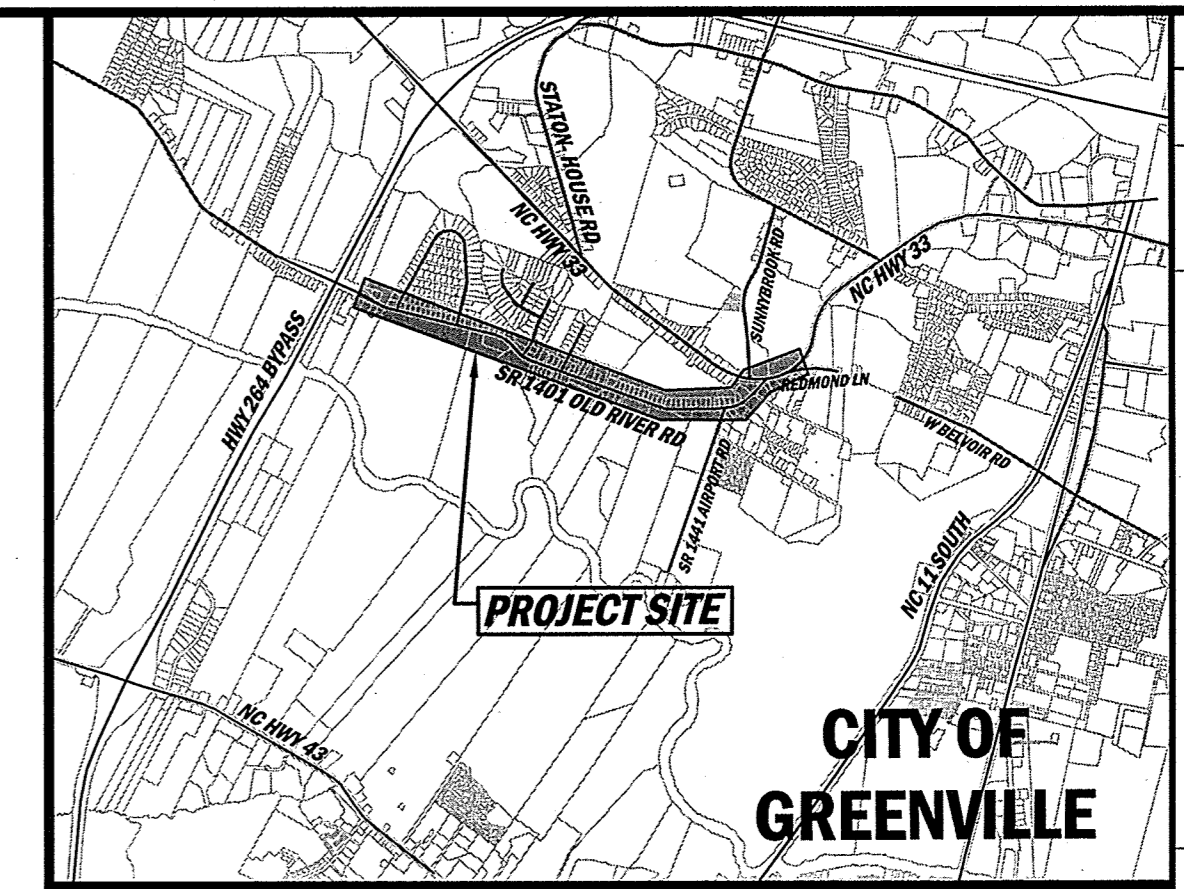
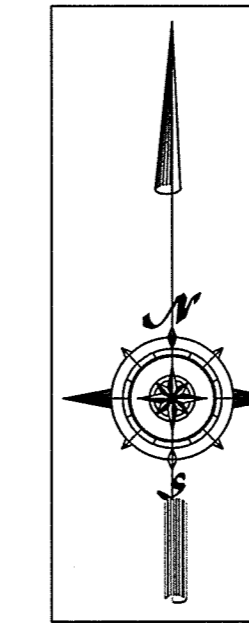


GREENVILLE UTILITIES COMMISSION

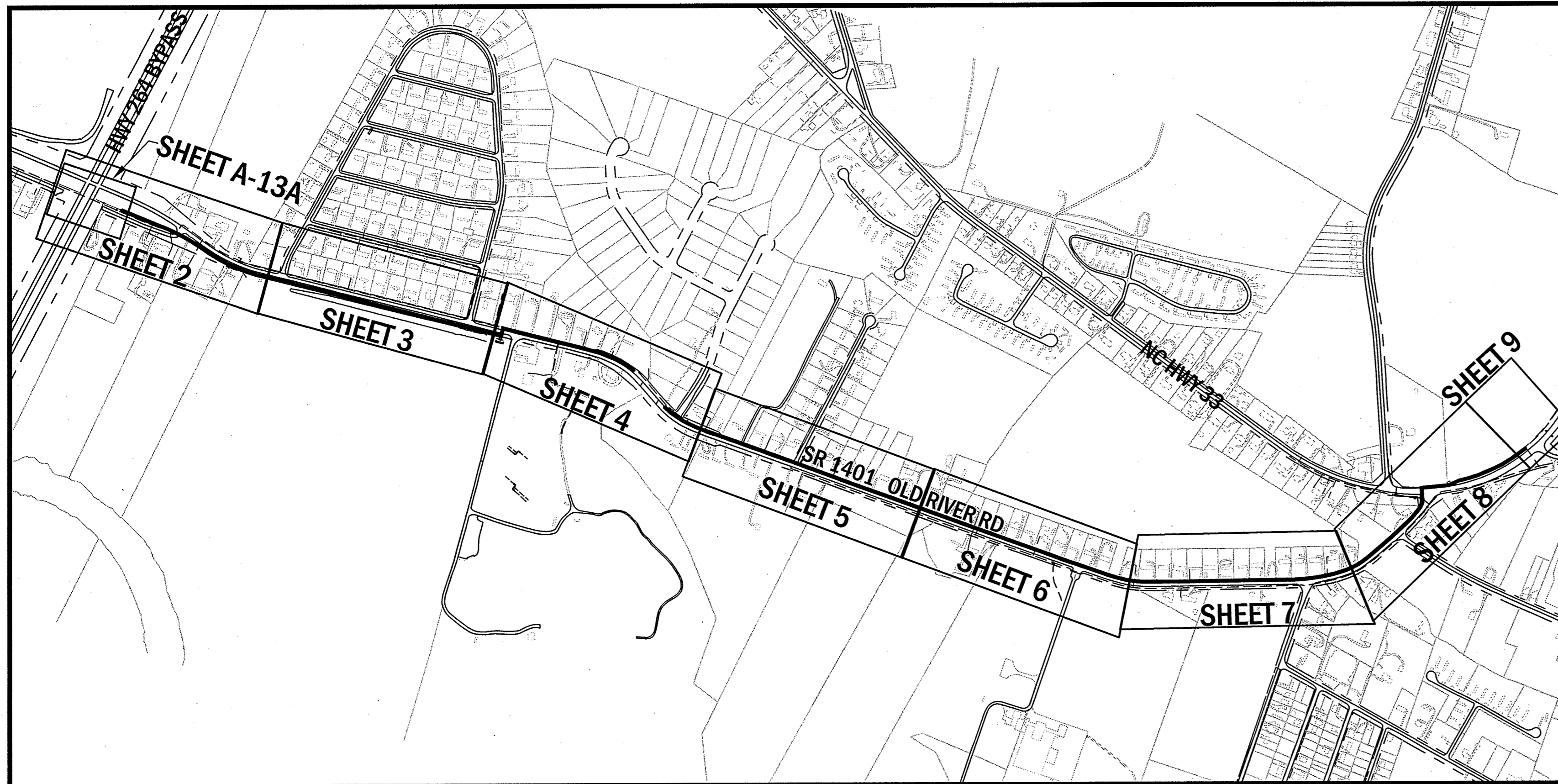
GCP87 - OLD RIVER ROAD GAS MAIN REPLACEMENT

CITY OF GREENVILLE, NORTH CAROLINA



VICINITY MAP
NOT TO SCALE

REVISIONS:	
REV.	DESCRIPTION



KEY PLAN
NOT TO SCALE

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- SHEET NO. 2 - GAS MAIN LAYOUT
- SHEET NO. 3 - GAS MAIN LAYOUT
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- RK&K SHEET NO. A-13A (COPY FOR REFERENCE ONLY)

LEGEND

- TEMPORARY BENCH MARK
- PROP. GAS MAIN
- EXIST. GAS MAIN
- EXIST. GAS VALVE
- EXIST. FIRE HYDRANT
- EXIST. WATER MAIN
- RIGHT OF WAY
- CENTERLINE R/W
- MAIL BOX
- WATER METER
- UTILITY POLE
- EXIST. UG TELEPHONE CABLE
- TELEPHONE PED
- TELEPHONE BOX
- TELEPHONE VAULT
- CABLE TV PED
- ELECTRICAL TRANSFORMER
- FIBER OPTIC PED
- EXIST. FENCE
- EXIST. PROPERTY LINE
- DITCH CENTERLINE
- EXIST. SIGN
- EXIST. CULVERT
- DRIVEWAY (CONCRETE OR ASPHALT)
- DETAIL NUMBER
- SHEET NUMBER
- STATION
- PROPOSED
- EXISTING
- PROP. GAS SERVICE
- EXIST. GAS SERVICE
- POLYETHYLENE
- HIGH VOLUME TAPPING TEE

GENERAL

1. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE CURRENT SPECIFICATIONS AND STANDARDS OF GREENVILLE UTILITIES AND BE IN CONFORMANCE WITH THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) REQUIREMENTS.
2. TEMPORARY DRAINAGE DURING CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO THE ROADWAYS OR IMPEDE TRAFFIC AS DIRECTED BY THE NCDOT WITHIN THE PROJECT LIMITS.
3. PRIOR TO CONSTRUCTION OR EXCAVATION, THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF LOCATING ANY UNDERGROUND UTILITIES (PUBLIC AND/OR PRIVATE) THAT MAY EXIST IN THE AREA OF CONSTRUCTION. UTILITY OWNERS SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF ANY EXCAVATION IN THE PROXIMITY OF THE UTILITIES. THE CONTRACTOR, AT HIS OWN EXPENSE SHALL BE RESPONSIBLE FOR THE REPAIR OF EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
4. THE CONTRACTOR SHALL CONTACT THE NC 811 CENTER AT 1-800-632-4949 72 HOURS IN ADVANCE OF ANY CONSTRUCTION.
5. ALL DRAINAGE PIPES AND STRUCTURES SHALL BE CLEANED OF DEBRIS AND ERODED MATERIALS RESULTING FROM CONSTRUCTION. THESE PIPES AND STRUCTURES SHALL BE MAINTAINED CLEAN DURING THE PERIOD OF CONSTRUCTION.
6. ALL DISTURBED SLOPES SHALL BE RESTORED TO EXISTING GRADES AND STABILIZED WITH SEED & MULCH AND TACKED IF APPROPRIATE.
7. THE GAS MAIN SHALL BE INSTALLED SO AS TO PROVIDE A MINIMUM OF TWELVE (12") INCHES OF CLEARANCE TO ALL OTHER UNDERGROUND UTILITIES AND STRUCTURES. WHERE THIS IS NOT POSSIBLE APPROPRIATE PROTECTION SHALL BE PROVIDED. GAS MAINS INSTALLED BY HDD MUST MAINTAIN, AT A MINIMUM, 24" OF CLEARANCE FROM THE BOTTOM OF RCPs 36" AND LARGER.
8. ALL EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR ACCORDING TO THE DETAILS PROVIDED IN THE PLANS.
9. REFERENCE TO DEMLR REFERS TO THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE NORTH CAROLINA DIVISION OF ENERGY, MINERAL AND LAND RESOURCES, EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.
10. CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES AS DESCRIBED ON THE PROJECT PLANS AND DETAILS DURING CONSTRUCTION AND SURFACE RESTORATION UNTIL SUCH MEASURES ARE NOT NECESSARY. WHERE ADDITIONAL MEASURES ARE NECESSARY, THE CONTRACTOR SHALL INSTALL AND MAINTAIN THE APPROPRIATE MEASURES ACCORDING TO THE NORTH CAROLINA DIVISION OF ENERGY, MINERAL AND LAND RESOURCES DESIGN MANUAL.
11. REFER TO NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES AND/OR PENALTIES RESULTING FROM ALL NON-COMPLIANCE WITH FEDERAL, STATE, AND LOCAL PERMITS AND ENCROACHMENT AGREEMENTS.
13. REPLACE ALL DAMAGED DRAIN CULVERTS WITH NEW CULVERTS OF THE SAME SIZE AND MATERIAL.

PIPING BILL OF MATERIALS						
ITEM NO.	GUC STOCK #	ITEM	QTY.	UNIT	SPECIFICATION	
1	501340	PIPE, 3/4" MDPE	420	LF	ASTM D2513, .095" MIN. WALL THICKNESS, 1.05" O.D., SDR 11, PE 2406, 500 LF COIL, MARKED DOT SECT. 192.63, ENDS CAPPED	
2	501370	PIPE, 2" MDPE	150	LF	ASTM D2513, .216" MIN. WALL THICKNESS, 2.375" O.D., SDR 11, PE 2406, 500 LF COIL, MARKED DOT SECT. 192.63, ENDS CAPPED	
3	501380	PIPE, 4" MDPE	60	LF	ASTM D2513, .391" MIN. WALL THICKNESS, 4.5" O.D., SDR 11.5, PE 2406, 40 LF STICKS, MARKED DOT SECT. 192.63, ENDS CAPPED	
4	505640	PIPE, 8" MDPE	10121	LF	ASTM D2513, 0.784" MIN. WALL THICKNESS, 8.625" O.D., SDR 11, PE 2708, 40 LF STICKS, MARKED DOT SECT. 192.63, ENDS CAPPED	
5	506060	WIRE, #8 TRACE	10331	LF	#8 YELLOW THHN, STRANDED COPPER, 500' HAND SPOOLS	
6	506070	WIRE, #10 TRACE	420	LF	#10 YELLOW THHN, STRANDED COPPER, 500' HAND SPOOLS	
7	501850	COUPLING, 3/4" PE	40	EA	ASTM D2513 & ASTM D2683 SOCKET, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63, SDR 11	
8	501880	COUPLING, 2" PE	2	EA	ASTM D2513 & ASTM D2683, BUTT FUSE, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63, SDR 11	
9	505190	COUPLING, 4" ELECTROFUSION	1	EA	ASTM D2513 & ASTM D2683, INJECTION MOLDED, SDR 11, PE 2406	
10	505201	COUPLING, 8" ELECTROFUSION	35	EA	ASTM D2513 & ASTM D2683, INJECTION MOLDED, SDR 11, PE 2406	
11	504680	CAP, 3/4" PE	40	EA	ASTM D2513 & ASTM D2683 SOCKET, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63, SDR 11	
12	501830	CAP, 2" PE	2	EA	ASTM D2513 & ASTM D2683 SOCKET, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63, SDR 11	
13	504690	CAP, 4" PE	1	EA	ASTM D2513 & ASTM D2683, BUTT FUSE, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63	
14	504800	CAP, 6" PE	4	EA	ASTM D2513 & ASTM D2683, BUTT FUSE, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63	
15	NS	CAP, 8" PE	2	EA	ASTM D2513 & ASTM D2683, BUTT FUSE, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63	
16	504930	ELL, 4" PE 90 DEG.	1	EA	ASTM D2513 & ASTM D2683, BUTT FUSE, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63	
17	505950	ELL, 8" PE 90 DEG.	4	EA	ASTM D2513 & ASTM D2683, BUTT FUSE, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63	
18	505360	SADDLE, 8" X 2" HIGH VOLUME TAPPING	2	EA	ASTM D2513 & ASTM D2683, SDR 11, PE2406	
19	NS	TEE, 8" X 8"	1	EA	ASTM D2513 & ASTM D2683, SDR 11, PE2406	
20	506040	SADDLE, 8" X 3/4" ELECTROFUSION TAPPING TEE W/EFV	20	EA	KIT W/ 800CFH EXCESS FLOW VALVE STICK FUSED TO THE OUTLET, W/ TWO 3/4" ELECTROFUSION COUPLINGS AND 3 EA. ALCOHOL WIPES. (ASTM D2513, SDR11, PE2406 COMPATIBLE)	
21	NS	TEE, 8" X 8"	2	EA	ASTM D2513 & ASTM D2683, BUTT FUSE, INJECTION MOLDED, SDR 11, PE 2406, ASTM MARKED DOT SECT. 192.63	
22	504840	VALVE, 2" PE	2	EA	POLYETHYLENE BALL VALVE BODY MUST BE PE2406, MIN. PRESSURE RATING 80 PSIG, VALVE STUB ENDS PREPARED TO BUTT FUSION WITH SDR11.5 PE PIPE, MUST MEET OR EXCEED REQUIREMENTS OF USDOT 49CFR-PART 192 FOR NATURAL GAS DISTRIBUTION.	
23	505980	VALVE, 8" PE	10	EA	POLYETHYLENE BALL VALVE BODY MUST BE PE2406, MIN. PRESSURE RATING 80 PSIG, VALVE STUB ENDS PREPARED TO BUTT FUSION WITH SDR11.5 PE PIPE, MUST MEET OR EXCEED REQUIREMENTS OF USDOT 49CFR-PART 192 FOR NATURAL GAS DISTRIBUTION.	
24	504940	BOX, 6" PLASTIC GAS VALVE	12	EA	FLUSH MOUNTED VALVE BOX W/ "GAS" LID.	
25	305190	COLLAR, CONCRETE VALVE	12	EA	PRE-CAST CONCRETE COLLAR	
26	NS	12" STEEL ENCASUREMENT PIPE	80	EA	PIPE, WT=0.365", API-SL GRADE B, BARE, ERW, BE	
27	NS	LINK SEALS (8"x12")	4	EA	LINK SEAL FOR 12" STEEL CASING PIPE, GPT MODEL LS-475-C	
28	NS	SPACERS (8"x12")	13	EA	CASING SPACER FOR 12" STEEL CASING PIPE, GPT MODEL PE	
29	503070	2" STEEL PIPE (VENT STACK)	20	LF	ASME B16.9 & ASTM A234 WP8. 0.154" WALL THICKNESS, 12 MIL FBE	
30	504610	RETURN, 2" 180 DEG WELD	2	EA	ASME B16.9 & ASTM A234 WP8. 0.154" WALL THICKNESS, 12 MIL FBE	

Greenville
Utilities

COVER SHEET/ GENERAL NOTES
GREENVILLE UTILITIES COMMISSION
GCP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT
NORTH CAROLINA
PITT COUNTY

