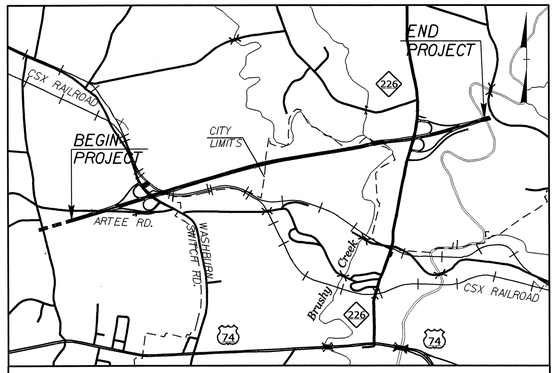
T.I.P. NO.	SHEET NO.
R–2707B	UC–1

TIP PROJECT: R–2707B



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
CLEVELAND COUNTY

LOCATION: US 74 – SHELBY BYPASS FROM WEST OF (SR 1314) ARTEE RD. TO EAST OF NC 226

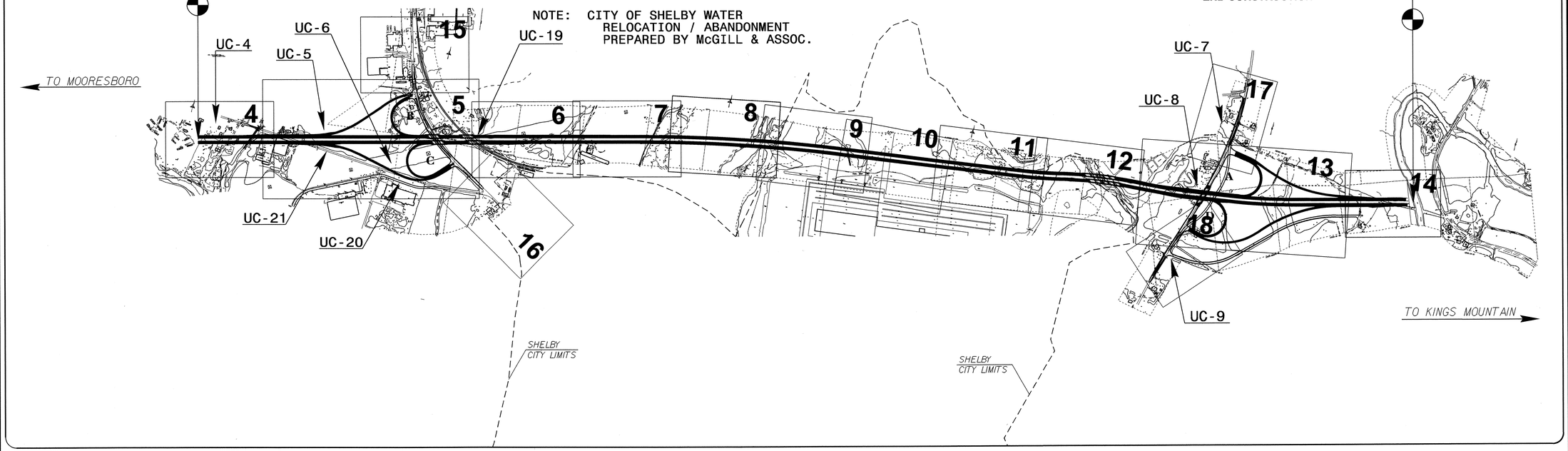
TYPE OF WORK: WATER AND SEWER RELOCATION

NAD 83

BEGIN PROJECT
-L- POT STA 215+46.78 T.I.P. R-2707AB LB
-L- POT STA 215+00.00 T.I.P. R-2707B LA
BEGIN CONSTRUCTION

NOTE: CITY OF SHELBY WATER RELOCATION / ABANDONMENT PREPARED BY McGILL & ASSOC.

END PROJECT
-L- ST STA 384+00.00 T.I.P. R-2707B LB
-L- ST STA 383+99.83 T.I.P. R-2707C LA
END CONSTRUCTION



GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
UC–1	TITLE SHEET
UC–2	UTILITY SYMBOLOGY
UC–3	NOTES
UC–3A	DETAILS
UC–4 THRU UC–18	UC PLAN & PROFILE SHEETS
UC–19 THRU UC–21	UC PLAN & PROFILE SHTS. (McGILL ASSOC.)
UC–22 THRU UC–23	UC DETAIL SHEETS (McGILL ASSOC.)

WATER AND SEWER OWNERS ON PROJECT

(1) WATER – CITY OF SHELBY
(2) WATER – CLEVELAND COUNTY
(3) SANITARY SEWER – CITY OF SHELBY
(4) SANITARY SEWER – TOWN OF KINGSTOWN

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A. BARCLAY 5/7/13

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
James E. Swinson	UTILITIES PROJECT DESIGNER

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09/06/06

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED SEWER SYMBOLS

- Gravity Sewer Line (Sized as Shown) — 12" SS
- Force Main Sewer Line (Sized as Shown) — 12" FSS
- Manhole (Sized per Note)
- Sewer Pump Station — PS(SS)

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Utility Pole
- Utility Pole with Base
- H-Frame Pole
- Power Transmission Line Tower
- Water Manhole — W
- Power Manhole — P
- Telephone Manhole — T
- Sanitary Sewer Manhole
- Hand Hole for Cable — HH
- Power Transformer
- Telephone Pedestal — T
- CATV Pedestal — C
- Gas Valve
- Gas Meter
- Located Miscellaneous Utility Object
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.
- *Underground Power Line — P
- *Underground Telephone Cable — T
- *Underground Telephone Conduit — TC
- *Underground Fiber Optics Telephone Cable — T FO
- *Underground TV Cable — TV
- *Underground Fiber Optics TV Cable — TV FO
- *Underground Gas Pipeline — G
- Aboveground Gas Pipeline — A/G Gas
- *Underground Water Line — W
- Aboveground Water Line — A/G Water
- *Underground Gravity Sanitary Sewer Line — SS
- Aboveground Gravity Sanitary Sewer Line — A/G Sanitary Sewer
- *Underground SS Forced Main Line — FSS
- Underground Unknown Utility Line — ?UTL
- SUE Test Hole
- Water Meter
- Water Valve
- Fire Hydrant
- Sanitary Sewer Cleanout

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown) — W
- Designated Utility Line (Type as Shown) — W

REV: 2/1/2012

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-3
DESIGNED BY: JES	
DRAWN BY: JES	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A. BARCLAY 5/7/13

UTILITY CONSTRUCTION

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 WATER UTILITIES BELONG TO THE CITY OF SHELBY AND CLEVELAND COUNTY. THE EXISTING SEWER UTILITIES BELONG TO THE CITY OF SHELBY AND THE TOWN OF KINGSTOWN .

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.

PROJECT SPECIFIC NOTES:

1. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE PATH DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.

2. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 1510 OF THE STANDARD SPECIFICATIONS CONCERNING WATER LINE / TRACER WIRE INSTALLATION. ALSO REFER TO PROJECT SPECIAL PROVISIONS.

LIST OF STANDARD DRAWINGS

1515.01 WATER METER

1515.02 FIRE HYDRANT

06-MAY-2013 08:25
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$$$$USERNAME$$$$

5/14/99

PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-3A
DESIGNED BY: JES	
DRAWN BY: JES	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

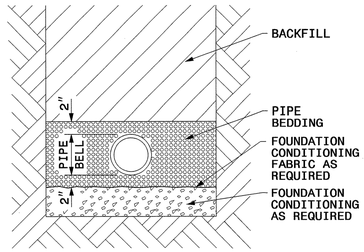
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A. BARCLAY 5/7/99

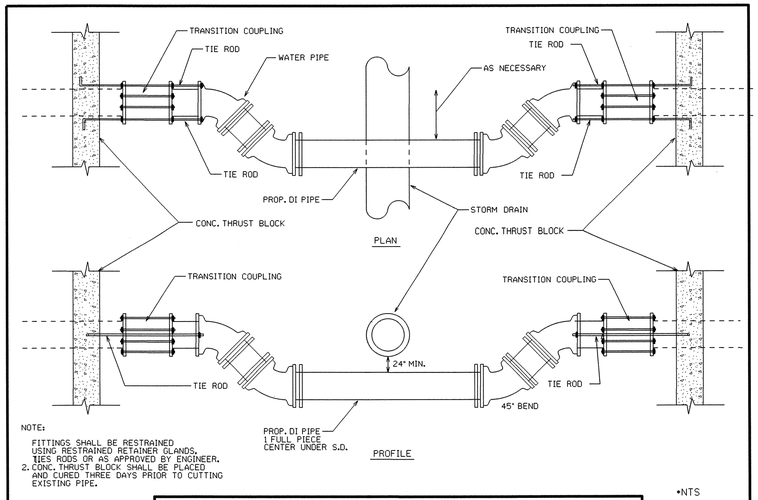
UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

TRENCH DETAIL



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.



NOTE:
1. FITTINGS SHALL BE RESTRAINED USING RESTRAINED RETAINER GLANDS, TIES RODS OR AS APPROVED BY ENGINEER.
2. CONC. THRUST BLOCK SHALL BE PLACED AND CURED THREE DAYS PRIOR TO CUTTING EXISTING PIPE.

•NTS

RELOCATION OF WATER PIPE AT PROPOSED STORM DRAINAGE AS SHOWN ON PLANS

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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-4

DESIGNED BY: JES
DRAWN BY: JES
CHECKED BY: CAB
APPROVED BY: CAB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22940 CARL A. BARCLAY

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

-DRIVE3-
PC Sta. 13+03.72

-DRIVE3-
PT Sta. 14+08.38

-DRIVE3-
PI Sta 13+35.44
Δ = 76° 49' 25.9" (LT)
D = 143° 14' 22.0"
L = 53.63'
T = 31.72'
R = 40.00'

-DRIVE3-
PI Sta. 11+75.95

-DRIVE3-
PI Sta. 11+49.52

-DRIVE3-
PC Sta. 13+70.89

-DRIVE3-
PT Sta. 13+57.35

-DRIVE3- STA.10+40.00
TIE TO EXISTING
BEGIN CONSTRUCTION

STA.13+75.00
EXISTING
END CONSTRUCTION

-L- POT STA 214+60+/- T.J.P. R-2707B LA
BEGIN CONSTRUCTION

BEGIN PROJECT
-L- POT STA 215+46.78 T.J.P. R-2707AB LB
-L- POT STA 215+00.00 T.J.P. R-2707B LA
BEGIN GRADING

PROP. 1
6" VALVE

PROP. 37'
12" TRENCHLESS
INSTALLATION IN SOIL

PROP. 37'
12" TRENCHLESS
INSTALLATION NOT IN SOIL

PROP. 74'
12" ENCASEMENT PIPE

PROP. 708'
6" WATER LINE

PROP. 367'
ABANDON 6" UTILITY PIPE

PROP. 25'
TRENCHLESS INSTALLATION
OF 12" IN SOIL

PROP. 25'
TRENCHLESS INSTALLATION
OF 12" NOT IN SOIL

PROP. 270'
12" ENCASEMENT PIPE

MATCHLINE -L- STA 225+50 SEE SHEET UC-5

NOTE:
FOR -L- PROFILE SEE SHEET No.19
FOR -DRIVE3- PROFILE SEE SHEET No.38

INLET TYPICAL
NOT TO SCALE
(LEFT TO RIGHT LOOKING DOWNSTREAM)

EST TONS CLASS 'II' = 38 TONS
EST FILTER FABRIC = 53 SY
EST COIR FIBER MATTING = 225 CY
DDE = 90 CY

OUTLET TYPICAL
NOT TO SCALE
(LEFT TO RIGHT LOOKING DOWNSTREAM)

EST TONS CLASS 'II' = 85 TONS
EST FILTER FABRIC = 180 SY
EST COIR FIBER MATTING = 90 CY
EST. DDE = 50 CY
EST. FILL= 50 CY

DETAIL 27
FALSE SUMP
(Not to Scale)

STA 218+45 MED
STA 223+50 MED

DETAIL 15
LATERAL BASE DITCH
(Not to Scale)

STA 220+00 LT TO STA 222+57

DETAIL 45
LATERAL 'V' DITCH
(Not to Scale)

FROM STA. 12+25 TO STA. 13+12 RT

DETAIL 13
LATERAL 'V' DITCH
(Not to Scale)

STA 219+00 RT TO STA 220+50 RT

DETAIL 2
LATERAL BASE DITCH
(Not to Scale)

STA 222+00 RT TO STA 223+00 RT

DETAIL 9
LATERAL 'V' DITCH
(Not to Scale)

STA 223+50 RT TO STA 225+50 RT

RICHARD & MARCELLE HAMRICK
DB 14-M PG 523

ROGER W. McMAHAN
DB 1456 PG 522
PB 30 PG 100

ROGER W. McMAHAN
DB 1354 PG 28
PB 30 PG 101
SEE DETAIL 15

JOHN ROBERT MCBRAYER
DB 1145 PG 1241

JOHN ROBERT MCBRAYER
DB 1183 PG 422

KATHY M. & KEITH BEAVER
DB 1991 PG 1991

FRANKLIN NURSERY, INC.
DB 1083 PG 1680

ROGER W. & DEBBIE McMAHAN
DB 1354 PG 28
PB 30 PG 101

JOHN

NC GRID
NAD 83/95

NAD 83

SR 1314
ARTEE RD

EXISTING R/W

PRIVACY FENCE

REBAR

18" RCP

12" HDPE

PUE

PDE

CONC

FSMTL

BUS

HTR

GR

JUNK YARD

SOIL

RUINS

4' FDPS

2 @ 10' x 10' RCBC

15" RCP-III

15" W/ 2 ELBOWS

CAT-1

WL-1

LATERAL 'V' DITCH SEE DETAIL 45

SPECIAL DITCH GRADE - SEE PROFILE

GRADING ONLY

FUTURE BEG EXPWY GUTTER

FUTURE CABLE GUIDERAIL

FUT. GRAU 350

CL B RIPRAP
EST. 5 TON
EST. 14 SY FF

24" W/ELBOWS AND ENDWALLS

18" W/ELBOWS AND ENDWALLS

LATERAL V-DITCH SEE DETAIL 13

LATERAL V-DITCH SEE DETAIL 9

TI-510
ELEV=833.09

TI-509
ELEV=834.96

BL-74
PINC
187+02.67

BL-73
PINC
182+58.71

BM 8

FS - SEE DETAIL 27

END FENCE

BEGIN FENCE

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USERNAME=jsherman

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-5

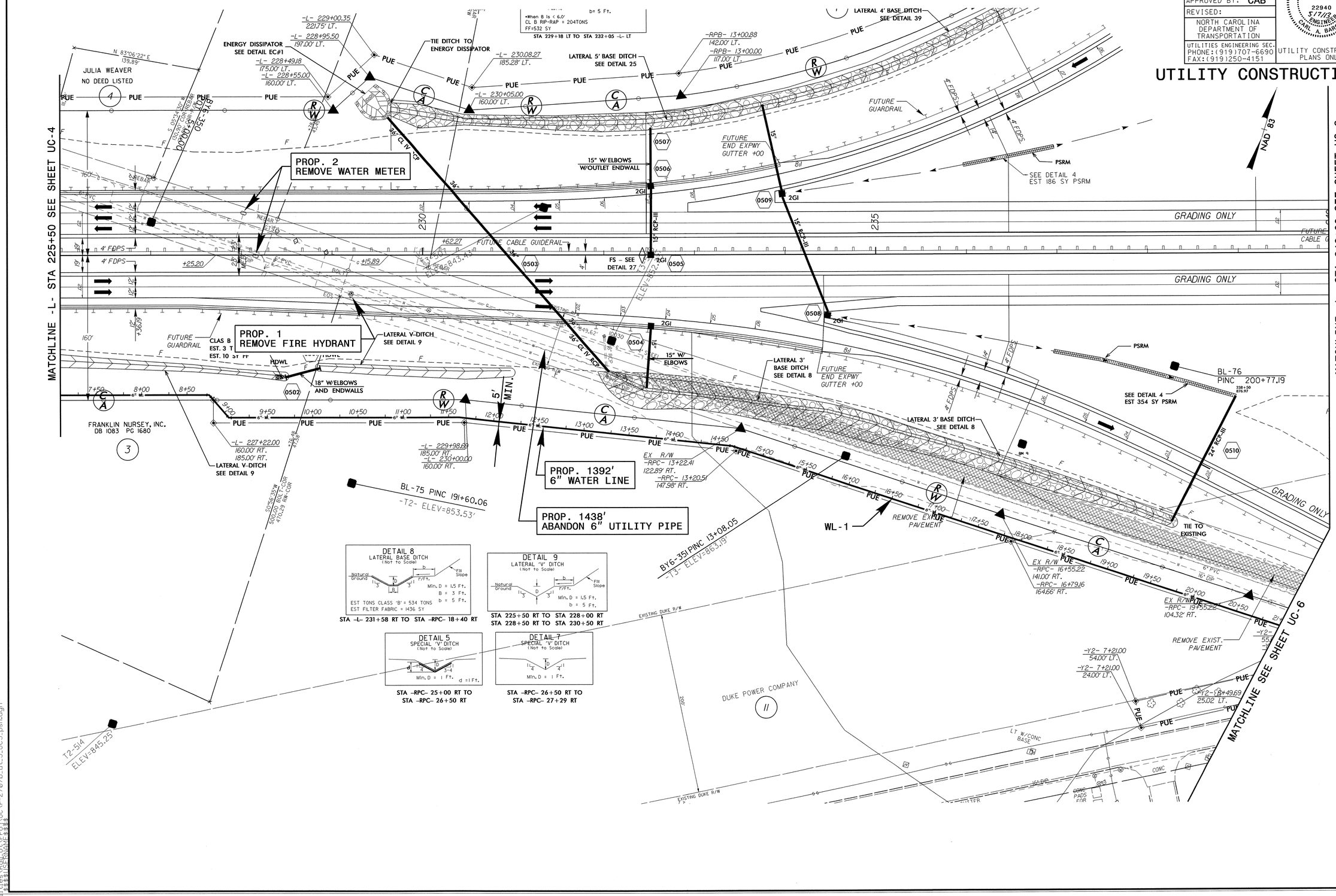
DESIGNED BY: MJY
DRAWN BY: MJY
CHECKED BY: CAB
APPROVED BY: CAB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 5/7/13 ENGINEER CARL A. BARCLAY

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-6

DESIGNED BY: MJY
DRAWN BY: MJY
CHECKED BY: CAB
APPROVED BY: CAB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 22940 5/7/13 ENGINEER CARL A. BARCLAY

UTILITY CONSTRUCTION

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07-MAY-2013 08:58
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$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-7
DESIGNED BY: MJY	
DRAWN BY: MJY	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A. BABCLAY 5/7/18

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

NAD 83

SEE SHEET UC-8

MATCHLINE -Y1- SEE SHEET UC-8

PROP. 1
6" VALVE

PROP. 2
6" VALVE

PROP. 1210'
ABANDON 6" UTILITY PIPE

PROP. 1232'
6" WATER LINE

PROP. 47'
6" WATER LINE

WL-2

PROP. 3
RELOCATE WATER METER

PROP. 129'
12" ENCASEMENT PIPE

PROP. 1179'
ABANDON 6" UTILITY PIPE

PROP. 1
6" VALVE

PROP. 1200'
6" FORCE MAIN SEWER

PROP. 1
RELOCATE WATER METER

NOTE: FORCE MAIN SEWER OWNED BY TOWN OF KINGSTOWN AND MAINTAINED BY CITY OF SHELBY.

