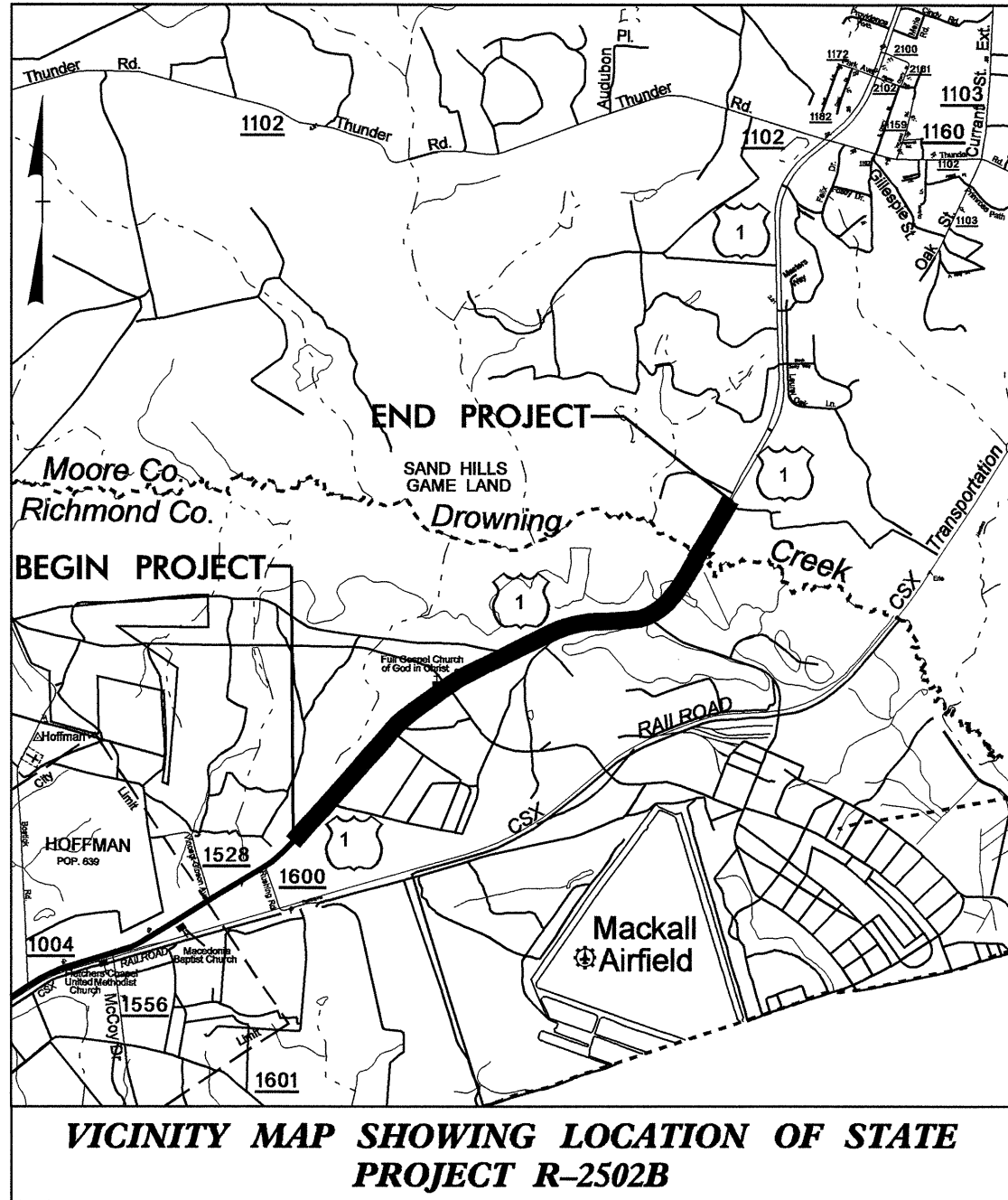


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS
RICHMOND AND MOORE COUNTIES**

TIP PROJECT: R-2502B



**LOCATION: US 1 FROM NORTH OF SR 1528
JUST NORTH OF HOFFMAN TO THE
EXISTING DIVIDED FACILITY NORTH OF THE
RICHMOND/MOORE COUNTY LINE**

**END TIP PROJECT R-2502B
STA 456+50 -L- (LT)
END CONSTRUCTION
1550' NORTH OF
STA. 456+50 -L- (LT)**

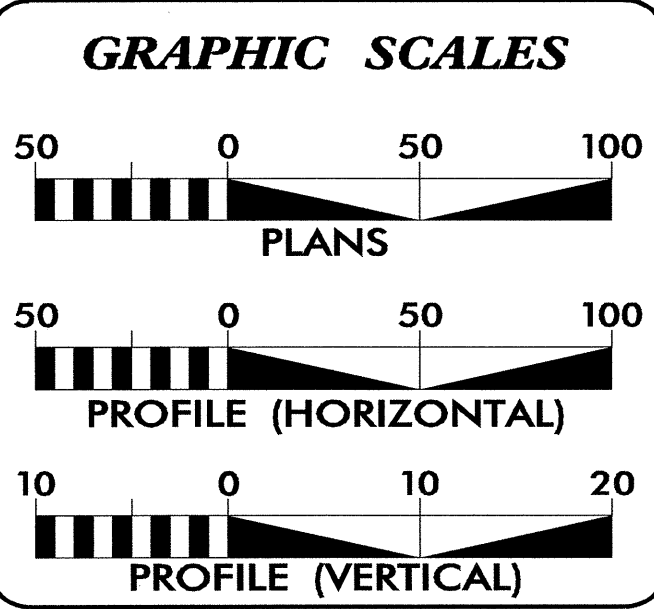
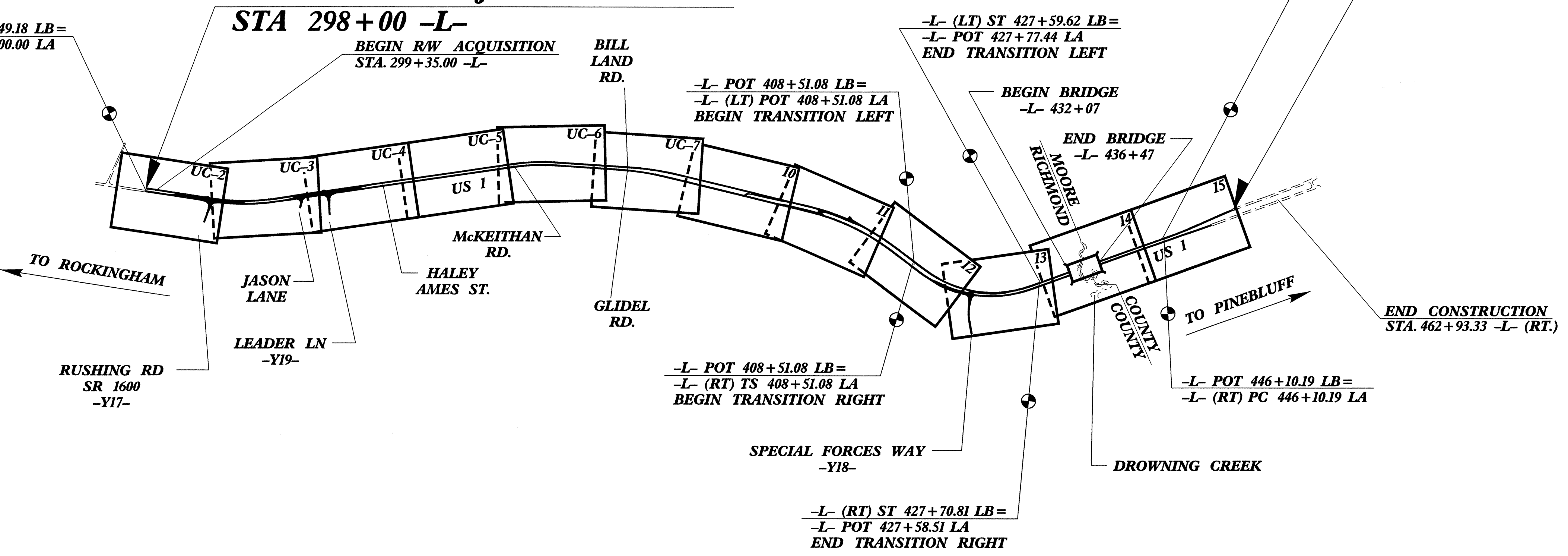
TYPE OF WORK: UTILITY CONSTRUCTION

TIP PROJECT R-2502A -L- POT 289+49.18 LB=
TIP PROJECT R-2502B -L- POT 298+00.00 LA

**BEGIN TIP PROJECT R-2502B
STA 298+00 -L-**

-L- POT 445+74.00 LB=
-L- (LT) TS 445+74.00 LA

**NC GRID
NAD 83/95**

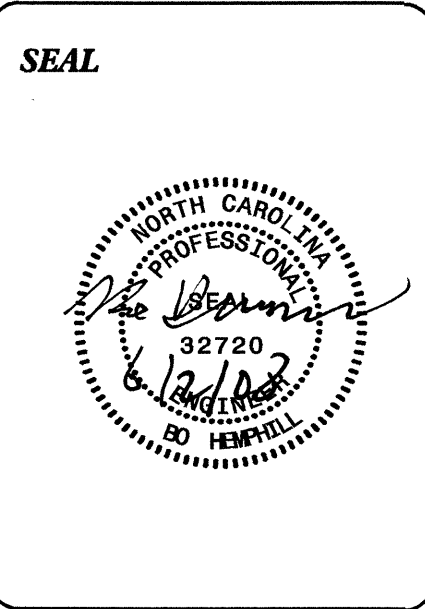


INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2 THRU UC-7	UTILITY CONSTRUCTION PLAN SHEETS
UC-8	DETAILS SHEET

WATER AND SEWER OWNERS ON PROJECT


(1) Richmond County Water System



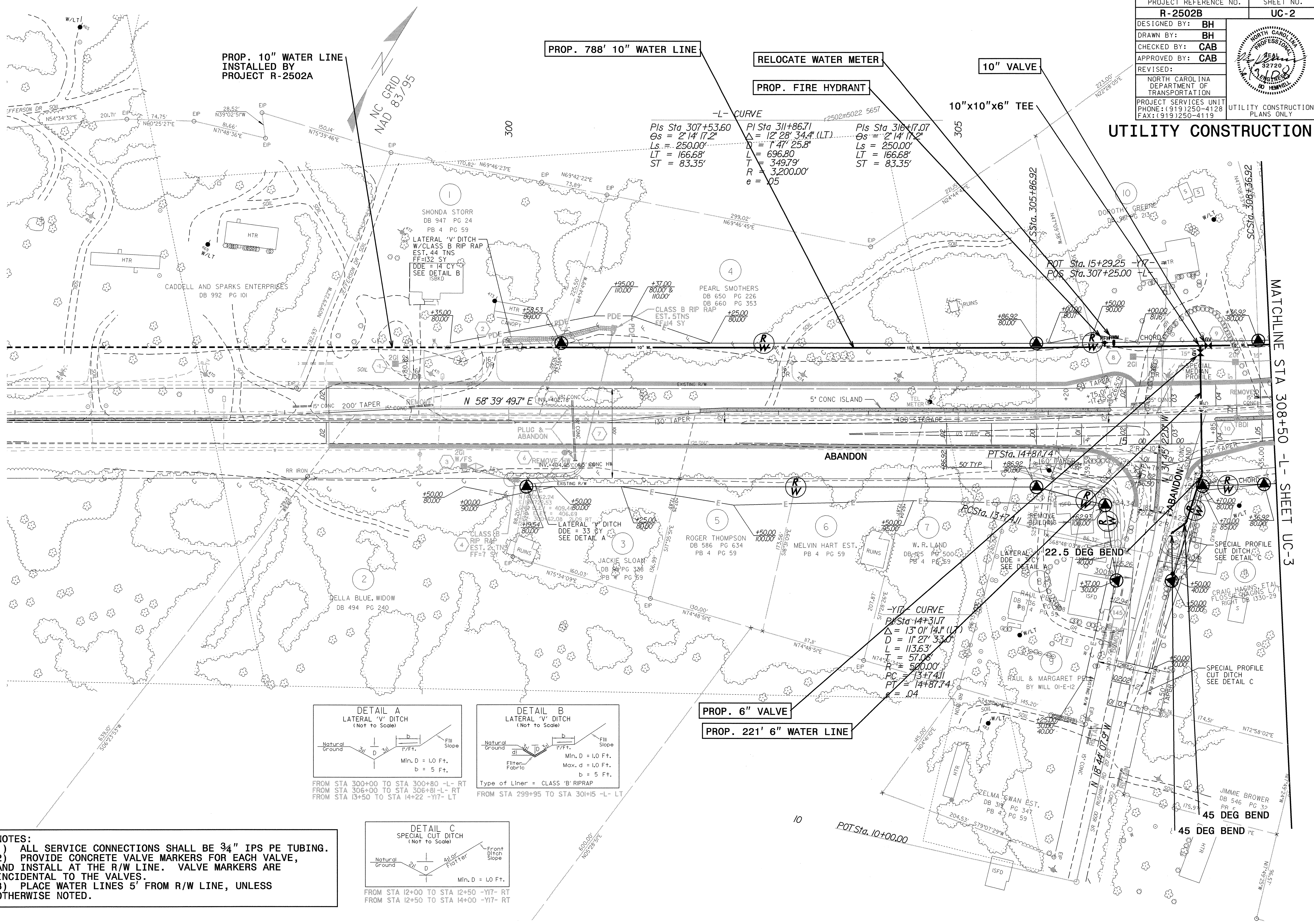
PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
PROJECT SERVICES
UTILITIES SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Bo Hemphill, P.E. UTILITIES PROJECT DESIGNER

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	UC-2
DESIGNED BY: BH	
DRAWN BY: BH	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

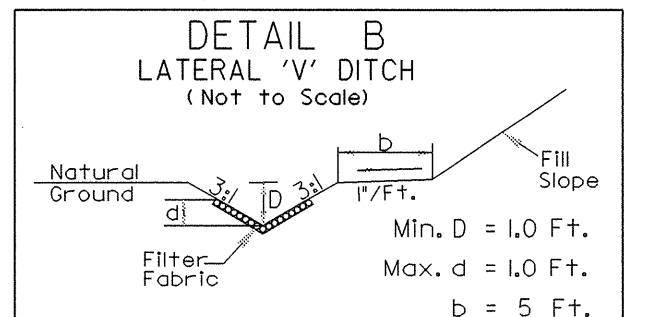
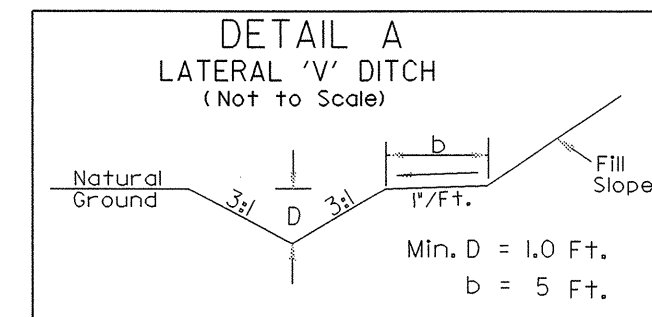


-L- CURVE
 Pls Sta 307+53.60
 $\Delta = 12' 28' 34.4''$ (LT)
 $D = 1' 47' 25.8''$
 $L = 696.80'$
 $T = 349.79'$
 $R = 3,200.00'$
 $e = .05$

Pls Sta 311+86.71
 $\Delta = 12' 28' 34.4''$ (LT)
 $D = 1' 47' 25.8''$
 $L = 696.80'$
 $T = 349.79'$
 $R = 3,200.00'$
 $e = .05$

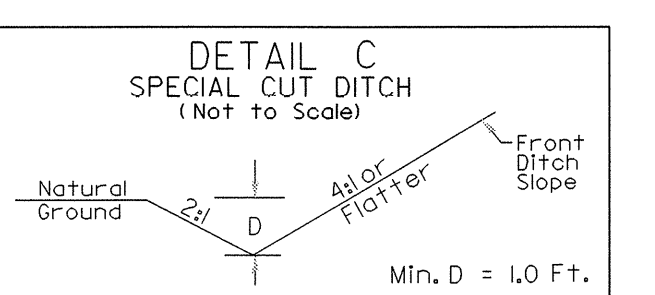
Pls Sta 316+17.07
 $\Delta = 2' 14' 11.2''$
 $Ls = 250.00'$
 $LT = 166.68'$
 $ST = 83.35'$

-Y17- CURVE
 Pls Sta 14+31.17
 $\Delta = 13' 01' 14.1''$ (LT)
 $D = 11' 27' 33.0''$
 $L = 113.63'$
 $T = 57.08'$
 $R = 500.00'$
 $PC = 13+74.11$
 $PT = 14+87.74$
 $e = .04$



FROM STA 300+00 TO STA 300+80 -L- RT
 FROM STA 306+00 TO STA 306+81 -L- RT
 FROM STA 13+50 TO STA 14+22 -Y17- LT

Type of Liner = CLASS 'B' RIPRAP
 FROM STA 299+95 TO STA 301+5 -L- LT

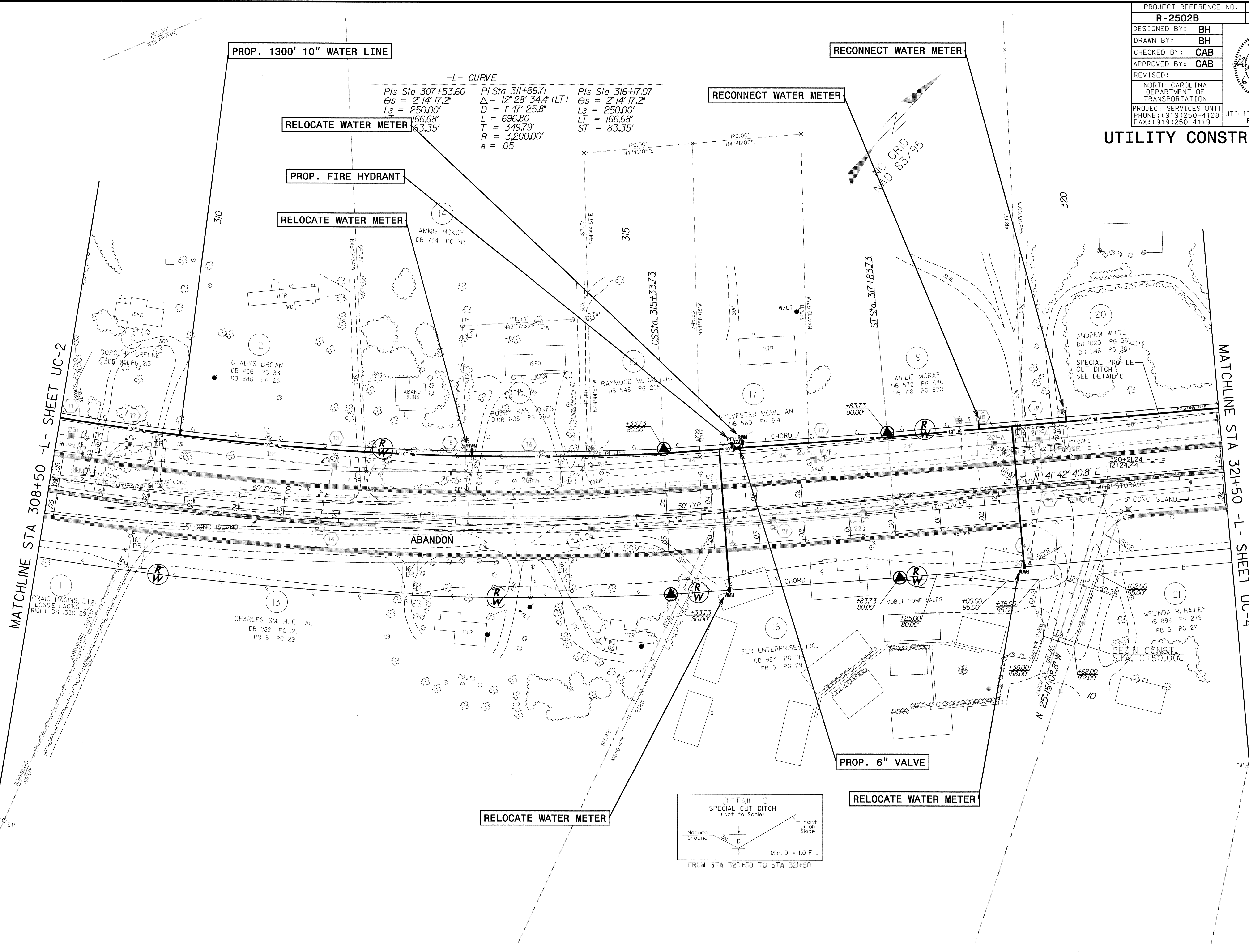


FROM STA 12+00 TO STA 12+50 -Y17- RT
 FROM STA 12+50 TO STA 14+00 -Y17- RT

- NOTES:**
- 1) ALL SERVICE CONNECTIONS SHALL BE 3/4" IPS PE TUBING.
 - 2) PROVIDE CONCRETE VALVE MARKERS FOR EACH VALVE, AND INSTALL AT THE R/W LINE. VALVE MARKERS ARE INCIDENTAL TO THE VALVES.
 - 3) PLACE WATER LINES 5' FROM R/W LINE, UNLESS OTHERWISE NOTED.

