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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 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)	
Force Main Sewer Line (Sized as Shown)	
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)	
Trenchless Installation	
Encasement by Open Cut	
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.		

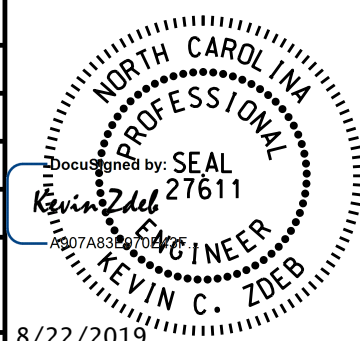
*For Existing Utilities
 Utility Line Drawn from Record (Type as Shown)
 Designated Utility Line (Type as Shown)

5/14/99
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 REV: 2/1/2012

UTILITY CONSTRUCTION

Weston Sampson
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137
 Phone: 919.287.0220

NC License: C-4847
 Cary, NC 27511
 Fax: 919.287.0221

PROJECT REFERENCE NO. A-0011C	SHEET NO. UC-3
DESIGNED BY: K CZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: K CZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION	
<i>DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED</i>	

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 2018.

2. THE EXISTING WATER AND SEWER UTILITIES BELONG TO CLAY COUNTY WATER AND SEWER (CCWS).

CONTACT: DAKOTA INGRAM
PHONE: 828-389-1361

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH.

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 OF 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.

10. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNER TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC WORK.

11. CONTRACTOR SHALL CONTACT THE UTILITY OWNER PRIOR TO PERFORMING SYSTEM FLUSHING OR BLOW-OFF OPERATIONS.

PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO THE UTILITY CONSTRUCTION SPECIAL PROVISIONS PROVIDED ALONG WITH THIS PLAN SET.

2. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.

3. PVC PIPE MANUFACTURED MORE THAN 12 MONTHS BEFORE INSTALLATION DATE WILL NOT BE ACCEPTED.

4. EXISTING PVC PIPE ON WATER LINES AND FORCE MAIN SEWERS SHALL BE EXCAVATED AND FIELD BENT AS NEEDED TO PROVIDE FOR HORIZONTAL AND/OR VERTICAL TRANSITION AND TIE-IN TO PROPOSED PIPE, AS DIRECTED BY THE RESIDENT ENGINEER.

5. ALL PVC PIPE INSTALLED ON THE PROJECT SHALL BE INSTALLED WITH A CONTINUOUS TRACER WIRE FOR LOCATION PURPOSES BY MEANS OF AN ELECTONIC TRACING DEVICE.

6. ALL WATER LINE AND FORCE MAIN SEWER FITTINGS SHALL BE DUCTILE IRON WITH MECHANICAL JOINTS OR RESTRAINED JOINTS. FITTINGS 4-INCH THROUGH 24-INCH DIAMETER SHALL HAVE A MINIMUM PRESSURE RATING OF 350 PSI.

7. ALL PROPOSED FITTINGS (BENDS, TEES, CROSSES, REDUCERS, PLUGS, ETC.) SHALL BE ADEQUATELY RESTRAINED BY THE USE OF RESTRAINED JOINT CONSTRUCTION AND/OR CAST IN PLACE CONCRETE THRUST RESTRAINTS AS DETAILED ON THESE DRAWINGS, OR AS DIRECTED BY THE RESIDENT ENGINEER.

8. ALL PROPOSED WATER LINE AND SANITARY SEWER PIPE SHALL BE DUCTILE IRON PIPE WHERE INSTALLED WITH: LESS THAN 3 FEET OF COVER; OR GREATER THAN 20 FEET OF COVER; OR LESS THAN 2 FEET OF SEPARATION FROM A BOX CULVERT.

9. DUCTILE IRON PIPE SHALL BE EITHER PUSH-ON JOINT, MECHANICAL JOINT, OR RESTRAINED JOINT CONSTRUCTION.

10. FLEXIBLE COUPLINGS SHALL NOT BE USED AS TRANSITION COUPLINGS BETWEEN DIFFERENT PIPE TYPES.

11. ALL STAINLESS STEEL FASTENERS SHALL BE OF GRADE 316.

12. ALL PROPOSED WATER LINE AND SANITARY SEWER PIPE SHALL BE INSTALLED WITH A MINIMUM OF 3 FEET OF COVER, UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE RESIDENT ENGINEER.

13. CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER AND ALL PROPERTY OWNERS TO DETERMINE THE LOCATION OF ALL EXISTING WATER SERVICE LINES AND SEWER SERVICE LINES BEFORE STARTING CONSTRUCTION.

14. IN THE EVENT THAT EXCESSIVE GROUNDWATER OR SPRINGS ARE ENCOUNTERED DURING PIPE CONSTRUCTION, THE CONTRACTOR SHALL EMPLOY ALL METHODS NECESSARY TO KEEP THE TRENCHES DRY AS DIRECTED BY THE RESIDENT ENGINEER.

15. WATER LINE PIPE SHALL BE EITHER PVC DR-18 AWWA C900 OR DUCTILE IRON PRESSURE CLASS 350. PVC PIPE SHALL BE CERTIFIED NSF-61 FOR POTABLE WATER USE.

16. ALL VALVES ON WATER LINE PIPE SHALL BE GATE VALVES.

17. EXISTING WATER METERS TO REMAIN SHALL BE RECONNECTED TO THE EXISTING / PROPOSED WATER LINE WITH NEW WATER SERVICE LINES.

18. NEW AND RELOCATED WATER METERS SHALL BE CONNECTED TO THE EXISTING / PROPOSED WATER LINE WITH NEW WATER SERVICE LINES.

19. NEW AND RELOCATED WATER METERS SHALL BE INSTALLED WITH THE BACK OF THE METER BOX (CUSTOMER SIDE) AT THE RIGHT-OF-WAY LINE, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.

UTILITY CONSTRUCTION

Weston & Sampson
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137
 Phone: 919.297.0220

NC License: C-4847
 Cary, NC 27511
 Fax: 919.297.0221

PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-3A
DESIGNED BY: K CZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: K CZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED	

PROJECT SPECIFIC NOTES:

20. WATER METER BOXES SHALL NOT BE INSTALLED WITHIN A PAVED AREA, DRIVEWAY, OR SIDEWALK, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER AND APPROVED BY THE UTILITY OWNER.

21. 3/4" TO 2" NOMINAL WATER SERVICE PIPE SHALL BE CTS PRESSURE PIPE CONFORMING TO ANSI/AWWA C901, ASTM D2737 WITH ANSI/NSF 61 CERTIFICATION. 1.5" TO 2" NOMINAL WATER SERVICE PIPE SHALL BE SDR-21 PVC I.P.S. PRESSURE RATED PIPE CONFORMING TO ASTM D2241.

22. CONTRACTOR SHALL RECONNECT CUSTOMER SIDE WATER SERVICE LINE TO THE NEW OR RELOCATED WATER METER. THIS WORK IS INCIDENTAL TO THE PAY ITEM. ALL WORK SHALL BE CONDUCTED WITH LIKE PIPE MATERIALS AS THE EXISTING PIPES, UNLESS THE EXISTING MATERIALS ARE FOUND TO BE UNSUITABLE (I.E. GALVANIZED OR LEAD), THEN CONTRACTOR SHALL USE WATER SERVICE PIPE AND TUBING AS NOTED ABOVE.

23. EXISTING WATER SERVICE LINES TO BE ABANDONED SHALL BE DONE IN ACCORDANCE WITH SECTION 1530 OF THE NCDOT SPECIFICATIONS OR AS DIRECTED BY THE RESIDENT ENGINEER.

24. ALL HYDRANTS, PROPOSED OR RELOCATED, SHALL BE INSTALLED 2 FEET BEHIND THE SIDEWALK, OR WITHIN ONE FOOT OF THE R/W LINE, OR AS DIRECTED BY THE RESIDENT ENGINEER.

25. HYDRANTS AND WATER METERS LABELLED TO BE REMOVED SHALL NOT BE USED AS NEW MATERIALS IN THE PROPOSED CONSTRUCTION UNLESS APPROVED BY THE UTILITY OWNER.

26. EXISTING HYDRANTS AND WATER METERS TO BE REMOVED AND/OR RELOCATED SHALL BE RETURNED TO THE UTILITY OWNER FOR INSPECTION. CONTRACTOR SHALL DELIVER THESE UTILITY ITEMS TO A MUTUALLY AGREED UPON LOCATION. ALL OTHER PARTS, PIPING, AND METER BOXES REMOVED FROM THE SYSTEM SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND BE PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

27. FORCE MAIN SEWER PIPE SHALL BE EITHER PVC SDR-21 OR DUCTILE IRON PRESSURE CLASS OF 350.

28. ALL VALVES ON FORCE MAIN SEWER PIPE 4-INCHES AND LARGER SHALL BE PLUG VALVES.

29. GRAVITY SEWER PIPE SHALL BE PVC SDR-35, OR DUCTILE IRON CLASS 350 WHERE NOTED ON PROFILE SHEETS.

30. PROPOSED SANITARY CLEAN OUTS SHALL BE INSTALLED AT THE RIGHT-OF-WAY LINE, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.

31. EXISTING SANITARY SEWER CLEANOUTS TO REMAIN SHALL BE RECONNECTED TO THE PROPOSED SANITARY SEWER PIPE WITH NEW SEWER SERVICE LINES.

32. CONTRACTOR SHALL RECONNECT THE EXISTING CUSTOMER SIDE SEWER SERVICE LINE TO THE NEW SANITARY SEWER CLEAN OUT. THIS WORK IS INCIDENTAL TO THE PAY ITEM. ALL WORK SHALL BE CONDUCTED WITH LIKE PIPE MATERIALS AS THE EXISTING PIPE.

33. EXISTING SEWER SERVICE LINES TO BE ABANDONED SHALL BE DONE IN ACCORDANCE WITH SECTION 1530 OF THE NCDOT SPECIFICATIONS OR AS DIRECTED BY THE RESIDENT ENGINEER.

34. EXISTING SEWER SERVICE LINES ARE ASSUMED TO BE 4-INCH DIAMETER PIPE.

35. SEWER SERVICE LINES SHALL BE INSTALLED AT A 2.0% SLOPE, UNLESS OTHERWISE DIRECTED BY THE RESIDENT ENGINEER.

36. ALL SEWER SERVICE LINES CONNECTING INTO DUCTILE IRON FORCE MAINS / GRAVITY MAINS SHALL ALSO BE CONSTRUCTED OF D.I.P.

37. ALL SEWER SERVICE LINES INSTALLED UNDER PAVED AREAS SHALL BE D.I.P.

38. WHERE A NEW MANHOLE IS INSTALLED ALONG A RUN OF EXISTING CLAY PIPE GRAVITY SEWER MAIN, THE EXISTING CLAY PIPE SHALL BE REPLACED WITH EITHER PVC PIPE OR D.I. PIPE FOR A MINIMUM OF 10LF FROM THE MANHOLE.

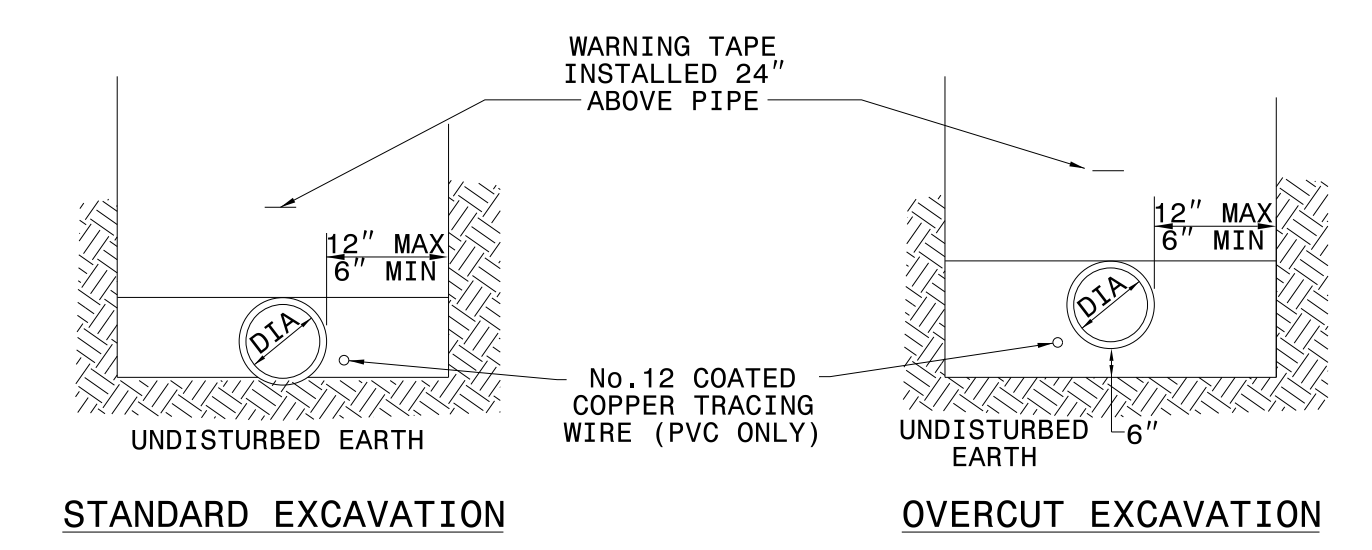
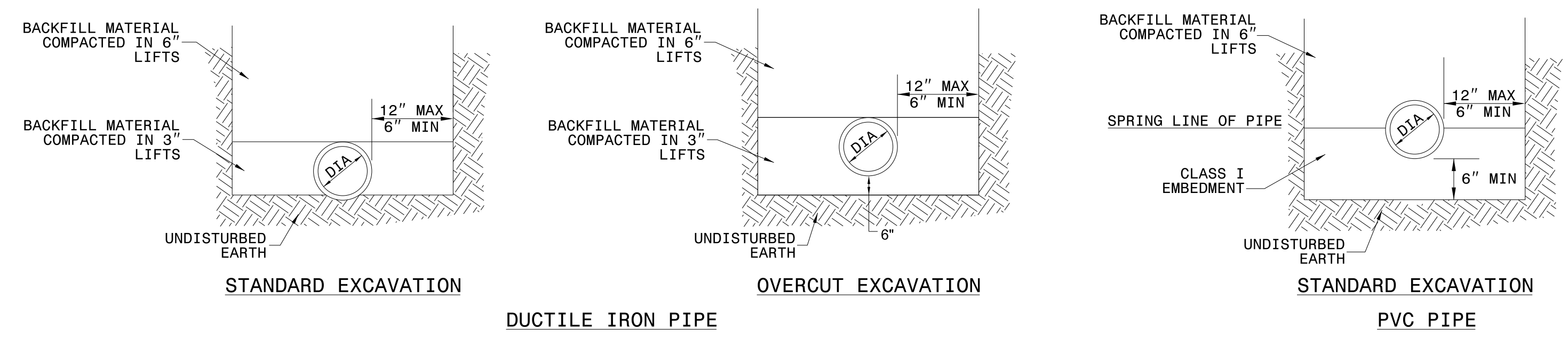
39. FORCE MAIN SEWER PIPE TIE-IN WORK SHALL BE DONE AT PERIODS OF LOW FLOW. CONTRACTOR SHALL COORDINATE SHUT DOWN OF THE AFFECTED PUMP STATION WITH CLAY COUNTY. CONTRACTOR SHALL OBTAIN A PUMP AND HAUL PERMIT AND HAVE OPERATION PLAN IN PLACE TO PUMP OUT THE WET WELL AND HAUL FLOW TO THE DOWNSTREAM MANHOLE AND REINTRODUCE THE FLOW INTO THE GRAVITY SYSTEM.

40. GRAVITY SEWER PIPE TIE-IN WORK SHALL BE DONE AT PERIODS OF LOW FLOW. CONTRACTOR SHALL COORDINATE TIMING OF THE WORK WITH CLAY COUNTY. CONTRACTOR SHALL OBTAIN A PUMP AND HAUL PERMIT AND HAVE OPERATION PLAN IN PLACE TO PUMP OUT FLOW FROM A MANHOLE UPSTREAM OF THE TIE-IN WORK AND HAUL FLOW TO A MANHOLE DOWNSTREAM OF THE TIE-IN WORK AND REINTRODUCE THE FLOW INTO THE GRAVITY SYSTEM.

PROJECT QUANTITIES

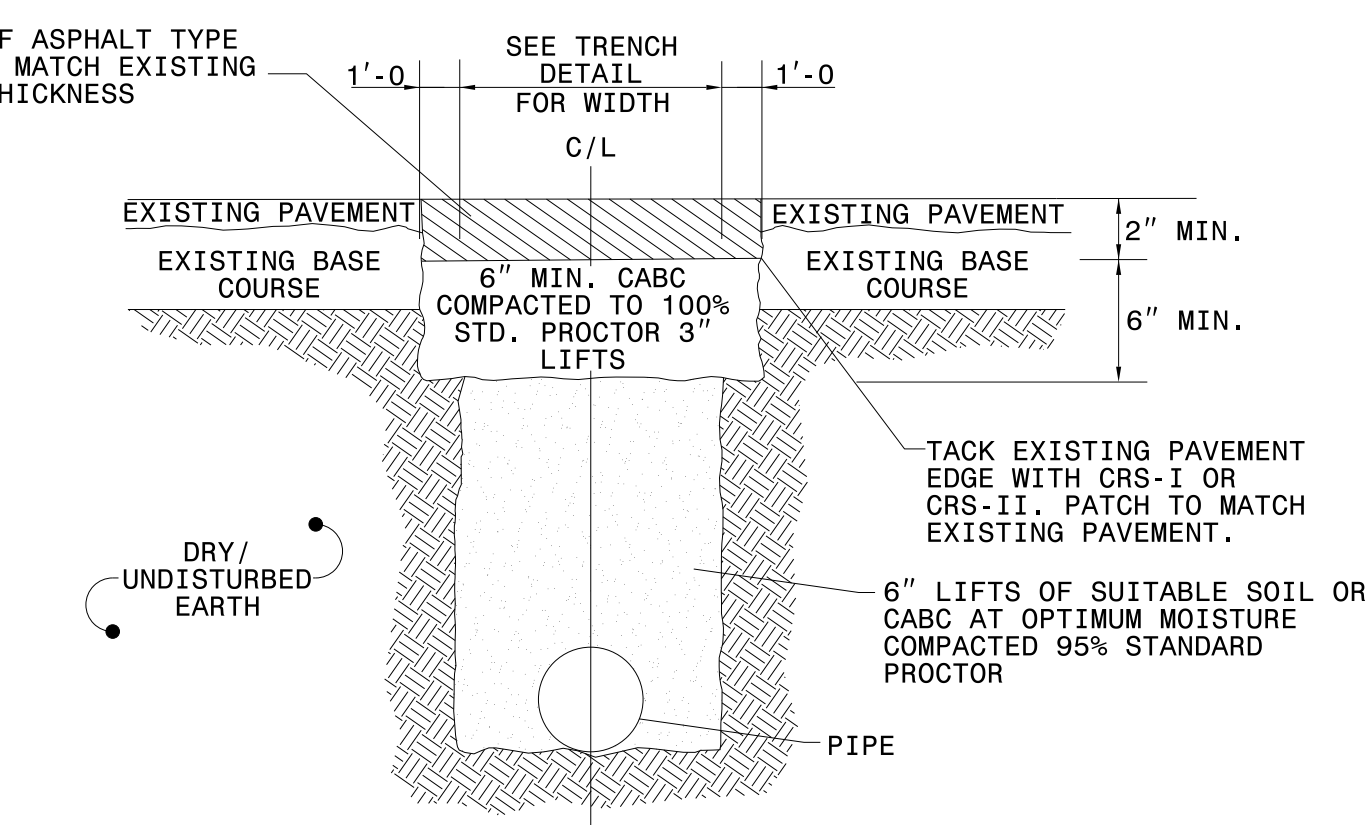
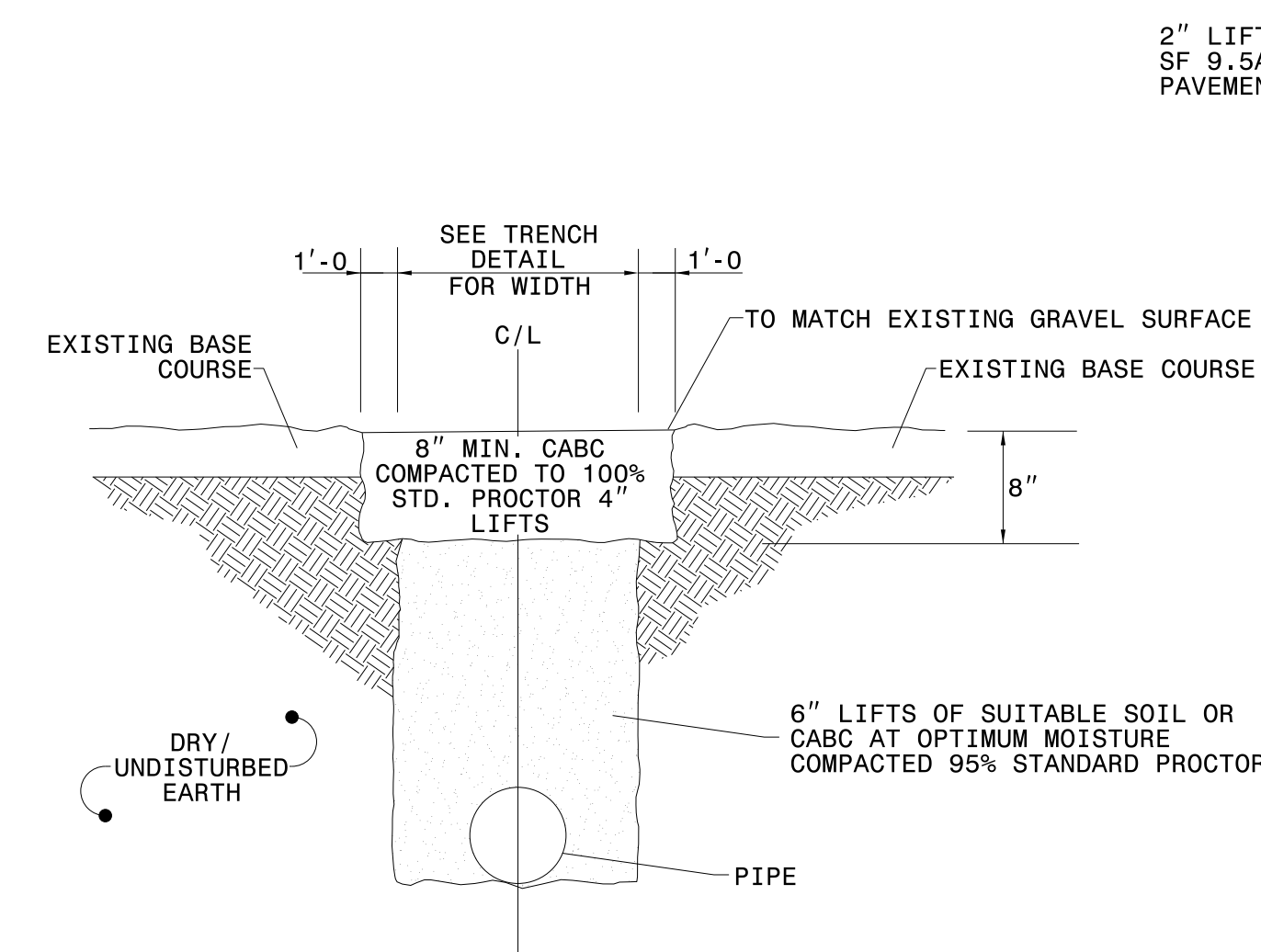
ITEM NUMBER	DESCRIPTION	QUANTITY	
0318000000-E	FOUNDATION CONDITIONING MATERIAL, MINOR STRUCTURES	10	TON
0320000000-E	FOUNDATION CONDITIONING GEOTEXTILE	100	SY
5319000000-E	CLASS B CONCRETE FOR ENCASING UTILITY LINES	10	CY
5325600000-E	6" WATER LINE	820	LF
5325800000-E	8" WATER LINE	482	LF
5326200000-E	12" WATER LINE	18,631	LF
5329000000-E	DUCTILE IRON WATER PIPE FITTINGS	25,885	LBS
5536000000-E	2" VALVE	2	EA
5540000000-E	6" VALVE	22	EA
5546000000-E	8" VALVE	4	EA
5558000000-E	12" VALVE	14	EA
5572200000-E	12" TAPPING SLEEVE AND VALVE	1	EA
5589200000-E	2" AIR RELEASE VALVE	6	EA
5606000000-E	2" BLOW OFF	3	EA
5643000000-E	5/8" WATER METER	19	EA
5648000000-N	RELOCATE WATER METER	26	EA
5649000000-N	RECONNECT WATER METER	41	EA
5666000000-N	FIRE HYDRANT	12	EA
5672000000-N	RELOCATE FIRE HYDRANT	9	EA
5673000000-E	FIRE HYDRANT LEG	228	LF
5686000000-E	2" WATER SERVICE LINE	212	LF
5686500000-E	WATER SERVICE LINE	5,544	LF
5691300000-E	8" SANITARY GRAVITY SEWER	14,599	LF
5709200000-E	4" FORCE MAIN SEWER	4,201	LF
5768000000-N	SANITARY SEWER CLEAN-OUT	5	EA
5768500000-E	SEWER SERVICE LINE	737	LF
5769000000-E	DUCTILE IRON SEWER PIPE FITTINGS	1,445	LBS
5775000000-E	4' DIA UTILITY MANHOLE	63	EA
5776000000-E	5' DIA UTILITY MANHOLE	6	EA
5781000000-E	UTILITY MANHOLE WALL 4' DIAMETER	340.3	LF
5782000000-E	UTILITY MANHOLE WALL 5' DIAMETER	51.3	LF
5798000000-E	ABANDON 4" UTILITY PIPE	4,215	LF
5800000000-E	ABANDON 6" UTILITY PIPE	781	LF
5801000000-E	ABANDON 8" UTILITY PIPE	14,722	LF
5804000000-E	ABANDON 12" UTILITY PIPE	18,639	LF
5815000000-N	REMOVE WATER METER	21	EA
5815500000-N	REMOVE FIRE HYDRANT	14	EA
5816000000-N	ABANDON UTILITY MANHOLE	60	EA
5828000000-N	REMOVE UTILITY MANHOLE	4	EA
5835600000-E	12" ENCASEMENT PIPE	160	LF
5835650000-E	14" ENCASEMENT PIPE	170	LF
5835800000-E	18" ENCASEMENT PIPE	1,166	LF
5835900000-E	20" ENCASEMENT PIPE	1,081	LF
5836000000-E	24" ENCASEMENT PIPE	100	LF
5872512000-E	BORE AND JACK OF 12"	75	LF
5872514000-E	BORE AND JACK OF 14"	170	LF
5872518000-E	BORE AND JACK OF 18"	1,129	LF
5872520000-E	BORE AND JACK OF 20"	815	LF

5/14/19

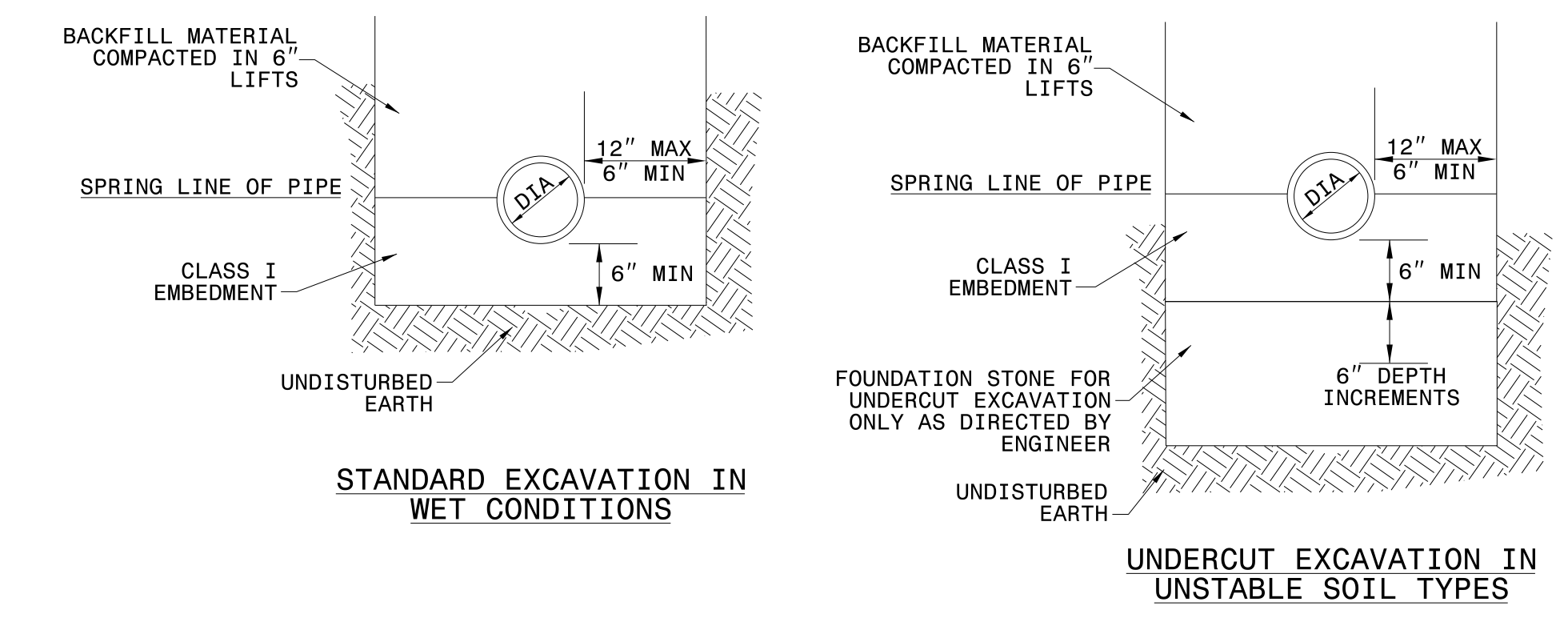


NOTES:
 1. WARNING TAPE SHALL BE INSTALLED ABOVE ALL WATER LINE, SEWER FORCE MAIN, AND GRAVITY SEWER MAIN.
 2. TRACER WIRE SHALL BE INSTALLED FOR ALL PVC UTILITY PIPES.

TRACING WIRE / WARNING TAPE LOCATION DETAIL



NOTES:
 1. EDGE TO BE SAWED WITH A CONCRETE SAW TO A NEAT SQUARED EDGE. BROOMED CLEAN OF DUST BEFORE TACK COAT IS APPLIED.
 2. EDGES TO BE TACKED WITH EMULSIFIED ASPHALT TACK CRS-I OR CRS-II



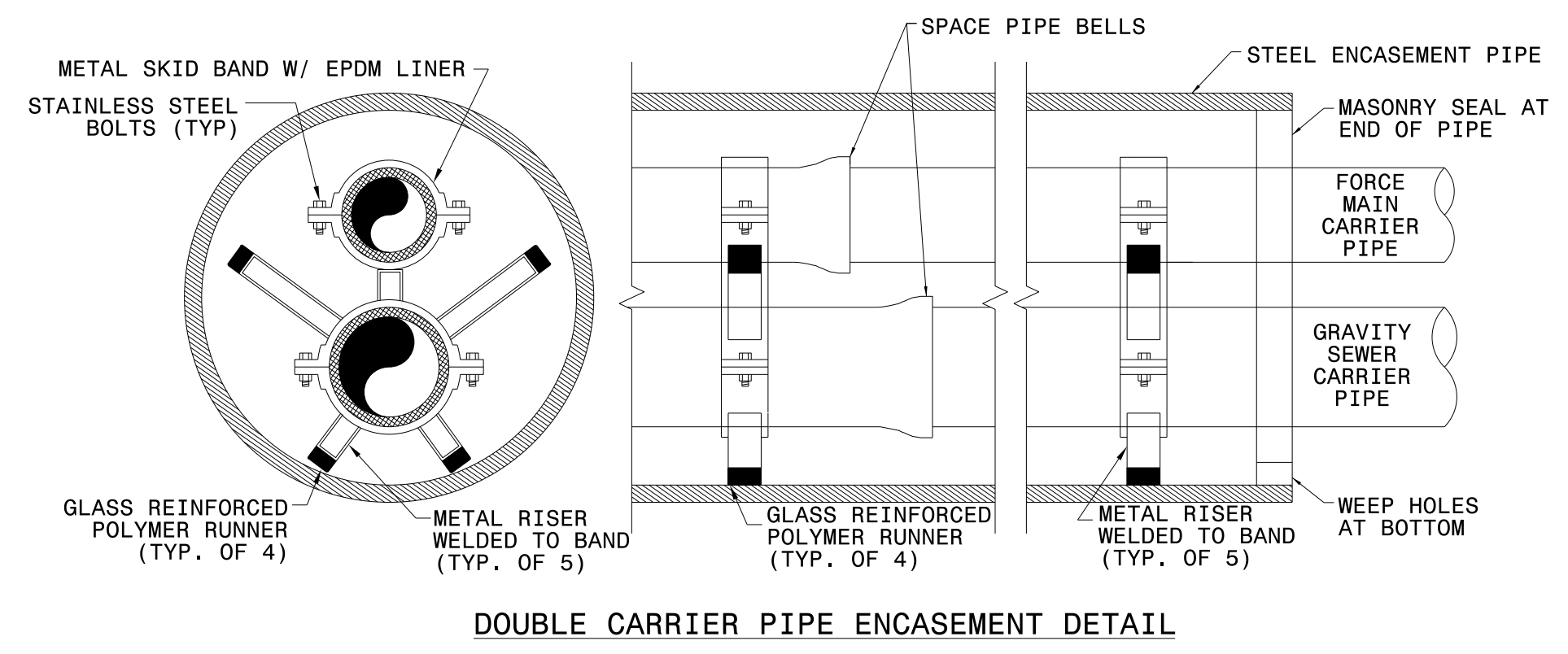
UTILITY PIPE IN WET OR UNSTABLE CONDITIONS ALL PIPE TYPES (AS DIRECTED BY ENGINEER)

NOTES:
 1. CONSTRUCTION OF TRENCHES SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS WHICH HAVE JURISDICTION AT THE PROJECT SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE APPLICABLE REGULATIONS AND FOLLOW THEM ACCORDINGLY.
 2. CLASS I EMBEDMENT SHALL BE NCDOT STANDARD # 67 STONE OR APPROVED EQUAL. FOUNDATION STONE SHALL BE NCDOT STANDARD # 57 OR # 67 STONE OR APPROVED EQUAL.

