

T.I.P. NO.	SHEET NO.
R-5740	UC-1

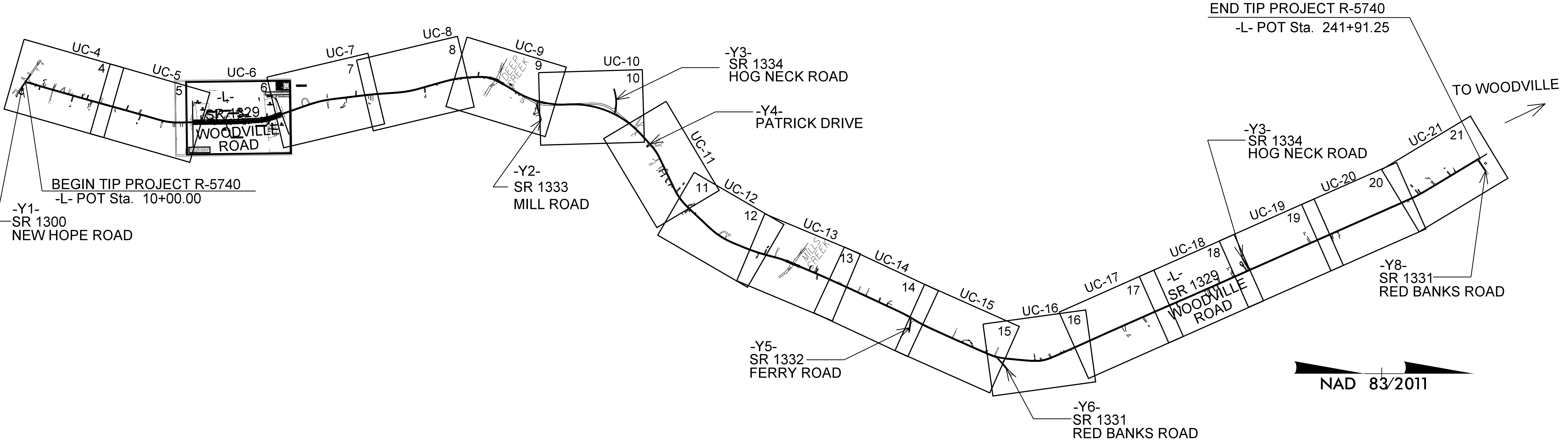
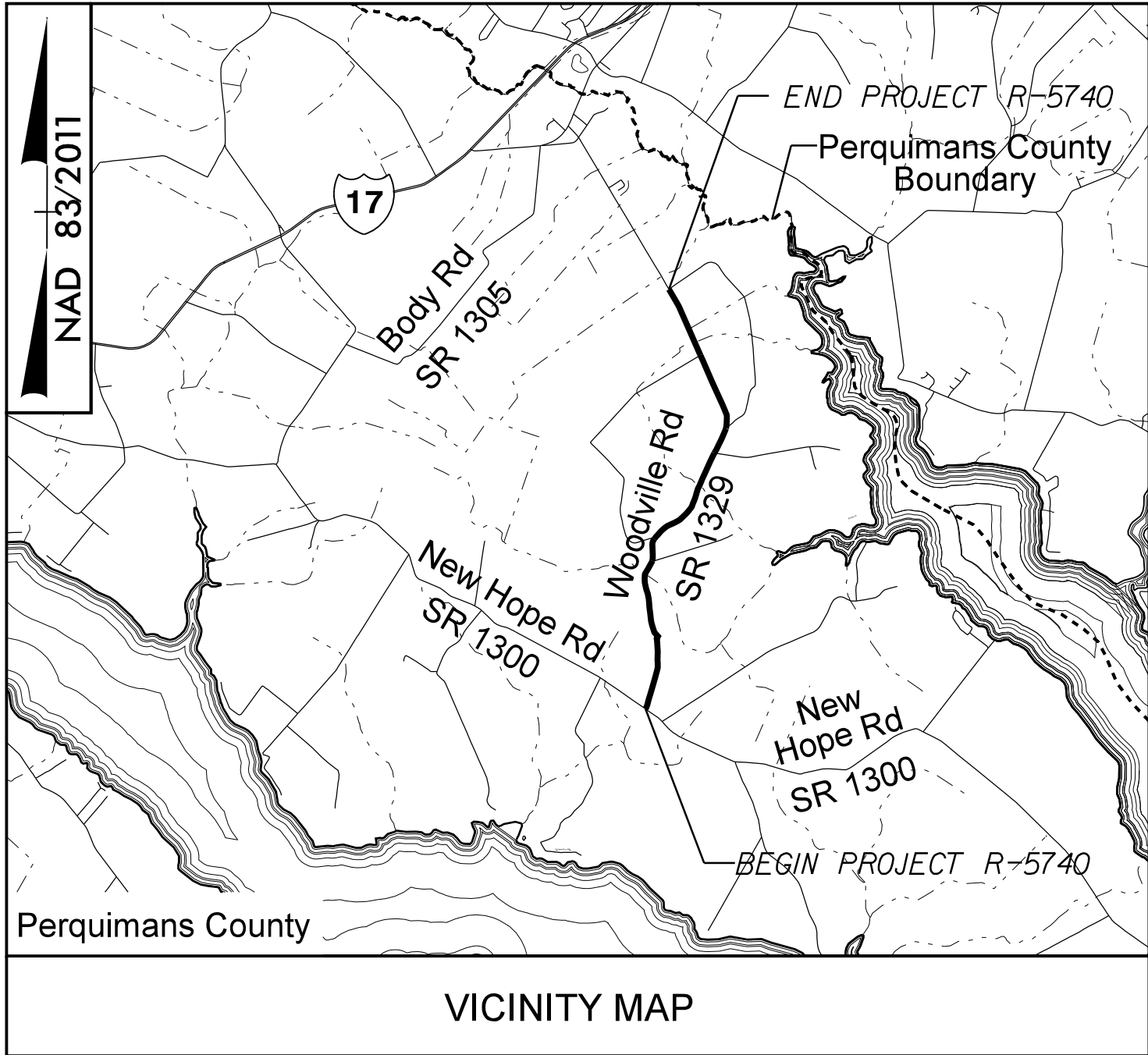
TIP PROJECT: R-5740

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

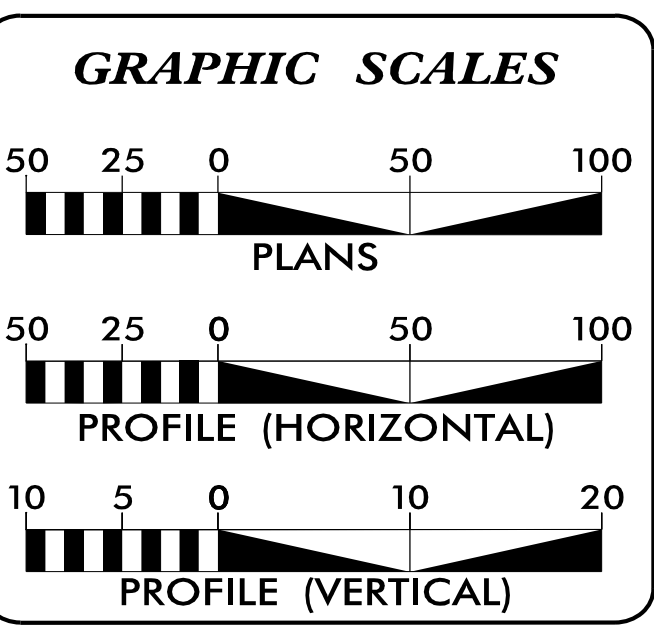
**UTILITY CONSTRUCTION PLANS
PERQUIMANS COUNTY**

LOCATION: SR 1329 (WOODVILLE ROAD) FROM SR 1331 (RED BANK ROAD - NORTH END) TO SR 1300 (NEW HOPE ROAD)

TYPE OF WORK: WATER LINE RELOCATION



DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED



SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4 THRU UC-21	UTILITY CONSTRUCTION SHEETS
UC-22 THRU UC-30	UTILITY PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER - PERQUIMANS COUNTY

PREPARED IN THE OFFICE OF

Dewberry

9300 HARRIS CORNERS PKWY
SUITE 220
CHARLOTTE, NC 28269
PHONE: 704.509.9918
NC COA No. F-0929

NATHAN CHAPMAN, PE CONSULTANT CONTACT #1

SEAL

Date: 12/6/19

**DIVISION OF HIGHWAYS
UTILITIES UNIT**

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

BARRY HOBBS, PE DIVISION PROJECT MANAGER
CHRIS SUTTON DIVISION UTILITIES COORDINATOR
FREDDIE BUNN PROJECT UTILITIES COORDINATOR (GESC)



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	+x
45 Degree Bend	+X
90 Degree Bend	†
Plug	■
Tee	††
Cross	†††
Reducer	▶
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	RFH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	PRPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RBFP

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	PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	o
Telephone Pole	o-
Joint Use Pole	o-
Telephone Pedestal	TEL PED
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	I
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM

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	A/G Gas
Power Manhole	⊙	*Underground Water Line	_____
Telephone Manhole	⊙	Aboveground Water Line	A/G Water
Sanitary Sewer Manhole	⊙	*Underground Gravity Sanitary Sewer Line	SS
Hand Hole for Cable	⊠	Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
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) _____

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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 2018.
2. THE EXISTING WATER UTILITIES BELONG TO PERQUIMANS COUNTY.
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. PROPOSED WATER LINE SHALL BE CONSTRUCTED OF PVC PIPE AS DESCRIBED IN SECTION 1036 OF THE NCDOT STANDARD SPECIFICATIONS CONCERNING WATER PIPE AND FITTINGS UNLESS OTHERWISE NOTED IN THE PLANS.
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 ANY BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
3. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.
4. WHILE THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ALL METER CONNECTIONS UP TO THE METER YOKE, THE UTILITY OWNER WILL PROVIDE AND INSTALL ALL WATER METERS AS CONSTRUCTION PROGRESSES. THE CONTRACTOR SHOULD COORDINATE WITH THE DEPARTMENT AND THE UTILITY OWNER REGARDING METER INSTALLATION.
5. IT IS THE CONTRACTORS OPTION TO REMOVE BENDS AS POSSIBLE USING JOINT DEFLECTION NOT TO EXCEED THE PIPE MANUFACTURERS RECOMMENDATION. ANY JOINTS TO BE REMOVED MUST BE SUBMITTED TO THE COUNTY AND APPROVED BY THE ENGINEER.
6. METER BOX LOCATIONS THAT CANNOT CONFORM TO THE "STANDARD 1" WATER SERVICE LINE AND METER BOX INSTALLATION" DETAIL ON SHEET UC-3B MUST BE APPROVED BY THE DEPARTMENT AND UTILITY OWNER.

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-3
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
Date: 12/6/19 UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



5/14/99

PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-3A
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISID:	Date: 12/8/19
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

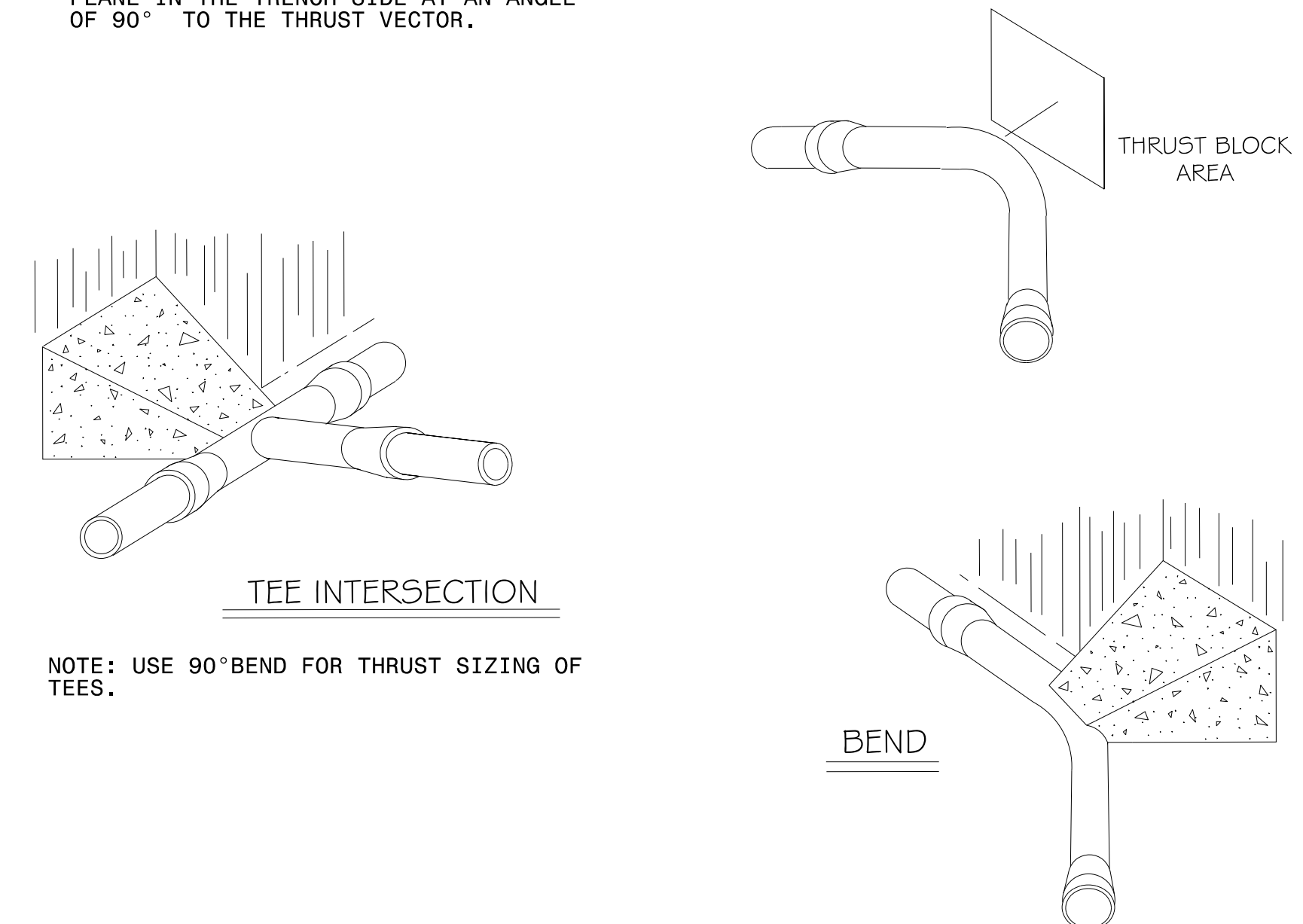
UTILITY CONSTRUCTION



REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
BASED ON TEST PRESSURE OF 200 P.S.I.
ALL AREAS GIVEN IN SQUARE FEET.

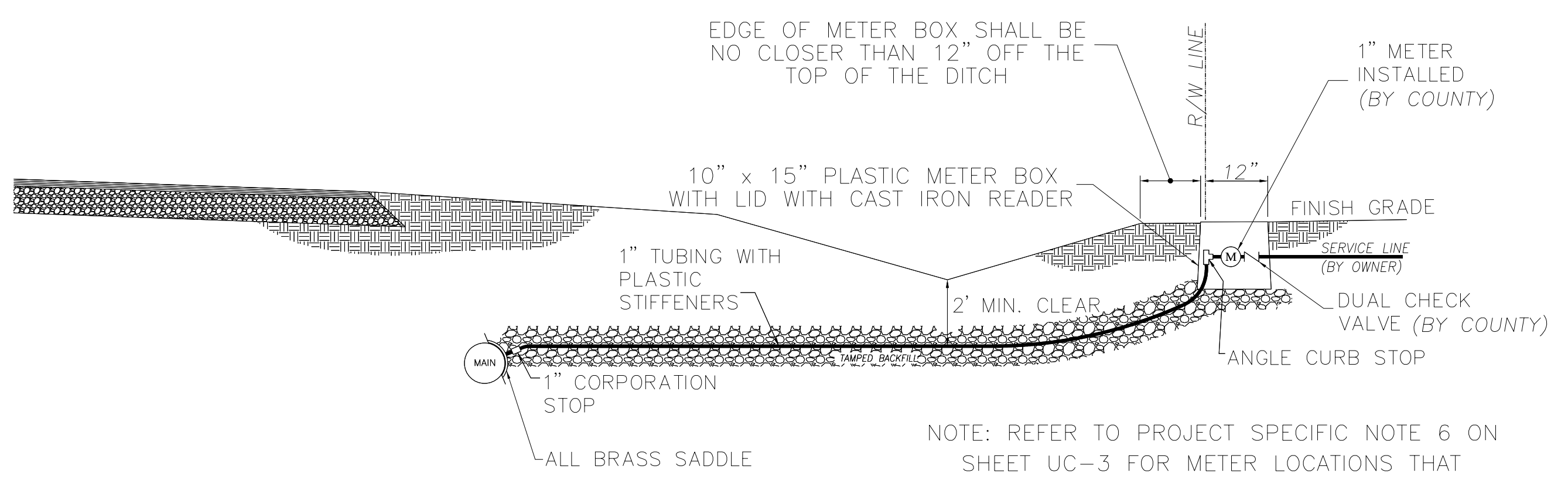
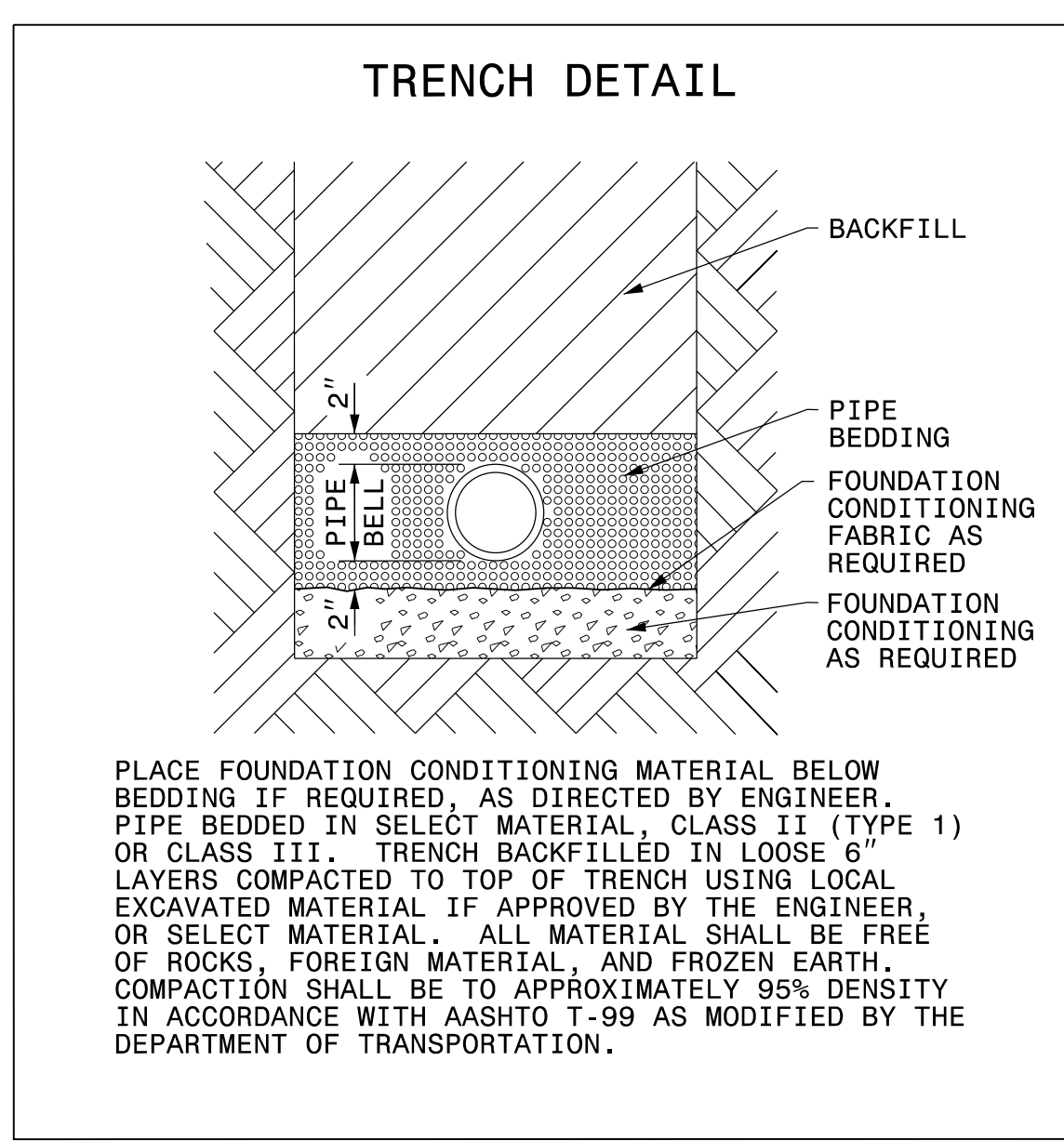
SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY 4000 LBS/FT ²	SOFT CLAY 2000 LBS/FT ²	1800 LBS/FT ² GRAVEL / COARSE SAND	8000 LBS/FT ² CLAY - ALWAYS DRY	SAND - COMPACT FIRM 8000 LBS/FT ²	SAND - CLEAN DRY 4000 LBS/FT ²	SOIL 1000 LBS/FT ² QUICKSAND - VERY POOR	ROCK TO 1000 LBS/FT ²
4" & 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	5	1	
90°/TEE	7,996	2	4	5	1	1	8	1	
PLUG	5,655	2	3	4	1	1	6	1	
8"									
11 1/4°	1,970	1	1	2	1	1	2	1	
22 1/2°	3,922	1	2	3	1	1	4	1	
45°	7,634	2	4	5	1	1	8	1	
90°/TEE	14,215	4	8	9	2	2	15	2	
PLUG	10,053	3	5	6	2	2	10	1	

NOTE: REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.

