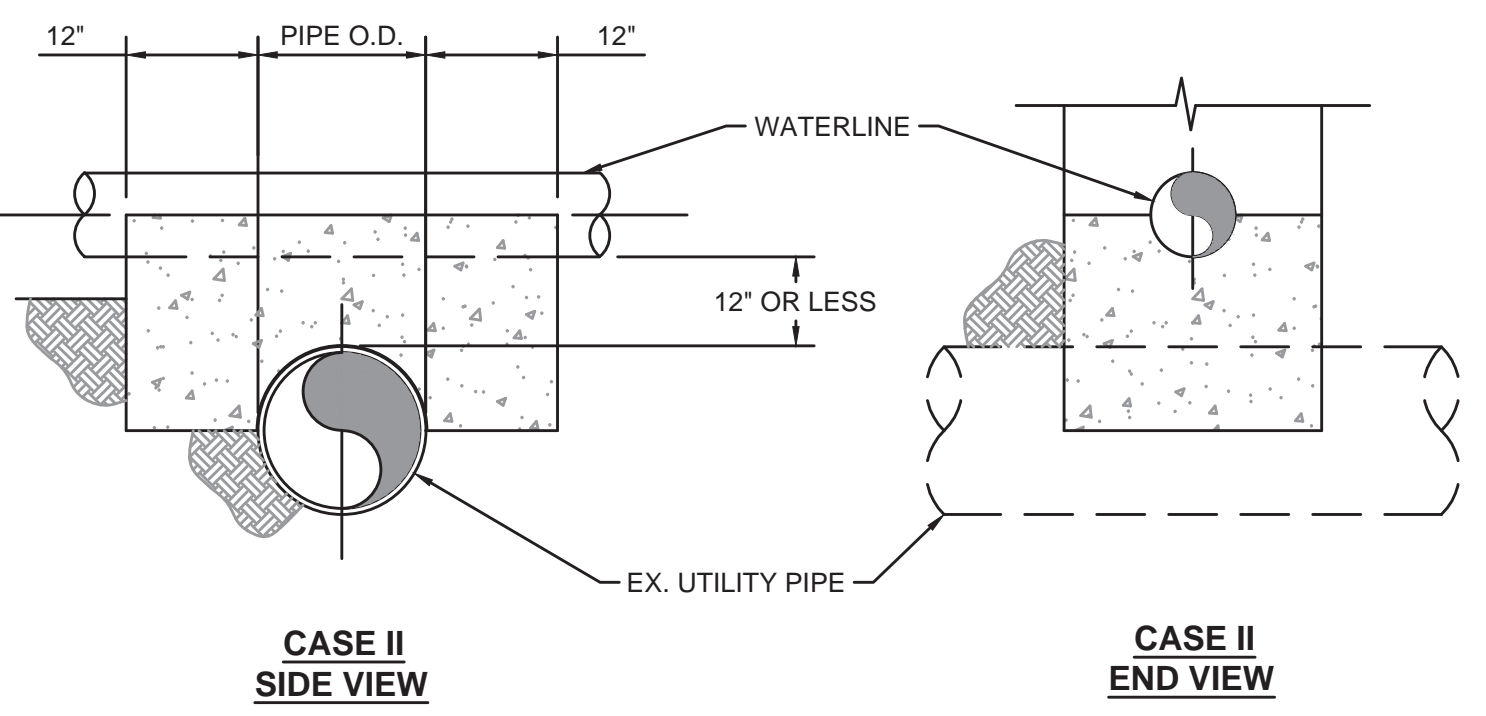
**D.I.M.J. TEE ASSEMBLY - DETAIL**  
NOT TO SCALE

- NOTES:**
- THIS DETAIL IS ONLY FOR NON-CONTAMINATE PIPE/CONDUIT. UTILITY PIPE IS DEFINED AS WATER, NATURAL GAS, TELEPHONE, ELECTRICAL CONDUITS OR STORM SEWER.
  - IF "UTILITY PIPE" IS A SANITARY SEWER PIPE (FORCE MAIN OR GRAVITY) SEE DETAIL FOR POTABLE WATER & FORCE MAIN CROSSING.
  - CONCRETE SEPARATOR SHALL BE USED WHEN CLEARANCE BETWEEN NEW WATERLINE & EXISTING UTILITY PIPE/CONDUIT IS LESS THAN 12".