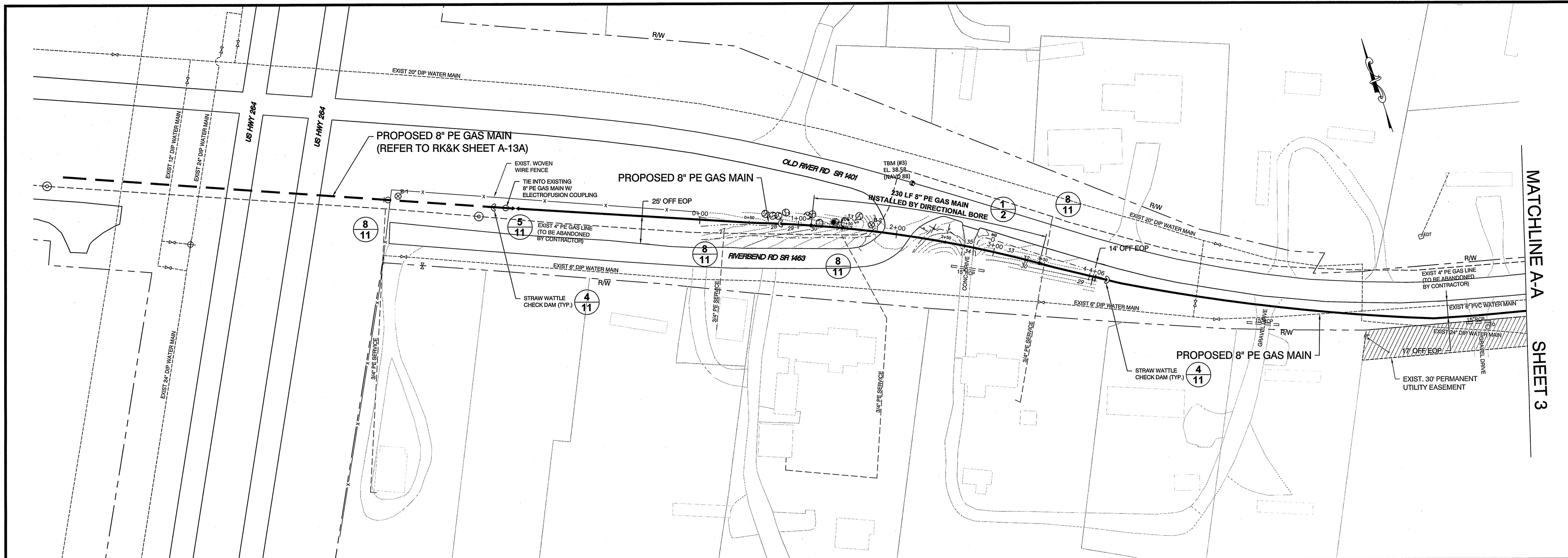
Rivers
Rivers Associates & Associates, Inc.
107 East Second Street
Greenville, NC 27838
(252) 752-4135
Landscape Architects



Date: 8/4/16
Design - Draft JML
Project No. 2015045
Drawing No. W-3655
Scale: NOT TO SCALE
Sheet No. 1 of 13

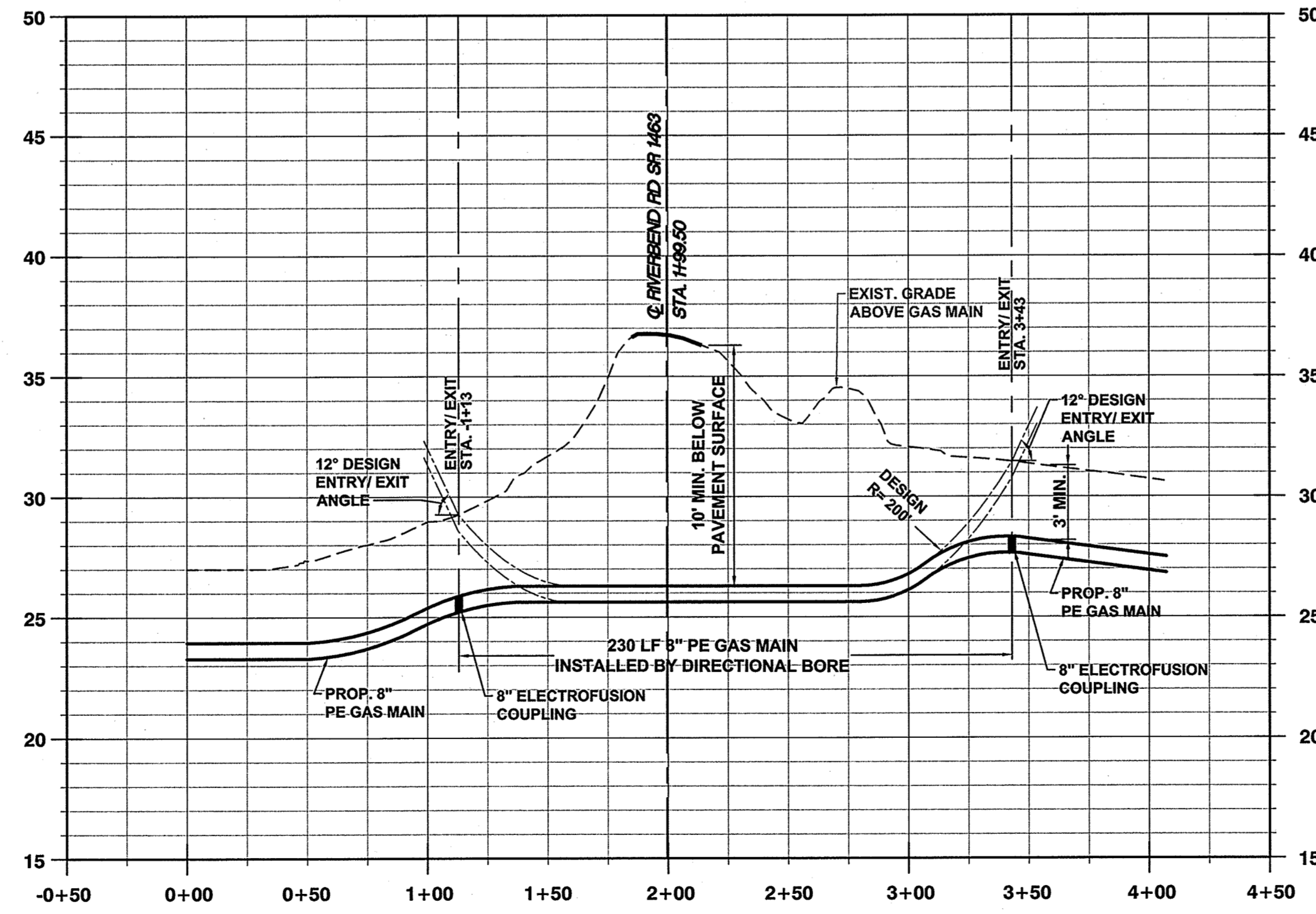
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1



MATCHLINE A-A SHEET 3

NOTE:
 1. UNLESS OTHERWISE NOTED ON THE PLANS, INSTALLATION OF ALL GAS MAINS WILL BE VIA OPEN TRENCH.
 2. ALL EXISTING GAS SERVICES SHALL BE RELOCATED TO THE NEW GAS MAIN UNLESS OTHERWISE NOTED.



**1 PROFILE - 230 LF 8" PE GAS MAIN INSTALLED
 2 BY DIRECTIONAL BORE**
 SCALE: HORIZ: 1"=50'
 VERT: 1"=5'

ISSUED FOR BIDS

REVISIONS:		
REV.	DATE	DESCRIPTION



CONSTRUCTION PLAN
GREENVILLE UTILITIES COMMISSION
GCP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT

NORTH CAROLINA
 PITT COUNTY

NC License: F-9334
Rivers
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 Greenville, R.A. Leigh
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 Greenville, SC 29601
 (252) 752-4135
 Engineers
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Survey	- Draft	JML
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Project No.	2015045	
Drawing No.	W-3655	
Scale:	1"=50'	
Sheet No.	of 13	

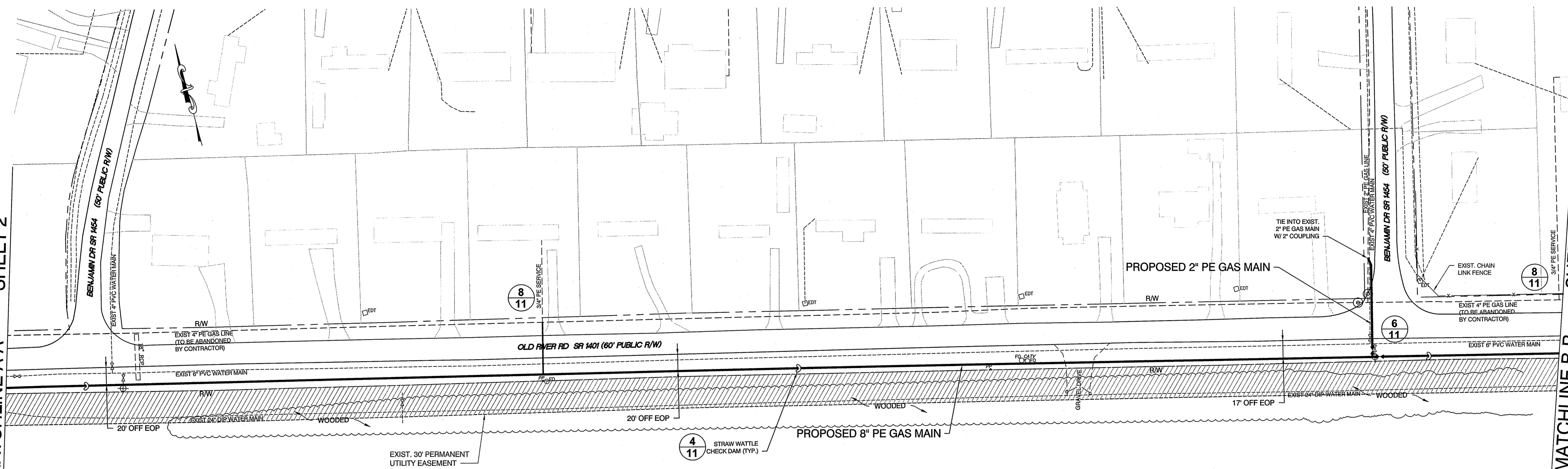
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MATCHLINE A-A SHEET 2

MATCHLINE B-B SHEET 4



NOTE:
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ISSUED FOR BIDS

REVISIONS:		
NO.	DESCRIPTION	DATE



CONSTRUCTION PLAN
GREENVILLE UTILITIES COMMISSION
GCP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT

PITT COUNTY NORTH CAROLINA

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 Since 1918
 GREENVILLE • RALEIGH
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 Engineers
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 Landscape Architects



Date:	8/14/16
Survey	- Draft JML
Design	FLS Check FLS
Project No.	2015045
Drawing No.	W-3655
Scale:	1" = 50'
Sheet No.	3 of 13

REVISIONS:

NO.	DATE	DESCRIPTION	BY	APP.



CONSTRUCTION PLAN
GREENVILLE UTILITIES COMMISSION
GP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT

NORTH CAROLINA

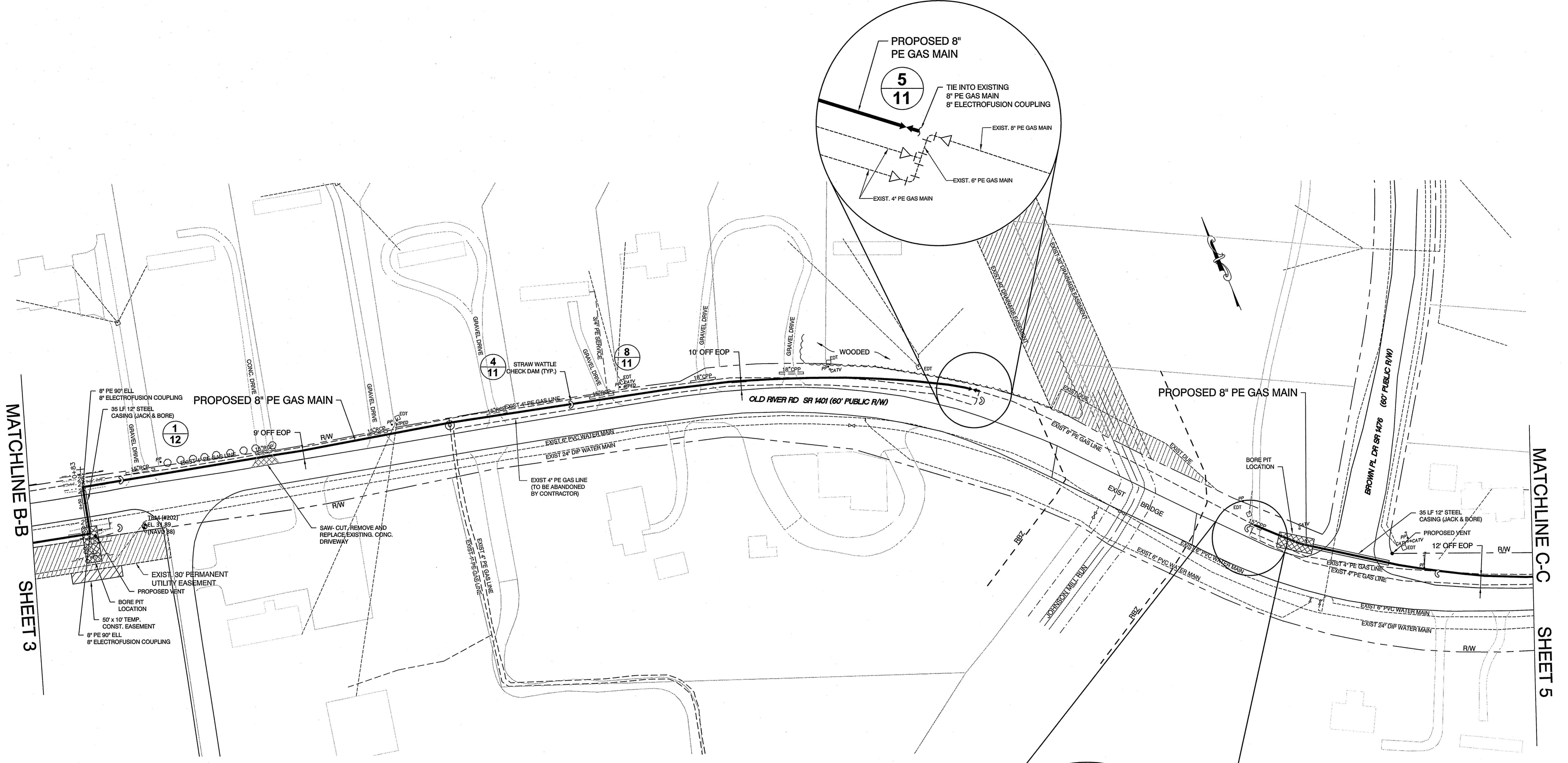
PITT COUNTY

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 Greenville, SC 29608
 (252) 752-4135
 Landscape Architects



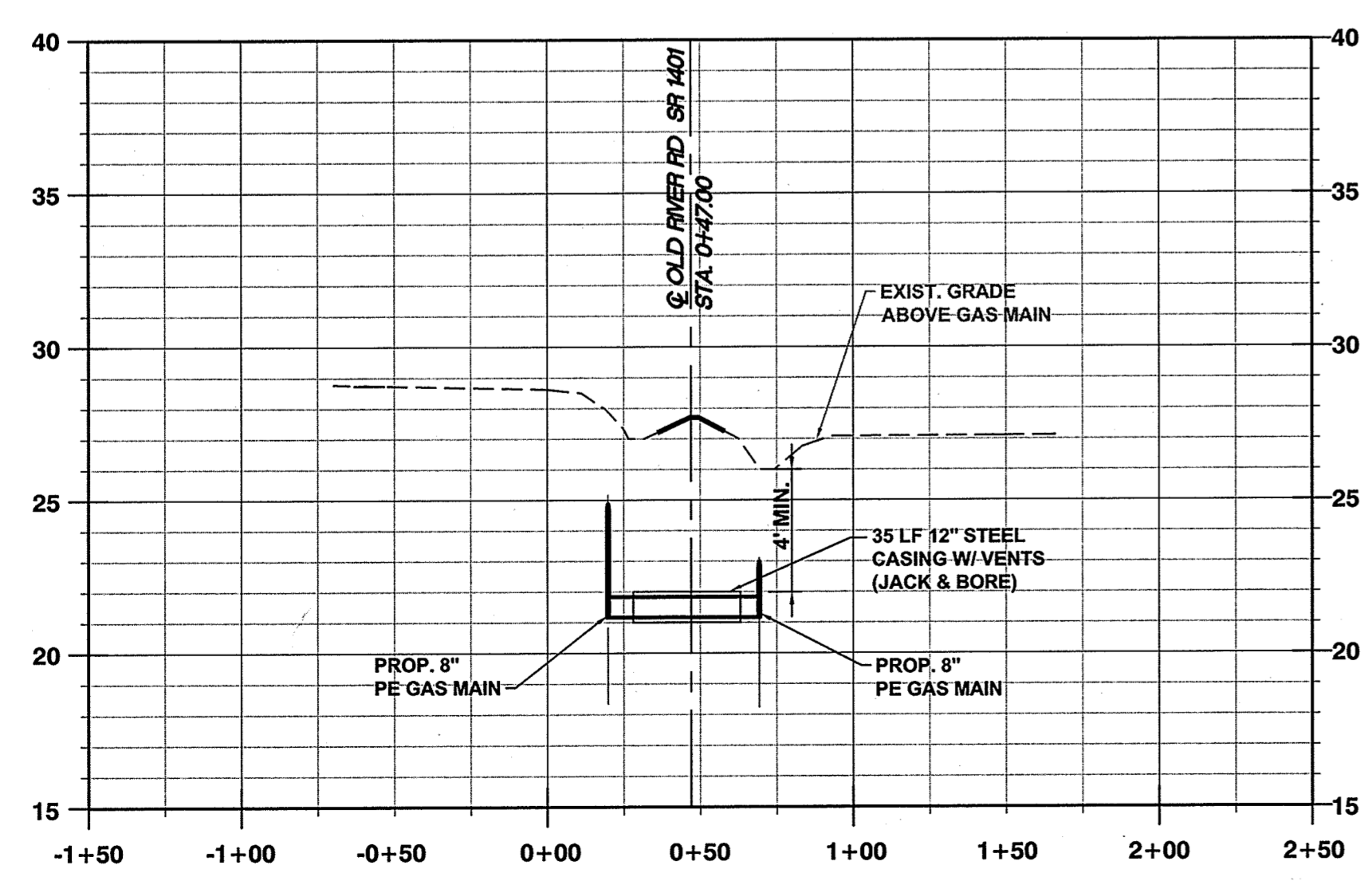
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Sheet No. 4 of 13



