

# 2019 WATER LINE REPLACEMENTS & IMPROVEMENTS BRONSTON WATER ASSOCIATION PULASKI & WAYNE COUNTIES, KENTUCKY

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### BRONSTON WATER ASSOCIATION

ERIC KEITH, PRESIDENT  
 CLINT KEITH                      LELAND KEITH  
 MATTHEW TUCKER                ALVIN MORROW

OFFICE SECRETARY - VICKIE RAMSEY  
 SUPERINTENDENT - J.C. NEW

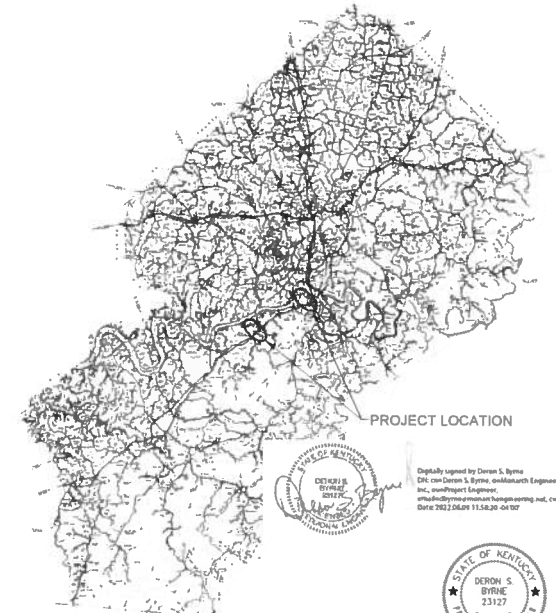
MAY 2020

FUNDED BY:  
 U.S.D.A. RURAL DEVELOPMENT



556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

## LOCATION MAP



PROJECT LOCATION

Digitally signed by Deron S. Byrne  
 DN: cn=Deron S. Byrne, o=Monarch Engineering, Inc., email=Deron@monarchengineering.net, c=US  
 Date: 2020.05.11.15:28:04 -0400