**CASE I SIDE VIEW**

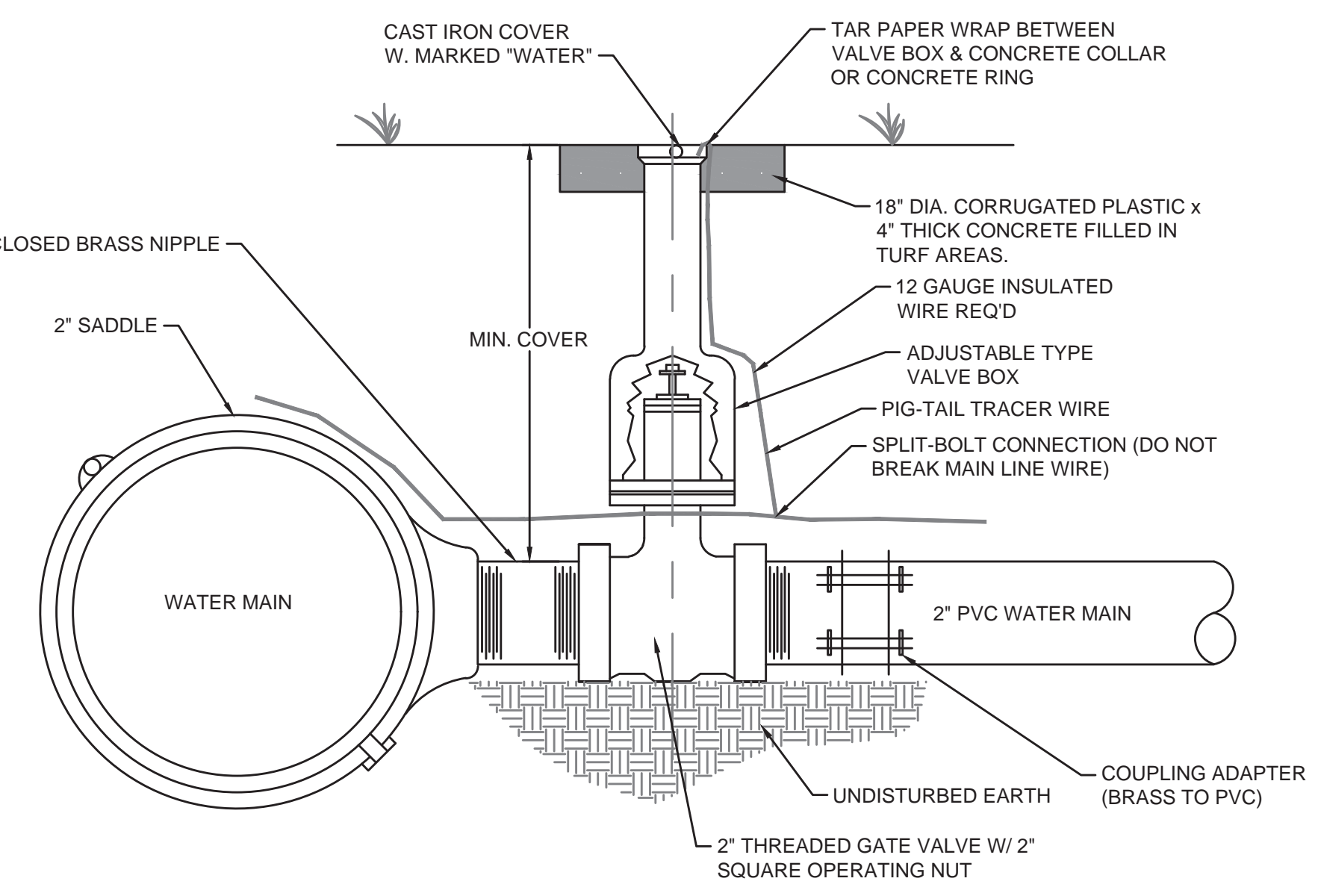
**CASE I END VIEW**



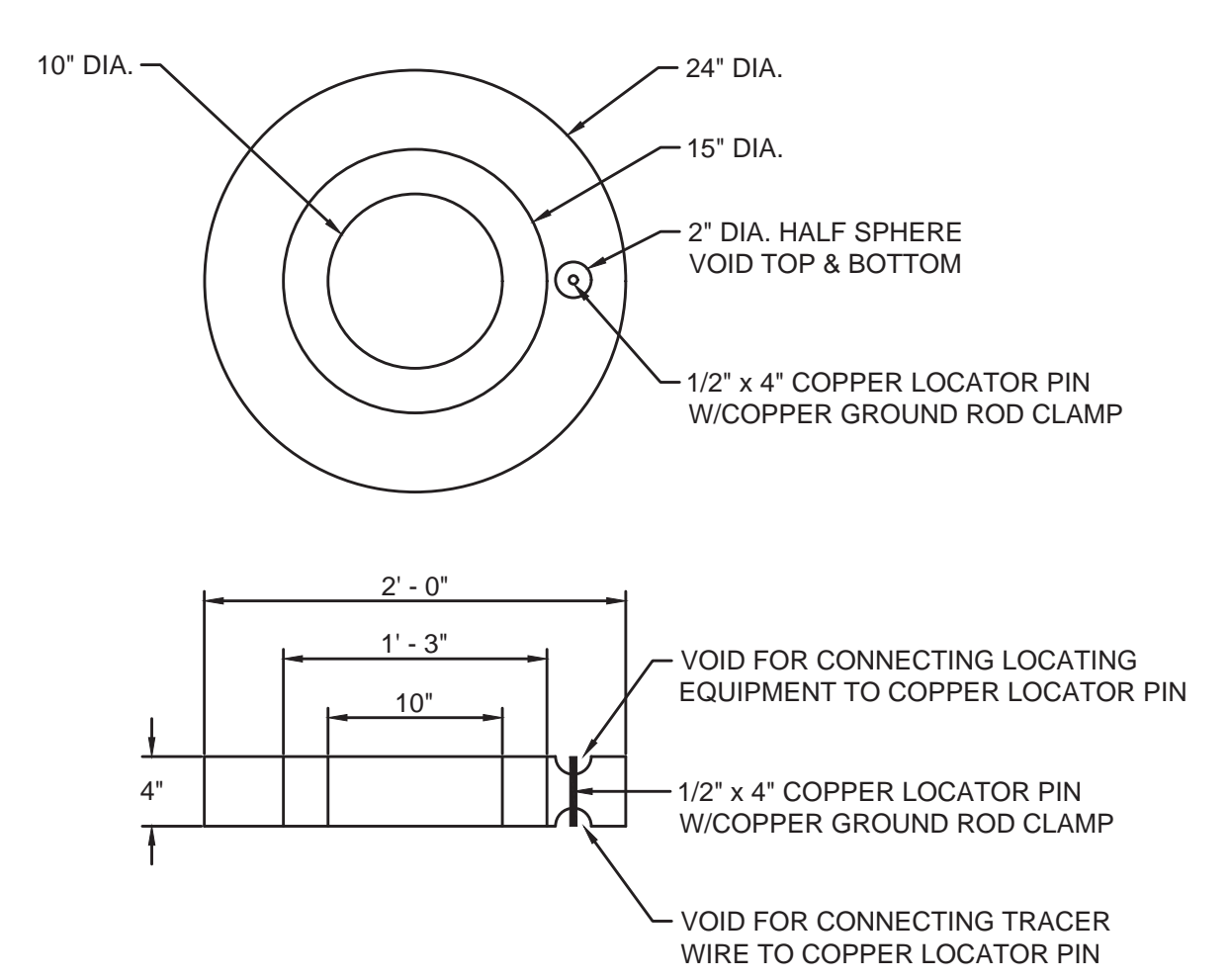
**CASE II SIDE VIEW**

**CASE II END VIEW**

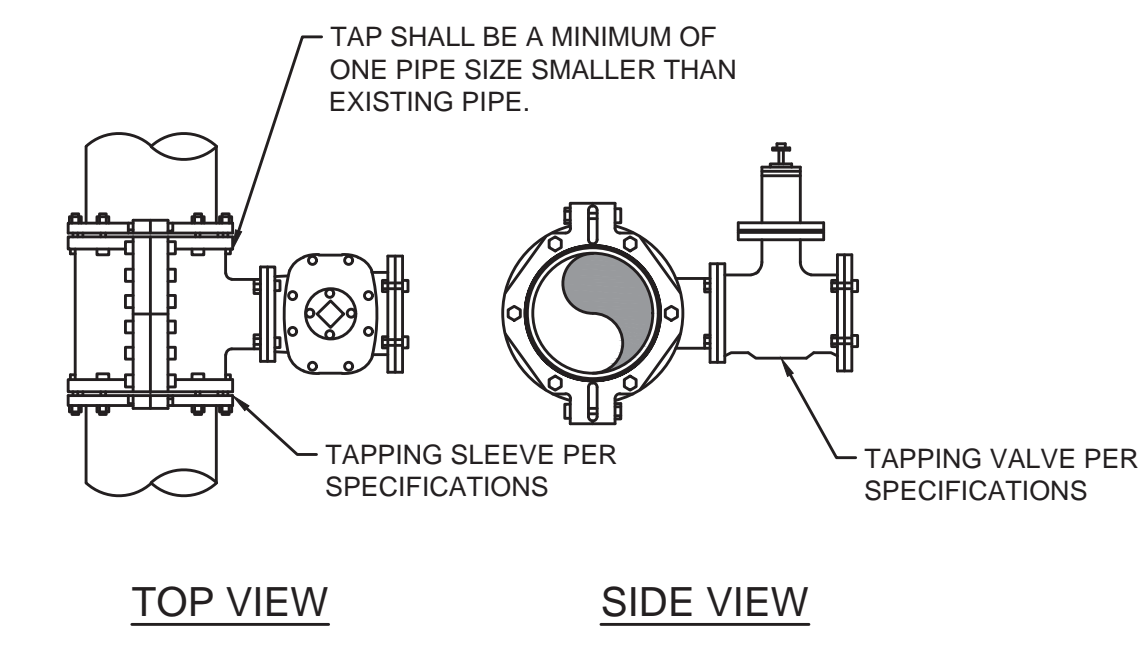
**UTILITY CROSSING CONCRETE ASSEMBLY - DETAIL**  
NOT TO SCALE



