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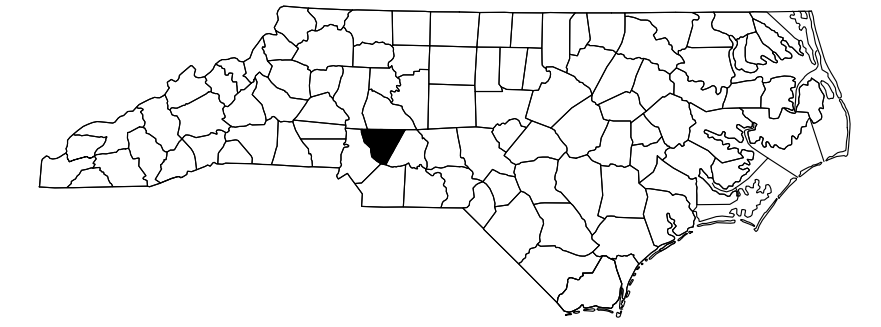
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TIP PROJECT: U-4910B

CONTRACT NO:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-4910B	UC-1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
40373.1.F3	HPP-1445(7)	PE	
40373.2.F2	HPP-1445(7)	R/W & UTIL	
40373.3.3	STPDA-1445(008)	CONST	

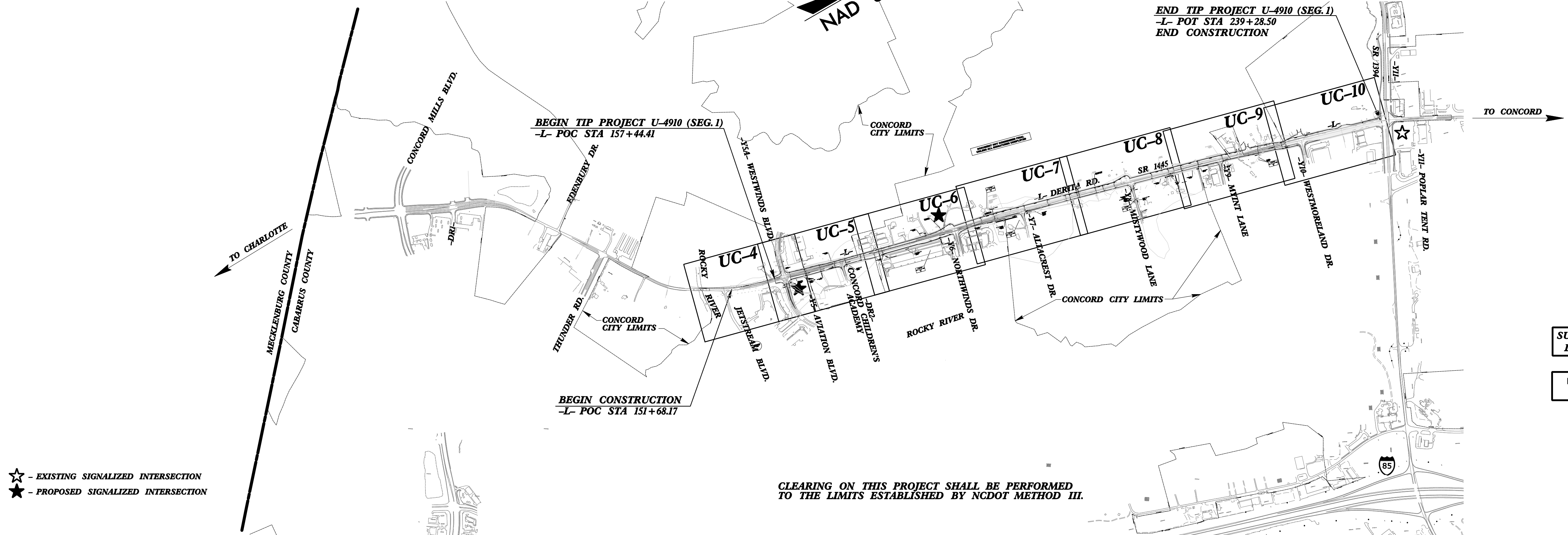
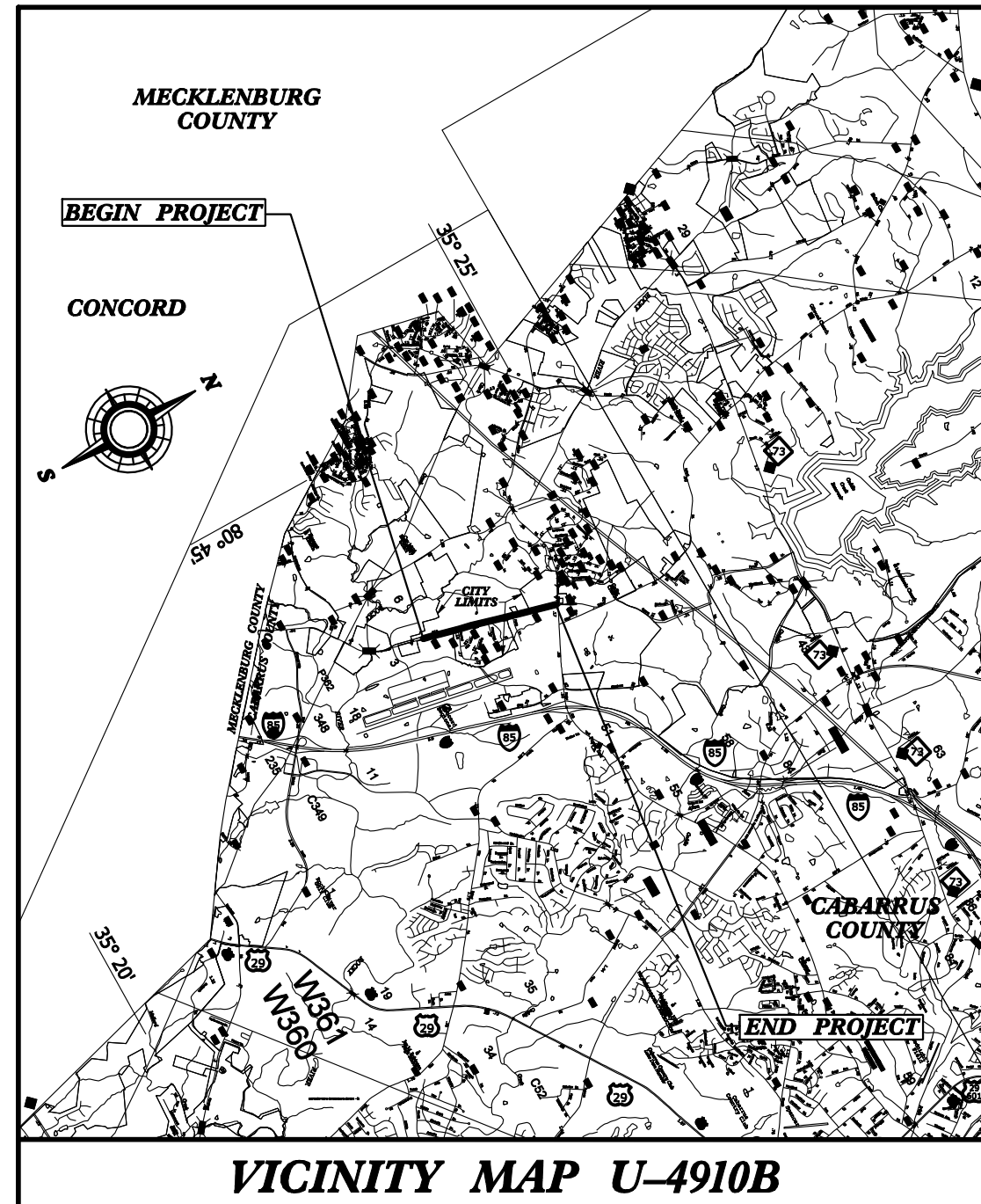


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CABARRUS COUNTY

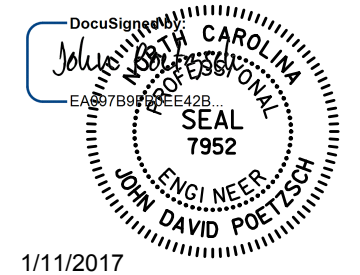
**LOCATION: FROM AVIATION BOULEVARD TO THE INTERSECTION
OF SR 1394 POPLAR TENT ROAD.**

TYPE OF WORK: UTILITY CONSTRUCTION.



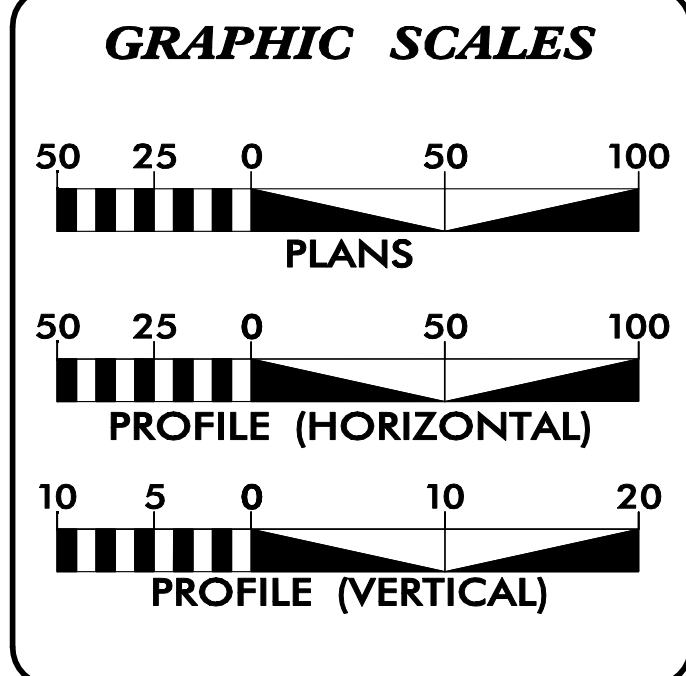
SUBMITTAL: 100% UTILITY CONST. PLANS
DATE: JANUARY 11, 2017

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



1/11/2017

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY NCDOT METHOD III.



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	LEGEND OF SYMBOLS SHEET
UC-3	UTILITY GENERAL NOTES
UC-4 to UC-10	UTILITY CONSTRUCTION PLANS
UC-11	UTILITY CONSTRUCTION PROFILES
UC-12	CONSTRUCTION DETAILS SHEETS

WATER AND SEWER OWNERS ON PROJECT

(1) WATER - CITY OF CONCORD

(2) SANITARY SEWER - WATER AND SEWER AUTHORITY OF CABARRUS COUNTY

Prepared in the Office of:

AECOM
2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
SEPT. 18, 2014

LETTING DATE:
FEB. 21, 2017

NC FIRM LICENSE No: F-0342
701 Corporate Center Drive, Suite 475
Raleigh, NC 27607
(919) 854-6200 - (919) 854-6259(FAX)

KEVIN J. VAN METRE, P.E.
PROJECT ENGINEER

JOHN D. POETZSCH, P.E.
PROJECT UTILITY DESIGN ENGINEER

DIVISION OF HIGHWAYS

STATE HIGHWAY DESIGN ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	12" WL
11¼ Degree Bend	+
22½ Degree Bend	+
45 Degree Bend	+
90 Degree Bend	+
Plug	⊥
Tee	+
Cross	+
Reducer	▶
Gate Valve	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	REH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PST(W)
RPZ Backflow Preventer	PRPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RPRZ
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	⊙
Telephone Pole	⊙
Joint Use Pole	⊙
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	⊥
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM

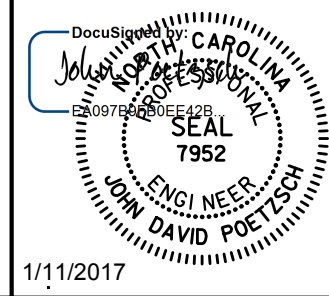
EXISTING UTILITIES SYMBOLS

Power Pole	⊙	*Underground Power Line	P
Telephone Pole	⊙	*Underground Telephone Cable	T
Joint Use Pole	⊙	*Underground Telephone Conduit	TC
Utility Pole	•	*Underground Fiber Optics Telephone Cable	T FO
Utility Pole with Base	□	*Underground TV Cable	TV
H-Frame Pole	••	*Underground Fiber Optics TV Cable	TV FO
Power Transmission Line Tower	⊗	*Underground Gas Pipeline	G
Water Manhole	⊙	Aboveground Gas Pipeline	A/G Gas
Power Manhole	⊙	*Underground Water Line	W
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	FSS
Telephone Pedestal	TEL PED	Underground Unknown Utility Line	?UTL
CATV Pedestal	⊗	SUE Test Hole	⊙
Gas Valve	◇	Water Meter	⊙
Gas Meter	◇	Water Valve	•
Located Miscellaneous Utility Object	⊙	Fire Hydrant	◇
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	⊙
End of Information	E.O.I.		

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

5/14/99

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PROJECT REFERENCE NO. <i>U-4910B</i>	SHEET NO. <i>UC-3</i>
RW SHEET NO.	
SCALE: NONE	UTILITIES ENGINEER 
Prepared in the Office of: AECOM	NC FIRM LICENSE No. F-0342 701 Corporate Center Bldg, Suite 475 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)

UTILITY CONSTRUCTION NOTES

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 2012.
2. THE EXISTING WATER DISTRIBUTION AND SANITARY SEWER COLLECTION UTILITIES ARE OWNED BY THE CITY OF CONCORD. THE SANITARY SEWER OUTFALLS ARE OWNED BY THE WATER AND SEWER AUTHORITY OF CABARRUS COUNTY.
3. ALL WATER LINES AND SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES. 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 OPPROTUNITY 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. WATER MAINS OR SEWER LINES CROSSING UNDER STORM DRAIN PIPE SHALL HAVE 24" MIN VERTICAL CLEARANCE UNLESS SPECIFIED ON THE PLAN/PROFILES.