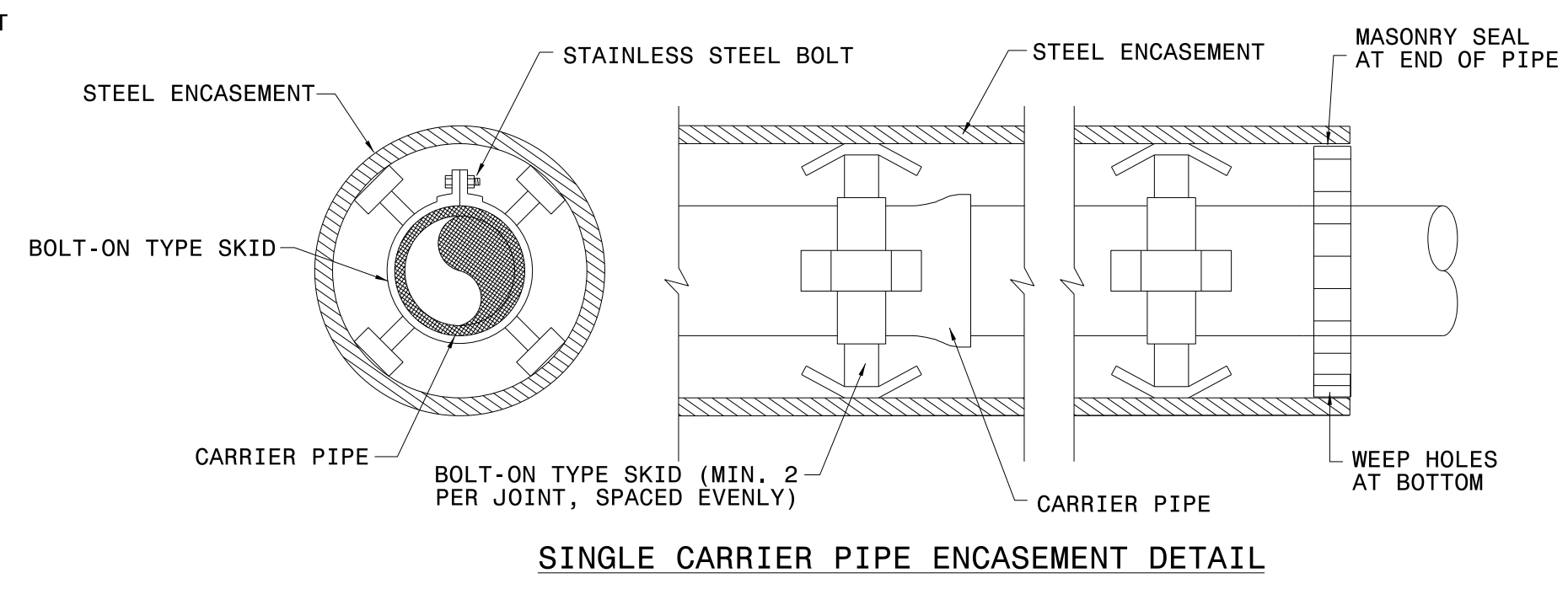
UTILITY PIPE TRENCH DETAILS

GRAVEL DRIVE REPAIR DETAIL

ASPHALT DRIVE REPAIR DETAIL



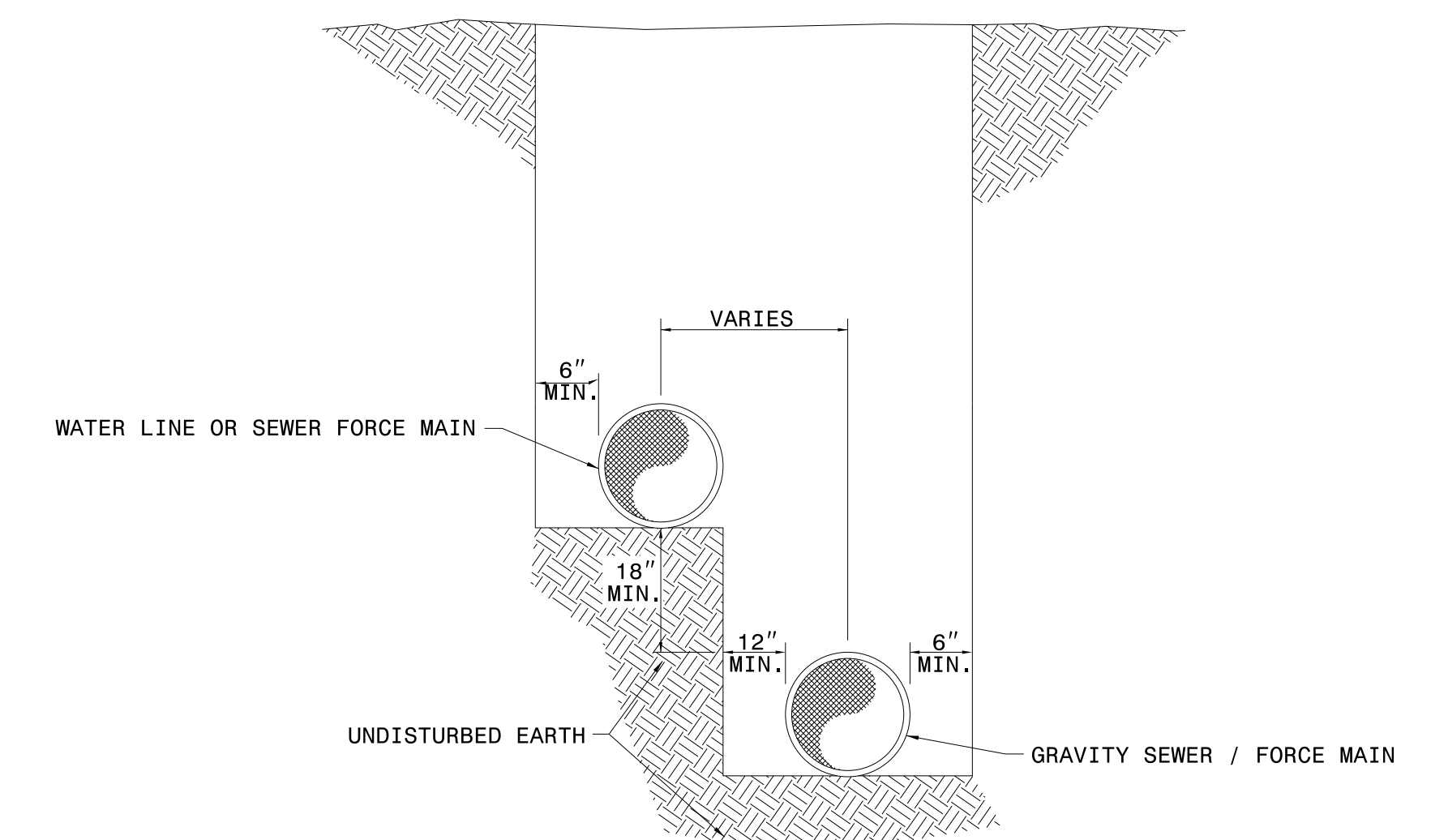
STEEL ENCASUREMENT PIPE DETAILS



SINGLE CARRIER PIPE ENCASUREMENT DETAIL

NOTES:
 1. STAINLESS STEEL "SPIDERS" SHALL BE USED FOR SUPPORT OF THE CARRIER PIPE WITHIN THE STEEL ENCASUREMENT PIPE. SPIDERS MANUFACTURED BY CASCADE WATERWORKS MFG. COMPANY, CCI PIPELINE SYSTEMS, OR APPROVED EQUAL.
 2. SINGLE CARRIER PIPE SHALL BE CENTERED AND RESTRAINED INSIDE ENCASUREMENT PIPE.
 3. SPIDERS FOR DOUBLE CARRIER PIPE INSTALLATION SHALL BE CCI PIPELINE SYSTEMS MODEL CSS8-04X08X24-CL, OR APPROVED EQUAL.
 4. PROVIDE A MINIMUM OF 2 SPIDERS PER JOINT OF CARRIER PIPE, OR AS PER MANUFACTURER RECOMMENDATIONS.
 5. THE SPIDERS SHALL BE SPACED EVENLY ALONG THE CARRIER PIPE SUCH THAT EACH SPIDER SUPPORTS THE SAME UNIT WEIGHT OF THE CARRIER MAIN.
 6. CARRIER PIPE SHALL BE DUCTILE IRON RESTRAINED JOINT PIPE.
 7. FORCE MAIN TRACING WIRE SHALL BE ROUTED INSIDE THE ENCASUREMENT PIPE AT THE BOTTOM OF THE PIPE TO AVOID CONFLICT WITH PIPE REMOVAL.
 8. REFER TO PLAN SHEETS AND PROFILE SHEETS FOR LENGTH AND DIAMETER OF PROPOSED STEEL ENCASUREMENT PIPES FOR EACH CROSSING.

9. STEEL ENCASUREMENT PIPES SHALL EXTEND A MINIMUM OF 3 FEET BEHIND THE BACK OF CURB OR AS SHOWN ON THE PLANS.
 10. STEEL ENCASUREMENT PIPES SHALL HAVE A SPECIFIED MINIMUM YIELD STRENGTH OF AT LEAST 35,000 PSI.
 11. THE INSIDE DIAMETER OF THE ENCASUREMENT PIPE SHALL BE AT LEAST 2 INCHES GREATER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE JOINTS OR COUPLINGS FOR CARRIER PIPE LESS THAN 6 INCHES IN DIAMETER; AND AT LEAST 4 INCHES GREATER FOR CARRIER PIPE 6 INCHES AND LARGER IN DIAMETER.
 12. UNCOATED AND UNPROTECTED STEEL ENCASUREMENT PIPE SHALL HAVE A MINIMUM WALL THICKNESS PER THE O.D. PIPE SIZE NOTED BELOW:
 0.280 INCH FOR 6.625"
 0.250 INCH FOR 8.625"; 10.75"; 12.75"
 0.250 INCH FOR 14" TO 24"
 0.312 INCH FOR 28" TO 30"
 0.375 INCH FOR 36"
 0.500 INCH FOR 42"



NOTES:
 1. CONSTRUCTION OF TRENCHES SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL SAFETY AND HEALTH REGULATIONS WHICH HAVE JURISDICTION AT THE PROJECT SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE APPLICABLE REGULATIONS AND FOLLOW THEM ACCORDINGLY.

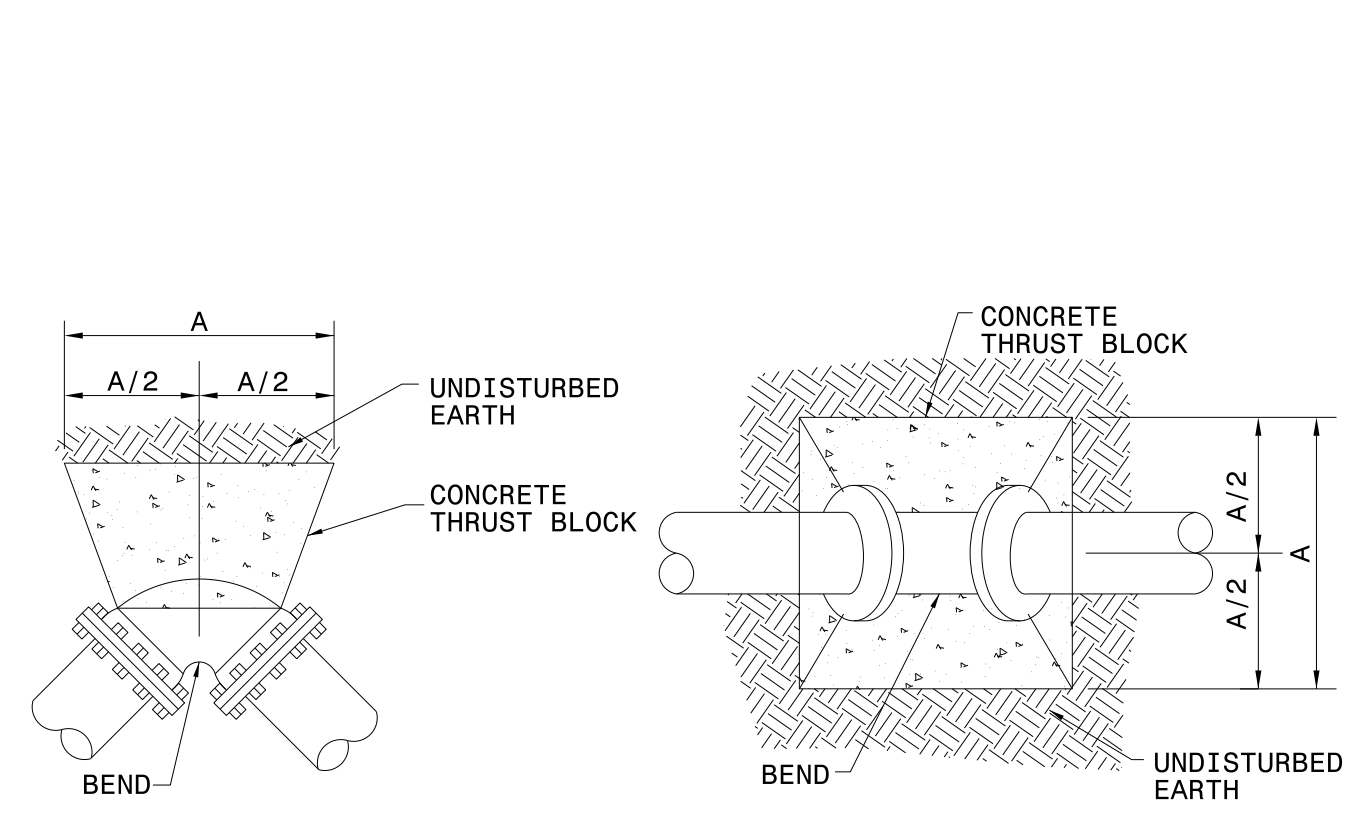
TYPICAL TRENCHING DETAIL TWO PIPES IN SAME TRENCH

PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-3B
DESIGNED BY: KCZ	
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APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 8/22/2019 UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
Weston & Sampson WSE of North Carolina, PC 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 NC License: C-4647	

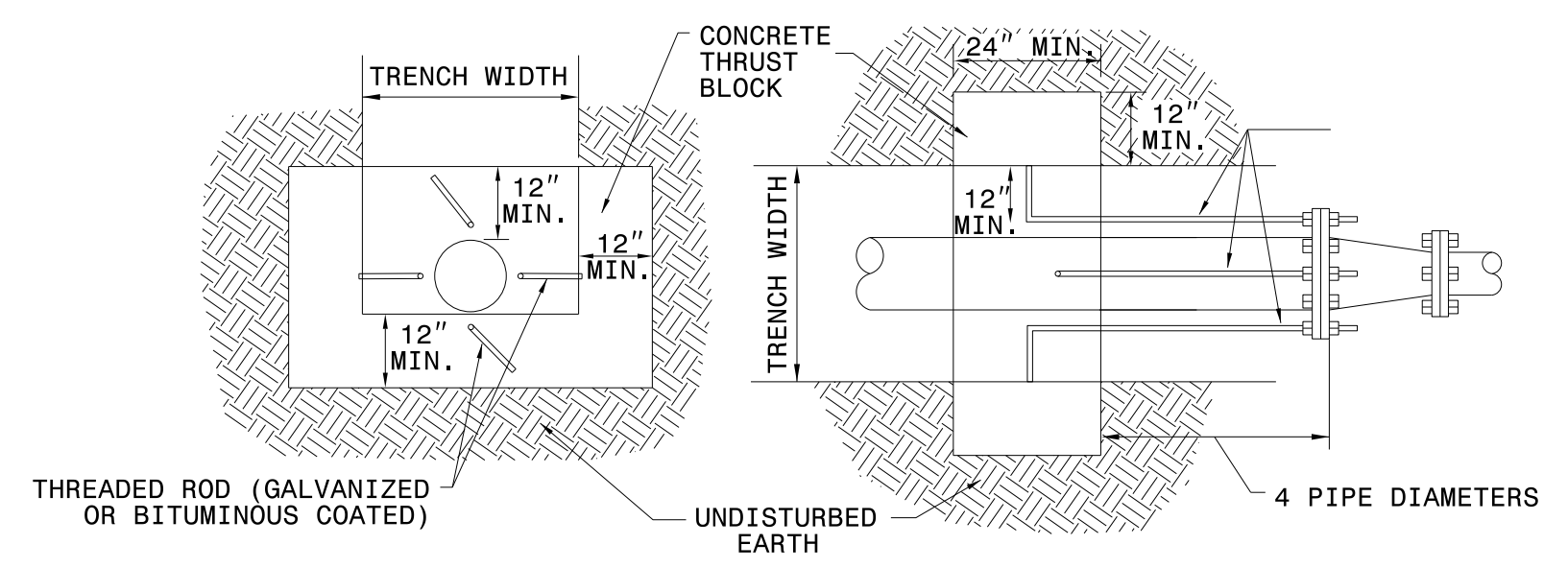
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 5/14/19

GENERAL UTILITY DETAILS

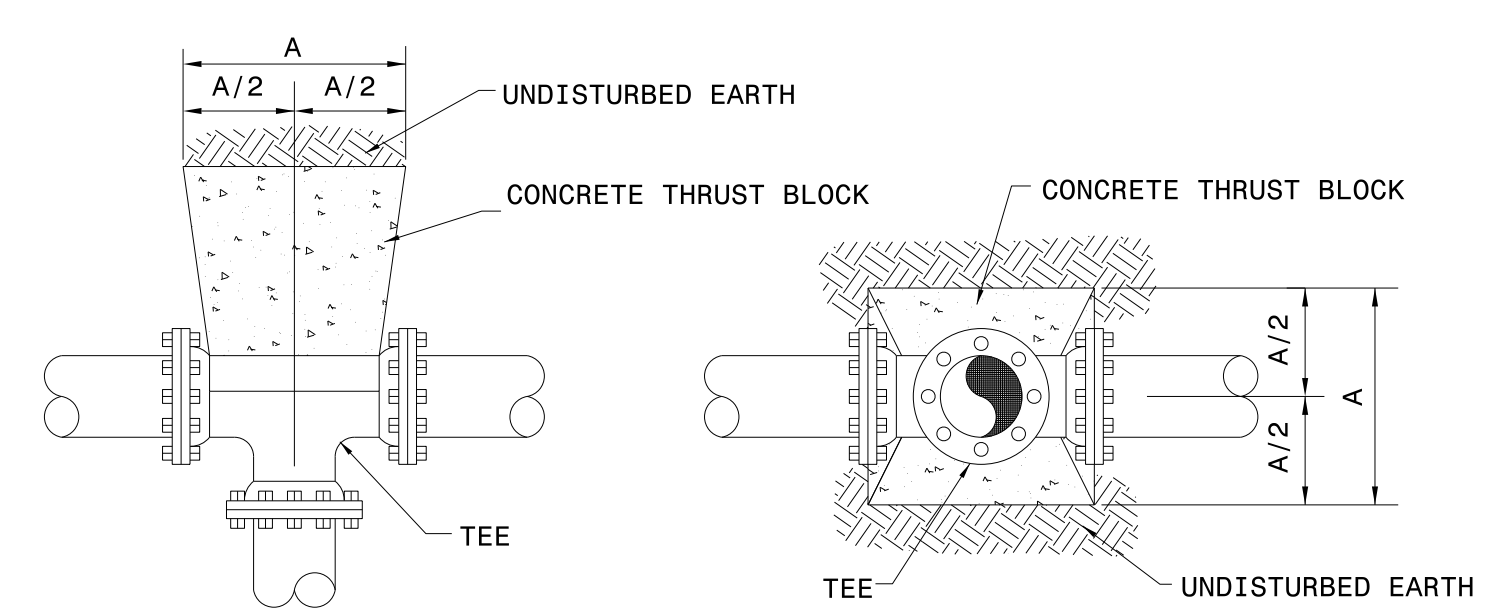
PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-3C
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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TYPICAL THRUST BLOCK FOR BENDS



TYPICAL THRUST BLOCK FOR REDUCERS



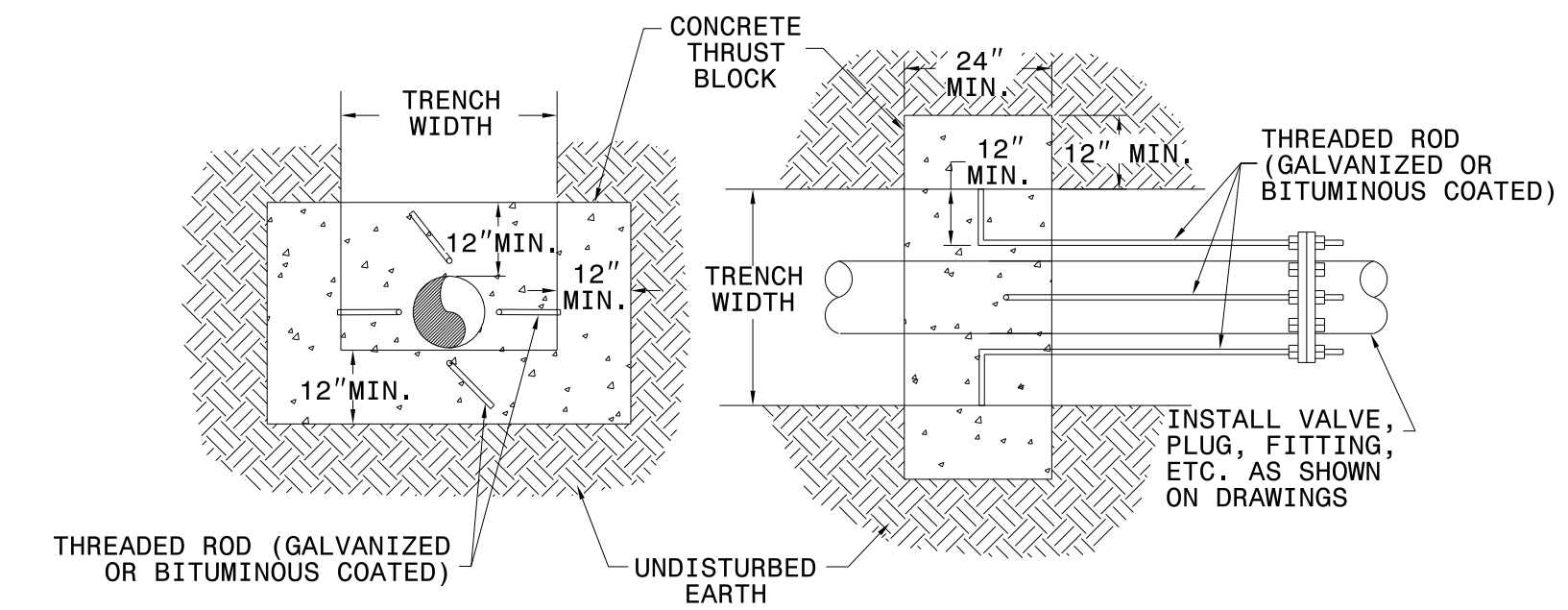
TYPICAL THRUST BLOCK FOR TEES

SIZE	11-1/4\"/>					
2-6	12	12	12	16	16	14
8	12	12	16	22	22	18
10	12	14	20	28	28	22
12	12	18	24	32	32	28
14	14	20	28	38	38	32
16	16	22	32	42	42	36
18	18	26	36	48	48	40
20	20	28	40	52	52	44
24	24	34	46	64	64	54
30	30	42	58	78	78	66
36	36	50	70	94	94	80
42	40	58	80	108	108	92
48	46	66	90	124	124	104

THRUST BLOCK DIMENSION "A"

- NOTES:
- FITTING JOINTS SHALL NOT BE POURED IN CONCRETE OR HAVE CONCRETE SPILLED ON THE BOLTS OR NUTS. THE FITTING SHALL BE WRAPPED IN A LAYER OF POLYETHYLENE PLASTIC PRIOR TO POURING THE THRUST BLOCK.
 - ROD AND EYE BOLT DIAMETER SHALL BE A MINIMUM OF 3/4" AND SHALL MATCH THE SIZE OF THE BOLT PROVIDED WITH THE FITTING.
 - CONTRACTOR SHALL REPLACE FITTING BOLTS WITH THREADED ROD FOR 1/2 OF THE BOLTS SUPPLIED WITH EACH FITTING. RODS SHALL BE EQUALLY SPACED.

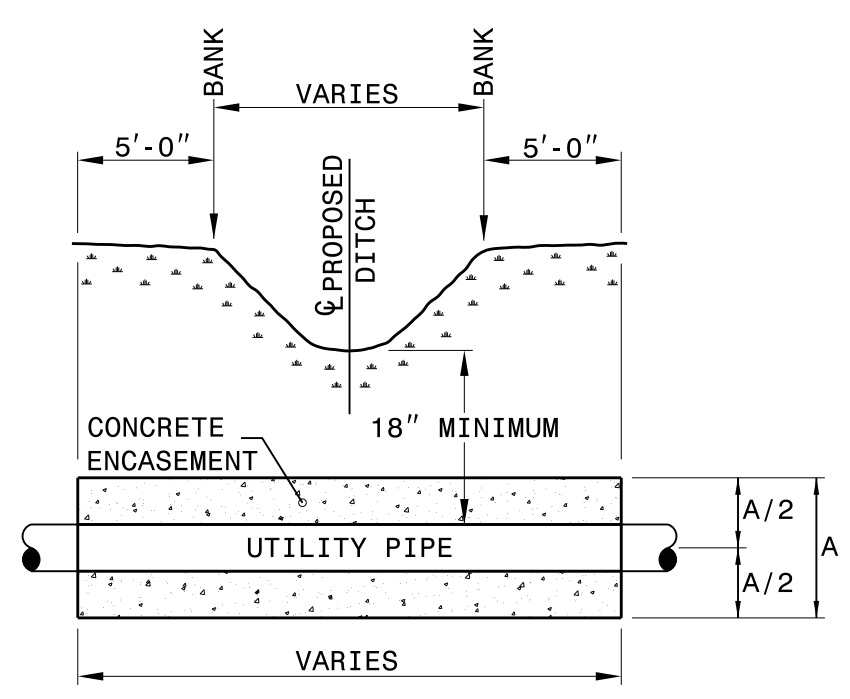
THRUST BLOCK DETAILS



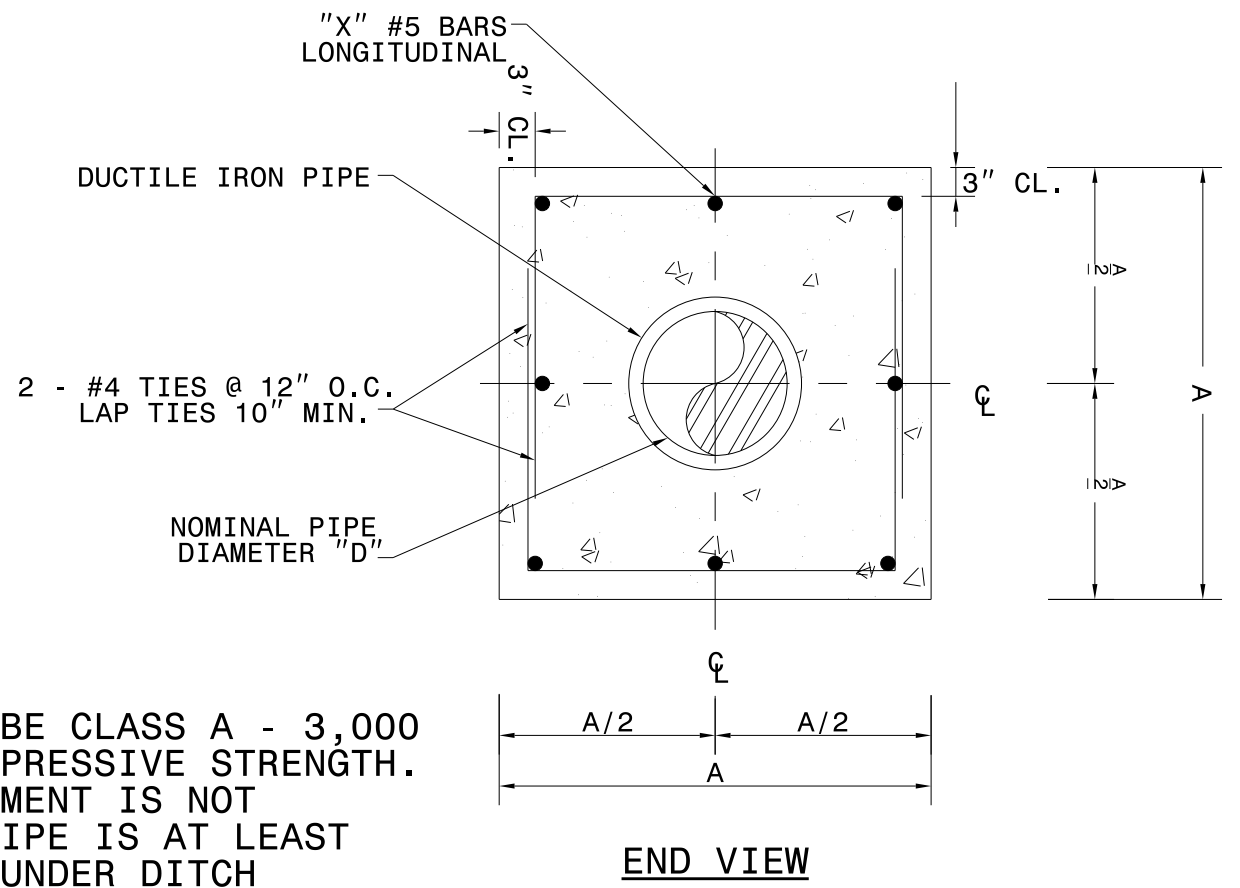
TYPICAL DEADMAN DETAIL

- NOTES:
- FITTING JOINTS SHALL NOT BE POURED IN CONCRETE OR HAVE CONCRETE SPILLED ON THE BOLTS OR NUTS. THE FITTING SHALL BE WRAPPED IN A LAYER OF POLYETHYLENE PLASTIC PRIOR TO POURING THE THRUST BLOCK.
 - ROD AND EYE BOLT DIAMETER SHALL BE A MINIMUM OF 3/4" AND SHALL MATCH THE SIZE OF THE BOLT PROVIDED WITH THE FITTING.
 - CONTRACTOR SHALL REPLACE FITTING BOLTS WITH THREADED ROD FOR 1/2 OF THE BOLTS SUPPLIED WITH EACH FITTING. RODS SHALL BE EQUALLY SPACED.

