

WATER SYSTEM ADDITIONS BUTLER COUNTY PROJECT 18



Butler County
Water System



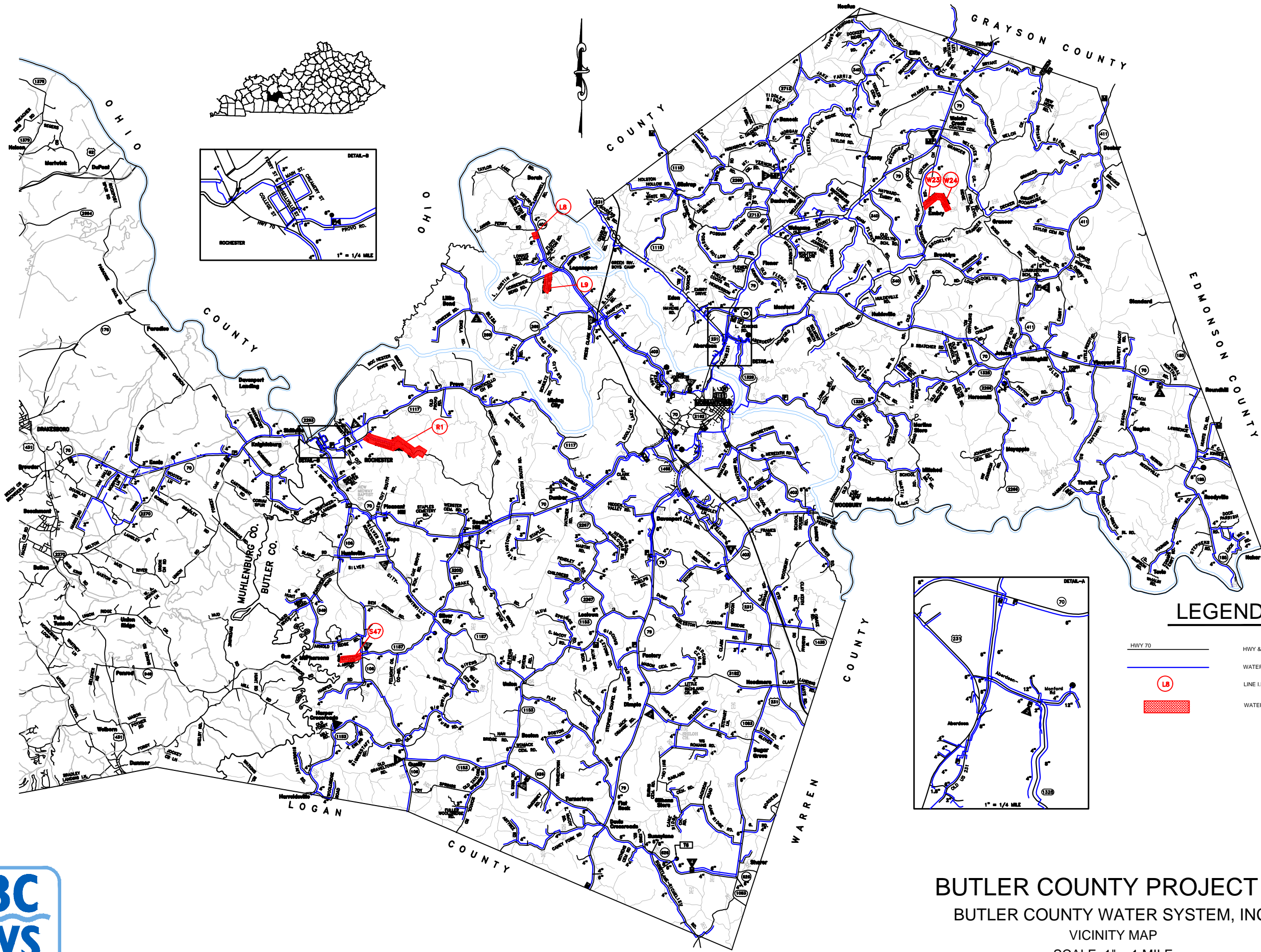
August 16, 2017

523 US Hwy 31-W Bypass / P.O. Box 10180
Bowling Green, KY 42102-4780
TEL 270.842.0052
FAX 270.842.8360
www.butlerwater.com

INDEX OF DRAWINGS

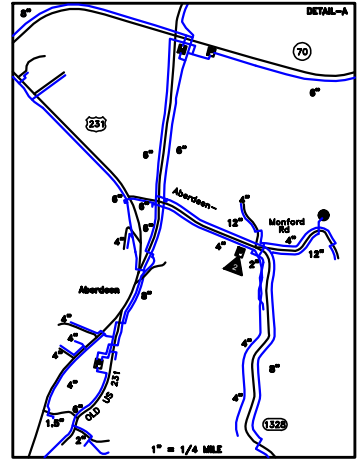
| <u>SHEET #</u> | <u>DESCRIPTION</u> |
|----------------|---|
| 1 | RUBY ROAD STA. 0+00 TO STA. 33+20 |
| 2 | G. SUTHERLAND ROAD STA. 0+00 TO STA. 111+20 |
| 3 | WHALEN CEMETERY ROAD STA. 0+00 TO STA. 22+00 |
| 4 | DOC HAMPTON ROAD STA. 0+00 TO STA. 8+60 |
| 5 | TARVIN EMBRY ROAD STA. 0+00 TO STA. 49+20 |
| WD | WATER DETAIL SHEET |
| ECD | EROSION CONTROL DETAILS |

SET # _____



LEGEND

- HWY 70
- HWY & RD CENTER LN & NAME
- WATER LINE
- LINE I.D.
- WATER LINE LOCATION



BUTLER COUNTY PROJECT 18
 BUTLER COUNTY WATER SYSTEM, INC.
 VICINITY MAP
 SCALE: 1" = 1 MILE
 AUGUST 16, 2017

Y:\AutoCAD_BS\ButlerCounty\Projects\IndividualProjects\402562\Project 18 Exhibit A 8-15-17.dwg



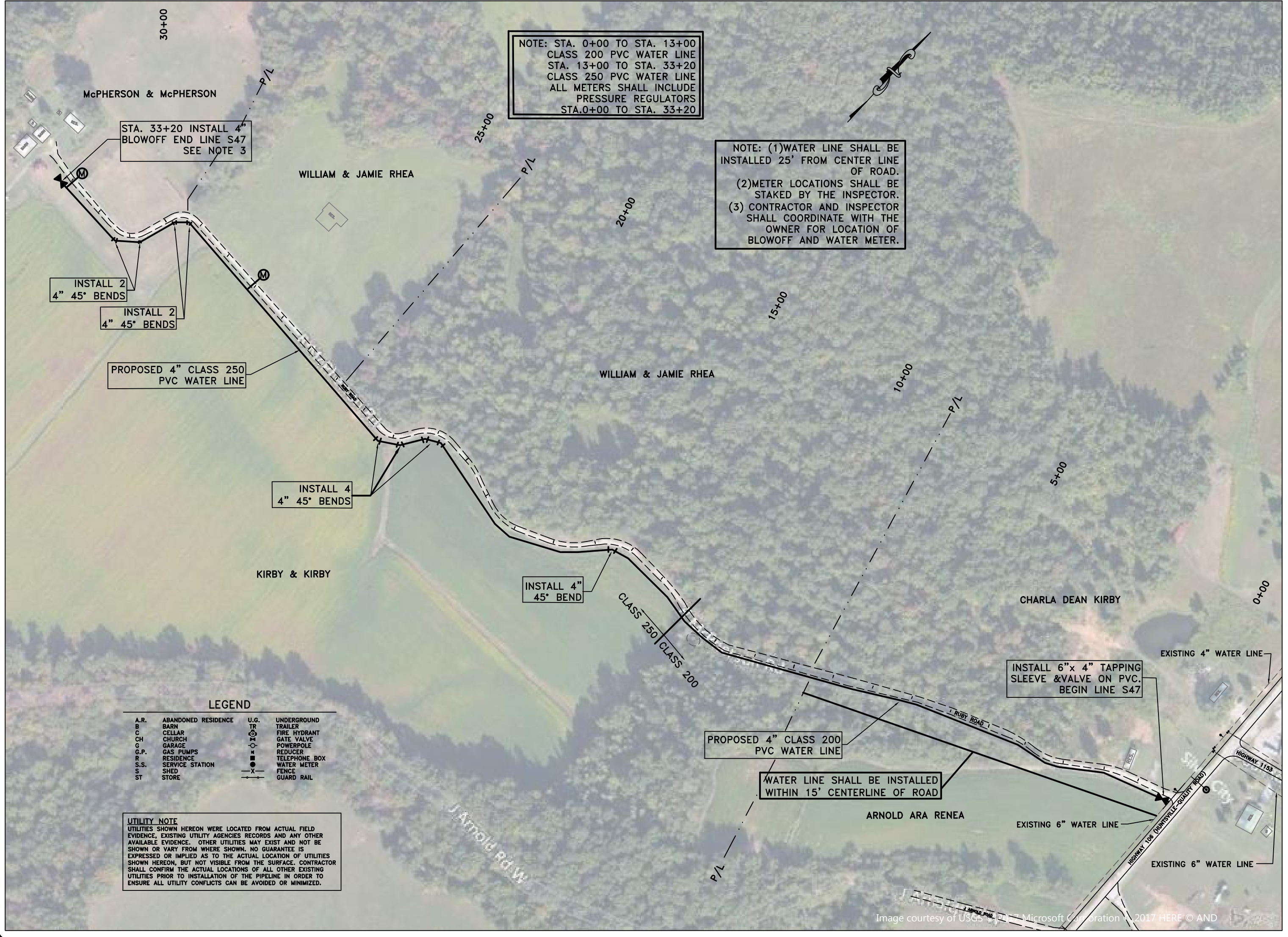
BUTLER COUNTY PROJECT 18
RUBY ROAD
PROJECT NUMBER #402562