NOTE: AREA ALONG R/W ALLOWED FOR CITY GAS MAIN AND FUTURE CITY WATER MAIN.

BEGIN CONSTRUCTION
-Y1- STA. 11+90.00

CHARLES CLAY CABANISS, Jr.
JANE GRAGG CABANISS
IE-539
REF. DB 1306 PG 146

RONALD DAVID & CATHERINE NIRA LEDBETTER
DB 14J PG 702

LOUISE HOPE MARTIN
DB 1162 PG 1693

SAM D. BLACK
DB 1120 PG 1594

C. CLAY & BERTIE CABANISS
DB 1306 PG 146

JAMES E. & AUDREY L. WALKER DEATON
DB 1579 PG 2185

SPECIAL LATERAL V DITCH
STA 18+00 TO 19+15 -Y1- LT
SEE DETAIL 50

EST 3 TONS CL B RIP RAP
EST 22 SY FILTER FABRIC

EST 1 TONS CL B RIP RAP
EST 5 SY FILTER FABRIC

EST 2 TON CL B RR
4 SYFF
EARTH

-DRIVE2-

PI Sta 10+83.06
Δ = 15° 03' 55.9" (RT)
D = 22° 55' 05.9"
L = 65.74'
T = 33.06'
R = 250.00'

PI Sta 12+07.34
Δ = 20° 45' 47.1" (LT)
D = 11° 27' 33.0"
L = 181.19'
T = 91.60'
R = 500.00'

-Y1-

PIs Sta 12+13.33
Θs = 0° 44' 37.5"
Ls = 105.00'
LT = 70.00'
ST = 35.00'

PI Sta 15+31.14
Δ = 8° 00' 00.0" (RT)
D = 1° 25' 00.0"
L = 564.71'
T = 282.81'
R = 4,044.41'
SE = .03

PI Sta 24+03.61
Δ = 11° 46' 11.9" (RT)
D = 1° 00' 00.0"
L = 1,177.00'
T = 590.58'
R = 5,729.58'
SE = .02
RO = 72'

-Y1- POT Sta. 10+00.00

-Y1- TS Sta. 11+43.33

-Y1- SC Sta. 12+48.33

-Y1- PCC Sta. 18+13.03

-DRIVE2- PT

-DRIVE2- PRC Sta. 11+15.74

-DRIVE2- PC Sta.

-DRIVE2- POT Sta. 10+00.00

-RPAI- POT 21+31.85 = -Y1- POC 21+07.49

-LPAI- POT 11+52.63 = -Y1- POC 21+27.49

-LPAI- CS 7+

-LPAI- -A- ST 8+64.81

N 83°06'26" W

S 4° 59' 44.2" E

SR 1226 POLKVILLE RD 24' BST

S 85°41'46" E 323.48

S 85°41'46" E 84.13

S 4°33'32" W 200.00

N 83°06'26" W 199.80

N 83°06'26" W 199.93

N 83°06'26" W 328.41

N 17°33'15" E 57.85

N 17°33'15" E 246.82

N 15°49'57" E 251.08

N 15°49'57" E 404.79

N 10°50'47" E 45.65

N 83°06'10" W 424.15'

06-MAY-2013 16:23
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-8
DESIGNED BY: MJY	
DRAWN BY: MJY	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 22940 5/7/13 ENGINEER CARL A. BABCLAY

UTILITY CONSTRUCTION

NAD 83

MATCHLINE -L- STA. 348+50 SEE SHEET 13

MATCHLINE -Y1- STA. 24+00 SEE SHEET UC-7

SEE SHEET UC-7

MATCHLINE -L- STA. 362+50 SEE SHEET 13

MATCHLINE -Y1- STA. 34+50 SEE SHEET UC-9

NOTE: FORCE MAIN SEWER OWNED BY TOWN OF KINGSTOWN AND MAINTAINED BY CITY OF SHELBY.

PROP. 1042' 6" FORCE MAIN SEWER

PROP. 1 RELOCATE WATER METER

PROP. 1044' ABANDON 6" UTILITY PIPE

PROP. 1047' ABANDON 6" UTILITY PIPE

PROP. 1052' 6" WATER LINE

PROP. 1 REMOVE WATER METER

PROP. 173' 12" ENCASEMENT PIPE (TOWN OF KINGSTOWN)

PROP. 173' 30" ENCASEMENT PIPE (EMPTY ENCASEMENT CITY OF SHELBY)

PROP. 173' 10" ENCASEMENT PIPE (EMPTY ENCASEMENT CITY OF SHELBY)

NOTE: ENCASEMENT SPACING 10' WITH 3' MIN COVER. SEAL ENDS.

PROP. 173' 12" ENCASEMENT PIPE

PROP 143' 12" ENCASEMENT PIPE

PROP. 1 RELOCATE FIRE HYDRANT (SEE UC-9)

PROP. 1 REMOVE WATER METER

NOTE: AREA ALONG R/W ALLOWED FOR CITY GAS MAIN AND FUTURE CITY WATER MAIN.

BEGIN APP. SLAB -Y1- STA. 26+88.01

BEGIN BRIDGE -Y1- STA. 27+11.93

-L- PC Sta. 357+87.39

-Y1- PC Sta. 28+24.93

-L- CS Sta. 351+23.01

-L- ST Sta. 353+23.01

-L- SC Sta. 348+96.72

-Y1- CS Sta. 29+90.03

-Y1- ST Sta. 30+40.03

-LPDI- TS 0+00.00

-L- POT 355+00.51 47.00' (LT.)

-LPDI- SC 1+60.00

-LPAI- TS 0+00.00

-L- POC STA. 359+31.84 47.00' (RT.)

-LPAI- SC 1+60.00

-LPDI- CS 8+97.36

-LPDI- ST 10+57.36

-RPDI- SRS 12+59.40

-RPDI- SC 14+59.40

-RPDI- POT 24+04.31

-Y1- POT 33+28.75

-LPDI- POT 11+92.36

-Y1- POT 33+08.75

BRIDGE

CHORD

GRADING ONLY

FUTURE GUARDRAIL

PROP. GUARDRAIL

PROP. SLOPE STAKE LINE

CEMETERY

FUTURE CAT-18

FUTURE MONOLITHIC ISLAND

FUTURE END CONC

FUTURE BEGIN C&G +28.4

FUTURE BEGIN C&G +26.0

FUT. CONCRETE BARRIER

FUT. IMPACT ATTENUATOR TYPE 350

FUTURE B-77

N 88°06'34.0" E

S 15°46'05.2" W

N 74°13'54.7" W

N 75°19'37" E 598.63

S 75°19'37" W 598.63

BL-90 PINC 322+89.39 -T12- ELEV=807.65'

BL-8 PINC 316+83.94= 117+10.84

BY9-361 PINC 10+88.35

BY9 PINC 316+83.94= 117+10.84

T12-700 ELEV=802.15'

T12-701 ELEV=781.11'

CHARLES DB 116

CHARLES A. HORN DB 11X PG 433

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DB 1495 PG 1669

WILLIAM JAMES HORN DB 1162 PG 1895

ROD AND LUG W/SLEEVE GASKET

HDWL W/ SLUICE GATE

24" CLASS IV W/METHOD 3

15" CSP W/ELBOWS

2GI-B W/ FLAT GRATE

CLASS II RIP RAP EST. 17 TONS 28 SY FF

6' STANDARD BASE DITCH SEE DETAIL 20

TRANSITION STONE CL B = 1 TON FF = 5 SQ. YDS.

GRADE TO DRAIN

300' TAPER

EST 1 TONS CL B RIP RAP EST 5 SY FILTER FABRIC

EST 2 TONS CL B RIP RAP EST 7 SY FILTER FABRIC

STANDARD V DITCH SEE DETAIL 52 EST. 8 CY DDE

TOE PROTECTION STA 4+50 TO 9+20 LOOP -D- RT SEE DETAIL 5 EST 229 TONS CLASS B RIP RAP EST 398 SY FILTER FABRIC

TOE PROTECTION STA 22+64 TO 31+25 LT -Y17- SEE DETAIL 55 EST 458 TON CL B RIP RAP 5 EST 1235 SY FILTER FABRIC

TOE PROTECTION SEE DETAIL 5 EST 72 TON CL B RIP RAP EST 125 SY FILTER FABRIC

SPECIAL LATERAL V DITCH W/CL B RIP RAP STA 19+35 TO 22+64 -Y17- LT SEE DETAIL 58 EST 155 TONS CL B RIP RAP EST 420 SY FILTER FABRIC

SPECIAL 2' LATERAL BASE DITCH W/CL B RIP RAP STA. 9+25 TO 13+00 RT RAMP -D- SEE DETAIL 54 EST 241 TONS CL B RIP RAP EST 653 SY FILTER FABRIC

EST 3 TONS CL B RIP RAP EST 10 SY FILTER FABRIC

HAZARDOUS SPILL BASIN No. 1 TOTAL CAPACITY REQUIRED W/ TOTAL CAPACITY W/0.5' FREEBO

N82°54'42"W 1292.47

30' MIN. CLEAR

5' MIN

D

06-MAY-2013 13:09
\Utilities\RDU_Utp_Proj\UC\R-2707B_Ut_13_UC8_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-9
DESIGNED BY: MJY	
DRAWN BY: MJY	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A. BARCLAY

UTILITY CONSTRUCTION

5/14/99

NAD 83

36
MYRTLE ROBERTSON, HEIRS
DB 7N PG 252

CHARLES C. ROBERTSON
DB 7N PG 252

WILLIAM JAMES HORN
DB 1162 PG 1895

MYRTLE ROBERTSON, HEIRS
DB 7N PG 252

NOTE: AREA ALONG R/W ALLOWED FOR CITY GAS MAIN AND FUTURE CITY WATER MAIN.

PROP. 793' ABANDON 6" UTILITY PIPE

NOTE: FORCE MAIN SEWER OWNED BY TOWN OF KINGSTOWN AND MAINTAINED BY CITY OF SHELBY.

PROP. 793' 6" FORCE MAIN SEWER

PROP. 1 2" AIR RELEASE VALVE

PROP. 1 6" VALVE

END CONSTRUCTION -Y1- STA. 42+40.00

PROP. 800' 6" WATER LINE

PROP. 1 6" VALVE

PROP. 1 RELOCATE WATER METER

-Y1- POT 37+75.00
-Y17- POT 10+00.00

-Y1- PC Sta. 36+79.85

WL-2

PROP. 775' ABANDON 6" UTILITY PIPE

-Y17- PC Sta. 12+83.38

PROP. 110' 12" ENCASEMENT PIPE

MATCHLINE -Y1- STA. 34+50 SEE SHEET UC-8

RAMP PT 22+

-Y1- PT 38+00

-Y1- TS 39+84.08

-Y1- CS Sta. 44+25.51

-Y1- ST Sta. 44+75.51

-Y17- PT 19+77.74

BTG POT 29+84.76

S 14°57'59.3" W 1315.69

S 87°11'48.0" E 1315.58

S 14°48'05" W 310.00

S 14°43'56" W 200.00

S 13°25'40" W 290.78

N 84°23'55" W 154.41

N 68°24'05" W 154.09

N 84°23'55" W 154.41

N 76°37'22" W 193.17

N 84°23'55" W 154.41

WILLIAM JAMES HORN
DB 126 PG 070

EARL O'NEAL MADDOX
DB 1139 PG 2264

(RELOCATED FIRE HYDRANT FROM UC-8)

37

38A
HATTLEY H. & LELA J. BRIDGES
DB 1308 PG 0314

38
DENNIS RAY McCRAKEN & EVELYN McCRAKEN
DB 1633, PG 224

40

45

-Y1-

PI Sta 37+39.98	PIs Sta 40+17.41	PI Sta 42+29.87
Δ = 0° 48' 06.0" (LT)	Θs = 0° 15' 00.0"	Δ = 3° 54' 51.5" (LT)
D = 0° 40' 00.0"	Ls = 50.00'	D = 1° 00' 00.0"
L = 120.25'	LT = 33.33'	L = 391.43'
T = 60.13'	ST = 16.67'	T = 195.79'
R = 8,594.37'		R = 5,729.58'

-Y17-

PI Sta 16+53.97
Δ = 49° 42' 38.0" (LT)
D = 7° 09' 43.1"
L = 694.09'
T = 370.59'
R = 800.00'

NOTE:
FOR -Y1- PROFILE SEE SHEET No. 32 & 33
FOR -Y17- PROFILE SEE SHEET No. 33 & 34

06-MAY-2013 08:42
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-10

DESIGNED BY: MJY
DRAWN BY: MJY
CHECKED BY: CAB
APPROVED BY: CAB
REVISED:

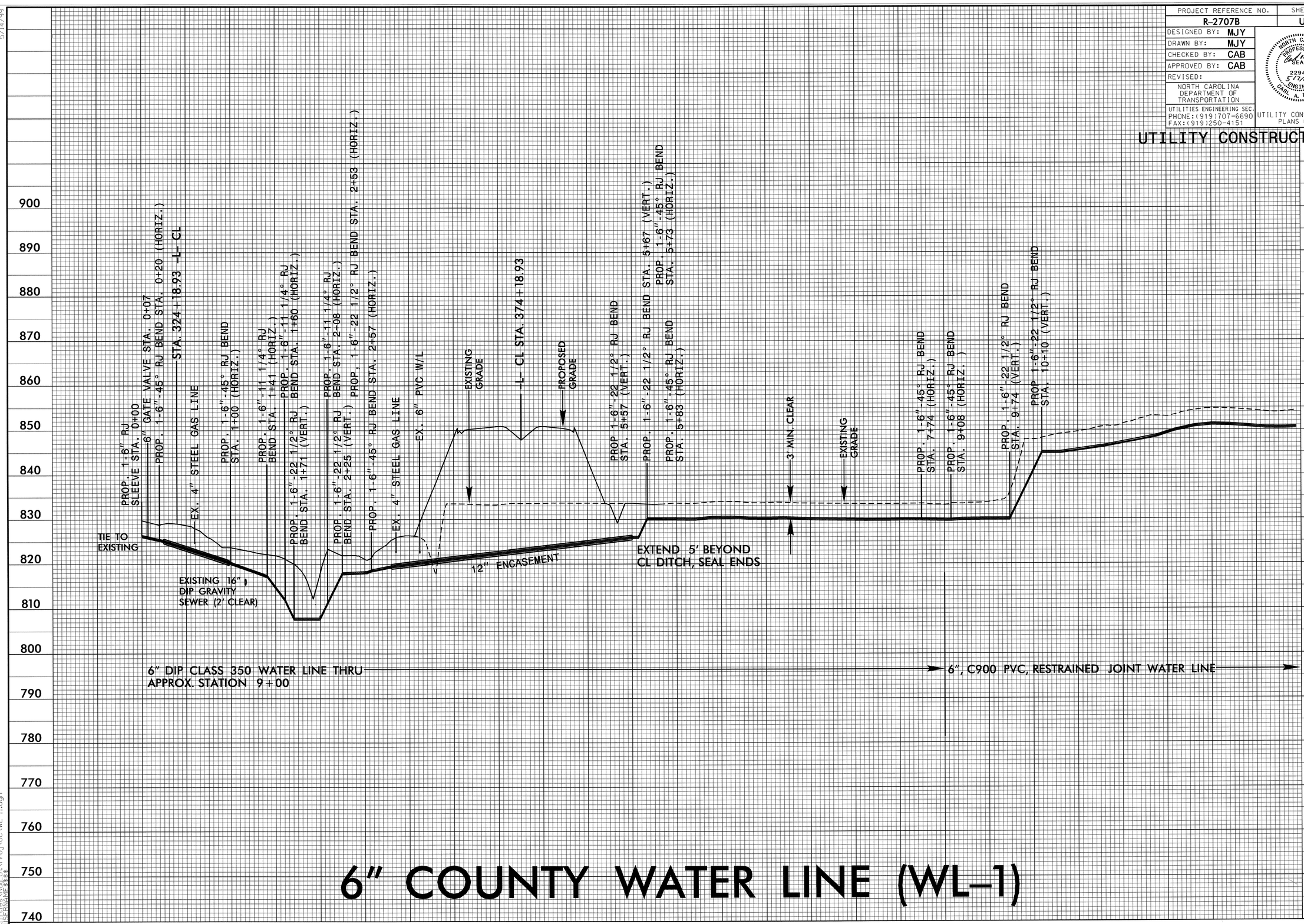
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A BARCLAY

