

T.I.P. NO.	SHEET NO.
U-4412	UC-1

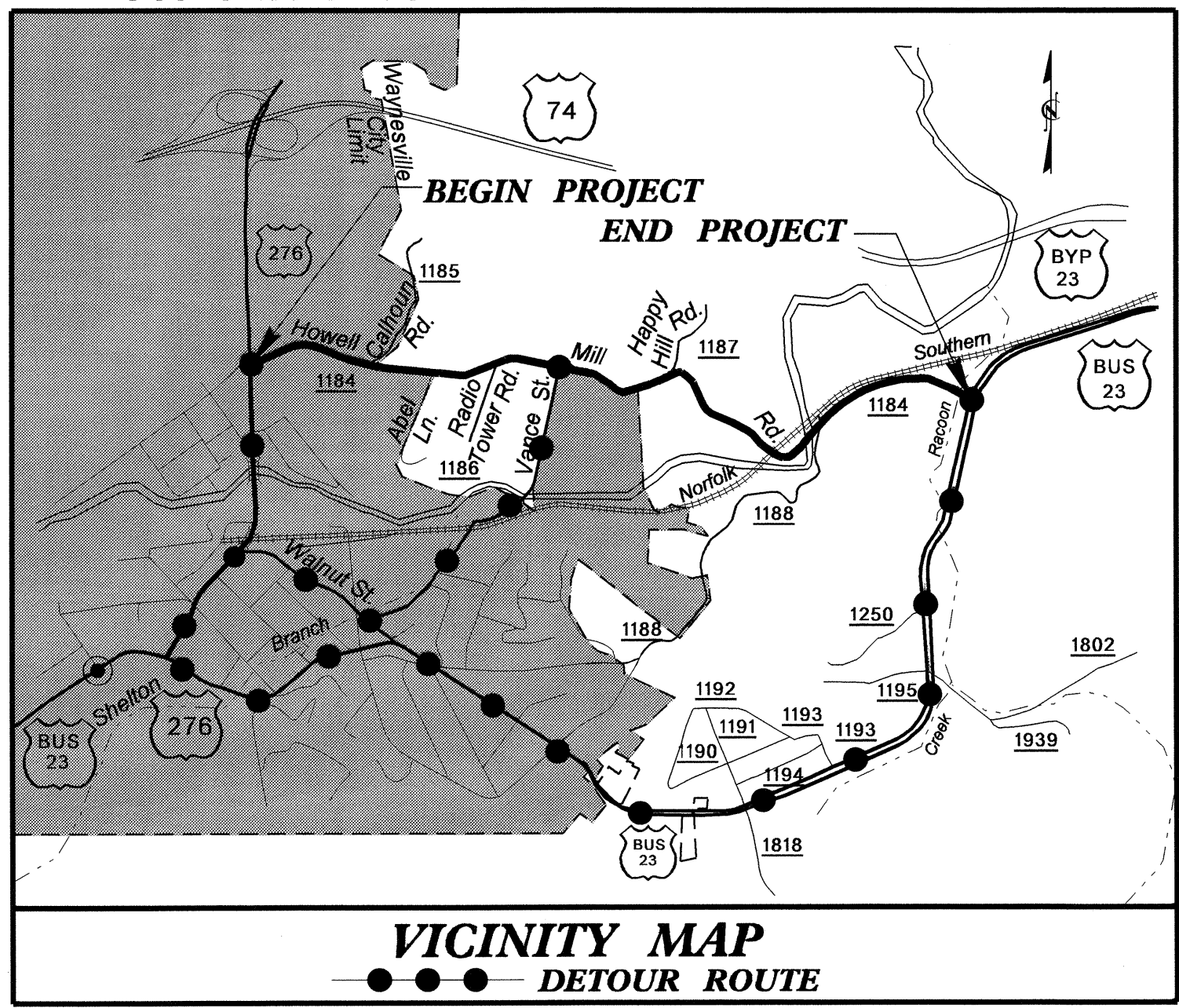
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

See Sheet 1A For Index of Sheets
See Sheet 1B For Symbology Sheet
See Sheets 1C thru 1D For Control Sheets

**UTILITY CONSTRUCTION PLANS
HAYWOOD COUNTY**

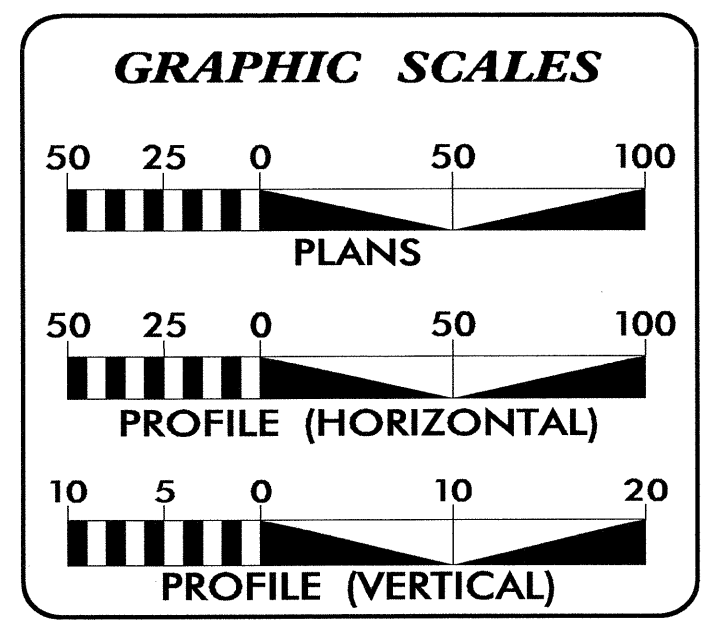
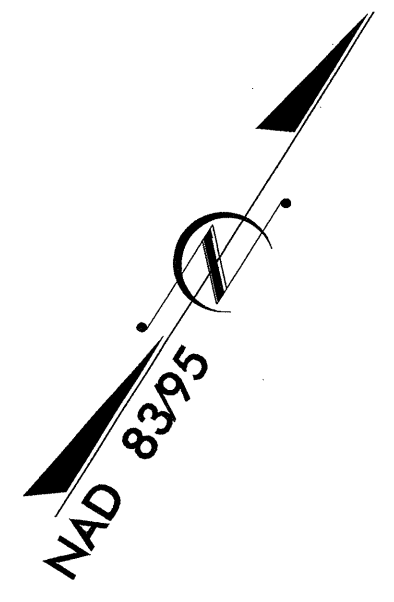
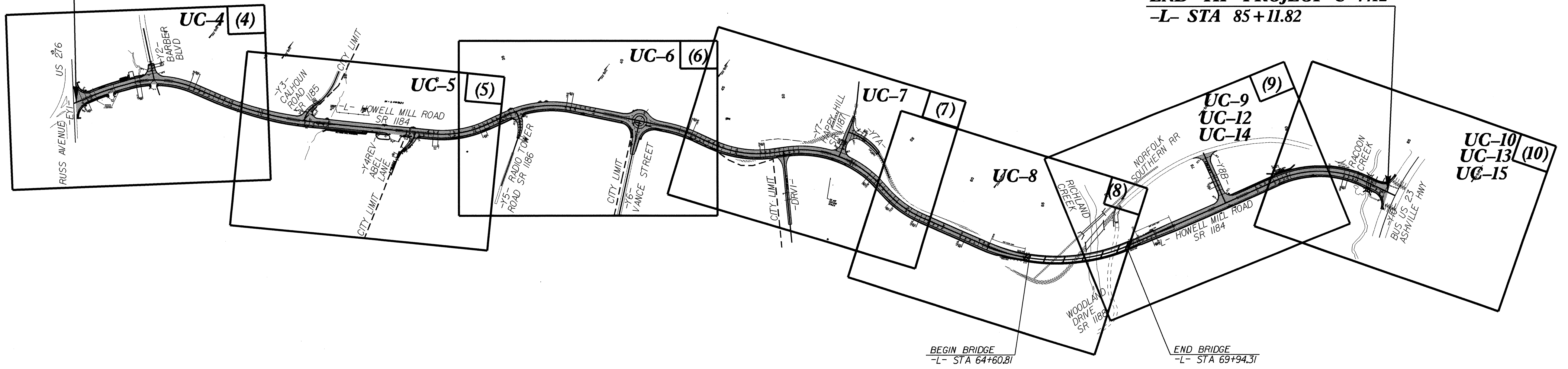
**LOCATION: SR 1184 (HOWELL MILL ROAD)
FROM US 276 (RUSS AVENUE) TO
US 23 BUSINESS (ASHEVILLE ROAD)
TYPE OF WORK: WATER, ELECTRIC POWER DISTRIBUTION,
AND TELEPHONE**

TIP PROJECT: U-4412



BEGIN TIP PROJECT U-4412
-L- STA 10+15.16

END TIP PROJECT U-4412
-L- STA 85+11.82

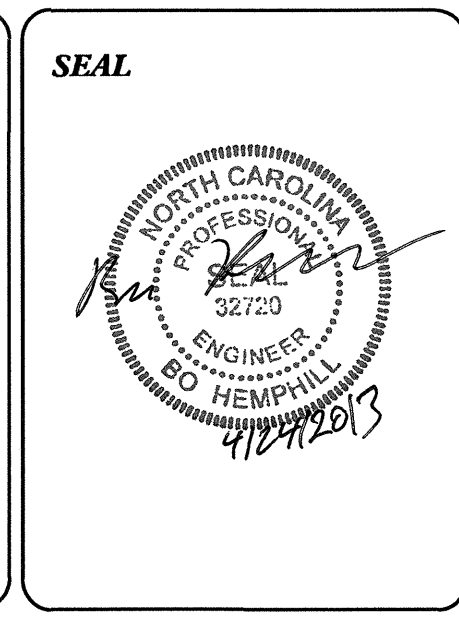


INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-4 THRU UC-10	UTILITY CONSTRUCTION (WATER)
UC-11	WATER PROFILE SHEET
UC-12 THRU UC-13	UTILITY CONSTRUCTION (TELEPHONE)
UC-14 THRU UC-15	UTILITY CONSTRUCTION (ELECTRIC POWER)

WATER AND SEWER OWNERS ON PROJECT

- (1) Water - Town of Waynesville
- (2) Sanitary Sewer -
- (3) Telephone - AT&T
- (4) Electric Power Distribution - Progress Energy



PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING**

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

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

24-APR-2013 15:21 P:\Utilities\RDY-UT\Proj\U4412-UT_title-uc1_psh.dgn \$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROJECT REFERENCE NO. U-4412	SHEET NO. UC-2
DESIGNED BY: BKA	
DRAWN BY: BKA	
CHECKED BY: KSH	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

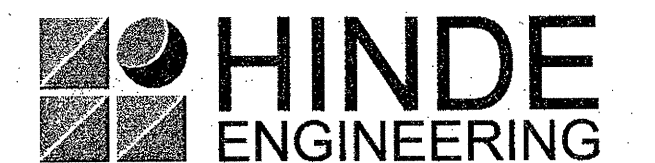
Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

EXISTING UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	
End of Information	

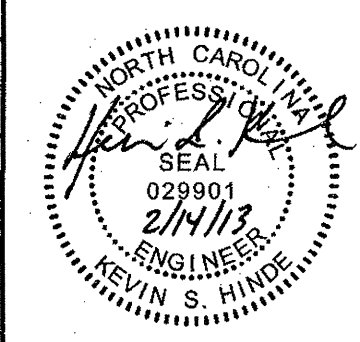
Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

UTILITY CONSTRUCTION



*Underground Power Line	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

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

PROJECT REFERENCE NO.	SHEET NO.
U-4412	UC-3
DESIGNED BY: BKA	
DRAWN BY: BKA	
CHECKED BY: KSH	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

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 2012.
2. THE EXISTING UTILITIES BELONG TO TOWN OF WAYNESVILLE AND JUNALUSKA SANITARY DISTRICT.
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF ENVIRONMENTAL HEALTH. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER QUALITY. 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 ADDITONAL 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.

LIST OF STANDARD DRAWINGS

- 1515.01 WATER METER
- 1515.02 FIRE HYDRANT
- 1520.01 SEWER CLEAN OUT

PROJECT SPECIFIC NOTES:

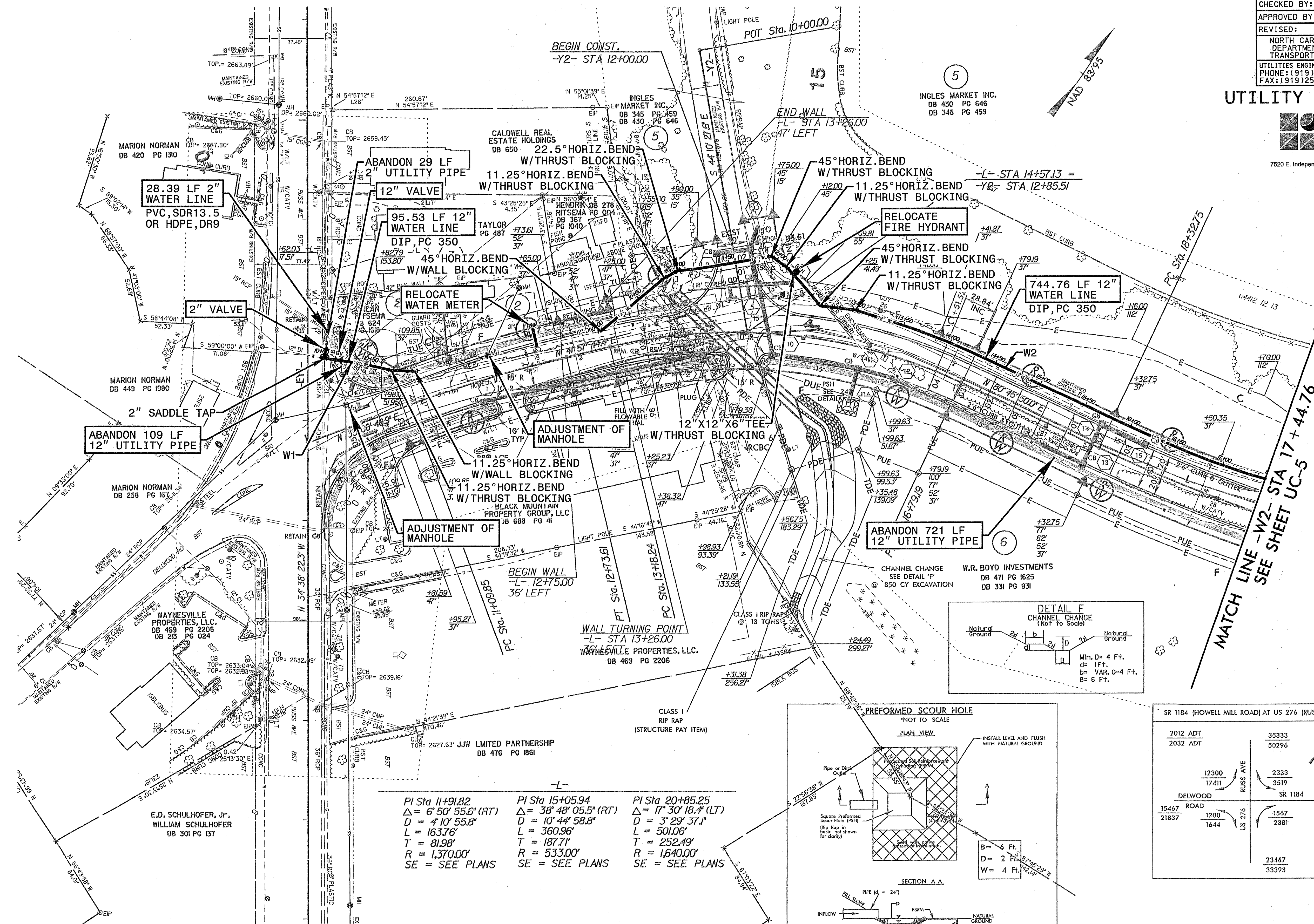
1. ALL 1-INCH THROUGH 1.5-INCH DIAMETER PIPE SHALL BE HDPE DR9, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
2. ALL 2-INCH DIAMETER PIPE SHALL BE HDPE DR9 OR PVC SDR 13.5, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
3. ALL 4-INCH THROUGH 12-INCH DIAMETER PIPE SHALL BE DUCTILE IRON PRESURE CLASS 350, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
4. ALL 16-INCH AND LARGER DIAMETER PIPE SHALL BE DUCTILE IRON PRESSURE CLASS 250, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
5. VALVES ON WATER MAINS SMALLER THAN 16-INCH IN DIAMETER SHALL BE DIRECT BURY GATE VALVES, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
6. VALVES ON WATER MAINS 16-INCHES IN DIAMETER AND LARGER SHALL BE BUTTERFLY VALVES, UNLESS OTHERWISE NOTED ON THE UTILITY CONSTRUCTION PLANS.
7. ALL FITTINGS FOR 4-INCH THROUGH 12-INCH WATER PIPE SHALL BE RESTRAINED MECHANICAL JOINT FITTINGS.
8. CONCRETE THRUST BLOCKING SHALL BE USED AT ALL FITTING LOCATIONS.
9. CONCRETE WALL BLOCKING SHALL BE USED ON EXISTING WATER LINES AT THE PROPOSED RELOCATION TIE-IN POINTS.
10. CONTRACTOR SHALL CONNECT ALL WATER LINES AND SERVICE CONNECTIONS USING NECESSARY FITTINGS.
11. ALL BACKFLOW PREVENTORS ARE THE RESPONSIBILITY OF THE PROPERTY OWNER.

UTILITY CONSTRUCTION



PROJECT REFERENCE NO.	SHEET NO.
U-4412	UC-4
DESIGNED BY: BKA	
DRAWN BY: BKA	
CHECKED BY: KSH	
APPROVED BY:	
REVISER:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION



28.39 LF 2" WATER LINE
PVC, SDR13.5 OR HDPE, DR9

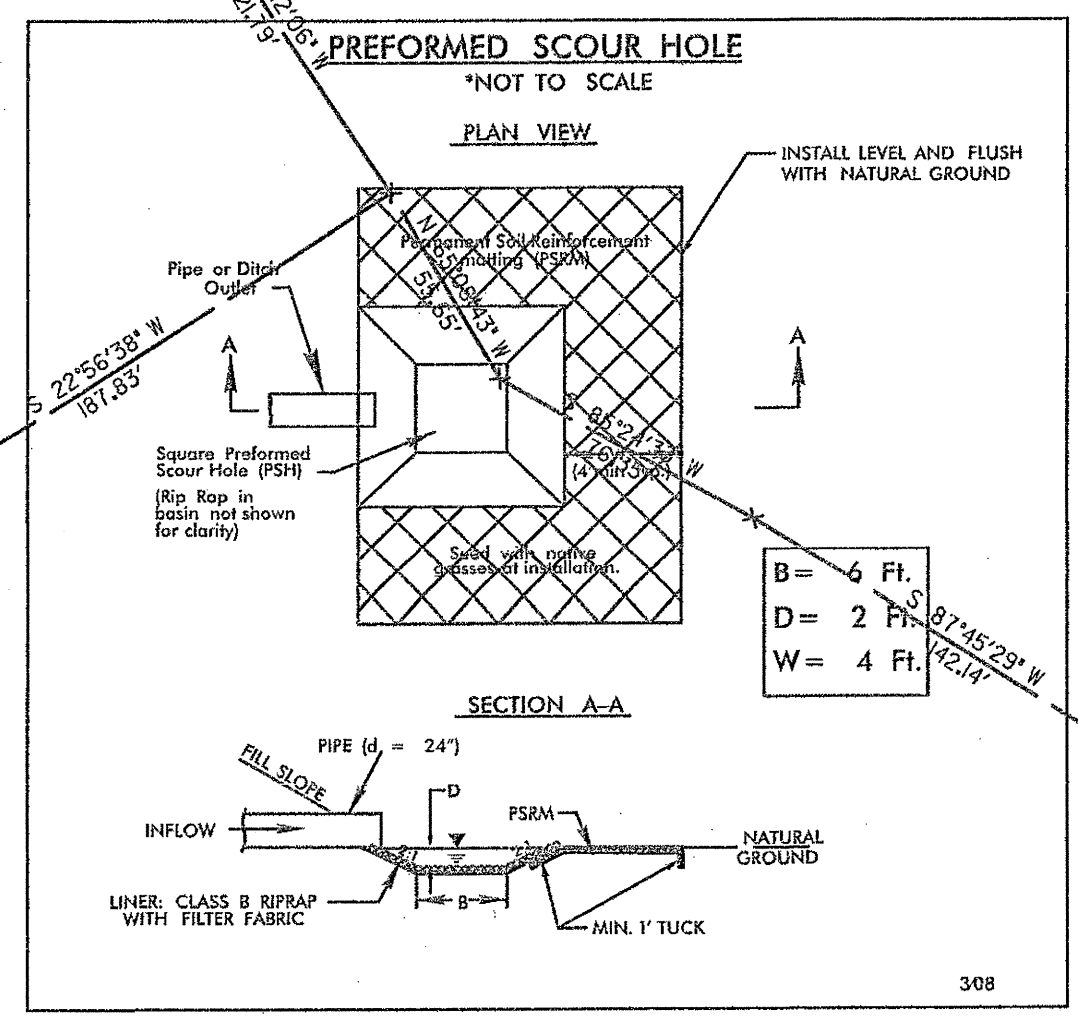
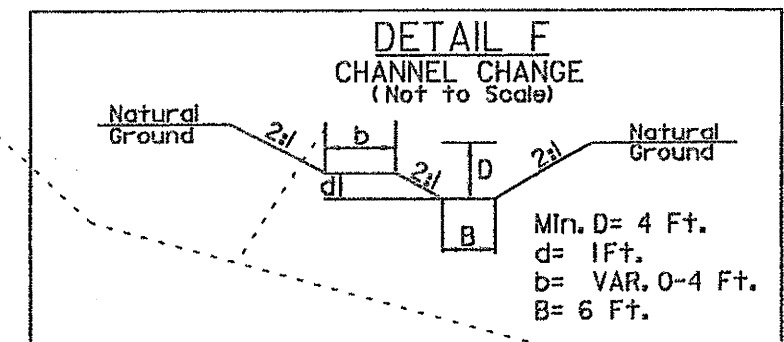
95.53 LF 12" WATER LINE
DIP, PC 350