**RECORD DRAWINGS**

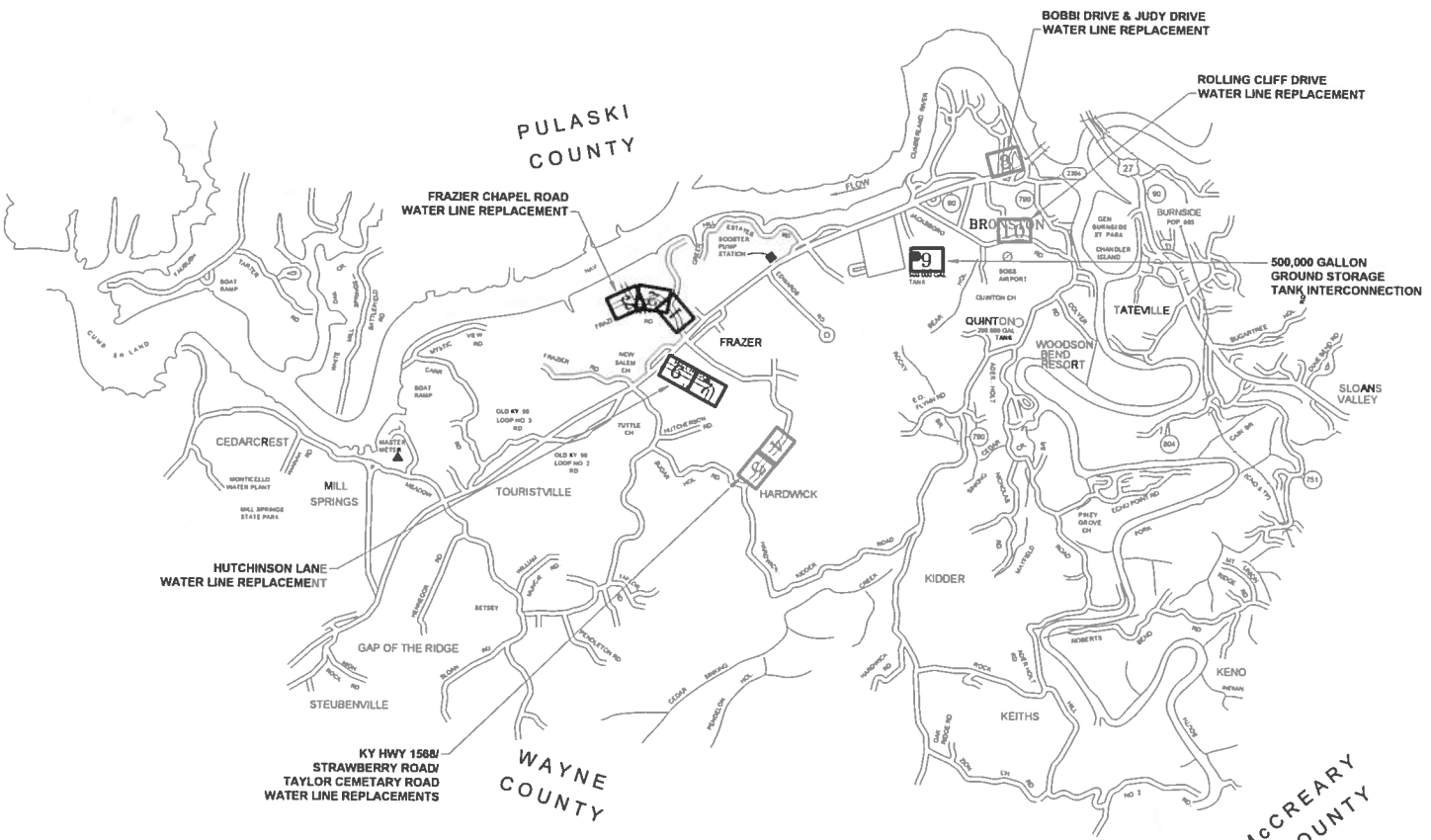


RUSSELL COUNTY

PULASKI COUNTY

WAYNE COUNTY

MCCREARY COUNTY



RECORD DRAWINGS

2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
BRONSTON WATER ASSOCIATION  
PULASKI COUNTY, KENTUCKY

LOCATION MAP

DERON S. BYRNE  
23117

Monarch Engineering, Inc.  
566 CARLTON DRIVE  
LAWRENCEBURG, KY 40342

DRAWN BY: JRC	DATE: OCT 2019	REVIEWED:	SHEET
CHECKED BY: DMB	SCALE: 1" = 1"		
CHECKED BY: DMB	PROJECT: 1033		

LM - 1

## GENERAL NOTES TO CONTRACTOR

- BEFORE CONSTRUCTION BEGINS NEAR OR THROUGH EXISTING UTILITIES (i.e. GAS CO., TELEPHONE CO., CABLE CO., ETC.) EACH UTILITY COMPANY SHALL BE NOTIFIED. A REQUEST FOR THE EXACT LOCATION OF THE UTILITY SHALL BE MADE, AND PERMISSION TO PROCEED WITH CONSTRUCTION OBTAINED.
- BEFORE CONSTRUCTION BEGINS THROUGH ANY PROPERTY, THE CONTRACTOR SHALL MAKE HIMSELF AWARE OF THE EXACT LOCATION OF CONSTRUCTION THROUGH THE PROPERTY AND THE BOUNDS OF THE PERMANENT AND TEMPORARY CONSTRUCTION EASEMENTS.
- THE CONTRACTOR SHALL HAVE ON HAND AT THE JOB SITE 22, 45, AND 90 DEGREE BENDS TO ALLOW FOR THEIR USE WHERE BRONSTON WATER ASSOCIATION REQUESTS INSTALLATION AS NECESSARY.
- PIPE JOINT DEFLECTION IS NOT TO EXCEED MANUFACTURER'S ALLOWABLE LIMITS.
- CONNECTING NEW LINES TO EXISTING LINES OR TO WORK IN THEIR CONTRACTS IS SUBSIDIARY TO THE CONTRACT. IT INCLUDES FITTINGS, SLEEVES, ETC., BUT DOES NOT INCLUDE GATE VALVES, WHICH ARE EXTRA PAY ITEM.
- THE CONTRACTOR SHALL FREE BORE ALL ASPHALT AND CONCRETE RESIDENTIAL DRIVEWAYS IN DIRT AND OPEN CUT IN ROCK AS DIRECTED BY THE BRONSTON WATER ASSOCIATION AND ENGINEER. THE CONTRACTOR SHALL EXCAVATE FROM EITHER SIDE OF ALL FENCES TO AVOID CUTTING. FENCE CUTTING AND REPAIR SHALL BE LIMITED TO UNIQUE CONDITIONS WHERE APPROVED BY BRONSTON WATER ASSOCIATION.
- ALL STREAM AND RIVER CROSSINGS GREATER THAN 15 FEET WIDE SHALL HAVE GATE VALVES INSTALLED ON EACH SIDE OF THE CROSSING. THE VALVE ON THE SOURCE SIDE SHALL HAVE A BYPASS SERVICE METER INSTALLED FOR LEAK DETECTION.
- ALL WATER LINES WITHIN 200 FEET RADIUS OF UNDERGROUND STORAGE TANKS (KRS-224.8-100), PETROLEUM STORAGE TANKS (KRS-224.60-115) AND ASSOCIATED PUMPS AND LINES SHALL BE DUCTILE IRON PIPE WITH PETROLEUM RESISTANT JOINTS AND ALL SERVICE LINE SHALL BE COPPER.
- WATER MAINS CROSSING 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 SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS ABOVE OR BELOW THE SEWER AT CROSSINGS, ONE FULL LENGTH OF THE WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED.
- WATER MAINS INSTALLED PARALLEL TO SEWERS SHALL BE LAID TO PROVIDE A MINIMUM HORIZONTAL DISTANCE OF 10 FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER MAIN.
- THE CONTRACTOR SHALL NOT BE ALLOWED TO MAINTAIN PERSONNEL RESIDENCY FOR ANY EMPLOYEE ON THE CONSTRUCTION SITE.
- WHEN WORKING ALONG THE COMMONWEALTH OF KENTUCKY RIGHT OF WAY, THE CONTRACTOR SHALL BE ADVISED THAT THE WATER LINES SHALL NOT BE PLACED IN FILL AREAS.
- WHEN PERFORMING WORK ALONG OR ACROSS ANY PUBLIC ROADWAY, THE CONTRACTOR SHALL POST WARNING SIGNS PAINTED ORANGE AND THEY SHALL BE FOUR (4) FEET BY FOUR (4) FEET MOUNTED ON POSTS IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE SIGNS SHALL BE AS FOLLOWS:
  - 1) CAUTION PIPELINE CONSTRUCTION 1500 FEET
  - 2) CAUTION PIPELINE CONSTRUCTION 1000 FEET
  - 3) CAUTION PIPELINE CONSTRUCTION 500 FEET
- THE CONTRACTOR SHALL MAINTAIN TWO (2) FLAG MEN AT ALL TIMES WHERE MACHINERY IS IN OPERATION WHEN WORKING THE FLOW OF TRAFFIC WILL BE DISTURBED. THERE IS NO EXCEPTION TO THIS REQUIREMENT. THE USE OF RADIOS WILL BE REQUIRED WHEN VISUAL CONTACT BETWEEN THE FLAG MEN DOES NOT EXIST.
- ALL SIGNS, BARRICADES, LIGHTS AND TRAFFIC CONTROL SHALL BE INSTALLED IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- AT THE COMPLETION OF EACH WORK DAY, THE CONTRACTOR SHALL BACKFILL ALL OPEN TRENCHES AND INSTALL ALL TRAFFIC CONTROL SIGNS, BARRICADES AND LIGHTS IN ACCORDANCE WITH THE KENTUCKY TRANSPORTATION DEPARTMENT'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ENTIRE ROADWAY FREE AND CLEAR AT THE END OF EACH WORKING DAY. NO EQUIPMENT SHALL BE LEFT ON OR PARKED ALONG THE ROAD RIGHT OF WAY.
- ALL NECESSARY STEPS SHALL BE TAKEN TO PREVENT EROSION OR SILTATION OF THE PUBLIC RIGHT OF WAY, ADJOINING PROPERTY AND WATER WAYS.

## WATER LINE GENERAL NOTES

1. ALL WATER LINES SHALL BE CONFORMING TO ASTM SPECIFICATIONS D-2241 AND D-3139, FOR MATERIAL. ALL JOINTS SHALL BE SLIP-TYPE WITH RUBBER GASKETS CONFORMING TO ASTM-1869.
2. FITTINGS SHALL BE DUCTILE IRON CLASS 250 IN ACCORDANCE WITH AWWA C111-71 (ANSI A21 10).
3. ALL VALVES SHALL CONFORM TO AWWA C500.
4. CONSTRUCTION PRACTICES AND PROCEDURES SHALL CONFORM TO CURRENT AWWA STANDARDS AND BE APPROVED BY THE BRONSTON WATER ASSOCIATION.
5. AFTER INSTALLATION, WATER LINES SHALL BE DISINFECTED WITH A CHLORINE SOLUTION 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 THE 24 HOURS AND FOLLOWED BY THROUGH FLUSHING.
6. MINIMUM COVER OF WATER LINES SHALL BE 30 INCHES. WATER LINE WITHIN COMMONWEALTH OF KENTUCKY RIGHT-OF-WAYS SHALL HAVE A MINIMUM COVER OF 42-INCHES.
7. CONTRACTOR SHALL FULLY COMPLY WITH ALL LOCAL, STATE AND FEDERAL SAFETY AND ENVIRONMENTAL REGULATIONS GOVERNING UTILITY CONSTRUCTION.
8. ALL WATER LINE CROSSING PAVED SURFACE SHALL BE BACKFILLED FULL DEPTH WITH COMPACTED CRUSHED STONE.
9. EXISTING AND PROPOSED WATER MAIN LOCATIONS SHALL BE VERIFIED BY BRONSTON WATER ASSOCIATION PRIOR TO CONSTRUCTION.
10. ALL PIPE AND FITTINGS SHALL HAVE A MINIMUM OF 6-INCHES OF BEDDING OF DIRT UNDER AND ON BOTH SIDES OF PIPE UNLESS OTHERWISE SPECIFIED. ALL PIPE AND FITTING SHALL BE BACK-FILLED WITH DIRT UNLESS OTHERWISE SPECIFIED.
11. ALL FITTINGS: 90° BENDS, TEES, ETC., SHALL BE BLOCK WITH A MINIMUM OF 12-INCHES POURED CONCRETE AGAINST UNDISTURBED SOIL.
12. ALL GATE VALVES SHALL TURN RIGHT TO CLOSE AND TURN LEFT TO OPEN.
13. ALL VALVES SHALL BE C.I. VALVE BOXES EXTENDING 2-INCHES ABOVE SURFACE.
14. ALL FLUSH HYDRANTS SHALL BE STANDARD 2-WAY 5 1/4-INCHES BREAKAWAY TYPE WITH A MINIMUM 3 1/2-INCHES BURY AND TURN LEFT TO OPEN AND RIGHT TO CLOSE.
15. ALL PROPOSED WATER LINES SHALL HAVE A #12 COATED TRACER WIRE.
16. ALL FLUSH HYDRANTS, WATER VALVES AND FITTINGS SHALL HAVE RESTRAINER GLANDS (MEGALUGS®).
17. ALL WATER LINES SHALL BE PRESSURE TESTED TO 150 PSI FOR A MINIMUM OF FOUR (4) HOURS.
18. CONTRACTOR SHALL PROVIDE BACTERIAL SAMPLE RESULTS OF PROPOSED WATER LINES TO BRONSTON WATER ASSOCIATION.