| | |
|-------------------|-------|
| SCALE: 1"=100' | |
| DATE: 8/16/17 | |
| PROJECT #: 402562 | |
| DESIGNED: | TKM |
| DRAWN: | TKM |
| CHECKED: | RJL |
| REVISIONS: | |
| NO.: | DATE: |
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NOTE: STA. 0+00 TO STA. 13+00
CLASS 200 PVC WATER LINE
STA. 13+00 TO STA. 33+20
CLASS 250 PVC WATER LINE
ALL METERS SHALL INCLUDE
PRESSURE REGULATORS
STA.0+00 TO STA. 33+20

NOTE: (1)WATER LINE SHALL BE
INSTALLED 25' FROM CENTER LINE
OF ROAD.
(2)METER LOCATIONS SHALL BE
STAKED BY THE INSPECTOR.
(3) CONTRACTOR AND INSPECTOR
SHALL COORDINATE WITH THE
OWNER FOR LOCATION OF
BLOWOFF AND WATER METER.



STA. 33+20 INSTALL 4"
BLOWOFF END LINE S47
SEE NOTE 3

INSTALL 2
4" 45° BENDS

INSTALL 2
4" 45° BENDS

PROPOSED 4" CLASS 250
PVC WATER LINE

INSTALL 4
4" 45° BENDS

INSTALL 4"
45° BEND

PROPOSED 4" CLASS 200
PVC WATER LINE

WATER LINE SHALL BE INSTALLED
WITHIN 15' CENTERLINE OF ROAD

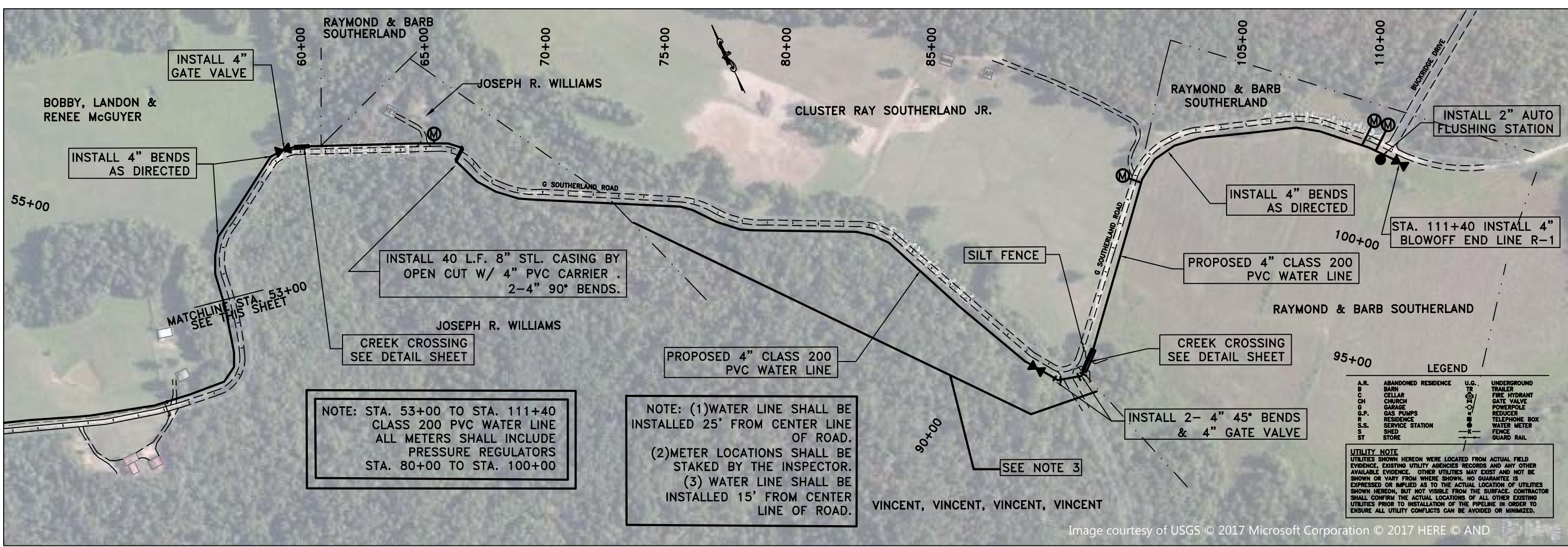
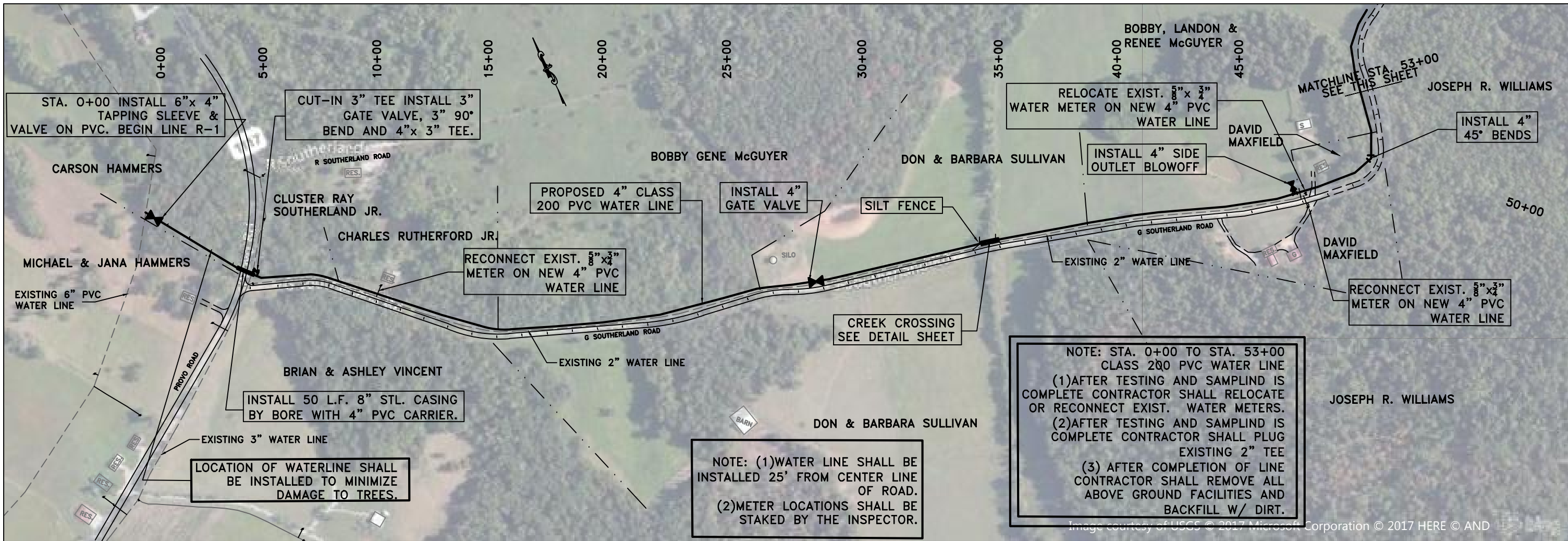
INSTALL 6"x 4" TAPPING
SLEEVE & VALVE ON PVC.
BEGIN LINE S47