REVISIONS

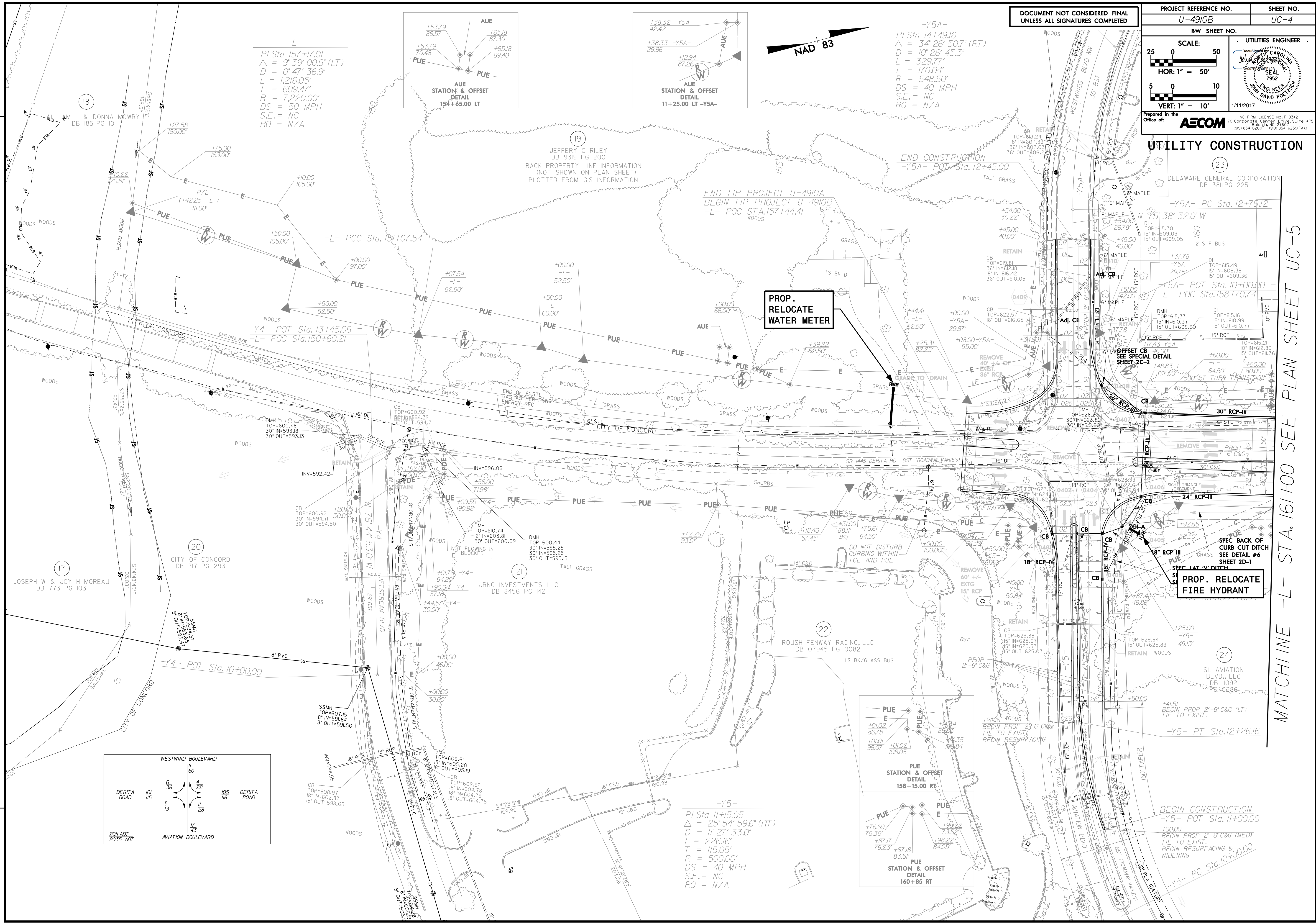
Revisions:

UTILITY CONSTRUCTION

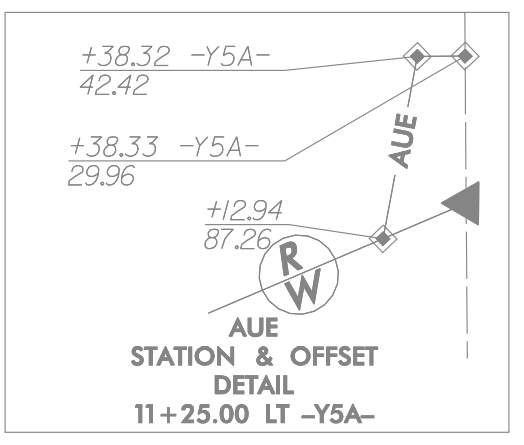
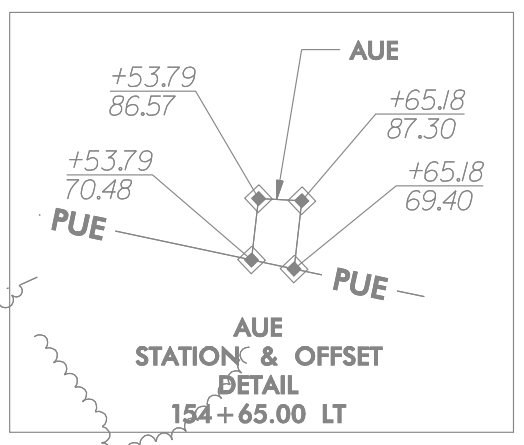
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UNLESS ALL SIGNATURES COMPLETED

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RW SHEET NO.		UTILITIES ENGINEER	
SCALE: 25 0 50 HOR: 1" = 50' 5 0 10 VERT: 1" = 10'			
Prepared in the Office of:			

UTILITY CONSTRUCTION



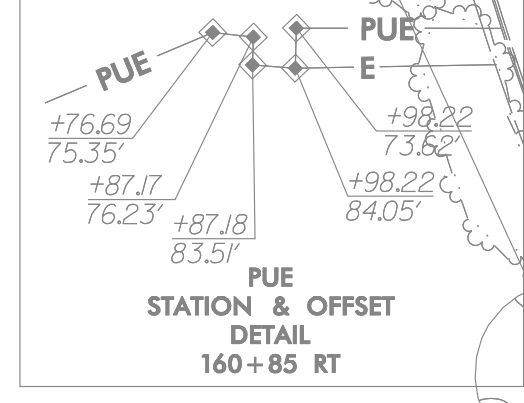
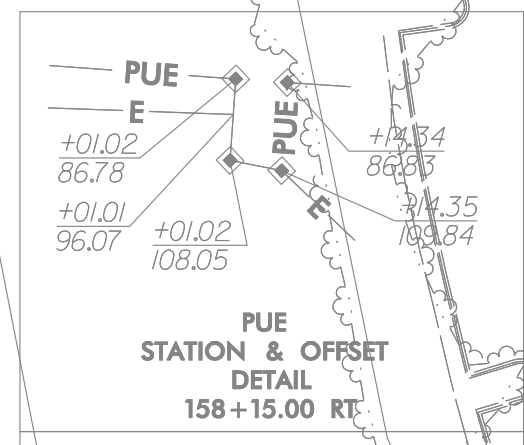
-L-
 PI Sta 157+17.01
 $\Delta = 9' 39'' 00.9''$ (LT)
 $D = 0' 47'' 36.9''$
 $L = 1216.05'$
 $T = 609.47'$
 $R = 7,220.00'$
 $DS = 50$ MPH
 $S.E. = NC$
 $RO = N/A$



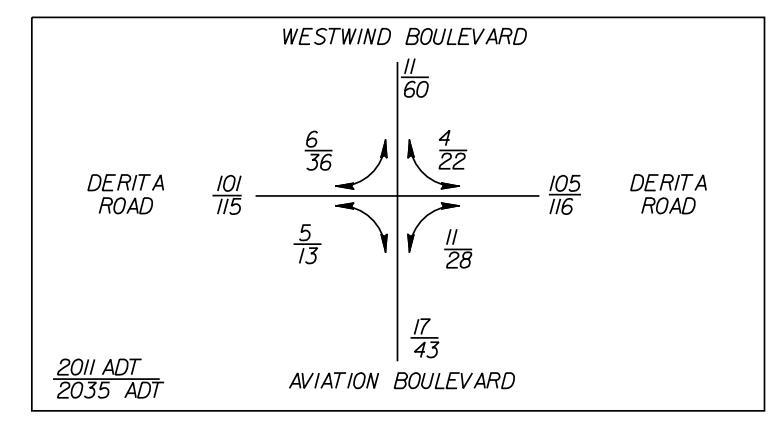
-Y5A-
 PI Sta 14+49.16
 $\Delta = 34' 26'' 50.7''$ (RT)
 $D = 10' 26'' 45.3''$
 $L = 329.77'$
 $T = 170.04'$
 $R = 548.50'$
 $DS = 40$ MPH
 $S.E. = NC$
 $RO = N/A$

PROP. RELOCATE WATER METER

PROP. RELOCATE FIRE HYDRANT



-Y5-
 PI Sta 11+15.05
 $\Delta = 25' 54'' 59.6''$ (RT)
 $D = 11' 27'' 33.0''$
 $L = 226.16'$
 $T = 115.05'$
 $R = 500.00'$
 $DS = 40$ MPH
 $S.E. = NC$
 $RO = N/A$



REVISIONS

Revisions:

MATCHLINE -L- STA. 161+00 SEE PLAN SHEET UC-5

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

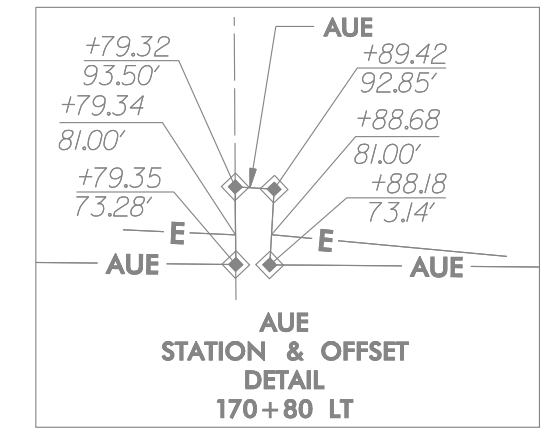
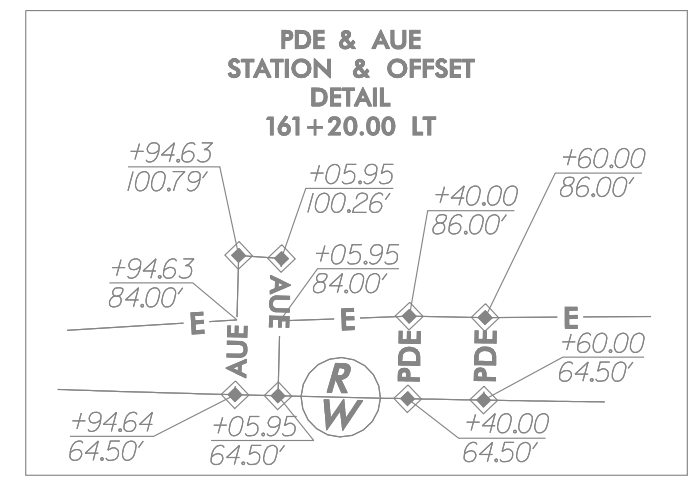
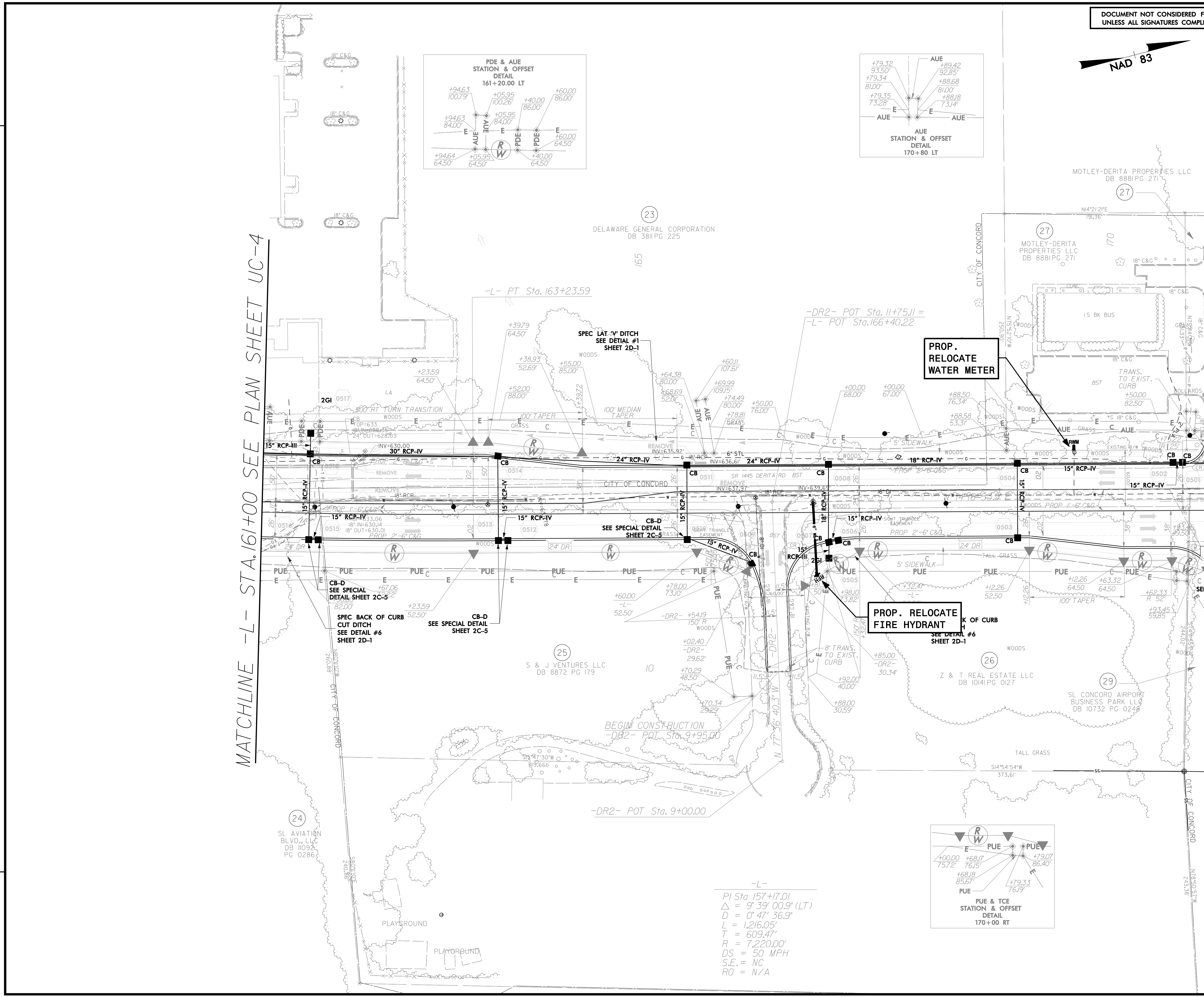
PROJECT REFERENCE NO. <i>U-4910B</i>	SHEET NO. <i>UC-5</i>
RW SHEET NO.	
SCALE: 25 0 50 HOR: 1" = 50' 5 0 10 VERT: 1" = 10'	UTILITIES ENGINEER DAVID FORBES 1/11/2017
Prepared in the Office of: AECOM NC FIRM LICENSE No. F-0342 701 Corporate Center Drive, Suite 4175 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)	

