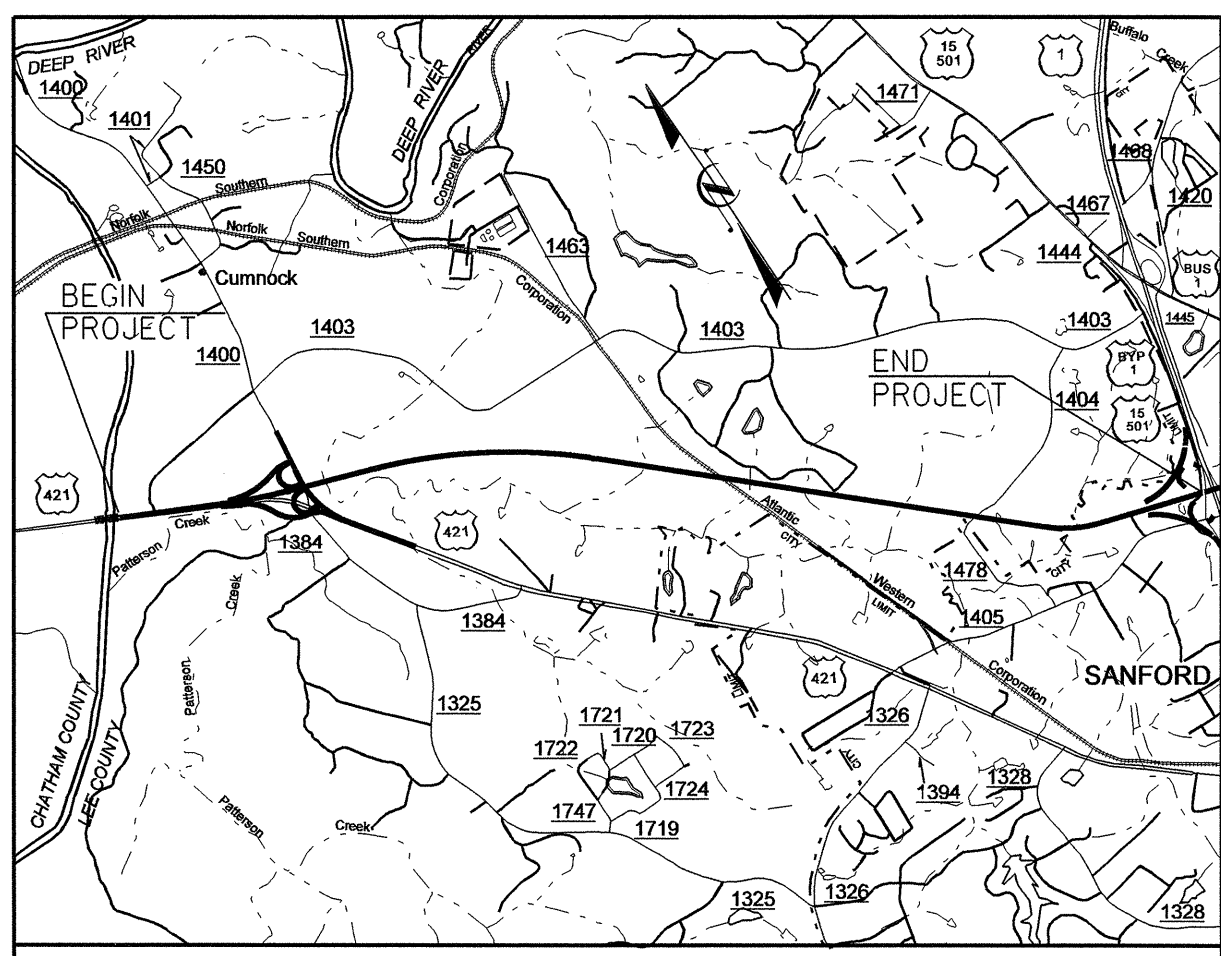


09/28/09

See Sheet 1-A For Index of Sheets

| | |
|------------|-----------|
| T.I.P. NO. | SHEET NO. |
| R-2417AA | UC-1 |

TIP PROJECT: R-2417AA



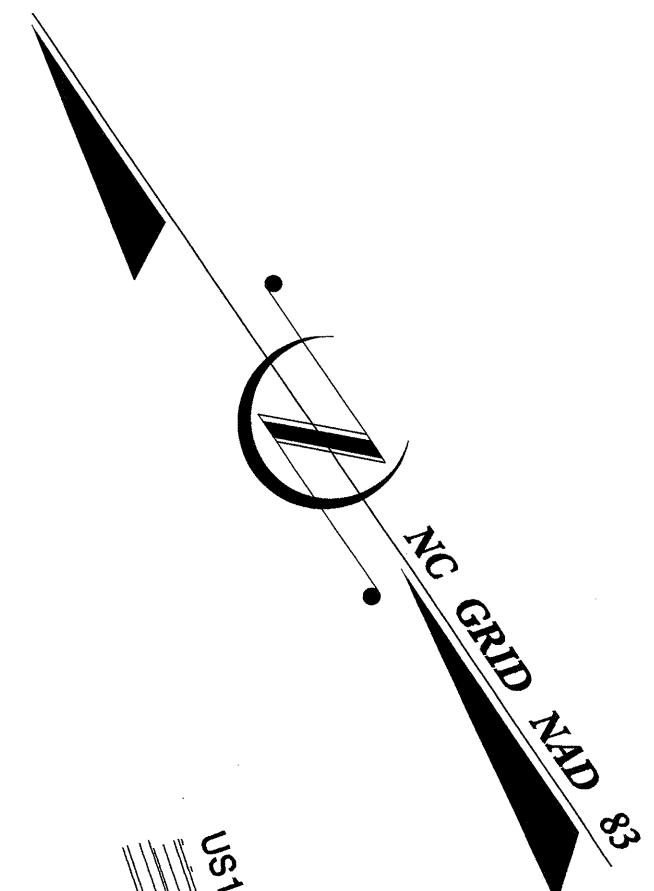
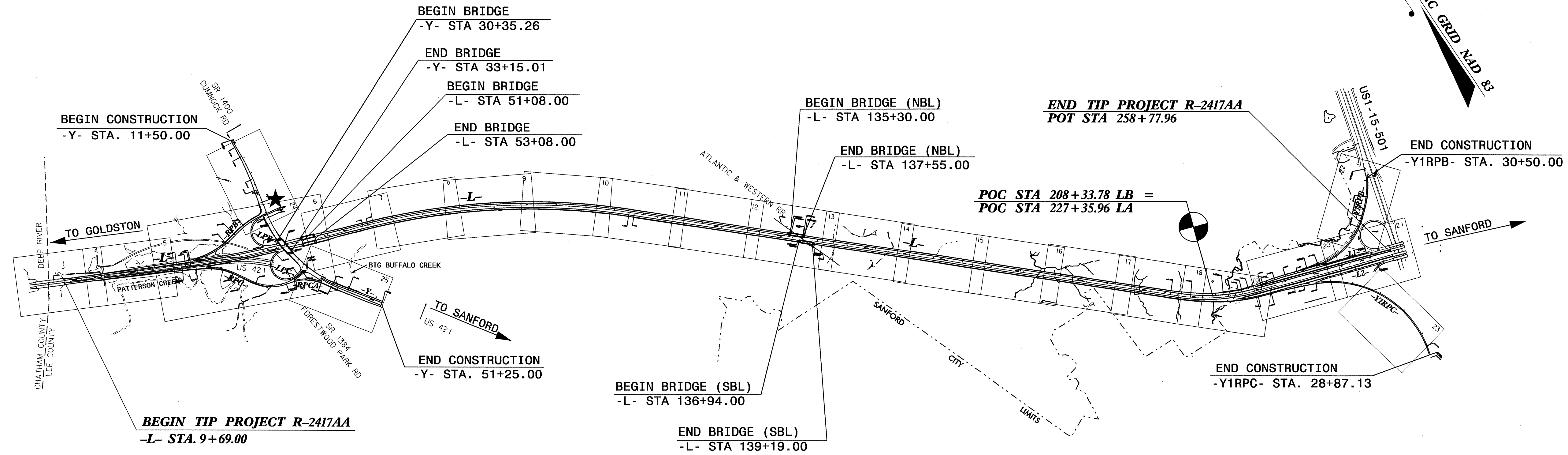
VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

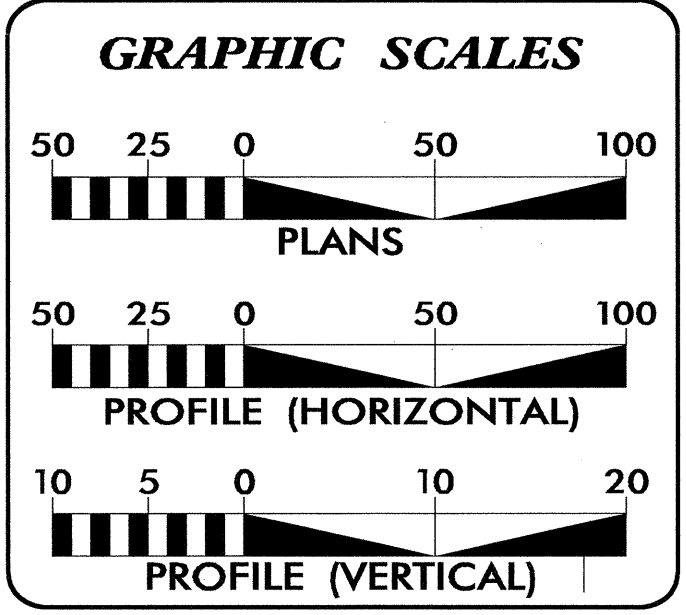
**UTILITY CONSTRUCTION PLANS
LEE COUNTY**

**LOCATION: US 421 NC 87 SANFORD BYPASS FROM WEST
OF SR 1400 TO WEST OF US 1-15-501**

TYPE OF WORK: WATER AND SEWER RELOCATION



**THIS IS A CONTROLLED - ACCESS PROJECT WITH
ACCESS BEING LIMITED TO INTERCHANGES.**

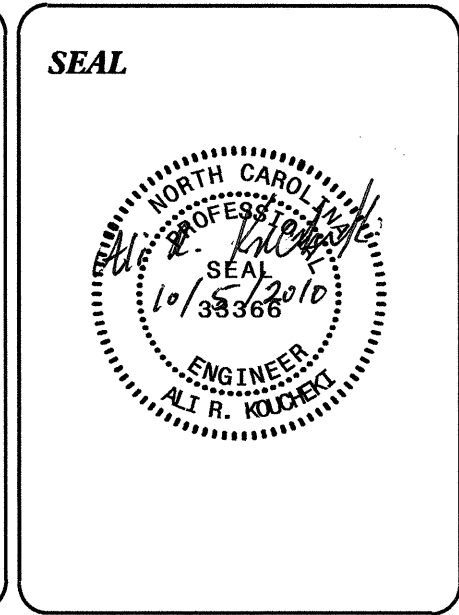


INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|----------------|----------------------------------|
| UC-1 | TITLE SHEET |
| UC-2 THRU UC-3 | UTILITY CONSTRUCTION PLAN SHEETS |
| UC-4 THRU UC-5 | PROFILE SHEET(S) |
| UC-6 | DETAILS SHEET(S) |