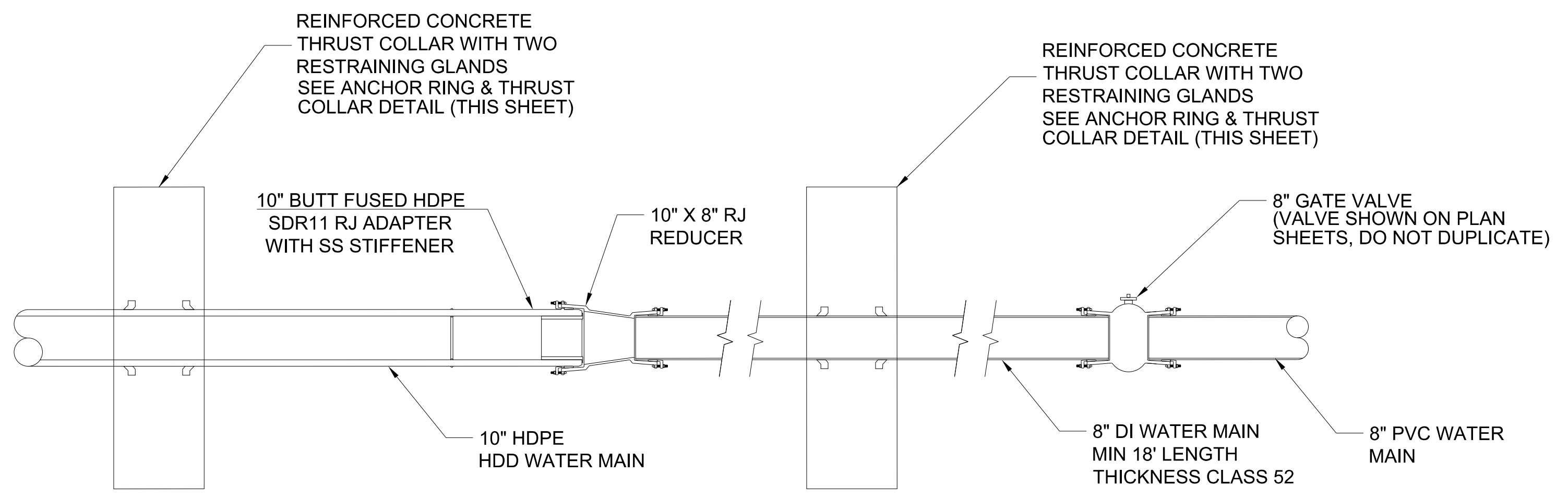


NOTE: USE 90° BEND FOR THRUST SIZING OF TEES.

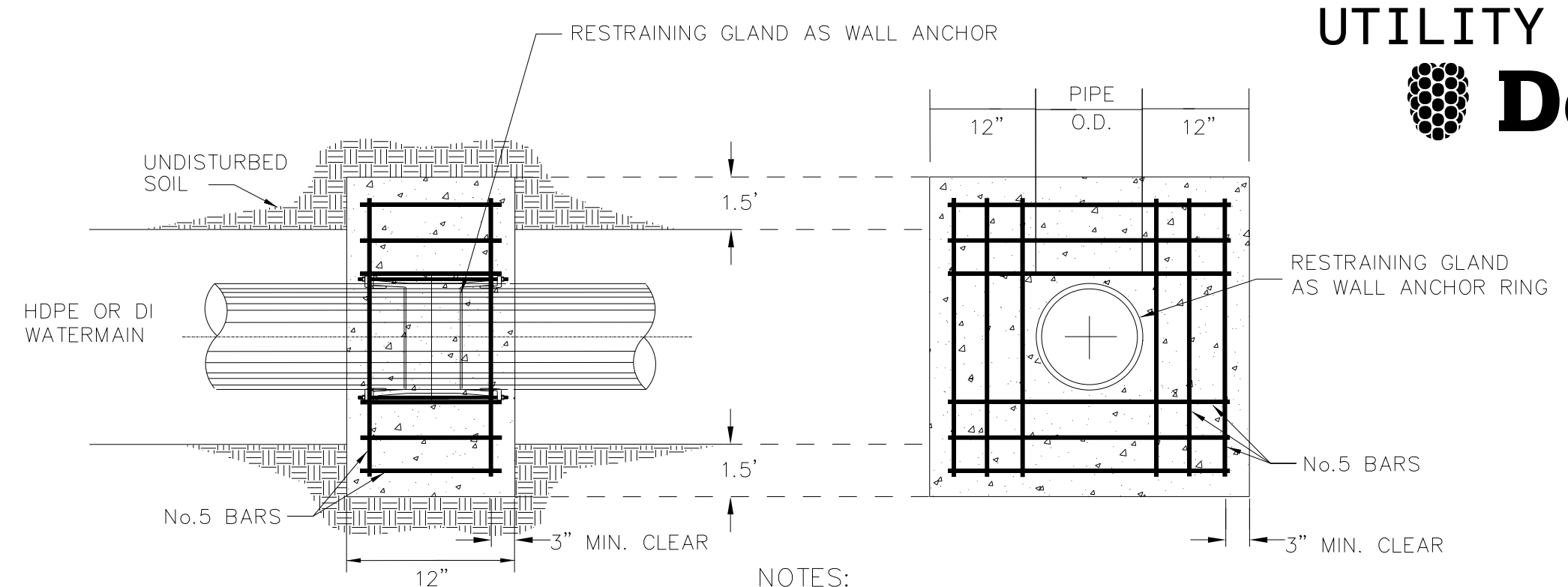
STANDARD REACTION BLOCKING
NO SCALE



STANDARD 1" WATER SERVICE LINE AND METER BOX INSTALLATION
NO SCALE

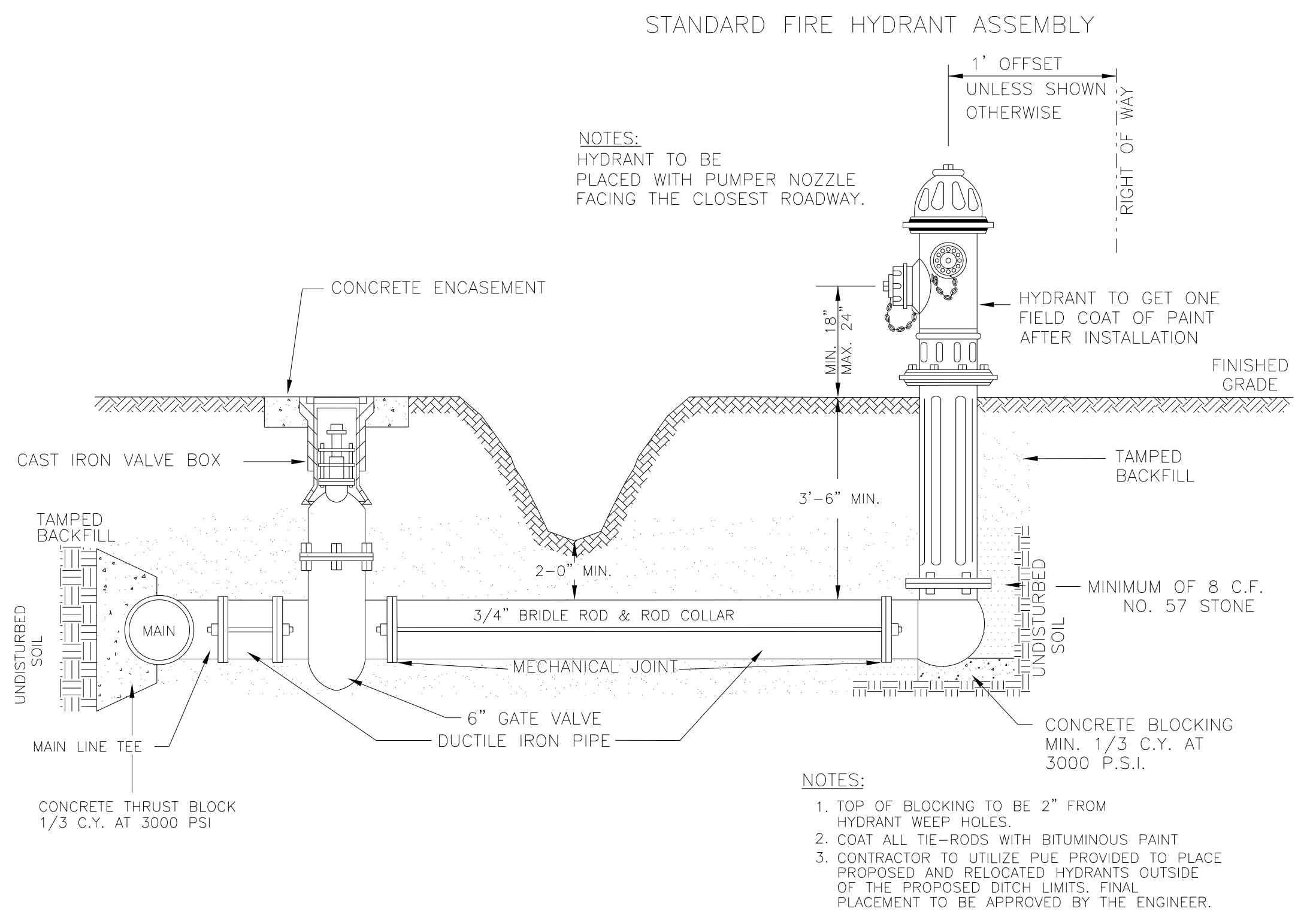


STANDARD HDPE TRANSITION
NO SCALE

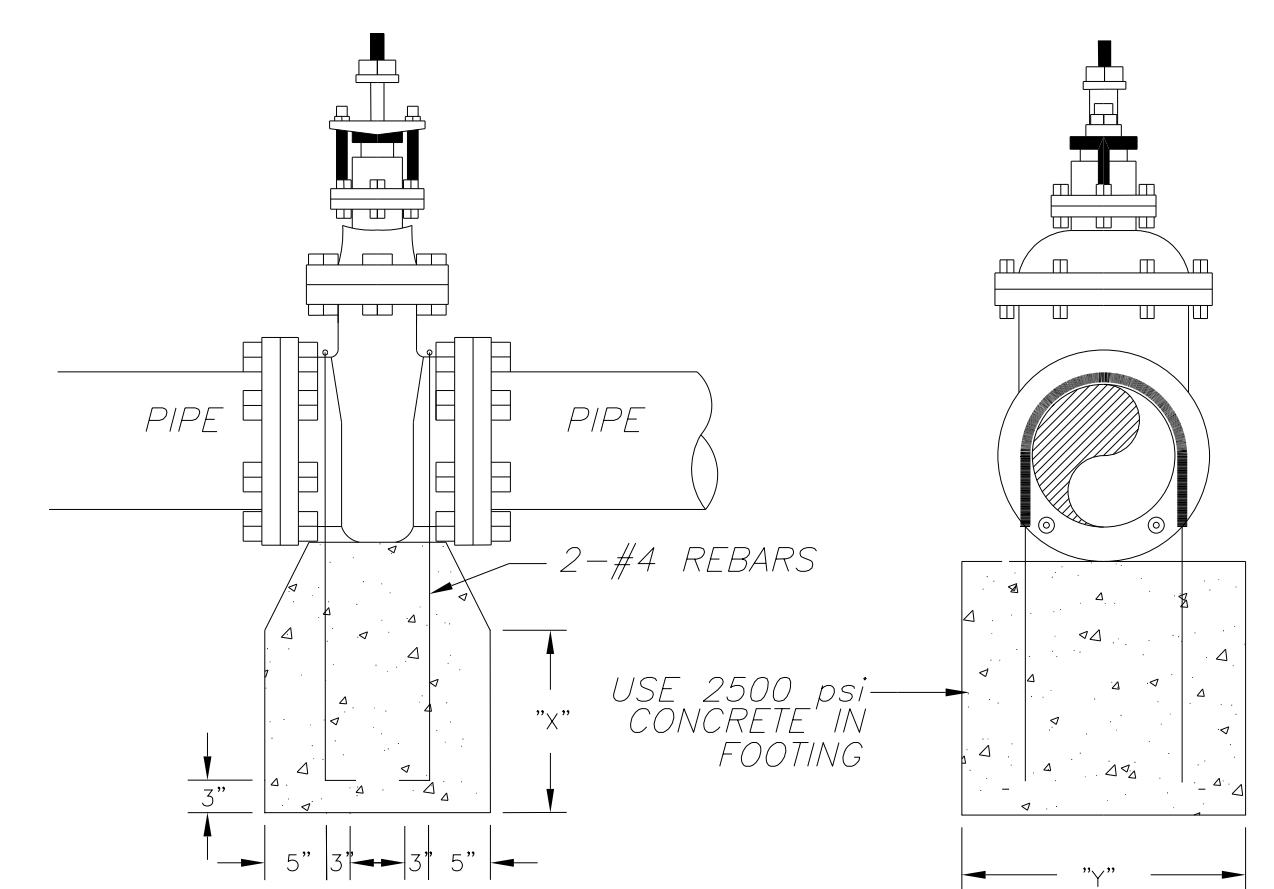


- NOTES:**
1. CONCRETE FOR THRUST COLLAR EXTENDING 1.5' INTO SIDES OF TRENCH SHALL BE POURED AGAINST FIRM, UNDISTURBED EARTH.
 2. CONCRETE SHALL BE 2500 P.S.I.
 3. USE RESTRAINING GLANDS AS WALL ANCHOR RING
 4. BEARING AREA CALCULATED USING $A=1.5*(F/P)$ WHERE A=THE BEARING AREA, F=PULLOUT FORCE OF WATERMAIN, P=SOIL PRESSURE
 5. SOIL PRESSURE ASSUMED TO BE 4000 LBS/FT, PULLOUT FORCE ASSUMED TO BE 20474 LBS CONTRACTOR TO VERIFY SOIL PRESSURE AND PULLOUT FORCE ASSUMPTIONS BEFORE CONSTRUCTION

ANCHOR RING & THRUST COLLAR
NO SCALE



STANDARD HYDRANT INSTALLATION
NO SCALE

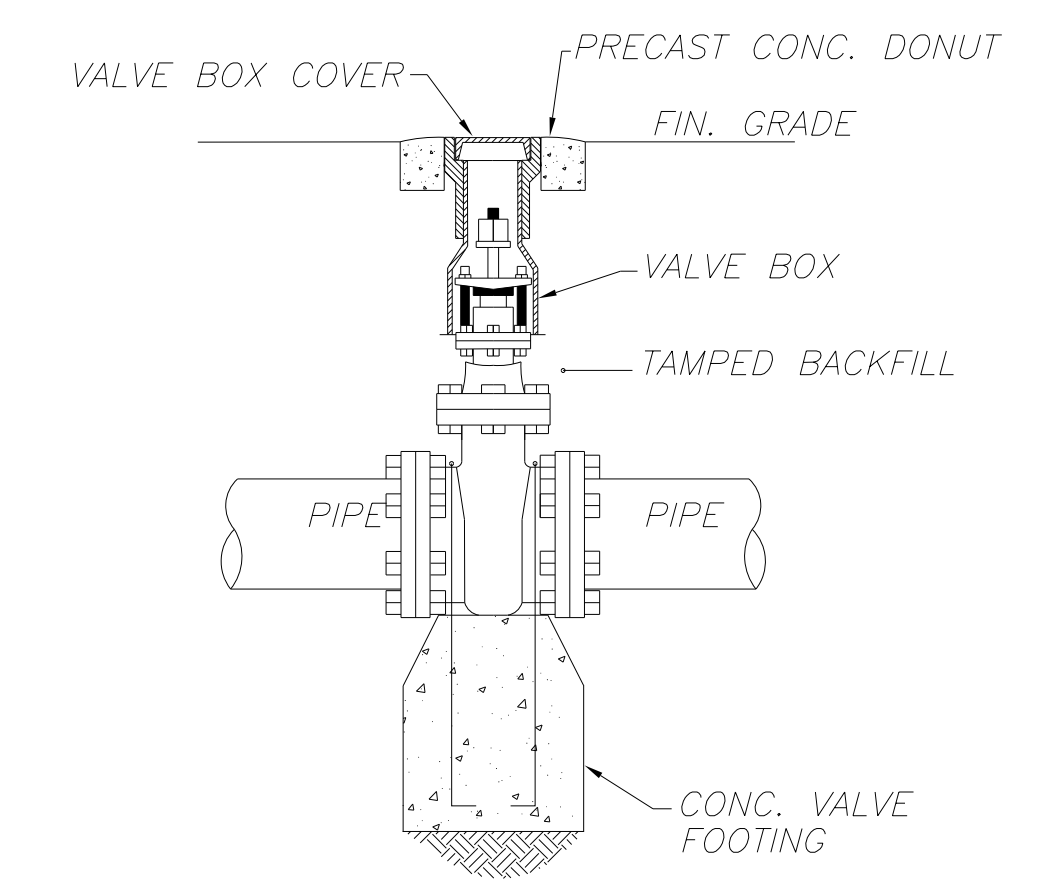


NOTES:

1. COAT EXPOSED STEEL RODS WITH BITUMINOUS BASE PAINT.
2. X x Y MUST EQUAL THE SQUARE FOOTAGE OF THE BEARING AREA SHOWN IN THE TABLE BELOW

TYPE OF MATERIAL	BEARING SURFACE AREA FOR VALVE FOOTINGS			
	VALVE SIZE			
	4"	6"	8"	12"
QUICKSAND, POOR SOIL (1000psf)	3	7	12	28
GRAVE, COURSE SAND(1600psf)	2	5	8	20
SOFT CLAY(2000psf)	2	4	6	16
FAIRLY DRY CLAY, CLEAN DRY SAND(4000psf)	1	2	3	8
DRY CLAY, COMPACT SAND(8000psf)	1	1	2	4
POOR ROCK(10,000psf)	1	1	2	4

STANDARD GATE VALVE FOOTING
NO SCALE



NOTE
VALVE BOX SHALL NOT CONTACT VALVE OR MAIN.