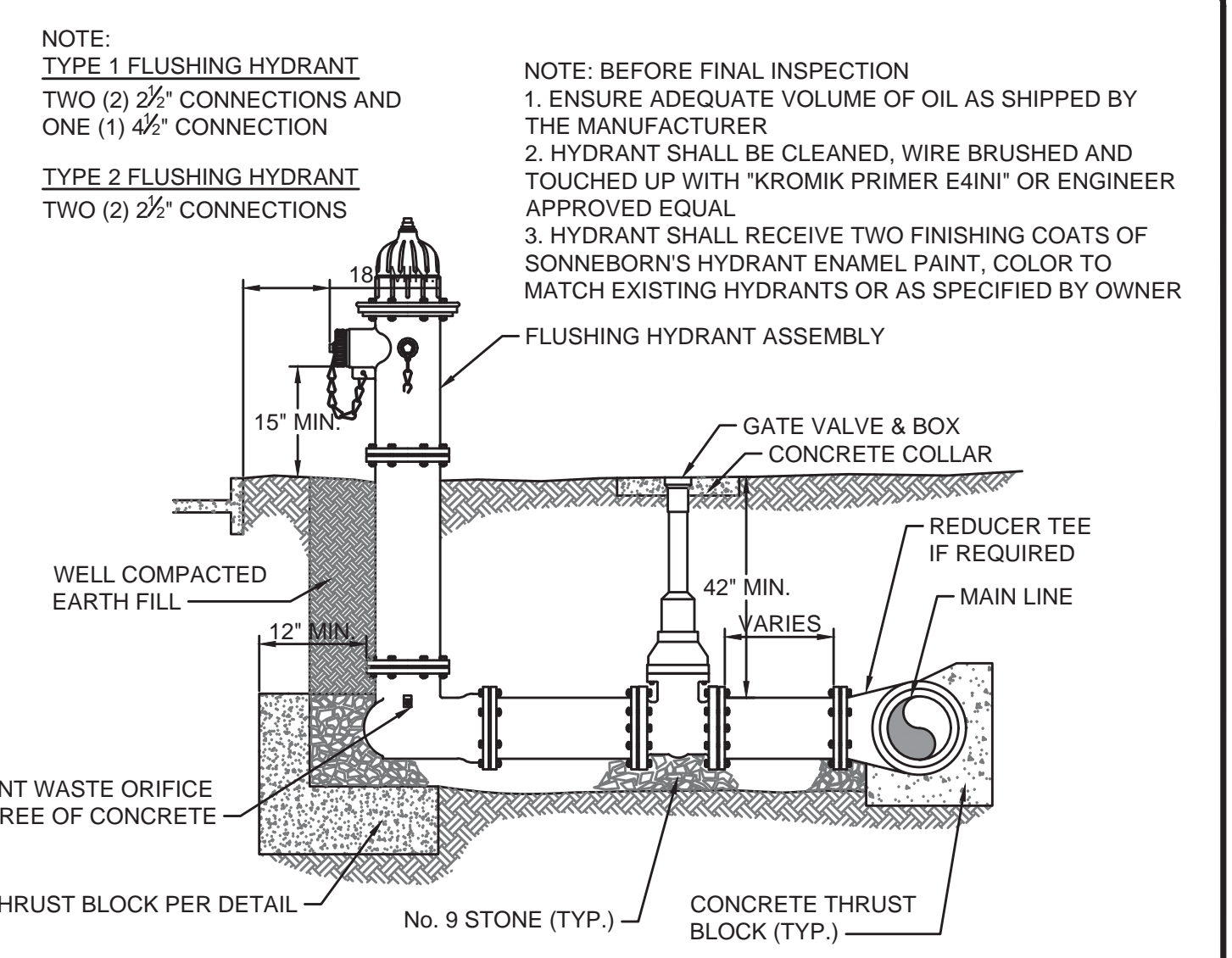
**CONNECTION FOR 2" WATER MAINS**  
NOT TO SCALE



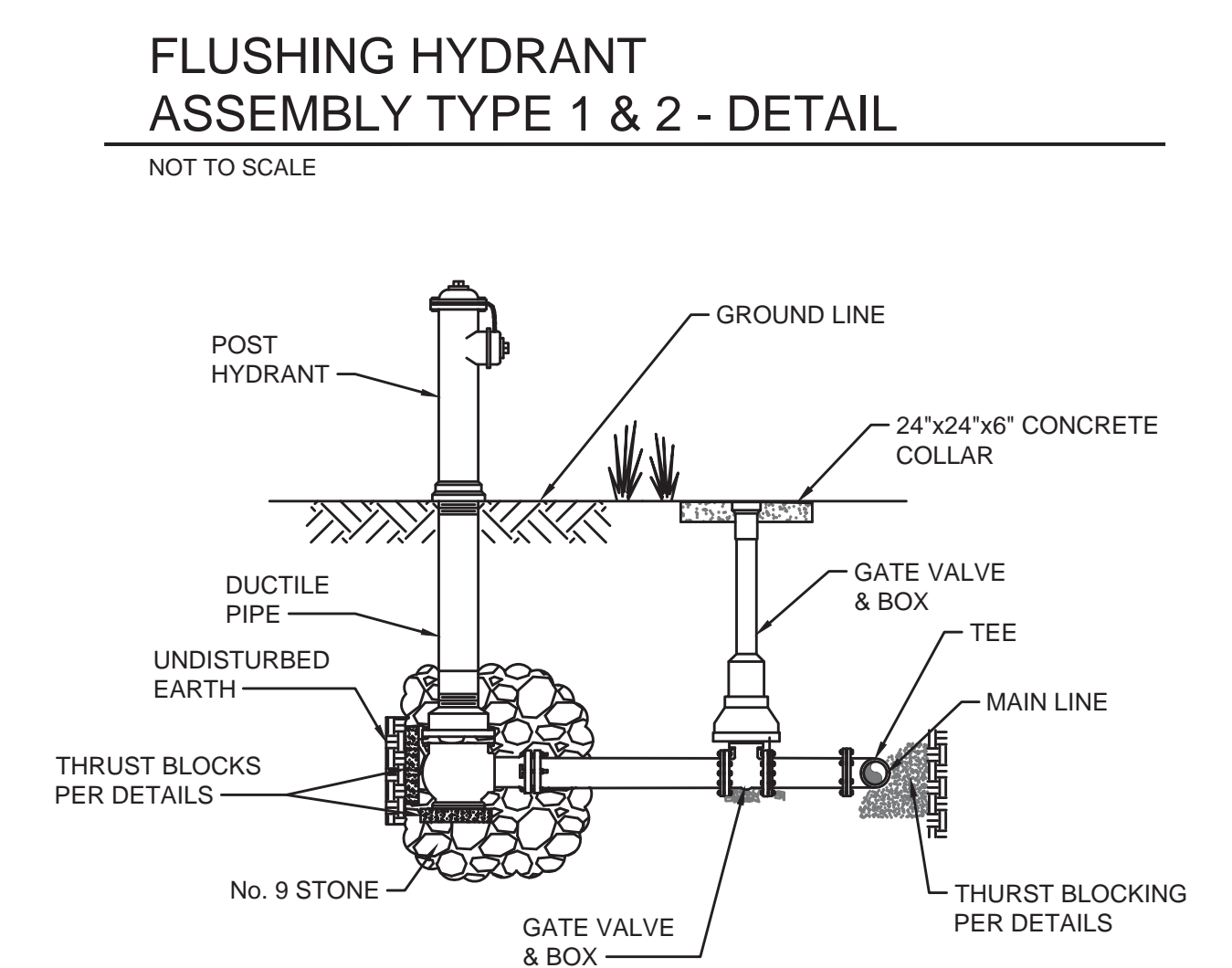
**24" DIAMETER CONCRETE VALVE BOX PROTECTOR RING W/COPPER LOCATOR PIN**  
NOT TO SCALE