WATER AND SEWER OWNERS ON PROJECT

(1) WATER CITY OF SANFORD
(2) SANITARY SEWER CITY OF SANFORD



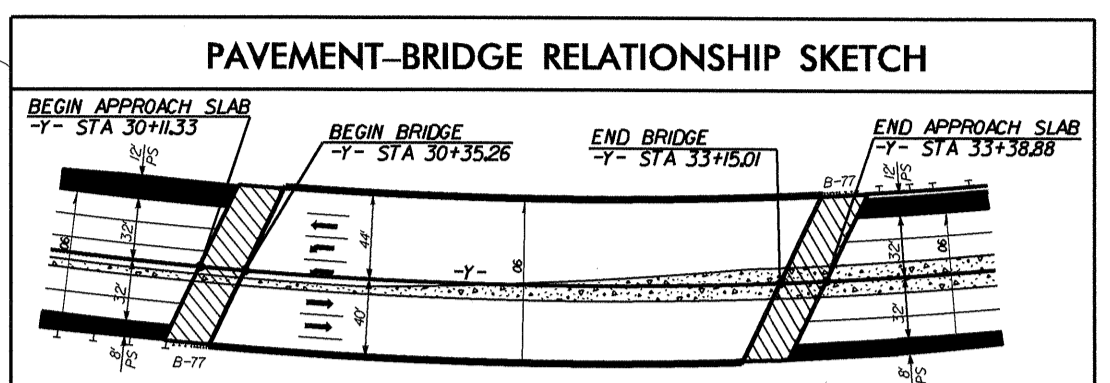
PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

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

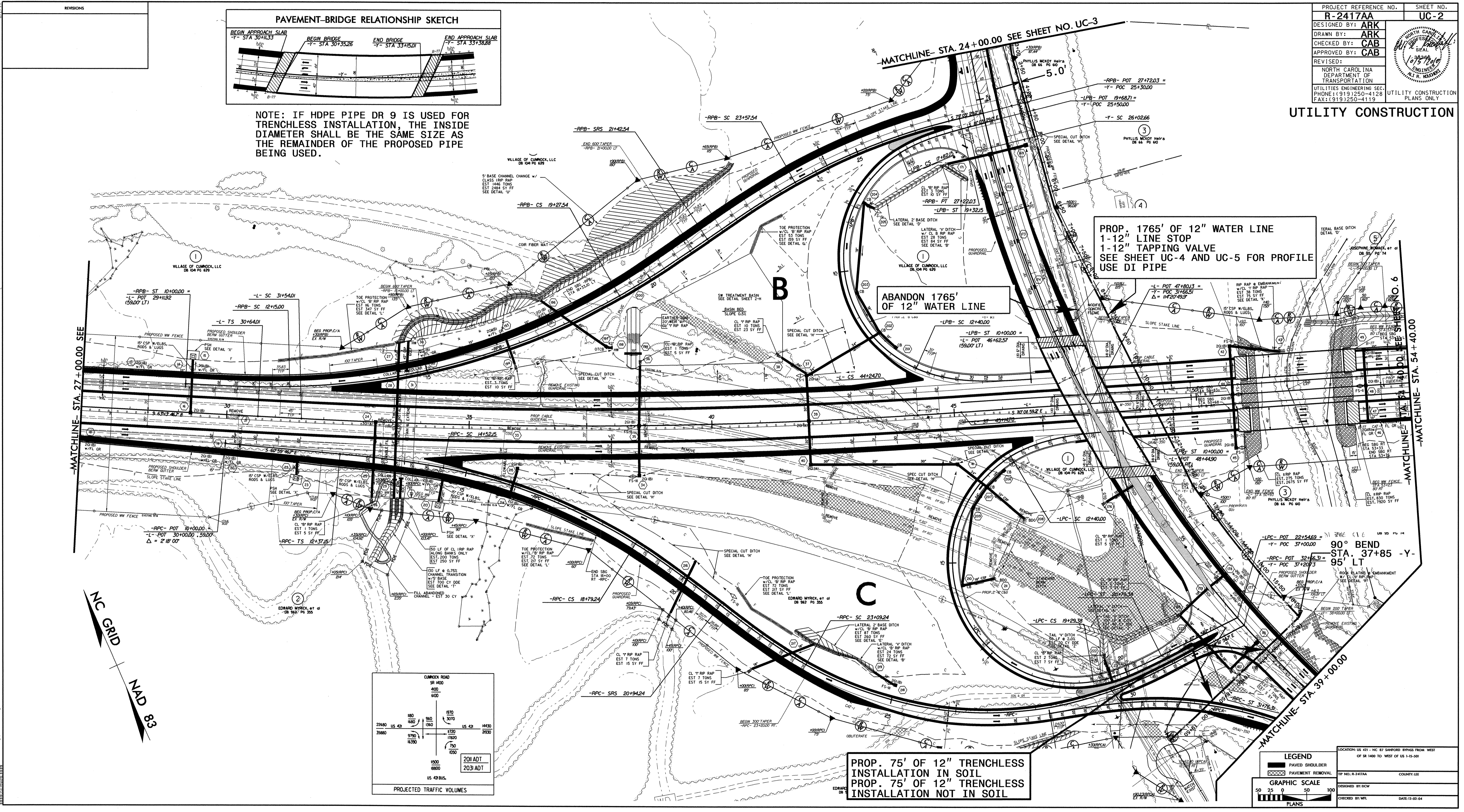
Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Carl Barclay, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Ali Kouchehi, P.E. UTILITIES PROJECT DESIGNER

30-SEP-2010 09:48
R:\Utilities\Projects\2417aa\Ut_UC.L\Tsh.dgn
\$\$\$USERNAME\$\$\$

| | | | |
|--|----------|---------------------------------|------|
| PROJECT REFERENCE NO. | R-2417AA | SHEET NO. | UC-2 |
| DESIGNED BY: | ARK | | |
| DRAWN BY: | ARK | | |
| CHECKED BY: | CAB | | |
| APPROVED BY: | CAB | | |
| REVISED: | | | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | | UTILITY CONSTRUCTION PLANS ONLY | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119 | | | |

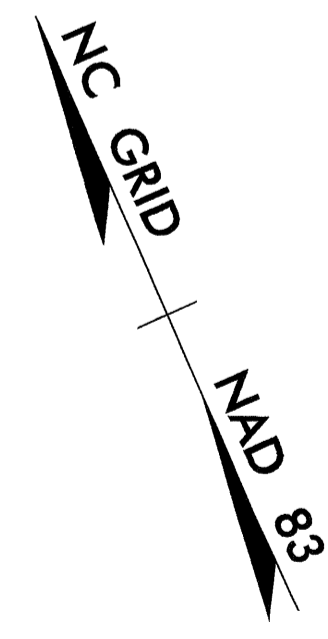


NOTE: IF HDPE PIPE DR 9 IS USED FOR TRENCHLESS INSTALLATION, THE INSIDE DIAMETER SHALL BE THE SAME SIZE AS THE REMAINDER OF THE PROPOSED PIPE BEING USED.



MATCHLINE- STA. 27+00.00 SEE

MATCHLINE- STA. 54+40.00 SEE SHEET NO. 6



| | | | |
|---------------|------------|---------|------|
| CLUMCOCK ROAD | | SR 1400 | |
| 880 | 930 | 1930 | 1430 |
| 1920 | 1970 | 1700 | 2630 |
| 3580 | 9790 | 1730 | 750 |
| 16390 | 1800 | 1800 | 1000 |
| | 1500 | | |
| | 1800 | | |
| | US 49 BUS. | | |
| | 201 ADT | | |
| | 203 ADT | | |

PROP. 75' OF 12" TRENCHLESS INSTALLATION IN SOIL
PROP. 75' OF 12" TRENCHLESS INSTALLATION NOT IN SOIL

LEGEND
 PAVED SHOULDER
 PAVEMENT REMOVAL

GRAPHIC SCALE
 50 0 50 100
 PLANS

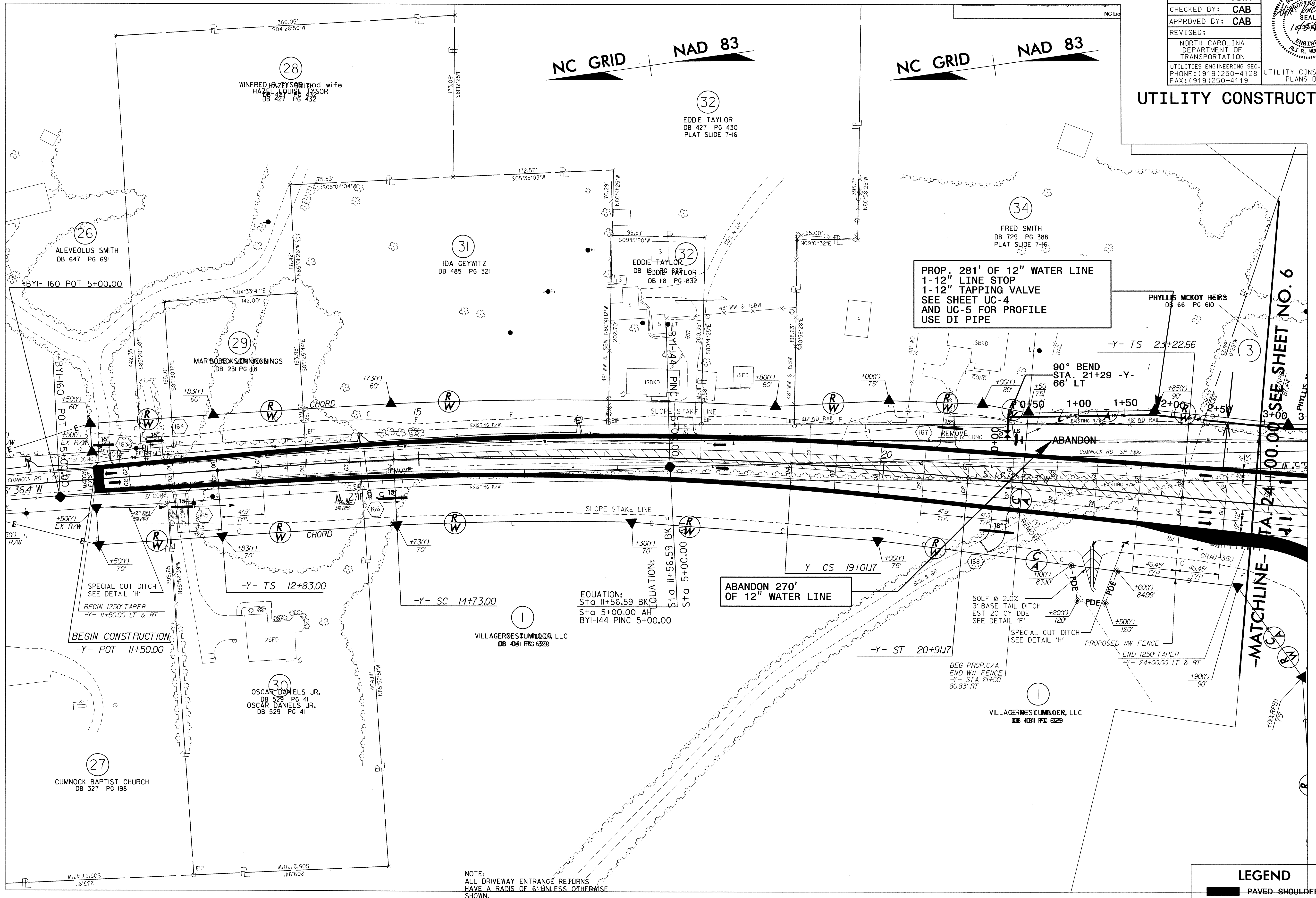
LOCATION: US 421 - NC 87 SANFORD BYPASS FROM WEST OF SR 1400 TO WEST OF US 1-95 SB
 PROJECT NO. R-2417AA COUNTY: LEE
 DESIGNED BY: DCW
 CHECKED BY: WFL DATE: 11-01-04

8/17/99

04-OCT-2010 15:31 H:\N\Projects\2417\ee.rdy.psh_24-uc-3.dgn

| | |
|---|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| R-2417AA | UC-3 |
| DESIGNED BY: ARK | |
| DRAWN BY: ARK | |
| CHECKED BY: CAB | |
| APPROVED BY: CAB | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION



PROP. 281' OF 12" WATER LINE
 1-12" LINE STOP
 1-12" TAPPING VALVE
 SEE SHEET UC-4
 AND UC-5 FOR PROFILE
 USE DI PIPE

ABANDON 270'
 OF 12" WATER LINE

EQUATION:
 Sta 11+56.59 BK
 Sta 5+00.00 AH
 BY-144 PINC 5+00.00

MATCHLINE - STA. 24+00.00 SEE SHEET NO. 6

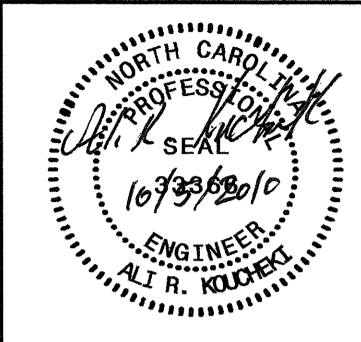
LEGEND
 [Thick black line symbol] PAVED SHOULDER

NOTE:
 ALL DRIVEWAY ENTRANCE RETURNS
 HAVE A RADIUS OF 6' UNLESS OTHERWISE
 SHOWN.