"D"	CONCRETE ENCASEMENT "A"	LONGITUDINAL STEEL "X"
8"-10"	2'-0"	8
12"-14"	2'-6"	8
16"-18"	3'-0"	12
20"-24"	3'-6"	12



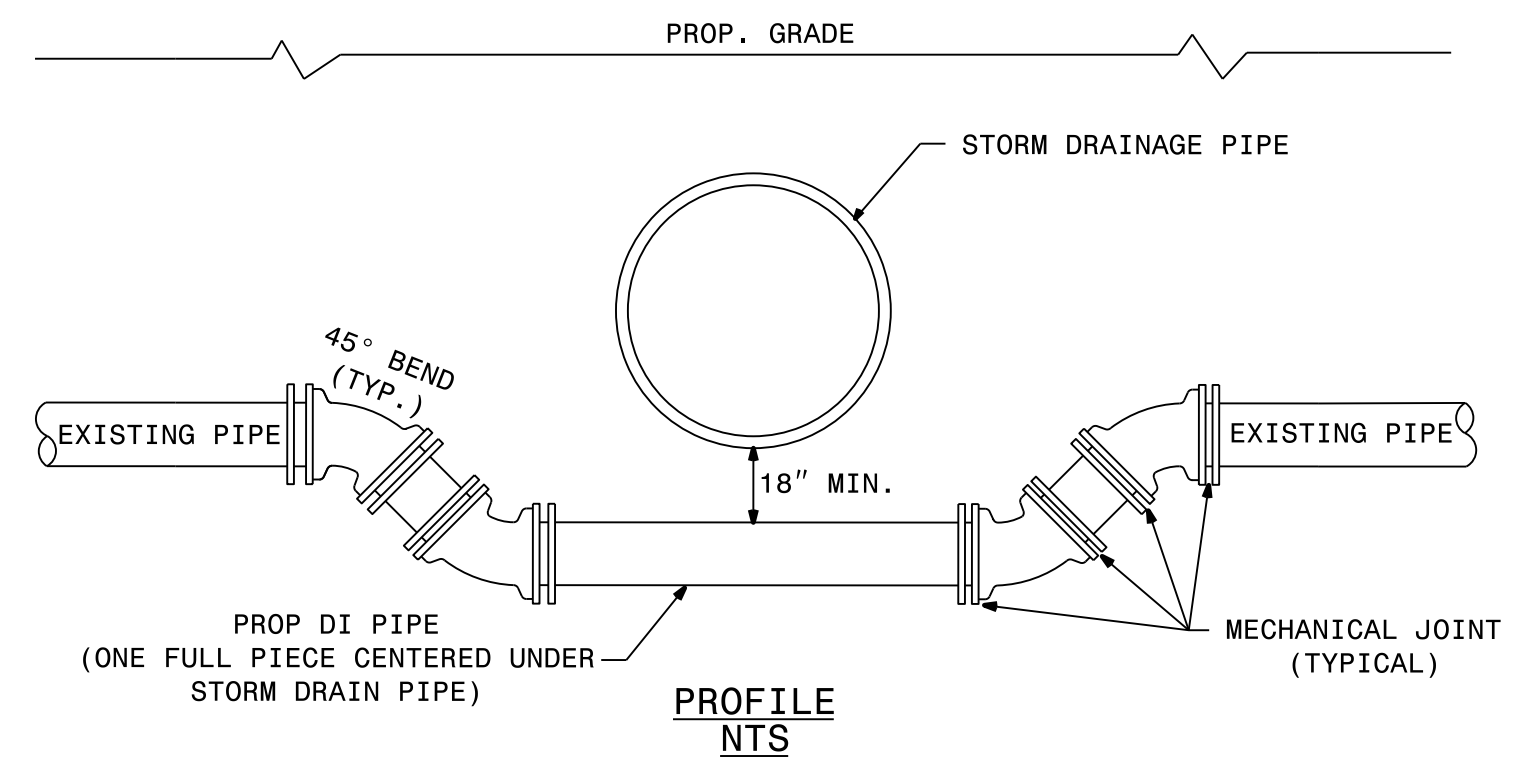
CROSS SECTION



END VIEW

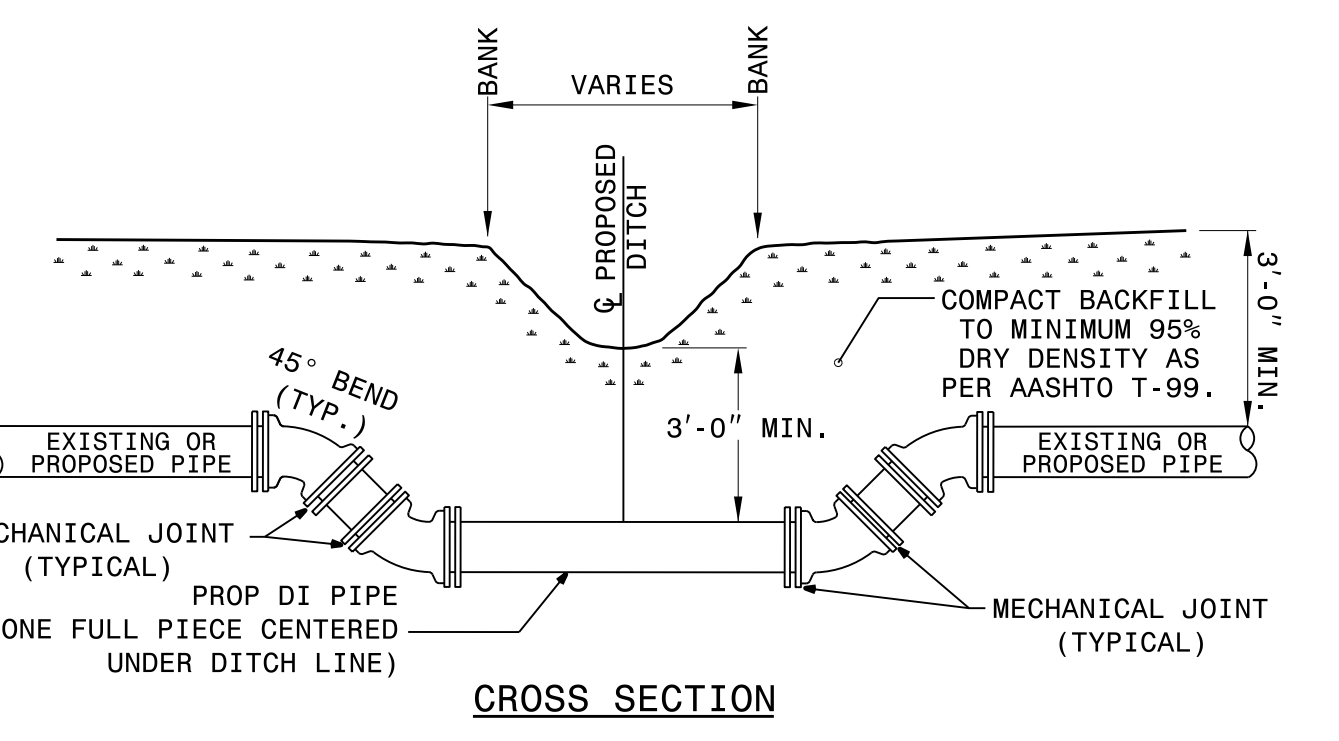
- NOTES:
- CONCRETE SHALL BE CLASS A - 3,000 P.S.I. MIN. COMPRESSIVE STRENGTH.
 - CONCRETE ENCASEMENT IS NOT REQUIRED WHEN PIPE IS AT LEAST THREE (3) FEET UNDER DITCH BOTTOM.

UTILITY PIPE CONCRETE ENCASEMENT FOR DITCH CROSSING DETAIL



UTILITY PIPE CROSSING UNDER DRAINAGE PIPE DETAIL

- NOTES:
- ALL BEND FITTINGS SHALL BE RESTRAINED AS DETAILED ON THE "VERTICAL BEND RESTRAINT" DETAIL SHOWN ON THIS SHEET, AS APPROVED BY UTILITY OWNER AND/OR AS DIRECTED BY RESIDENT ENGINEER.



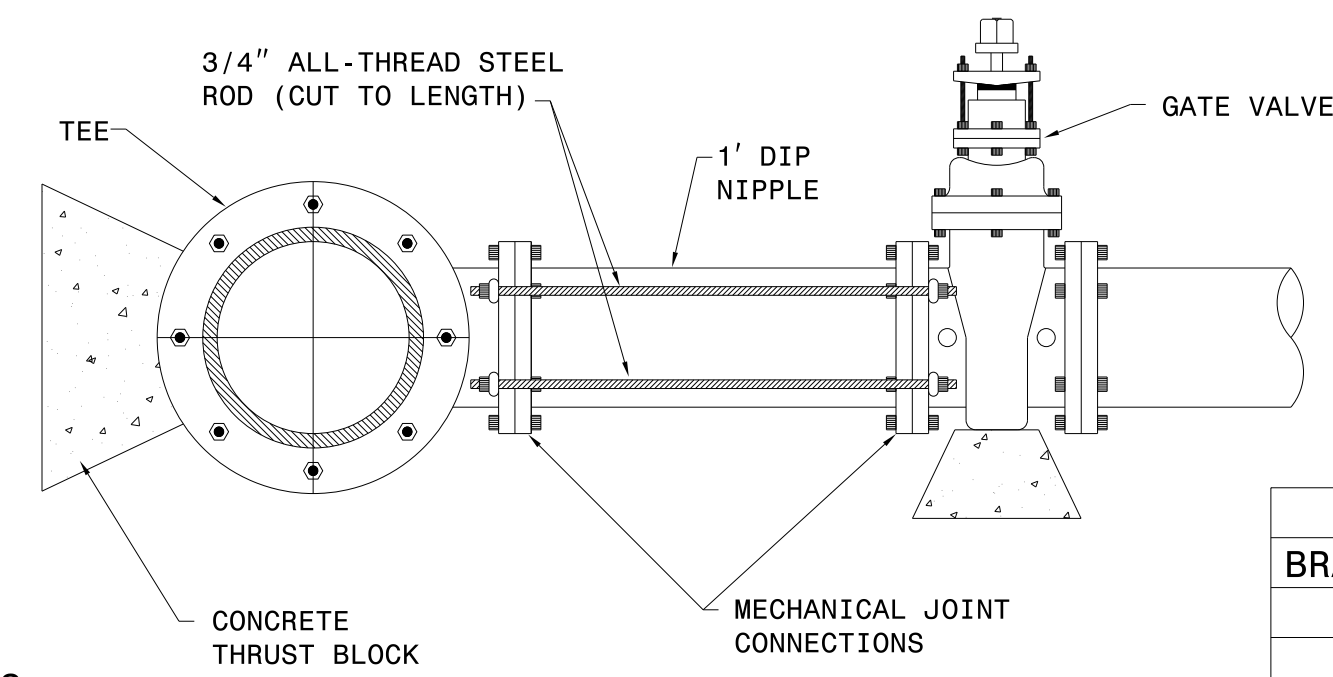
CROSS SECTION

- NOTES:
- ALL BEND FITTINGS SHALL BE RESTRAINED AS DETAILED ON THE "VERTICAL BEND RESTRAINT" DETAIL SHOWN ON THIS SHEET, AS APPROVED BY UTILITY OWNER AND/OR AS DIRECTED BY RESIDENT ENGINEER.

UTILITY PIPE AT DITCH CROSSING DETAIL

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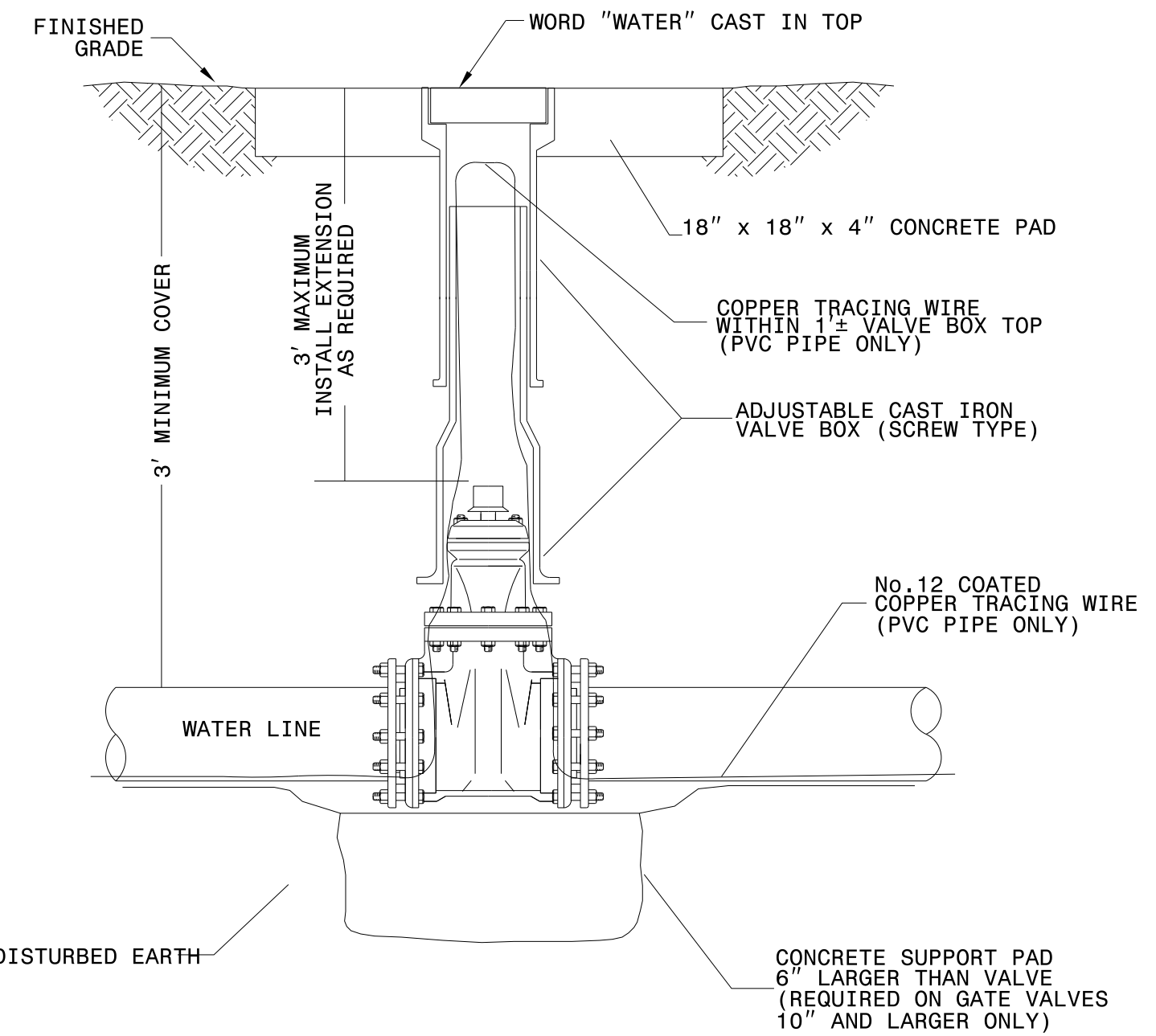
GENERAL UTILITY DETAILS



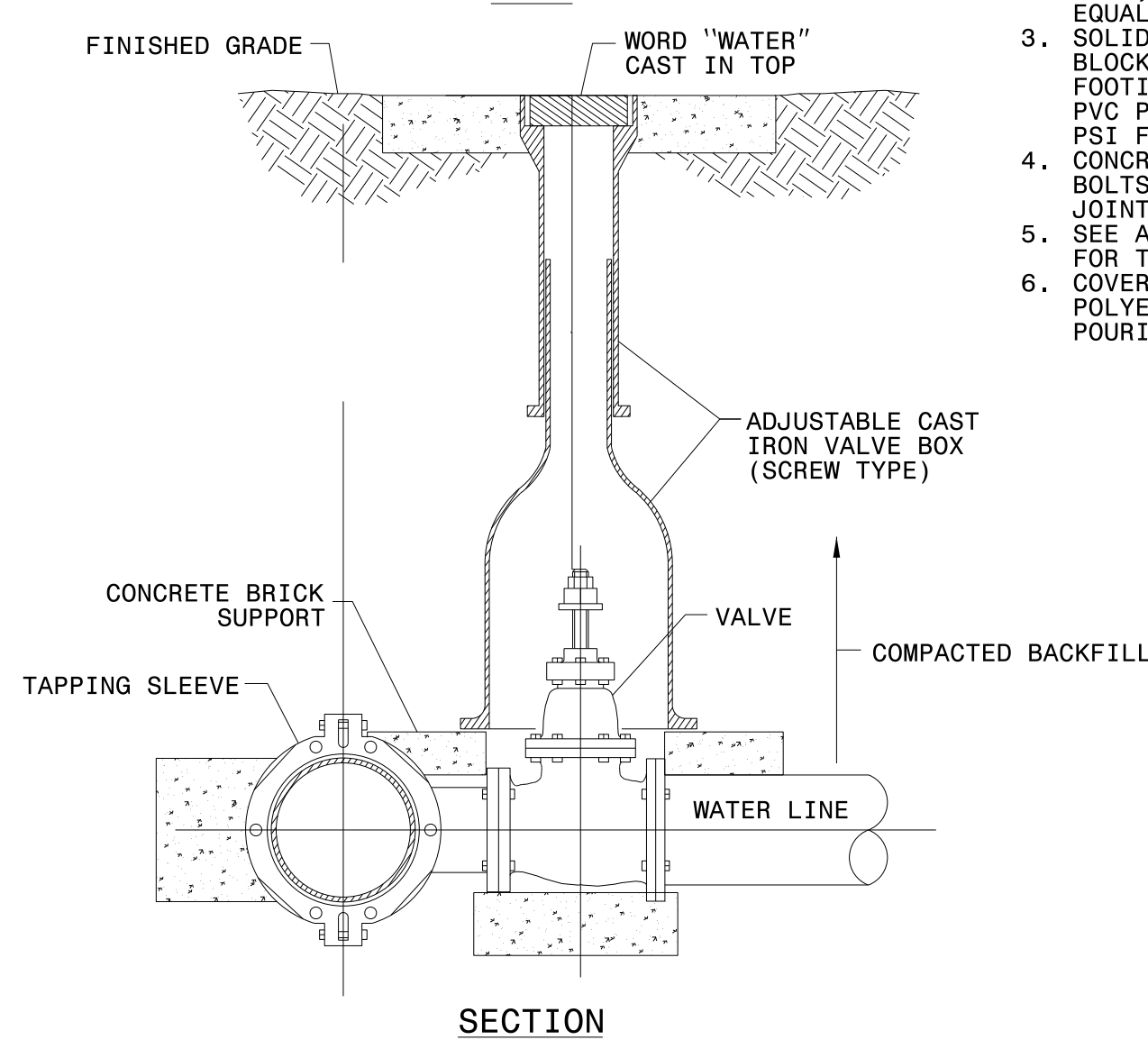
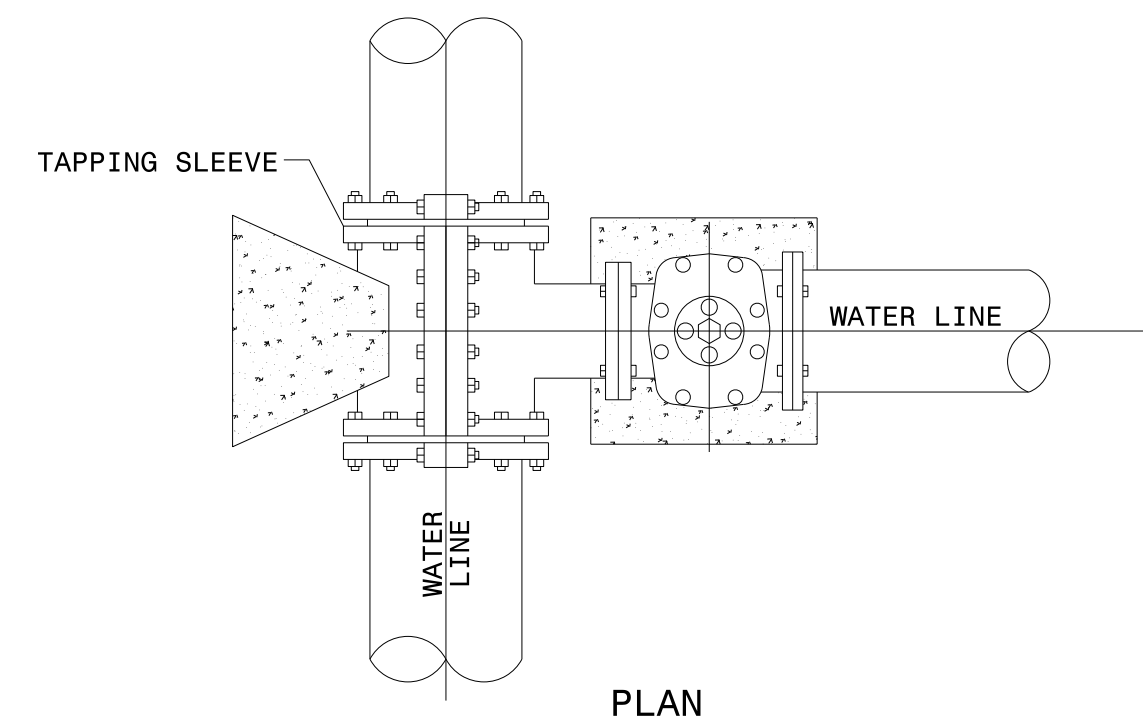
- NOTES:**
1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF THE MECHANICAL JOINT FITTINGS.
 2. REFER TO THRUST BLOCK DETAILS.
 3. 2,500 P.S.I. CLASS B CONCRETE REQUIRED.
 4. ONCE INSTALLED AND TIGHTENED, THE STEEL RODS AND BOLTS SHALL BE COATED WITH TWO (2) COATS OF BITUMINOUS BASE PAINT.

ROD REQUIREMENTS	
BRANCH SIZE	# OF RODS
4"	2 EACH
6"	2 EACH
8"	2 EACH
12"	2 EACH
16"	2 EACH
20"	4 EACH
24"	4 EACH

RESTRAINED TEE AND VALVE FOR BRANCH LINES DETAIL

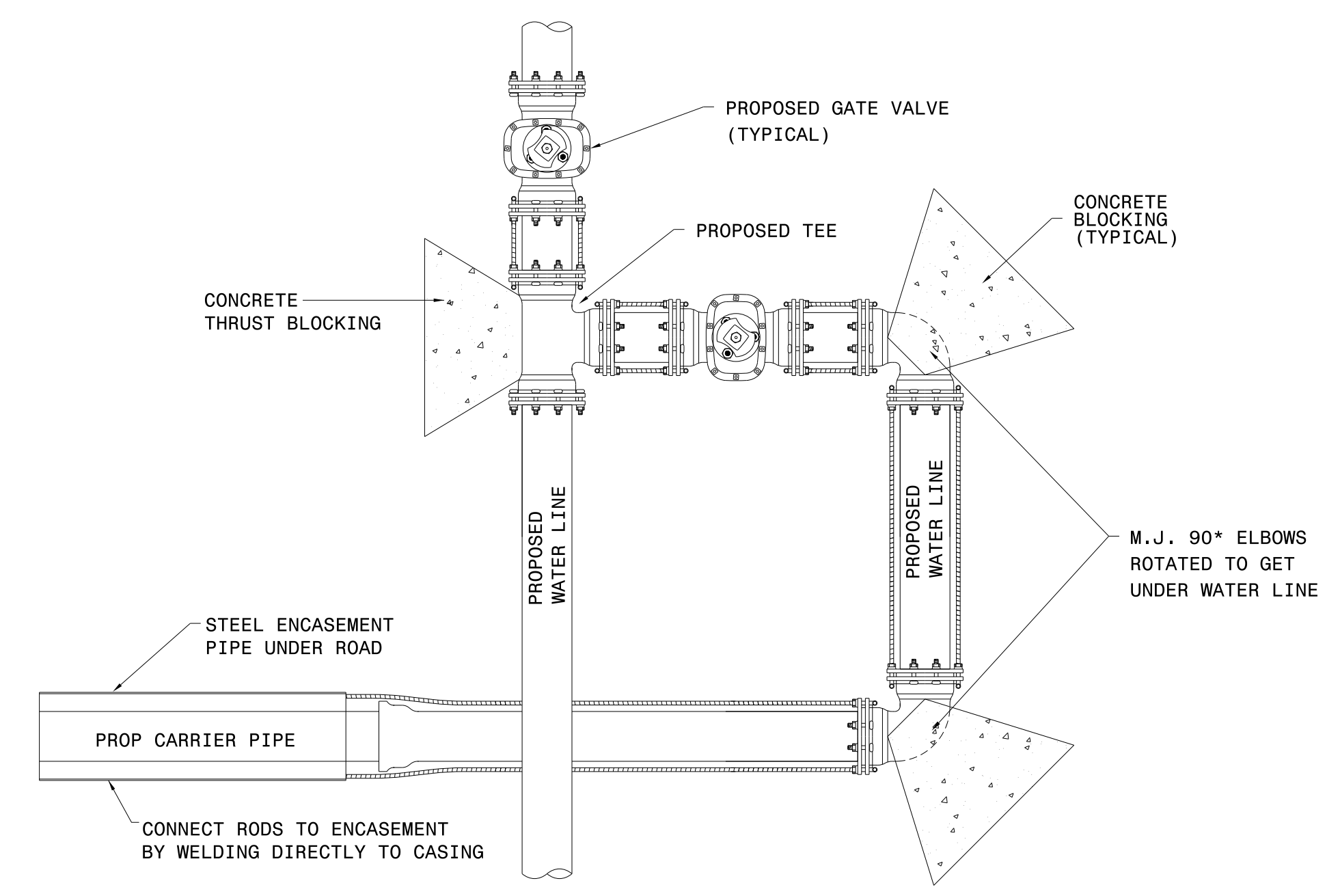


GATE VALVE INSTALLATION



- NOTES:**
1. TAPPING SLEEVE SHALL BE MUELLER, CLOW, AMERICAN OR APPROVED EQUAL.
 2. TAPPING VALVE SHALL BE MUELLER, CLOW, AMERICAN OR APPROVED EQUAL.
 3. SOLID CONCRETE OR BRICK BLOCKING SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE. PVC PIPE SHALL REQUIRE A 3000 PSI FOOTING.
 4. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
 5. SEE APPROPRIATE STANDARD DETAIL FOR THRUST BLOCK DIMENSIONS.
 6. COVER FITTINGS WITH POLYETHYLENE PLASTIC PRIOR TO POURING THRUST BLOCKS

TAPPING SLEEVE AND VALVE WITH BOX INSTALLATION

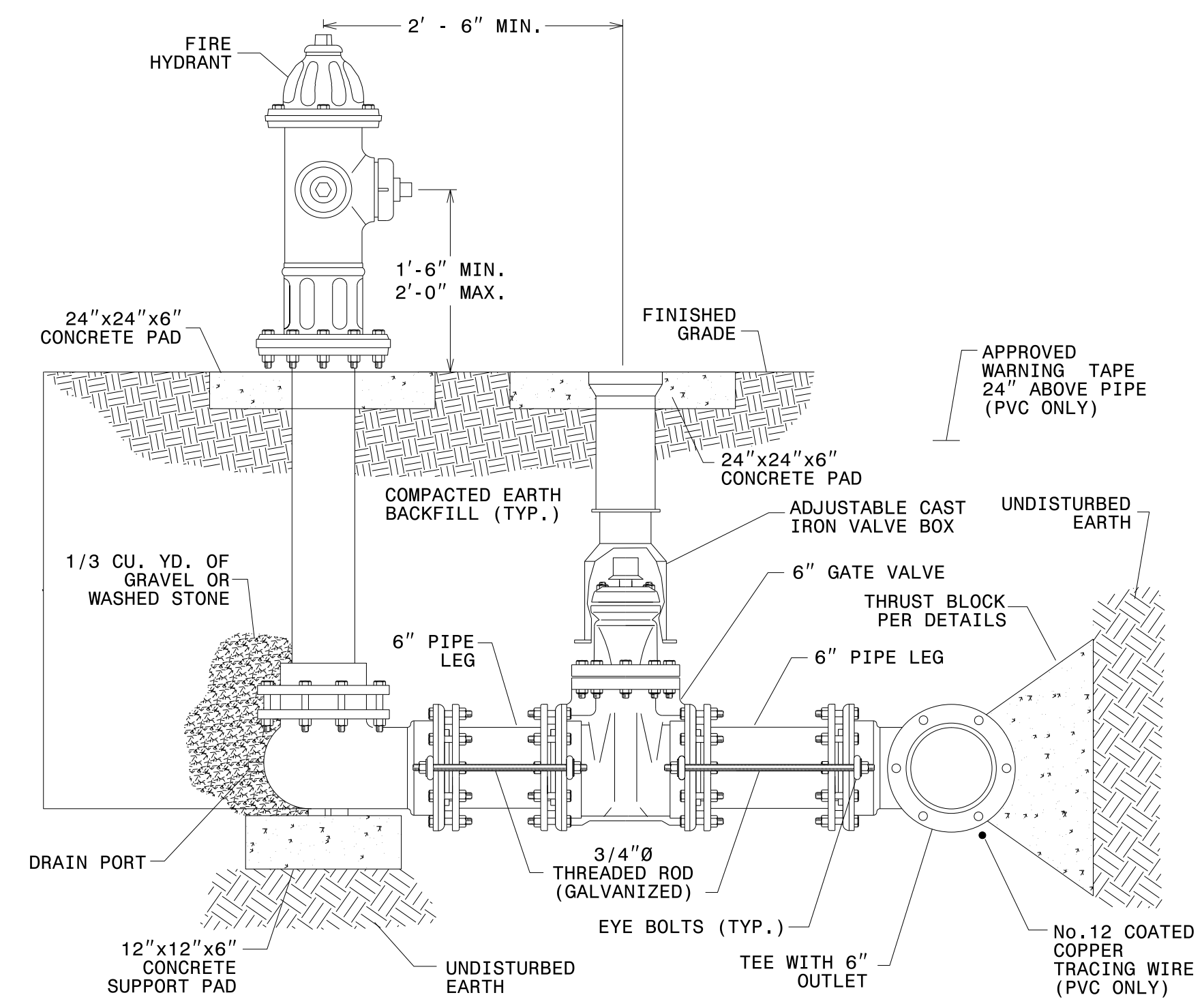


OFFSET BORE AND JACK WITH REVERSE CONNECTION DETAIL

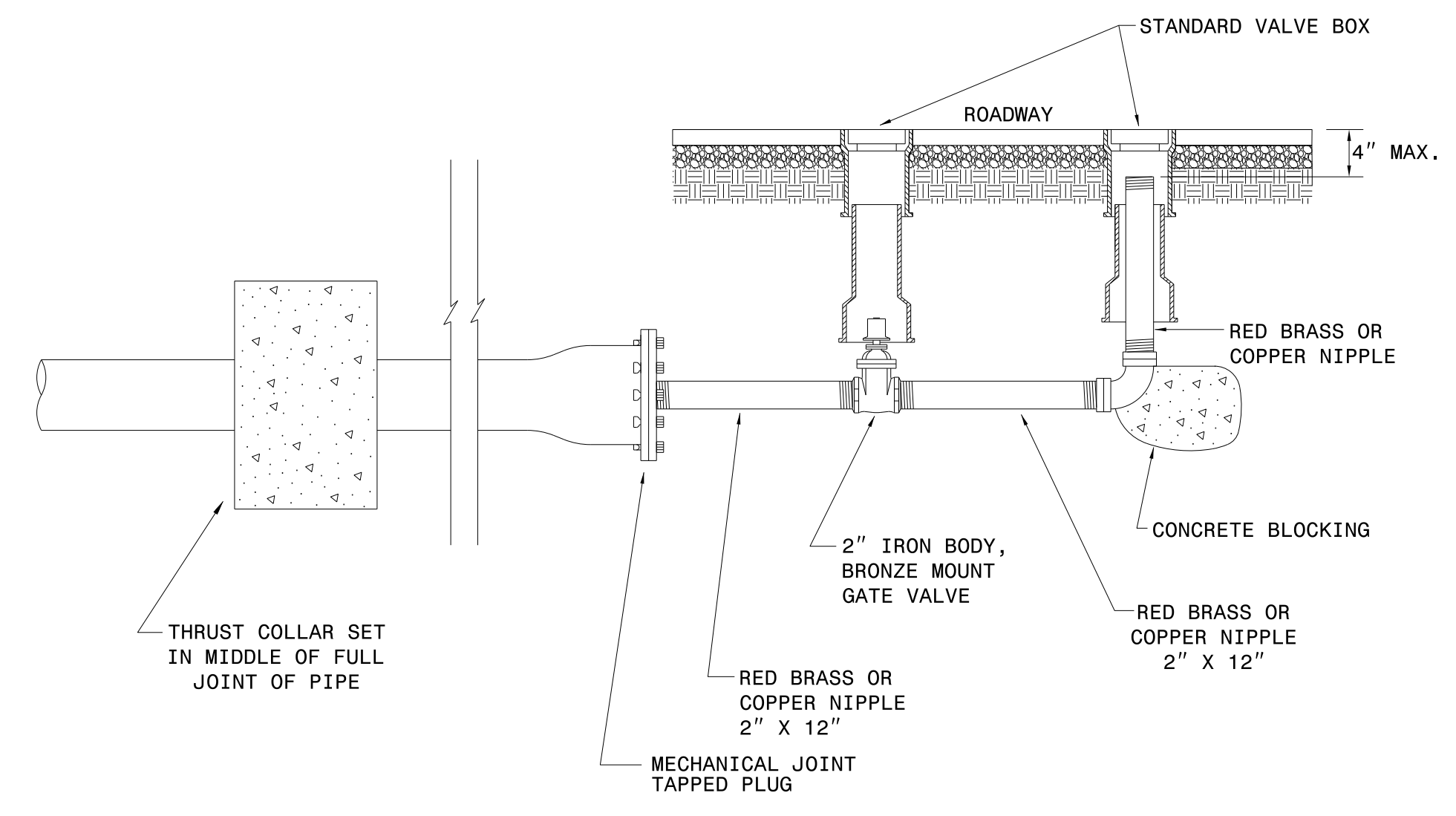
PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-3D
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	8/22/2019
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY
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5/14/2019

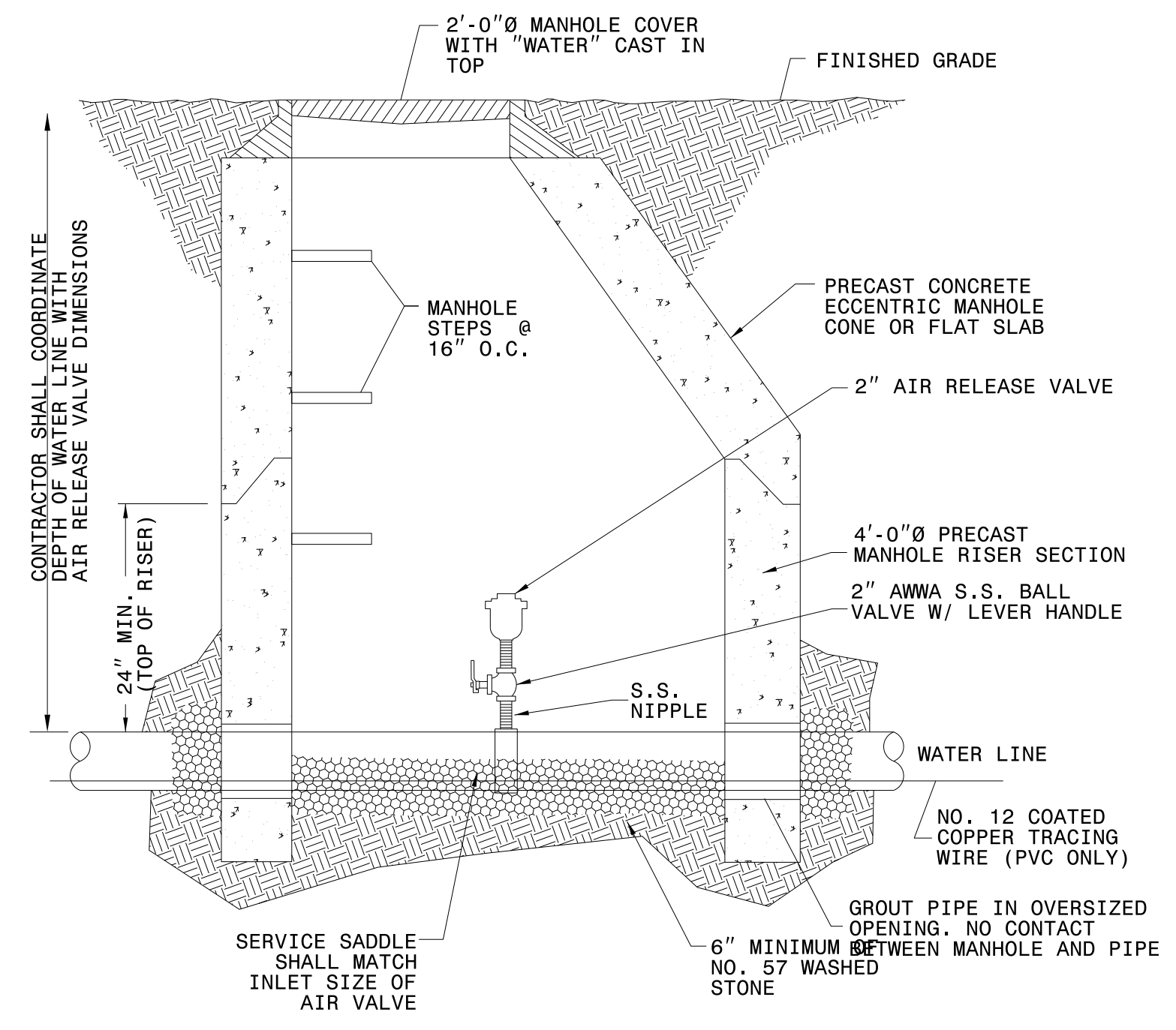
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A-0011C	UC-3E
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
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TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