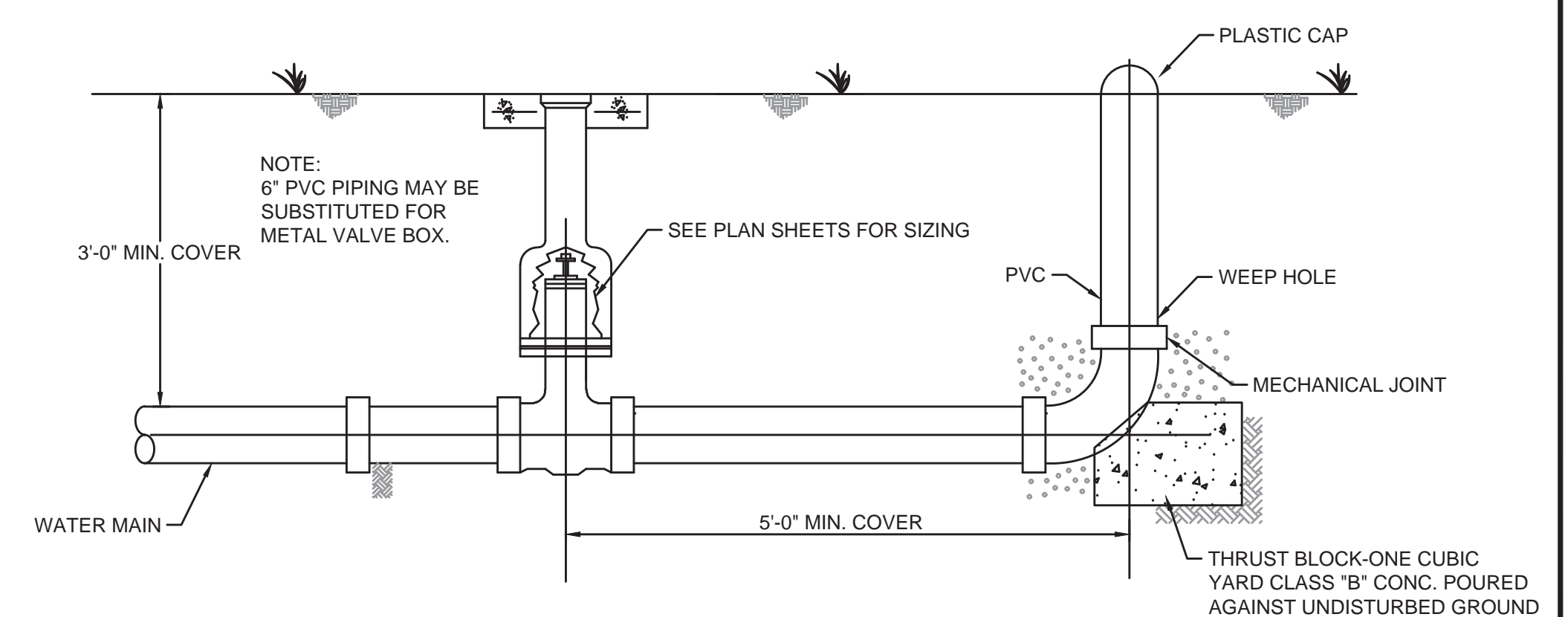
**WET TAP ASSEMBLY - DETAIL**  
NOT TO SCALE



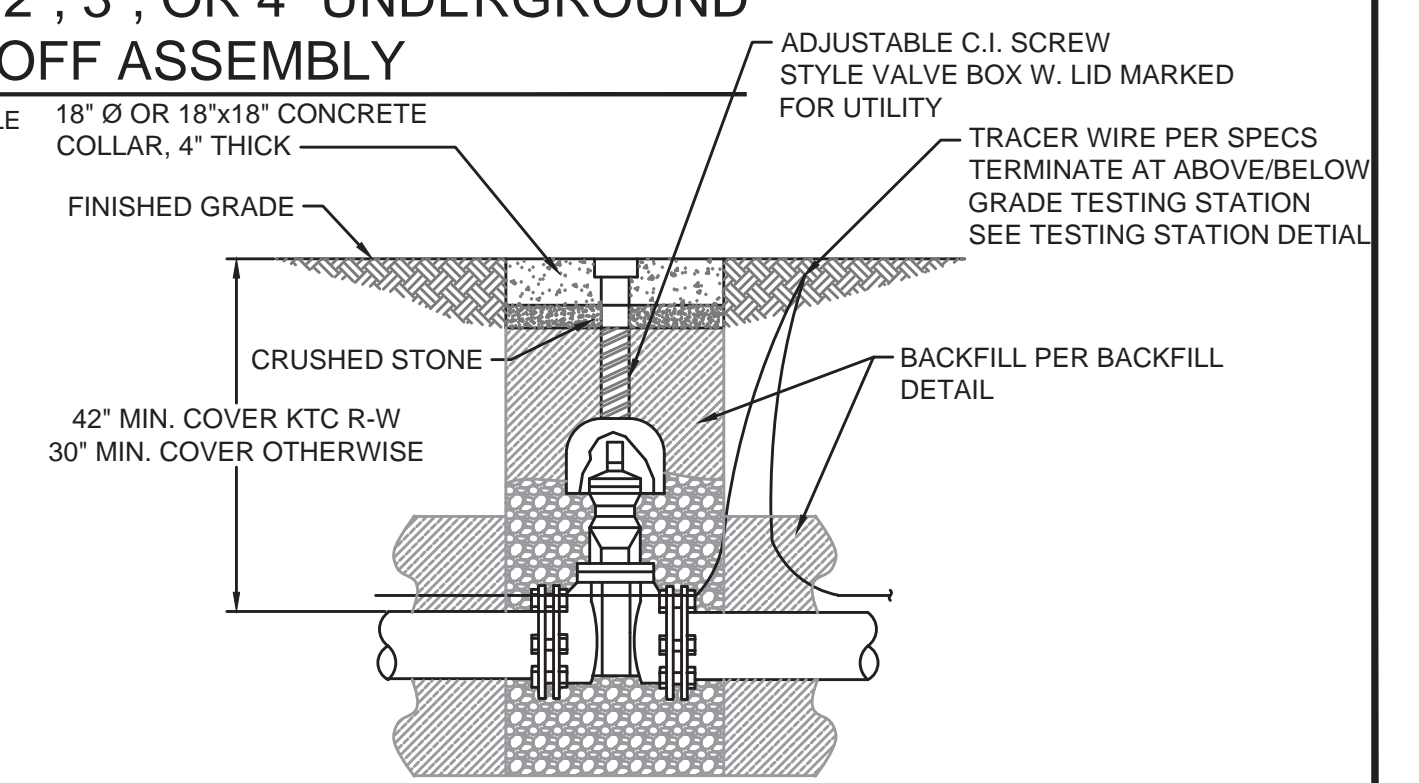
**FLUSHING HYDRANT ASSEMBLY TYPE 1 & 2 - DETAIL**  
NOT TO SCALE