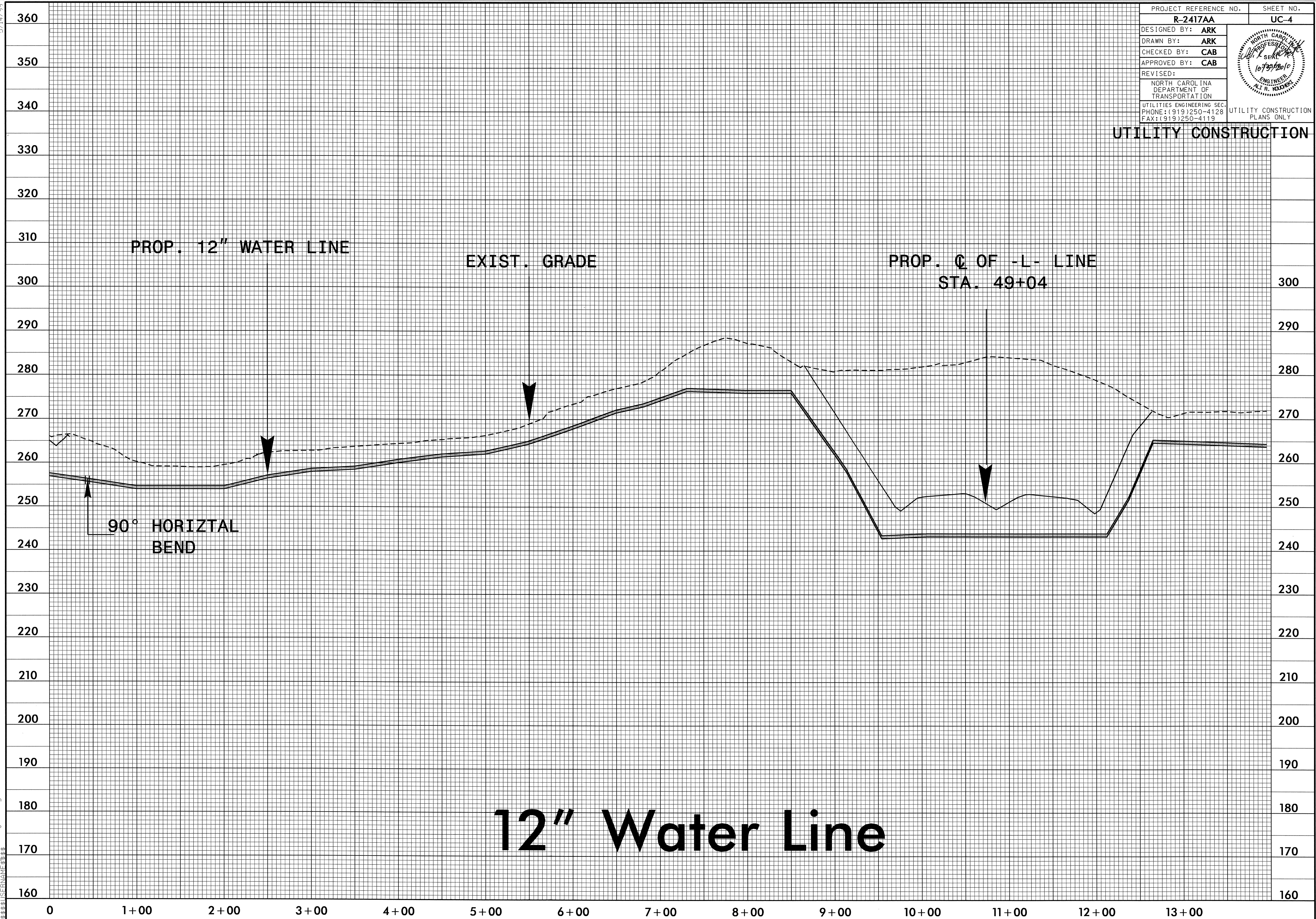
FOR -Y- PROFILE, SEE SHEET NO. 42
 FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G

5/14/99

04_OCT_2010 15:32:14 \\A:\Proj\13\dgn
44881513\FINAME.ESS

| | |
|--|---|
| PROJECT REFERENCE NO. | SHEET NO. |
| R-2417AA | UC-4 |
| DESIGNED BY: ARK |  |
| DRAWN BY: ARK | |
| CHECKED BY: CAB | |
| APPROVED BY: CAB | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119 | |

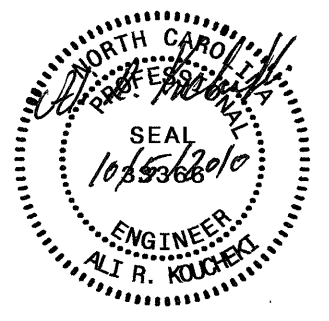
UTILITY CONSTRUCTION



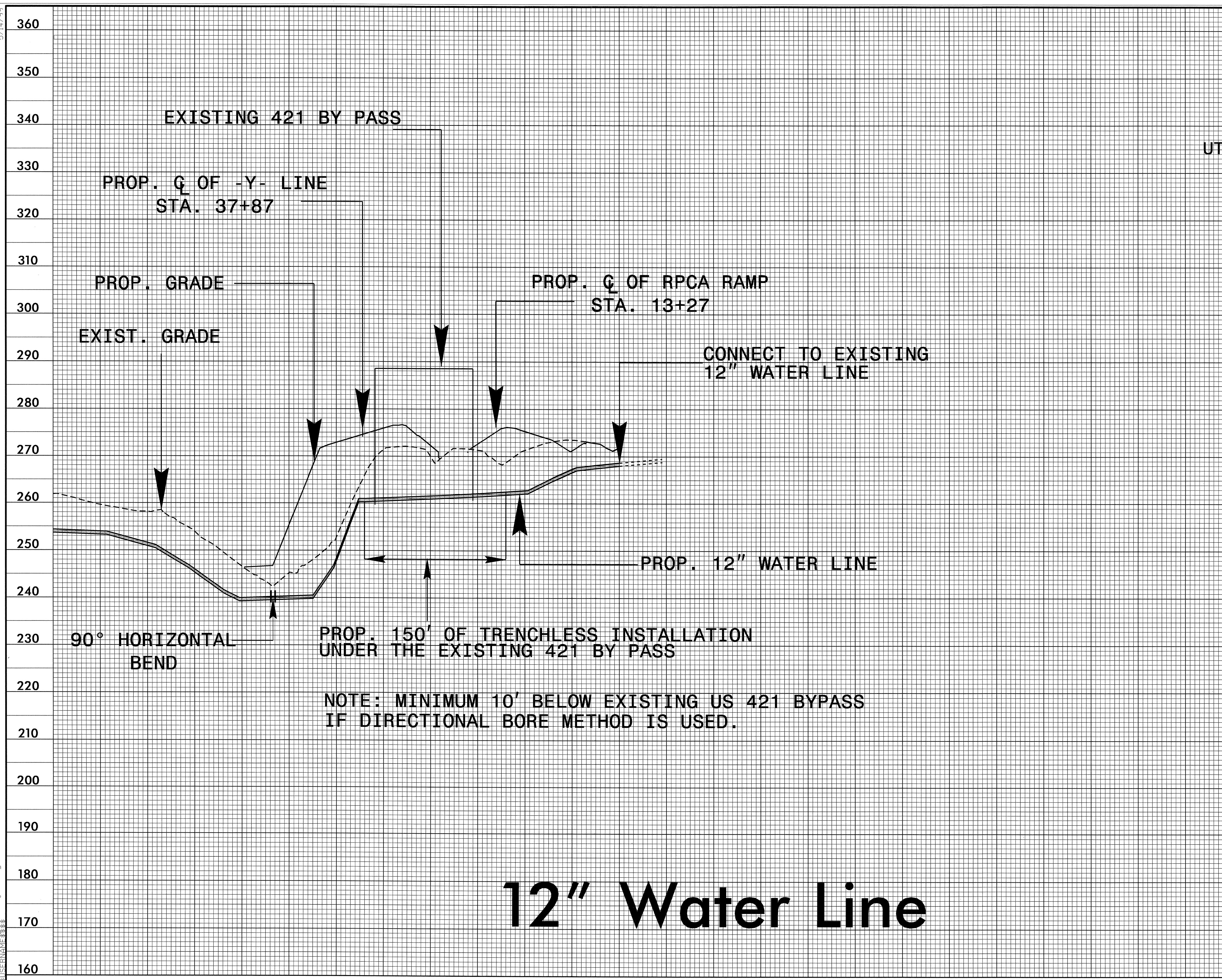
12" Water Line

5/14/99

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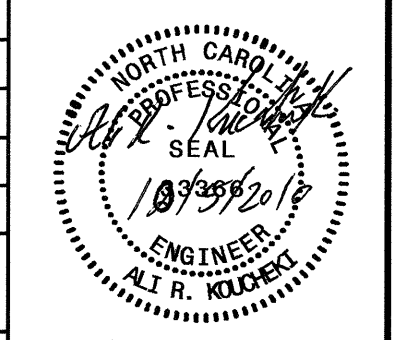
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|---|---|
| PROJECT REFERENCE NO. | SHEET NO. |
| R-2417AA | UC-5 |
| DESIGNED BY: ARK |  |
| DRAWN BY: ARK | |
| CHECKED BY: CAB | |
| APPROVED BY: CAB | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919)250-4128 FAX: (919)250-4119 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