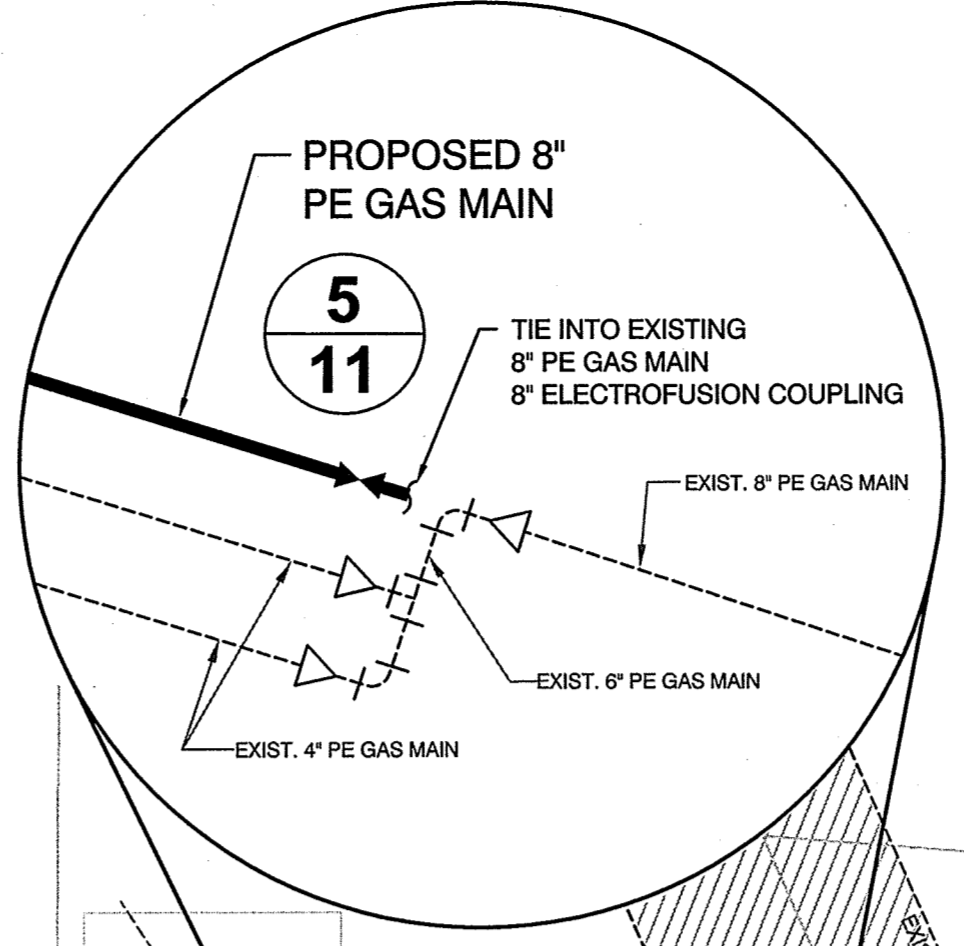
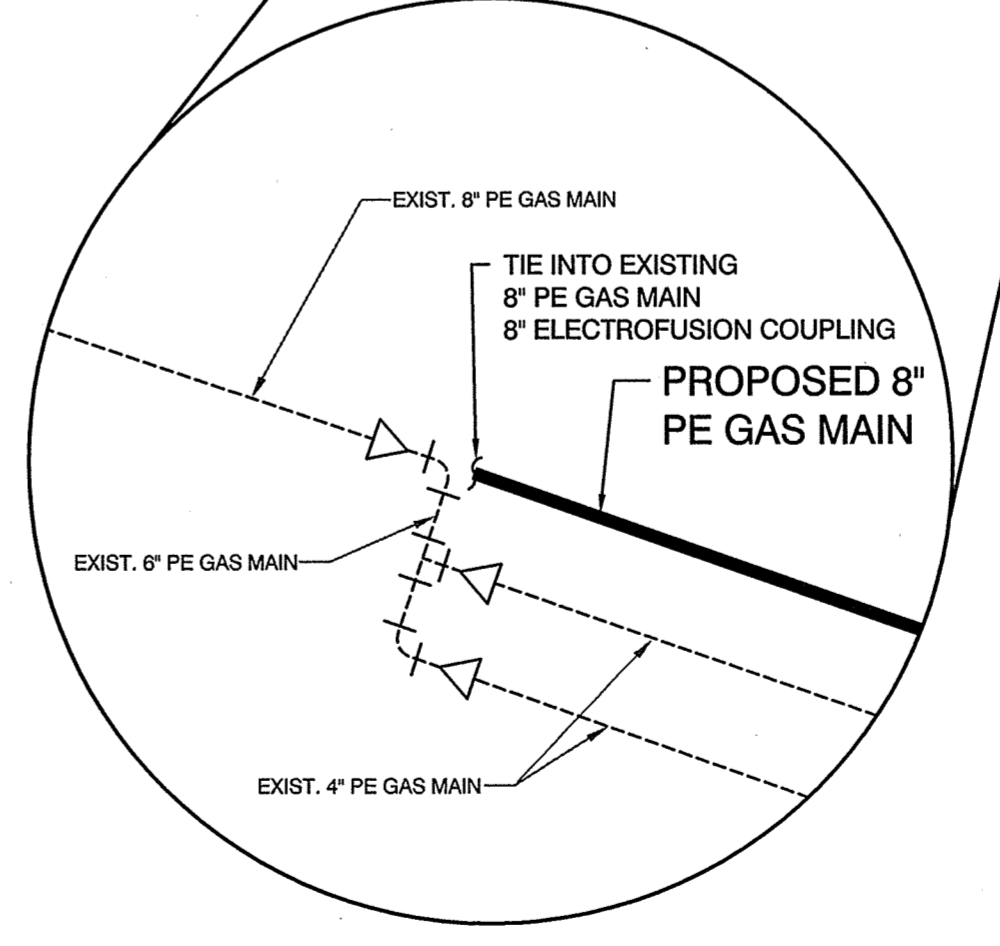
MATCHLINE B-B SHEET 3

MATCHLINE C-C SHEET 5



1 PROFILE - 35 LF 12" STEEL CASING W/ VENTS
4 BY JACK & BORE
 SCALE: HORIZ: 1"=50'
 VERT: 1"=5'

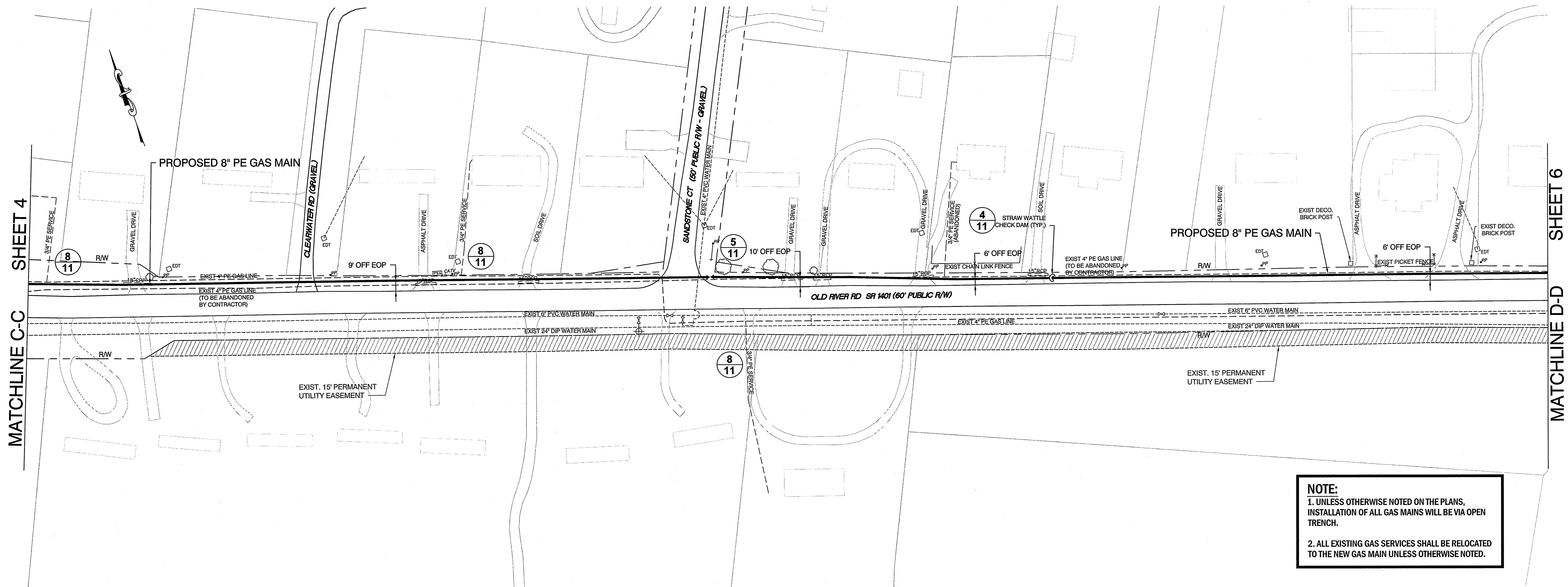
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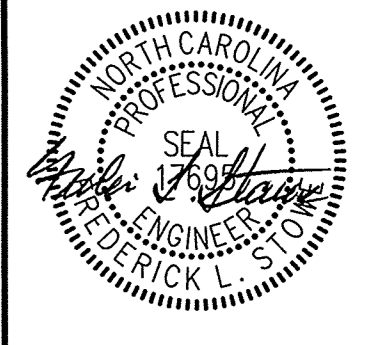
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CONSTRUCTION PLAN
GREENVILLE UTILITIES COMMISSION
GCP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT

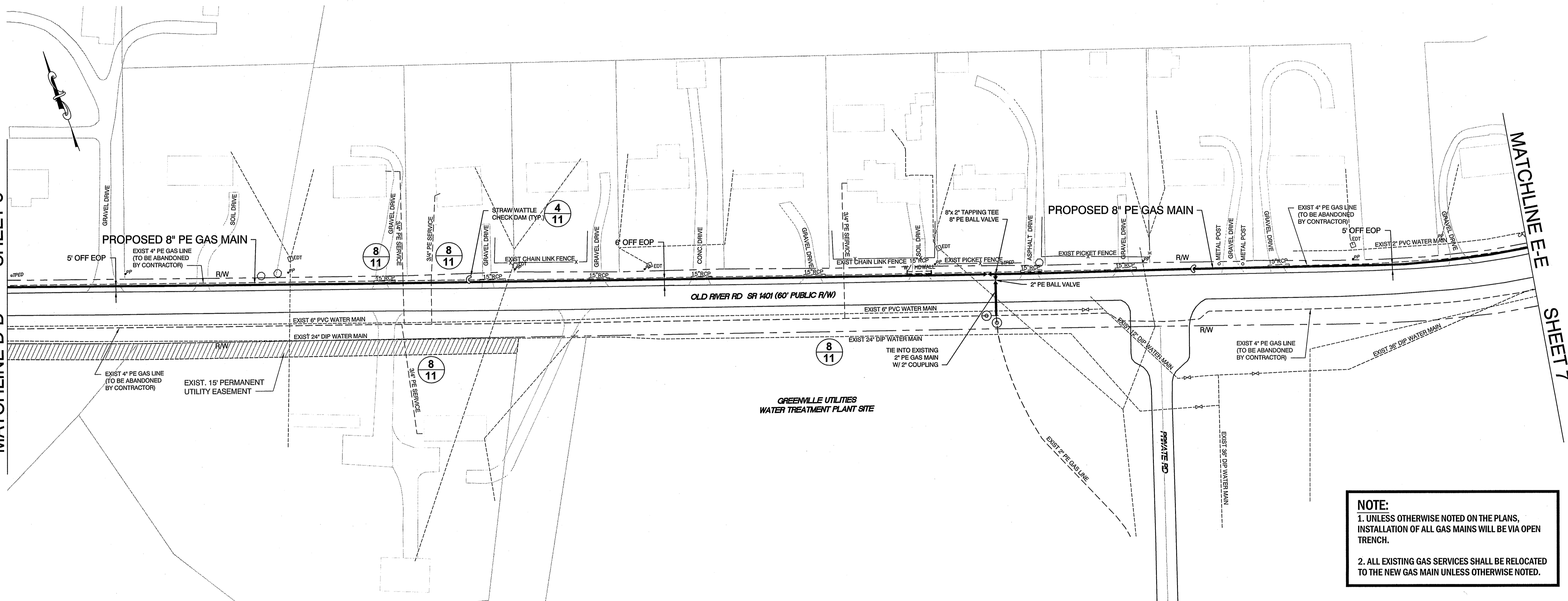
PITT COUNTY NORTH CAROLINA

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 107 East Second Street
 Greenville, NC 27834
 (252) 752-4135
 Engineers & Surveyors
 Landscape Architects



Date: 3/4/16
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 Design FLS Check FLS
 Project No. 2015045
 Drawing No. W-3655
 Scale: 1" = 50'

Sheet No. 5 of 13



NOTE:
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REVISIONS:		
REV	DESCRIPTION	DATE

Greenville Utilities

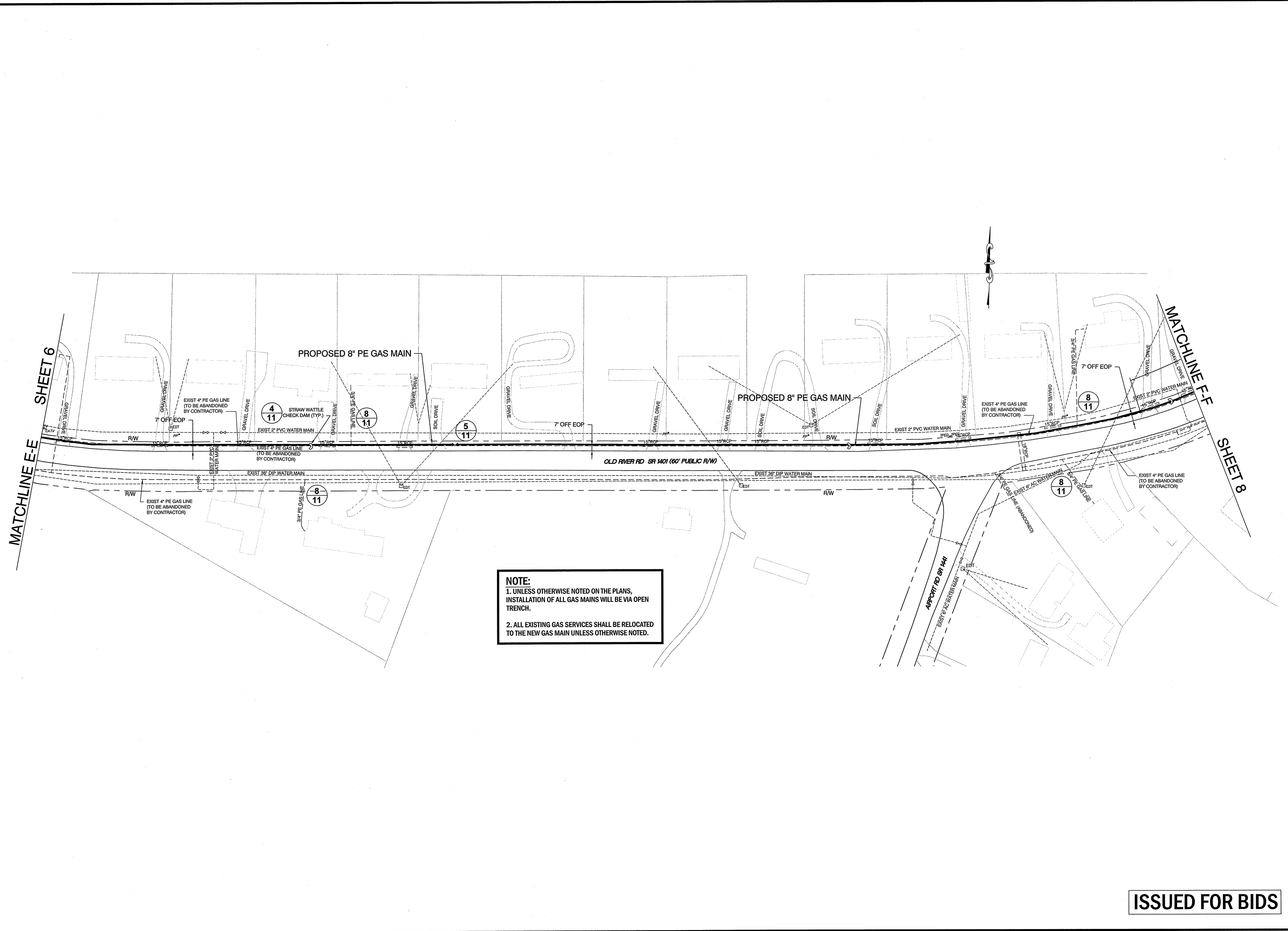
CONSTRUCTION PLAN
 GREENVILLE UTILITIES COMMISSION
 GCP87 - OLD RIVER ROAD
 GAS MAIN REPLACEMENT

NORTH CAROLINA
 PITT COUNTY

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 Engineers and Architects
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Date:	8/4/16
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Design	FLS Check FLS
Project No.	2015045
Drawing No.	W-3655
Scale:	1"=50'
Sheet No.	6 of 13

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NOTE:
 1. UNLESS OTHERWISE NOTED ON THE PLANS,
 INSTALLATION OF ALL GAS MAINS WILL BE VIA OPEN
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 TO THE NEW GAS MAIN UNLESS OTHERWISE NOTED.

REVISIONS:

REV.	DESCRIPTION	DATE	APP.

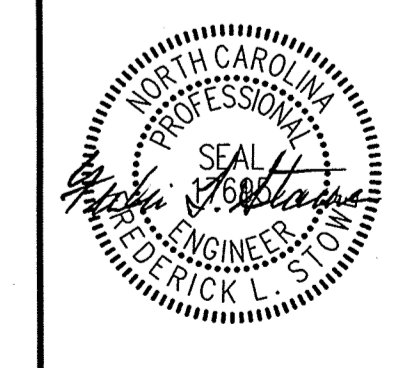


CONSTRUCTION PLAN
GREENVILLE UTILITIES COMMISSION
GP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT

PITT COUNTY NORTH CAROLINA

Rivers & Associates, Inc.
 ENGINEERS, ARCHITECTS, SURVEYORS
 LANDSCAPE ARCHITECTS

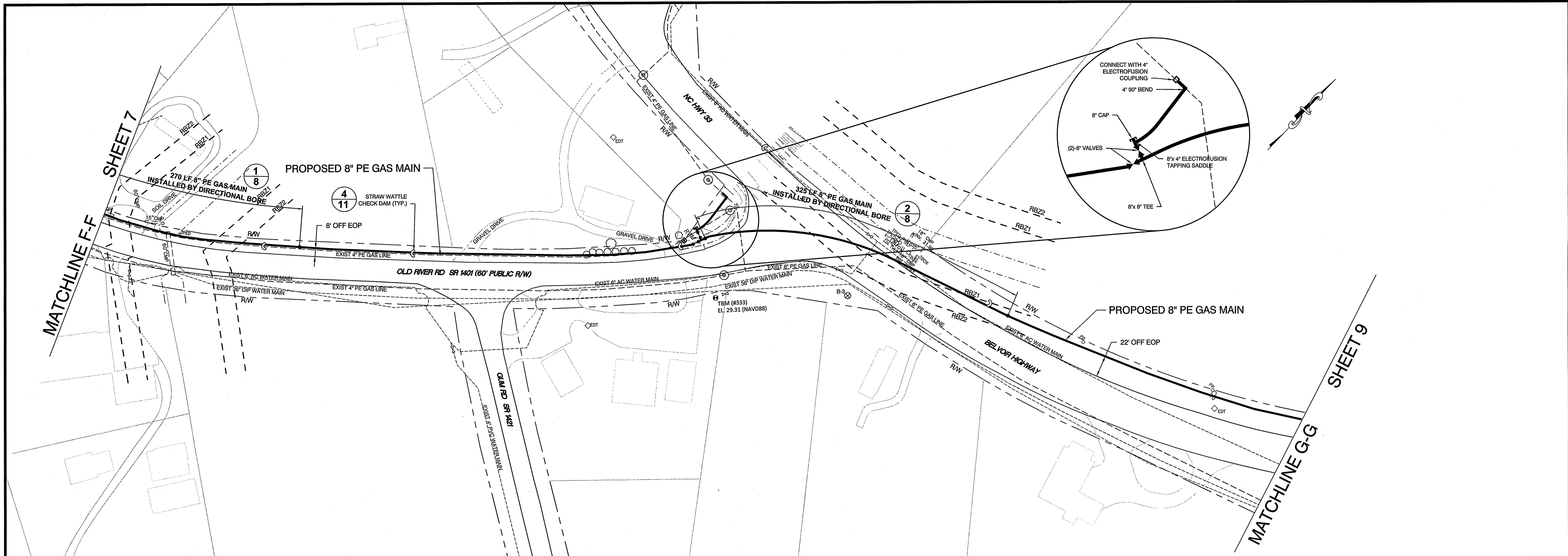
107 East Second Street
 GREENVILLE, NORTH CAROLINA 27608
 (252) 732-4135