**FLUSHING HYDRANT ASSEMBLY, TYPE 3 - DETAIL**  
NOT TO SCALE



**E.O.L. 2", 3", OR 4" UNDERGROUND BLOWOFF ASSEMBLY**  
NOT TO SCALE



**GATE VALVE ASSEMBLY - DETAIL**  
NOT TO SCALE

NO.	DATE	BY	REVISIONS

PHASE 12 WATER SYSTEM IMPROVEMENTS CONTRACT 1  
 STANDARD DETAILS - WATER LINES

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

PROJECT #:	20002
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	MRC

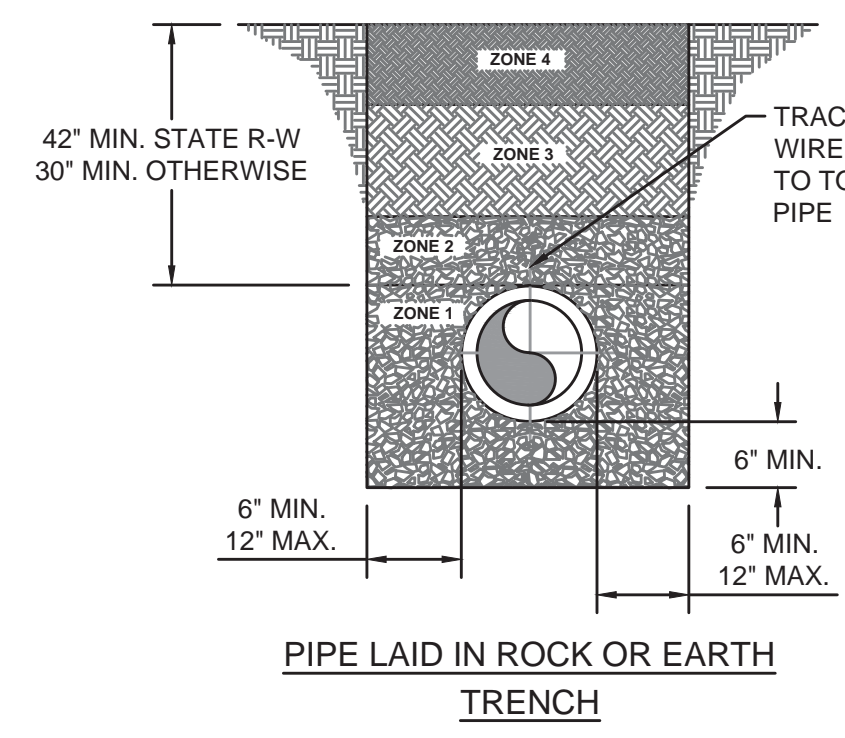




THIS DRAWING HAS BEEN PREPARED AT THE SCALE INDICATED. REPRODUCTION OF THIS DRAWING MAY WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND INTRODUCING INACCURACIES OF THE LISTED SCALE. THE GRAPHIC SCALE BAR SHALL BE USED TO DETERMINE THE ACTUAL SCALE.

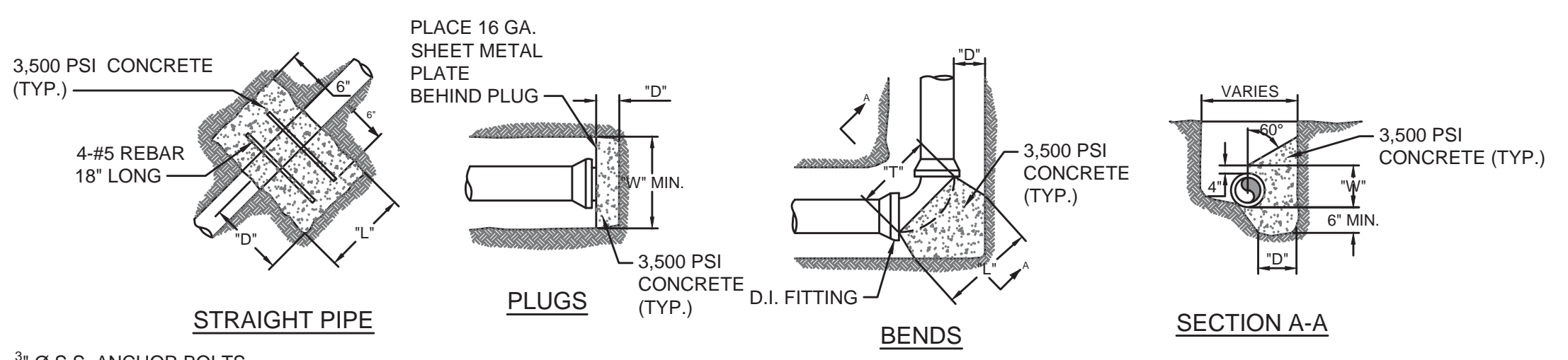
IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING WITHOUT WRITTEN PERMISSION FROM BLUEGRASS ENGINEERING, PLLC AND ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER.

B:\PROJECTS\WaterSystemImprovements\Drawings\20002-01-25 Standard Details.dwg BE 8/29/22



**DETAIL NOTES:**

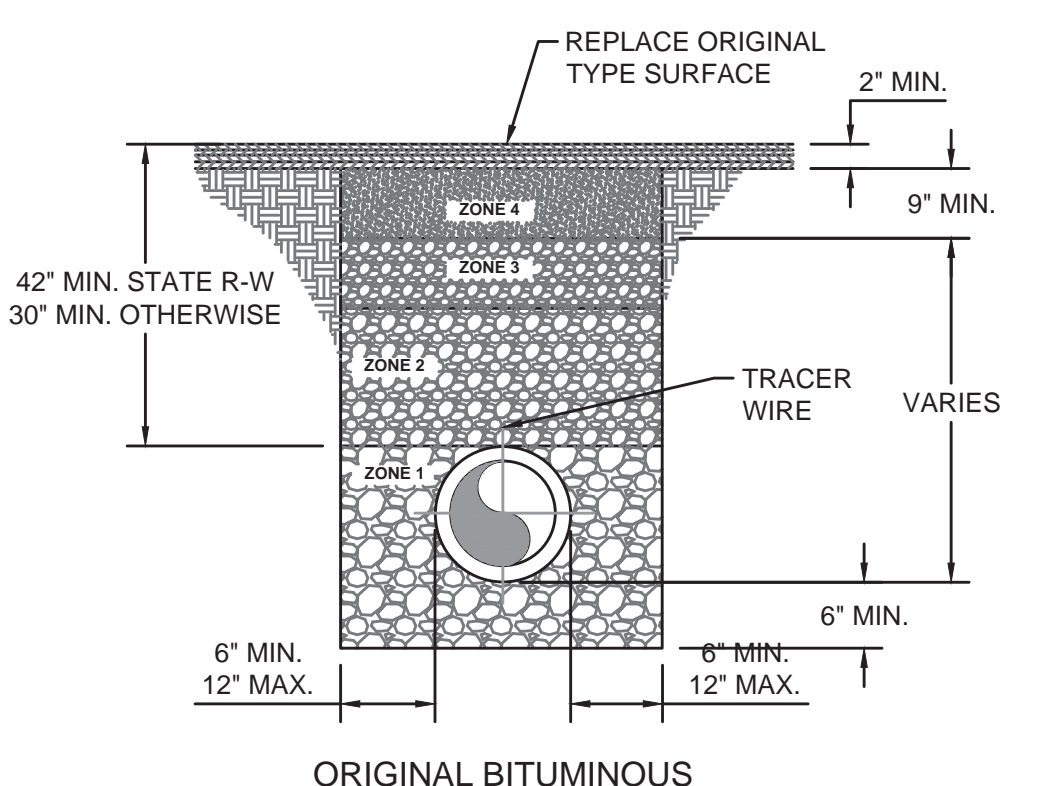
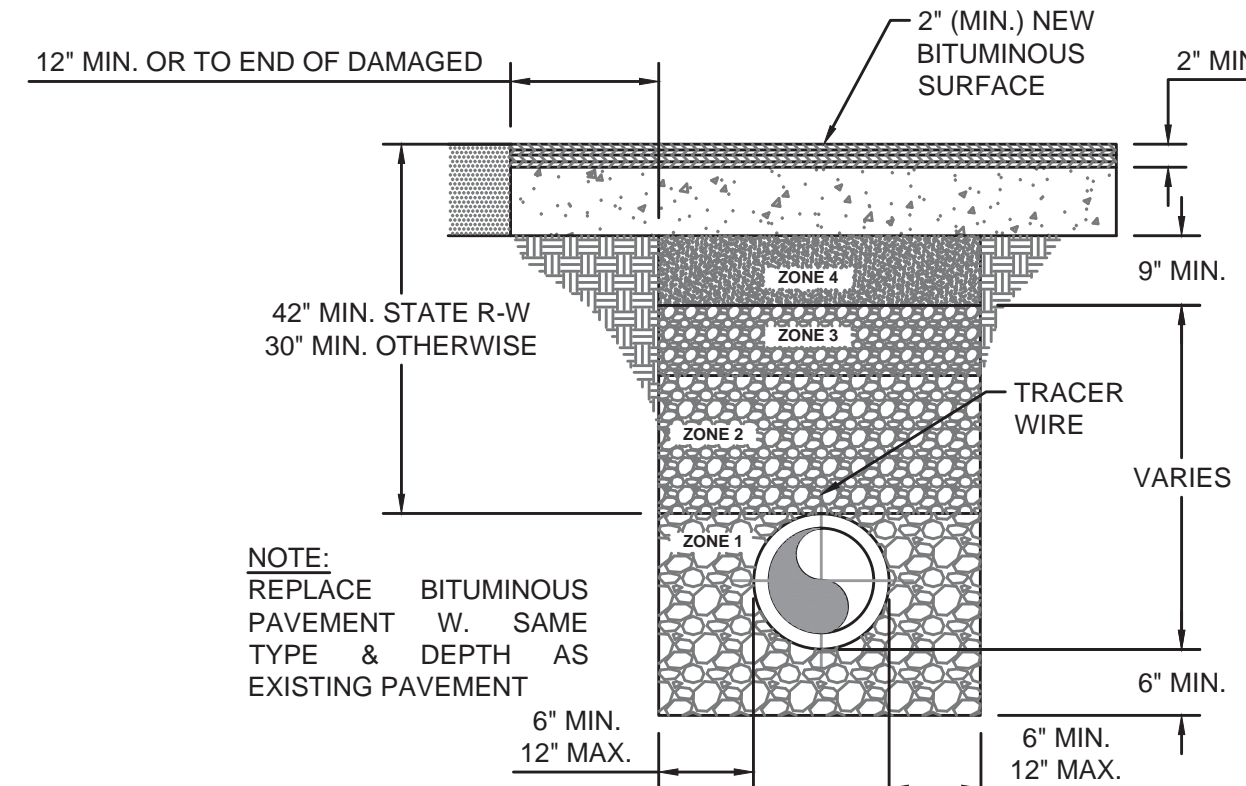
- COVER UP TO AND INCLUDING ZONE 4 SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
- ZONE 4 - 6" MIN. CONSOLIDATION EARTH BACKFILL INCLUDING TOPSOIL, NO ROCK ALLOWED.
- ZONE 3 - CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER) NO. 9, 57 OR 78 STONE
- ZONE 2 - FROM THE SPRINGLINE OF THE PIPE TO A DISTANCE 12 INCHES ABOVE THE PIPE, THE CONTRACTOR SHALL USE THE SAME MATERIAL AS SPECIFIED FOR BEDDING. COMPACTION IS REQUIRED IN AREAS SUBJECT TO TRAFFIC.
- ZONE 1 - BEDDING MATERIAL, IN EARTH EXCAVATION AREAS, SHALL BE CLEAN EARTH, FREE FROM ROCKS, DEBRIS OR OTHER FOREIGN MATERIAL. THE CONTRACTOR SHALL USE CRUSHED STONE, SAND OR GRAVEL AS BEDDING MATERIAL WHERE ROCK EXCAVATION IS ENCOUNTERED.