### OWNER

BRONSTON WATER ASSOCIATION  
2013 WEST HIGHWAY 90  
BRONSTON, KY 42518  
(606) 551-5209

### LINE/CABLE LOCATION SERVICES



### RECORD DRAWINGS

2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS BRONSTON WATER ASSOCIATION PULASKI COUNTY, KENTUCKY			
GENERAL NOTES			
	556 CARLTON DRIVE LAWRENCEBURG, KY 40342		
DRAWN BY: JRC	DATE: OCT 2019	REVISED:	SHEET
CHECKED BY: DMB	SCALE: NTS	PROJECT: 1933	G-1



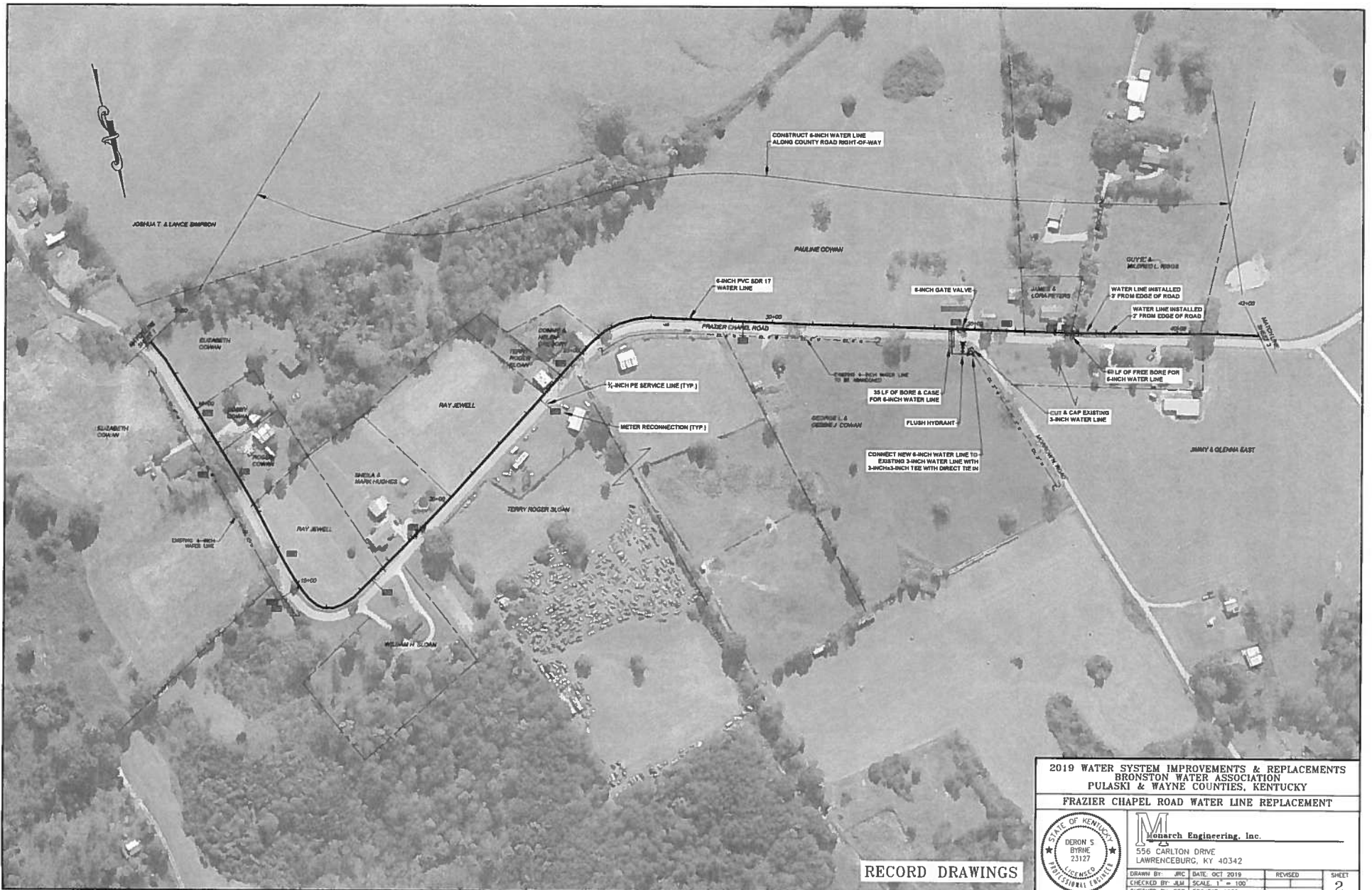
**RECORD DRAWINGS**

**2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
 BRONSTON WATER ASSOCIATION  
 PULASKI & WAYNE COUNTIES, KENTUCKY  
 FRAZIER CHAPEL ROAD WATER LINE REPLACEMENT**