744.76 LF 12" WATER LINE
DIP, PC 350

ABANDON 109 LF 12" UTILITY PIPE

ABANDON 721 LF 12" UTILITY PIPE

ADJUSTMENT OF MANHOLE



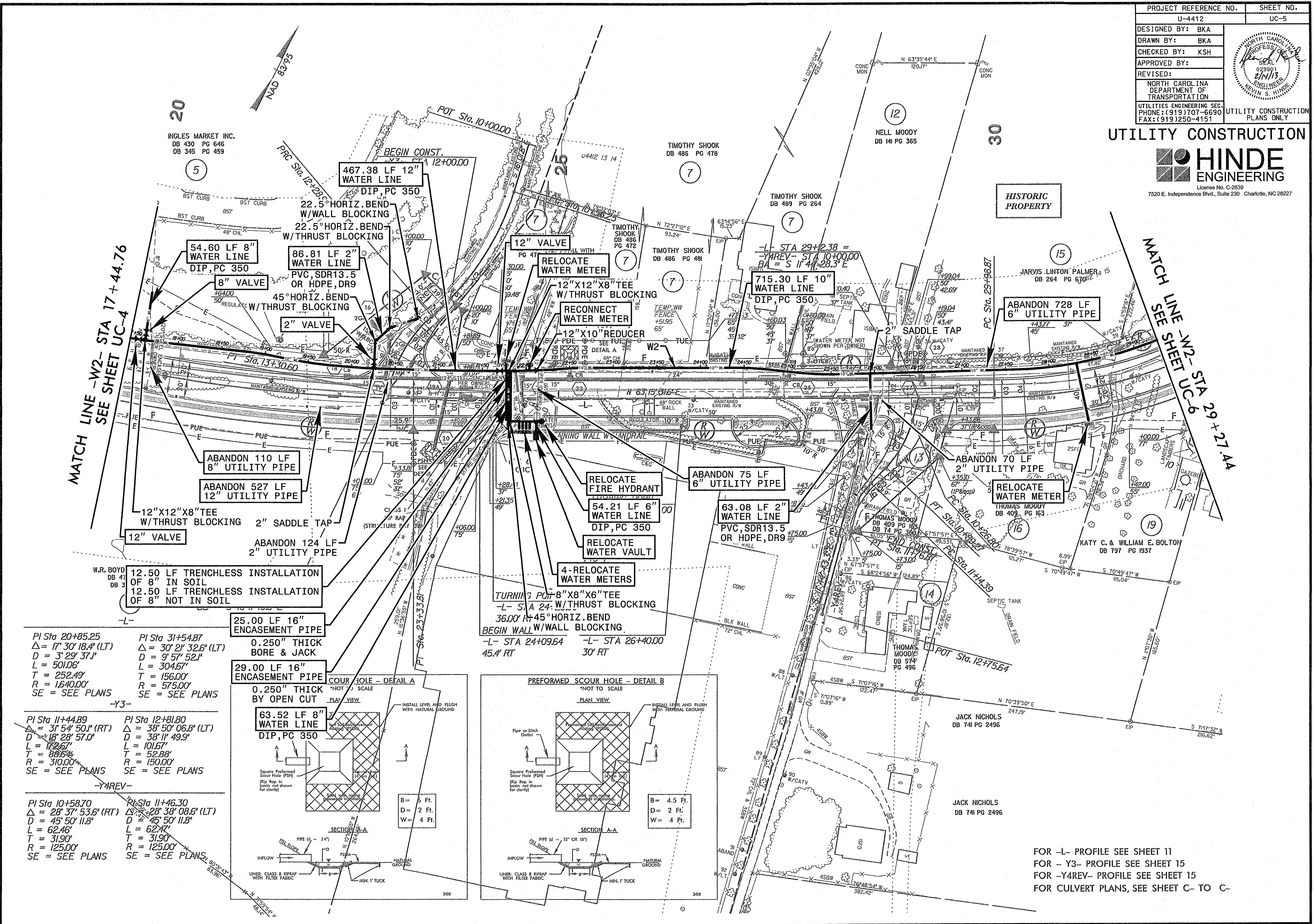
PI Sta 11+91.82	PI Sta 15+05.94	PI Sta 20+85.25
$\Delta = 6' 50'' 55.6''$ (RT)	$\Delta = 38' 48'' 05.5''$ (RT)	$\Delta = 17' 30'' 18.4''$ (LT)
D = 4' 10' 55.8"	D = 10' 44' 58.8"	D = 3' 29' 37.1"
L = 163.76'	L = 360.96'	L = 501.06'
T = 81.98'	T = 187.71'	T = 252.49'
R = 1,370.00'	R = 533.00'	R = 1,640.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS

SR 1184 (HOWELL MILL ROAD) AT US 276 (RUSS AVE)			
2012 ADT	35333		
2032 ADT	50296		
	12300	2333	
	17411	3519	
	DELWOOD ROAD		SR 1184
15467	1200	1567	5867
21837	1644	2381	8681
		23467	
		33393	

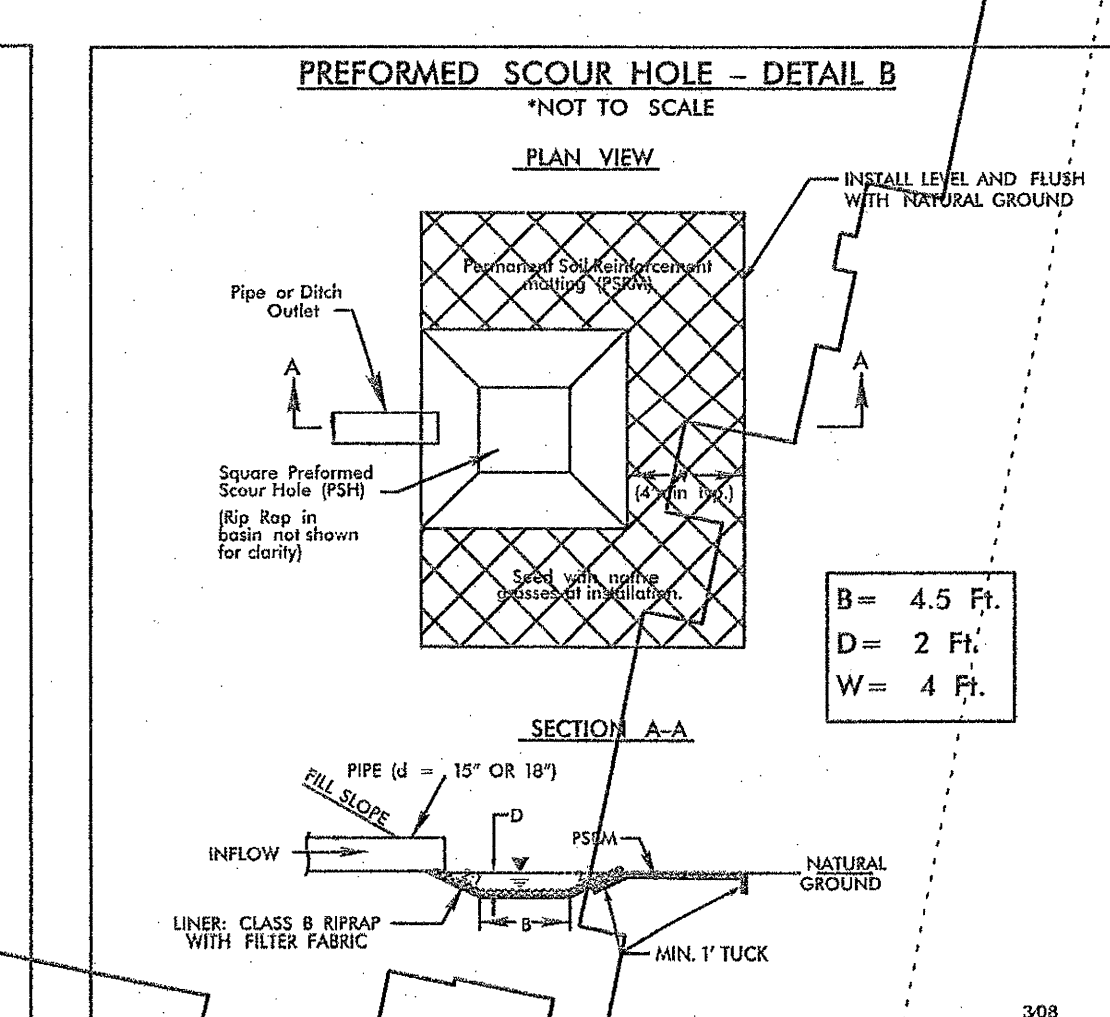
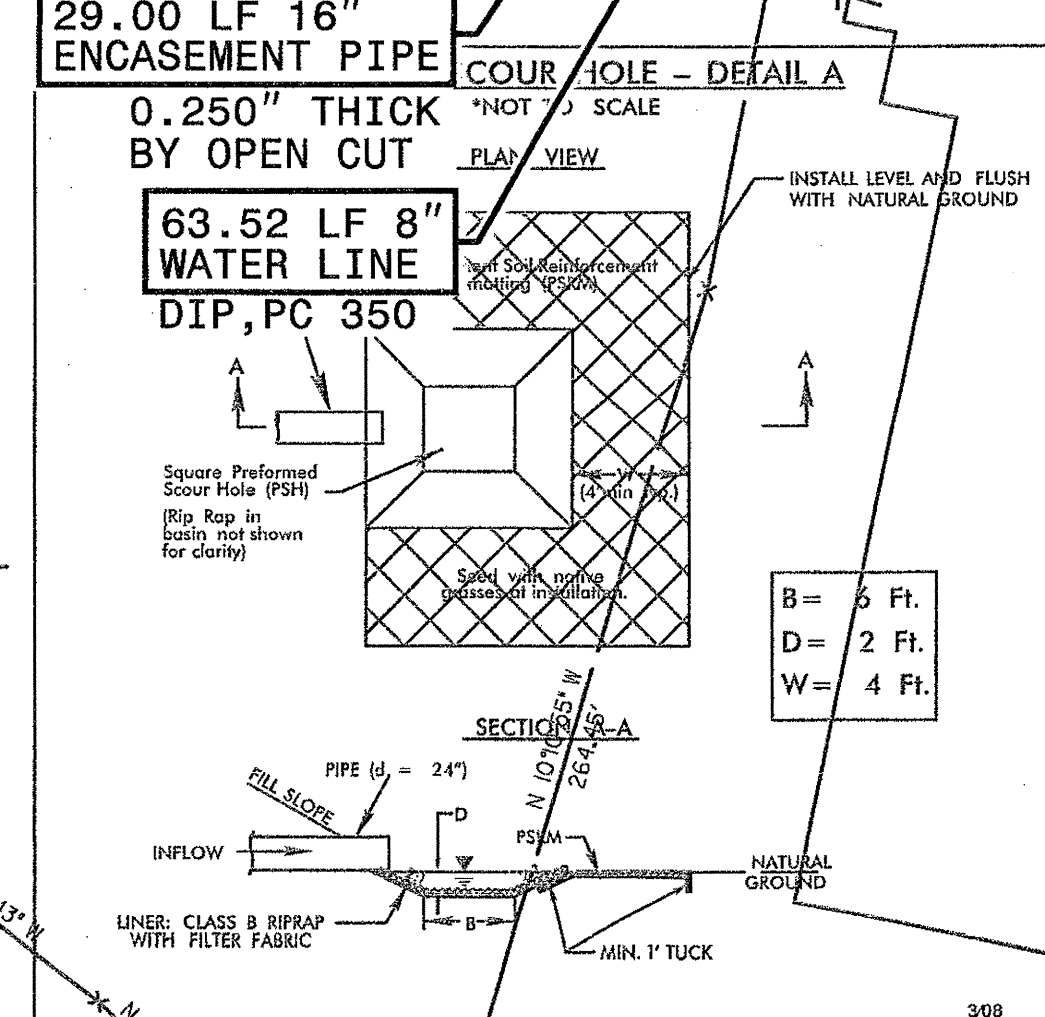
FOR -L- PROFILE, SEE SHEET 11
FOR -Y2- PROFILE, SEE SHEET 15
FOR CULVERT DESIGN, SEE SHEETS C-1 TO C-

UTILITY CONSTRUCTION

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PI Sta 20+85.25 $\Delta = 17' 30'' 18.4''$ (LT) $D = 3' 29' 37.1''$ $L = 501.06'$ $T = 252.49'$ $R = 1640.00'$ SE = SEE PLANS	PI Sta 31+54.87 $\Delta = 30' 21'' 32.6''$ (LT) $D = 9' 57' 52.1''$ $L = 304.67'$ $T = 156.00'$ $R = 575.00'$ SE = SEE PLANS
PI Sta 11+44.89 $\Delta = 31' 54'' 50.1''$ (RT) $D = 18' 28'' 57.0''$ $L = 182.67'$ $T = 88.64'$ $R = 310.00'$ SE = SEE PLANS	PI Sta 12+81.80 $\Delta = 38' 50'' 06.8''$ (LT) $D = 38' 11'' 49.9''$ $L = 101.67'$ $T = 52.88'$ $R = 150.00'$ SE = SEE PLANS
PI Sta 10+58.70 $\Delta = 28' 37'' 53.6''$ (RT) $D = 45' 50'' 11.8''$ $L = 62.46'$ $T = 31.90'$ $R = 125.00'$ SE = SEE PLANS	PI Sta 11+46.30 $\Delta = 28' 38'' 08.6''$ (LT) $D = 45' 50'' 11.8''$ $L = 62.47'$ $T = 31.90'$ $R = 125.00'$ SE = SEE PLANS

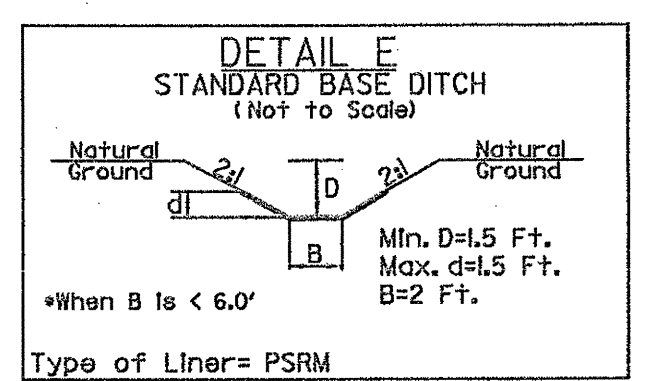
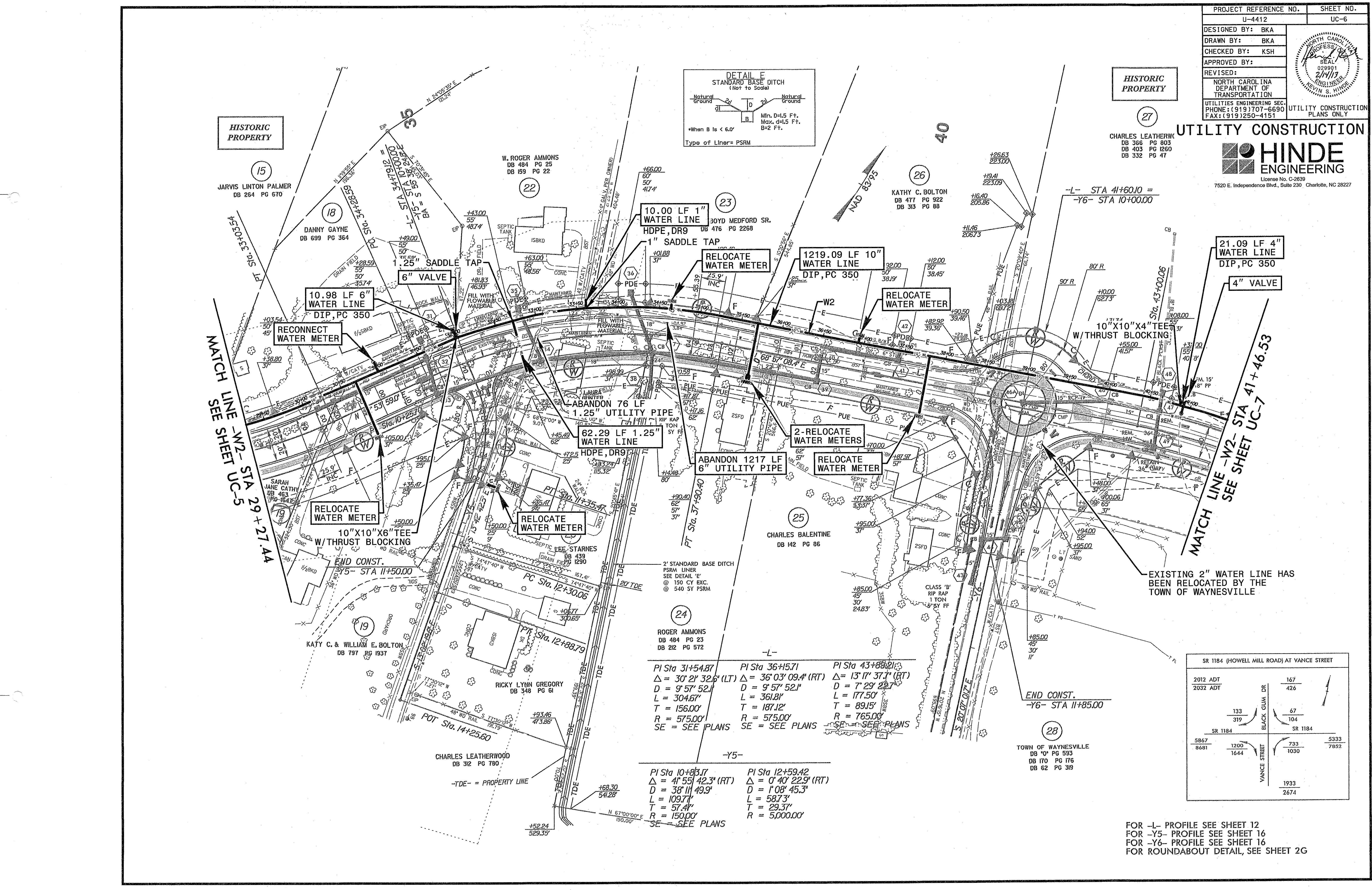


FOR -L- PROFILE SEE SHEET 11
 FOR -Y3- PROFILE SEE SHEET 15
 FOR -Y4REV- PROFILE SEE SHEET 15
 FOR CULVERT PLANS, SEE SHEET C- TO C-

HISTORIC PROPERTY

UTILITY CONSTRUCTION

HINDE ENGINEERING
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 7520 E. Independence Blvd., Suite 230 Charlotte, NC 28227



HISTORIC PROPERTY

CHARLES LEATHERWOOD
 DB 366 PG 803
 DB 403 PG 1260
 DB 332 PG 47

HISTORIC PROPERTY

JARVIS LINTON PALMER
 DB 264 PG 670

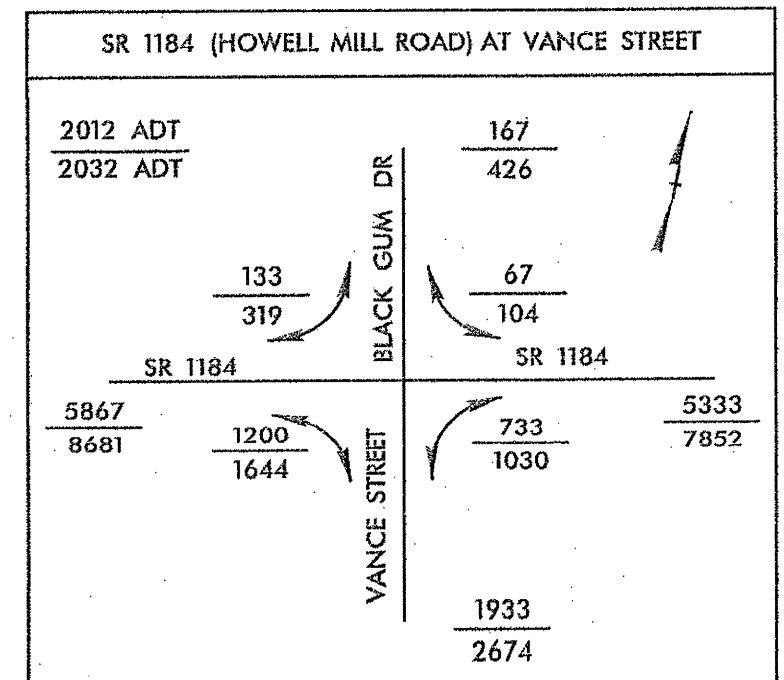
MATCH LINE -W2- STA 29+27.44
 SEE SHEET UC-5