UTILITY CONSTRUCTION

REVISIONS:

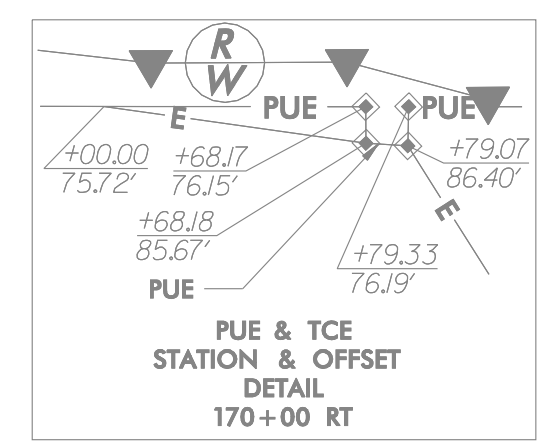
MATCHLINE -L- STA. 161+00 SEE PLAN SHEET UC-4

MATCHLINE -L- STA. 171+00 SEE PLAN SHEET UC-6



PROP. RELOCATE WATER METER

PROP. RELOCATE FIRE HYDRANT



-L-

PI Sta 157+17.01
 $\Delta = 9^{\circ} 39' 00.9" (LT)$
 $D = 0' 47' 36.9"$
 $L = 1,216.05'$
 $T = 609.47'$
 $R = 7,220.00'$
 $DS = 50 \text{ MPH}$
 $S.E. = NC$
 $RO = N/A$

24 SL AVIATION BLVD., LLC DB 11092 PG 0286

25 S & J VENTURES LLC DB 8872 PG 179

26 Z & T REAL ESTATE LLC DB 10141 PG 0127

29 SL CONCORD AIRPORT BUSINESS PARK LLC DB 10732 PG 0248

23 DELAWARE GENERAL CORPORATION DB 3811 PG 225

MOTLEY-DERITA PROPERTIES LLC DB 8881 PG 271

27 MOTLEY-DERITA PROPERTIES LLC DB 8881 PG 271

15 BK BUS

TRANS. TO EXIST. CURB

EXISTING R/W

WOODS

PUE

WOODS

WOODS

TALL GRASS

CITY OF CONCORD

PLAYGROUND

PLAYGROUND

BEGIN CONSTRUCTION
-DR2- POT Sta. 9+95.00

-DR2- POT Sta. 9+00.00

-DR2- POT Sta. 11+75.11 =
-L- POT Sta. 166+40.22

-L- PT Sta. 163+23.59

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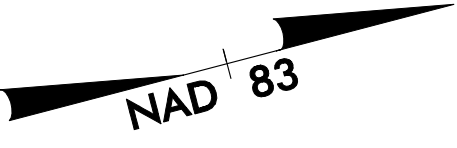
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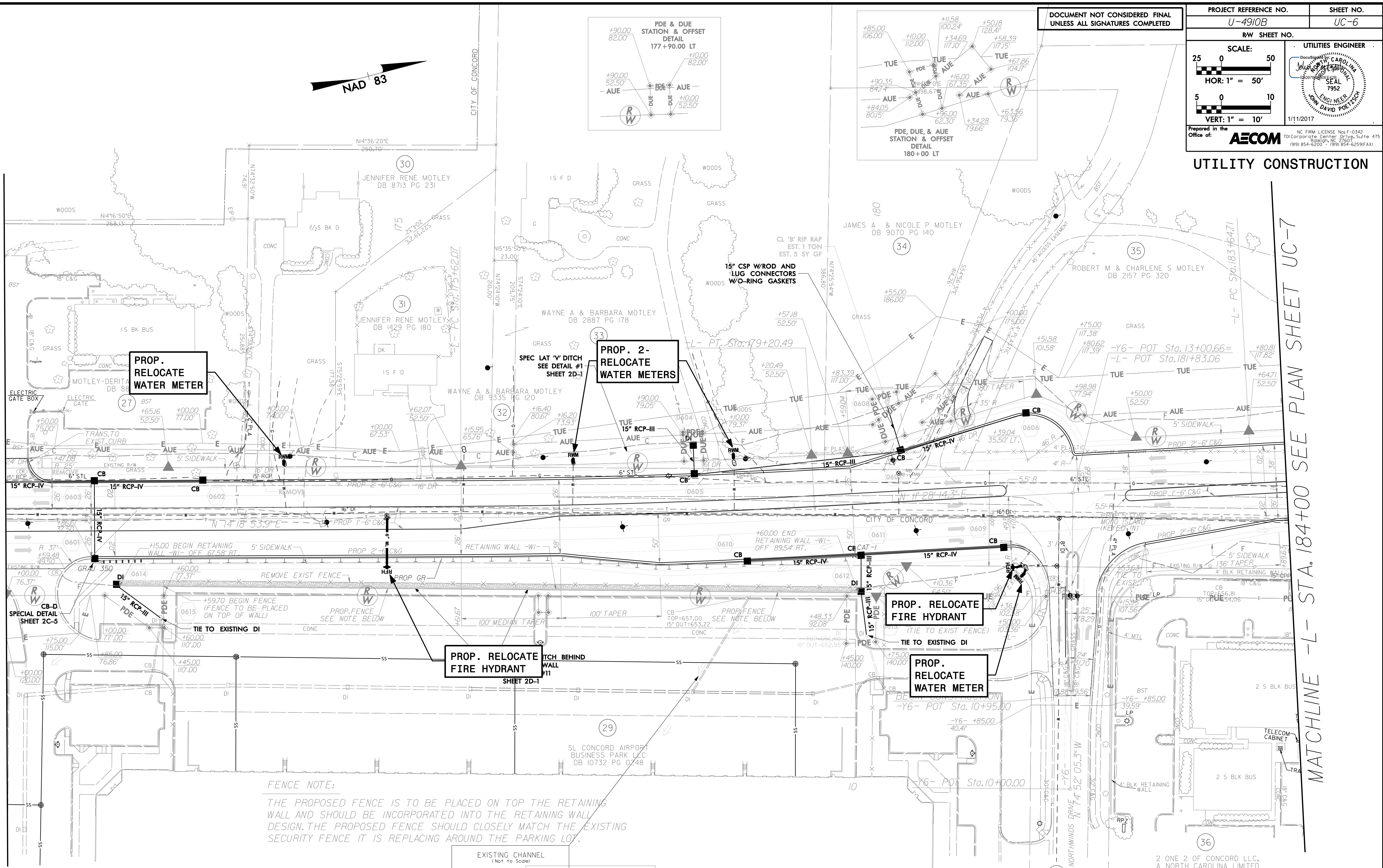


PROJECT REFERENCE NO. U-4910B	SHEET NO. UC-6
RW SHEET NO.	
SCALE: 25 0 50 HOR: 1" = 50' 5 0 10 VERT: 1" = 10'	UTILITIES ENGINEER AECOM 1/11/2017
Prepared in the Office of: AECOM <small>NC FIRM LICENSE No. F-0342 701 Corporate Center Blvd., Suite 415 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)</small>	
UTILITY CONSTRUCTION	



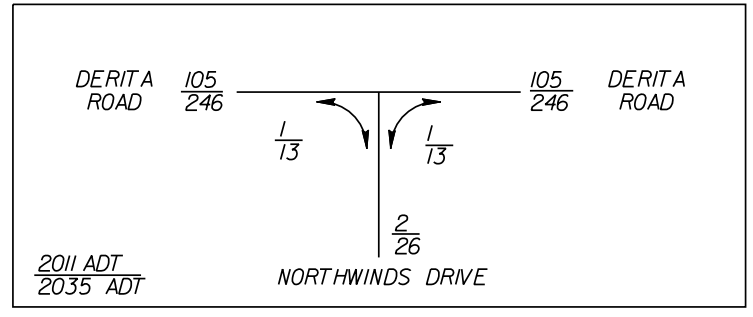
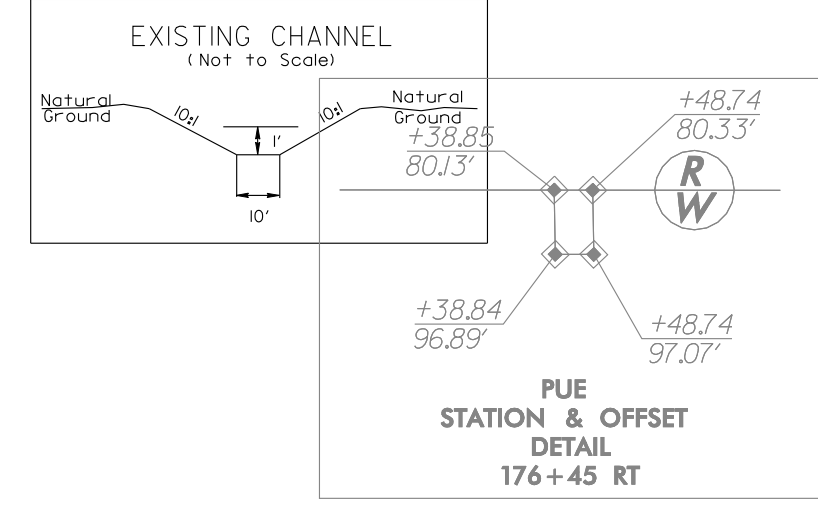
MATCHLINE -L- STA. 171+00 SEE PLAN SHEET UC-5

MATCHLINE -L- STA. 184+00 SEE PLAN SHEET UC-7



FENCE NOTE:
THE PROPOSED FENCE IS TO BE PLACED ON TOP THE RETAINING WALL AND SHOULD BE INCORPORATED INTO THE RETAINING WALL DESIGN. THE PROPOSED FENCE SHOULD CLOSELY MATCH THE EXISTING SECURITY FENCE IT IS REPLACING AROUND THE PARKING LOT.