**Monarch Engineering, Inc.**  
 556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

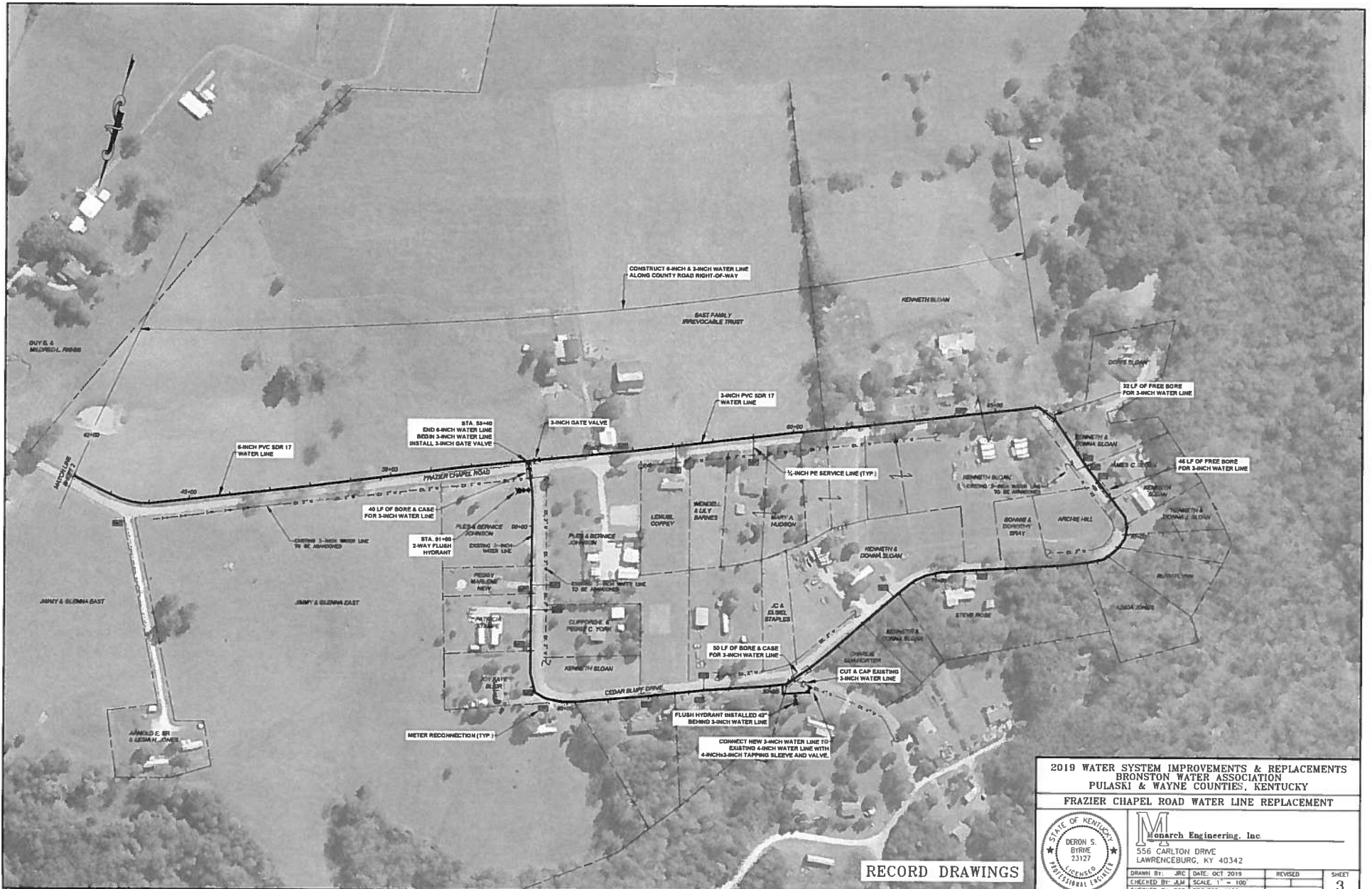
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CHECKED BY: OSB	PROJECT: 1933		



RECORD DRAWINGS

2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
 BRONSTON WATER ASSOCIATION  
 PULASKI & WAYNE COUNTIES, KENTUCKY  
 FRAZIER CHAPEL ROAD WATER LINE REPLACEMENT

	<b>Monarch Engineering, Inc.</b> 556 CARLTON DRIVE LAWRENCEBURG, KY 40342		
	DRAWN BY: JRC DATE: OCT 2019	REVISIONS:	SHEET:
	CHECKED BY: BM SCALE: 1" = 100'	PROJECT: 1933	2
	CHECKED BY: DSB	PROJECT: 1933	



RECORD DRAWINGS

2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
 BRONSTON WATER ASSOCIATION  
 PULASKI & WAYNE COUNTIES, KENTUCKY  
 FRAZIER CHAPEL ROAD WATER LINE REPLACEMENT



**M**onarch Engineering, Inc.  
 556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

DRAWN BY: JRC	DATE: OCT 2019	REVISED	
CHECKED BY: J.M.	SCALE: 1" = 100'		
CHECKED BY: DSB	PROJECT: 1933		



RECORD DRAWINGS

2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
 BRONSTON WATER ASSOCIATION  
 PULASKI & WAYNE COUNTIES, KENTUCKY  
 KY HWY 156B/STRAWBERRY RD WATER LINE REPLACEMENT

	<b>Monarch Engineering, Inc.</b> 556 CARLTON DRIVE LAWRENCEBURG, KY 40342		
	DRAWN BY: JRC CHECKED BY: JLM CHECKED BY: DSB	DATE: OCT 2019 SCALE: 1" = 100' PROJECT: 1933	REVISED: _____ SHEET: 4







2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
 BRONSTON WATER ASSOCIATION  
 PULASKI & WAYNE COUNTIES, KENTUCKY  
 HUTCHINSON LANE WATER LINE REPLACEMENT



**M** Monarch Engineering, Inc.  
 556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342  
 DRAWN BY: jmc DATE: OCT 2018  
 CHECKED BY: jmc SCALE: 1" = 100'  
 CHECKED BY: DSB PROJECT: 1933

RECORD DRAWINGS



RECORD DRAWINGS

2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
 BRONSTON WATER ASSOCIATION  
 PULASKI & WAYNE COUNTIES, KENTUCKY  
 HUTCHINSON LANE WATER LINE REPLACEMENT



**Monarch Engineering, Inc.**  
 556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

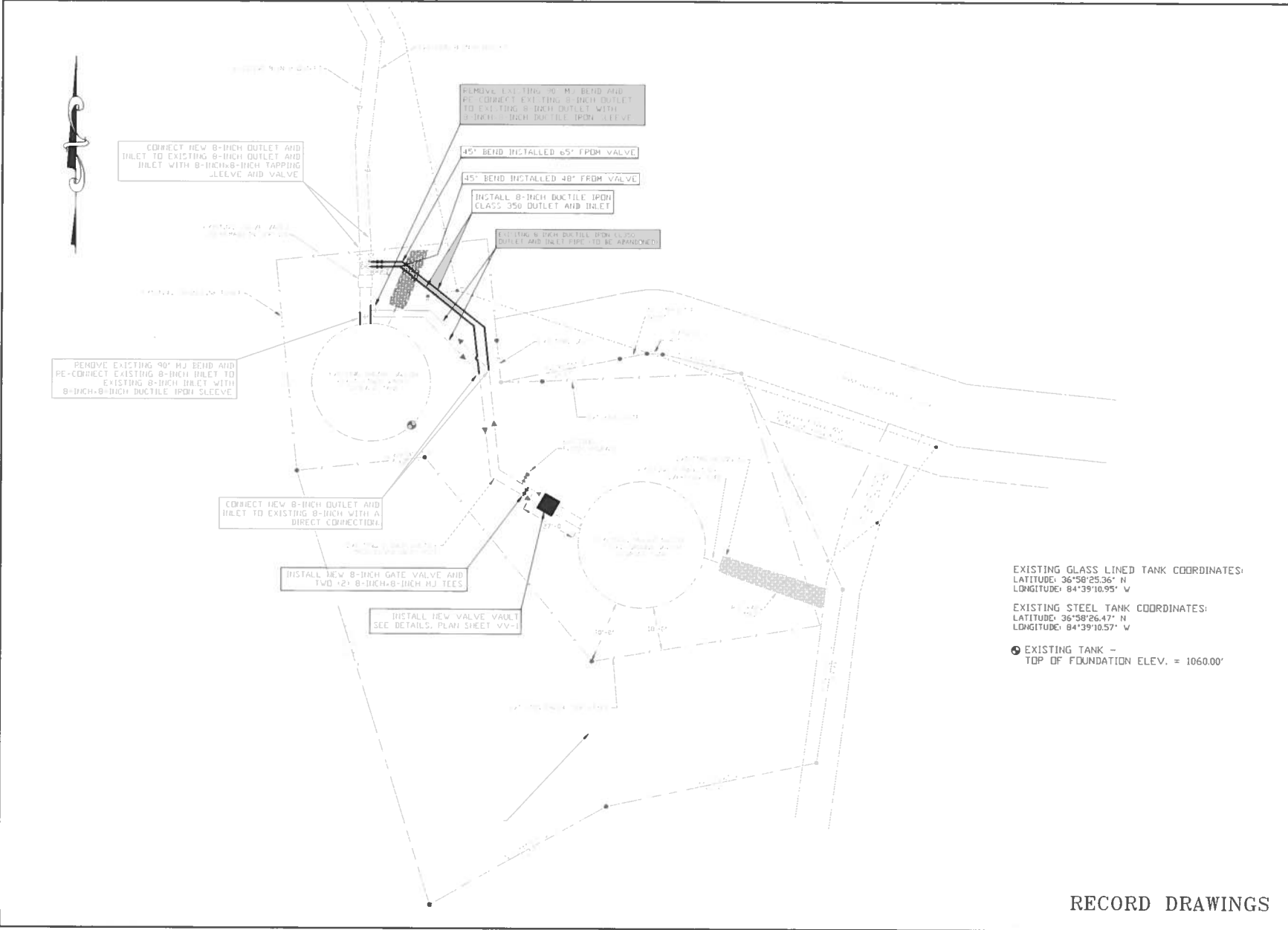
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CHECKED BY: JLM	SCALE: 1" = 100'	1	7
CHECKED BY: DSB	PROJECT: 1933		