MATCH LINE -W2- STA 41+46.53
 SEE SHEET UC-7

EXISTING 2" WATER LINE HAS BEEN RELOCATED BY THE TOWN OF WAYNESVILLE

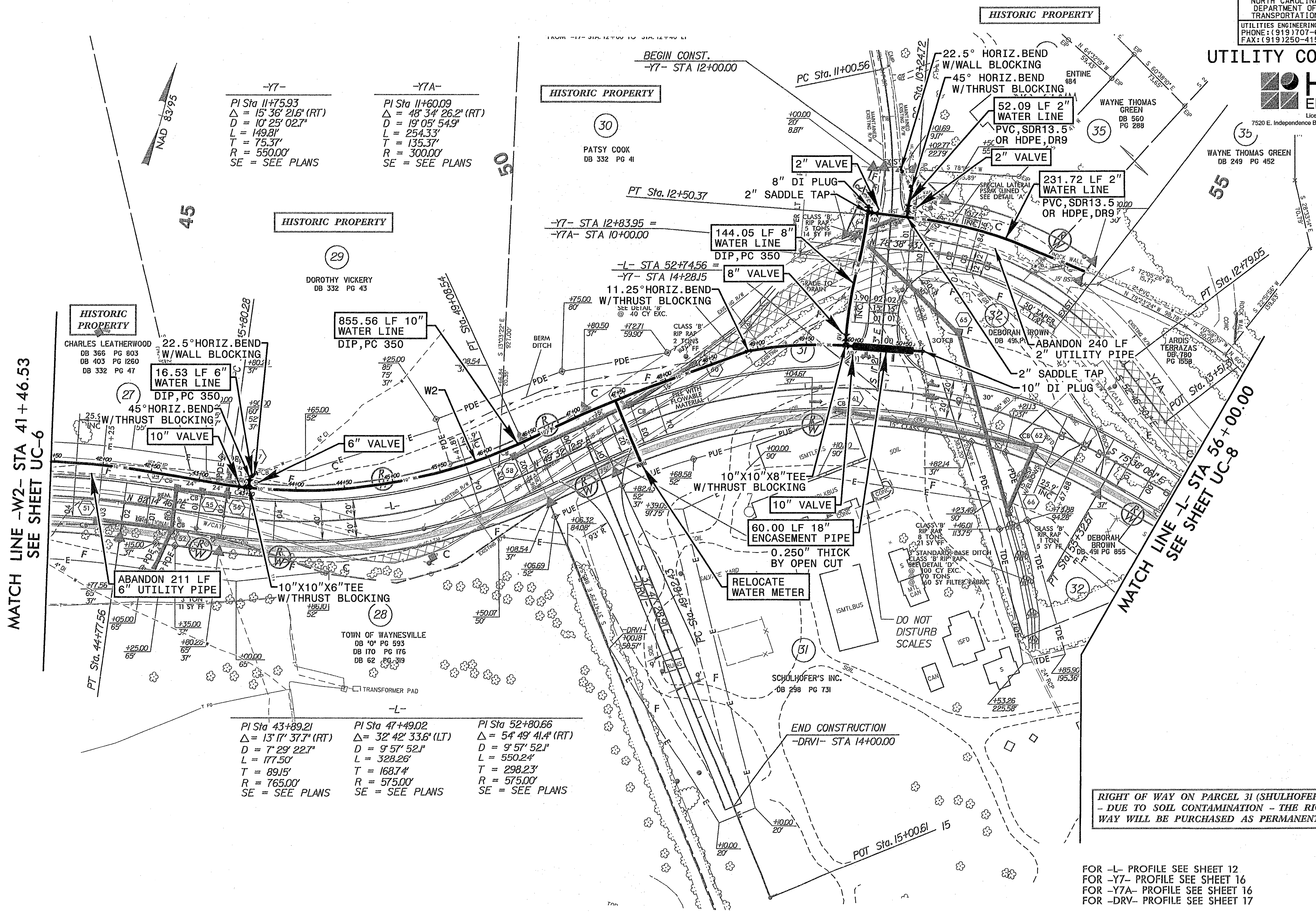
PI Sta 31+54.87 Δ = 30° 21' 32.6" (LT) D = 9° 57' 52.1" L = 304.67' T = 156.00' R = 575.00' SE = SEE PLANS	PI Sta 36+15.71 Δ = 36° 03' 09.4" (RT) D = 9° 57' 52.1" L = 361.81' T = 187.12' R = 575.00' SE = SEE PLANS	PI Sta 43+89.21 Δ = 13° 17' 37.1" (RT) D = 7° 29' 22.7" L = 177.50' T = 89.15' R = 765.00' SE = SEE PLANS
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PI Sta 10+83.17 Δ = 41° 55' 42.3" (RT) D = 38° 11' 49.3" L = 109.77' T = 57.47' R = 150.00' SE = SEE PLANS	PI Sta 12+59.42 Δ = 0° 40' 22.9" (RT) D = 1° 08' 45.3" L = 58.73' T = 29.37' R = 5,000.00'
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FOR -L- PROFILE SEE SHEET 12
 FOR -Y5- PROFILE SEE SHEET 16
 FOR -Y6- PROFILE SEE SHEET 16
 FOR ROUNDABOUT DETAIL, SEE SHEET 2G

UTILITY CONSTRUCTION



-Y7-	-Y7A-
PI Sta 11+75.93	PI Sta 11+60.09
$\Delta = 15' 36" 21.6" (RT)$	$\Delta = 48' 34" 26.2" (RT)$
$D = 10' 25" 02.7"$	$D = 19' 05" 54.9"$
$L = 149.81'$	$L = 254.33'$
$T = 75.37'$	$T = 135.37'$
$R = 550.00'$	$R = 300.00'$
SE = SEE PLANS	SE = SEE PLANS

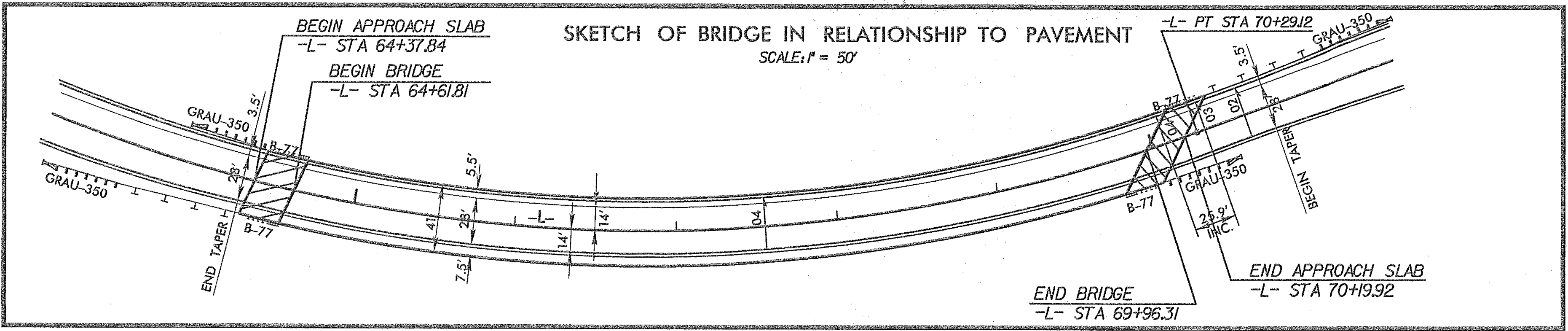
-L-	-L-	-L-
PI Sta 43+89.21	PI Sta 47+49.02	PI Sta 52+80.66
$\Delta = 13' 17" 37.7" (RT)$	$\Delta = 32' 42" 33.6" (LT)$	$\Delta = 54' 49" 41.4" (RT)$
$D = 7' 29" 22.7"$	$D = 9' 57" 52.1"$	$D = 9' 57" 52.1"$
$L = 177.50'$	$L = 328.26'$	$L = 550.24'$
$T = 89.15'$	$T = 168.74'$	$T = 298.23'$
$R = 765.00'$	$R = 575.00'$	$R = 575.00'$
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS

MATCH LINE -W2- STA 41+46.53
SEE SHEET UC-6

MATCH LINE -L- STA 56+00.00
SEE SHEET UC-8

RIGHT OF WAY ON PARCEL 31 (SCHULHOFER'S, INC.)
- DUE TO SOIL CONTAMINATION - THE RIGHT OF
WAY WILL BE PURCHASED AS PERMANENT EASEMENT

FOR -L- PROFILE SEE SHEET 12
FOR -Y7- PROFILE SEE SHEET 16
FOR -Y7A- PROFILE SEE SHEET 16
FOR -DRV- PROFILE SEE SHEET 17

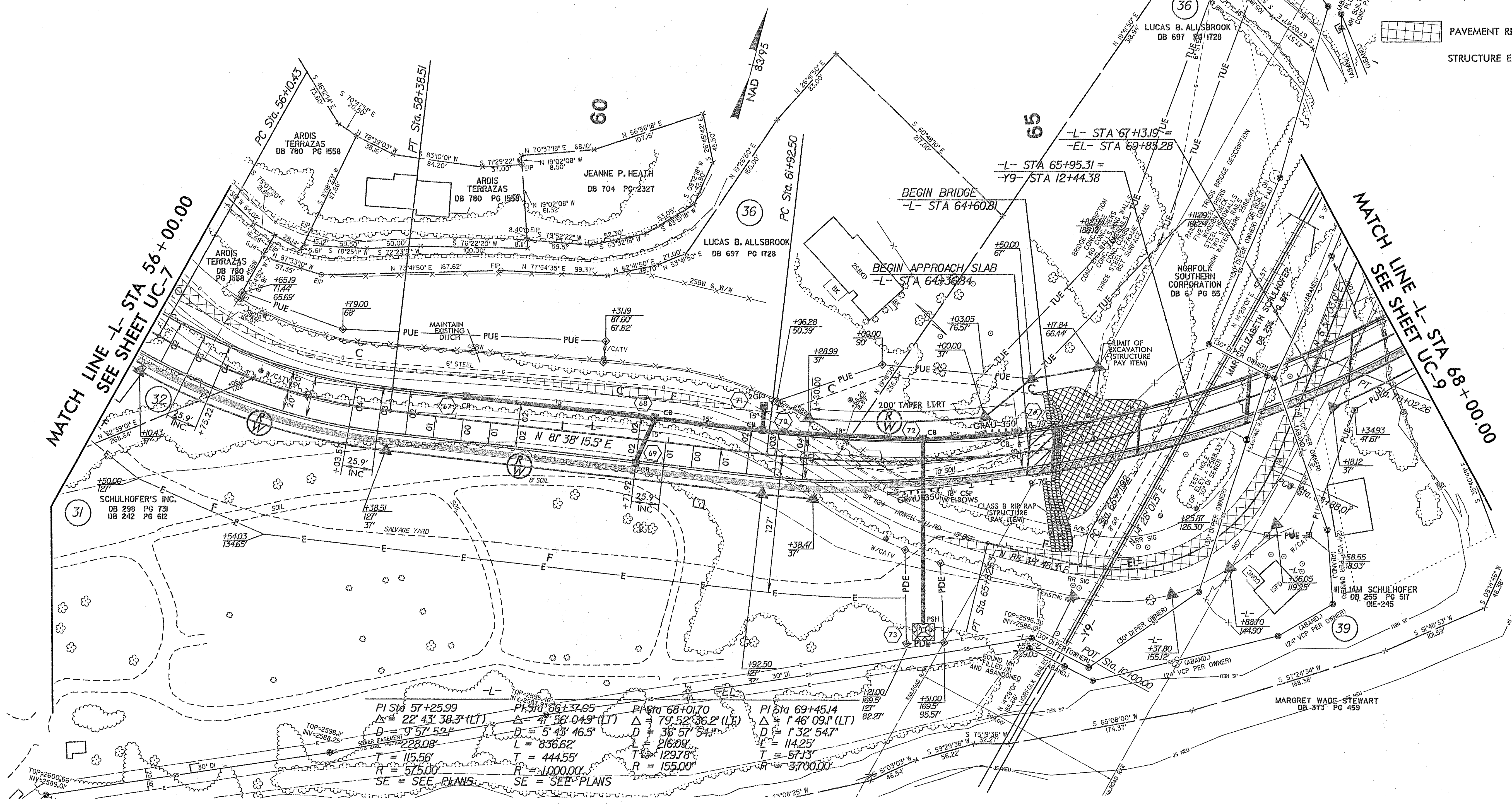


UTILITY CONSTRUCTION



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PAVEMENT REMOVAL
 STRUCTURE EXCAVATION

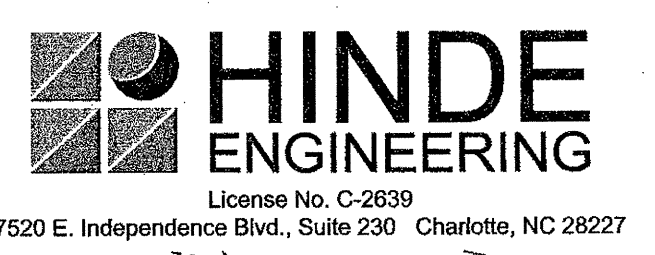


RIGHT OF WAY ON PARCEL 31 (SCHULHOFER'S, INC.)
- DUE TO SOIL CONTAMINATION - THE RIGHT OF WAY WILL BE PURCHASED AS PERMANENT EASEMENT

FOR -L- PROFILE, SEE SHEET 13
FOR -DRV- PROFILE, SEE SHEET 17
FOR STRUCTURE PLANS, SEE SHEETS S1-S



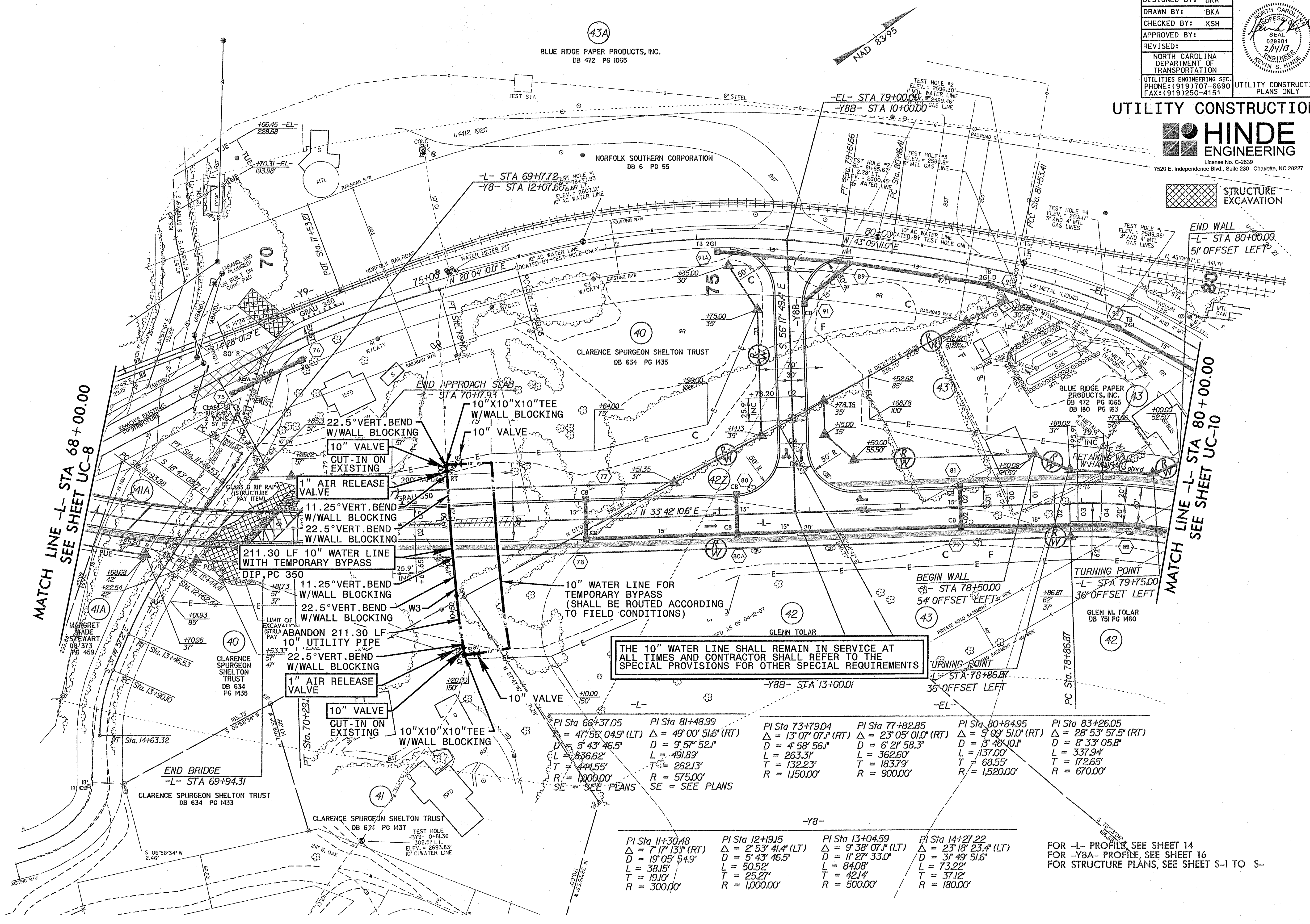
UTILITY CONSTRUCTION



STRUCTURE EXCAVATION

MATCH LINE -L- STA 68+00.00
SEE SHEET UC-8

MATCH LINE -L- STA 80+00.00
SEE SHEET UC-10



THE 10" WATER LINE SHALL REMAIN IN SERVICE AT ALL TIMES AND CONTRACTOR SHALL REFER TO THE SPECIAL PROVISIONS FOR OTHER SPECIAL REQUIREMENTS

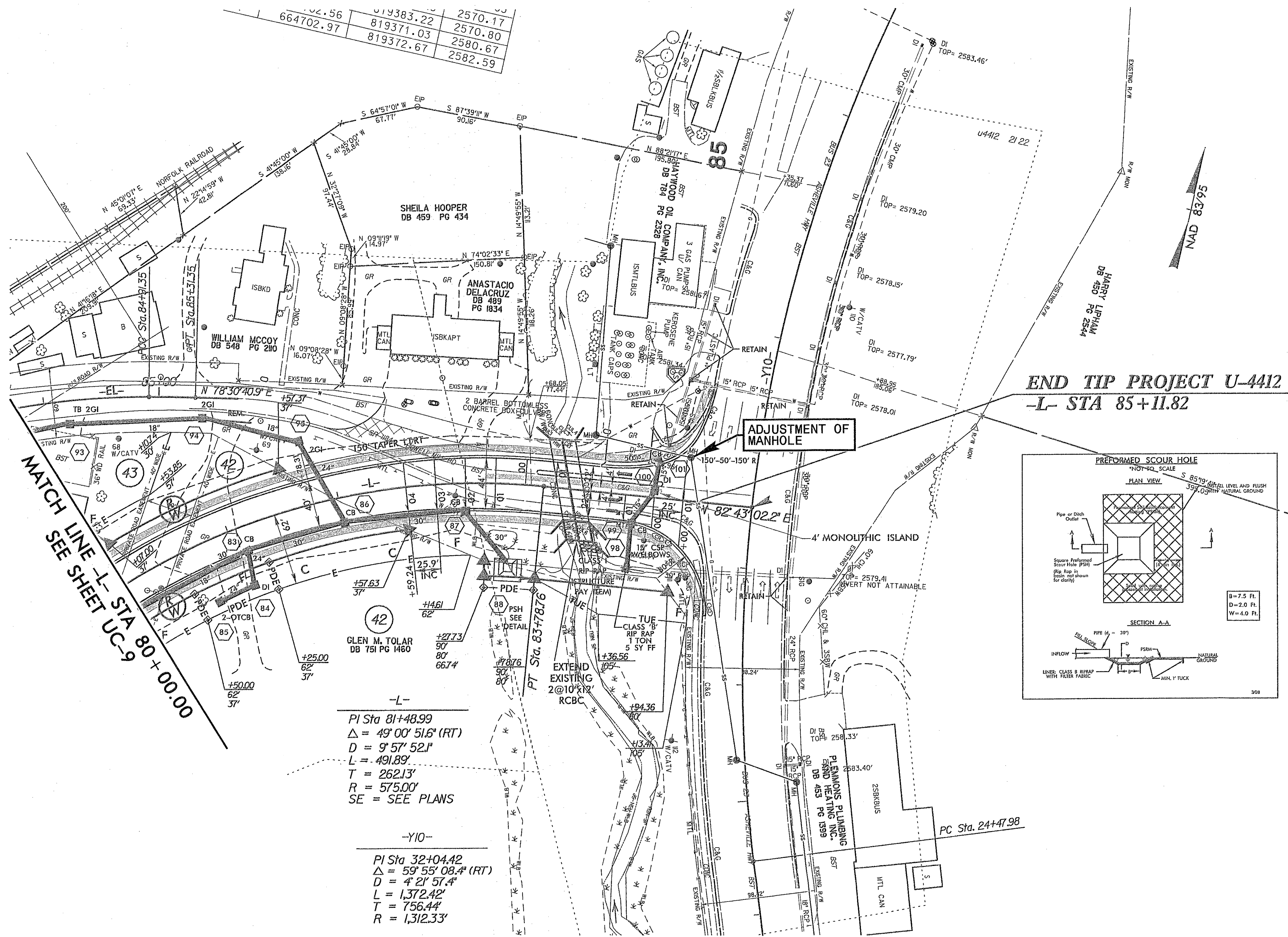
PI Sta 66+37.05 Δ = 47°56' 04.9" (LT) D = 5' 43' 46.5" L = 836.62' T = 44.55' R = 1,000.00' SE = SEE PLANS	PI Sta 81+48.99 Δ = 49° 00' 51.6" (RT) D = 9' 57' 52.1" L = 491.89' T = 262.13' R = 575.00' SE = SEE PLANS	PI Sta 73+79.04 Δ = 13° 07' 07.1" (RT) D = 4' 58' 56.1" L = 263.31' T = 132.23' R = 1,150.00'	PI Sta 77+82.85 Δ = 23° 05' 01.0" (RT) D = 6' 21' 58.3" L = 362.60' T = 183.79' R = 900.00'	PI Sta 80+84.95 Δ = 5° 09' 51.0" (RT) D = 5' 48' 10.1" L = 137.00' T = 68.55' R = 1,520.00'	PI Sta 83+26.05 Δ = 28° 53' 57.5" (RT) D = 8' 33' 05.8" L = 337.94' T = 172.65' R = 670.00'
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PI Sta 11+30.48 Δ = 7° 17' 13.1" (RT) D = 19' 05' 54.9" L = 381.5' T = 19.10' R = 300.00'	PI Sta 12+19.15 Δ = 2° 53' 41.4" (LT) D = 5' 43' 46.5" L = 50.52' T = 25.27' R = 1,000.00'	PI Sta 13+04.59 Δ = 9° 38' 07.1" (LT) D = 11' 27' 33.0" L = 84.08' T = 42.14' R = 500.00'	PI Sta 14+27.22 Δ = 23° 18' 23.4" (RT) D = 31' 49' 51.6" L = 73.22' T = 37.12' R = 180.00'
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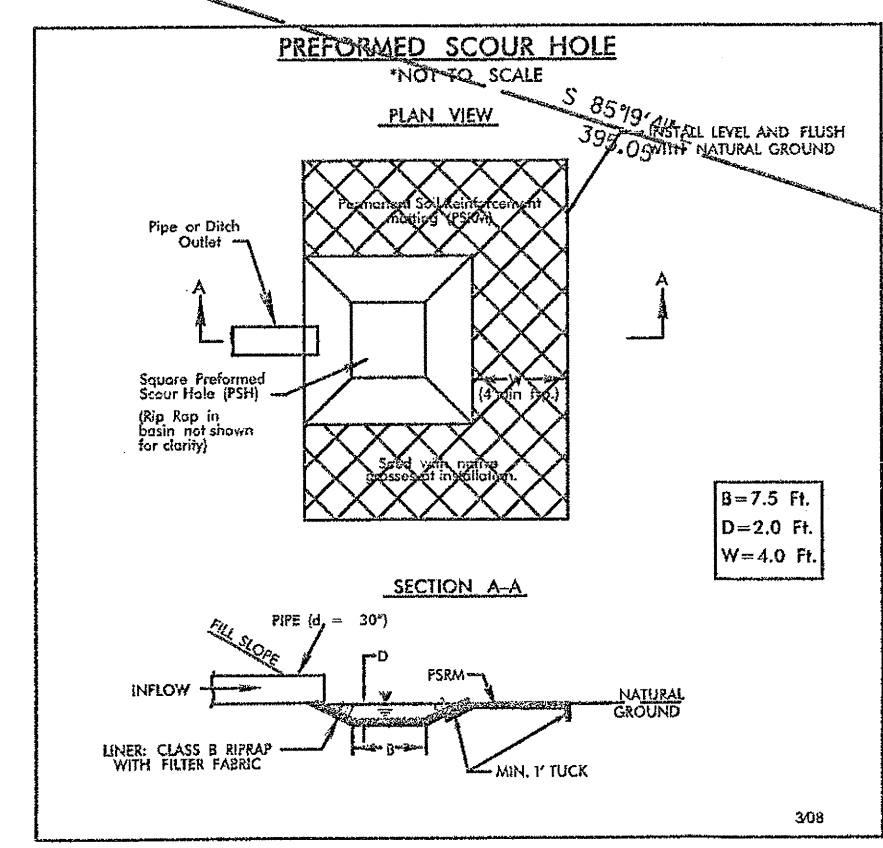
FOR -L- PROFILE SEE SHEET 14
 FOR -Y8A- PROFILE SEE SHEET 16
 FOR STRUCTURE PLANS, SEE SHEET S-1 TO S-