LEGEND

| | | | |
|------|---------------------|------|---------------|
| A.R. | ABANDONED RESIDENCE | U.G. | UNDERGROUND |
| B | BARN | TR | TRAILER |
| C | CELLAR | ⊙ | FIRE HYDRANT |
| CH | CHURCH | ⊙ | GATE VALVE |
| G | GARAGE | ⊙ | POWERPOLE |
| G.P. | GAS PUMPS | ⊙ | REDUCER |
| R | RESIDENCE | ⊙ | TELEPHONE BOX |
| S.S. | SERVICE STATION | ⊙ | WATER METER |
| S | SHED | -X- | FENCE |
| ST | STORE | -X- | GUARD RAIL |

UTILITY NOTE
UTILITIES SHOWN HEREON WERE LOCATED FROM ACTUAL FIELD EVIDENCE, EXISTING UTILITY AGENCIES RECORDS AND ANY OTHER AVAILABLE EVIDENCE. OTHER UTILITIES MAY EXIST AND NOT BE SHOWN OR VARY FROM WHERE SHOWN. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE ACTUAL LOCATION OF UTILITIES SHOWN HEREON, BUT NOT VISIBLE FROM THE SURFACE. CONTRACTOR SHALL CONFIRM THE ACTUAL LOCATIONS OF ALL OTHER EXISTING UTILITIES PRIOR TO INSTALLATION OF THE PIPELINE IN ORDER TO ENSURE ALL UTILITY CONFLICTS CAN BE AVOIDED OR MINIMIZED.

Image courtesy of USGS and Microsoft Corporation 2017 HERE © AND



LEGEND

| | | | |
|------|---------------------|------|---------------------|
| A.R. | ABANDONED RESIDENCE | U.G. | UNDERGROUND TRAILER |
| B | BARN | TR | FIRE HYDRANT |
| C | CELLAR | TV | GATE VALVE |
| CH | CHURCH | W | POWERPOLE |
| G | GARAGE | W.R. | REDUCER |
| G.P. | GAS PUMPS | W.M. | WATER METER |
| R | RESIDENCE | X | FENCE |
| S.S. | SERVICE STATION | | GUARD RAIL |
| S | SHED | | |
| ST | STORE | | |

UTILITY NOTE
UTILITIES SHOWN HEREON WERE LOCATED FROM ACTUAL FIELD EVIDENCE, EXISTING UTILITY AGENCIES RECORDS AND ANY OTHER AVAILABLE EVIDENCE. OTHER UTILITIES MAY EXIST AND NOT BE SHOWN OR VARY FROM WHERE SHOWN. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE ACTUAL LOCATION OF UTILITIES SHOWN HEREON, BUT NOT VISIBLE FROM THE SURFACE. CONTRACTOR SHALL CONFIRM THE ACTUAL LOCATIONS OF ALL OTHER EXISTING UTILITIES PRIOR TO INSTALLATION OF THE PIPELINE IN ORDER TO ENSURE ALL UTILITY CONFLICTS CAN BE AVOIDED OR MINIMIZED.

SCALE: 1"=200'
DATE: 8/16/17
PROJECT #: 402562
DESIGNED: TKM
DRAWN: TKM
CHECKED: RJL

REVISIONS:

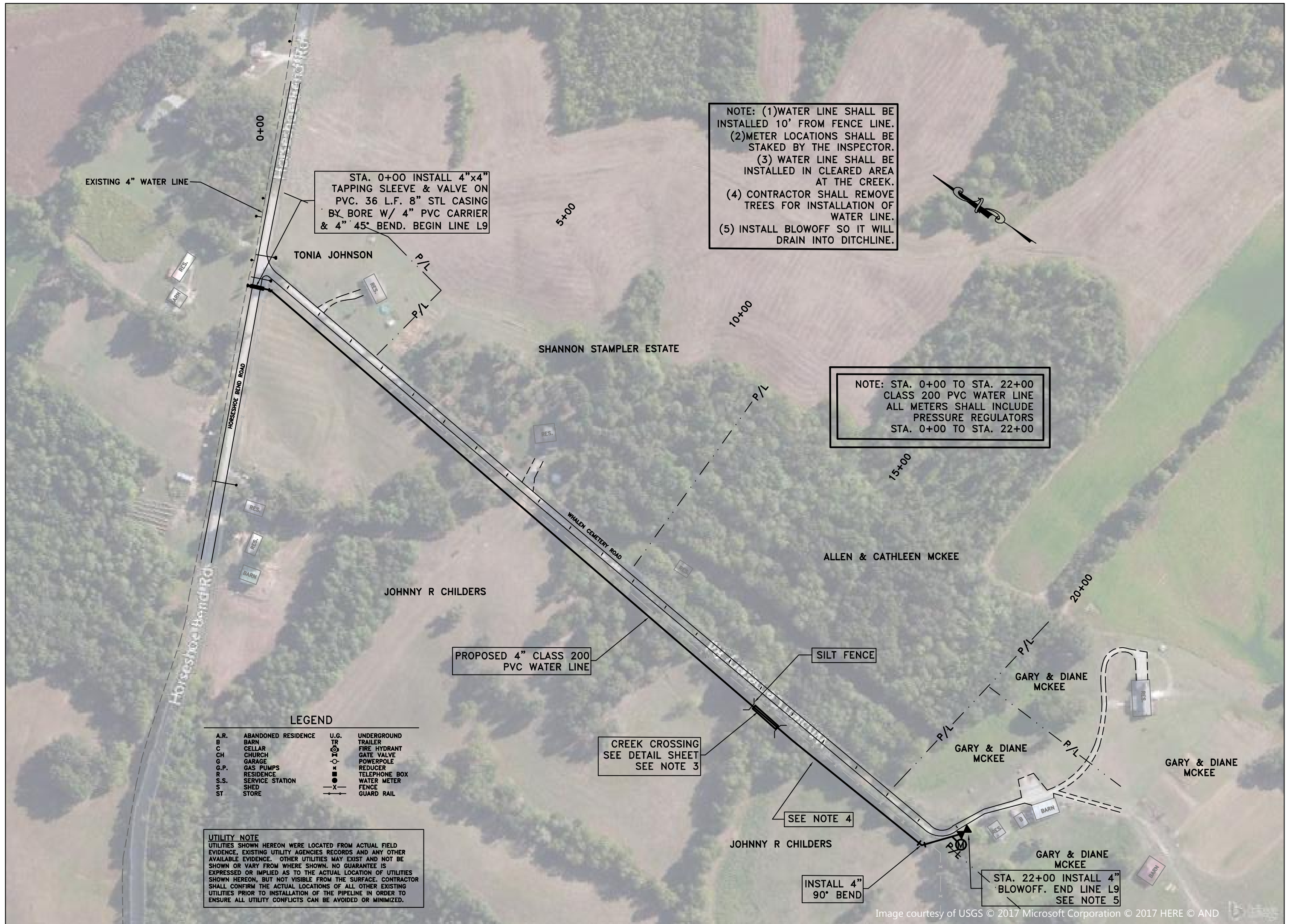
| NO. | DATE: |
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SCALE: 1"=100'
DATE: 8/16/17
PROJECT #: 402562
DESIGNED: TKM
DRAWN: TKM
CHECKED: RJL

| REVISIONS: | |
|------------|-------|
| NO.: | DATE: |
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NOTE: (1) WATER LINE SHALL BE INSTALLED 10' FROM FENCE LINE.
(2) METER LOCATIONS SHALL BE STAKED BY THE INSPECTOR.
(3) WATER LINE SHALL BE INSTALLED IN CLEARED AREA AT THE CREEK.
(4) CONTRACTOR SHALL REMOVE TREES FOR INSTALLATION OF WATER LINE.
(5) INSTALL BLOWOFF SO IT WILL DRAIN INTO DITCHLINE.