STANDARD VALVE BOX INSTALLATION

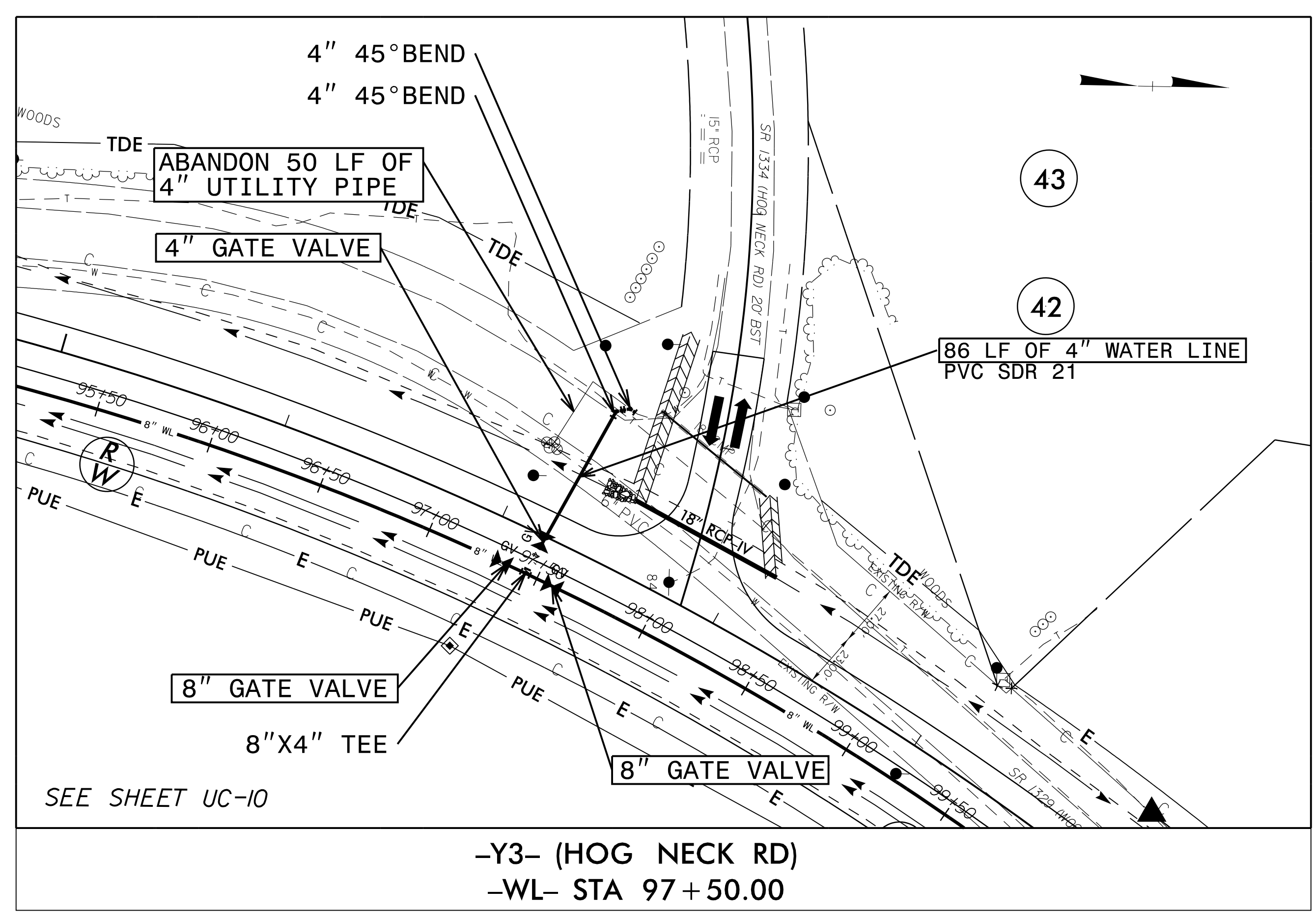
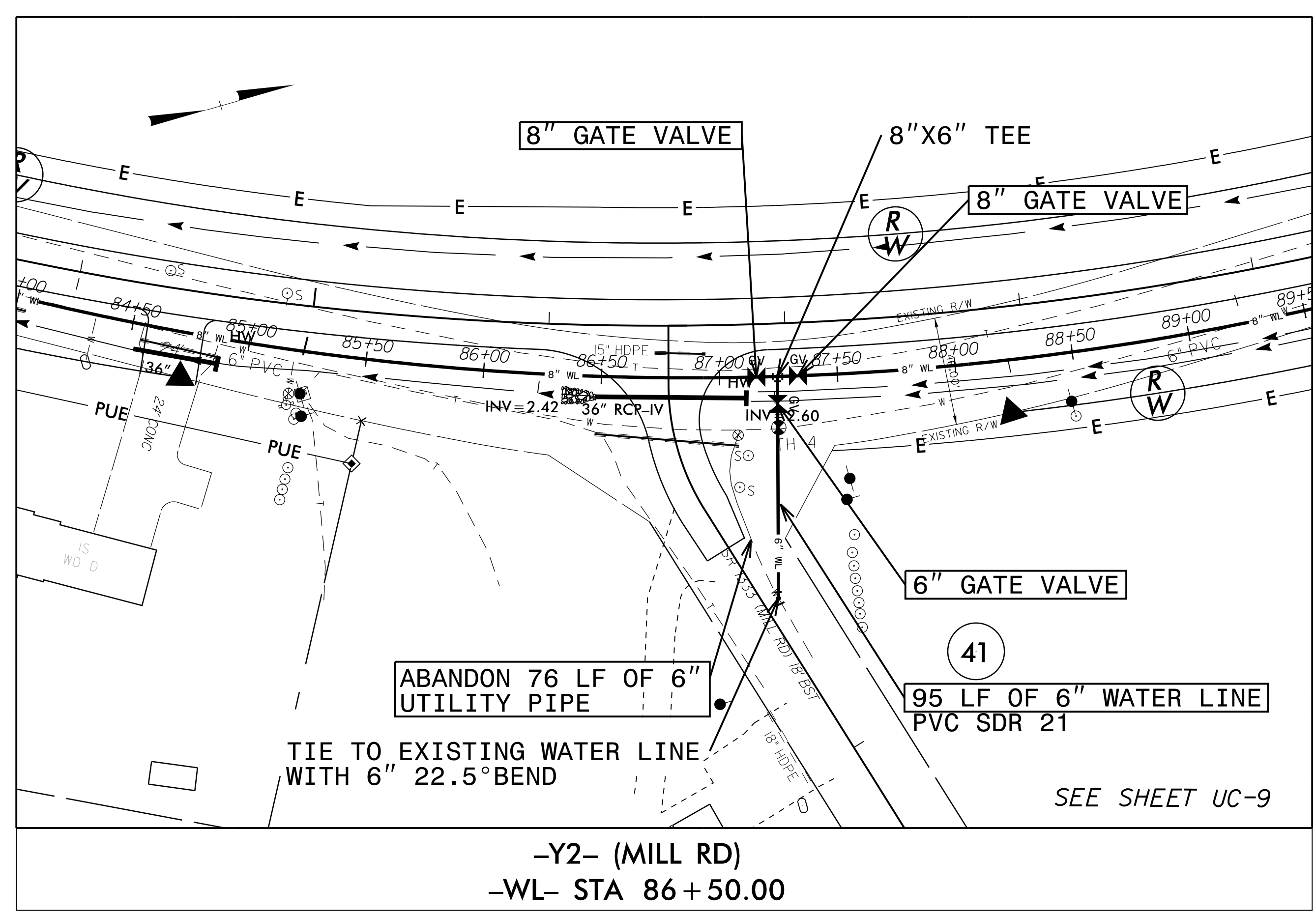
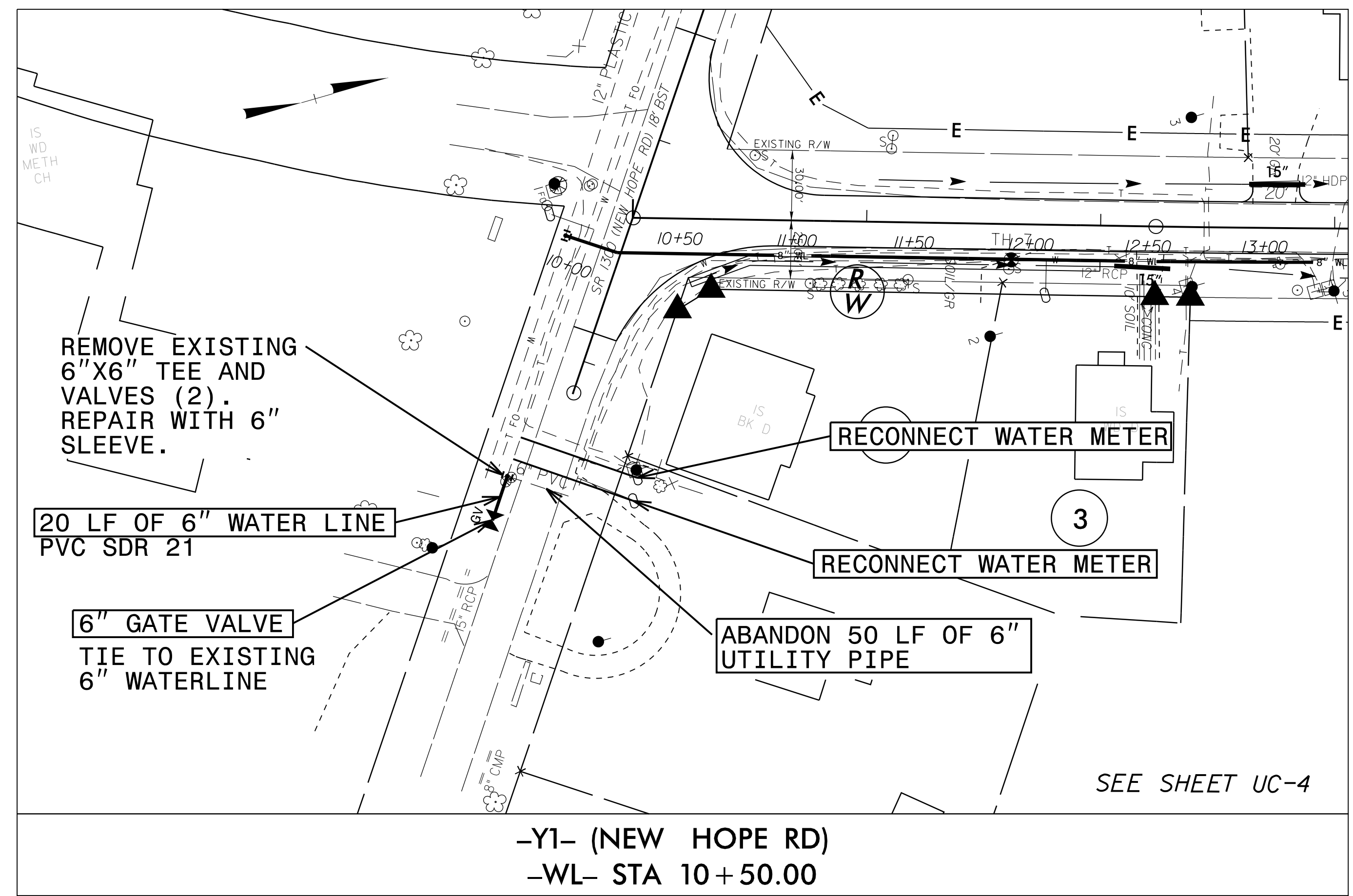
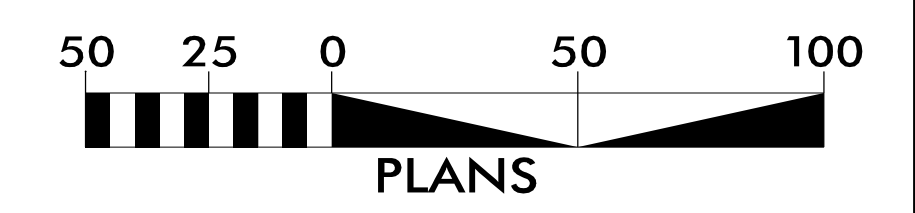
NO SCALE

5/14/20

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-03C
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	1/14/2020 UTILITY CONSTRUCTION PLANS ONLY

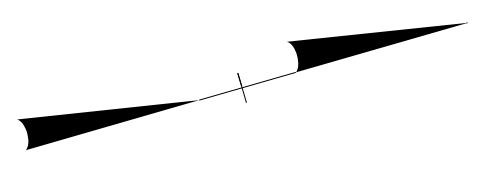
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

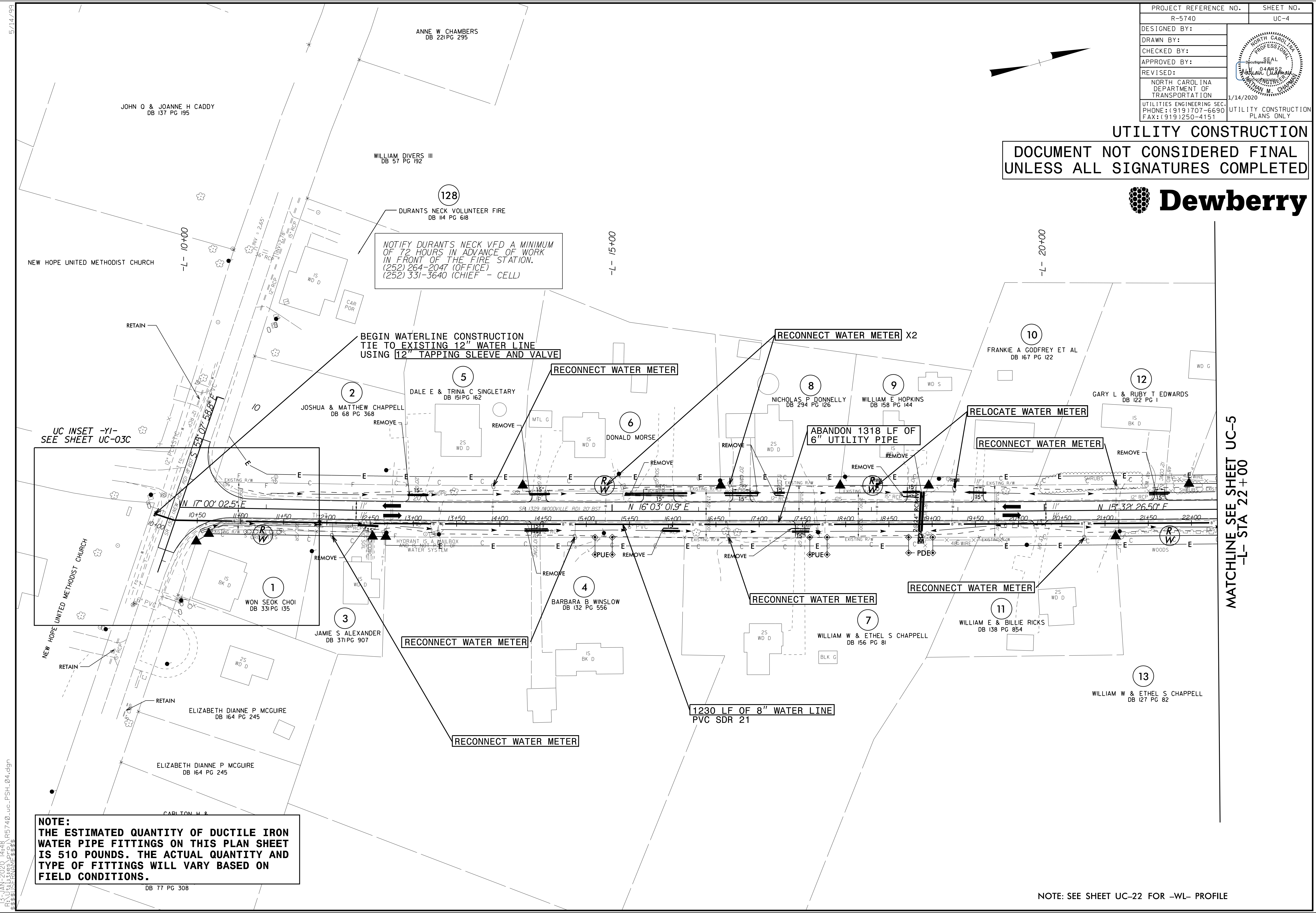


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PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-4
DESIGNED BY:	
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CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 1250-4151	
UTILITY CONSTRUCTION PLANS ONLY 1/14/2020	



UTILITY CONSTRUCTION
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NOTIFY DURANTS NECK VFD A MINIMUM OF 72 HOURS IN ADVANCE OF WORK IN FRONT OF THE FIRE STATION.
 (252) 264-2047 (OFFICE)
 (252) 331-3640 (CHIEF - CELL)

BEGIN WATERLINE CONSTRUCTION TIE TO EXISTING 12" WATER LINE USING 12" TAPPING SLEEVE AND VALVE

RECONNECT WATER METER X2

RECONNECT WATER METER

ABANDON 1318 LF OF 6" UTILITY PIPE

RELOCATE WATER METER

RECONNECT WATER METER

RECONNECT WATER METER

RECONNECT WATER METER

RECONNECT WATER METER

RECONNECT WATER METER

1230 LF OF 8" WATER LINE PVC SDR 21

NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 510 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

MATCHLINE SEE SHEET UC-5
 -L- STA 22+00

NOTE: SEE SHEET UC-22 FOR -WL- PROFILE

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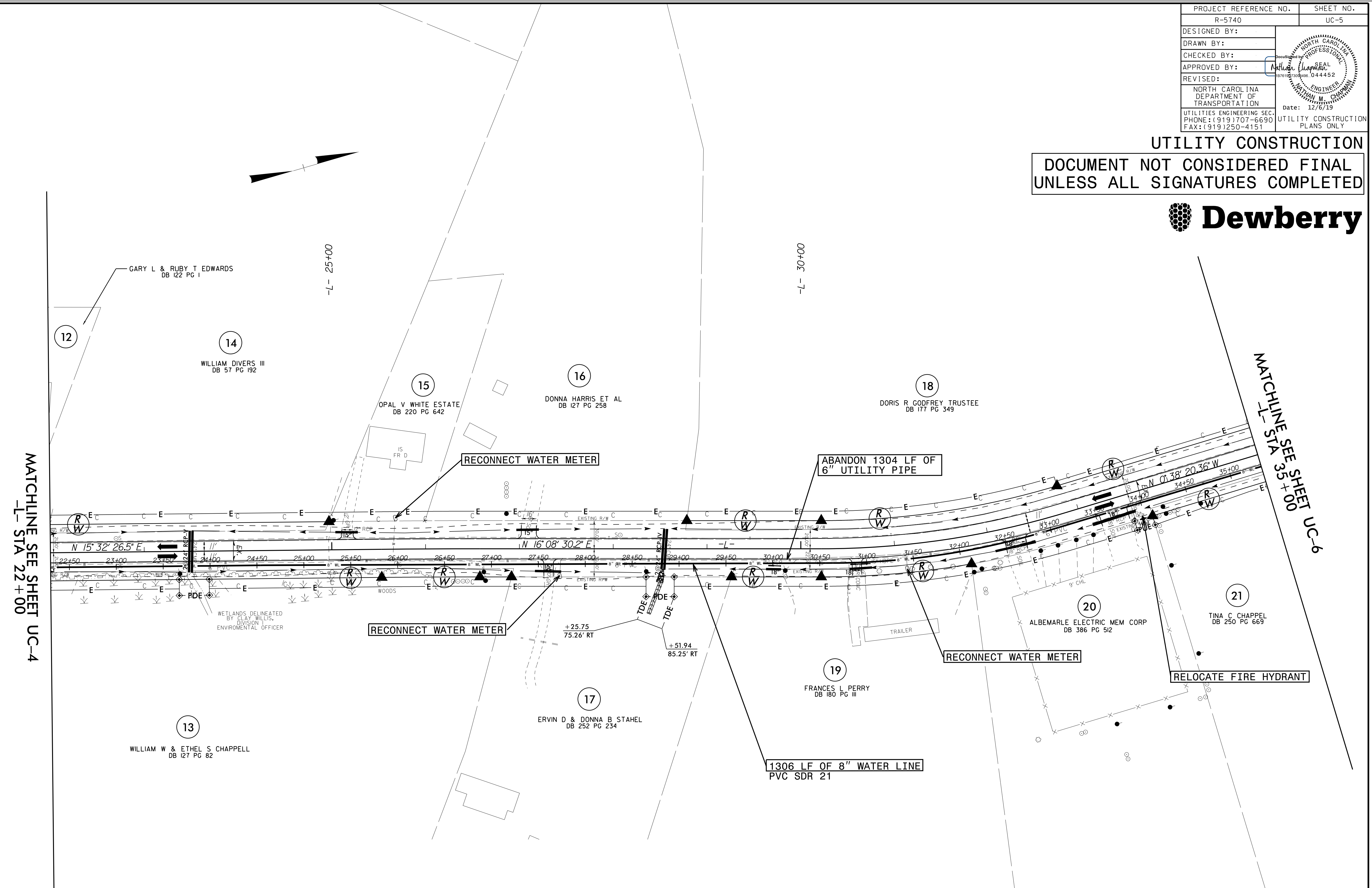
DB 77 PG 308

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-5
DESIGNED BY:	
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APPROVED BY:	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION Date: 12/6/19 UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

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NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON
 WATER PIPE FITTINGS ON THIS PLAN SHEET
 IS 0 POUNDS. THE ACTUAL QUANTITY AND
 TYPE OF FITTINGS WILL VARY BASED ON
 FIELD CONDITIONS.

NOTE: SEE SHEET UC-22 FOR -WL- PROFILE

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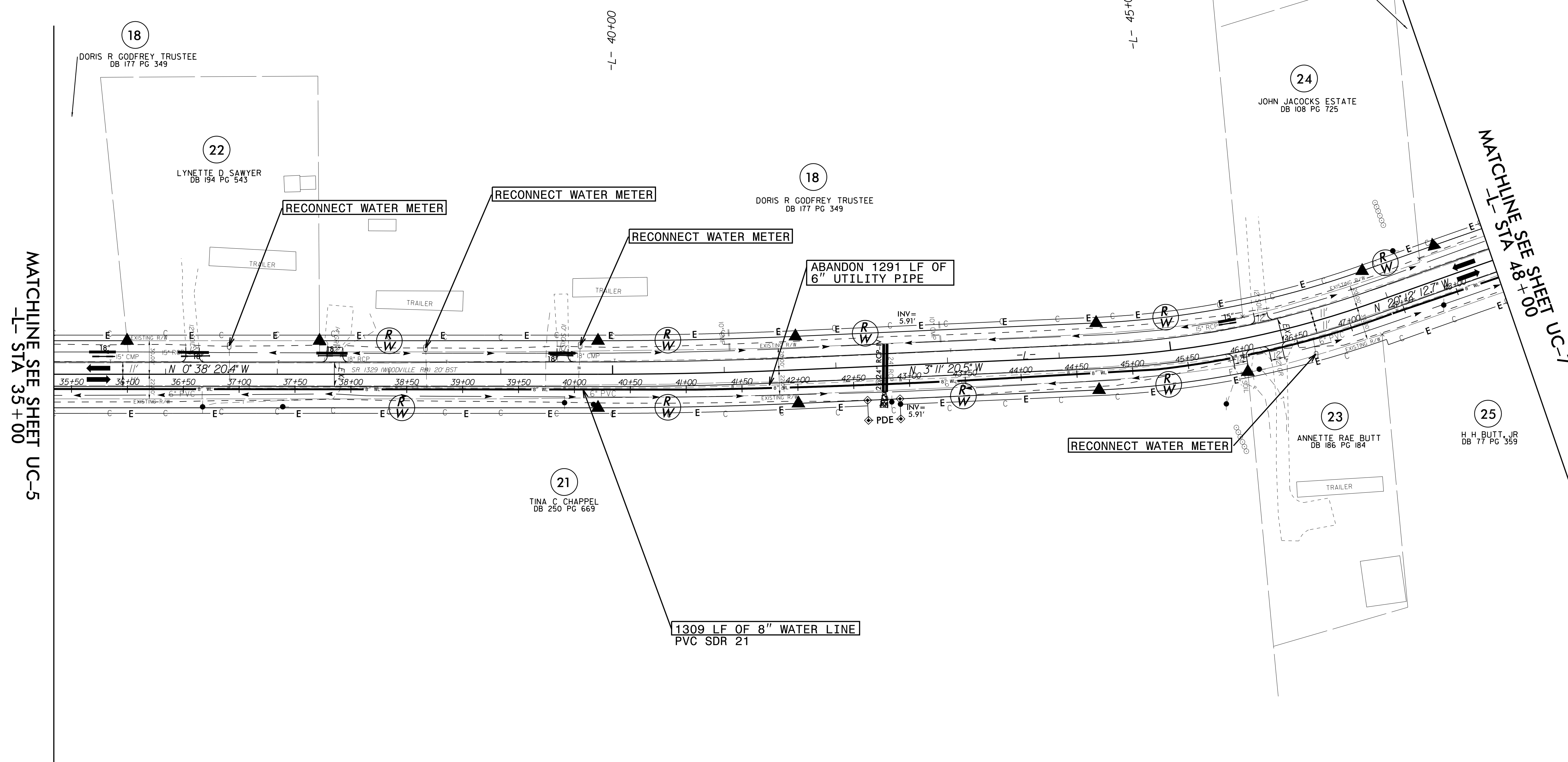
5/14/19

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-6
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	Date: 12/6/19
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 1250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

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26 LAURA WEAVER DB 34 PG 227



NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 0 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

