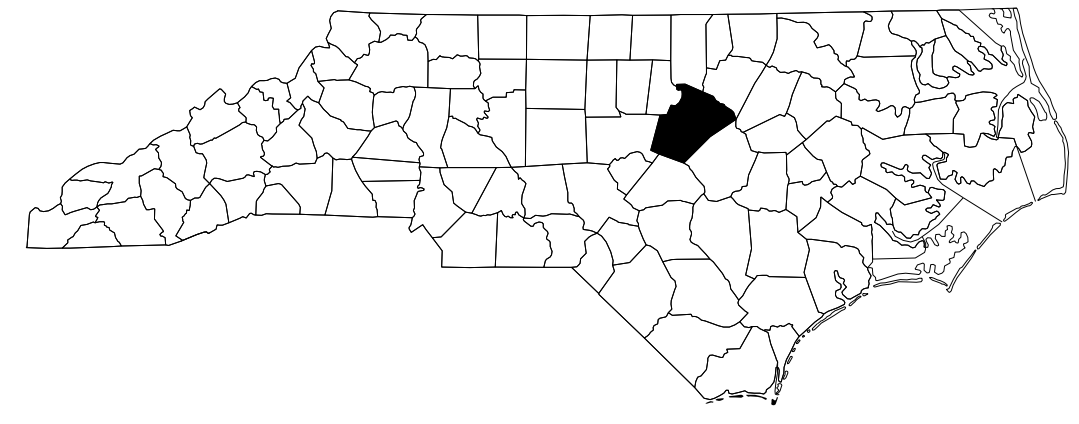


TIP PROJECT: B-4654

CONTRACT: C204410

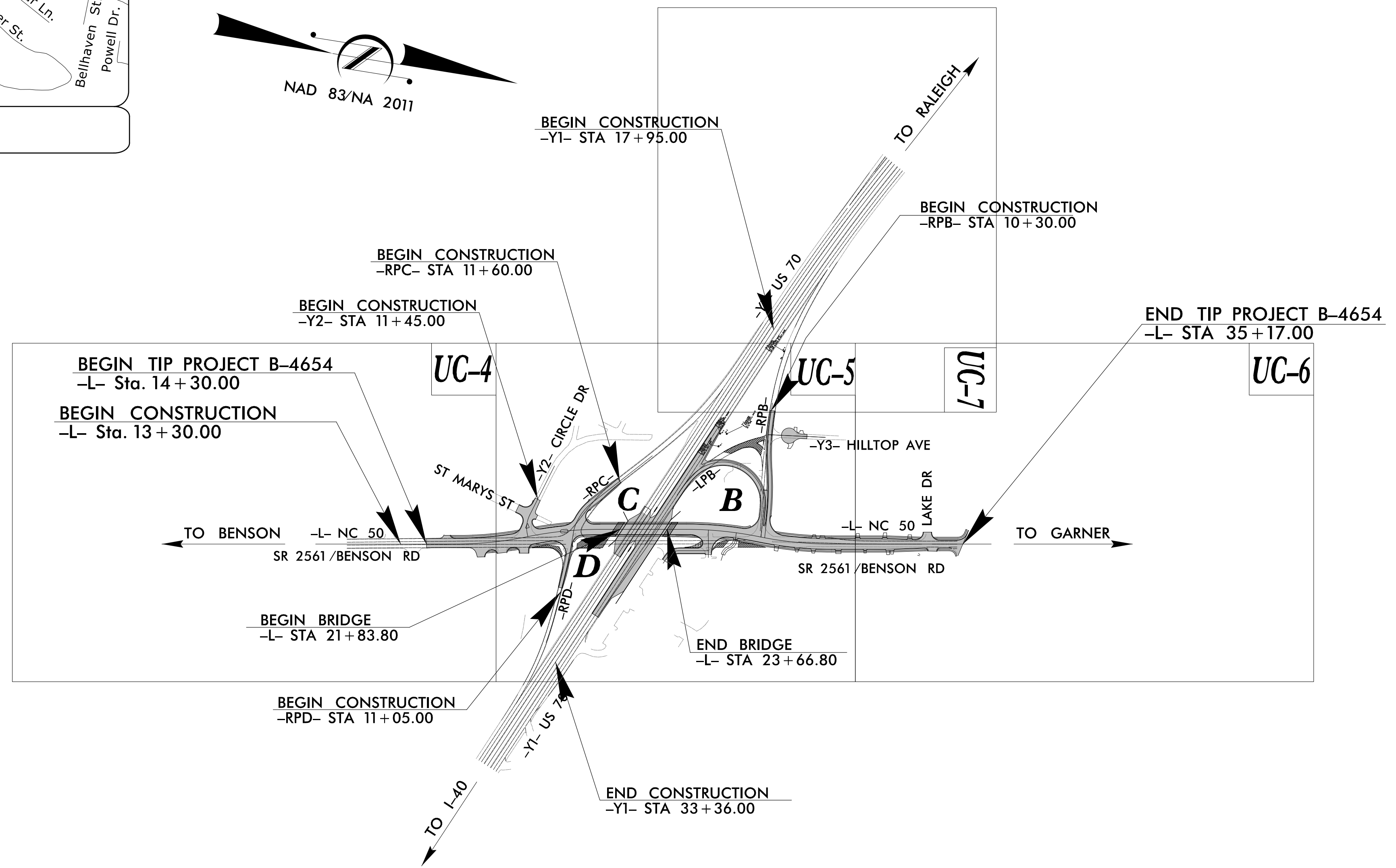
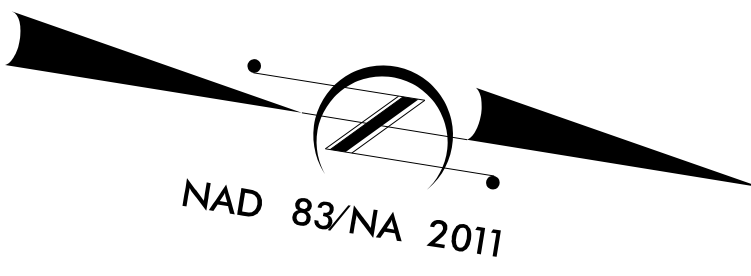
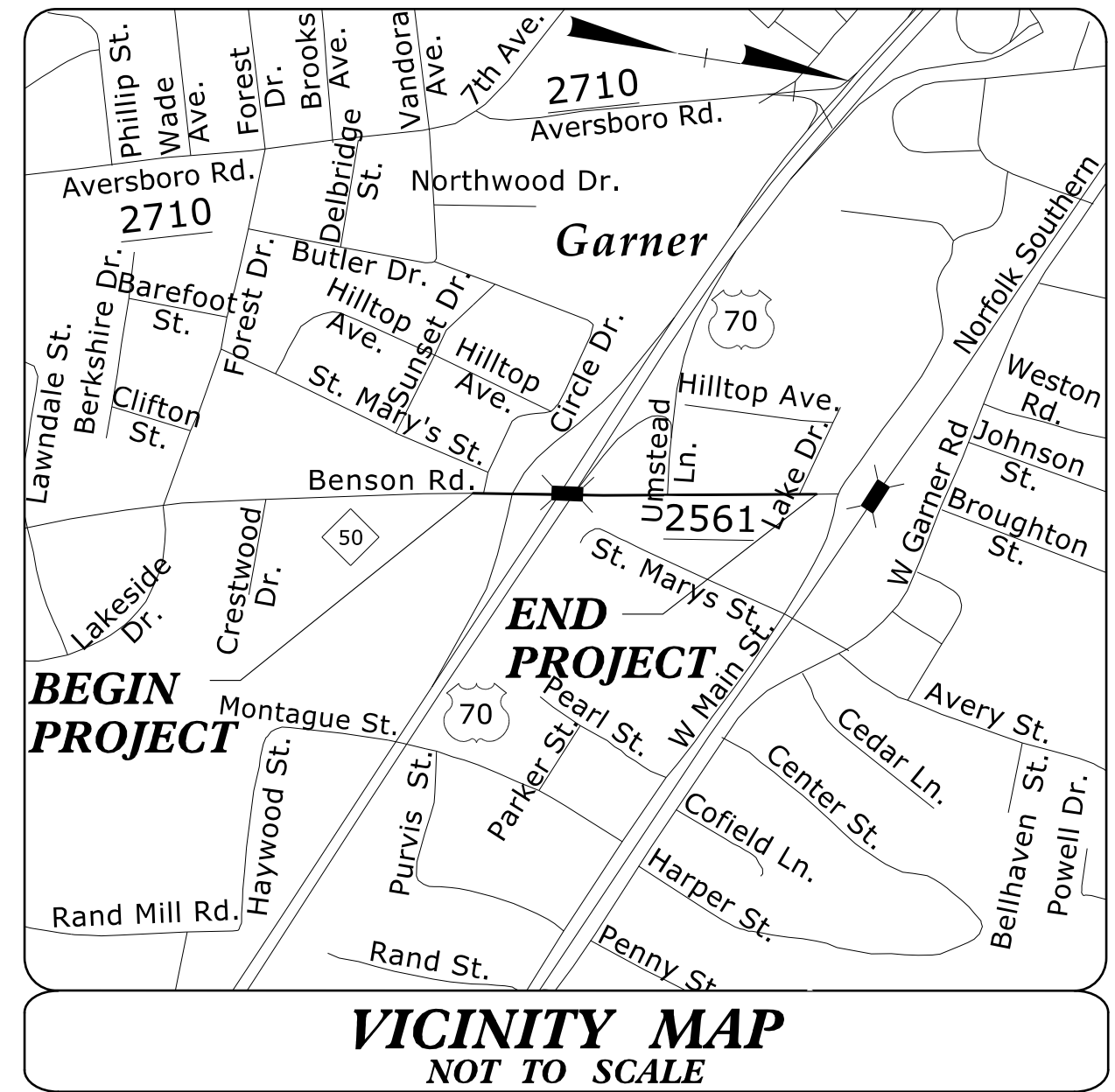
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-4654	UC-1

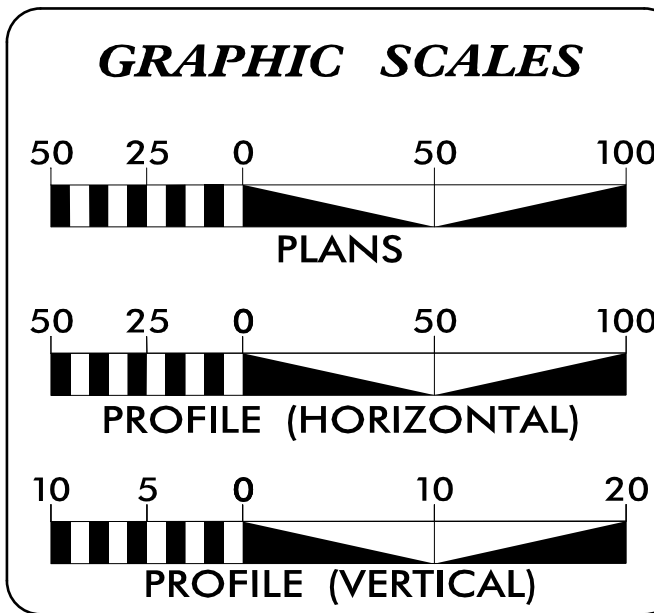


UTILITY CONSTRUCTION PLANS WAKE COUNTY

LOCATION: REPLACE BRIDGE 910069 OVER US 70 ON NC 50 (BENSON ROAD)
TYPE OF WORK: WATER AND SEWER RELOCATIONS



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	LEGEND OF SYMBOLS
UC-3	GENERAL NOTES
UC-3A THRU UC-3B	CONSTRUCTION DETAILS
UC-4 THRU UC-7	UTILITY CONST. PLAN SHEETS
UC-8 THRU UC-9	UTILITY CONST. PROFILES

WATER AND SEWER OWNERS ON PROJECT

(A) WATER: CITY OF RALEIGH
(B) SANITARY SEWER: CITY OF RALEIGH

PREPARED IN THE OFFICE OF:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
5438 WADE PARK BLVD, SUITE 200, RALEIGH, NC 27607
919-461-1100
F - 0342

2024 STANDARD SPECIFICATIONS

LETTING DATE:
APRIL 16, 2024

D. Stephen Scruggs, PE
UTILITIES PROJECT ENGINEER

SEAL

1/11/2024

D. Stephen Scruggs

**DIVISION OF HIGHWAYS
UTILITIES UNIT**

1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Amy York CENTRAL REGION UTILITIES MANAGER
Ali Kouchehi, PE REGIONAL UTILITY ENGINEER
Dayton Martin REGIONAL UTILITY COORDINATOR
UTILITY COORDINATOR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	12" WL
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	12" SS
Force Main Sewer Line (Sized as Shown)	12" FSS
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	PROP O/H POW LINES
Trenchless Installation	12" TL INSTALL
Encasement by Open Cut	24" ENCAS BY OC
Encasement	24" ENCASEMENT

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	
End of Information	E.O.I.		

*For Existing Utilities
 Utility Line Drawn from Record (Type as Shown) ?UTL
 Designated Utility Line (Type as Shown) ?UTL

5/14/95

UTILITY CONSTRUCTION

GENERAL NOTES:

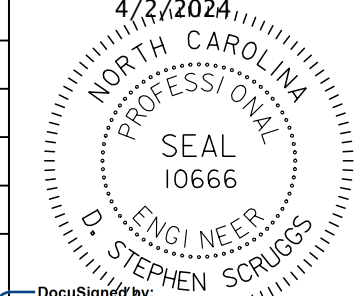
1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2024.
2. THE EXISTING WATER AND SEWER UTILITIES BELONG TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT (CORPUD).
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1

1. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SEWER LATERAL AND/OR CLEANOUTS AS DIRECTED BY THE ENGINEER. THE NECESSARY QUANTITIES HAVE BEEN ADDED TO THE CONTRACT TO FACILITATE THIS PROCEDURE.