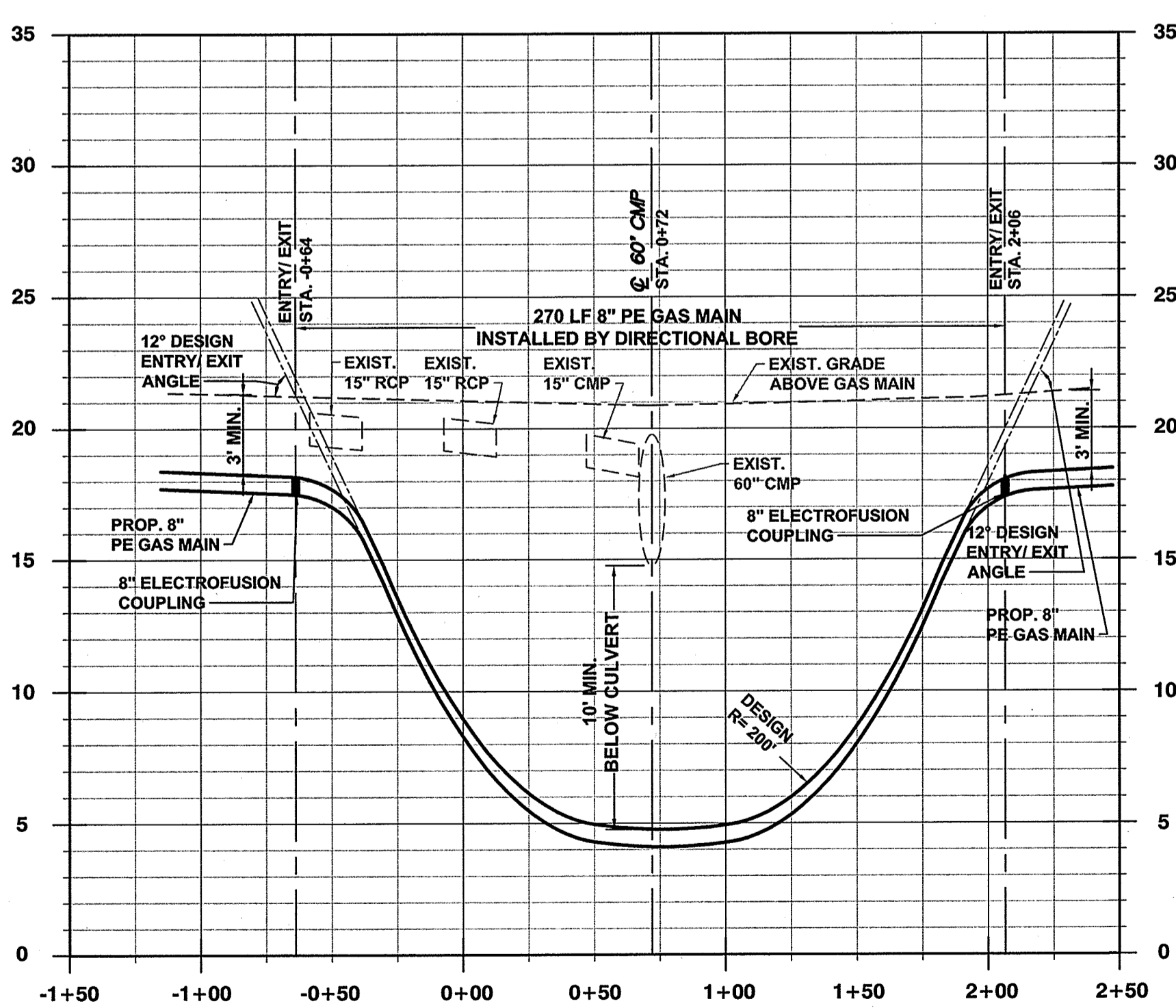
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Project No.	2015045		
Drawing No.	W-3655		
Scale:	1" = 50'		
Sheet No.	7	of	13

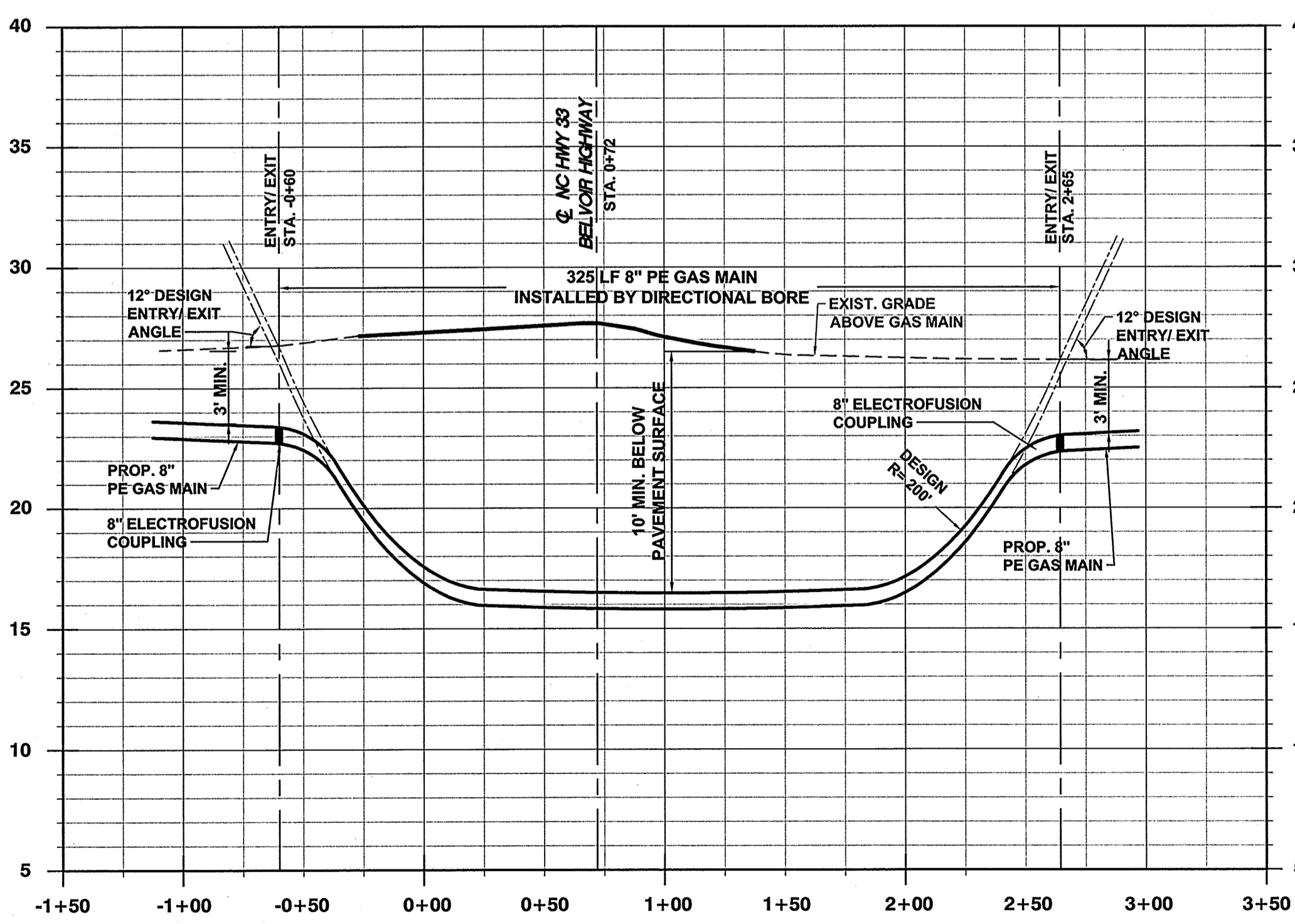
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NOTE:
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1
8 PROFILE - 270 LF 8" PE GAS MAIN INSTALLED BY DIRECTIONAL BORE
 SCALE: HORIZ: 1"=50'
 VERT: 1"=5'



2
8 PROFILE - 310 LF 8" PE GAS MAIN INSTALLED BY DIRECTIONAL BORE
 SCALE: HORIZ: 1"=50'
 VERT: 1"=5'

REVISIONS:

REV.	DATE	DESCRIPTION



CONSTRUCTION PLAN
GREENVILLE UTILITIES COMMISSION
GCP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT
 NORTH CAROLINA
 PITT COUNTY

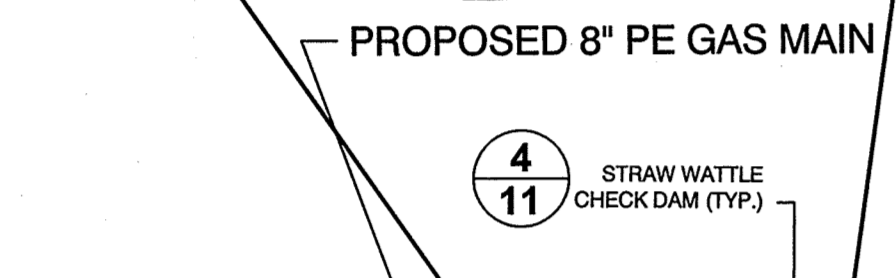
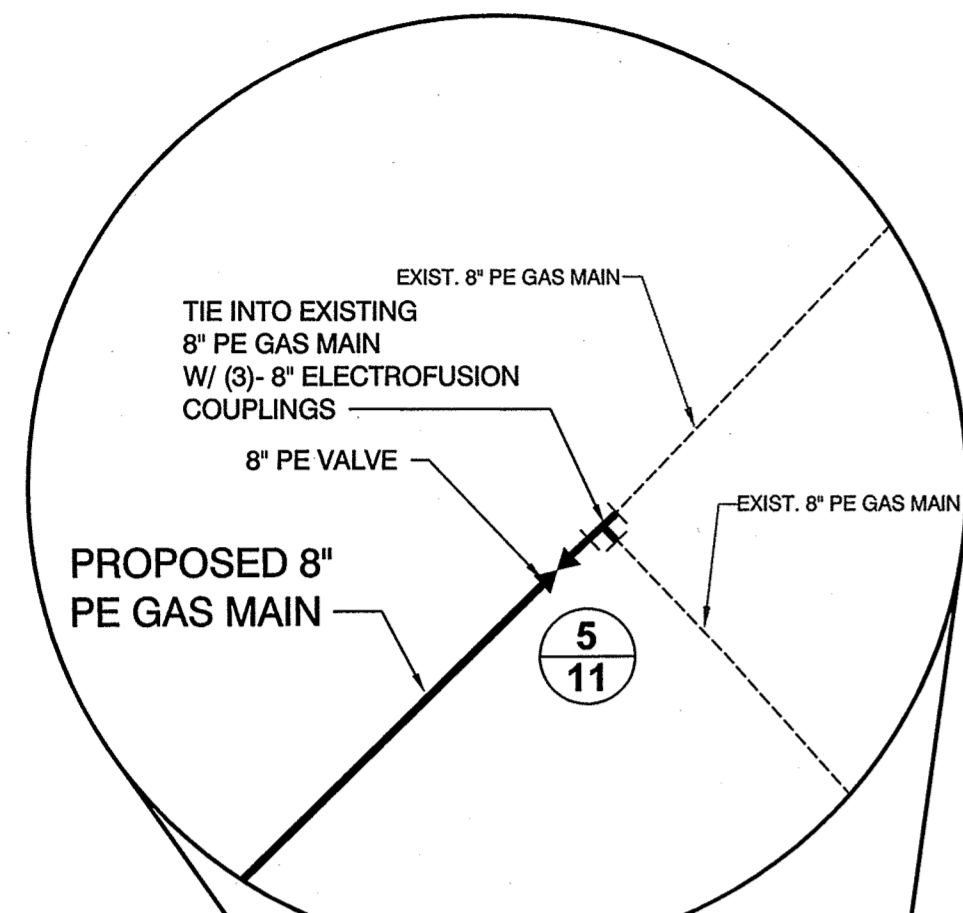
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 ENGINEERS
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 Greenville, SC 29606
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 Landscape Architects



Date: 8/1/16
 Survey: - Draft JML
 Design: FLS Check FLS
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 Scale: 1"=50'
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8



MATCHLINE G-G
SHEET 8



NOTE:
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REVISIONS:

NO.	DATE	DESCRIPTION	REV.	APPD.



CONSTRUCTION PLAN
GREENVILLE UTILITIES COMMISSION
GCP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT
 NORTH CAROLINA
 PITT COUNTY

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Date: 8/4/16
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 Project No. 2015045
 Drawing No. W-3655
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 Sheet No. of 13

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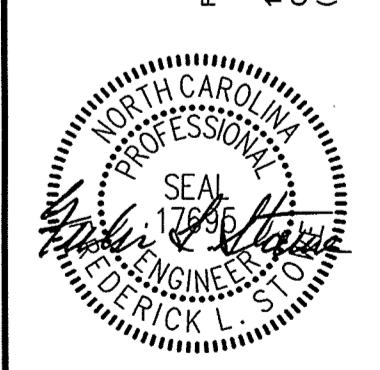
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REV.	DATE	DESCRIPTION



TRAFFIC CONTROL DETAILS
GREENVILLE UTILITIES COMMISSION
GP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT

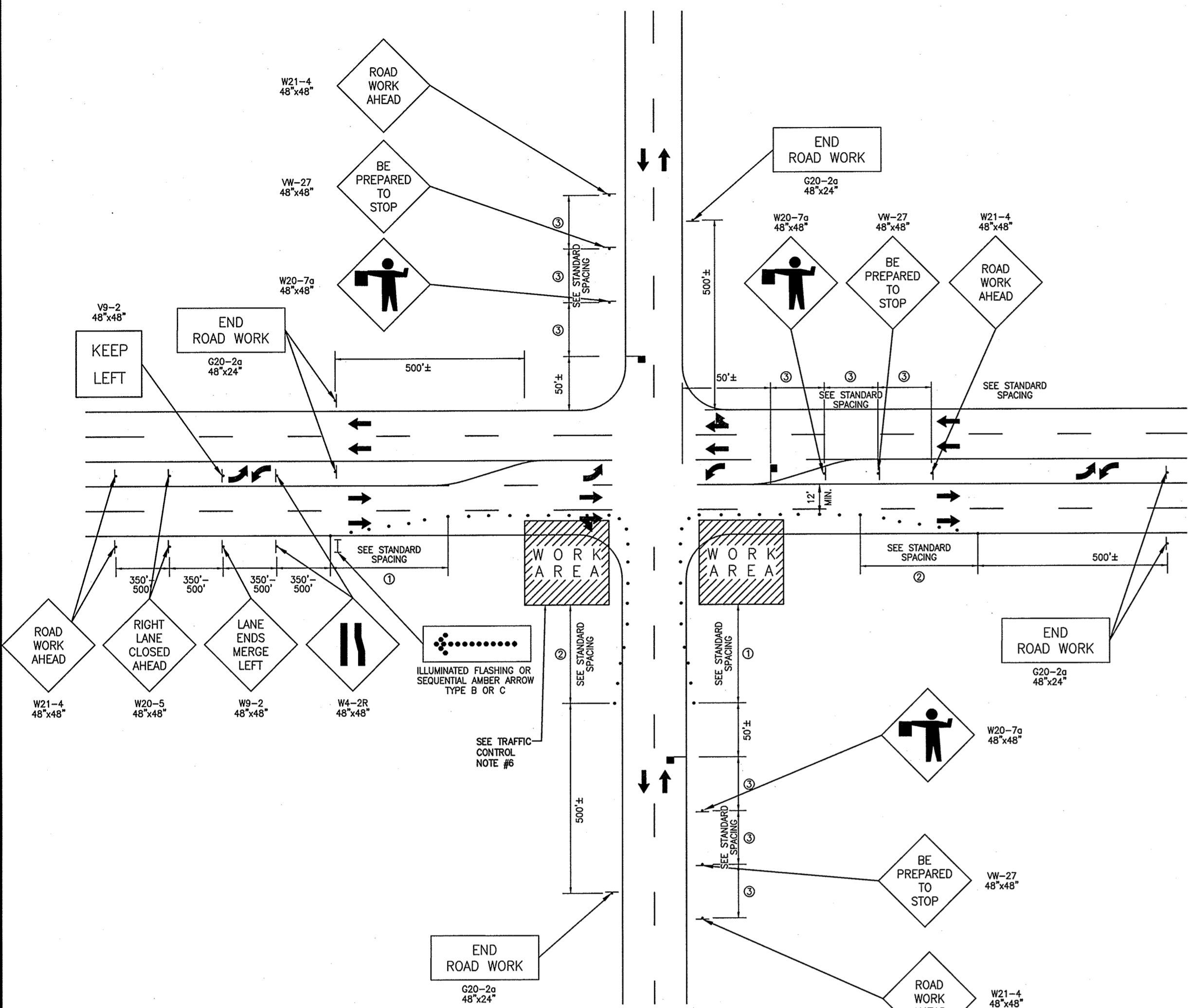
NORTH CAROLINA
 PITTS COUNTY
 Landscape Architects



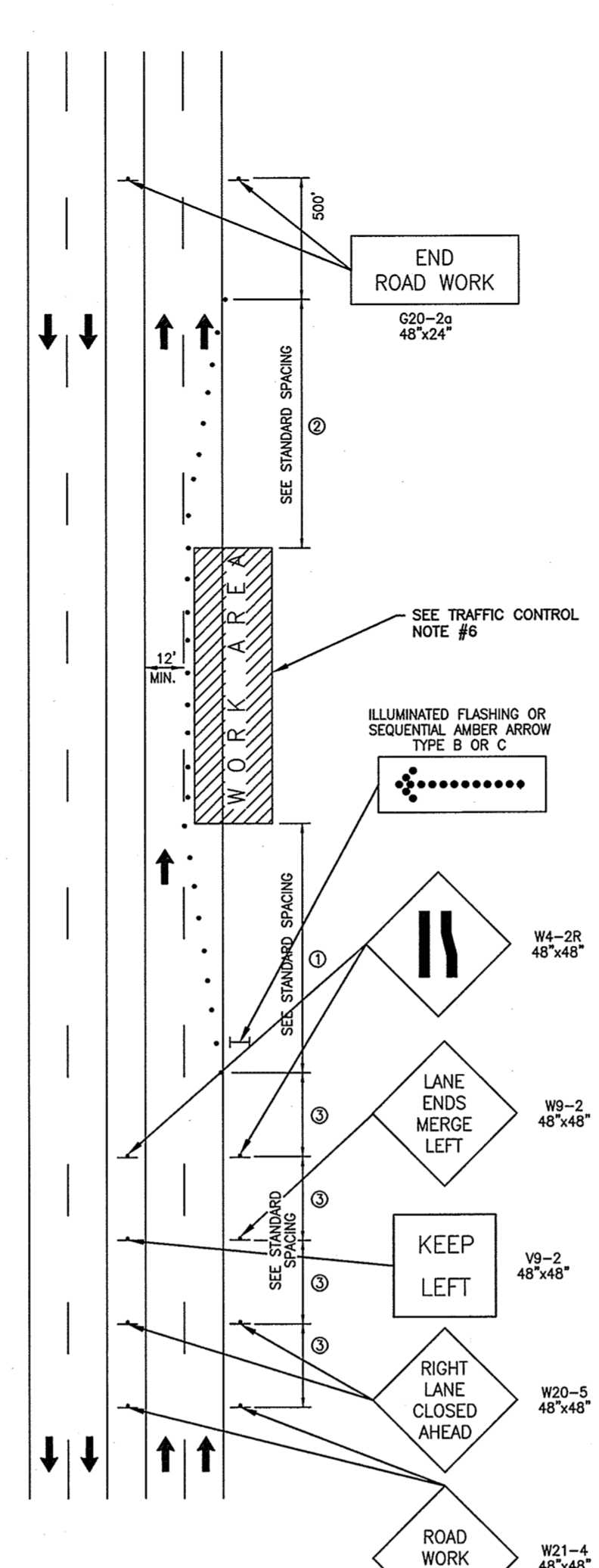
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 Project No. 2015045
 Drawing No. W-3655
 Scale: NOT TO SCALE
 Sheet No. of 13