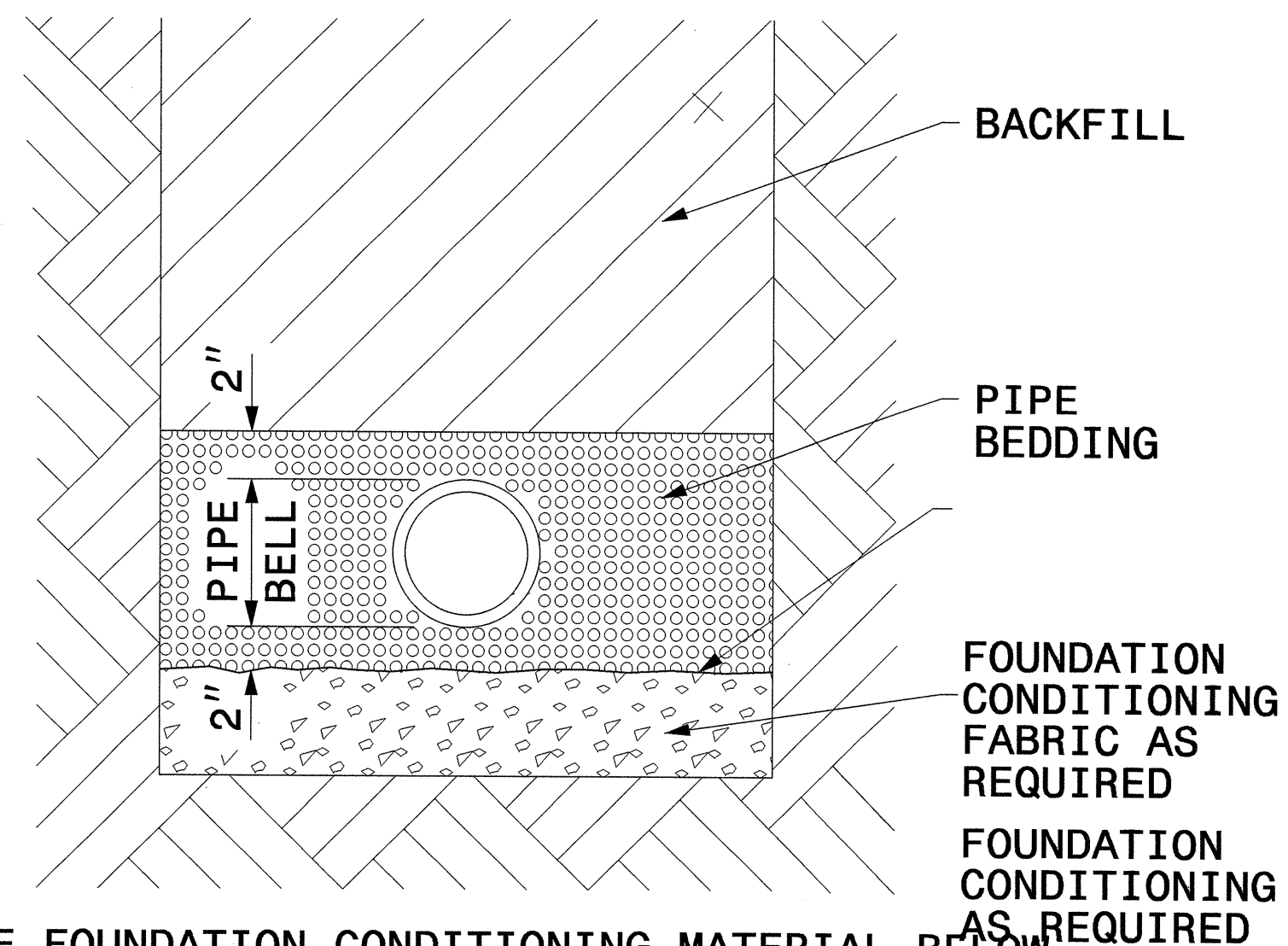
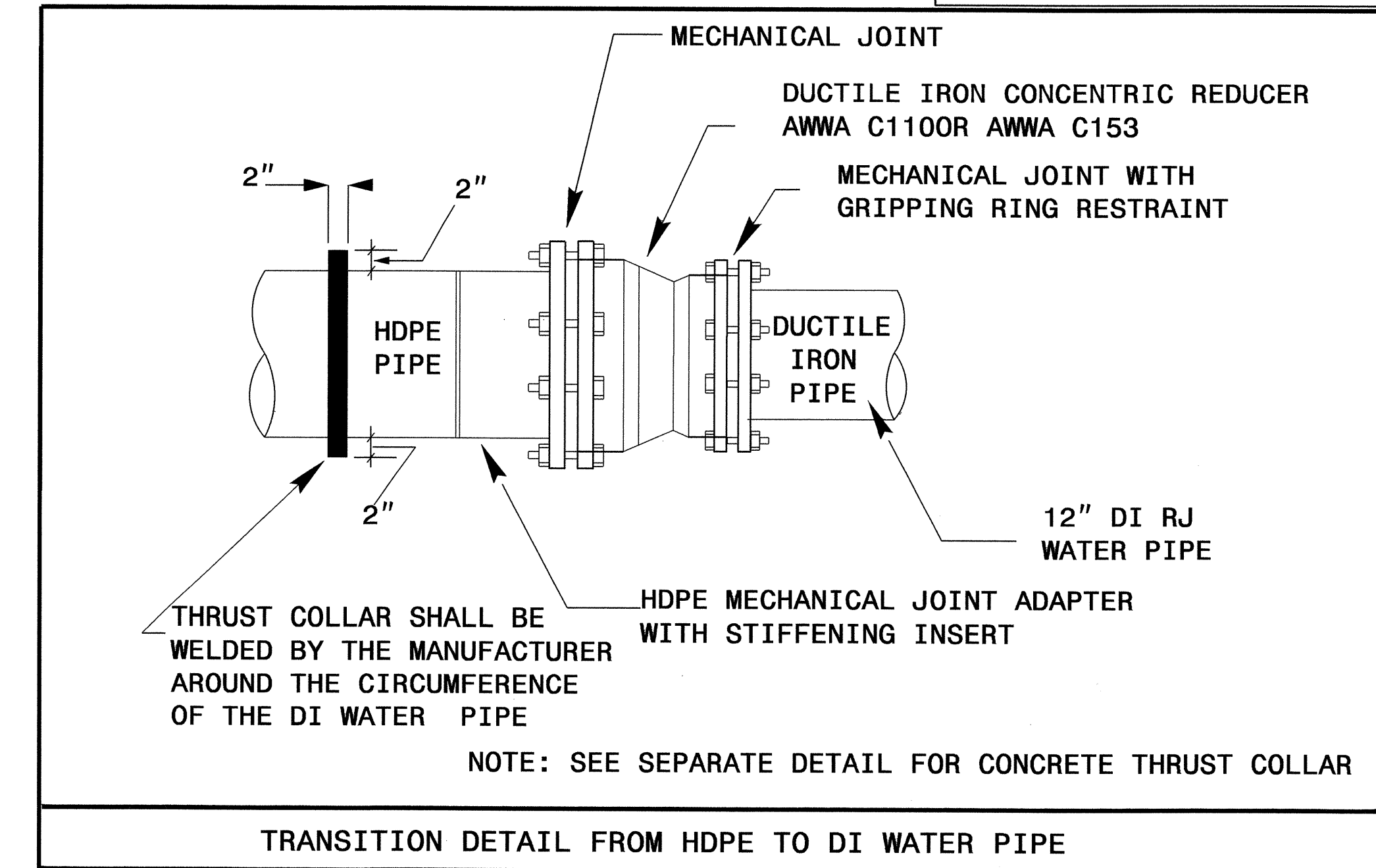
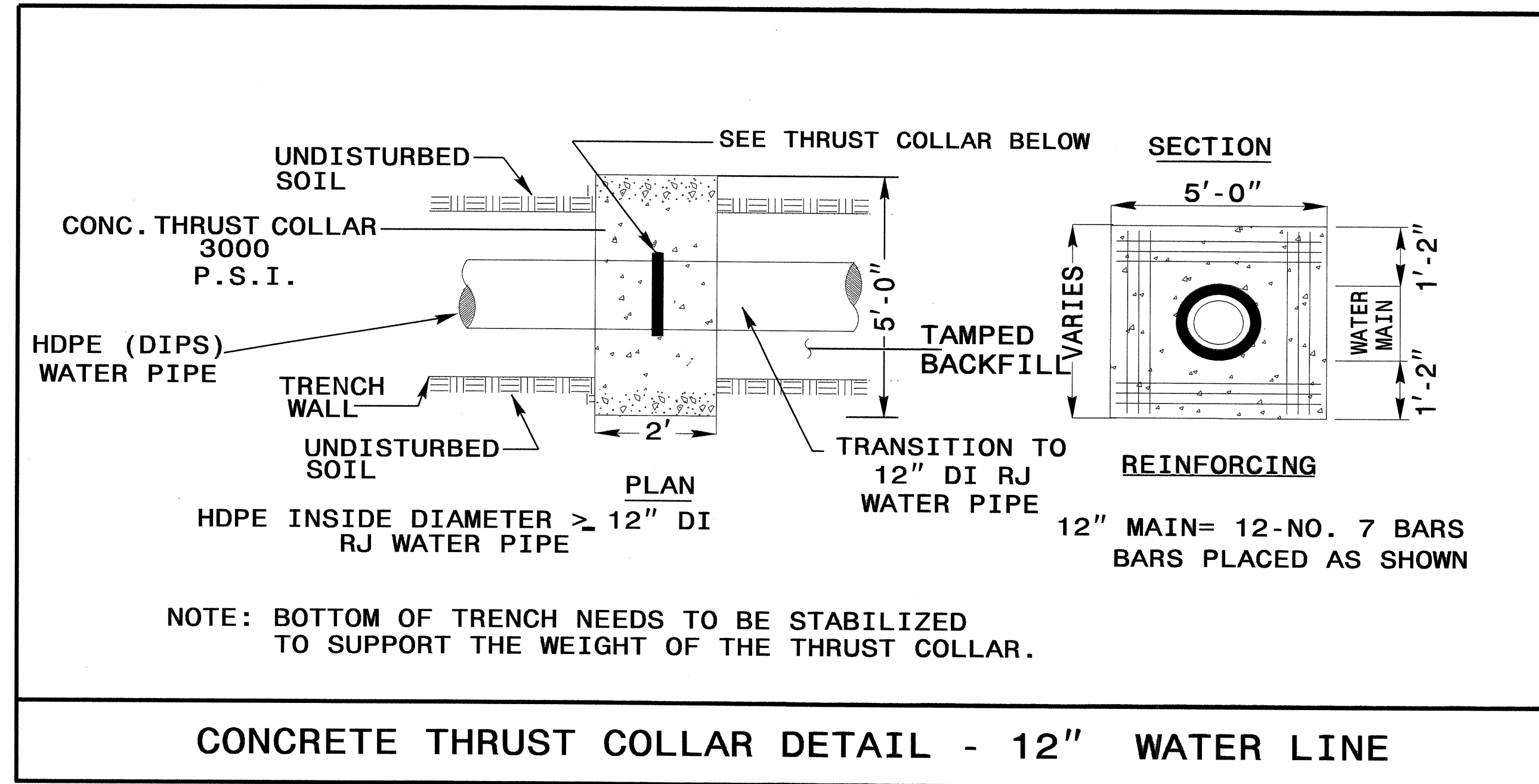


NOTE: MINIMUM 10' BELOW EXISTING US 421 BYPASS
 IF DIRECTIONAL BORE METHOD IS USED.