-L-
 PI Sta 177+41.32 PI Sta 186+18.82
 $\Delta = 2' 50" 39.6" (LT)$ $\Delta = 4' 01" 53.0" (RT)$
 $D = 0' 47" 36.9"$ $D = 0' 47" 36.9"$
 $L = 358.42'$ $L = 508.01'$
 $T = 179.25'$ $T = 254.11'$
 $R = 7,220.00'$ $R = 7,220.00'$
 $DS = 50 MPH$ $DS = 50 MPH$
 $S.E. = NC$ $S.E. = NC$
 $RO = N/A$ $RO = N/A$



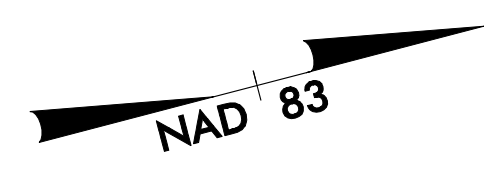
SEE W SERIES SHEETS FOR RETAINING WALL DETAILS

Revisions:

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO. <i>U-4910B</i>	SHEET NO. <i>UC-7</i>
RW SHEET NO.	
SCALE: HOR: 1" = 50' VERT: 1" = 10'	UTILITIES ENGINEER
Prepared in the Office of: AECOM	NC FIRM LICENSE No. F-0342 701 Corporate Center Drive, Suite 4175 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)

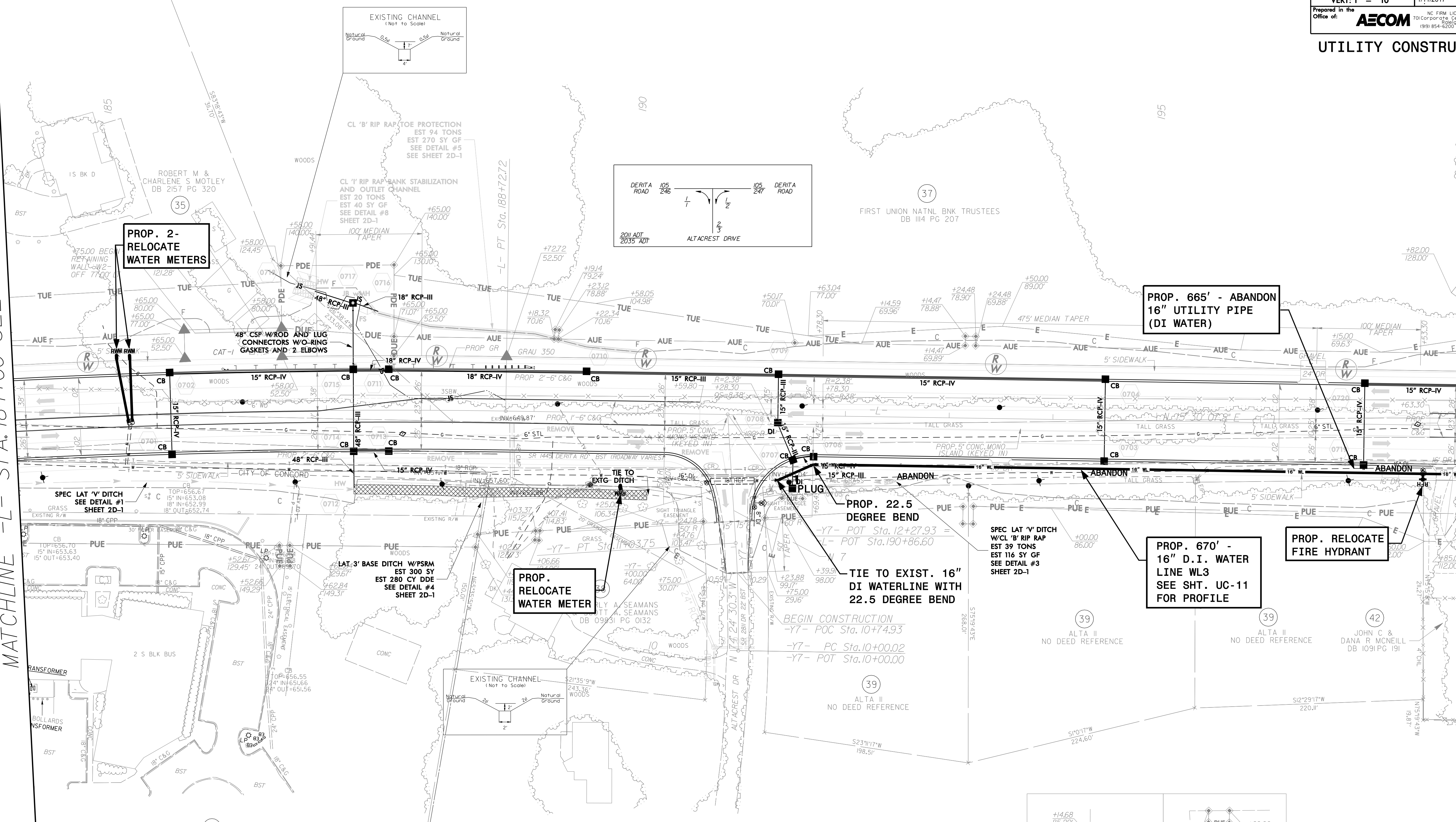
1/11/2017



UTILITY CONSTRUCTION

MATCHLINE -L- STA. 184+00 SEE PLAN SHEET UC-6

MATCHLINE -L- STA. 198+00 SEE PLAN SHEET UC-8



PROP. 2-
RELOCATE
WATER METERS

PROP. 665' - ABANDON
16" UTILITY PIPE
(DI WATER)

PROP. RELOCATE
WATER METER

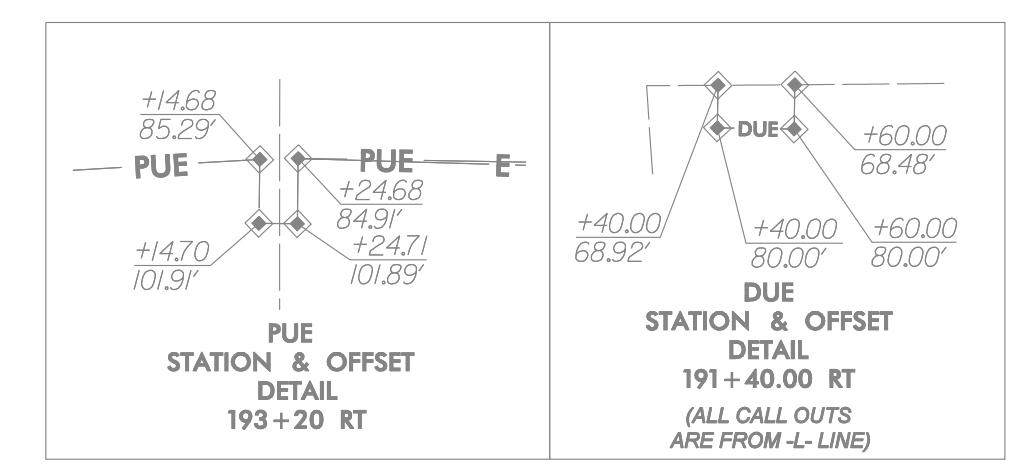
PROP. 22.5
DEGREE BEND

PROP. 670' -
16" D.I. WATER
LINE WL3
SEE SHT. UC-11
FOR PROFILE

PROP. RELOCATE
FIRE HYDRANT

-L-
PI Sta 186+18.82
Δ = 4° 01' 53.0" (RT)
D = 0° 47' 36.9"
L = 508.01'
T = 254.11'
R = 7,220.00'
DS = 50 MPH
S.E. = NC
RO = N/A

-Y7-
PI Sta 10+51.91
Δ = 4° 32' 50.2" (LT)
D = 4° 23' 01.5"
L = 103.73'
T = 51.89'
R = 1,307.00'
DS = 40 MPH
S.E. = NC
RO = N/A



SEE W SERIES SHEETS FOR RETAINING WALL DETAILS

REVISIONS

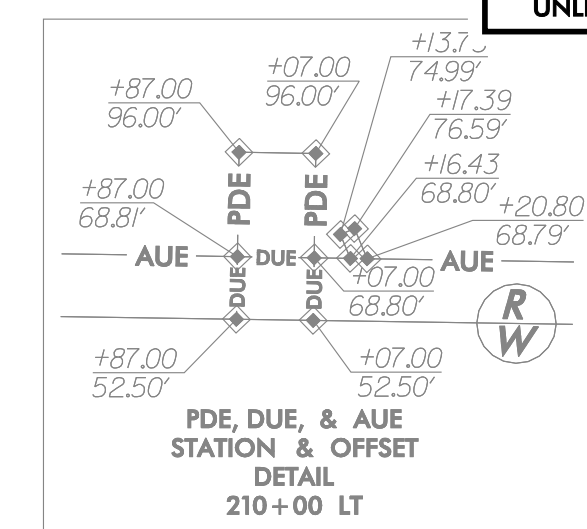
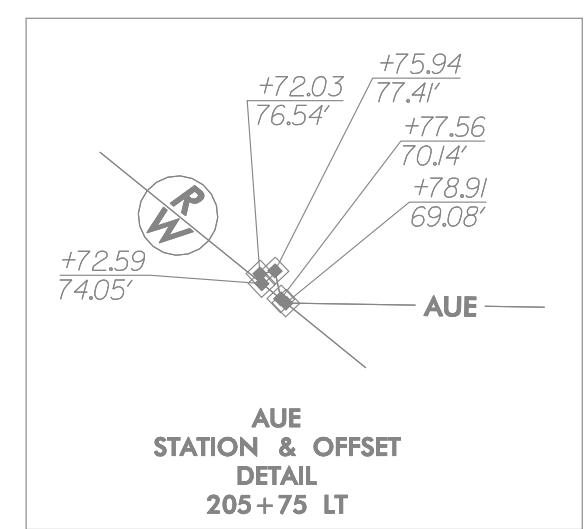
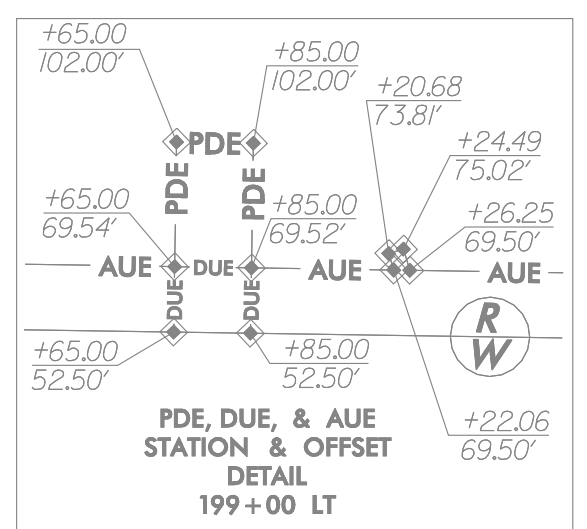
Revisions:

2 ONE 2 OF CONCORD LLC,
A NORTH CAROLINA LIMITED
LIABILITY COMPANY
DB 11572 PG 240

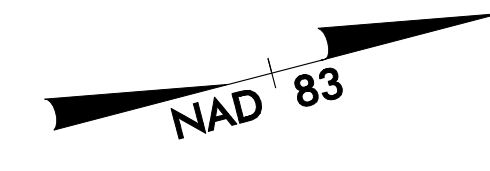
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO. U-4910B	SHEET NO. UC-8
RW SHEET NO.	
SCALE: 25 0 50 HOR: 1" = 50' 5 0 10 VERT: 1" = 10'	UTILITIES ENGINEER
Prepared in the Office of: AECOM	NC FIRM LICENSE No. F-0342 701 Corporate Center Drive, Suite 4175 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)

UTILITY CONSTRUCTION

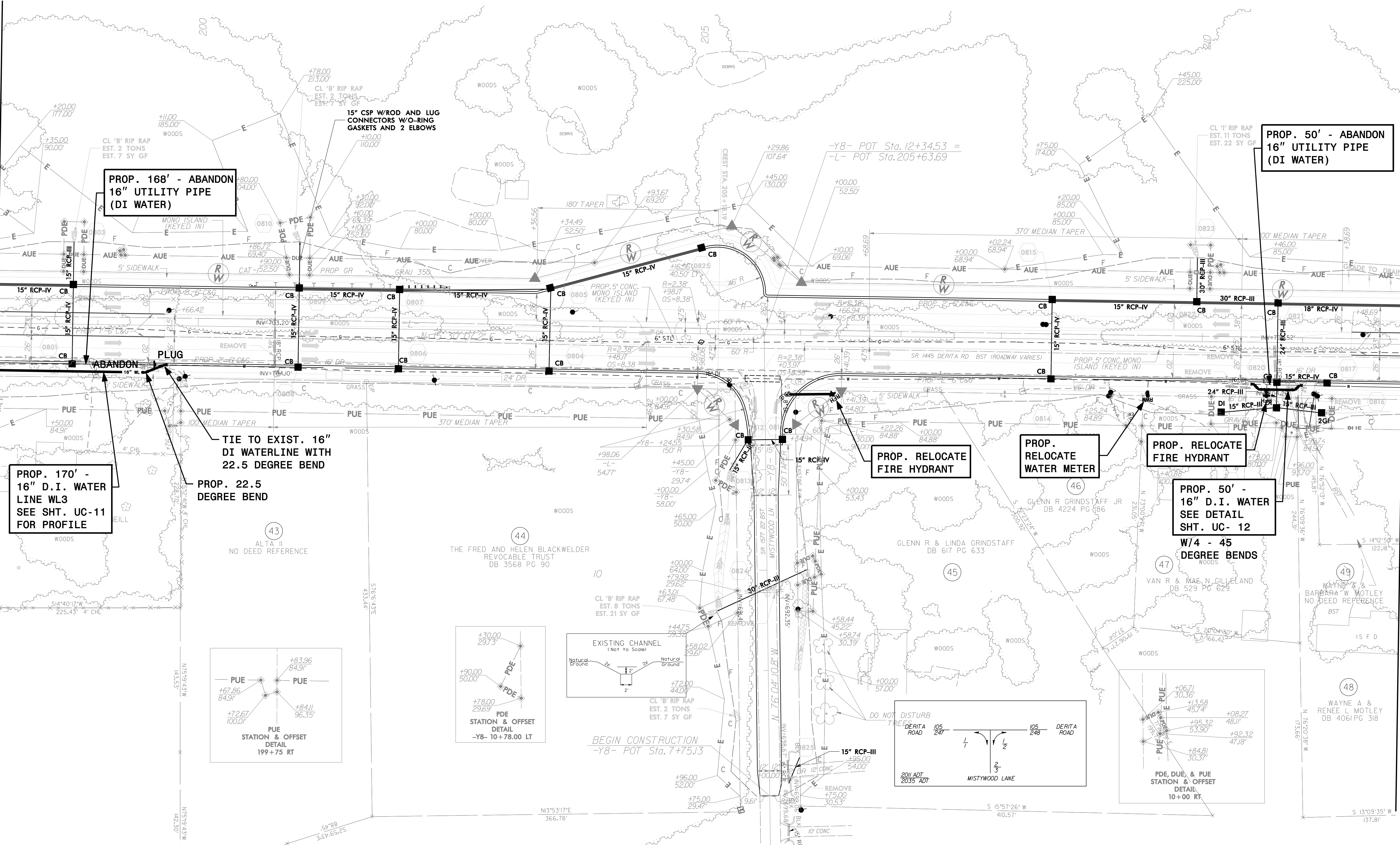


37
FIRST UNION NATNL BNK TRUSTEES
DB III4 PG 207



MATCHLINE -L- STA. 198+00 SEE PLAN SHEET UC-7

MATCHLINE STA. 212+00 SEE PLAN SHEET UC-9



PROP. 168' - ABANDON
16" UTILITY PIPE
(DI WATER)