PROJECT REFERENCE NO.	SHEET NO.
R-2502B	UC-3
DESIGNED BY: BH	
DRAWN BY: BH	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



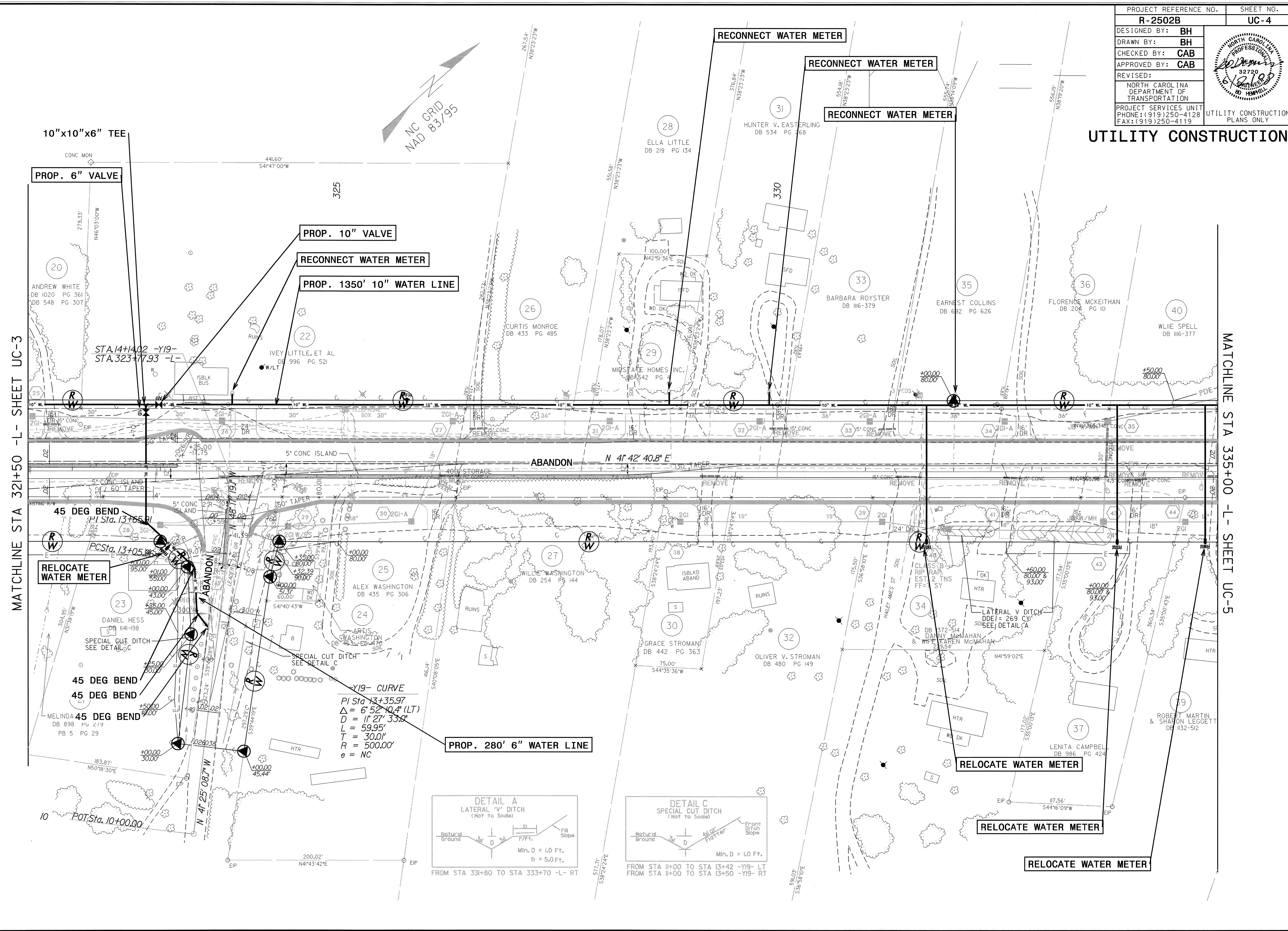
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 Utility Construction Plans Only
 R-2502b.ut.05.us.03.psh.dgn

MATCHLINE STA 308+50 -L- SHEET UC-2

MATCHLINE STA 321+50 -L- SHEET UC-4

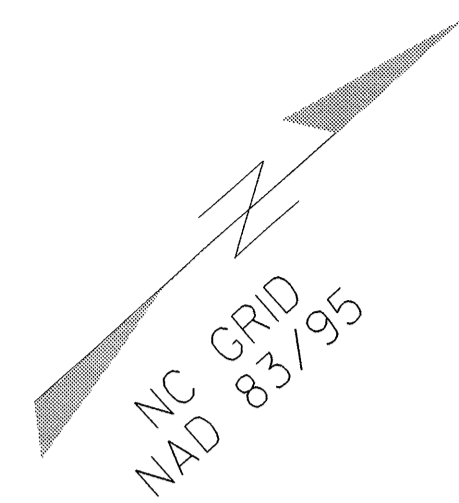
PROJECT REFERENCE NO.	SHEET NO.
R-2502B	UC-4
DESIGNED BY: BH	
DRAWN BY: BH	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



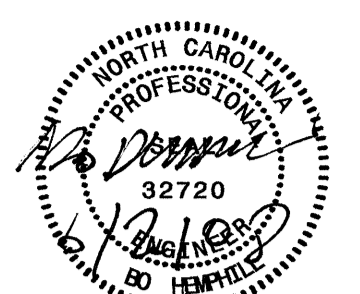
MATCHLINE STA 321+50 -L- SHEET UC-3

MATCHLINE STA 335+00 -L- SHEET UC-5

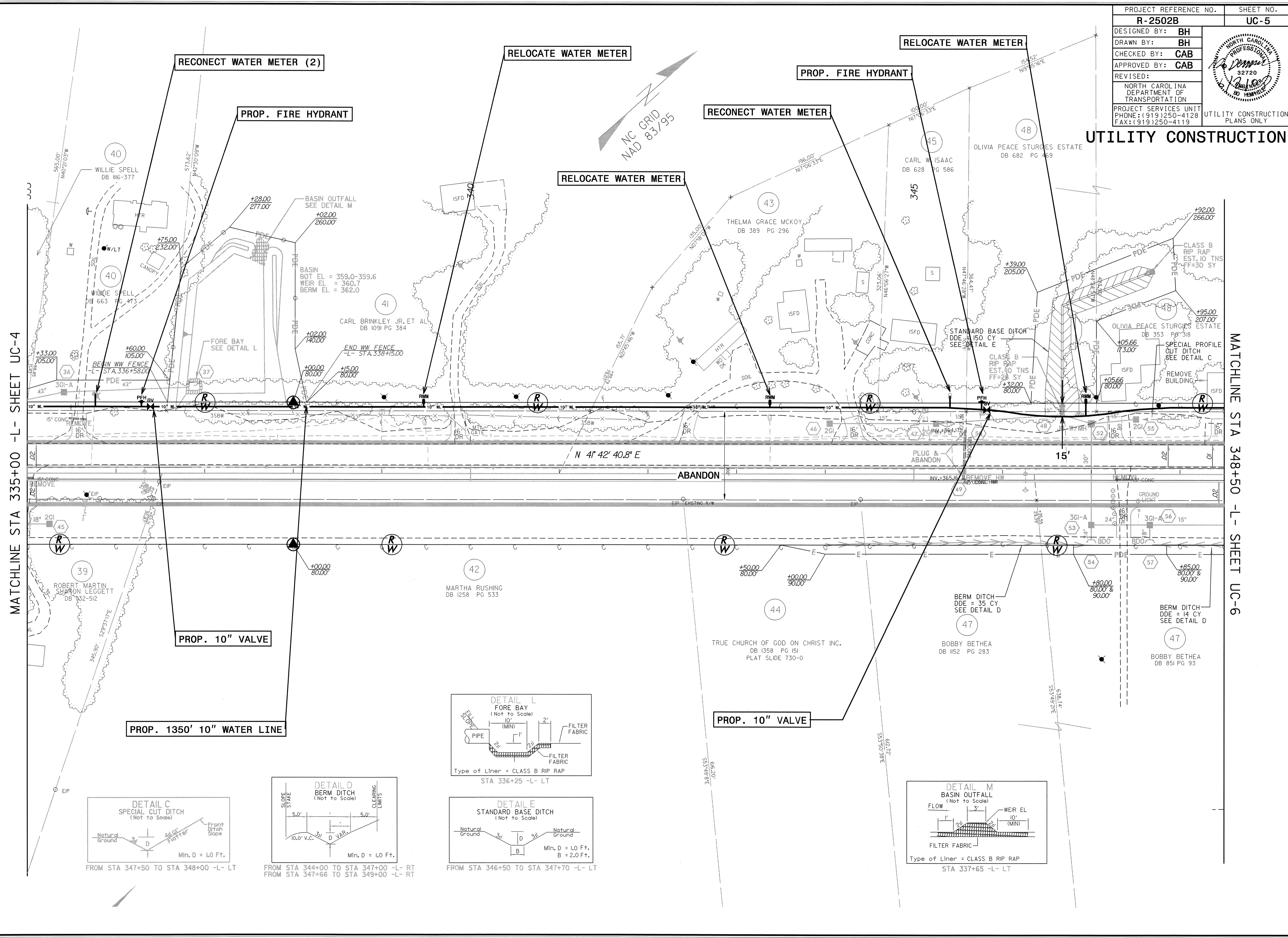


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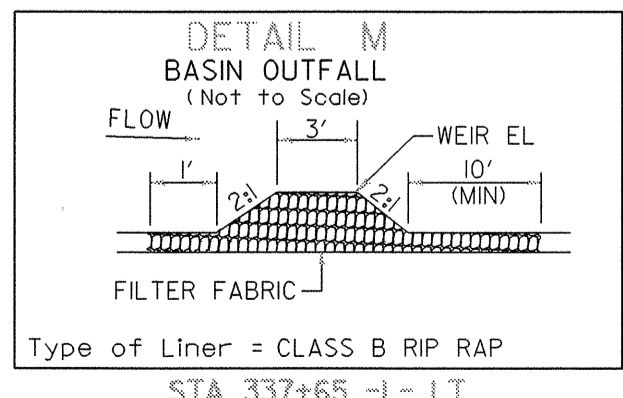
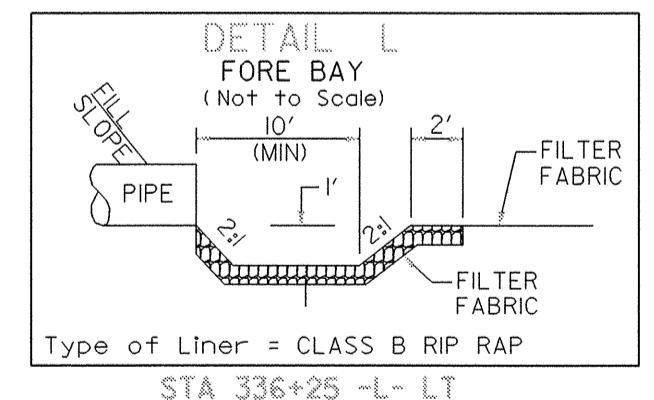
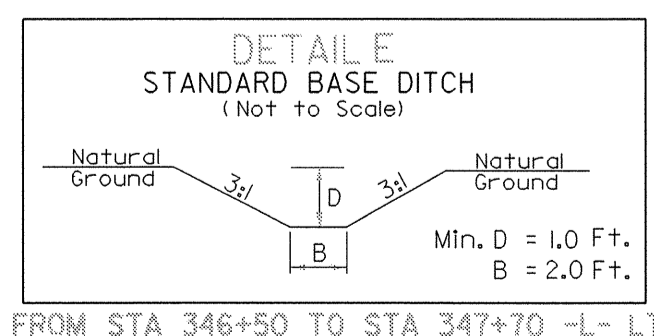
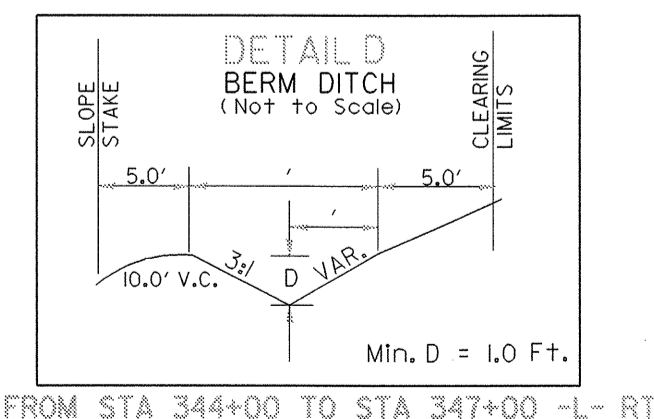
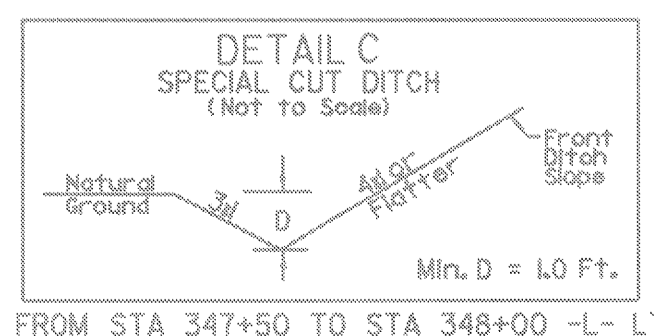
PROJECT REFERENCE NO.	SHEET NO.
R-2502B	UC-5
DESIGNED BY: BH	
DRAWN BY: BH	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



MATCHLINE STA 335+00 -L- SHEET UC-4

MATCHLINE STA 348+50 -L- SHEET UC-6



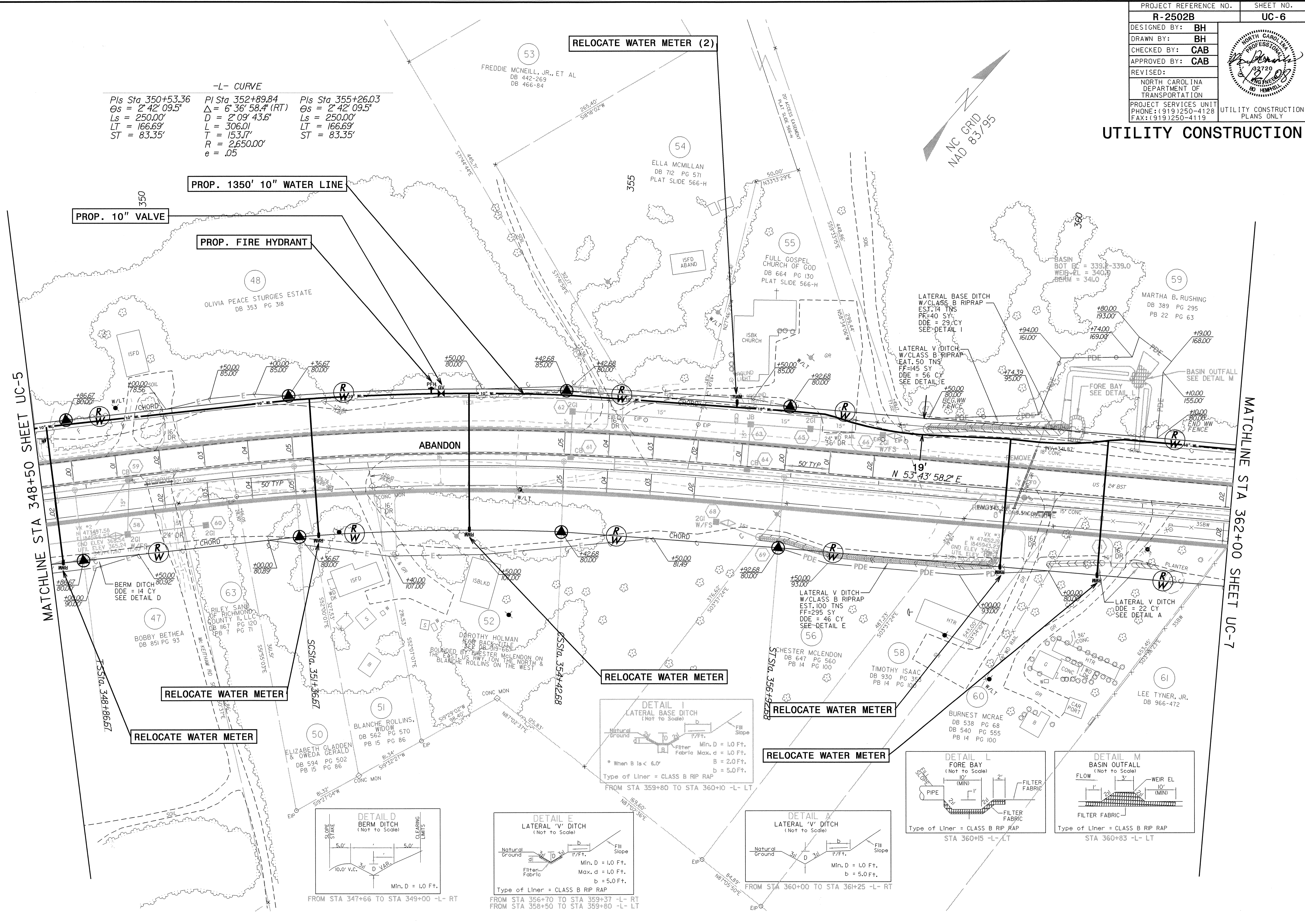
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UTILITY CONSTRUCTION

-L- CURVE

Pls Sta 350+53.36	Pl Sta 352+89.84	Pls Sta 355+26.03
$\Theta_s = 2^\circ 42' 09.5''$	$\Delta = 6^\circ 36' 58.4''$ (RT)	$\Theta_s = 2^\circ 42' 09.5''$
$L_s = 250.00'$	$L = 306.01'$	$L_s = 250.00'$
$LT = 166.69'$	$T = 153.17'$	$LT = 166.69'$
$ST = 83.35'$	$R = 2,650.00'$	$ST = 83.35'$
	$e = .05$	



MATCHLINE STA 348+50 SHEET UC-5

MATCHLINE STA 362+00 SHEET UC-7

PROP. 1350' 10" WATER LINE

PROP. 10" VALVE

PROP. FIRE HYDRANT

RELOCATE WATER METER (2)