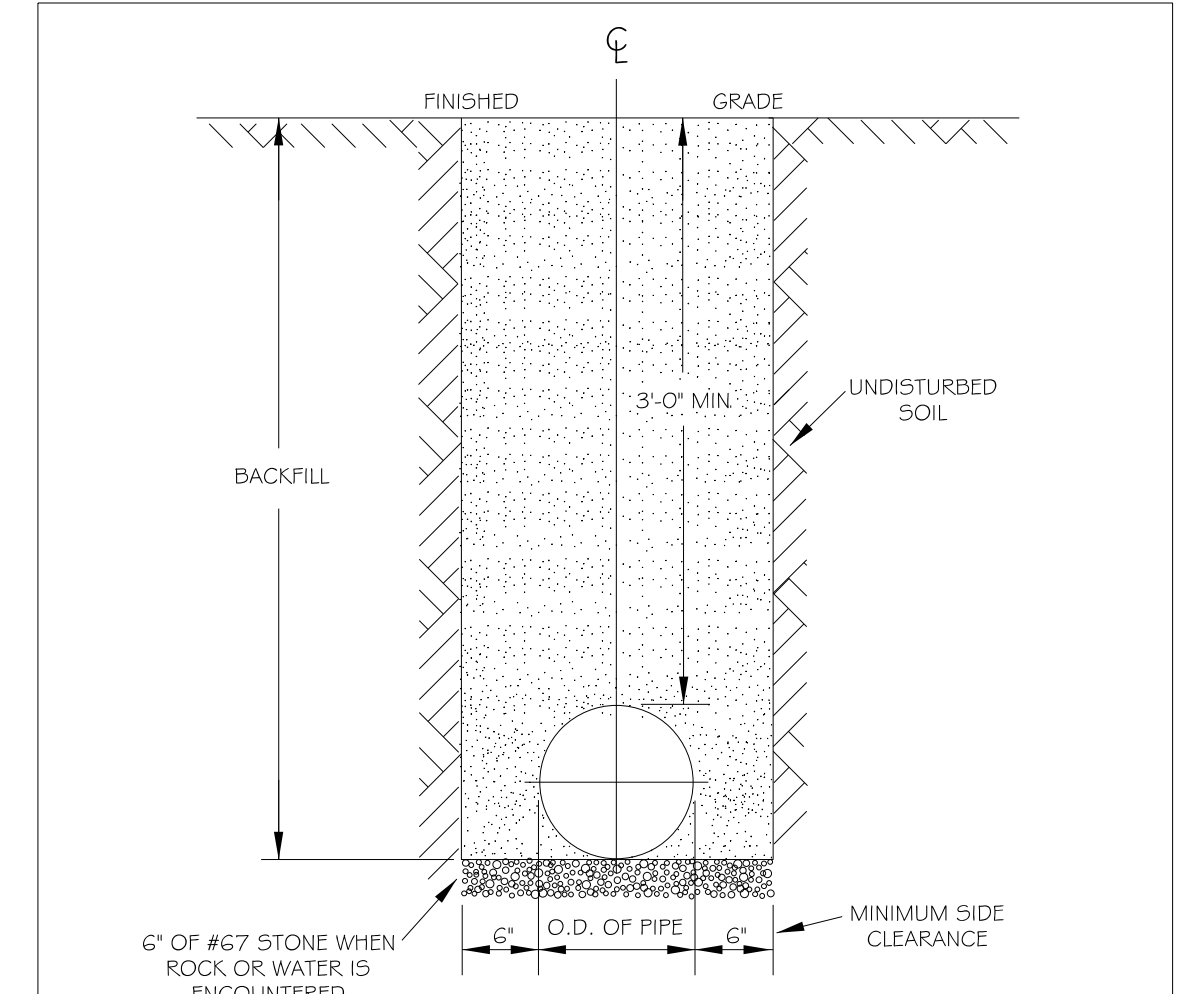
Prepared in the Office of:		PROJECT REFERENCE NO.	SHEET NO.
AECOM		B-4654	UC-3
AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC. 5438 WADE PARK BLVD, SUITE 200, RALEIGH, NC 27607 919-461-1100 F - 0342		DESIGNED BY:	
		DRAWN BY:	
		CHECKED BY:	
		APPROVED BY:	
		REVISED:	
		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		D. Stephen Scruggs UTILITY ENGINEERING SECTION PLANS ONLY	

UTILITY CONSTRUCTION

DATE: 4/2/2024
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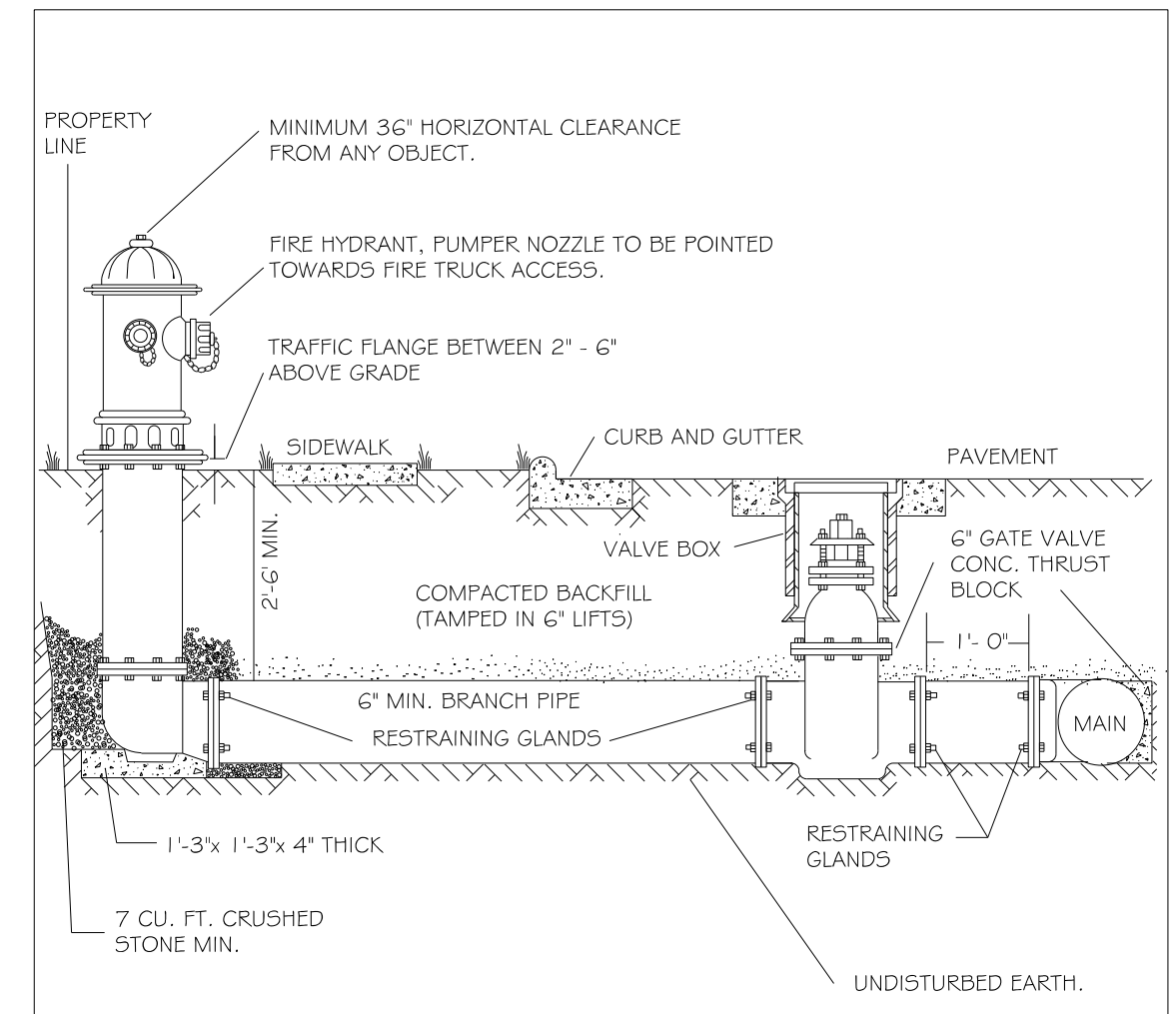
1 "Per Addendum: Added Note No. 1 to the Project Specific notes. April 2, 2024"

UTILITY CONSTRUCTION



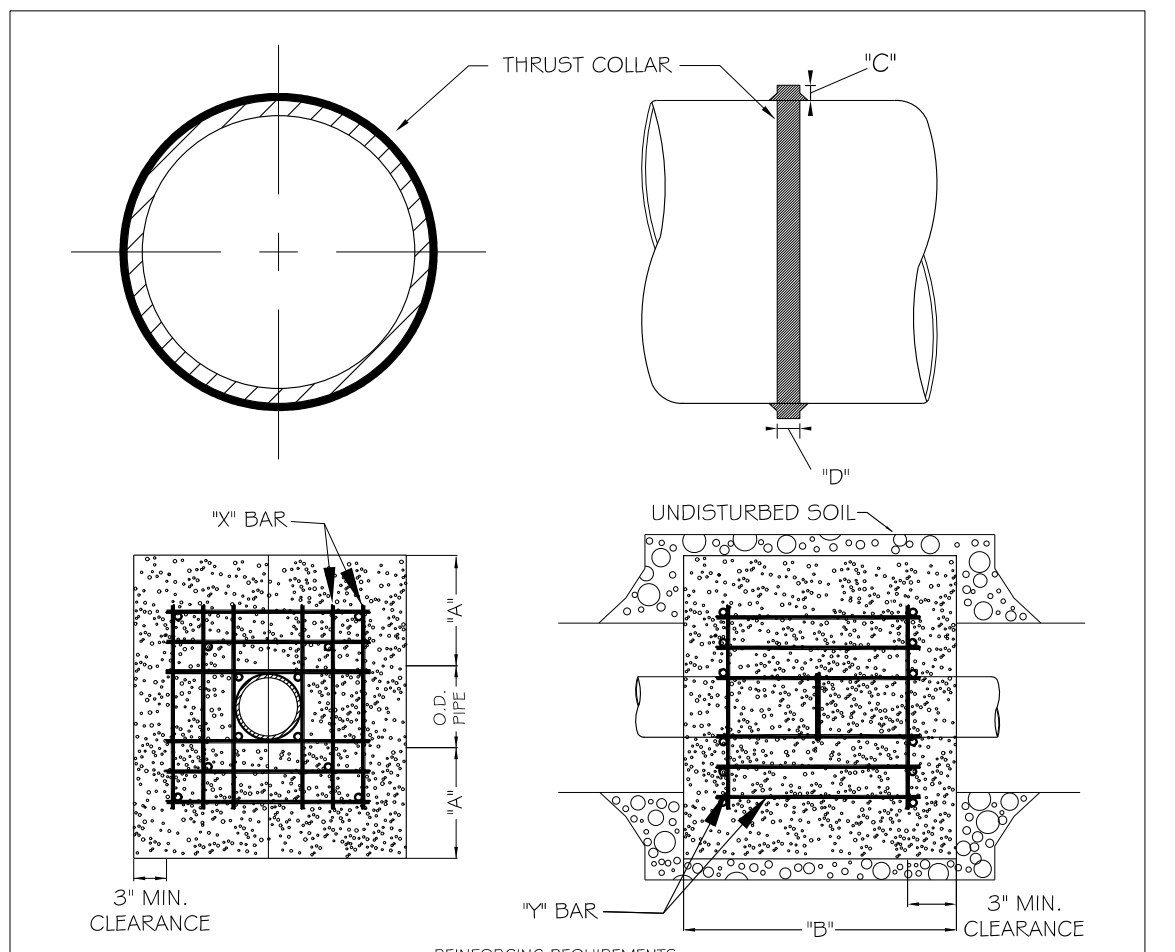
- NOTES:
- TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
 - NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
 - ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
 - BACKFILL SHALL BE TAMPED IN 6" LIFTS.
 - ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS & BACKFILL REQUIREMENTS FOR DUCTILE IRON				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-3	D.W.C.	9-3-99	ABB	2-15-05
	RRH	3-31-00	J.P.S.	10-29-10



- NOTES:
- FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARING, KENNEDY, MH, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
 - BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
 - 6" GATE VALVE SHALL BE AWWA C500-96 OPEN LEFT
 - STEEL RODS AND BOLTS SHALL BE #1 HOT DIPPED GALVANIZED
 - FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION
- RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20 THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 10' FROM HYDRANT AND POURED IN CONCRETE.
- FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW

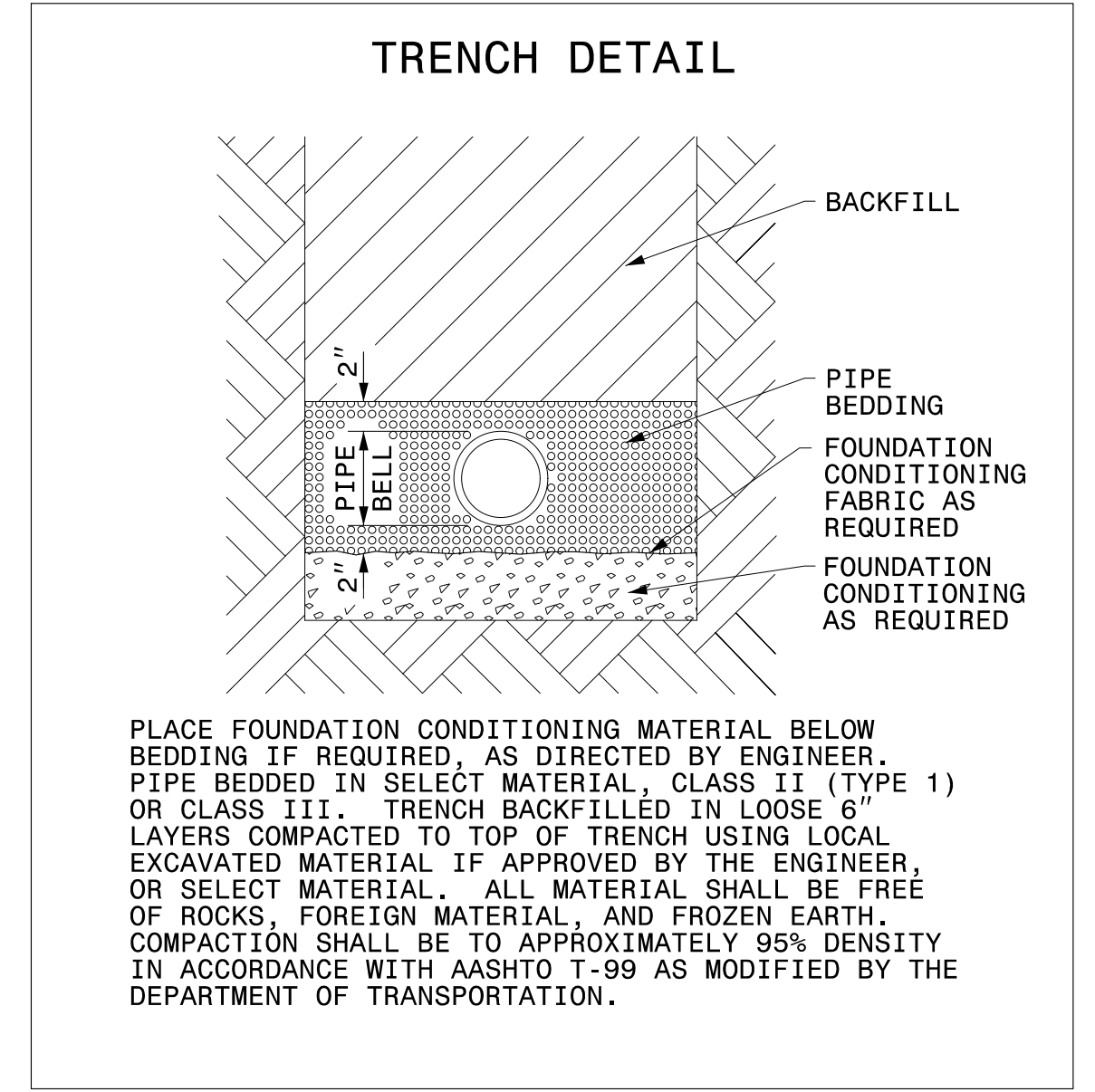
CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD FIRE HYDRANT INSTALLATION DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-4	ABB	4-6-04	FAP	2/17/09
	DHL	2/14/08		



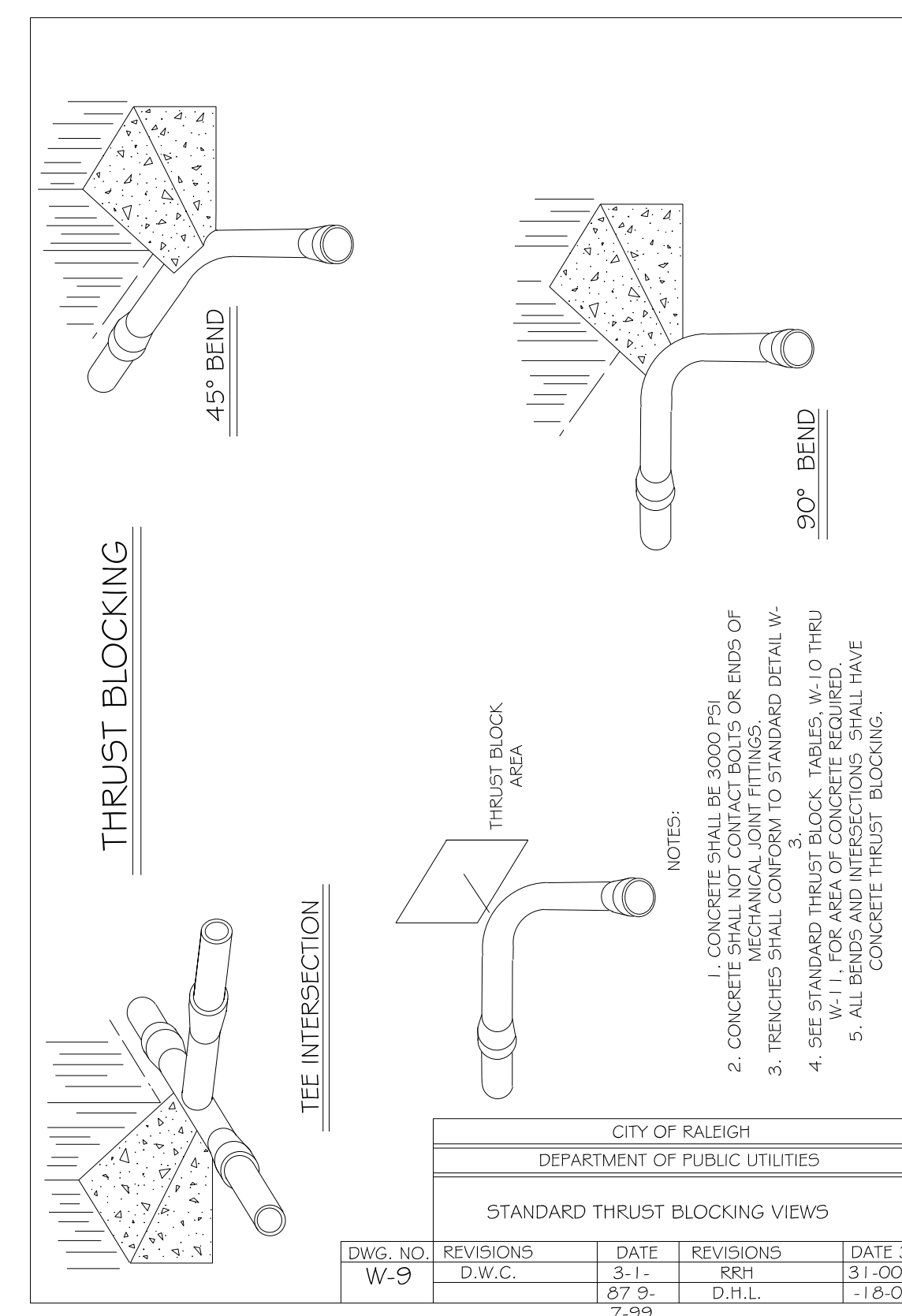
REINFORCING REQUIREMENTS						
I.D. PIPE	REBAR SIZE	X" BAR LENGTH	X" BAR WEIGHT	Y" BAR LENGTH	Y" BAR WEIGHT	NO. REQUIRED
6" - 36"	#5	2'-2" O.D. PIPE	11.502 LBS/FT	1'-3"	1.9 LBS EACH	X-24, Y-12
40" & greater	#6	3'-0" O.D. PIPE	11.502 LBS/FT	1'-3"	1.9 LBS EACH	X-24, Y-12

- NOTES:
- SEE STANDARD DETAIL W-9 FOR THRUST BLOCK LOCATIONS.
 - CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.
 - REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
 - TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-3.
 - BACKFILL TAMPED IN 6" LIFTS PER STANDARD DETAIL W-3.
 - THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
THRUST BLOCKING DESIGN DATA FOR WATER MAINS				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-7	RRH	1-21-00	J.P.S.	11-1-10
	D.H.L.	6-18-08		



PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



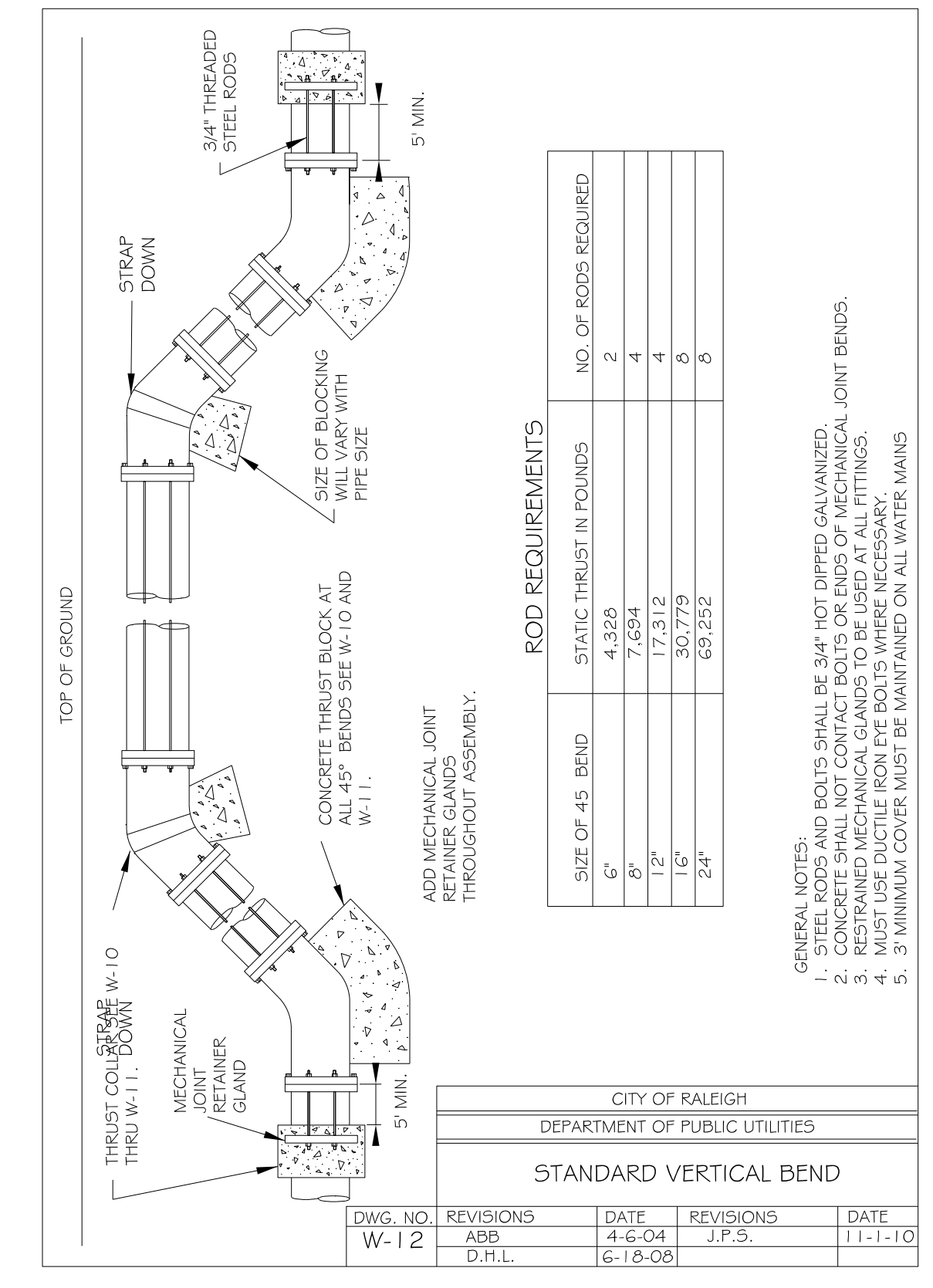
- NOTES:
- CONCRETE SHALL BE 3000 PSI.
 - CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
 - TRENCHES SHALL CONFORM TO STANDARD DETAIL W-1.
 - SEE STANDARD THRUST BLOCK TABLES, W-10 THRU W-11, FOR AREA OF CONCRETE REQUIRED.
 - ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS									
BASED ON TEST PRESSURE OF 200 P.S.I.									
ALL AREAS GIVEN IN SQUARE FEET.									
SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY							
		SOFT CLAY 2000 LBS/FT ²	COARSE SAND 1000 LBS/FT ²	GRAVELLY SAND 1000 LBS/FT ²	ADDED WEIGHT DRY CLAY - ALWAYS DRY	SAND, COMPACT FIRM 1000 LBS/FT ²	SAND, CLEAN DRY 1000 LBS/FT ²	SOIL, LOOSE 1000 LBS/FT ²	SOIL, LOOSE, VERY POOR 1000 LBS/FT ²
6"	11 1/4"	1,108	1	1	1	1	1	2	1
	22 1/2"	2,207	1	2	2	1	1	3	1
	45°	4,328	2	3	3	1	1	2	5
	90°	7,996	2	4	5	1	1	2	8
	PLUG	5,655	2	3	4	1	1	2	6
	8"	11 1/4"	1,970	1	1	2	1	1	2
	22 1/2"	3,922	1	2	3	1	1	4	1
	45°	7,694	2	4	5	1	1	2	8
	90°	14,215	4	8	9	2	2	4	15
	PLUG	10,053	3	5	6	2	2	3	10
	12"	11 1/4"	4,433	2	3	3	1	1	2
	22 1/2"	8,826	3	5	6	2	2	3	9
	45°	17,312	5	9	11	3	3	5	18
	90°	31,983	8	16	19	4	4	8	32
	PLUG	22,619	6	12	14	3	3	6	23
	16"	11 1/4"	7,881	2	4	5	1	1	2
	22 1/2"	15,691	4	8	10	2	2	4	16
	45°	30,779	8	16	19	4	4	8	31
	90°	56,861	15	29	35	8	8	15	57
	PLUG	40,213	10	21	25	5	5	10	41

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
THRUST BLOCKING DESIGN QUANTITY TABLE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-10	D.W.C.	-23-99		