12" Water Line

| | |
|--|---|
| PROJECT REFERENCE NO. | SHEET NO. |
| R-2417AA | UC-6 |
| DESIGNED BY: ARK |  |
| DRAWN BY: ARK | |
| CHECKED BY: CAB | |
| APPROVED BY: CAB | |
| REVISER: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| UTILITIES ENGINEERING SEC. PHONE: (919)250-4128 FAX: (919)250-4119 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

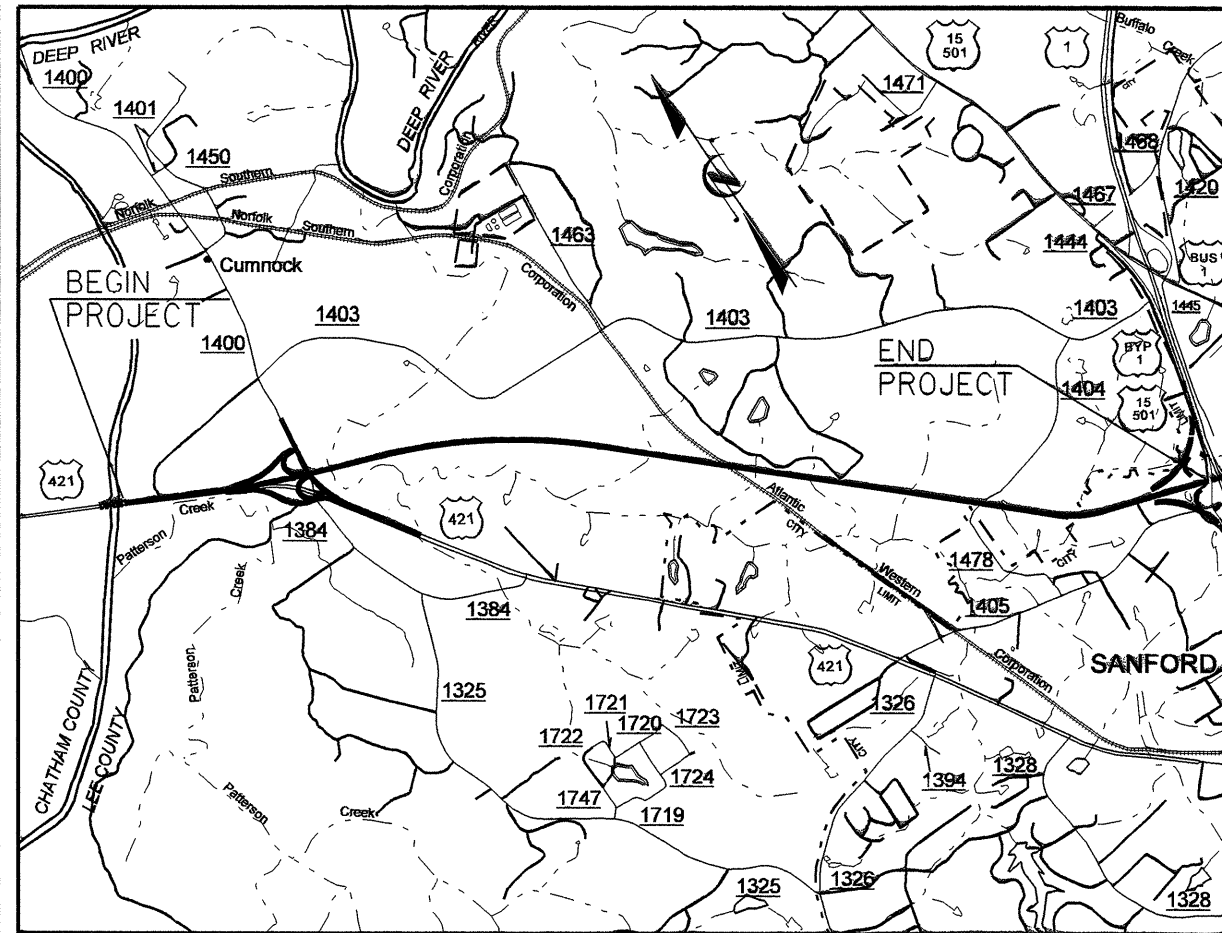


| MAXIMUM TRENCH WIDTH AT TOP OF PIPE | |
|-------------------------------------|-----------------------|
| NOMINAL PIPE SIZE (INCHES) | TRENCH WIDTH (INCHES) |
| 4 | 28 |
| 6 | 30 |
| 8 | 32 |
| 10 | 34 |
| 12 | 36 |

PLACE FOUNDATION CONDITIONING MATERIAL BELOW BEDDING IF REQUIRED, AS DIRECTED BY ENGINEER. PIPE BEDDED IN SELECT MATERIAL, CLASS II (TYPE 1) OR CLASS III. 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 APPROXIMATELY 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

09/08/99

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

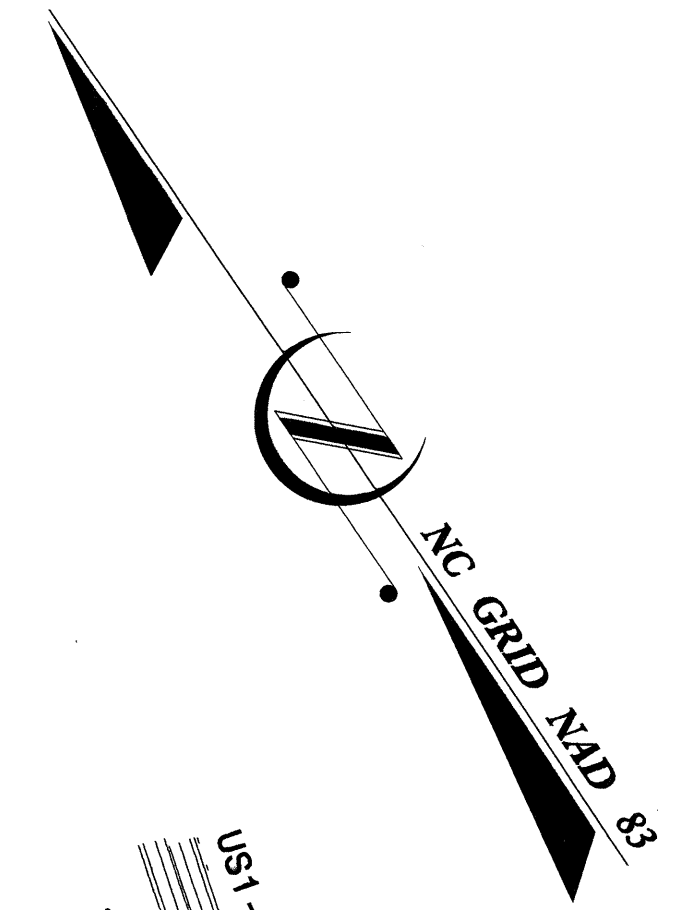
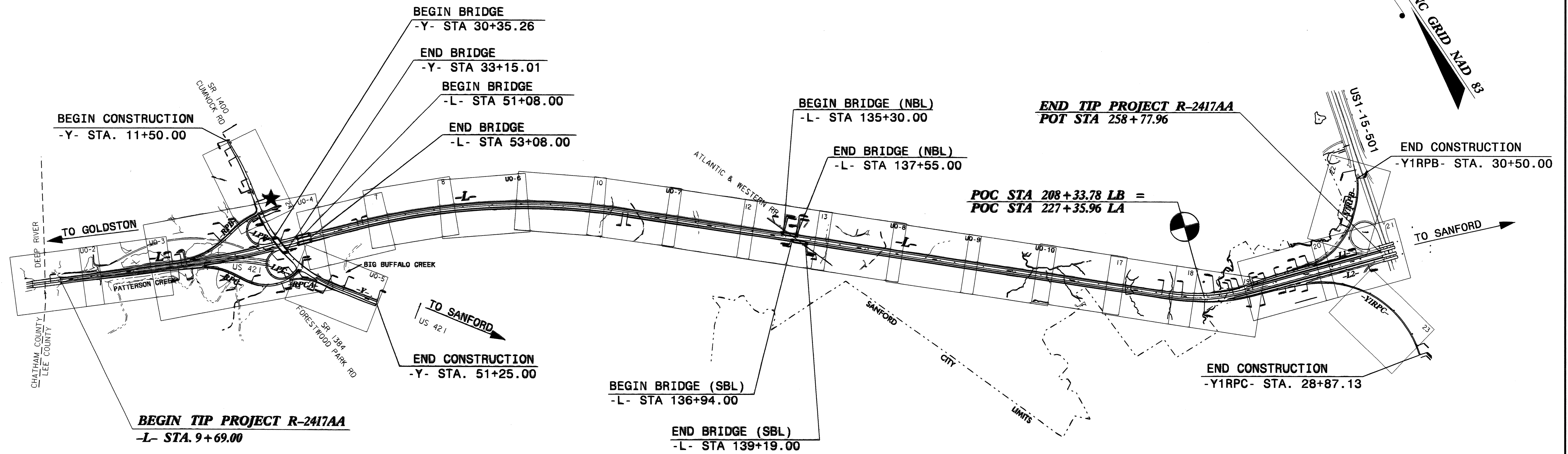
**UTILITIES BY OTHERS PLANS
LEE COUNTY**

**LOCATION: US 421 NC 87 SANFORD BYPASS FROM WEST
OF SR 1400 TO WEST OF US 1-15-501**

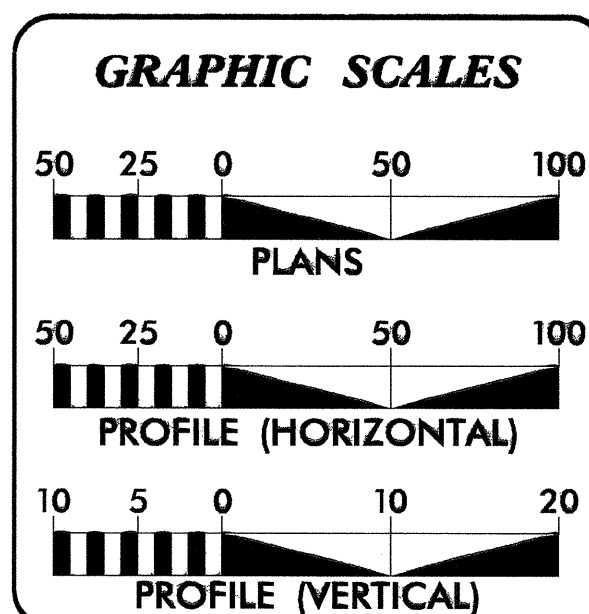
**TYPE OF WORK: POWER, TELEPHONE RELOCATION AND
ENCASEMENTS FOR FUTURE USE**

| | |
|------------|-----------|
| T.I.P. NO. | SHEET NO. |
| R-2417AA | UO-1 |

TIP PROJECT: R-2417AA



THIS IS A CONTROLLED - ACCESS PROJECT WITH
ACCESS BEING LIMITED TO INTERCHANGES.



INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------------|-------------------------------|
| UO-1 | TITLE SHEET |
| UO-2 THRU UO-10 | UTILITY BY OTHERS PLAN SHEETS |

- UTILITY OWNERS ON PROJECT**
- (1) PROGRESS ENERGY
 - (2) CENTRAL EMC
 - (3) WINDSTREAM
 - (4) CITY OF SANFORD

PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
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
Ali Kouchehi, P.E. UTILITIES PROJECT DESIGNER

10-NOV-2010 15:08
R:\Utilities\Regy_Ut\Proj\N2417aa-Ut-UO-1.L.tsh.dgn
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5/14/99