NOTE: STA. 0+00 TO STA. 22+00 CLASS 200 PVC WATER LINE ALL METERS SHALL INCLUDE PRESSURE REGULATORS STA. 0+00 TO STA. 22+00

STA. 0+00 INSTALL 4"x4" TAPPING SLEEVE & VALVE ON PVC. 36 L.F. 8" STL CASING BY BORE W/ 4" PVC CARRIER & 4" 45° BEND. BEGIN LINE L9

PROPOSED 4" CLASS 200 PVC WATER LINE

CREEK CROSSING SEE DETAIL SHEET SEE NOTE 3

INSTALL 4" 90° BEND

STA. 22+00 INSTALL 4" BLOWOFF. END LINE L9 SEE NOTE 5

LEGEND

| | | | |
|------|---------------------|------|---------------------|
| A.R. | ABANDONED RESIDENCE | U.G. | UNDERGROUND TRAILER |
| B | BARN | TR | TRAILER |
| C | CELLAR | TR | TRAILER |
| CH | CHURCH | TR | TRAILER |
| G | GARAGE | TR | TRAILER |
| G.P. | GAS PUMPS | TR | TRAILER |
| R | RESIDENCE | TR | TRAILER |
| S.S. | SERVICE STATION | TR | TRAILER |
| ST | STORE | TR | TRAILER |
| | | TR | TRAILER |
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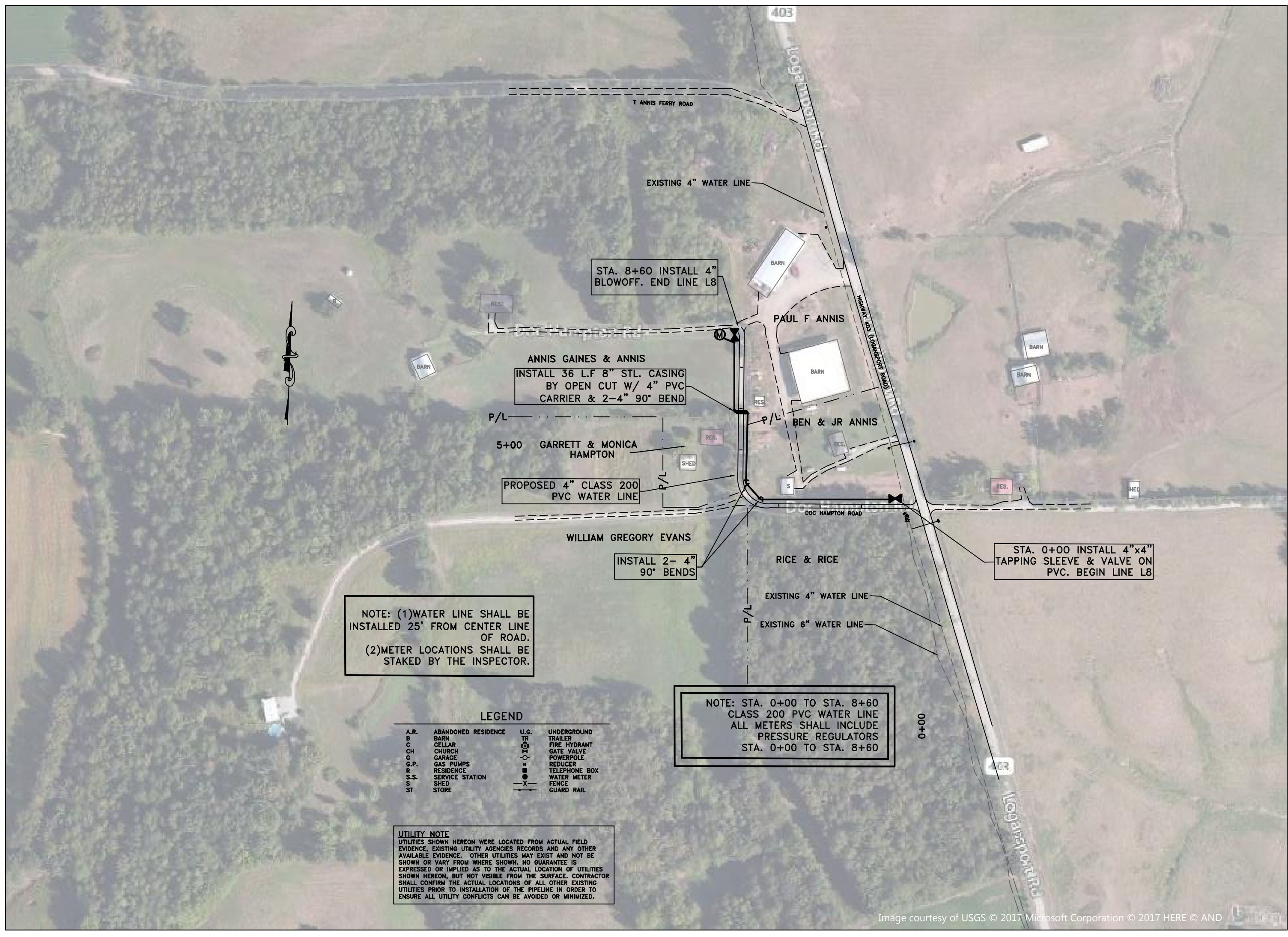
UTILITY NOTE
UTILITIES SHOWN HEREON WERE LOCATED FROM ACTUAL FIELD EVIDENCE, EXISTING UTILITY AGENCIES RECORDS AND ANY OTHER AVAILABLE EVIDENCE. OTHER UTILITIES MAY EXIST AND NOT BE SHOWN OR VARY FROM WHERE SHOWN. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE ACTUAL LOCATION OF UTILITIES SHOWN HEREON, BUT NOT VISIBLE FROM THE SURFACE. CONTRACTOR SHALL CONFIRM THE ACTUAL LOCATIONS OF ALL OTHER EXISTING UTILITIES PRIOR TO INSTALLATION OF THE PIPELINE IN ORDER TO ENSURE ALL UTILITY CONFLICTS CAN BE AVOIDED OR MINIMIZED.



SCALE: 1"=100'
DATE: 8/16/17
PROJECT #: 402562
DESIGNED: TKM
DRAWN: TKM
CHECKED: RJL

REVISIONS:

| NO.: | DATE: |
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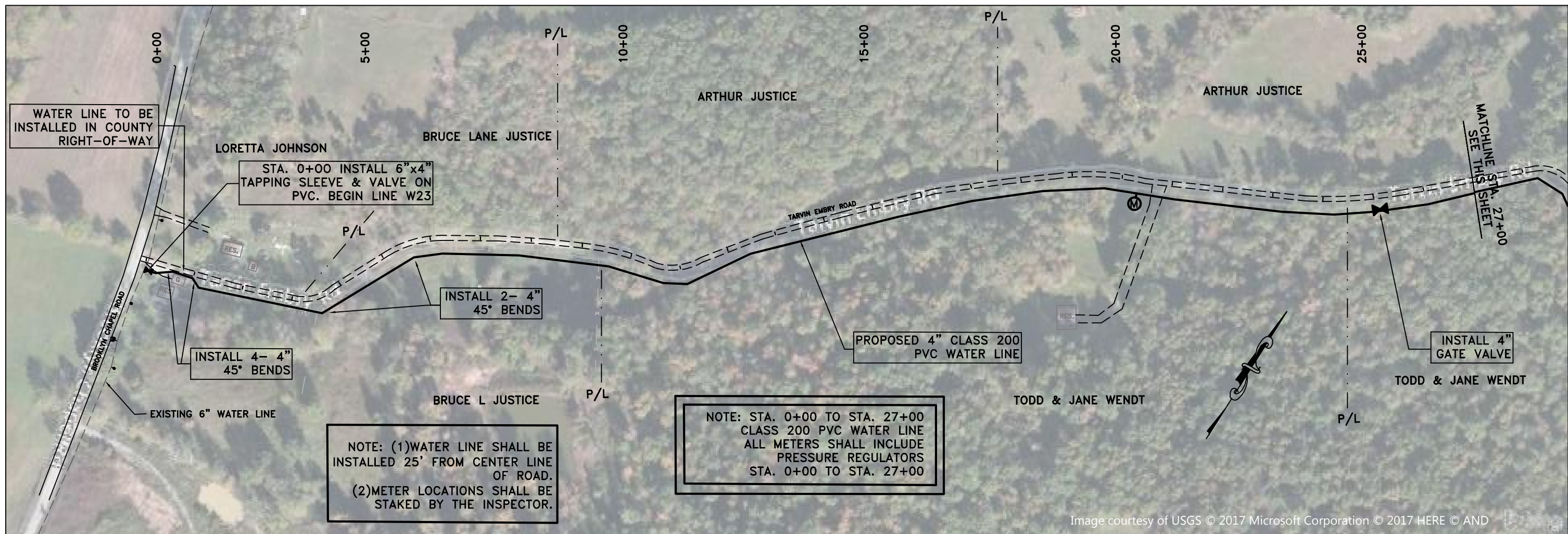
NOTE: (1) WATER LINE SHALL BE INSTALLED 25' FROM CENTER LINE OF ROAD.
(2) METER LOCATIONS SHALL BE STAKED BY THE INSPECTOR.