2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
 BRONSTON WATER ASSOCIATION  
 PULASKI & WAYNE COUNTIES, KENTUCKY  
**BOBBI DRIVE & JUDY DRIVE WATER LINE REPLACEMENT**

	<b>Monarch Engineering, Inc.</b> 555 CARLTON DRIVE LAWRENCEBURG, KY 40342	
	DRAWN BY: JRC CHECKED BY: J.M.	DATE: OCT 2019 SCALE: 1" = 100' PROJECT: 1933
	REVISED:	SHEET:
	<b>8</b>	

**RECORD DRAWINGS**



EXISTING GLASS LINED TANK COORDINATES:  
 LATITUDE: 36°58'25.36" N  
 LONGITUDE: 84°39'10.95" W

EXISTING STEEL TANK COORDINATES:  
 LATITUDE: 36°58'26.47" N  
 LONGITUDE: 84°39'10.57" W

EXISTING TANK -  
 TOP OF FOUNDATION ELEV. = 1060.00'

**M**onarch Engineering, Inc.  
 556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

DESCRIPTION:  
 500,000 GALLON GLASS LINED  
 WATER STORAGE TANK INTERCONNECTION  
 CUSTOMER:  
 BRONSTON WATER ASSOCIATION  
 PULASKI COUNTY, KENTUCKY

PROJECT NO 1933  
 DATE OCT 2019  
 DRAWN BY JRC  
 CHECKED BY DSB  
 CHECKED BY DMB  
 SCALE 1"=20'

SHEET:  
 9



RECORD DRAWINGS



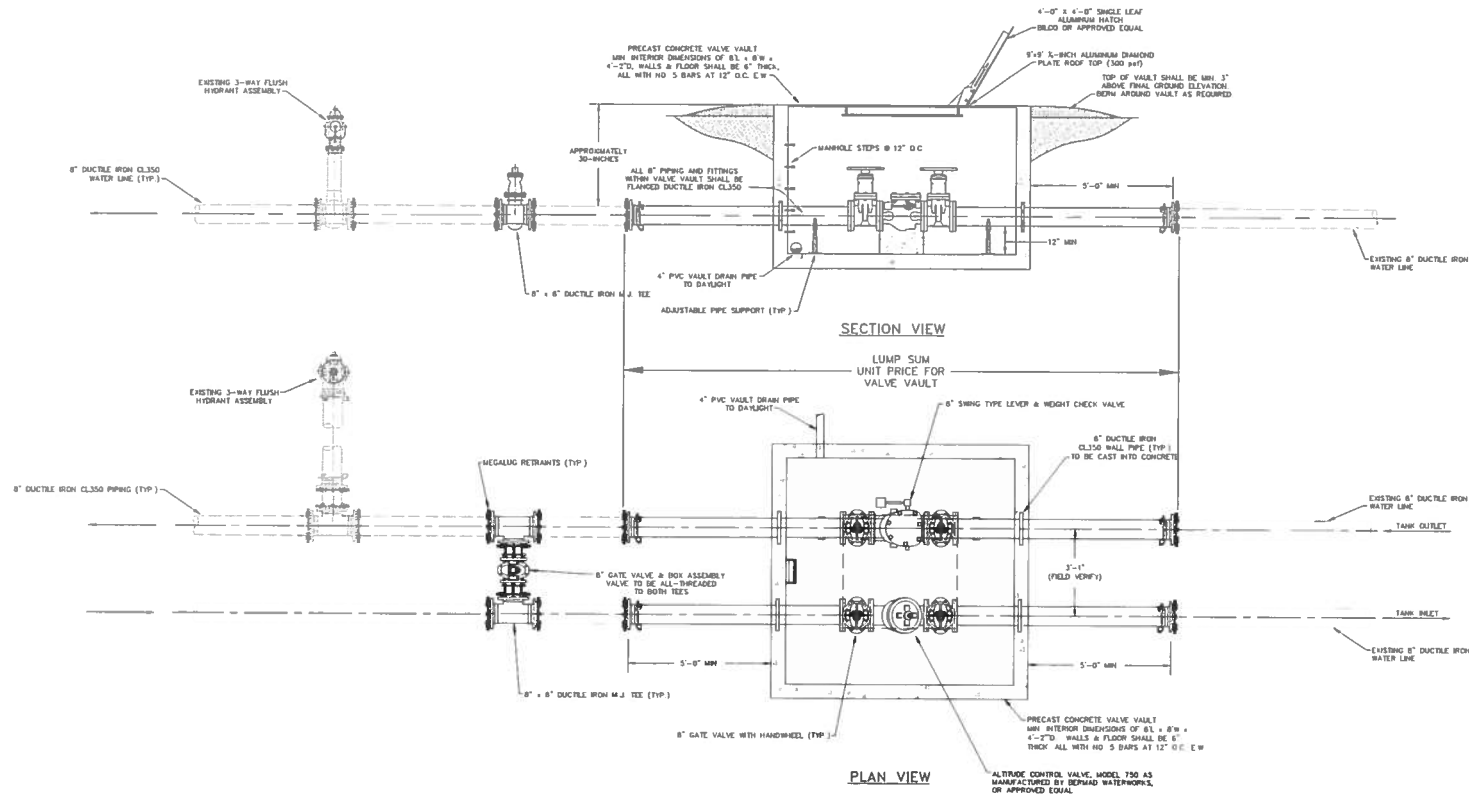
RECORD DRAWINGS

2019 WATER SYSTEM IMPROVEMENTS & REPLACEMENTS  
 BRONSTON WATER ASSOCIATION  
 PULASKI & WAYNE COUNTIES, KENTUCKY  
 ROLLING CLIFF DRIVE WATER LINE REPLACEMENT