PROJECT REFERENCE NO.	SHEET NO.
U-4412	UC-10
DESIGNED BY: BKA	
DRAWN BY: BKA	
CHECKED BY: KSH	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



END TIP PROJECT U-4412
 -L- STA 85+11.82



MATCH LINE -L- STA 80+00.00
 SEE SHEET UC-9

-L-
 PI Sta 81+48.99
 $\Delta = 49^{\circ} 00' 51.6''$ (RT)
 D = 9' 57' 52.1"
 L = 491.89'
 T = 262.13'
 R = 575.00'
 SE = SEE PLANS

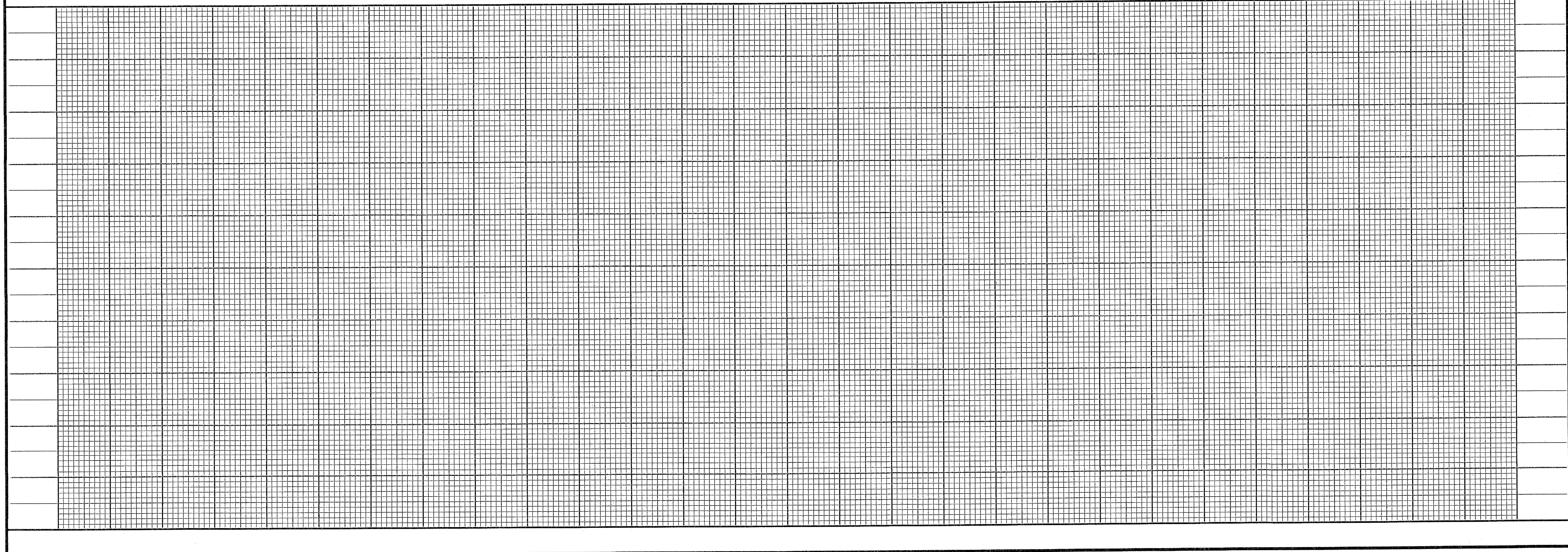
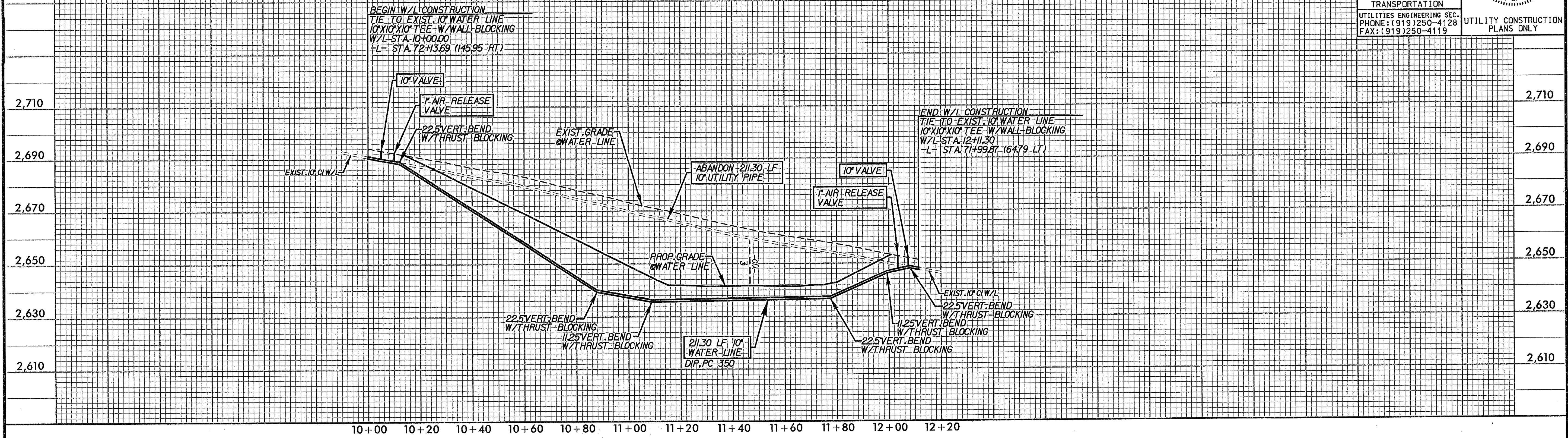
-Y10-
 PI Sta 32+04.42
 $\Delta = 59^{\circ} 55' 08.4''$ (RT)
 D = 4' 21' 57.4"
 L = 1,372.42'
 T = 756.44'
 R = 1,312.33'

SR 1184 (HOWELL MILL ROAD) AT US 23 (ASHEVILLE HWY)	
2012 ADT	20800
2032 ADT	32800
6334	1900
9297	2567
18266 28636	

FOR -L- PROFILE, SEE SHEET 14 and 15
 FOR CULVERT PLANS, SEE C- TO C-

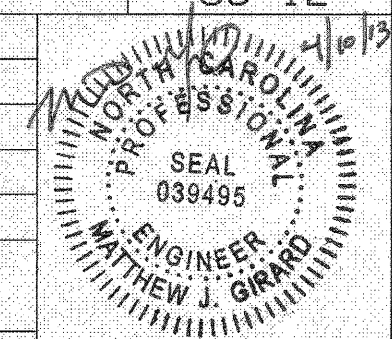
PROJECT REFERENCE NO.	SHEET NO.
U-4412	UC-11
DESIGNED BY: BKA	
DRAWN BY: BKA	
CHECKED BY: KSH	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119	UTILITY CONSTRUCTION PLANS ONLY

-W3-



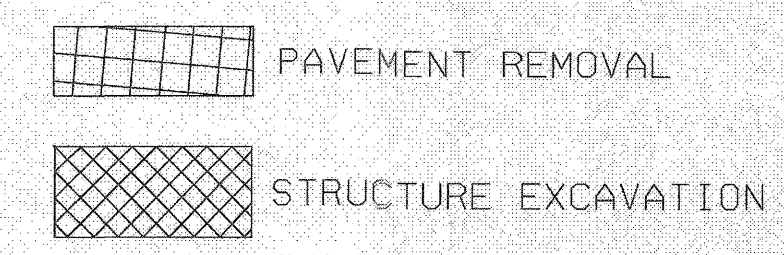
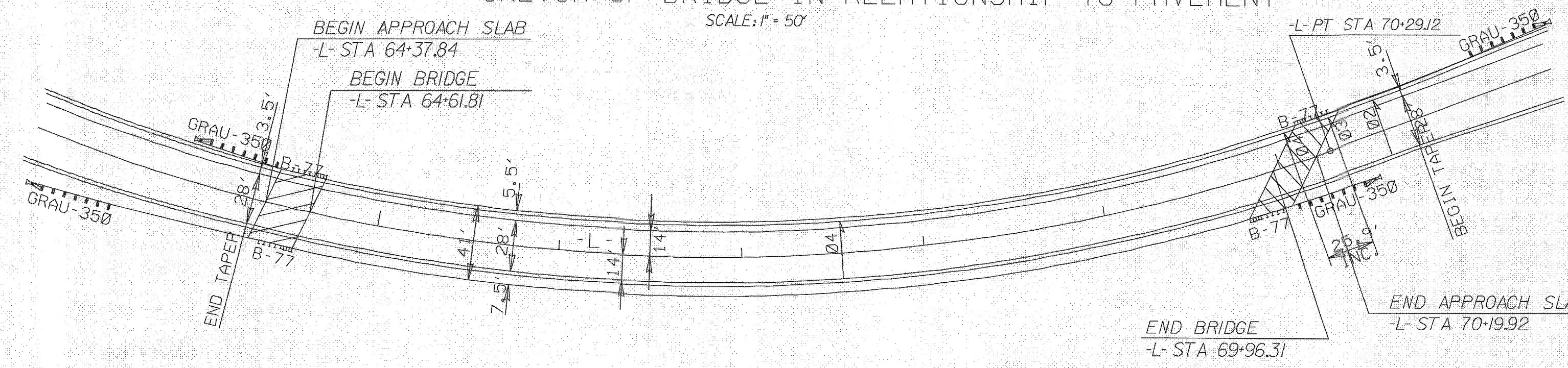
5/14/99

UC SYNCRETIC
8024 Glenwood Ave., Suite 230
Raleigh, NC 27617
N.C. Lic # F-1107

PROJECT REFERENCE NO.	UC-4412	SHEET NO.	UC-12
DESIGNED BY:	UCS		
DRAWN BY:	ZR		
CHECKED BY:	MG		
APPROVED BY:	MG		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC.		UTILITY CONSTRUCTION PLANS ONLY	
PHONE: (919) 707-6690			
FAX: (919) 250-4151			

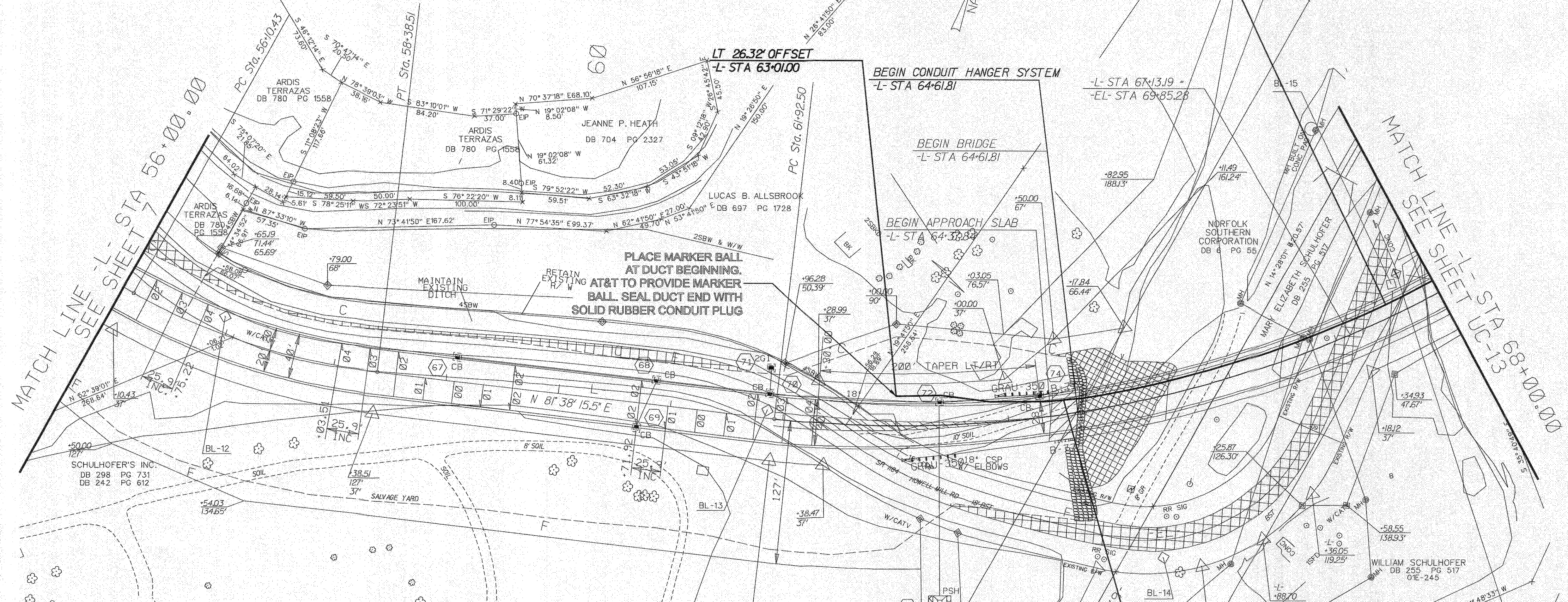
SKETCH OF BRIDGE IN RELATIONSHIP TO PAVEMENT

SCALE: P = 50'



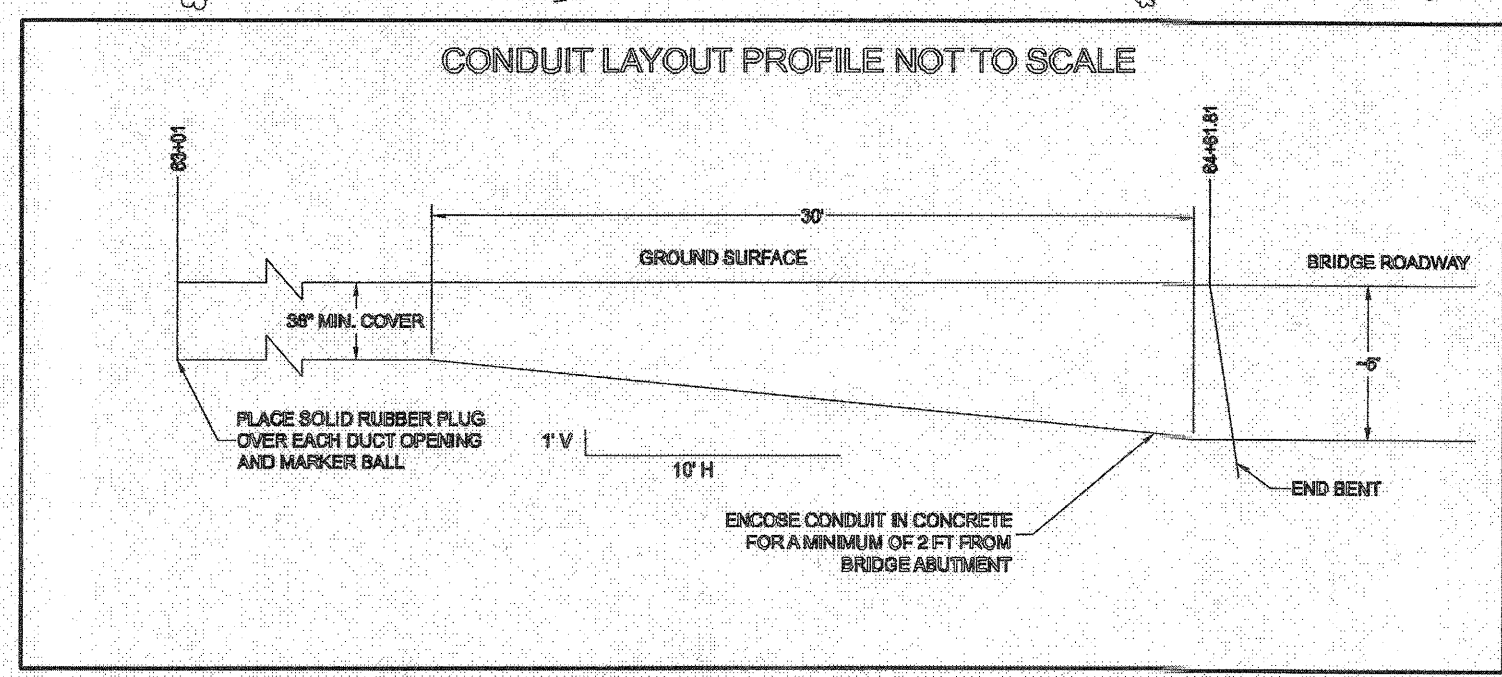
TELECOMMUNICATIONS CONDUIT AND HANGER SYSTEM QUANTITY - 1 (LUMP SUM)