ABANDON

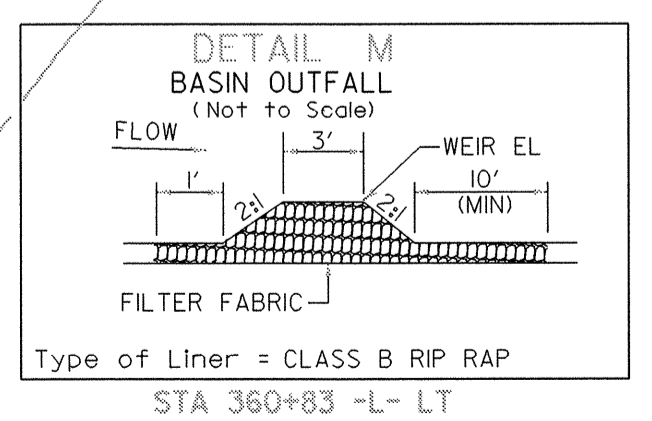
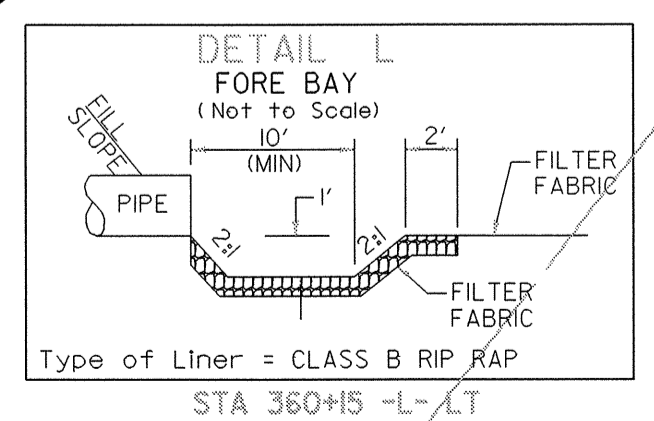
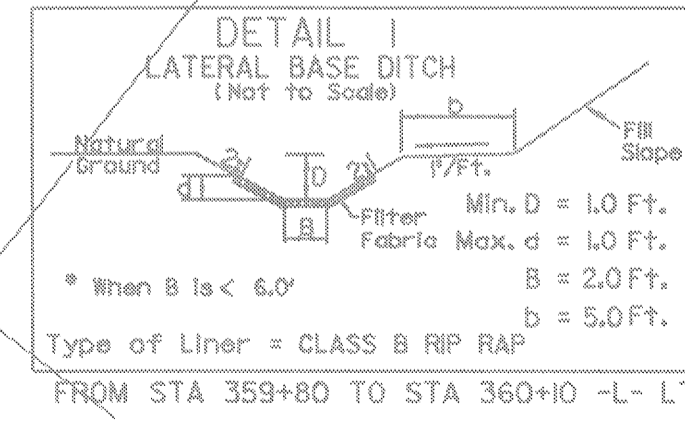
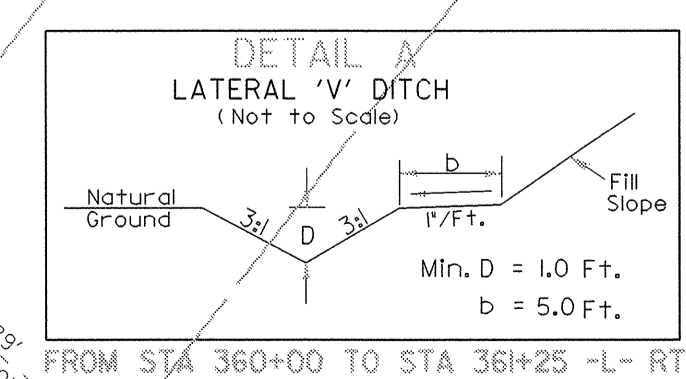
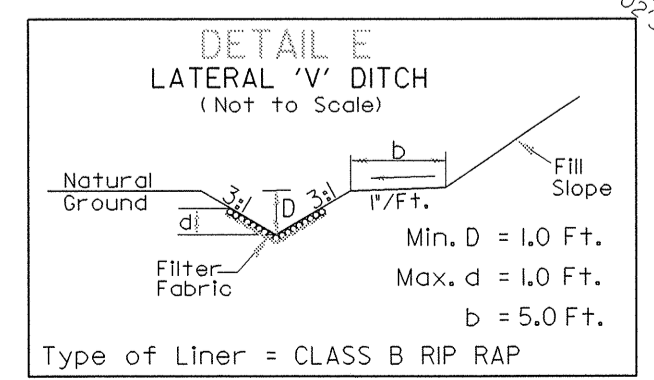
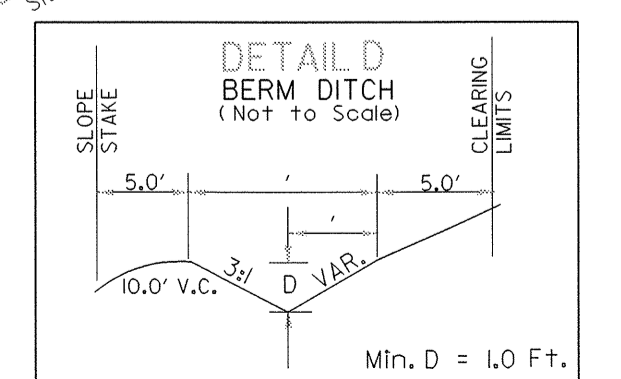
RELOCATE WATER METER

RELOCATE WATER METER


RELOCATE WATER METER

RELOCATE WATER METER

RELOCATE WATER METER



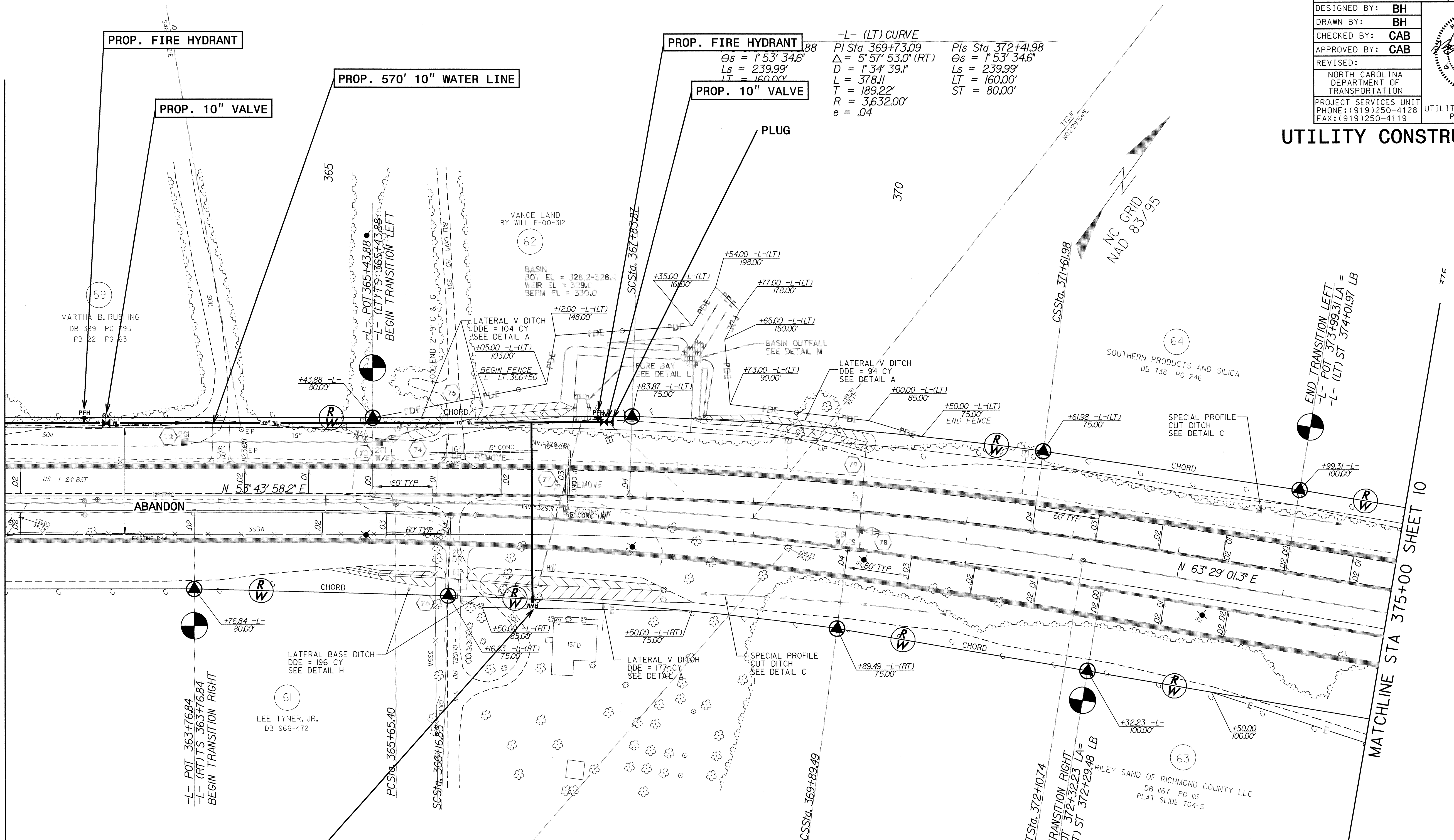
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PROJECT REFERENCE NO.	SHEET NO.
R-2502B	UC-7
DESIGNED BY: BH	
DRAWN BY: BH	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
PROJECT SERVICES UNIT PHONE: (919)250-4128 FAX: (919)250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

MATCHLINE STA 362+00 -L- SHEET UC-6

MATCHLINE STA 375+00 SHEET 10

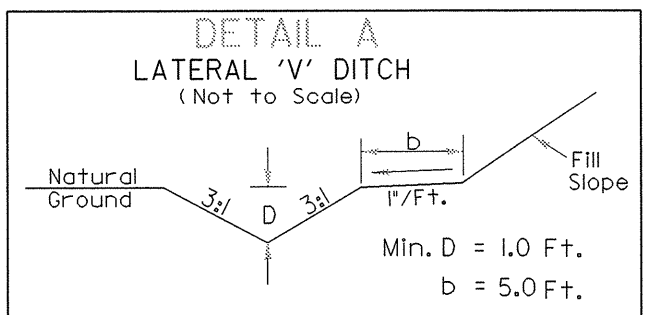


-L- (LT) CURVE
 PI Sta 369+73.09
 Δ = 5° 57' 53.0" (RT)
 D = 1° 34' 39.1"
 L = 378.11
 T = 189.22'
 R = 3,632.00'
 e = .04
 Pls Sta 372+41.98
 Δs = 1° 53' 34.6"
 Ls = 239.99'
 LT = 160.00'
 ST = 80.00'

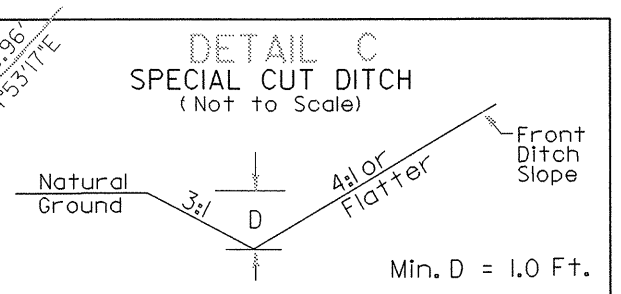
-L- (RT) CURVE
 Pls Sta 365+36.84
 Δs = 1° 54' 35.2"
 Ls = 239.99'
 LT = 160.00'
 ST = 80.00'

-L- CURVE
 PI Sta 368+88.85
 Δ = 9° 45' 03.1" (RT)
 D = 1° 30' 39.5"
 L = 645.34'
 T = 323.45'
 R = 3,792.00'

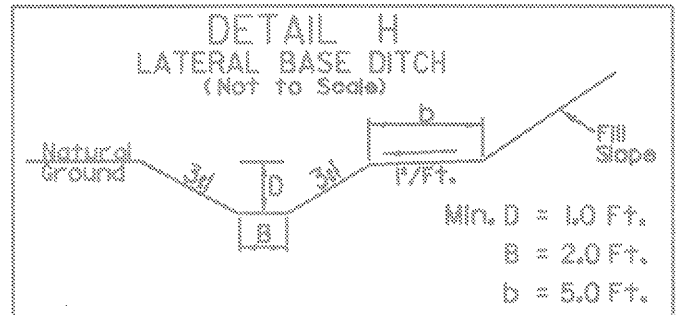
RELOCATE WATER METER



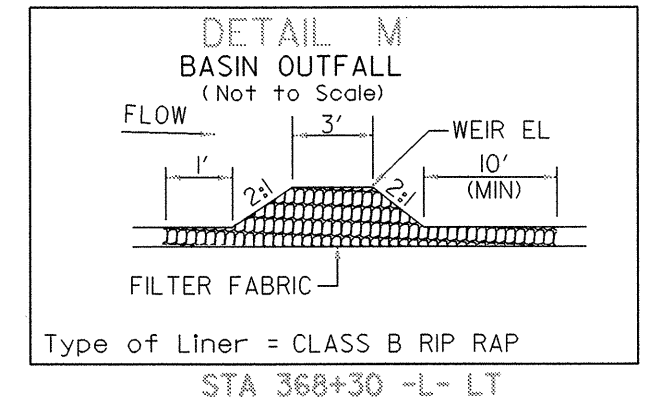
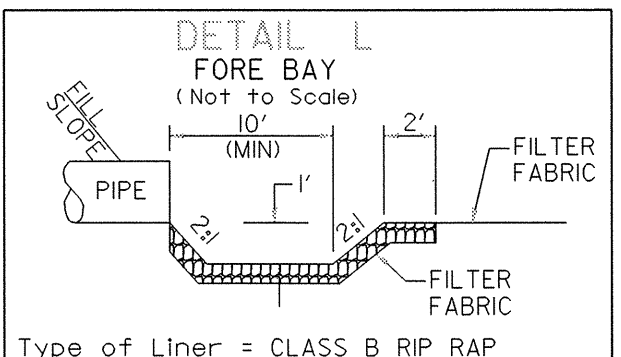
FROM STA 365+85 TO STA 367+30 -L- LT
 FROM STA 367+00 TO STA 368+50 -L- RT
 FROM STA 368+35 TO STA 370+00 -L- LT



FROM STA 368+50 TO STA 371+00 -L- RT
 FROM STA 373+00 TO STA 374+50 -L- LT



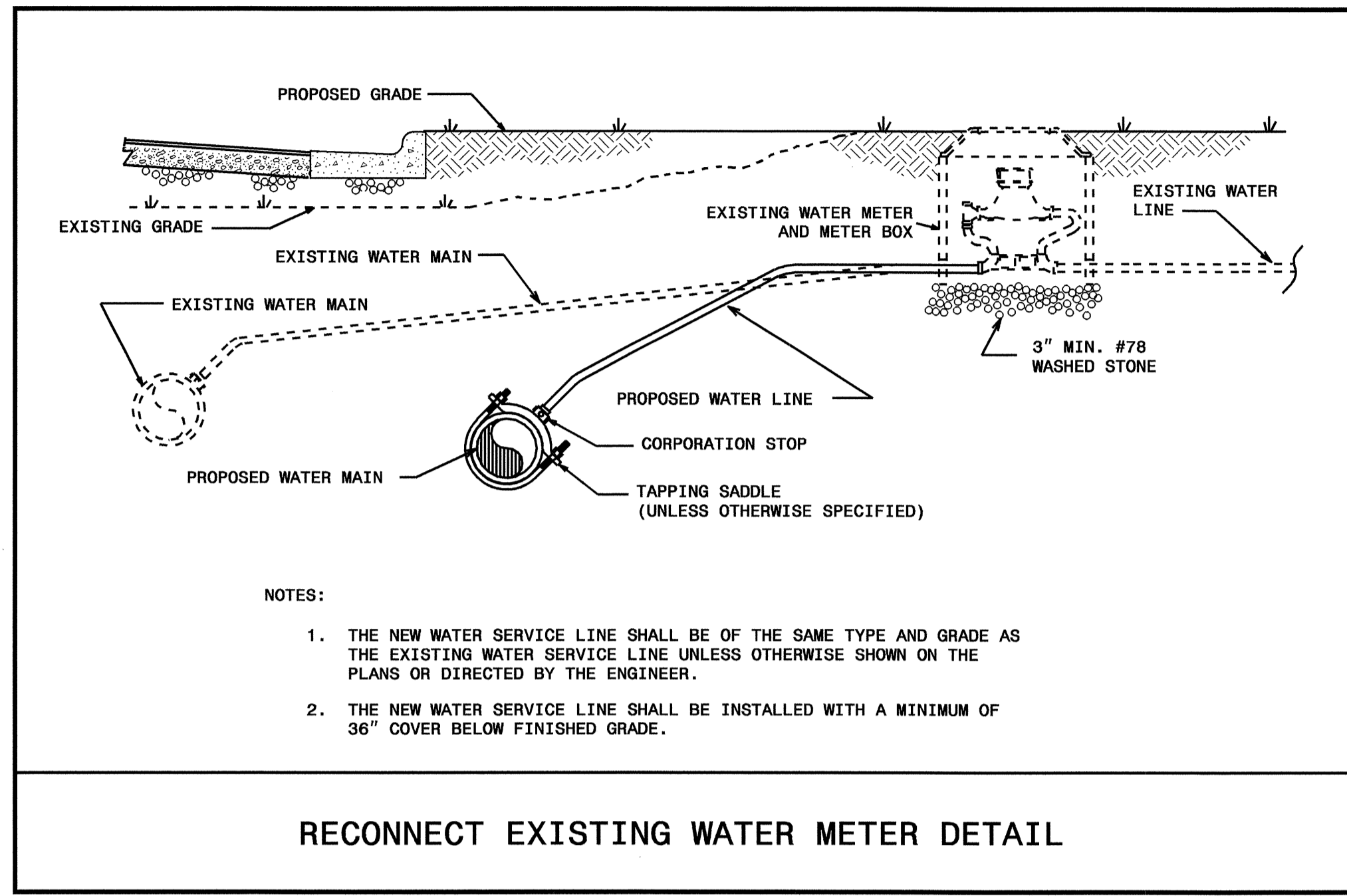
FROM STA 365+50 TO STA 367+00 -L- RT



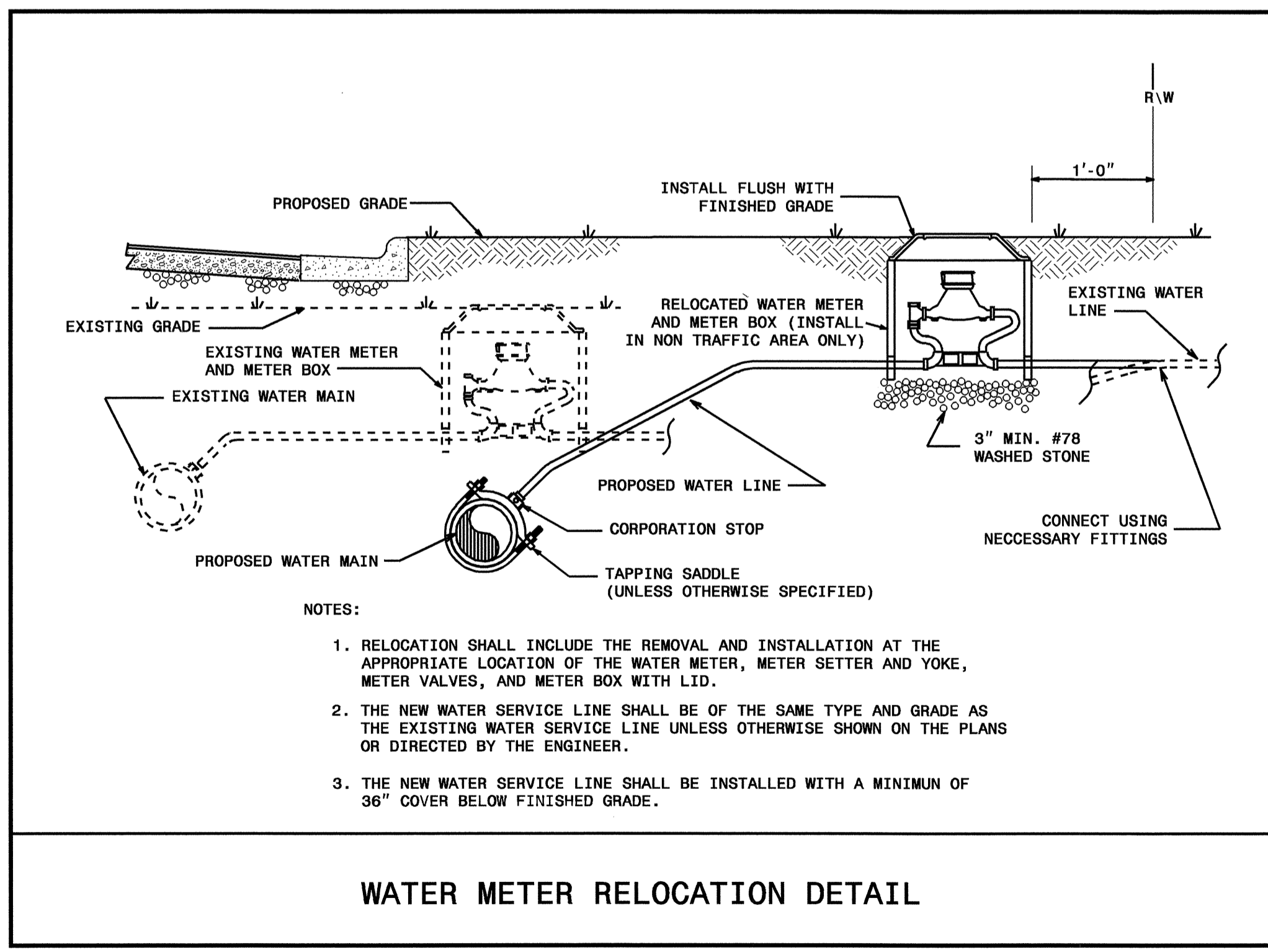
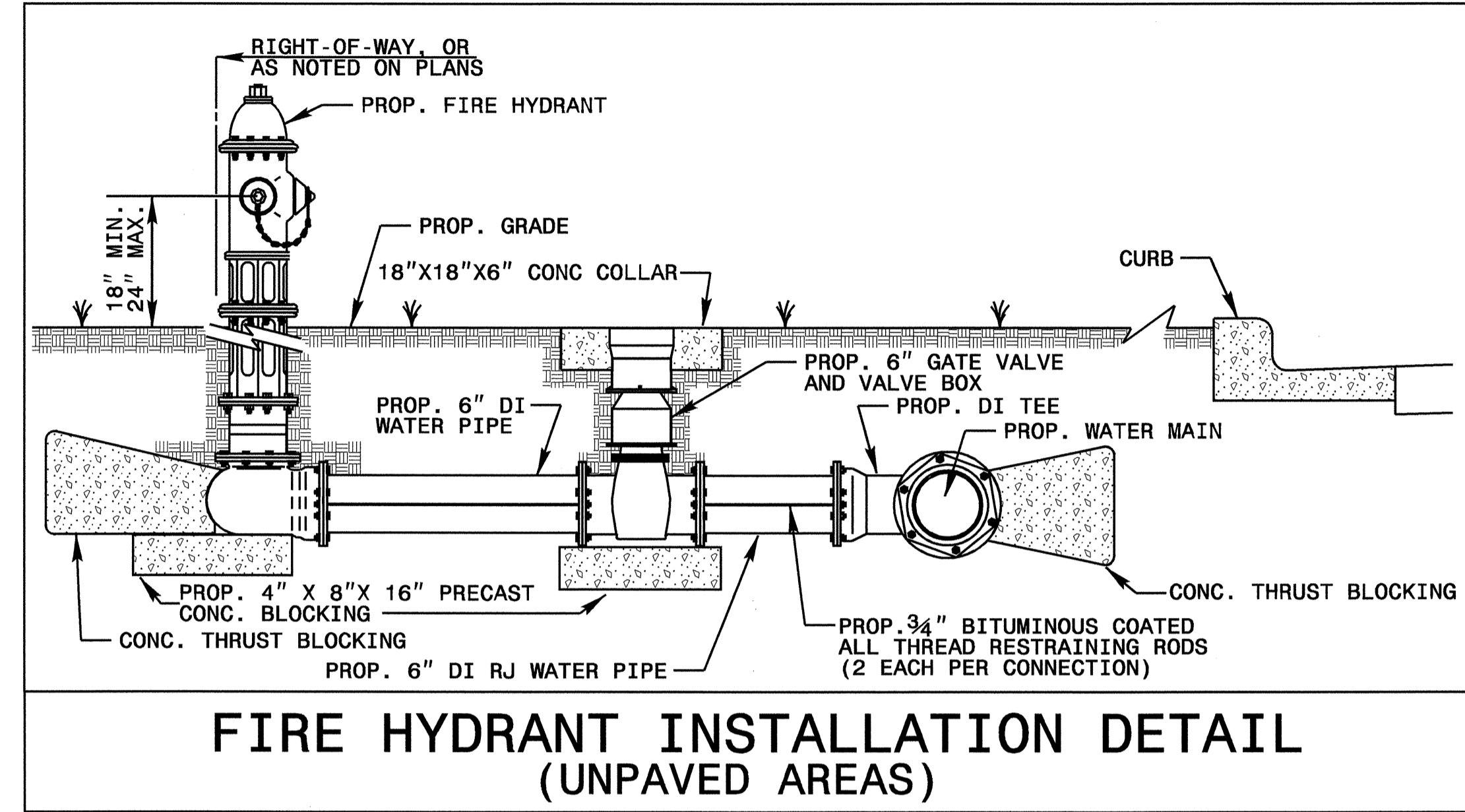
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5/14/99