- NOTE:**
- SEE PLAN SHEETS FOR SIZE, MATERIAL & LOCATION OF PIPE.
  - SIDES OF ALL TRENCHES TO BE UNDISTURBED SOIL.
  - SEE THIS SHEET FOR BACK FILL DETAILS.
  - DEPTH 'D' MAY NOT BE SMALLER THAN SPECIFIED.
  - PIERS SHALL BE PLACED AGAINST UNDISTURBED SOIL.
  - PLACE CONCRETE ANCHORS 25' C/C.

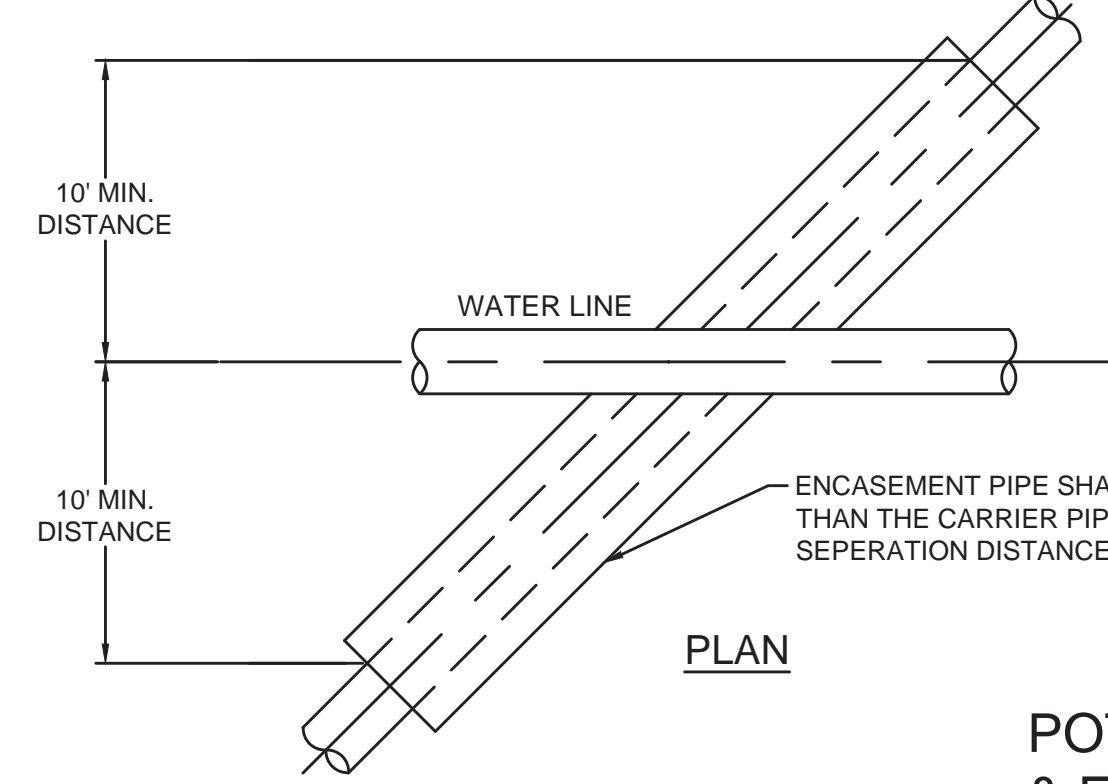
THRUST BLOCK SCHEDULE - CLASS 350 D.I.P. SOIL TYPE - SAND & GRAVEL BEARING STRENGTH = 3000 PSF

PIPE SIZE	90° BEND				45° BEND				22 1/2° BEND				11 1/2° BEND				TEE & DEAD ENDS						
	Bearing Area	Top of Concrete	Spacers	L	Bearing Area	Top of Concrete	Spacers	L	Bearing Area	Top of Concrete	Spacers	L	Bearing Area	Top of Concrete	Spacers	L	Bearing Area	Top of Concrete					
4"	3,750	.21	18	30	18	1,750	.10	18	14	1,000	.06	18	12	12	500	.02	12	12	6	2,250	.13	18	
6"	7,000	.39	18	42	24	3,750	.21	18	30	18	2,000	.11	18	24	1,000	.04	12	12	12	5,000	.28	18	
8"	12,250	.91	24	42	42	7,500	.56	24	36	30	4,000	.30	24	24	2,000	.11	18	24	12	9,000	.67	24	
10"	20,000	1.48	24	60	48	10,500	.78	24	42	36	6,000	.44	24	36	3,000	.17	18	24	18	14,000	1.04	24	
12"	30,000	2.78	30	72	60	15,750	1.46	30	54	42	7,500	.69	30	36	4,000	.30	24	24	24	20,000	1.85	30	
14"	39,000	4.33	36	78	72	20,000	2.22	36	60	48	10,500	1.17	36	42	6,000	.56	30	36	24	27,500	3.06	36	
16"	49,000	6.35	42	84	84	27,500	3.56	42	66	60	14,000	1.81	42	48	42	7,500	.83	36	36	30	37,750	4.63	42