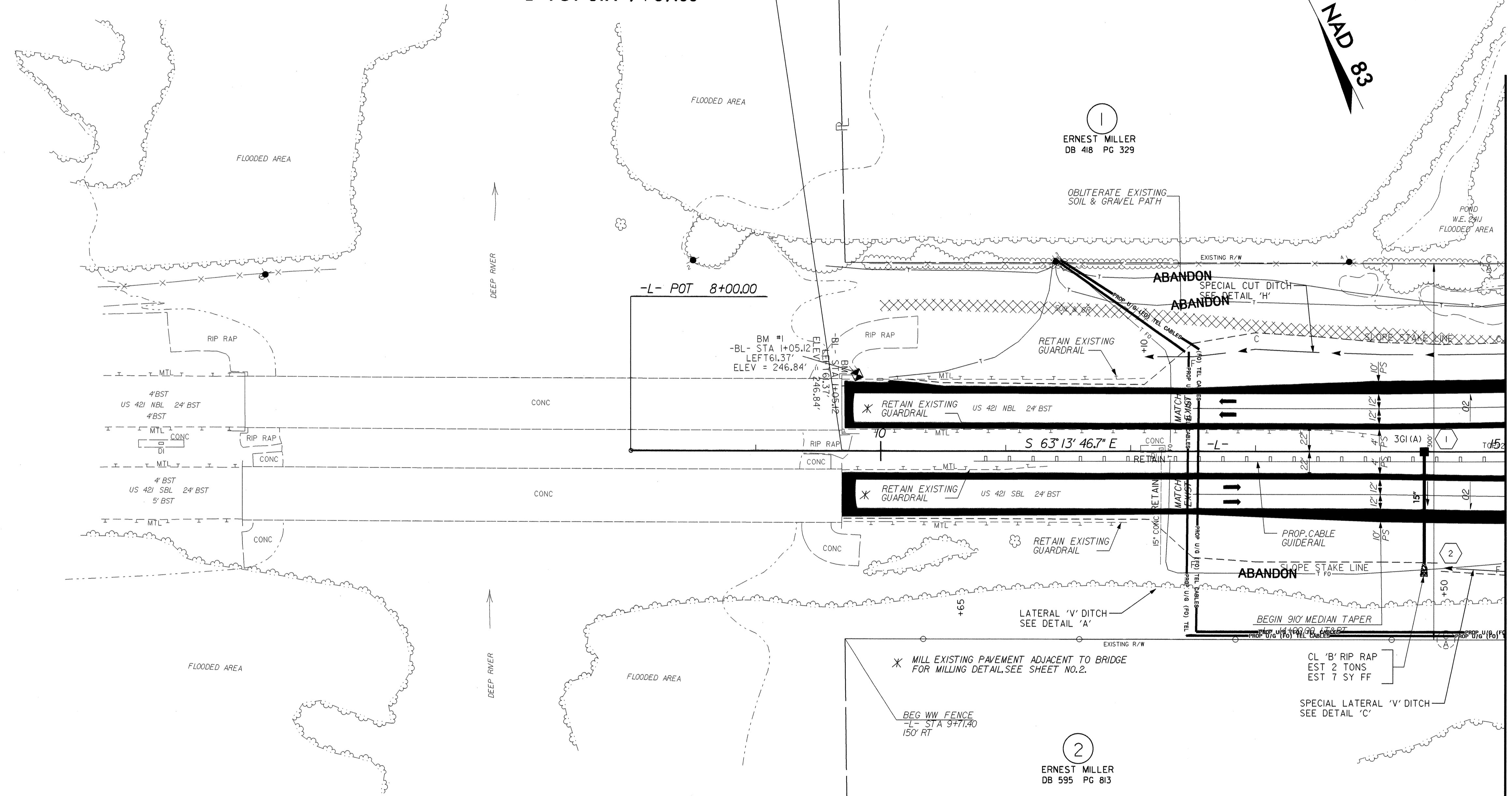
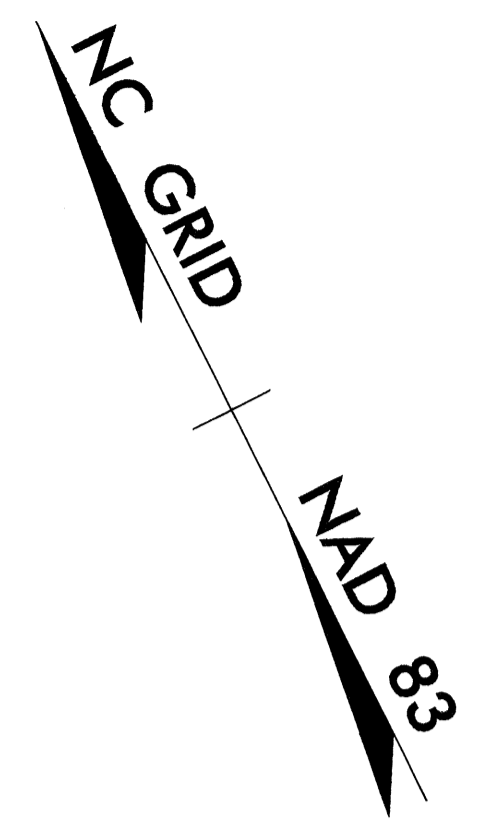
Florence & Hutcheson
 CONSULTING ENGINEERS
 5121 Kingdom Way, Suite 100 Raleigh, NC 27607
 NC License No: F-0258

| | |
|-----------------------------------|-------------------|
| PROJECT REFERENCE NO. R-2417AA | SHEET NO. UO-2 |
|-----------------------------------|-------------------|

UTILITIES BY OTHERS

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

BEGIN TIP PROJECT - R-2417AA
BEGIN CONSTRUCTION
-L- POT STA 9+69.00



-MATCHLINE- STA. 15 + 00.00 SEE SHEET NO. UO-3

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NC85 FOR MONUMENT "CUMNOCK 2" WITH NAD 83 STATE PLANE GRID COORDINATES OF NORTHING: 651651285(1) EASTING: 1928265244(1) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999869545 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "CUMNOCK 2" TO -L- STATION 12+50.00 IS N 62° 10' 15.2" W 3485.22' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NGVD 29

LEGEND

| | |
|--|------------------|
| | PAVED SHOULDER |
| | PAVEMENT REMOVAL |

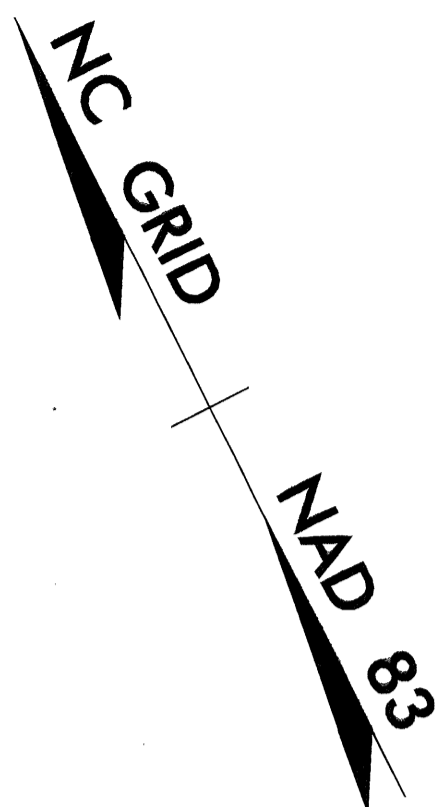
FOR -L- PROFILE, SEE SHEET NO. 26
 FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G

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UTILITIES BY OTHERS

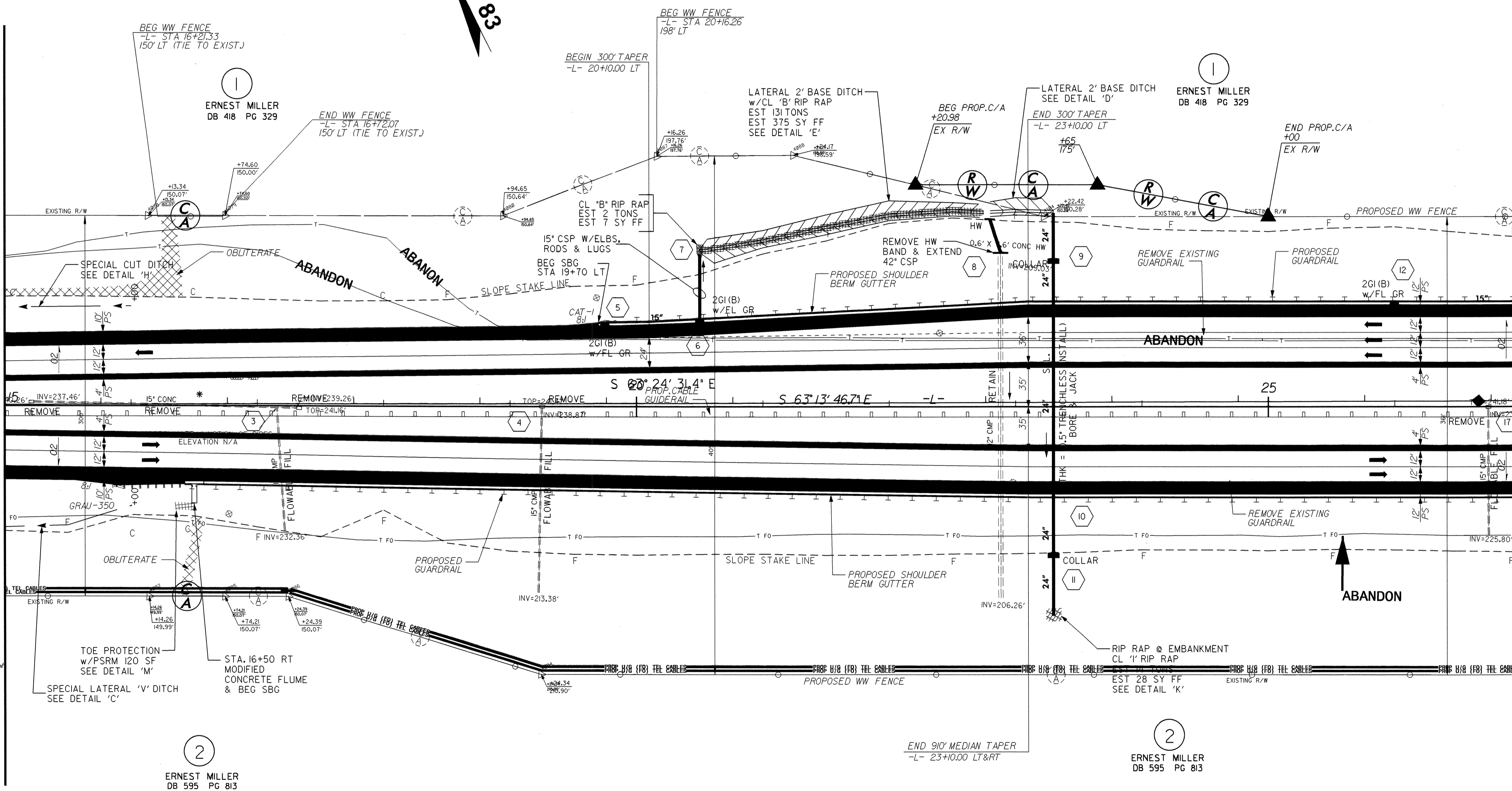
NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

* REMOVE MEDIAN CROSSOVER



-MATCHLINE- STA. 15 + 00.00 SEE SHEET NO. UO-2

-MATCHLINE- STA. 27 + 00.00 SEE SHEET NO. UO-4



LEGEND

- PAVED SHOULDER
- PAVEMENT REMOVAL

FOR -L- PROFILE, SEE SHEET NO. 26
FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G

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\\utl\1\05-001-2010 03:30
R-2417AA\05-UO3.dgn