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS									
BASED ON TEST PRESSURE OF 200 P.S.I.									
ALL AREAS GIVEN IN SQUARE FEET.									
SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY							
		SOFT CLAY 2000 LBS/FT ²	COARSE SAND 1000 LBS/FT ²	GRAVELLY SAND 1000 LBS/FT ²	ADDED WEIGHT DRY CLAY - ALWAYS DRY	SAND, COMPACT FIRM 1000 LBS/FT ²	SAND, CLEAN DRY 1000 LBS/FT ²	SOIL, LOOSE 1000 LBS/FT ²	SOIL, LOOSE, VERY POOR 1000 LBS/FT ²
24"	11 1/4"	17,734	5	9	11	3	3	5	18
	22 1/2"	35,305	9	18	22	5	5	9	36
	45°	69,252	18	35	42	9	9	18	70
	90°	127,936	32	64	77	16	16	32	128
	PLUG	90,478	23	46	55	12	12	23	91
	30"	11 1/4"	27,709	7	14	17	4	4	7
	22 1/2"	55,163	14	28	34	7	7	14	56
	45°	108,206	28	55	65	14	14	28	109
	90°	199,900	50	100	120	25	25	50	200
	PLUG	141,372	36	71	85	18	18	36	142
	36"	11 1/4"	39,901	10	20	24	5	5	10
	22 1/2"	79,439	20	40	48	10	10	20	30
	45°	155,816	39	78	94	20	20	39	156
	90°	287,855	72	144	172	36	36	72	288
	PLUG	203,575	51	102	122	26	26	51	204
	48"	11 1/4"	70,935	18	36	43	9	9	18
	22 1/2"	141,218	36	71	85	18	18	36	142
	45°	277,007	70	139	166	35	35	70	277
	90°	511,742	128	256	320	64	64	128	512
	PLUG	361,911	91	181	217	46	46	91	362

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
THRUST BLOCKING DESIGN QUANTITY TABLE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-11	D.W.C.	23-99		



ROD REQUIREMENTS		
SIZE OF 45° BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	8
16"	30,779	8
24"	69,252	8

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD VERTICAL BEND				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-12	ABB	4-6-04	J.P.S.	11-1-10
	D.H.L.	6-18-08		

- GENERAL NOTES:
- STEEL RODS AND BOLTS SHALL BE #4, HOT DIPPED GALVANIZED.
 - CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
 - RESTRAINED MECHANICAL JOINTS TO BE USED AT ALL FITTINGS.
 - MUST USE DUCTILE IRON EYE BOLTS WHERE NECESSARY.
 - MINIMUM COVER MUST BE MAINTAINED ON ALL WATER MAINS.

Prepared in the Office of:

AECOM

AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
5438 WADE PARK BLVD, SUITE 200, RALEIGH, NC 27607
919-461-1100
F-0342

PROJECT REFERENCE NO. B-4654

SHEET NO. UC-3B

DESIGNED BY: 1/11/2024
DRAWN BY:
CHECKED BY:
APPROVED BY:
REVISED:

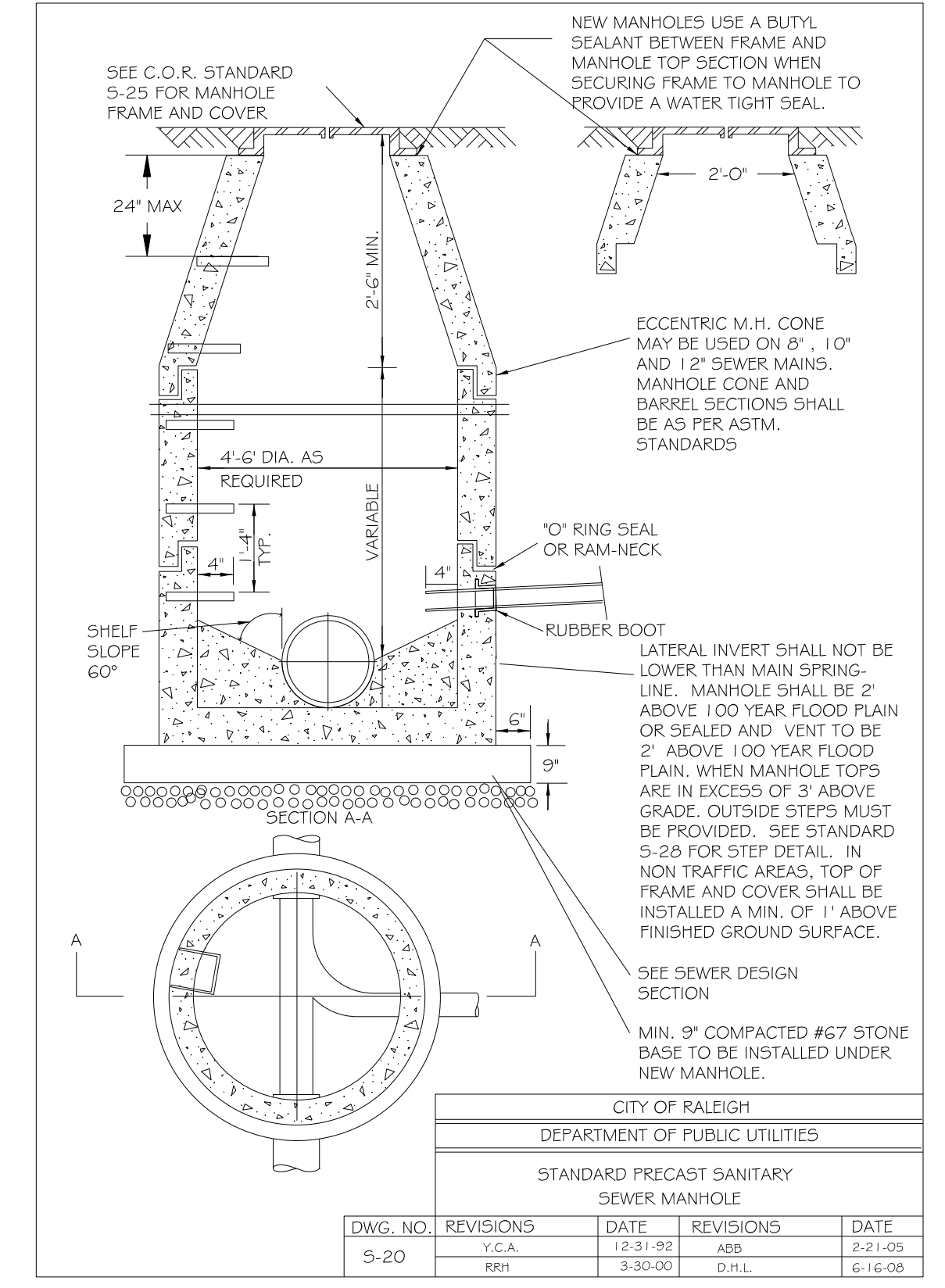
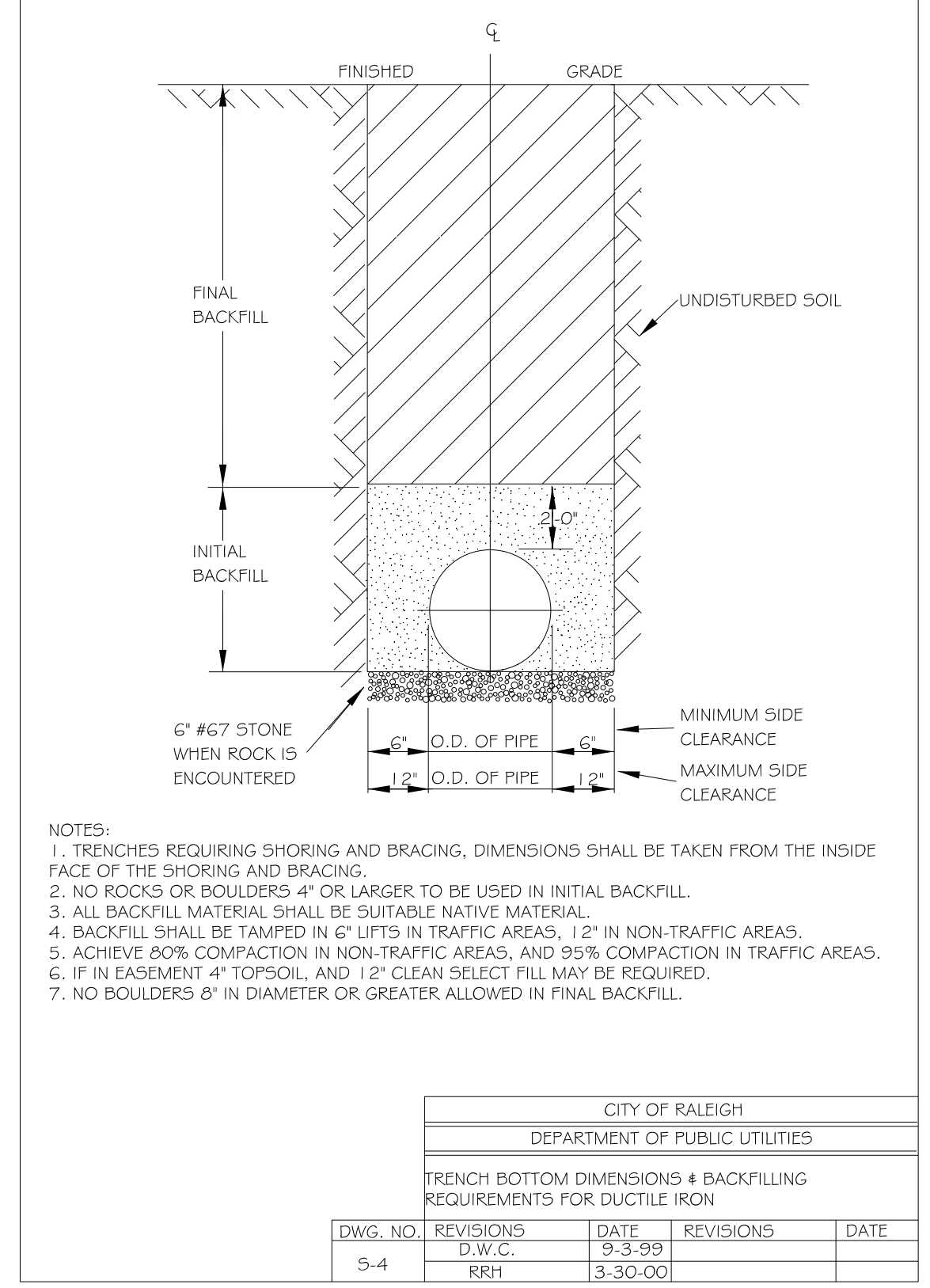
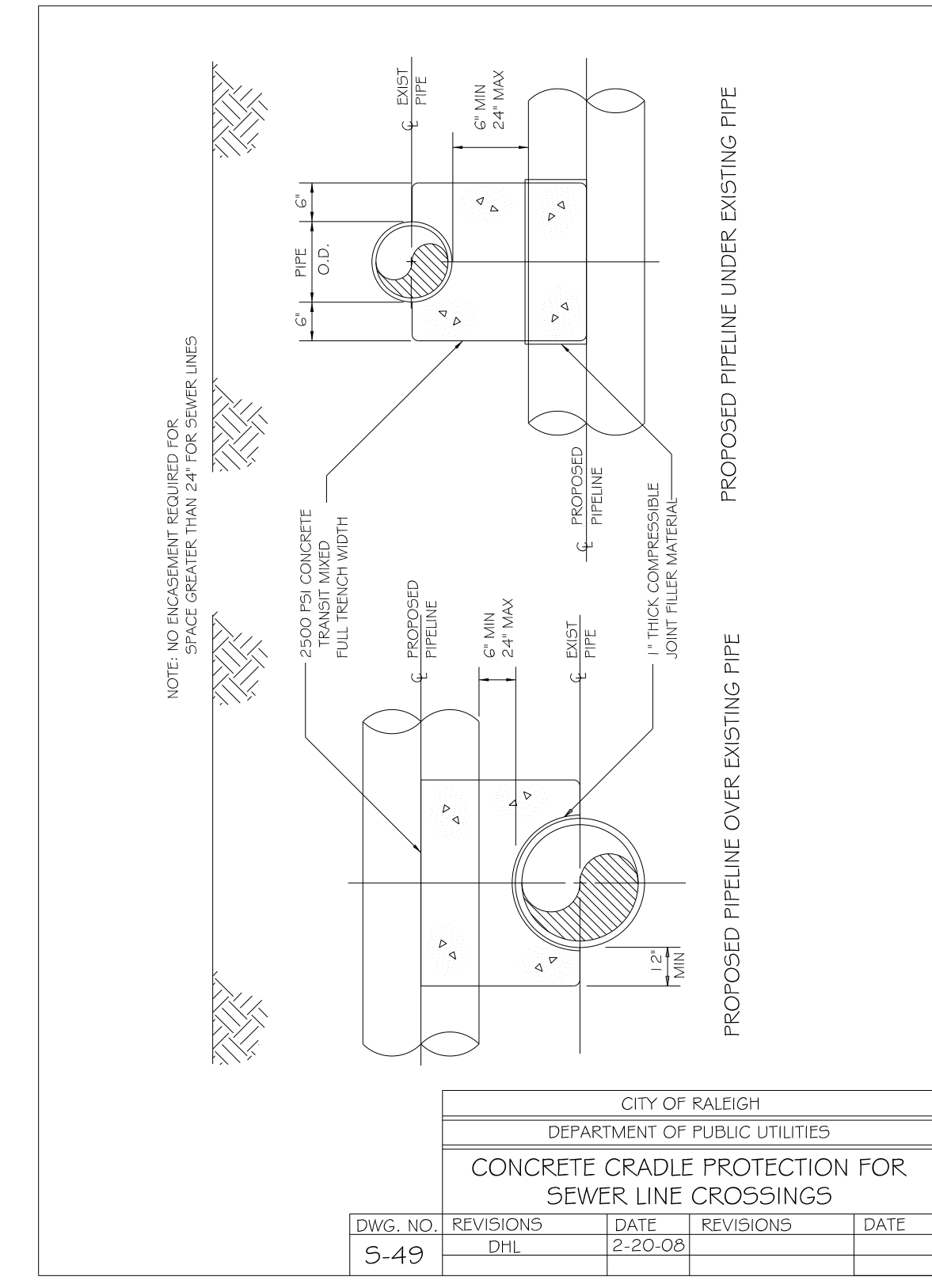
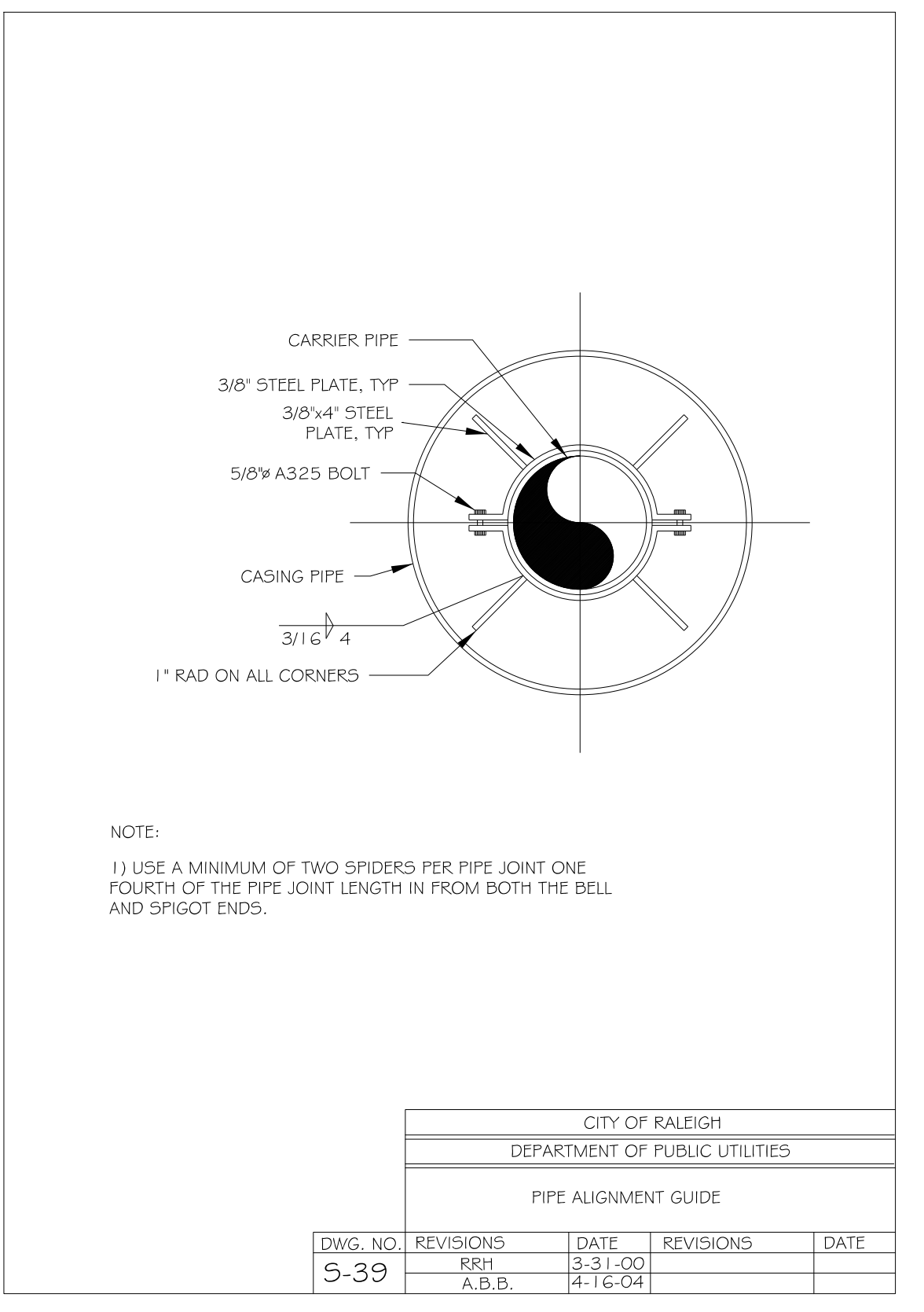
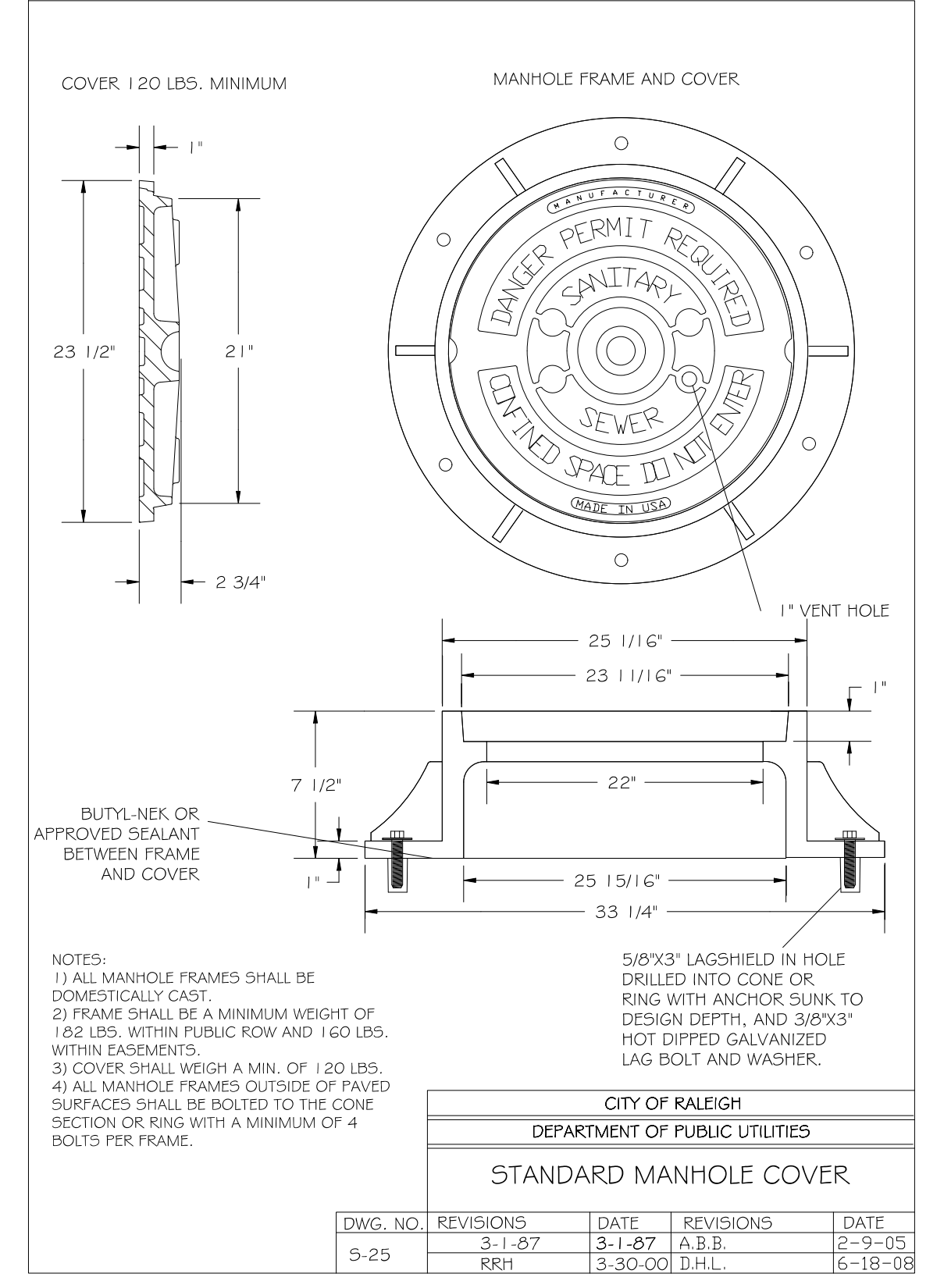
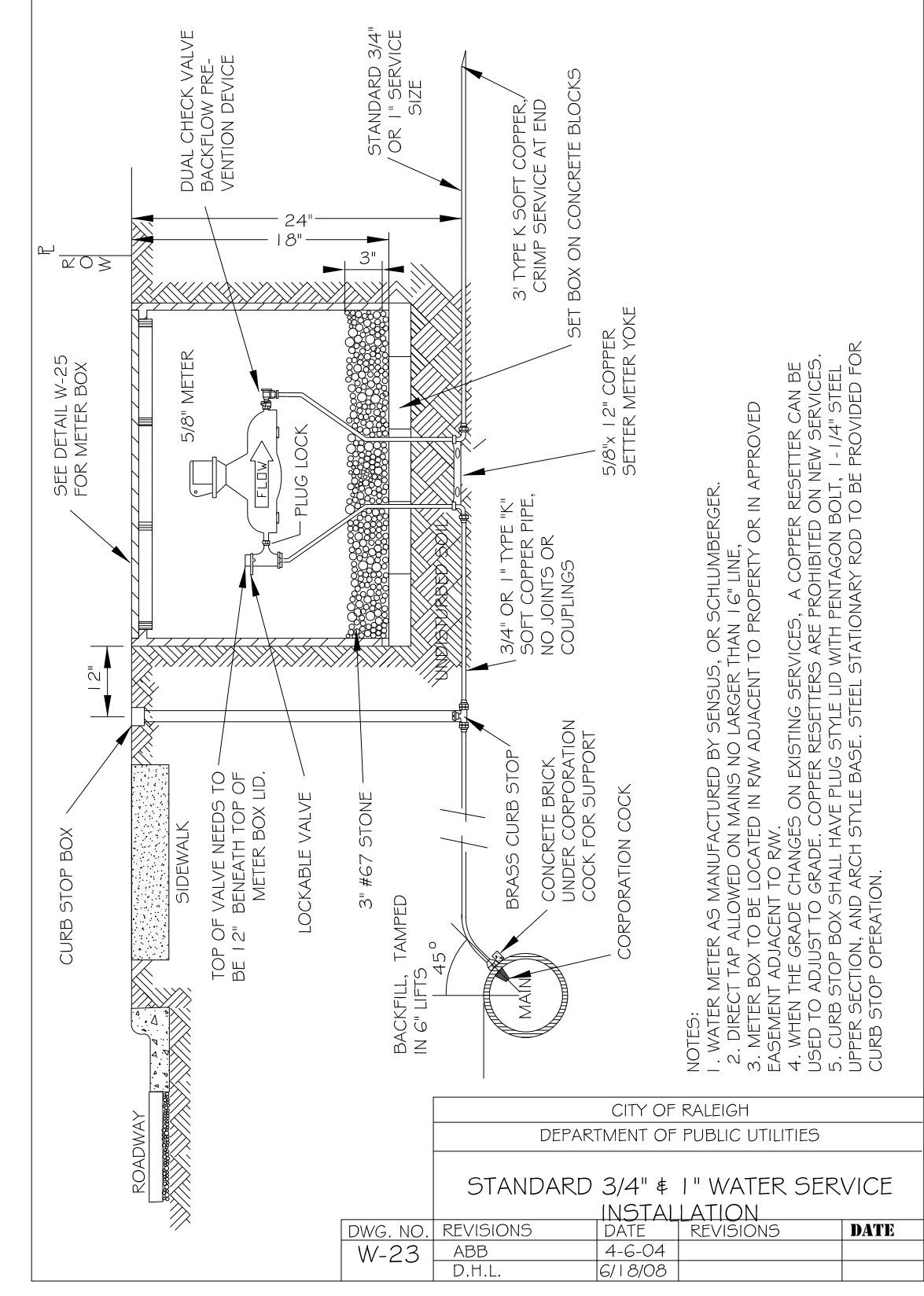
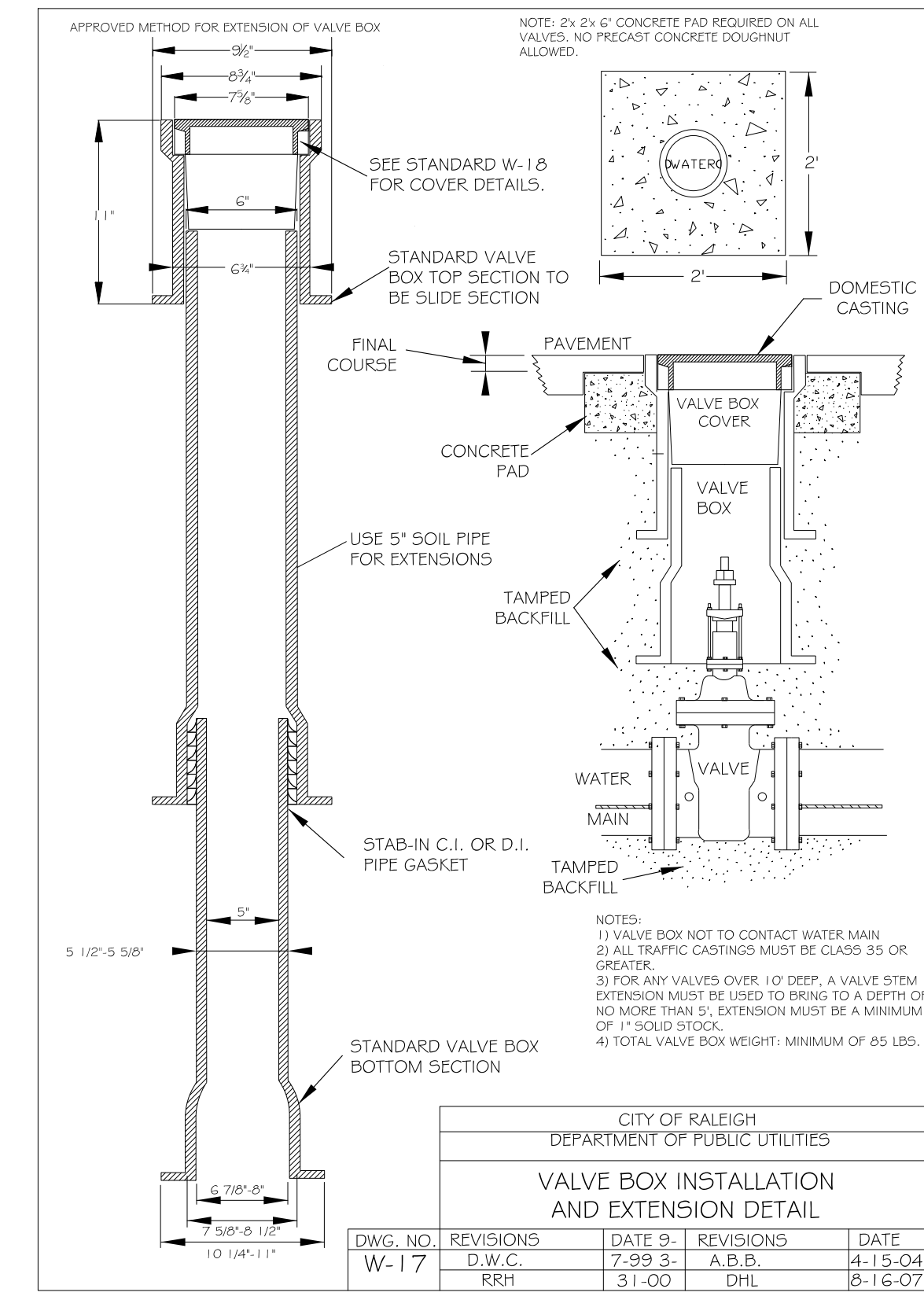
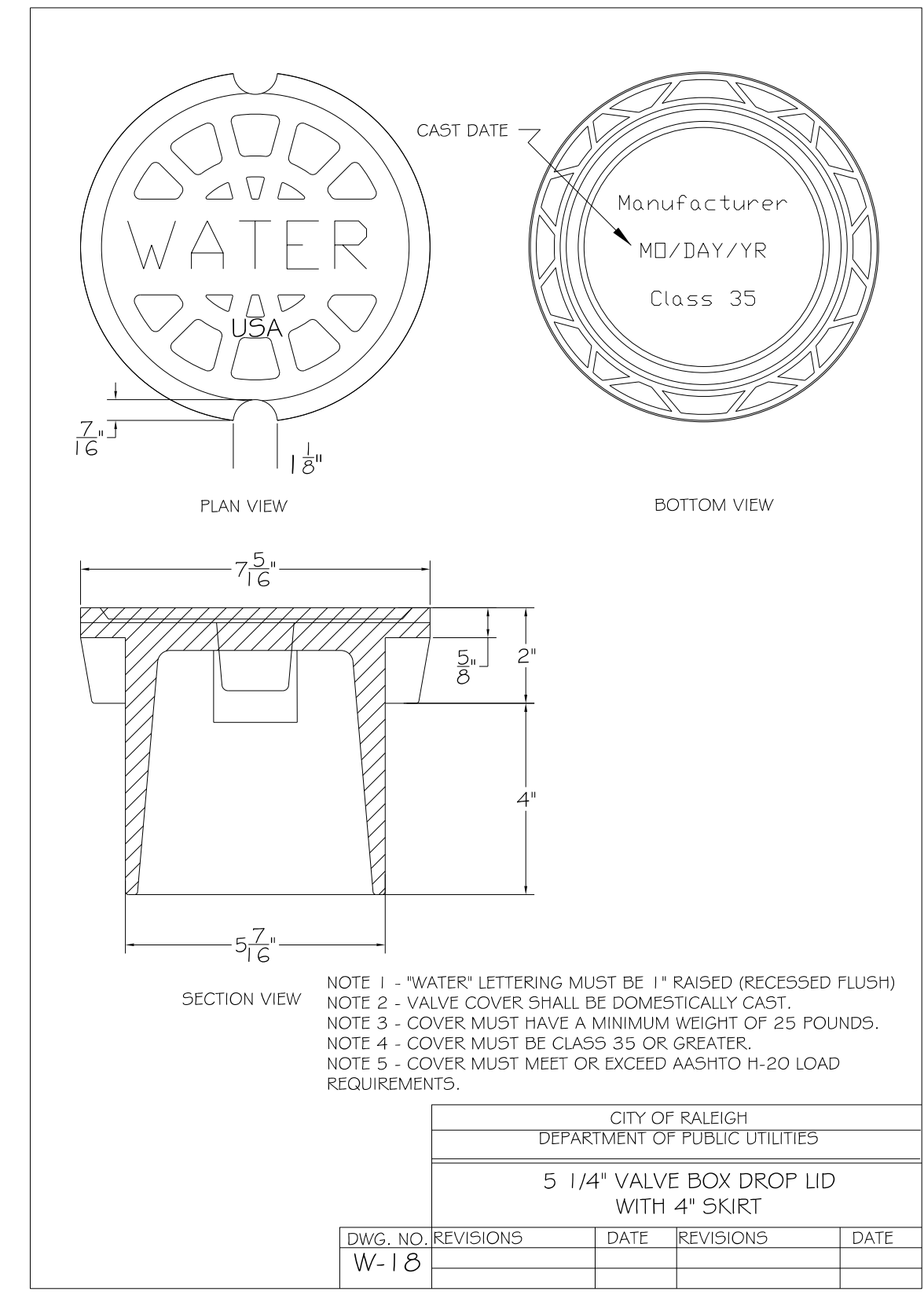
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SECTION
PHONE: (919) 707-6690
FAX: (919) 250-4151