PROP. 50' - ABANDON
16" UTILITY PIPE
(DI WATER)

PROP. 170' -
16" D.I. WATER
LINE WL3
SEE SHT. UC-11
FOR PROFILE

PROP. 22.5
DEGREE BEND

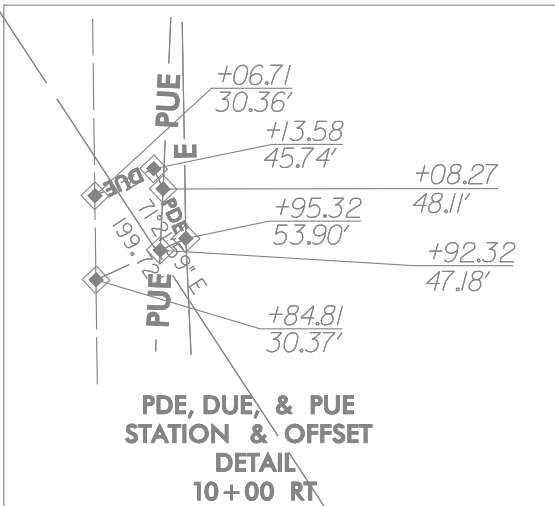
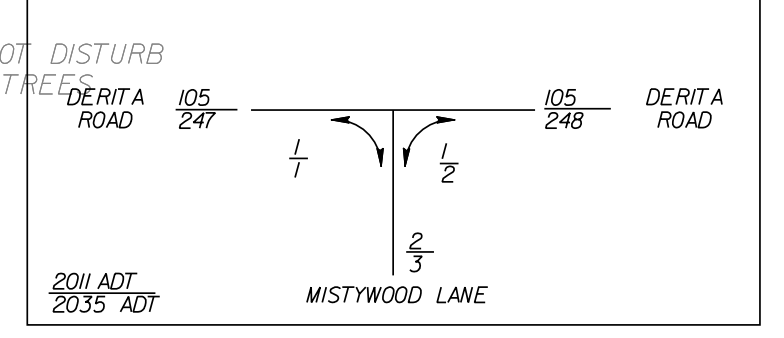
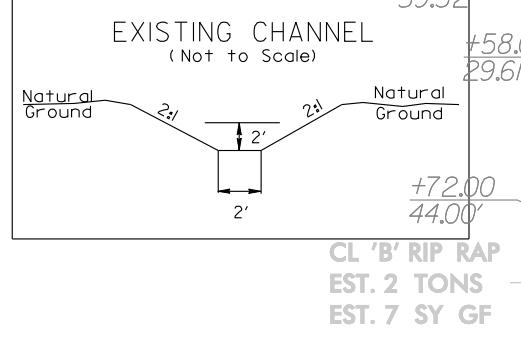
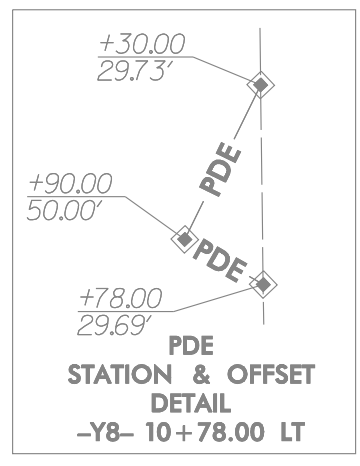
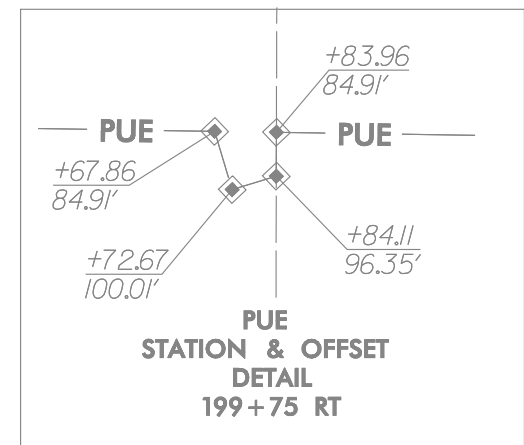
PROP. RELOCATE
FIRE HYDRANT

PROP. RELOCATE
WATER METER

PROP. RELOCATE
FIRE HYDRANT

PROP. 50' -
16" D.I. WATER
SEE DETAIL
SHT. UC- 12

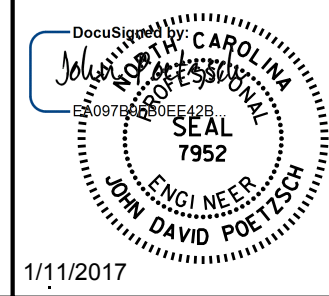
W/4 - 45
DEGREE BENDS



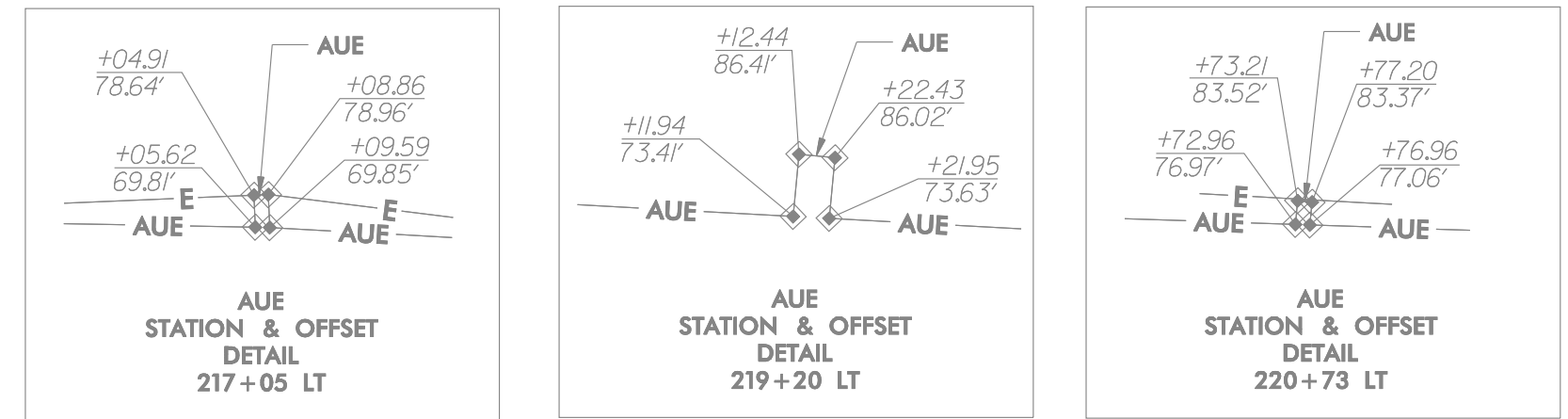
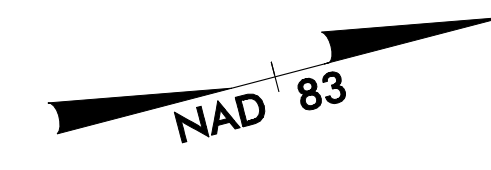
REVISIONS

Revisions:

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

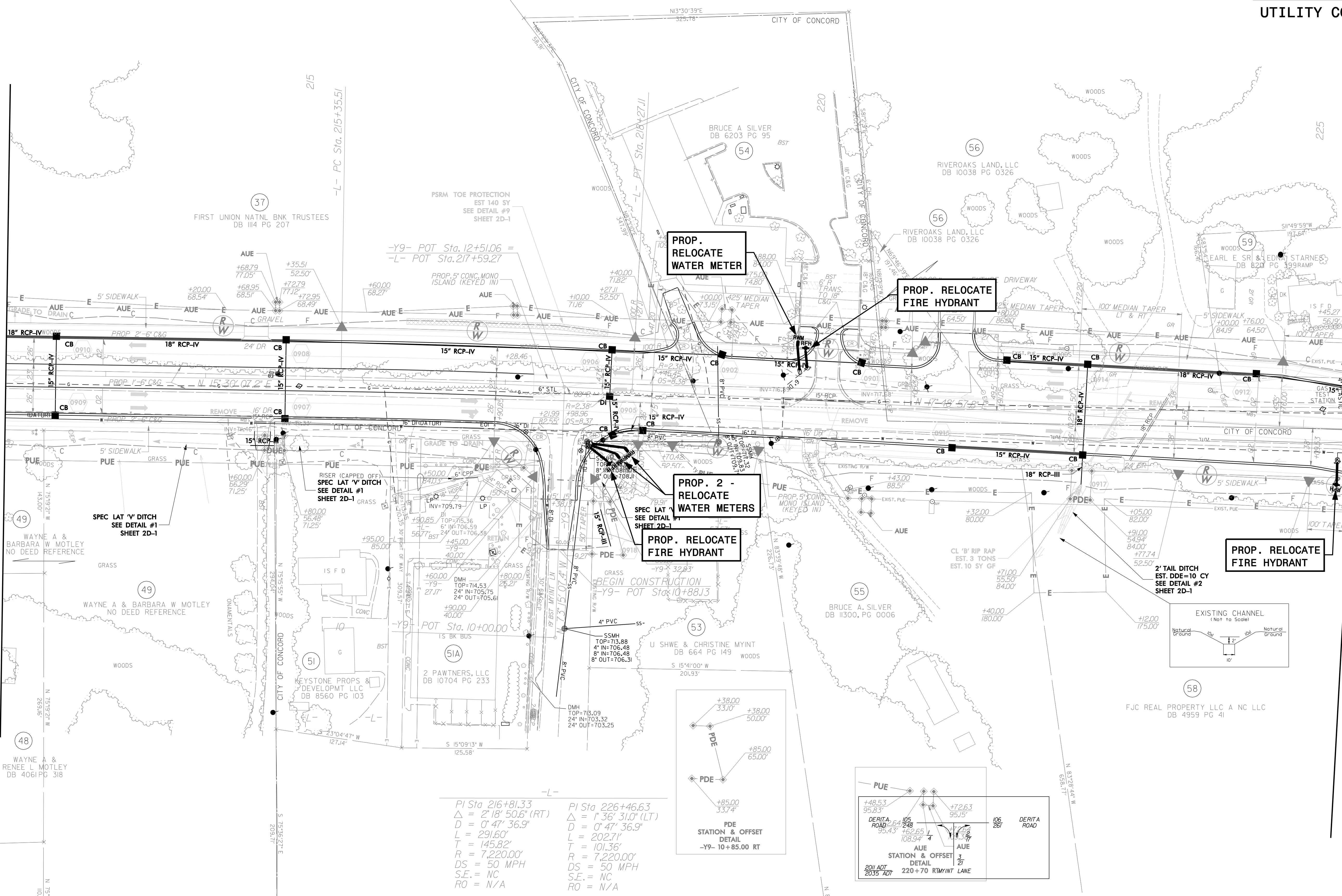
PROJECT REFERENCE NO. U-4910B	SHEET NO. UC-9
RW SHEET NO.	
SCALE: 25 0 50 HOR: 1" = 50' 5 0 10 VERT: 1" = 10'	UTILITIES ENGINEER  1/11/2017
Prepared in the Office of: AECOM NC FIRM LICENSE No. F-0342 701 Corporate Center Drive, Suite 415 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)	

UTILITY CONSTRUCTION



MATCHLINE -L- STA. 212+00 SEE PLAN SHEET UC-8

MATCHLINE -L- STA. 225+50 SEE PLAN SHEET UC-10

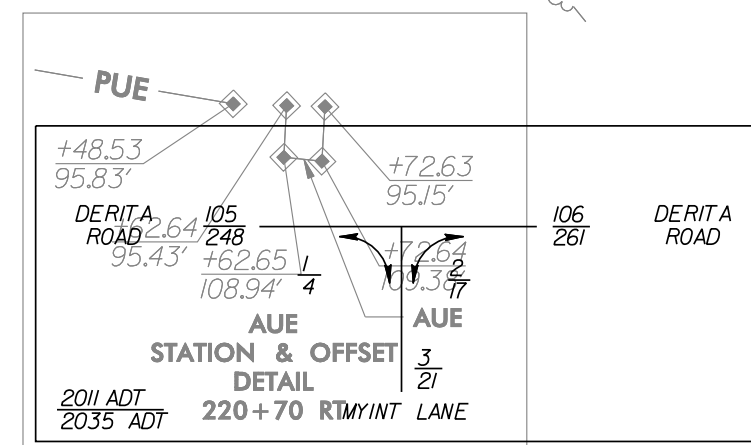
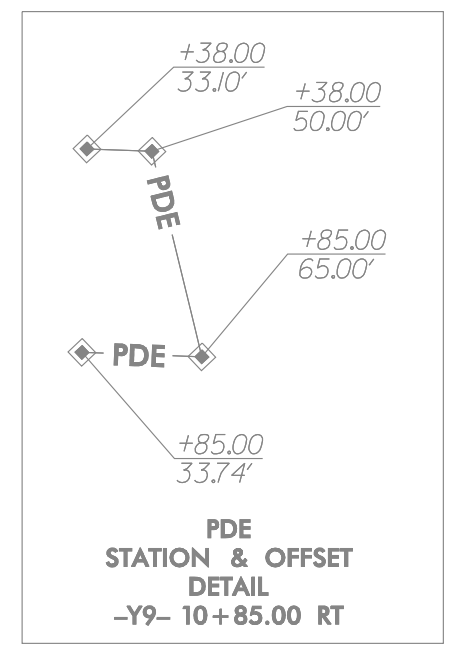