*NOTE: AT THE CLOSE OF EACH WORK DAY INSTALL TEMPORARY UNIVERSAL 6-INCH PLUGS TO EXPOSED DUCT ENDS



MATCH LINE SEE SHEET STA 56+00.00

MATCH LINE SEE SHEET STA 68+00.00



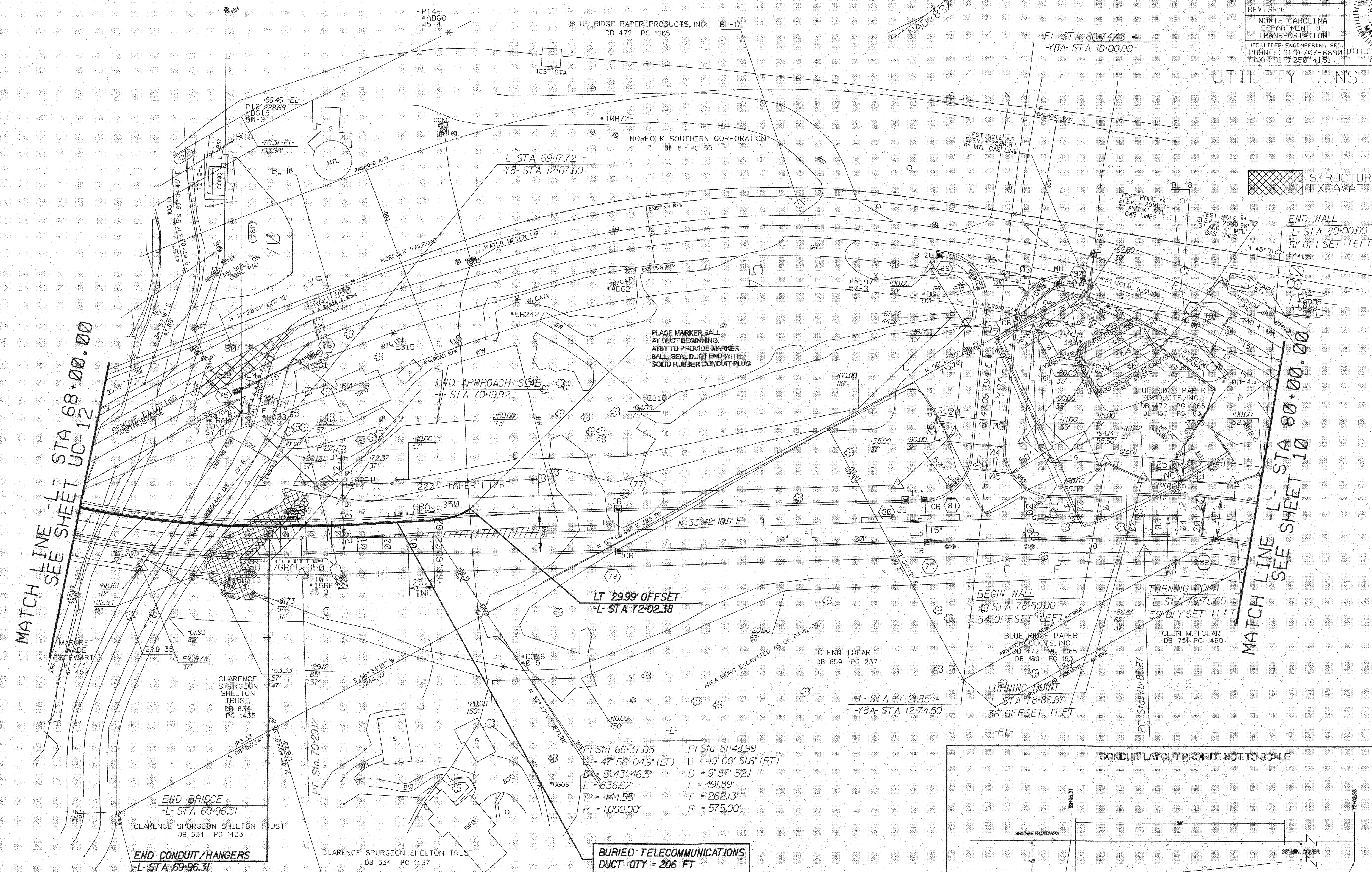
BURIED TELECOMMUNICATIONS DUCT QTY = 161 FT

*NOTE: AT THE CLOSE OF EACH WORK DAY INSTALL TEMPORARY UNIVERSAL 6-INCH PLUGS TO EXPOSED DUCT ENDS

UC SYNCRETIC
8024 Glenwood Ave., Suite 230
Raleigh, NC 27617
TEL: (919) 877-1100

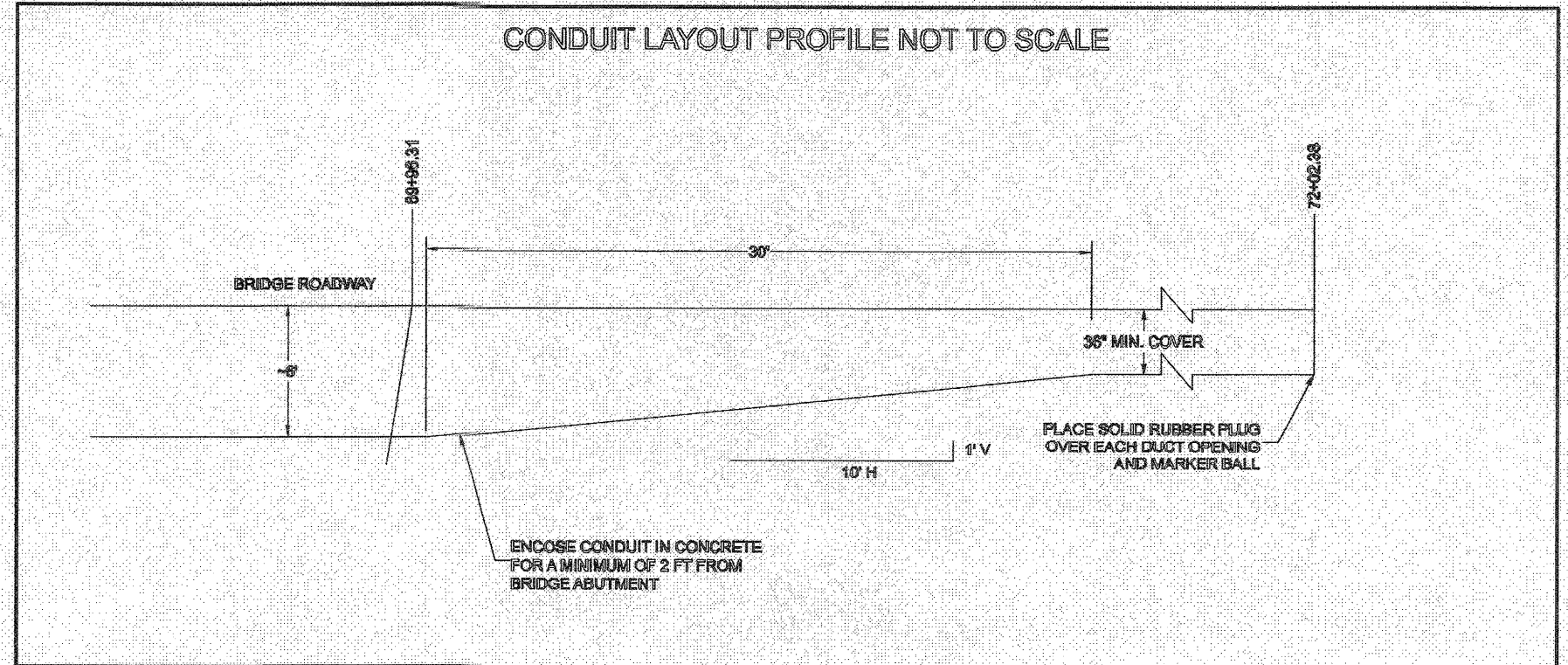
PROJECT REFERENCE NO.	SHEET NO.
U-4412	UC-13
DESIGNED BY: UCS	
DRAWN BY: ZR	
CHECKED BY: MG	
APPROVED BY: MG	
REVISD:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



PI Sta 66+37.05 D = 49' 00" 51.6" (RT)
 - 47' 56" 04.9" (LT) D = 9' 57' 52.1"
 L = 5' 43' 46.5" L = 491.89'
 T = 836.62' T = 262.13'
 R = 1,000.00' R = 575.00'

BURIED TELECOMMUNICATIONS DUCT QTY = 206 FT

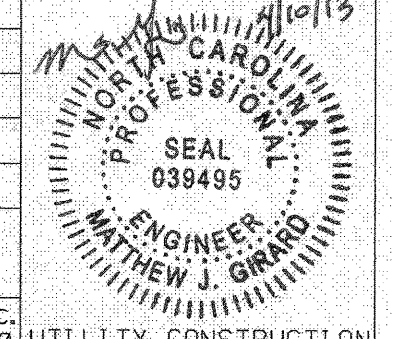


SYNCRETIC UTILITIES ENGINEERING, INC.

5/14/99

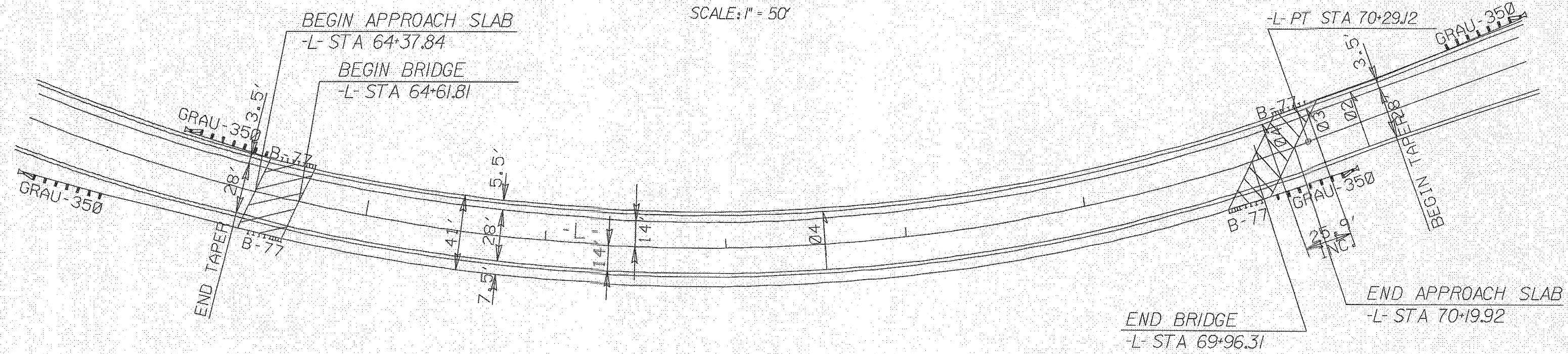
SYNERGETIC
8024 Glenwood Ave., Suite 230
Raleigh, NC 27612
N.C. Lic # 7-1107

PROJECT REFERENCE NO.	SHEET NO.
U-4412	UC-14
DESIGNED BY:	10/13
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



SKETCH OF BRIDGE IN RELATIONSHIP TO PAVEMENT

SCALE: 1" = 50'

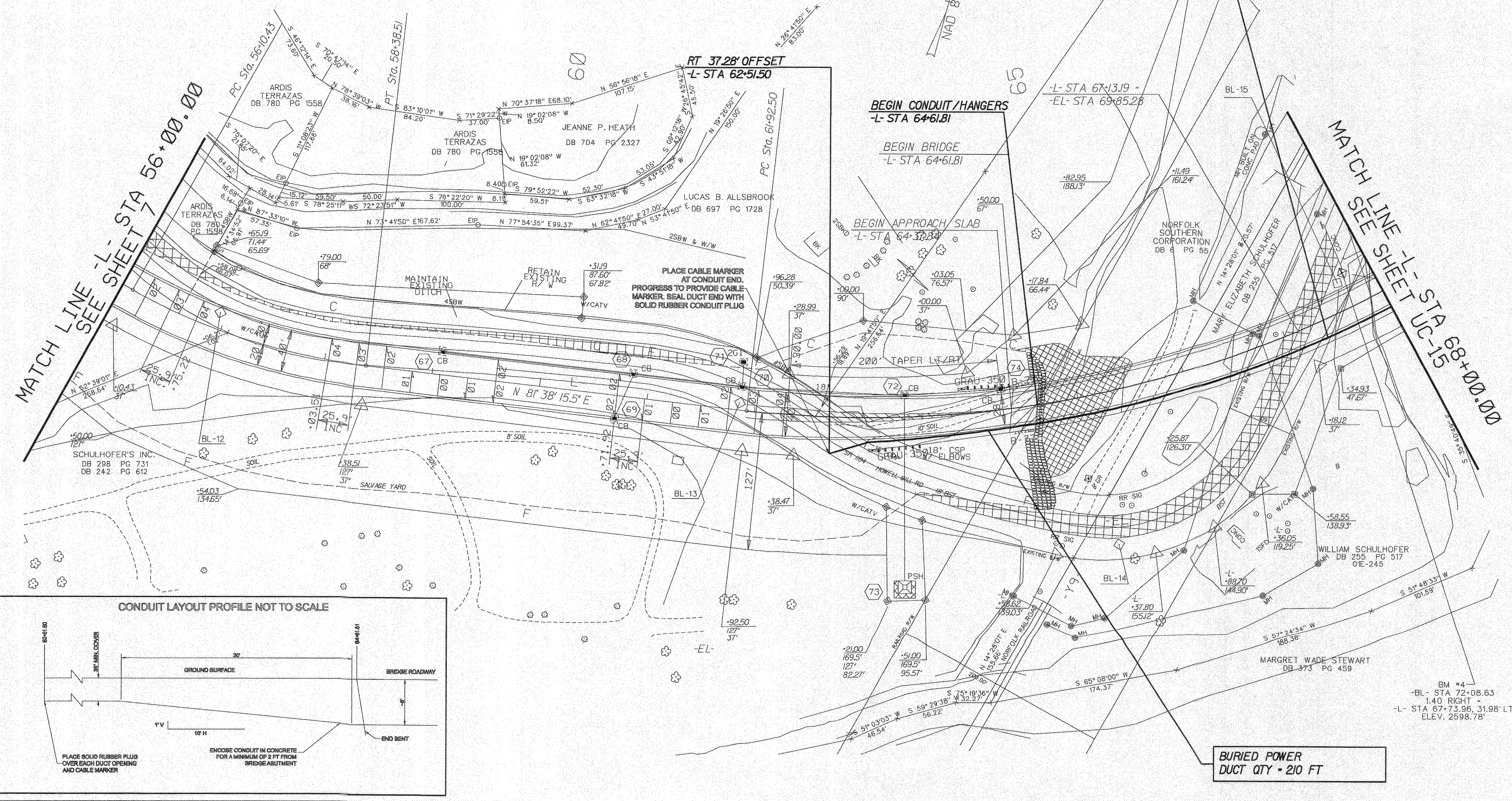


- PAVEMENT REMOVAL
- STRUCTURE EXCAVATION

UTILITY CONSTRUCTION

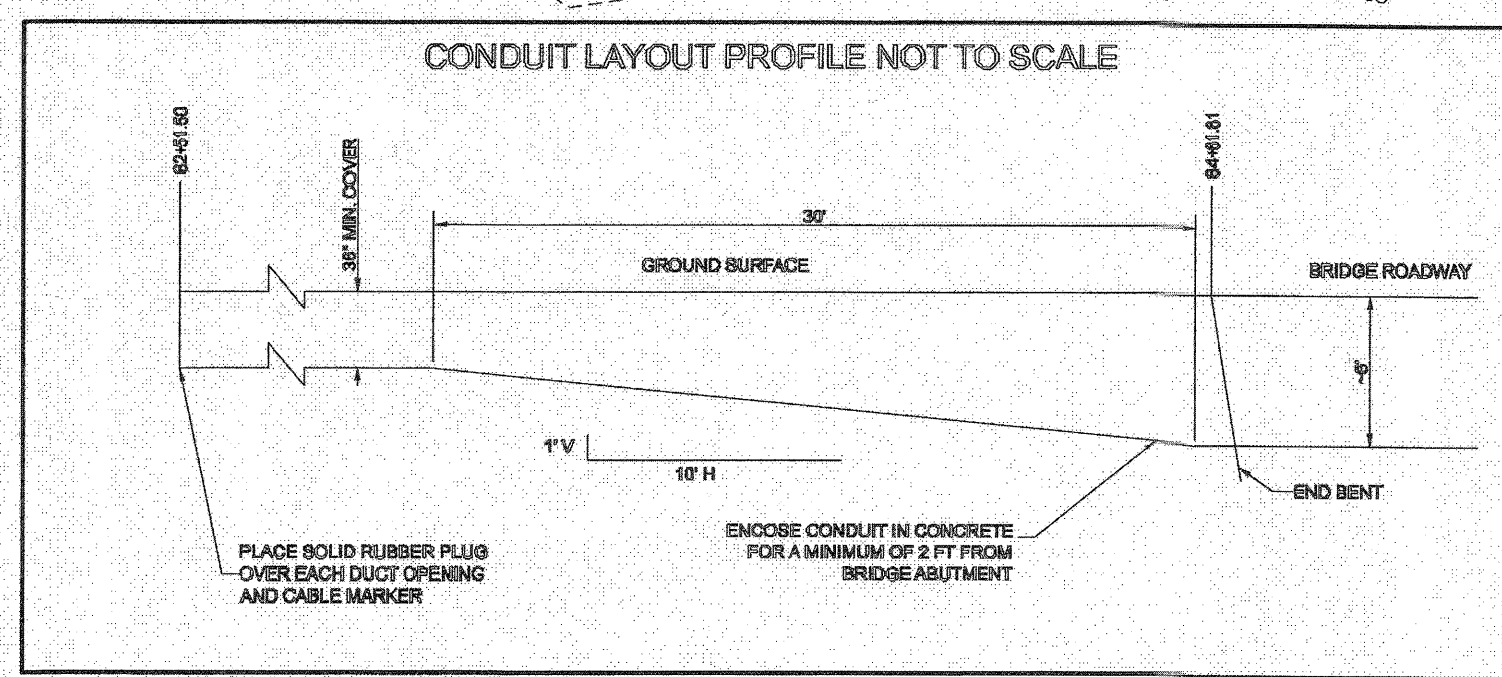
**POWER LINE CONDUIT AND HANGER SYSTEM
QUANTITY - 1 (LUMP SUM)**