UTILITY CONSTRUCTION



RECONNECT EXISTING WATER METER DETAIL



WATER METER RELOCATION DETAIL

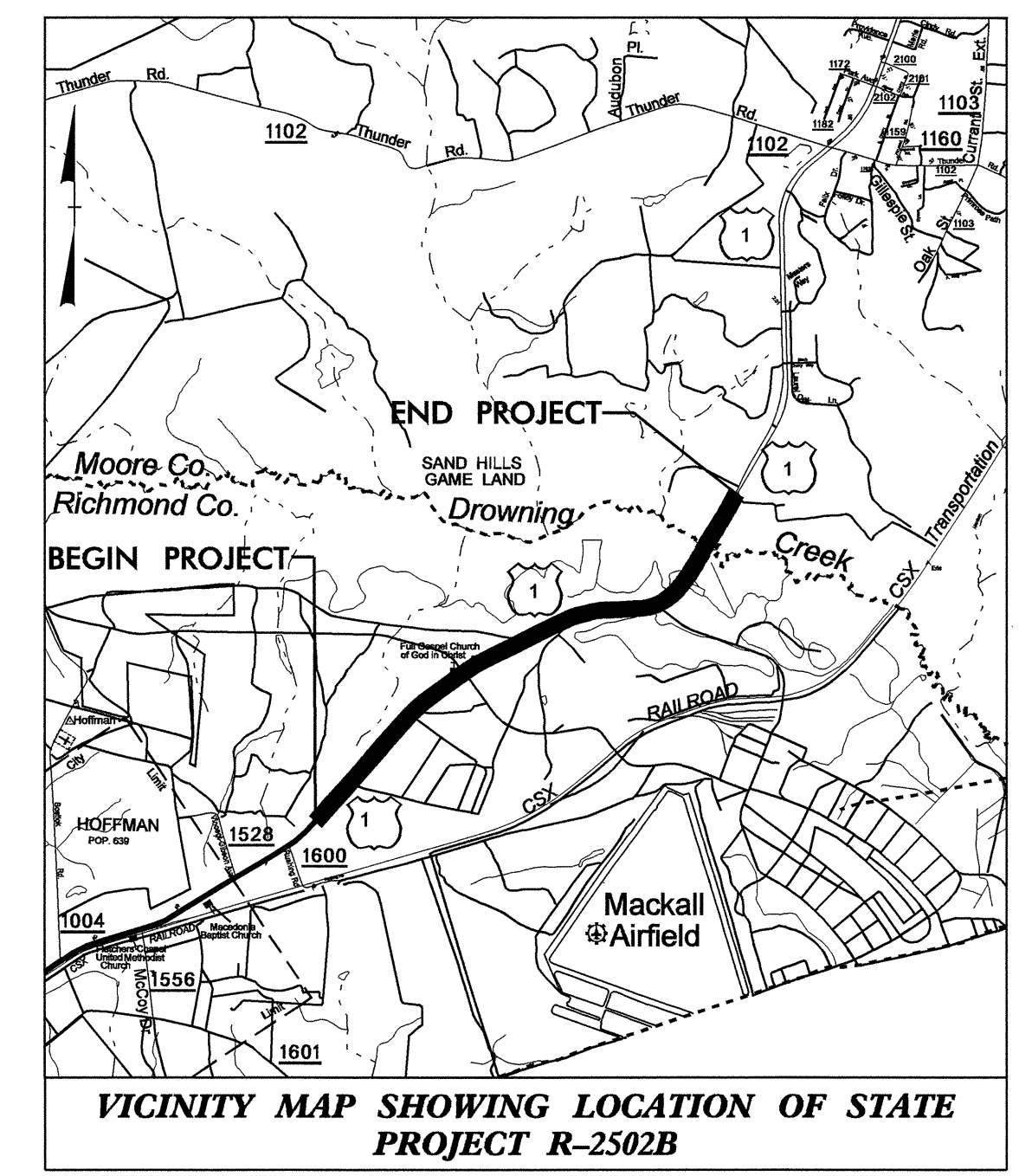
MAXIMUM TRENCH WIDTH AT TOP OF PIPE			
NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		

02-JUN-2008 14:17
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
RICHMOND AND MOORE COUNTIES**

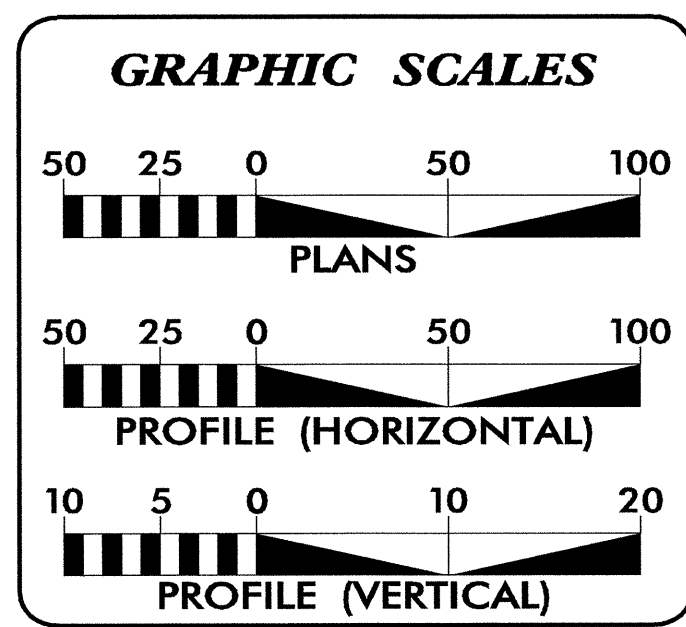
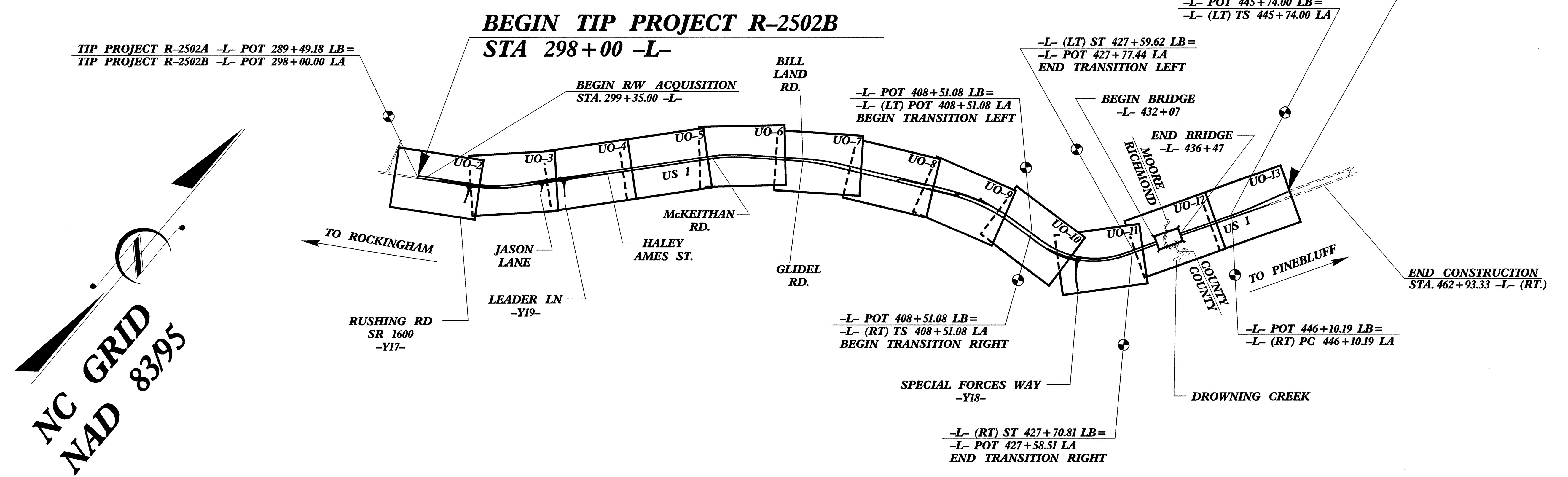
TIP PROJECT: R-2502B



**LOCATION: US 1 FROM NORTH OF SR 1528
JUST NORTH OF HOFFMAN TO THE
EXISTING DIVIDED FACILITY NORTH OF THE
RICHMOND/MOORE COUNTY LINE**

TYPE OF WORK: UTILITIES BY OTHERS

**END TIP PROJECT R-2502B
STA 456+50 -L- (LT)
END CONSTRUCTION
1550' NORTH OF
STA. 456+50 -L- (LT)**



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-13	UTILITIES BY OTHERS PLAN SHEETS

- UTILITY OWNERS ON PROJECT**
- (1) Progress Energy
 - (2) Windstream Communication
 - (3) Time Warner Cable
 - (4) Department of the Army (Water)

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
PROJECT SERVICES
UTILITIES SECTION**

1591 MAIL SERVICES CENTER
RALEIGH NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Bo Hemphill, P.E. UTILITIES PROJECT DESIGNER

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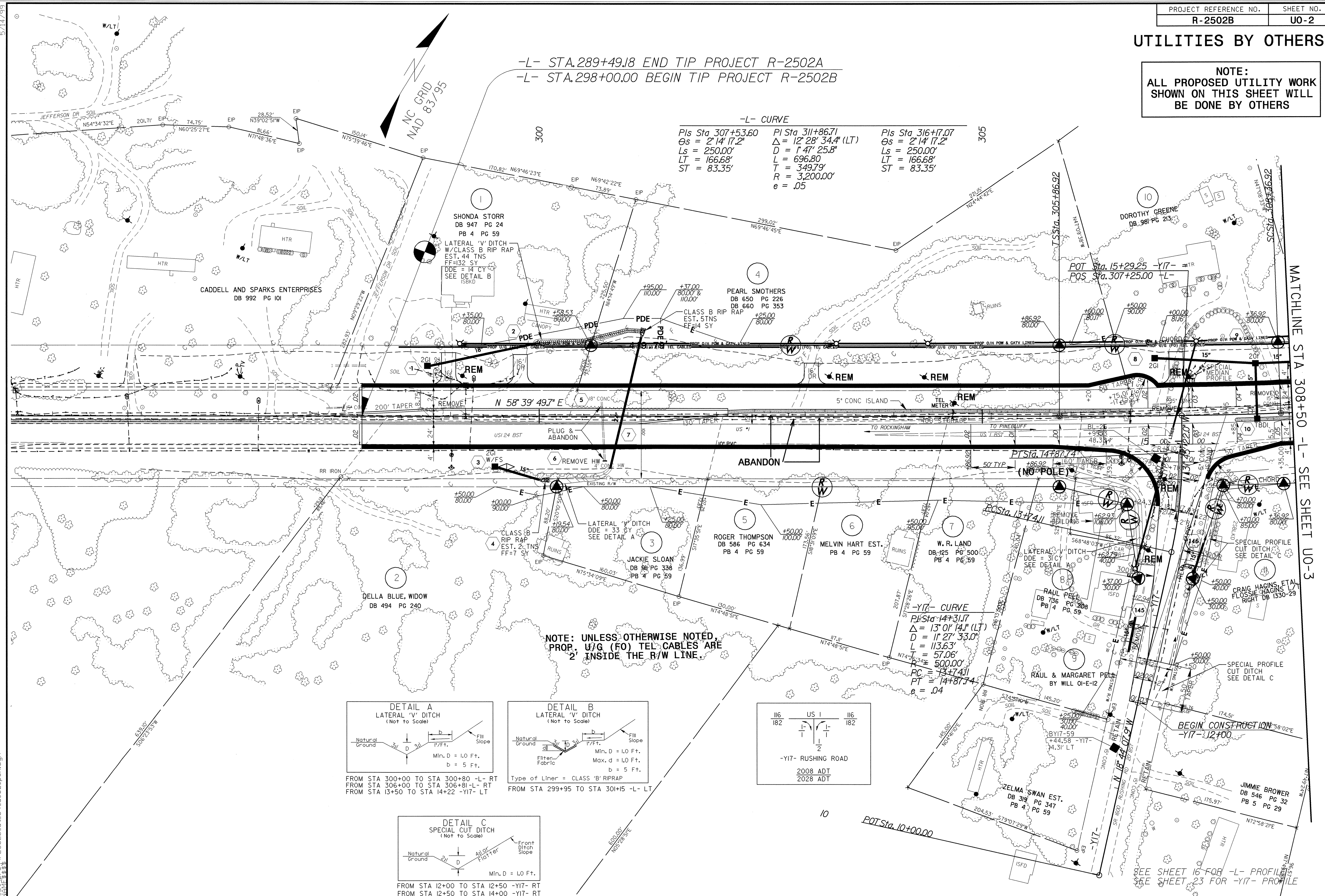
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

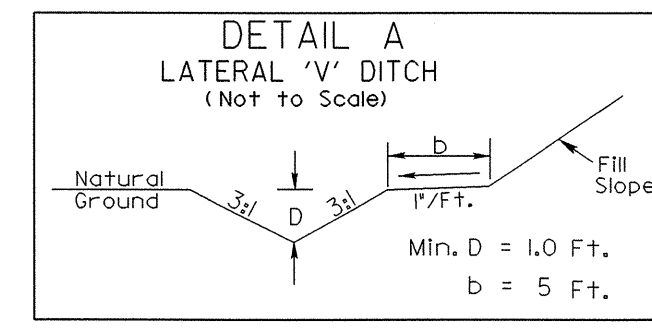
-L- STA.289+49.18 END TIP PROJECT R-2502A
-L- STA.298+00.00 BEGIN TIP PROJECT R-2502B

-L- CURVE

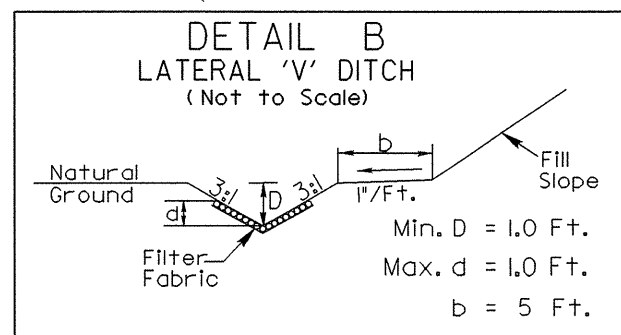
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$\Delta s = 2' 14" 17.2"$	$\Delta = 12' 28" 34.4" (LT)$	$\Delta s = 2' 14" 17.2"$
$Ls = 250.00'$	$D = 1' 47" 25.8"$	$Ls = 250.00'$
$LT = 166.68'$	$L = 696.80'$	$LT = 166.68'$
$ST = 83.35'$	$T = 349.79'$	$ST = 83.35'$
	$R = 3,200.00'$	
	$e = .05$	



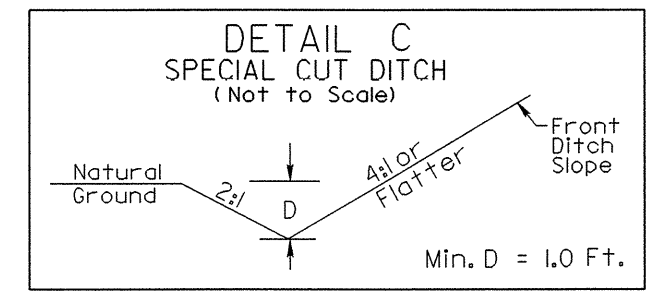
NOTE: UNLESS OTHERWISE NOTED,
PROP. U/G (FO) TEL. CABLES ARE
2' INSIDE THE R/W LINE.