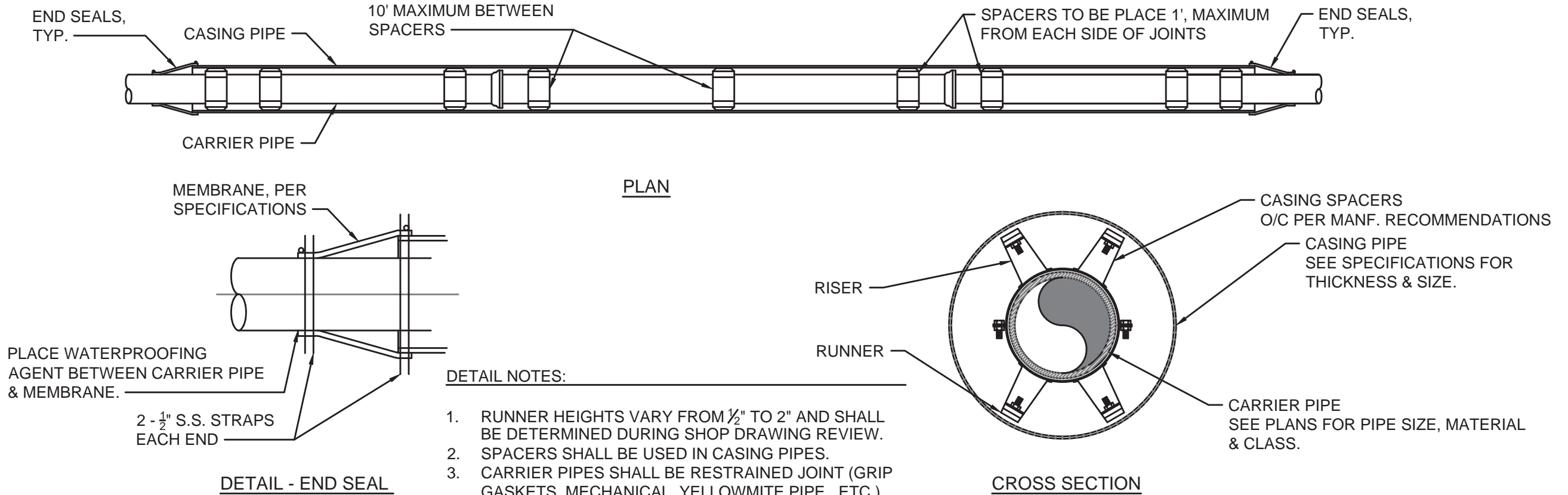
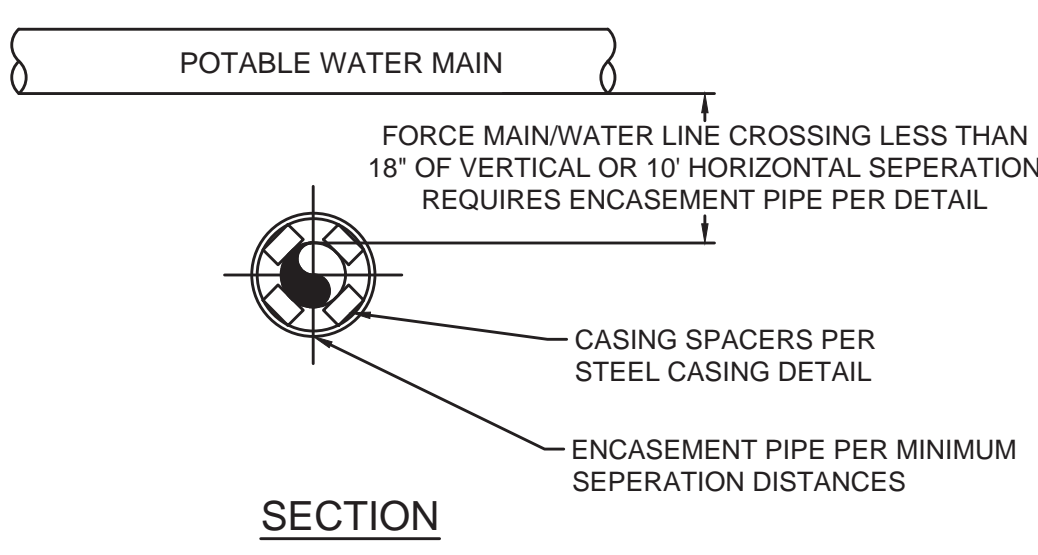
**PIPE BACKFILL - DETAIL**

NOT TO SCALE



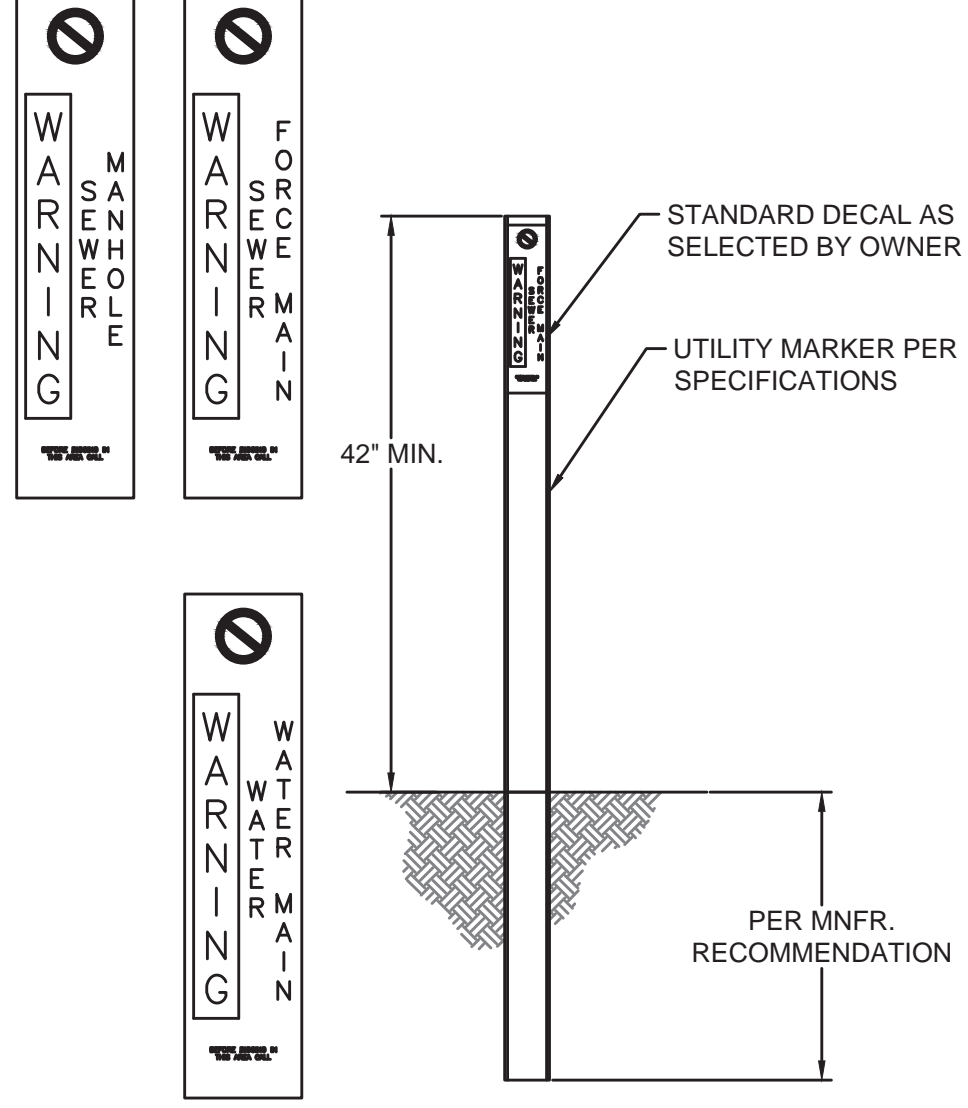
**POTABLE WATER LINE & FORCE MAIN CROSSING - DETAIL**