***NOTE: AT THE CLOSE OF EACH WORK DAY
INSTALL TEMPORARY UNIVERSAL
6-INCH PLUGS TO EXPOSED DUCT ENDS**



MATCH LINE SEE SHEET STA 56+00.00

MATCH LINE SEE SHEET STA 68+00.00

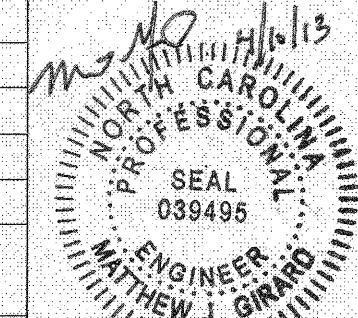


**BURIED POWER
DUCT QTY - 210 FT**

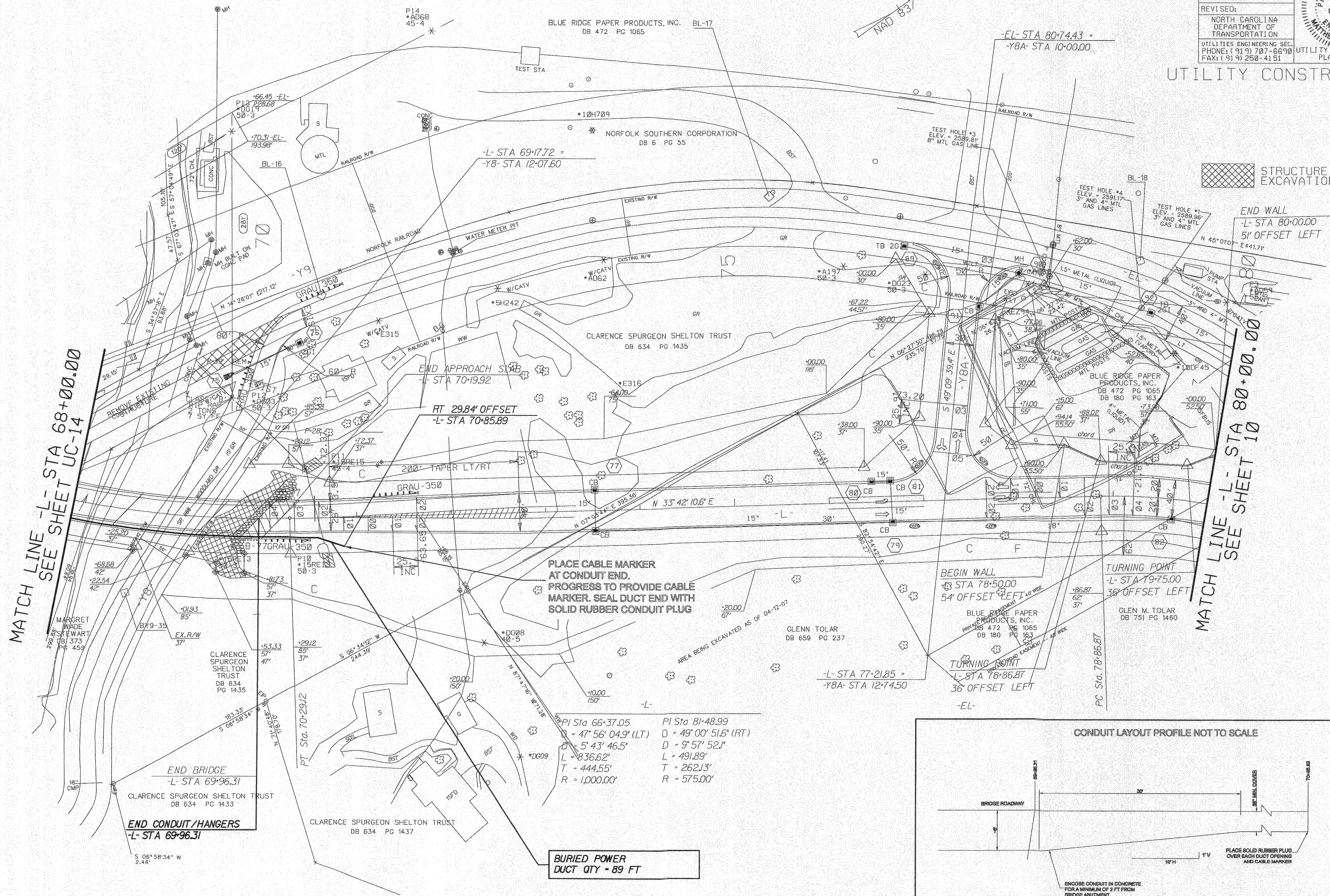
5/14/99

*NOTE: AT THE CLOSE OF EACH WORK DAY INSTALL TEMPORARY UNIVERSAL 6-INCH PLUGS TO EXPOSED DUCT ENDS

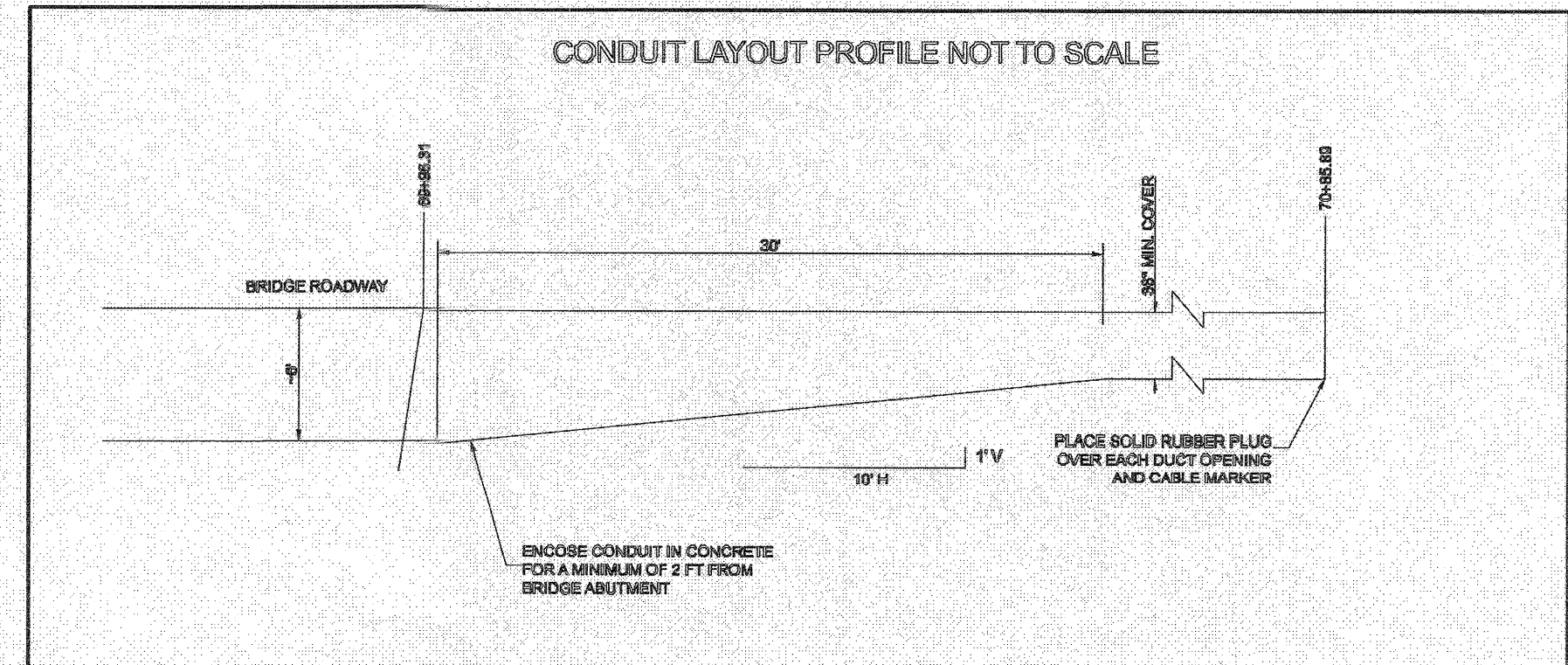
SYNERGETIC
8024 Glenwood Ave., Suite 230
Raleigh, NC 27617
N.C. Lic. # E-1157

PROJECT REFERENCE NO.	SHEET NO.
U-4412	UC-15
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISER:	
	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-8690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



PI Sta 66+37.05	PI Sta 81+48.99
D = 47' 56" 04.9" (LT)	D = 49' 00" 51.6" (RT)
D = 5' 43" 46.5"	D = 9' 57" 52.1"
L = 836.62'	L = 491.89'
T = 444.55'	T = 262.13'
R = 1,000.00'	R = 575.00'



SYNERGETIC

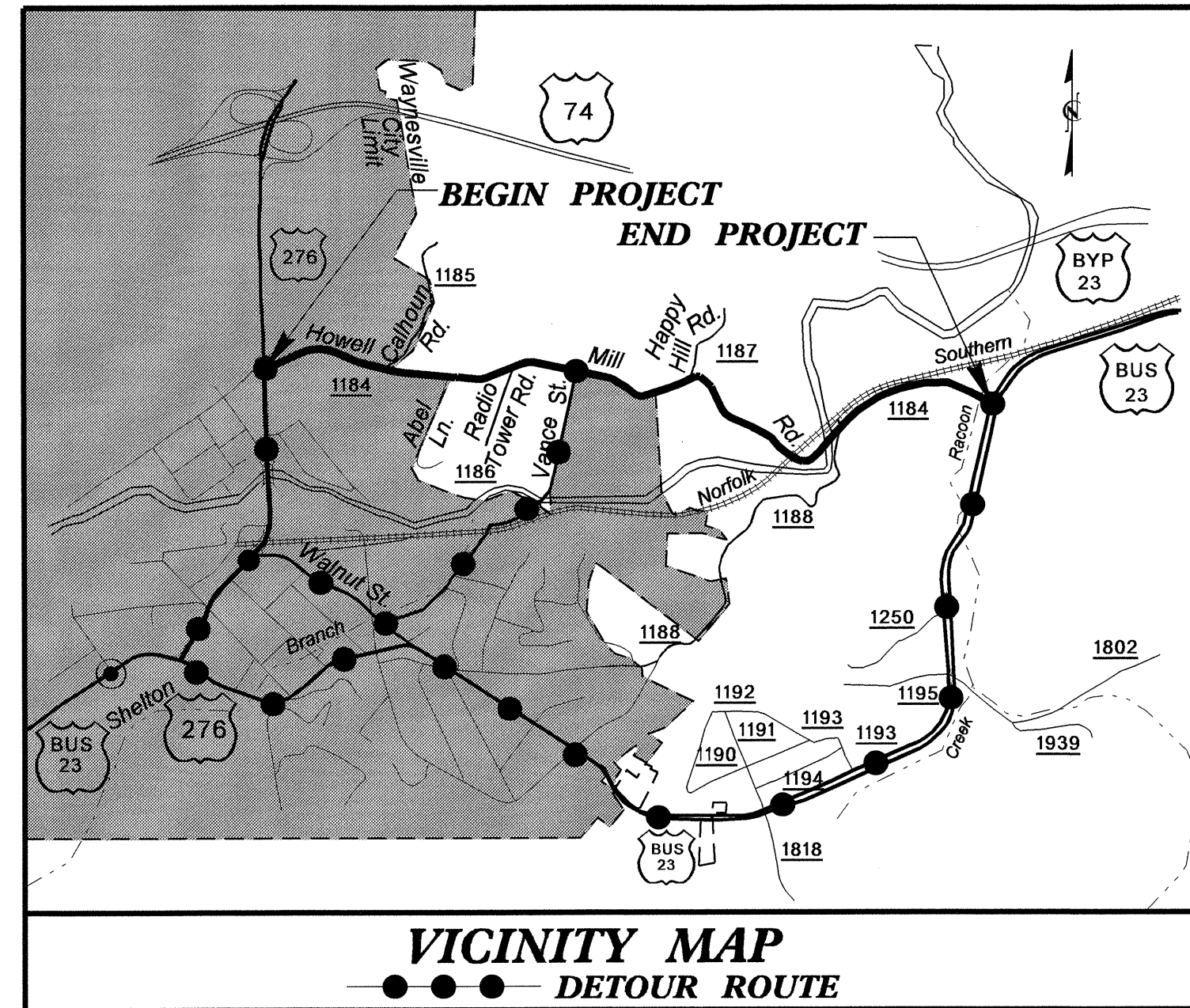
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
HAYWOOD COUNTY**

**LOCATION: SR 1184 (HOWELL MILL ROAD)
FROM US 276 (RUSS AVENUE) TO
US 23 BUSINESS (ASHEVILLE ROAD)**

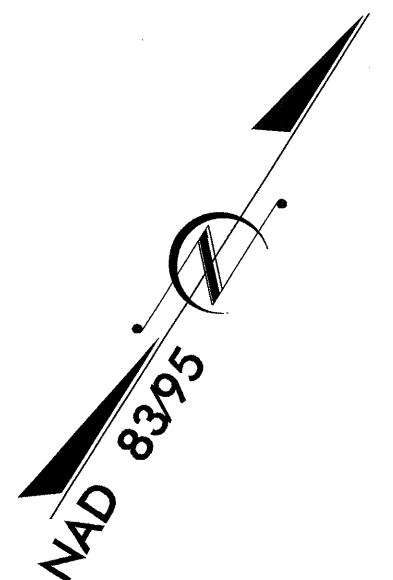
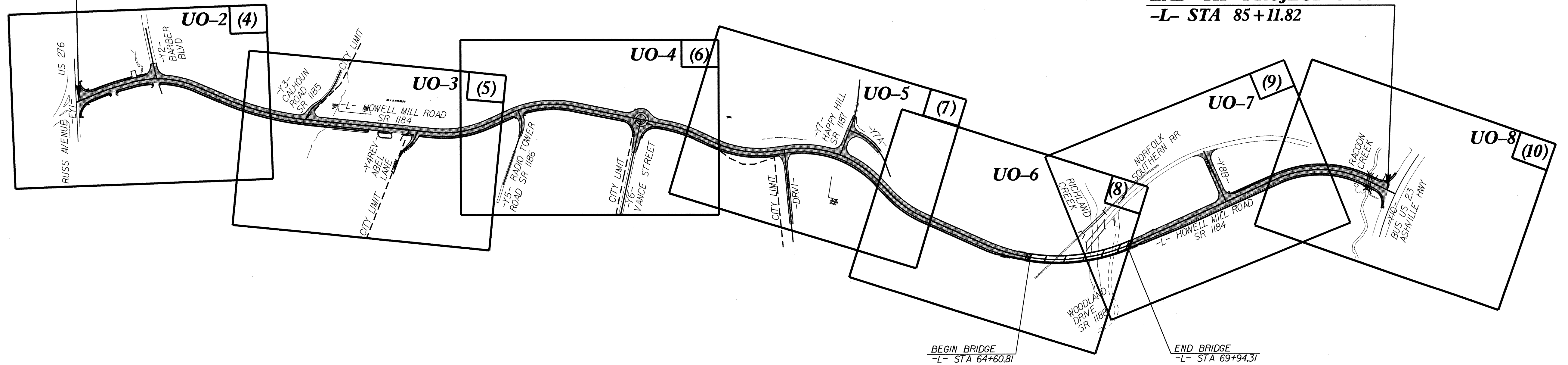
TYPE OF WORK: ELECTRIC POWER, TELEPHONE, GAS

See Sheet 1A For Index of Sheets
See Sheet 1B For Symbology Sheet
See Sheets 1C thru 1D For Control Sheets

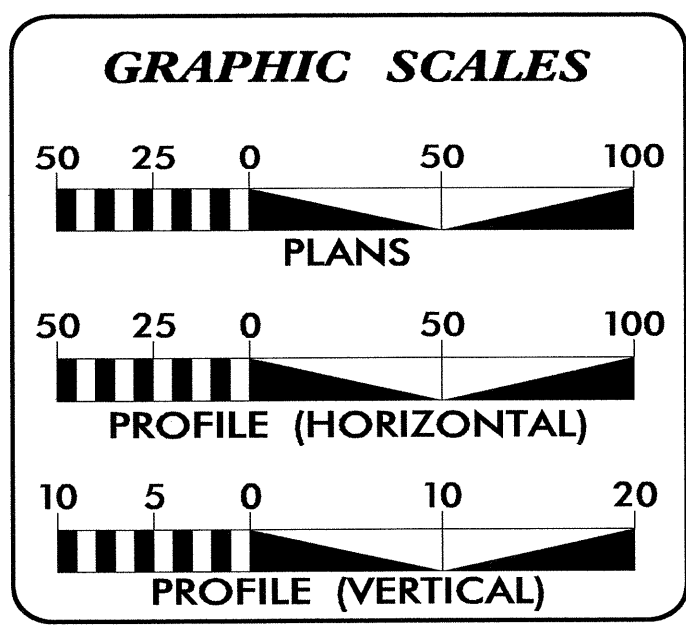


BEGIN TIP PROJECT U-4412
-L- STA 10+15.16

END TIP PROJECT U-4412
-L- STA 85+11.82



TIP PROJECT: U-4412



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-8	UTILITIES BY OTHERS PLAN SHEETS

- UTILITY OWNERS ON PROJECT**
- (1) Electric Power - Town of Waynesville
 - (2) Electric Power - Progress Energy
 - (3) Telephone - AT&T
 - (4) Gas - PSNC Energy
 - (5) CATV - Charter Communications

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

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

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

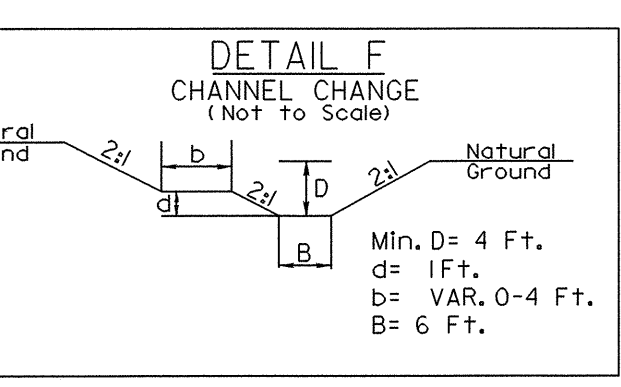
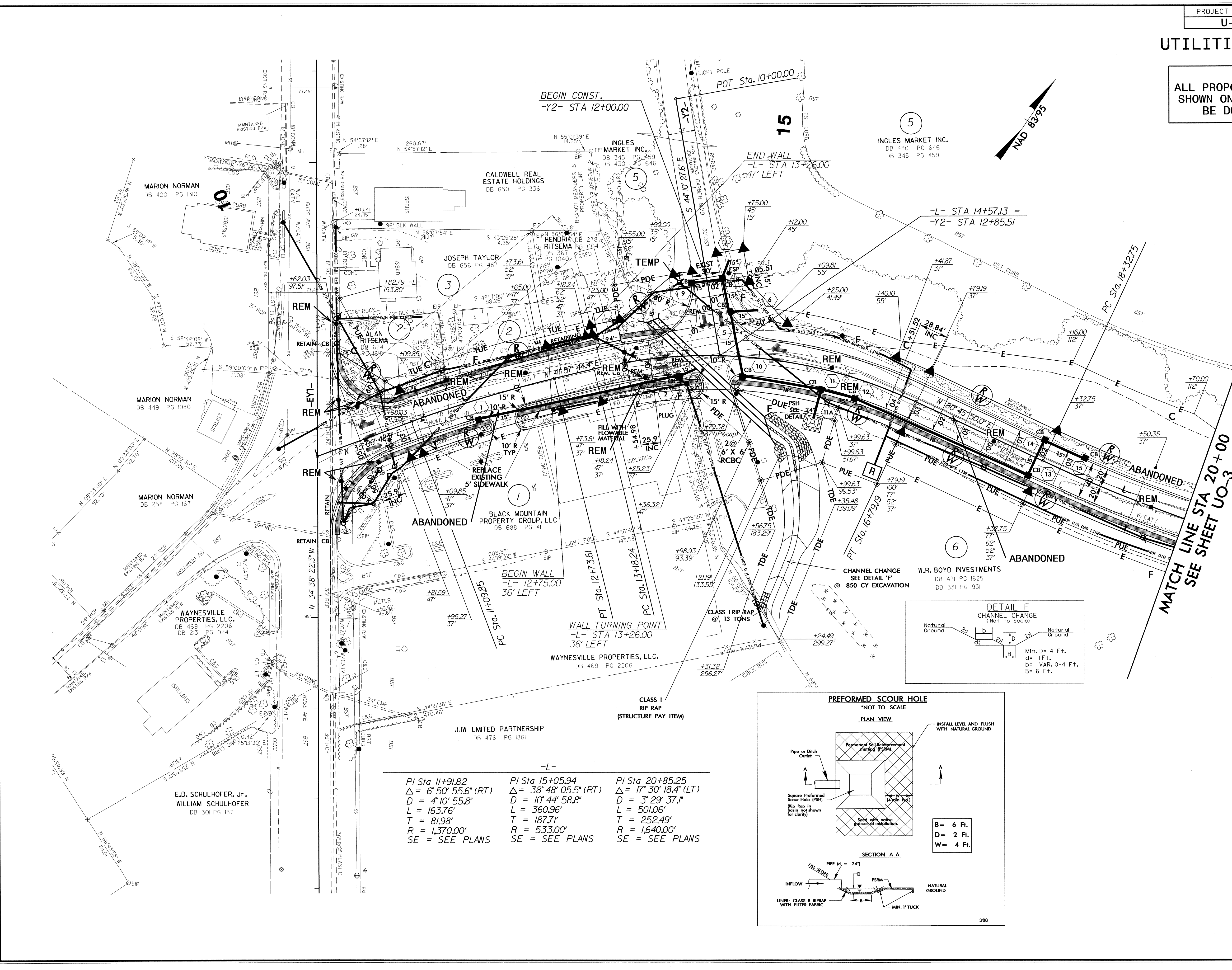
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\$\$\$\$\$USERNAME\$\$\$\$\$

UTILITIES BY OTHERS

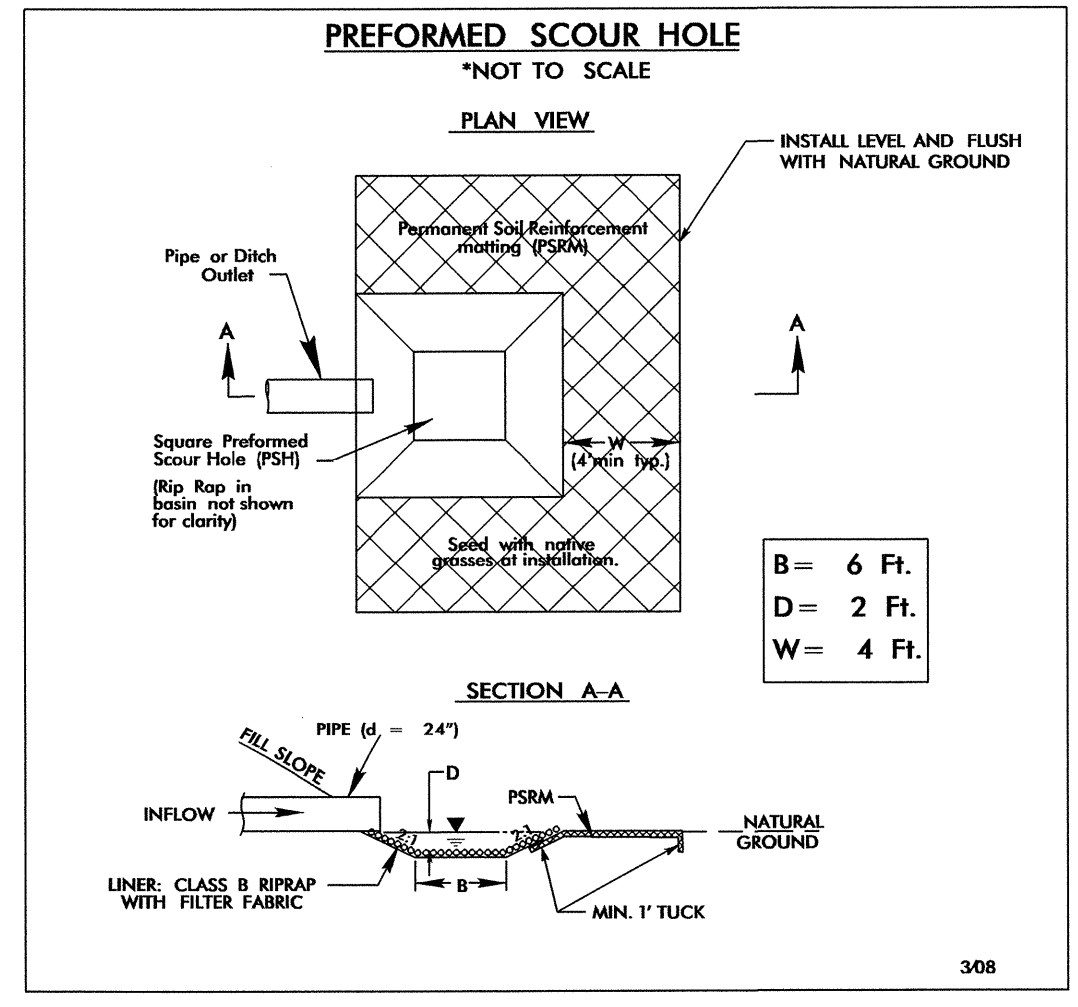
NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