REVISIONS

Revisions:

-L-

PI Sta 216+81.33 Δ = 2' 18" 50.6" (RT) D = 0' 47" 36.9" L = 291.60' T = 145.82' R = 7,220.00' DS = 50 MPH S.E. = NC RO = N/A	PI Sta 226+46.63 Δ = 1' 36" 31.0" (LT) D = 0' 47" 36.9" L = 202.71' T = 101.36' R = 7,220.00' DS = 50 MPH S.E. = NC RO = N/A
--	--



WAYNE A & RENE L MOTLEY
DB 4061 PG 318

WAYNE A & BARBARA W MOTLEY
NO DEED REFERENCE

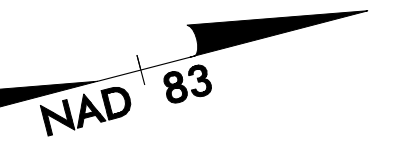
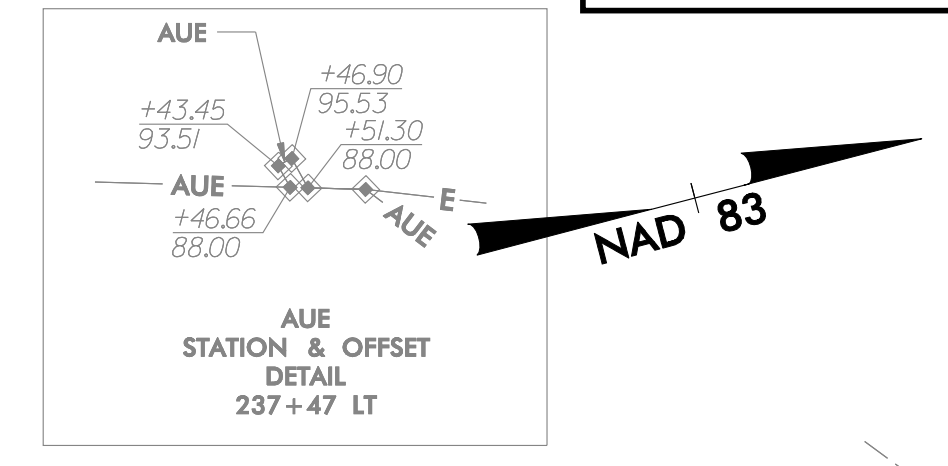
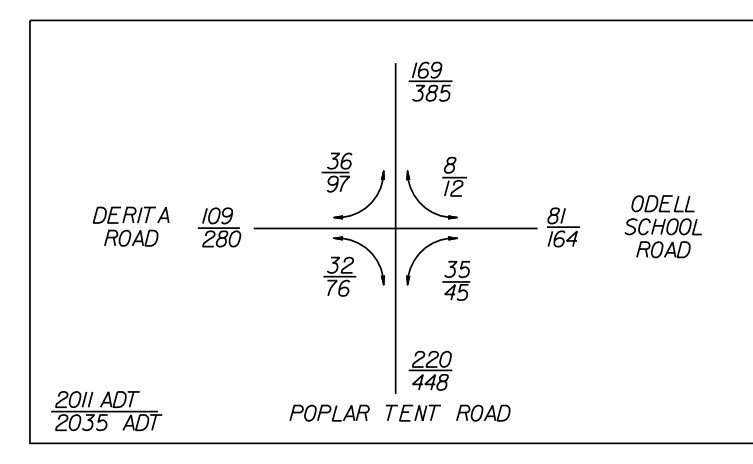
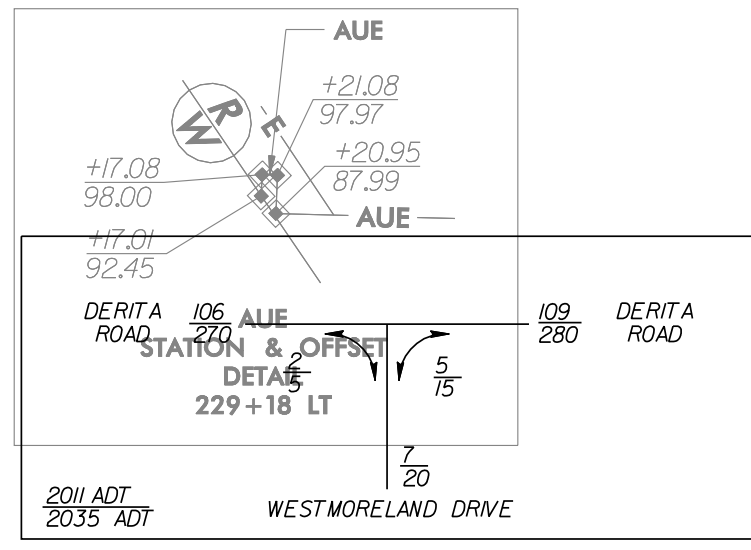
WAYNE A & BARBARA W MOTLEY
NO DEED REFERENCE

WAYNE A & BARBARA W MOTLEY
NO DEED REFERENCE

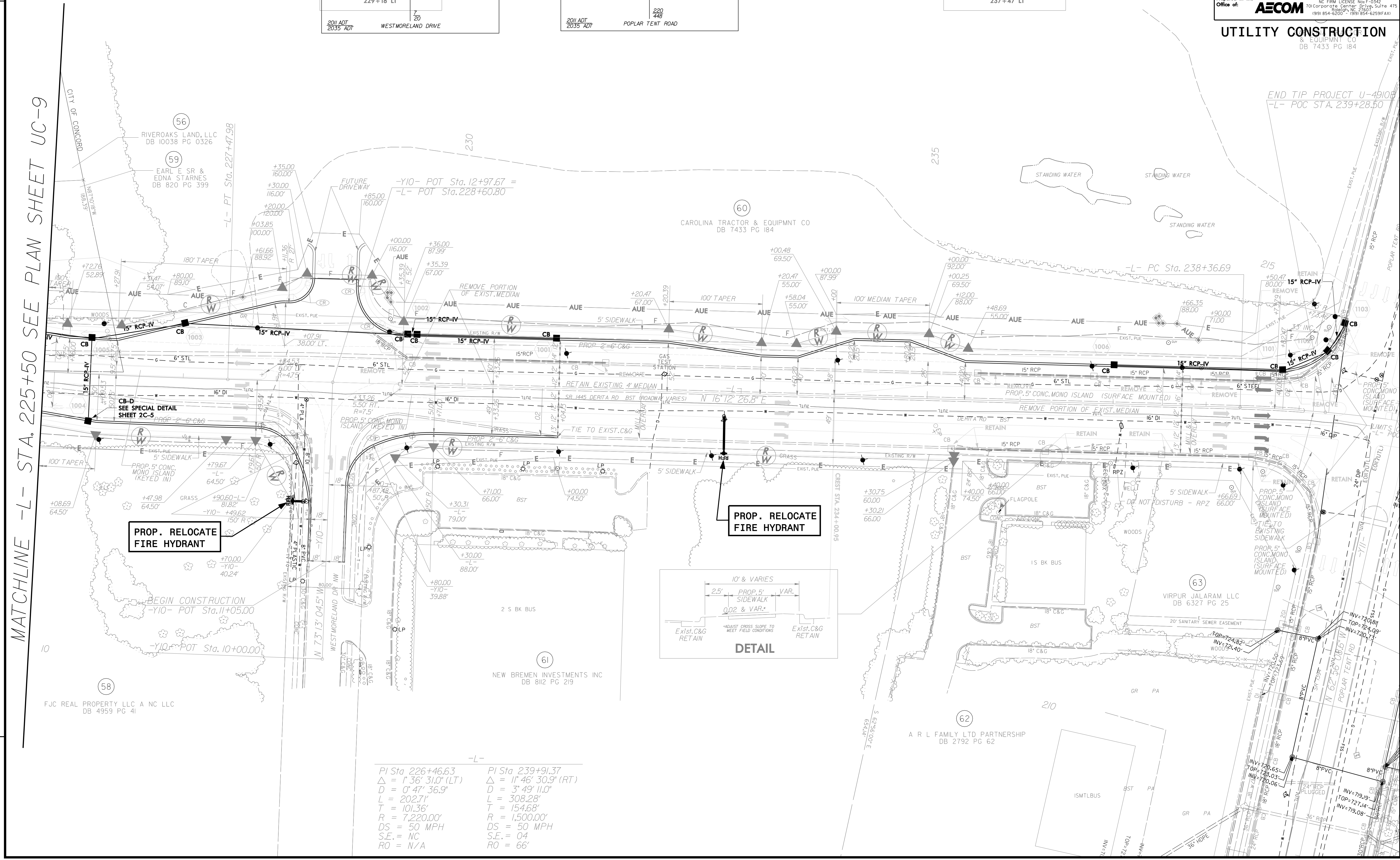
WAYNE A & BARBARA W MOTLEY
NO DEED REFERENCE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO. U-4910B	SHEET NO. UC-10
RW SHEET NO.	
SCALE: 25 0 50 HOR: 1" = 50' 5 0 10 VERT: 1" = 10'	UTILITIES ENGINEER AECOM 1/11/2017
Prepared in the Office of: AECOM 701 Corporate Center Drive, Suite 475 Raleigh, NC 27607 (919) 854-6200 • (919) 854-6259(FAX)	
UTILITY CONSTRUCTION & EQUIPMENT CO DB 7433 PG 184	

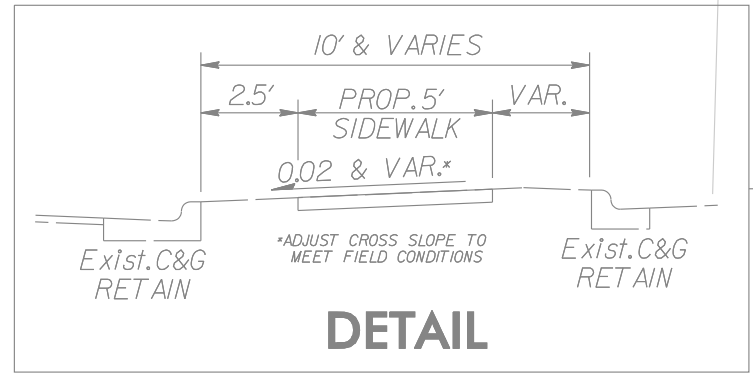


MATCHLINE -L- STA. 225+50 SEE PLAN SHEET UC-9



PROP. RELOCATE FIRE HYDRANT

PROP. RELOCATE FIRE HYDRANT



PI Sta 226+46.63	PI Sta 239+91.37
$\Delta = 1^{\circ} 36' 31.0''$ (LT)	$\Delta = 1^{\circ} 46' 30.9''$ (RT)
$D = 0^{\circ} 47' 36.9''$	$D = 3^{\circ} 49' 11.0''$
$L = 202.71'$	$L = 308.28'$
$T = 101.36'$	$T = 154.68'$
$R = 7,220.00'$	$R = 1,500.00'$
$DS = 50$ MPH	$DS = 50$ MPH
$S.E. = NC$	$S.E. = 04$
$RO = N/A$	$RO = 66'$

REVISIONS:

END TIP PROJECT U-4910B
-L- POC STA. 239+28.50

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO. U-4910B
SHEET NO. UC-11

RW SHEET NO.

SCALE:

 HOR: 1" = 50'

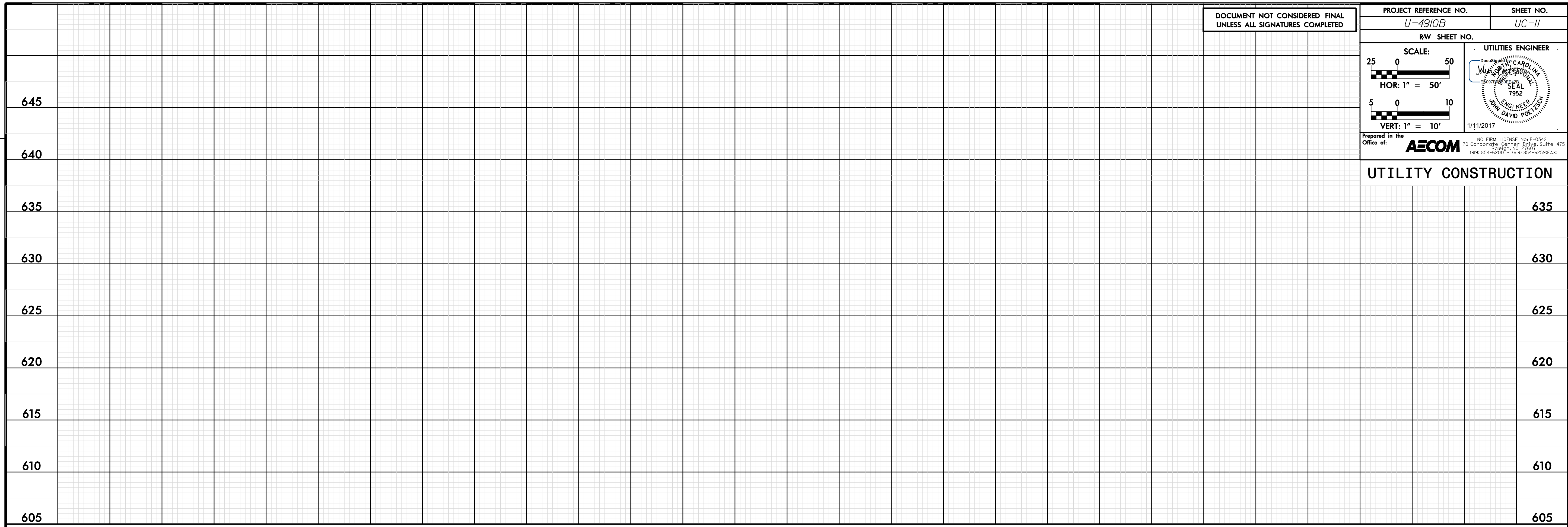
 VERT: 1" = 10'