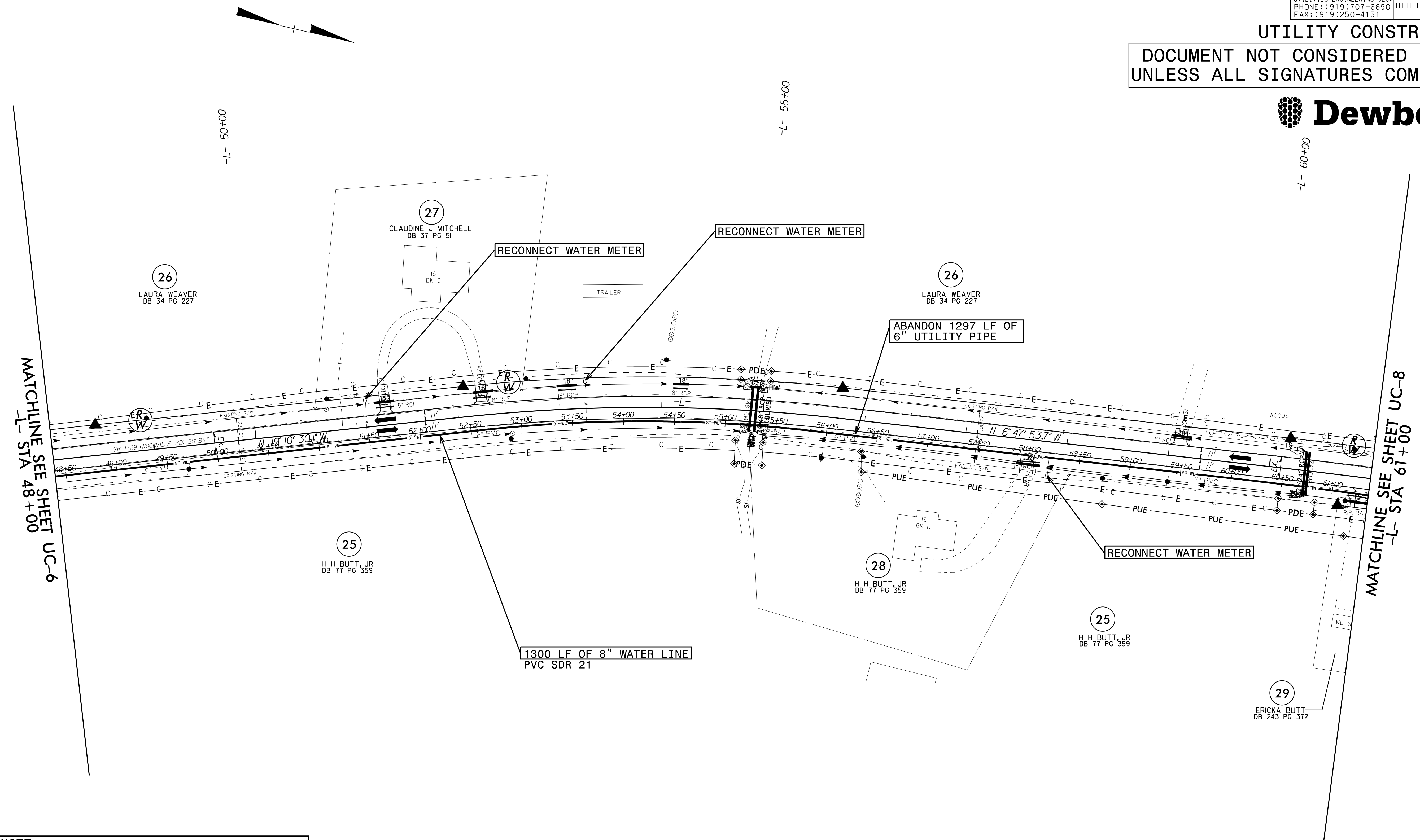
NOTE: SEE SHEETS UC-22 & UC-23 FOR -WL- PROFILE

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PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-7
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	Date: 12/6/19
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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NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON
 WATER PIPE FITTINGS ON THIS PLAN SHEET
 IS 0 POUNDS. THE ACTUAL QUANTITY AND
 TYPE OF FITTINGS WILL VARY BASED ON
 FIELD CONDITIONS.

NOTE: SEE SHEET UC-23 FOR -WL- PROFILE

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-8
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISD BY:	Date: 12/6/19
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 1250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

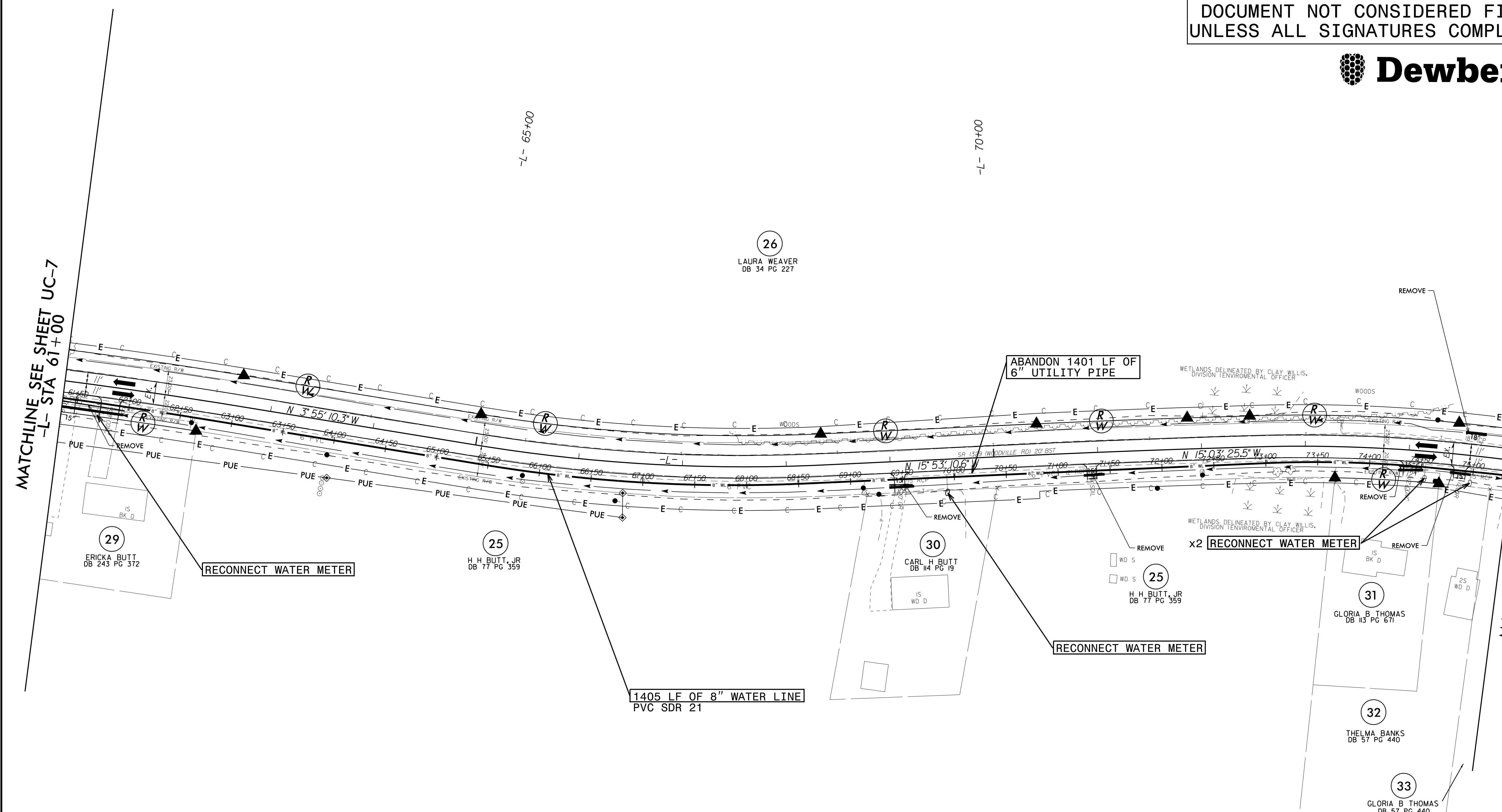
UTILITY CONSTRUCTION

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MATCHLINE SEE SHEET UC-7
-L- STA 61+00

MATCHLINE SEE SHEET UC-9
-L- STA 75+00



NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 0 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

NOTE: SEE SHEETS UC-23 & UC-24 FOR -WL- PROFILE

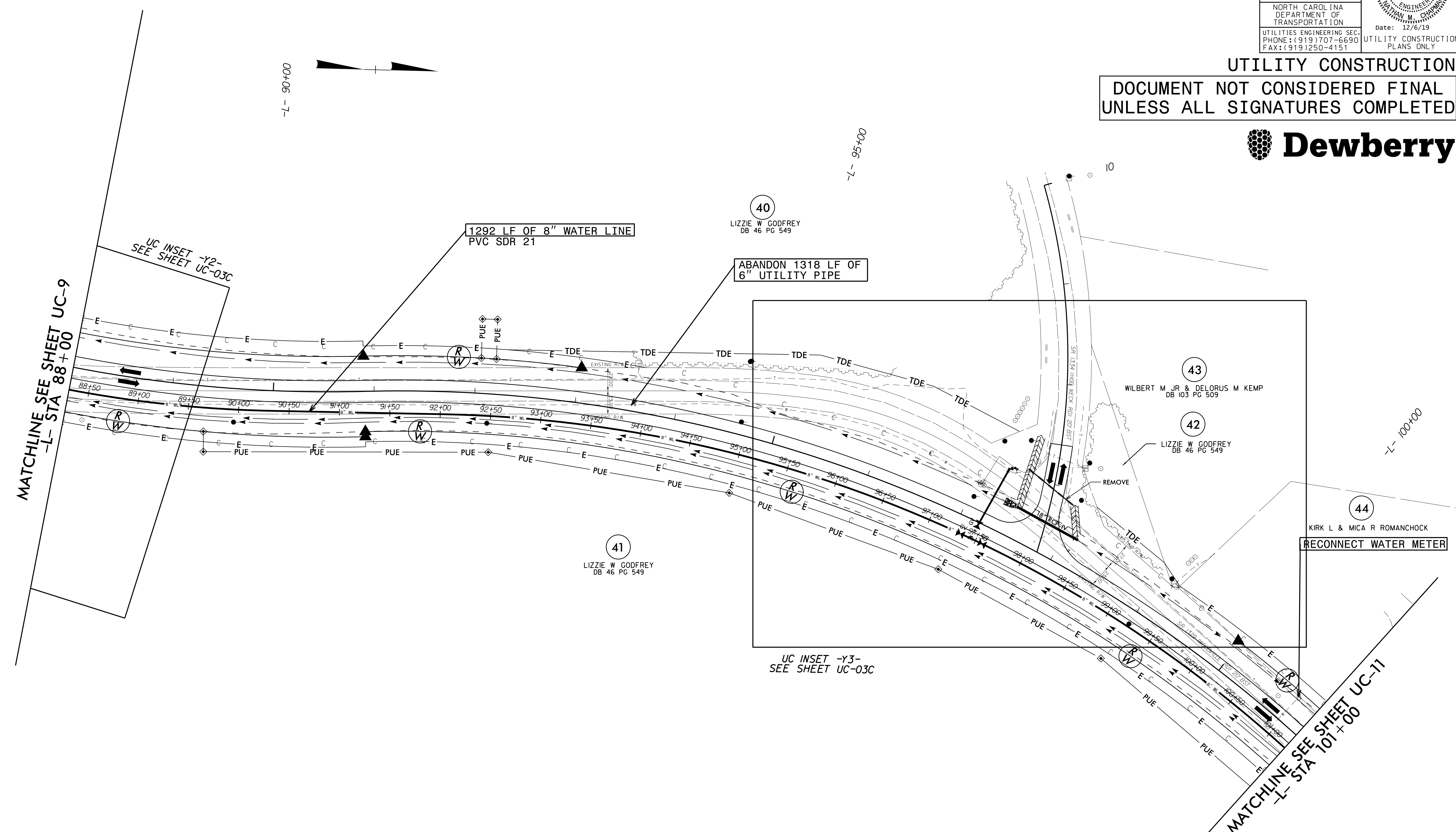
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-10
DESIGNED BY:	
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UTILITY CONSTRUCTION

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NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 265 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

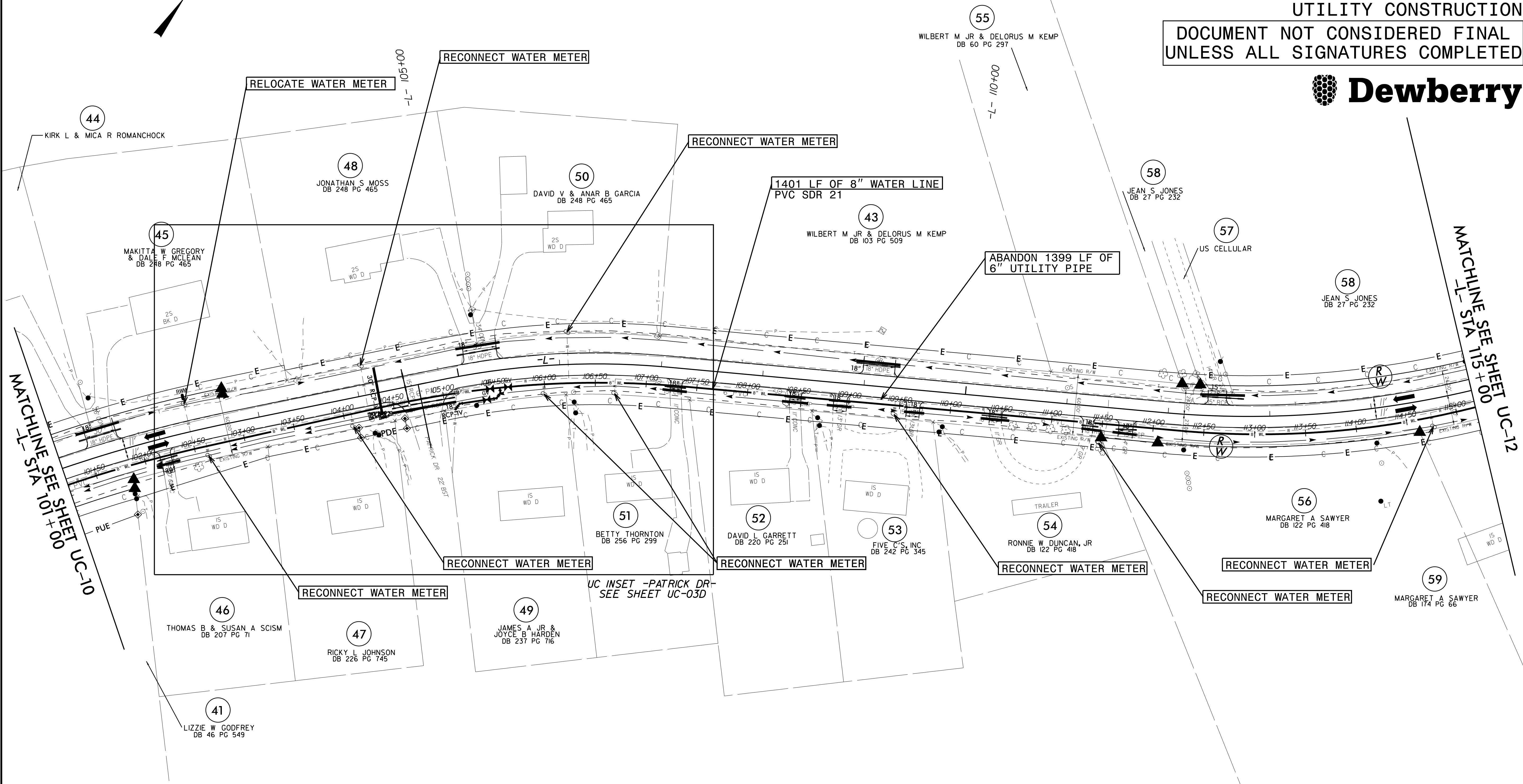
NOTE: SEE SHEETS UC-24 & UC-25 FOR -WL- PROFILE

04-DEC-2019 18:11
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ASB/STW/MLM/SSS

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-11
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	Date: 12/6/19
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 1250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

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



NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON
 WATER PIPE FITTINGS ON THIS PLAN SHEET
 IS 475 POUNDS. THE ACTUAL QUANTITY AND
 TYPE OF FITTINGS WILL VARY BASED ON
 FIELD CONDITIONS.

NOTE: SEE SHEET UC-25 FOR -L- PROFILE

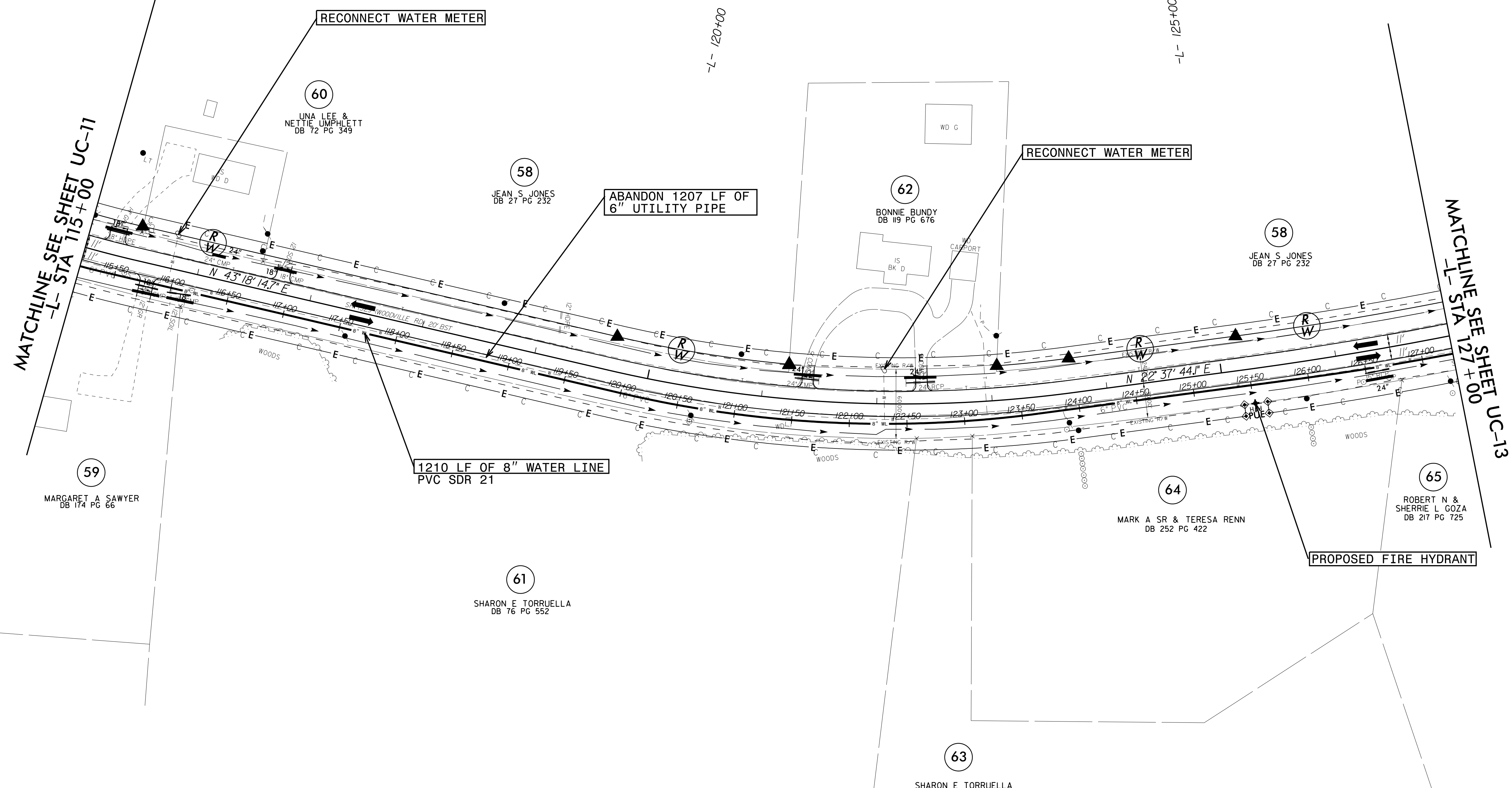
04-DEC-2019 18:11
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 \$\$\$\$

5/14/19

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-12
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 1250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON
 WATER PIPE FITTINGS ON THIS PLAN SHEET
 IS 0 POUNDS. THE ACTUAL QUANTITY AND
 TYPE OF FITTINGS WILL VARY BASED ON
 FIELD CONDITIONS.