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" COUNTY WATER LINE (WL-1)

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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-11

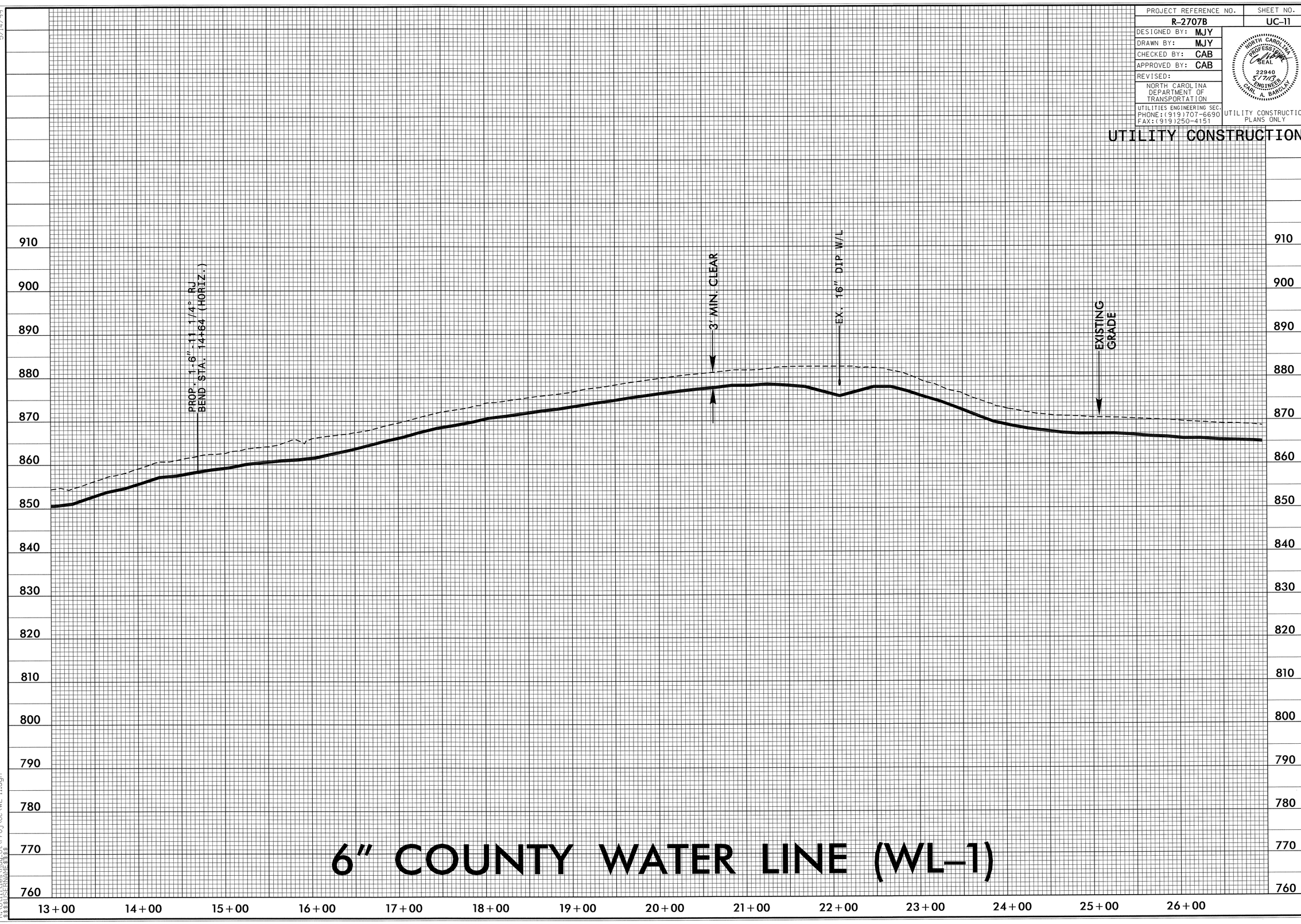
DESIGNED BY: MJY
DRAWN BY: MJY
CHECKED BY: CAB
APPROVED BY: CAB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 5/7/13 ENGINEER CARL A. BARCLAY

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" COUNTY WATER LINE (WL-1)

5/14/99

06-MAY-2013 08:44
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$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-12

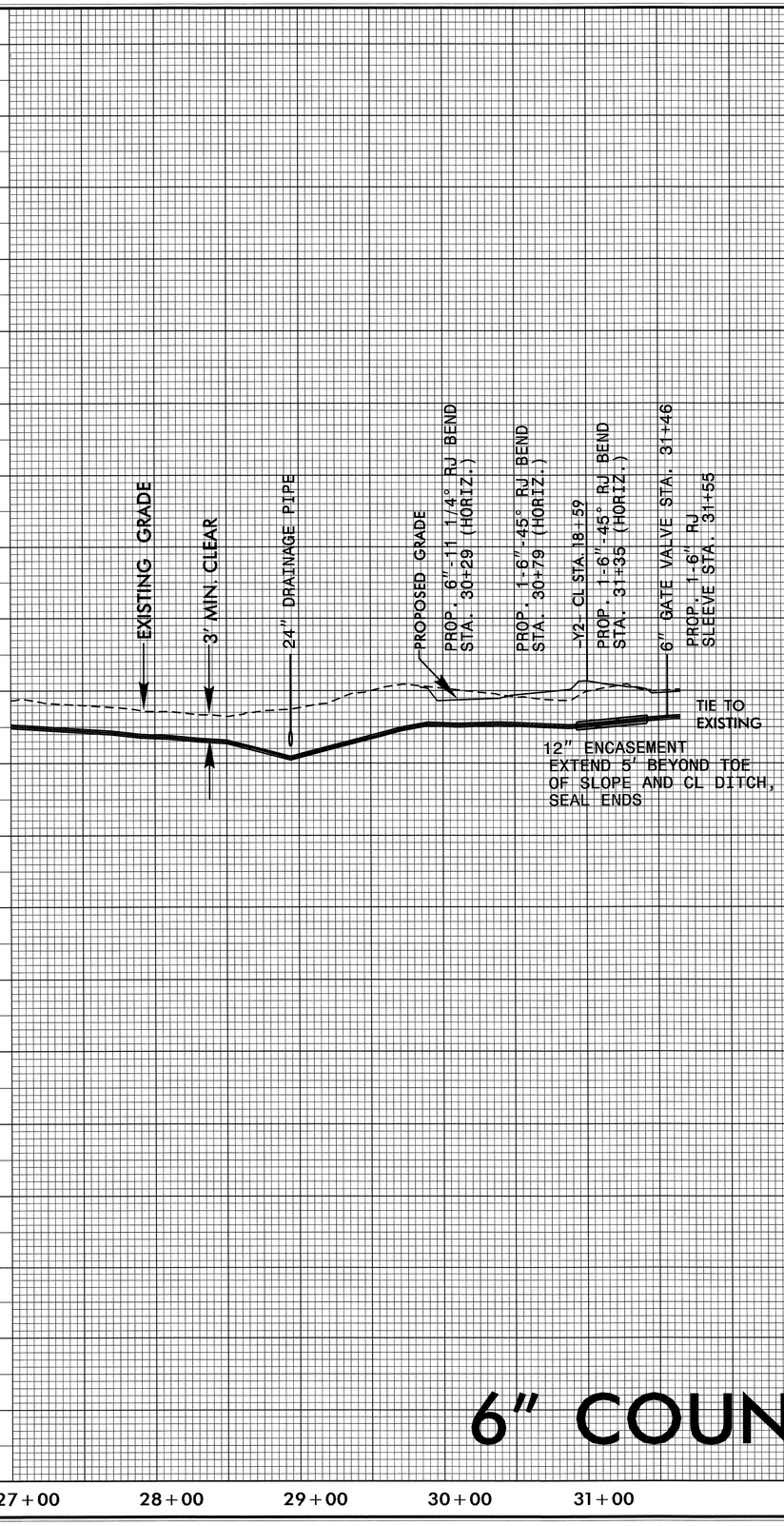
DESIGNED BY:	MJY
DRAWN BY:	MJY
CHECKED BY:	CAB
APPROVED BY:	CAB
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22940 5/7/12 ENGINEER CARL A. BARCLAY

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" COUNTY WATER LINE (WL-1)

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-13

DESIGNED BY: MJY
DRAWN BY: MJY
CHECKED BY: CAB
APPROVED BY: CAB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A. BARCLAY 5/17/13

UTILITY CONSTRUCTION PLANS ONLY

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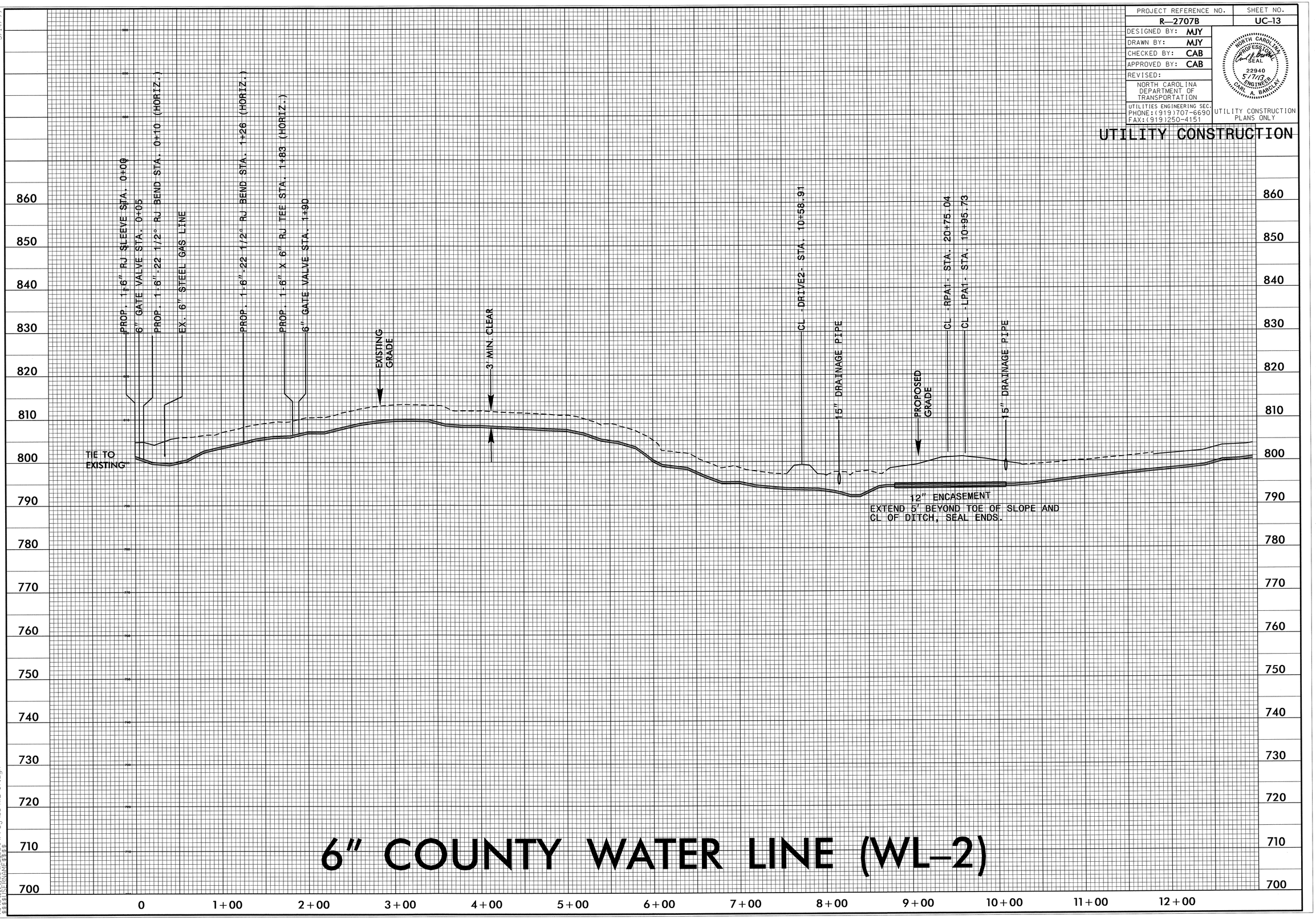

6" COUNTY WATER LINE (WL-2)

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$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-14
DESIGNED BY: MJY	
DRAWN BY: MJY	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	

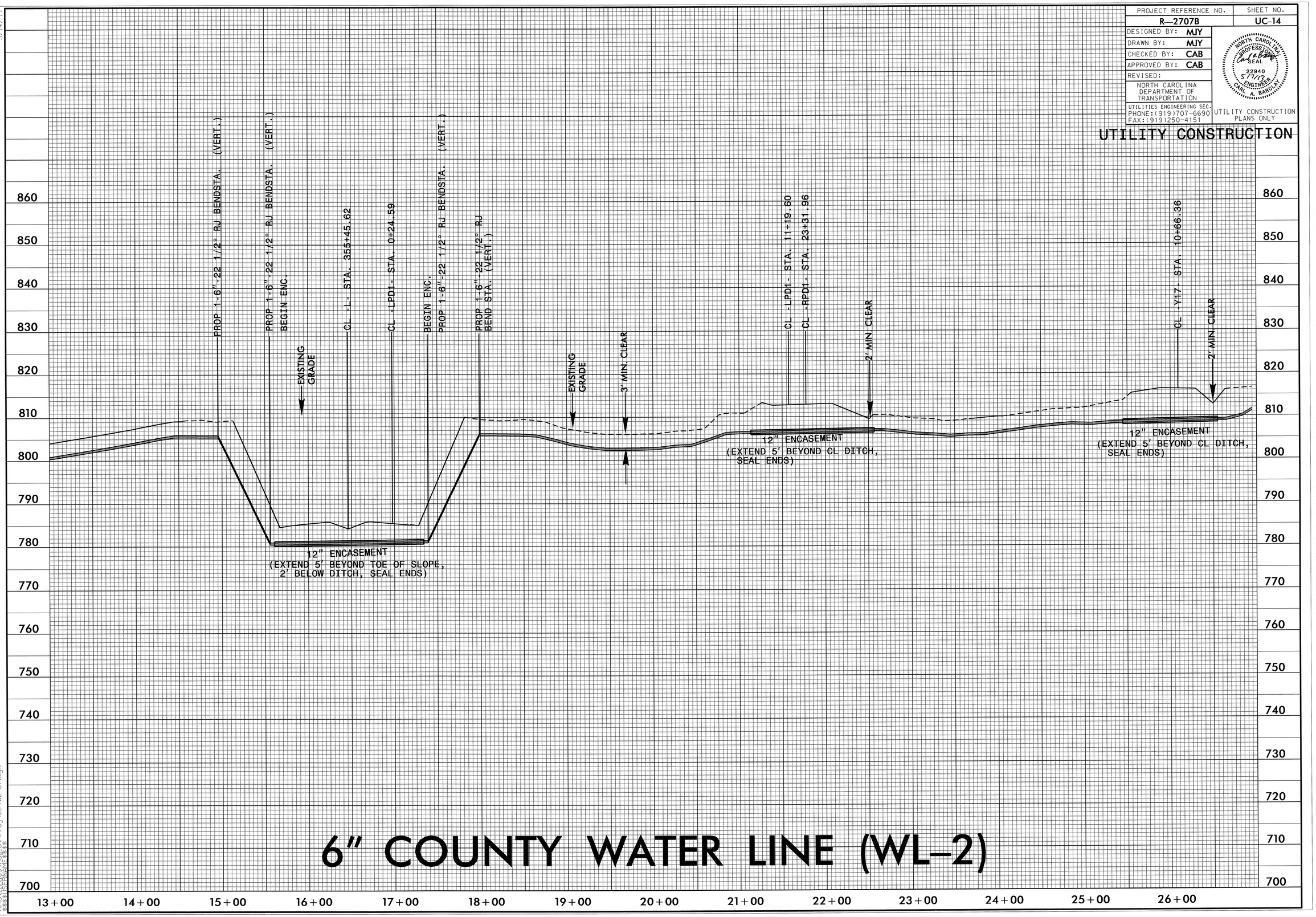
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A. BARCLAY 5/17/13

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" COUNTY WATER LINE (WL-2)

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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-15

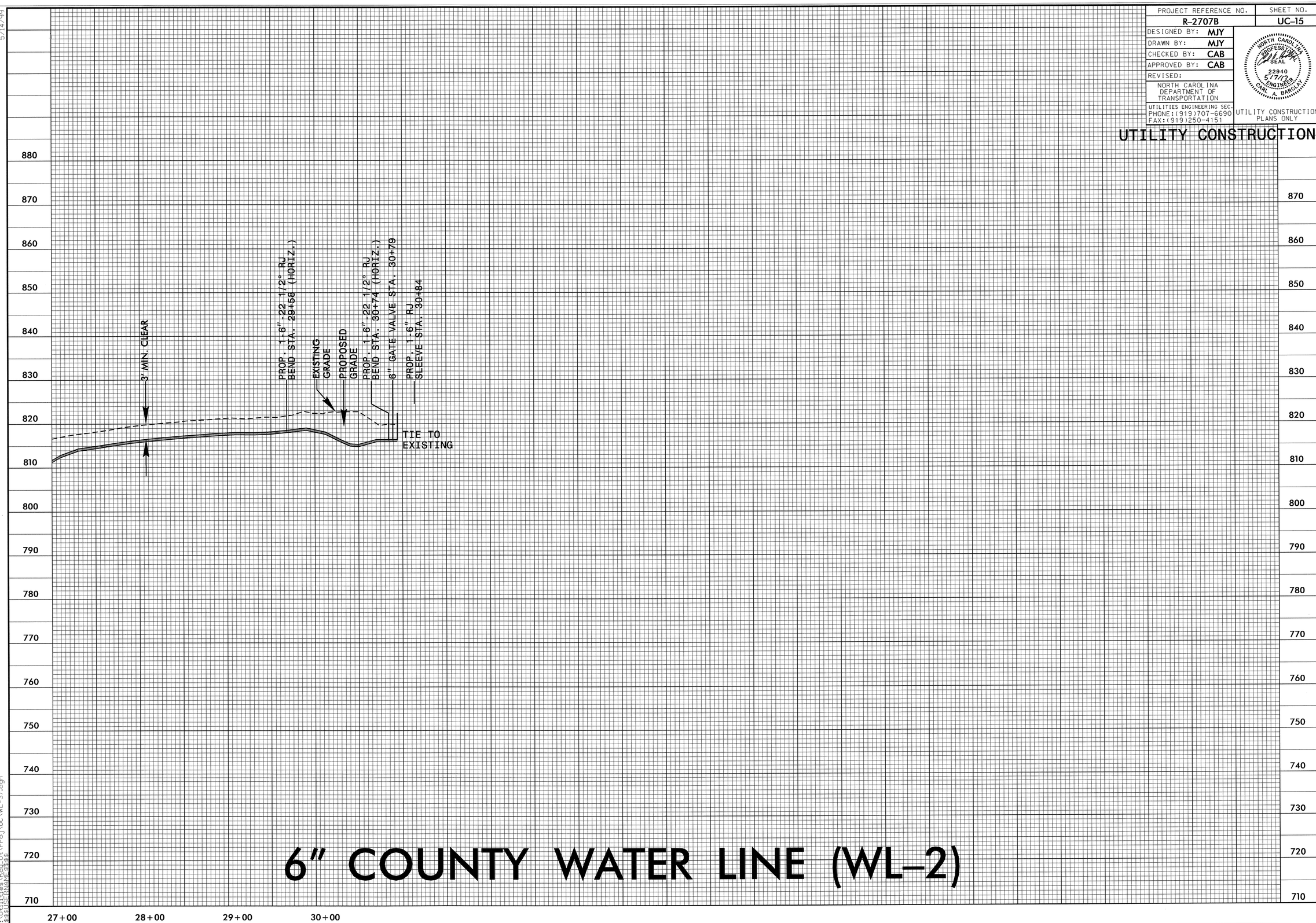
DESIGNED BY: MJY
DRAWN BY: MJY
CHECKED BY: CAB
APPROVED BY: CAB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 5/7/17 ENGINEER CARL A. BARCLAY

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



6" COUNTY WATER LINE (WL-2)

5/14/99

06-MAY-2013 14:38
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-16

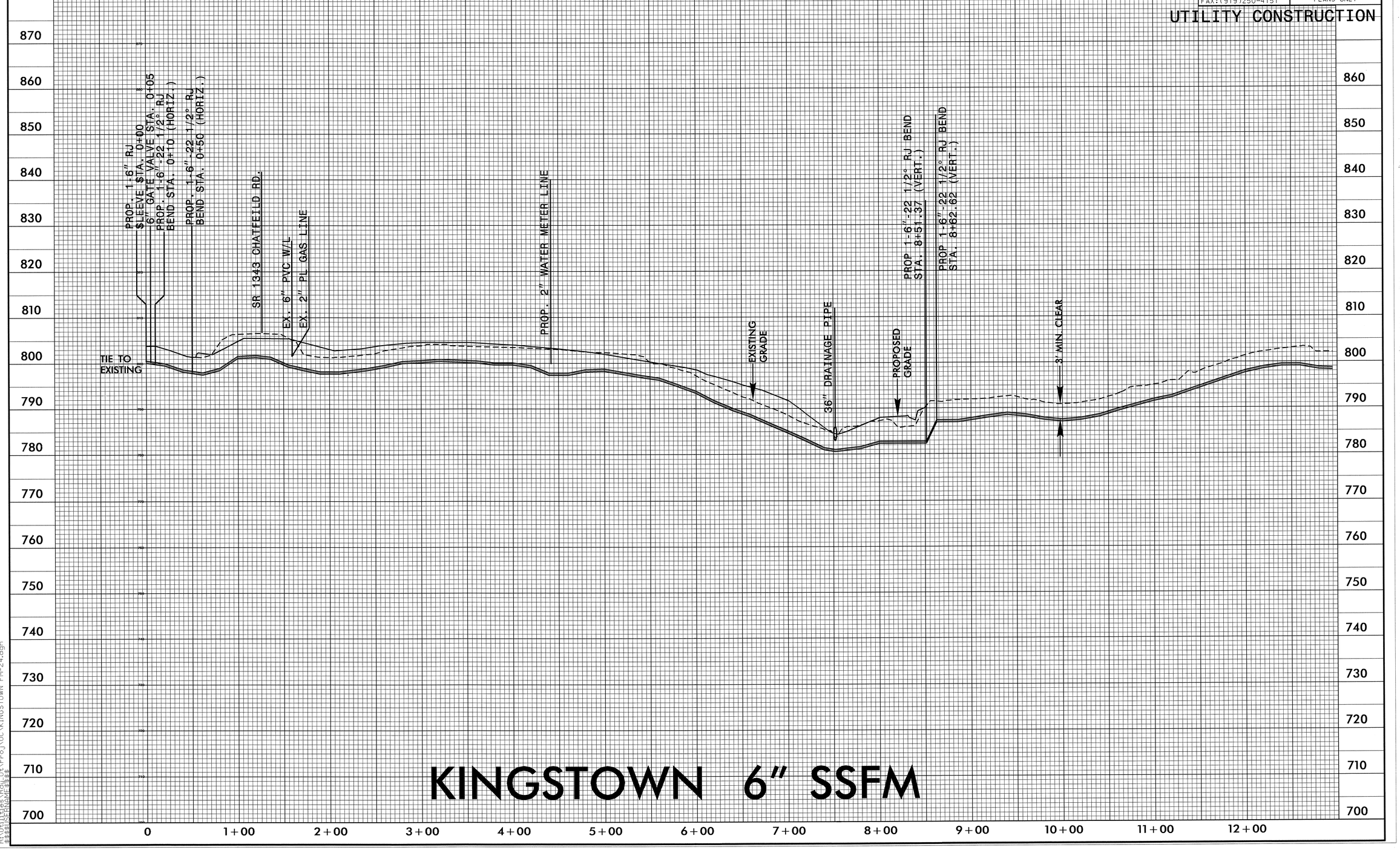
DESIGNED BY: MJY
DRAWN BY: MJY
CHECKED BY: CAB
APPROVED BY: CAB
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 5/7/13 ENGINEER CARL A. BARCLAY

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



KINGSTOWN 6" SSFM

5/14/99

06-MAY-2013 14:39
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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R—2707B	UC-17
DESIGNED BY: MJY	
DRAWN BY: MJY	
CHECKED BY: CAB	
APPROVED BY: CAB	
REVISED:	

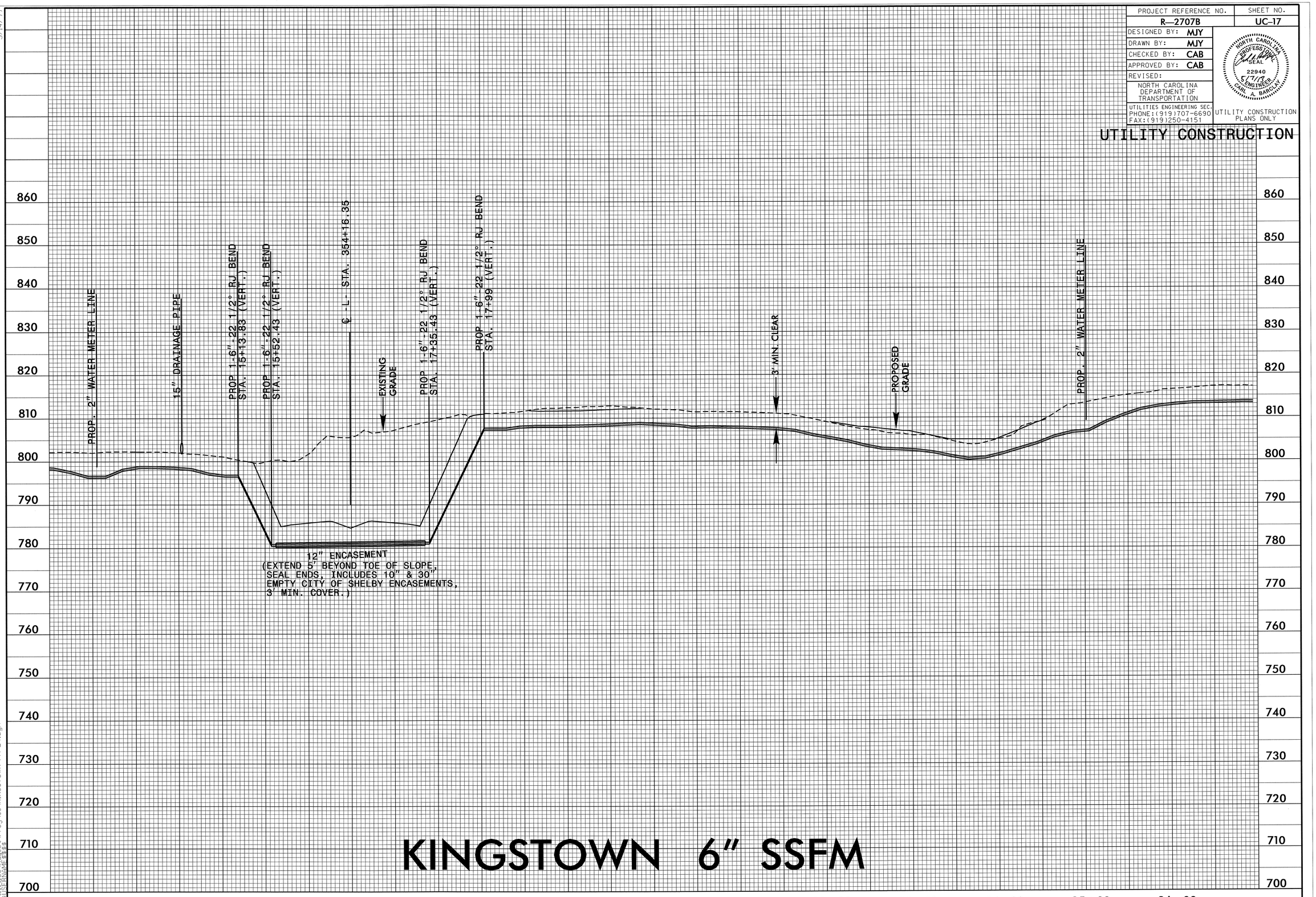
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 22940 ENGINEER CARL A. BARILLA 5/7/13

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION



KINGSTOWN 6" SSFM

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$$$$USERNAME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R—2707B	UC-18

DESIGNED BY:	MJY
DRAWN BY:	MJY
CHECKED BY:	CAB
APPROVED BY:	CAB
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 22940 ENGINEER CARL A. BARILLA 5/14/99

UTILITY CONSTRUCTION PLANS ONLY

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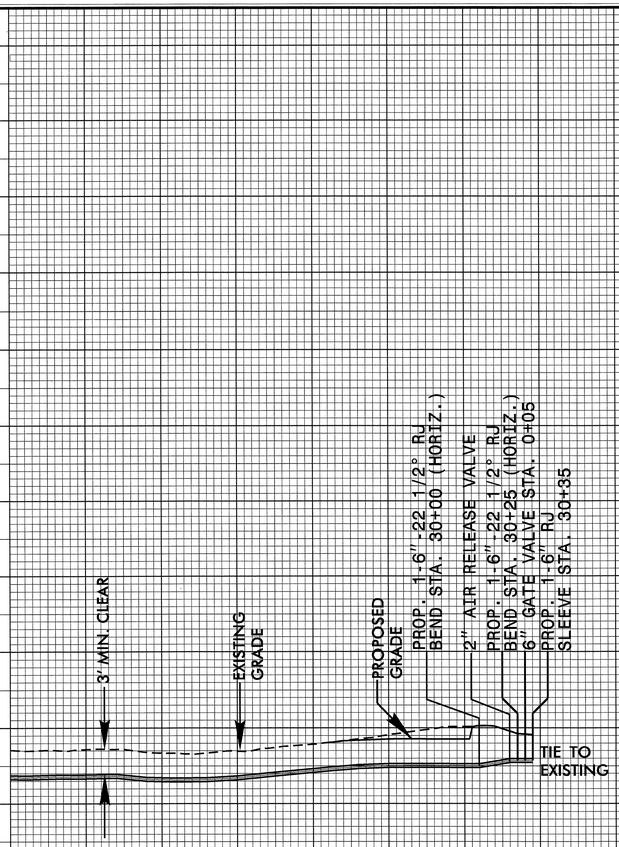

KINGSTOWN 6" SSFM

870 860 850 840 830 820 810 800 790 780 770 760 750 740 730 720 710

27+00 28+00 29+00 30+00

06-MAY-2013 08:51
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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-19
DESIGNED BY: VW	
DRAWN BY: VW	
CHECKED BY: MJW	
APPROVED BY:	
REVISED:	

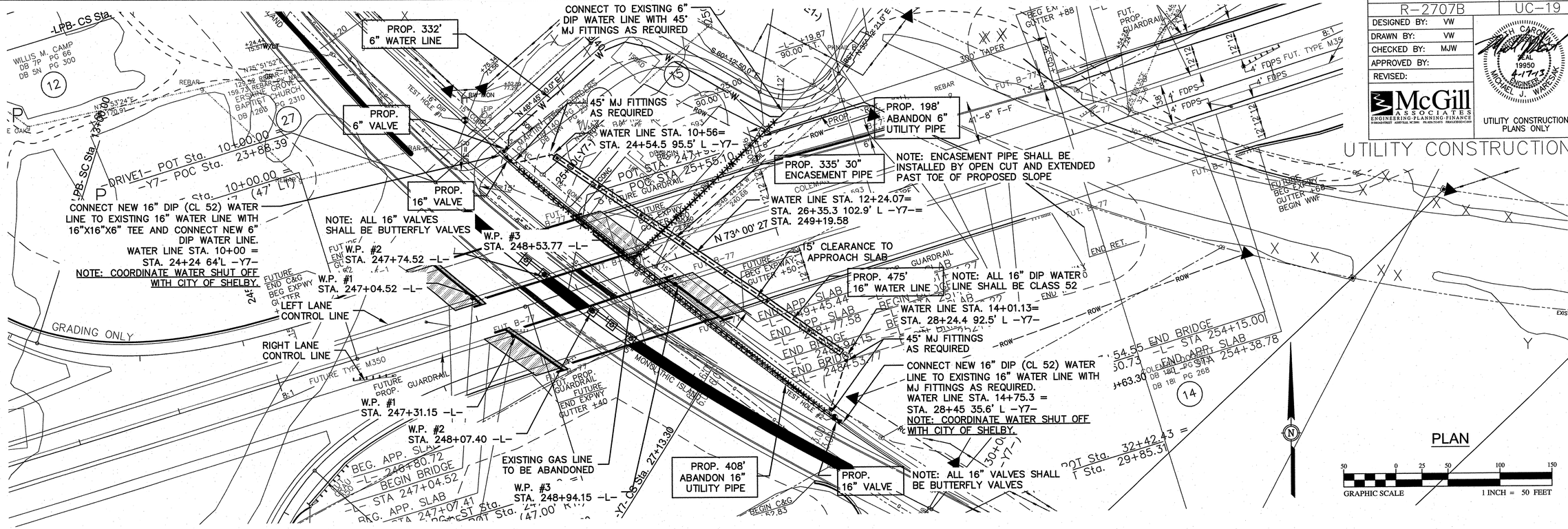
McGill ASSOCIATES
ENGINEERING-PLANNING-FINANCE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19950 MICHAEL J. WARESIAK

UTILITY CONSTRUCTION PLANS ONLY

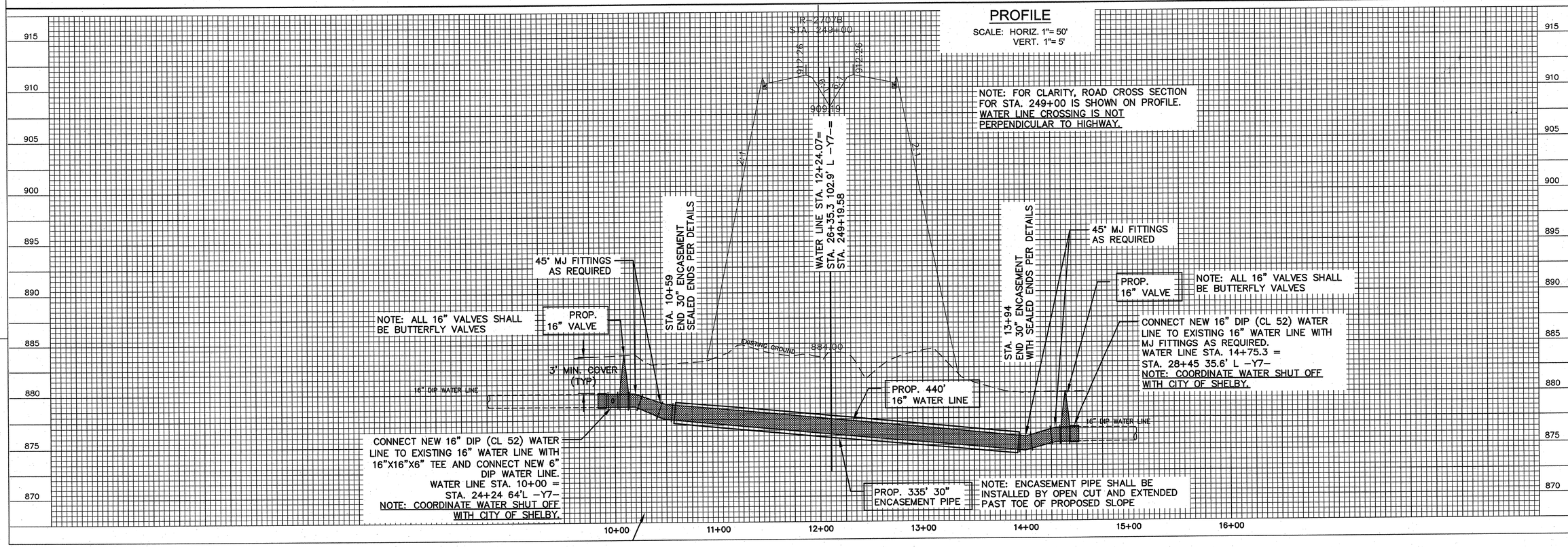
UTILITY CONSTRUCTION

PLAN



PROFILE

SCALE: HORIZ. 1"= 50'
VERT. 1"= 5'



REVISIONS

3/14/12 REVISIONS PER NCDOT COMMENTS

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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-20
DESIGNED BY: VW	
DRAWN BY: VW	
CHECKED BY: MJW	
APPROVED BY:	
REVISED: 4/1/13	

NORTH CAROLINA PROFESSIONAL ENGINEER 19950 4-19-13 SEAL MICHAEL J. WARESAK

McGill ASSOCIATES ENGINEERING-PLANNING-FINANCE

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

REVISIONS

3/14/12 REVISIONS PER NCDOT COMMENTS

NOTE: EXISTING WATER LINES SHALL REMAIN IN SERVICE UNTIL NEW WATER LINE IS INSTALLED, CONNECTED, TESTED AND ACCEPTED BY THE CITY OF SHELBY

EXISTING 16" WATER LINE TO BE ABANDONED (SEE SHEET UC-3)

REMOVE EXISTING 16" GATE VALVE

PROP. 78' ABANDON 12" UTILITY PIPE

COORDINATE WATER LINE CROSSING OF GAS LINE WITH GAS LINE CONTRACTOR.

REMOVE 1 FIRE HYDRANT

PROP. 1 RECONNECT WATER METER

2" METER

PROP. 78' ABANDON 16" UTILITY PIPE

-RPC- ST Sta. 19+55.22

REMOVE EXIST. PAVEMENT

-Y2- PT Sta. 10+60.57

-Y2- PC Sta. 9+78.13

PROPOSED GAS LINE. SEE OTHER SHEETS.

NOTE: ALL 16" VALVES SHALL BE BUTTERFLY VALVES

NOTE: ALL 12" VALVES SHALL BE GATE VALVES

PROP. 16" VALVE

PROP. 12" VALVE

TIE TO EXISTING BEGIN CONSTRUCTION

PROP. FIRE HYDRANT

NOTE: INSTALL FIRE HYDRANT BETWEEN WATER AND GAS LINES

45° MJ FITTINGS AS REQUIRED

BEGIN PAVEMENT REPAIR

REMOVE EXISTING 16" M.J. FITTING AND CONNECT EXISTING 16" WATER LINE TO NEW 16" WATER LINE WITH 16"X16"X12" TEE. INSTALL NEW 16" BUTTERFLY VALVE AND BOX. CONNECT EXISTING 12" WATER LINE TO TEE AND INSTALL 12" VALVE AND BOX.
WATER LINE STA. 10+00=
STA. 9+66.5 17' R -Y2-
NOTE: COORDINATE WATER SHUT OFF WITH CITY OF SHELBY.

PROP. 796' ABANDON 16" UTILITY PIPE

PROP. 80' 8" WATER LINE

-RPC- SC Sta. 25+78.66

PROP. 837' 16" WATER LINE

NOTE: ALL 16" DIP WATER LINE SHALL BE CLASS 52

WL 10' FROM GAS LINE

GAS LINE 10' OFF R/W

ADJUST WATER VAULT LID

ENCLOSURE WALL TOP ELEVATION TO BE ADJUSTED TO ACCOMMODATE PROPOSED GRADE

-Y2- PC Sta. 17+65.08

PROPOSED GAS LINE. SEE OTHER SHEETS.

REMOVE FIRE HYDRANT

-Y2- PT Sta. 16+57.08

INSTALL 16" M.J. 45° FITTING AND CONNECT EXISTING WATER LINE TO NEW 16" WATER LINE. INSTALL NEW 16" BUTTERFLY VALVE AND BOX.
WATER STA. 18+37=
STA. 17+94 14' R -Y2-
NOTE: COORDINATE WATER SHUT OFF WITH CITY OF SHELBY.

45° MJ FITTINGS AS REQUIRED

-RPC- PT Sta. 29+57.5

PROP. 16" VALVE

NOTE: ALL 16" VALVES SHALL BE BUTTERFLY VALVES

-Y2- PT Sta. 18+72.27

GEORGE C. DOGGETT DB 1260 PG 231

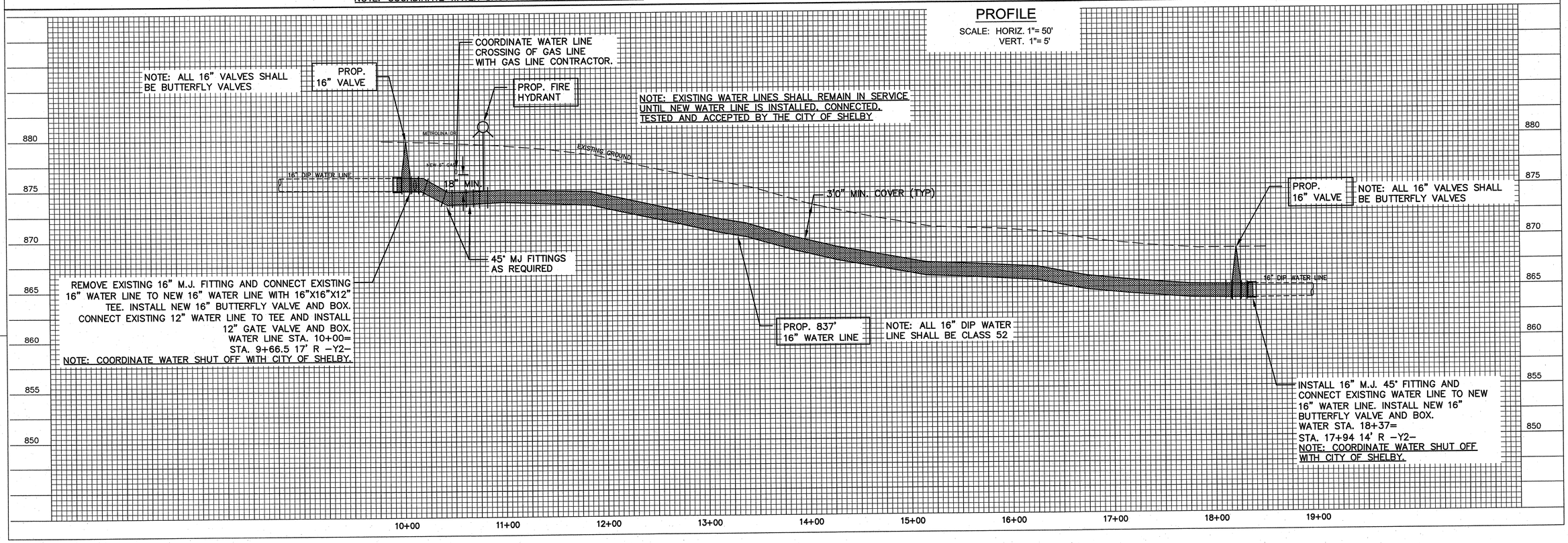
SIGFRIDO & SONIA DELLA VALLE DB 1486 PG 772

PLAN

GRAPHIC SCALE 1 INCH = 50 FEET

PROFILE

SCALE: HORIZ. 1"= 50'
VERT. 1"= 5'



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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-21
DESIGNED BY: VW	
DRAWN BY: VW	
CHECKED BY: MJW	
APPROVED BY:	
REVISED:	

McGill ASSOCIATES
ENGINEERING-PLANNING-FINANCE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19950 4-17-13 ENGINEER MICHAEL J. WARCZAK

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

REVISIONS

PROP. 1900' ABANDON 16" UTILITY PIPE

PROPOSED SEWER LINE IMPROVEMENTS AND NEW FIRE HYDRANT BY OTHERS

PROPOSED WATER LINE. SEE OTHER SHEETS.

TIE TO EXISTING BEGIN CONSTRUCTION

PLAN

GRAPHIC SCALE 100 0 50 100 200 300

1 INCH = 100 FEET

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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-22
DESIGNED BY: VW	
DRAWN BY: VW	
CHECKED BY: MJW	
APPROVED BY:	
REVISED:	

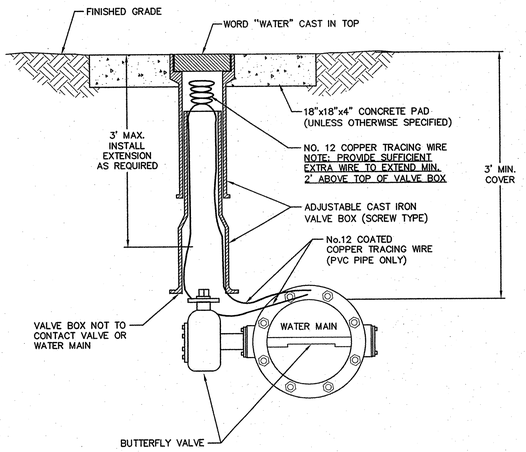
McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19950 4-17-13 ENGINEERING MICHAEL J. WARESAK

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

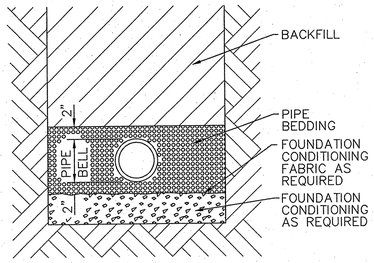
REVISIONS



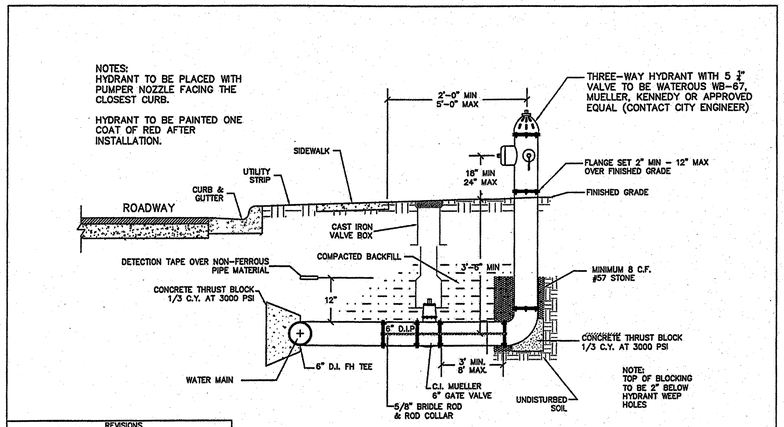
TYPICAL BUTTERFLY VALVE INSTALLATION

REVISION DATE - OCTOBER 15, 2012

TRENCH DETAIL



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.

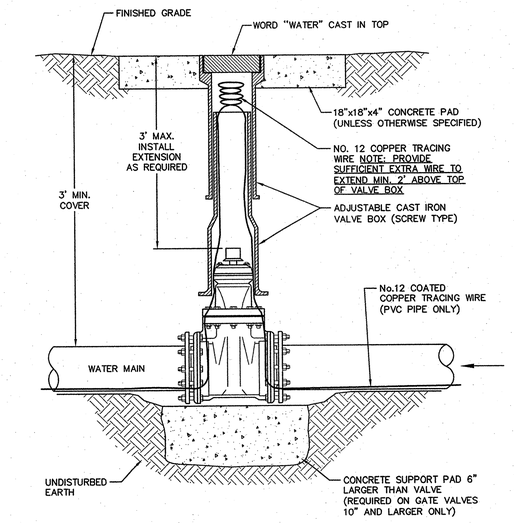


REVISIONS	
DATE	DESCRIPTION

CITY OF SHELBY STANDARDS

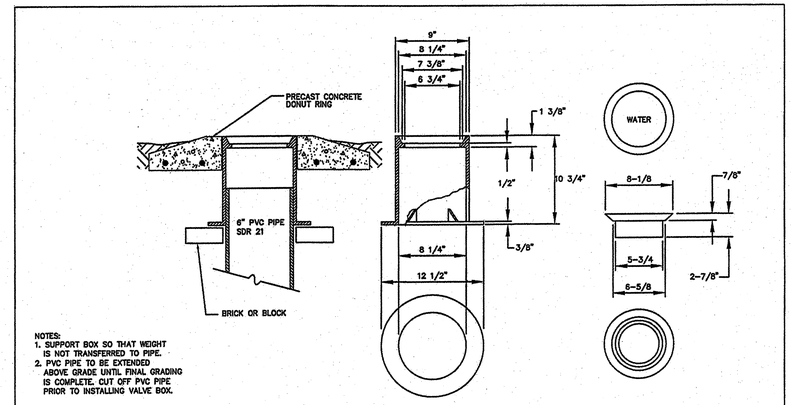
STANDARD HYDRANT INSTALLATION

STD. NO. 6.06



TYPICAL VERTICAL GATE VALVE INSTALLATION

REVISION DATE - NOVEMBER 3, 2008



REVISIONS	
DATE	DESCRIPTION

CITY OF SHELBY STANDARDS

STANDARD VALVE BOX

STD. NO. 6.02

NOTE:
DETAILS SHOWN ON SHEETS UC-22 AND UC-23 ARE SPECIFIC FOR CITY OF SHELBY 16-INCH WATER MAIN RELOCATION ALONG WASHBURN SWITCH AND NCDOT ROAD -Y2-, ONLY. SEE PLAN AND PROFILE SHEETS UC-19, UC-20 AND UC-21 DESIGNED BY McGILL ASSOCIATES.

C:\2012\12-12.00\338\Design\Working\Drawings\UU\UU09 Water Design.dwg 4/17/2013 2:52:56 PM VWHA

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UC-23
DESIGNED BY: VW	
DRAWN BY: VW	
CHECKED BY: MJW	
APPROVED BY:	
REVISED:	

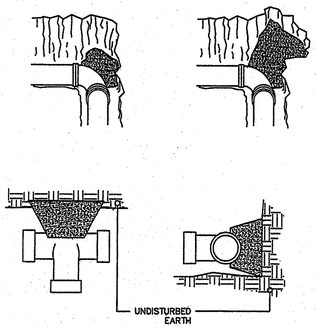
McGill ASSOCIATES
ENGINEERING-PLANNING-FINANCE

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19950 11743 ENGINEER MICHEL J. WARCHOL

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

REVISIONS



MINIMUM CONCRETE BLOCKING (C.Y.)*					
NOM. PIPE DIA. INCHES	TEES & DEAD ENDS	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4	0.1	0.1	0.1	0.1	0.1
6	0.2	0.2	0.1	0.1	0.1
8	0.2	0.3	0.2	0.1	0.1
10	0.3	0.5	0.3	0.2	0.2
12	0.4	0.6	0.5	0.3	0.3
14	0.7	0.9	0.6	0.5	0.5
16	0.7	0.9	0.6	0.5	0.5
18	0.9	1.2	0.7	0.6	0.6
20	1.1	1.6	1.1	0.7	0.7
24	1.7	2.3	1.6	0.9	0.9

* CONCRETE SHALL BE 3000 PSI

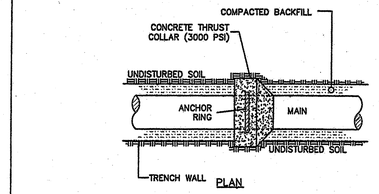
NOTE: WRAP FITTINGS IN 6 MIL PLASTIC BEFORE POURING CONCRETE

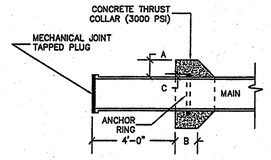
REVISIONS	
DATE	DESCRIPTION

CITY OF SHELBY STANDARDS

STANDARD REACTION BLOCKING

STD. NO. 6.13

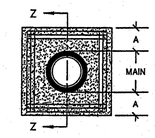




SECTION Z-Z

SCHEDULE

PIPE DIAMETER	CONCRETE THRUST COLLAR		ANCHOR RING	RINGS REQUIRED
	A	B	C	
6" 8" 12"	1'-0"	1'-0"	2"	ONE
16"	1'-4"	1'-0"	2"	ONE
20"	1'-4"	1'-0"	3"	ONE
24"	1'-4"	1'-0"	3"	TWO
30"	1'-4"	1'-2"	4"	TWO
36"	1'-4"	1'-4"	4"	TWO



REINFORCING

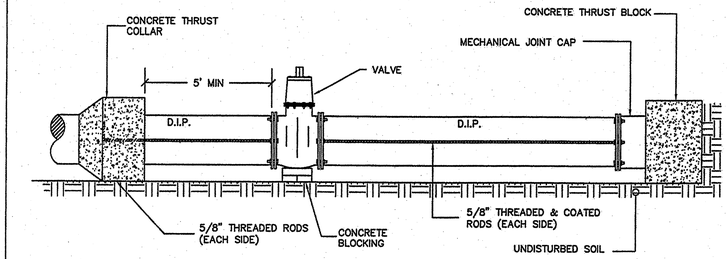
NOTE:
6" TO 16" MAINS--12-NO. 7 BARS
20" TO 36" MAINS--12-NO. 8 BARS
* BARS PLACED AS SHOWN

REVISIONS	
DATE	DESCRIPTION

CITY OF SHELBY STANDARDS

STANDARD THRUST COLLAR INSTALLATION

STD. NO. 6.11

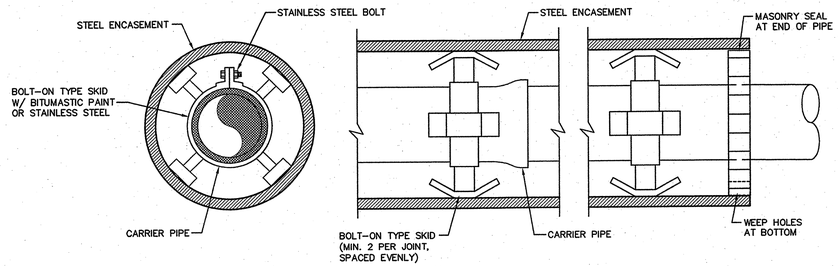


REVISIONS	
DATE	DESCRIPTION

CITY OF SHELBY STANDARDS

STANDARD CAPPING DETAIL

STD. NO. 6.10



NOTE: FOR PRESSURE CARRIER PIPES, IF SUITABLE UNDISTURBED EARTH IS NOT AVAILABLE FOR THRUST BLOCKS DUE TO EXCAVATION, CONTRACTOR SHALL ATTACH THREADED RODS AS SPECIFIED IN THRUST BLOCK DETAILS TO THE ENCASEMENT AND ROD FITTINGS DIRECTLY TO THE ENCASEMENT PIPE. ATTACHMENT OF THE RODS SHALL BE BY WELDING DIRECTLY TO THE ENCASEMENT PIPE OR BY WELDING EYE BOLTS TO THE ENCASEMENT FOR ATTACHMENT OF THREADED RODS WITH NUTS. MINIMUM OF THREE RODS REQUIRED PER FITTING.

ENCASEMENT DETAIL

REVISION DATE - NOVEMBER 3, 2008

NOTE:
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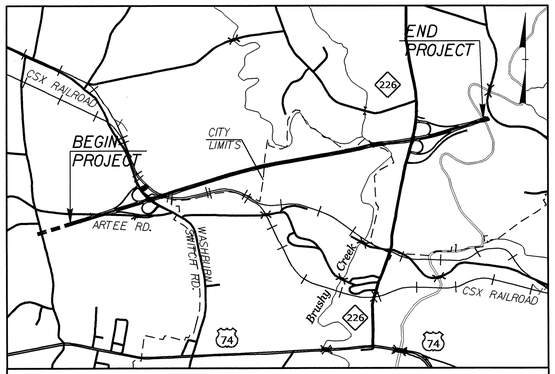
09/08/99

TIP PROJECT: R-2707B

T.I.P. NO.	SHEET NO.
R-2707B	UO-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
CLEVELAND COUNTY



VICINITY MAP NTS

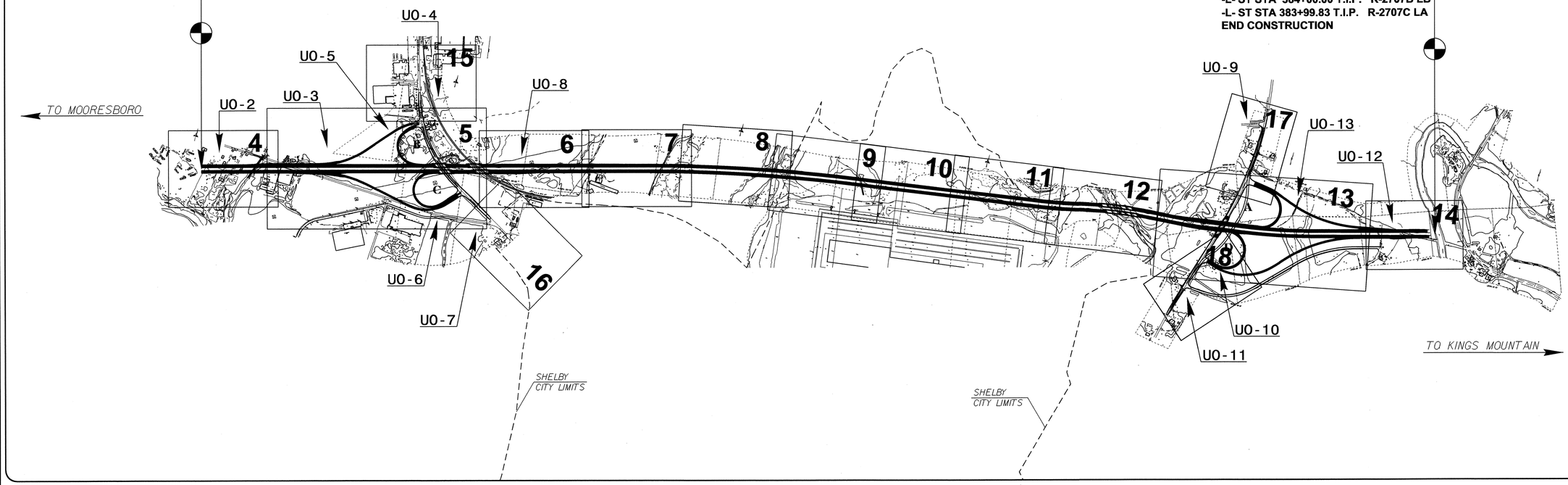
LOCATION: US 74 – SHELBY BYPASS FROM WEST OF (SR 1314) ARTEE RD. TO EAST OF NC 226

TYPE OF WORK: POWER, TELEPHONE, GAS & CATV

NAD 83

BEGIN PROJECT
-L- POT STA 215+46.78 T.I.P. R-2707AB LB
-L- POT STA 215+00.00 T.I.P. R-2707B LA
BEGIN CONSTRUCTION

END PROJECT
-L- ST STA 384+00.00 T.I.P. R-2707B LB
-L- ST STA 383+99.83 T.I.P. R-2707C LA
END CONSTRUCTION



GRAPHIC SCALES

PLANS 50 25 0 50 100

PROFILE (HORIZONTAL) 50 25 0 50 100

PROFILE (VERTICAL) 10 5 0 10 20

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) TELEPHONE – TELICS /AT&T
(2) GAS & SEWER – CITY OF SHELBY
(3) POWER DISTRIBUTION – DUKE ENERGY
(4) POWER TRANSMISSION – DUKE ENERGY
(5) CATV – TIME WARNER CABLE

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*
James E. Swinson — *UTILITIES PROJECT DESIGNER*

03-MAY-2013 09:06
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$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-2

UTILITIES BY OTHERS

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

-DRIVE3-
PI Sta 13+35.44
△ = 76° 49' 25.9" (LT)
D = 143° 14' 22.0"
L = 53.63'
T = 31.72'
R = 40.00'

NAD 83

INLET TYPICAL
NOT TO SCALE
(LEFT TO RIGHT LOOKING DOWNSTREAM)

EST TONS CLASS 'II' = 38 TONS
EST FILTER FABRIC = 53 SY
EST COIR FIBER MATTING = 225 SY
DDE = 90 CY

OUTLET TYPICAL
NOT TO SCALE
(LEFT TO RIGHT LOOKING DOWNSTREAM)

EST TONS CLASS 'II' = 85 TONS
EST FILTER FABRIC = 180 SY
EST COIR FIBER MATTING = 90 CY
EST. DDE = 50 CY
EST. FILL= 50 CY

DETAIL 27
FALSE SUMP
(Not to Scale)
STA 218+45 MED
STA 223+50 MED

DETAIL 15
LATERAL BASE DITCH
(Not to Scale)
STA 220+00 LT TO STA 222+57 LT

DETAIL 45
LATERAL 'V' DITCH
(Not to Scale)
Min. D=1.0 Ft.
b=5.0 Ft.
FROM STA. 12+25 TO STA. 13+12 RT

RICHARD & MARCELLE HAMRICK
DB 14-M PG 523

BEGIN PROJECT
-L- POT STA 215+46.78 T.J.P. R-2707AB LB
-L- POT STA 215+00.00 T.J.P. R-2707B LA
BEGIN GRADING

-L- POT STA 214+60+/- T.J.P. R-2707B LA
BEGIN CONSTRUCTION

ROGER W. McMAHAN
DB 1456 PG 522
PB 30 PG 100

-L- 216+14.73
BEGIN WWF
160.00' RT.

-L- 220+13.04
160.00' LT.

-DRIVE3- STA.10+40.80
TIE TO EXISTING
BEGIN CONSTRUCTION

-L- 220+75.00
285.70' LT.

-L- 220+70.48
271.40' LT.
EX. R/W

-L- 220+44.10
216.61' LT.

-DRIVE3-
PC Sta. 13+70.89

-DRIVE3-
PT Sta. 13+57.35

-DRIVE3-
PI Sta. 11+75.95

-DRIVE3-
PI Sta. 11+49.52

-DRIVE3-
PT Sta. 14+08.38

-DRIVE3-
PC Sta. 13+03.72

-DRIVE3- STA.13+75.00
TIE TO EXISTING
END CONSTRUCTION

KATHY HIPPS
DB 1503 PG 530

KATHY M. & KEITH BEAVER
DB 1615 PG 1991

-L- 223+33.95
203.83' LT.

-L- 223+22.72
207.48' LT.
EX. R/W

-L- 223+53.89
260.08' LT.

-L- 223+44.00
206.00' LT.

-L- 222+41.81
217.21' LT.
EX. R/W

-L- 224+01.31
236.36' LT.

REMOVE CMP
EST. DDE = 35 CY

-L- 223+87.00
190.50' LT.

JOHN F. & GRACE H. WEAVER
DB 1149 PG 2331

-L- 224+24.99
175.00' LT.

-L- 224+22.67
160.00' LT.

-L- 223+76.83
190.50' LT.

-L- 220+71.00
160.00' RT.

-L- 221+43.00
160.00' RT.

-L- 221+22.00
185.00' RT.

-L- +37.31
134.59' RT.

-L- +85.54
141.32' RT.

-L- +56.81
137.96' RT.
BEGIN FENCE

-L- +63.50
160.00' RT.

-L- 117.94
116.76' RT.
END FENCE

TIE TO EXISTING
GRAVEL DRIVE

LATERAL 'V' DITCH
SEE DETAIL 45

ROGER W. McMAHAN
DB 1456 PG 522
PB 30 PG 100

ROGER W. & DEBBIE McMAHAN
DB 1354 PG 28
PB 30 PG 101

LATERAL 3' BASE DITCH
W/CL II RR W/FF
SEE DETAIL 15

300' TAPER

SPECIAL DITCH GRADE - SEE PROFILE

FUTURE
BEG. EXPWY
GUTTER -L-

FUTURE
CABLE GUIDERAIL

TI-511
ELEV=833.39

EXISTING R/W

SR 1314
ARTEE RD
1985'

REBAR

18" RCP

12" HDPE

PROP. O/H POW & CATV LINES

PUE

PDE

(RETAIN)

REM

15" W/
2 ELBOWS

15" RCP-II

2 @ 10' X 10' RCBC

4' FDPS

2GI

CAT-1

FUT. GRAU 350
15" W/
ELBOWS

18" W/ELBOWS
AND ENDWALLS

24" W/ELBOWS
AND ENDWALLS

HDWL

FS - SEE
DETAIL 27

LATERAL BASE DITCH
SEE DETAIL 2

CL B RIPRAP
EST. 1 TON
EST. 5 SY FF

LATERAL V-DITCH
SEE DETAIL 13

LATERAL V-DITCH
SEE DETAIL 9

CL B RIPRAP
EST. 5 TON
EST. 14 SY FF

DETAIL 13
LATERAL 'V' DITCH
(Not to Scale)
STA 219+00 RT TO STA 220+50 RT

DETAIL 9
LATERAL 'V' DITCH
(Not to Scale)
STA 223+50 RT TO STA 225+50 RT

DETAIL 2
LATERAL BASE DITCH
(Not to Scale)
STA 222+00 RT TO STA 223+00 RT

-L- 215+00.00
145.00 RT.
160.00' RT.

-L- 214+59.62
BEGIN WWF
145.00-RT.

JOHN ROBERT MCBRAYER
DB 1145 PG 1241

JOHN ROBERT MCBRAYER
DB 1183 PG 422

FRANKLIN NURSEY, INC.
DB 1083 PG 1680

JUNK YARD

CONC

HTR

RUINS

BL-74
PINC
187+02.67

BL-73
PINC
182+58.71

MATCHLINE -L- STA 225+50 SEE SHEET U0-3

NOTE:
FOR -L- PROFILE SEE SHEET No. 19
FOR -DRIVE3 PROFILE SEE SHEET No. 38

05/14/99

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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-3

UTILITIES BY OTHERS

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

5/14/99

MATCHLINE -L- STA 225+50 SEE SHEET U0-2

MATCHLINE -L- STA 240+00 SEE SHEETS U0-5 / U0-6

NAD 83

JAMES & WANDA McSWAIN
DB 1469 PG 2404
5

DAVID CABE WALL
DB 1105 PG 2237
6

GEORGE C. DOGGETT
DB 1260 PG 231
7

JULIA WEAVER
NO DEED LISTED
4

FRANKLIN NURSERY, INC.
DB 1083 PG 1680
3

DUKE POWER COMPANY
11

DETAIL 25
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2%, b, 2%, Fill Slope, T/Ft., Filter Fabric, Min. D= 1.5 Ft., B= 5 Ft., b= 5 Ft.

•When B is < 6.0'
CL B RIP-RAP = 204TONS
FF=532 SY

STA 229+18 LT TO STA 232+05 -L- LT

DETAIL 8
LATERAL BASE DITCH
(Not to Scale)

Natural Ground, 2%, D, 3', 1', b, T/Ft., Fill Slope, Min. D = 1.5 Ft., B = 3 Ft., b = 5 Ft.

EST TONS CLASS 'B' = 534 TONS
EST FILTER FABRIC = 1436 SY

STA -L- 231+58 RT TO STA -RPC- 18+40 RT

DETAIL 9
LATERAL 'V' DITCH
(Not to Scale)

Natural Ground, 3', D, 3', b, T/Ft., Fill Slope, Min. D = 1.5 Ft., b = 5 Ft.

STA 225+50 RT TO STA 228+00 RT
STA 228+50 RT TO STA 230+50 RT

DETAIL 5
SPECIAL "V" DITCH
(Not to Scale)

d, 4, D, 3-4, 4', 1', Min. D = 1 Ft., d = 1 Ft.

STA -RPC- 25+00 RT TO STA -RPC- 26+50 RT

DETAIL 7
SPECIAL "V" DITCH
(Not to Scale)

1½, 4, D, 4', 1', Min. D = 1 Ft.

STA -RPC- 26+50 RT TO STA -RPC- 27+29 RT

-RPB- TS Sta. 10+00.00 = -L- POT Sta. 229+54.77 (47' LT.)

-RPB- SC Sta. 13+00.00 (-RPB- 15+00)

-RPB- CS Sta. 16+80.23

-RPC- POT Sta. 10+00.00 = -L- POT Sta. 230+00.00 (47' LT.) Δ = 2°18'00" (RT)

-RPC- TS Sta. 10+22.41

-RPC- SC Sta. 13+22.41

-RPC- CS Sta. 16+55.22

-RPC- ST Sta. 19+55.22

-Y2- POT Sta. 7+00.00

-Y2- PT Sta. 10+60.52

-Y2- PC Sta. 9+78.13

BL-75 PINC 191+60.06

BL-76 PINC 200+77.19

BY6-351 PINC 13+08.05

BY6-352 PINC 19+48.82

ENERGY DISSIPATOR SEE DETAIL ED#1

TIE DITCH TO ENERGY DISSIPATOR

LATERAL 5' BASE DITCH SEE DETAIL 25

LATERAL 4' BASE DITCH SEE DETAIL 39

LATERAL 2' BASE DITCH SEE DETAIL 2

LATERAL 3' BASE DITCH SEE DETAIL 8

LATERAL V-DITCH SEE DETAIL 9

CLAS B RIP RAP EST. 3 TONS EST. 10 SY FF

18" W/ELBOWS AND ENDWALLS

15" W/ELBOWS W/OUTLET ENDWALL

15" W/ ELBOWS

SPECIAL DITCH SEE DETAIL 36

SEE DETAIL 4 EST 186 SY PSRM

SEE DETAIL 4 EST 354 SY PSRM

REMOVE EXIST. PAVEMENT

TIE TO EXISTING

FUTURE GUARDRAIL

FUTURE END EXPWY GUTTER +00

FUTURE CABLE GUIDERAIL

GRADING ONLY

PROP O/H POW & CATV LINES

EX R/W -RPC- 13+22.41 122.89' RT. -RPC- 13+20.51 147.98' RT.

EX R/W -RPC- 16+55.22 141.00' RT. -RPC- 16+79.16 164.66' RT.

EX R/W -RPC- 19+55.22 104.32' RT.

-Y2- 7+21.00 54.00' LT. -Y2- 7+21.00 24.00' LT.

-Y2- 9+17.00 26.00' LT. -RPC- 19+19 28.29' RT.

-Y2- 8+49.69 25.02' LT.

-L- 229+00.35 221.75' LT.
-L- 228+95.50 197.00' LT.
-L- 228+49.18 175.00' LT.
-L- 228+55.00 160.00' LT.
-L- 230+08.27 185.28' LT.
-L- 230+05.00 160.00' LT.
-L- 227+22.00 160.00' RT. 185.00' RT.
-L- 229+98.69 185.00' RT.
-L- 230+00.00 160.00' RT.

-RPB- 13+00.88 142.00' LT.
-RPB- 13+00.00 117.00' LT.
-RPB- 16+79.82 142.00' LT.
-RPB- 16+80.23 117.00' LT.

N. 83°06'22" E 139.89'

N 73° 00' 27.7" E

N 75° 18' 27.7" E

S 79°

N 35°

CHORD

EXISTING DUKE R/W

EXISTING R/W

REM

2GI

0501 HDWL

0502

0503

0504

0505

0506

0507

0508

0509

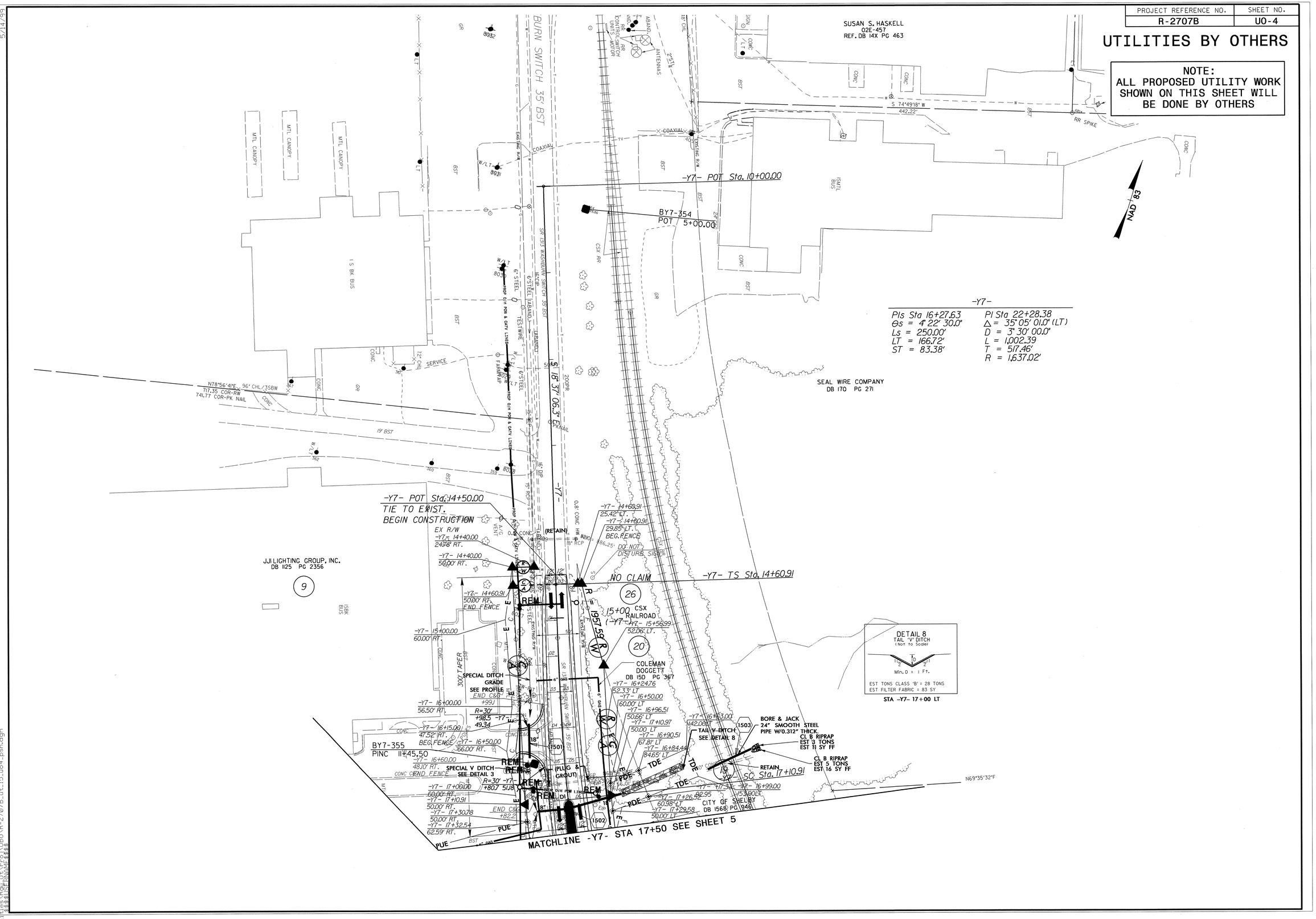
0510

0511

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-4

UTILITIES BY OTHERS

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



5/14/99

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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UO-5

UTILITIES BY OTHERS

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

5/14/99

11-MAR-2014 12:41
\Engineering\UC\Proj\UBO\r-2707b_ut_5_uo5_psh.dgn
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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	UO-6

UTILITIES BY OTHERS

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

5/14/99

01-MAY-2013 15:11
\Utilities\Rdy_Ut\Proj\UBO\r-2707b_ut_5_uo6_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-7

UTILITIES BY OTHERS

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

NORTHING 578225.3188
EASTING 578225.3188

R/W REVISION

NAD 83

MATCHLINE SEE SHEET U0-8

MATCHLINE SEE SHEET 16

MATCHLINE SEE SHEET U0-6

MATCHLINE -Y7- STA 33+00

FRED L. GLAIZE, III
DB 1167 PG 2135

COLEMAN DOGGETT
DB 180 PG 593
DB 181 PG 268
14

GEORGE C. DOGGETT
DB 1260 PG 231
7

GEORGE C. DOGGETT
DB 1260 PG 231
7

-Y7- POT Sta. 37+50.00

BY7-5
POT
33+72.10

-Y7- 34+50.00
50.00' LT.
END FENCE
400' TAPER

35+00
(-Y7-)

-Y7- 35+00.00
50.00' LT.

-Y7- 35+00.00
25.00' LT.

S 62° 27' 07.4" E -Y7-

-Y7- 33+70.00
54.50' RT.

-Y7- 34+10.00
50.00' RT.

-Y7- 34+50.00
50.00' RT.
END FENCE

-Y7- 34+69.07
6.30' RT.

-Y7- 36+95.00
29.87' RT.

-Y7- POT Sta. 35+00.00
TIE TO EXISTING
END CONSTRUCTION

ABANDONED

REM

PUE

TROP O/H POW & CATV LINES

6" GAS

6" STEEL

6" STEEL (ABANDONED)

6" PVC

16" DIP

12" DIP

4" STEEL

6" STEEL

W/LT

SR 1313 WASHBURN SWITCH RD 24' BST

SR 1314 ART ISE RD 18' BST

121" CONC DRIVE

EOS

ISWTL BUS

ISBKD

CONC

36" CONC

10' CONC

C-F FARM

RRSPIKE

N88°13'08"E
568.73

S21°24'52"W
262.25'
96' CHL/SSBW

S62°38'17"E
129.95'
96' CHL/SSBW

96' CHL/SSBW

S21°24'52"W
TIE 23.43'

8001 8002 8003 8004 8005 8006 8007 8008 8009

16.29' FIT

ROW REVISION #2: REVISED AT -L- 927+00 RT DUE TO THE SEAMING PLANE COMMENTS AND ROW REVISION #3: REMOVED PUE FROM THE OVERHEAD TRANSMISSION LINE (09.1.17) UPDATED R/W AT SR 2541-50 LT. AFFECTING PARCELS 14 & 17, DUE TO DEAN

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\Utilities\ROW DWG\Proj\UBO\R-2707B_ut_16_uo7_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-8

UTILITIES BY OTHERS

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

DETAIL 37
LATERAL BASE DITCH
(Not to Scale)

STA 256+25 LT TO STA 258+00 LT

DETAIL 27
FALSE SUMP
(Not To Scale)

Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

STA 261+05 MED -L- GRADE = 4.0%, L = 30'
STA 267+40 MED -L- GRADE = 4.0%, L = 30'

DETAIL 13
LATERAL 'V' DITCH
(Not to Scale)

EST CLASS 'B' = 114 TONS
EST FILTER FABRIC = 344 SY

STA 257+00 RT TO STA 258+00 RT
STA 261+00 RT TO STA 262+12 RT
STA 262+50 LT TO STA 263+65 LT

DETAIL 17
LATERAL 'V' DITCH
(Not to Scale)

STA 255+50 RT TO STA 257+00 RT
STA 262+12 RT TO STA 263+00 RT
STA 258+00 LT TO STA 262+50 LT

DETAIL 42
RIP RAP AT EMBANKMENT
(Not to Scale)

Type of Liner= CL II Rip-Rap

STA. 266+87; EST. 20 TONS; EST. 31 SY FF

DETAIL 39
LATERAL BASE DITCH
(Not to Scale)

EST CLASS 'B' = 458 TONS
EST FILTER FABRIC = 1246 SY

STA 254+50 LT TO STA 255+80 LT

DETAIL 2
LATERAL BASE DITCH
(Not to Scale)

EST TONS CLASS 'B' = 7 TONS
EST FILTER FABRIC = 20 SY

STA 256+10 LT TO STA 256+25 LT

DETAIL 34
TOE PROTECTION
(Not to Scale)

EST CLASS 'B' = 110 TONS
EST FILTER FABRIC = 331 SY

STA 264+50 RT TO STA 265+50 RT
STA 265+70 RT TO STA 266+85 RT
STA 258+00 RT TO STA 259+00 RT

DETAIL 31
HEAD DITCH
(Not to Scale)

Type of Liner=51 SY PSRM ON BANKS ONLY

STA 265+68 RT

NAD 83

ESKRIDGE GROVE BAPTIST CHURCH
DB 10G PG 456
DB 19F PG 593
DB 5R PG 026
17

COLEMAN DOGGETT
DB 18D PG 593
DB 181 PG 268
14

DUKE POWER COMPANY

CSX RAILROAD
26

JIMMY HAWKINS
DB 1178 PG 1843
21

-L- 254+50.00
215.00' LT.

-L- 255+90.00
200.00' LT.

-L- 258+33.00
160.00' LT.

-L- 257+46.30
160.00' RT.

-L- 256+28.12
160.00' RT.

-L- 267+00.00
145.00' RT.

-L- 267+00.00
160.00' RT.

LATERAL 4' BASE DITCH SEE DETAIL 39

LATERAL 2' BASE DITCH SEE DETAIL 2

LATERAL 2' BASE DITCH SEE DETAIL 37

CL B RIPRAP
EST 3 TONS
EST 10 SY FF

REMOVE EXISTING TOWER

BL-78
PINC 223+78.85

LATERAL 'V' DITCH
SEE DETAIL 17

LATERAL 'V' DITCH
SEE DETAIL 13
EST CL 'B' = 40 TON
EST FF = 121 SY

CL B RIPRAP OUTLET
PROTECTION W/FF
CL 'B' = 3 TONS
FF = 10 SY

CL II RIPRAP OUTLET
PROTECTION W/FF
NO RR TO BE PLACED
IN STREAM BED
SEE DETAIL 42

CL B RIPRAP
EST. 1 TONS
EST. 5 SY. FF

HDWL

18" W/ ELBOWS

18" CL IV RCP

15" W/ ELBOWS

FUTURE GUARDRAIL

FUTURE EXPRESSWAY GUTTER

FUTURE CABLE GUIDERAIL

FUT. TYPE M350

4' FDPS

GRADING ONLY

N 73° 00' 27.7" E

REM

+70.17

+09.94

300' TAPER

TOE PROTECTION
SEE DETAIL 34
EST CL 'B' = 35 TON
EST FF = 105 SY

LATERAL 'V' DITCH
SEE DETAIL 13
EST CL 'B' = 39 TON
EST FF = 118 SY

LATERAL 'V' DITCH
SEE DETAIL 17

TOE PROTECTION
SEE DETAIL 34
EST CL 'B' = 35 TON
EST FF = 105 SY

TOE PROTECTION
SEE DETAIL 34
EST CL 'B' = 40 TON
EST FF = 121 SY

HEADWALL 5' BASE HEAD DITCH = SEE DETAIL 31

FUTURE END EXPWY GUTTER +50

FS - SEE DETAIL 27

FUT. 2GI CAT-1

PROP O/H POW LINES (TRANS)

EXISTING DUKE R/W

EXISTING RR R/W

MATCHLINE -L- STA 254+50 SEE SHEET 5

MATCHLINE -L- STA 267+50 SEE SHEET 7

MATCHLINE SEE SHEET 16

COLEMAN DOGGETT
DB 180 PG 593
DB 181 PG 268

JIMMY HAWKINS
DB 1178 PG 1843

CSX RR

18' CONC

96" CHL/35BW

45BW

GR

BST

CONC

1SMTL BUS

0601 0602 0603 0604 0605 0606 0607 0608 0609 0610 0611

5/14/99

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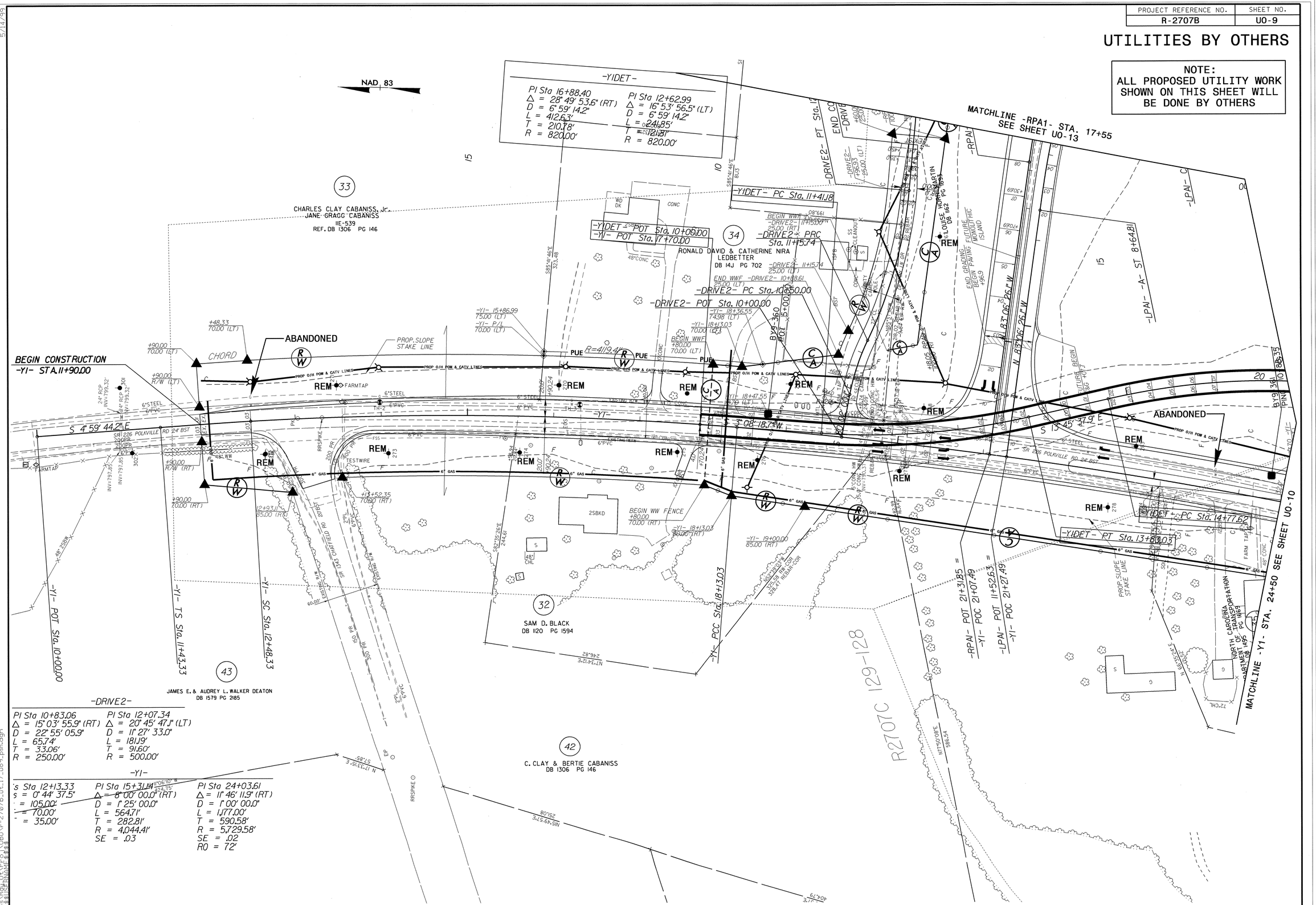
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-9

UTILITIES BY OTHERS

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



-DRIVE2-

PI Sta 10+83.06	PI Sta 12+07.34
Δ = 15° 03' 55.9" (RT)	Δ = 20° 45' 47.1" (LT)
D = 22° 55' 05.9"	D = 11° 27' 33.0"
L = 65.74'	L = 181.19'
T = 33.06'	T = 91.60'
R = 250.00'	R = 500.00'

-YI-

's Sta 12+13.33	PI Sta 15+31.14	PI Sta 24+03.61
s = 0° 44' 37.5"	Δ = 8° 00' 00.0" (RT)	Δ = 11° 46' 11.9" (RT)
= 105.00'	D = 1° 25' 00.0"	D = 1° 00' 00.0"
= 70.00'	L = 564.71'	L = 1,177.00'
= 35.00'	T = 282.81'	T = 590.58'
	R = 4,044.41'	R = 5,729.58'
	SE = .03	SE = .02
		RO = 72'

5/14/99

02-MAY-2013 10:10
Utilities\Rdy_Utl\Proj\UBO\r-2707b_ut_17_uo9_psh.dgn
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-10

UTILITIES BY OTHERS

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

NAD 83

SEE SHEET U0-9

SEE SHEET 13

SEE SHEET 13

MATCHLINE -Y1- STA. 24+50
SEE SHEET U0-9

MATCHLINE -Y1- STA. 34+50
SEE SHEET 18

CHARLES A. & JERI HORN
DB 1162 PG 1897

CHARLES A. HORN
DB IIX PG 433

WILLIAM JAMES HORN
DB 1162 PG 1895

-L- SC Sta. 348+96.72
-L- 348+96.72
190.00' LT.
-L- 349+53.00
183.38' LT.
-L- 349+62.50
197.00' LT.
-L- 350+08.00
191.50' LT.
-L- 349+98.50
177.62' LT.

-L- CS Sta. 351+23.01
-L- 351+23.01
160.00' LT. POND

-L- ST Sta. 353+23.01
-L- 353+23.01
160.00' RT.

-Y1- CS Sta. 29+90.03

-Y1- ST Sta. 30+40.03

-L- 348+96.72
160.00' RT.

-L- 351+23.01
160.00' RT.

-L- 353+23.01
160.00' RT.

-Y1- STA 24+88.01

BEGIN APP. SLAB
-Y1- STA 26+88.01

BEGIN BRIDGE
-Y1- STA 27+11.93

-L- POC Sta. 357+87.39

-L- POT 354+83.22
-Y1- POC 28+24.93

-LPAI- TS 0+00.00
-L- POC STA. 359+31.84
47.00' (RT.)

-LPAI- SC 1+60.00

-LPDI- TS 0+00.00
-L- POT 355+00.51
47.00' (LT.)

END BRIDGE
-Y1- STA 29+82.18

END APP. SLAB
-Y1- STA 29+66.08

-LPDI- SC 1+60.00

-LPDI- POT 11+92.36
-Y1- POT 33+08.75

-RPDI- POT 24+04.31
-Y1- POT 33+28.75

-LPDI- ST 10+57.36

-RPDI- CS 8+97.36

-RPDI- SRS 12+59.40

-RPDI- SC 14+59.40

-LPAI- GRADING ONLY

-LPDI- GRADING ONLY

GRADING ONLY

6' STANDARD BASE DITCH SEE DETAIL 20

CLASS II RIP RAP EST. 17 TONS 28 SY FF

66" CL IV RCP

HDWL

FUTURE END EXPW GUTTER +00

FUTURE GUARDRAIL

FUTURE GRAU-350

TRANSITION STONE CL B = 1 TON FF = 5 SQ. YDS.

FUTURE CAT-18

300' TAPER

FUTURE IMPACT ATTENUATOR TYPE 350

FUTURE B-77

FUT. CONCRETE BARRIER

FUT. IMPACT ATTENUATOR TYPE 350

TEMP GRAU 350

TEMP CAT-18

TEMP B-77

TEMP 6" GAS

TEMP 6" WTR

TEMP 8" SAN

TEMP 8" WTR

TEMP 12" WTR

TEMP 16" WTR

TEMP 20" WTR

TEMP 24" WTR

TEMP 30" WTR

TEMP 36" WTR

TEMP 42" WTR

TEMP 48" WTR

TEMP 54" WTR

TEMP 60" WTR

TEMP 66" WTR

TEMP 72" WTR

TEMP 78" WTR

TEMP 84" WTR

TEMP 90" WTR

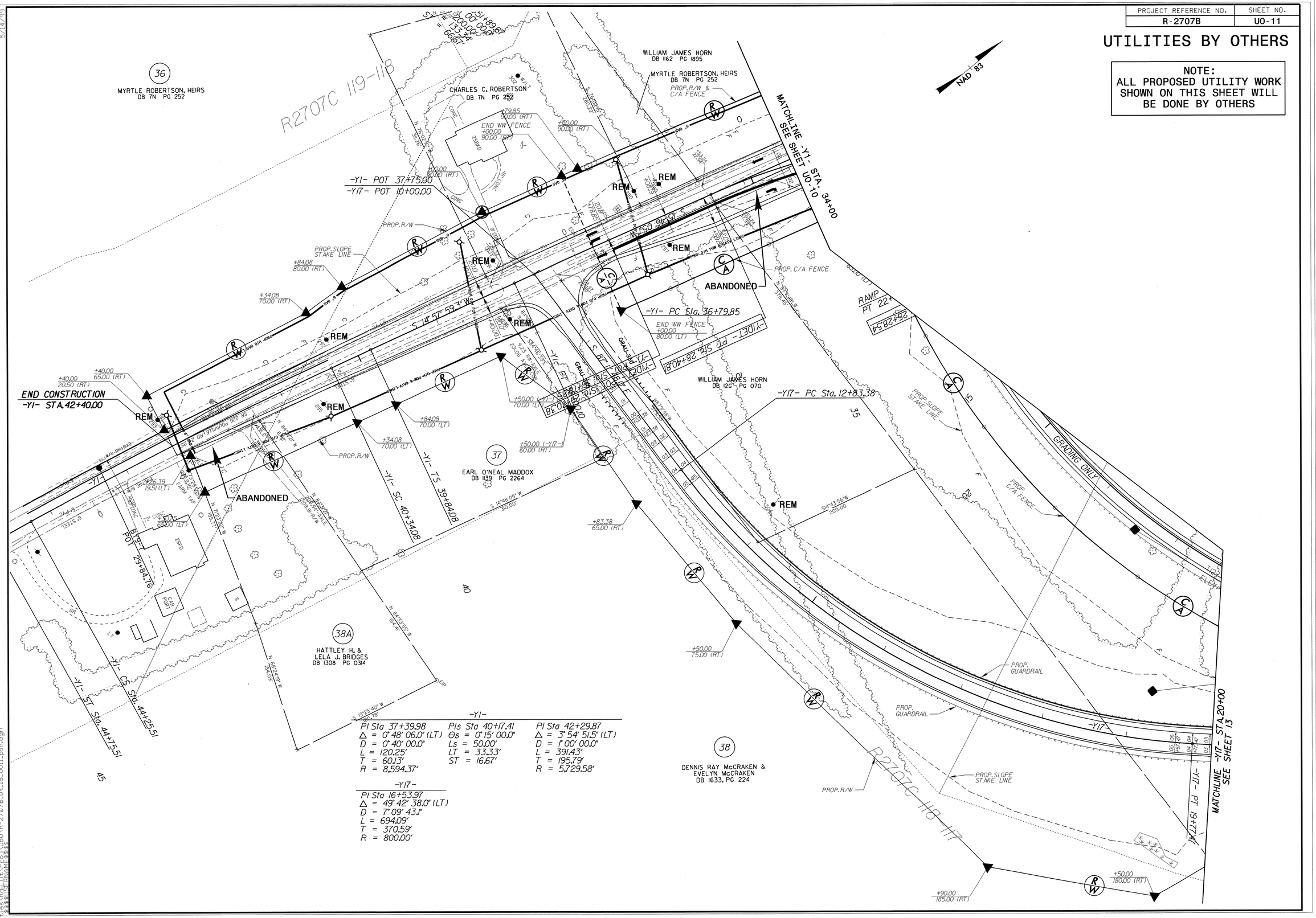
TEMP 96" WTR

TEMP

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-11

UTILITIES BY OTHERS

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



-Y1-

PI Sta 37+39.98	PIs Sta 40+17.41	PI Sta 42+29.87
Δ = 0° 48' 06.0" (LT)	Θs = 0° 15' 00.0"	Δ = 3° 54' 51.5" (LT)
D = 0° 40' 00.0"	Ls = 50.00'	D = 1° 00' 00.0"
L = 120.25'	LT = 33.33'	L = 391.43'
T = 60.13'	ST = 16.67'	T = 195.79'
R = 8,594.37'		R = 5,729.58'

-Y17-

PI Sta 16+53.97
Δ = 49° 42' 38.0" (LT)
D = 7° 09' 43.1"
L = 694.09'
T = 370.59'
R = 800.00'

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PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-12

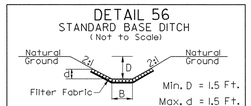
UTILITIES BY OTHERS

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

NAD 83

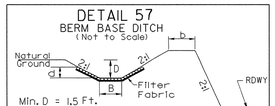
-L-
PI Sta 387+19.11
Δ = 8° 50' 30.4" (RT)
D = 0° 45' 00.0"
L = 1,178.90'
T = 590.62'
R = 7,639.44'

DETAIL 56
STANDARD BASE DITCH
(Not to Scale)



STA 379+20 TO 379+50 LT

DETAIL 57
BERM BASE DITCH
(Not to Scale)



STA 379+50 TO 381+50 LT

MATCHLINE -L- STA. 373+50
SEE SHEET U0-13

-RPAI- TS Sta. 3+34.56
-RPAI- POT 0+00.00
-L- POT 377+93.30
47.00' (RT.)
Δ = 4° 07' 00.0"

2' BASE DITCH LINED
W/CL B RIP RAP
SEE DETAIL 56
EST 14 TONS CL B RIP RAP
EST 20 SY FILTER FABRIC
EST 3 CY DDE

2' BASE BERM DITCH LINED
W/CL B RIP RAP
STA 379+50 TO 381+50 LT
SEE DETAIL 57
EST 140 TONS CL B RIP RAP
EST 380 SY FILTER FABRIC

T14A-718
ELEV=707.36'

T14-713
ELEV=713.76'

T14A-717
ELEV=709.34'

T14-715
ELEV=709.27'

T14-716
ELEV=717.14'

BY10-363
PINC 10+83.19

BL-95 PINC 350+91.16
BY10 PINC 12+39.03
-T3I- ELEV=757.35'

-L- PC Sta. 381+28.48

-RPDI- TS Sta. 0+00.00

-Y17- Sta 38+40.15

EST 1 TONS CL B RIP RAP
EST 5 SY FILTER FABRIC

EST 3 TONS CL B RIP RAP
EST 11 SY FILTER FABRIC

EST 7 TONS CL B RIP RAP
EST 22 SY FILTER FABRIC

HAZARDOUS SPILL BASIN No. 2, SEE DETAIL
TOTAL CAPACITY REQUIRED W/3.5' DEPTH = 1,270 CY
TOTAL CAPACITY W/0.5' FREEBOARD = 1,285 CY

END PROJECT
-L- POC STA 384+00.00 TIP R-2707B LB
-L- POC STA 383+99.83 TIP R-2707C LA
END CONSTRUCTION
END GRADING

N 73° 17' 00.3" E
S 77° 24' 00.3" W
S 88° 38' 35" E

FUTURE GUARDRAIL
FUTURE CAT-1
FUTURE M-350
FUTURE GRAU-350
BEGIN FUTURE SHOULDER BERM GUTTER +00

24" CSP W/ELBOWS
36" CSP W/ELBOWS
SLUICE GATE W/HW
2GI-B W/ FLAT GRATE
24" CONC
FIRST BROAD RIVER
CO CLAY CABANISS PC 1480
DB 7095

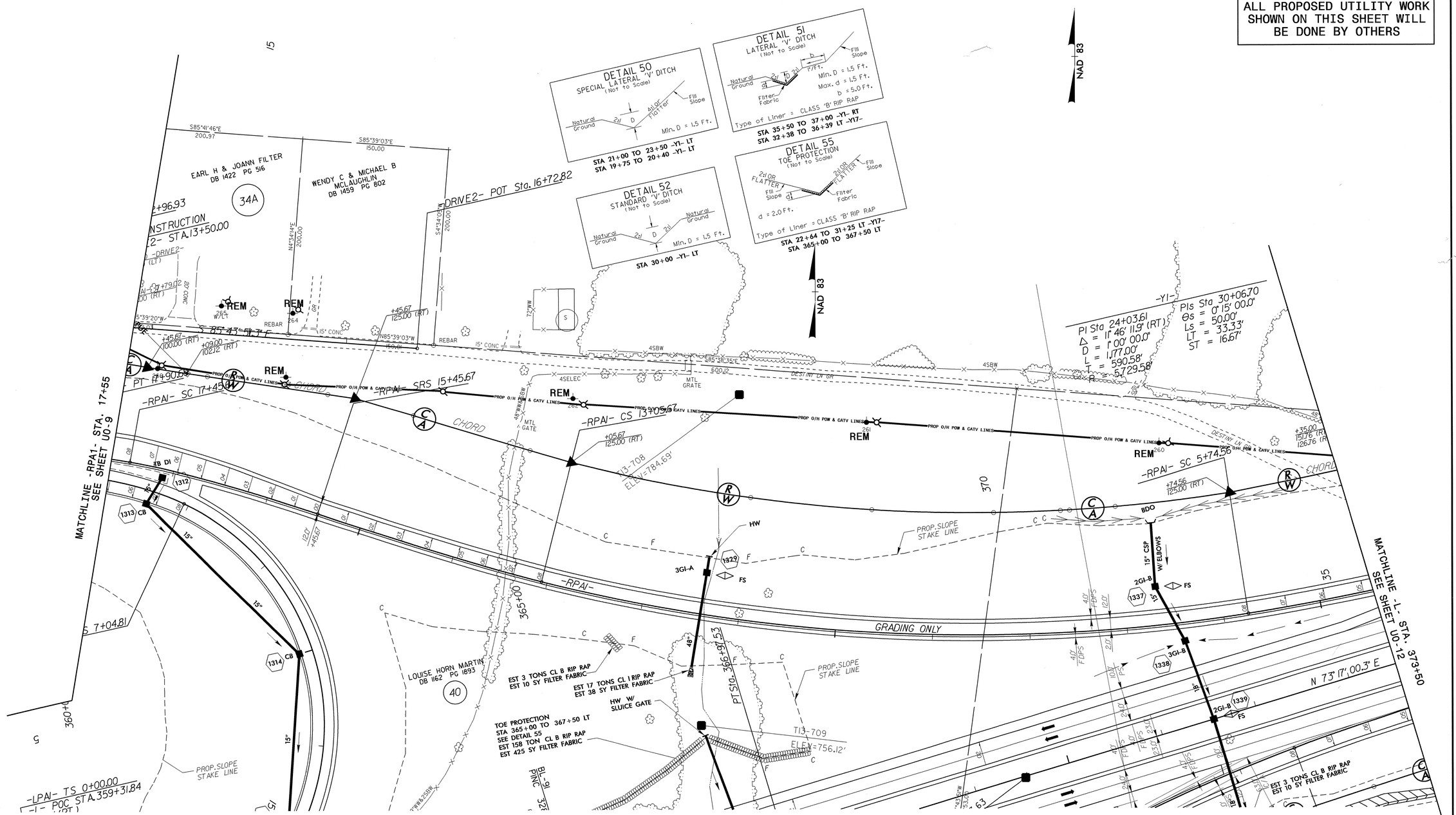
PROP. C/A FENCE
PROP. SLOPE STAKE LINE
PROP. GUARDRAIL
PROP. R/W & C/A FENCE
PROP. R/W
PROP O/H POW & CATV LINES
PUE
REM
ISFD
MTL GATE
60' WD RAIL
SOIL

41

PROJECT REFERENCE NO.	SHEET NO.
R-2707B	U0-13

UTILITIES BY OTHERS

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



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