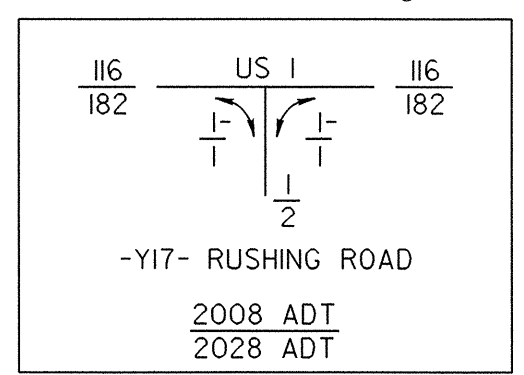
FROM STA 300+00 TO STA 300+80 -L- RT
FROM STA 306+00 TO STA 306+81 -L- RT
FROM STA 13+50 TO STA 14+25 -Y17- LT



Type of Liner = CLASS 'B' RIPRAP
FROM STA 299+95 TO STA 301+15 -L- LT



FROM STA 12+00 TO STA 12+50 -Y17- RT
FROM STA 12+50 TO STA 14+00 -Y17- RT



-Y17- RUSHING ROAD
2008 ADT
2028 ADT

NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO 5" MONO.CONC.ISLAND

03-JUN-2008 14:12 \\utilities\ch\ut\proj\2502b\ut_04_u02_psh.dgn

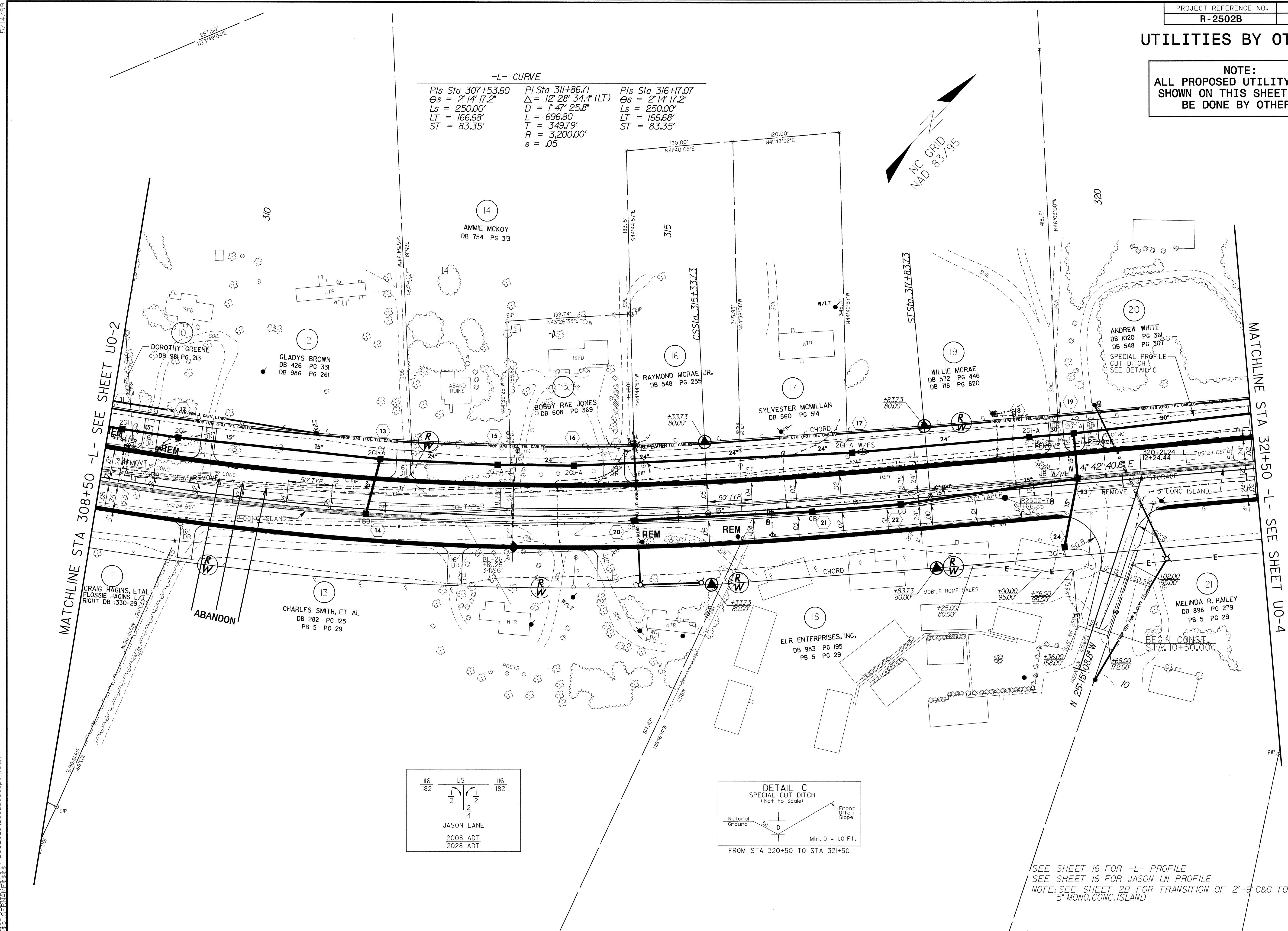
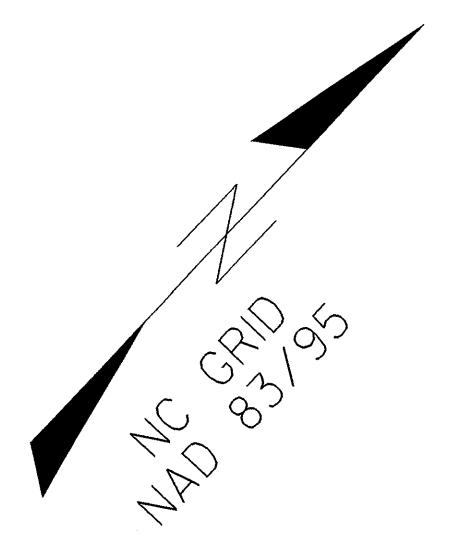
MATCHLINE STA 308+50 -L- SEE SHEET U0-3

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

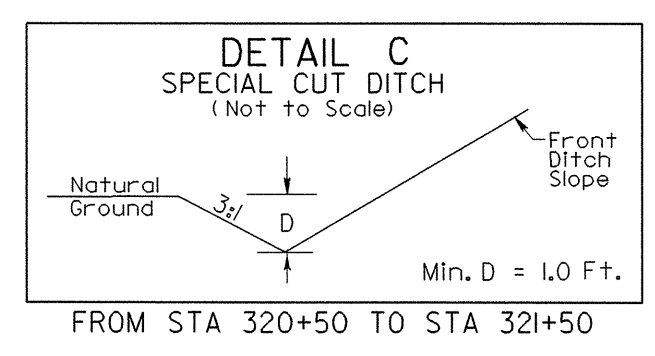
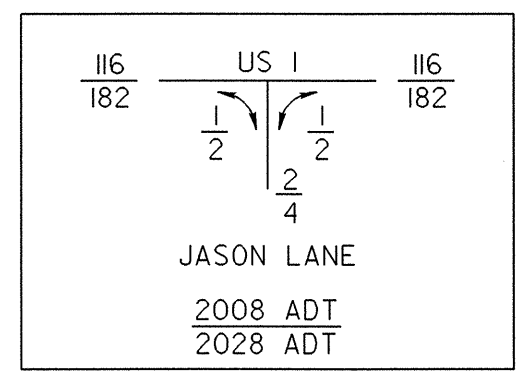
-L- CURVE

Pls Sta 307+53.60	PI Sta 311+86.71	Pls Sta 316+17.07
$\Theta_s = 2^\circ 14' 17.2''$	$\Delta = 12^\circ 28' 34.4''$ (LT)	$\Theta_s = 2^\circ 14' 17.2''$
$L_s = 250.00'$	$D = 1^\circ 47' 25.8''$	$L_s = 250.00'$
$LT = 166.68'$	$L = 696.80'$	$LT = 166.68'$
$ST = 83.35'$	$T = 349.79'$	$ST = 83.35'$
	$R = 3,200.00'$	
	$e = .05$	



MATCHLINE STA 308+50 -L- SEE SHEET UO-2

MATCHLINE STA 321+50 -L- SEE SHEET UO-4



SEE SHEET 16 FOR -L- PROFILE
SEE SHEET 16 FOR JASON LN PROFILE
NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO
5' MONO.CONC. ISLAND

03-JUN-2008 14:11
utilities\cd\ut\pr\03-r-2502b-ut.05_uo03_psh.dgn
5/14/99

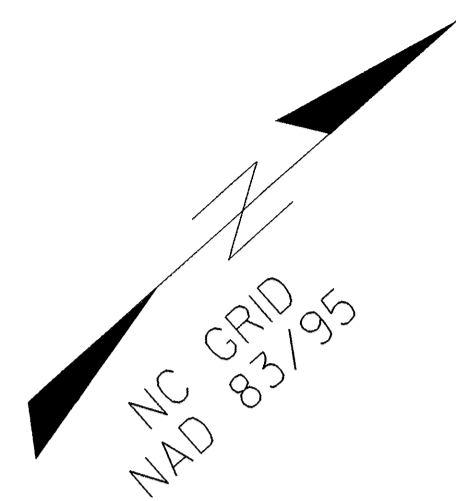
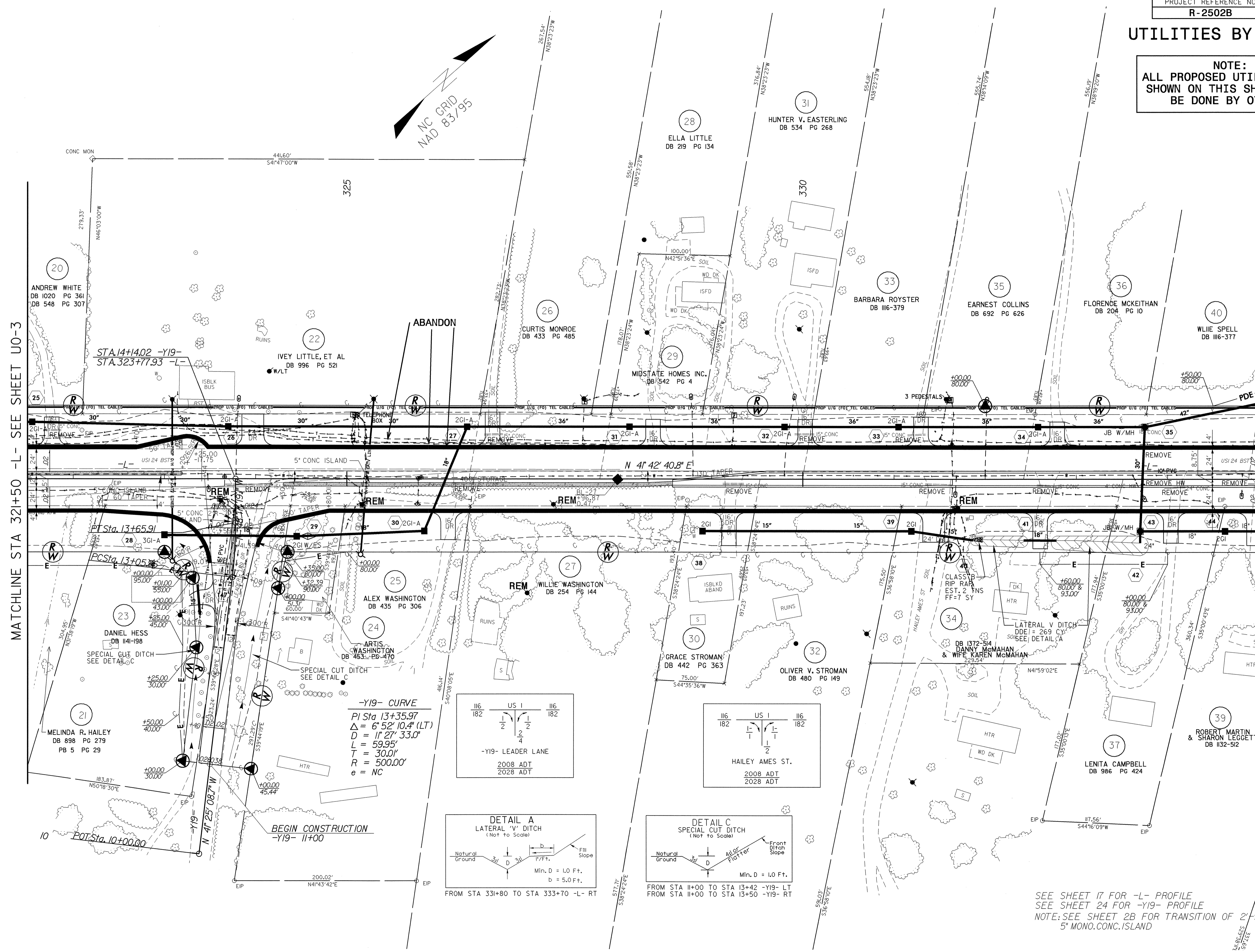
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

03-JUN-2008 14h
ut:\titles\ch\ut\proj\N-2502b-ut_06-uo04_psh.dgn
5/14/99

MATCHLINE STA 32+50 -L- SEE SHEET UO-3

MATCHLINE STA 335+00 -L- SEE SHEET UO-5

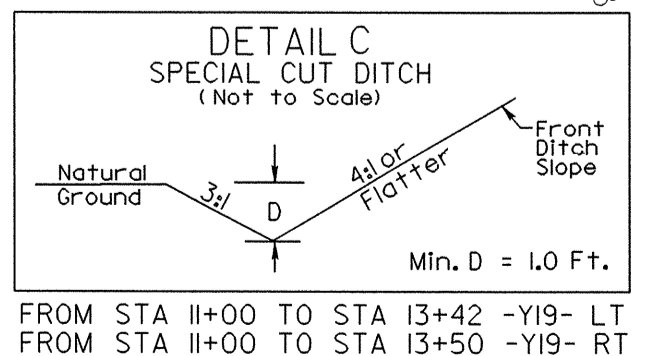
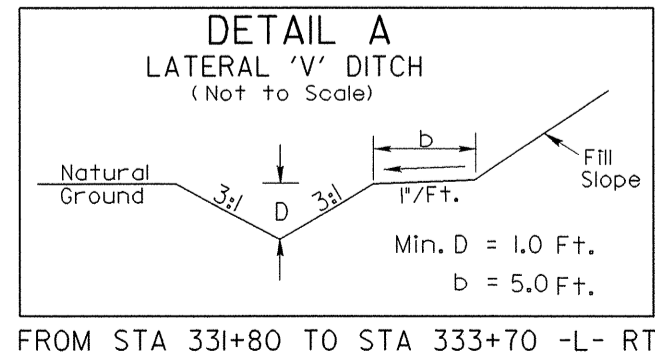
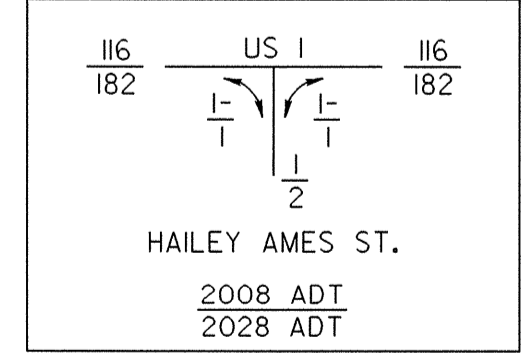
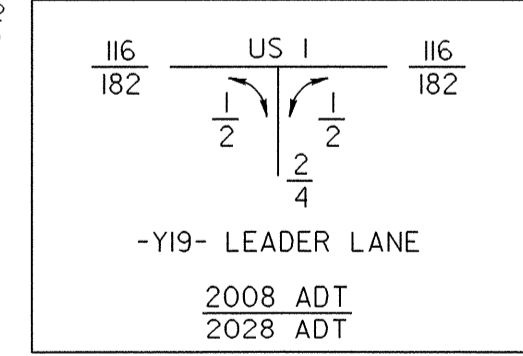


STA 14+40.2 -Y19-
STA 323+77.93 -L-

PT Sta 13+65.91
PC Sta 13+05.36

POT Sta 10+00.00

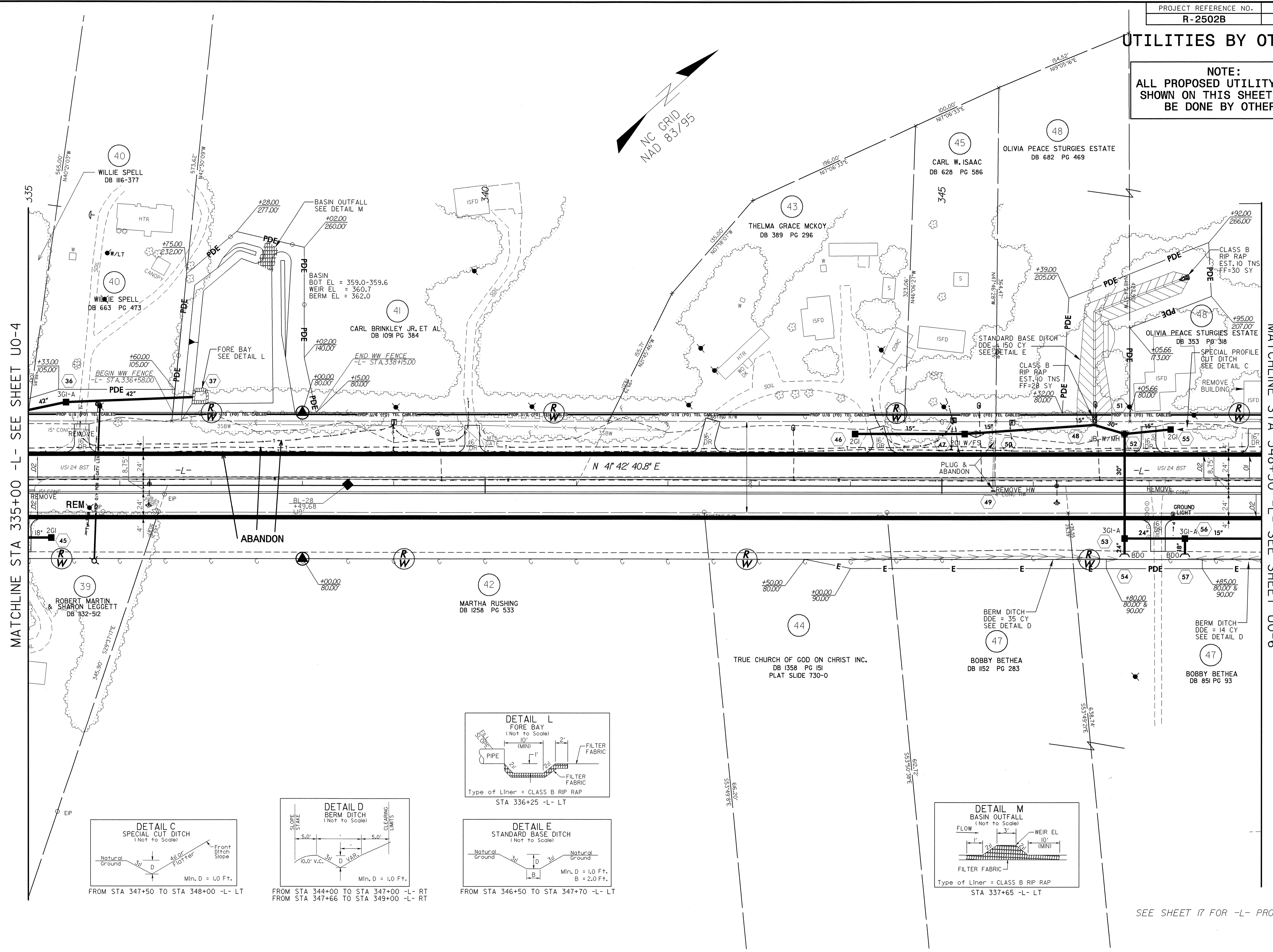
-Y19- CURVE
PI Sta 13+35.97
 $\Delta = 6^{\circ} 52' 10.4''$ (LT)
 $D = 11^{\circ} 27' 33.0''$
 $L = 59.95'$
 $T = 30.01'$
 $R = 500.00'$
 $e = NC$



SEE SHEET 17 FOR -L- PROFILE
SEE SHEET 24 FOR -Y19- PROFILE
NOTE: SEE SHEET 2B FOR TRANSITION OF 2'-9" C&G TO
5" MONO.CONC.ISLAND

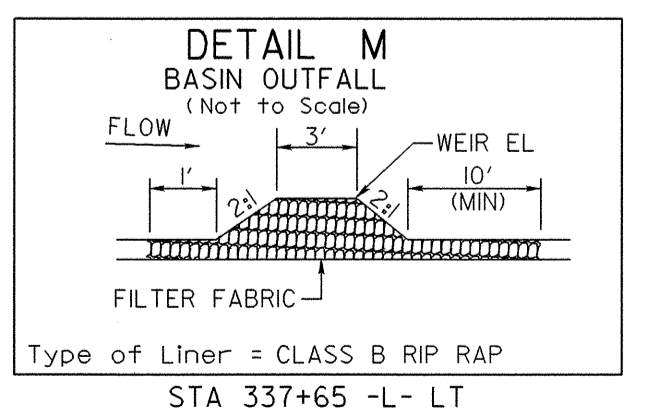
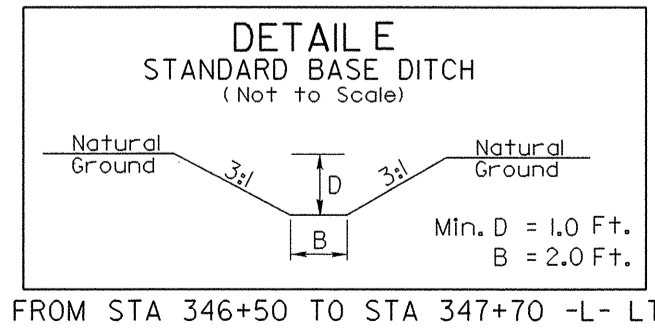
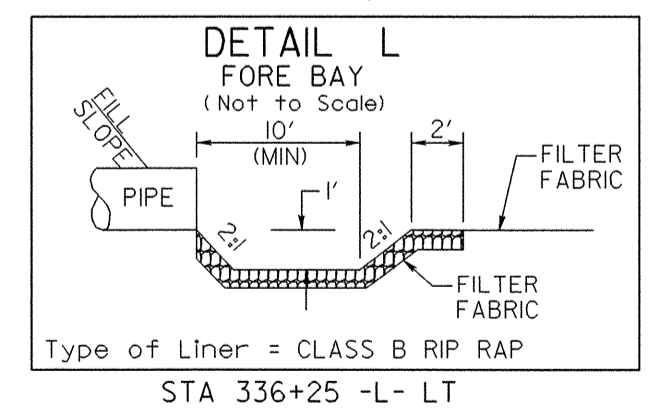
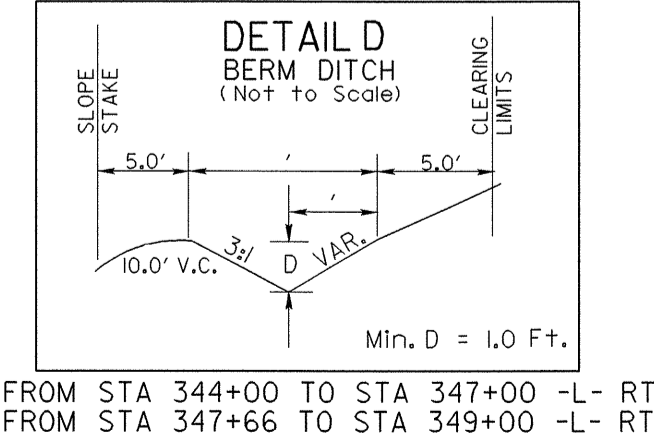
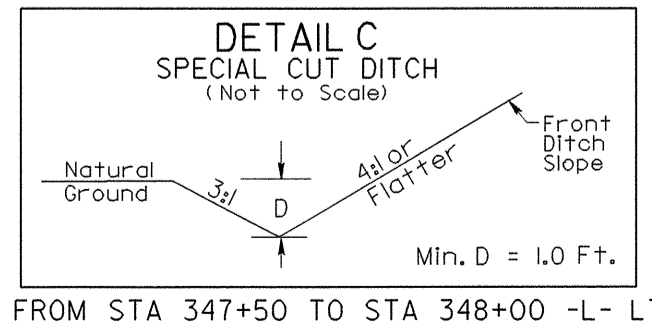
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS



MATCHLINE STA 335+00 -L- SEE SHEET UO-4

MATCHLINE STA 348+50 -L- SEE SHEET UO-6

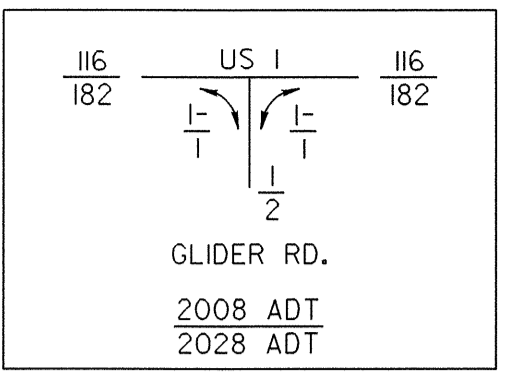


SEE SHEET 17 FOR -L- PROFILE

5/14/99
03-JUN-2008 13:36
I:\projects\2502b\ut_07_uo05_psh.dgn

UTILITIES BY OTHERS

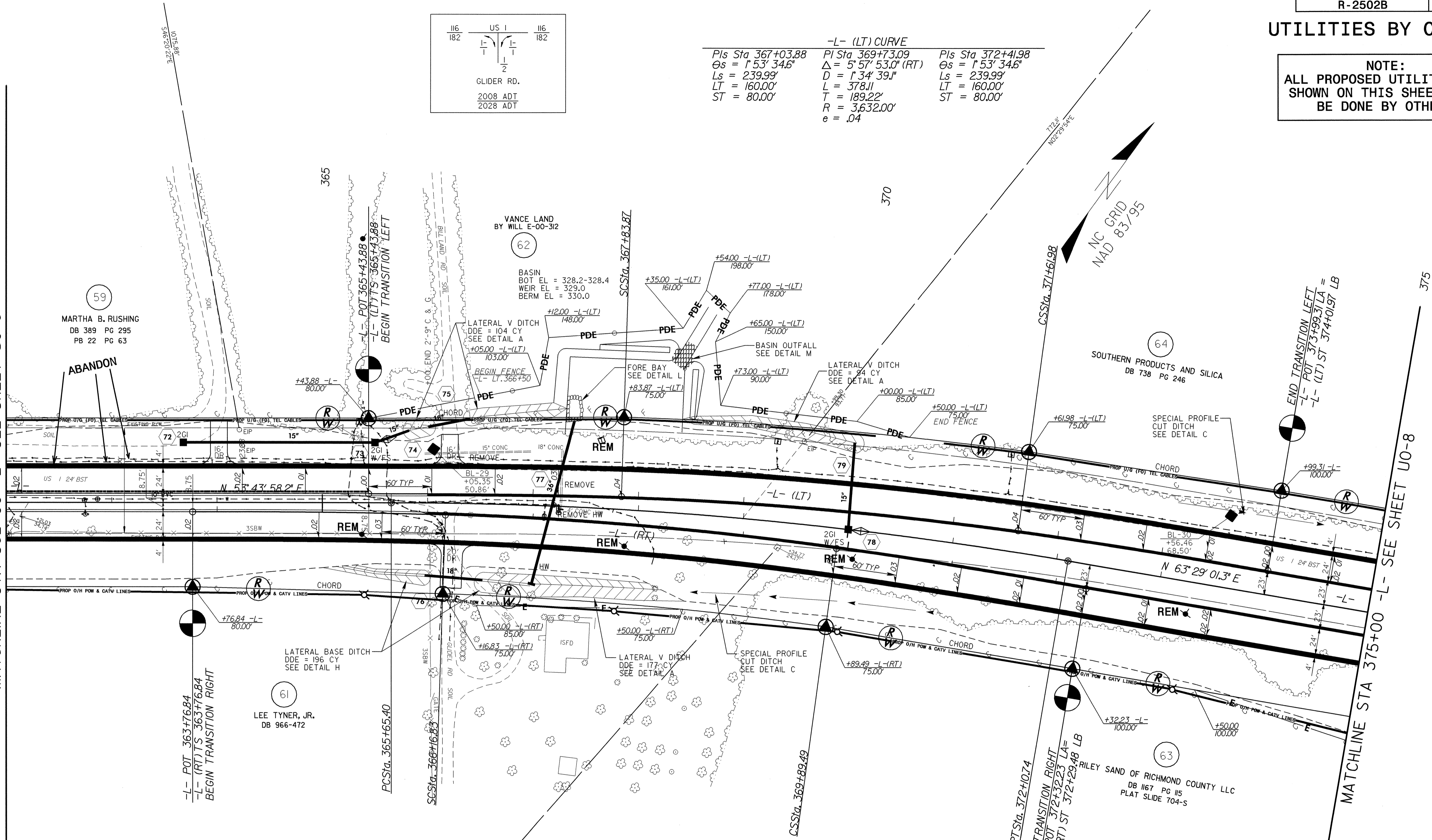
NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS



-L- (LT) CURVE
 Pls Sta 367+03.88 PI Sta 369+73.09 Pls Sta 372+41.98
 $\Delta = 1^{\circ}53'34.6''$ $\Delta = 5^{\circ}57'53.0''$ (RT) $\Delta = 1^{\circ}53'34.6''$
 $L_s = 239.99'$ $D = 1^{\circ}34'39.1''$ $L_s = 239.99'$
 $L = 160.00'$ $L = 378.11'$ $L = 160.00'$
 $T = 189.22'$ $T = 189.22'$ $T = 80.00'$
 $R = 3,632.00'$ $R = 3,632.00'$ $R = 80.00'$
 $e = .04$

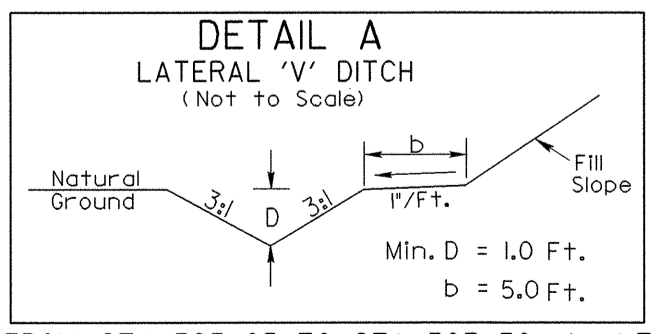
MATCHLINE STA 362+00 -L- SEE SHEET UO-6

MATCHLINE STA 375+00 -L- SEE SHEET UO-8

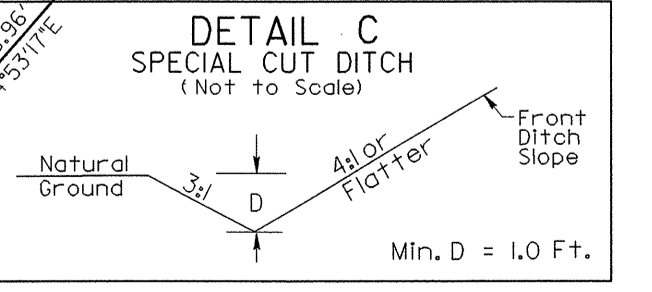


-L- (RT) CURVE
 Pls Sta 365+36.84 PI Sta 368+03.33 Pls Sta 370+69.50
 $\Delta = 1^{\circ}54'35.2''$ $\Delta = 5^{\circ}55'51.8''$ (RT) $\Delta = 1^{\circ}54'35.2''$
 $L_s = 239.99'$ $D = 1^{\circ}35'28.6''$ $L_s = 239.99'$
 $L = 160.00'$ $L = 372.66'$ $L = 160.00'$
 $T = 186.50'$ $T = 186.50'$ $T = 80.00'$
 $R = 3,600.00'$ $R = 3,600.00'$ $R = 80.00'$
 $e = .04$

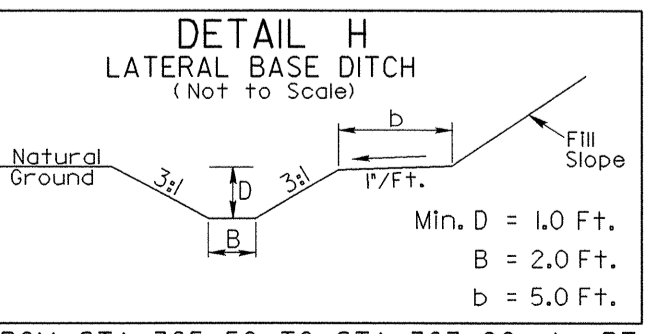
-L- CURVE
 PI Sta 368+88.85
 $\Delta = 9^{\circ}45'03.1''$ (RT)
 $D = 1^{\circ}30'39.5''$
 $L = 645.34'$
 $T = 323.45'$
 $R = 3,792.00'$



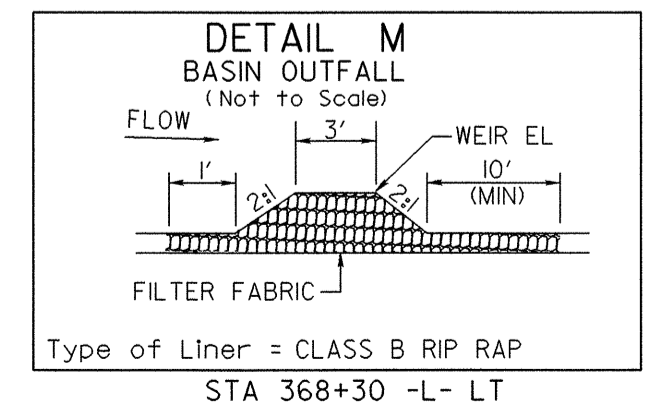
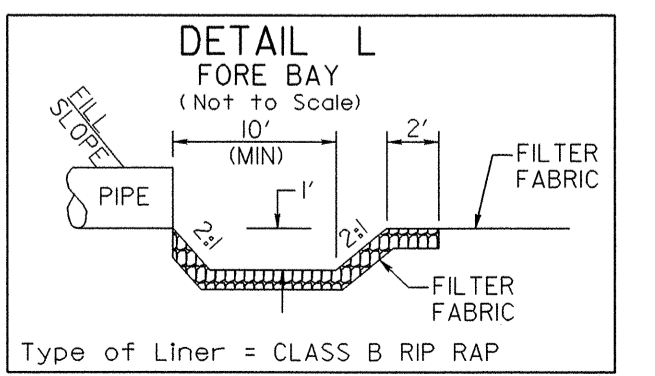
FROM STA 365+85 TO STA 367+30 -L- LT
 FROM STA 367+00 TO STA 368+50 -L- RT
 FROM STA 368+35 TO STA 370+00 -L- LT



FROM STA 368+50 TO STA 371+00 -L- RT
 FROM STA 373+00 TO STA 374+50 -L- LT



FROM STA 365+50 TO STA 367+00 -L- RT



SEE SHEET 18 FOR -L- PROFILE

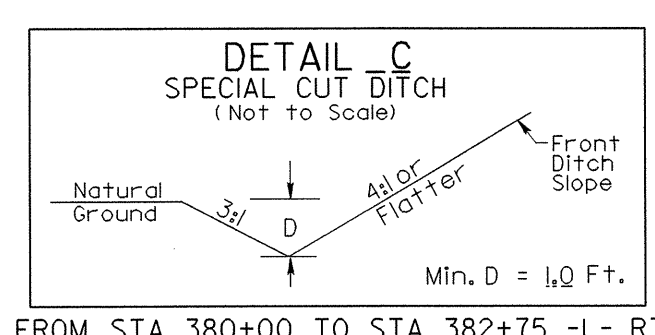
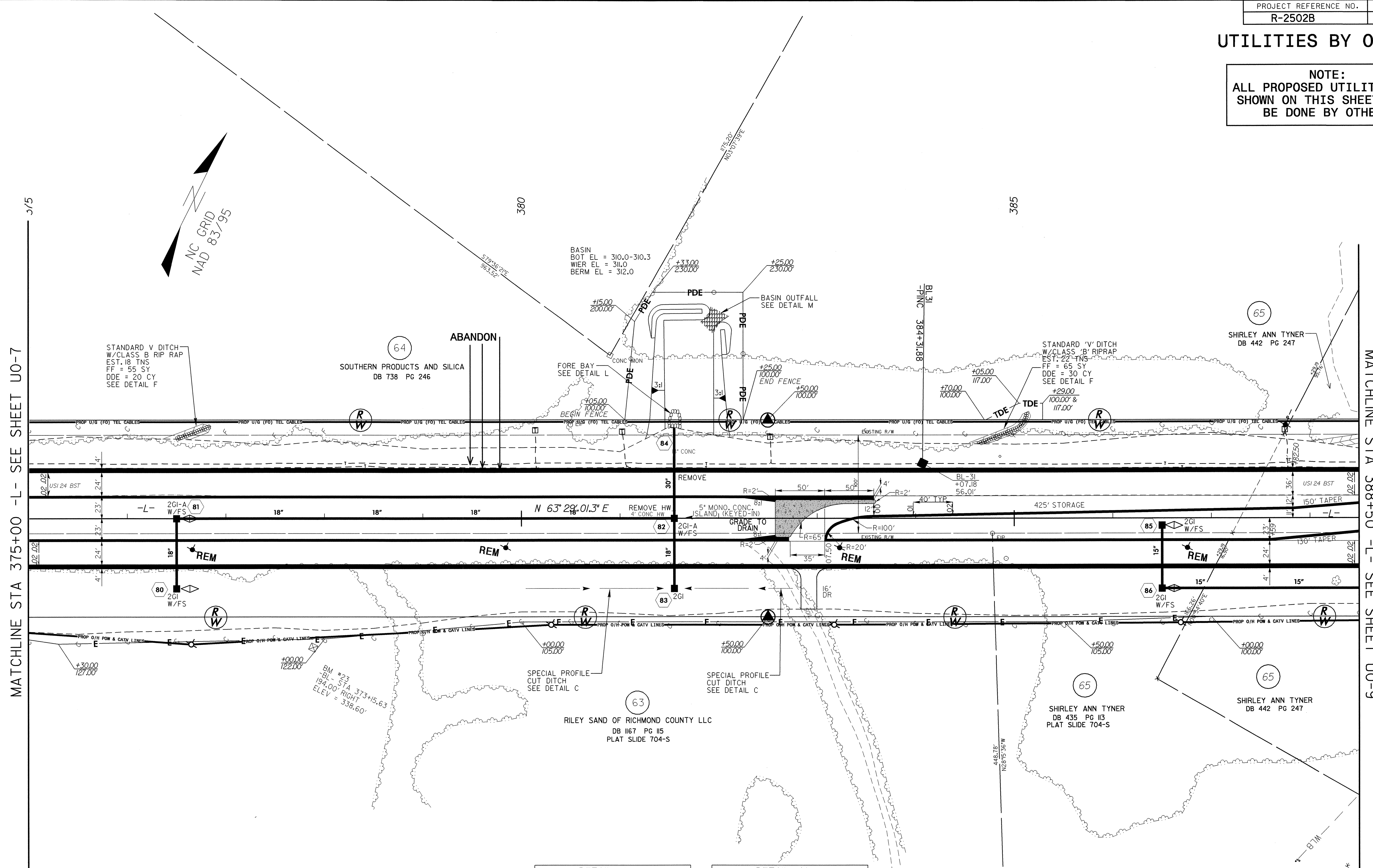
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03-JUN-2008 13:35
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R-2502B-UT-09-UC07-PSH.DGN

UTILITIES BY OTHERS

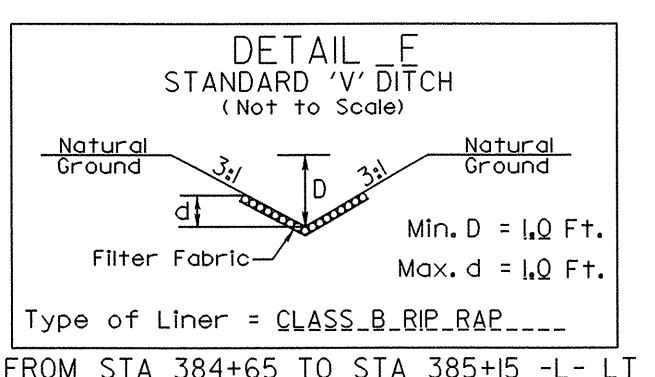
NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

MATCHLINE STA 375+00 -L- SEE SHEET U0-7

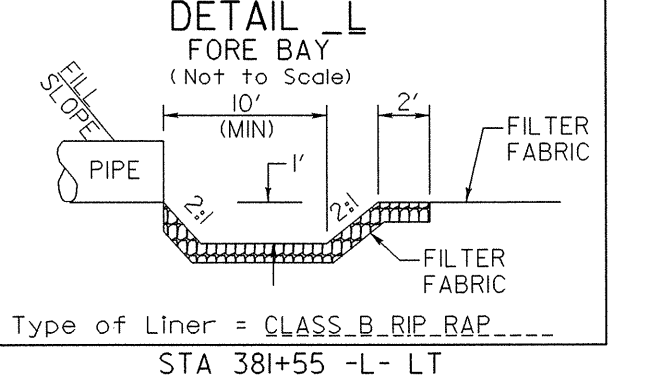
MATCHLINE STA 388+50 -L- SEE SHEET U0-9



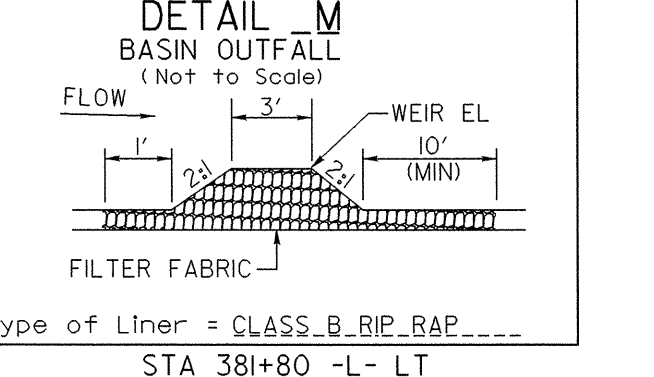
FROM STA 380+00 TO STA 382+75 -L- RT



FROM STA 384+65 TO STA 385+15 -L- LT
FROM STA 376+50 TO STA 376+85 -L- LT



STA 381+55 -L- LT



STA 381+80 -L- LT

5/14/99

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SEE SHEET 19 FOR -L- PROFILE