**M**onarch Engineering, Inc.  
 556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

DRAWN BY: JRC	DATE: OCT 2019	REVISED	SHEET
CHECKED BY: JLM	SCALE: 1" = 100'		10
CHECKED BY: DSB	PROJECT: 1933		



**M** Monarch Engineering, Inc.  
 556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

DESCRIPTION: 500,000 GALLON TANK VALVE VAULT INSTALLATION

CUSTOMER: BRONSTON WATER ASSOCIATION PULASKI COUNTY, KENTUCKY

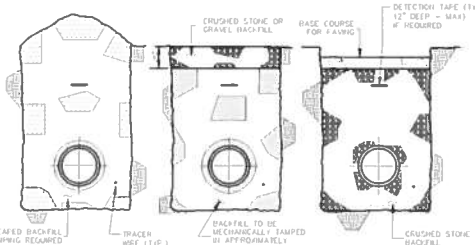
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 DATE OCT 2019  
 DRAWN BY JRC  
 CHECKED BY DSB  
 CHECKED BY DMB  
 SCALE: 1/2" = 1'-0"

SHEET: VV-1

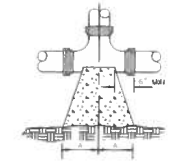


RECORD DRAWINGS

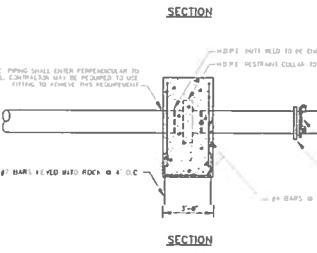
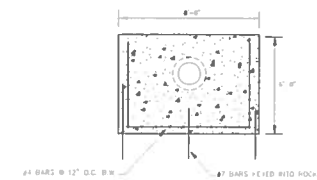
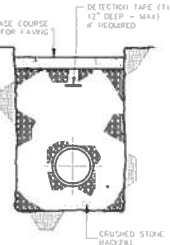
**NORMAL CONDITIONS**



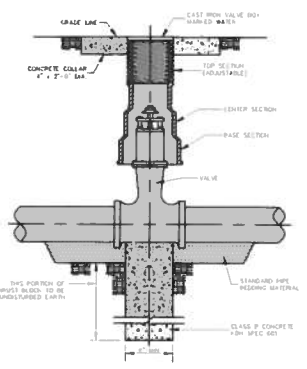
**GRAVELED AREAS**



**PAVED AREAS INCLUDING DRIVEWAYS & PARKING LOTS**

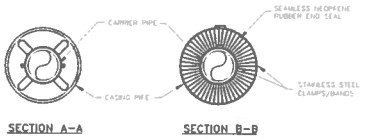
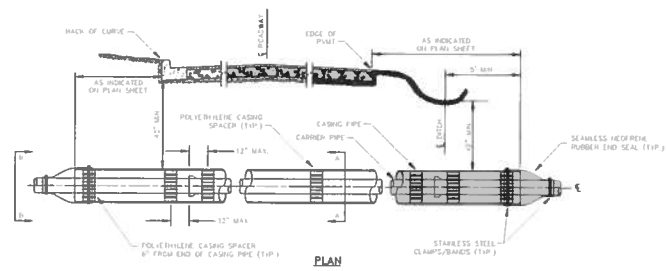


**HDPE RESTRAINT WALL**



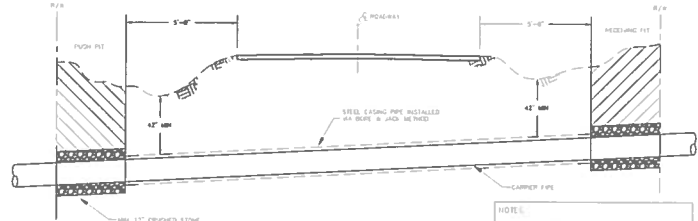
NOTE: SEE SPECIFICATIONS FOR PIPING MATERIALS AND METRIC JOINTS.

**GATE VALVE**



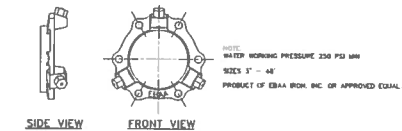
**ENCASEMENT PIPE DETAILS**

**NOTES:**  
 A MINIMUM OF THREE CASING SPACES ARE REQUIRED PER JOINT. ONE EACH AT THE SPIGOT, HANDLE & WELL.  
 ALL OIL PIPE JOINTS WITHIN THE CASING PIPE SHALL BE EQUIPPED WITH A MECHANICAL JOINT RESTRAINT DEVICE.  
 CASING SPACERS SHALL BE AS MANUFACTURED BY THE FOLLOWING SYSTEMS, MODEL E.S.P. OR APPROVED EQUAL.  
 END SEALS SHALL BE AS MANUFACTURED BY THE FOLLOWING SYSTEMS, MODEL E.S.P. OR APPROVED EQUAL.



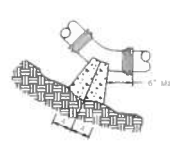
**STATE HIGHWAY ENCASED BORE CROSSING**

**NOTE:**  
 PITS & RECEIVING PITS TO BE BACK-FILLED AND THOROUGHLY COMPACTED IMMEDIATELY FOLLOWING INSTALLATION.  
 ALL HIGHWAY DISTURBANCES TO REMAIN FREE AND CLEAR FOLLOWING INSTALLATION.  
 GROUND COVER SHALL BE RESTORED IN ALL DISTURBED AREAS VIA SEED AND STRAW AS SOON AS POSSIBLE.

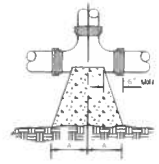


**MEGA LUG JOINT RESTRAINT**

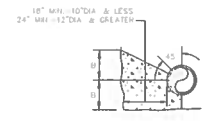
**NOTE:**  
 WATER WORKING PRESSURE 200 PSI MIN.  
 SIZES 3" - 48"  
 PRODUCT OF CEBA BROS. INC. OR APPROVED EQUAL.



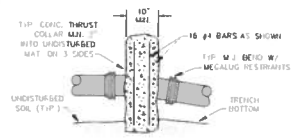
**PLAN (HORIZONTAL BENDS)**



**PLAN (TEES)**



**SECTION (HORIZONTAL BENDS & TEES)**

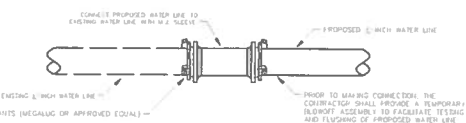


**SECTION (VERTICAL BENDS)**

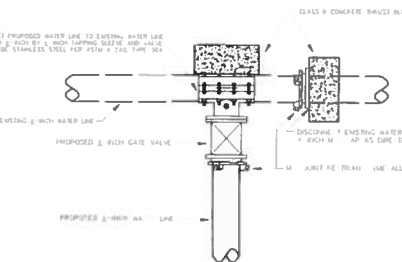
PIPE SIZE	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"
45° BEND	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"
90° BEND	12"	16"	20"	24"	30"	36"	42"	48"	54"	60"	66"	72"
TEE	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"
PLUG	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	42"	48"