SEAL 10666
D. Stephen Scruggs
REGISTERED PROFESSIONAL ENGINEER
STATE OF NORTH CAROLINA
EXPIRES 12/31/2025

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UNLESS ALL SIGNATURES COMPLETED

CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



DATE: 1/11/2024
TIME: 10:46:26 AM
DGN: L:\Lagroy\Pro\Bact\G04\B605-B-4654\G00_MerK\390_GA070_ICDDOT_1\IP\Utilities\Engineering\Inq\G\Pro\B4654_Luc_pch03B.dgn

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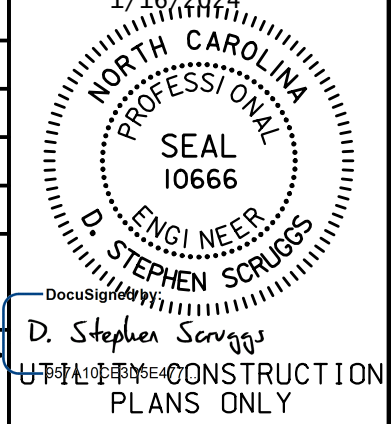


AECOM TECHNICAL SERVICES OF NORTH CAROLINA, INC.
5438 WADE PARK BLVD, SUITE 200, RALEIGH, NC 27607
919-461-1100
F - 0342

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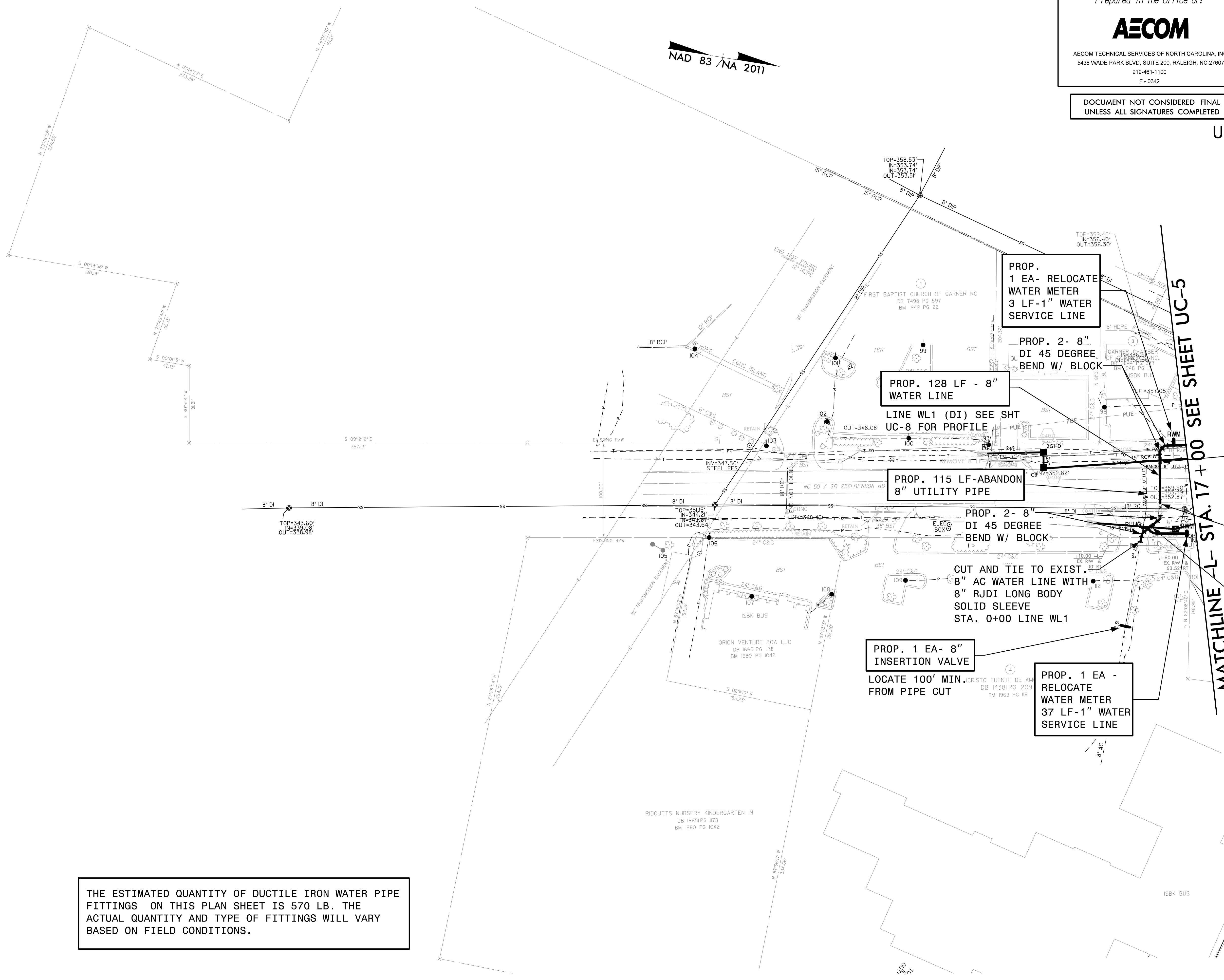
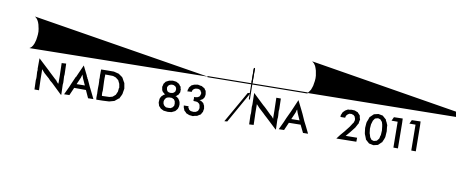
PROJECT REFERENCE NO. B-4654 SHEET NO. UC-4

DESIGNED BY:
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CHECKED BY:
APPROVED BY:
REVISED:
NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION



UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151
UTILITY CONSTRUCTION
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THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 570 LB. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