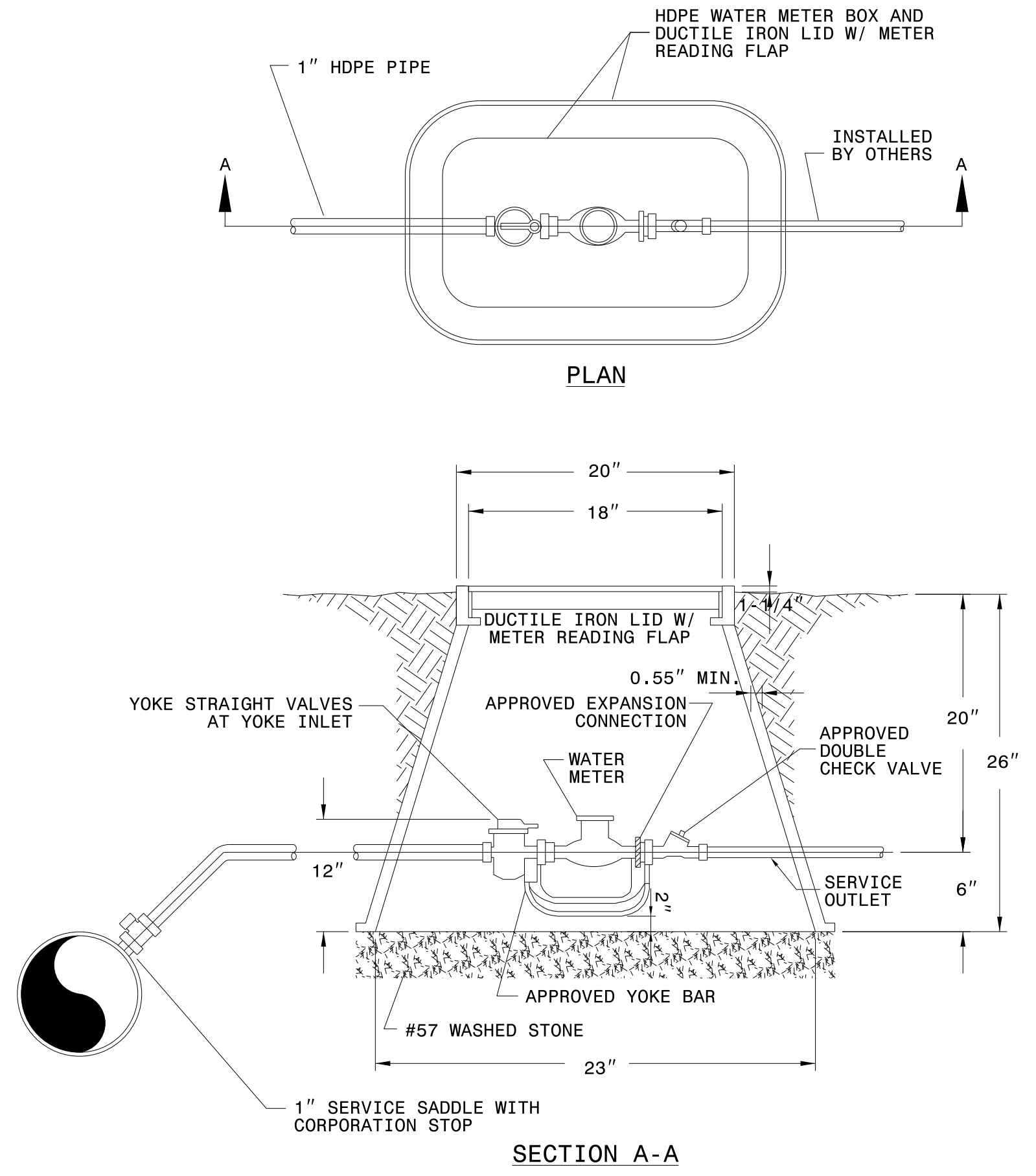


STANDARD 2" BLOW OFF DETAIL

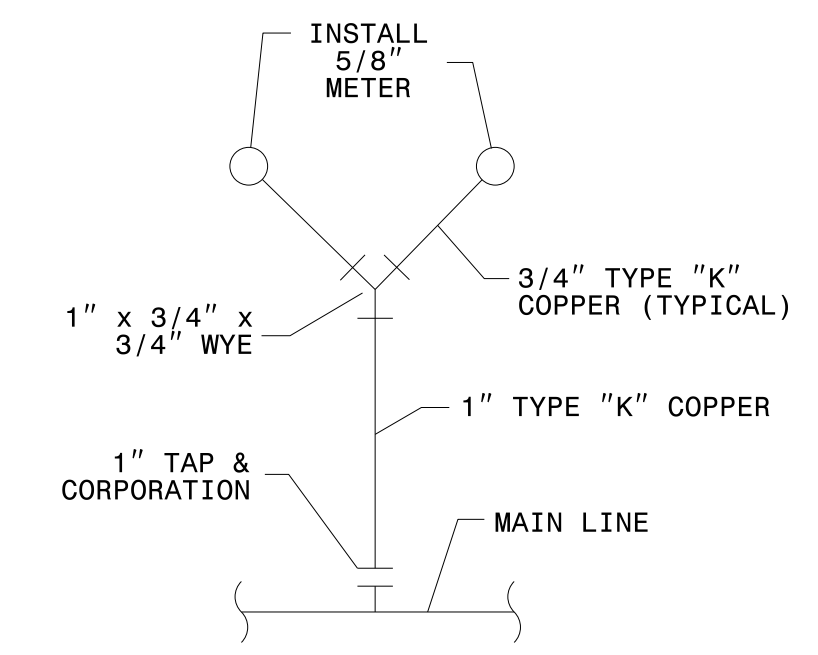


- NOTES:**
- REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS OF WATER LINE AIR RELEASE VALVE.
 - AIR RELEASE VALVE TO BE INSTALLED AT ACTUAL HIGH POINT OF LINE.
 - AIR RELEASE VALVE SHALL BE SET VERTICALLY PLUMB.
 - AIR RELEASE VALVE SHALL BE SET IN THE CENTER OF THE MANHOLE.
 - ALL PIPING FOR COMBINATION AIR VALVE SHALL BE STAINLESS STEEL THREADED NIPPLES, 6" LENGTH.
 - CONTRACTOR SHALL ADJUST THE DEPTH OF THE WATER LINE AT ALL HIGH POINTS TO ACCOMMODATE THE INSTALLATION OF THE AIR RELEASE VALVE.

WATER LINE AIR RELEASE VALVE



5/8" WATER METER BOX DETAIL

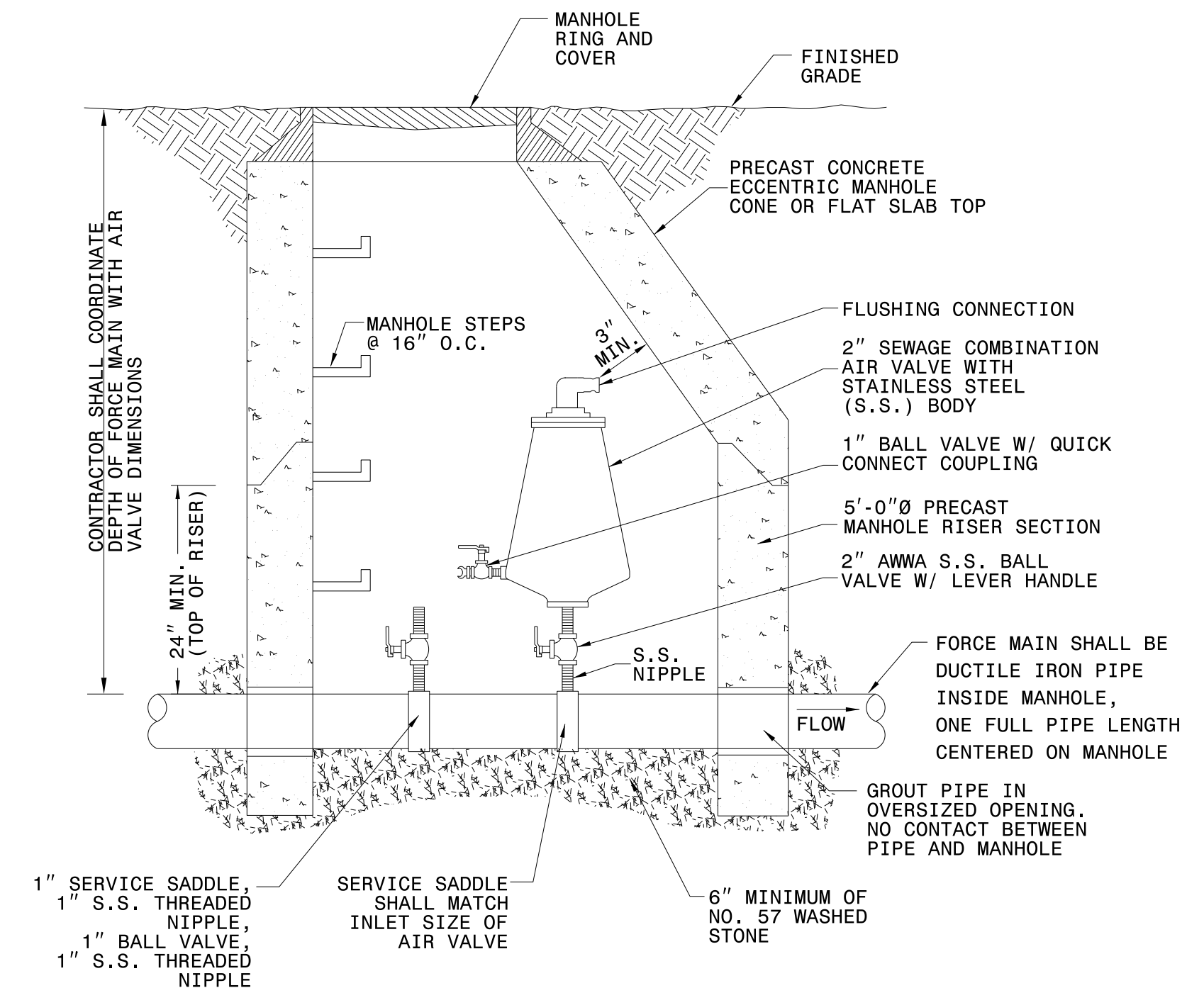
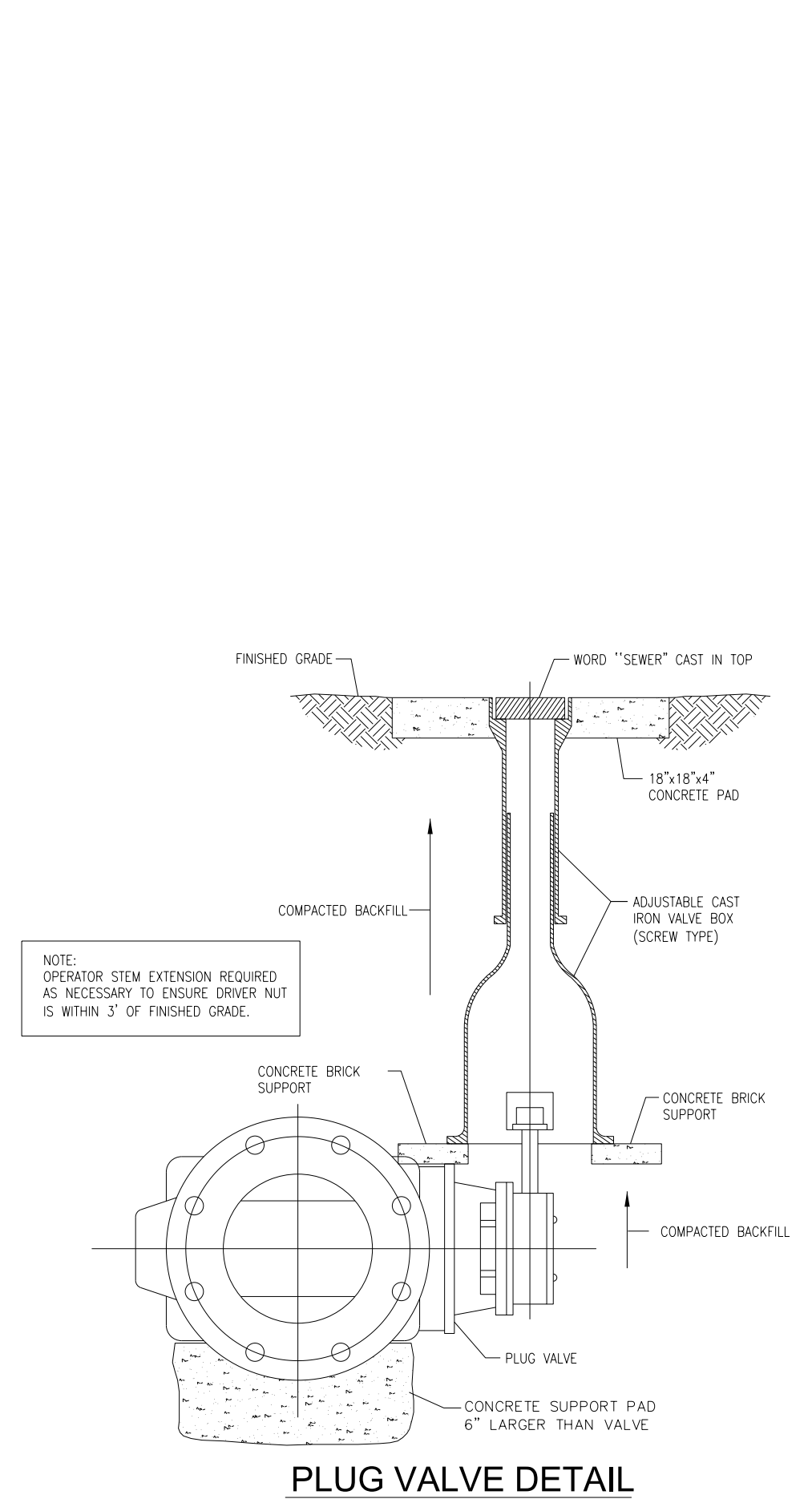


TYPICAL DOUBLE SERVICE CONNECTION

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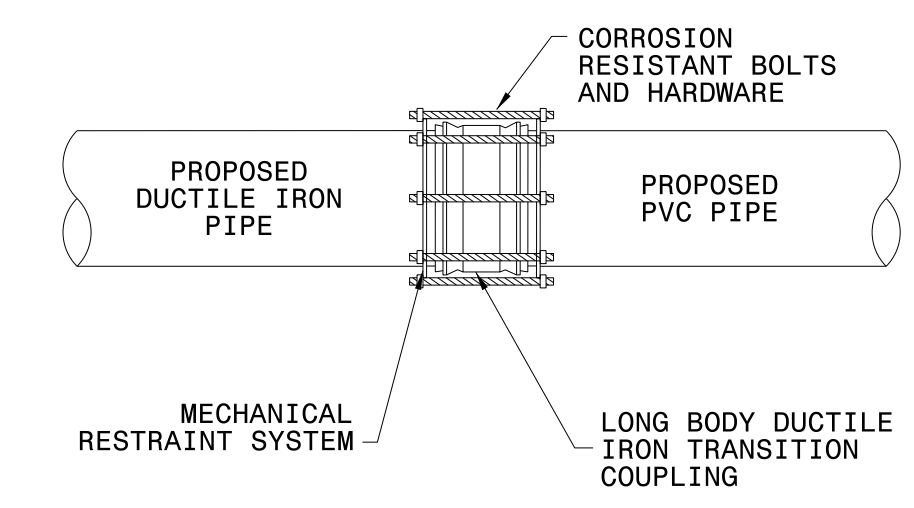
WATER LINE DETAILS

PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-3F
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	8/22/2019
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY
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- NOTES:**
1. REFER TO SPECIAL PROVISIONS FOR REQUIREMENTS OF COMBINATION AIR VALVE.
 2. COMBINATION AIR VALVE TO BE INSTALLED AT ACTUAL HIGH POINT OF LINE.
 3. COMBINATION AIR VALVE SHALL BE OFFSET IN MANHOLE TO PROVIDE ACCESS.
 4. COMBINATION AIR VALVE SHALL BE SET VERTICALLY PLUMB.
 5. ALL PIPING FOR COMBINATION AIR VALVE SHALL BE STAINLESS STEEL THREADED NIPPLES, 6" LENGTH.
 6. CONTRACTOR SHALL ADJUST THE DEPTH OF THE FORCE MAIN AT ALL HIGH POINTS TO ACCOMMODATE THE INSTALLATION OF THE COMBINATION AIR VALVE.

FORCE MAIN SEWER COMBINATION AIR VALVE



- NOTES:**
1. COUPLING SYSTEM SHALL HAVE 200 PSI MINIMUM PRESSURE RATING.
 2. COUPLING SLEEVE INTERNAL SURFACES SHALL BE EPOXY LINED.
 3. RESTRAINT SYSTEM SHALL MEET REQUIREMENTS OF AWWA C219, ANSI/AWWA C111/A21.11 AND ASTM D2000.
 4. RESTRAINT MECHANISM SHALL HAVE TORQUE LIMITING TWIST OFF NUTS TO INSURE PROPER ACTUATING OF RESTRAINT DEVICES.

FORCE MAIN SEWER TRANSITION COUPLING

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SEWER FORCE MAIN DETAILS

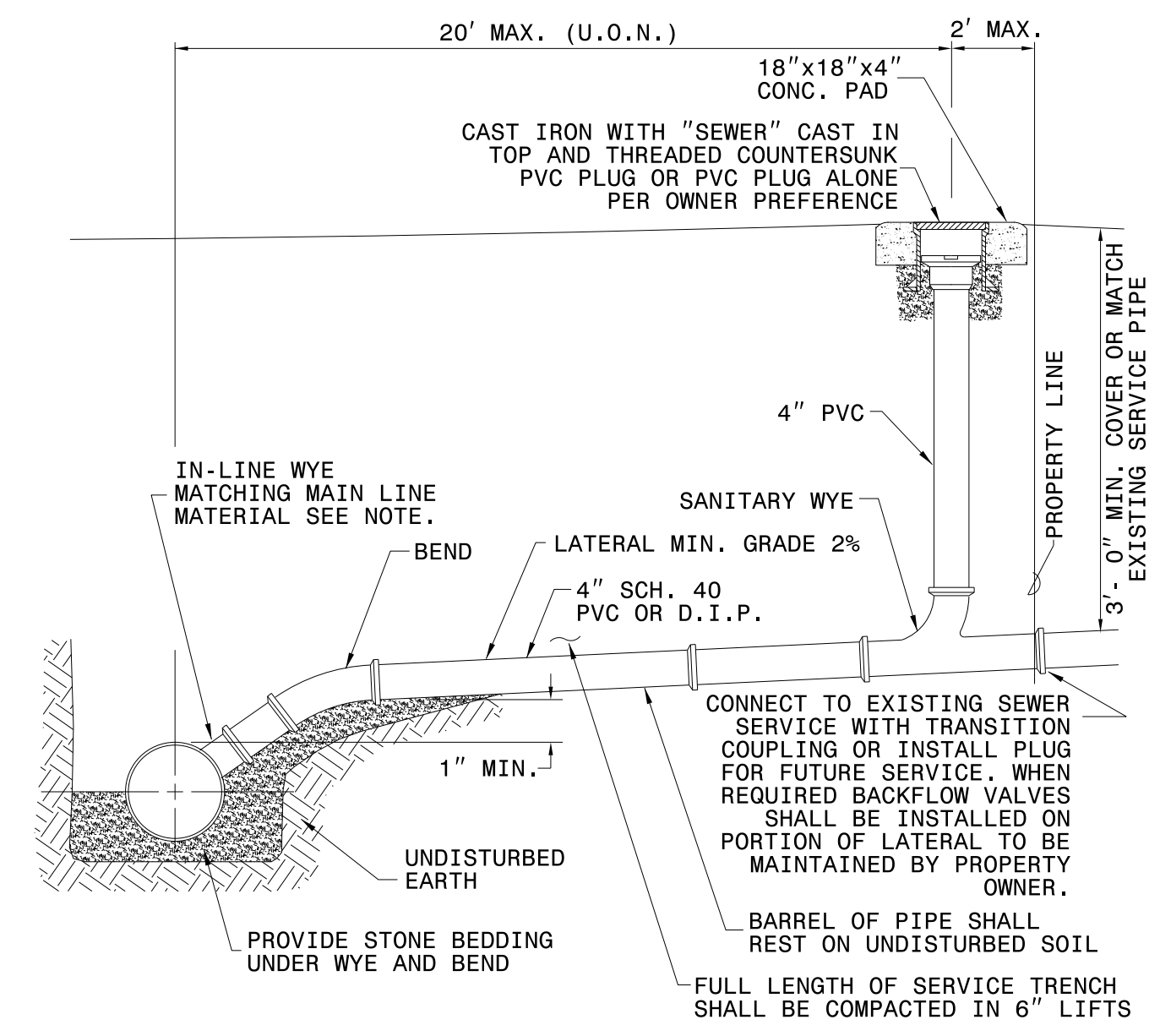
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PROJECT REFERENCE NO.	SHEET NO.
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DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	8/22/2019
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

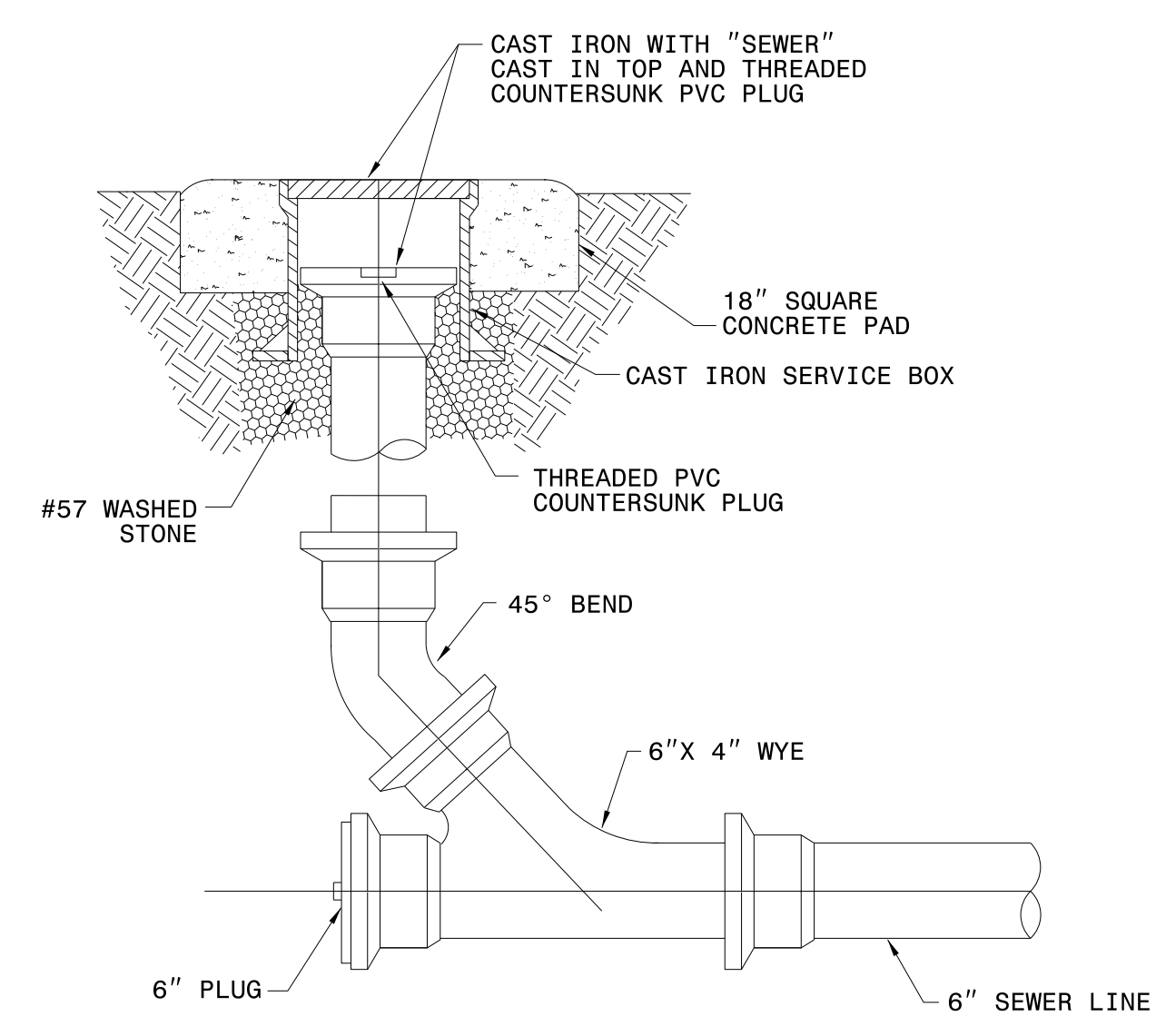
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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 Phone: 919.297.0220 Fax: 919.297.0221



- NOTES:
 1. TAPPING SADDLES ARE APPROVED FOR CONNECTIONS TO EXISTING SEWER LINES ONLY

SANITARY SEWER SERVICE

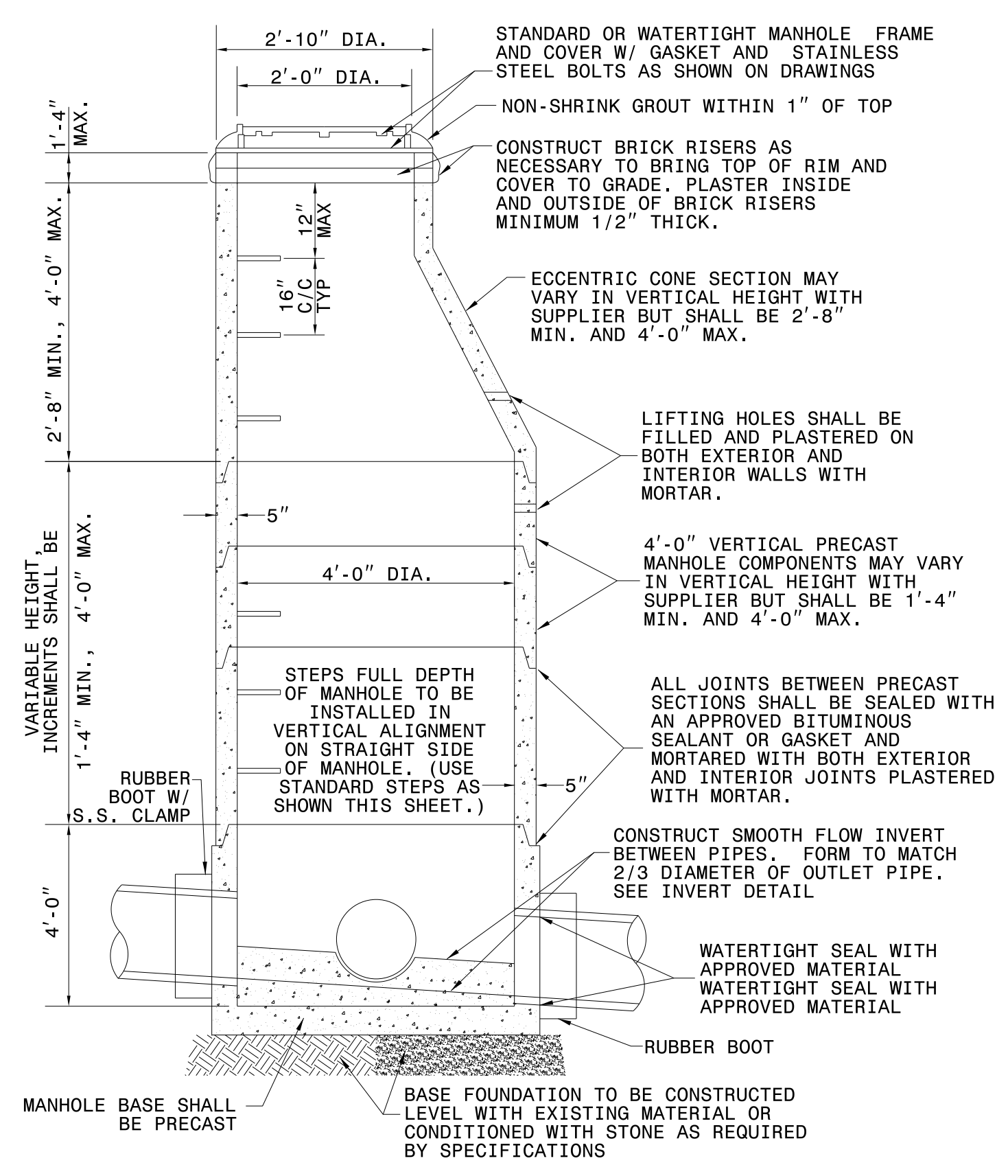


CLEANOUT DETAIL

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GRAVITY SEWER DETAILS

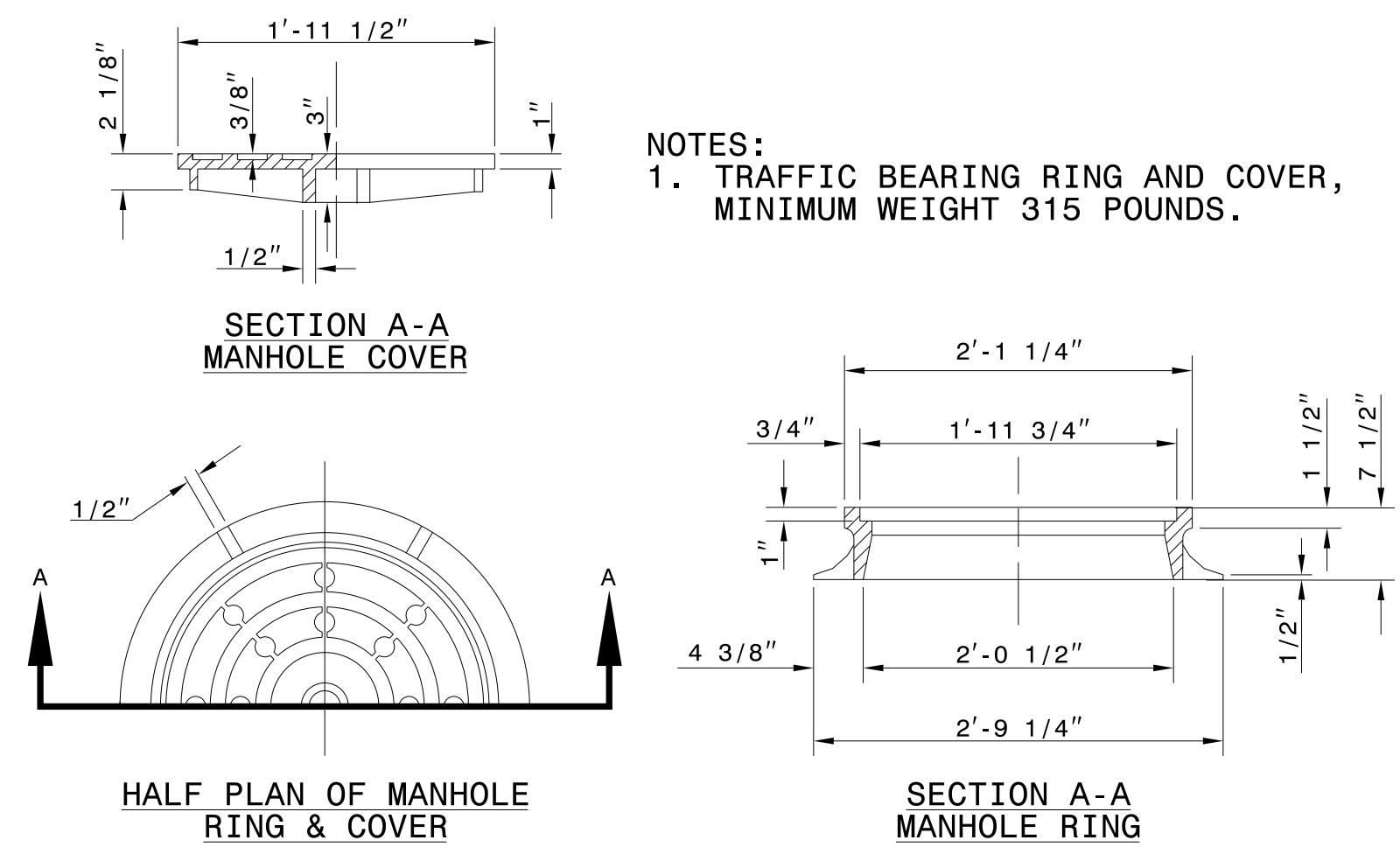
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A-0011C		UC-3H	
DESIGNED BY:	KCZ		
DRAWN BY:	VW		
CHECKED BY:	SHF		
APPROVED BY:	KCZ		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		8/22/2019	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION			
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1505 West Chatham Street, Suite 137, Cary, NC 27511		Phone: 919.297.0220 Fax: 919.297.0221	