- NOTES:**
- FOR VERT. BEND DOWN IN EXCESS OF 11 1/2' BEER, ANCHORAGE SHALL BE DESIGNED BY ENGINEER.
  - FOR VERT. BEND UPWARD, BLOCKING TO BE SIMILAR TO THAT FOR HORIZ. BEND.
  - GLANDS & BOXES SHALL MEAN ACCESSIBLE AND MUST BE PROTECTED FROM CONCRETE BY PLASTIC SHEETING OR OTHERWISE.
  - ALL THRUST BLOCK & SUPPORT (CONCRETE) SHALL BE 3000 PSI HEADS MIN.
  - THRUST BLOCKS WITH "B" DIMENSION GREATER THAN 30" SHALL HAVE THE RESTRAINED PIPE INSTALLED WITH A MINIMUM OF 4" OF COVER.
  - DESIGN CRITERIA:  
 LINE PRESSURE = 200 PSI  
 SOLE BEARING CAPACITY = 2000 LB/FT  
 FACTOR OF SAFETY = 1.5

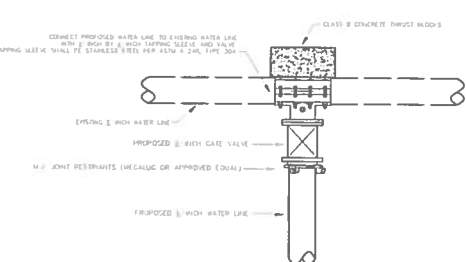
**THRUST BLOCK DETAILS**



**DIRECT CONNECTION**



**TYPE I CONNECTION**



**TYPE II CONNECTION**

**Monarch Engineering, Inc.**

556 CARLTON DRIVE  
 LAWRENCEBURG, KY 40342

**STANDARD DETAIL DRAWINGS**

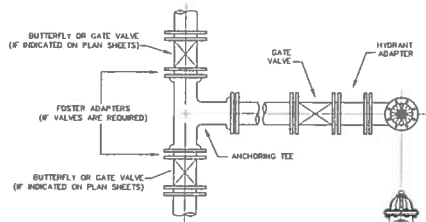
**CUSTOMER**  
 BRONSTON WATER ASSOCIATION  
 PULASKI COUNTY, KENTUCKY

**DESCRIPTION**

PROJECT NO 1933  
 DATE OCT 2019  
 DRAWN BY JRC  
 CHECKED BY DSB  
 CHECKED BY JLM  
 SCALE N T S

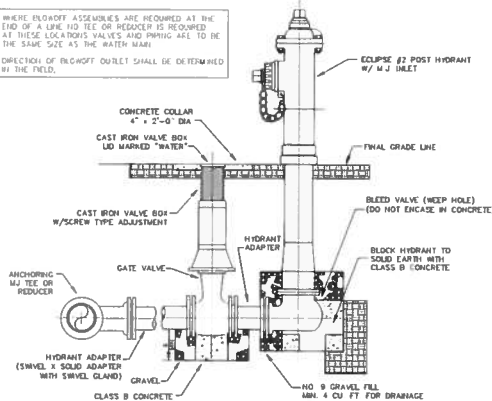
SHEET  
 SD-1



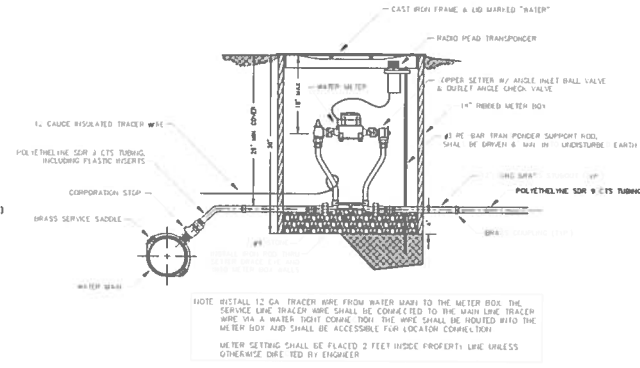


FLUSH HYDRANT ASSEMBLY

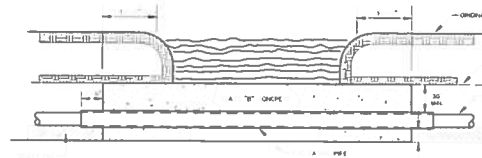
NOTE: WHERE BLOWOFF ASSEMBLIES ARE REQUIRED AT THE END OF A LINE, THE TEE OR REDUCER IS REQUIRED AT THESE LOCATIONS. VALVES AND PIPING ARE TO BE THE SAME SIZE AS THE WATER MAIN. DIRECTION OF BLOWOFF OUTLET SHALL BE DETERMINED BY THE FIELD.



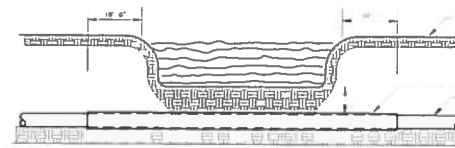
BLOWOFF ASSEMBLY



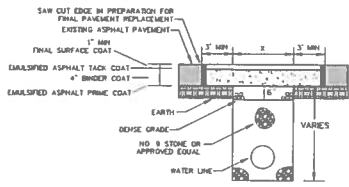
METER SETTING



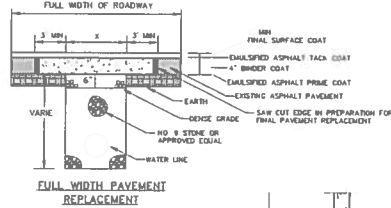
CREEK CROSSING IN ROCK



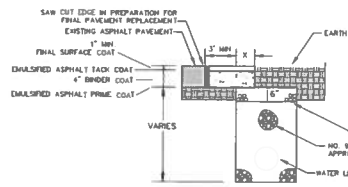
CREEK CROSSING IN SOIL



PAVEMENT REPLACEMENT



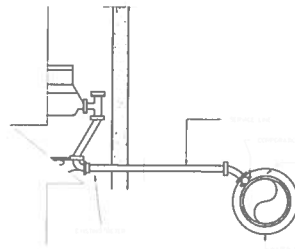
FULL WIDTH PAVEMENT REPLACEMENT



PARTIAL PAVEMENT REPLACEMENT

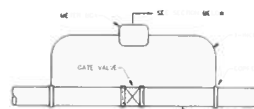
ANY TRENCH THROUGH BITUMINOUS PAVEMENT SHALL BE BACKFILLED WITH TONE. REPLACE BITUMINOUS PAVEMENT WITH SAME TYPE AND DEPTH AS EXISTING PAVEMENT. ANY PUBLICLY TRAVELED AREA, BUSINESS ENTRANCE, BUSINESS AND PARKING, ETC. SHALL BE TEMPORARILY RESTORED AT THE END OF EACH WORK DAY USING AN APPROVED PATCH ASPHALT PAVEMENT.