ISSUED FOR BIDS

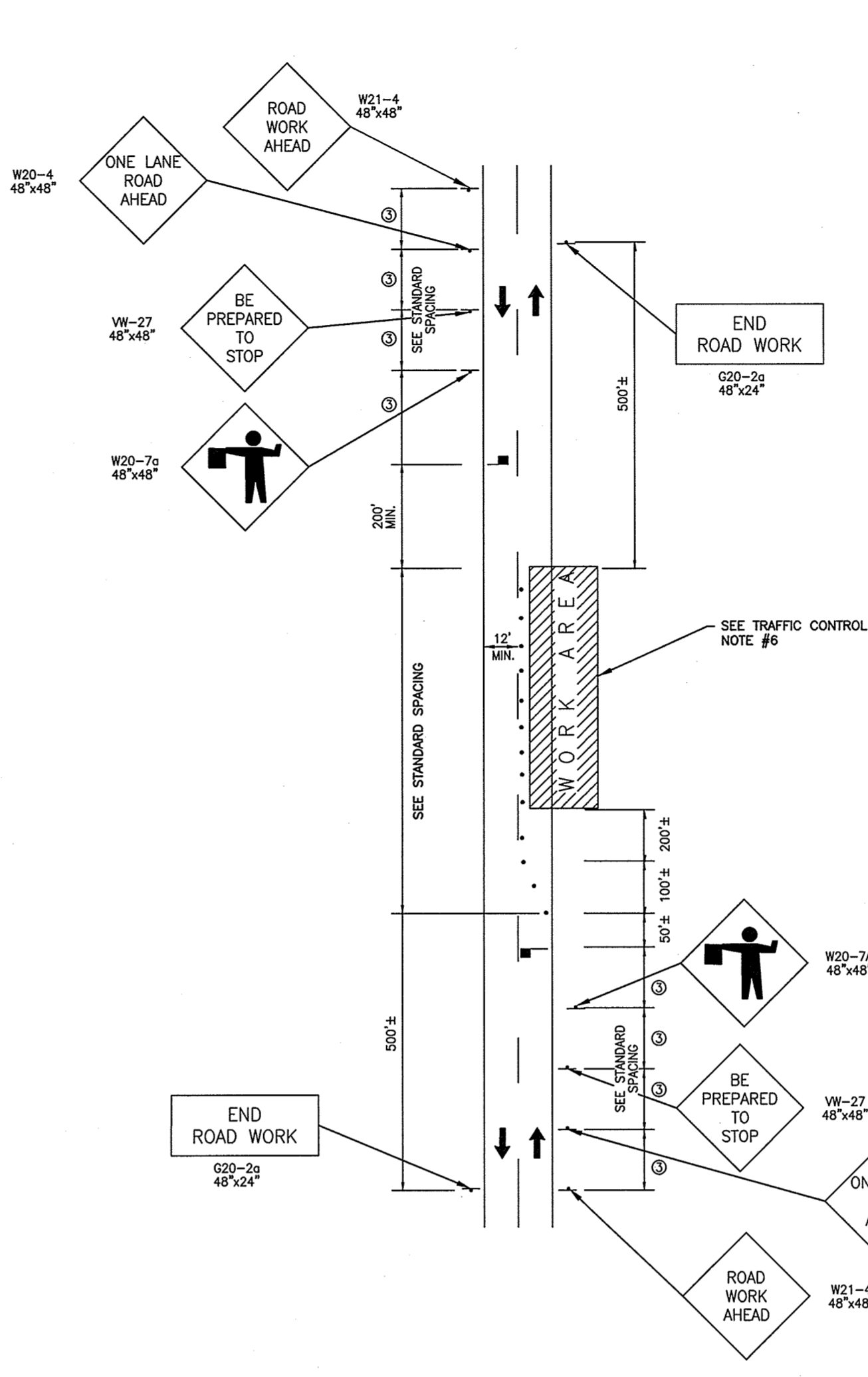
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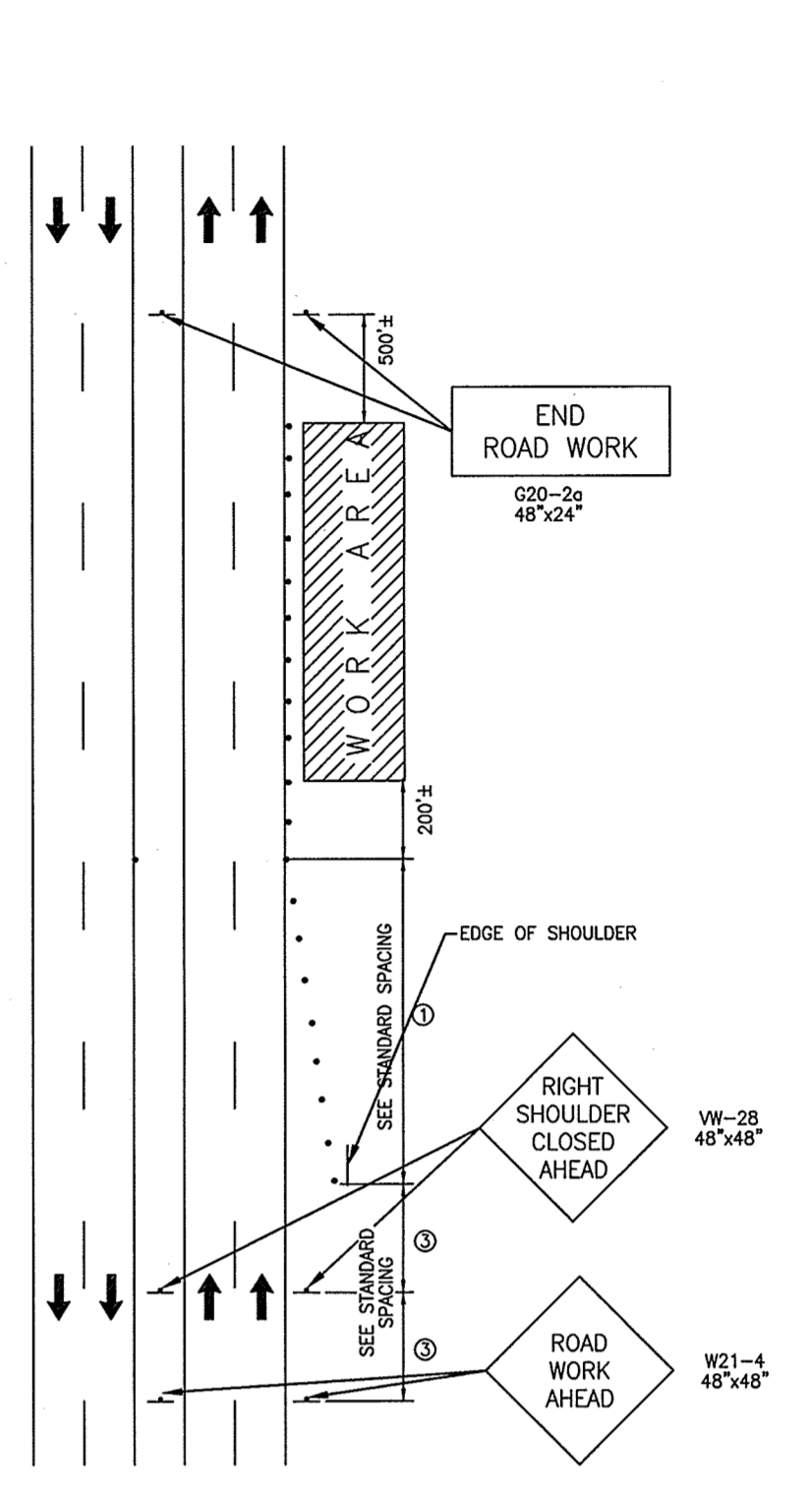
TYPICAL LANE CLOSURE THROUGH INTERSECTION



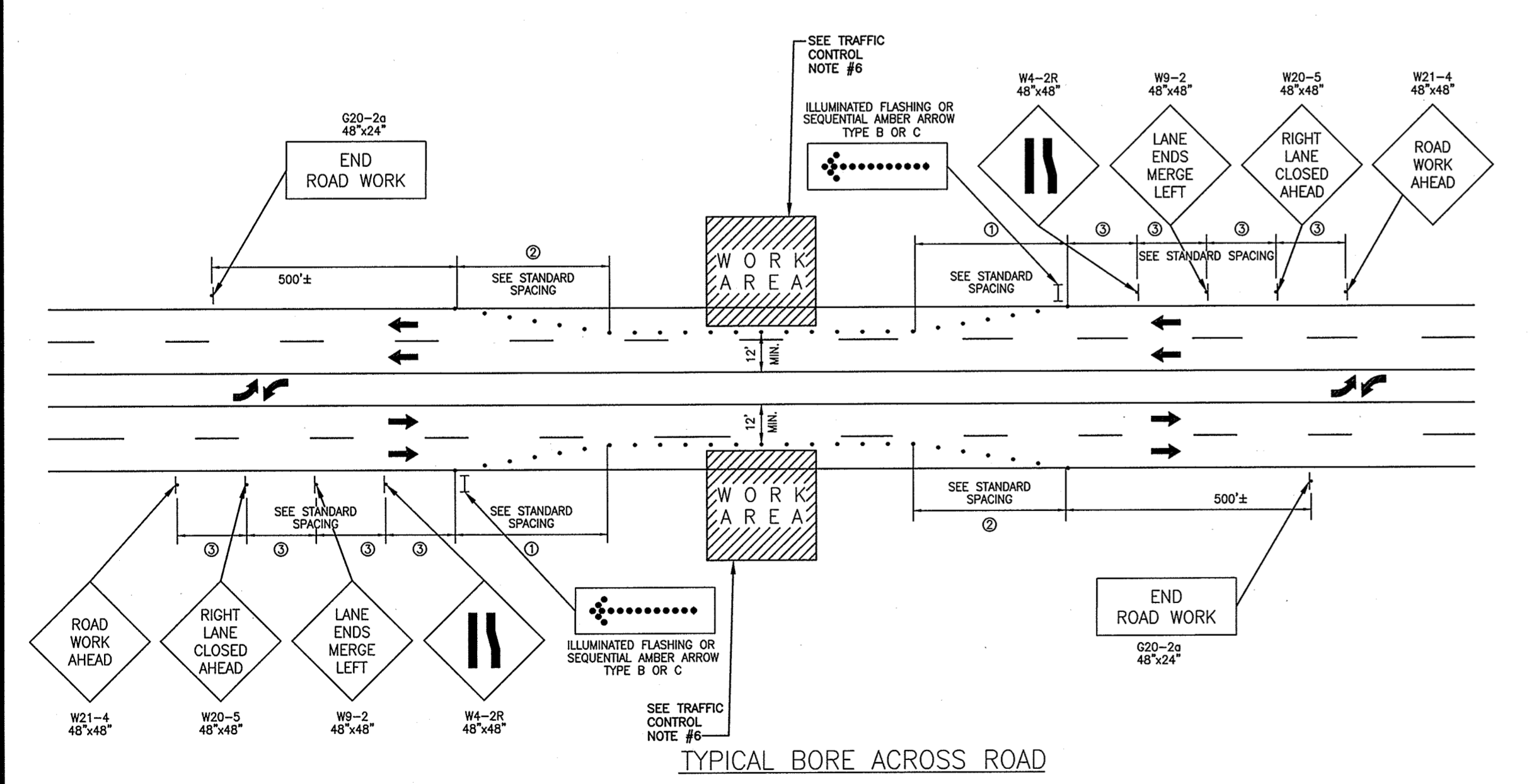
TYPICAL LANE CLOSURE
MULTI-LANE TRAFFIC



TYPICAL LANE CLOSURE
SINGLE LANE TRAFFIC



TYPICAL SHOULDER CLOSURE



TYPICAL BORE ACROSS ROAD

TRAFFIC CONTROL NOTES

- NO WORK SHALL BE DONE WITHIN 300 FEET OF PRIMARY ROAD INTERSECTIONS BETWEEN THE HOURS OF 7:00 A.M. - 9:00 A.M. AND 4:00 P.M. - 6:00 P.M.
- UNLESS SPECIAL PERMISSION HAS BEEN GRANTED BY ANY AND ALL CONTROLLING AUTHORITIES, ALL LANES MUST BE RESTORED TO NORMAL WIDTHS AT THE CONCLUSION OF EACH CONSTRUCTION DAY.
- CHANNELIZING DEVICES MUST SEPARATE THE WORK AREA FROM THE TRAVELED WAY AND BE EXTENDED TO WHERE THEY ARE VISIBLE TO ONCOMING TRAFFIC.
- SHOULD SPECIAL PERMISSION BE GRANTED TO EXTEND WORKING HOURS SUCH THAT CONSTRUCTION IS CARRIED ON AFTER SUNSET OR BEFORE SUNRISE, THE CONTRACTOR SHALL PROVIDE:
 - FLOODLIGHTS TO MARK FLAGGER STATIONS.
 - STEADY-BURN WARNING LIGHTS ON CHANNELIZING DEVICES.
 - BLINKING LIGHTS ON WARNING SIGNS.
- ALL TRAFFIC CONTROL METHODS AND DEVICES SHALL CONFORM TO THE MOST CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS ISSUED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION AND THE MOST CURRENT NORTH CAROLINA WORK AREA PROTECTION MANUAL.
- A TRUCK WITH EITHER AN ARROW BOARD OPERATING IN THE CAUTION MODE, OR AT LEAST ONE ROTATING AMBER LIGHT OR HIGH INTENSITY AMBER STROBE LIGHT SHALL BE PARKED 50'-100' IN ADVANCE OF THE FIRST WORK CREW. WHEN POSTED SPEED LIMIT IS 45 MPH OR GREATER, A TRUCK MOUNTED ATTENUATOR SHALL BE USED.
- THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ANY PAVEMENT MARKINGS DAMAGED BY CONSTRUCTION.
- ACCESS TO ALL PARCELS AFFECTED BY CONSTRUCTION SHALL BE MAINTAINED AT ALL TIMES.
- THE CONTRACTOR SHALL OBTAIN WRITTEN CONSENT FROM THE CONTROLLING AUTHORITY PRIOR TO CLOSING ONE LANE OF A TWO LANE ROADWAY.
- THIS PLAN IS PROVIDED BY GREENVILLE UTILITIES COMMISSION IN AN EFFORT TO PROVIDE THE CONTRACTOR WITH AN UNDERSTANDING OF THE MINIMUM REQUIREMENTS FOR TRAFFIC CONTROL WHICH MUST BE MET AND TO AID IN THE INCLUSION OF THOSE COSTS IN THE PREPARATION OF HIS BID. THIS PLAN AND THE USE THEREOF DOES NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES OF PROTECTION OF THE WORK AND THE PUBLIC'S SAFETY. IT IS A SPECIFIC CONTRACT REQUIREMENT THAT THE CONTRACTOR INDEMNIFY AND HOLD HARMLESS THE OWNER AND THE ENGINEER AGAINST ALL LOSSES INCURRED IN THE EXECUTION OF THE WORK AND IN THE GUARDING OF IT. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO THE USE OF THIS PLAN.

LEGEND

- WORK AREA
- DIRECTION OF TRAFFIC
- TEMPORARY WARNING SIGN
- CHANNELIZING DEVICE (BARREL OR CONE)
- FLAGGER STATION
- * LT. & RT. SIGNS REQ'D. WHERE MEDIAN EXCEEDS 8 FT.

STANDARD SPACING

SPACE TYPE	35 MPH	45 MPH
BARRELS - TRAVELWAY SPACING	40'	80'
BARRELS - TRAVELWAY SPACING	20'	40'
① ENTRANCE TAPER	245'	540'
② EXIT TAPER	80'	80'
③ SIGN SPACING	350'-500'	350'-500'

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CONSTRUCTION SPECIFICATIONS

1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE FOLLOWING REQUIREMENTS:

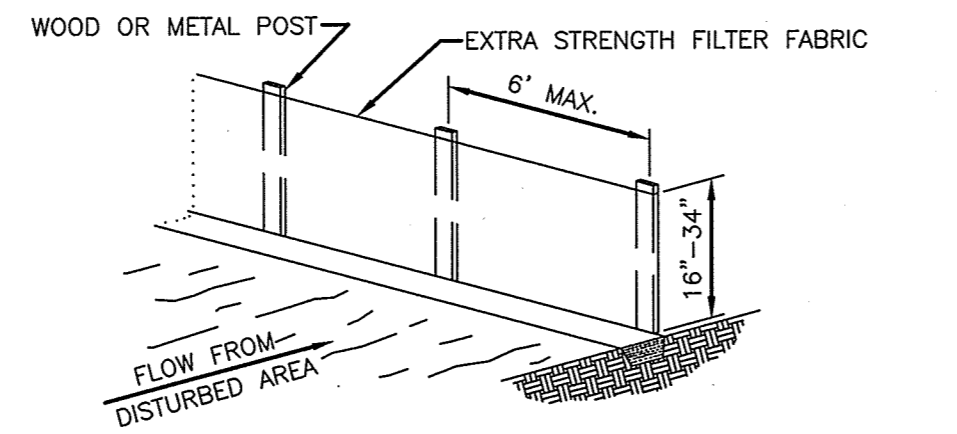
PHYSICAL PROPERTY	TEST	REQUIREMENTS
FILTERING EFFICIENCY	ASTM 5141	85% (MIN.)
TENSILE STRENGTH AT 20% (MAX.) ELONGATION	VTM-52	EXTRA STRENGTH—50 LBS./LIN.IN. (MIN.)
2. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0° TO 120°F.
3. IF WOODEN STAKES ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A DIAMETER OF 2 INCHES WHEN OAK IS USED AND 4 INCHES WHEN PINE IS USED. WOODEN STAKES MUST HAVE A MINIMUM LENGTH OF 5 FEET.
4. IF STEEL POSTS (STANDARD "U" OR "T" SECTION) ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT AND SHALL HAVE A MINIMUM LENGTH OF 5 FEET AND SHALL HAVE PROJECTIONS FOR FASTENING FABRIC.
5. WIRE FENCE REINFORCEMENT FOR SILT FENCES USING STANDARD-STRENGTH FILTER CLOTH SHALL BE A MINIMUM 14 GAUGE AND SHALL HAVE A MAXIMUM MESH SPACING OF 6 INCHES.

INSTALLATION

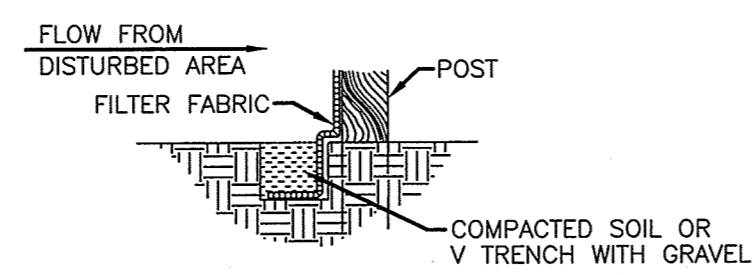
1. THE HEIGHT OF A SILT FENCE SHALL BE A MINIMUM OF 16 INCHES ABOVE THE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 34 INCHES ABOVE GROUND ELEVATION.
2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE UNAVOIDABLE, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-FOOT OVERLAP, AND SECURELY SEALED.
3. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 8 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE SIDE OF THE PROPOSED LOCATION OF THE MEASURE.
4. POSTS SHALL BE PLACED A MAXIMUM OF 6 FEET APART. THE FILTER FABRIC SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING ONE INCH LONG (MINIMUM) HEAVY-DUTY WIRE STAPLES OR THE WIRES AND TWELVE INCHES OF FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
5. THE 8 INCH BY 4 INCH TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
6. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

MAINTENANCE

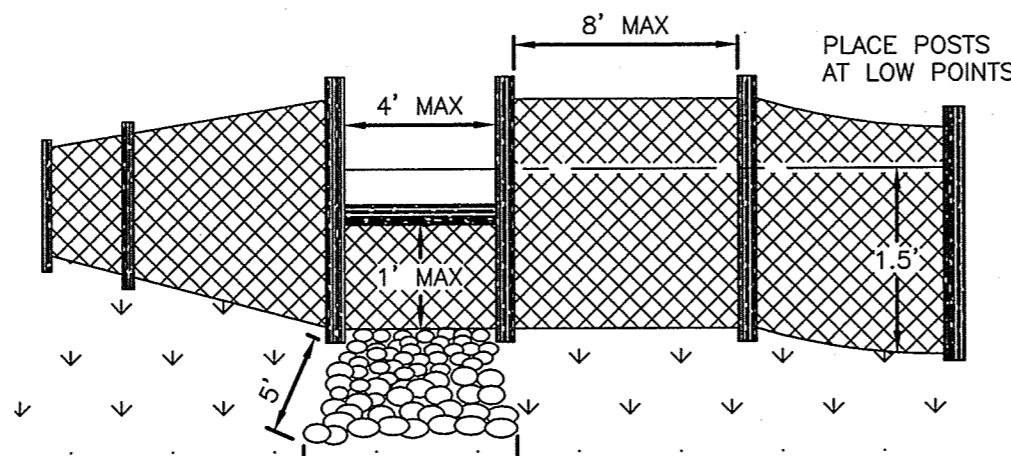
1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
2. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING.
3. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEED.