DATE: 1/16/2024
TIME: 10:56 AM
DGN: B4654_UC_15104.dgn

MATCHLINE -L- STA. 17+00 SEE SHEET UC-5

PROP. 1 EA- RELOCATE WATER METER
3 LF-1" WATER SERVICE LINE

PROP. 2- 8" DI 45 DEGREE BEND W/ BLOCK

PROP. 128 LF - 8" WATER LINE
LINE WL1 (DI) SEE SHT UC-8 FOR PROFILE

PROP. 115 LF-ABANDON 8" UTILITY PIPE

PROP. 2- 8" DI 45 DEGREE BEND W/ BLOCK

CUT AND TIE TO EXIST. 8" AC WATER LINE WITH 8" RJDI LONG BODY SOLID SLEEVE STA. 0+00 LINE WL1

PROP. 1 EA- 8" INSERTION VALVE
LOCATE 100' MIN. FROM PIPE CUT

PROP. 1 EA - RELOCATE WATER METER
37 LF-1" WATER SERVICE LINE

PROP. 1.5 CY CLASS B CONCRETE FOR ENCASING UTILITY LINES

SEE CONC. CRADLE DETAIL S-49 SHEET UC-3B

PROP. 20 LF - 16" ENCASMENT PIPE

x .250" THICK OPEN CUT

PROP. 1.5 CY CLASS B CONCRETE FOR ENCASING UTILITY LINES

SEE CONC. CRADLE DETAIL S-49 SHEET UC-3B

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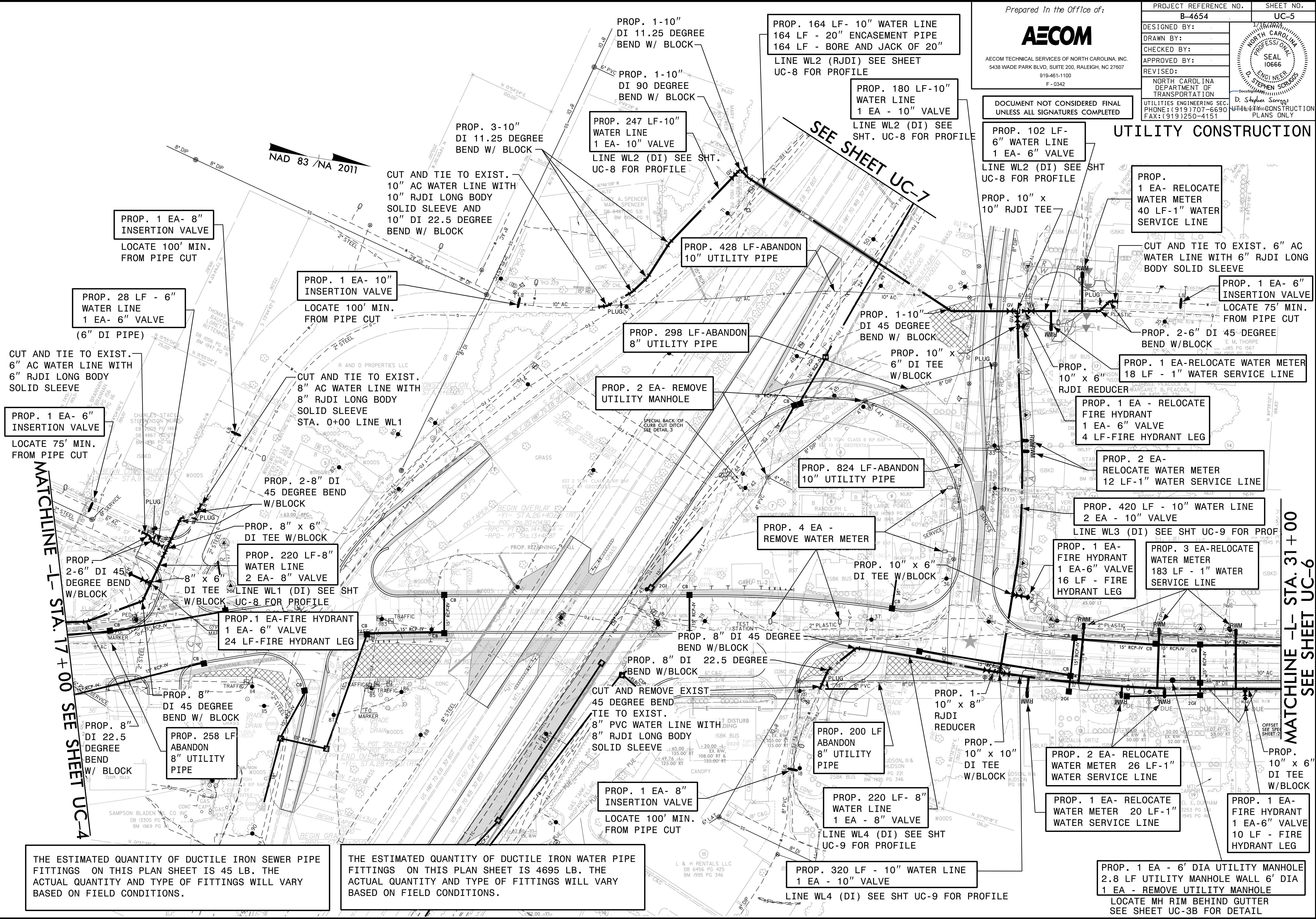


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919-461-1100
F-0342

PROJECT REFERENCE NO. B-4654	SHEET NO. UC-5
DESIGNED BY:	
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THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 45 LB. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 4695 LB. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

PROP. 1 EA - 6" DIA UTILITY MANHOLE
2.8 LF UTILITY MANHOLE WALL
6" DIA
1 EA - REMOVE UTILITY MANHOLE
LOCATE MH RIM BEHIND GUTTER
SEE SHEET UC-3B FOR DETAIL

DATE: 1/16/2024
TIME: 2:39:33 PM
DGN: B4654_UC_151005.dgn

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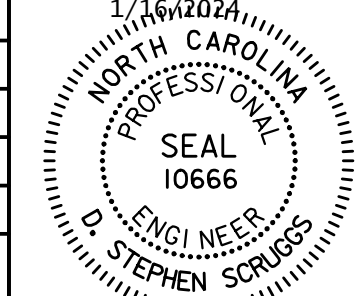


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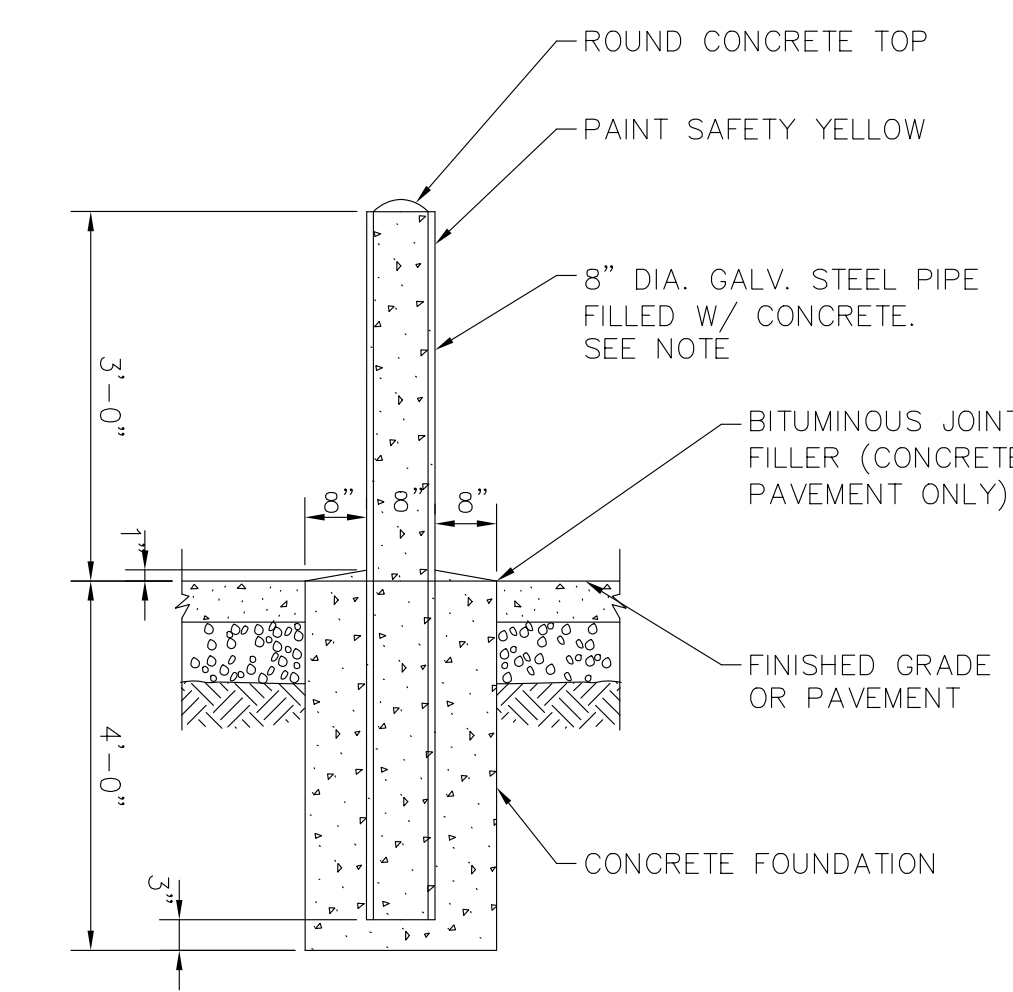
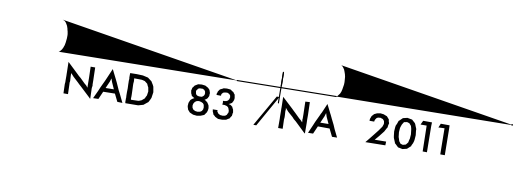
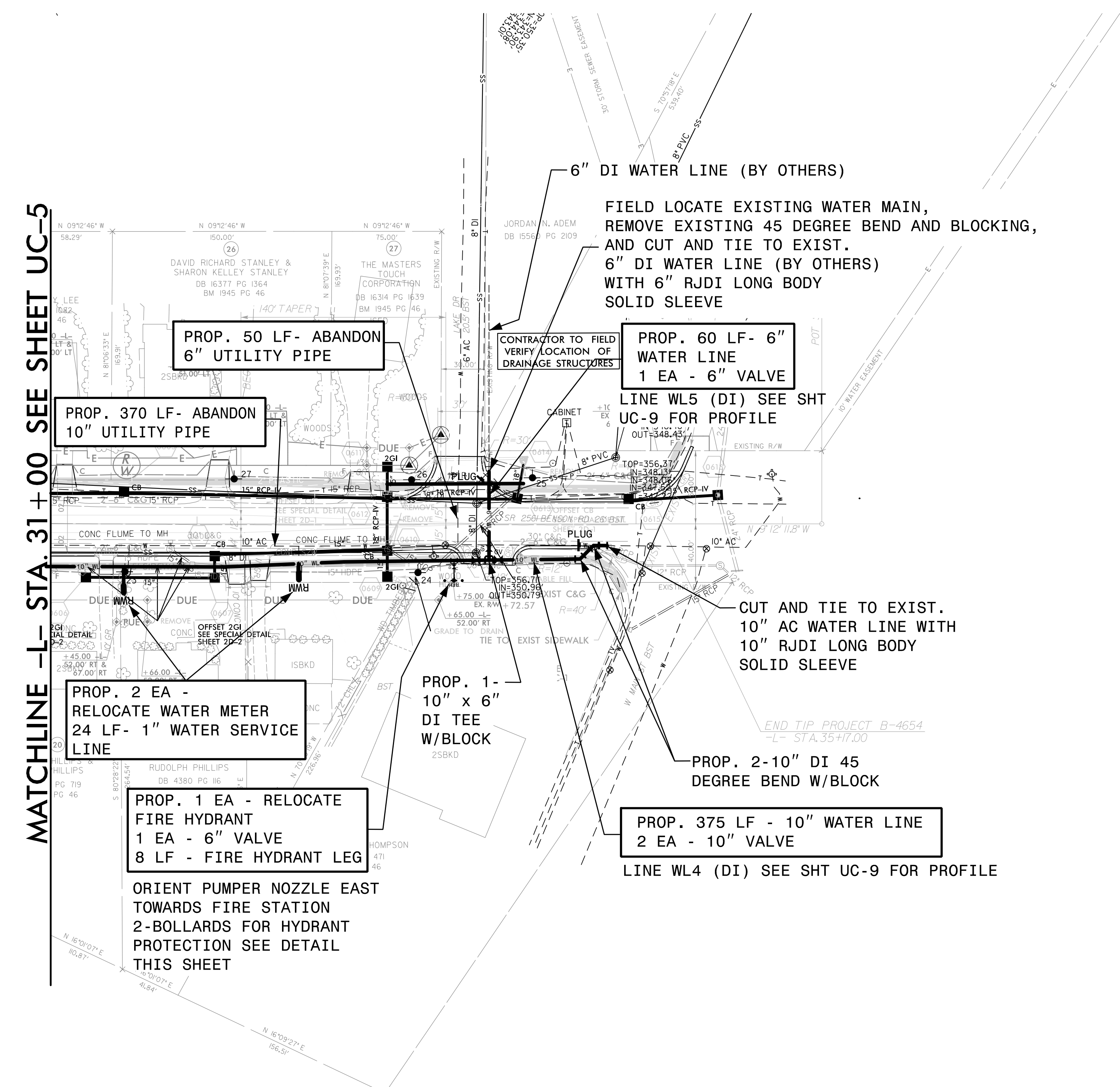
PROJECT REFERENCE NO. B-4654 SHEET NO. UC-6

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D. Stephen Scruggs
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BOLLARD DETAIL

NOTE:
STEEL PIPE SHALL BE GALVANIZED (2.0 OZ. ZINC/SQ. FT.) AND HAVE A MINIMUM THICKNESS OF 0.322 INCHES

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1080 LB. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

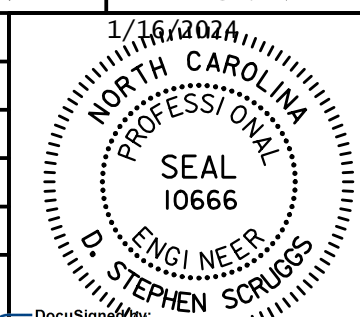
MATCHLINE -L- STA. 31+00 SEE SHEET UC-5

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PROJECT REFERENCE NO.	SHEET NO.
B-4654	UC-7
DESIGNED BY:	1/16/2024
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UTILITIES ENGINEERING SECTION	
D. Stephen Servino	
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FAX: (919) 250-4151	