BITUMINOUS PAVEMENT REPLACEMENT

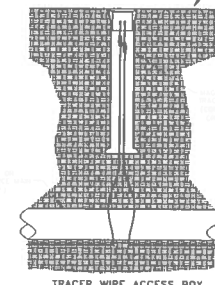
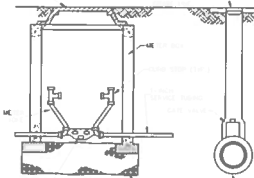


SERVICE RECONNECTION DETAIL

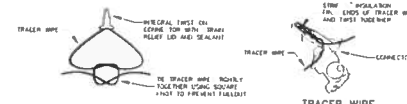
CREEK CROSSING



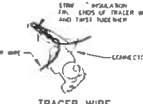
ISOLATION CHECK METER DETAIL



TRACER WIRE ACCESS BOX



TRACER WIRE CONNECTION



TRACER WIRE CONNECTOR DETAIL

NOTE: FOR OPEN CUT INSTALLATION, TRACER WIRE IS TO BE #12 AWG SOLID COPPER WITH 30 MIL BLUE PUMPE INSULATION. FOR TRENCHLESS INSTALLATION, TRACER WIRE IS TO BE #12 AWG SOLID COPPER CLAD STEEL CORE WITH 45 MIL BLUE PUMPE INSULATION. TRACER WIRE SHALL BE INSTALLED WITH THE PIPING AT THE TRENCH BOTTOM. ACCESS BOXES SHALL BE INSTALLED AT EACH VALVE, HYDRANT AND AIR RELEASE VALVE. TRACER WIRE ACCESS BOXES SHALL BE SPACED NO FURTHER THAN 1000' APART. A MINIMUM OF 3 FEET OF TRACER WIRE SHOULD BE COILED UP INSIDE OF EACH ACCESS BOX.

TRACER WIRE DETAILS

Monarch Engineering, Inc.

556 CARLTON DRIVE  
LAWRENCEBURG, KY 40342

STANDARD DETAIL DRAWINGS

BRONSTON WATER ASSOCIATION  
PULASKI COUNTY, KENTUCKY

DESCRIPTION:

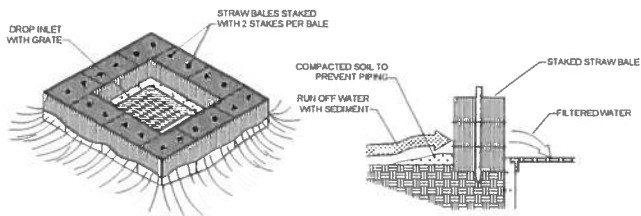
CUSTOMER:

PROJECT NO. 1933  
DATE: OCT 2019  
DRAWN BY: JRC  
CHECKED BY: DSB  
CHECKED BY: JLM  
SCALE: N.T.S.

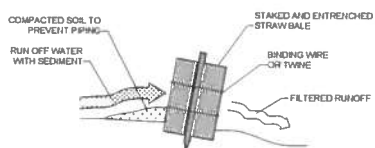
SHEET:  
SD-2



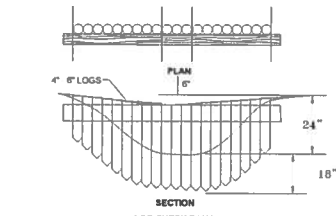




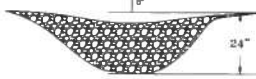
**STRAW BALE DROP INLET SEDIMENT FILTER**  
N.T.S.



**STRAW BALE INSTALLATION PROCEDURES**  
N.T.S.



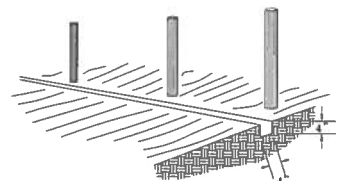
**LOG CHECK DAMS**



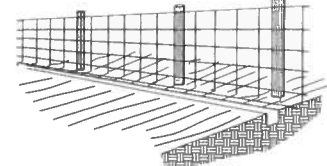
**ROCK CHECK DAMS**



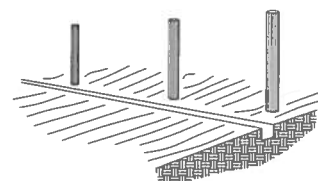
**CHECK DAM DETAILS**  
N.T.S.



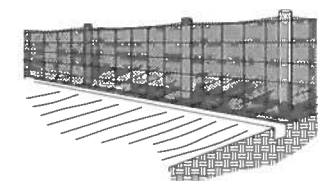
1. SET POSTS AND EXCAVATE A 4" x 4" TRENCH UP SLOPE ALONG THE LINE OF POSTS



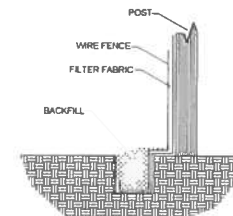
2. STAPLE WIRE FENCING TO POSTS



3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH

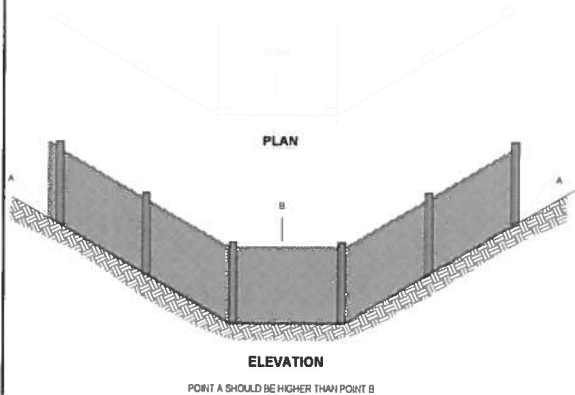


4. BACKFILL AND COMPACT THE EXCAVATED SOIL

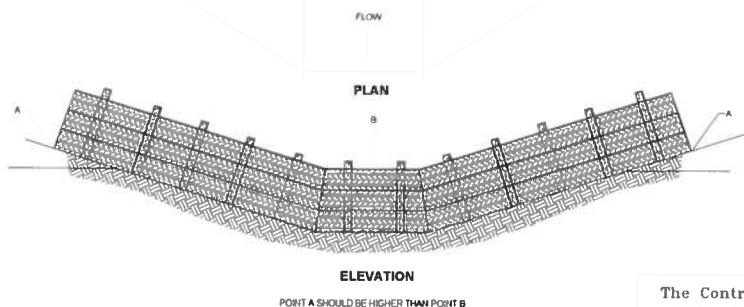


EXTENSION OF FABRIC AND WIRE INTO THE TRENCH

**SILT FENCE CONSTRUCTION PROCEDURES**  
N.T.S.



**PLACEMENT OF FILTER BARRIER**  
N.T.S.



**PLACEMENT OF STRAW BALE BARRIER**  
N.T.S.

**EROSION CONTROL DETAILS**  
N.T.S.

The Contractor shall do all work and take all measures necessary to control soil erosion resulting from construction operations, and shall prevent the flow of sediment from the construction site, and shall contain construction materials (including excavation and backfill) within their protected working area so as to prevent damage to the adjacent wetlands and water courses. The Contractor shall use any of the acceptable methods necessary to control soil erosion and prevent the flow of sediment to the maximum extent possible. These methods shall include, but not be limited to, the use of water diversion structures, diversion ditches, and settling basins.

**Monarch Engineering, Inc.**  
556 CARLTON DRIVE  
LAWRENCEBURG, KY 40342

**EROSION CONTROL DETAILS**

**CUSTOMER:**  
BRONSTON WATER ASSOCIATION  
PULASKI COUNTY, KENTUCKY

**DESCRIPTION:**

PROJECT NO. 1933  
DATE: OCT 2019  
DRAWN BY: JRC  
CHECKED BY: DSB

CHECKED BY: DMB  
SCALE: AS NOTED

**SHEET:**  
EC-1