NOT TO SCALE



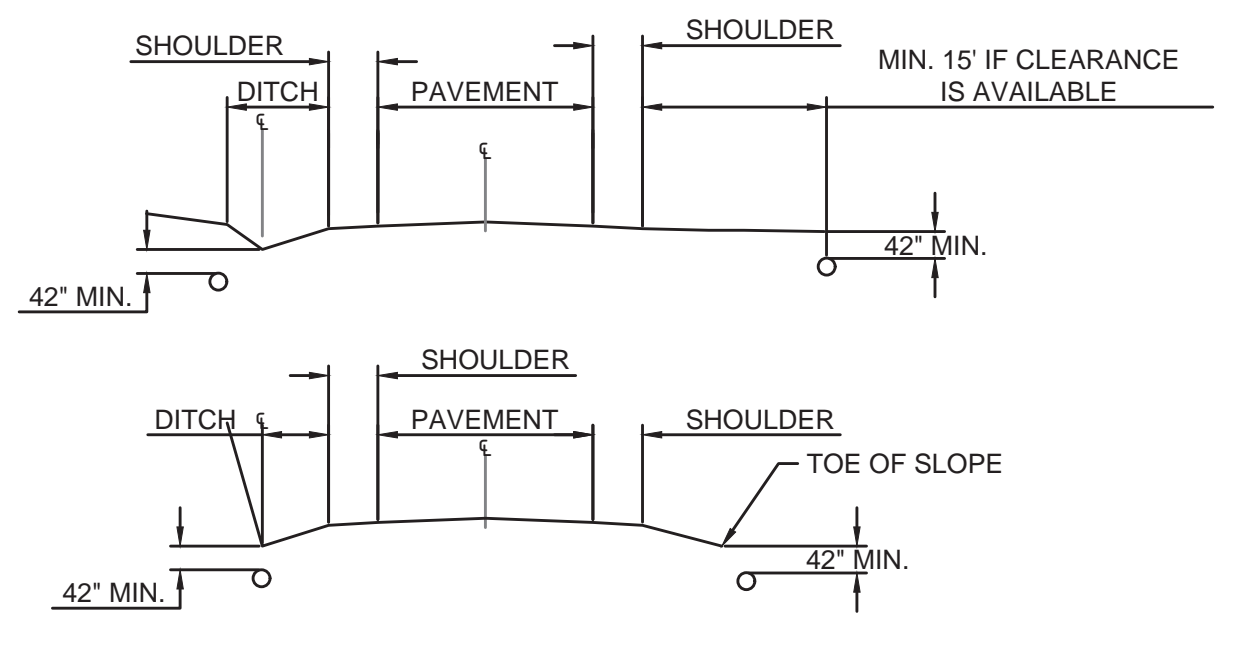
**CASING - DETAIL**

NOT TO SCALE



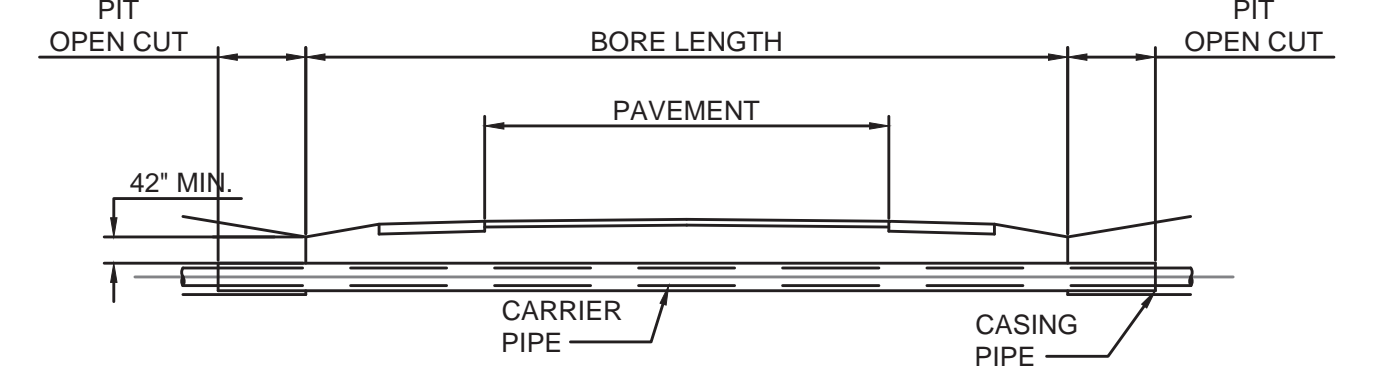
**UTILITY MARKER - DETAIL**

NOT TO SCALE

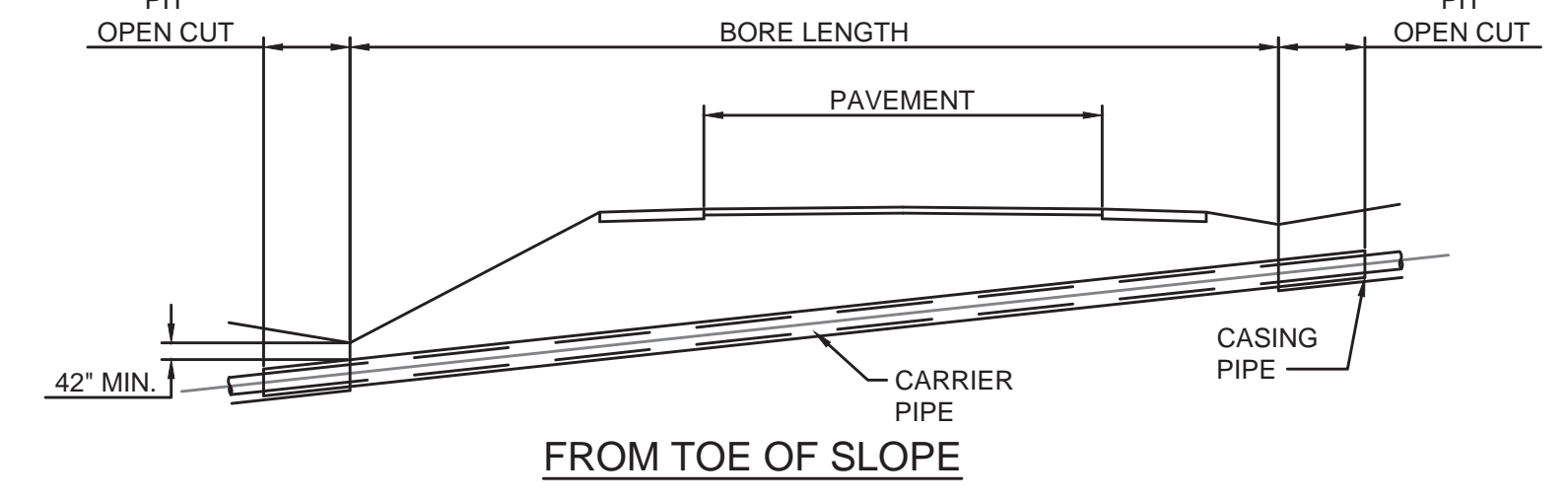


**UTILITY PIPELINE WITHIN KTC ROW - DETAIL**

NOT TO SCALE



**OFFSET FROM EDGE OF PAVEMENT**



**KTC CROSSING - DETAIL**

NOT TO SCALE

NO.	DATE	BY

PHASE 12 WATER SYSTEM IMPROVEMENTS CONTRACT 1  
STANDARD DETAILS - PIPE LINES

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

PROJECT #:	20002
DATE:	AUGUST 2022
PROJECT MGR:	LRS
DRAWN BY:	WCM
CHECKED BY:	MRC

Professional Engineer Seal for Matthew Ray Curtis, No. 25716, State of Kentucky.