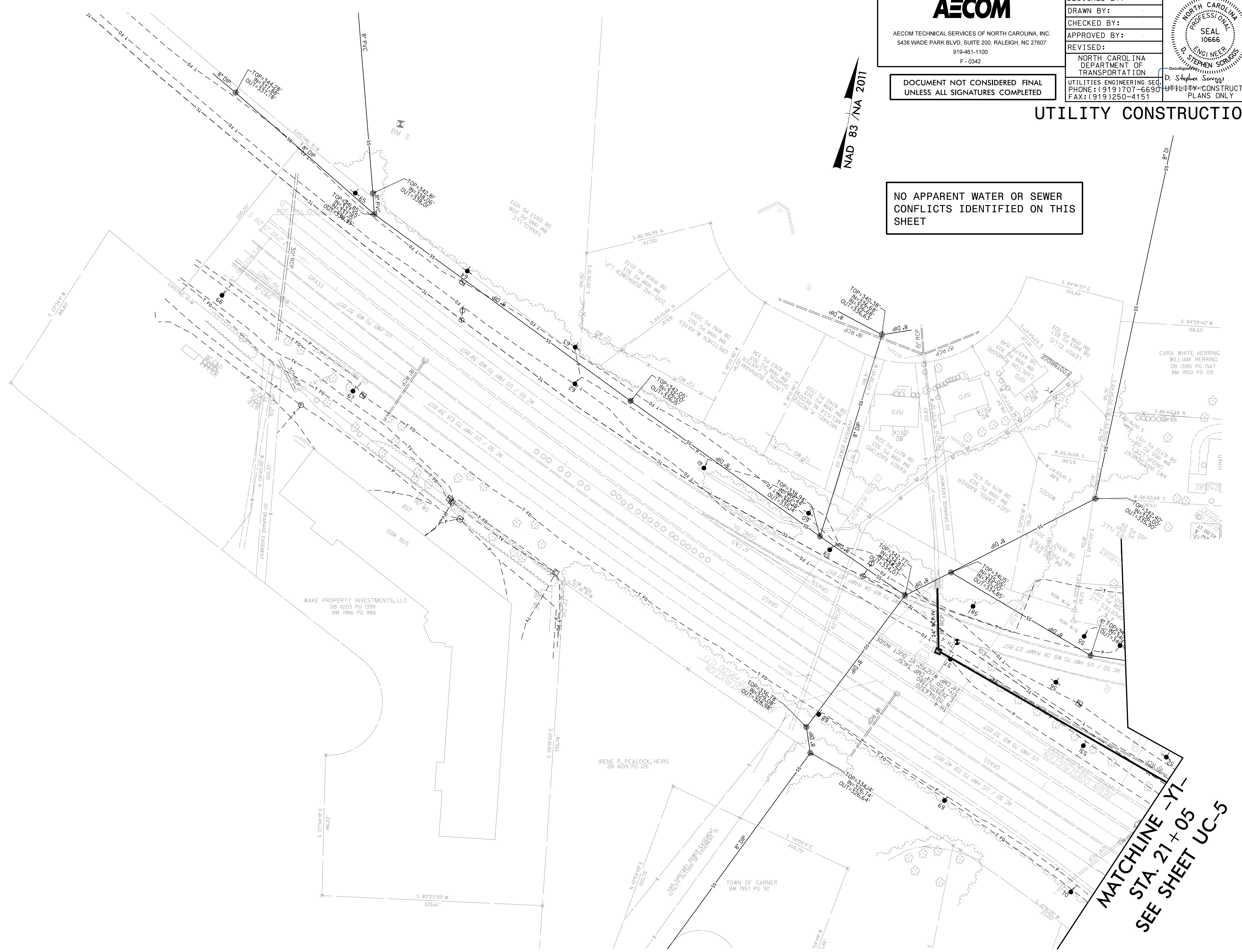


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NO APPARENT WATER OR SEWER
CONFLICTS IDENTIFIED ON THIS
SHEET

NAD 83 / NA 2011



MATCHLINE -Y1-
STA. 21+05
SEE SHEET UC-5

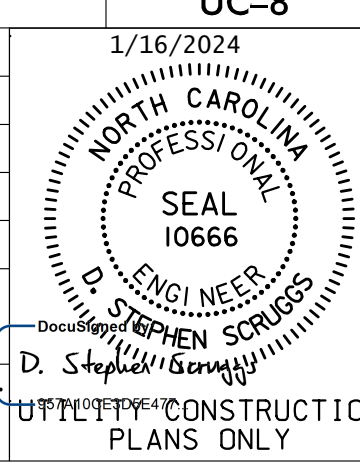
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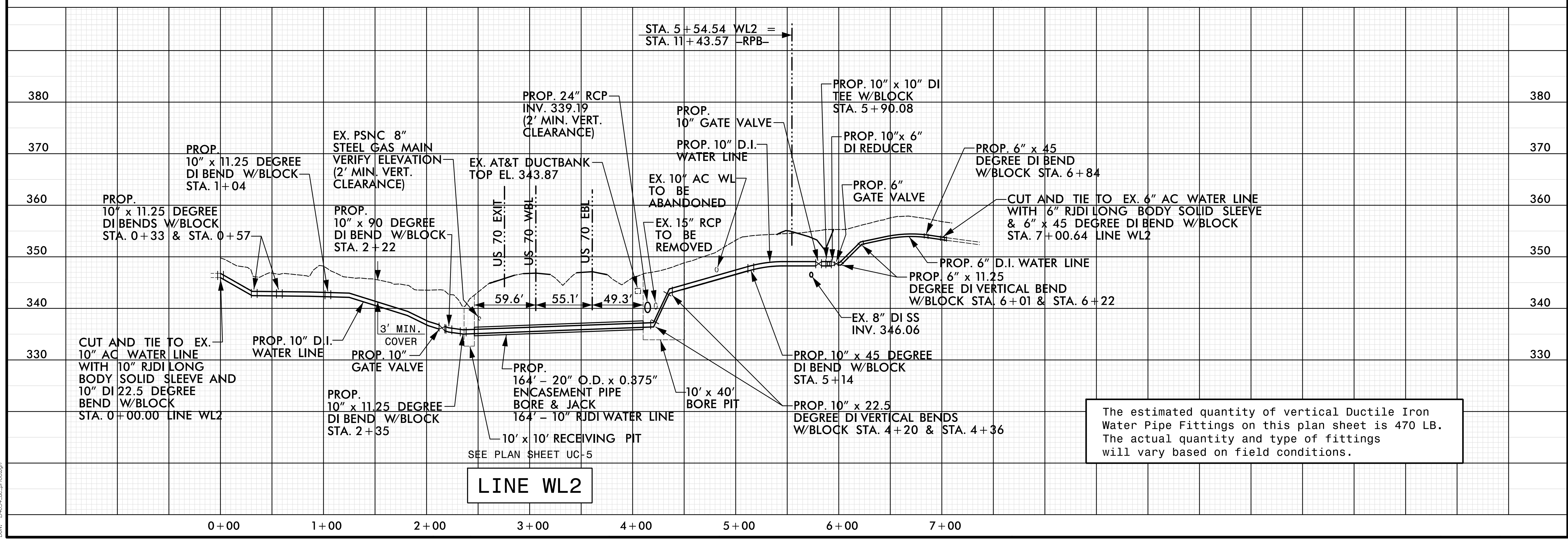
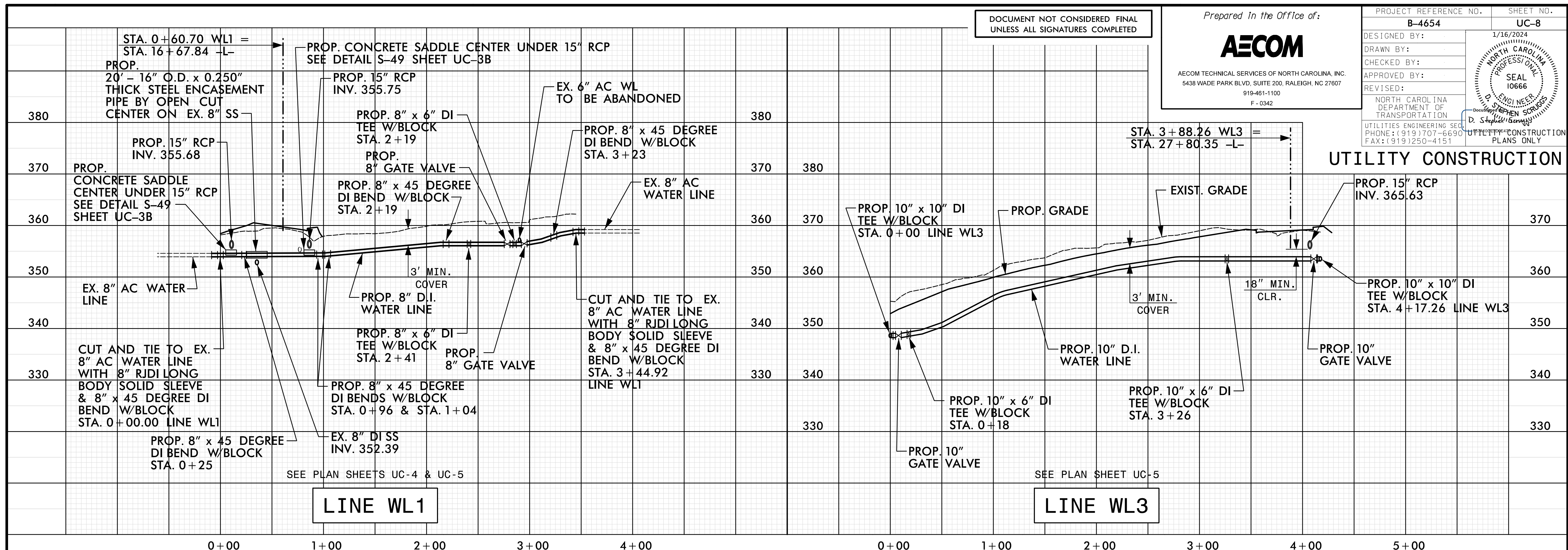


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B-4654	UC-8
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UTILITY CONSTRUCTION




The estimated quantity of vertical Ductile Iron Water Pipe Fittings on this plan sheet is 470 LB. The actual quantity and type of fittings will vary based on field conditions.

DATE: 1/16/2024
TIME: 10:36:38 AM
DWG: B4654-UC-08.dgn

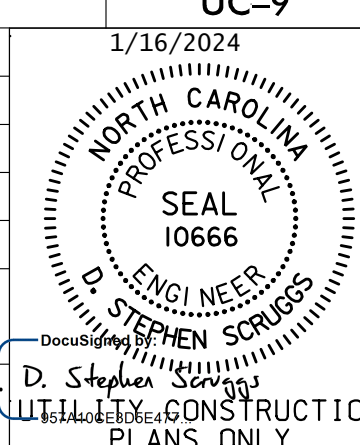
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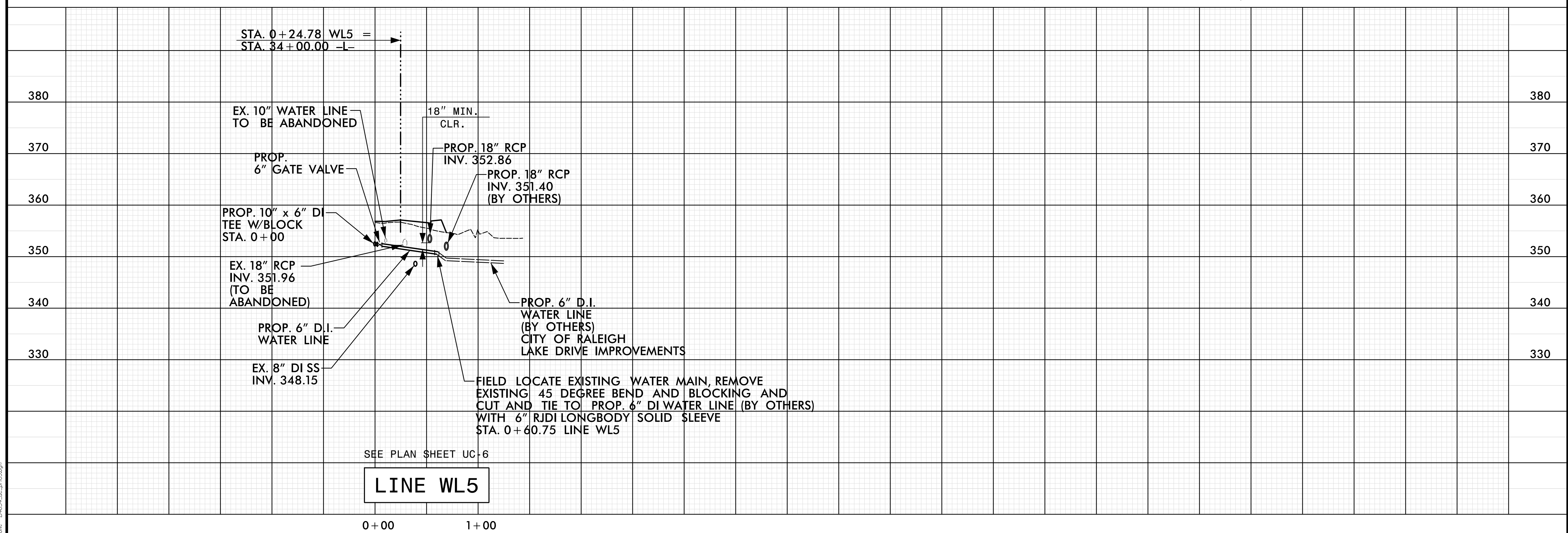
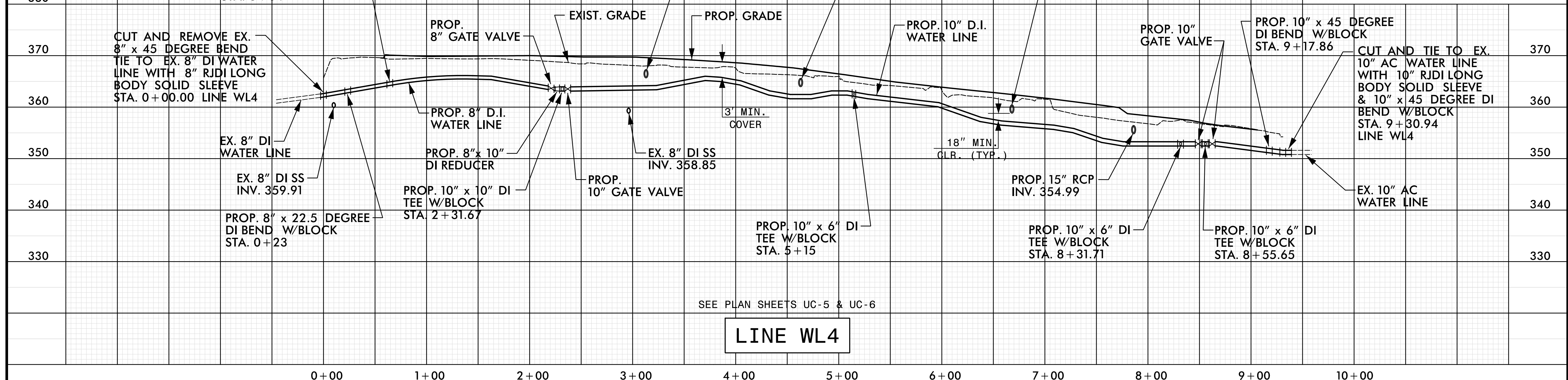


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PROJECT REFERENCE NO.	SHEET NO.
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DESIGNED BY:	1/16/2024
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REVISED:	
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UTILITIES ENGINEERING SECTION	
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FAX: (919) 250-4151	



UTILITY CONSTRUCTION



DATE: 1/16/2024
TIME: 11:30:00 AM
DRAWN: B4654-uc-09.dgn