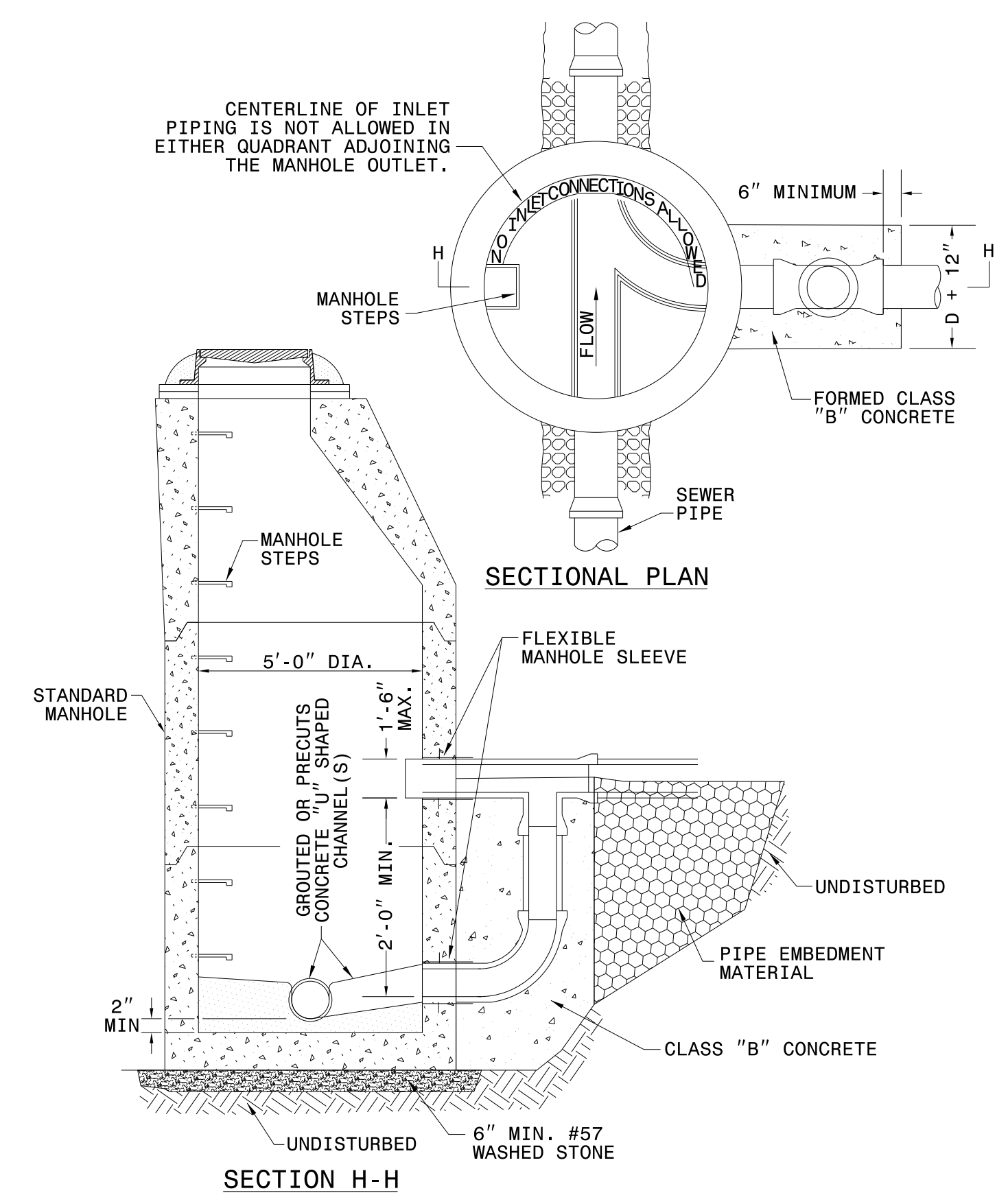
ELEVATION VIEW

- NOTES:
1. ALL PRECAST MANHOLE COMPONENTS SHALL MEET REQUIREMENTS OF ASTM C-478, LATEST REVISION.
 2. ALL MANHOLES SHALL BE CONSTRUCTED PLUMB
 3. ALL MANHOLE GRADES SHOWN ON THE PLANS ARE FOR THE INVERT OF THE MANHOLE CENTER.
 4. IF MANHOLE IS SET IN LOCATION OF HIGH WATER TABLE OR UNDERGROUND WATER IS ENCOUNTERED, THE CONTRACTOR SHALL INSTALL UNDERDRAINS AND STONE AS DIRECTED IN THE FIELD BY THE ENGINEER.
 5. STEPS SHALL BE INSTALLED ON STRAIGHT SIDE OF MANHOLE.

PRECAST CONCRETE MANHOLE



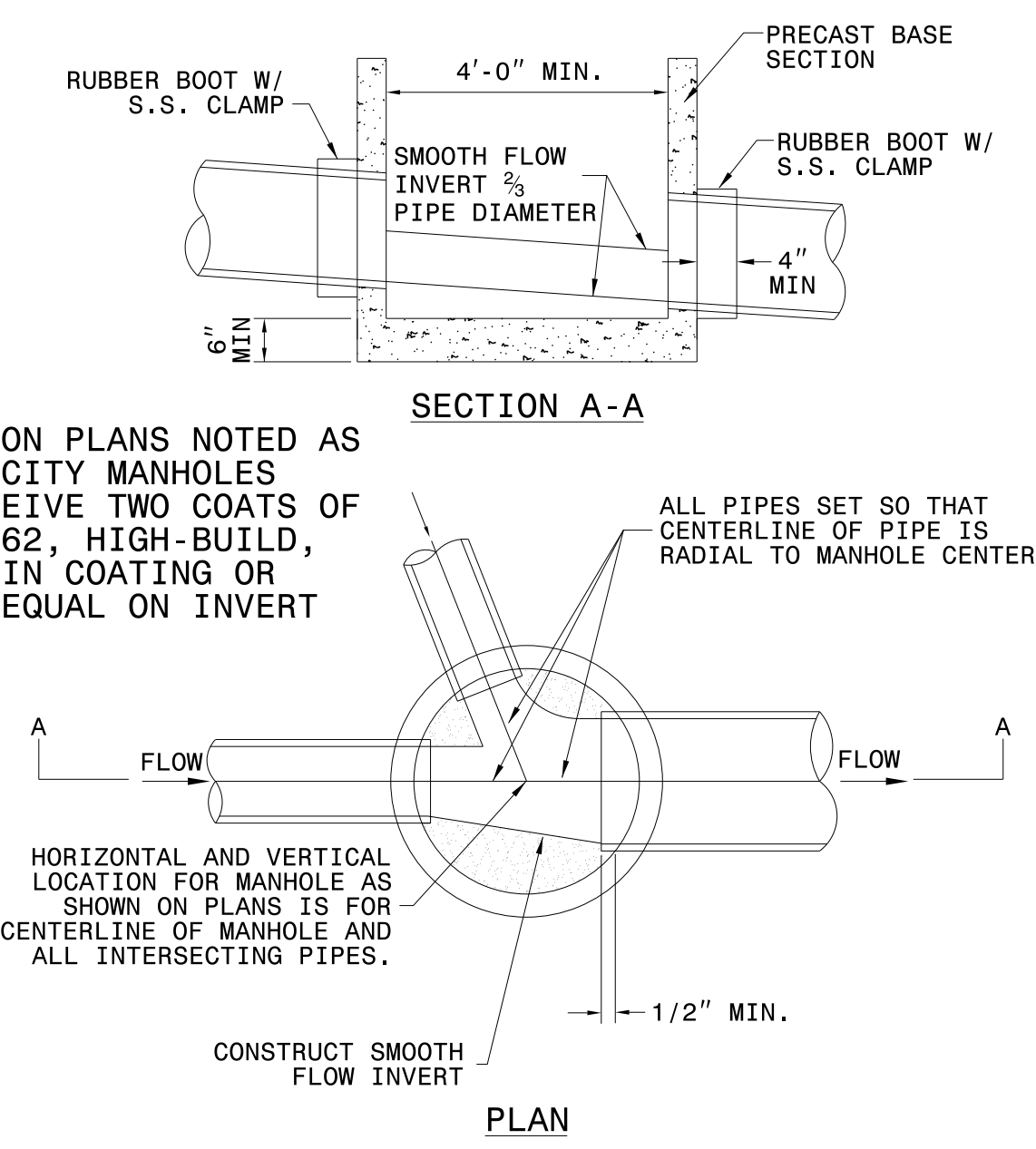
MANHOLE RING & COVER



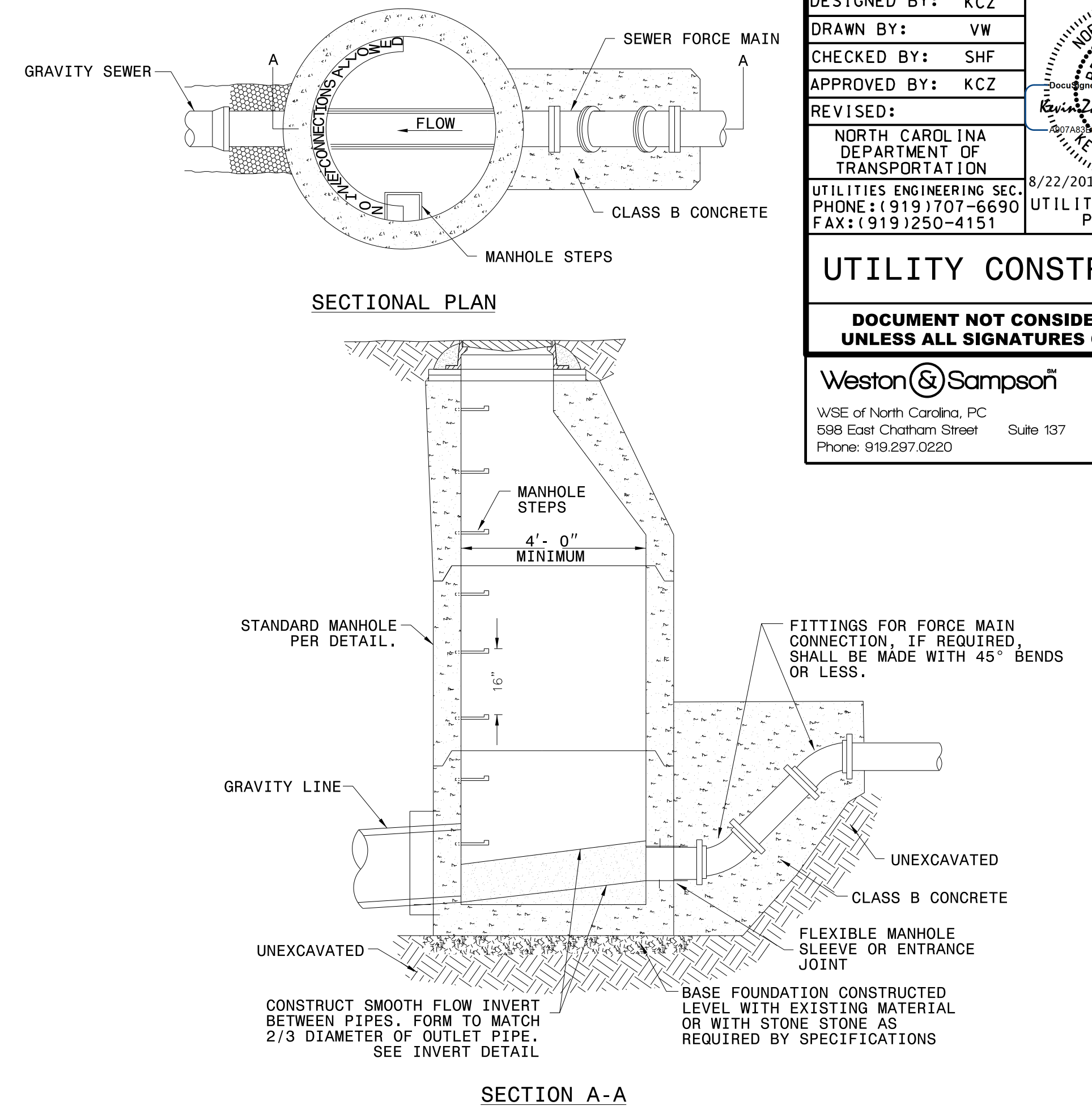
OUTSIDE DROP MANHOLE

- NOTES:
1. DROP CONNECTION IS NOT PERMITTED FOR HIGH VELOCITY SEWER MAINS MAINTAIN MINIMUM OF 8" OF CLEARANCE BETWEEN DROP CONNECTION AND MANHOLE STEPS.
 2. BASE FOUNDATION TO CONSTRUCTED LEVEL WITH EXISTING MATERIAL OR CONDITIONED WITH STONE AS REQUIRED BY SPECIFICATIONS.

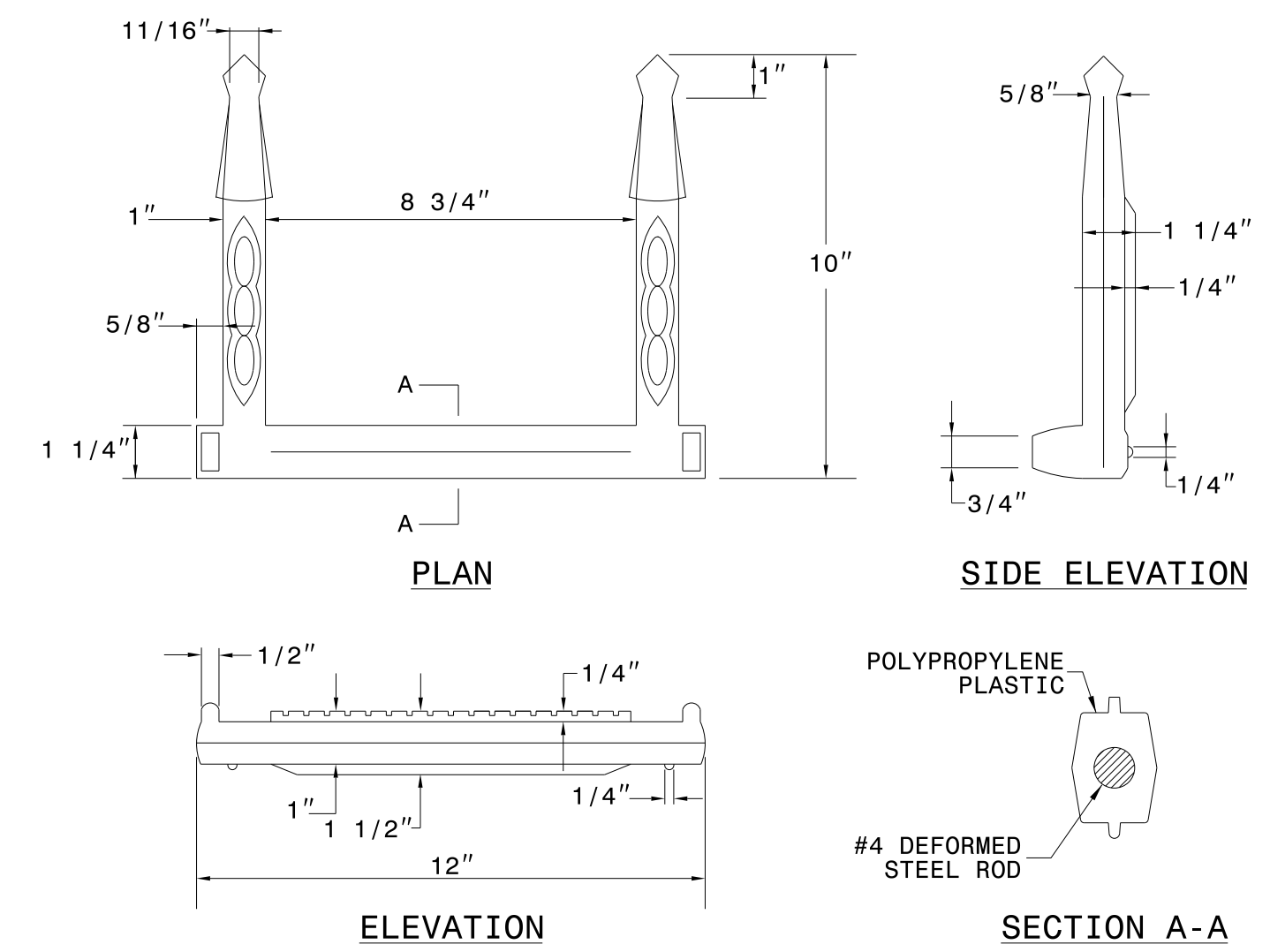
OUTSIDE DROP MANHOLE



MANHOLE INVERTS



FORCE MAIN CONNECTION



MANHOLE STEPS

- NOTES:
1. ALL STEPS SHALL PROTRUDE A MINIMUM OF 5" AND A MAXIMUM OF 7" FROM INSIDE FACE OF STRUCTURE WALL.
 2. STEPS DIFFERING IN DIMENSIONS, CONFIGURATION, OR MATERIALS FROM THOSE SHOWN MAY ALSO BE USED PROVIDED THE CONTRACTOR HAS FURNISHED THE ENGINEER WITH DETAILS OF THE PROPOSED STEPS AND HAS RECEIVED PRIOR WRITTEN APPROVAL FROM THE ENGINEER FOR THE USE OF SAID STEPS.

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THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 975 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 500 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

NOTES:
1. PROPOSED DOWN AND UNDER RELOCATION OF FORCE MAIN SEWER IN THE SAME HORIZONTAL LOCATION. REFER TO DETAIL ON SHEET UC-3C.

UTILITY OWNERS ON THIS SHEET:
CLAY COUNTY
UTILITY: 12" WATER LINE
4" FORCE MAIN
CONTACT: DAKOTA INGRAM
PHONE: 828-389-1361

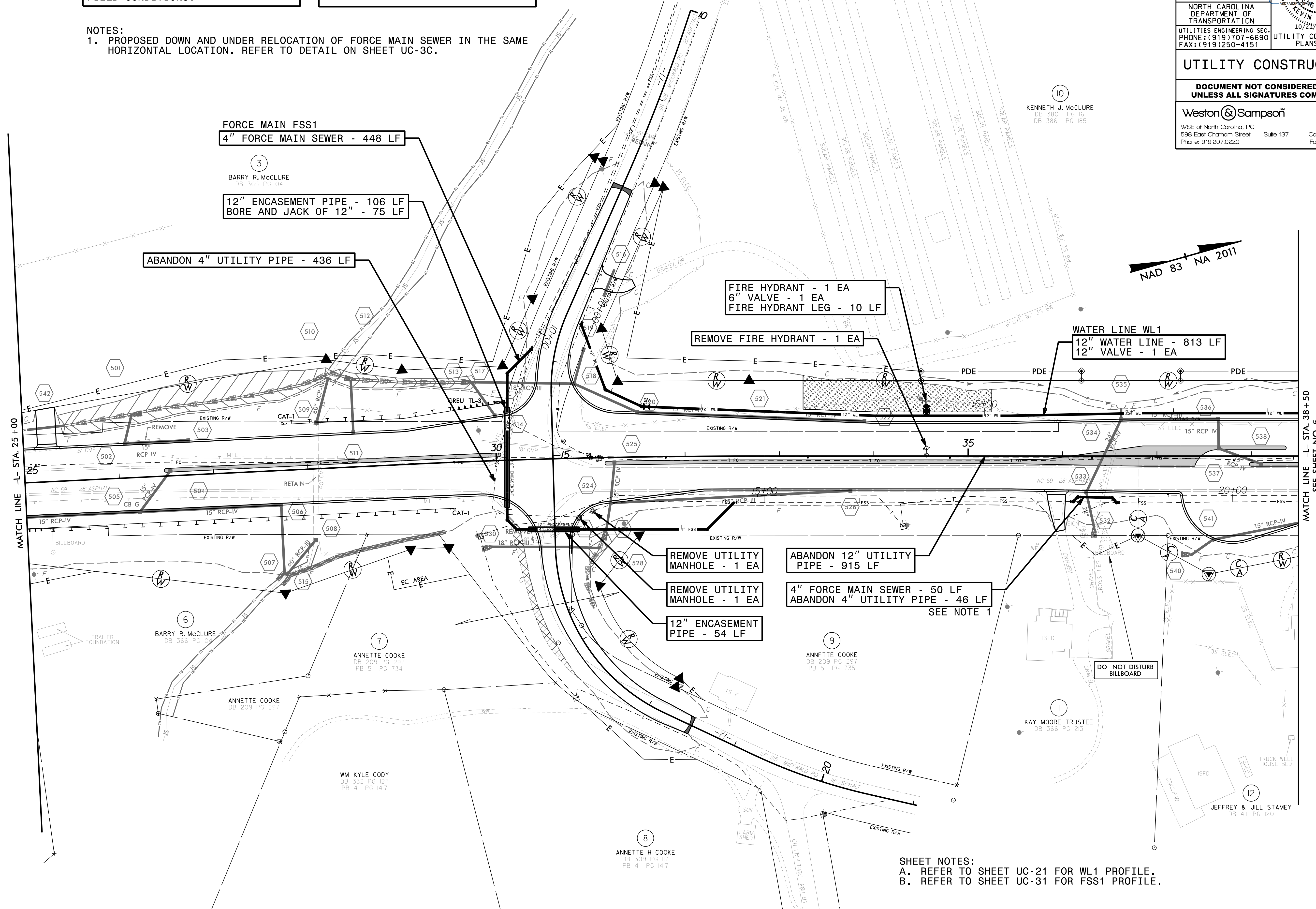
PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-4
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

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 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221

NC License: C-4647



SHEET NOTES:
A. REFER TO SHEET UC-21 FOR WL1 PROFILE.
B. REFER TO SHEET UC-31 FOR FSS1 PROFILE.

5/14/2019

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 325 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 345 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SHEET NOTES:
A. REFER TO SHEET UC-21 FOR WL1 PROFILE.
B. REFER TO SHEET UC-31 FOR FSS1 PROFILE.

UTILITY OWNERS ON THIS SHEET:
CLAY COUNTY
UTILITY: 12" WATER
4" FORCE MAIN
CONTACT: DAKOTA INGRAM
PHONE: 828-389-1361

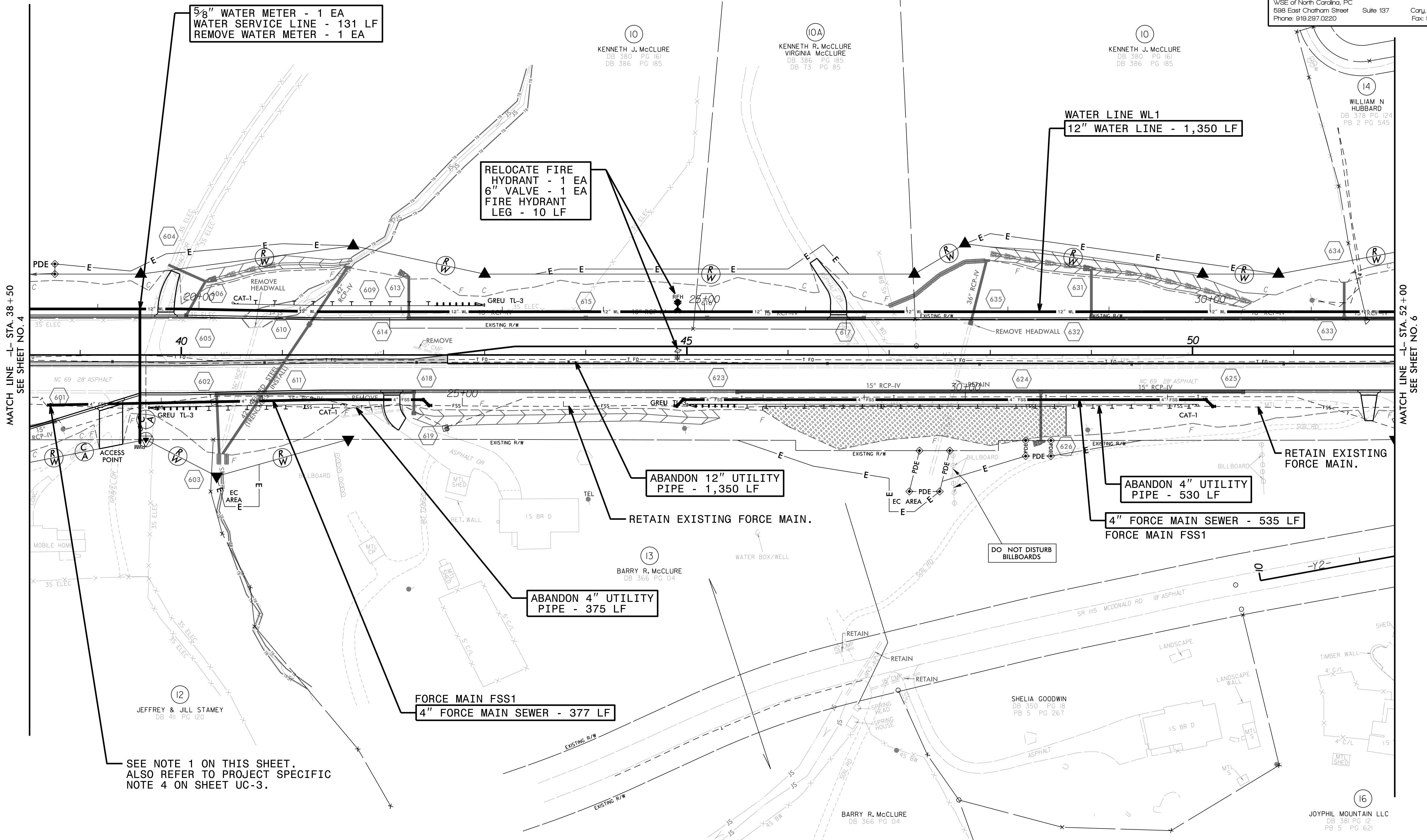
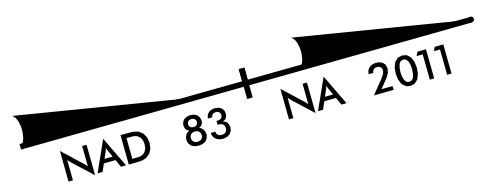
PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-5
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
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UTILITY CONSTRUCTION

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WSE of North Carolina, PC
598 East Chatham Street Suite 137 Cary, NC 27511
Phone: 919.297.0220 License: C-4647 Fax: 919.297.0221

NOTES:
1. EXISTING PVC FORCE MAIN SHALL BE ADJUSTED AS NEEDED TO MAKE TIE-IN WITH NEW PIPE.



5/8" WATER METER - 1 EA
WATER SERVICE LINE - 131 LF
REMOVE WATER METER - 1 EA

RELOCATE FIRE HYDRANT - 1 EA
6" VALVE - 1 EA
FIRE HYDRANT LEG - 10 LF

WATER LINE WL1
12" WATER LINE - 1,350 LF

ABANDON 12" UTILITY PIPE - 1,350 LF

ABANDON 4" UTILITY PIPE - 530 LF

4" FORCE MAIN SEWER - 535 LF
FORCE MAIN FSS1

ABANDON 4" UTILITY PIPE - 375 LF

FORCE MAIN FSS1
4" FORCE MAIN SEWER - 377 LF

MATCH LINE -L- STA. 38+50
SEE SHEET NO. 4

MATCH LINE -L- STA. 52+00
SEE SHEET NO. 6

SEE NOTE 1 ON THIS SHEET.
ALSO REFER TO PROJECT SPECIFIC
NOTE 4 ON SHEET UC-3.

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JOYPHIL MOUNTAIN LLC
DB 381 PG 12
PB 5 PG 621

5/14/09

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 960 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

- NOTES:
1. PROPOSED REVERSE TAP, REFER TO DETAIL ON SHEET UC-3D
 2. EXISTING SSMH TO REMAIN. ADJUST RIM TO FINAL GRADE. REMOVE EXISTING UPSTREAM / DOWNSTREAM INVERTS WHERE APPLICABLE. RECONSTRUCT COVING INSIDE SSMH FOR NEW PIPE ALIGNMENT.
 3. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.
 4. CONTRACTOR SHALL TIE-IN NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A REPAIR COUPLING AT THE EXISTING/MPROPOSED R/W LINE OR WITHIN PUE OR TCE.

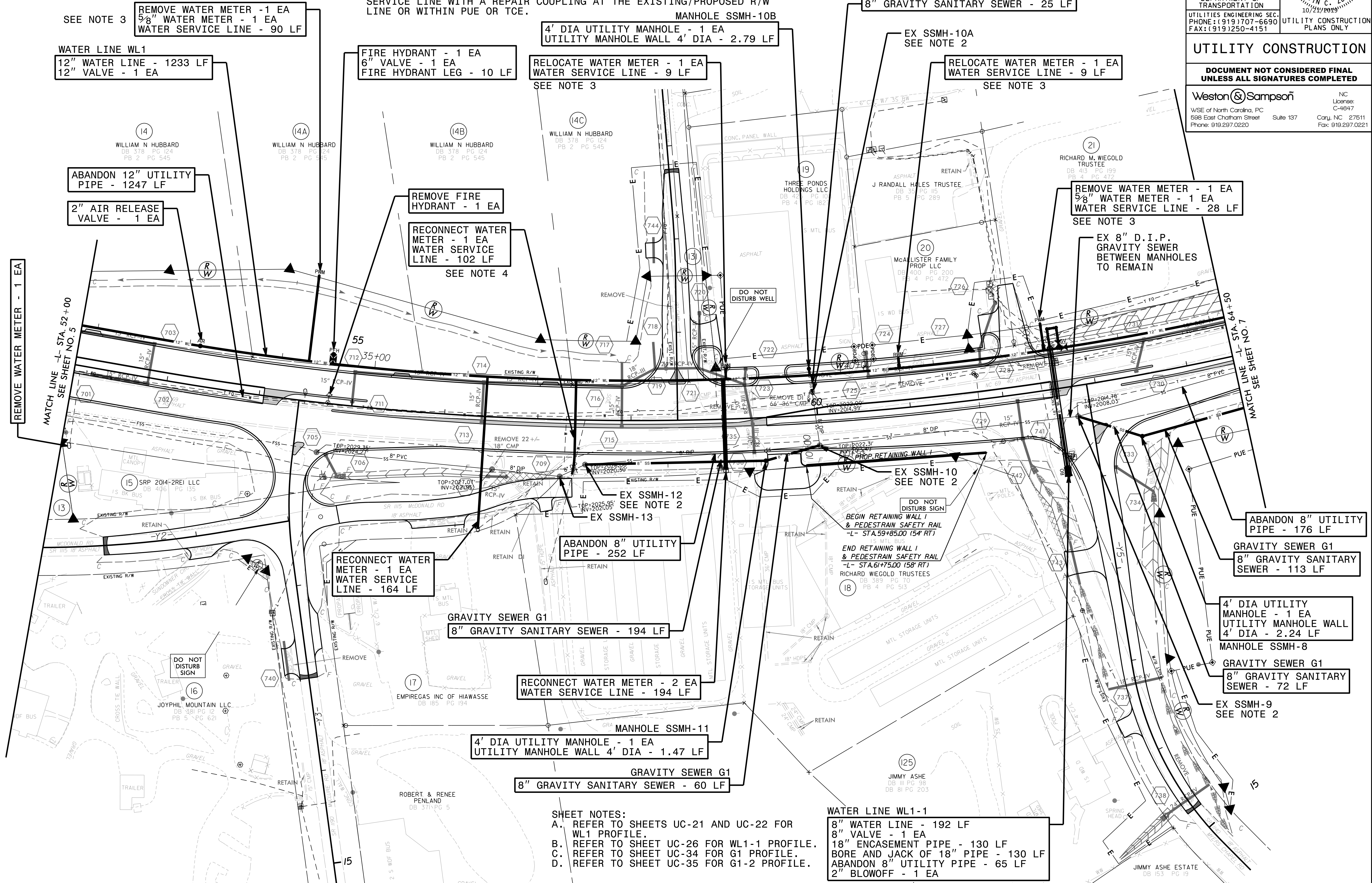
UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 8", 10" WATER
 4" FORCE MAIN
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361

PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-6
DESIGNED BY: KCZ	
DRAWN BY: VM	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Weston Sampson
 NC License: C-4647
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221



REMOVE WATER METER - 1 EA

WATER LINE WL1
12" WATER LINE - 1233 LF
12" VALVE - 1 EA

ABANDON 12" UTILITY PIPE - 1247 LF

2" AIR RELEASE VALVE - 1 EA

REMOVE WATER METER - 1 EA
5/8" WATER METER - 1 EA
WATER SERVICE LINE - 90 LF

FIRE HYDRANT - 1 EA
6" VALVE - 1 EA
FIRE HYDRANT LEG - 10 LF

REMOVE FIRE HYDRANT - 1 EA

RECONNECT WATER METER - 1 EA
WATER SERVICE LINE - 102 LF
SEE NOTE 4

MANHOLE SSMH-10B
4' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIA - 2.79 LF

RELOCATE WATER METER - 1 EA
WATER SERVICE LINE - 9 LF
SEE NOTE 3

GRAVITY SEWER G1-2
8" GRAVITY SANITARY SEWER - 25 LF

EX SSMH-10A
SEE NOTE 2

RELOCATE WATER METER - 1 EA
WATER SERVICE LINE - 9 LF
SEE NOTE 3

REMOVE WATER METER - 1 EA
5/8" WATER METER - 1 EA
WATER SERVICE LINE - 28 LF
SEE NOTE 3

EX 8" D.I.P. GRAVITY SEWER BETWEEN MANHOLES TO REMAIN

MATCH LINE - STA. 52+00
SEE SHEET NO. 5

MATCH LINE - STA. 64+50
SEE SHEET NO. 7

Engineer: \JOBS\0659\093\A0011C\Utilities\Engineer.rtg\UC\Pro\A0011C_ut_rdy07_UC06_psh.dgn

- SHEET NOTES:
- A. REFER TO SHEETS UC-21 AND UC-22 FOR WL1 PROFILE.
 - B. REFER TO SHEET UC-26 FOR WL1-1 PROFILE.
 - C. REFER TO SHEET UC-34 FOR G1 PROFILE.
 - D. REFER TO SHEET UC-35 FOR G1-2 PROFILE.