SHEET FLOW INSTALLATION (PERSPECTIVE VIEW)



TRENCH OF A SILT FENCE

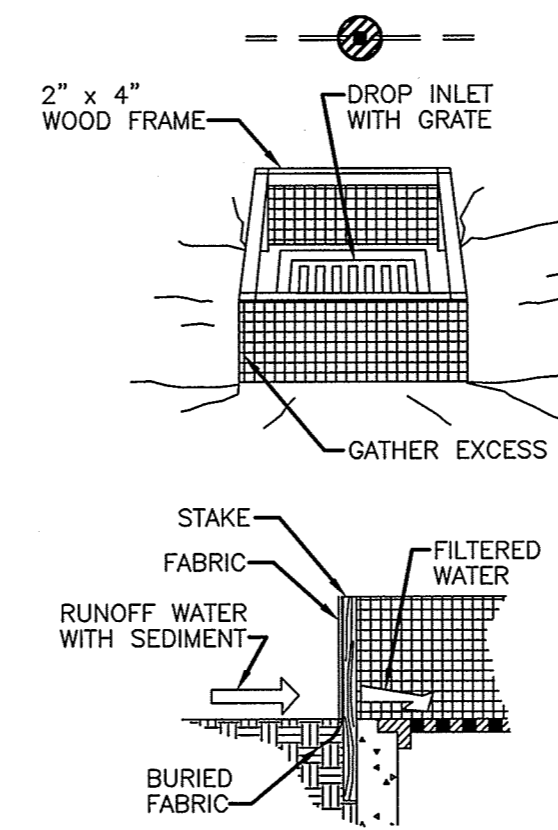


TYPICAL SILT FENCES

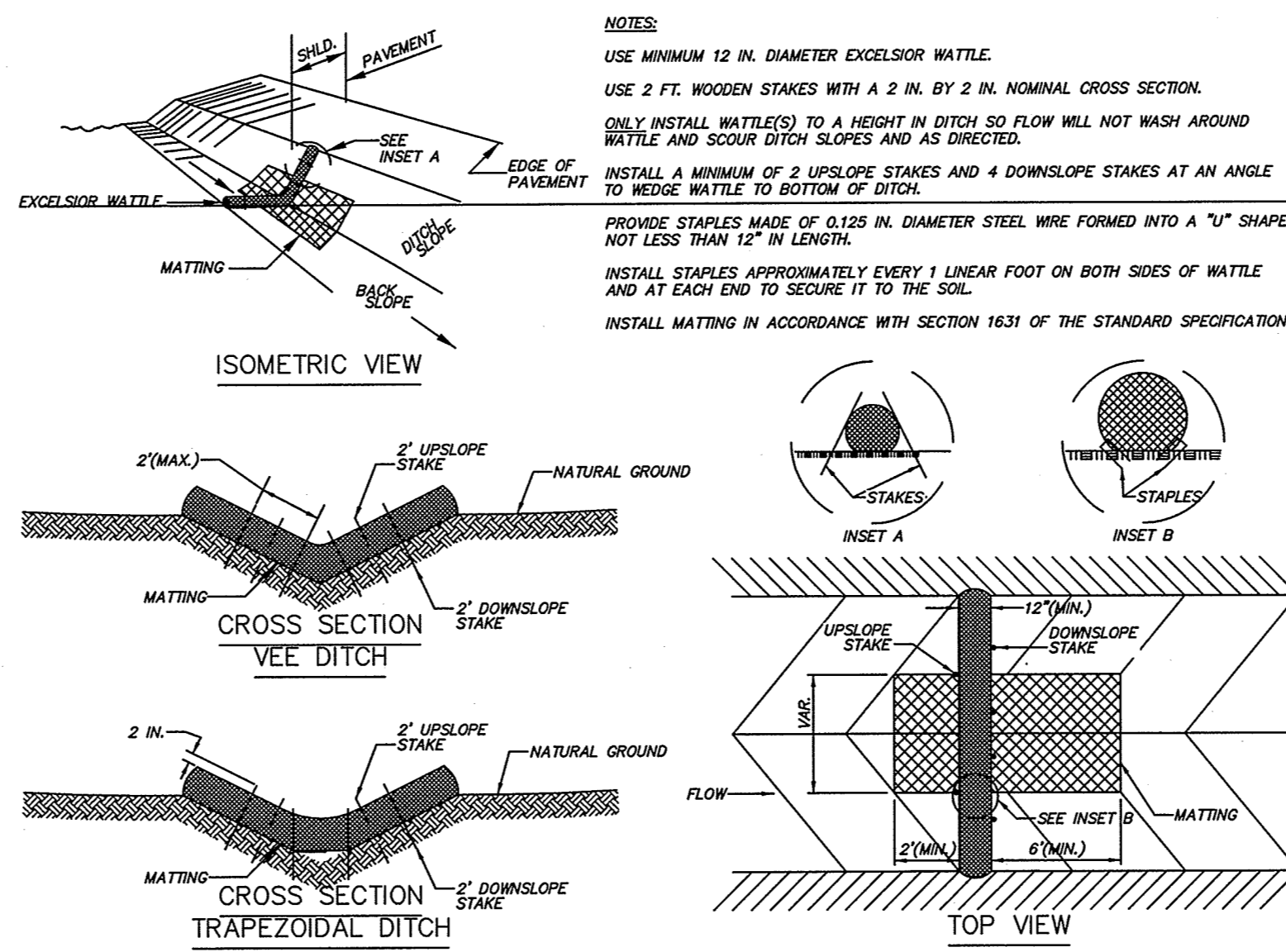
1 11 TEMPORARY SILT FENCE NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

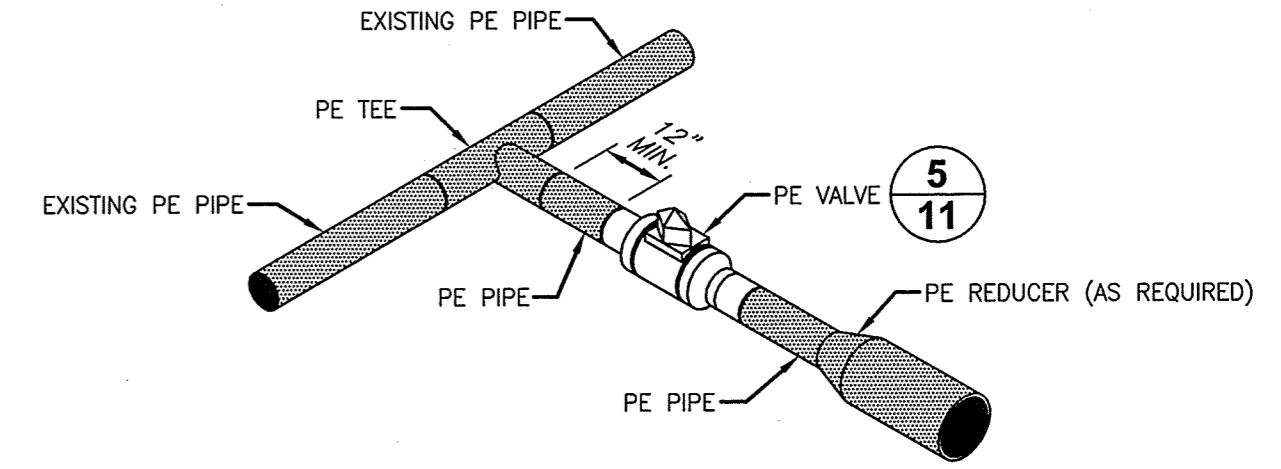
1. SILT FENCE DROP INLET PROTECTION
 - A. SILT FENCE SHALL CONFORM TO THE CONSTRUCTION SPECIFICATIONS FOR "EXTRA STRENGTH" DEHNR 6.51 AND SHALL BE CUT FROM A CONTINUOUS ROLL TO AVOID JOINTS.
 - B. STAKES SHALL BE 2 x 4-INCH WOOD (PREFERRED) OR EQUIVALENT METAL WITH A MINIMUM LENGTH OF 3 FEET.
 - C. SPACE STAKES EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3- FEET APART, AND SECURELY DRIVE THEM INTO THE GROUND, APPROXIMATELY 18-INCHES DEEP.
 - D. TO PROVIDE NEEDED STABILITY TO THE INSTALLATION, FRAME WITH 2 x 4-INCH WOOD STRIPS AROUND THE CREST OF THE OVERFLOW AREA AT A MAXIMUM OF 1 1/2 FEET ABOVE THE DROP INLET CREST.
 - E. PLACE THE BOTTOM 12 INCHES OF THE FABRIC IN A TRENCH AND BACKFILL THE TRENCH WITH 12 INCHES OF COMPACTED SOIL.
 - F. FASTEN FABRIC SECURELY BY STAPLES OR WIRE TO THE STAKES AND FRAME. JOINTS MUST BE OVERLAPPED TO THE NEXT STAKE.
 - G. IT MAY BE NECESSARY TO BUILD A TEMPORARY DIKE ON THE DOWNSLOPE SIDE OF THE STRUCTURE TO PREVENT BYPASS FLOW.



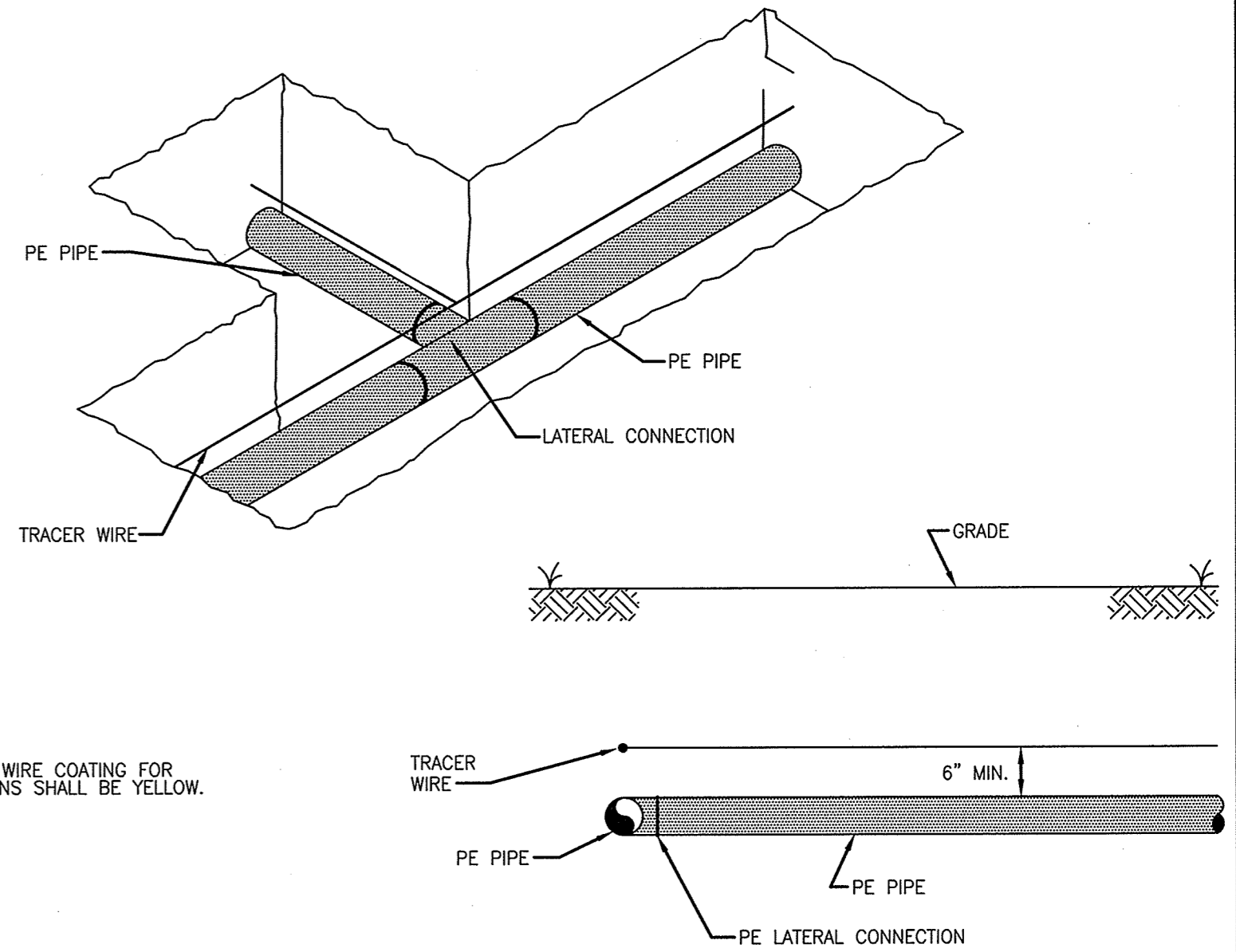
3 11 STORM DRAIN INLET PROTECTION NOT TO SCALE



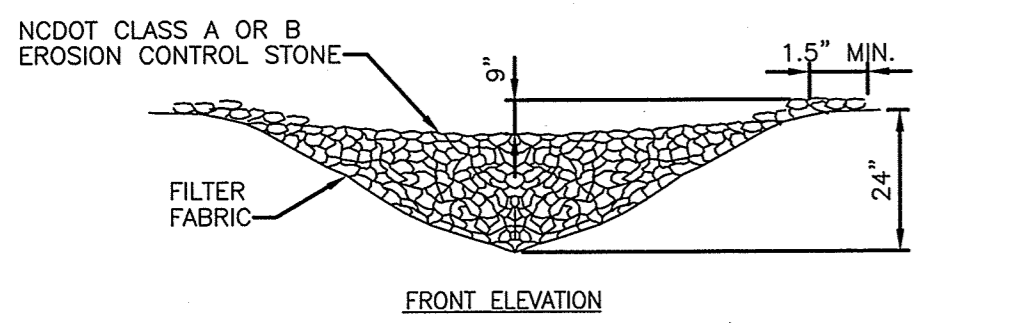
4 11 EXCELSIOR WATTLE DETAIL NOT TO SCALE



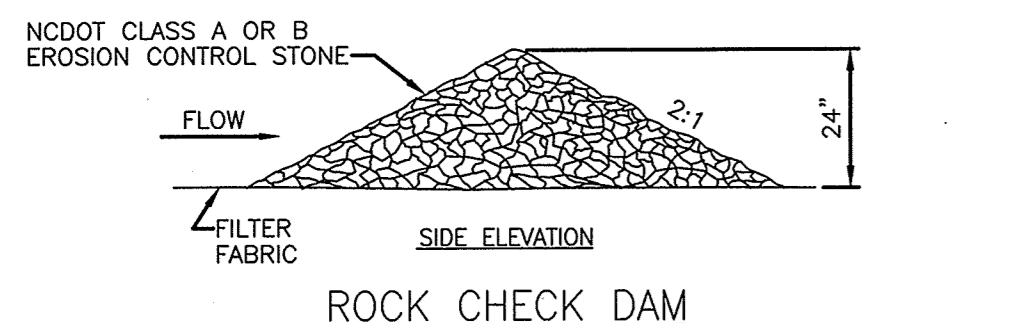
6 11 TYPICAL POLYETHYLENE LATERAL CONNECTION INSTALLATION NOT TO SCALE



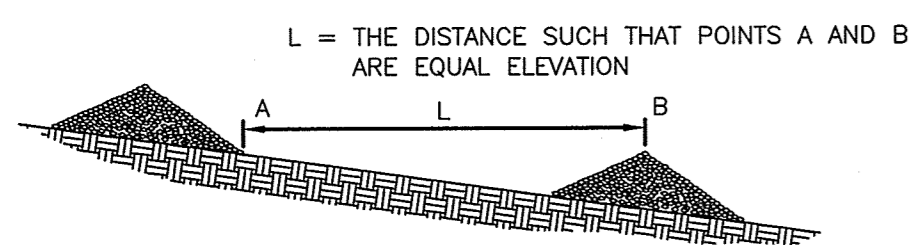
7 11 TYPICAL LOCATING DEVICE INSTALLATION FOR SINGLE TRENCH INSTALLATION NOT TO SCALE



FRONT ELEVATION



ROCK CHECK DAM



SPACING BETWEEN CHECK DAMS

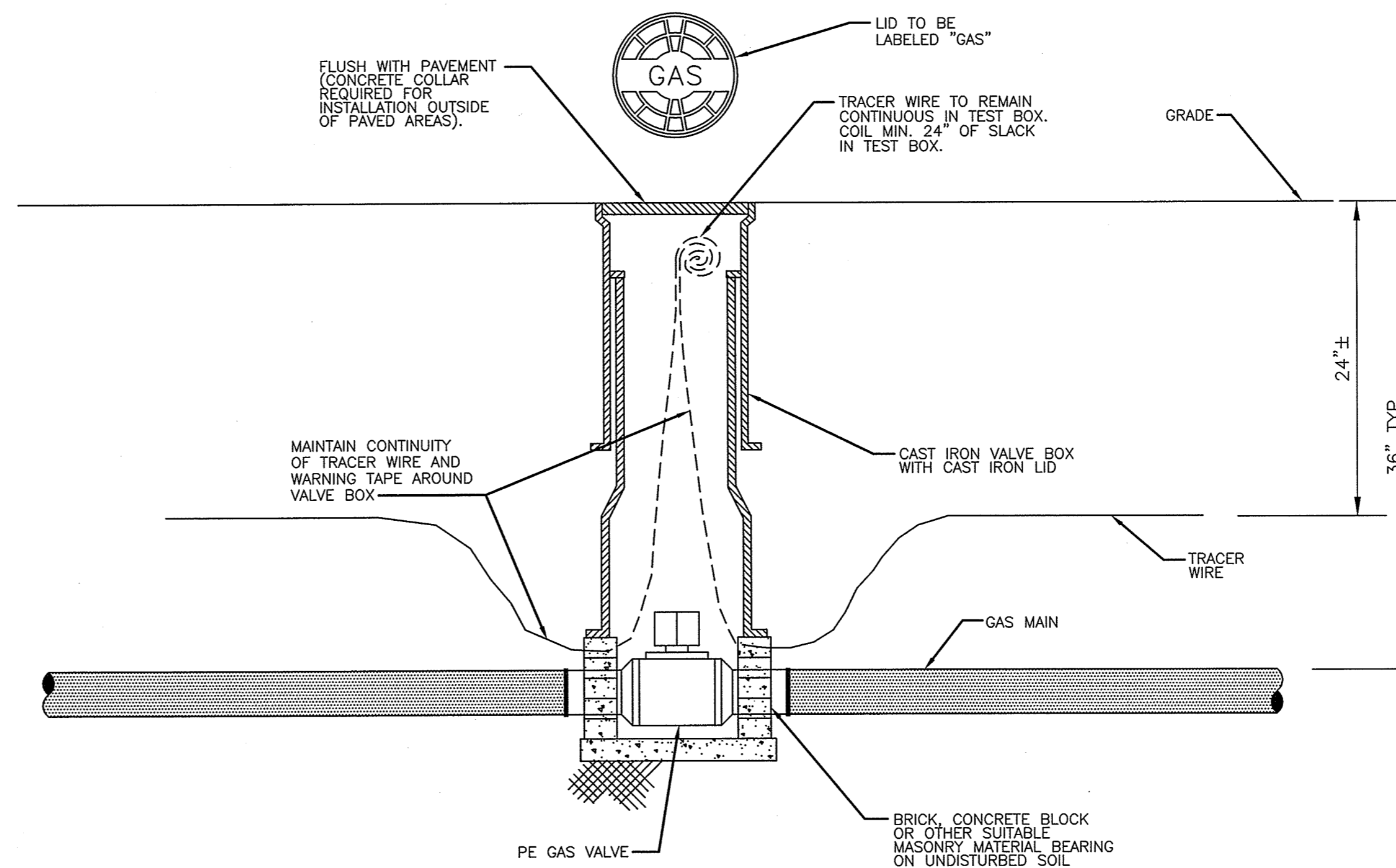
CONSTRUCTION SPECIFICATIONS

1. PLACE STONE TO THE LINES AND DIMENSIONS SHOWN IN THE PLAN ON A FILTER FABRIC FOUNDATION.
2. KEEP THE CENTER STONE SECTION AT LEAST 9 INCHES BELOW NATURAL GROUND LEVEL WHERE THE DAM ABUTS THE CHANNEL BANKS.
3. EXTEND STONE AT LEAST 1.5 FT. BEYOND THE DITCH BANKS TO KEEP OVERFLOW WATER FROM UNDERCUTTING THE DAM AS IT RE-ENTERS THE CHANNEL.
4. SET SPACING BETWEEN DAMS TO ASSURE THAT THE ELEVATION AT THE TOP OF THE LOWER DAM IS THE SAME AS THE TOE ELEVATION OF THE UPPER DAM.
5. PROTECT THE CHANNEL DOWNSTREAM FROM THE LOWEST CHECK DAM, CONSIDERING THAT WATER WILL FLOW OVER AND AROUND THE DAM.
6. MAKE SURE THAT THE CHANNEL REACH ABOVE THE MOST UPSTREAM DAM IS STABLE.
7. ENSURE THAT CHANNEL APPURTENANCES, SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS, ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONES.