NOTE: STA. 0+00 TO STA. 8+60 CLASS 200 PVC WATER LINE ALL METERS SHALL INCLUDE PRESSURE REGULATORS STA. 0+00 TO STA. 8+60

LEGEND

| | | | |
|------|---------------------|------|---------------|
| A.R. | ABANDONED RESIDENCE | U.G. | UNDERGROUND |
| B | BARN | TR | TRAILER |
| C | CELLAR | TR | FIRE HYDRANT |
| CH | CHURCH | TV | GATE VALVE |
| G | GARAGE | ○ | POWERPOLE |
| G.P. | GAS PUMPS | ○ | REDUCER |
| R | RESIDENCE | ○ | TELEPHONE BOX |
| S.S. | SERVICE STATION | ○ | WATER METER |
| S | SHED | ○ | FENCE |
| ST | STORE | ○ | GUARD RAIL |

UTILITY NOTE
UTILITIES SHOWN HEREON WERE LOCATED FROM ACTUAL FIELD EVIDENCE, EXISTING UTILITY AGENCIES RECORDS AND ANY OTHER AVAILABLE EVIDENCE. OTHER UTILITIES MAY EXIST AND NOT BE SHOWN OR VARY FROM WHERE SHOWN. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE ACTUAL LOCATION OF UTILITIES SHOWN HEREON, BUT NOT VISIBLE FROM THE SURFACE. CONTRACTOR SHALL CONFIRM THE ACTUAL LOCATIONS OF ALL OTHER EXISTING UTILITIES PRIOR TO INSTALLATION OF THE PIPELINE IN ORDER TO ENSURE ALL UTILITY CONFLICTS CAN BE AVOIDED OR MINIMIZED.



WATER LINE TO BE INSTALLED IN COUNTY RIGHT-OF-WAY

STA. 0+00 INSTALL 6"x4" TAPPING SLEEVE & VALVE ON PVC. BEGIN LINE W23

INSTALL 4- 4" 45° BENDS

INSTALL 2- 4" 45° BENDS

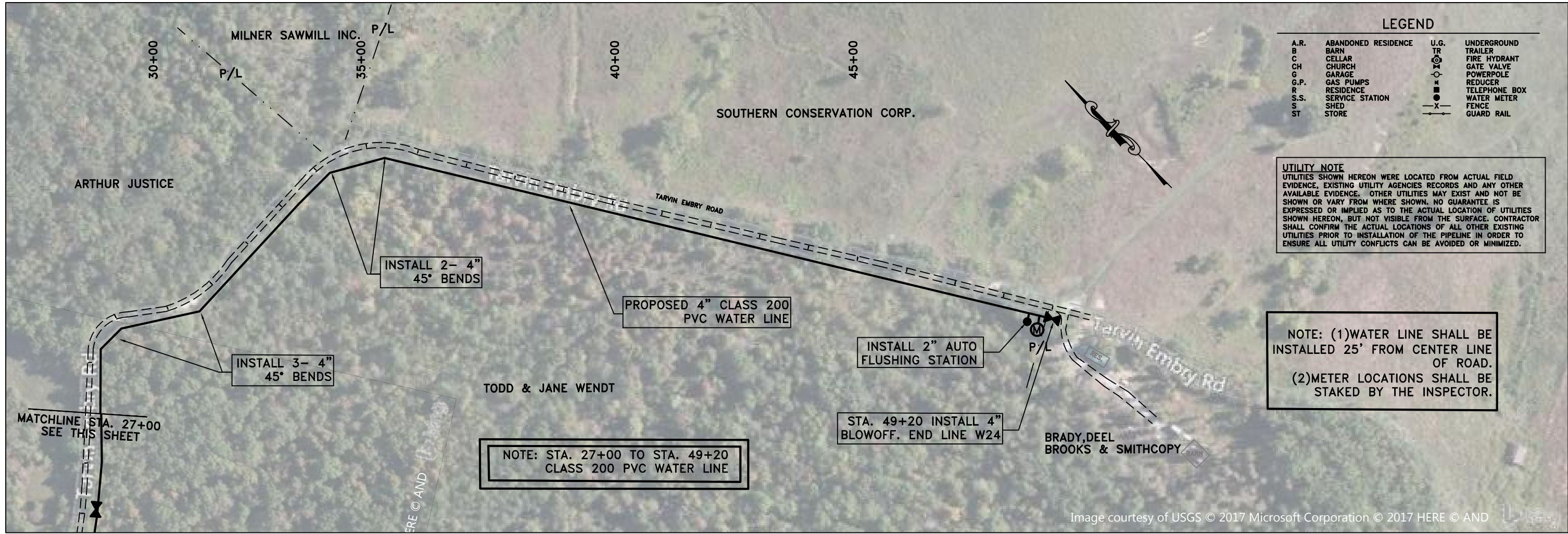
PROPOSED 4" CLASS 200 PVC WATER LINE

INSTALL 4" GATE VALVE

NOTE: (1) WATER LINE SHALL BE INSTALLED 25' FROM CENTER LINE OF ROAD.
(2) METER LOCATIONS SHALL BE STAKED BY THE INSPECTOR.

NOTE: STA. 0+00 TO STA. 27+00 CLASS 200 PVC WATER LINE ALL METERS SHALL INCLUDE PRESSURE REGULATORS STA. 0+00 TO STA. 27+00

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LEGEND

| | | | |
|------|---------------------|------|---------------|
| A.R. | ABANDONED RESIDENCE | U.G. | UNDERGROUND |
| B | BARN | TR | TRAILER |
| C | CELLAR | ⊗ | FIRE HYDRANT |
| CH | CHURCH | ⊕ | GATE VALVE |
| G | GARAGE | ⊖ | POWERPOLE |
| G.P. | GAS PUMPS | ⊘ | REDUCER |
| R | RESIDENCE | ⊙ | TELEPHONE BOX |
| S.S. | SERVICE STATION | ● | WATER METER |
| S | SHED | -x- | FENCE |
| ST | STORE | — — | GUARD RAIL |

UTILITY NOTE
UTILITIES SHOWN HEREON WERE LOCATED FROM ACTUAL FIELD EVIDENCE, EXISTING UTILITY AGENCIES RECORDS AND ANY OTHER AVAILABLE EVIDENCE. OTHER UTILITIES MAY EXIST AND NOT BE SHOWN OR VARY FROM WHERE SHOWN. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE ACTUAL LOCATION OF UTILITIES SHOWN HEREON, BUT NOT VISIBLE FROM THE SURFACE. CONTRACTOR SHALL CONFIRM THE ACTUAL LOCATIONS OF ALL OTHER EXISTING UTILITIES PRIOR TO INSTALLATION OF THE PIPELINE IN ORDER TO ENSURE ALL UTILITY CONFLICTS CAN BE AVOIDED OR MINIMIZED.

NOTE: (1) WATER LINE SHALL BE INSTALLED 25' FROM CENTER LINE OF ROAD.
(2) METER LOCATIONS SHALL BE STAKED BY THE INSPECTOR.

NOTE: STA. 27+00 TO STA. 49+20 CLASS 200 PVC WATER LINE

STA. 49+20 INSTALL 4" BLOWOFF. END LINE W24

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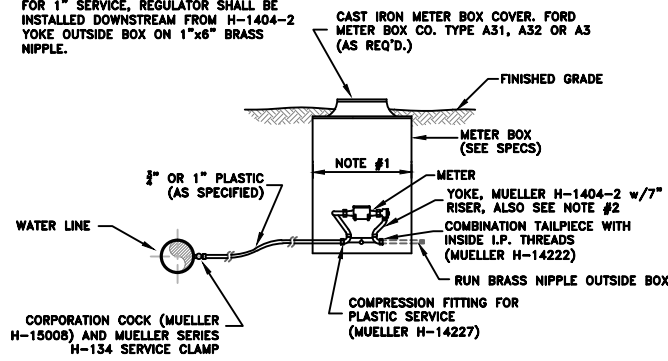
SCALE: 1"=100'
DATE: 8/16/17
PROJECT #: 402562
DESIGNED: TKM
DRAWN: TKM
CHECKED: RJL

REVISIONS:

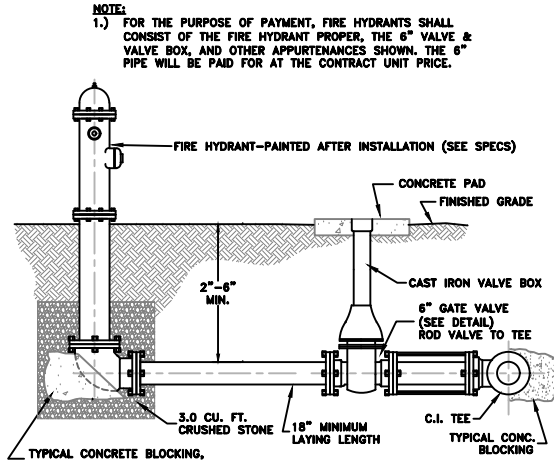
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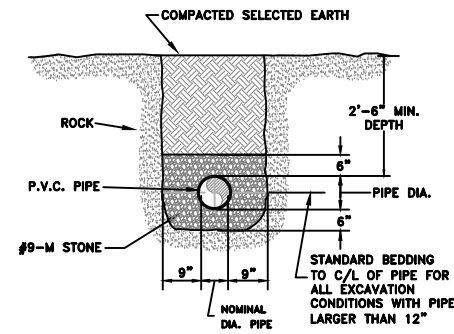
- NOTES:**
- METER BOX DIA. FOR 3/4" SERVICE SHALL BE 15" OR 18" FOR LOCATIONS WITH & WITHOUT REGULATORS RESPECTIVELY. ALL 1" SERVICES SHALL USE 20" DIA. BOX.
 - WHERE A REGULATOR IS REQUIRED IT SHALL BE WILKINS 34-600M-HR. FOR 3/4" SERVICE, REGULATOR SHALL BE INSTALLED IN MUELLER H-1404-012 TANDEM YOKE. FOR 1" SERVICE, REGULATOR SHALL BE INSTALLED DOWNSTREAM FROM H-1404-2 YOKE OUTSIDE BOX ON 1"x6" BRASS NIPPLE.



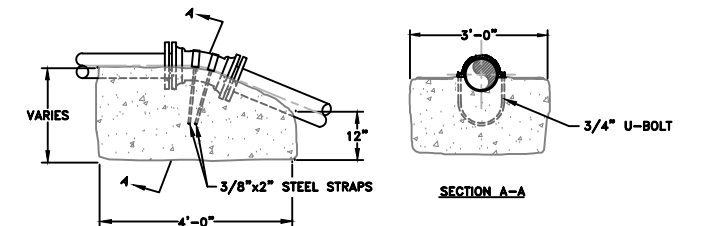
**TYPICAL METER SETTING
FOR 3/4" & 1"
SERVICES**



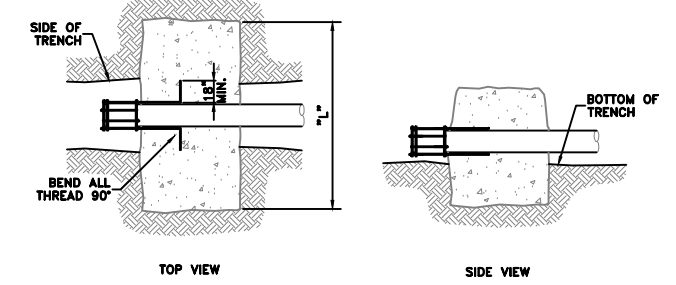
**TYPICAL FIRE HYDRANT
SETTING**



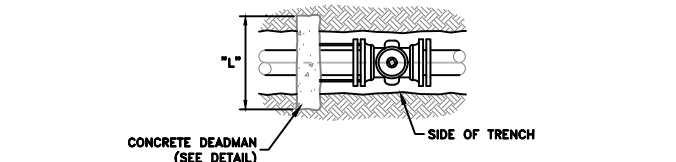
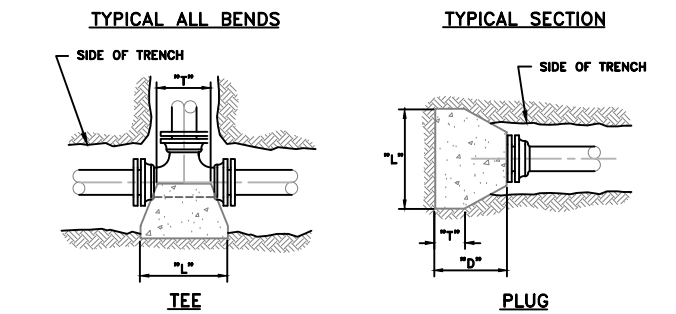
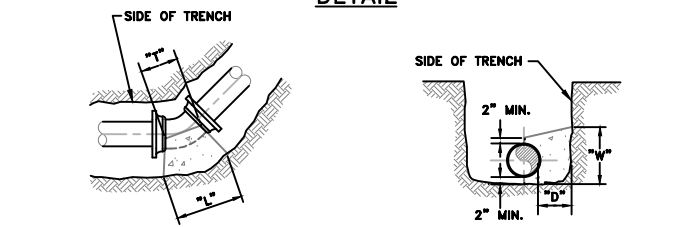
**TYPICAL STONE ENVELOPE
FOR LARGE PIPE OR ROCK
EXCAVATION
(MAY PAY QUANTITIES IN ROCK)**



**VERTICAL BEND PIPE
ANCHOR DETAIL**



**CONCRETE DEADMAN
DETAIL**



VALVES 10" & LARGER

| | | 90° BENDS | | | | | | | | | | | |
|------|--|-----------|----|----|----|----|----|----|----|----|----|----|-----|
| SIZE | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 |
| "D" | | 6 | 8 | 8 | 10 | 12 | 14 | 22 | 22 | 24 | 24 | 30 | 30 |
| "L" | | 16 | 20 | 24 | 30 | 32 | 34 | 68 | 68 | 80 | 80 | 96 | 120 |
| "W" | | 8 | 10 | 12 | 18 | 22 | 24 | 34 | 34 | 40 | 40 | 48 | 60 |
| "T" | | 10 | 12 | 16 | 20 | 22 | 22 | 38 | 38 | 40 | 40 | 44 | 52 |

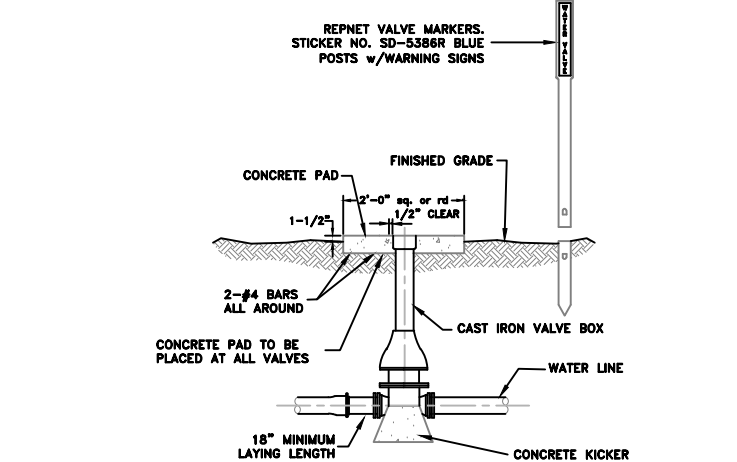
| | | 45° BENDS | | | | | | | | | | | |
|------|--|-----------|----|----|----|----|----|----|----|----|----|----|----|
| SIZE | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 |
| "D" | | 6 | 6 | 8 | 10 | 12 | 12 | 22 | 22 | 24 | 24 | 30 | 30 |
| "L" | | 14 | 18 | 18 | 22 | 24 | 24 | 51 | 51 | 60 | 60 | 72 | 90 |
| "W" | | 8 | 10 | 12 | 16 | 18 | 18 | 25 | 25 | 29 | 29 | 36 | 44 |
| "T" | | 10 | 12 | 16 | 18 | 18 | 18 | 38 | 38 | 40 | 40 | 44 | 52 |

| | | 22 1/2" & 11 1/4" BENDS | | | | | | | | | | | |
|------|--|-------------------------|----|----|----|----|----|----|----|----|----|----|----|
| SIZE | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 |
| "D" | | 6 | 10 | 14 | 18 | 20 | 20 | 22 | 22 | 24 | 24 | 30 | 30 |
| "L" | | 20 | 24 | 28 | 28 | 28 | 28 | 36 | 36 | 42 | 42 | 54 | 66 |
| "W" | | 18 | 20 | 22 | 24 | 24 | 24 | 18 | 18 | 21 | 21 | 24 | 31 |
| "T" | | 12 | 14 | 16 | 18 | 18 | 18 | 38 | 38 | 40 | 40 | 44 | 52 |