WATER LINE WL1-1
 8" WATER LINE - 192 LF
 8" VALVE - 1 EA
 18" ENCASMENT PIPE - 130 LF
 BORE AND JACK OF 18" PIPE - 130 LF
 ABANDON 8" UTILITY PIPE - 65 LF
 2" BLOWOFF - 1 EA

GRAVITY SEWER G1
8" GRAVITY SANITARY SEWER - 194 LF

RECONNECT WATER METER - 2 EA
WATER SERVICE LINE - 194 LF

MANHOLE SSMH-11
4' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIA - 1.47 LF

GRAVITY SEWER G1
8" GRAVITY SANITARY SEWER - 60 LF

ABANDON 8" UTILITY PIPE - 176 LF

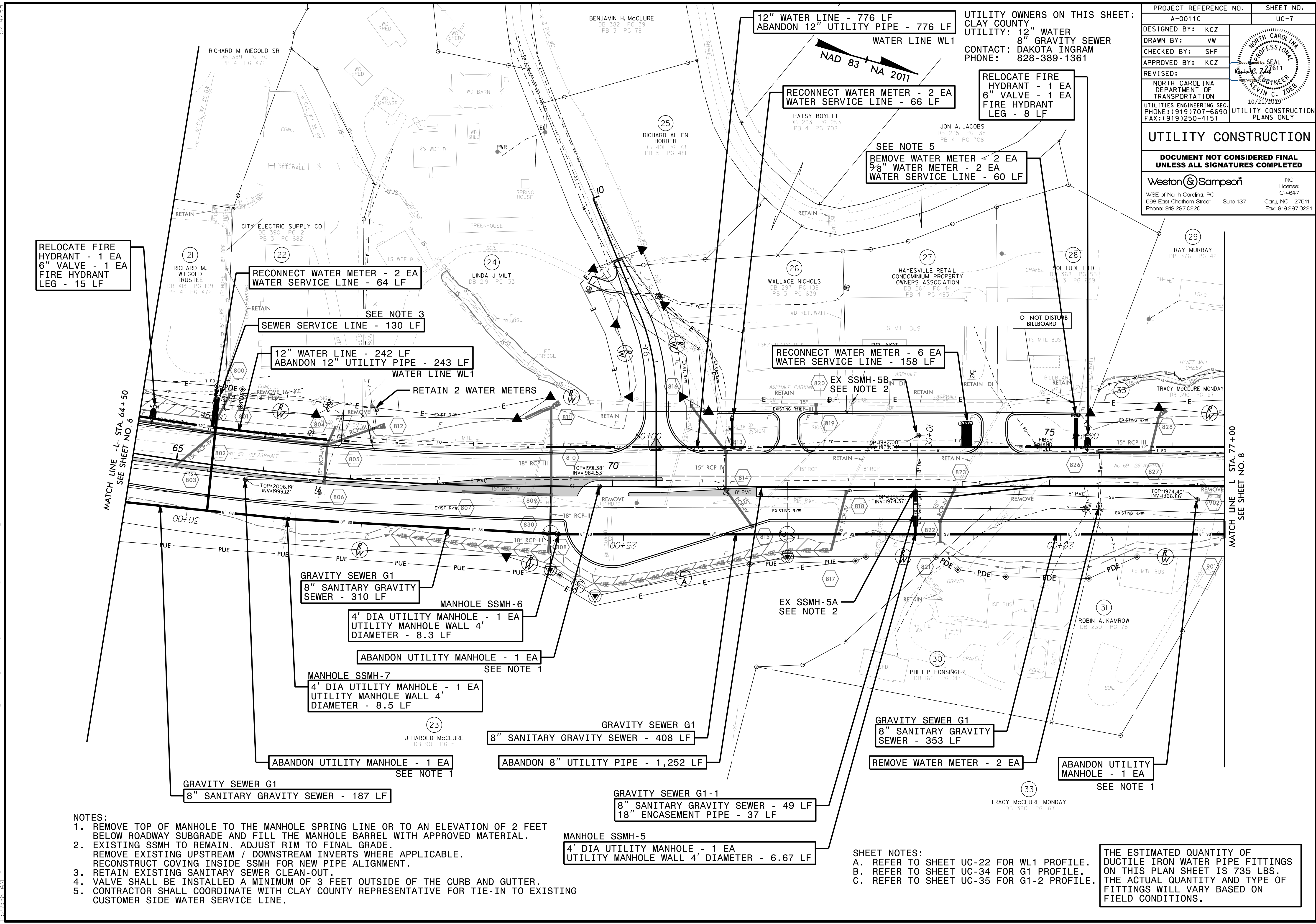
GRAVITY SEWER G1
8" GRAVITY SANITARY SEWER - 113 LF

4' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIA - 2.24 LF
MANHOLE SSMH-8

GRAVITY SEWER G1
8" GRAVITY SANITARY SEWER - 72 LF
EX SSMH-9
SEE NOTE 2

5/14/2019

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RELOCATE FIRE HYDRANT - 1 EA
6" VALVE - 1 EA
FIRE HYDRANT LEG - 15 LF

RECONNECT WATER METER - 2 EA
WATER SERVICE LINE - 64 LF

SEE NOTE 3
SEWER SERVICE LINE - 130 LF

12" WATER LINE - 242 LF
ABANDON 12" UTILITY PIPE - 243 LF
WATER LINE WL1

RETAIN 2 WATER METERS

RECONNECT WATER METER - 6 EA
WATER SERVICE LINE - 158 LF

EX SSMH-5B
SEE NOTE 2

EX SSMH-5A
SEE NOTE 2

GRAVITY SEWER G1
8" SANITARY GRAVITY SEWER - 310 LF

MANHOLE SSMH-6
4' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIAMETER - 8.3 LF

ABANDON UTILITY MANHOLE - 1 EA
SEE NOTE 1

MANHOLE SSMH-7
4' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIAMETER - 8.5 LF

GRAVITY SEWER G1
8" SANITARY GRAVITY SEWER - 408 LF

ABANDON 8" UTILITY PIPE - 1,252 LF

GRAVITY SEWER G1
8" SANITARY GRAVITY SEWER - 353 LF

REMOVE WATER METER - 2 EA

ABANDON UTILITY MANHOLE - 1 EA
SEE NOTE 1

GRAVITY SEWER G1
8" SANITARY GRAVITY SEWER - 187 LF

GRAVITY SEWER G1-1
8" SANITARY GRAVITY SEWER - 49 LF
18" ENCASEMENT PIPE - 37 LF

MANHOLE SSMH-5
4' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIAMETER - 6.67 LF

NOTES:

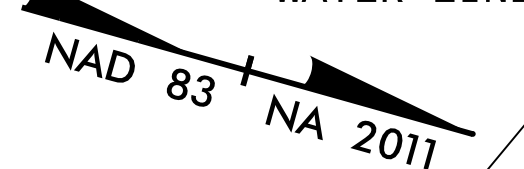
1. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
2. EXISTING SSMH TO REMAIN. ADJUST RIM TO FINAL GRADE. REMOVE EXISTING UPSTREAM / DOWNSTREAM INVERTS WHERE APPLICABLE. RECONSTRUCT COVING INSIDE SSMH FOR NEW PIPE ALIGNMENT.
3. RETAIN EXISTING SANITARY SEWER CLEAN-OUT.
4. VALVE SHALL BE INSTALLED A MINIMUM OF 3 FEET OUTSIDE OF THE CURB AND GUTTER.
5. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.

SHEET NOTES:

- A. REFER TO SHEET UC-22 FOR WL1 PROFILE.
- B. REFER TO SHEET UC-34 FOR G1 PROFILE.
- C. REFER TO SHEET UC-35 FOR G1-2 PROFILE.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 735 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

12" WATER LINE - 776 LF
ABANDON 12" UTILITY PIPE - 776 LF
WATER LINE WL1



RECONNECT WATER METER - 2 EA
WATER SERVICE LINE - 66 LF

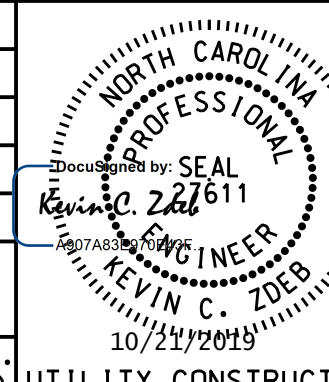
UTILITY OWNERS ON THIS SHEET:
CLAY COUNTY
UTILITY: 12" WATER
8" GRAVITY SEWER
CONTACT: DAKOTA INGRAM
PHONE: 828-389-1361

RELOCATE FIRE HYDRANT - 1 EA
6" VALVE - 1 EA
FIRE HYDRANT LEG - 8 LF

SEE NOTE 5
REMOVE WATER METER - 2 EA
5/8" WATER METER - 2 EA
WATER SERVICE LINE - 60 LF

PROJECT REFERENCE NO. A-0011C	SHEET NO. UC-7
DESIGNED BY: KCZ	
DRAWN BY: YW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION	
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Weston Sampson WSE of North Carolina, PC 598 East Chatham Street Suite 137 Phone: 919.297.0220	
NC Licensee: C-4647 Cary, NC 27511 Fax: 919.297.0221	

5/14/2019
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PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-8
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

Weston Sampson
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 NC License: C-4647
 Fax: 919.297.0221

- NOTES:
- REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
 - CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.

UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 12" WATER
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1185 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE NOTE 2
 RELOCATE WATER METER - 1 EA
 WATER SERVICE LINE - 24 LF

20" ENCASEMENT PIPE - 63 LF
 BORE AND JACK OF 20" - 63 LF

WATER LINE WL1
 12" WATER LINE - 1331 LF

ABANDON 12" UTILITY PIPE - 1306 LF

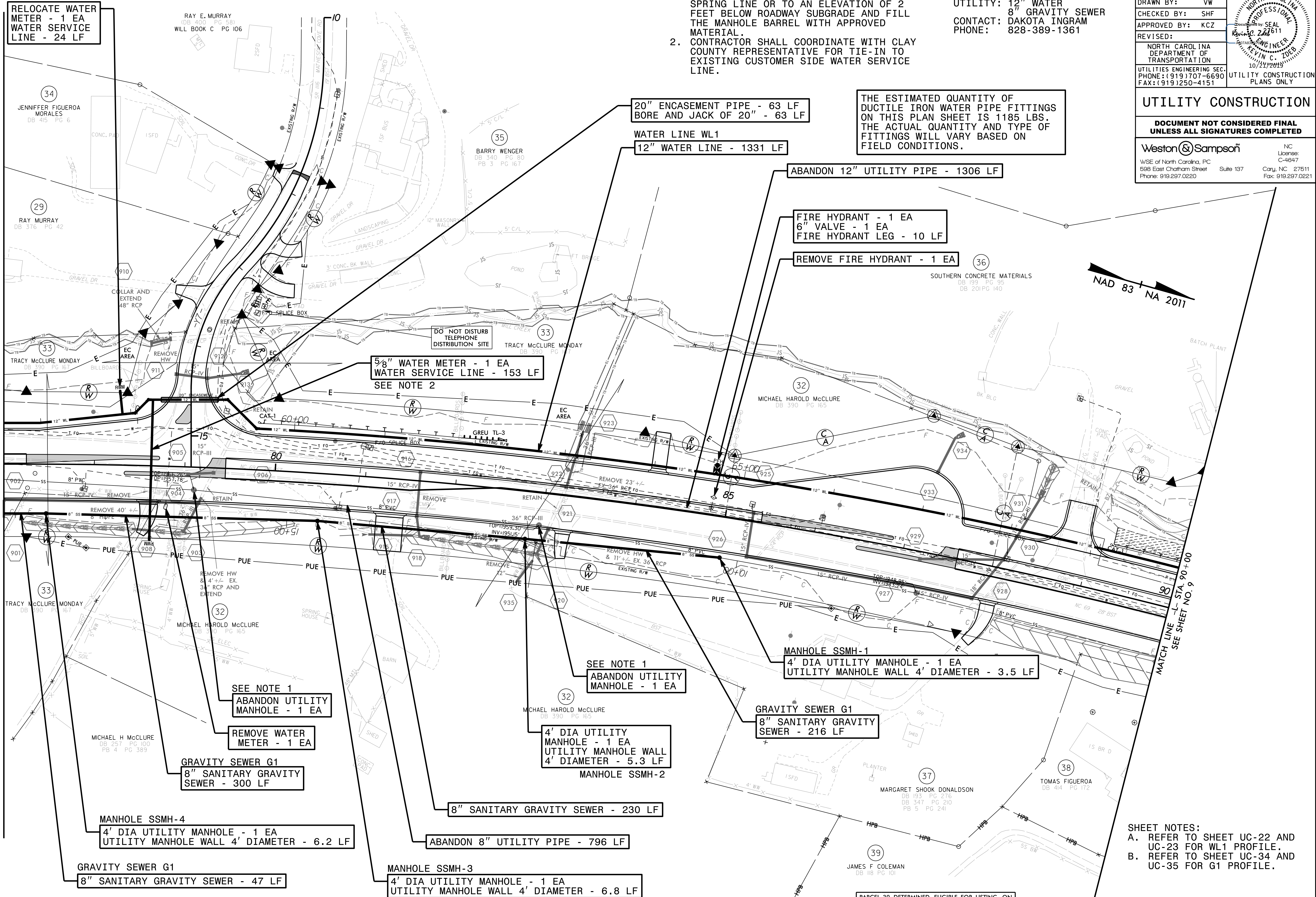
FIRE HYDRANT - 1 EA
 6" VALVE - 1 EA
 FIRE HYDRANT LEG - 10 LF

REMOVE FIRE HYDRANT - 1 EA

5/8" WATER METER - 1 EA
 WATER SERVICE LINE - 153 LF
 SEE NOTE 2

MATCH LINE -L- STA. 77+00
 SEE SHEET NO. 7

MATCH LINE -L- STA. 90+00
 SEE SHEET NO. 9



- SHEET NOTES:
- REFER TO SHEET UC-22 AND UC-23 FOR WL1 PROFILE.
 - REFER TO SHEET UC-34 AND UC-35 FOR G1 PROFILE.

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- NOTES:**
1. PROPOSED REVERSE TAP, REFER TO DETAIL ON SHEET UC-3E
 2. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
 3. CONTRACTOR SHALL TIE-IN NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A REPAIR COUPLING AT THE EXISTING/PROPOSED R/W LINE OR WITHIN PUE OR TCE.
 4. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.

- SHEET NOTES:**
- A. REFER TO SHEETS UC-23 AND UC-24 FOR WL1 PROFILE.
 - B. REFER TO SHEET UC-26 FOR WL1-2 PROFILE.
 - C. REFER TO SHEET UC-32 FOR FSS2 PROFILE.
 - D. REFER TO SHEET UC-35 FOR G2 PROFILE.

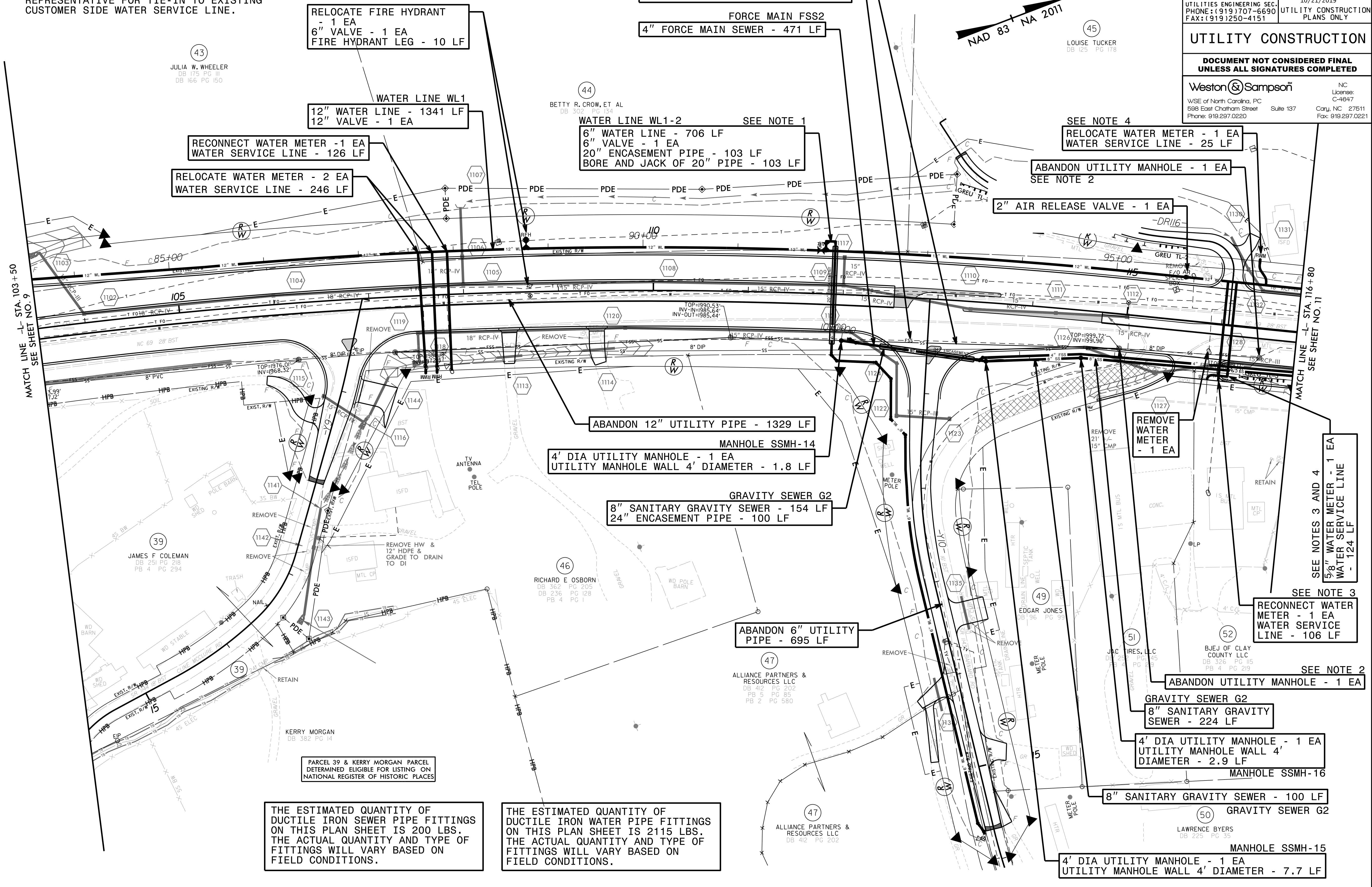
UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 12" WATER
 4" FORCE MAIN
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361

PROJECT REFERENCE NO.	A-0011C	SHEET NO.	UC-10
DESIGNED BY:	KCZ		
DRAWN BY:	VW		
CHECKED BY:	SHF		
APPROVED BY:	KCZ		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

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Weston Sampson
 NC License: C-4647
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221



THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 200 LBS. 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 2115 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 7.7 LF

SEE NOTES 3 AND 4
 5/8" WATER METER - 1 EA
 WATER SERVICE LINE - 124 LF

SEE NOTE 3
 RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 106 LF

SEE NOTE 2
 ABANDON UTILITY MANHOLE - 1 EA

GRAVITY SEWER G2
 8" SANITARY GRAVITY SEWER - 224 LF

4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 2.9 LF
 MANHOLE SSMH-16

8" SANITARY GRAVITY SEWER - 100 LF
 GRAVITY SEWER G2

MANHOLE SSMH-15

ABANDON 12" UTILITY PIPE - 1329 LF
 MANHOLE SSMH-14
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 1.8 LF

GRAVITY SEWER G2
 8" SANITARY GRAVITY SEWER - 154 LF
 24" ENCASEMENT PIPE - 100 LF

ABANDON 6" UTILITY PIPE - 695 LF

ABANDON 8" UTILITY PIPE - 441 LF

ABANDON 4" UTILITY PIPE - 471 LF

FORCE MAIN FSS2
 4" FORCE MAIN SEWER - 471 LF

WATER LINE WL1-2 SEE NOTE 1
 6" WATER LINE - 706 LF
 6" VALVE - 1 EA
 20" ENCASEMENT PIPE - 103 LF
 BORE AND JACK OF 20" PIPE - 103 LF

RELOCATE FIRE HYDRANT - 1 EA
 6" VALVE - 1 EA
 FIRE HYDRANT LEG - 10 LF

WATER LINE WL1
 12" WATER LINE - 1341 LF
 12" VALVE - 1 EA

RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 126 LF

RELOCATE WATER METER - 2 EA
 WATER SERVICE LINE - 246 LF

SEE NOTE 4
 RELOCATE WATER METER - 1 EA
 WATER SERVICE LINE - 25 LF

ABANDON UTILITY MANHOLE - 1 EA
 SEE NOTE 2

2" AIR RELEASE VALVE - 1 EA

MATCH LINE - L- STA. 103+50
 SEE SHEET NO. 9

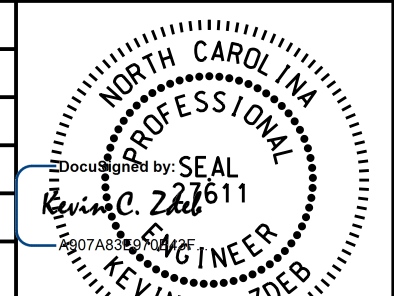
MATCH LINE - L- STA. 116+80
 SEE SHEET NO. 11

5/14/2019

SHEET NOTES:
 A. REFER TO SHEET UC-24 FOR WL1 PROFILE.
 B. REFER TO SHEET UC-32 FOR FSS2 PROFILE.
 C. REFER TO SHEET UC-35 FOR G2 PROFILE.
 D. REFER TO SHEET UC-36 FOR G3 PROFILE.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 990 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 100 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

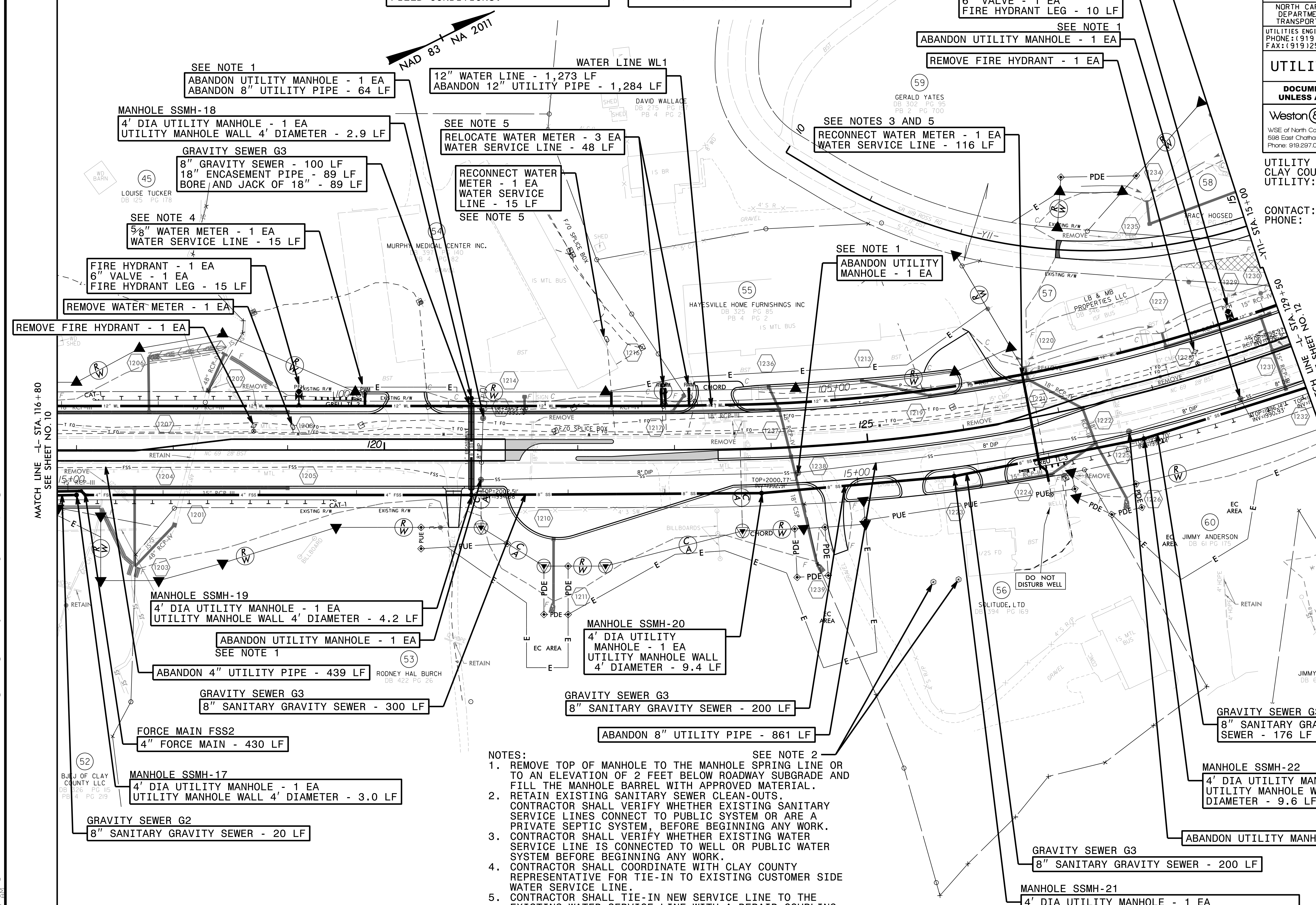
PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-11
DESIGNED BY: KCZ	
DRAWN BY: VM	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Weston Sampson
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 License: C-4847 Fax: 919.297.0221

UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 12" WATER
 4" FORCE MAIN
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361



MATCH LINE -L- STA. 116+80
 SEE SHEET NO. 10

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- NOTES:**
1. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
 2. RETAIN EXISTING SANITARY SEWER CLEAN-OUTS. CONTRACTOR SHALL VERIFY WHETHER EXISTING SANITARY SERVICE LINES CONNECT TO PUBLIC SYSTEM OR ARE A PRIVATE SEPTIC SYSTEM, BEFORE BEGINNING ANY WORK.
 3. CONTRACTOR SHALL VERIFY WHETHER EXISTING WATER SERVICE LINE IS CONNECTED TO WELL OR PUBLIC WATER SYSTEM BEFORE BEGINNING ANY WORK.
 4. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.
 5. CONTRACTOR SHALL TIE-IN NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A REPAIR COUPLING AT THE EXISTING/PROPOSED R/W LINE OR WITHIN PUE OR TCE.

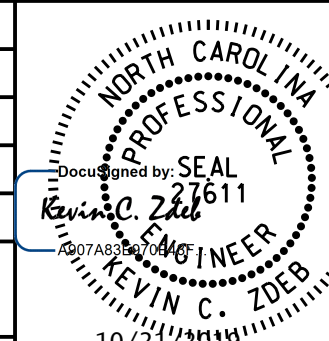
SEE NOTE 2

5/14/2019
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- NOTES:
1. VALVE SHALL BE INSTALLED A MINIMUM OF 3 FEET OUTSIDE OF THE CURB AND GUTTER.
 2. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1605 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

- SHEET NOTES:
- A. REFER TO SHEETS UC-24 AND UC-25 FOR WL1 PROFILE.
 - B. REFER TO SHEET UC-27 FOR WL1-3 PROFILE.
 - C. REFER TO SHEET UC-36 FOR G3 PROFILE.

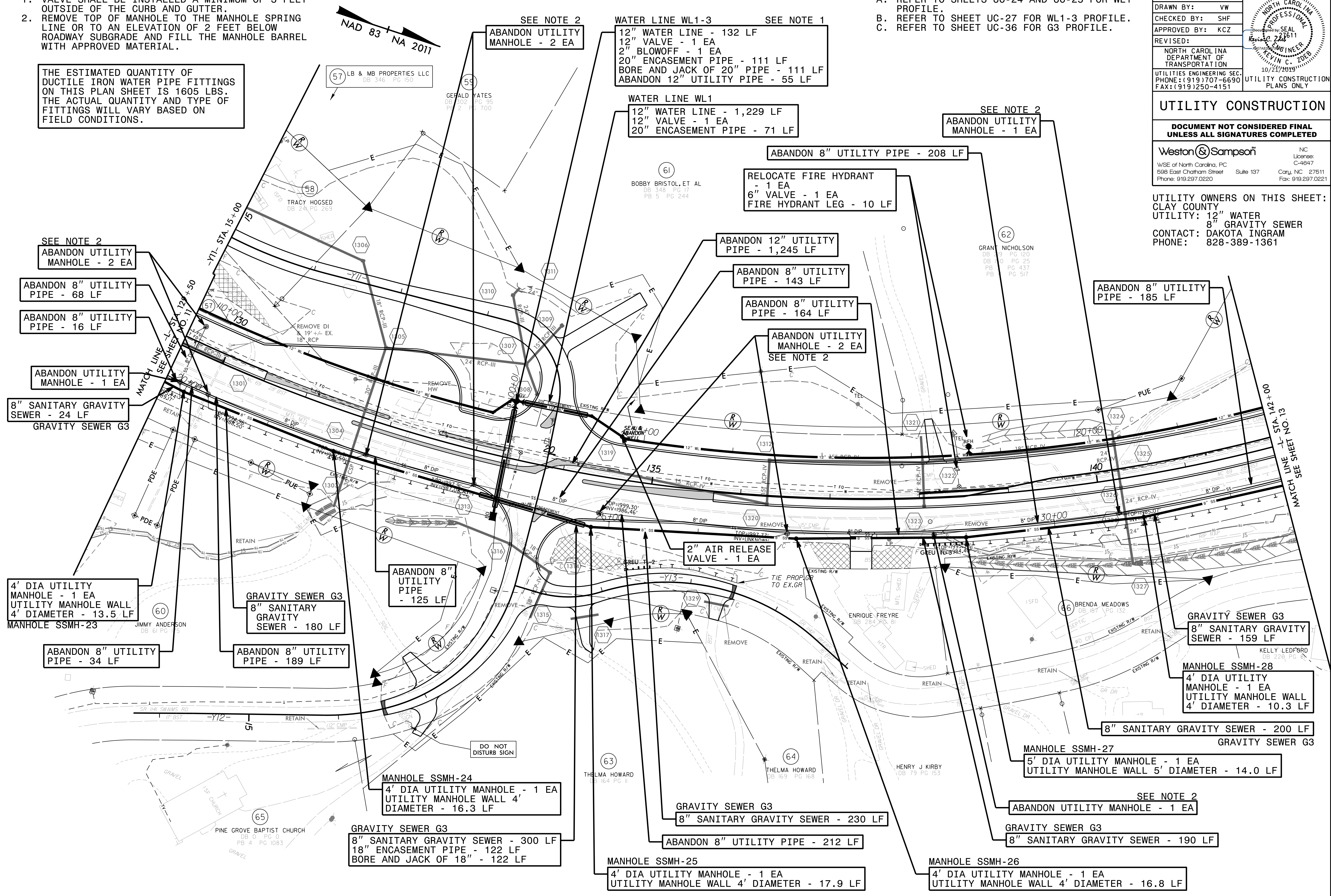
PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-12
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

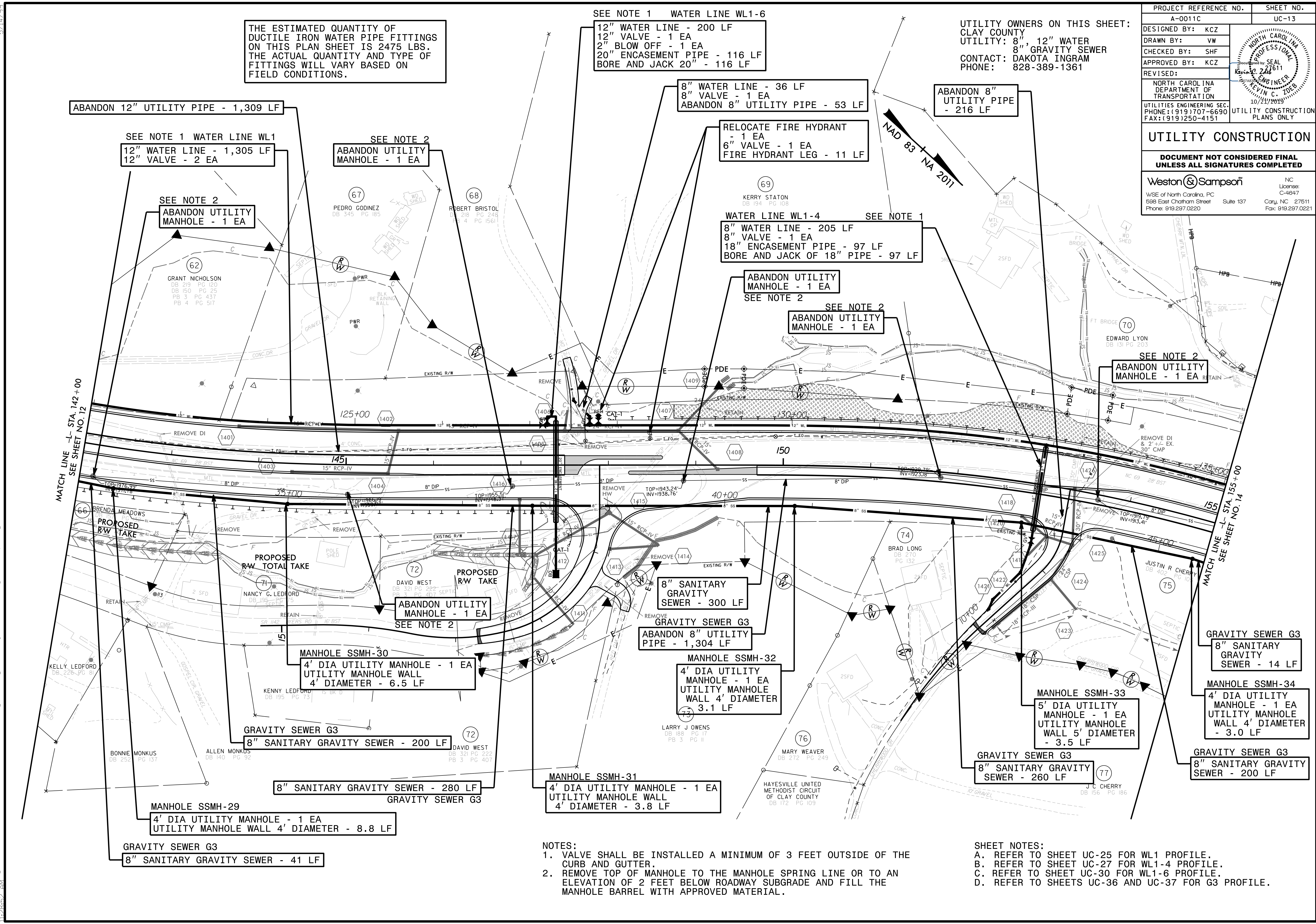
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Weston Sampson
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 License: C-4647
 Fax: 919.297.0221

UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 12" WATER
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361



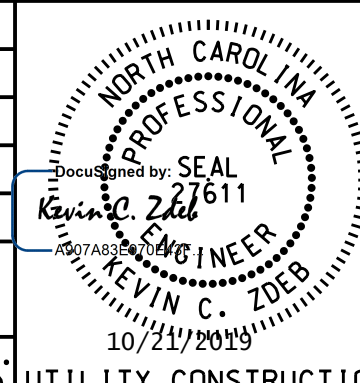
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THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2475 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE NOTE 1 WATER LINE WL1-6
 12" WATER LINE - 200 LF
 12" VALVE - 1 EA
 2" BLOW OFF - 1 EA
 20" ENCASEMENT PIPE - 116 LF
 BORE AND JACK 20" - 116 LF

UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 8", 12" WATER
 8", GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361

PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-13
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

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 NC License: C-4647
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221

ABANDON 12" UTILITY PIPE - 1,309 LF

SEE NOTE 1 WATER LINE WL1
 12" WATER LINE - 1,305 LF
 12" VALVE - 2 EA

SEE NOTE 2
 ABANDON UTILITY MANHOLE - 1 EA

8" WATER LINE - 36 LF
 8" VALVE - 1 EA
 ABANDON 8" UTILITY PIPE - 53 LF

ABANDON 8" UTILITY PIPE - 216 LF

RELOCATE FIRE HYDRANT - 1 EA
 6" VALVE - 1 EA
 FIRE HYDRANT LEG - 11 LF

WATER LINE WL1-4
 8" WATER LINE - 205 LF
 8" VALVE - 1 EA
 18" ENCASEMENT PIPE - 97 LF
 BORE AND JACK OF 18" PIPE - 97 LF

ABANDON UTILITY MANHOLE - 1 EA
 SEE NOTE 2

SEE NOTE 2
 ABANDON UTILITY MANHOLE - 1 EA

SEE NOTE 2
 ABANDON UTILITY MANHOLE - 1 EA

8" SANITARY GRAVITY SEWER - 300 LF

ABANDON 8" UTILITY PIPE - 1,304 LF

MANHOLE SSMH-32
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 3.1 LF

MANHOLE SSMH-33
 5' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 5' DIAMETER - 3.5 LF

GRAVITY SEWER G3
 8" SANITARY GRAVITY SEWER - 14 LF

MANHOLE SSMH-34
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 3.0 LF

GRAVITY SEWER G3
 8" SANITARY GRAVITY SEWER - 200 LF

MANHOLE SSMH-30
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 6.5 LF

GRAVITY SEWER G3
 8" SANITARY GRAVITY SEWER - 200 LF

MANHOLE SSMH-31
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 3.8 LF

MANHOLE SSMH-29
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 8.8 LF

GRAVITY SEWER G3
 8" SANITARY GRAVITY SEWER - 41 LF

- NOTES:
1. VALVE SHALL BE INSTALLED A MINIMUM OF 3 FEET OUTSIDE OF THE CURB AND GUTTER.
 2. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.