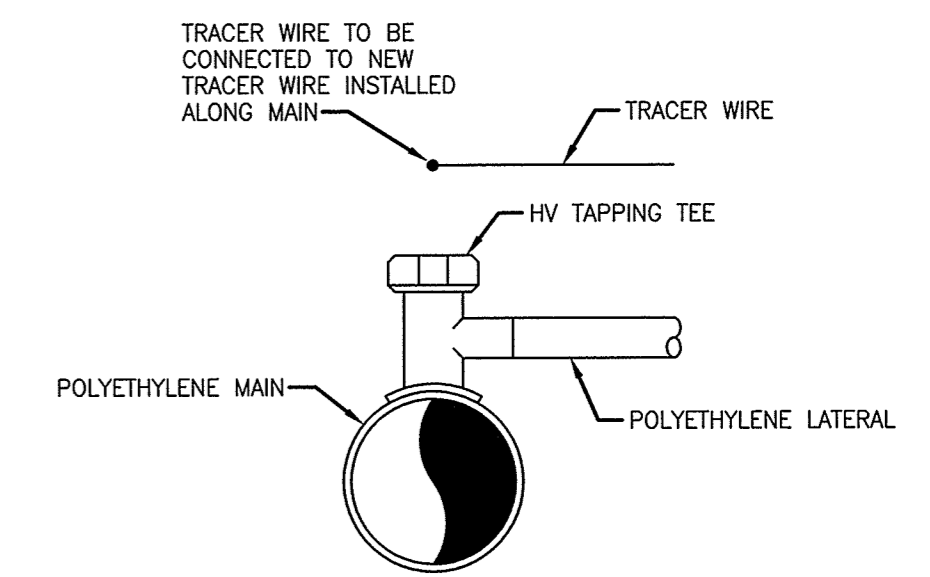
MAINTENANCE

1. INSPECT CHECK DAMS AND CHANNELS FOR DAMAGE AFTER EACH RUNOFF EVENT.
2. ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE CHECK DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. CORRECT ALL DAMAGE IMMEDIATELY. IF SIGNIFICANT EROSION OCCURS BETWEEN DAMS, INSTALL A PROTECTIVE RIPRAP LINER IN THAT PORTION OF THE CHANNEL.
3. REMOVE SEDIMENT ACCUMULATED BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION, ALLOW THE CHANNEL TO DRAIN THROUGH THE STONE CHECK DAM, AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. ADD STONES TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.

2 11 TEMPORARY ROCK SILT CHECK DAM NOT TO SCALE



5 11 TYPICAL POLYETHYLENE GAS VALVE INSTALLATION NOT TO SCALE



8 11 TYPICAL POLYETHYLENE LATERAL SERVICE CONNECTION INSTALLATION NOT TO SCALE

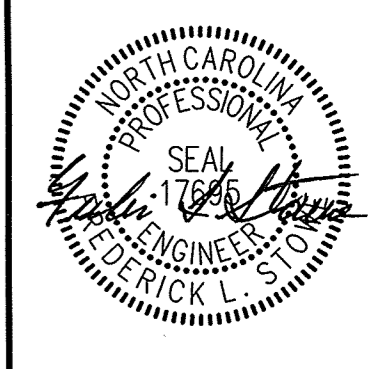
REVISIONS:

NO.	DATE	DESCRIPTION	BY	APP.

Greenville Utilities

MISCELLANEOUS DETAILS
GREENVILLE UTILITIES COMMISSION
GP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT

Rivers & Associates, Inc.
 Since 1918
 GREENVILLE, NORTH CAROLINA
 107 East Second Street
 (252) 732-4135

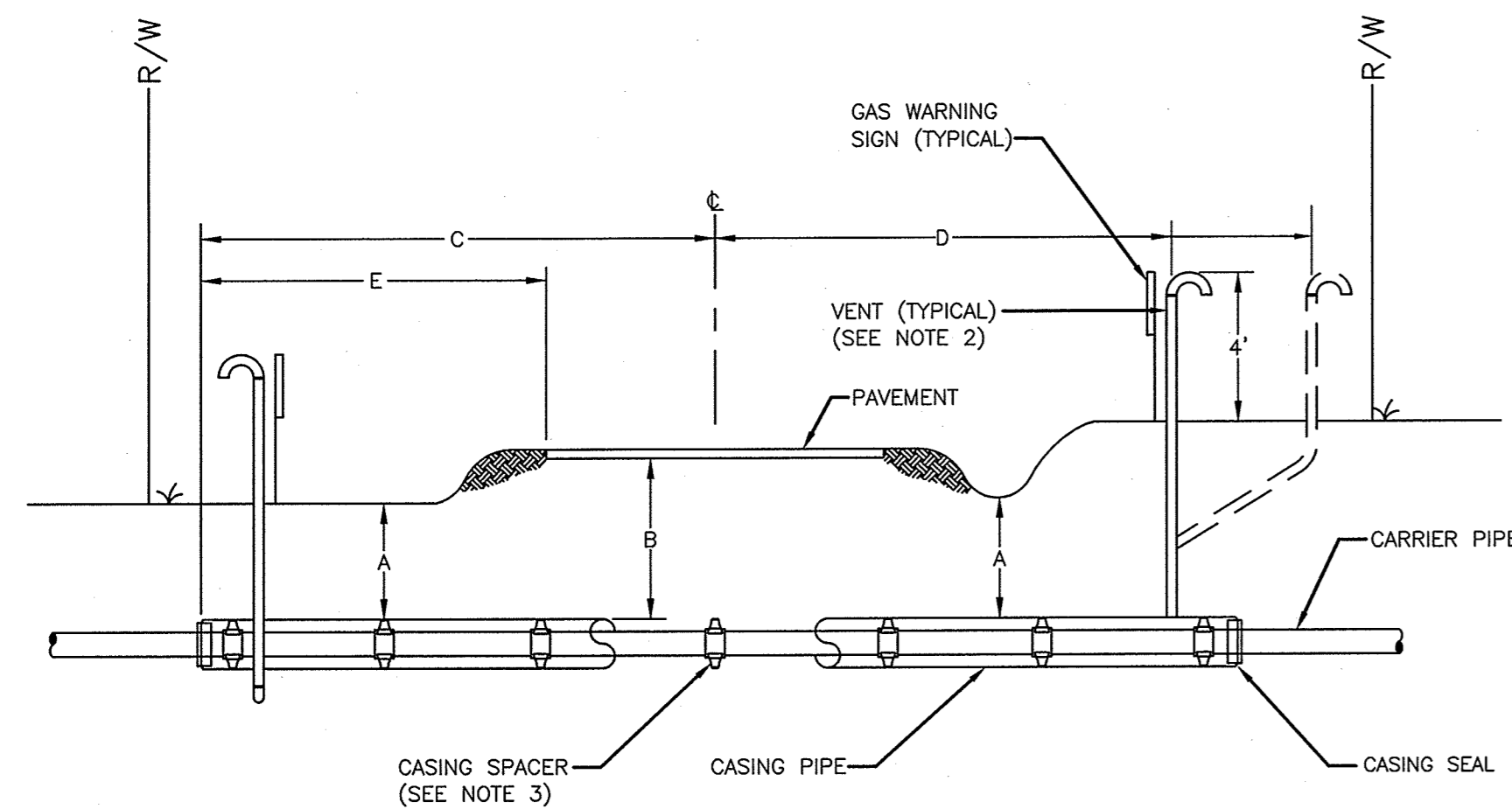


Date: 3/4/11

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Project No.	2015045		
Drawing No.	W-3655		
Scale:	AS SHOWN		
Sheet No.	of 13		

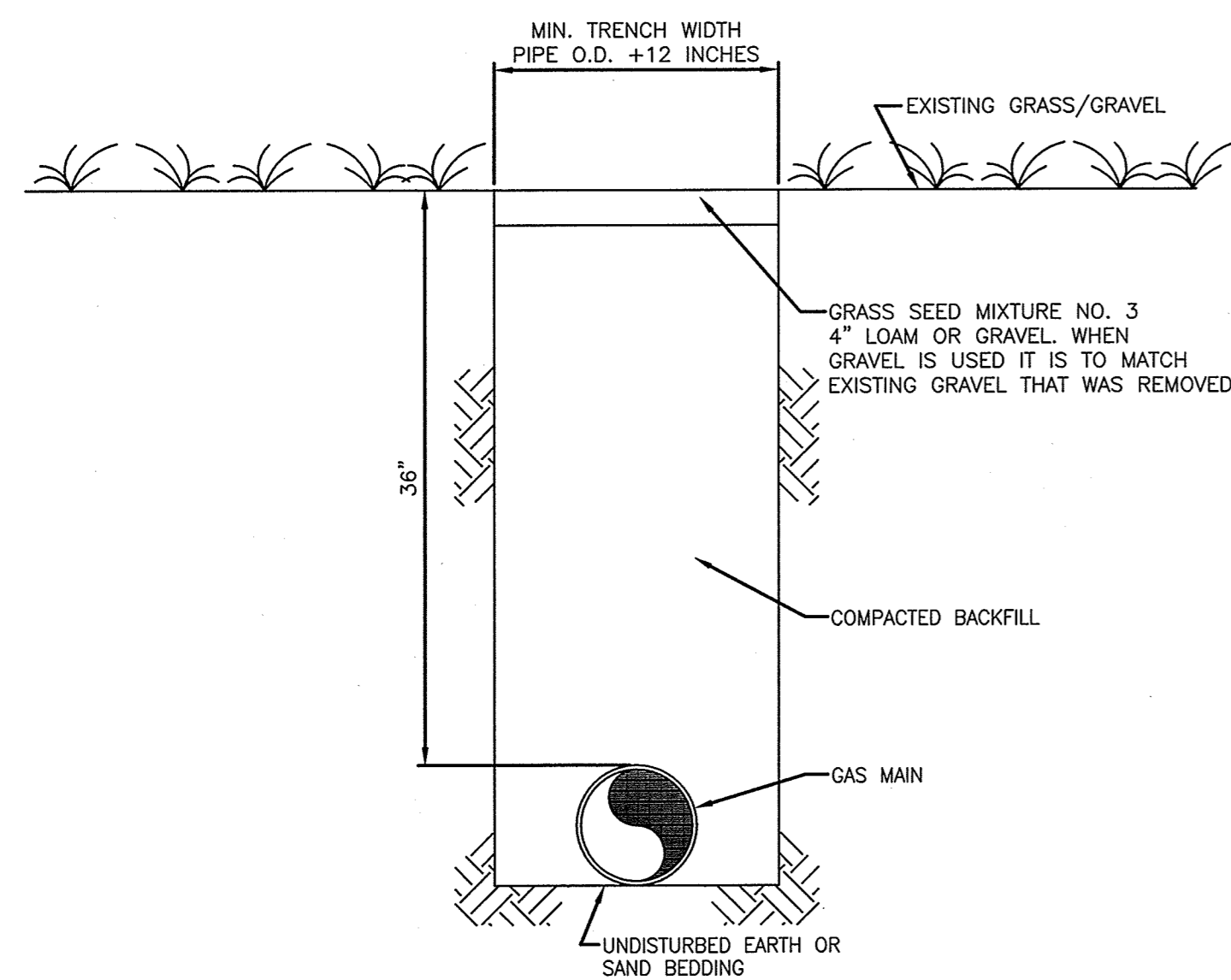
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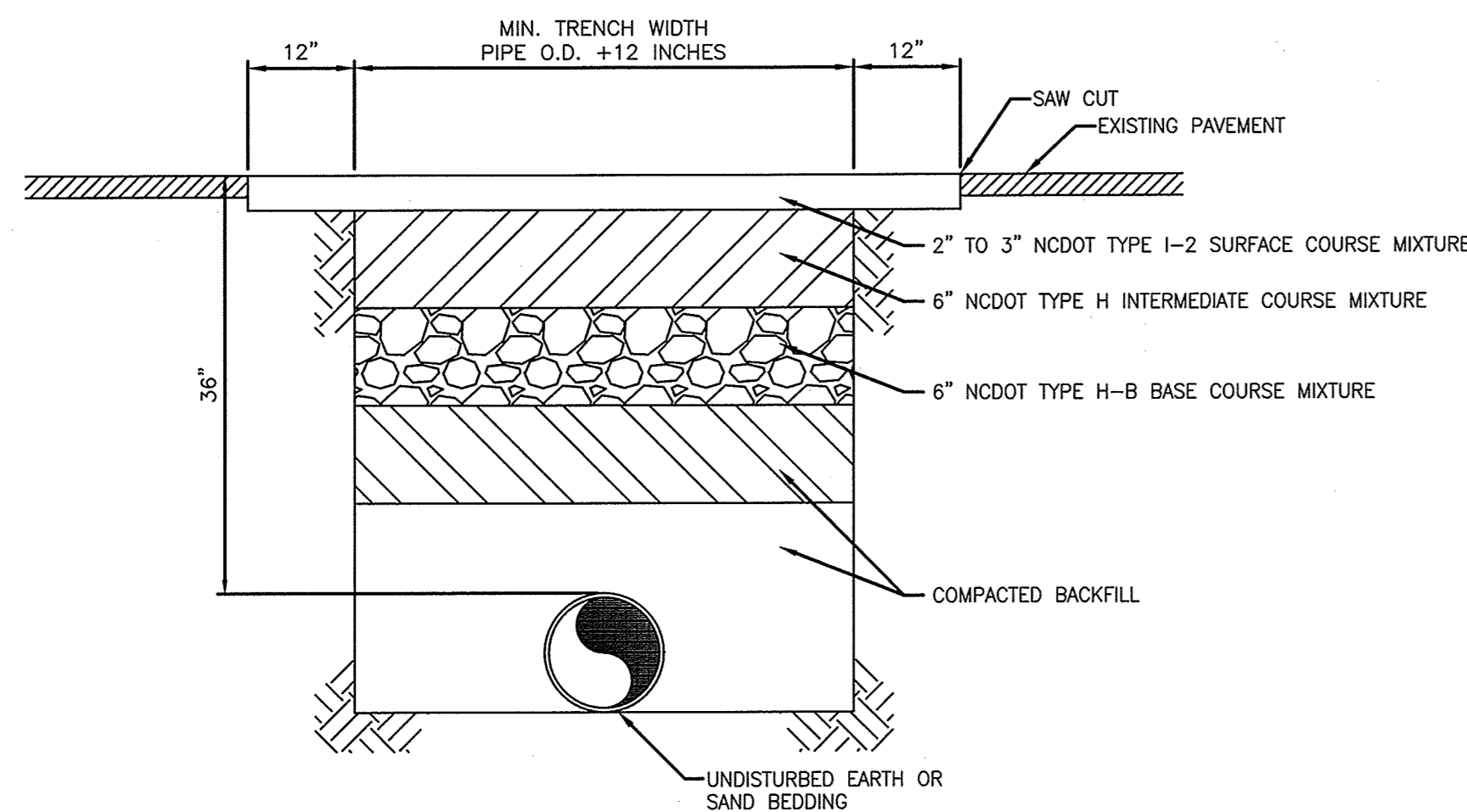


- GENERAL NOTES:**
- CASING FOR EACH CROSSING SHALL BE WELDED INTO ONE CONTINUOUS LENGTH.
 - ALL VENT CONNECTIONS SHALL BE WELDED. COUPLINGS SHALL NOT BE ALLOWED.
 - CASING SPACERS ARE TO BE PLACED A MAXIMUM OF 0'-6" FROM EACH END OF THE CASING AND A MAXIMUM OF 10'-0" ON CENTER FOR THE REMAINING LENGTH OF THE CASING.
- DIMENSIONS:**
- FOR ROADWAY CROSSINGS**
- "A" = FOUR (4) FEET MINIMUM
 - "B" = FOUR (4) FEET MINIMUM
 - "C" = AS SHOWN ON PLANS
 - "D" = TO THE RIGHT-OF-WAY LINE
 - "E" = MINIMUM 5' FROM END OF CASING TO EDGE OF PAVEMENT