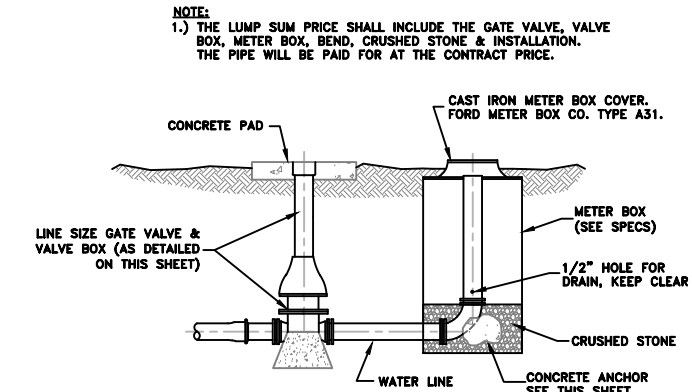
| | | TEES, PLUGS & BLOWOFFS | | | | | | | | | | | |
|------|--|------------------------|----|----|----|----|----|----|----|----|----|----|-----|
| SIZE | | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 |
| "D" | | 12 | 16 | 18 | 24 | 28 | 30 | 30 | 30 | 30 | 30 | 30 | 36 |
| "L" | | 12 | 16 | 18 | 24 | 28 | 30 | 60 | 60 | 72 | 72 | 84 | 102 |
| "W" | | 14 | 16 | 18 | 18 | 22 | 24 | 28 | 28 | 32 | 32 | 40 | 51 |
| "T" | | 10 | 10 | 12 | 12 | 12 | 12 | 38 | 38 | 40 | 40 | 44 | 52 |

*ALL DIMENSIONS ARE IN INCHES

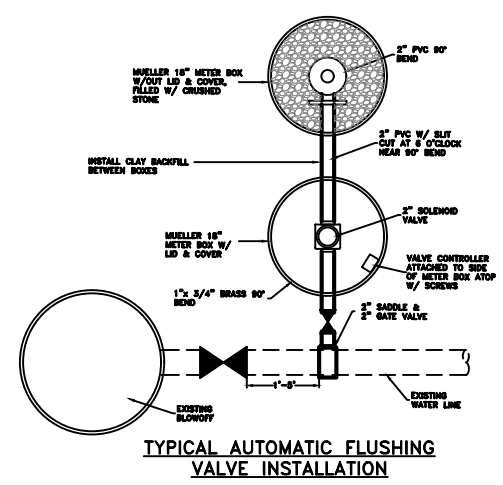
**MINIMUM CONCRETE BLOCKING
FOR PIPE & FITTINGS**



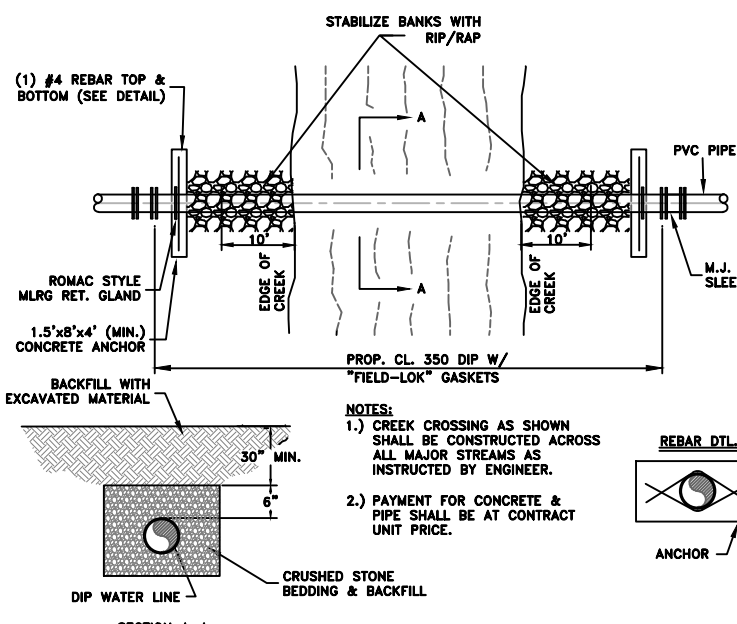
**TYPICAL LINE VALVE
SETTING**



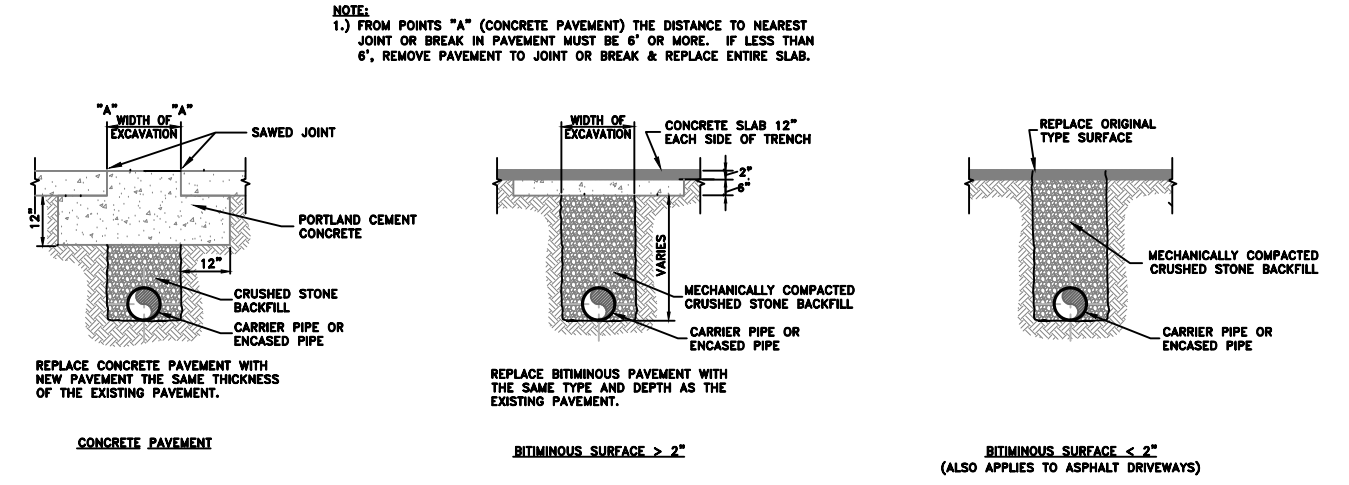
**STANDARD DETAIL END OF
LINE BLOW-OFF
(SIDE OUTLET BLOWOFFS SHALL BE AS SHOWN, BUT LUMP SUM PRICE SHALL ALSO INCLUDE MAIN LINE TEE. GATE VALVE AND BLOWOFF PIPING SIZE SHALL BE AS INDICATED IN THE DRAWINGS.)**



**TYPICAL AUTOMATIC FLUSHING
VALVE INSTALLATION**



TYPICAL CREEK CROSSING

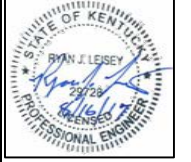


**SURFACE RESTORATION
(FOR CROSSING OF ALL STREETS & HIGHWAYS)**

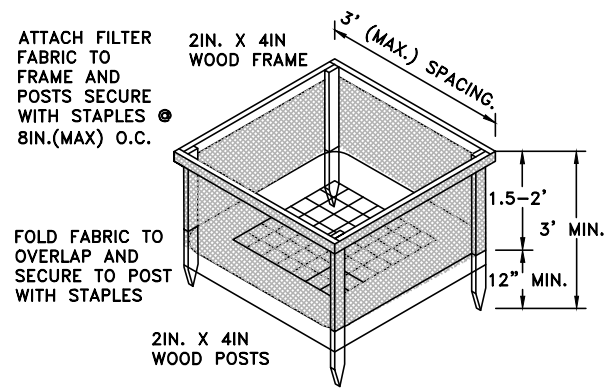
- NOTES:**
- THE COST OF THE U-BOLTS, STRAPS & ANCHOR BAR WILL BE ABSORBED INTO THE COST OF THE CONCRETE. NO SEPARATE PAYMENT WILL BE MADE.
 - ALL VERTICAL BENDS SHALL INCLUDE ROMAC GRIP RINGS.
 - CONCRETE TO BE POURED AGAINST UNDISTURBED EARTH.
 - PLASTIC BARRIER SHALL BE PLACED BETWEEN ALL CONCRETE AND PIPE AND/OR FITTINGS.
 - ANCHOR BAR SHALL BE 5/8" MINIMUM DIAMETER.
 - BLOCKING FOR REDUCER SHALL BE AS THAT SHOWN FOR PLUGS, BUT THE "L" DIMENSION SHALL BE AS REQUIRED FOR THE KICKER TO EXTEND 6" INTO EACH SIDE OF THE TRENCH.
 - RODDING FOR A CONCRETE DEADMAN SHALL BE AS FOLLOWS: 4" USE 2 RODS, 6"-10" USE 4 RODS & 12" PER ENGINEER.

