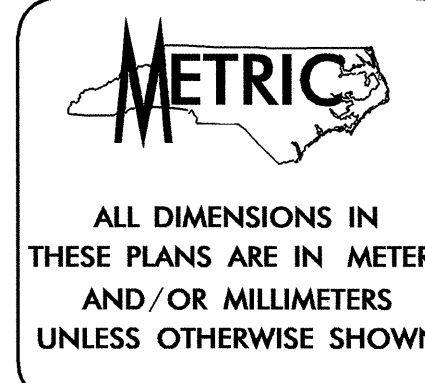


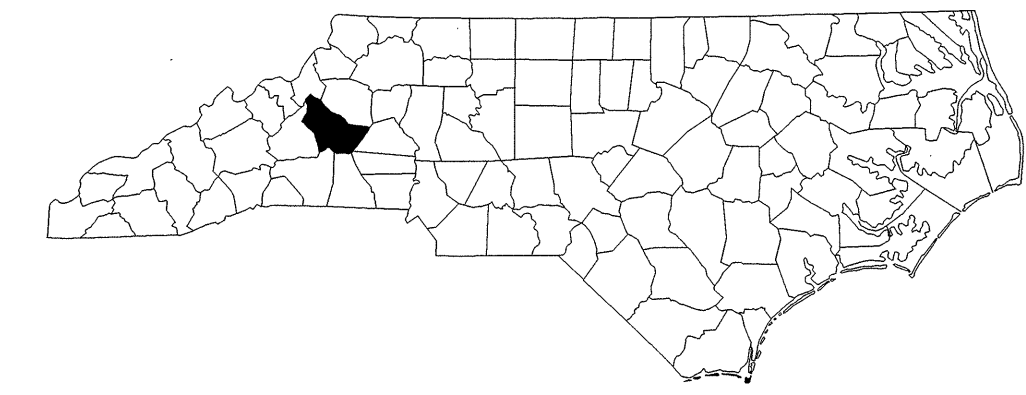
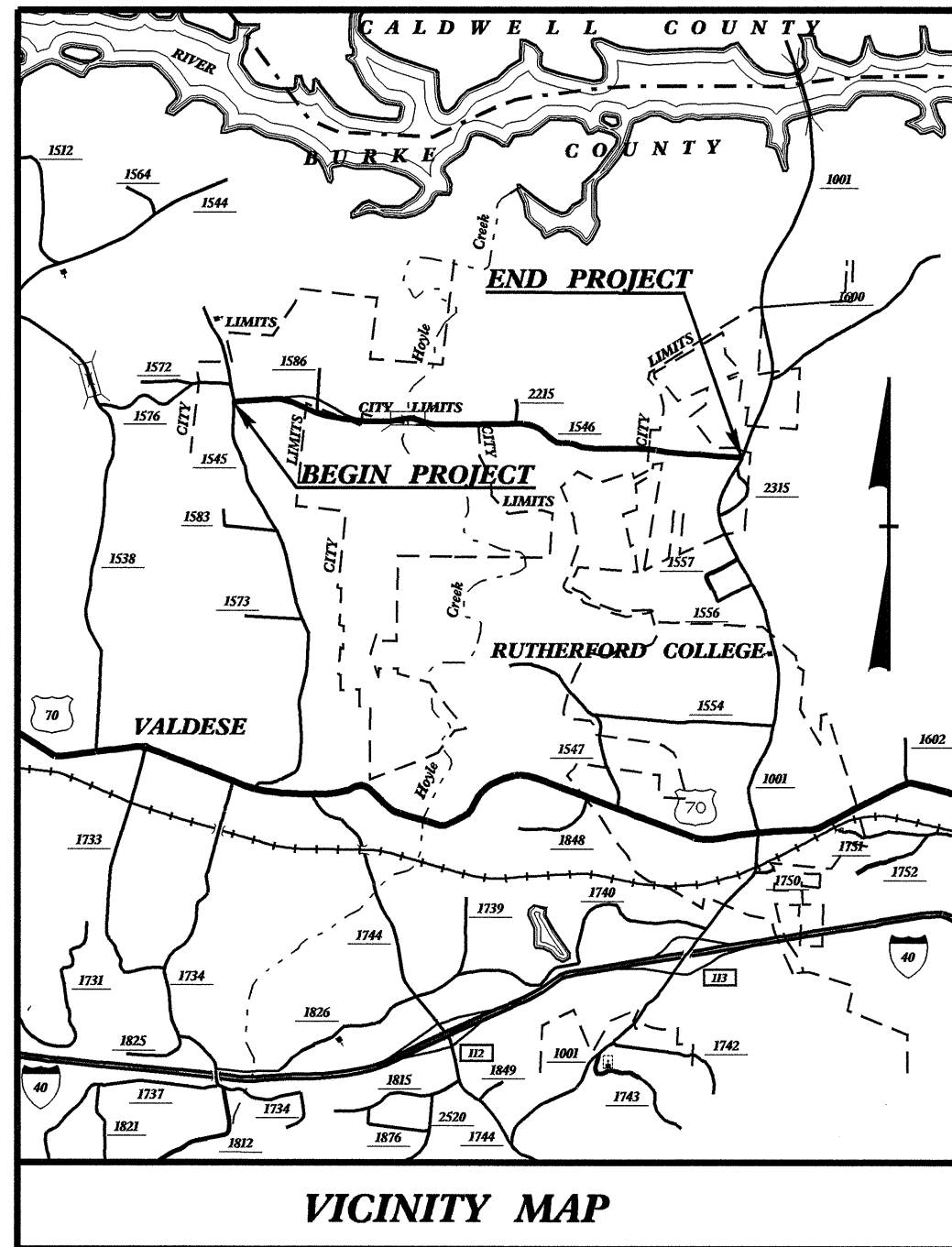
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS



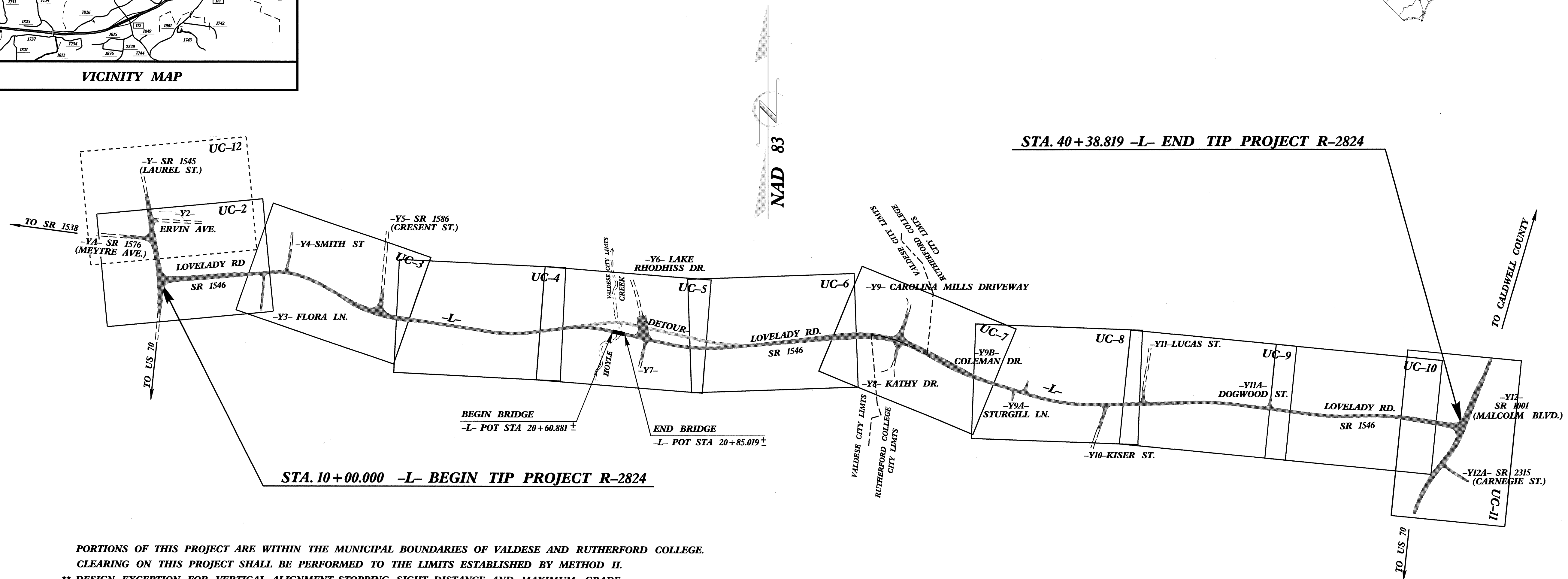
| | |
|------------|-----------|
| T.I.P. NO. | SHEET NO. |
| R-2824 | UC-1 |

**UTILITY CONSTRUCTION PLANS
BURKE COUNTY**

LOCATION: SR 1546 (LOVELADY ROAD) FROM SR 1545 (LAUREL ST.)
TO SR 1001 (MALCOLM BLVD.)
TYPE OF WORK: UTILITY RELOCATION



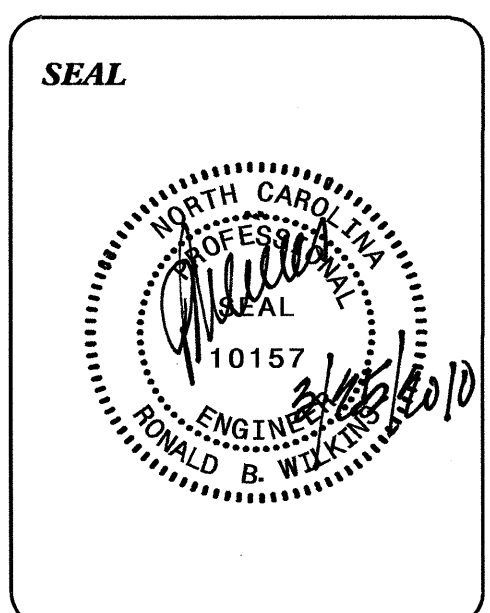
TIP: R-2824



PORTIONS OF THIS PROJECT ARE WITHIN THE MUNICIPAL BOUNDARIES OF VALDESE AND RUTHERFORD COLLEGE.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
** DESIGN EXCEPTION FOR VERTICAL ALIGNMENT, STOPPING SIGHT DISTANCE AND MAXIMUM GRADE.

| INDEX OF SHEETS | |
|------------------|----------------------------------|
| SHEET NO. | DESCRIPTION |
| UC-1 | TITLE SHEET |
| UC-2 THRU UC-11 | UTILITY CONSTRUCTION PLAN SHEETS |
| UC-12 THRU UC-13 | DETAIL SHEETS |

- WATER AND SEWER OWNERS ON PROJECT**
- (1) WATER-TOWN OF VALDESE
 - (2) WATER-TOWN OF RUTHERFORD COLLEGE
 - (3) SANITARY SEWER-TOWN OF VALDESE
 - (4) SANITARY SEWER-TOWN OF RUTHERFORD COLLEGE

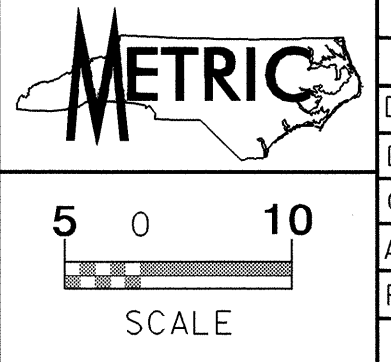


PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITY ENGINEERING
UTILITY SECTION**

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

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
R. B. Wilkins, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Jong-Tae Yoon UTILITIES PROJECT DESIGNER

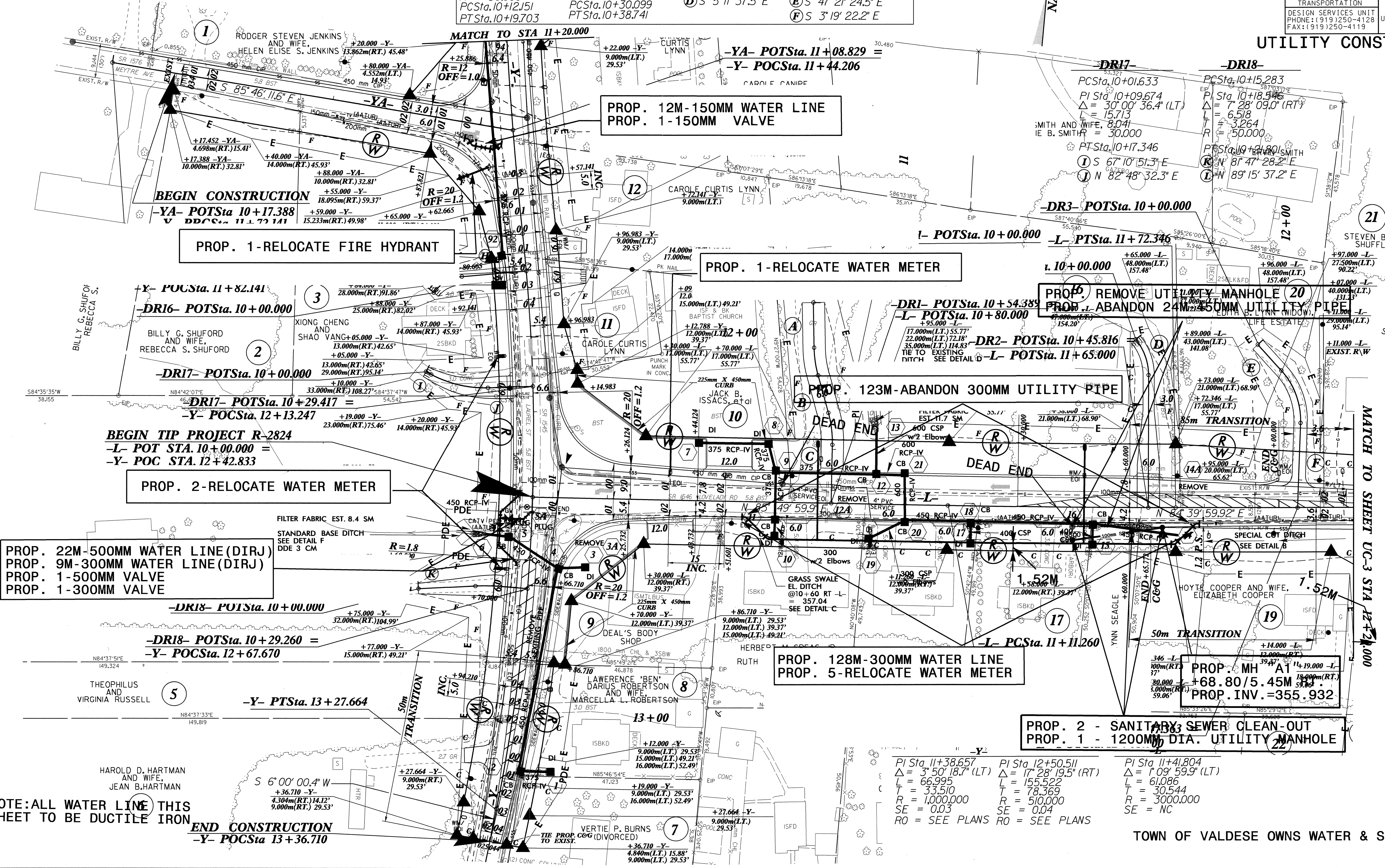
042537



| | | | |
|--|--------|---|------|
| PROJECT REFERENCE NO. | R-2824 | SHEET NO. | UC-2 |
| DESIGNED BY: | WGK | | |
| DRAWN BY: | WGK | | |
| CHECKED BY: | RBW | | |
| APPROVED BY: | RBW | | |
| REVISED: | | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| DESIGN SERVICES UNIT PHONE: (919)250-4128 FAX: (919)250-4119 | | UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

| -DRI- | | -DR2- | | -DR3- | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Ⓐ S 6°14' 58.3" E | Ⓒ S 4°09' 59.1" E | PI Sta. 10+05.382 | PI Sta. 10+17.484 | PI Sta. 10+17.484 | PI Sta. 10+17.484 |
| Ⓑ S 20°40' 22.1" E | | Δ = 39°28' 38.8" (RT) | Δ = 44°02' 01.1" (RT) | Δ = 44°02' 01.1" (RT) | Δ = 44°02' 01.1" (RT) |
| PI Sta. 10+15.947 | PI Sta. 10+34.450 | L = 10.335 | L = 5.382 | L = 5.371 | L = 5.371 |
| Δ = 14°25' 23.8" (LT) | Δ = 16°30' 23.0" (RT) | R = 15.000 | R = 20.000 | R = 20.000 | R = 20.000 |
| L = 7.552 | L = 8.643 | PCSta. 10+00.000 | PCSta. 10+09.397 | PCSta. 10+09.397 | PCSta. 10+09.397 |
| T = 3.796 | T = 4.352 | PTSta. 10+10.335 | PTSta. 10+24.768 | PTSta. 10+24.768 | PTSta. 10+24.768 |
| R = 30.000 | R = 30.000 | | | | |
| PCSta. 10+12.151 | PCSta. 10+30.099 | | | | |
| PTSta. 10+19.703 | PTSta. 10+38.741 | | | | |
| | Ⓓ S 5°11' 37.5" E | Ⓔ S 47°21' 24.5" E | Ⓕ S 3°19' 22.2" E | | |



PROP. 12M-150MM WATER LINE
PROP. 1-150MM VALVE

PROP. 1-RELOCATE FIRE HYDRANT

PROP. 1-RELOCATE WATER METER

PROP. REMOVE UTILITY MANHOLE (20)
PROP. ABANDON 24" 150MM UTILITY PIPE

PROP. 123M-ABANDON 300MM UTILITY PIPE

PROP. 2-RELOCATE WATER METER

PROP. 22M-500MM WATER LINE (DIRJ)
PROP. 9M-300MM WATER LINE (DIRJ)
PROP. 1-500MM VALVE
PROP. 1-300MM VALVE

PROP. 128M-300MM WATER LINE
PROP. 5-RELOCATE WATER METER

PROP. 2 - SANITARY SEWER CLEAN-OUT
PROP. 1 - 1200MM DIA. UTILITY MANHOLE

NOTE: ALL WATER LINE THIS SHEET TO BE DUCTILE IRON

| | | |
|----------------------|-----------------------|----------------------|
| PI Sta. 11+38.657 | PI Sta. 12+50.511 | PI Sta. 11+41.804 |
| Δ = 3°50' 18.7" (LT) | Δ = 17°28' 19.5" (RT) | Δ = 1°09' 59.9" (LT) |
| L = 66.995 | L = 155.522 | L = 61.086 |
| T = 33.510 | T = 78.369 | T = 30.544 |
| R = 1,000.000 | R = 510.000 | R = 3,000.000 |
| SE = 0.03 | SE = 0.04 | SE = NC |
| RO = SEE PLANS | RO = SEE PLANS | |

TOWN OF VALDESE OWNS WATER & SEWER

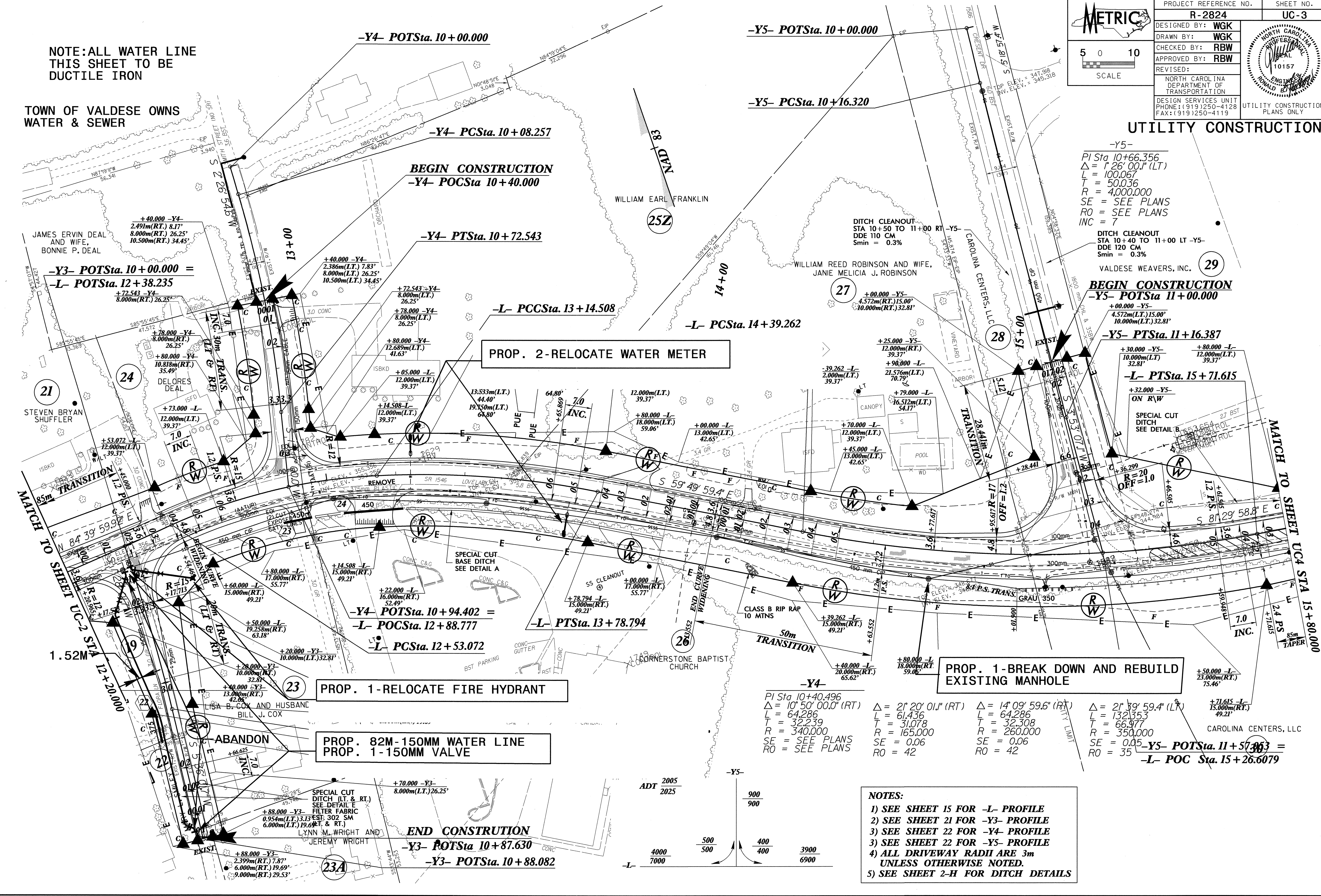
042537

| | | | | |
|----------------------|-----------------------|---|-----------|------|
| | PROJECT REFERENCE NO. | R-2824 | SHEET NO. | UC-3 |
| | DESIGNED BY: | WGK | | |
| DRAWN BY: | WGK | | | |
| CHECKED BY: | RBW | | | |
| APPROVED BY: | RBW | | | |
| REVISI: | | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | | |
| DESIGN SERVICES UNIT | | UTILITY CONSTRUCTION PLANS ONLY | | |
| PHONE: (919)250-4128 | | | | |
| FAX: (919)250-4119 | | | | |

UTILITY CONSTRUCTION

NOTE: ALL WATER LINE THIS SHEET TO BE DUCTILE IRON

TOWN OF VALDESE OWNS WATER & SEWER



-Y5-
 PI Sta 10+66.356
 $\Delta = 1' 26' 00.1''$ (LT)
 L = 100.067
 T = 50.036
 R = 4,000,000
 SE = SEE PLANS
 RO = SEE PLANS
 INC = 7

DITCH CLEANOUT STA 10+40 TO 11+00 LT -Y5-
 DDE 120 CM
 Smin = 0.3%

VALDESE WEAVERS, INC. 29

BEGIN CONSTRUCTION
-Y5- POTSta 11+00.000
 +00.000 -Y5-
 4.572m(LT.) 15.00'
 10.000m(LT.) 32.81'

-Y5- PTSta. 11+16.387
 +30.000 -Y5-
 10.000m(LT.) 32.81'
 +80.000 -L-
 12.000m(LT.) 39.37'

-L- PTSta. 15+71.615
 +32.000 -Y5-
 ON R/W
 SPECIAL CUT DITCH SEE DETAIL B

-Y4-
 PI Sta 10+40.496
 $\Delta = 10' 50' 00.0''$ (RT)
 L = 64.286
 T = 32.239
 R = 340,000
 SE = SEE PLANS
 RO = SEE PLANS

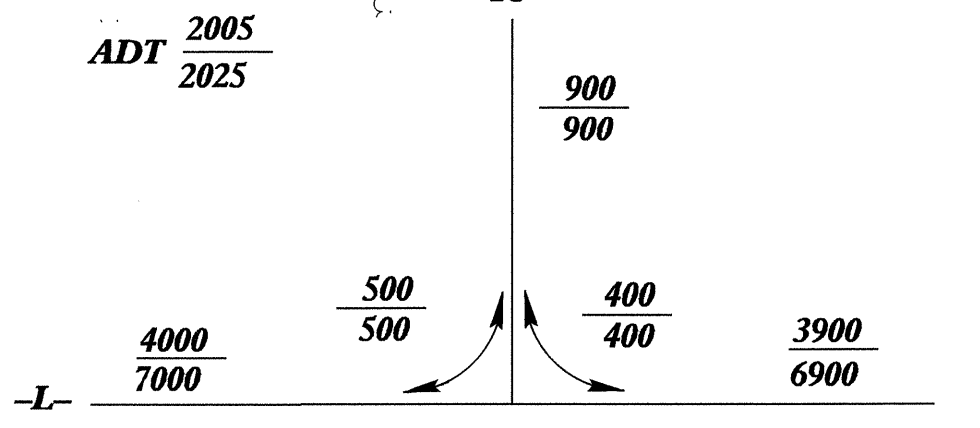
$\Delta = 2' 20' 01.1''$ (RT)
 L = 61.436
 T = 31.078
 R = 165,000
 SE = 0.06
 RO = 42

$\Delta = 14' 09' 59.6''$ (RT)
 L = 64.286
 T = 32.308
 R = 260,000
 SE = 0.06
 RO = 42


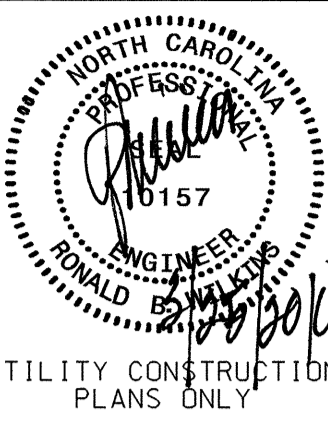
$\Delta = 2' 39' 59.4''$ (LT)
 L = 132.353
 T = 66.977
 R = 350,000
 SE = 0.05
 RO = 35

-Y5- POTSta. 11+57.963 =
-L- POC Sta. 15+26.6079

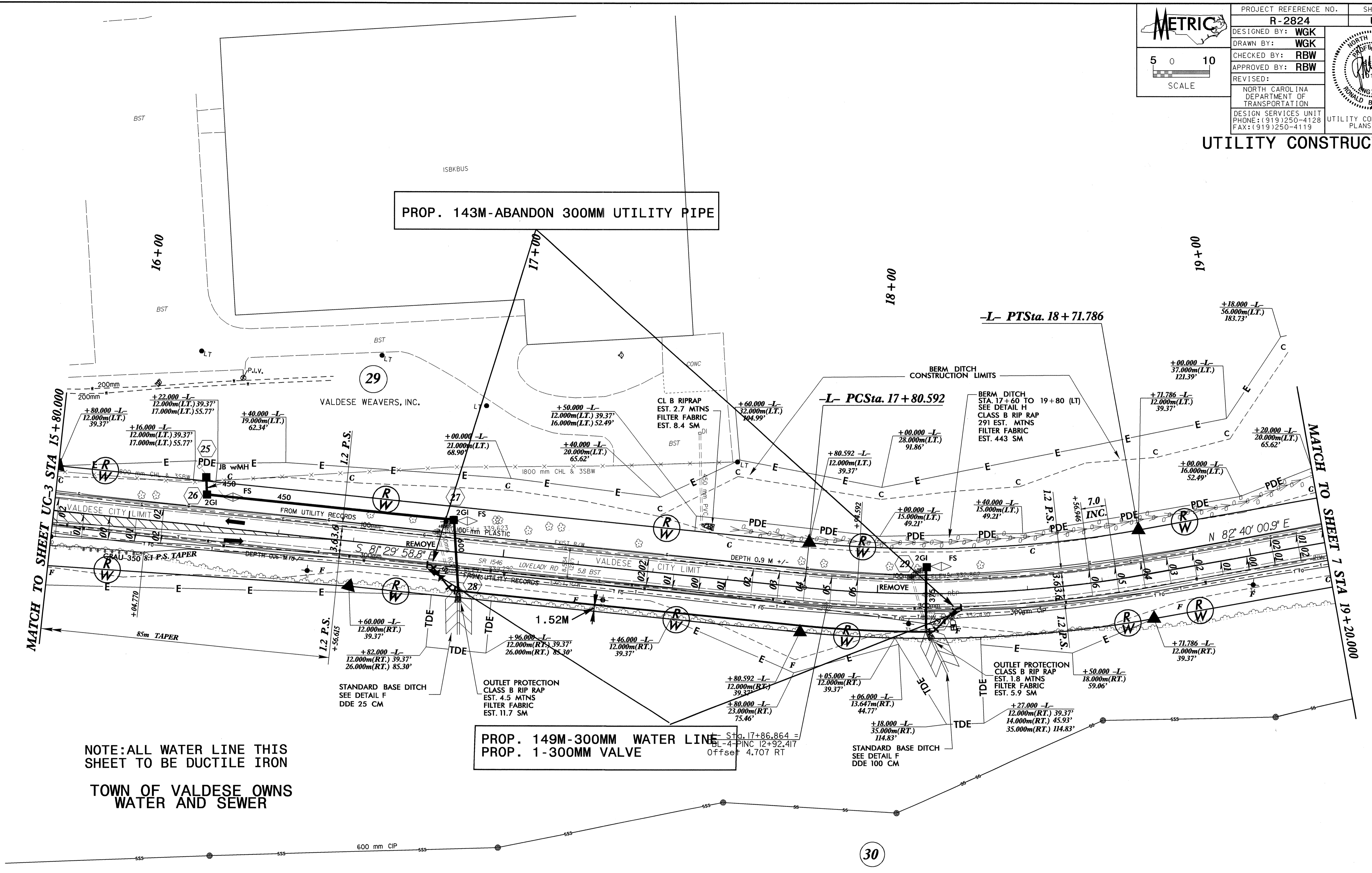
- NOTES:**
- 1) SEE SHEET 15 FOR -L- PROFILE
 - 2) SEE SHEET 21 FOR -Y3- PROFILE
 - 3) SEE SHEET 22 FOR -Y4- PROFILE
 - 4) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED.
 - 5) SEE SHEET 2-H FOR DITCH DETAILS



042537

| | | |
|---|--|-----------|
|  SCALE: 1" = 10' | PROJECT REFERENCE NO. | SHEET NO. |
| | R-2824 | UC-4 |
| DESIGNED BY: WGK |  NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| DRAWN BY: WGK | | |
| CHECKED BY: RBW | | |
| APPROVED BY: RBW | | |
| REVISER: | DESIGN SERVICES UNIT PHONE: (919)250-4128 FAX: (919)250-4119 | |
| UTILITY CONSTRUCTION PLANS ONLY | | |

UTILITY CONSTRUCTION



PROP. 143M-ABANDON 300MM UTILITY PIPE

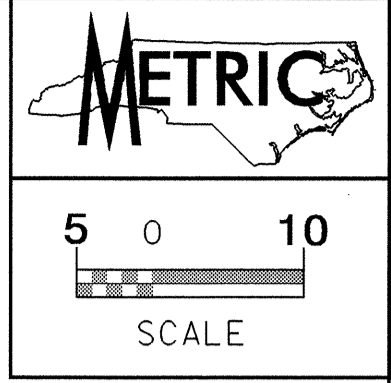
**PROP. 149M-300MM WATER LINE
PROP. 1-300MM VALVE**

NOTE: ALL WATER LINE THIS SHEET TO BE DUCTILE IRON

TOWN OF VALDESE OWNS WATER AND SEWER

- 1) SEE SHEET 16 FOR -L- PROFILE
- 2) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED.
- 3) SEE SHEET 2-H FOR DITCH DETAILS

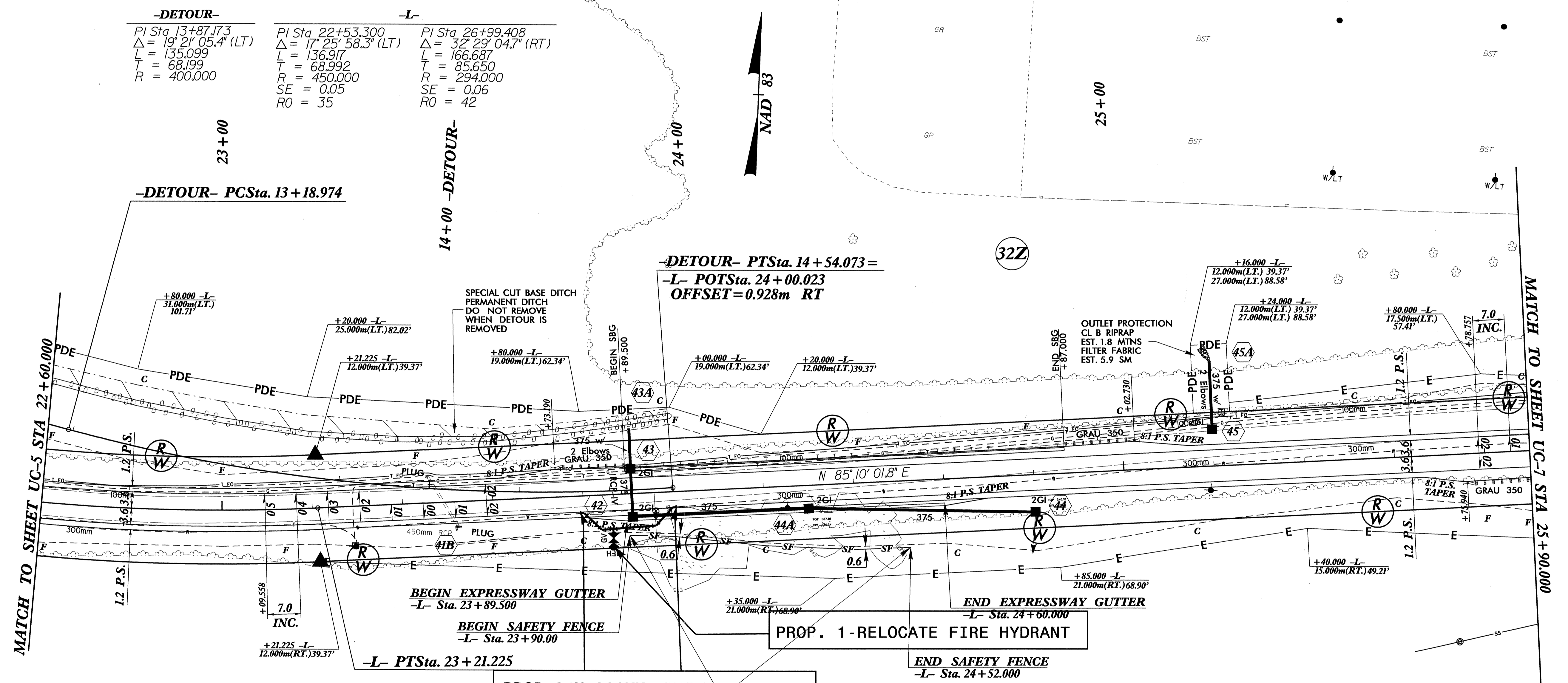
24 MAR 2010 11:51 AM
 R:\Projects\2824\Drawings\UC-4.dwg
 User: RSB
 Job: 2824



| | |
|---|--------------------------|
| PROJECT REFERENCE NO. R-2824 | SHEET NO. UC-6 |
| DESIGNED BY: WGK | |
| DRAWN BY: WGK | |
| CHECKED BY: RBW | |
| APPROVED BY: RBW | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119 | |

UTILITY CONSTRUCTION

| -DETOUR- | -L- | |
|------------------------------------|------------------------------------|------------------------------------|
| PI Sta 13+87.173 | PI Sta 22+53.300 | PI Sta 26+99.408 |
| $\Delta = 19^\circ 21' 05.4" (LT)$ | $\Delta = 17^\circ 25' 58.3" (LT)$ | $\Delta = 32^\circ 29' 04.7" (RT)$ |
| L = 135.099 | L = 136.917 | L = 166.687 |
| T = 68.199 | T = 68.992 | T = 85.650 |
| R = 400.000 | R = 450.000 | R = 294.000 |
| | SE = 0.05 | SE = 0.06 |
| | RO = 35 | RO = 42 |



31

NOTE: ALL WATER LINE THIS SHEET TO BE DUCTILE IRON

TOWN OF VALDESE OWNS WATER & SEWER

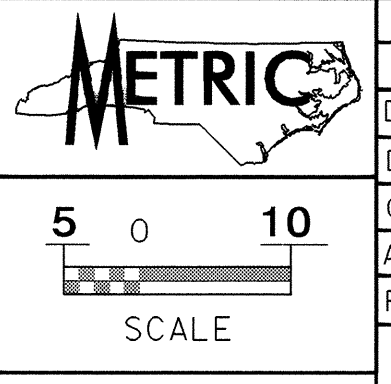
LIMIT CLEARING AND CONSTRUCTION ACTIVITIES TO WITHIN 1.5 METERS BEYOND THE SLOPE STAKE LINE FROM RIGHT OF -L- STA. 23+90.000 TO STA. 24+52.000. DO NOT DISTURB THE DWARF FLOWERED HEARTLEAF COLONIES LOCATED OUTSIDE THESE CLEARING LIMITS. PROTECT WITH SAFETY FENCE.

—EPB— ENDANGERED PLANT BOUNDARY
 —SF— SAFETY FENCE LINE

- NOTES:**
- 1) SEE SHEET 17 FOR -L- PROFILE
 - 2) SEE SHEET 2-G FOR DETOUR DESIGN
 - 3) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED.
 - 4) SEE SHEET 2-H FOR DITCH DETAILS
 - 5) DESIGN EXCEPTION FOR VERTICAL ALIGNMENT STOPPING SIGHT DISTANCE AND MAXIMUM GRADE.

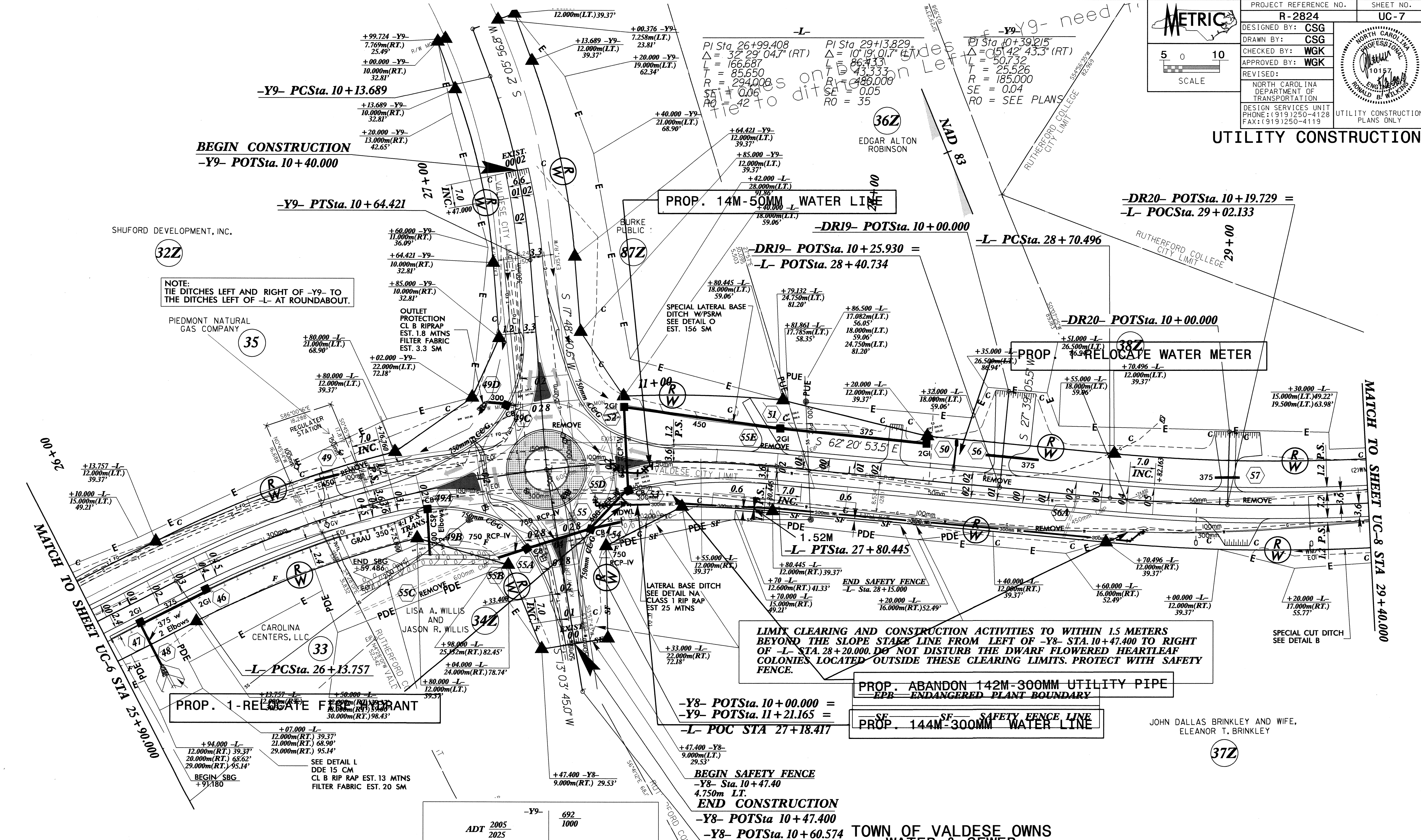
042537
 05 MAR 2010 09:27 P:\01\2824\UC-6.dwg
 R:\01\2824\UC-6.dwg
 R:\01\2824\UC-6.dwg

04237



| | | | |
|-----------------------|--------|---|------------------------------------|
| PROJECT REFERENCE NO. | R-2824 | SHEET NO. | UC-7 |
| DESIGNED BY: | CSG | | |
| DRAWN BY: | CSG | | |
| CHECKED BY: | WKG | | |
| APPROVED BY: | WKG | | |
| REVISED: | | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119 | |
| | | | UTILITY CONSTRUCTION PLANS ONLY |

UTILITY CONSTRUCTION



NOTE:
TIE DITCHES LEFT AND RIGHT OF -Y9- TO
THE DITCHES LEFT OF -L- AT ROUNDABOUT.

LIMIT CLEARING AND CONSTRUCTION ACTIVITIES TO WITHIN 15 METERS
BEYOND THE SLOPE STAKE LINE FROM LEFT OF -Y8- STA. 10+47.400 TO RIGHT
OF -L- STA. 28+20.000. DO NOT DISTURB THE DWARF FLOWERED HEARLEAF
COLONIES LOCATED OUTSIDE THESE CLEARING LIMITS. PROTECT WITH SAFETY
FENCE.

| | | |
|----------|------|------|
| -Y9- | 692 | 1000 |
| ADT 2005 | 246 | 446 |
| 2025 | 400 | 600 |
| -L- | 3900 | 4169 |
| | 6900 | 7400 |
| | 246 | 315 |
| | 400 | 700 |
| -Y8- | 562 | 1100 |

NOTE : ALL WATER LINE THIS
SHEET TO BE DUCTILE IRON
EXCEPT 50MM WATER LINE TO BE PE

- NOTES:
- 1) SEE SHEET 18 FOR -L- PROFILE
 - 2) SEE SHEET 22 FOR -Y8- PROFILE
 - 3) SEE SHEET 22 FOR -Y9- PROFILE
 - 4) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED
 - 5) ENDANGERED PLANT BOUNDARY (EPB)
 - 6) SEE SHEET 2-H FOR DITCH DETAILS

28-APR-2010 09:50
 R:\Projects\2824\Drawings\UC-7.dwg
 User: jason

R:\B\AFR\2010_09\37 - R-2824.dwg (R:\B\AFR\2010_09\37 - R-2824.dwg) Plot Date: 11/24/2010 10:54:11 AM

PI Sta 29+13.829
 $\Delta = 10^{\circ} 19' 01.7''$ (LT)
L = 86.433
T = 43.333
R = 480.000
SE = 0.05
RO = 35

PI Sta 31+23.879
 $\Delta = 18^{\circ} 35' 44.3''$ (LT)
L = 159.032
T = 80.221
R = 490.000
SE = 0.05
RO = 35

PI Sta 10+10.544
 $\Delta = 5^{\circ} 12' 25.0''$ (RT)
L = 4.544
T = 2.274
R = 50.000
PCSta.10+08.271
PTSta.10+12.815

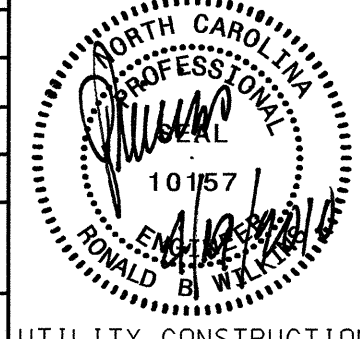
PI Sta 10+29.829
 $\Delta = 8^{\circ} 57' 04.5''$ (LT)
L = 7.811
T = 3.914
R = 50.000
PCSta.10+25.916
PTSta.10+33.727

-Y9A-
PI Sta 10+14.943
 $\Delta = 9^{\circ} 59' 01.6''$ (RT)
L = 8.712
T = 4.367
R = 50.000

-DR4-
PI Sta 10+07.428
 $\Delta = 89^{\circ} 38' 26.3''$ (LT)
L = 6.258
T = 3.975
R = 4.000
PCSta.10+03.453
PTSta.10+09.711
A S 9° 58' 09.1" W

C S 4° 43' 35.3" W
D S 9° 56' 00.3" W
E S 0° 58' 55.7" W

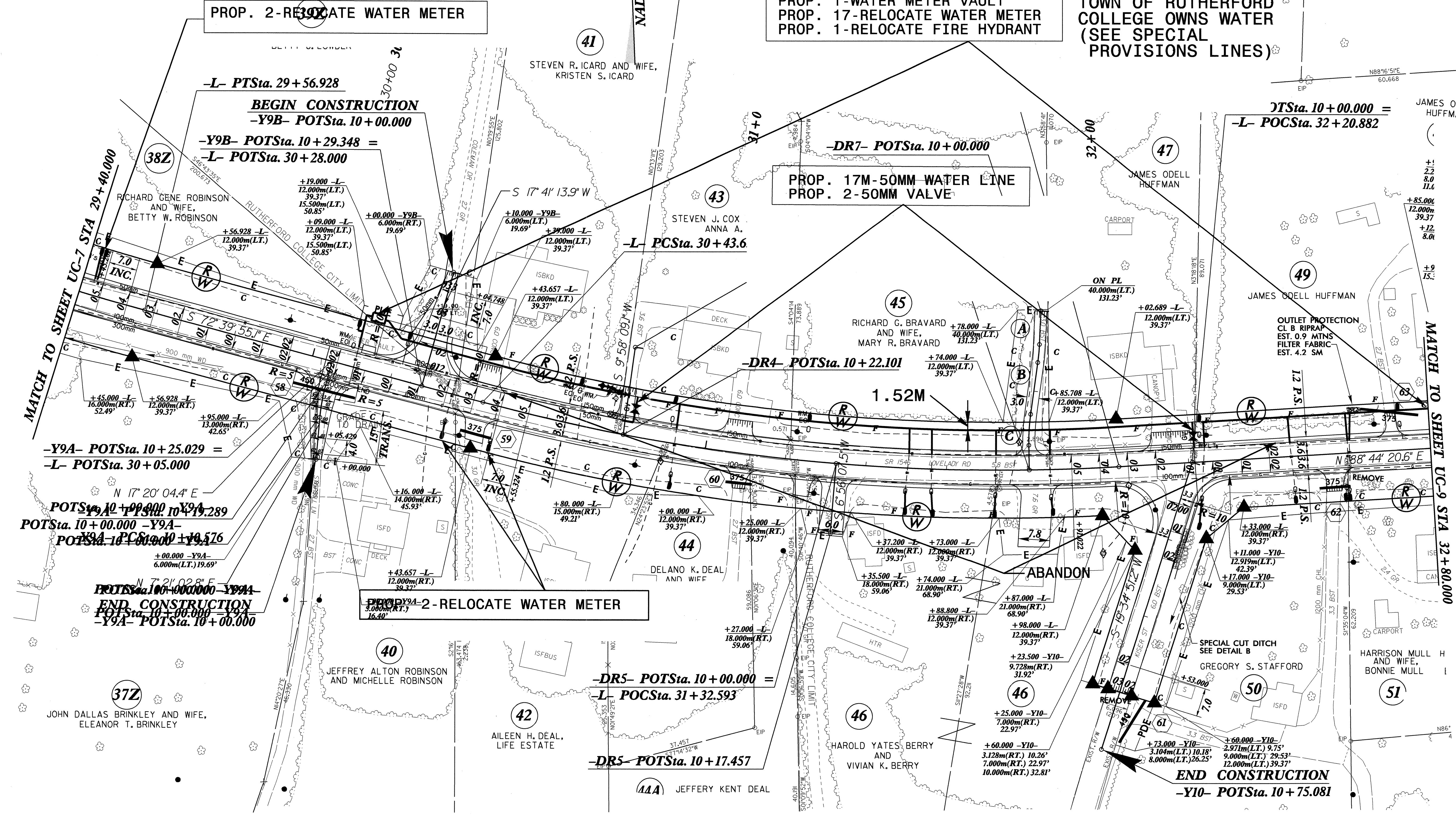
METRIC
5 0 10
SCALE

| | | |
|--|-----|---|
| PROJECT REFERENCE NO. | | SHEET NO. |
| R-2824 | | UC-8 |
| DESIGNED BY: | CSG |  |
| DRAWN BY: | CSG | |
| CHECKED BY: | WGW | |
| APPROVED BY: | WGW | |
| REVISED: | | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | | UTILITY CONSTRUCTION PLANS ONLY |
| DESIGN SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119 | | |

NOTE : ALL WATER LINE THIS SHEET
TO BE PVC(C900)
ALL 50MM WATER LINE TO BE PE

PROP. 275M-150MM WATER LINE
PROP. 1-WATER METER VAULT
PROP. 17-RELOCATE WATER METER
PROP. 1-RELOCATE FIRE HYDRANT

TOWN OF VALDESE AND
TOWN OF RUTHERFORD
COLLEGE OWNS WATER
(SEE SPECIAL
PROVISIONS LINES)

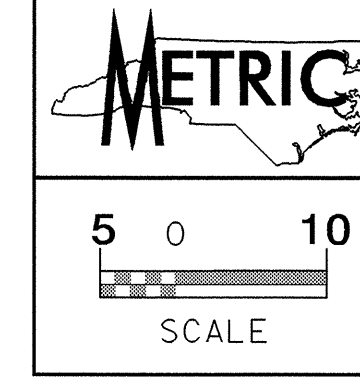


PROP. 2-RELOCATE WATER METER

PROP. 17M-50MM WATER LINE
PROP. 2-50MM VALVE

PROP. 2-RELOCATE WATER METER

END CONSTRUCTION
-Y10- POTSta. 10 + 75.081

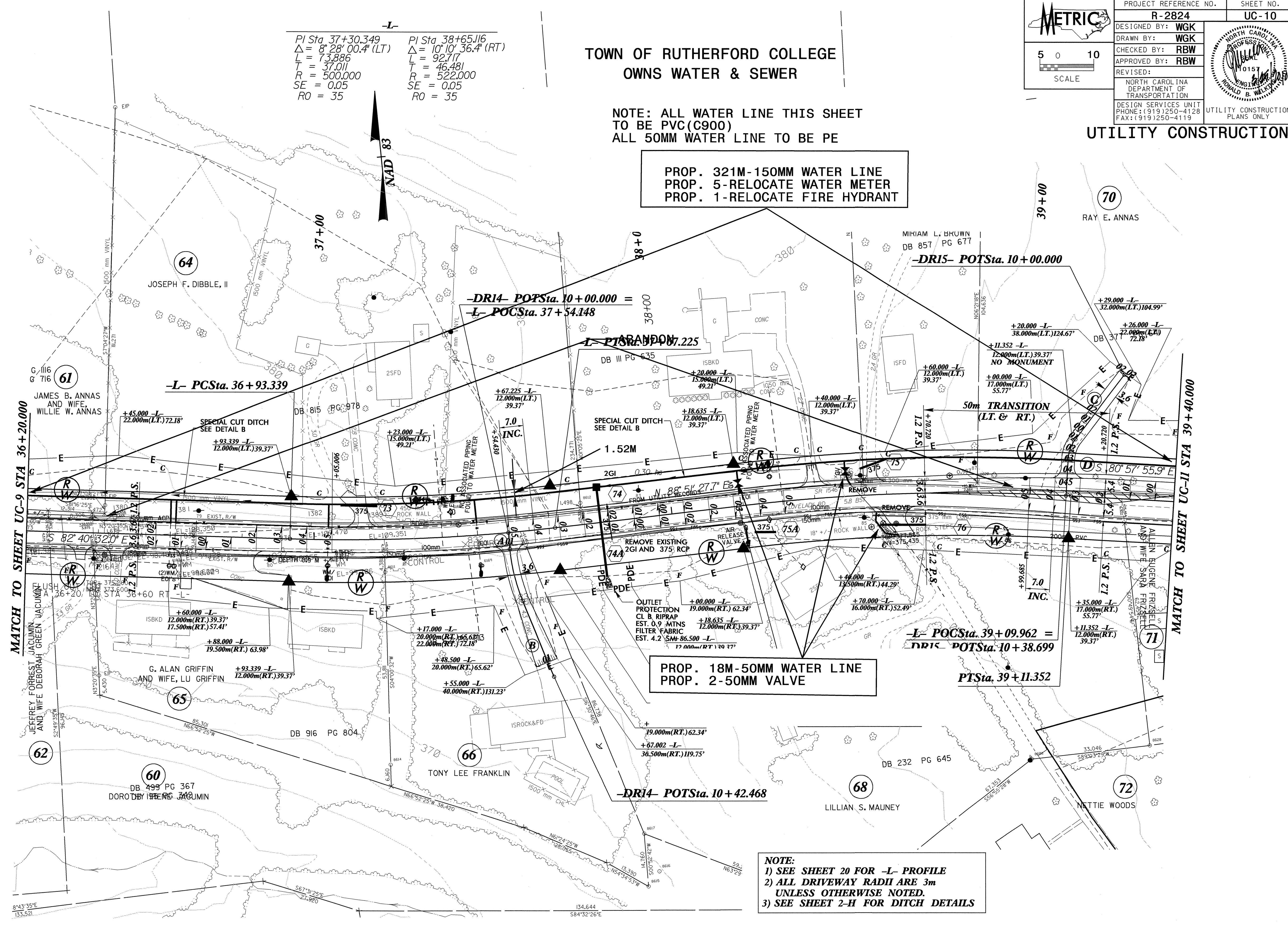


TOWN OF RUTHERFORD COLLEGE OWNS WATER & SEWER

**NOTE: ALL WATER LINE THIS SHEET
TO BE PVC(C900)
ALL 50MM WATER LINE TO BE PE**

**PROP. 321M-150MM WATER LINE
PROP. 5-RELOCATE WATER METER
PROP. 1-RELOCATE FIRE HYDRANT**

-L-
 PI Sta 37+30.349 PI Sta 38+65.116
 $\Delta = 8^{\circ} 28' 00.4''$ (LT) $\Delta = 10^{\circ} 10' 36.4''$ (RT)
 L = 73.886 L = 92.717
 L = 37.011 L = 46.481
 R = 500.000 R = 522.000
 SE = 0.05 SE = 0.05
 RO = 35 RO = 35


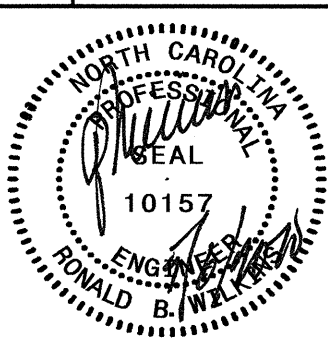


**PROP. 18M-50MM WATER LINE
PROP. 2-50MM VALVE**

NOTE:
 1) SEE SHEET 20 FOR -L- PROFILE
 2) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED.
 3) SEE SHEET 2-H FOR DITCH DETAILS

042537
 24-MAR-2010 11:55
 Re: Utility Plans for Project R-2824, sheet UC-10, dsh
 Jucor AT 15241514

042597

| | | | | |
|---|-----------------------|---|---|-------|
|  SCALE 5 0 10 | PROJECT REFERENCE NO. | R-2824 | SHEET NO. | UC-11 |
| | DESIGNED BY: | WGK |  | |
| DRAWN BY: | WGK | | | |
| CHECKED BY: | RBW | | | |
| APPROVED BY: | RBW | | | |
| REVISED: | | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES UNIT PHONE: (919)250-4128 FAX: (919)250-4119 | | |

UTILITY CONSTRUCTION

CHARLES MATTHEW JENSEN

CONSTRUCTION
- POTSta. 10 + 71.961

- PTSta. 10 + 53.816

961 -Y12-
5m(RT.) 20.52'
90m(RT.) 32.81'
+53.816 -Y12-
10.000m(RT.)32.81'

-Y12- PCSta. 10 + 13.382

PROP. 13M-75MM FORCE MAIN SEWER

EST. 1.8 MTNS
FILTER FABRIC
EST. 3.3 SM
TRUSTEES OF FIRST
BAPTIST CHURCH
OF RUTHERFORD COLLEGE

-Y12- PCSta. 13 + 50.792

+61.000 -Y12-
9.144m(LT.) 30.00'
17.000m(LT.) 55.77'

TIE PROP. SIDEWALK AND C&G TO EXISTING

PROP. 1200mm SIDEWALK

END CONSTRUCTION
-Y12- STA. 14 + 60.000

+60.000 -Y12-
4.572m(RT.) 15.00'
16.000m(RT.) 52.49'

END TIP PROJECT R-2824

-L- POT STA. 40 + 38.819 =
-Y12- POT STA. 12 + 30.843

-Y12-
 PI Sta. 12+69.613 Δ = 16° 23' 49.4" (RT) L = 71.546 T = 36.019 R = 250.000 SE = 0.06 RO = SEE PLANS
 PI Sta. 14+92.001 Δ = 48° 17' 30.7" (LT) L = 265.498 T = 141.209 R = 315.000 SE = 0.07 RO = SEE PLANS

-Y12A-
 PI Sta. 10+33.629 Δ = 7° 43' 20.1" (LT) L = 40.434 T = 20.247 R = 300.000 SE = 0.03 RO = SEE PLANS

-Y12- PCSta. 12 + 33.594

CORINE JENSEN
E8 DIV

NOTE: ALL WATER LINE THIS SHEET TO BE PVC (C900)
ALL 75MM F.M SEWER TO BE PVC

PROP. 236M-200MM WATER LINE
PROP. 1-200MM VALVE
PROP. 1-RELOCATE FIRE HYDRANT
PROP. 1-50MM VALVE
PROP. 3M-50MM WATER LINE

BEGIN CONSTRUCTION
-Y12- STA. 10-

77
BILL J. COFFEY

TIE PROP. SID.
AND C&G TO
+80.000 -Y
9.144m(LT.) 30.00'
15.000m(LT.) 49.21'

PROP. 148M-150MM WATER LINE
PROP. 1-150MM VALVE

PROP. SIGNAL POLES

ABANDON

BEGIN SAFETY FENCE
-Y12- Sta. 11 + 33.594
9.144m LT

RELOCATE STONE COLUMNS

PROP. 1200mm SIDEWALK

OUTLET PROTECTION
BLK CL B RIPRAP
WALL EST. 1.8 MTNS
FILTER FABRIC
EST. 5.9 SM

SPECIAL CUT

PROP. 108M-150MM WATER LINE
PROP. 1-150MM VALVE
PROP. 1-RELOCATE WATER METER

**PROP. 1-BREAK DOWN &
REBUILD EXISTING MANHOLE**

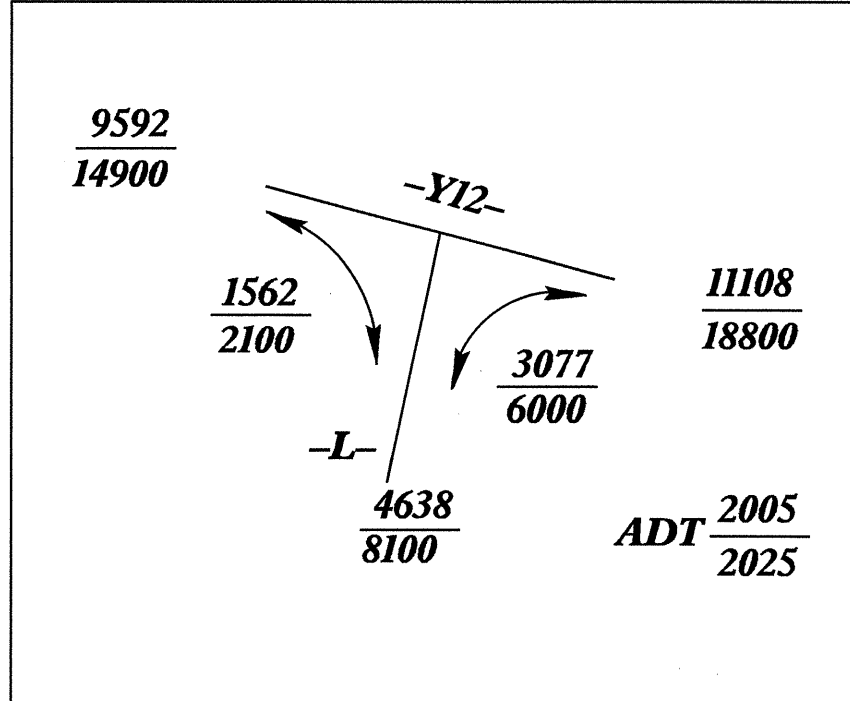
-Y12A- POTSta. 10 + 00.000 =
-Y12- POC Sta. 13 + 28.960

-Y12- PTSta. 13 + 05.140

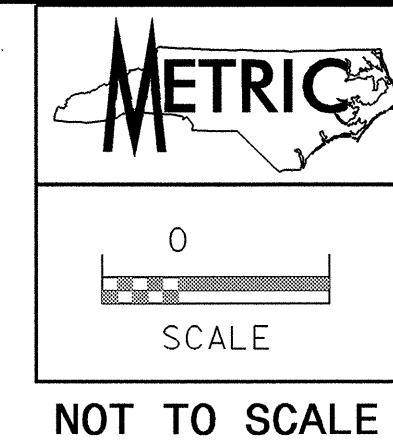
MATCH TO SHEET UC-10 STA 39 + 40.000

- NOTE:
- 1) SEE SHEET 20 FOR -L- PROFILE
 - 2) SEE SHEET 24 FOR -Y12- PROFILE
 - 3) SEE SHEET 24 FOR -Y12A- PROFILE
 - 4) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED.
 - 5) SEE SHEET 2-H FOR DITCH DETAILS
 - 6) DESIGN EXCEPTION FOR VERTICAL ALIGNMENT, STOPPING SIGHT DISTANCE AND MAXIMUM GRADE.

TOWN OF RUTHERFORD COLLEGE
OWNS WATER & SEWER

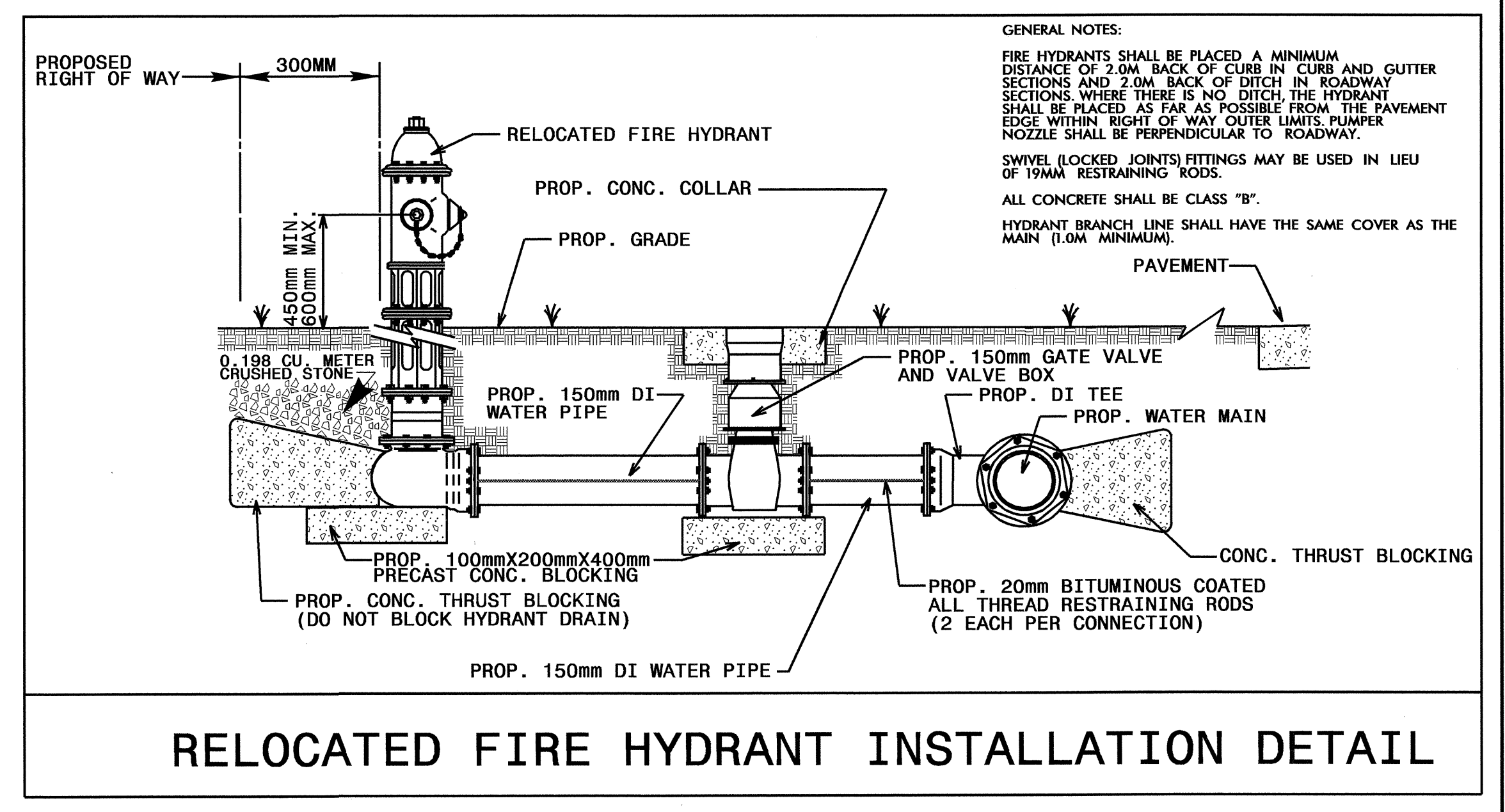
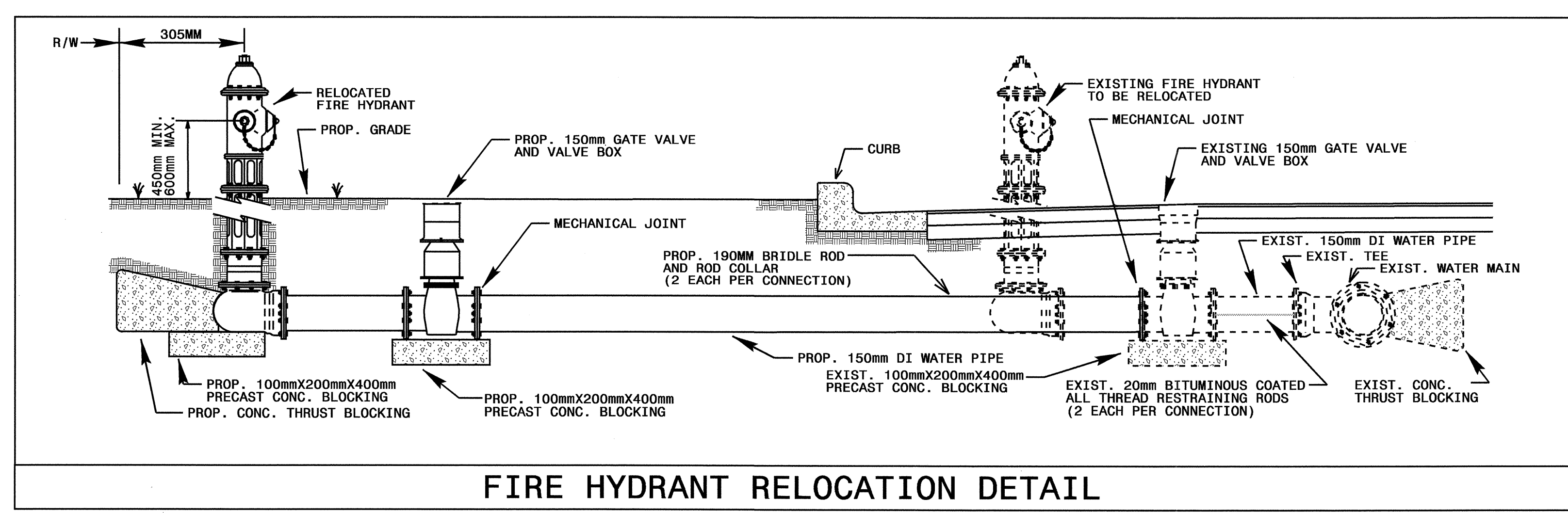
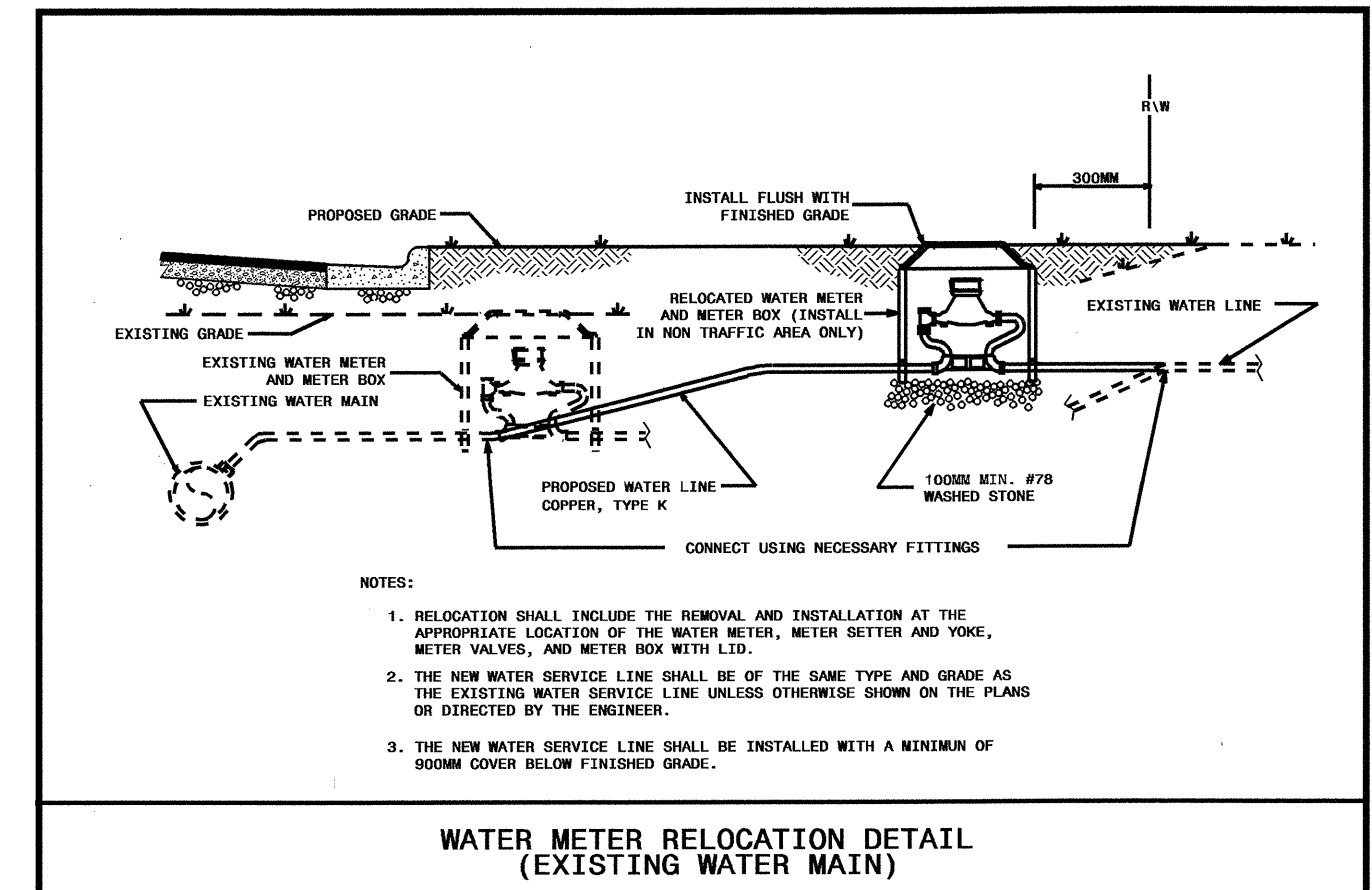
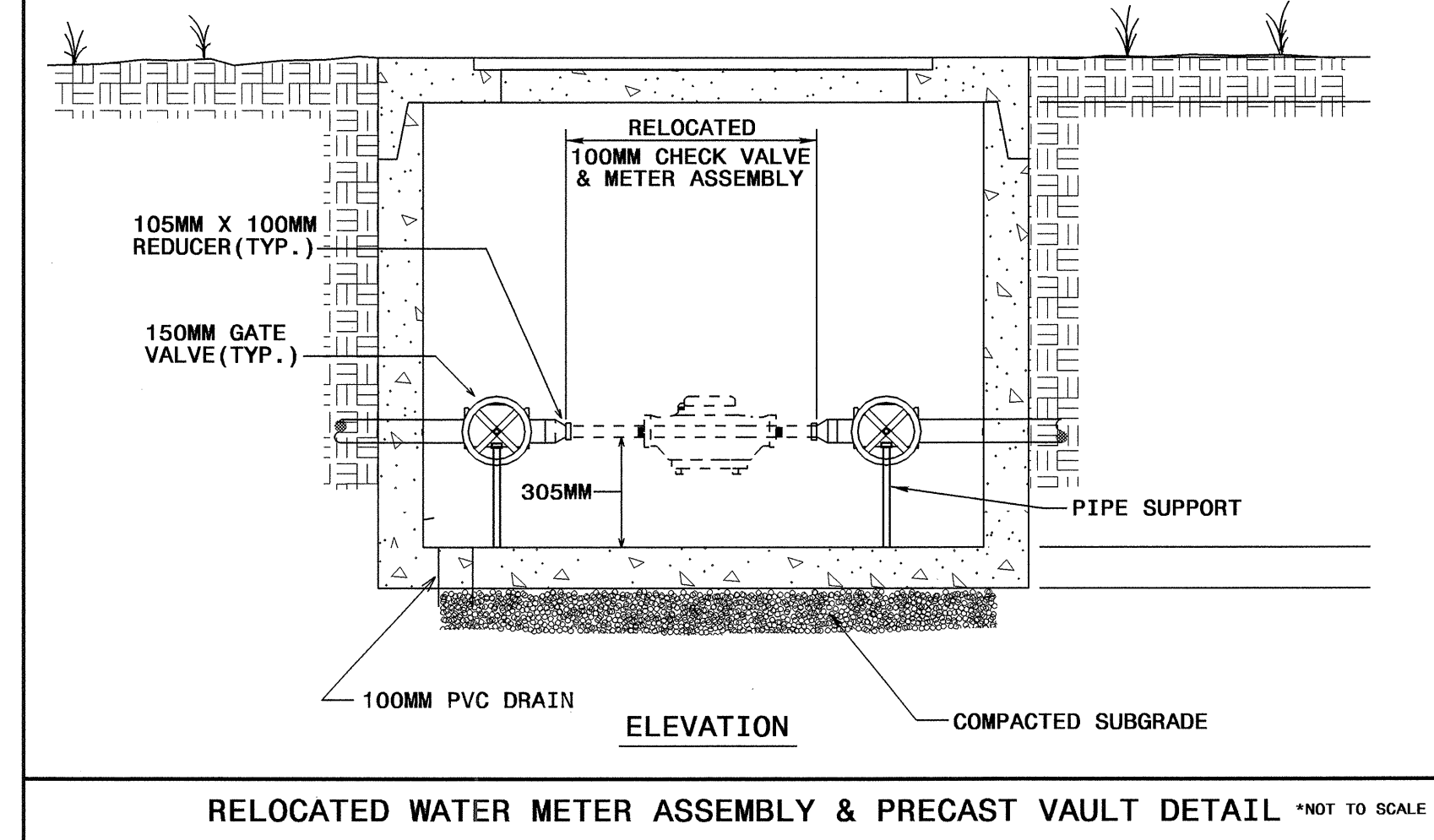
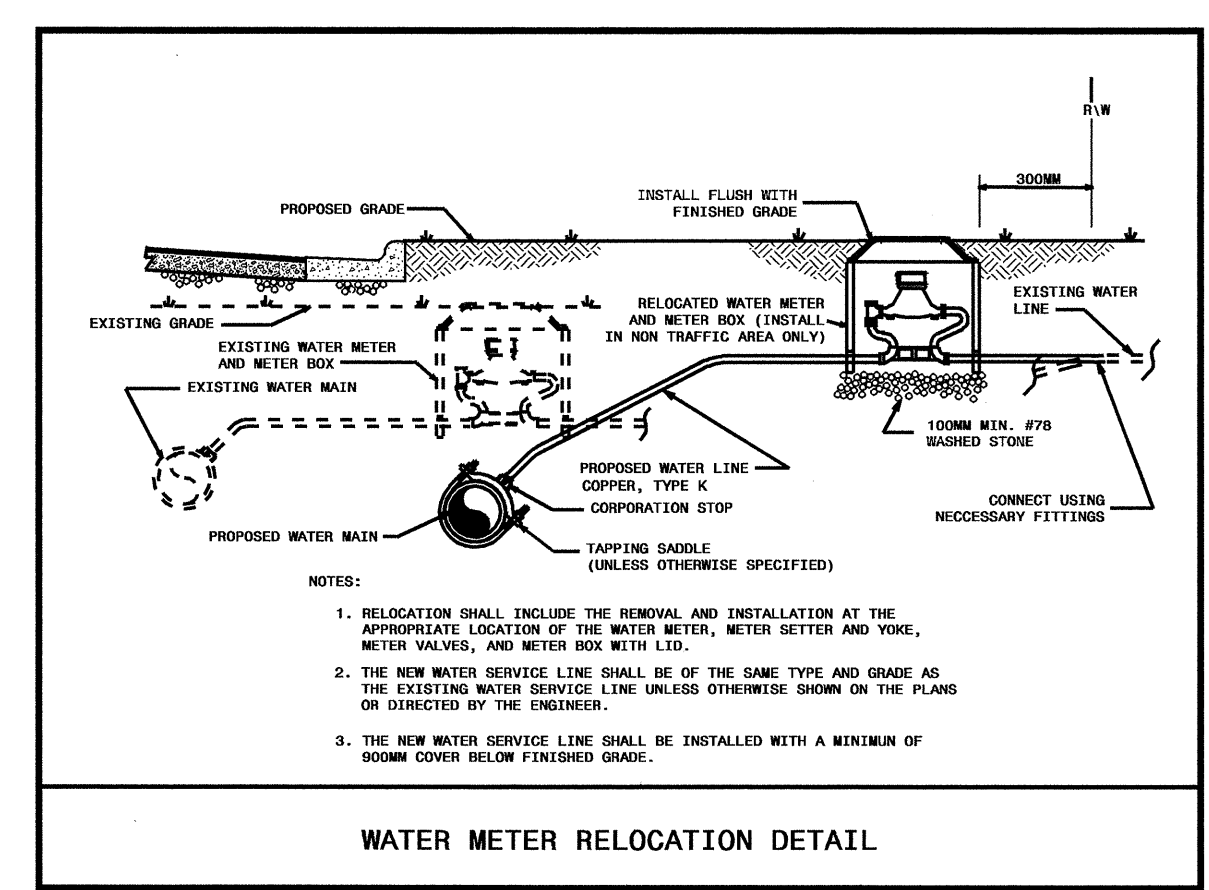
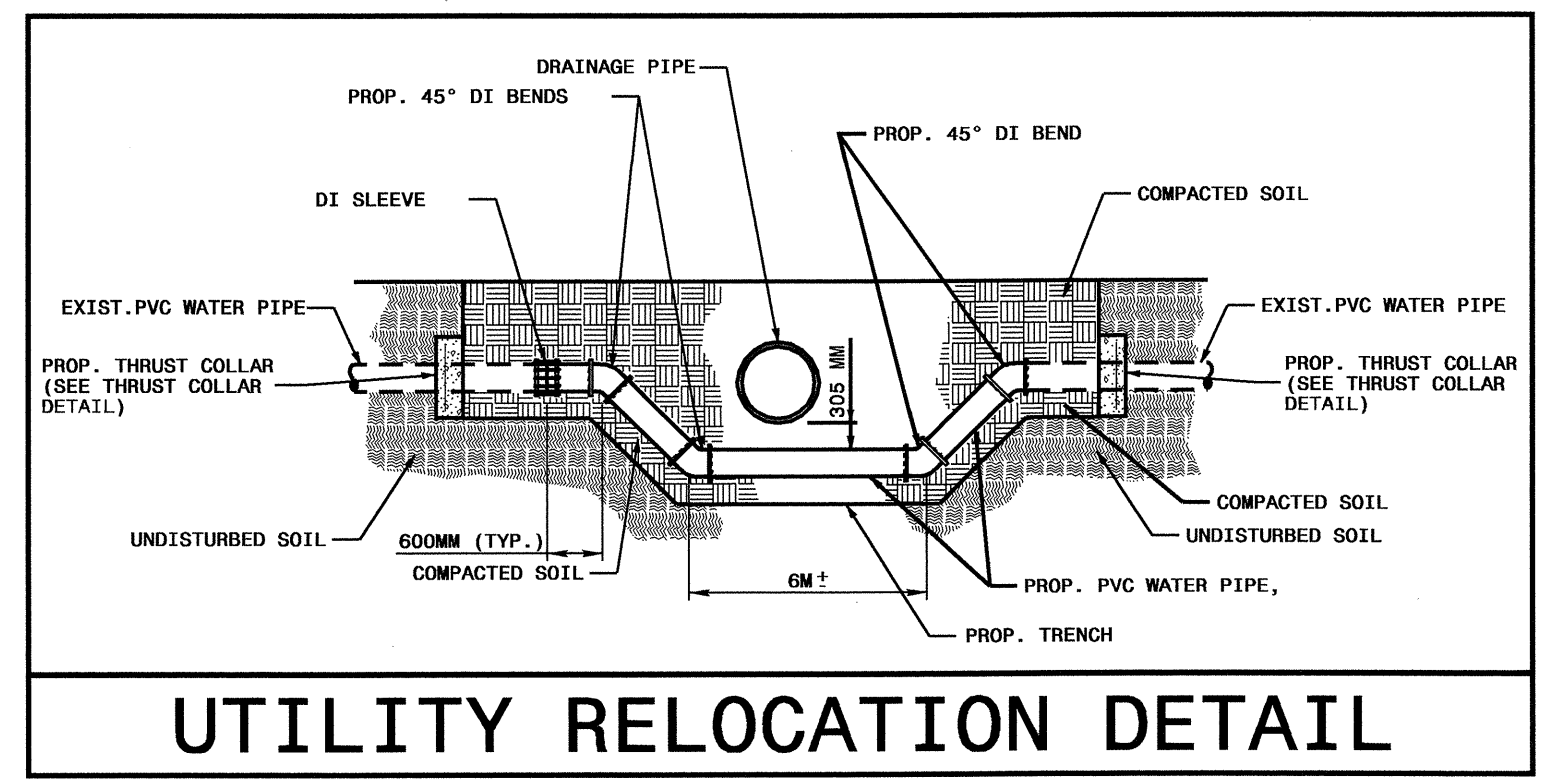
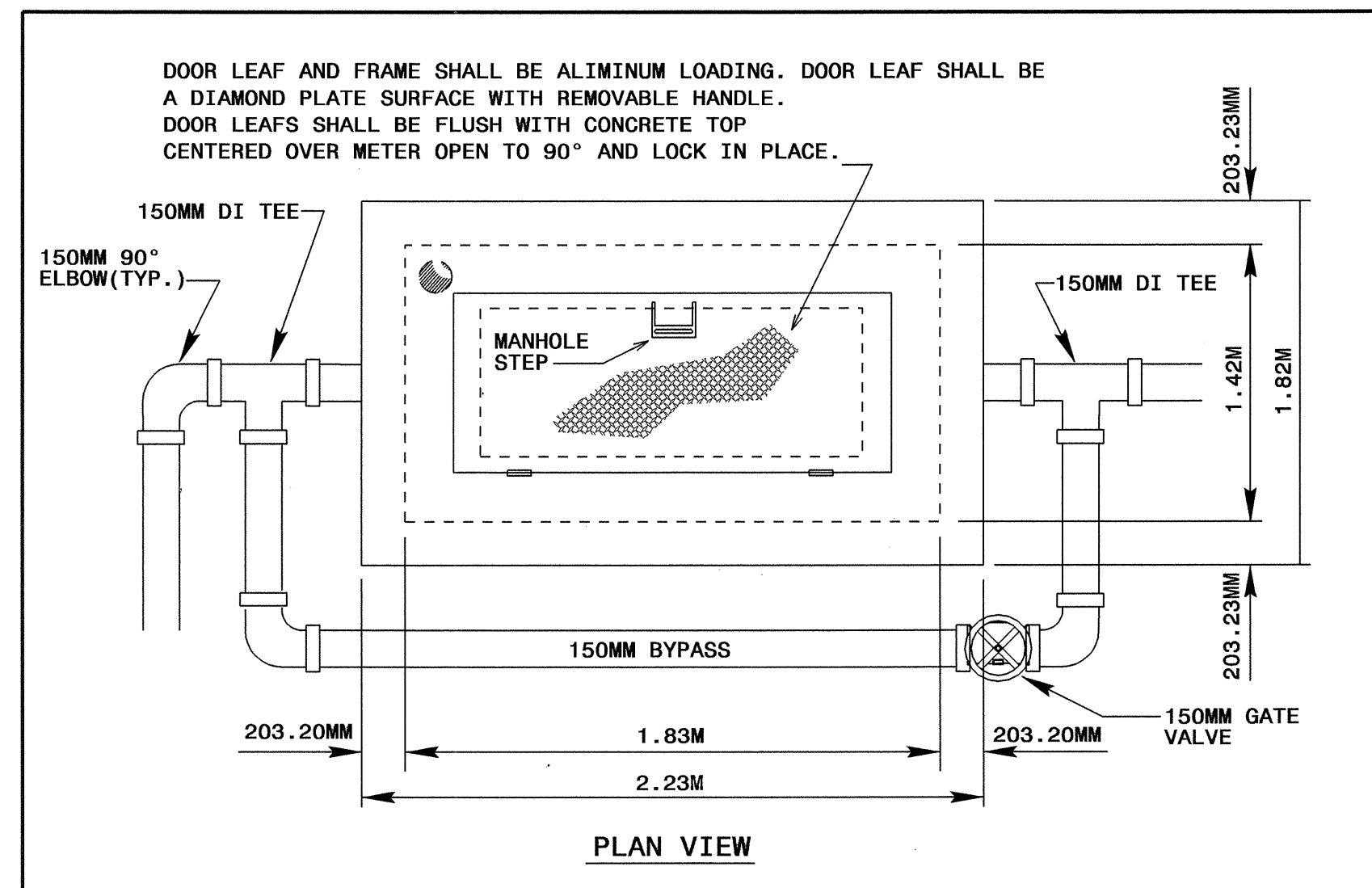
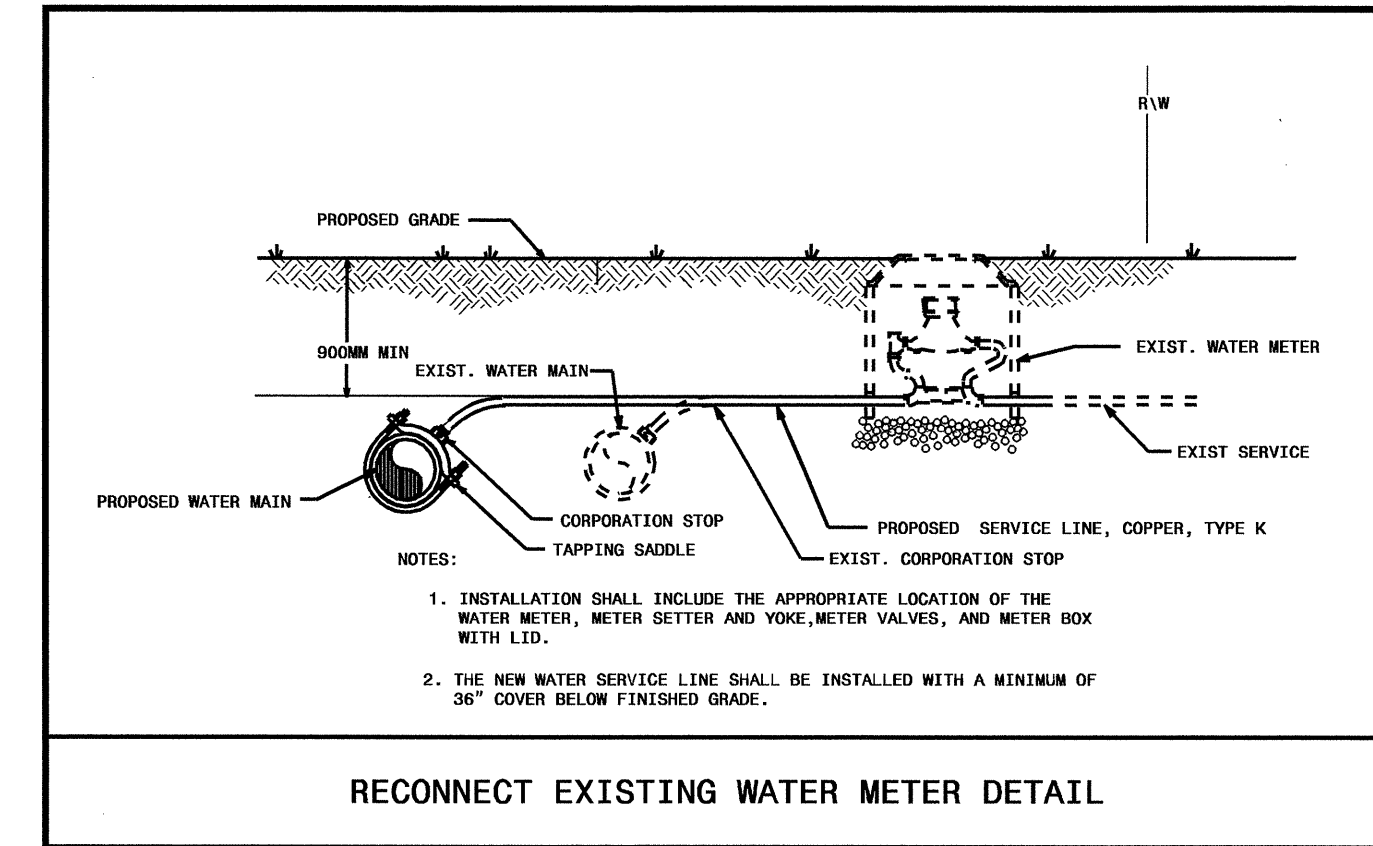


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User: rbw

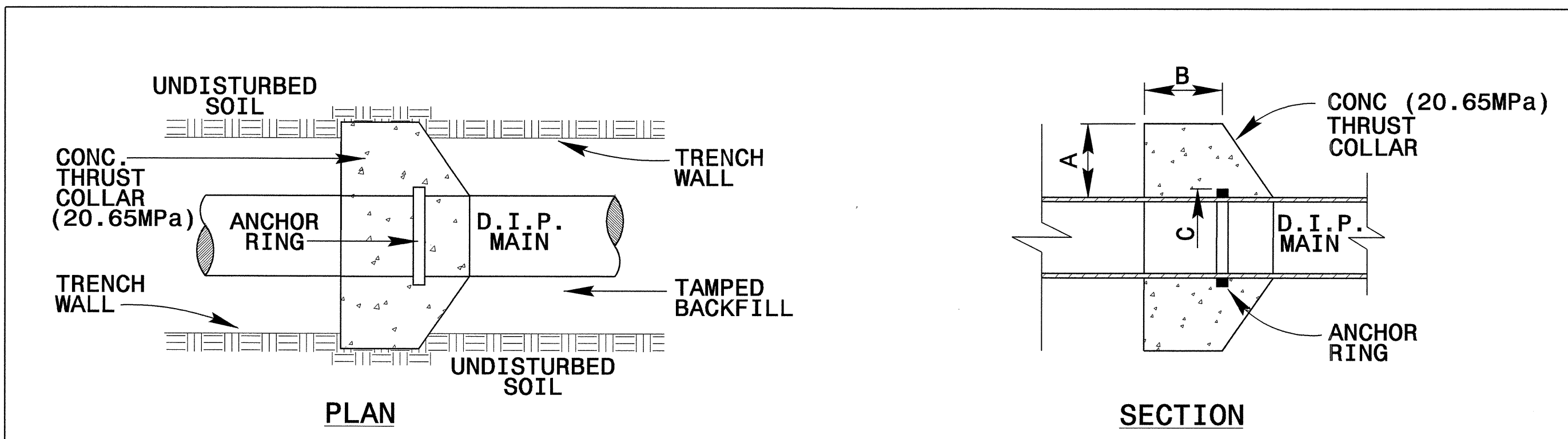


| | |
|---|---------------------------|
| PROJECT REFERENCE NO. R-2824 | SHEET NO. UC-12 |
| DESIGNED BY: CSG | |
| DRAWN BY: CSG | |
| CHECKED BY: RBW | |
| APPROVED BY: RBW | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

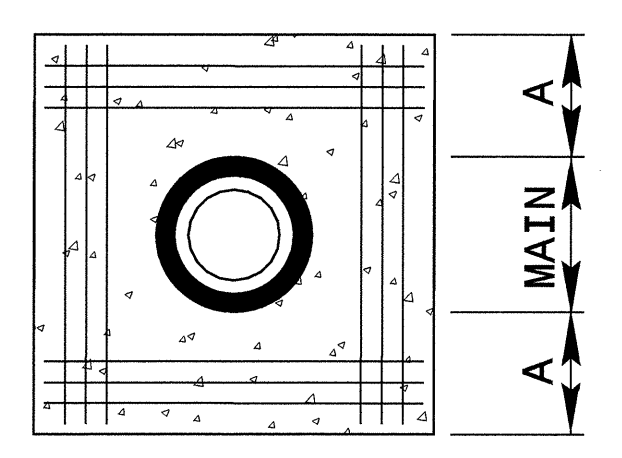


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 8/17/09



SCHEDULE

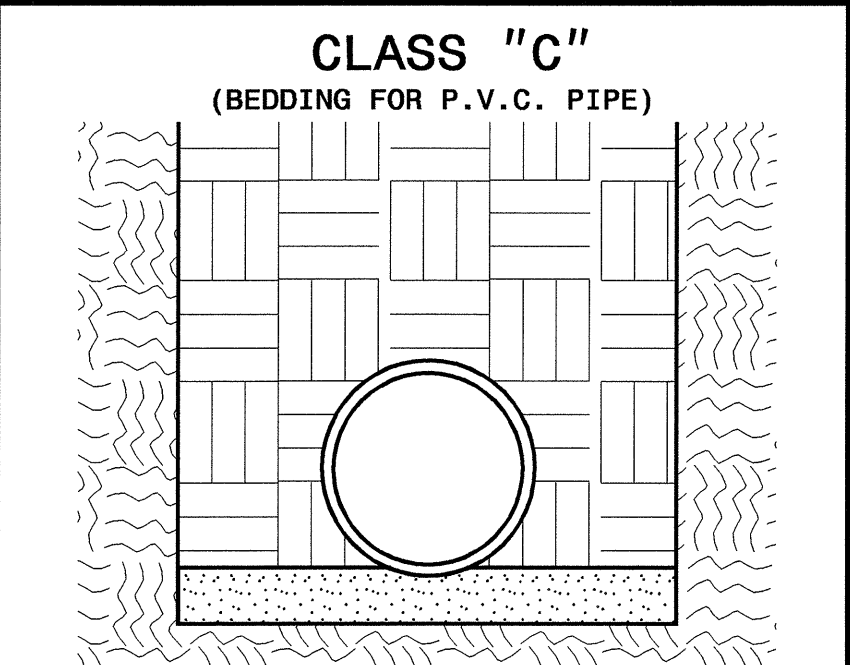
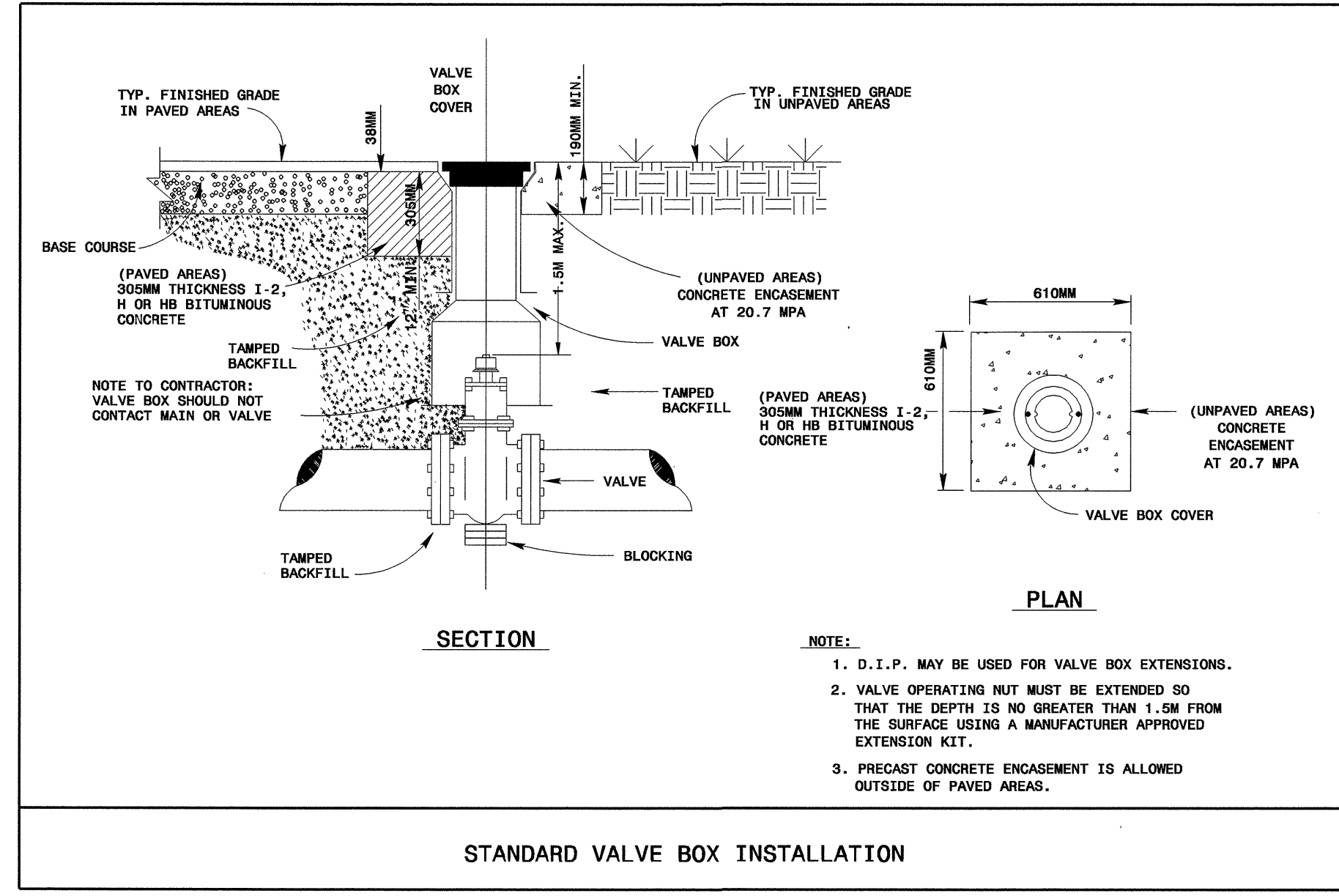
| PIPE DIAMETER (IN MILLIMETERS) | CONCRETE THRUST COLLAR | | ANCHOR RING | RINGS REQUIRED |
|--------------------------------|------------------------|---------|-------------|----------------|
| | A | B | | |
| 150, 200, 300 | 304.8mm | 304.8mm | 50.8mm | ONE |
| 400 | 406.4mm | 304.8mm | 50.8mm | ONE |
| 500 | 406.4mm | 304.8mm | 76.2mm | ONE |
| 600 | 406.4mm | 304.8mm | 76.2mm | TWO |
| 750 | 406.4mm | 355.6mm | 101.6mm | TWO |
| 900 | 406.4mm | 406.4mm | 101.6mm | TWO |



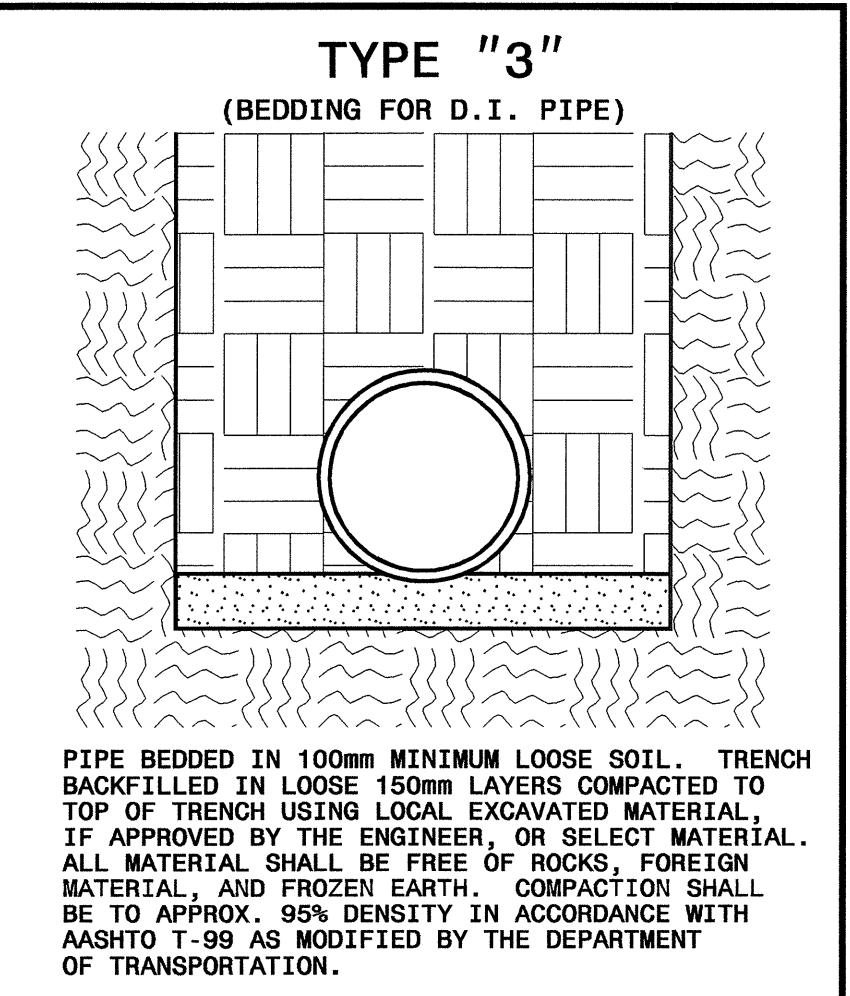
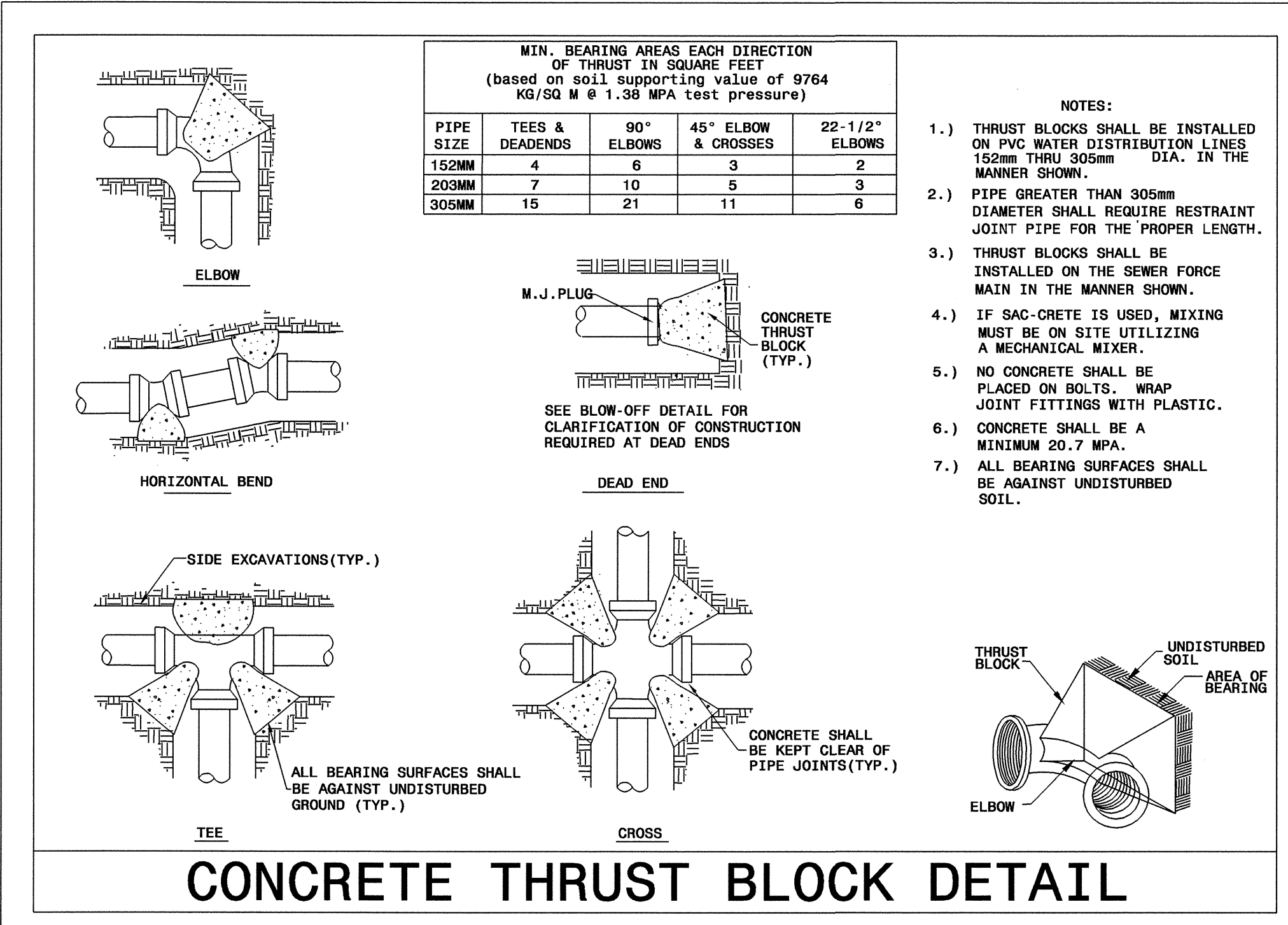
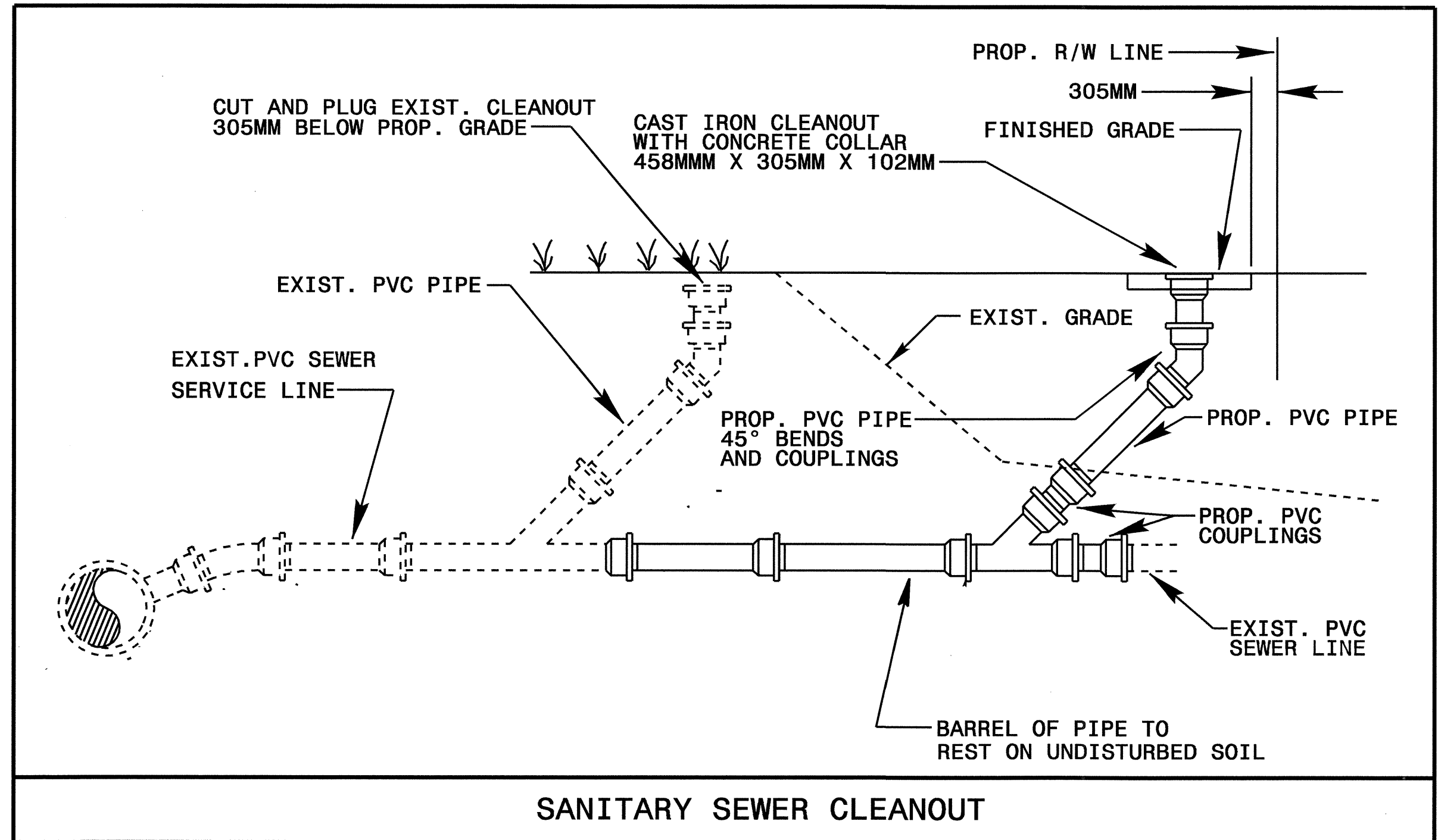
NOTE:
 150mm TO 400mm MAINS = 12-NO. 7 BARS
 500mm TO 900mm MAINS = 12-NO. 8 BARS
 BARS PLACED AS SHOWN

MAXIMUM TRENCH WIDTH AT TOP OF PIPE

| NOMINAL PIPE SIZE (mm) | TRENCH WIDTH (meter) | NOMINAL PIPE SIZE (mm) | TRENCH WIDTH (mm) |
|------------------------|----------------------|------------------------|-------------------|
| 102 | 0.72 | 508 | 1.12 |
| 152 | 0.76 | 610 | 1.22 |
| 203 | 0.81 | 762 | 1.37 |
| 254 | 0.86 | 914 | 1.57 |
| 305 | 0.91 | 1067 | 1.68 |
| 356 | 0.97 | 1219 | 1.83 |
| 406 | 1.02 | 1400 | 1.98 |
| 457 | 1.07 | | |



PIPE BEDDED IN LOOSE MATERIAL, LIGHTLY TAMPED WITH A MINIMUM OF 150 mm UNDER PIPE. TRENCH BACKFILLED IN LOOSE 150 mm LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL, IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROX. 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.



PIPE BEDDED IN 100mm MINIMUM LOOSE SOIL. TRENCH BACKFILLED IN LOOSE 150mm LAYERS COMPACTED TO TOP OF TRENCH USING LOCAL EXCAVATED MATERIAL, IF APPROVED BY THE ENGINEER, OR SELECT MATERIAL. ALL MATERIAL SHALL BE FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. COMPACTION SHALL BE TO APPROX. 95% DENSITY IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY THE DEPARTMENT OF TRANSPORTATION.

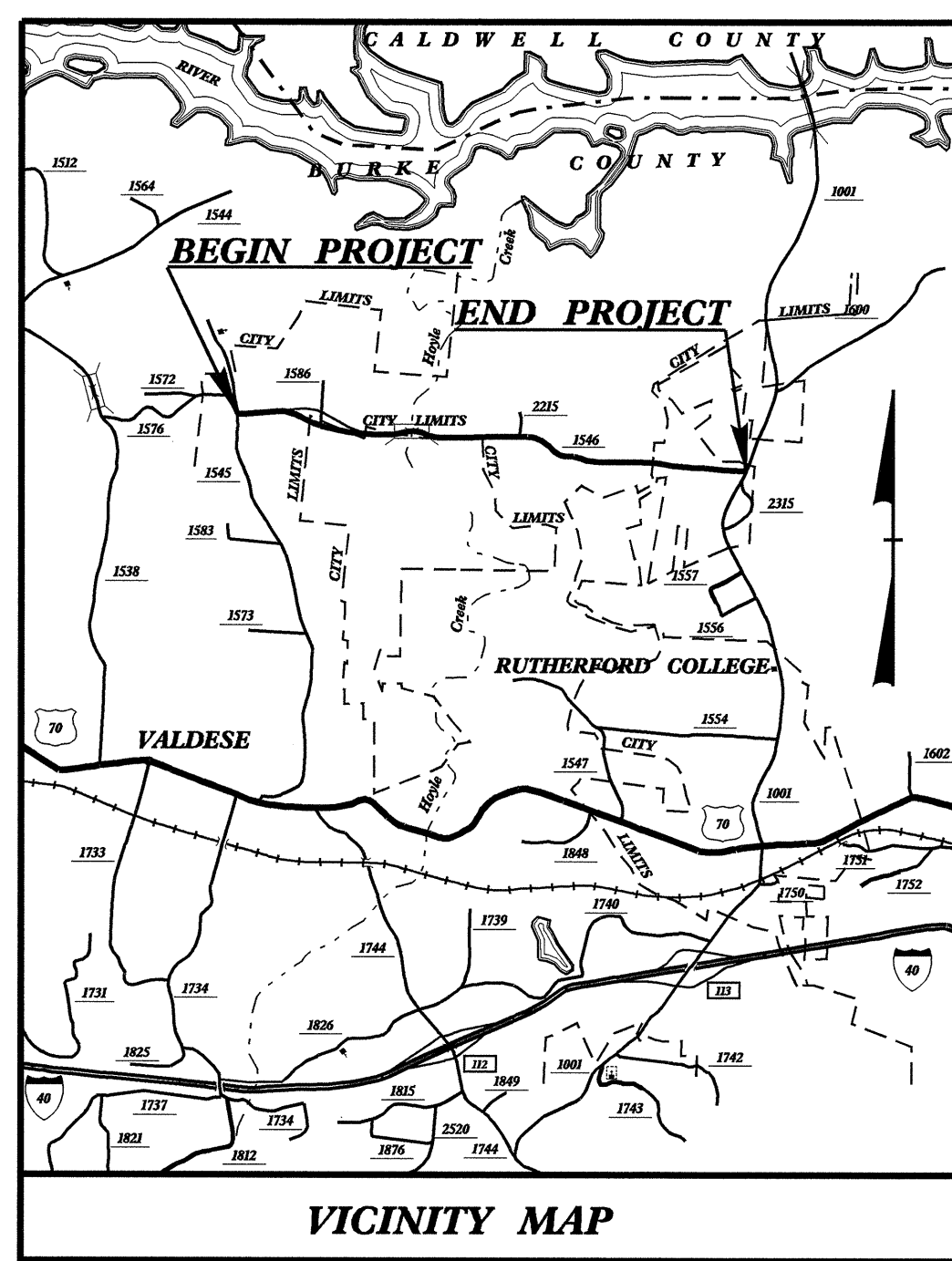
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 1/13/09

| | |
|------------|-----------|
| T.I.P. NO. | SHEET NO. |
| R-2824 | UO-1 |

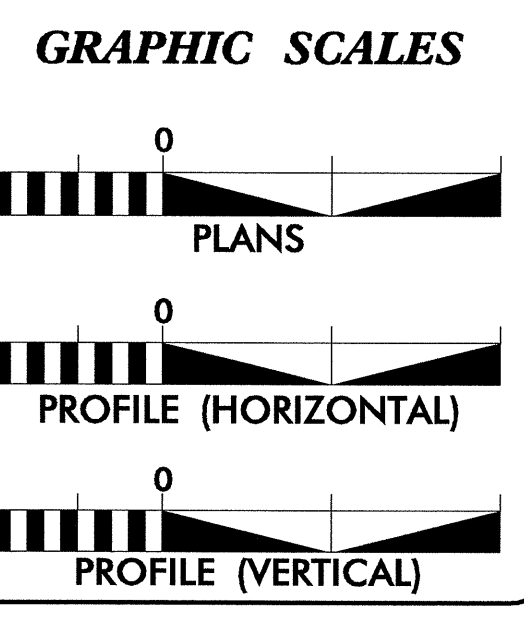
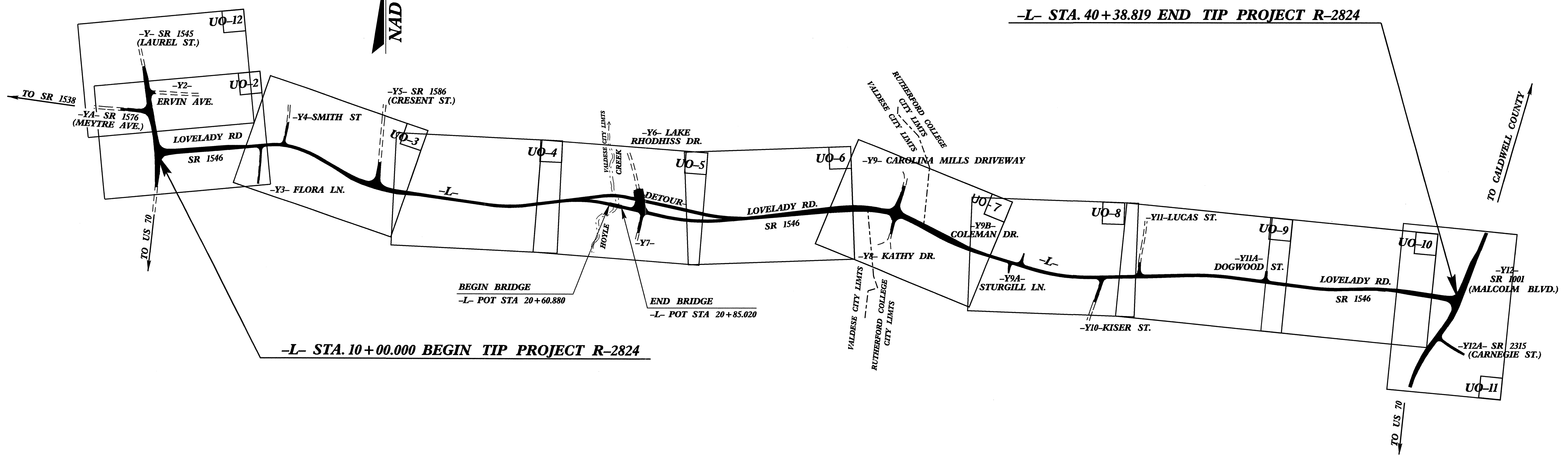
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
BURKE COUNTY**

LOCATION: SR 1546(LOVELADY ROAD) FROM SR 1545(LAUREL ST.)
TO SR 1001(MALCOLM BLVD.)



TIP PROJECT: R-2824



INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------------|-------------------------------|
| UO-1 | TITLE SHEET |
| UO-2 THRU UO-12 | UTILITY BY OTHERS PLAN SHEETS |

UTILITY OWNERS ON PROJECT

- POWER : DUKE POWER
- TELEPHONE : EMBARQ
- CATV : CHARTER COMMUNICATIONS
- GAS : PIEDMONT GAS

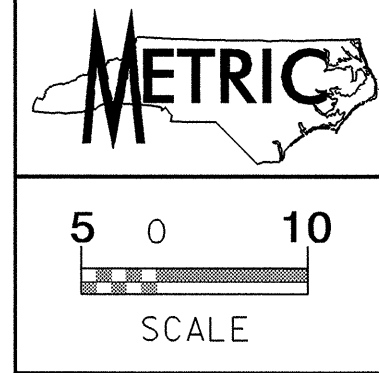


PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

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

| | |
|--------------------------------|---|
| <u>Roger Worthington, P.E.</u> | UTILITIES SECTION ENGINEER |
| <u>R.B. Wilkins, P.E.</u> | UTILITIES SQUAD LEADER PROJECT ENGINEER |
| <u>Jong-Tae Yoon</u> | UTILITIES PROJECT DESIGNER |

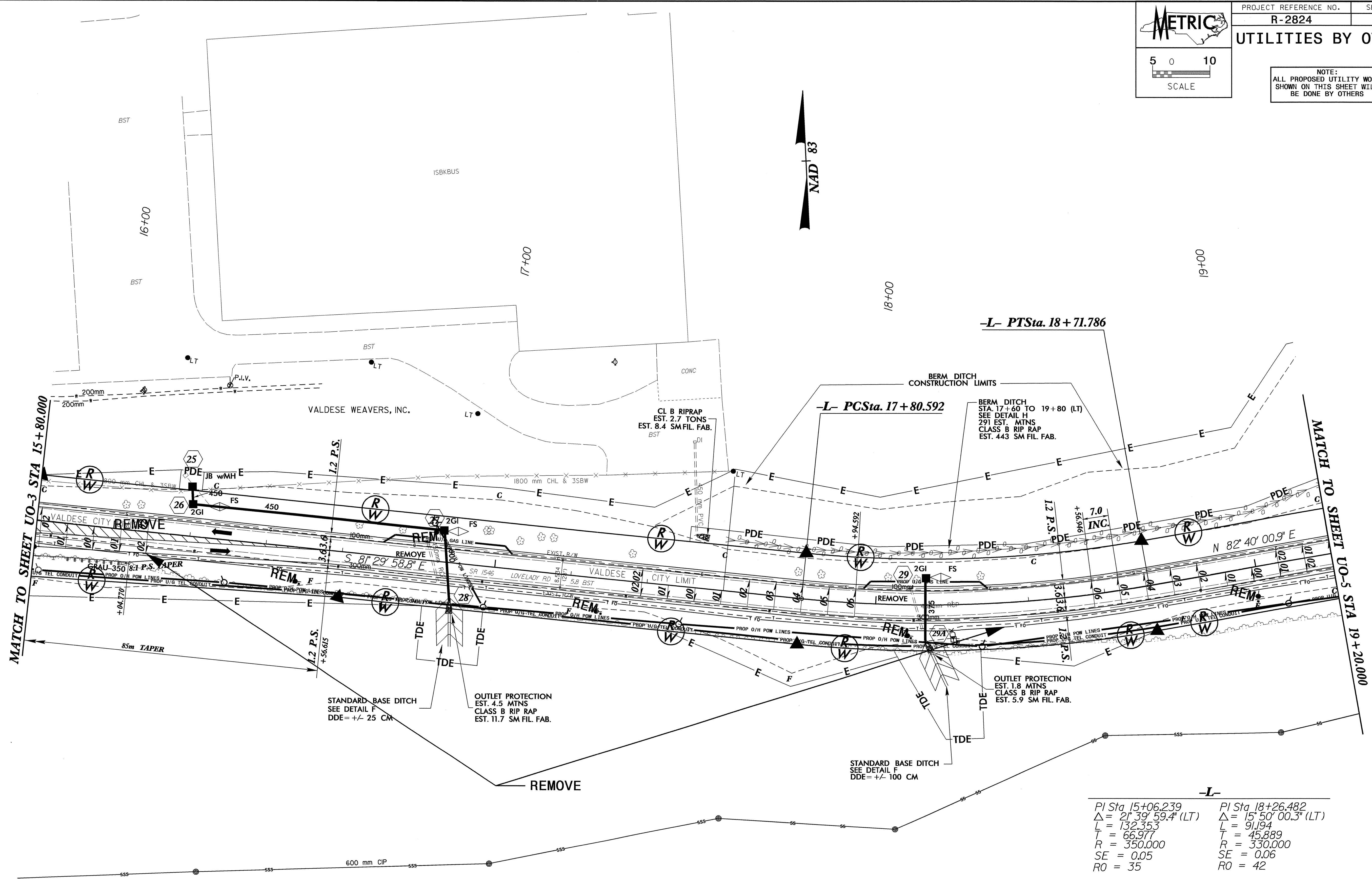
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PROJECT REFERENCE NO. R-2824 SHEET NO. UO-4

UTILITIES BY OTHERS

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

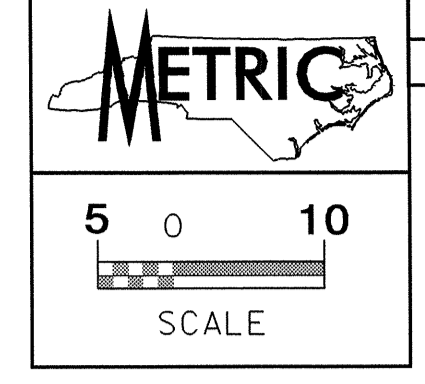


| -L- | |
|-------------------------------------|-------------------------------------|
| PI Sta 15+06.239 | PI Sta 18+26.482 |
| $\Delta = 21^\circ 39' 59.4''$ (LT) | $\Delta = 15^\circ 50' 00.3''$ (LT) |
| L = 132.353 | L = 91.194 |
| T = 66.977 | T = 45.889 |
| R = 350.000 | R = 330.000 |
| SE = 0.05 | SE = 0.06 |
| RO = 35 | RO = 42 |

NOTE:
1) SEE SHEET 16 FOR -L- PROFILE
2) ALL DRIVEWAY RADII ARE 3m
UNLESS OTHERWISE NOTED.
3) SEE SHEET 2-H FOR DITCH DETAILS

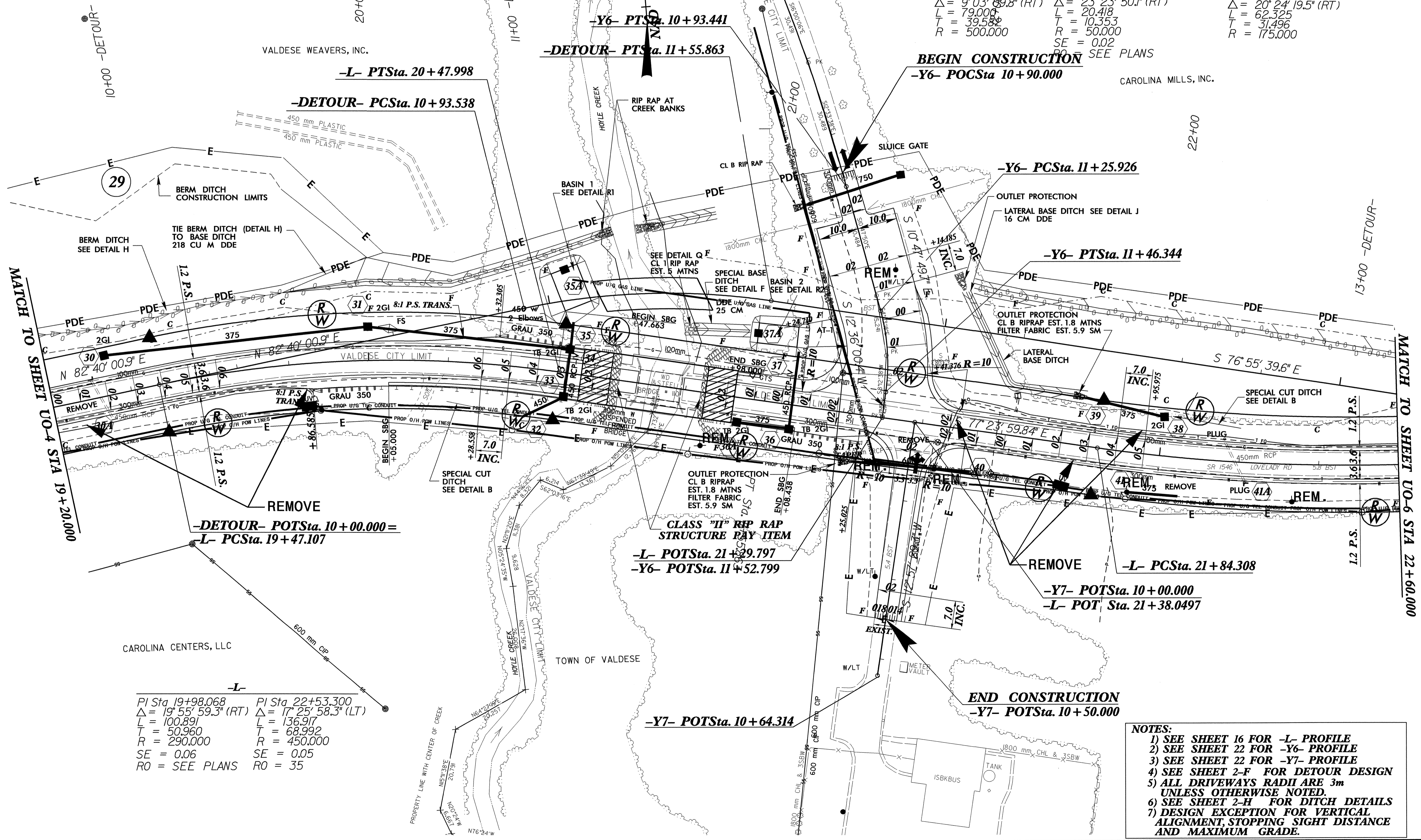
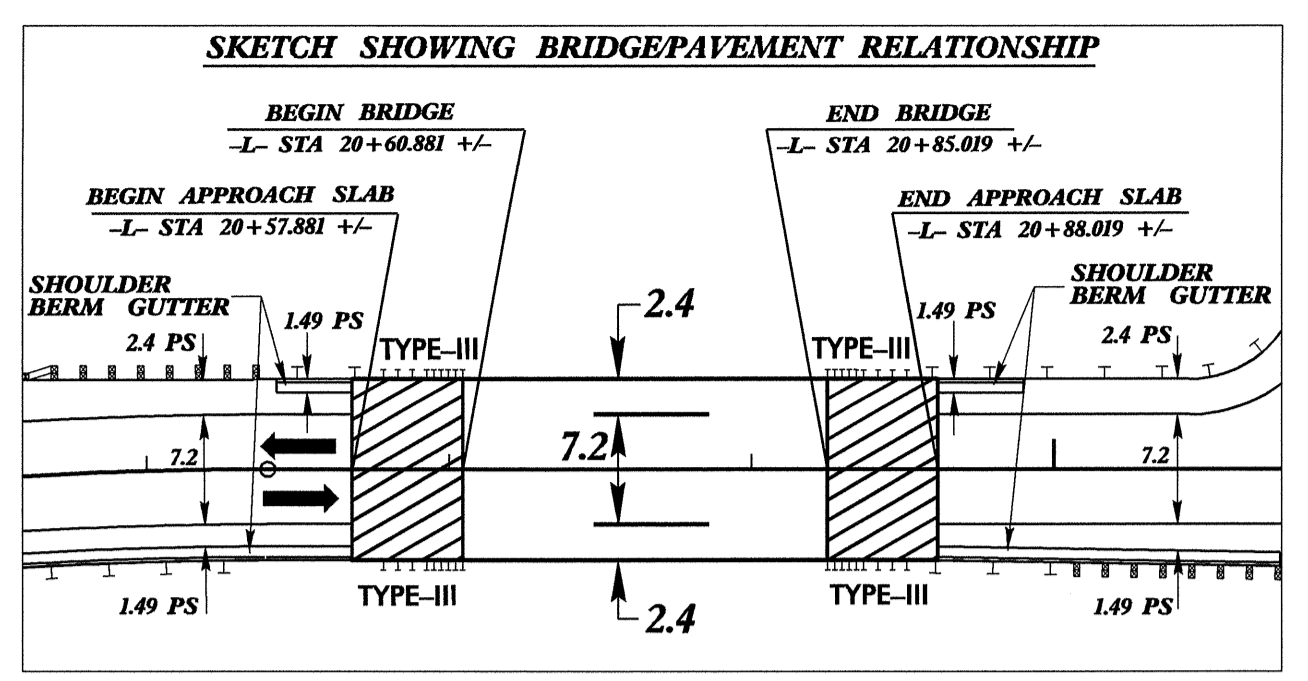
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11/11/11 11:41:55 AM

CAROLINA CENTERS, LLC



UTILITIES BY OTHERS

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



-Y6-
 PI Sta 10+54.023
 $\Delta = 9^{\circ} 03' 59.8''$ (RT)
 L = 79.000
 T = 39.582
 R = 500.000

PI Sta 11+36.279
 $\Delta = 23^{\circ} 23' 50.1''$ (RT)
 L = 20.418
 T = 10.353
 R = 50.000
 SE = 0.02
 RO = SEE PLANS

-DETOUR-
 PI Sta 11+25.034
 $\Delta = 20^{\circ} 24' 19.5''$ (RT)
 L = 62.325
 T = 31.496
 R = 175.000

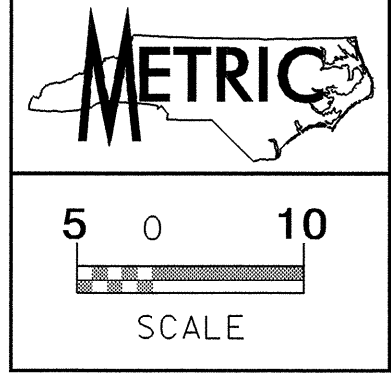
-L-
 PI Sta 19+98.068
 $\Delta = 19^{\circ} 55' 59.3''$ (RT)
 L = 100.891
 T = 50.960
 R = 290.000
 SE = 0.06
 RO = SEE PLANS

PI Sta 22+53.300
 $\Delta = 17^{\circ} 25' 58.3''$ (LT)
 L = 136.917
 T = 68.992
 R = 450.000
 SE = 0.05
 RO = 35

- NOTES:
- 1) SEE SHEET 16 FOR -L- PROFILE
 - 2) SEE SHEET 22 FOR -Y6- PROFILE
 - 3) SEE SHEET 22 FOR -Y7- PROFILE
 - 4) SEE SHEET 2-F FOR DETOUR DESIGN
 - 5) ALL DRIVEWAYS RADII ARE 3m UNLESS OTHERWISE NOTED.
 - 6) SEE SHEET 2-H FOR DITCH DETAILS
 - 7) DESIGN EXCEPTION FOR VERTICAL ALIGNMENT, STOPPING SIGHT DISTANCE AND MAXIMUM GRADE.

04/25/21
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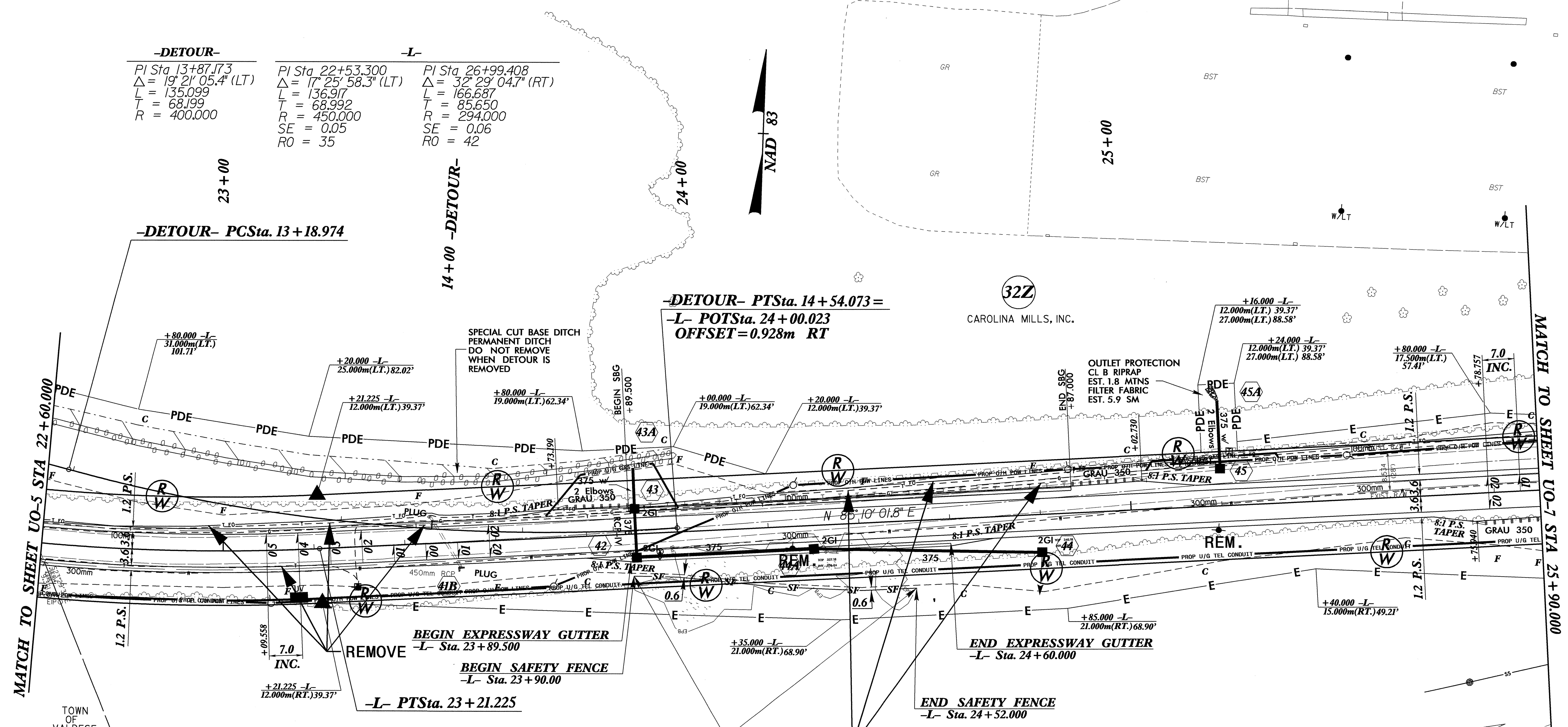
042397



UTILITIES BY OTHERS

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

| -DETOUR- | -L- | -L- |
|---------------------------------------|---------------------------------------|---------------------------------------|
| PI Sta 13+87.73 | PI Sta 22+53.300 | PI Sta 26+99.408 |
| $\Delta = 19^{\circ} 21' 05.4''$ (LT) | $\Delta = 17^{\circ} 25' 58.3''$ (LT) | $\Delta = 32^{\circ} 29' 04.7''$ (RT) |
| L = 135.099 | L = 136.917 | L = 166.687 |
| T = 68.199 | T = 68.992 | T = 85.650 |
| R = 400.000 | R = 450.000 | R = 294.000 |
| | SE = 0.05 | SE = 0.06 |
| | RO = 35 | RO = 42 |



REMOVE
 LIMIT CLEARING AND CONSTRUCTION ACTIVITIES TO WITHIN 1.5 METERS BEYOND THE SLOPE STAKE LINE FROM RIGHT OF -L- STA. 23+90.00 TO STA. 24+52.000. DO NOT DISTURB THE DWARF FLOWERED HEARTLEAF COLONIES LOCATED OUTSIDE THESE CLEARING LIMITS. PROTECT WITH SAFETY FENCE.

- EPB- ENDANGERED PLANT BOUNDARY
- SF- SAFETY FENCE LINE

- NOTES:**
- 1) SEE SHEET 17 FOR -L- PROFILE
 - 2) SEE SHEET 2-G FOR DETOUR DESIGN
 - 3) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED.
 - 4) SEE SHEET 2-H FOR DITCH DETAILS
 - 5) DESIGN EXCEPTION FOR VERTICAL ALIGNMENT, STOPPING SIGHT DISTANCE AND MAXIMUM GRADE.

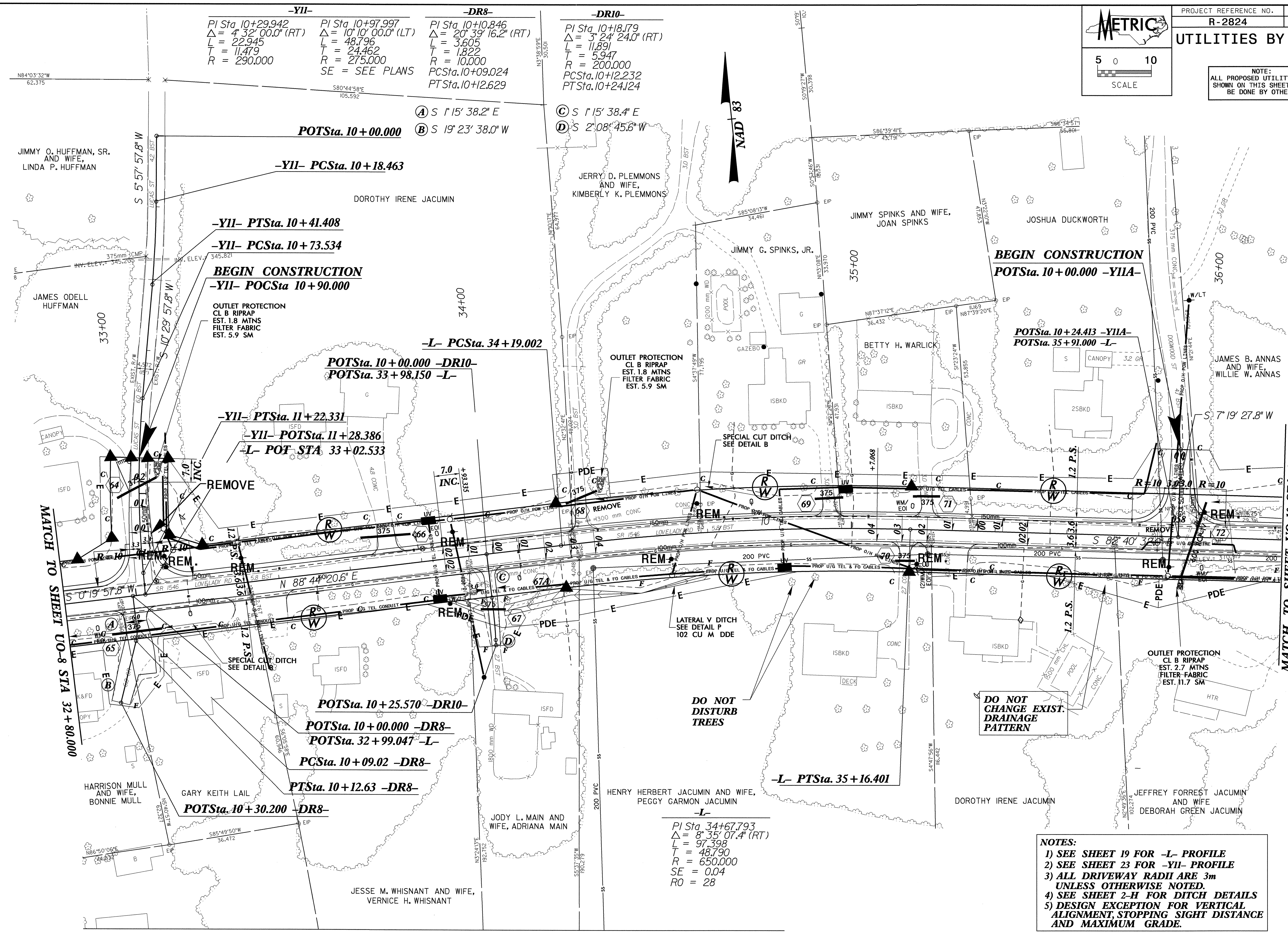
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042892

| | |
|-----------------------|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| R-2824 | U0-9 |

UTILITIES BY OTHERS

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



| | | | |
|--|--|--|--|
| <p>-YII-</p> <p>PI Sta. 10+29.942 Δ = 4° 32' 00.0" (RT) L = 22.945 T = 11.479 R = 290.000</p> | <p>-DR8-</p> <p>PI Sta. 10+97.997 Δ = 10° 10' 00.0" (LT) L = 48.796 T = 24.462 R = 275.000 SE = SEE PLANS</p> | <p>-DR8-</p> <p>PI Sta. 10+10.846 Δ = 20° 39' 16.2" (RT) L = 3.605 T = 1.822 R = 10.000 PCSta. 10+09.024 PTSta. 10+12.629</p> | <p>-DR10-</p> <p>PI Sta. 10+18.179 Δ = 3° 24' 24.0" (RT) L = 11.891 T = 5.947 R = 200.000 PCSta. 10+12.232 PTSta. 10+24.124</p> |
|--|--|--|--|

Ⓐ S 1° 15' 38.2" E
Ⓑ S 19° 23' 38.0" W
Ⓒ S 1° 15' 38.4" E
Ⓓ S 2° 08' 45.6" W

JIMMY O. HUFFMAN, SR.
AND WIFE,
LINDA P. HUFFMAN

DOROTHY IRENE JACUMIN

JERRY D. PLEMMONS
AND WIFE,
KIMBERLY K. PLEMMONS

JIMMY SPINKS AND WIFE,
JOAN SPINKS

JOSHUA DUCKWORTH

JAMES ODELL
HUFFMAN

BEGIN CONSTRUCTION
-YII- POCSta 10+90.000

OUTLET PROTECTION
CL B RIPRAP
EST. 1.8 MTNS
FILTER FABRIC
EST. 5.9 SM

-L- PCSta. 34+19.002

POTSta. 10+00.000 -DR10-
POTSta. 33+98.150 -L-

OUTLET PROTECTION
CL B RIPRAP
EST. 1.8 MTNS
FILTER FABRIC
EST. 5.9 SM

SPECIAL CUT DITCH
SEE DETAIL B

BEGIN CONSTRUCTION
POTSta. 10+00.000 -YIIA-

POTSta. 10+24.413 -YIIA-
POTSta. 35+91.000 -L-

JAMES B. ANNAS
AND WIFE,
WILLIE W. ANNAS

-YII- PTSta. 11+22.331

-YII- POTSta. 11+28.386

-L- POT STA. 33+02.533

REMOVE

MATCH TO SHEET UO-8 STA 32+80.000

MATCH TO SHEET UO-10 STA 36+20.000

DO NOT
DISTURB
TREES

DO NOT
CHANGE EXIST.
DRAINAGE
PATTERN

HARRISON MULL
AND WIFE,
BONNIE MULL

GARY KEITH LAIL

POTSta. 10+30.200 -DR8-

POTSta. 10+25.570 -DR10-

POTSta. 10+00.000 -DR8-

POTSta. 32+99.047 -L-

PCSta. 10+09.02 -DR8-

PTSta. 10+12.63 -DR8-

JODY L. MAIN AND WIFE,
ADRIANA MAIN

HENRY HERBERT JACUMIN AND WIFE,
PEGGY GARMON JACUMIN

DOROTHY IRENE JACUMIN

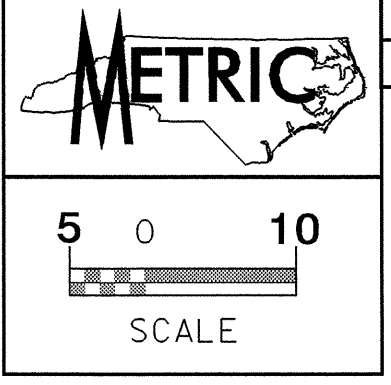
JEFFREY FORREST JACUMIN
AND WIFE,
DEBORAH GREEN JACUMIN

JESSE M. WHISNANT AND WIFE,
VERNICE H. WHISNANT

PI Sta. 34+67.793
Δ = 8° 35' 07.4" (RT)
L = 97.398
T = 48.790
R = 650.000
SE = 0.04
RO = 28

NOTES:
1) SEE SHEET 19 FOR -L- PROFILE
2) SEE SHEET 23 FOR -YII- PROFILE
3) ALL DRIVEWAY RADII ARE 3m
UNLESS OTHERWISE NOTED.
4) SEE SHEET 2-H FOR DITCH DETAILS
5) DESIGN EXCEPTION FOR VERTICAL
ALIGNMENT, STOPPING SIGHT DISTANCE
AND MAXIMUM GRADE.

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jason



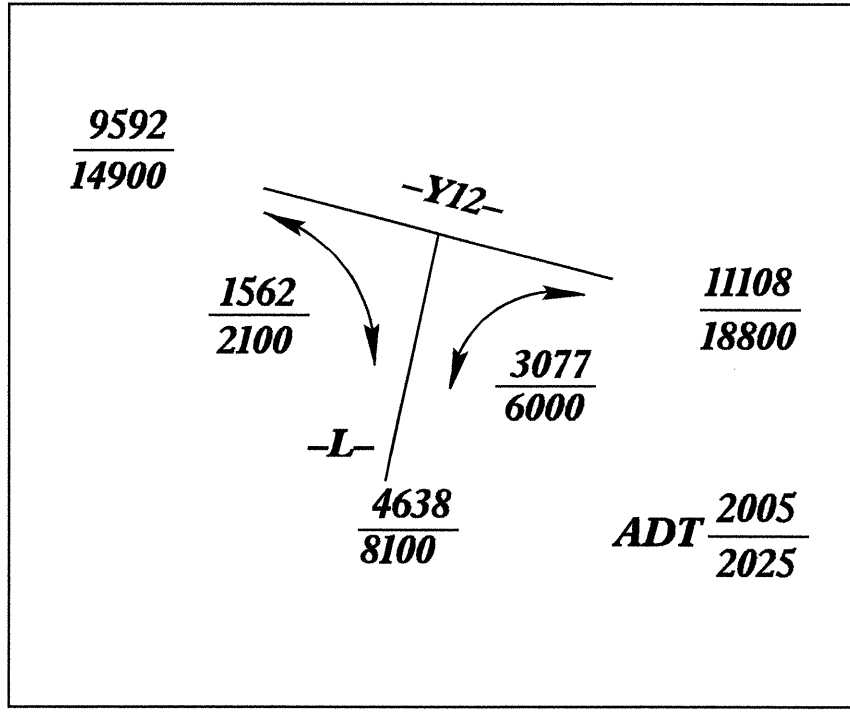
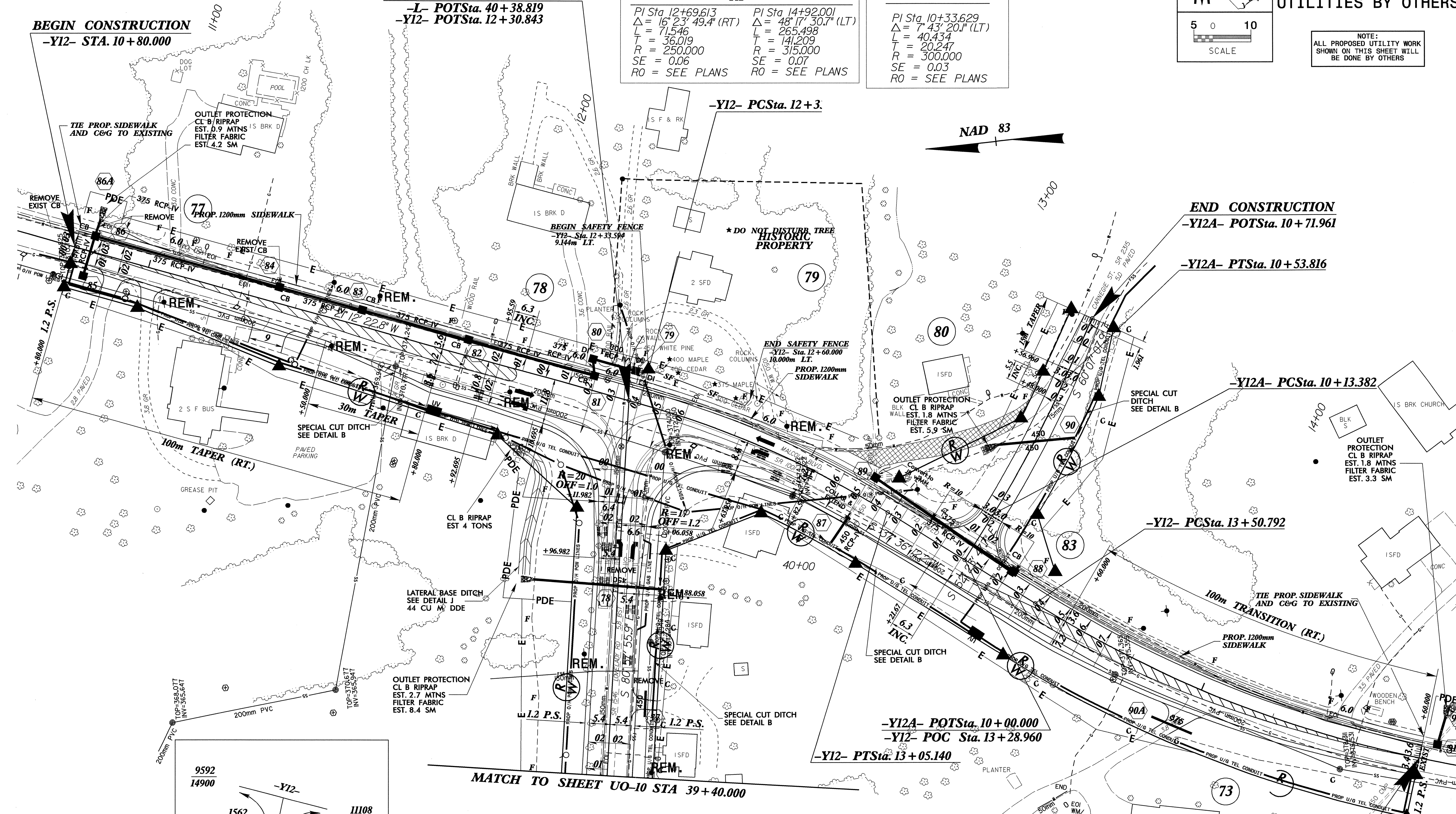
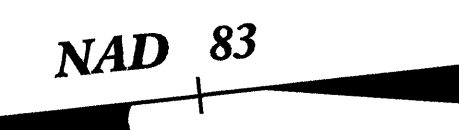
NOTE:
ALL PROPOSED UTILITY WORK
SHOWN ON THIS SHEET WILL
BE DONE BY OTHERS

END STATE PROJECT R-2824

-L- POTSta. 40+38.819
-Y12- POTSta. 12+30.843

| -Y12- | | -Y12A- | |
|--------------------------------------|--------------------------------------|-------------------------------------|--|
| PI Sta. 12+69.613 | PI Sta. 14+92.001 | PI Sta. 10+33.629 | |
| $\Delta = 16^{\circ} 23' 49.4"$ (RT) | $\Delta = 48^{\circ} 17' 30.7"$ (LT) | $\Delta = 7^{\circ} 43' 20.1"$ (LT) | |
| L = 71.546 | L = 265.498 | L = 40.434 | |
| T = 36.019 | T = 141.209 | T = 20.247 | |
| R = 250.000 | R = 315.000 | R = 300.000 | |
| SE = 0.06 | SE = 0.07 | SE = 0.03 | |
| RO = SEE PLANS | RO = SEE PLANS | RO = SEE PLANS | |

| -Y12A- | |
|-------------------------------------|--|
| PI Sta. 10+33.629 | |
| $\Delta = 7^{\circ} 43' 20.1"$ (LT) | |
| L = 40.434 | |
| T = 20.247 | |
| R = 300.000 | |
| SE = 0.03 | |
| RO = SEE PLANS | |



NOTE:
1) SEE SHEET 20 FOR -L- PROFILE
2) SEE SHEET 24 FOR -Y12- PROFILE
3) SEE SHEET 24 FOR -Y12A- PROFILE
4) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED.
5) SEE SHEET 2-H FOR DITCH DETAILS
6) DESIGN EXCEPTION FOR VERTICAL ALIGNMENT, STOPPING SIGHT DISTANCE AND MAXIMUM GRADE.

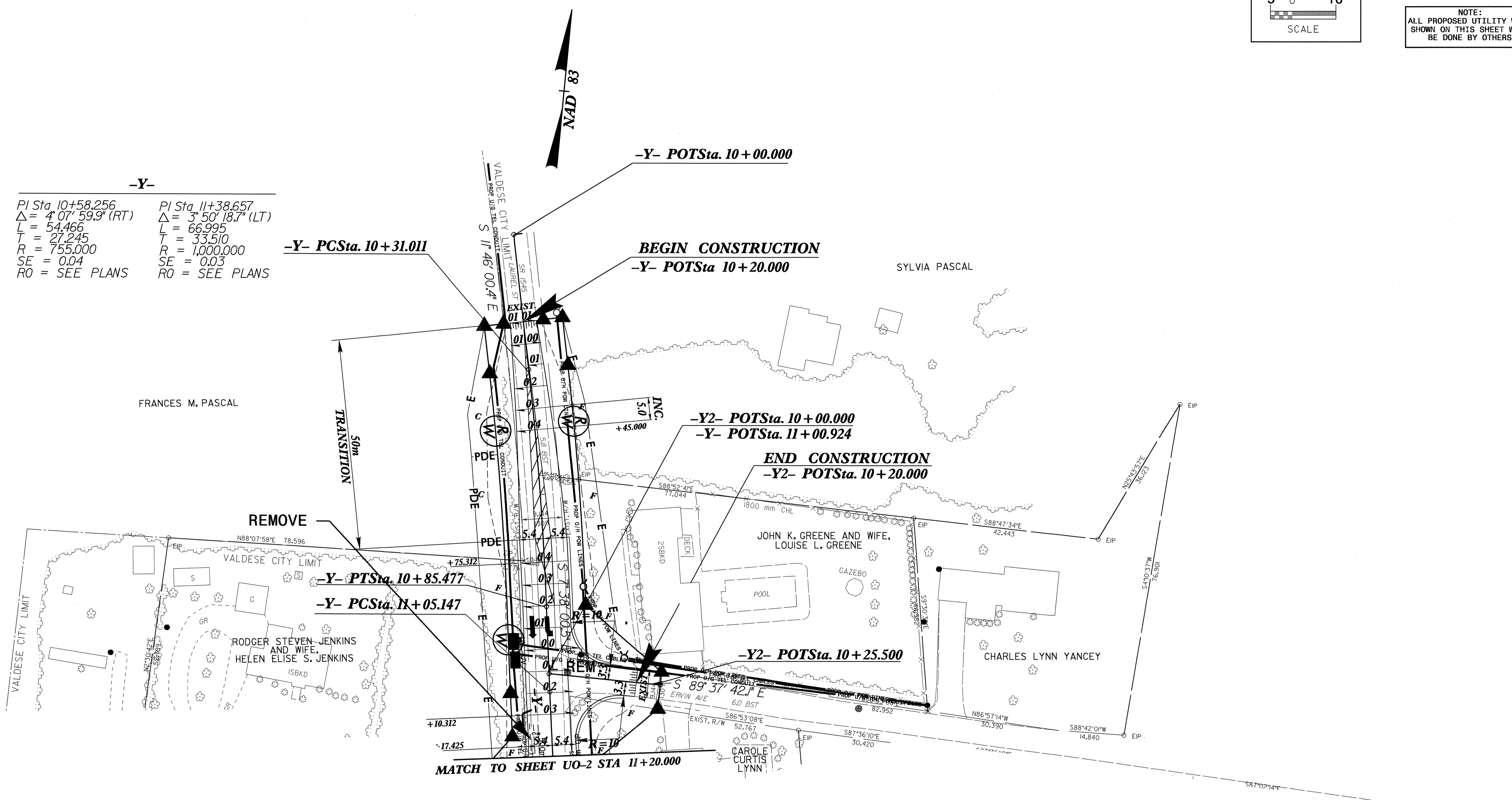
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 User: jason

METRIC

5 0 10
SCALE

UTILITIES BY OTHERS

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



-Y-

| | |
|--------------------------------------|--------------------------------------|
| PI Sta 10+58.256 | PI Sta 11+38.657 |
| $\Delta = 4^{\circ} 07' 59.9''$ (RT) | $\Delta = 3^{\circ} 50' 18.7''$ (LT) |
| L = 54.466 | L = 66.995 |
| T = 27.245 | T = 33.510 |
| R = 755.000 | R = 1,000.000 |
| SE = 0.04 | SE = 0.03 |
| RO = SEE PLANS | RO = SEE PLANS |

-Y- PCSta. 10+31.011

-Y- POTSta. 10+00.000

BEGIN CONSTRUCTION
-Y- POTSta 10+20.000

-Y2- POTSta. 10+00.000
-Y- POTSta. 11+00.924

END CONSTRUCTION
-Y2- POTSta. 10+20.000

-Y- PTSta. 10+85.477
-Y- PCSta. 11+05.147

-Y2- POTSta. 10+25.500

MATCH TO SHEET UO-2 STA 11+20.000

NOTES:

- 1) SEE SHEET 21 FOR -Y- PROFILE
- 2) SEE SHEET 21 FOR -YA- PROFILE
- 3) ALL DRIVEWAY RADII ARE 3m UNLESS OTHERWISE NOTED.
- 4) SEE SHEET 2-H FOR DITCH DETAILS