5/14/09

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 4412



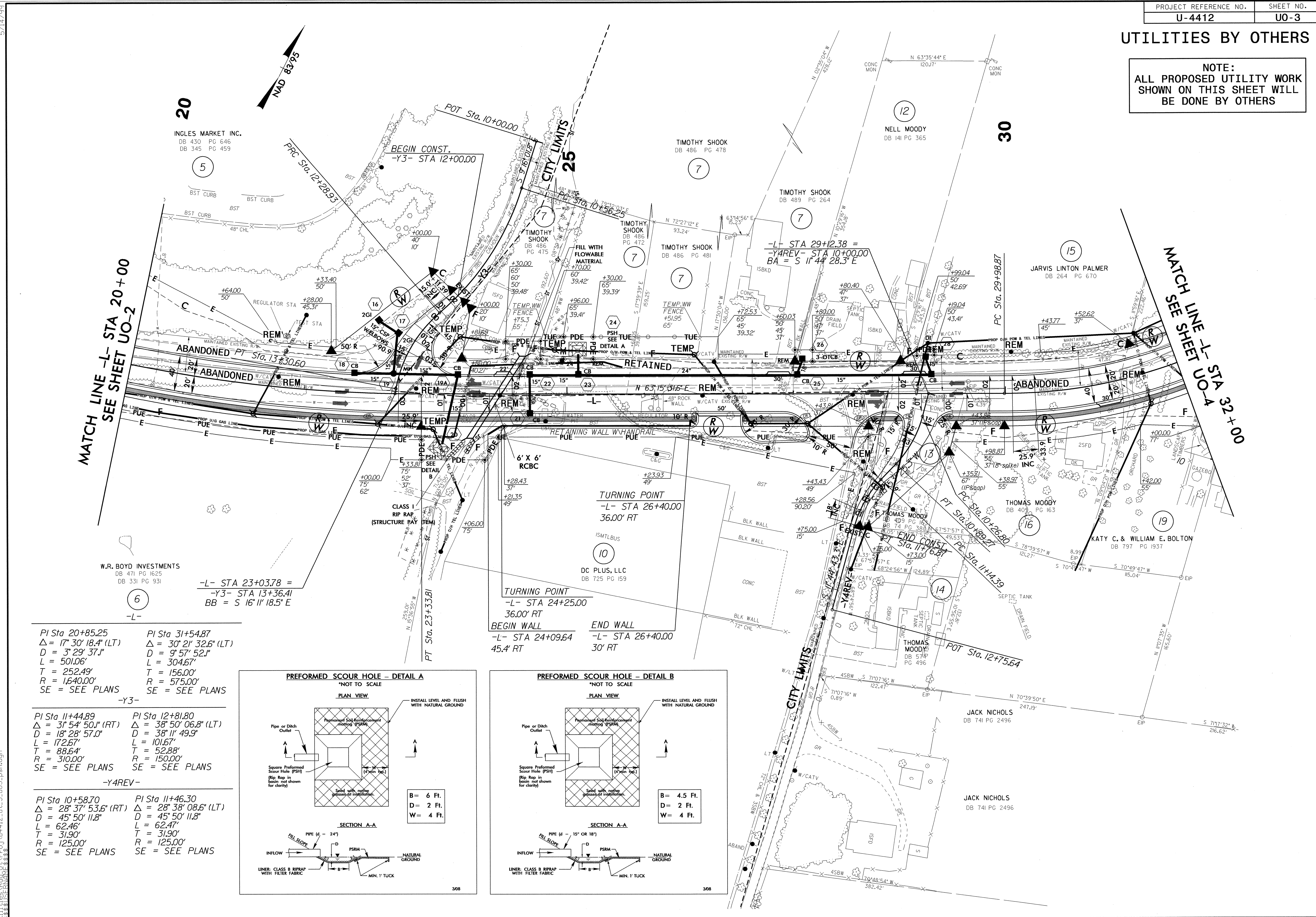
-L-		
PI Sta 11+91.82	PI Sta 15+05.94	PI Sta 20+85.25
$\Delta = 6' 50' 55.6"$ (RT)	$\Delta = 38' 48' 05.5"$ (RT)	$\Delta = 17' 30' 18.4"$ (LT)
D = $4' 10' 55.8"$	D = $10' 44' 58.8"$	L = $3' 29' 37.1"$
L = 163.76'	L = 360.96'	L = 501.06'
T = 81.98'	T = 187.71'	T = 252.49'
R = 1,370.00'	R = 533.00'	R = 1,640.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS



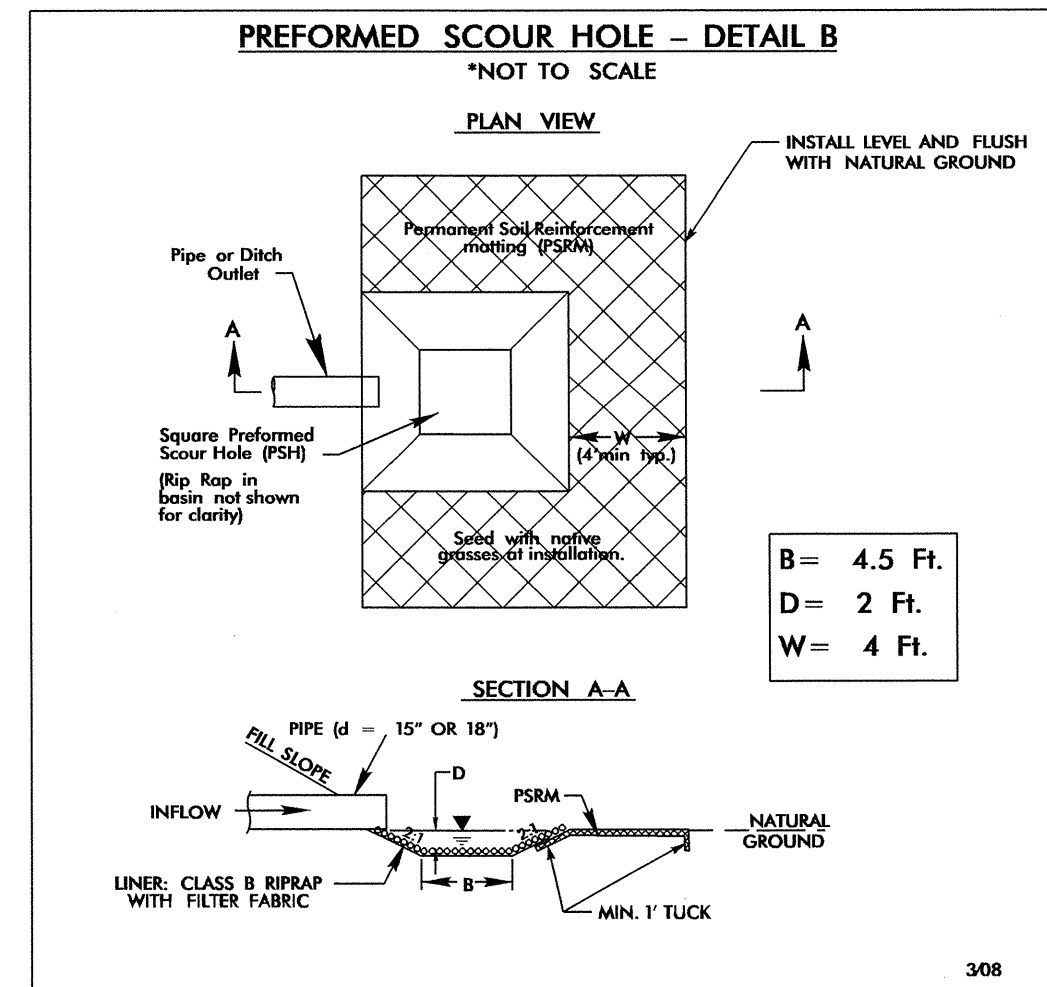
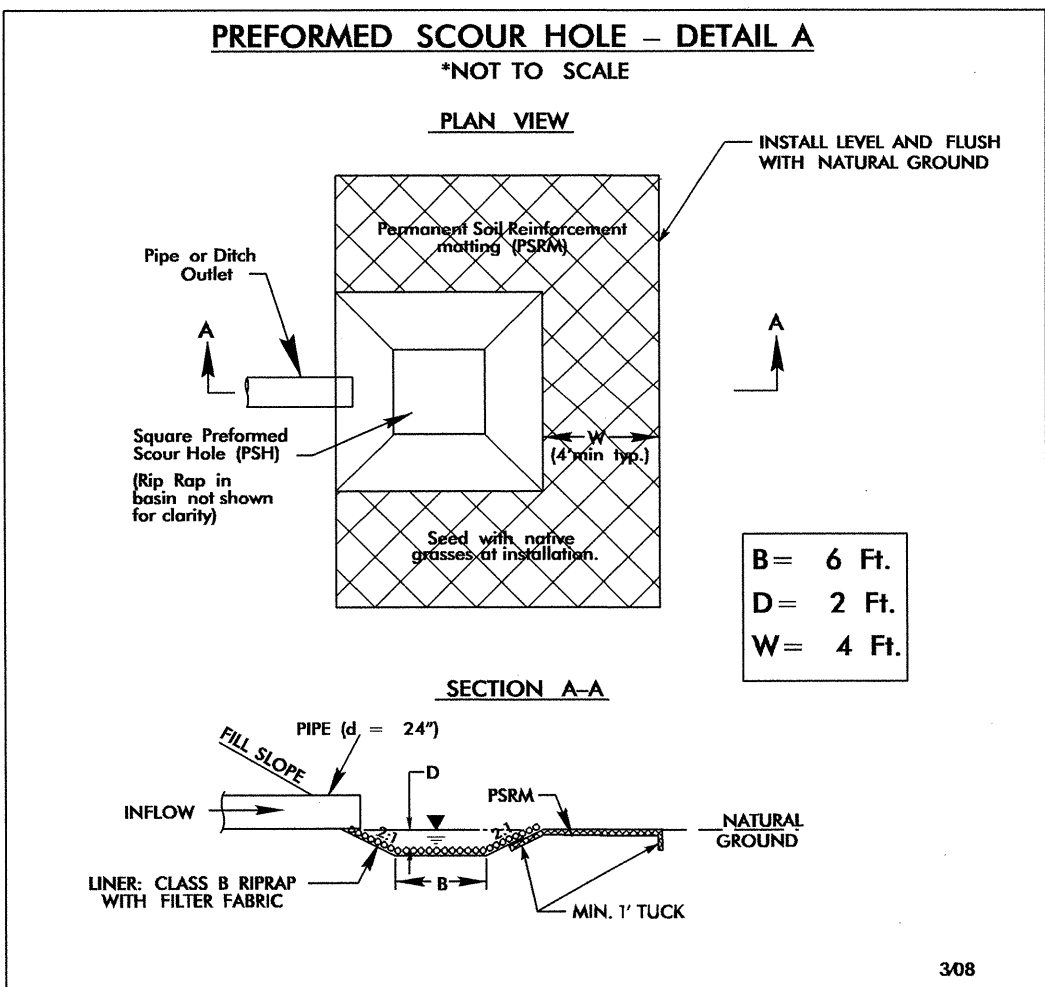
MATCH LINE STA 20+00
 SEE SHEET UO-3

UTILITIES BY OTHERS

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



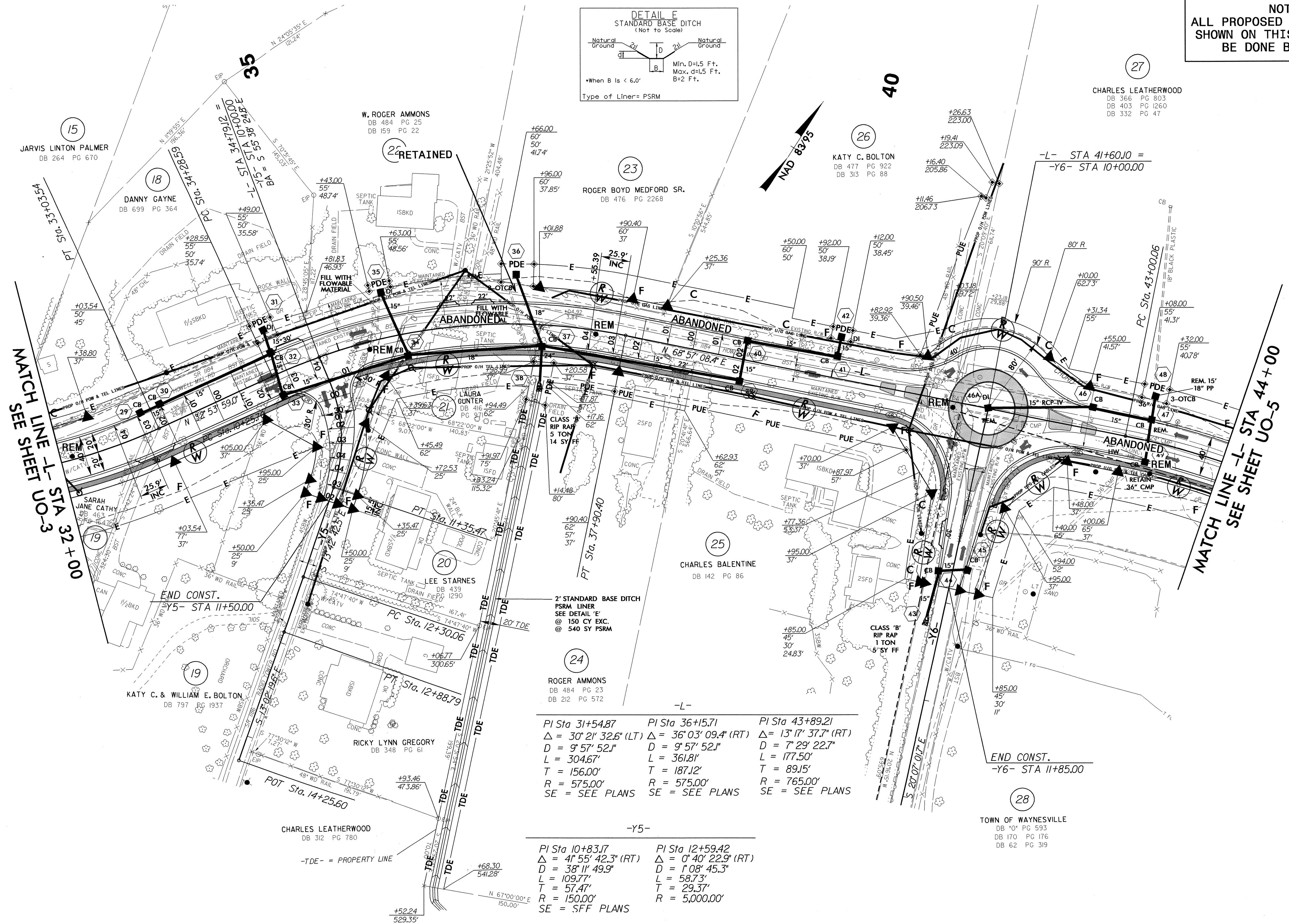
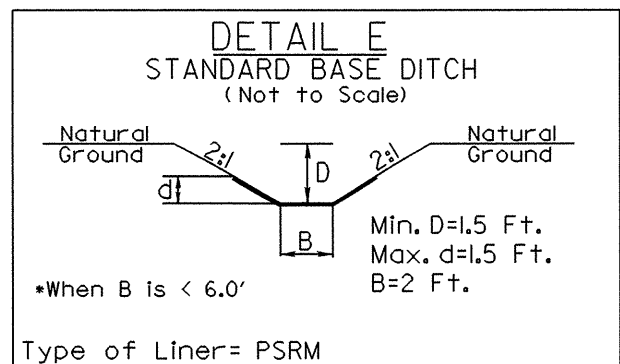
<p>PI Sta 20+85.25 Δ = 17° 30' 18.4" (LT) D = 3' 29' 37.1" L = 501.06' T = 252.49' R = 1640.00' SE = SEE PLANS</p>	<p>PI Sta 31+54.87 Δ = 30° 21' 32.6" (LT) D = 9° 57' 52.1" L = 304.67' T = 156.00' R = 575.00' SE = SEE PLANS</p>
-Y3-	
<p>PI Sta 11+44.89 Δ = 31° 54' 50.1" (RT) D = 18° 28' 57.0" L = 172.67' T = 88.64' R = 310.00' SE = SEE PLANS</p>	<p>PI Sta 12+81.80 Δ = 38° 50' 06.8" (LT) D = 38° 11' 49.9" L = 101.67' T = 52.88' R = 150.00' SE = SEE PLANS</p>
-Y4REV-	
<p>PI Sta 10+58.70 Δ = 28° 37' 53.6" (RT) D = 45° 50' 11.8" L = 62.46' T = 31.90' R = 125.00' SE = SEE PLANS</p>	<p>PI Sta 11+46.30 Δ = 28° 38' 08.6" (LT) D = 45° 50' 11.8" L = 62.47' T = 31.90' R = 125.00' SE = SEE PLANS</p>



5/14/99
25-APR-2013 10:19
R:\Utilities\Projects\U-4412\ut_5_uo3_psh.dgn

UTILITIES BY OTHERS

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



PI Sta 31+54.87 Δ = 30° 21' 32.6" (LT) D = 9' 57' 52.1" L = 304.67' T = 156.00' R = 575.00' SE = SEE PLANS	PI Sta 36+15.71 Δ = 36° 03' 09.4" (RT) D = 9' 57' 52.1" L = 361.81' T = 187.12' R = 575.00' SE = SEE PLANS	PI Sta 43+89.21 Δ = 13° 17' 37.7" (RT) D = 7' 29' 22.7" L = 177.50' T = 89.15' R = 765.00' SE = SEE PLANS
--	--	---

PI Sta 10+83.17 Δ = 41° 55' 42.3" (RT) D = 38' 11" 49.9" L = 109.77' T = 57.47' R = 150.00' SE = SFF PLANS	PI Sta 12+59.42 Δ = 0° 40' 22.9" (RT) D = 1' 08" 45.3" L = 58.73' T = 29.37' R = 5,000.00'
--	---

CHARLES LEATHERWOOD
DB 366 PG 803
DB 403 PG 1260
DB 332 PG 47

KATY C. BOLTON
DB 477 PG 922
DB 313 PG 88

ROGER AMMONS
DB 484 PG 23
DB 212 PG 512

CHARLES BALENTINE
DB 142 PG 86

KATY C. & WILLIAM E. BOLTON
DB 797 PG 1937

RICKY LYNN GREGORY
DB 348 PG 61

CHARLES LEATHERWOOD
DB 312 PG 780

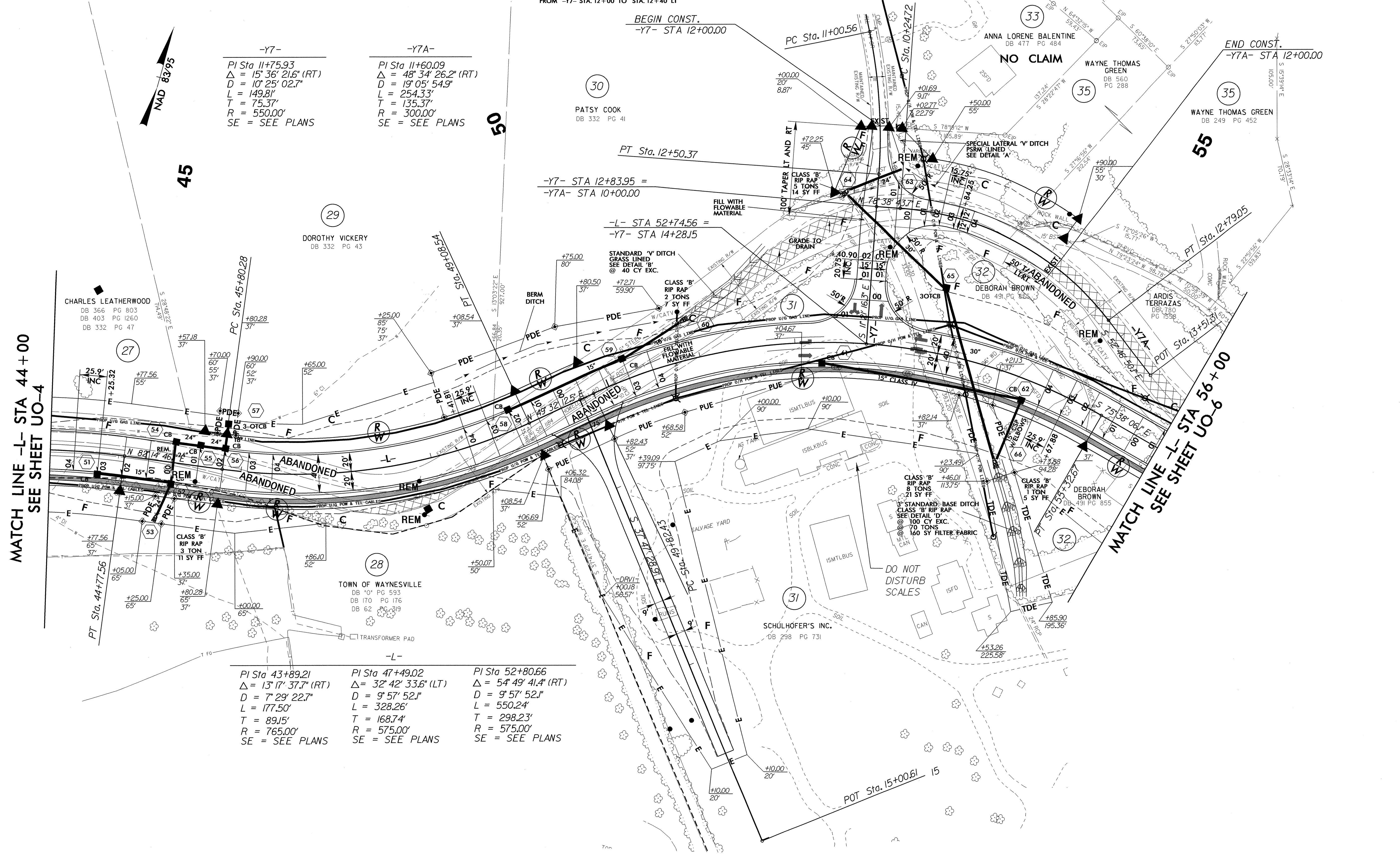
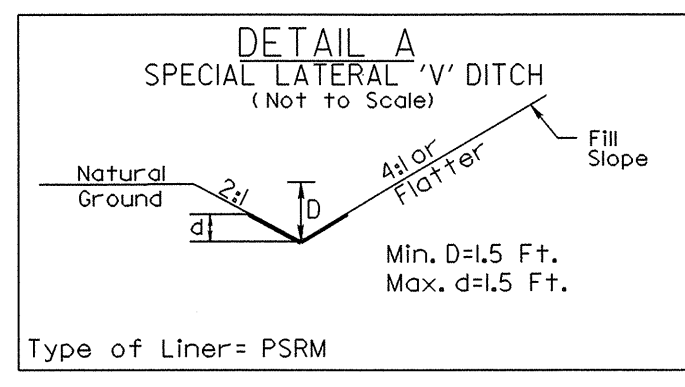
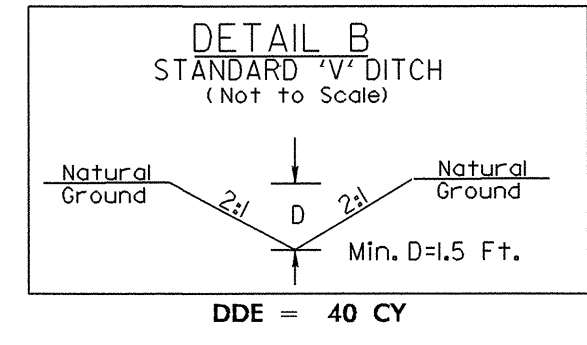
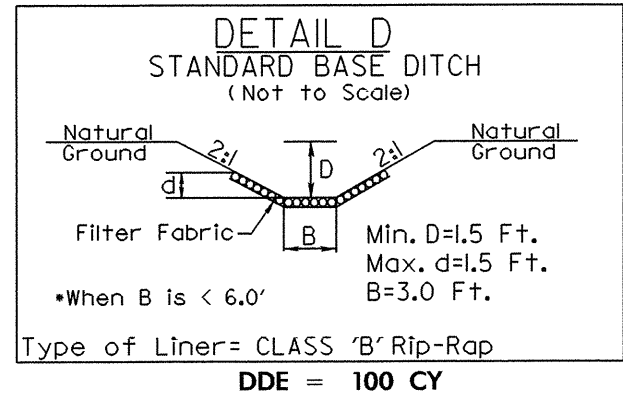
TOWN OF WAYNESVILLE
DB 100 PG 593
DB 170 PG 176
DB 62 PG 319