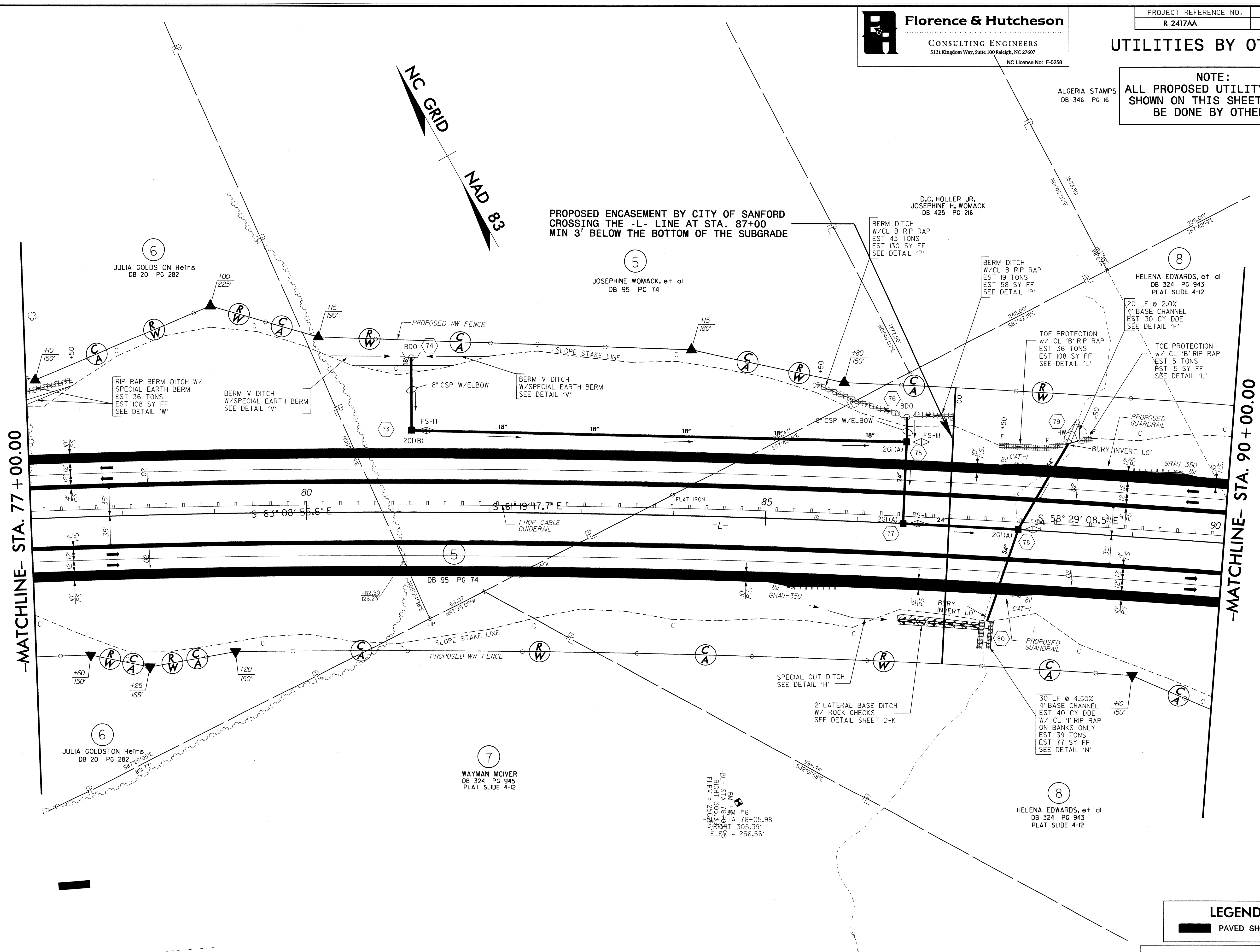
UTILITIES BY OTHERS

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

ALGERIA STAMPS
 DB 346 PG 16

NC GRID
NAD 83

PROPOSED ENCASEMENT BY CITY OF SANFORD CROSSING THE -L- LINE AT STA. 87+00 MIN 3' BELOW THE BOTTOM OF THE SUBGRADE



-MATCHLINE- STA. 77 + 00.00

-MATCHLINE- STA. 90 + 00.00

5/14/99
 05-001-2010_c4417_r-2417aa_rdu_psh_09_L06.dgn

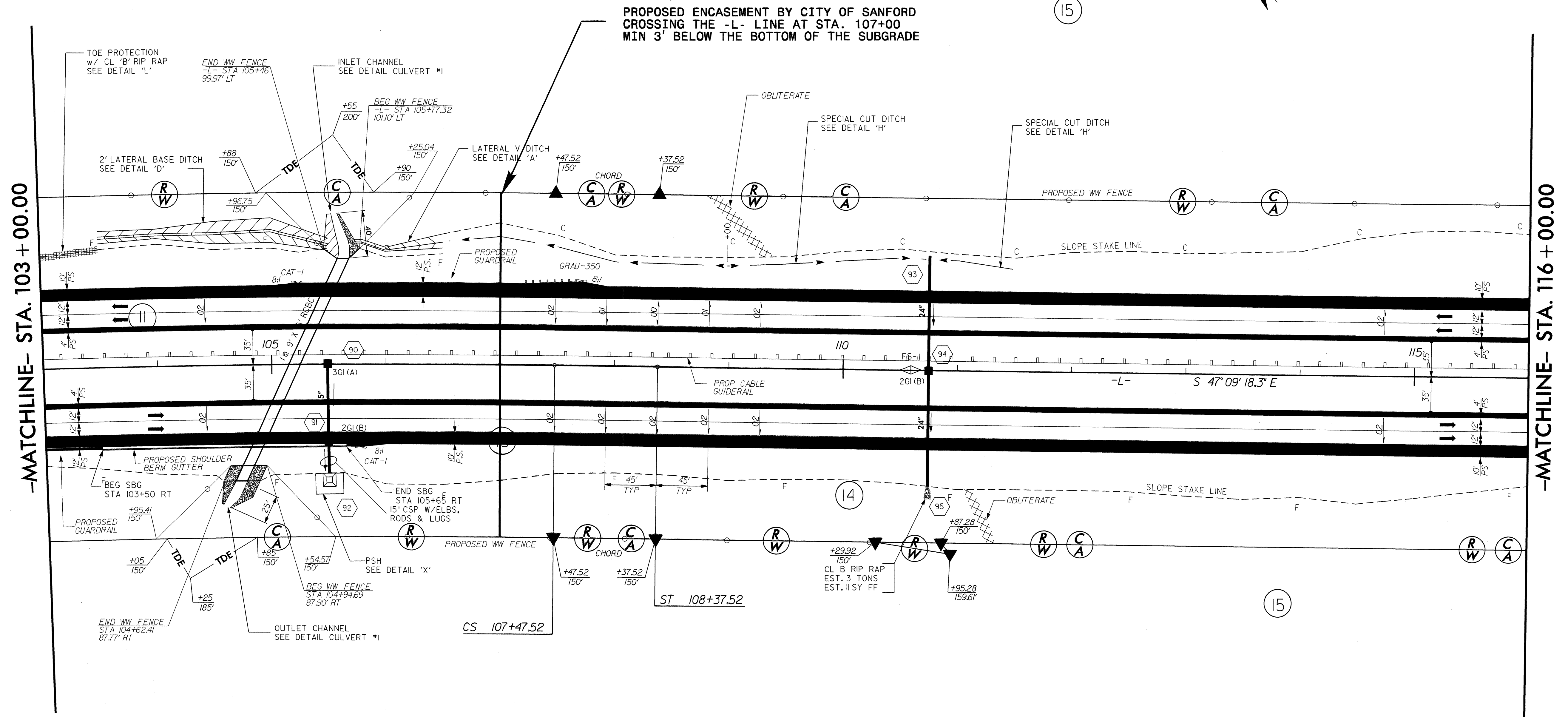
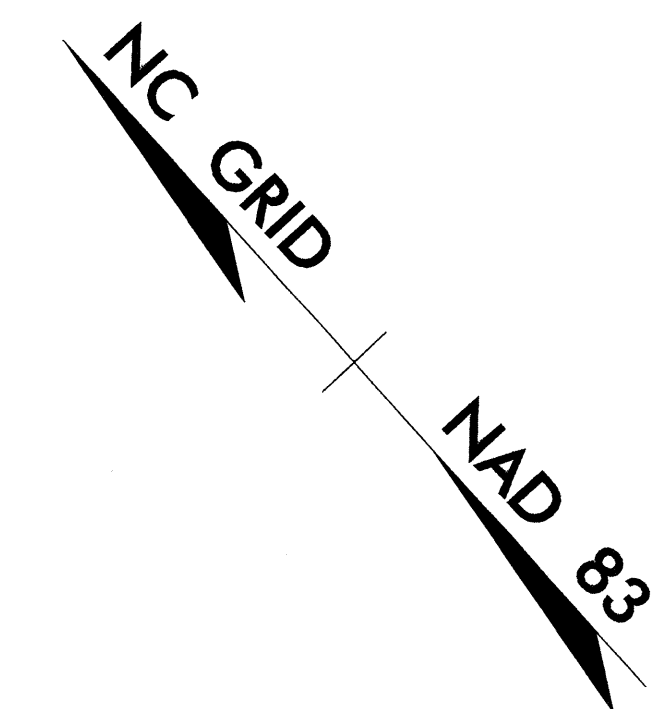
LEGEND
 ■ PAVED SHOULDER

FOR -L- PROFILE, SEE SHEET NOS. 28 & 29
 FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G

UTILITIES BY OTHERS

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

-L-
 PI Sta 85+33.81 Pls Sta 107+77.52
 $\Delta = 22^\circ 25' 40.9" (RT)$ $\Theta_s = 0^\circ 13' 30.0"$
 $D = 0^\circ 30' 00.0"$ $L_s = 90.00'$
 $L = 4,485.60'$ $LT = 60.00'$
 $T = 2,271.89'$ $ST = 30.00'$
 $R = 11,459.16'$
 $SE = 0.02$
 $V = 70 MPH$



5/14/99

05-OCT-2010 15:45
 N:\ut\11-05-09\11-05-09-2417\as_r.dwg-psh_11-007.dgn

LEGEND
 PAVED SHOULDER

FOR -L- PROFILE, SEE SHEET NOS. 29 & 30
 FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G

5/14/99

Florence & Hutcheson
 CONSULTING ENGINEERS
 5121 Kingdom Way, Suite 100 Raleigh, NC 27607
 NC License No. F-0258

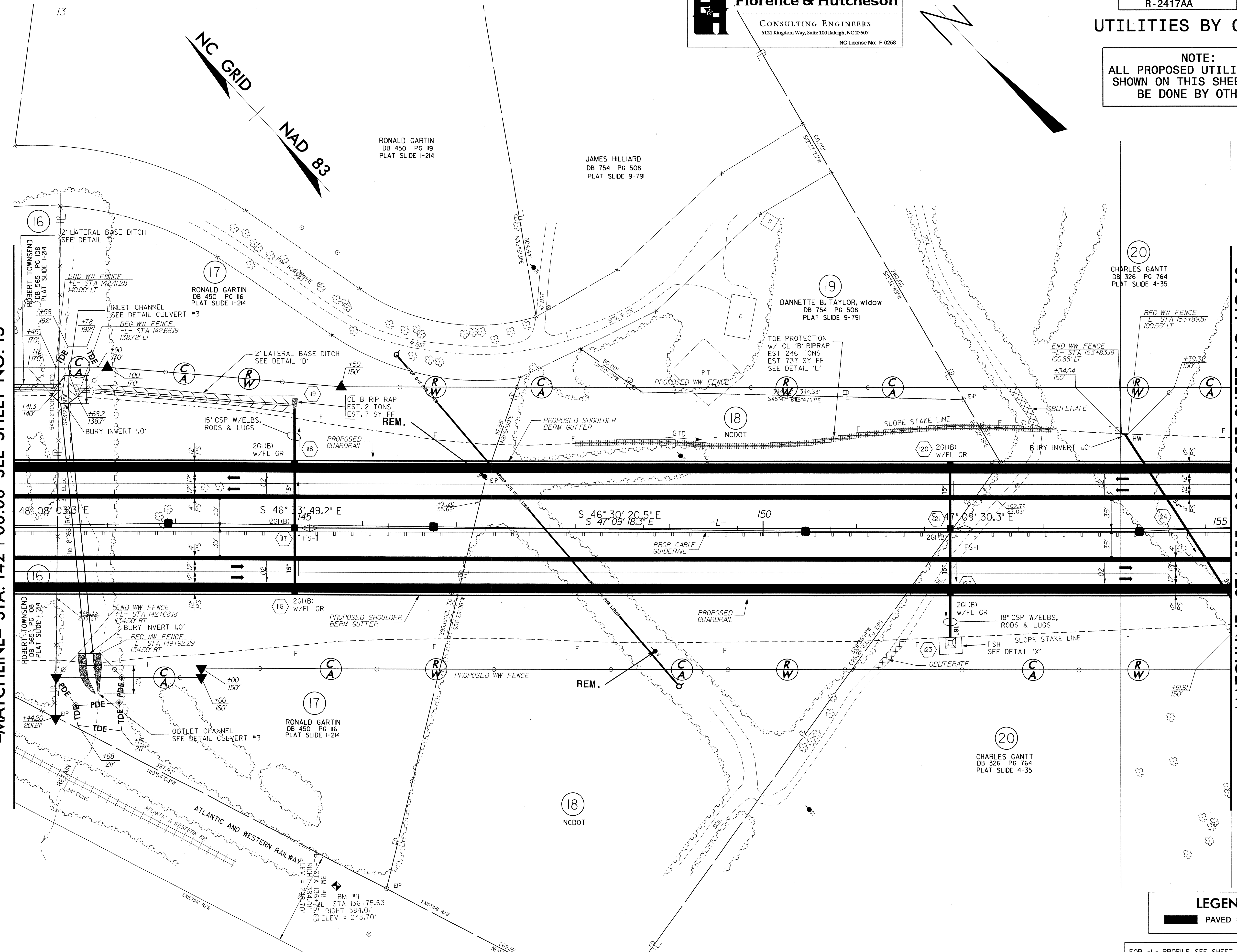
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| PROJECT REFERENCE NO. R-2417AA | SHEET NO. U0-8 |
|-----------------------------------|-------------------|

UTILITIES BY OTHERS

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

-MATCHLINE- STA. 142 + 00.00 SEE SHEET NO. 13

-MATCHLINE- STA. 155 + 00.00 SEE SHEET NO. U0-10



LEGEND
 ■ PAVED SHOULDER

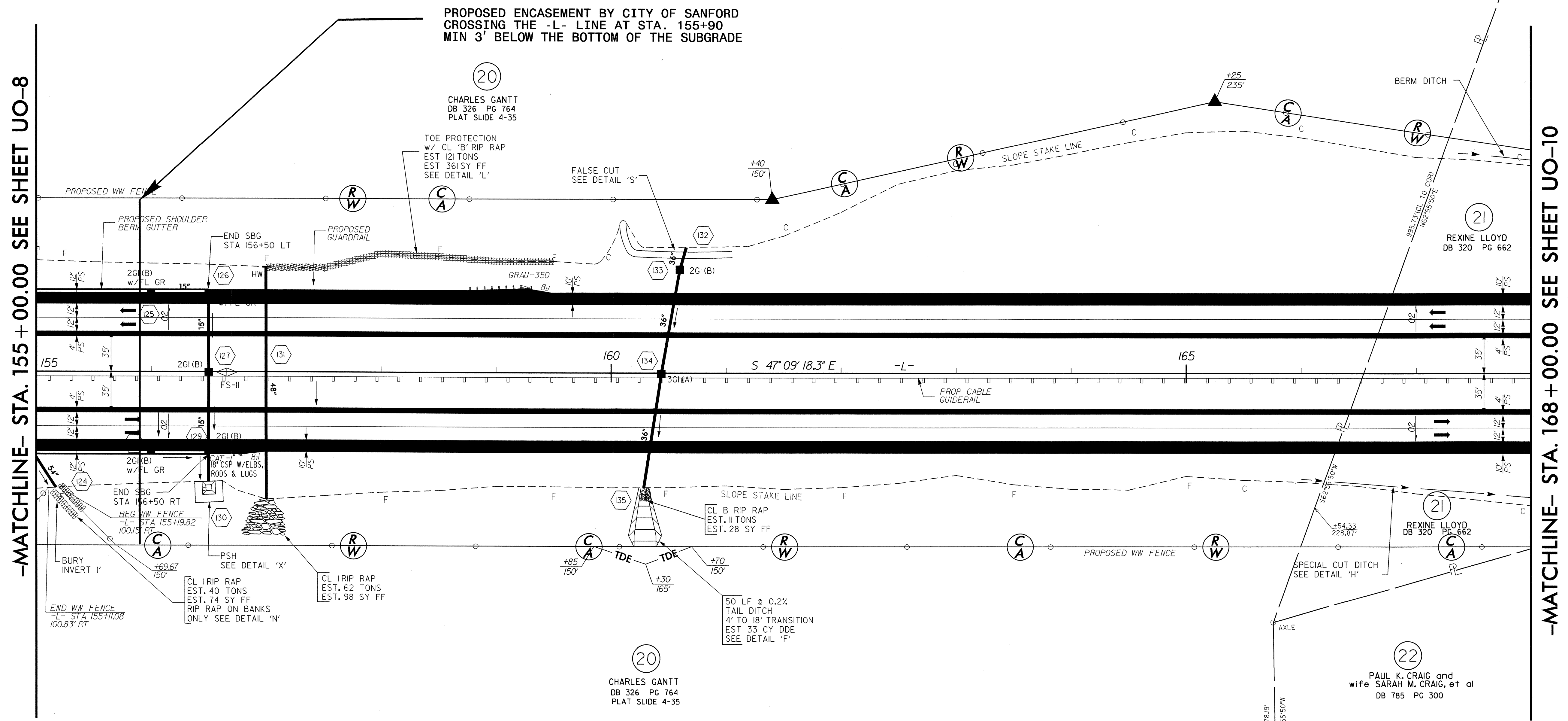
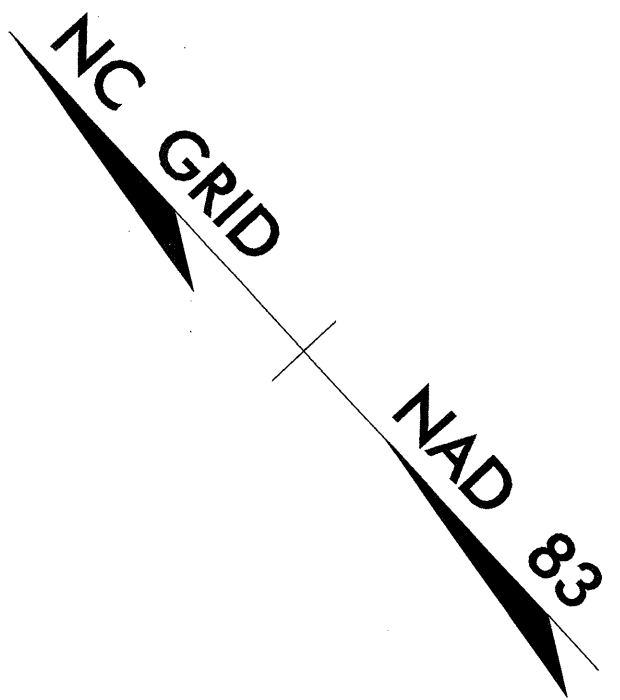
FOR -L- PROFILE, SEE SHEET NO. 31
 FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G

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5/14/99

UTILITIES BY OTHERS

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



-MATCHLINE- STA. 155 + 00.00 SEE SHEET UO-8

-MATCHLINE- STA. 168 + 00.00 SEE SHEET UO-10

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LEGEND
 ■ PAVED SHOULDER

FOR -L- PROFILE, SEE SHEET NOS. 31 & 32
 FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G

5/14/09

UTILITIES BY OTHERS

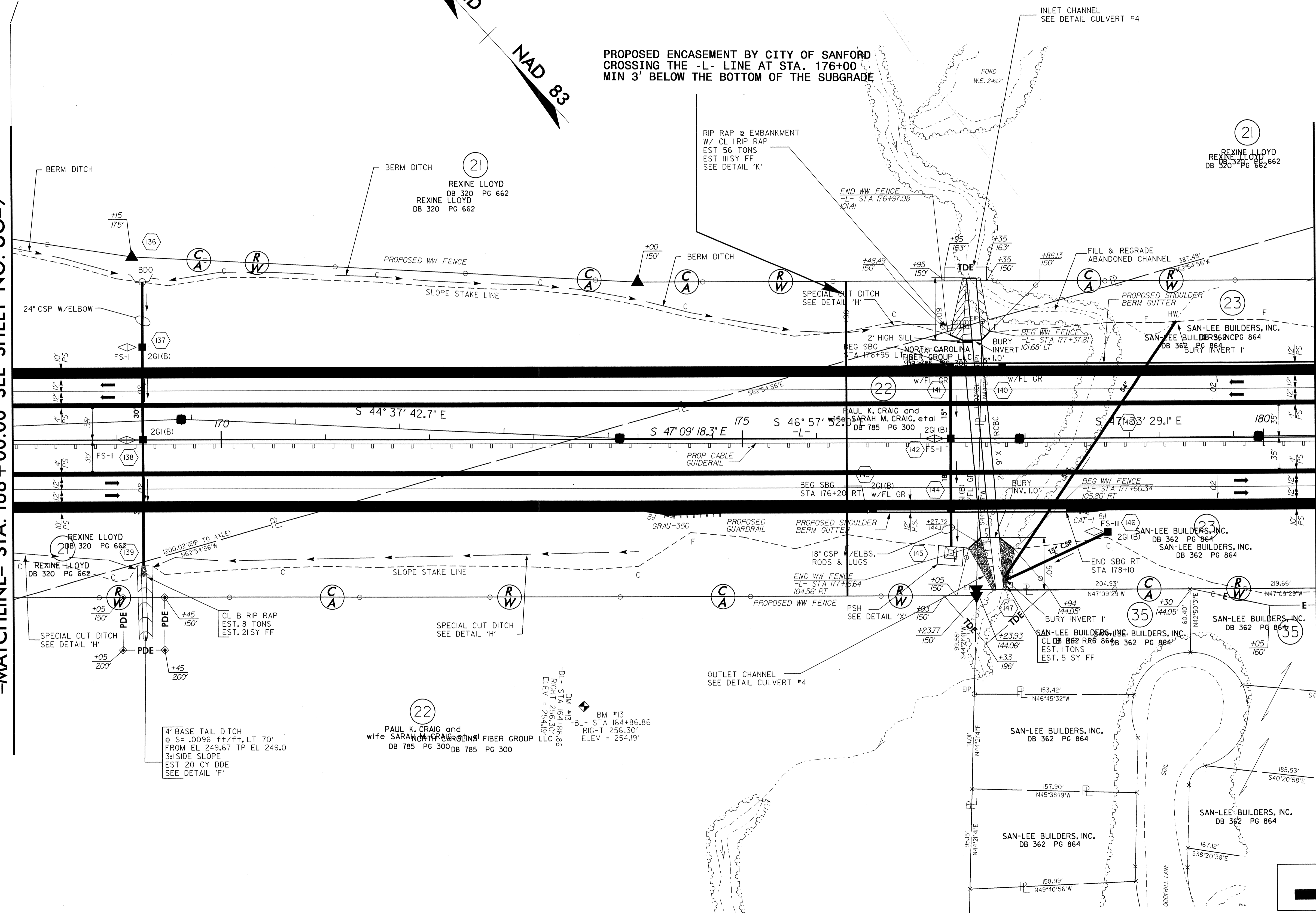
NOTE:
 ALL PROPOSED UTILITY WORK
 SHOWN ON THIS SHEET WILL
 BE DONE BY OTHERS

-MATCHLINE- STA. 168+00.00 SEE SHEET NO. U0-9

-MATCHLINE- STA. 180+50.00

NC GRID
 NAD 83

PROPOSED ENCASEMENT BY CITY OF SANFORD
 CROSSING THE -L- LINE AT STA. 176+00
 MIN 3' BELOW THE BOTTOM OF THE SUBGRADE



06-OCT-2010 14:13
 N:\projects\2417aa\psh_16_U09.dgn

LEGEND
 PAVED SHOULDER

FOR -L- PROFILE, SEE SHEET NO. 32
 FOR DITCH DETAILS, SEE SHEET NOS. 2-F & 2-G