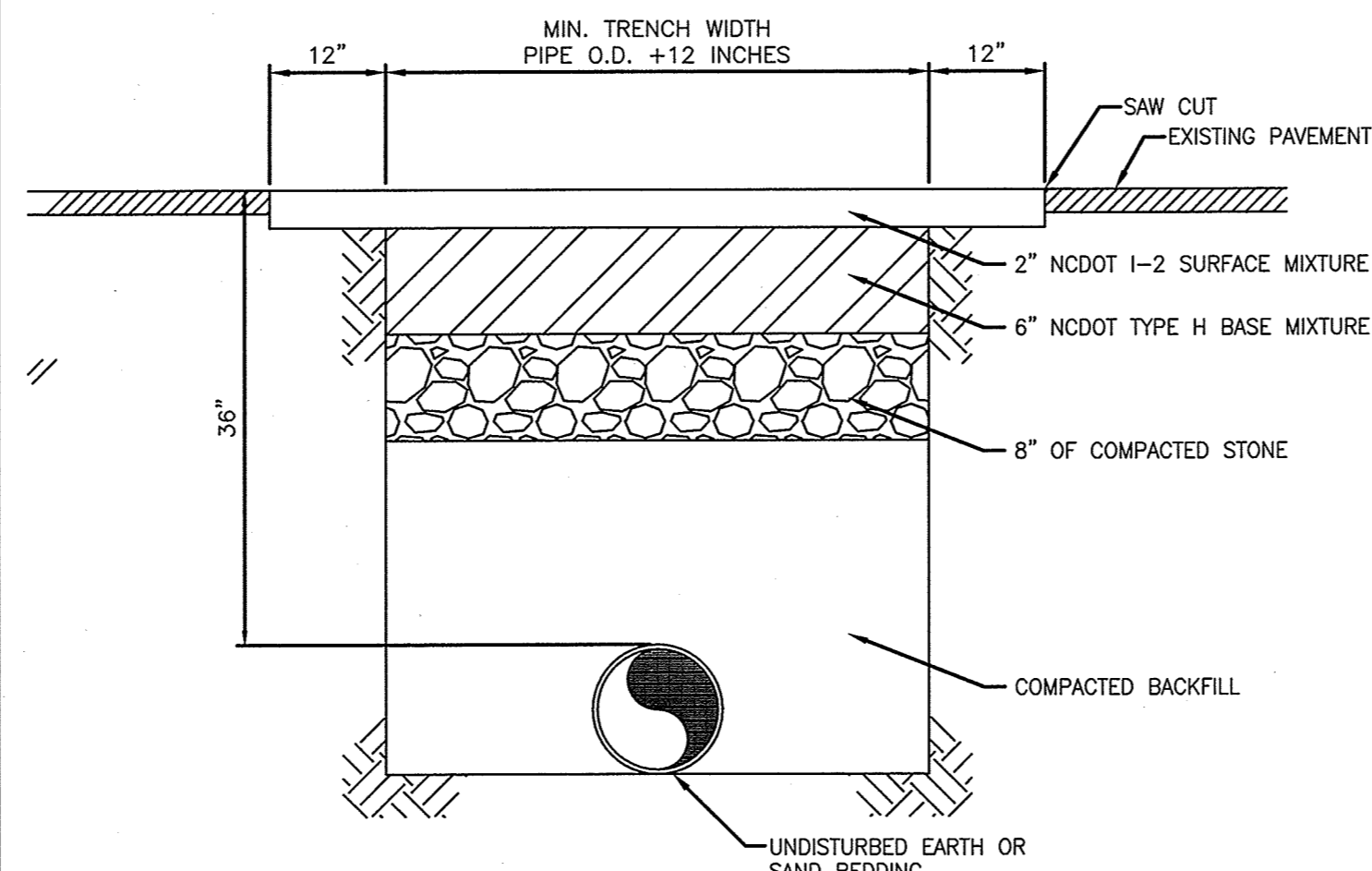
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12 CASING DETAIL
NOT TO SCALE



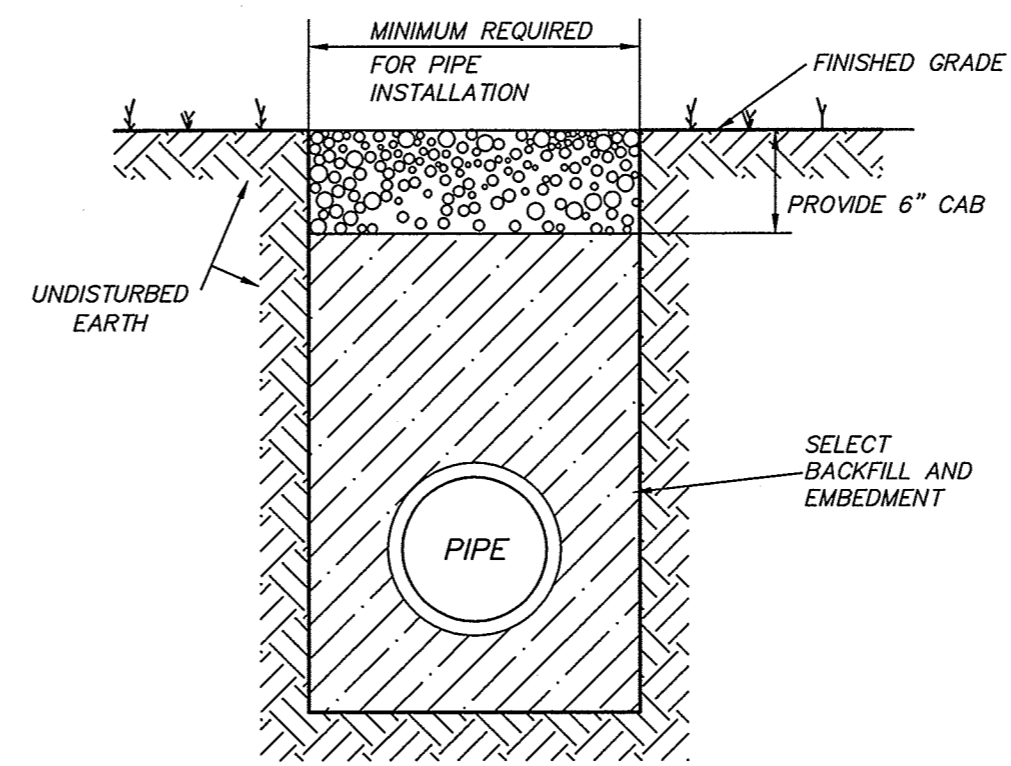
2
12 TYPICAL TRENCH SECTION IN GRASS/ GRAVEL AREA
NOT TO SCALE



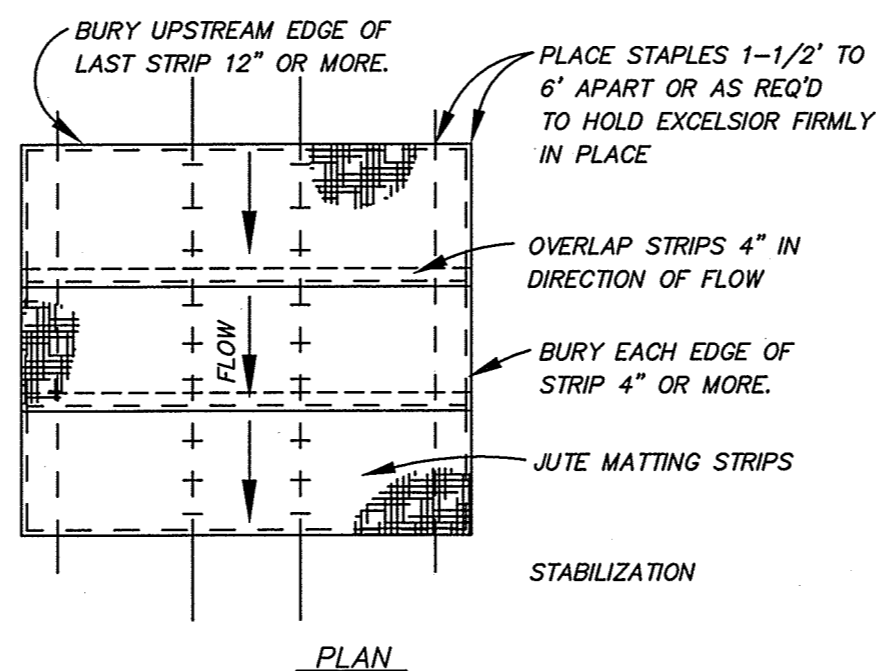
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12 TYPICAL PAVEMENT REPAIR ON NCDOT MAINTAINED ROADS
NOT TO SCALE



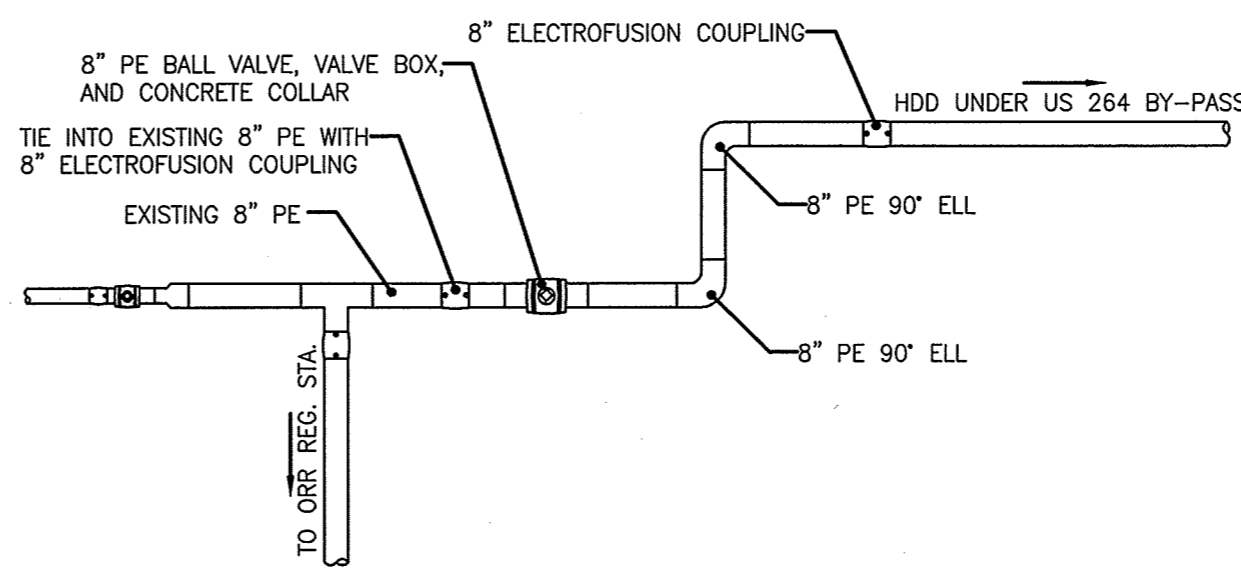
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12 TYPICAL PAVEMENT REPAIR ON CITY MAINTAINED ROADS
NOT TO SCALE



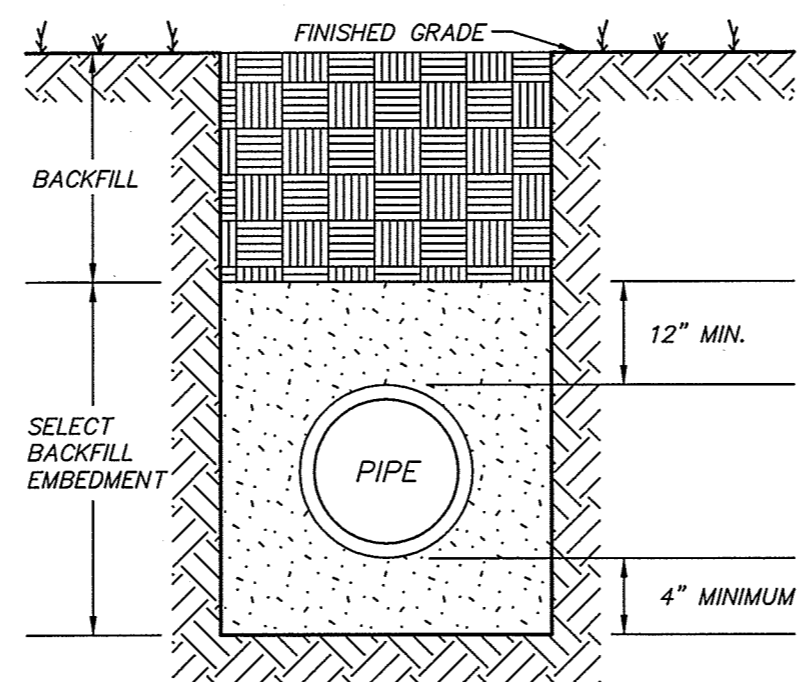
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12 TYP. SOIL AND STONE DRIVE CONSTRUCTION
NOT TO SCALE



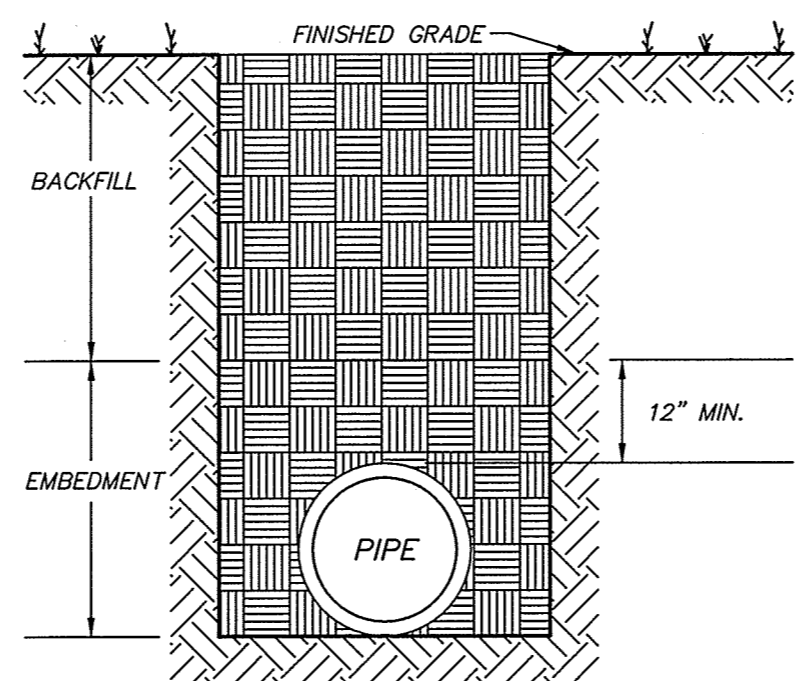
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12 SLOPE STABILIZATION W/ EXCELSIOR MATTING
NOT TO SCALE



9
12 RIVERVIEW ROAD TIE-IN DETAIL
NOT TO SCALE



6
12 CLASS "E" BEDDING
NOT TO SCALE



7
12 CLASS "F" BEDDING
NOT TO SCALE

REVISIONS:

REV.	DATE	DESCRIPTION

Greenville Utilities

MISCELLANEOUS DETAILS
GREENVILLE UTILITIES COMMISSION
GCP87 - OLD RIVER ROAD
GAS MAIN REPLACEMENT
NORTH CAROLINA
PITT COUNTY

NC License: F-0334
Rivers & Associates, Inc.
GREENVILLE, NORTH CAROLINA
107 East Second Street, Suite 97, 27601
(252) 752-4135
Engineers, Surveyors, Landscape Architects



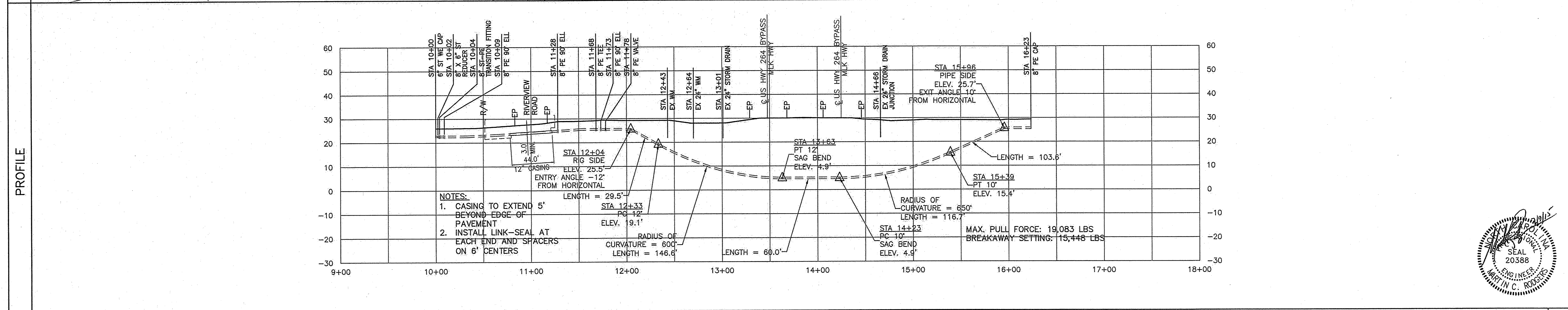
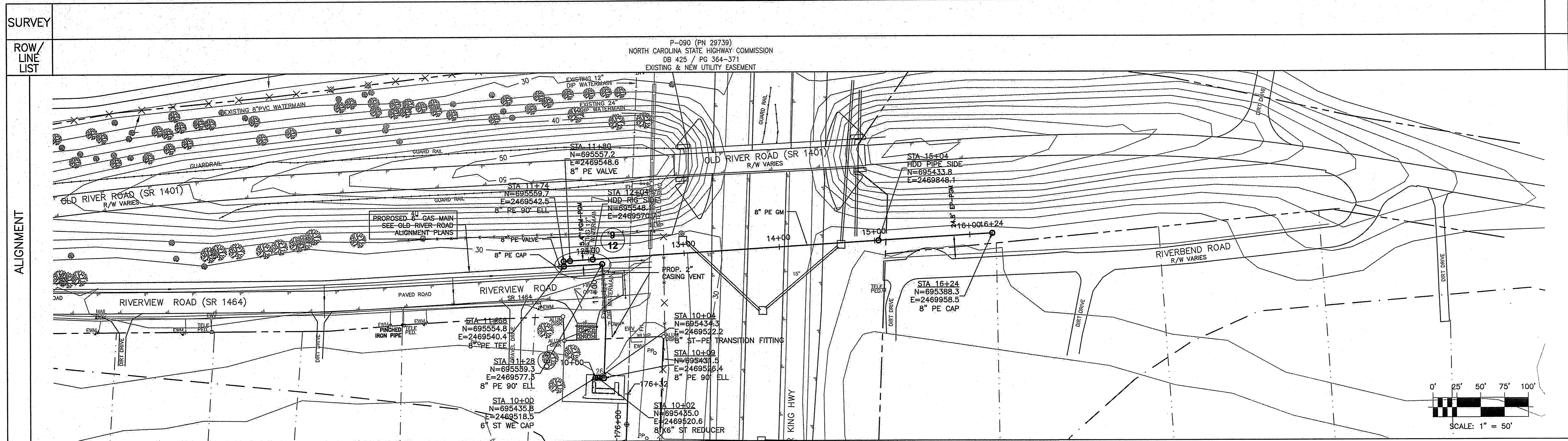
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Survey	- Draft	JML
Design	FLS	Check FLS
Project No.	2015045	
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Sheet No.	12 of 13	

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TERRAIN N.T.S.																									
ENVIRON. N.T.S.	OPEN CUT																								
CLASS LOC./ DES. FACTOR	CLASS 2																								
PIPE DETAIL N.T.S.	<table border="1"> <tr> <td>10+00</td><td>10+02</td><td>10+04</td><td>10+08</td><td>10+78</td><td>11+22</td><td>11+28</td><td>11+68</td><td>11+72</td><td>11+78</td><td>15+96</td><td>16+23</td> </tr> <tr> <td>(15)</td><td>(10)</td><td>(10)</td><td>(10)</td><td>(10)</td><td>(10)</td><td>(10)</td><td>(10)</td><td>(10)</td><td>(10)</td><td>(99)</td><td>(99)</td> </tr> </table>	10+00	10+02	10+04	10+08	10+78	11+22	11+28	11+68	11+72	11+78	15+96	16+23	(15)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(10)	(99)	(99)
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ITEM	QUANTITY	DESCRIPTION

REV.	DESIGN	DRAFT	CHECK	DATE	DESCRIPTION

PERMITS	BID	CONSTRUCTION
INITIALS	INITIALS	INITIALS
DATE	DATE	DATE

GCP89 - NORTHWESTERN LOOP HIGH-PRESSURE GAS MAIN EXTENSION GREENVILLE, NC
ALIGNMENT SHEET

DISTRICT: COUNTY: STATE: NORTH CAROLINA

SHEET DESCRIPTION

PLAN AND PROFILE SHEET
HWY 264 BYPASS PE HDD

SHEET A-13A

REVISION: 0

Scanned 01-14-16