NOTE: SEE SHEETS UC-25 & UC-26 FOR -WL- PROFILE

04-DEC-2019 18:11
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S:\SUBMITTALS\191215

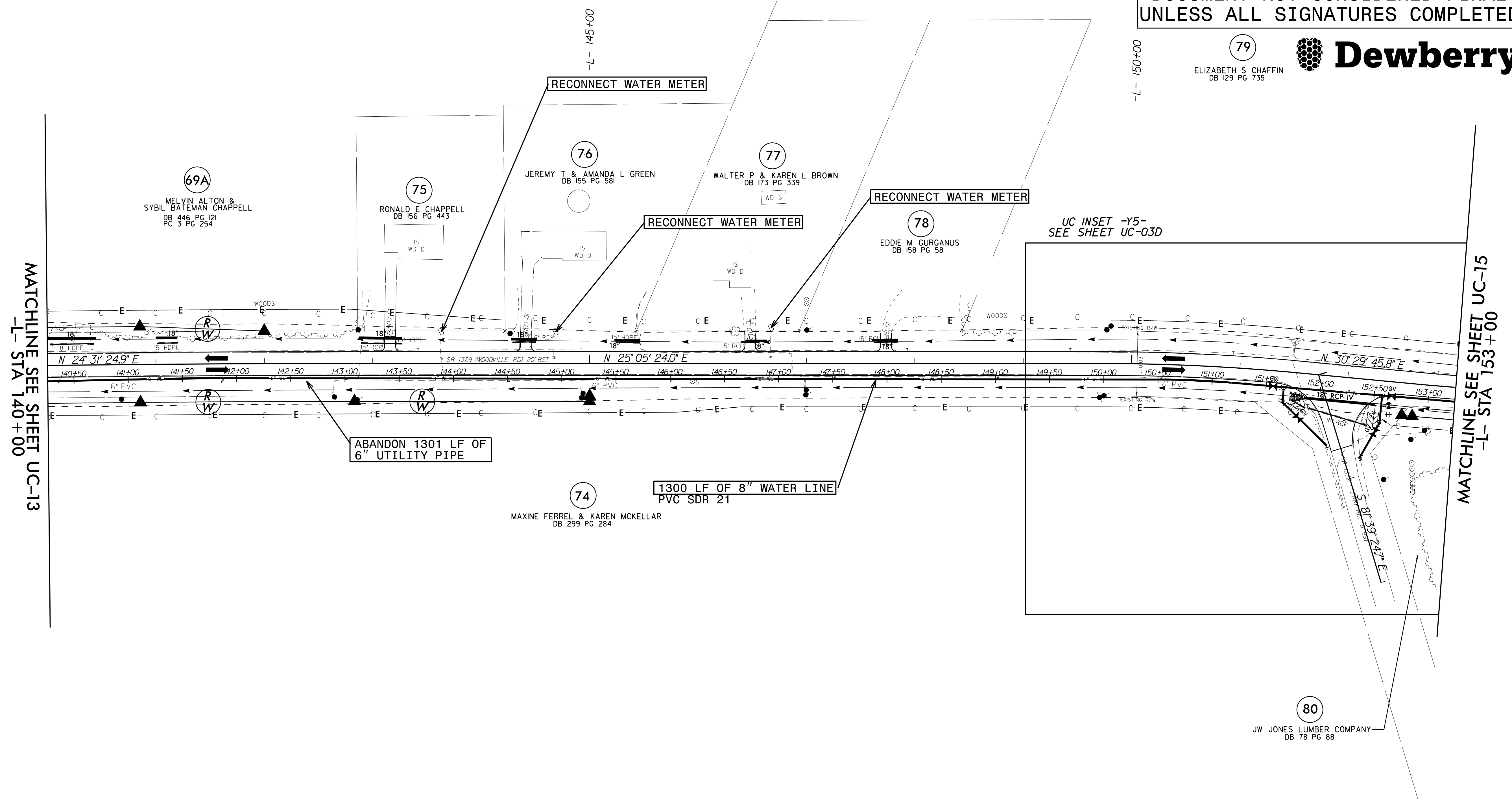
5/14/19

PROJECT REFERENCE NO. R-5740	SHEET NO. UC-14
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISSED:	Date: 12/6/19
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 1250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

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

79
ELIZABETH S. CHAFFIN
DB 129 PG 735



NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 670 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

NOTE: SEE SHEETS UC-26 & UC-27 FOR -WL- PROFILE

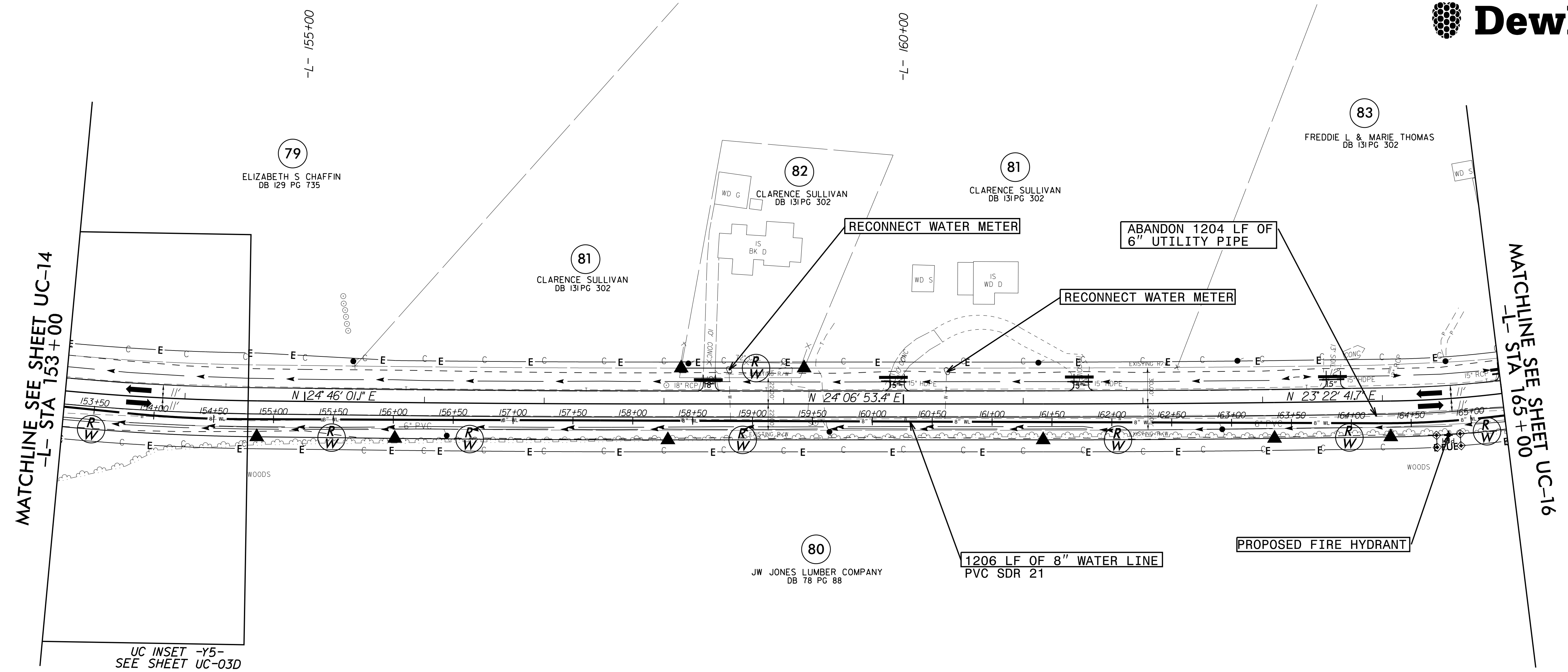
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R:\Utilities\Projects\AR5740_uc_PSH_14.dgn
ASB/STW/AMW/MSB

5/14/19

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-15
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	
Date: 12/6/19 UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

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UNLESS ALL SIGNATURES COMPLETED



MATCHLINE SEE SHEET UC-14
-L- STA 153+00

MATCHLINE SEE SHEET UC-16
-L- STA 165+00

UC INSET -Y5-
SEE SHEET UC-03D

NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 0 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

NOTE: SEE SHEET UC-27 FOR -WL- PROFILE

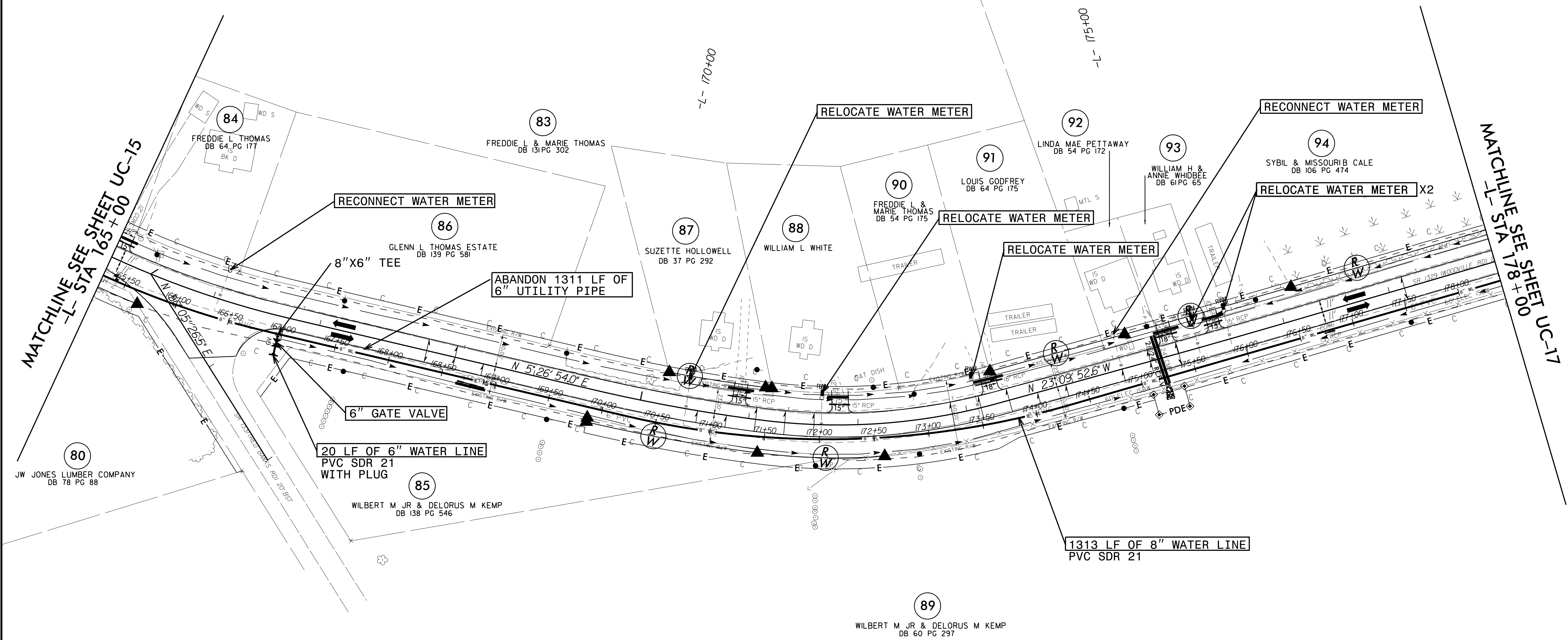
04-DEC-2019 18:11
R:\Utilities\Projects\R5740_uc_PSH_15.dgn
Matthew Chapman

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-16
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	Date: 12/6/19
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



NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 200 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

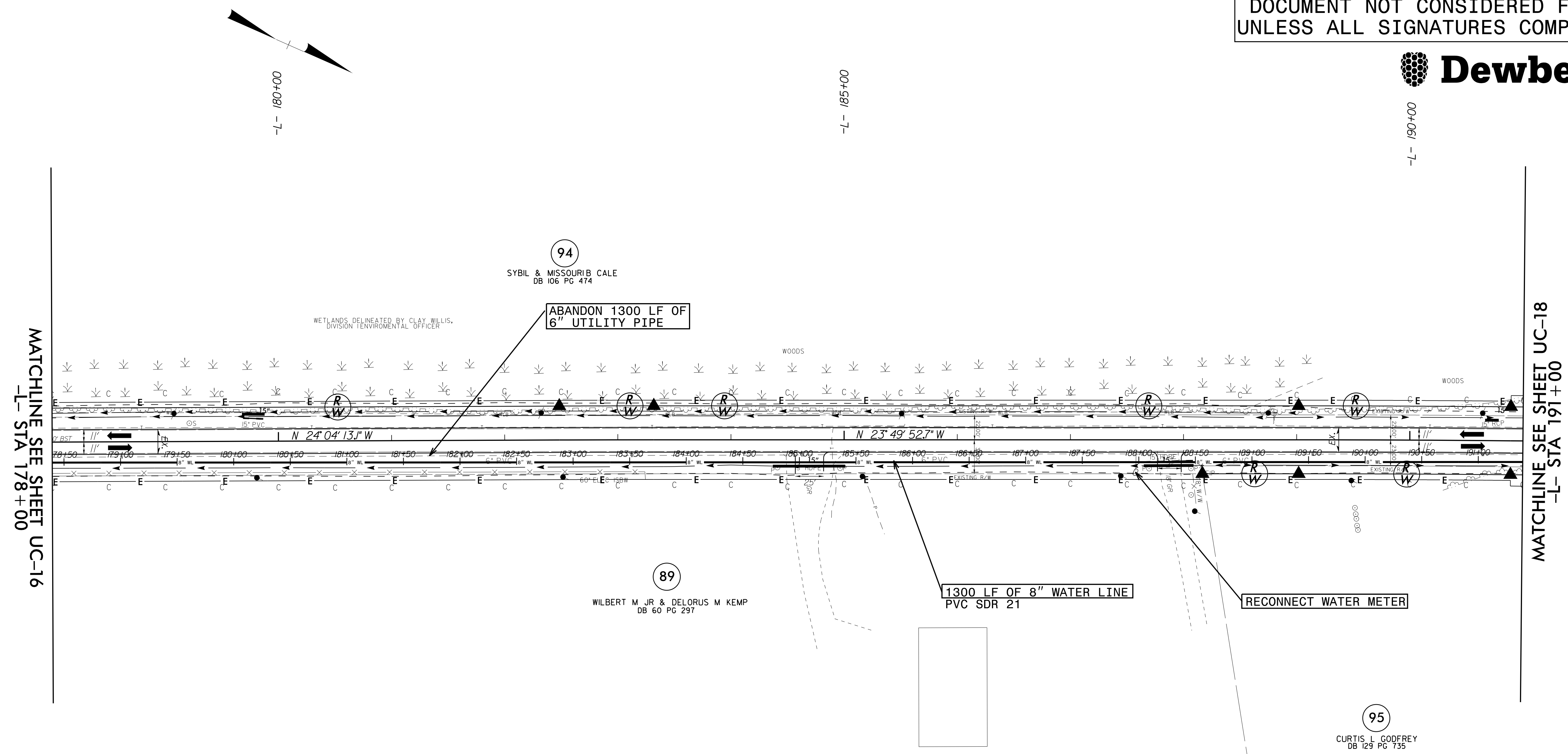
NOTE: SEE SHEET UC-27 & UC-28 FOR -WL- PROFILE

04-DEC-2019 18:11 R:\Utilities\Projects\AR5740_uc_PSH_16.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-17
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
Date: 12/6/19 UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



MATCHLINE SEE SHEET UC-16
-L- STA 178+00

MATCHLINE SEE SHEET UC-18
-L- STA 191+00

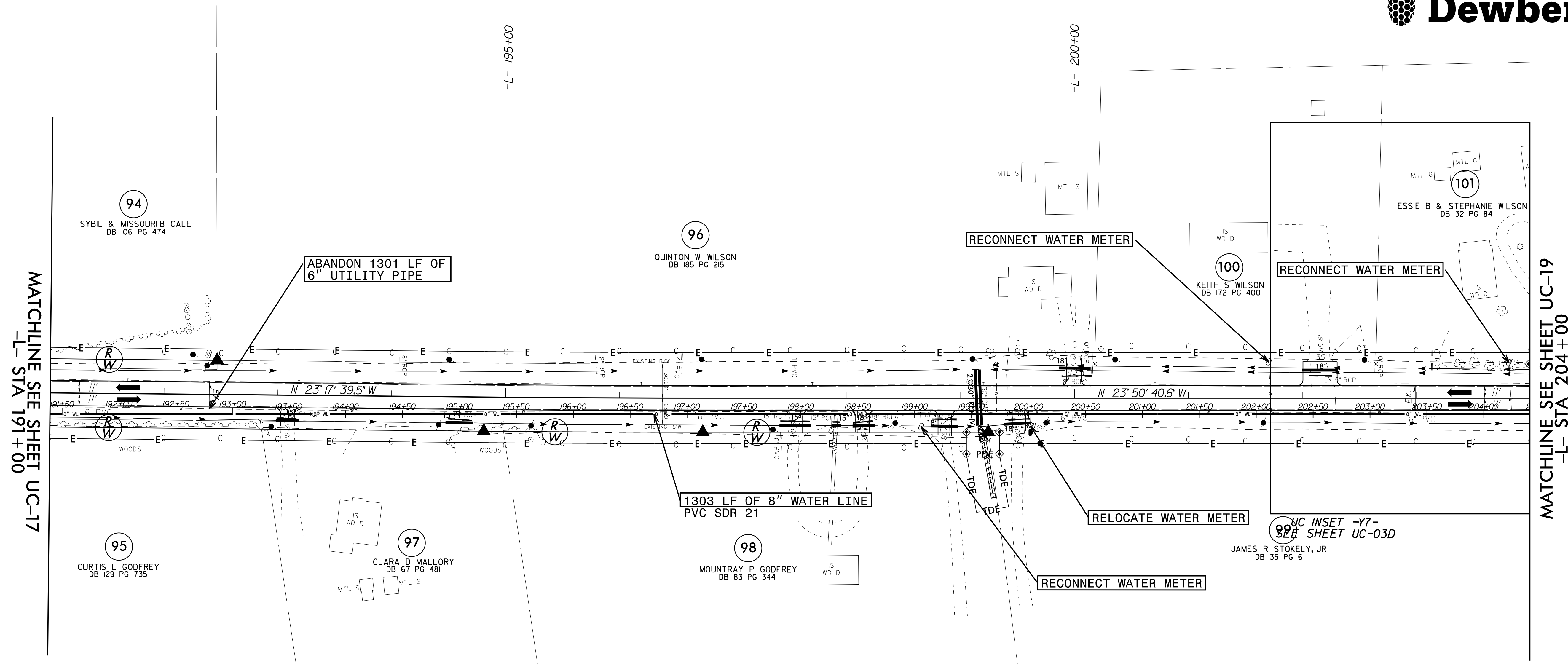
NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 0 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

NOTE: SEE SHEET UC-28 FOR -WL- PROFILE

PROJECT REFERENCE NO.	R-5740	SHEET NO.	UC-18
DESIGNED BY:			
DRAWN BY:			
CHECKED BY:			
APPROVED BY:			
REVISER:		Date: 12/6/19	
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**



MATCHLINE SEE SHEET UC-17
-L- STA 191+00

MATCHLINE SEE SHEET UC-19
-L- STA 204+00

NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 0 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

NOTE: SEE SHEET UC-28 FOR -WL- PROFILE

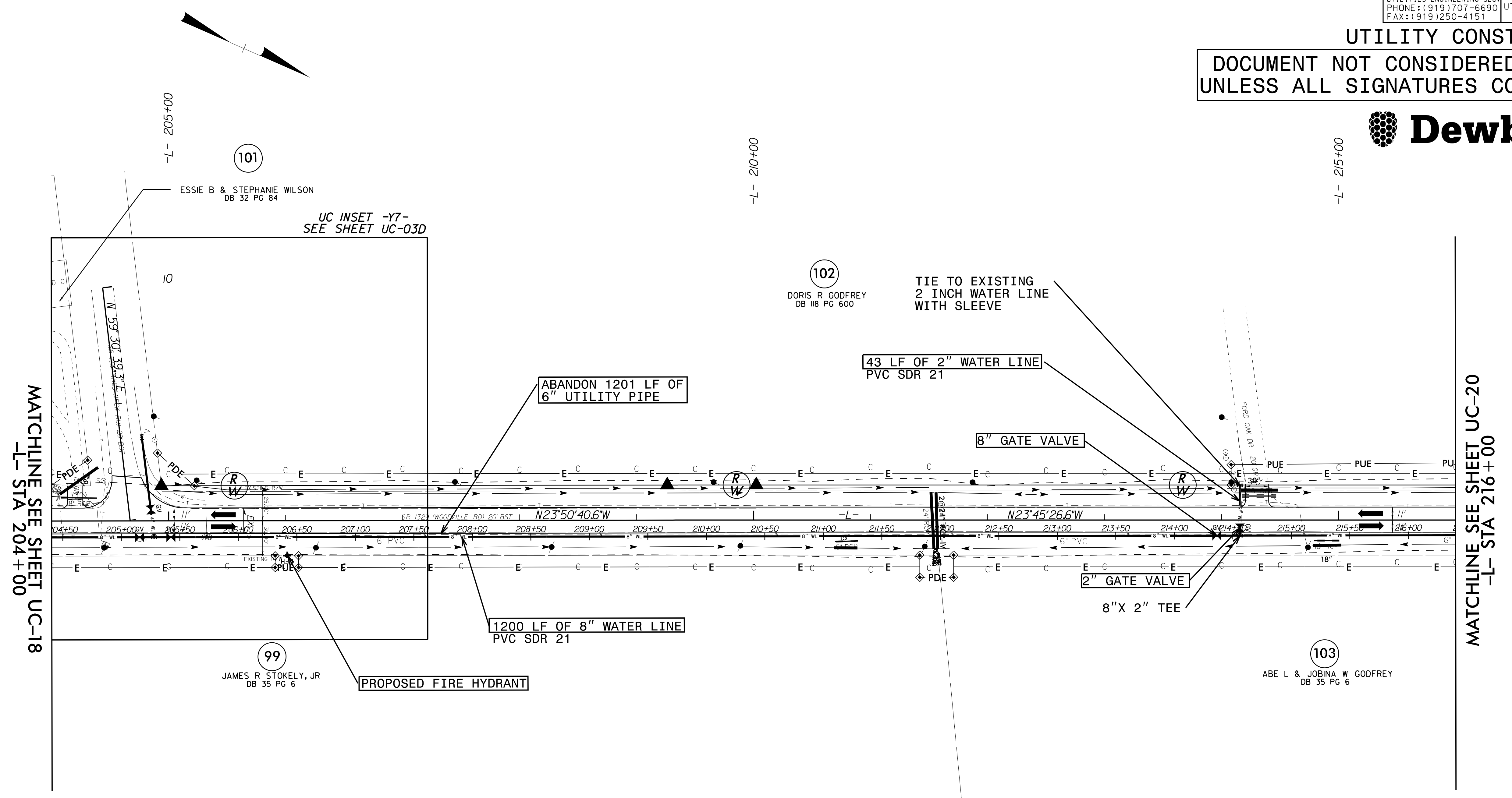
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\$\$\$\$\$USERNAME\$\$\$\$\$