SCALE: NOT TO SCALE
DATE: 8-16-17
DWG NO.: WD
DESIGNED: WCWD
DRAWN: JT
CHECKED: JMD

REVISIONS:
NO.: DATE:



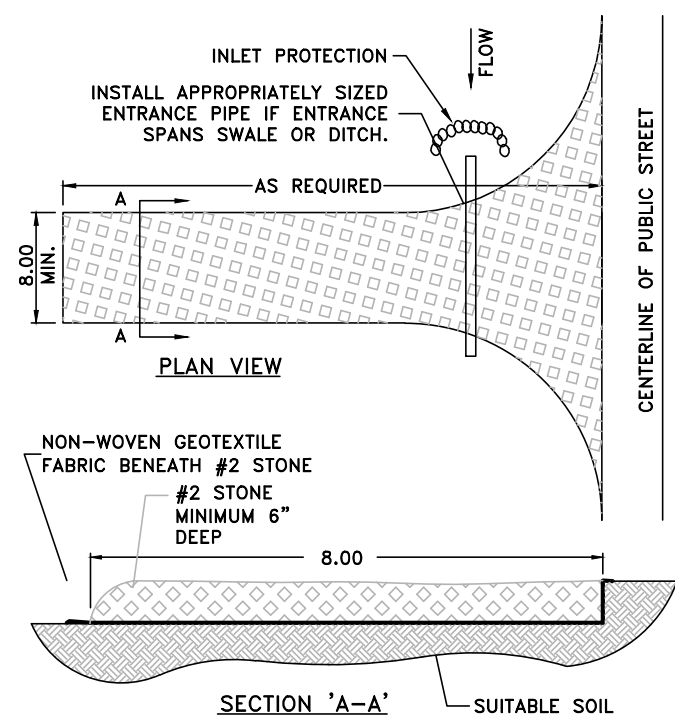
DRAWING:
WD



BURY TOE OF FABRIC IN A 6" X 6" TRENCH, IN AN "L" SHAPE. BACKFILL WITH COMPACTED FILL MATERIAL TO PREVENT SEDIMENT FROM ESCAPING UNDER FENCE.

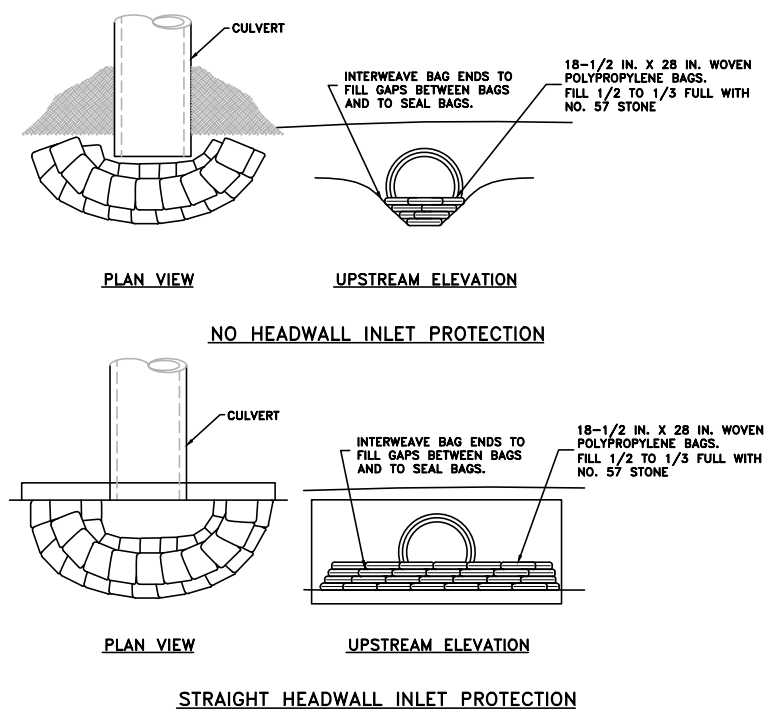
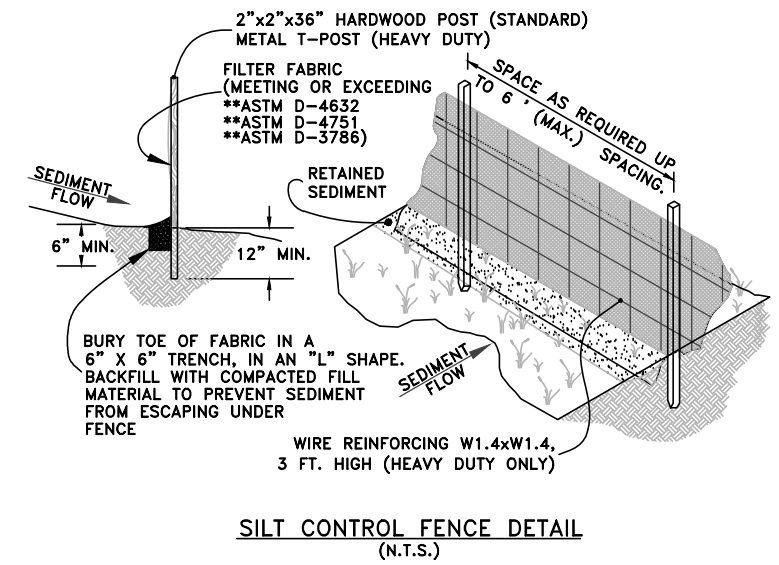
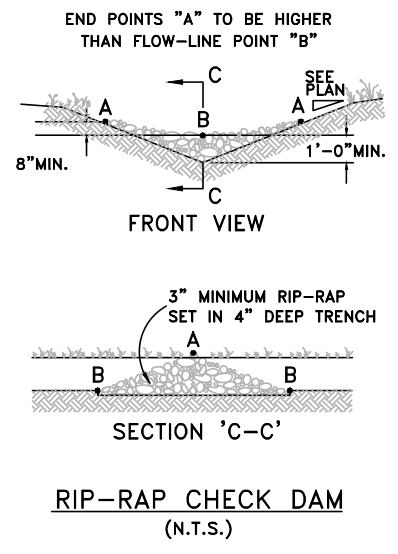
FILTER FABRIC INLET PROTECTION DETAIL
(N.T.S.)

- GENERAL EPSC NOTES:
1. ALL PRACTICAL MEASURES SHALL BE TAKEN TO PRESERVE EXISTING VEGETATION ON AND ADJACENT TO THE CONSTRUCTION SITE(S).
 2. EPSC MEASURES SHALL BE INSTALLED IN ADVANCE OF ALL OTHER CONSTRUCTION IN EACH AREA OF CONSTRUCTION.
 3. SILT FENCING OR OTHER APPROVED EPSC DEVICE(S) SHALL BE INSTALLED ON THE DOWN-SLOPE SIDE OF TEMPORARY STOCKPILES, AS REQUIRED.
 4. APPROPRIATE EPSC DEVICES SHALL BE INSTALLED AT TEMPORARY PIPE YARDS AND/OR STORAGE AREAS, AS REQUIRED.



ALL ENTRANCES LEADING TO PUBLIC ROADS SHALL BE STABILIZED, IF SILT FENCE WILL BE DEPOSITED ON ROADWAY, BY REMOVING THE VEGETATION, PLACING NON-WOVEN GEO-TEXTILE MATERIAL AND THEN PLACING 6 INCHES OF #2 AGGREGATE. AREA MUST BE A MINIMUM OF 8 FEET WIDE.

STABILIZED CONSTRUCTION ENTRANCE DETAIL
(N.T.S.)



PURPOSE:
INSTALL STONE BAG PROTECTION AT HEADWALL INLETS TO POOL WATER, PROVIDING OPPORTUNITY FOR SETTLING SEDIMENT BEFORE IT ENTERS HEADWALL.

CONSTRUCTION:
BAG SPECIFICATIONS: APPROXIMATELY 18 1/2-INCH X 28-INCH WOVEN POLYPROPYLENE BAGS. STONE: USE KTC NO. 57 STONE. HEIGHT OF STONE BAGS ABOVE CULVERT INVERTS: CONSTRUCT A MINIMUM OF TWO COURSES OF BAGS. THE STONE-FILLED BAGS SHALL BE STACKED TO A HEIGHT EQUAL TO 1/2 THE DIAMETER OF THE CULVERT BEING PROTECTED.

SCALE: NOT TO SCALE

DATE: 8-16-17

DWG NO.: WD

DESIGNED: WCWD

DRAWN: JT

CHECKED: JMD

REVISIONS:

| NO. | DATE: |
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