- SHEET NOTES:
- A. REFER TO SHEET UC-25 FOR WL1 PROFILE.
 - B. REFER TO SHEET UC-27 FOR WL1-4 PROFILE.
 - C. REFER TO SHEET UC-30 FOR WL1-6 PROFILE.
 - D. REFER TO SHEETS UC-36 AND UC-37 FOR G3 PROFILE.

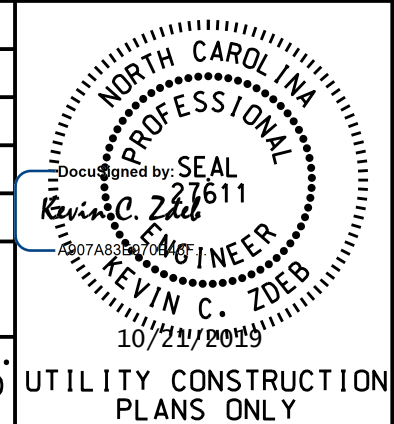
5/14/2011
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SHEET NOTES:
A. REFER TO SHEETS UC-27 AND UC-28 FOR WL2 PROFILE.
B. REFER TO SHEETS UC-37 AND UC-38 FOR G3 PROFILE.
C. REFER TO SHEET UC-39 FOR G3-1 PROFILE.
D. REFER TO SHEET UC-39 FOR G3-2 PROFILE.

NOTES:
1. EXISTING SSMH TO REMAIN. ADJUST RIM TO FINAL GRADE. REMOVE EXISTING DOWNSTREAM INVERT. RECONSTRUCT COVING INSIDE SSMH FOR NEW PIPE ALIGNMENT.
2. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
3. CONTRACTOR SHALL EXCAVATE EXISTING GRAVITY SEWER LINE AND INSTALL ON NEW SLOPE AS NOTED ON PROFILE.
4. CONTRACTOR SHALL TIE-IN NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A REPAIR COUPLING AT THE EXISTING/PROPOSED R/W LINE OR WITHIN PUE OR TCE.
5. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.

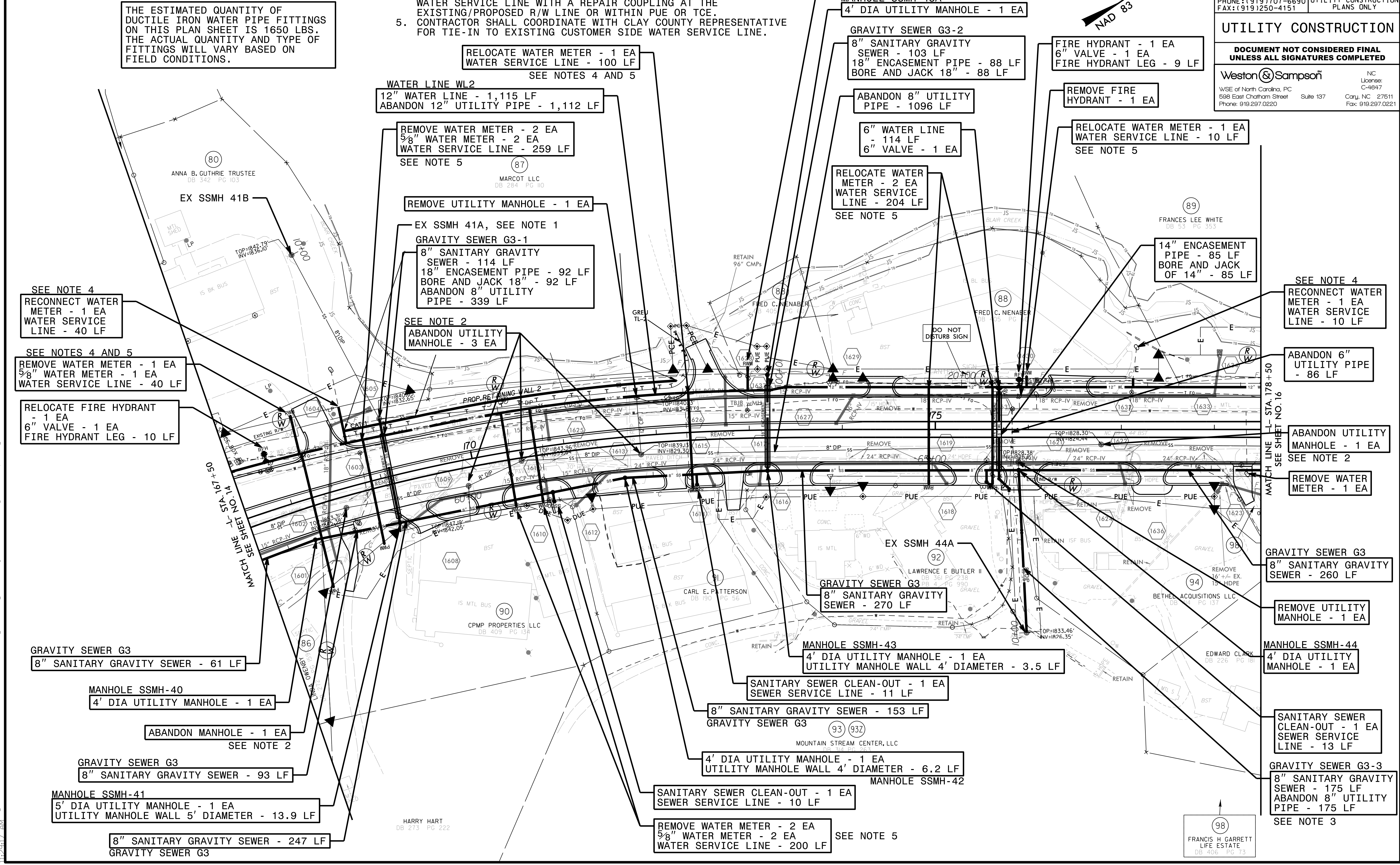
UTILITY OWNERS ON THIS SHEET:
CLAY COUNTY
UTILITY: 8", 12" WATER
8" GRAVITY SEWER
CONTACT: DAKOTA INGRAM
PHONE: 828-389-1361

PROJECT REFERENCE NO.	A-0011C
SHEET NO.	UC-15
DESIGNED BY:	KCZ
DRAWN BY:	VW
CHECKED BY:	SHF
APPROVED BY:	KCZ
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



UTILITY CONSTRUCTION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED
Weston Sampson
WSE of North Carolina, PC
598 East Chatham Street Suite 137
Phone: 919.297.0220
Carry, NC 27511
Fax: 919.297.0221

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1650 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



SEE NOTE 4
RECONNECT WATER METER - 1 EA
WATER SERVICE LINE - 40 LF

SEE NOTES 4 AND 5
REMOVE WATER METER - 1 EA
5/8" WATER METER - 1 EA
WATER SERVICE LINE - 40 LF

RELOCATE FIRE HYDRANT - 1 EA
6" VALVE - 1 EA
FIRE HYDRANT LEG - 10 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 61 LF

MANHOLE SSMH-40
4' DIA UTILITY MANHOLE - 1 EA

ABANDON MANHOLE - 1 EA
SEE NOTE 2

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 93 LF

MANHOLE SSMH-41
5' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 5' DIAMETER - 13.9 LF

8" SANITARY GRAVITY SEWER - 247 LF
GRAVITY SEWER G3

RELOCATE WATER METER - 1 EA
WATER SERVICE LINE - 100 LF
SEE NOTES 4 AND 5

WATER LINE WL2
12" WATER LINE - 1,115 LF
ABANDON 12" UTILITY PIPE - 1,112 LF

REMOVE WATER METER - 2 EA
5/8" WATER METER - 2 EA
WATER SERVICE LINE - 259 LF
SEE NOTE 5

REMOVE UTILITY MANHOLE - 1 EA

EX SSMH 41A, SEE NOTE 1
GRAVITY SEWER G3-1
8" SANITARY GRAVITY SEWER - 114 LF
18" ENCASMENT PIPE - 92 LF
BORE AND JACK 18" - 92 LF
ABANDON 8" UTILITY PIPE - 339 LF

SEE NOTE 2
ABANDON UTILITY MANHOLE - 3 EA

RELOCATE WATER METER - 1 EA
WATER SERVICE LINE - 100 LF
SEE NOTES 4 AND 5

SEE NOTE 4
RELOCATE WATER METER - 1 EA
WATER SERVICE LINE - 23 LF

MANHOLE SSMH-43A
4' DIA UTILITY MANHOLE - 1 EA

GRAVITY SEWER G3-2
8" SANITARY GRAVITY SEWER - 103 LF
18" ENCASMENT PIPE - 88 LF
BORE AND JACK 18" - 88 LF

ABANDON 8" UTILITY PIPE - 1096 LF

6" WATER LINE - 114 LF
6" VALVE - 1 EA

RELOCATE WATER METER - 2 EA
WATER SERVICE LINE - 204 LF
SEE NOTE 5

FIRE HYDRANT - 1 EA
6" VALVE - 1 EA
FIRE HYDRANT LEG - 9 LF

REMOVE FIRE HYDRANT - 1 EA

RELOCATE WATER METER - 1 EA
WATER SERVICE LINE - 10 LF
SEE NOTE 5

14" ENCASMENT PIPE - 85 LF
BORE AND JACK OF 14" - 85 LF

SEE NOTE 4
RECONNECT WATER METER - 1 EA
WATER SERVICE LINE - 10 LF

ABANDON 6" UTILITY PIPE - 86 LF

ABANDON UTILITY MANHOLE - 1 EA
SEE NOTE 2

REMOVE WATER METER - 1 EA

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 260 LF

REMOVE UTILITY MANHOLE - 1 EA

MANHOLE SSMH-44
4' DIA UTILITY MANHOLE - 1 EA

SANITARY SEWER CLEAN-OUT - 1 EA
SEWER SERVICE LINE - 13 LF

GRAVITY SEWER G3-3
8" SANITARY GRAVITY SEWER - 175 LF
ABANDON 8" UTILITY PIPE - 175 LF
SEE NOTE 3

REMOVE WATER METER - 2 EA
5/8" WATER METER - 2 EA
WATER SERVICE LINE - 200 LF
SEE NOTE 5

4' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIAMETER - 6.2 LF
MANHOLE SSMH-42

SANITARY SEWER CLEAN-OUT - 1 EA
SEWER SERVICE LINE - 10 LF

8" SANITARY GRAVITY SEWER - 153 LF
GRAVITY SEWER G3

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

MANHOLE SSMH-43
4' DIA UTILITY MANHOLE - 1 EA
UTILITY MANHOLE WALL 4' DIAMETER - 3.5 LF

SANITARY SEWER CLEAN-OUT - 1 EA
SEWER SERVICE LINE - 11 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

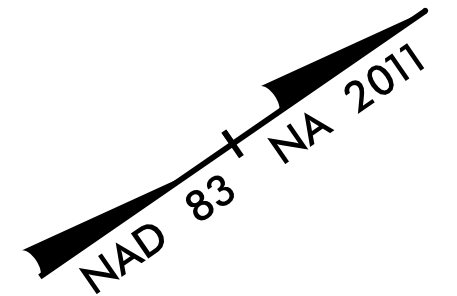
GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF

GRAVITY SEWER G3
8" SANITARY GRAVITY SEWER - 270 LF



98
FRANCIS H GARRETT
LIFE ESTATE
DB 406 PG 13

MATCH LINE L-STA. 178+50
SEE SHEET NO. 16

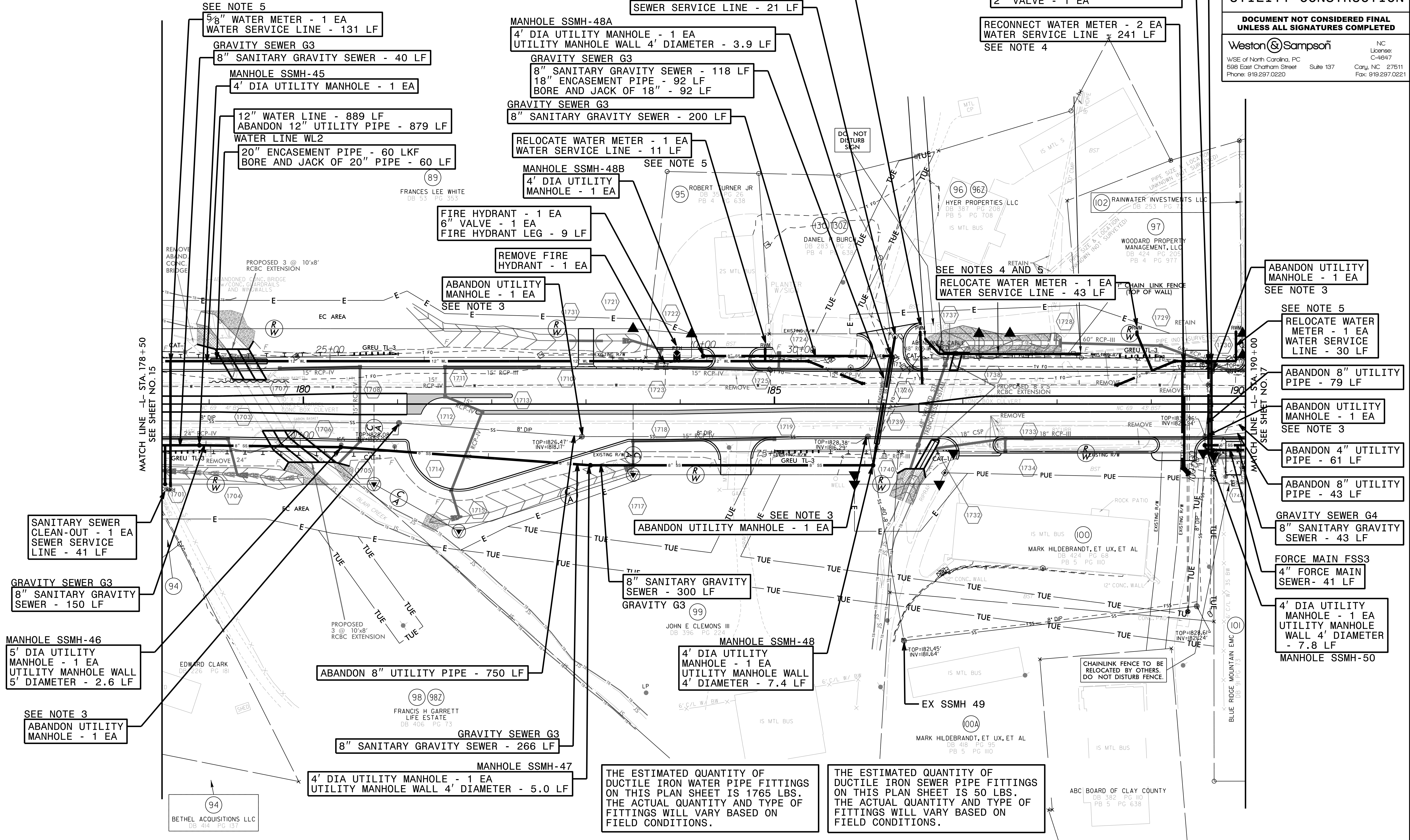
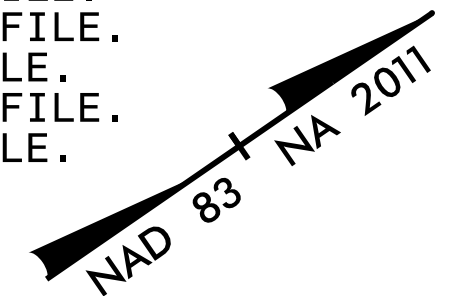
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- NOTES:**
1. VALVE SHALL BE INSTALLED A MINIMUM OF 3 FEET OUTSIDE OF THE CURB AND GUTTER.
 2. EXISTING SSMH TO REMAIN. ADJUST RIM TO FINAL GRADE. REMOVE EXISTING DOWNSTREAM INVERT. RECONSTRUCT COVING INSIDE SSMH FOR NEW PIPE ALIGNMENT.
 3. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
 4. CONTRACTOR SHALL TIE-IN NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A REPAIR COUPLING AT THE EXISTING/PROPOSED R/W LINE OR WITHIN PUE OR TCE.
 5. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.

- SHEET NOTES:**
- A. REFER TO SHEET UC-28 FOR WL2 PROFILE.
 - B. REFER TO SHEET UC-33 FOR FSS3 PROFILE.
 - C. REFER TO SHEET UC-38 FOR G3 PROFILE.
 - D. REFER TO SHEET UC-39 FOR G3-3 PROFILE.
 - E. REFER TO SHEET UC-40 FOR G4 PROFILE.

UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 8", 12" WATER
 4" FORCE MAIN
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361

PROJECT REFERENCE NO. A-0011C	SHEET NO. UC-16
DESIGNED BY: KCZ	
DRAWN BY: VM	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
<p>UTILITY CONSTRUCTION</p> <p>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</p> <p>Weston & Sampson WSE of North Carolina, PC 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221</p>	



MATCH LINE -L- STA. 178 + 50
 SEE SHEET NO. 15

MATCH LINE -L- STA. 190 + 00
 SEE SHEET NO. 17

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 5/21/14 9:09 AM
 Bethel Acquisitions LLC
 DB 414 PG 131

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1765 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 50 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

5/14/19
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NOTES:

1. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
2. CONTRACTOR SHALL COORDINATE WITH CONTRACTOR OF PARCEL 110 FOR HYDRANT LOCATION.
3. CONTRACTOR SHALL LOCATE EXISTING SEWER SERVICE LINE ON PARCEL 102 BEFORE STARTING WORK. EXISTING CUSTOMER SIDE SERVICE LINE MUST TIE-IN TO RELOCATED GRAVITY SEWER LINE CROSSING NC-69.
4. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.
5. RECONNECT EXISTING VALVE TO NEW WATER LINE.

THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 100 LBS. 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 1520 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 12" WATER
 4" FORCE MAIN
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361

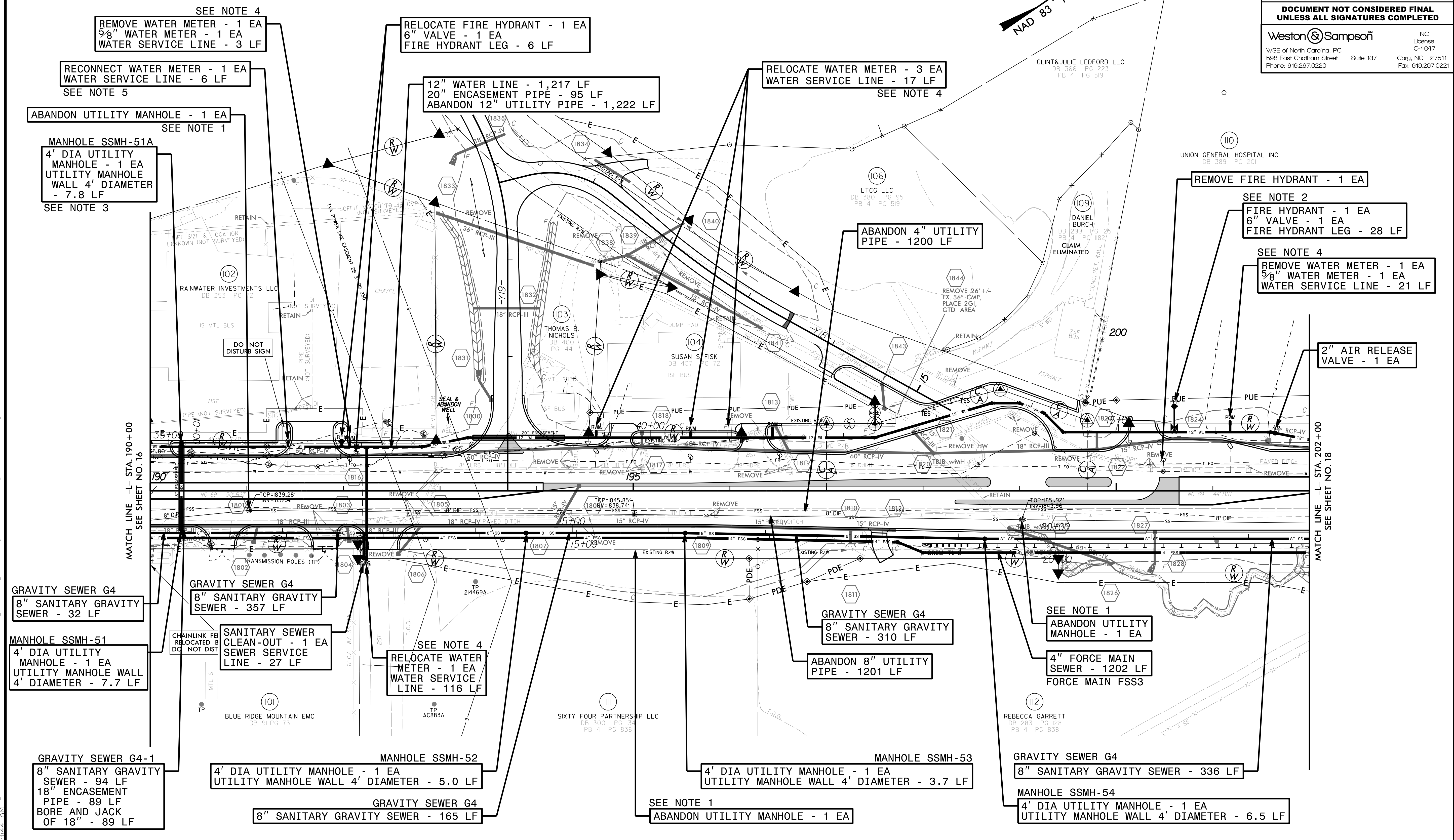
- SHEET NOTES:
- A. REFER TO SHEET UC-28 FOR WL2 PROFILE.
 - B. REFER TO SHEET UC-33 FOR FSS3 PROFILE.
 - C. REFER TO SHEET UC-40 FOR G4 PROFILE.
 - D. REFER TO SHEET UC-41 FOR G4-1 PROFILE.

PROJECT REFERENCE NO. A-0011C	SHEET NO. UC-17
DESIGNED BY: KCZ	
DRAWN BY: VM	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Weston Sampson
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 License: C-4647 Fax: 919.297.0221



SEE NOTE 4
 REMOVE WATER METER - 1 EA
 5/8" WATER METER - 1 EA
 WATER SERVICE LINE - 3 LF

RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 6 LF
 SEE NOTE 5

ABANDON UTILITY MANHOLE - 1 EA
 SEE NOTE 1

MANHOLE SSMH-51A
 4' DIA UTILITY
 MANHOLE - 1 EA
 UTILITY MANHOLE
 WALL 4' DIAMETER
 - 7.8 LF
 SEE NOTE 3

RELOCATE FIRE HYDRANT - 1 EA
 6" VALVE - 1 EA
 FIRE HYDRANT LEG - 6 LF

12" WATER LINE - 1,217 LF
 20" ENCASEMENT PIPE - 95 LF
 ABANDON 12" UTILITY PIPE - 1,222 LF

RELOCATE WATER METER - 3 EA
 WATER SERVICE LINE - 17 LF
 SEE NOTE 4

ABANDON 4" UTILITY
 PIPE - 1200 LF

REMOVE FIRE HYDRANT - 1 EA

SEE NOTE 2
 FIRE HYDRANT - 1 EA
 6" VALVE - 1 EA
 FIRE HYDRANT LEG - 28 LF

SEE NOTE 4
 REMOVE WATER METER - 1 EA
 5/8" WATER METER - 1 EA
 WATER SERVICE LINE - 21 LF

2" AIR RELEASE
 VALVE - 1 EA

GRAVITY SEWER G4
 8" SANITARY GRAVITY
 SEWER - 32 LF

GRAVITY SEWER G4
 8" SANITARY GRAVITY
 SEWER - 357 LF

MANHOLE SSMH-51
 4' DIA UTILITY
 MANHOLE - 1 EA
 UTILITY MANHOLE WALL
 4' DIAMETER - 7.7 LF

SANITARY SEWER
 CLEAN-OUT - 1 EA
 SEWER SERVICE
 LINE - 27 LF

SEE NOTE 4
 RELOCATE WATER
 METER - 1 EA
 WATER SERVICE
 LINE - 116 LF

GRAVITY SEWER G4
 8" SANITARY GRAVITY
 SEWER - 310 LF

ABANDON 8" UTILITY
 PIPE - 1201 LF

SEE NOTE 1
 ABANDON UTILITY
 MANHOLE - 1 EA

4" FORCE MAIN
 SEWER - 1202 LF
 FORCE MAIN FSS3

GRAVITY SEWER G4-1
 8" SANITARY GRAVITY
 SEWER - 94 LF
 18" ENCASEMENT
 PIPE - 89 LF
 BORE AND JACK
 OF 18" - 89 LF

MANHOLE SSMH-52
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 5.0 LF

GRAVITY SEWER G4
 8" SANITARY GRAVITY SEWER - 165 LF

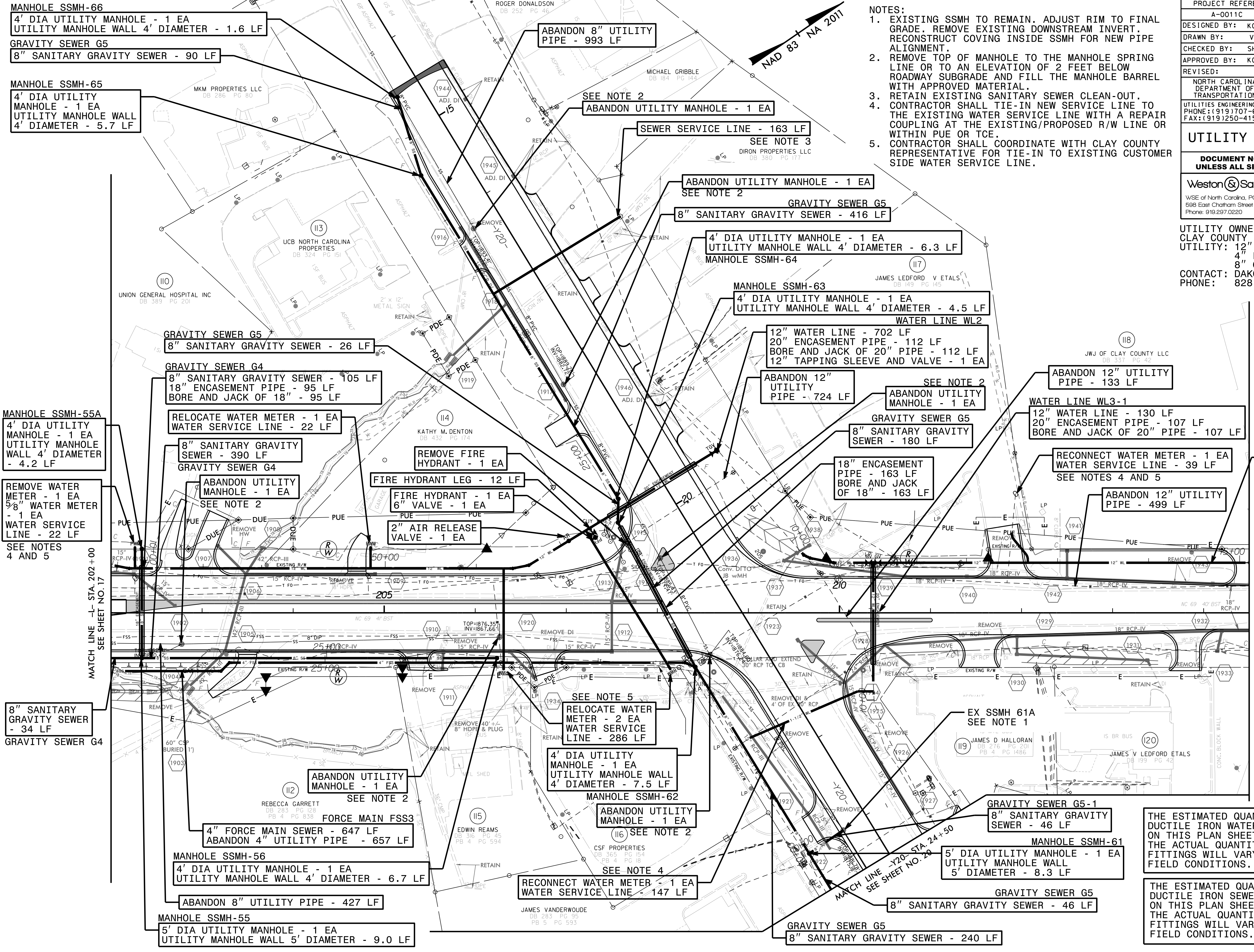
MANHOLE SSMH-53
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 3.7 LF

SEE NOTE 1
 ABANDON UTILITY MANHOLE - 1 EA

GRAVITY SEWER G4
 8" SANITARY GRAVITY SEWER - 336 LF

MANHOLE SSMH-54
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 6.5 LF

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- NOTES:**
1. EXISTING SSMH TO REMAIN. ADJUST RIM TO FINAL GRADE. REMOVE EXISTING DOWNSTREAM INVERT. RECONSTRUCT COVING INSIDE SSMH FOR NEW PIPE ALIGNMENT.
 2. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
 3. RETAIN EXISTING SANITARY SEWER CLEAN-OUT.
 4. CONTRACTOR SHALL TIE-IN NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A REPAIR COUPLING AT THE EXISTING/PROPOSED R/W LINE OR WITHIN PUE OR TCE.
 5. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.

PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-18
DESIGNED BY: KCZ	
DRAWN BY: VM	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Weston Sampson

NC License: C-4647
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221

UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 12" WATER
 4" FORCE MAIN
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361

MANHOLE SSMH-66
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 1.6 LF

GRAVITY SEWER G5
 8" SANITARY GRAVITY SEWER - 90 LF

MANHOLE SSMH-65
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 5.7 LF

MANHOLE SSMH-55A
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 4.2 LF

REMOVE WATER METER - 1 EA
 3/8" WATER METER - 1 EA
 WATER SERVICE LINE - 22 LF
 SEE NOTES 4 AND 5

8" SANITARY GRAVITY SEWER - 34 LF
 GRAVITY SEWER G4

8" SANITARY GRAVITY SEWER - 390 LF
 GRAVITY SEWER G4

ABANDON UTILITY MANHOLE - 1 EA
 SEE NOTE 2

4" FORCE MAIN SEWER - 647 LF
 ABANDON 4" UTILITY PIPE - 657 LF

MANHOLE SSMH-56
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 6.7 LF

ABANDON 8" UTILITY PIPE - 427 LF

MANHOLE SSMH-55
 5' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 5' DIAMETER - 9.0 LF

ABANDON 8" UTILITY PIPE - 993 LF

SEE NOTE 2
 ABANDON UTILITY MANHOLE - 1 EA

SEWER SERVICE LINE - 163 LF
 SEE NOTE 3

ABANDON UTILITY MANHOLE - 1 EA
 SEE NOTE 2

GRAVITY SEWER G5
 8" SANITARY GRAVITY SEWER - 416 LF

4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 6.3 LF
 MANHOLE SSMH-64

MANHOLE SSMH-63
 4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 4.5 LF

WATER LINE WL2
 12" WATER LINE - 702 LF
 20" ENCASUREMENT PIPE - 112 LF
 BORE AND JACK OF 20" PIPE - 112 LF
 12" TAPPING SLEEVE AND VALVE - 1 EA

ABANDON 12" UTILITY PIPE - 724 LF

SEE NOTE 2
 ABANDON UTILITY MANHOLE - 1 EA

GRAVITY SEWER G5
 8" SANITARY GRAVITY SEWER - 180 LF

18" ENCASUREMENT PIPE - 163 LF
 BORE AND JACK OF 18" - 163 LF

RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 39 LF
 SEE NOTES 4 AND 5

ABANDON 12" UTILITY PIPE - 499 LF

SEE NOTE 5
 RELOCATE WATER METER - 2 EA
 WATER SERVICE LINE - 286 LF

4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 7.5 LF
 MANHOLE SSMH-62

ABANDON UTILITY MANHOLE - 1 EA
 SEE NOTE 2

SEE NOTE 4
 RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 147 LF

GRAVITY SEWER G5-1
 8" SANITARY GRAVITY SEWER - 46 LF

MANHOLE SSMH-61
 5' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 5' DIAMETER - 8.3 LF

GRAVITY SEWER G5
 8" SANITARY GRAVITY SEWER - 46 LF

GRAVITY SEWER G5
 8" SANITARY GRAVITY SEWER - 240 LF

WATER LINE WL3
 12" WATER LINE - 490 LF
 12" VALVE - 2 EA

RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 39 LF
 SEE NOTES 4 AND 5

ABANDON 12" UTILITY PIPE - 133 LF

WATER LINE WL3-1
 12" WATER LINE - 130 LF
 20" ENCASUREMENT PIPE - 107 LF
 BORE AND JACK OF 20" PIPE - 107 LF

RELOCATE WATER METER - 1 EA
 WATER SERVICE LINE - 39 LF
 SEE NOTES 4 AND 5

ABANDON 12" UTILITY PIPE - 133 LF

RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 39 LF
 SEE NOTES 4 AND 5

ABANDON 12" UTILITY PIPE - 499 LF

RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 286 LF

4' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 4' DIAMETER - 7.5 LF
 MANHOLE SSMH-62

ABANDON UTILITY MANHOLE - 1 EA
 SEE NOTE 2

SEE NOTE 4
 RECONNECT WATER METER - 1 EA
 WATER SERVICE LINE - 147 LF

GRAVITY SEWER G5-1
 8" SANITARY GRAVITY SEWER - 46 LF

MANHOLE SSMH-61
 5' DIA UTILITY MANHOLE - 1 EA
 UTILITY MANHOLE WALL 5' DIAMETER - 8.3 LF

GRAVITY SEWER G5
 8" SANITARY GRAVITY SEWER - 46 LF

GRAVITY SEWER G5
 8" SANITARY GRAVITY SEWER - 240 LF

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2825 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 150 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

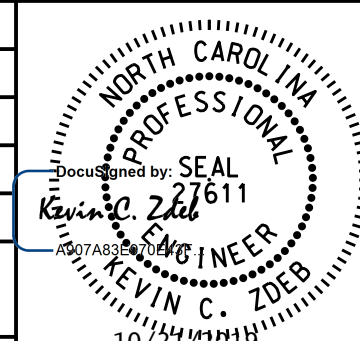
MATCH LINE -L- STA. 202+00
SEE SHEET NO. 17

MATCH LINE -L- STA. 214+50
SEE SHEET NO. 19

SHEET NOTES:
 REFER TO SHEET UC-28 FOR WL3 PROFILE.
 REFER TO SHEET UC-29 FOR WL3-1 PROFILE.
 REFER TO SHEET UC-30 FOR WL3-1 PROFILE.
 REFER TO SHEET UC-33 FOR G5 PROFILE.
 REFER TO SHEET UC-40 FOR G4 PROFILE.
 REFER TO SHEET UC-41 FOR G4-2 PROFILE.
 REFER TO SHEET UC-42 FOR G5-1 PROFILE.

5/14/09
I:\Projects\2009\0509\05093\05093\Utilities\Engineering\UC-Pro\05093\UC19_psh.dgn

UTILITY OWNERS ON THIS SHEET:
CLAY COUNTY
UTILITY: 8", 12" WATER
8" GRAVITY SEWER
CONTACT: DAKOTA INGRAM
PHONE: 828-389-1361

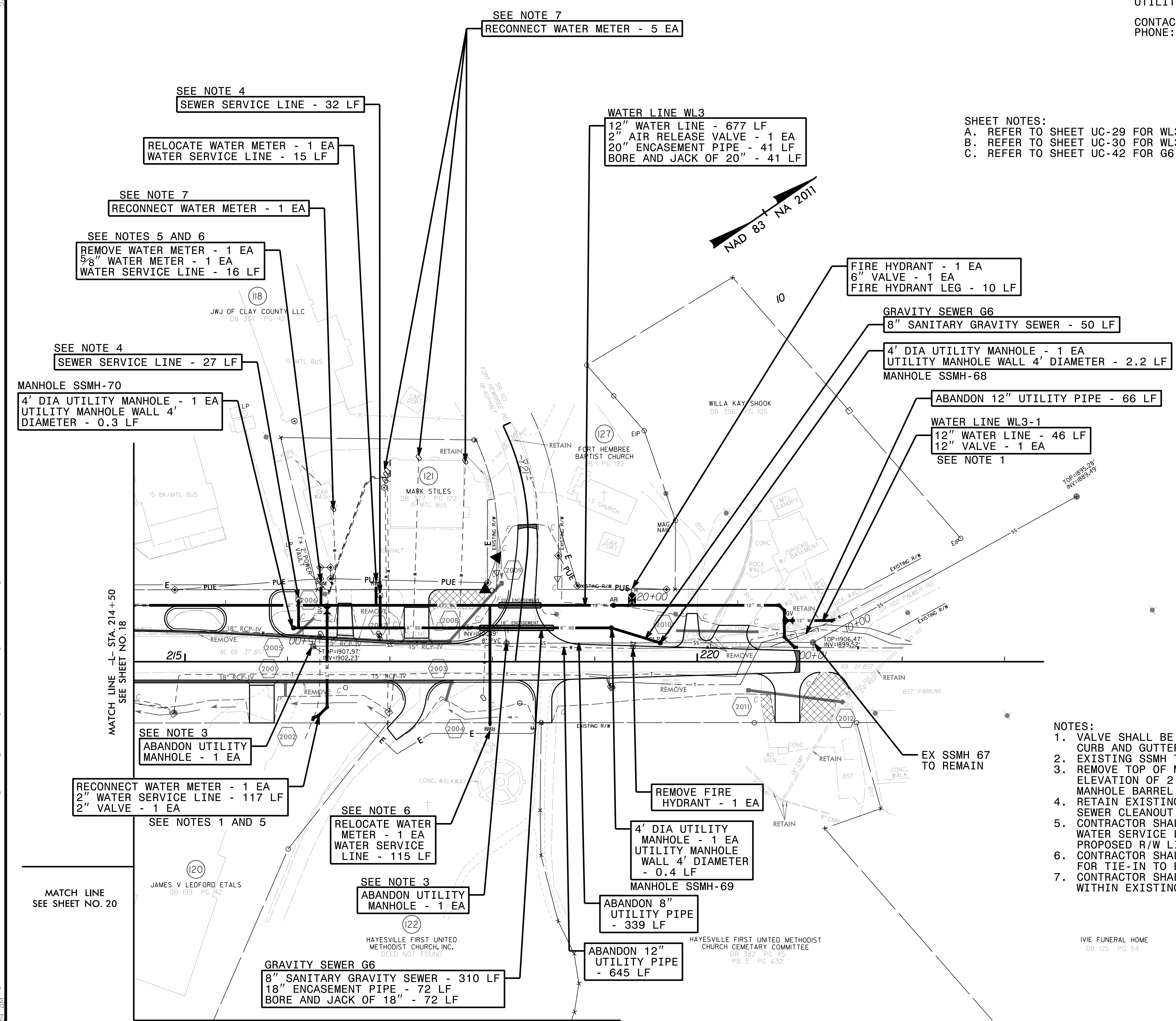
PROJECT REFERENCE NO.	SHEET NO.
A-0011C	UC-19
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

SHEET NOTES:
A. REFER TO SHEET UC-29 FOR WL3 PROFILE.
B. REFER TO SHEET UC-30 FOR WL3-2 PROFILE.
C. REFER TO SHEET UC-42 FOR G6 PROFILE.

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Weston Sampson
 NC License: C-4647
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221



THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2485 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

- NOTES:
1. VALVE SHALL BE INSTALLED A MINIMUM OF 3 FEET OUTSIDE OF THE CURB AND GUTTER.
 2. EXISTING SSMH TO REMAIN. ADJUST RIM TO FINAL GRADE.
 3. REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
 4. RETAIN EXISTING SANITARY SEWER CLEAN-OUT. PLACE A SANITARY SEWER CLEANOUT AT ANY CHANGES IN DIRECTION.
 5. CONTRACTOR SHALL TIE-IN NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A REPAIR COUPLING AT THE EXISTING/PROPOSED R/W LINE OR WITHIN PUE OR TCE.
 6. CONTRACTOR SHALL COORDINATE WITH CLAY COUNTY REPRESENTATIVE FOR TIE-IN TO EXISTING CUSTOMER SIDE WATER SERVICE LINE.
 7. CONTRACTOR SHALL LOCATE THE EXISTING WATER SERVICE LINE WITHIN EXISTING R/W AND CONNECT IT TO THE NEW WATER LINE.

MATCH LINE SEE SHEET NO. 20

MATCH LINE -L- STA 214+50 SEE SHEET NO. 18

WIE FUNERAL HOME DB 125 PG 54

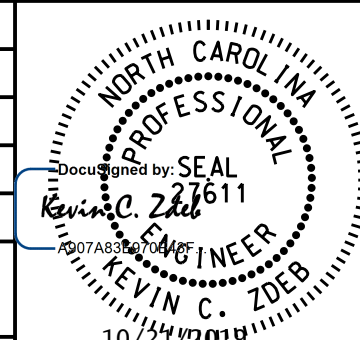
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NOTES:

- EXISTING SSMH TO REMAIN. ADJUST RIM TO FINAL GRADE. REMOVE EXISTING UPSTREAM INVERT. RECONSTRUCT COVING INSIDE SSMH FOR NEW PIPE ALIGNMENT.
- REMOVE TOP OF MANHOLE TO THE MANHOLE SPRING LINE OR TO AN ELEVATION OF 2 FEET BELOW ROADWAY SUBGRADE AND FILL THE MANHOLE BARREL WITH APPROVED MATERIAL.
- RETAIN EXISTING SANITARY SEWER CLEAN-OUT.
- CONTRACTOR SHALL TIE-IN NEW SERVICE LINE TO THE EXISTING WATER SERVICE LINE WITH A REPAIR COUPLING AT THE EXISTING R/W LINE.

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 880 LBS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

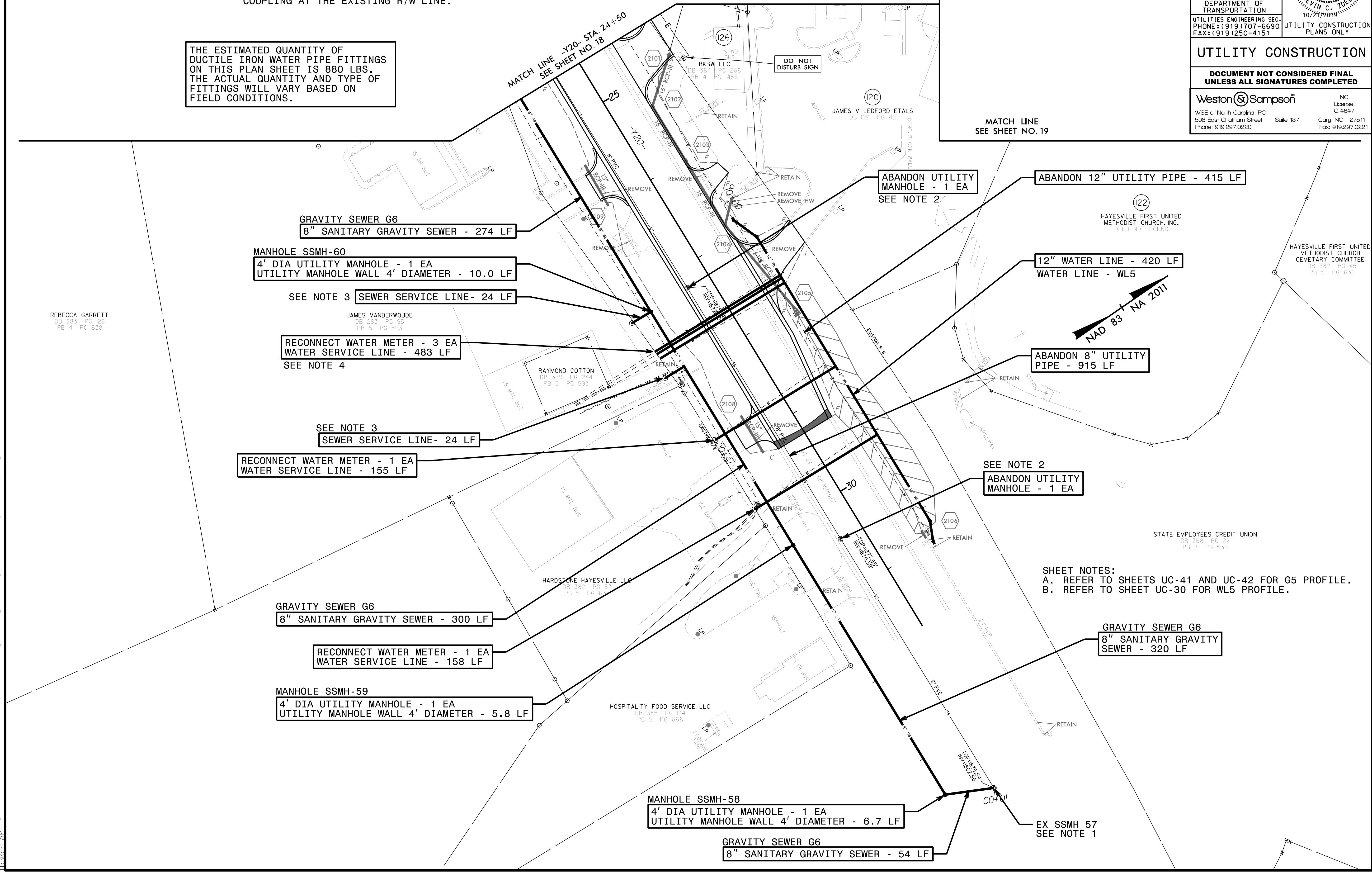
UTILITY OWNERS ON THIS SHEET:
 CLAY COUNTY
 UTILITY: 12" WATER
 8" GRAVITY SEWER
 CONTACT: DAKOTA INGRAM
 PHONE: 828-389-1361

PROJECT REFERENCE NO. A-0011C	SHEET NO. UC-20
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

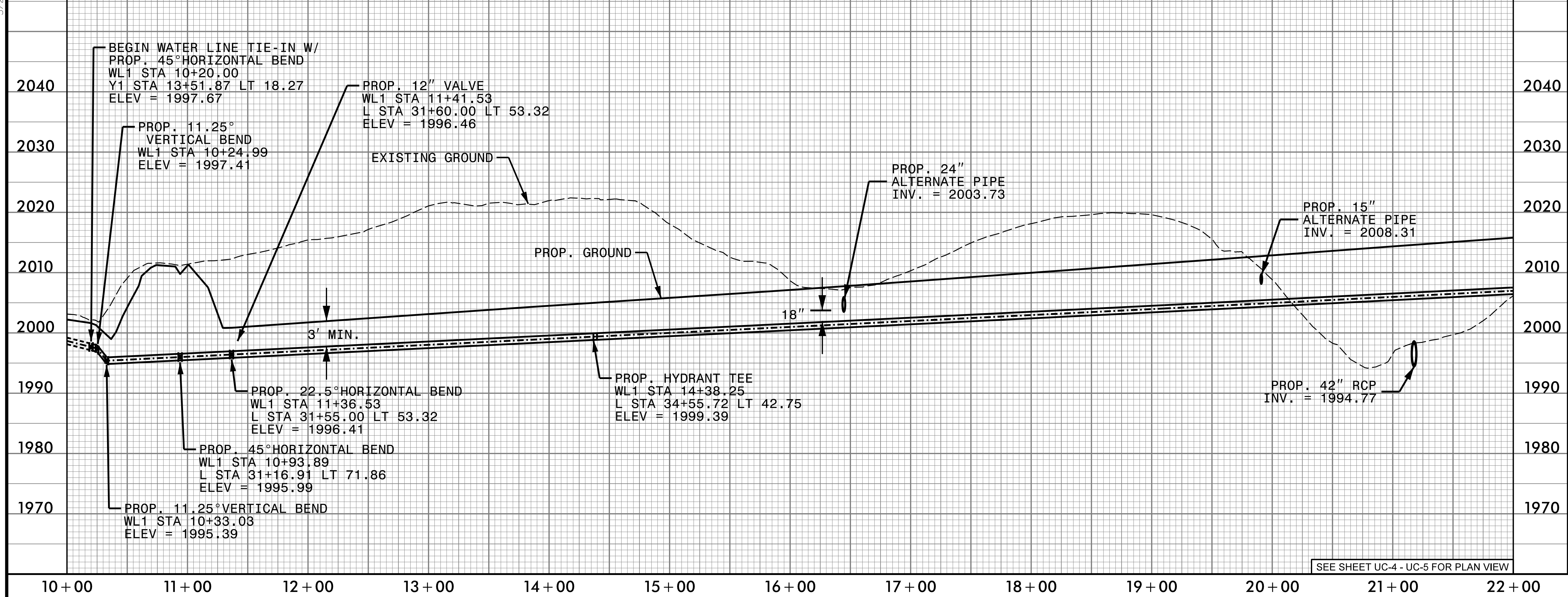
Weston & Sampson
 NC License: C-4647
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221



SHEET NOTES:
 A. REFER TO SHEETS UC-41 AND UC-42 FOR G6 PROFILE.
 B. REFER TO SHEET UC-30 FOR WL5 PROFILE.

5/28/09

12" WATER LINE -WL1-

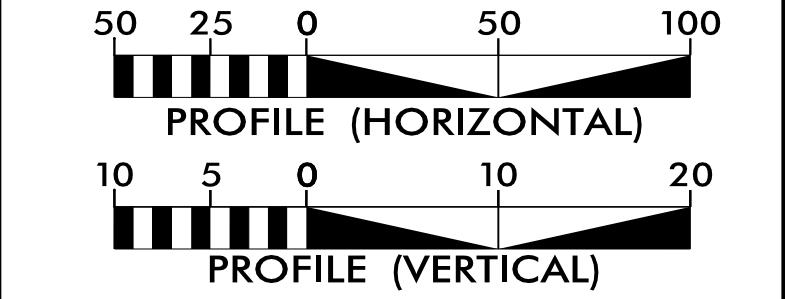


PROJECT REFERENCE NO. A-0011C	SHEET NO. UC-21
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

UTILITY CONSTRUCTION

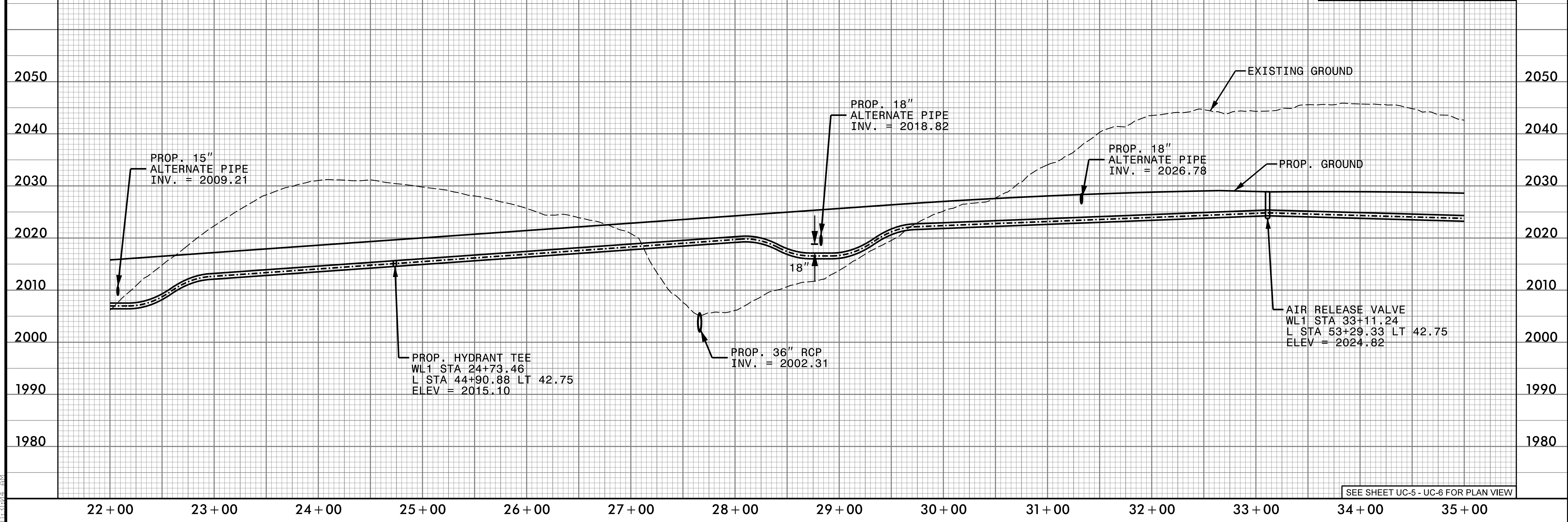
**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

Weston Sampson
 WSE of North Carolina, PC
 598 East Chatham Street Suite 137 Cary, NC 27511
 Phone: 919.297.0220 Fax: 919.297.0221



- NOTES:
- EXISTING PIPE AT TIE-IN LOCATIONS ARE ESTIMATED BASED ON TEST HOLE INFORMATION PROVIDED BY OTHERS OR ASSUMED TO HAVE 3 FEET OF COVER. CONTRACTOR SHALL FIELD VERIFY PIPE LOCATION BEFORE STARTING WORK.
 - ALL PROPOSED PIPE ELEVATIONS IN PROFILE REFER TO CENTER OF PIPE UNLESS INDICATED AS INVERT.
 - OPEN TRENCH CONSTRUCTION SHALL PROVIDE 3 FEET MINIMUM COVER FROM FINAL GRADE TO TOP OF PIPE.

12" WATER LINE -WL1-

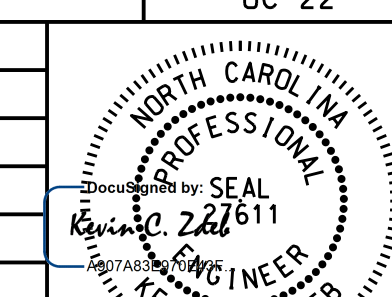



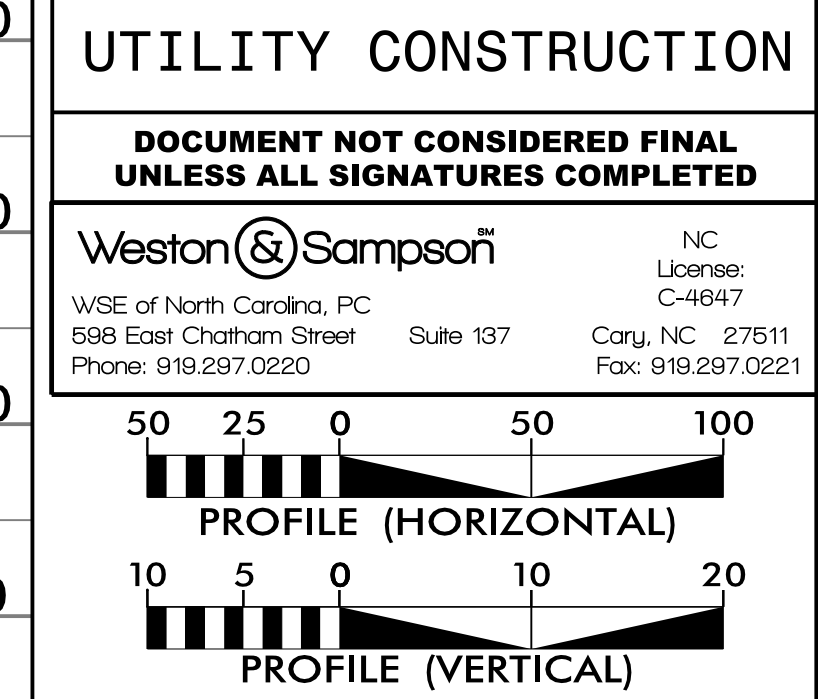
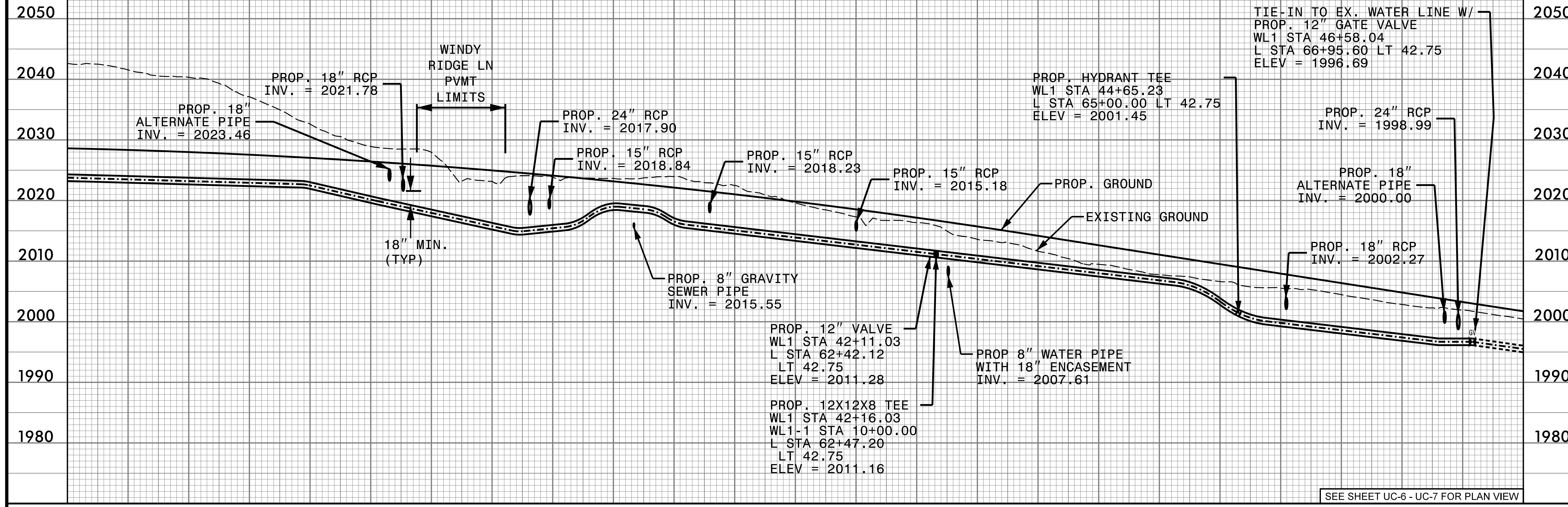
SEE SHEET UC-5 - UC-6 FOR PLAN VIEW

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5/28/2019

12" WATER LINE -WL1-

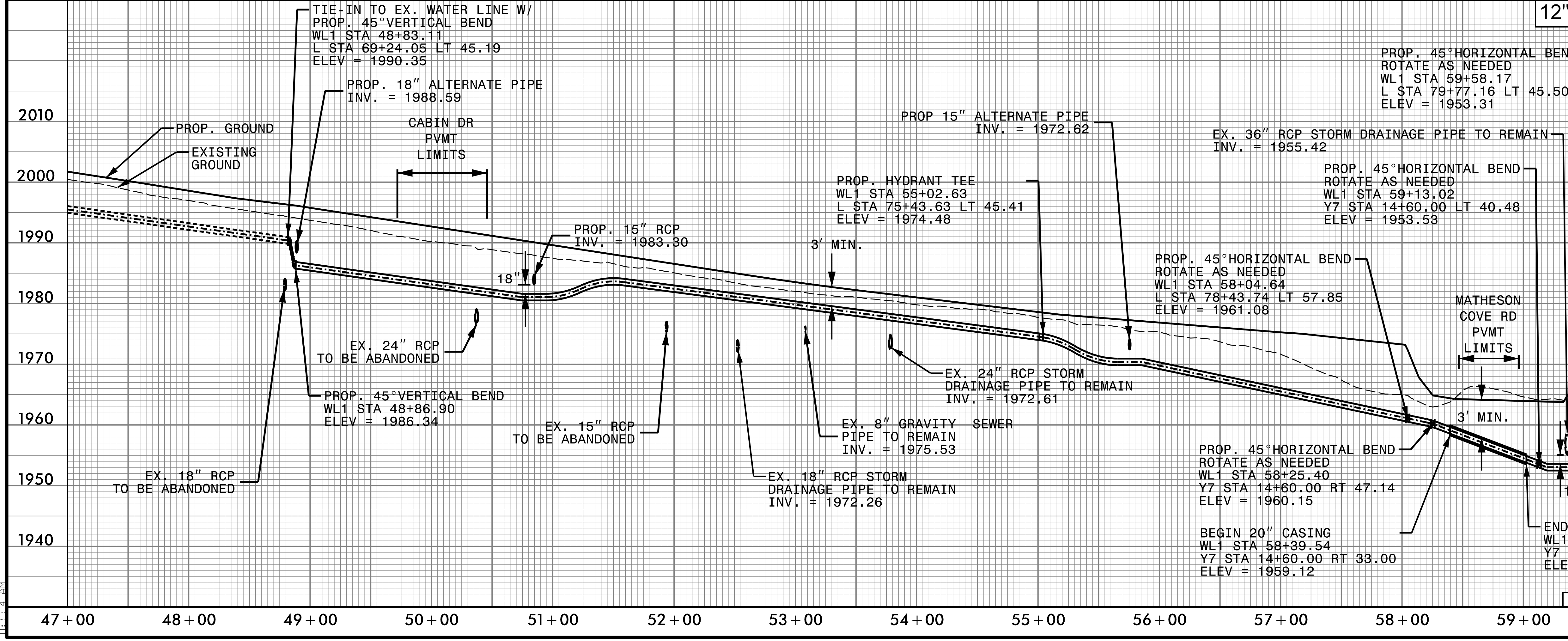
PROJECT REFERENCE NO. A-0011C	SHEET NO. UC-22
DESIGNED BY: KCZ	
DRAWN BY: VW	
CHECKED BY: SHF	
APPROVED BY: KCZ	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
UTILITY CONSTRUCTION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	
NC License: C-4647 WSE of North Carolina, PC 598 East Chatham Street Suite 137 Cary, NC 27511 Phone: 919.297.0220 Fax: 919.297.0221	



- NOTES:
- EXISTING PIPE AT TIE-IN LOCATIONS ARE ESTIMATED BASED ON TEST HOLE INFORMATION PROVIDED BY OTHERS OR ASSUMED TO HAVE 3 FEET OF COVER. CONTRACTOR SHALL FIELD VERIFY PIPE LOCATION BEFORE STARTING WORK.
 - ALL PROPOSED PIPE ELEVATIONS IN PROFILE REFER TO CENTER OF PIPE UNLESS INDICATED AS INVERT.
 - OPEN TRENCH CONSTRUCTION SHALL PROVIDE 3 FEET MINIMUM COVER FROM FINAL GRADE TO TOP OF PIPE.

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12" WATER LINE -WL1-



SEE SHEET UC-7 - UC-8 FOR PLAN VIEW