5/14/19

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-19
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	1/14/2020
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 1250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



NOTE:
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 210 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

NOTE: SEE SHEETS UC-28 & UC-29 FOR -WL- PROFILE

13-JAN-2020 14:48
R:\Utilities\Projects\R5740_uc_PSH_19.dgn
ASB/STW/AMW/SSS

5/14/19

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-20
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	Date: 12/6/19
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 1250-4151	

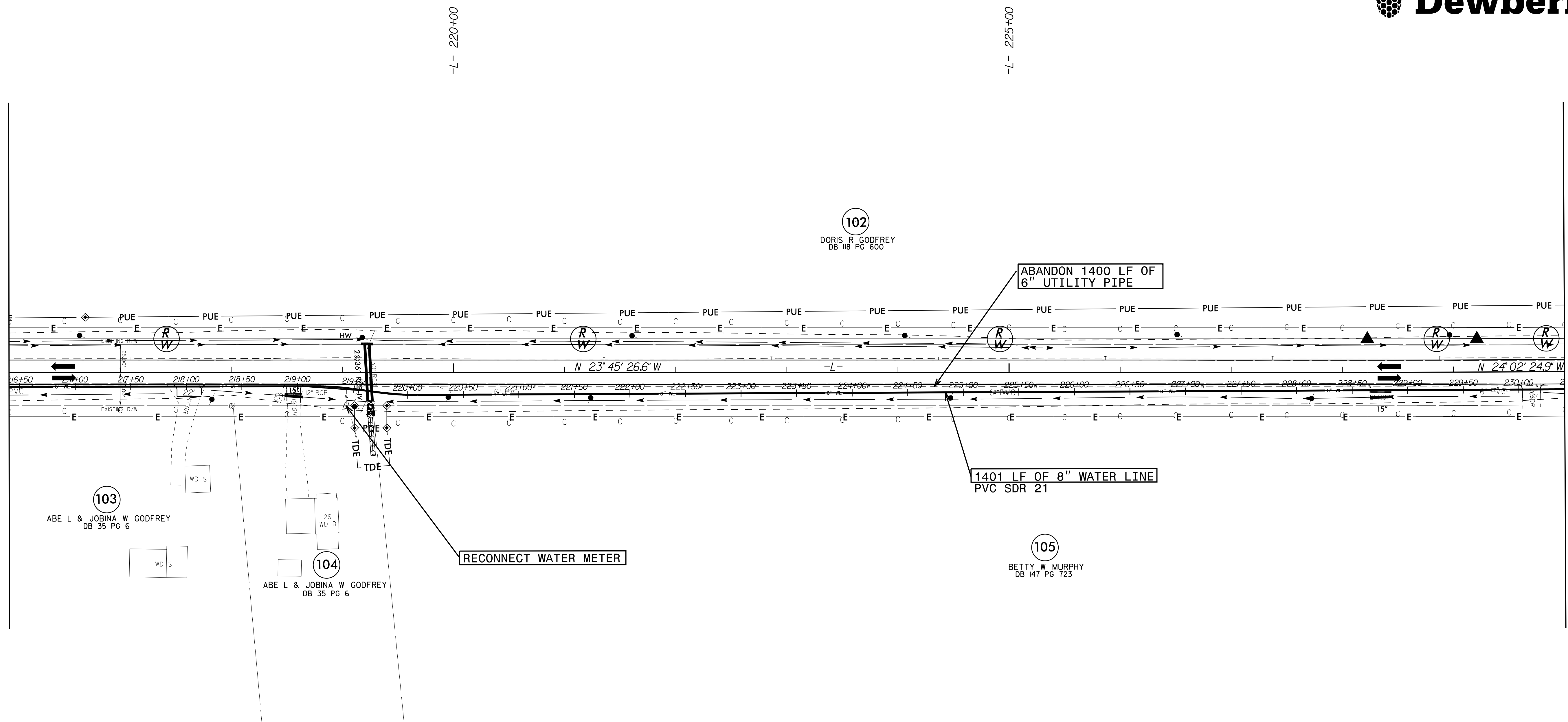
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



MATCHLINE SEE SHEET UC-19
-L- STA 216+00

MATCHLINE SEE SHEET UC-21
-L- STA 230+00



NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 0 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

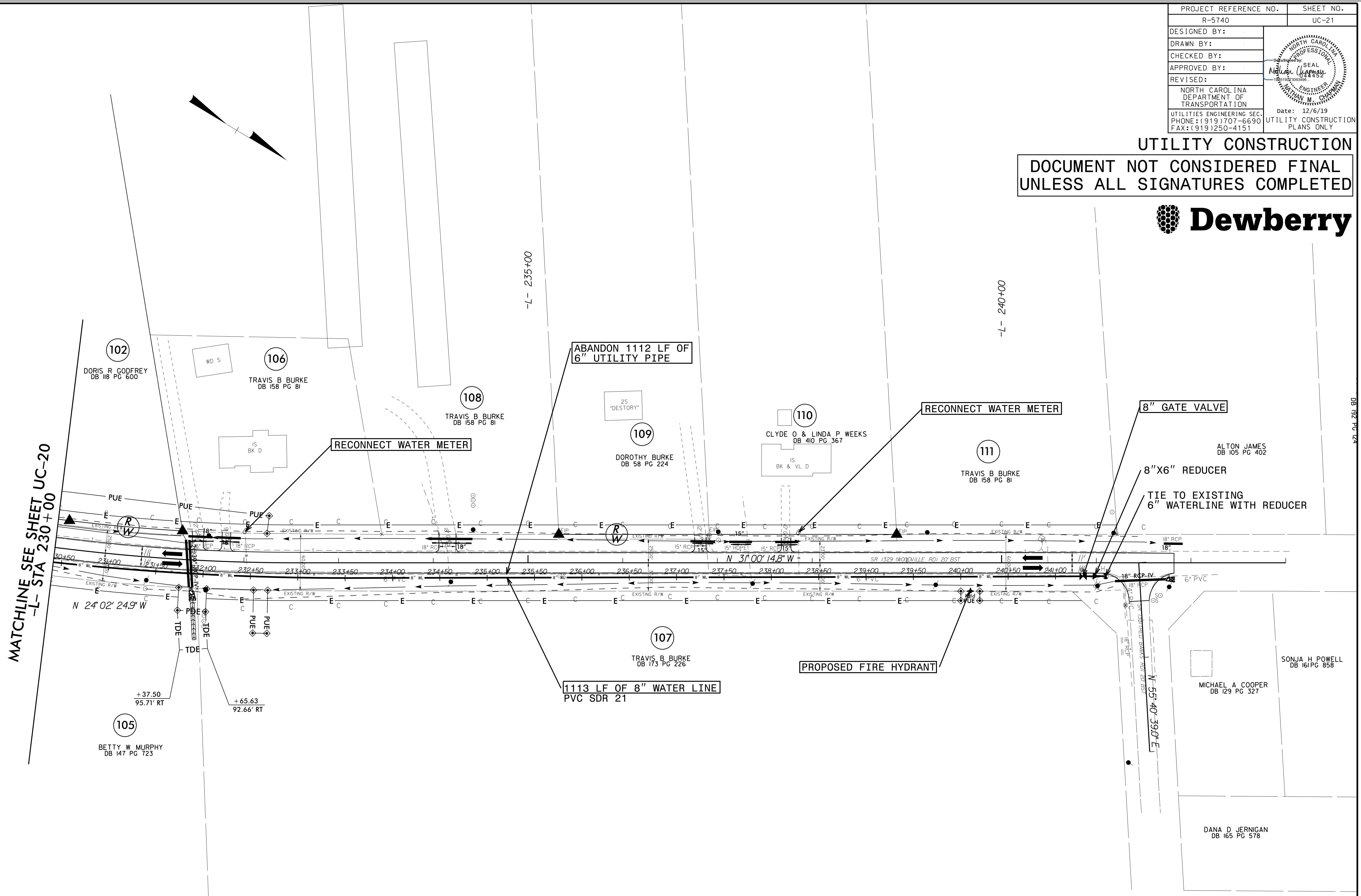
NOTE: SEE SHEET UC-29 FOR -WL- PROFILE

04-DEC-2019 18:11 R:\Utilities\Projects\AR5740.uc_PSH_20.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-5740	UC-21
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	Date: 12/6/19
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

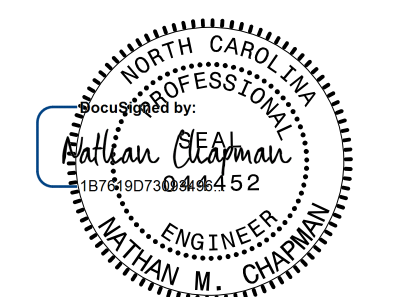


NOTE:
 THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 95 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

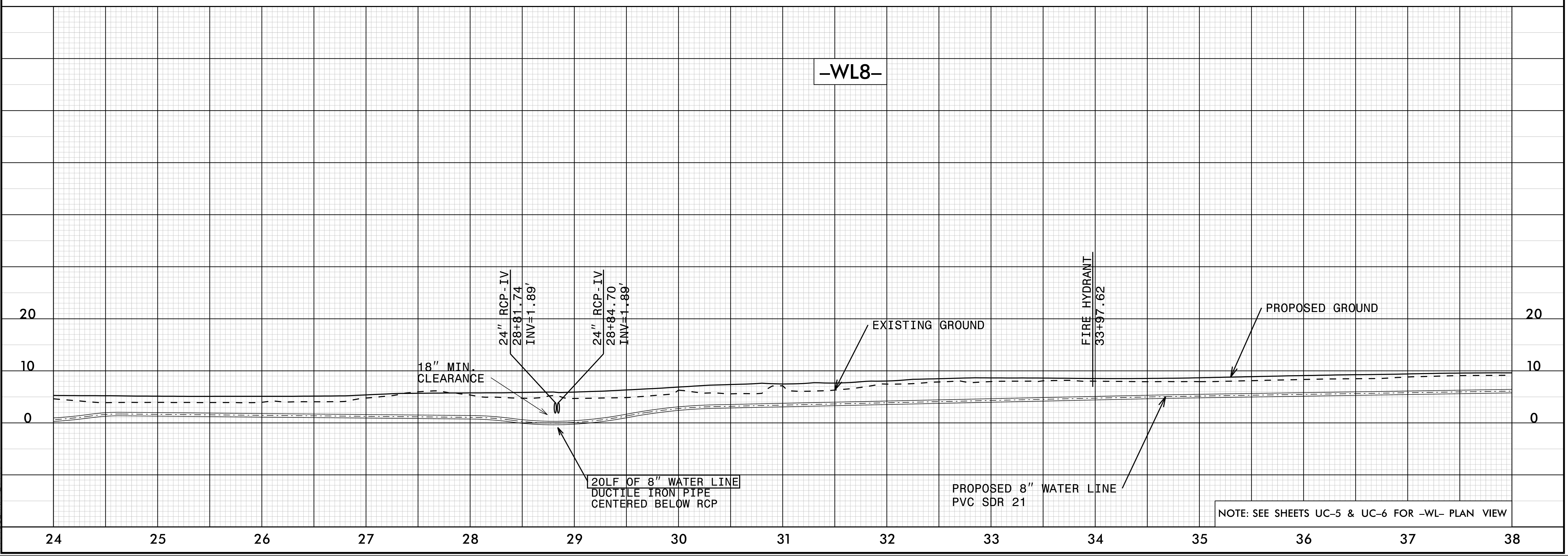
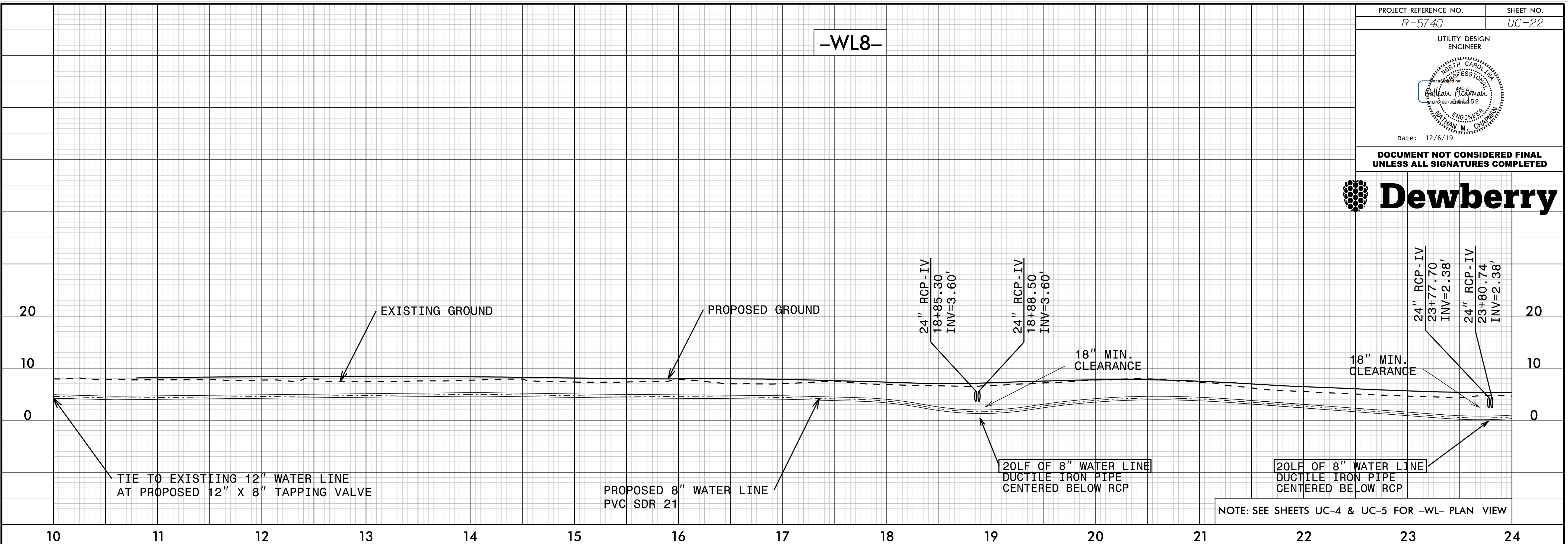
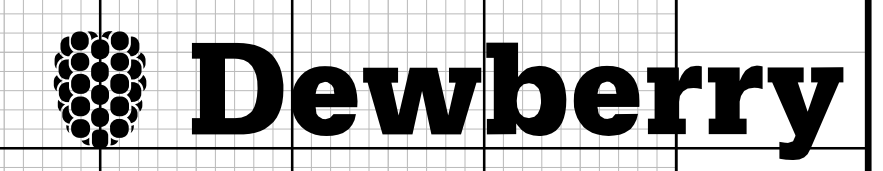
NOTE: SEE SHEETS UC-29 & UC-30 FOR -WL- PROFILE

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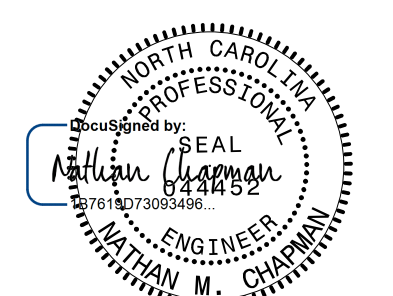
5/28/19

PROJECT REFERENCE NO. R-5740	SHEET NO. UC-22
UTILITY DESIGN ENGINEER	
	
Date: 12/6/19	

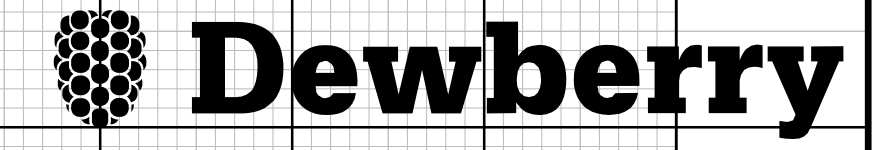
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



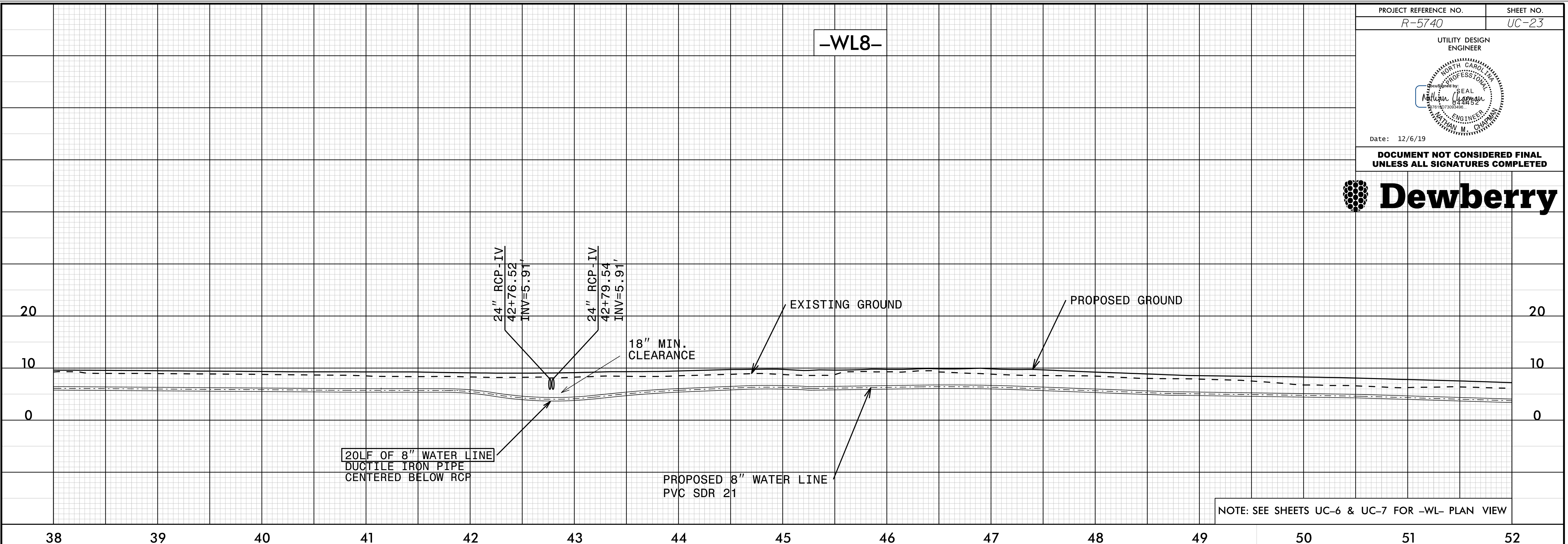
04-DEC-2019 18:11 R:\Utilities\Projects\5740\rdy\pl_PSH.dgn