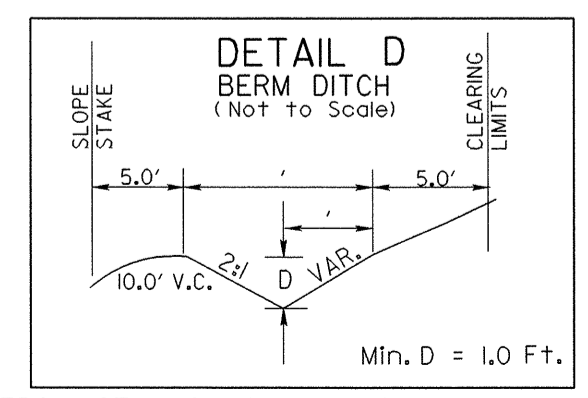
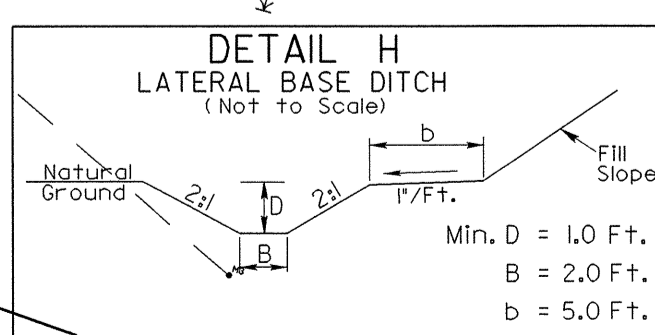
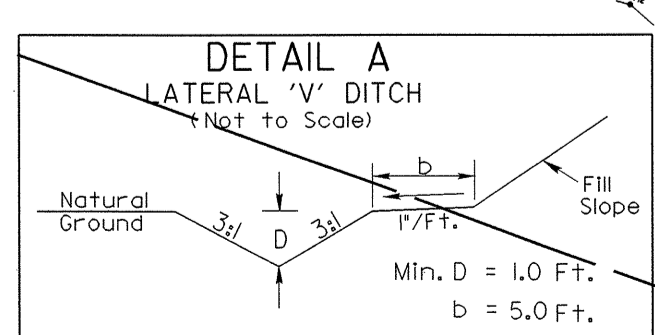
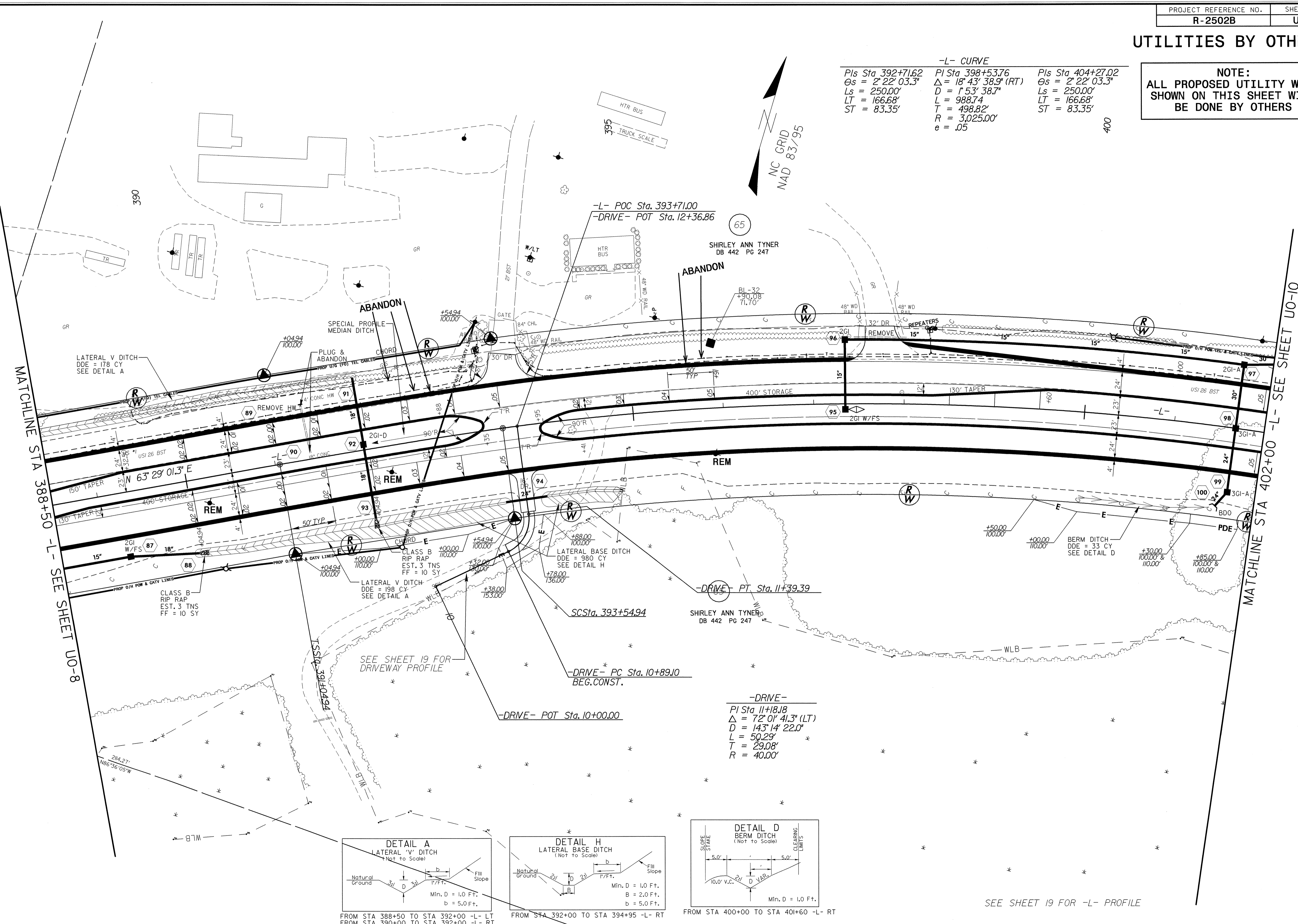
UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

-L- CURVE		
Pls Sta 392+71.62	Pls Sta 398+53.76	Pls Sta 404+27.02
$\Theta_s = 2' 22' 03.3"$	$\Delta = 18' 43' 38.9" (RT)$	$\Theta_s = 2' 22' 03.3"$
$L_s = 250.00'$	$D = 1' 53' 38.7"$	$L_s = 250.00'$
$LT = 166.68'$	$L = 988.74'$	$LT = 166.68'$
$ST = 83.35'$	$T = 498.82'$	$ST = 83.35'$
	$R = 3,025.00'$	
	$e = .05$	

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FROM STA 388+50 TO STA 392+00 -L- LT
FROM STA 390+00 TO STA 392+00 -L- RT

FROM STA 392+00 TO STA 394+95 -L- RT

FROM STA 400+00 TO STA 401+60 -L- RT

SEE SHEET 19 FOR -L- PROFILE

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

-L- CURVE

Pls Sta 392+71.62	PI Sta 398+53.76	Pls Sta 404+27.02
$\Delta s = 2^{\circ} 22' 03.3"$	$\Delta = 18^{\circ} 43' 38.9" (RT)$	$\Delta s = 2^{\circ} 22' 03.3"$
$Ls = 250.00'$	$D = 1^{\circ} 53' 38.7"$	$Ls = 250.00'$
$LT = 166.68'$	$L = 988.74'$	$LT = 166.68'$
$ST = 83.35'$	$T = 498.82'$	$ST = 83.35'$
	$R = 3,025.00'$	
	$e = .05$	

-L- (LT) CURVE

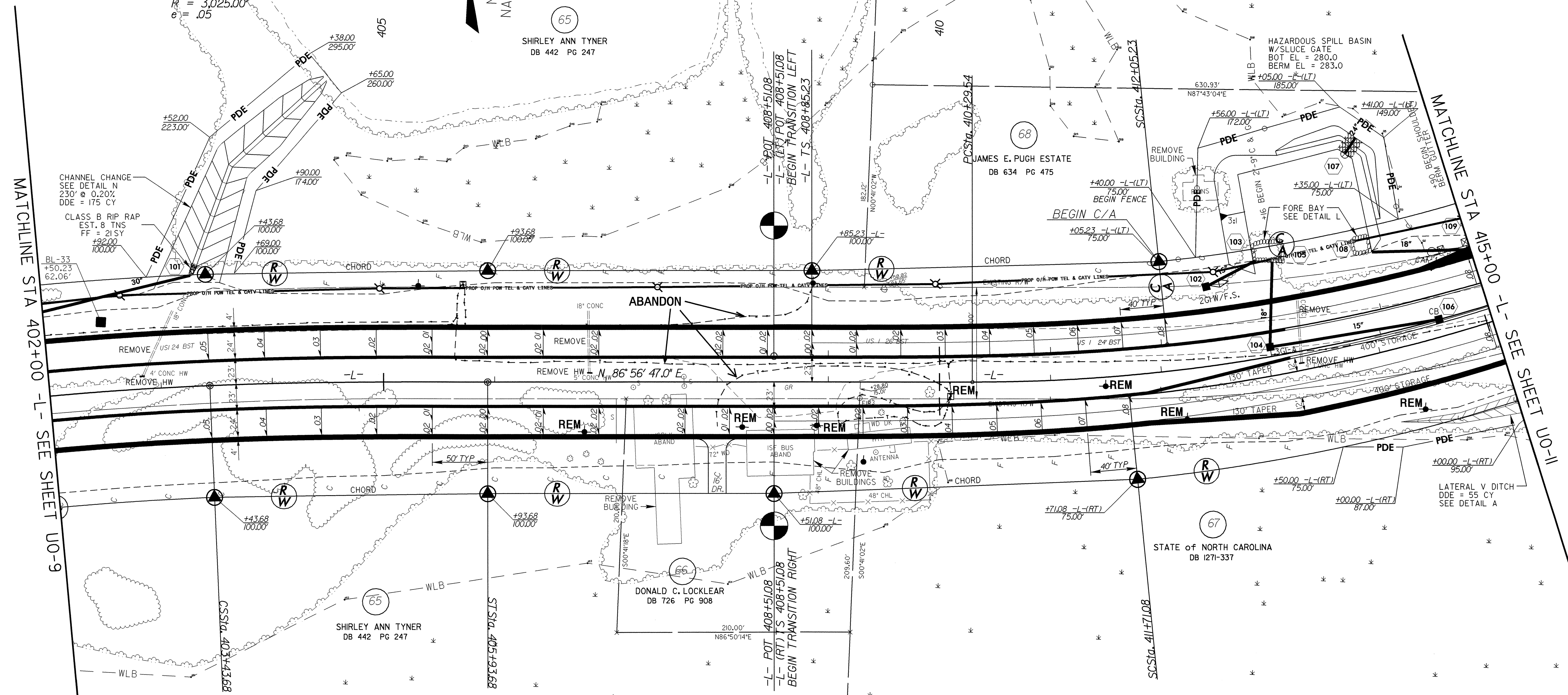
Pls Sta 410+98.68	PI Sta 418+56.00	Pls Sta 425+46.39
$\Delta s = 5^{\circ} 48' 47.3"$	$\Delta = 44^{\circ} 50' 53.0" (LT)$	$\Delta s = 5^{\circ} 48' 47.3"$
$Ls = 320.00'$	$D = 3^{\circ} 37' 59.6"$	$Ls = 320.00'$
$LT = 213.45'$	$L = 1,234.39'$	$LT = 213.45'$
$ST = 106.77'$	$T = 650.77'$	$ST = 106.77'$
	$R = 1,577.00'$	
	$e = .08$	

-L- (RT) CURVE

Pls Sta 410+64.52	PI Sta 418+46.30	Pls Sta 425+57.58
$\Delta s = 5^{\circ} 38' 54.2"$	$\Delta = 45^{\circ} 10' 39.2" (LT)$	$\Delta s = 5^{\circ} 38' 54.2"$
$Ls = 320.00'$	$D = 3^{\circ} 31' 48.9"$	$Ls = 320.00'$
$LT = 213.44'$	$L = 1,279.73'$	$LT = 213.44'$
$ST = 106.77'$	$T = 675.22'$	$ST = 106.77'$
	$R = 1,623.00'$	
	$e = .08$	

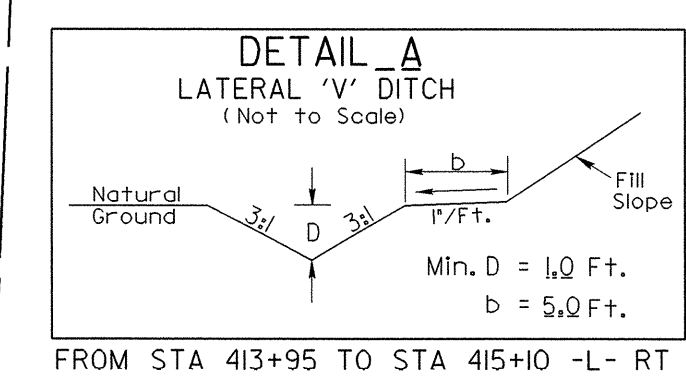
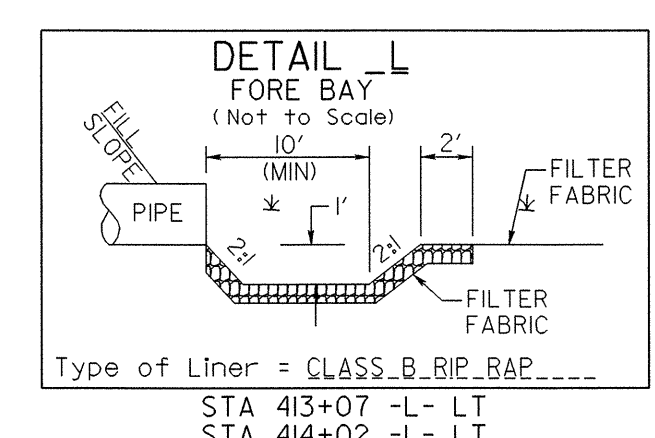
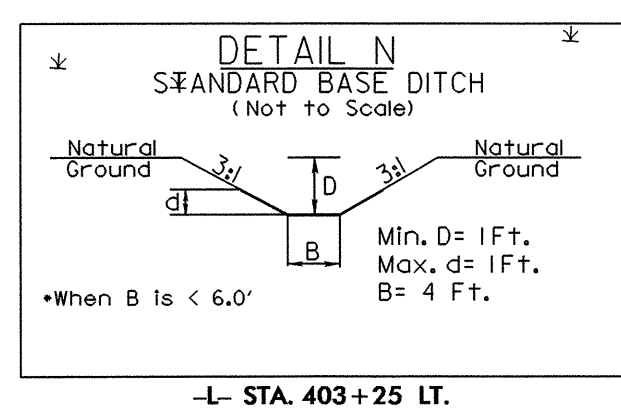
-L- CURVE

PI Sta 418+88.78
$\Delta = 56^{\circ} 28' 27.5" (LT)$
$D = 3^{\circ} 34' 51.6"$
$L = 1,577.06'$
$T = 859.25'$
$R = 1,600.00'$



MATCHLINE STA 402+00 -L- SEE SHEET U0-9

MATCHLINE STA 415+00 -L- SEE SHEET U0-11

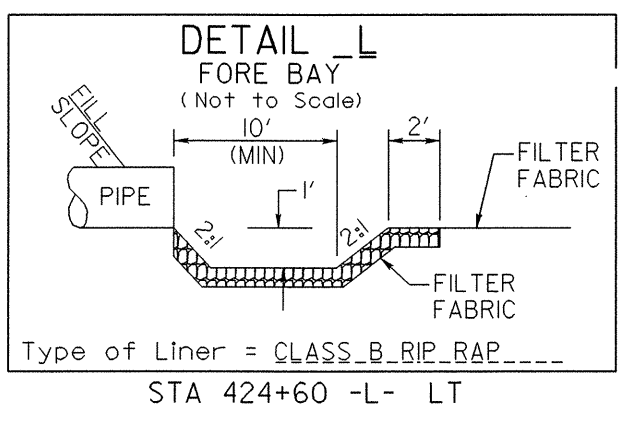
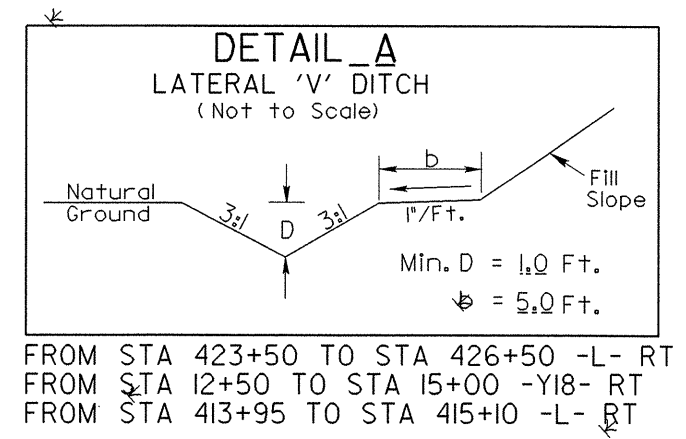


SEE SHEET 20 FOR -L- PROFILE

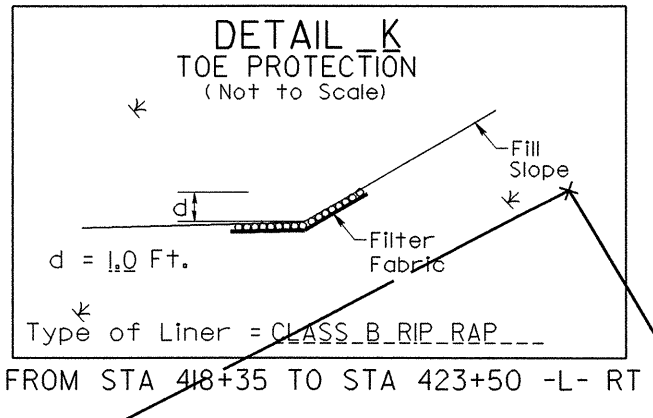
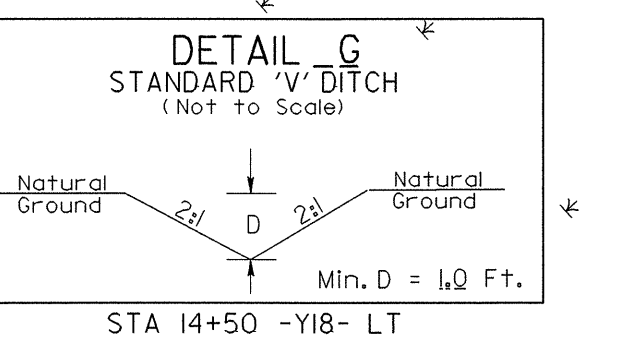
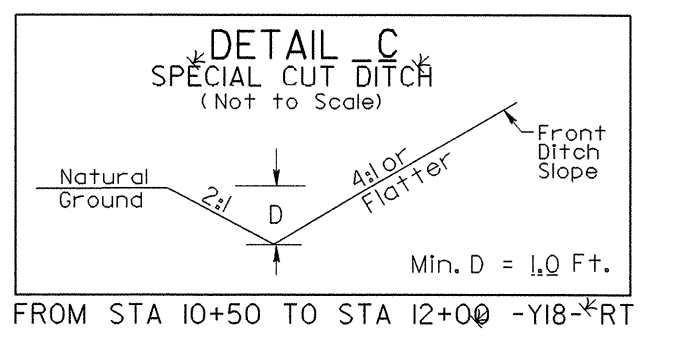
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UTILITIES BY OTHERS

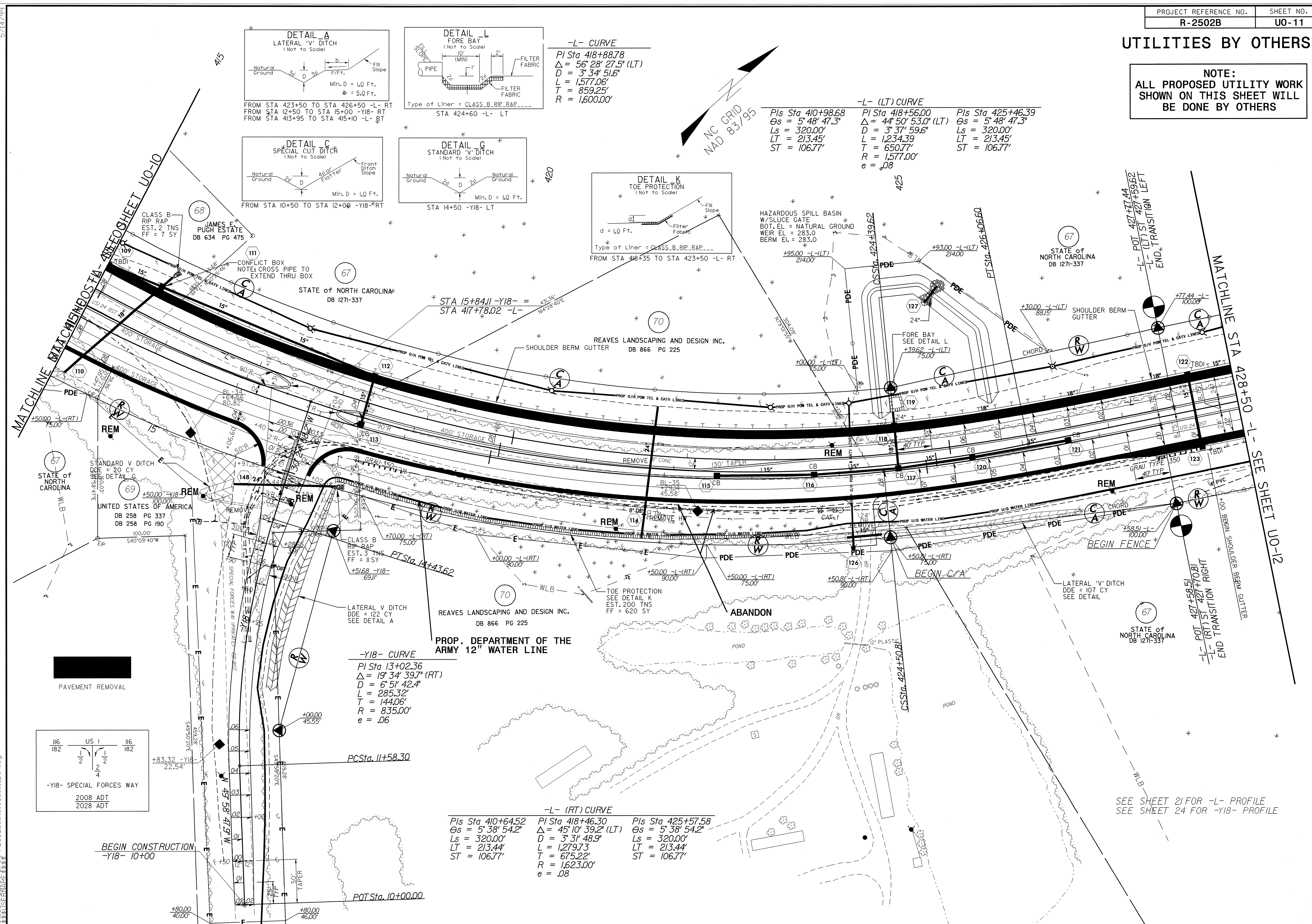
NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS



-L- CURVE
PI Sta 418+88.78
 $\Delta = 56' 28' 27.5''$ (LT)
D = 3' 34' 51.6"
L = 1,577.06'
T = 859.25'
R = 1,600.00'



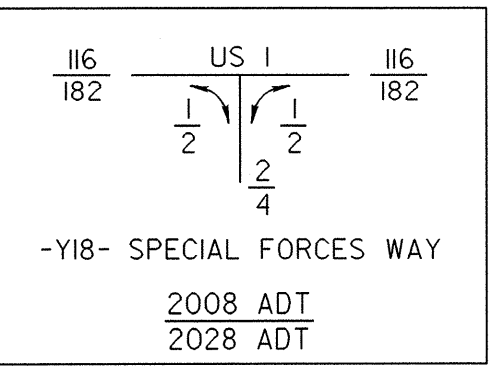
-L- (LT) CURVE
Pls Sta 410+98.68
 $\Theta_s = 5' 48' 47.3''$
Ls = 320.00'
LT = 213.45'
ST = 106.77'
PI Sta 418+56.00
 $\Delta = 44' 50' 53.0''$ (LT)
D = 3' 37' 59.6"
L = 1,234.39'
T = 650.77'
R = 1,577.00'
e = .08
Pls Sta 425+46.39
 $\Theta_s = 5' 48' 47.3''$
Ls = 320.00'
LT = 213.45'
ST = 106.77'



-Y18- CURVE
PI Sta 13+02.36
 $\Delta = 19' 34' 39.7''$ (RT)
D = 6' 51' 42.4"
L = 285.32'
T = 144.06'
R = 835.00'
e = .06

PROP. DEPARTMENT OF THE ARMY 12" WATER LINE

-L- (RT) CURVE
Pls Sta 410+64.52
 $\Theta_s = 5' 38' 54.2''$
Ls = 320.00'
LT = 213.44'
ST = 106.77'
PI Sta 418+46.30
 $\Delta = 45' 10' 39.2''$ (LT)
D = 3' 31' 48.9"
L = 1,279.73'
T = 675.22'
R = 1,623.00'
e = .08
Pls Sta 425+57.58
 $\Theta_s = 5' 38' 54.2''$
Ls = 320.00'
LT = 213.44'
ST = 106.77'



PAVEMENT REMOVAL

SEE SHEET 21 FOR -L- PROFILE
SEE SHEET 24 FOR -Y18- PROFILE

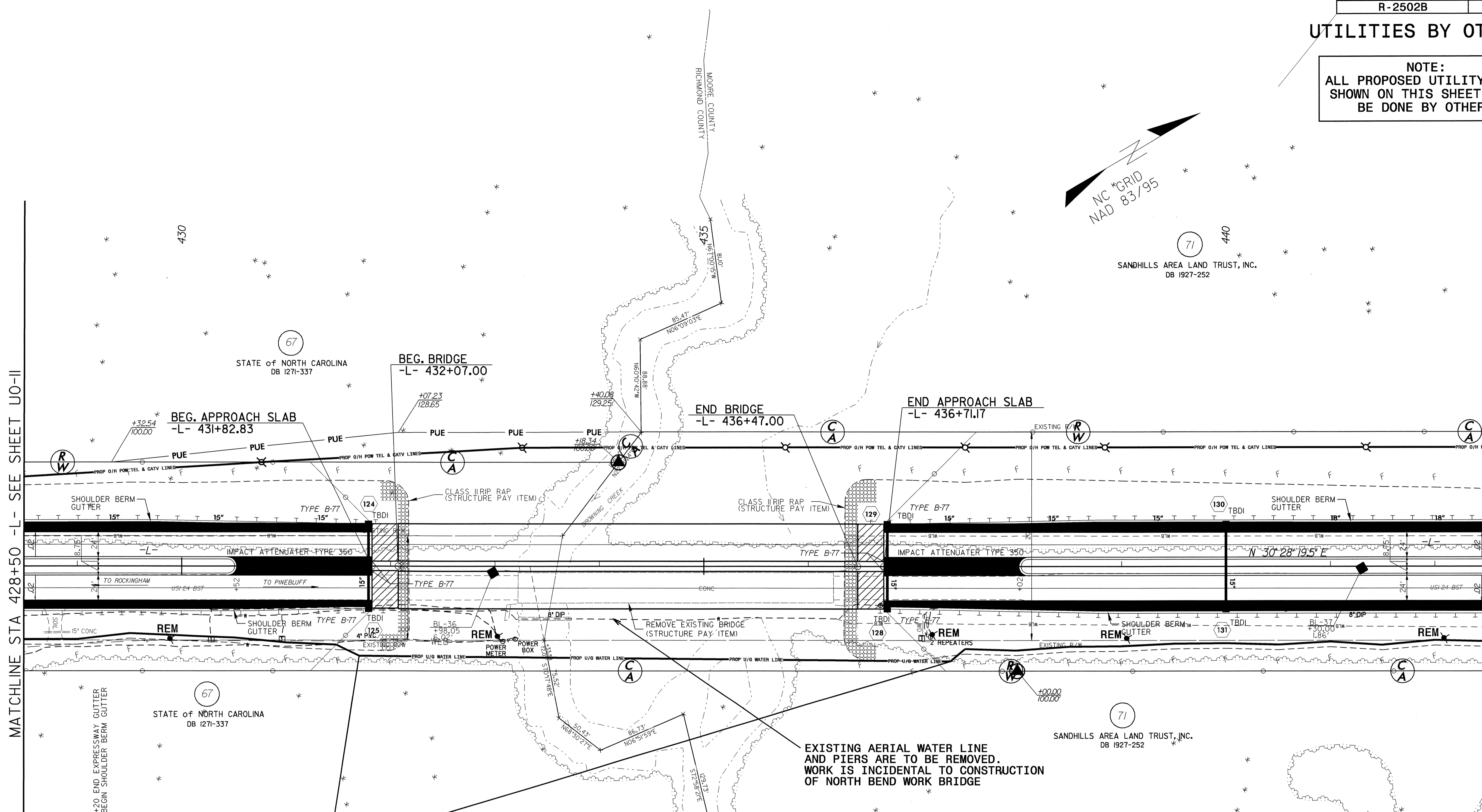
03-JUN-2008 13:04 utilities\chh\ut_r-2502b-ut_13_uo11.psh.dgn

UTILITIES BY OTHERS

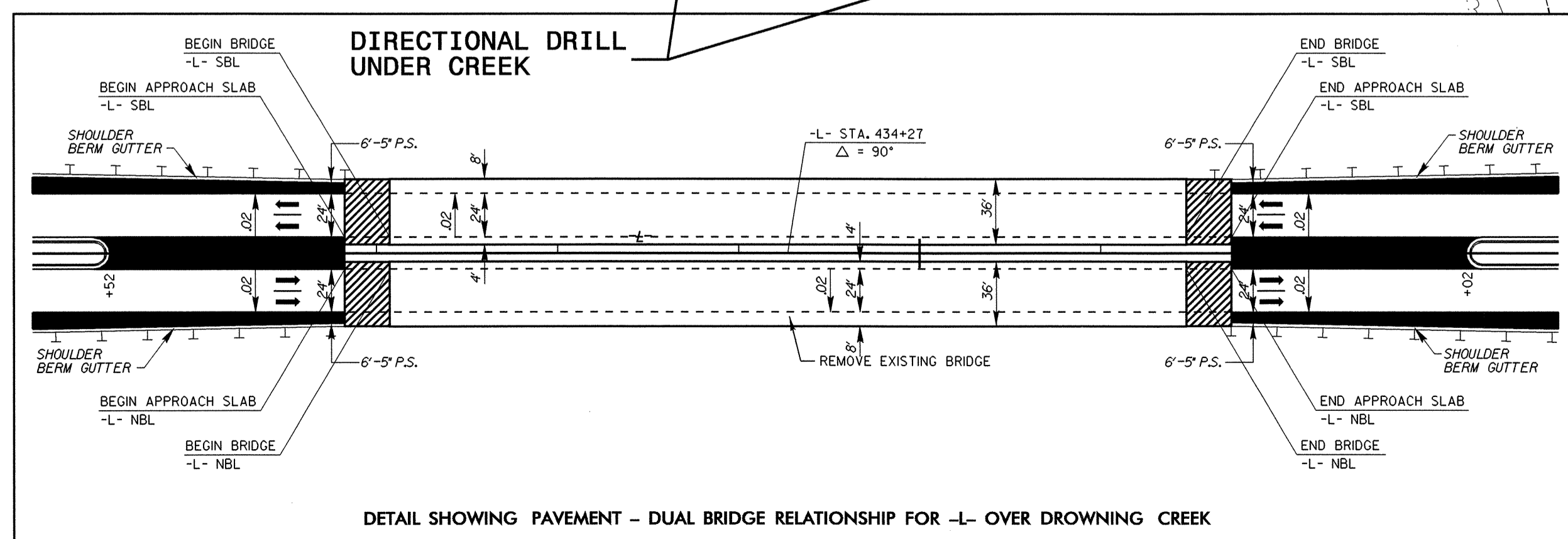
NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS



(71) 440
SANDHILLS AREA LAND TRUST, INC.
DB 1927-252



EXISTING AERIAL WATER LINE
AND PIERS ARE TO BE REMOVED.
WORK IS INCIDENTAL TO CONSTRUCTION
OF NORTH BEND WORK BRIDGE



DETAIL SHOWING PAVEMENT - DUAL BRIDGE RELATIONSHIP FOR -L- OVER DROWNING CREEK

SEE SHEET 22 FOR -L- PROFILE

5/14/99

03-JUN-2008 13:04
utilities\cd\out\pco\Ar-2502b-ut-14_uo12_psh.dgn
\$\$\$\$\$ USER:RMM \$\$\$\$\$

UTILITIES BY OTHERS

NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

HYDRAULICS
ENGINEER

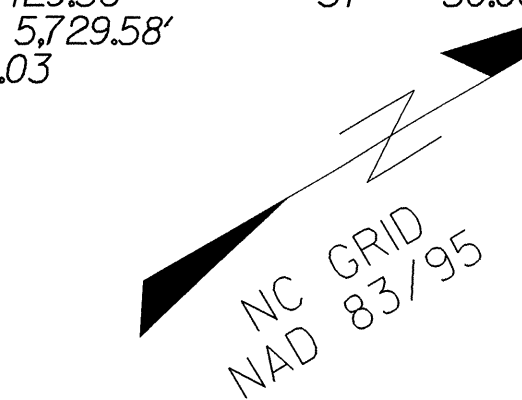
16 Franklin Rd. Suite 164
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107

STRUCTURE DESIGN
IN OBSERVATION

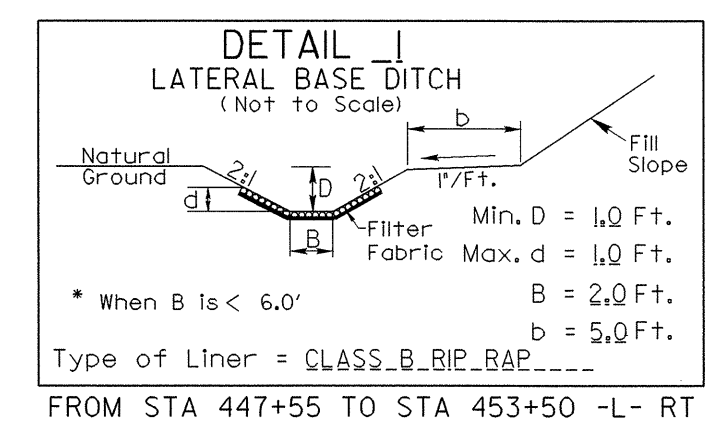
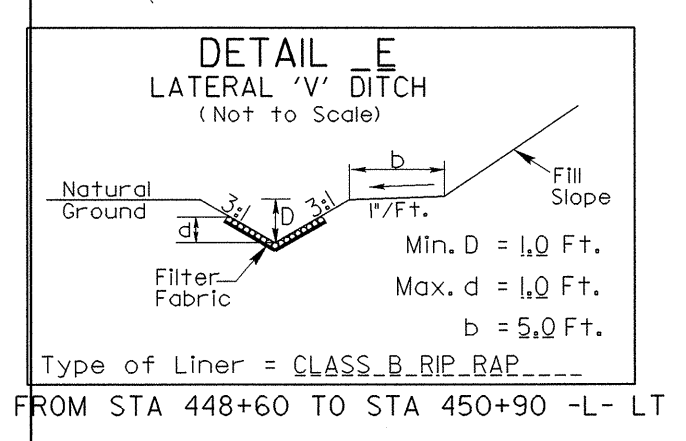
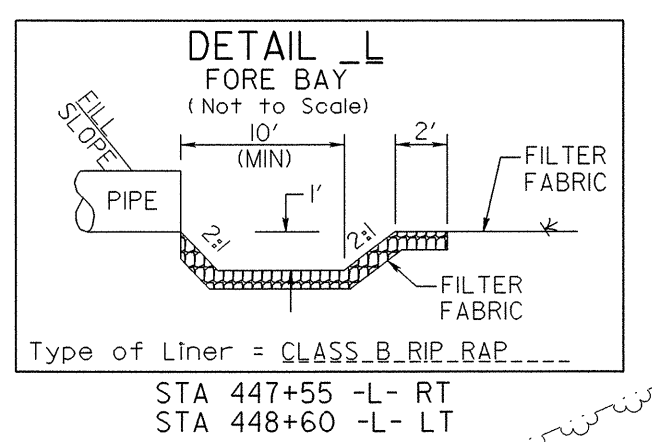
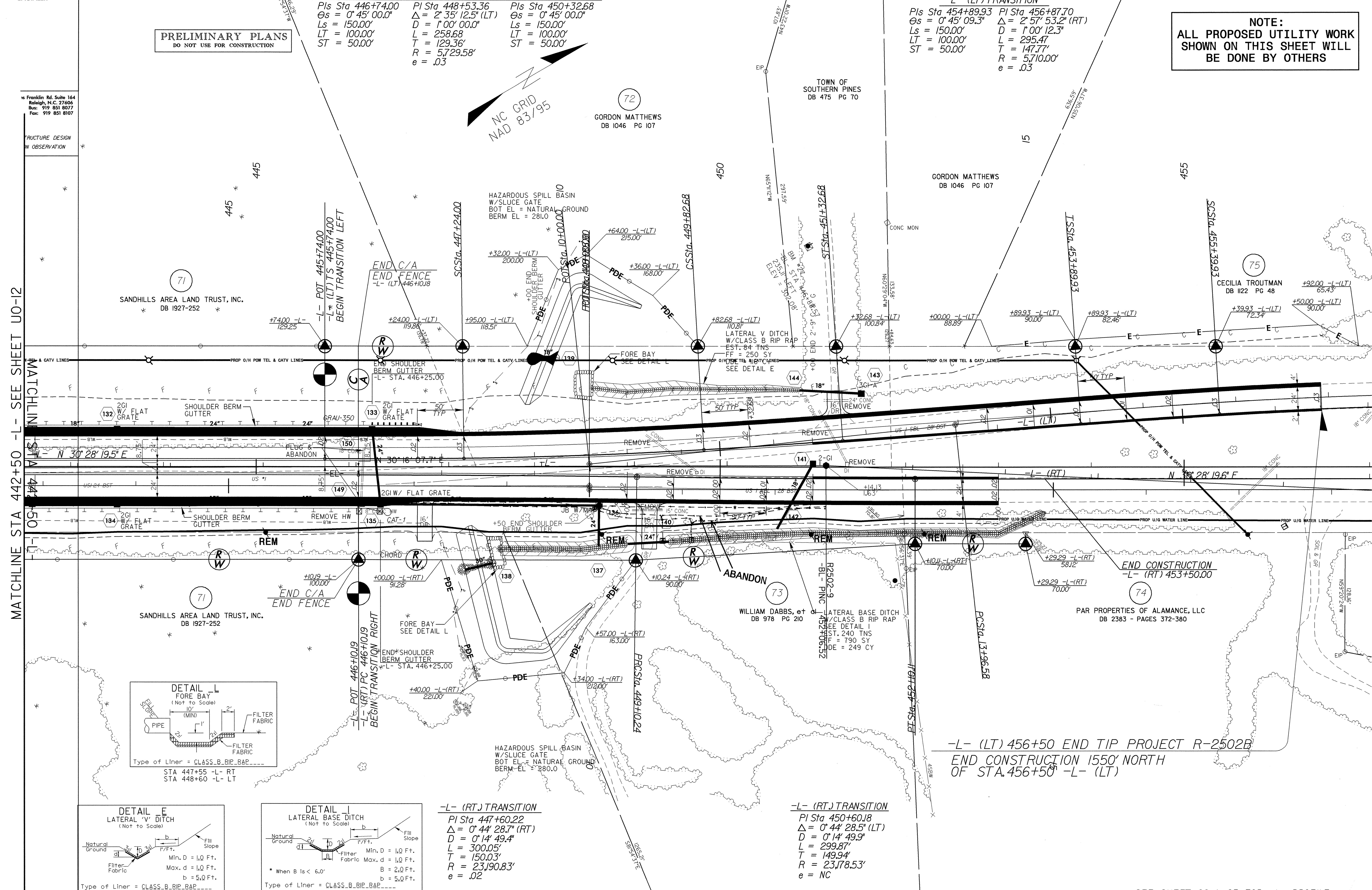
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

-L- (LT) CURVE
 Pls Sta 446+74.00 $\Delta = 2' 35" 12.5' (LT)$ $\Delta = 0' 45" 00.0'$
 $\Delta = 0' 45" 00.0'$ $L = 150.00'$ $L = 150.00'$
 $L = 150.00'$ $T = 129.36'$ $T = 129.36'$
 $ST = 50.00'$ $R = 5,729.58'$ $ST = 50.00'$
 $e = .03$

-L- (LT) TRANSITION
 Pls Sta 454+89.93 $\Delta = 2' 57" 53.2' (RT)$
 $\Delta = 0' 45" 09.3'$ $L = 150.00'$ $L = 295.47'$
 $L = 150.00'$ $T = 147.77'$
 $ST = 50.00'$ $R = 5,710.00'$
 $e = .03$



MATCHLINE STA 442+50 -L- SEE SHEET U0-12



-L- (RT) TRANSITION
 PI Sta 447+60.22
 $\Delta = 0' 44' 28.7' (RT)$
 $\Delta = 0' 14' 49.4'$
 $D = 300.05'$
 $L = 150.03'$
 $T = 23,190.83'$
 $e = .02$

-L- (RT) TRANSITION
 PI Sta 450+60.18
 $\Delta = 0' 44' 28.5' (LT)$
 $\Delta = 0' 14' 49.9'$
 $D = 299.87'$
 $T = 149.94'$
 $R = 23,178.53'$
 $e = NC$

-L- (LT) 456+50 END TIP PROJECT R-2502B
 END CONSTRUCTION 1550' NORTH
 OF STA. 456+50 -L- (LT)

SEE SHEET 22 & 23 FOR -L- PROFILE

03-JUN-2008 13:03 \\s13\psh\dgn\15-2502b_ut_15_u013_psh.dgn