UTILITIES ENGINEER

 1/11/2017

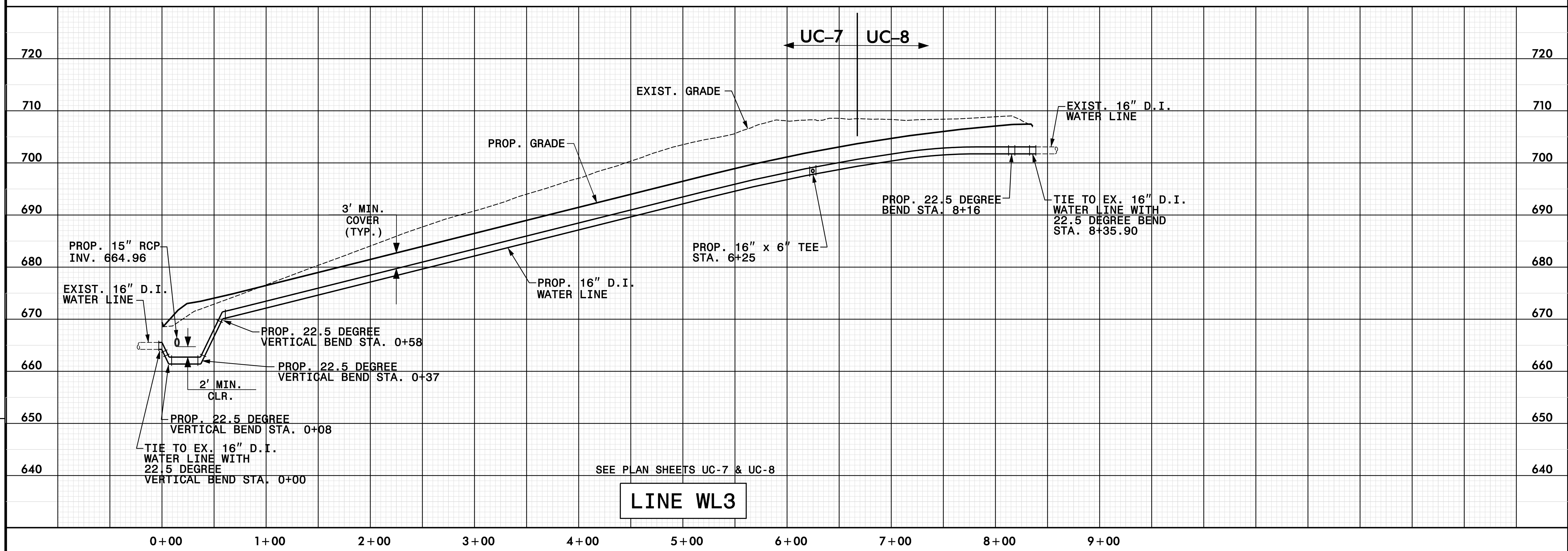
Prepared in the Office of: **AECOM**
NC FIRM LICENSE No. F-0342
 701 Corporate Center Dr., Suite 415
 Raleigh, NC 27607
 (919) 854-6200 • (919) 854-6259(FAX)

UTILITY CONSTRUCTION



REVISIONS

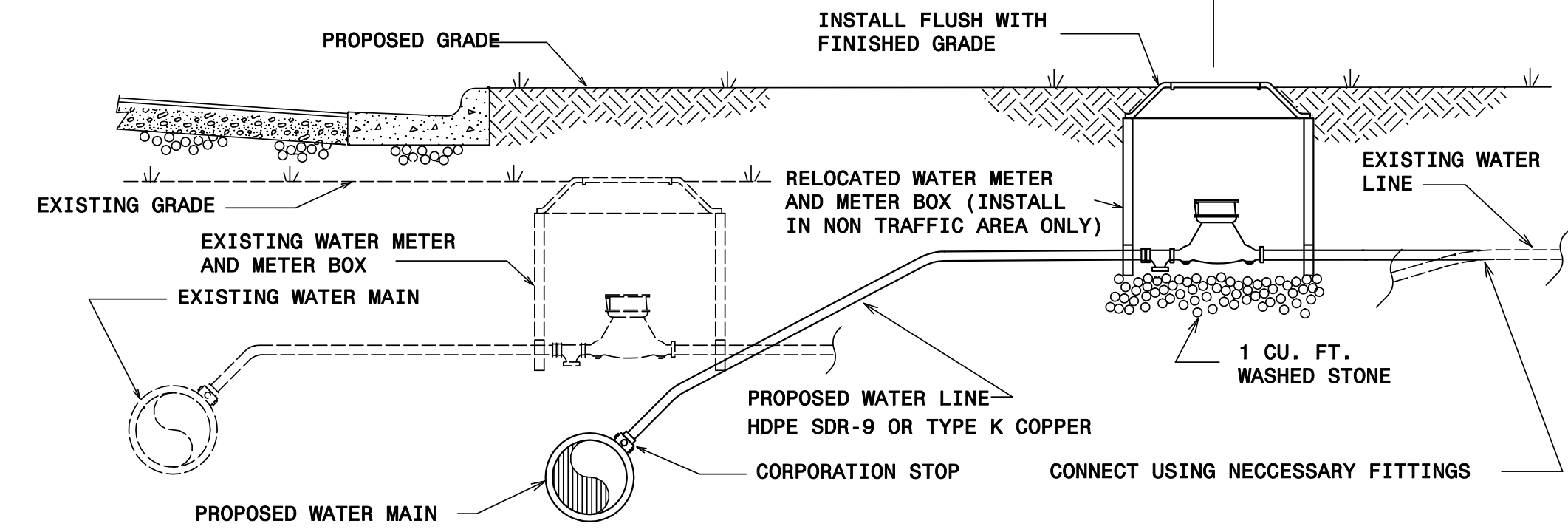
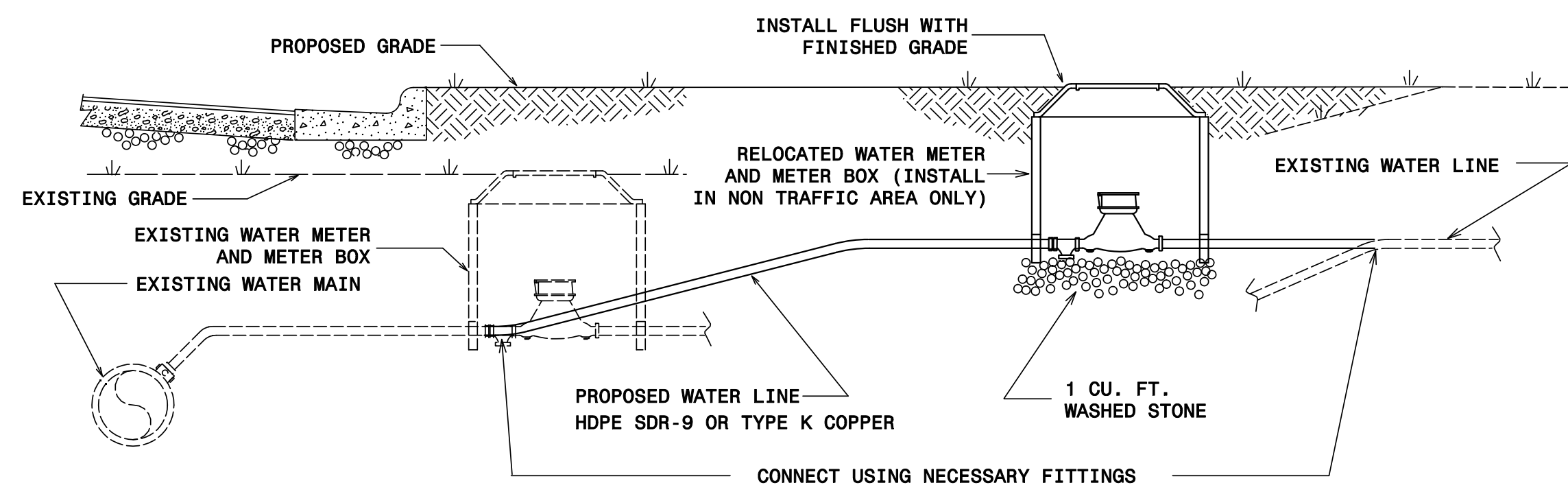
Revisions:



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SEE PLAN SHEETS UC-7 & UC-8

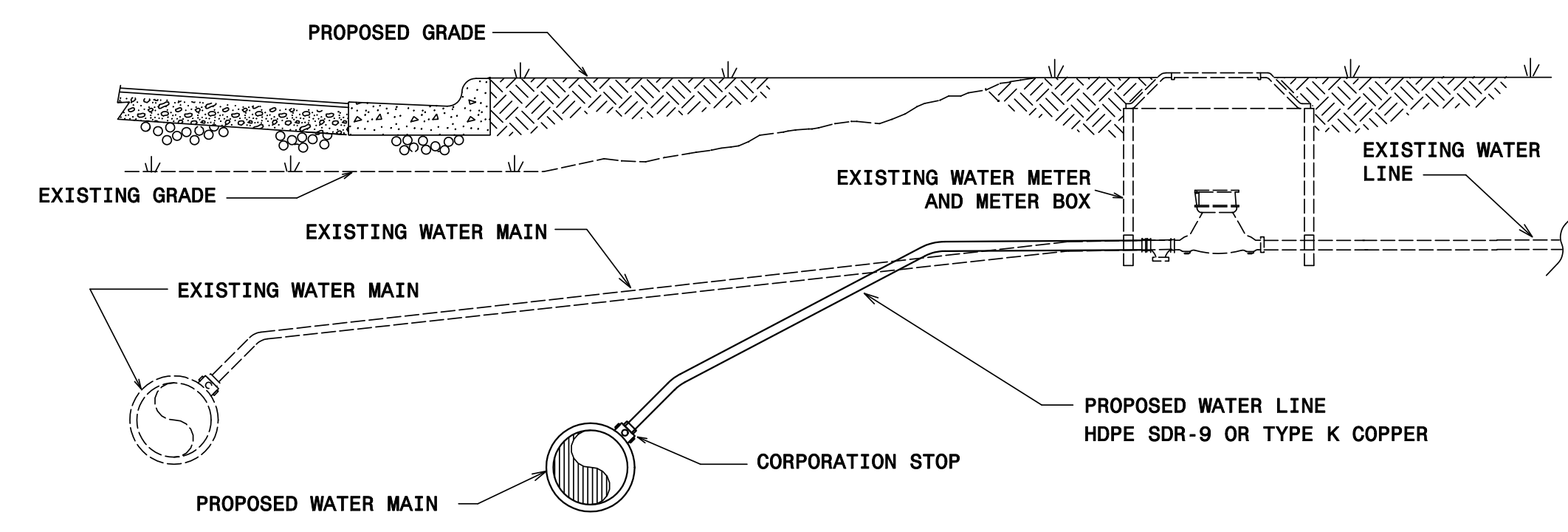
LINE WL3



NOTES:

1. RELOCATION SHALL INCLUDE THE REMOVAL AND INSTALLATION AT THE APPROPRIATE LOCATION OF THE WATER METER, CURB STOP & CLAMPING DEVICE, METER VALVES, AND METER BOX WITH LID.
2. THE NEW WATER SERVICE LINE SHALL BE OF THE SAME TYPE AND GRADE AS THE EXISTING WATER SERVICE LINE UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
3. THE NEW WATER SERVICE LINE SHALL BE INSTALLED WITH A MINIMUM OF 12", MAXIMUM OF 24" COVER BELOW FINISHED GRADE.
4. THE OWNER RESERVES THE RIGHT TO ADD OR DELETE WATER SERVICE TAPS AND TO CHANGE LOCATIONS FROM THOSE SHOWN.