PROJECT REFERENCE NO. R-5740	SHEET NO. UC-23
UTILITY DESIGN ENGINEER	
	
Date: 12/6/19	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

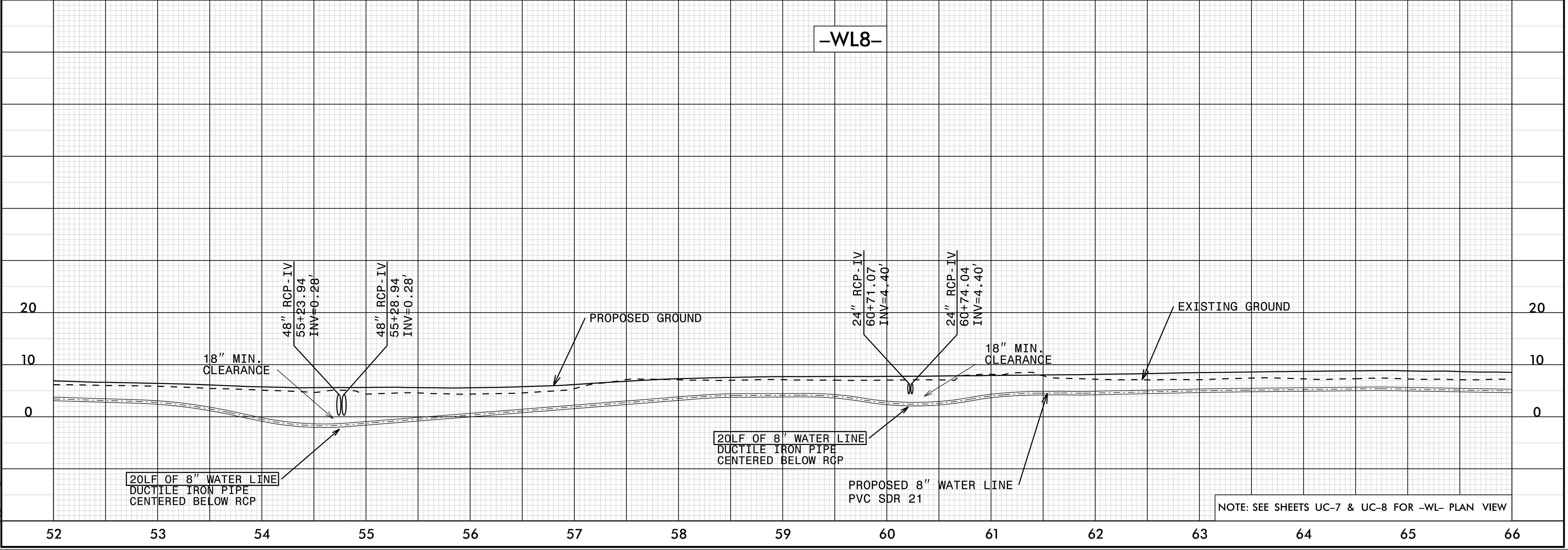


5/28/19



NOTE: SEE SHEETS UC-6 & UC-7 FOR -WL- PLAN VIEW

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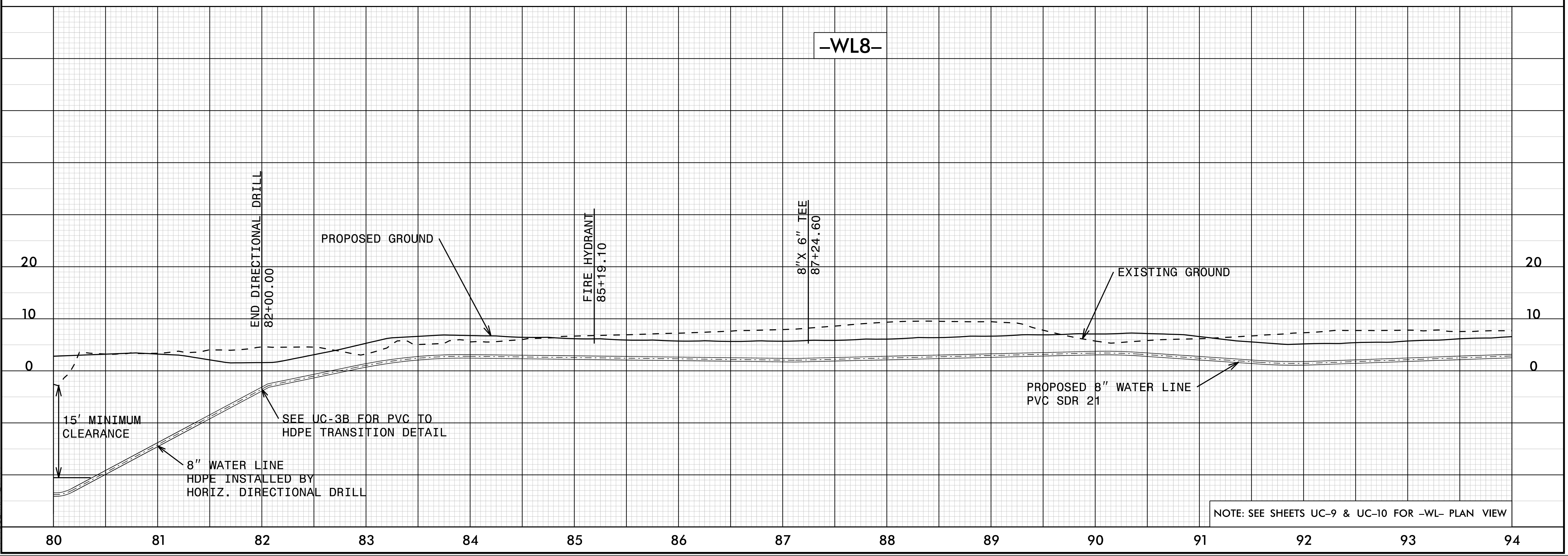
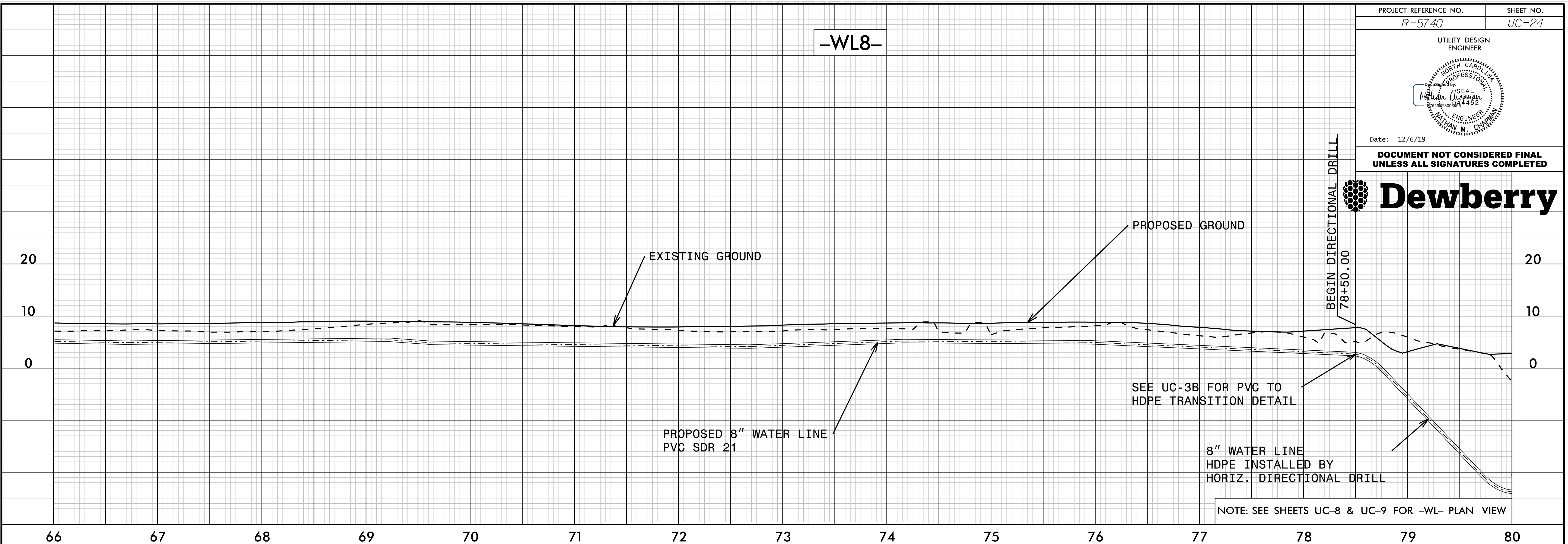
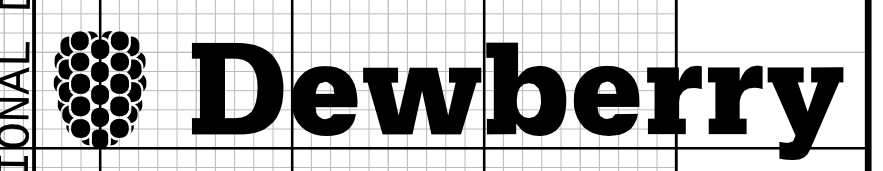


NOTE: SEE SHEETS UC-7 & UC-8 FOR -WL- PLAN VIEW

5/28/99

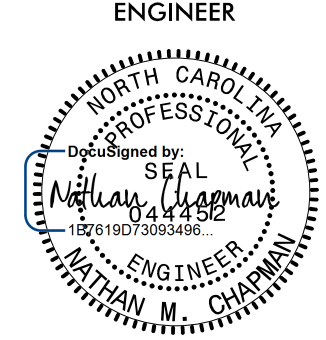
PROJECT REFERENCE NO. R-5740	SHEET NO. UC-24
UTILITY DESIGN ENGINEER	
Date: 12/6/19	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

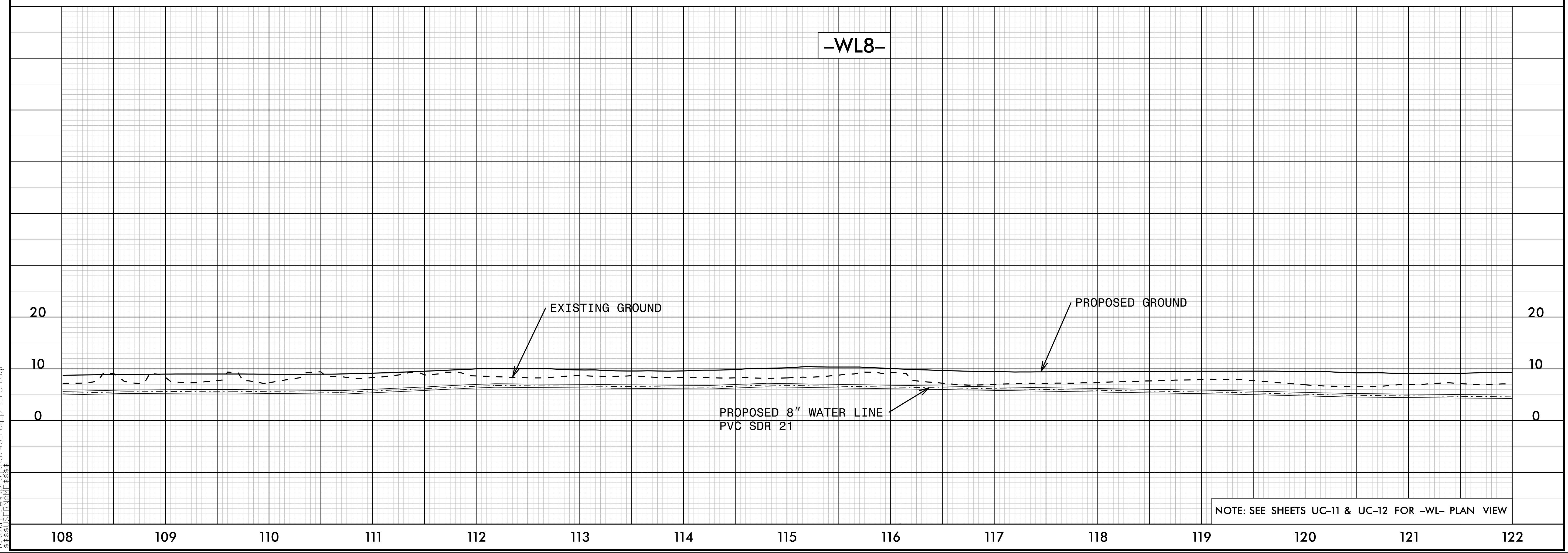
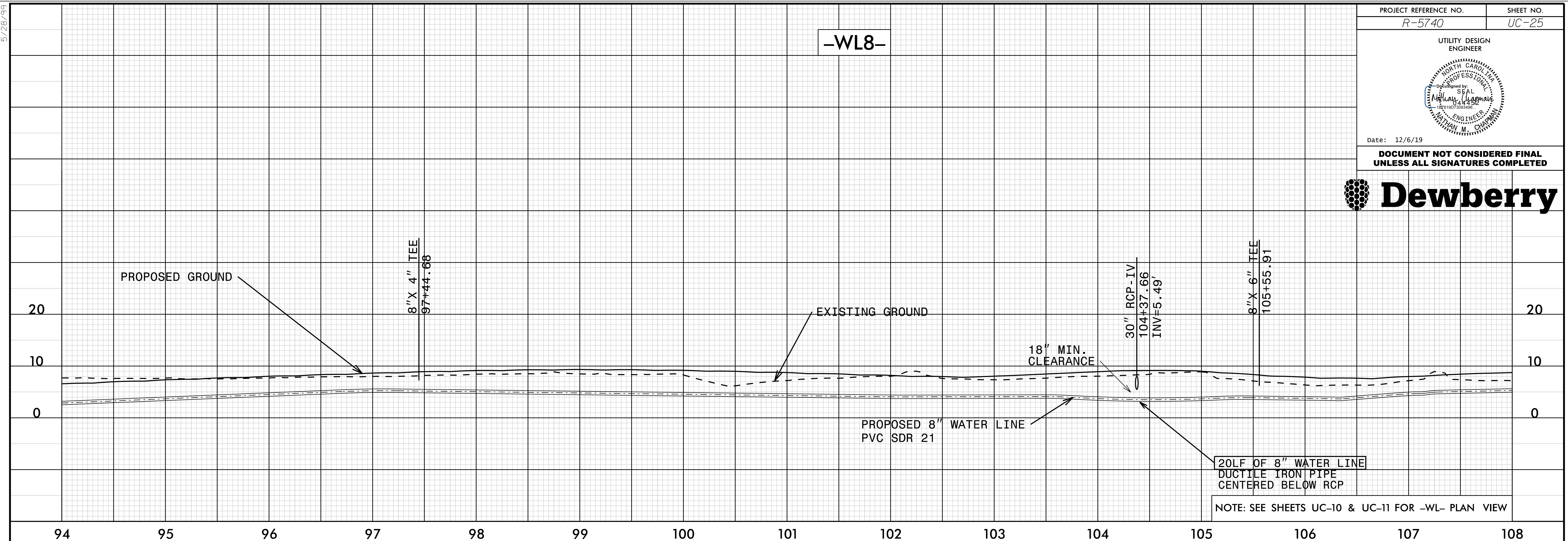
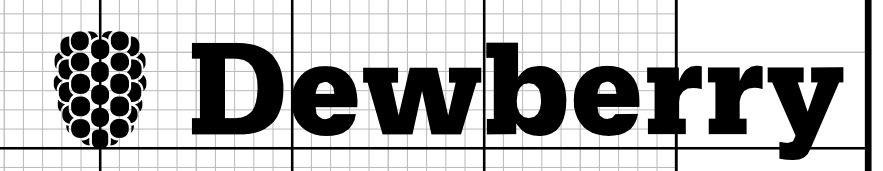


04-DEC-2019 18:11
R:\Utilities\Projects\5740\rdy\pfl_PSH.dgn
Nathan Chapman

5/28/19

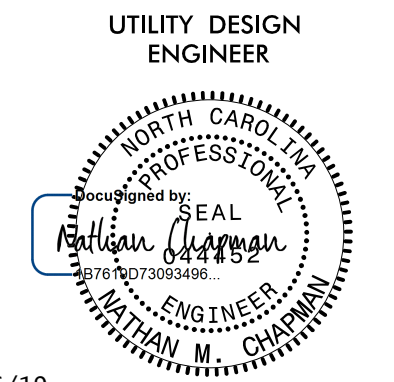
PROJECT REFERENCE NO. R-5740	SHEET NO. UC-25
UTILITY DESIGN ENGINEER	
	
Date: 12/6/19	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

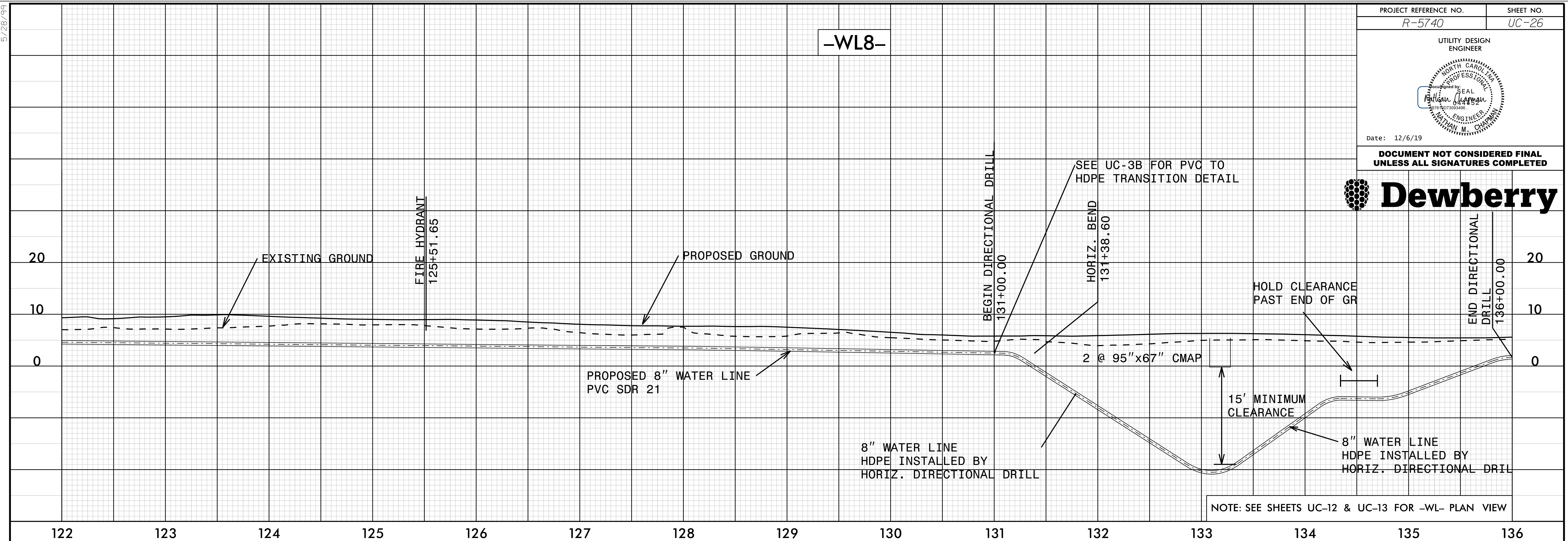
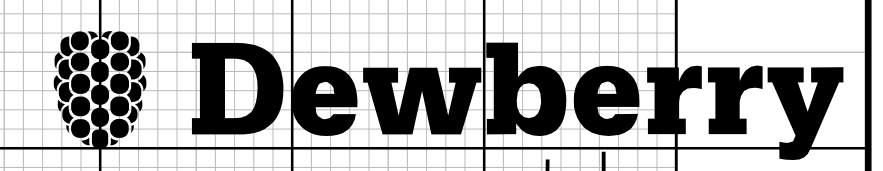


04-DEC-2019 18:11
R:\Utilities\Projects\195740_rdu\pl_PSH.dgn
William M. Chapman

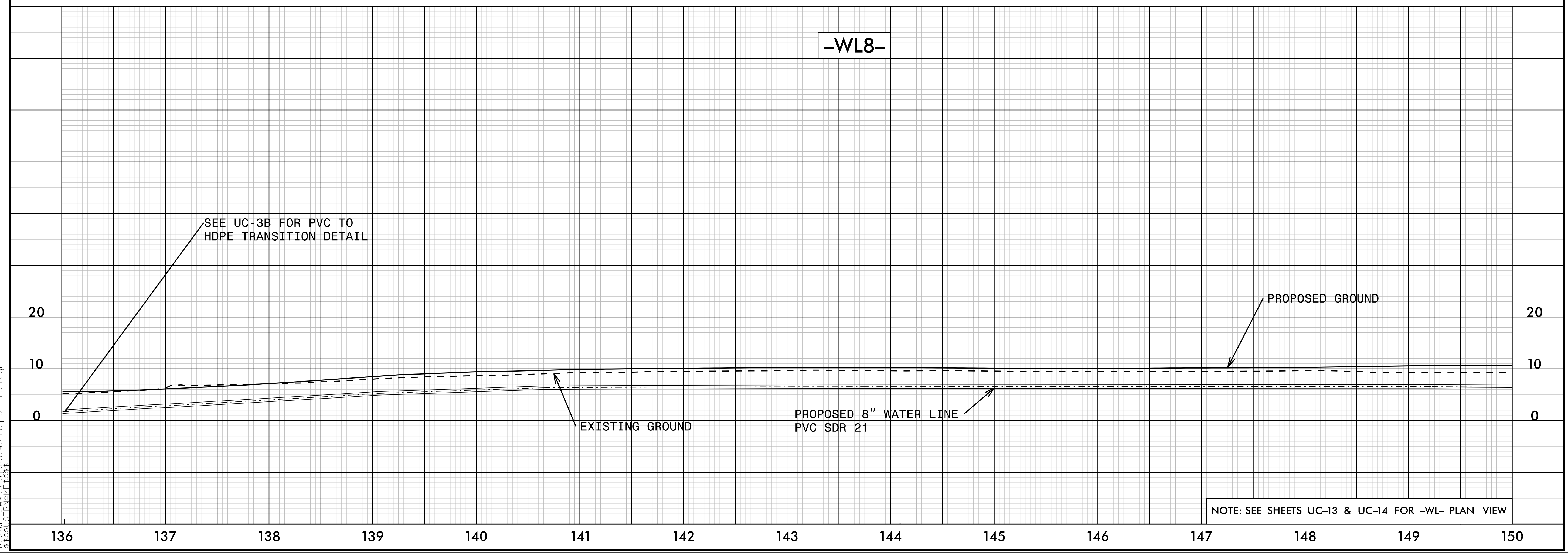
5/28/19

PROJECT REFERENCE NO. R-5740	SHEET NO. UC-26
UTILITY DESIGN ENGINEER	
	
Date: 12/6/19	

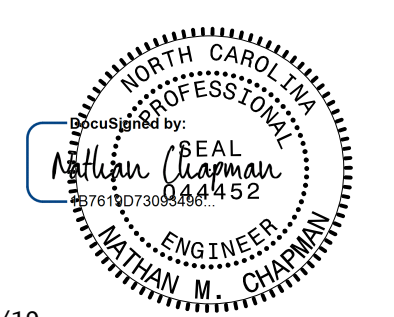
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



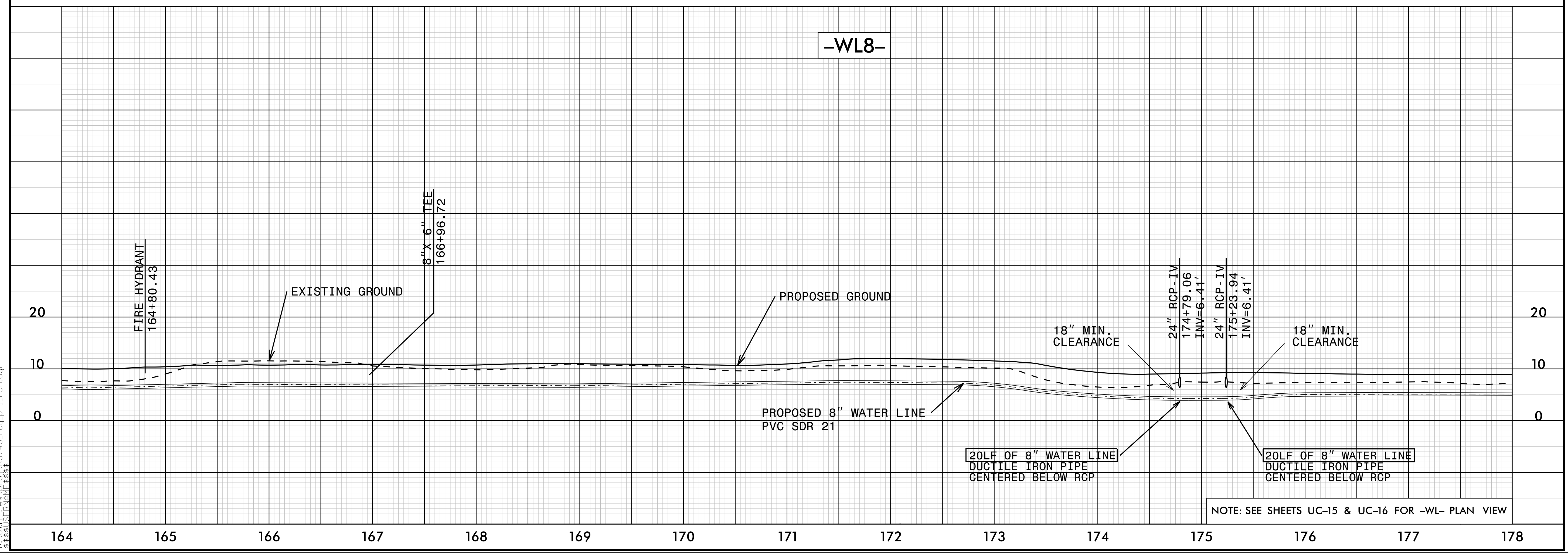
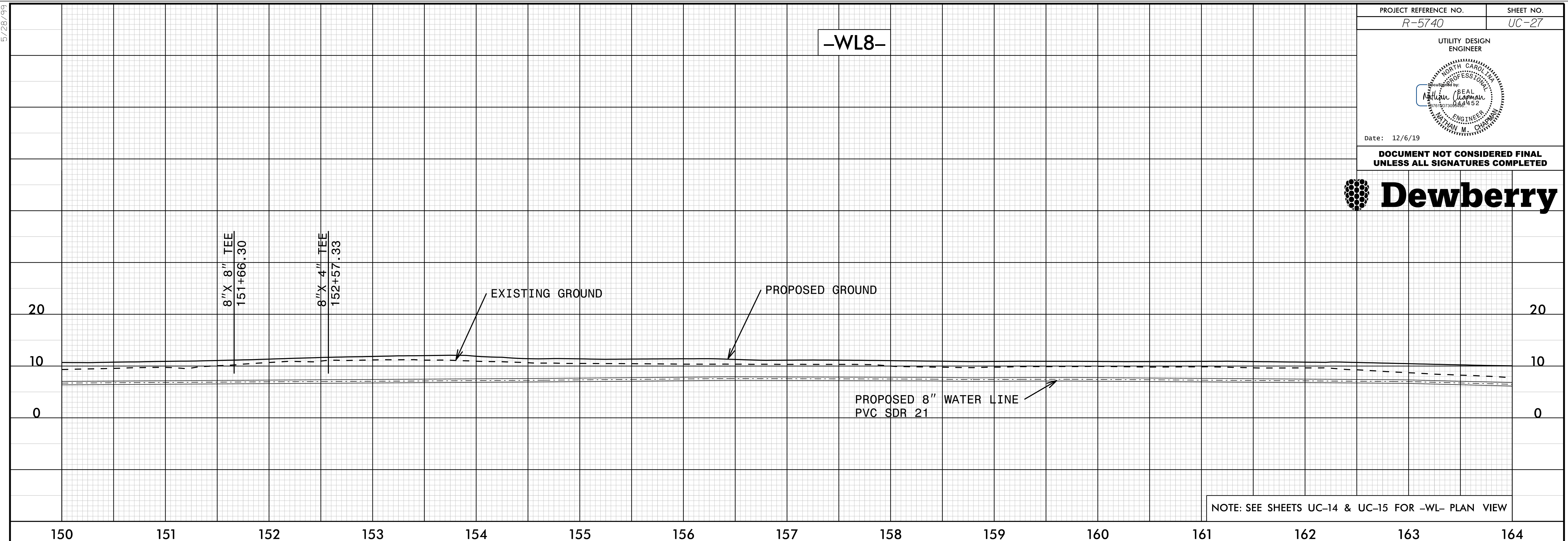
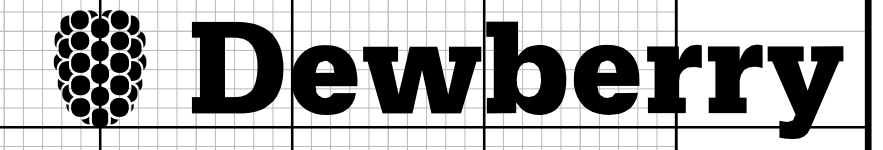
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5/28/99

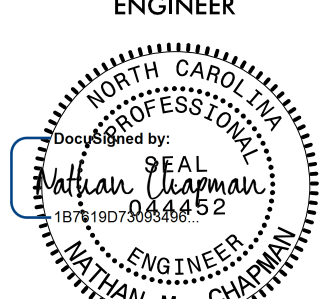
PROJECT REFERENCE NO. R-5740	SHEET NO. UC-27
UTILITY DESIGN ENGINEER	
	
Date: 12/6/19	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

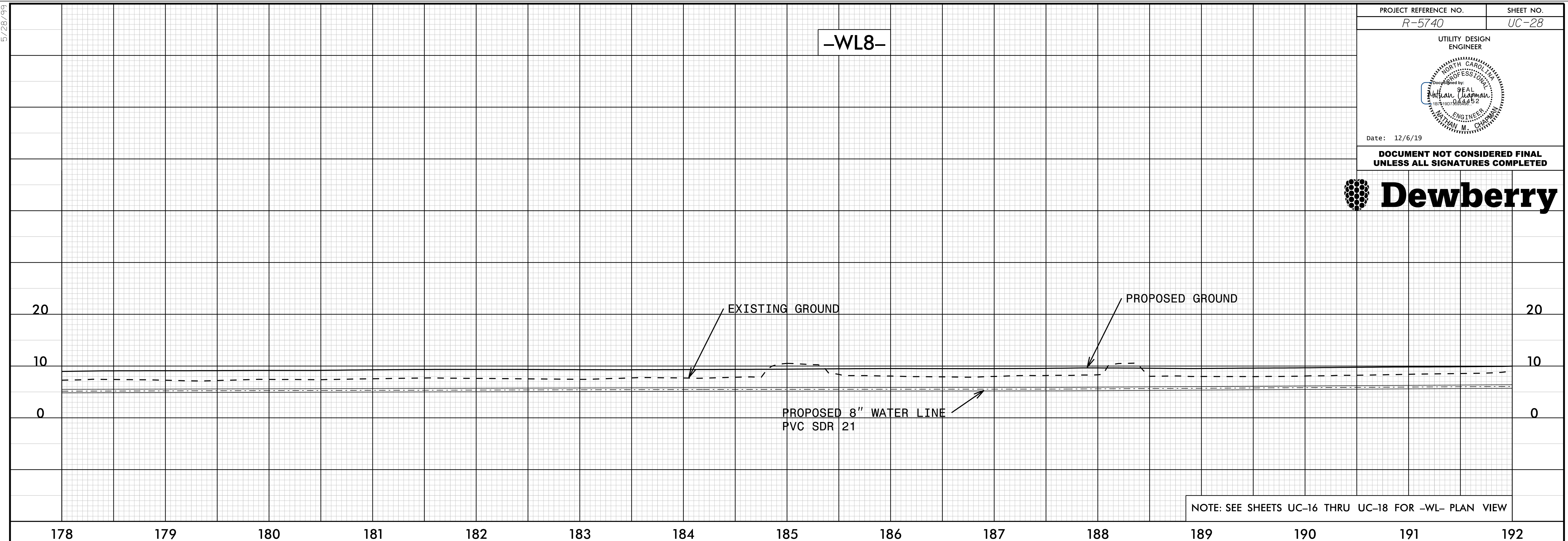
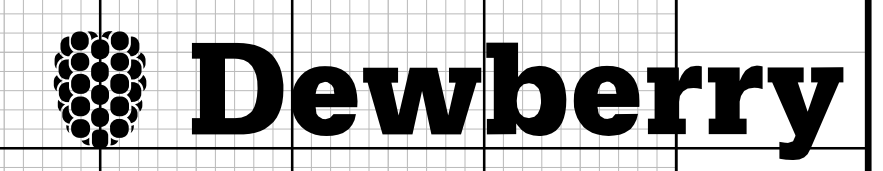


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WMC

5/28/99

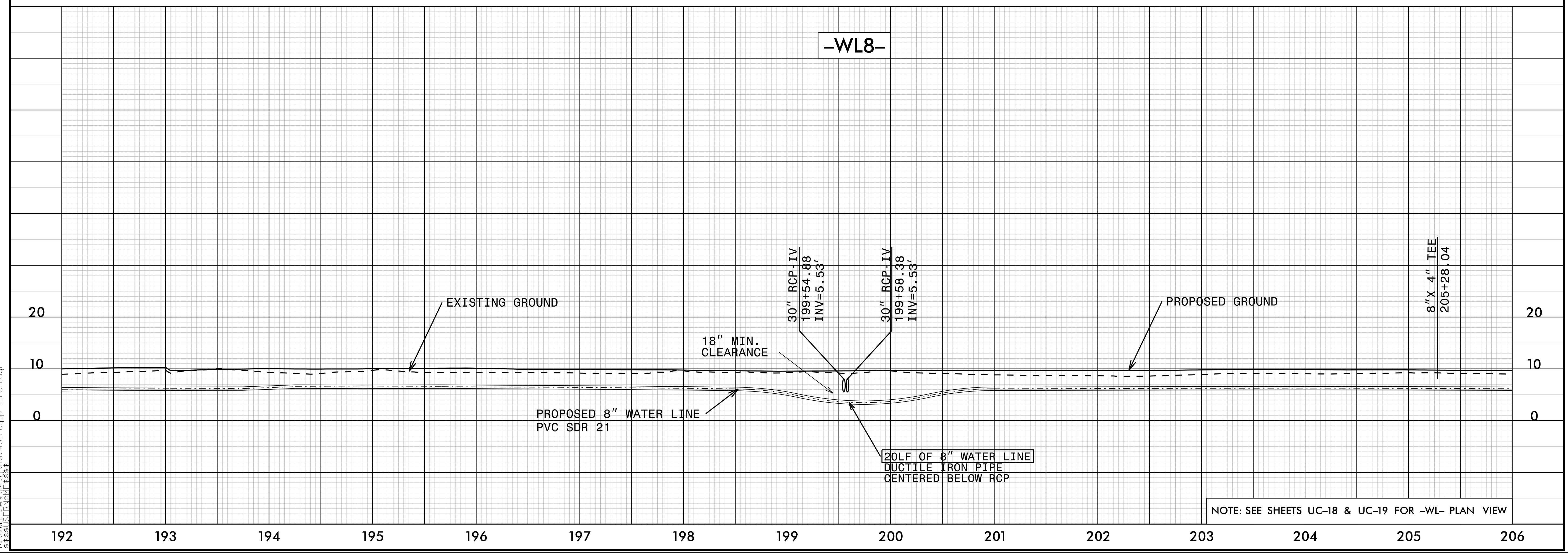
PROJECT REFERENCE NO. R-5740	SHEET NO. UC-28
UTILITY DESIGN ENGINEER	
	
Date: 12/6/19	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



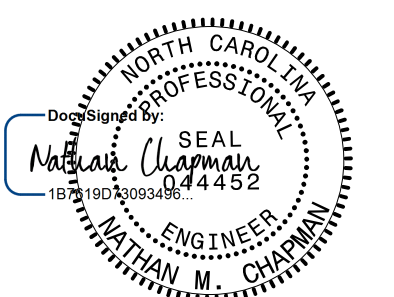
NOTE: SEE SHEETS UC-16 THRU UC-18 FOR -WL- PLAN VIEW

04-DEC-2019 18:11
R:\Utilities\Projects\5740_rdy\pfl_PSH.dgn
5/28/99

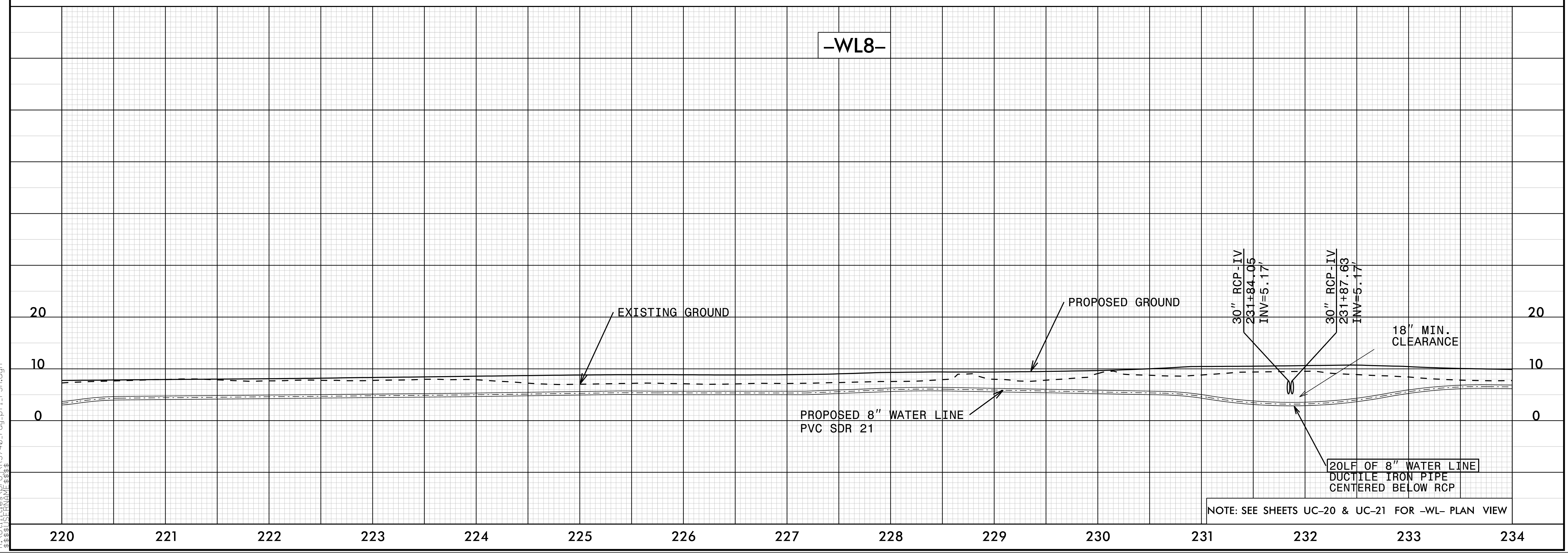
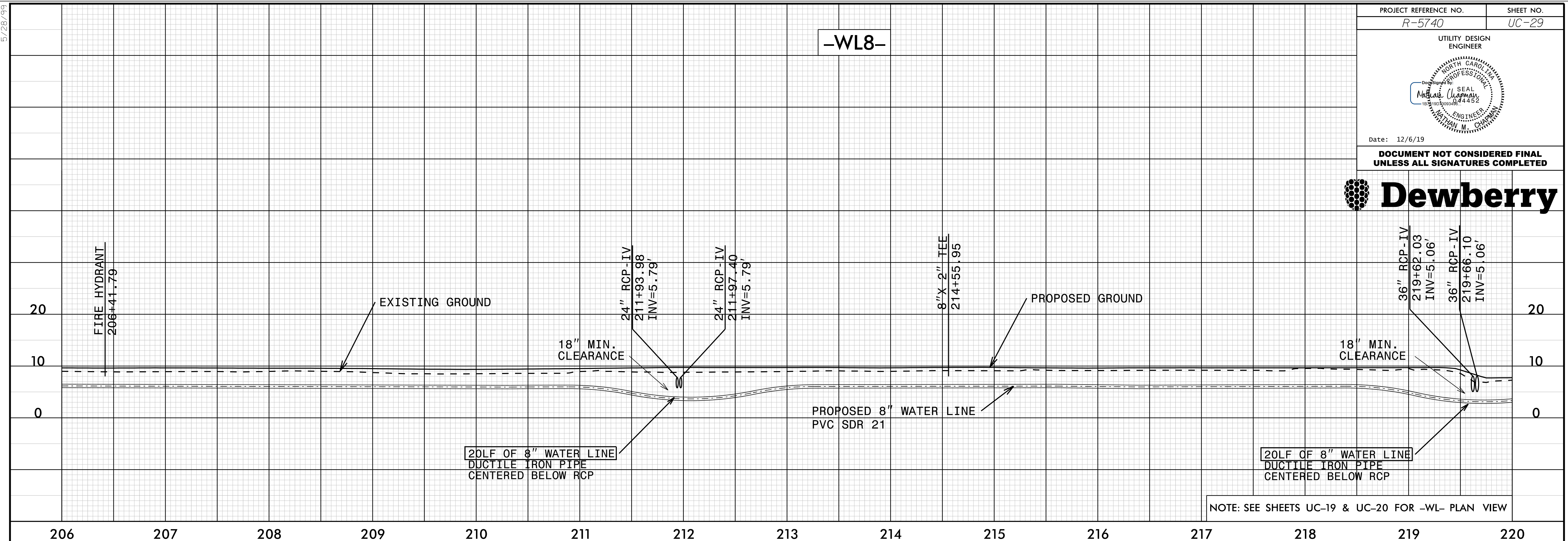
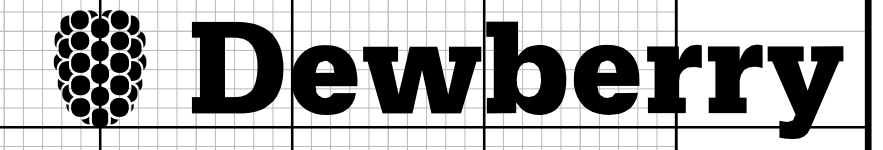


NOTE: SEE SHEETS UC-18 & UC-19 FOR -WL- PLAN VIEW

5/28/19

PROJECT REFERENCE NO. R-5740	SHEET NO. UC-29
UTILITY DESIGN ENGINEER	
	
Date: 12/6/19	

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

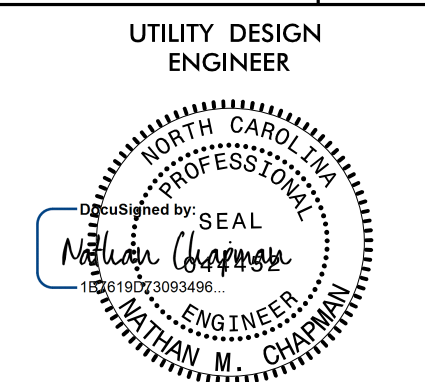


04-DEC-2019 18:11
R:\Utilities\Projects\05740_rdy\pl_PSH.dgn
Nathan M. Chapman

5/28/99

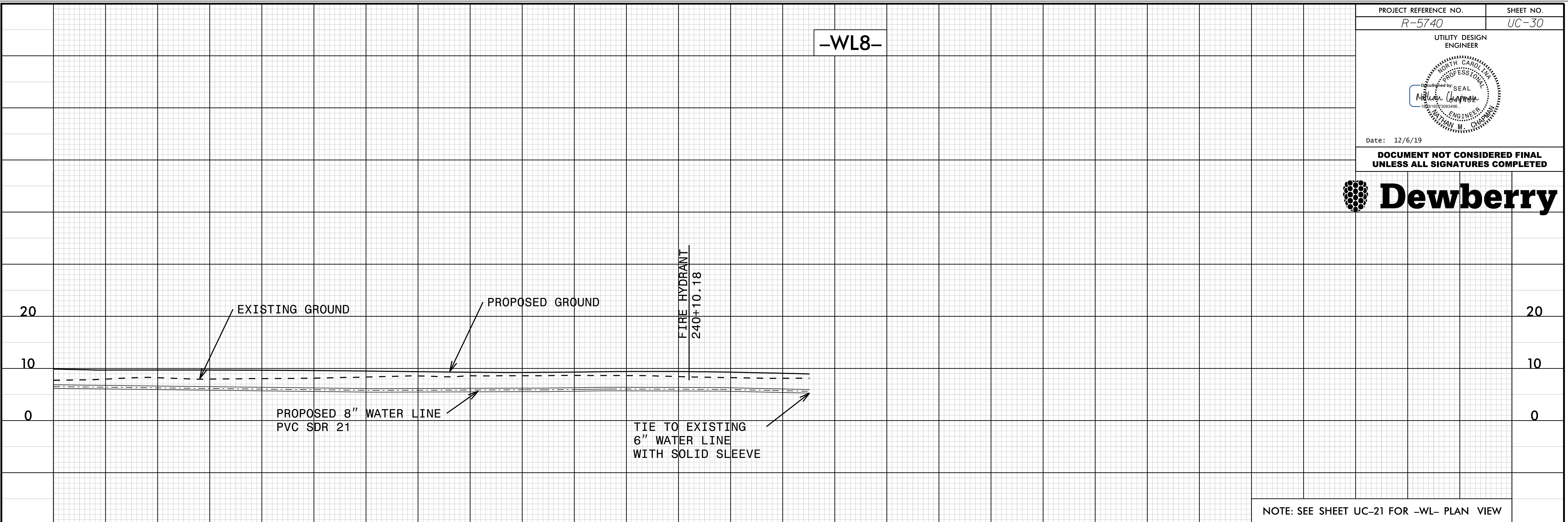
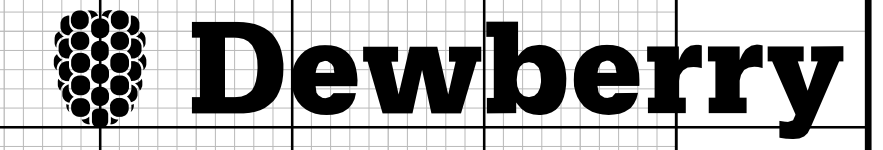
-WL8-

PROJECT REFERENCE NO. R-5740 SHEET NO. UC-30



Date: 12/6/19

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



NOTE: SEE SHEET UC-21 FOR -WL- PLAN VIEW