MATCH LINE -L- STA 32+00
SEE SHEET UO-3

MATCH LINE -L- STA 44+00
SEE SHEET UO-5

UTILITIES BY OTHERS

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



-Y7-
PI Sta 11+75.93
 $\Delta = 15^\circ 36' 21.6''$ (RT)
D = 10' 25' 02.7"
L = 149.81'
T = 75.37'
R = 550.00'
SE = SEE PLANS

-Y7A-
PI Sta 11+60.09
 $\Delta = 48^\circ 34' 26.2''$ (RT)
D = 19' 05' 54.9"
L = 254.33'
T = 135.37'
R = 300.00'
SE = SEE PLANS

FROM -Y7A- STA. 10+25 TO STA. 10+75 LT
FROM -Y7- STA. 12+00 TO STA. 12+40 LT

BEGIN CONST.
-Y7- STA 12+00.00

END CONST.
-Y7A- STA 12+00.00

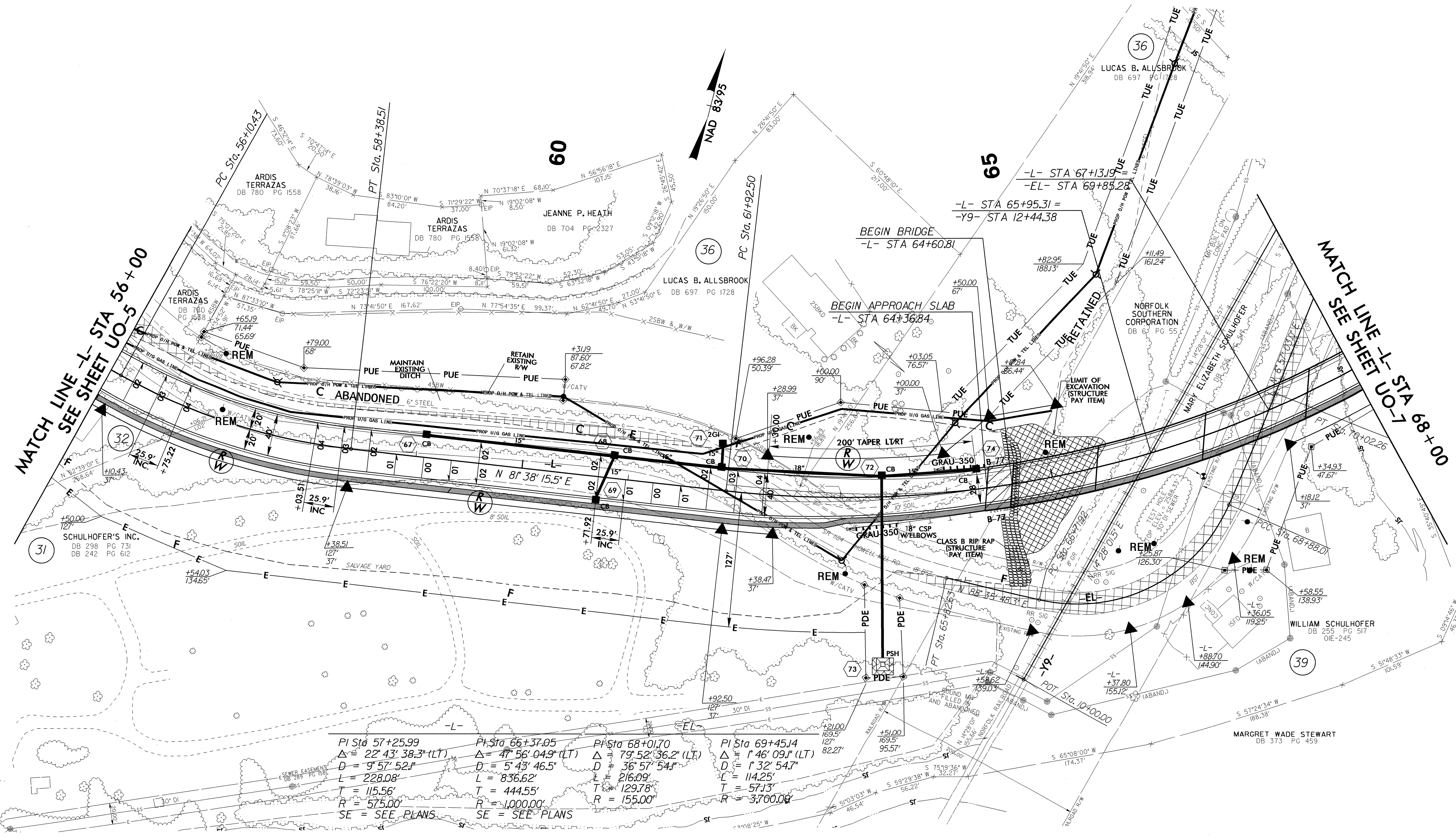
-L-

PI Sta 43+89.21	PI Sta 47+49.02	PI Sta 52+80.66
$\Delta = 13^\circ 17' 37.7''$ (RT)	$\Delta = 32^\circ 42' 33.6''$ (LT)	$\Delta = 54^\circ 49' 41.4''$ (RT)
D = 7' 29' 22.7"	D = 9' 57' 52.1"	D = 9' 57' 52.1"
L = 177.50'	L = 328.26'	L = 550.24'
T = 89.15'	T = 168.74'	T = 298.23'
R = 765.00'	R = 575.00'	R = 575.00'
SE = SEE PLANS	SE = SEE PLANS	SE = SEE PLANS

5/14/09
R:\u0025-APR-2013 10:17
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UTILITIES BY OTHERS

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



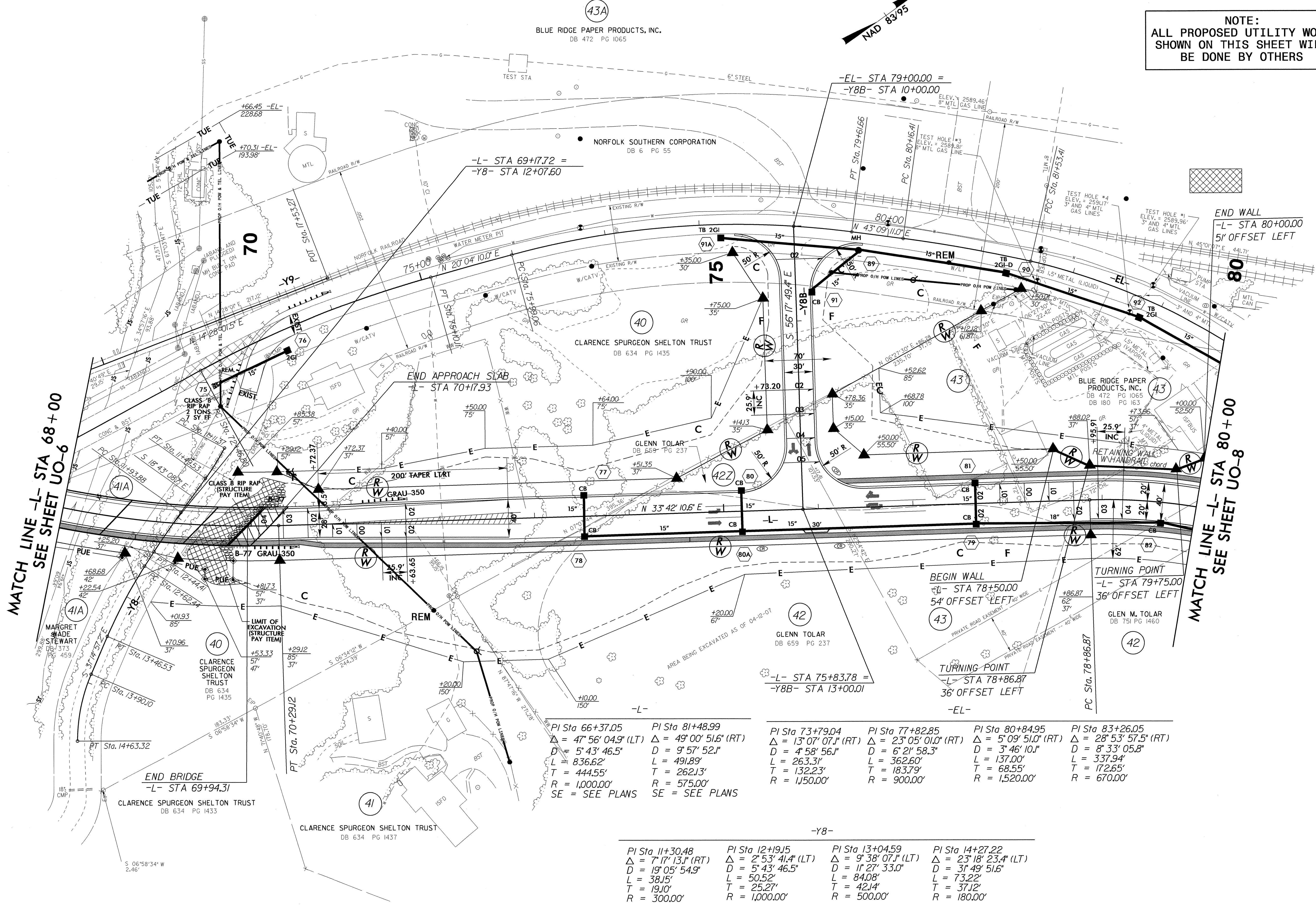
MATCH LINE -L- STA 56+00
SEE SHEET UO-5

MATCH LINE -L- STA 68+00
SEE SHEET UO-7

PI Sta 57+25.99	PI Sta 66+37.05	PI Sta 68+01.70	PI Sta 69+45.14
Δ = 22° 43' 38.3" (LT)	Δ = 47° 56' 04.9" (LT)	Δ = 79° 52' 36.2" (LT)	Δ = 1° 46' 09.1" (LT)
D = 9' 57' 52.1"	D = 5' 43' 46.5"	D = 36' 57' 54.1"	D = 1' 32' 54.7"
L = 228.08'	L = 836.62'	L = 216.09'	L = 114.25'
T = 115.56'	T = 444.55'	T = 129.78'	T = 57.13'
R = 575.00'	R = 1000.00'	R = 155.00'	R = 3700.00'
SE = SEE PLANS		SE = SEE PLANS	

UTILITIES BY OTHERS

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



MATCH LINE -L- STA 68+00
SEE SHEET UO-6

MATCH LINE -L- STA 80+00
SEE SHEET UO-8

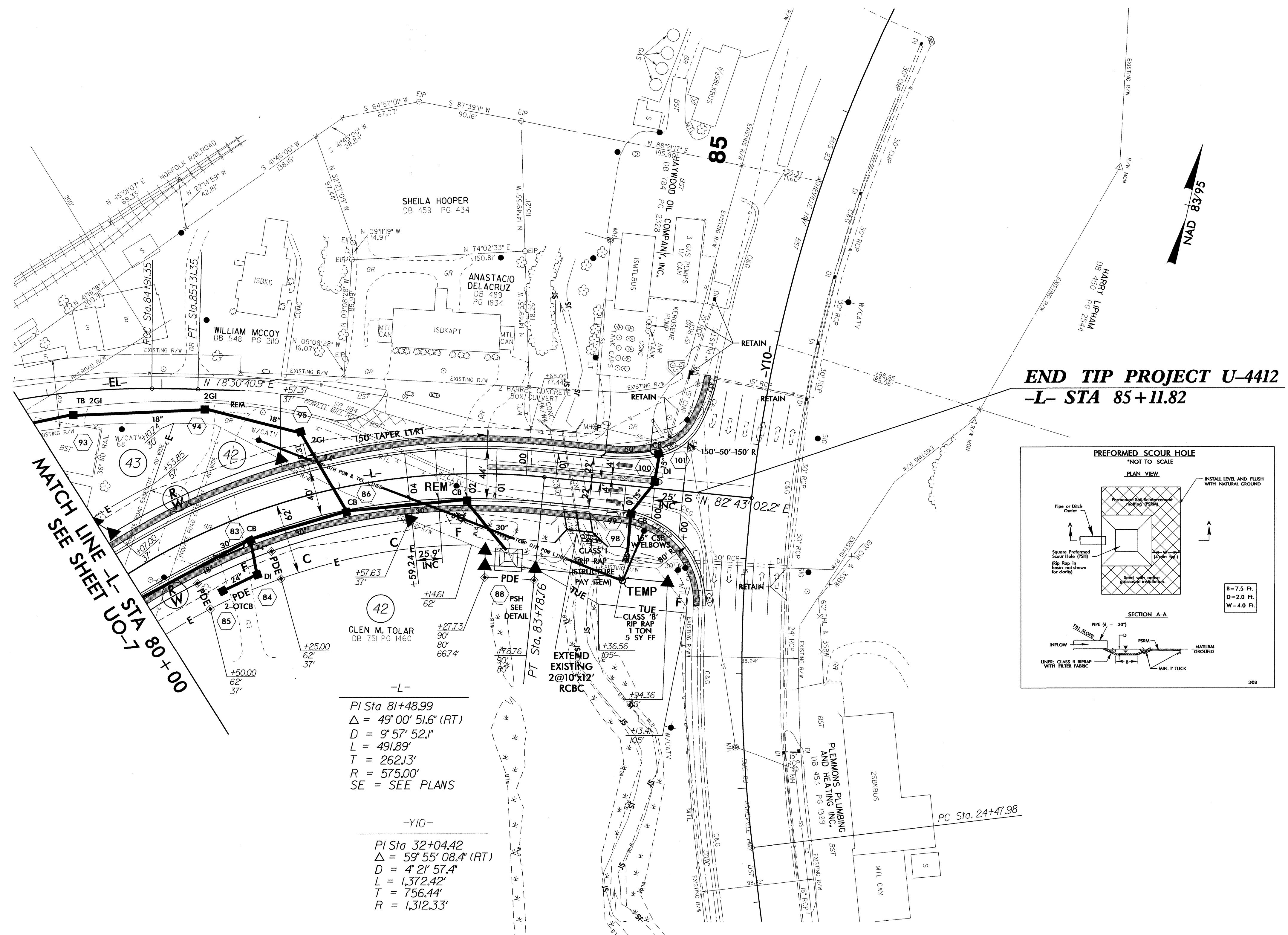
PI Sta 66+37.05 Δ = 47° 56' 04.9" (LT) D = 5' 43' 46.5" L = 836.62' T = 444.55' R = 1,000.00' SE = SEE PLANS	PI Sta 81+48.99 Δ = 49° 00' 51.6" (RT) D = 9' 57' 52.1" L = 491.89' T = 262.13' R = 575.00' SE = SEE PLANS	PI Sta 73+79.04 Δ = 13° 07' 07.1" (RT) D = 4' 58' 56.1" L = 263.31' T = 132.23' R = 1,150.00'	PI Sta 77+82.85 Δ = 23° 05' 01.0" (RT) D = 6' 21' 58.3" L = 362.60' T = 183.79' R = 900.00'	PI Sta 80+84.95 Δ = 5° 09' 51.0" (RT) D = 3' 46' 10.1" L = 137.00' T = 68.55' R = 1,520.00'	PI Sta 83+26.05 Δ = 28° 53' 57.5" (RT) D = 8' 33' 05.8" L = 337.94' T = 172.65' R = 670.00'
--	--	--	--	--	--

PI Sta 11+30.48 Δ = 7° 17' 13.1" (RT) D = 19° 05' 54.9" L = 38.15' T = 19.10' R = 300.00'	PI Sta 12+19.15 Δ = 2° 53' 41.4" (LT) D = 5' 43' 46.5" L = 50.52' T = 25.27' R = 1,000.00'	PI Sta 13+04.59 Δ = 9° 38' 07.1" (LT) D = 11° 27' 33.0" L = 84.08' T = 42.14' R = 500.00'	PI Sta 14+27.22 Δ = 23° 18' 23.4" (LT) D = 31' 49' 51.6" L = 73.22' T = 37.12' R = 180.00'
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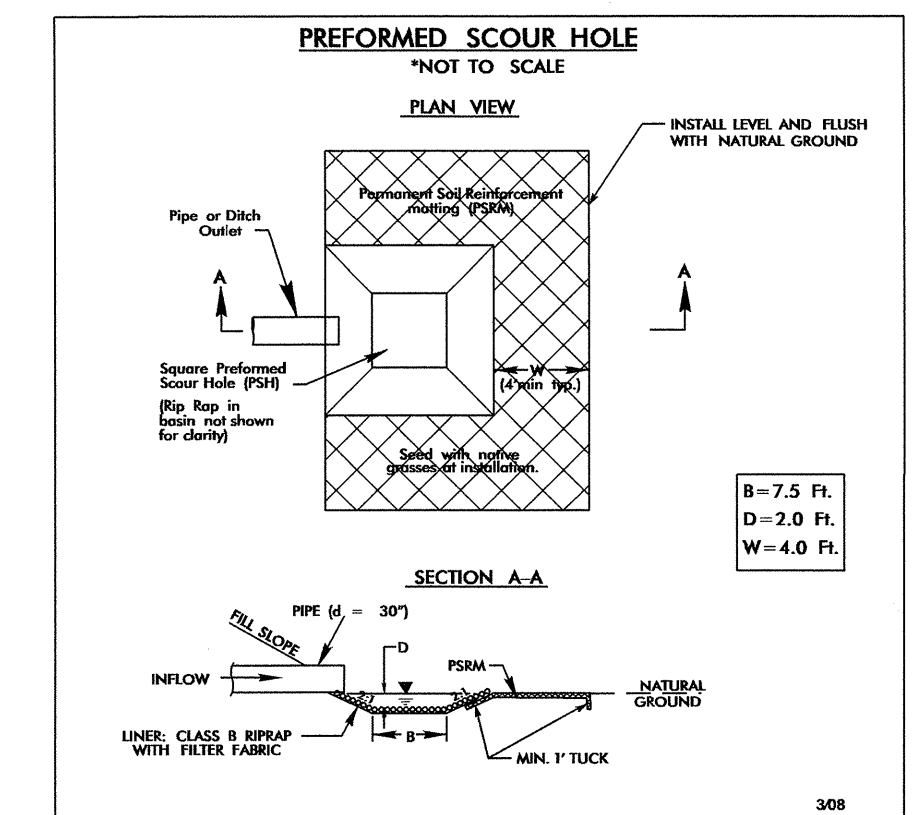
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25-APR-2013 10:45
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UTILITIES BY OTHERS

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



END TIP PROJECT U-4412
-L- STA 85+11.82



MATCH LINE -L- STA 80+00
SEE SHEET UO-7

-L-
PI Sta 81+48.99
 $\Delta = 49^{\circ} 00' 51.6''$ (RT)
D = 9' 57" 52.1"
L = 491.89'
T = 262.13'
R = 575.00'
SE = SEE PLANS

-Y10-
PI Sta 32+04.42
 $\Delta = 59^{\circ} 55' 08.4''$ (RT)
D = 4' 21" 57.4"
L = 1,372.42'
T = 756.44'
R = 1,312.33'

5/14/99
R:\U\1\25-APR-2013 10:14 AM\U-4412-ut-10-uo8-psh.dgn