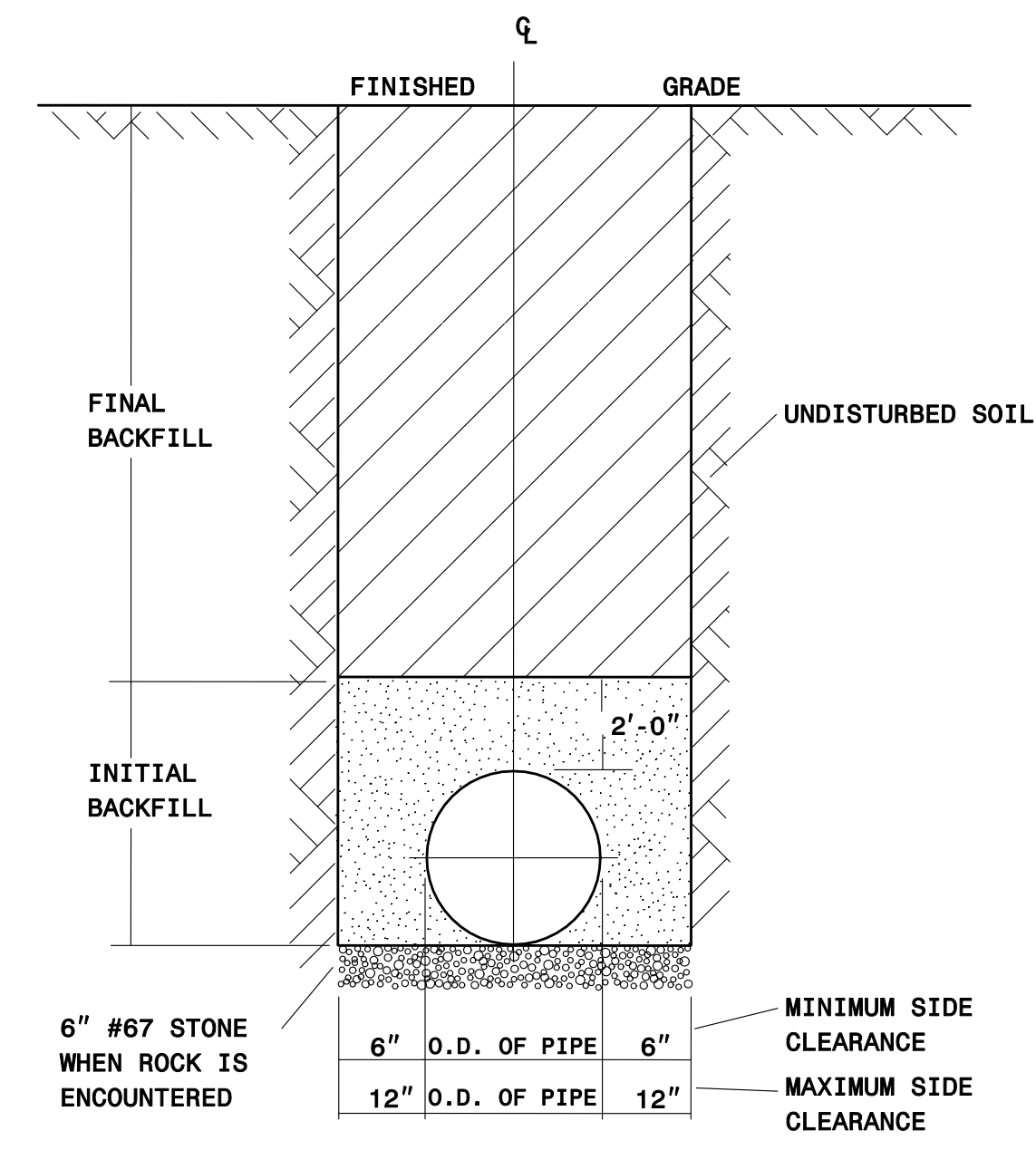
WATER METER RELOCATION DETAILS



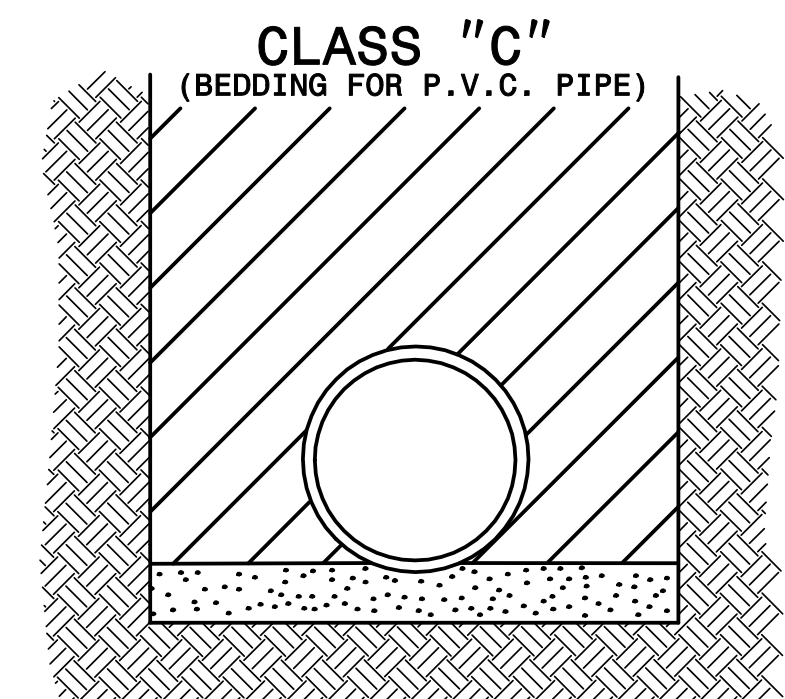
NOTES:

1. THE NEW WATER SERVICE LINE SHALL BE OF THE SAME TYPE AND GRADE AS THE EXISTING WATER SERVICE LINE UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
2. THE NEW WATER SERVICE LINE SHALL BE INSTALLED WITH A MINIMUM OF 12", MAXIMUM OF 24" COVER BELOW FINISHED GRADE.

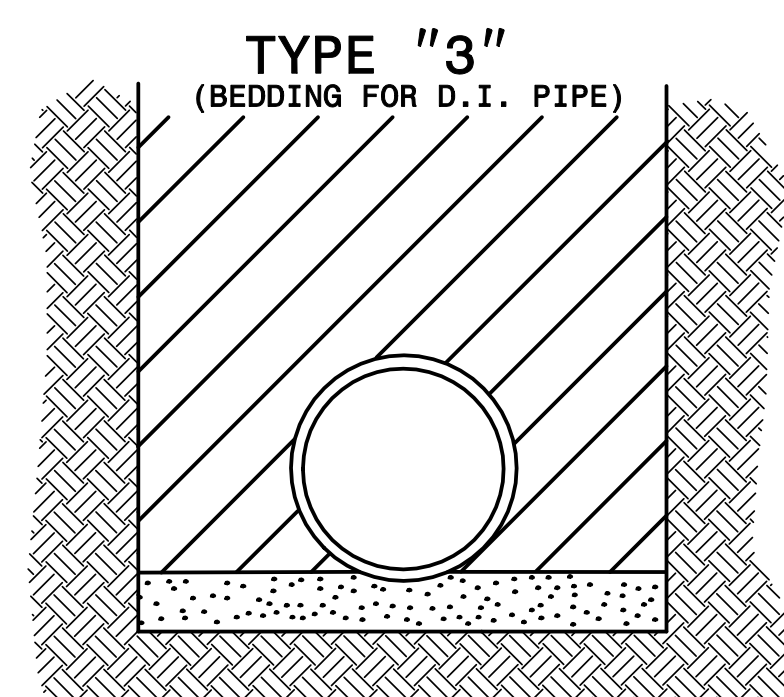
RECONNECT EXISTING WATER METER DETAIL



TRENCH & BACKFILL DETAIL

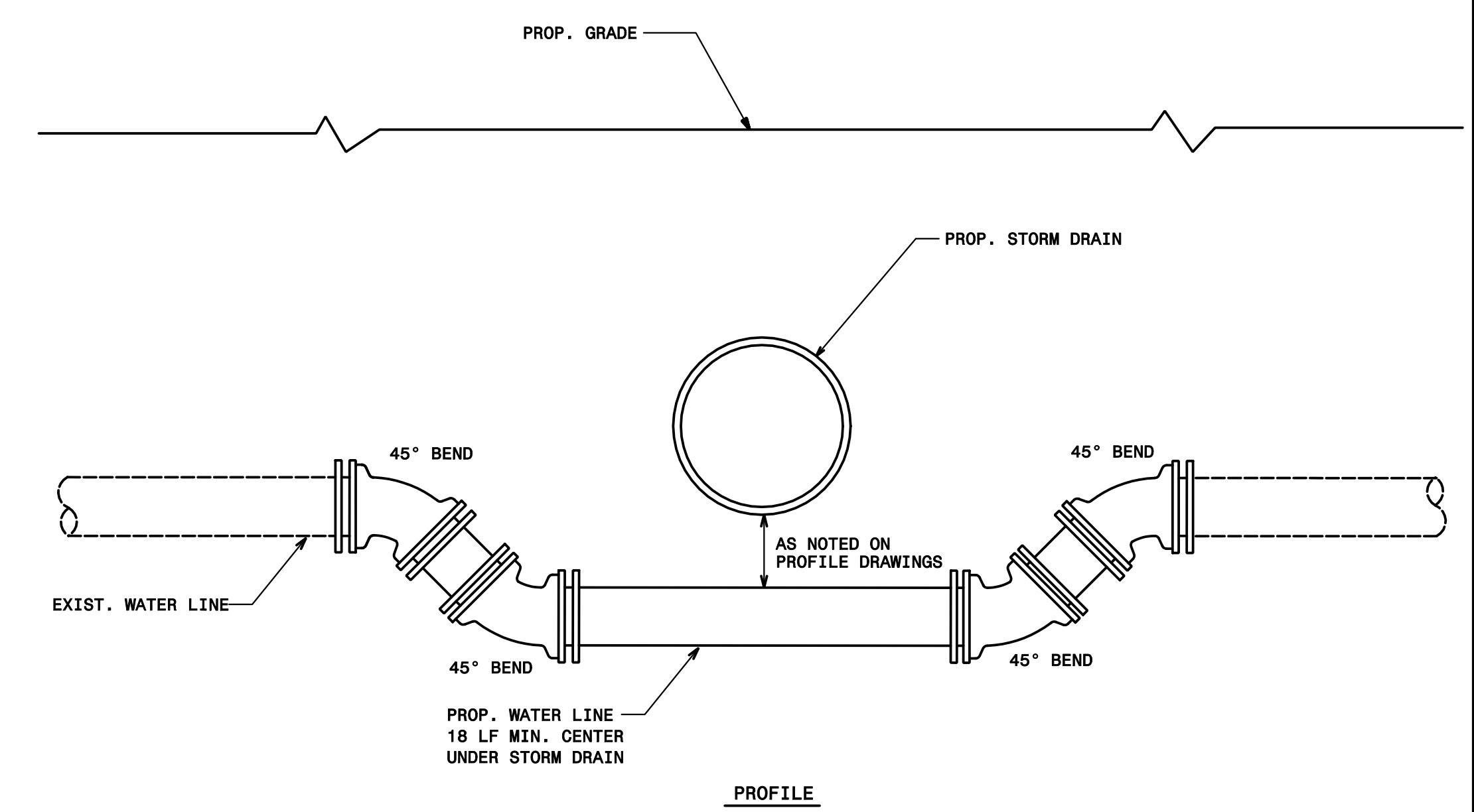


PIPE BEDDED IN LOOSE MATERIAL, LIGHTLY TAMPED WITH A MINIMUM OF 6" UNDER PIPE. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL, IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROX. 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



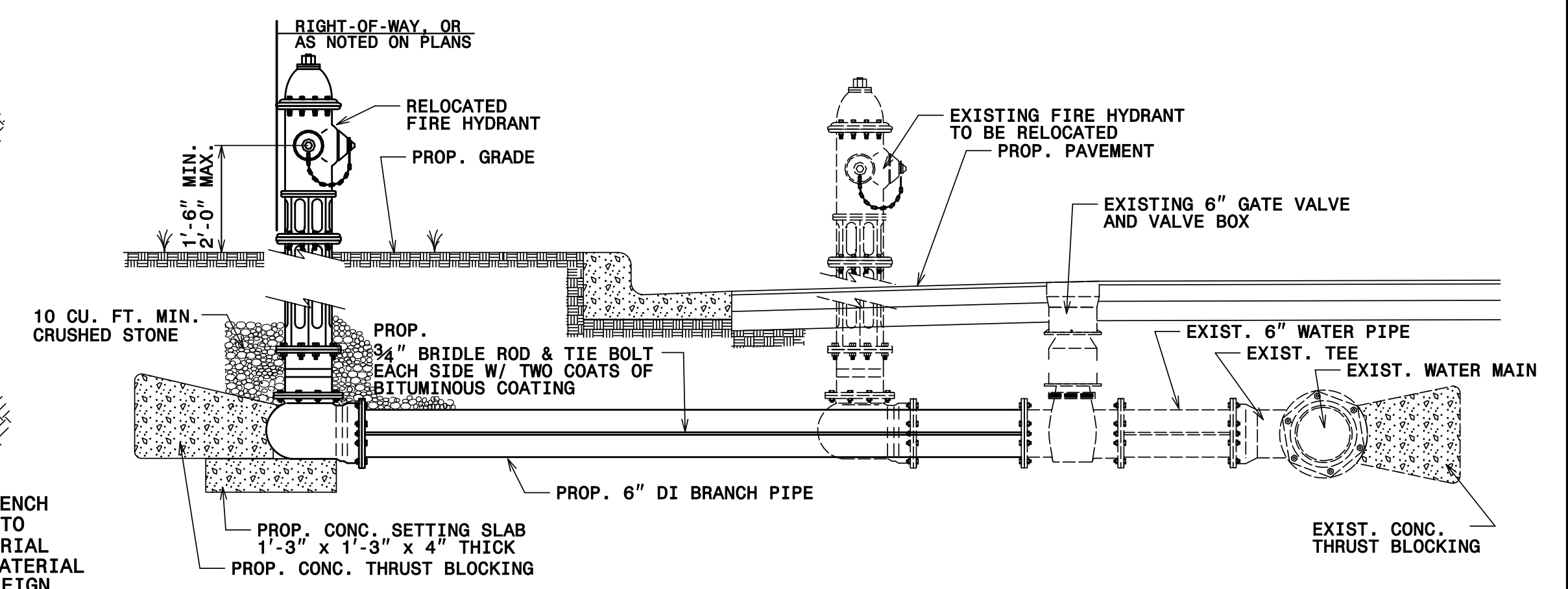
PIPE BEDDED IN 4" MINIMUM LOOSE SOIL. TRENCH BACKFILLED IN LOOSE 6" LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROX. 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

MAXIMUM TRENCH WIDTH AT TOP OF PIPE			
NOMINAL PIPE SIZE (inches)	TRENCH WIDTH (inches)	NOMINAL PIPE SIZE (inches)	TRENCH WIDTH (inches)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		



WATER MAIN RELOCATION AT PROPOSED STORM DRAIN CROSSING

NTS



FIRE HYDRANT RELOCATION DETAIL

NTS

REVISIONS

Revisions: