

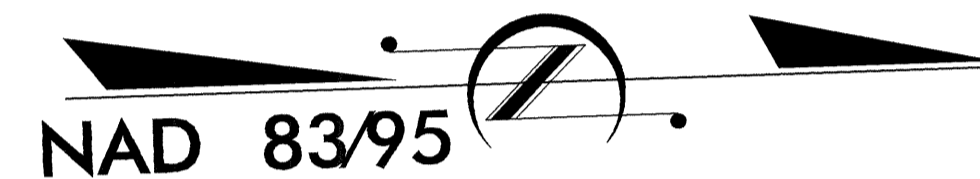
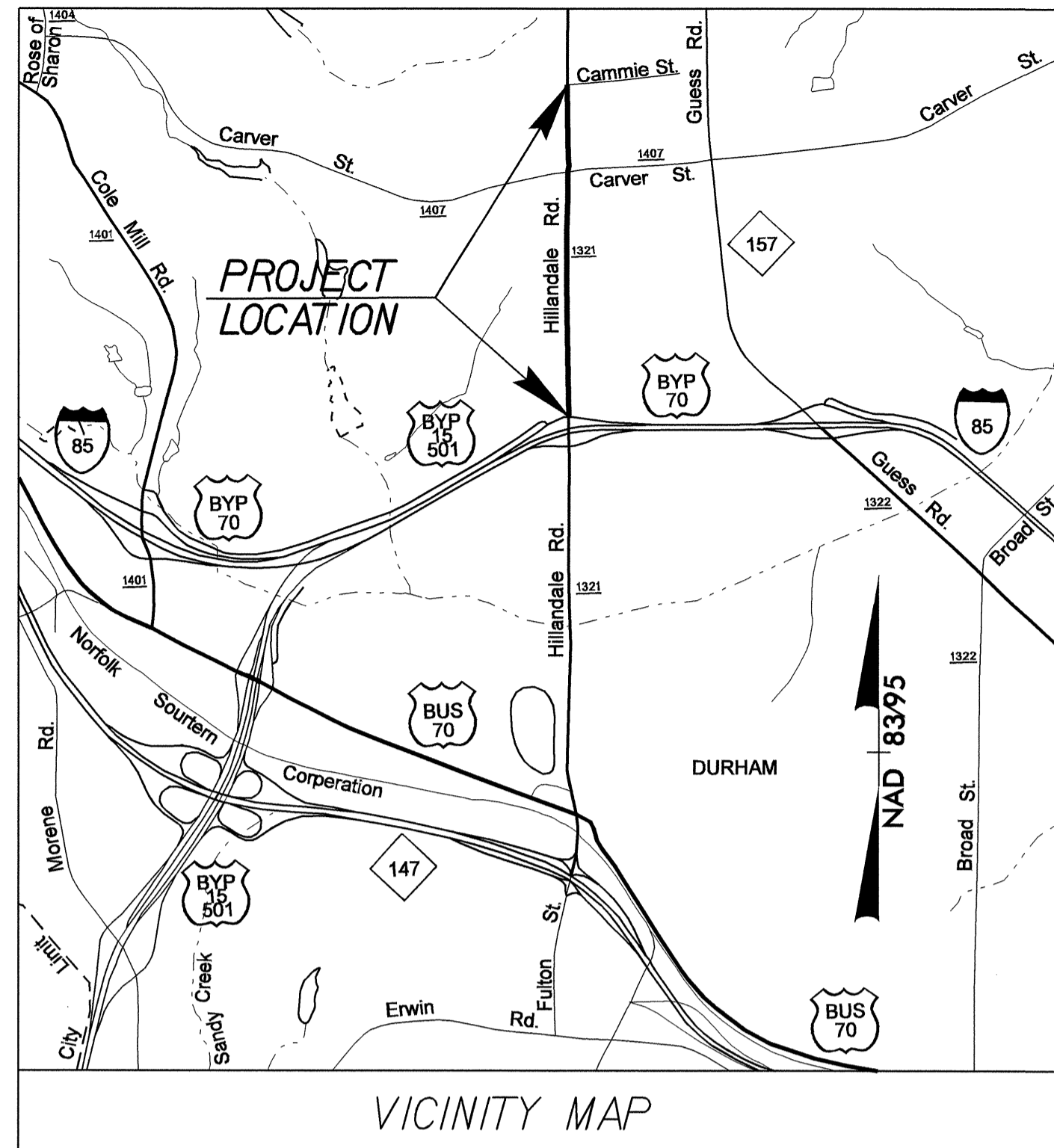
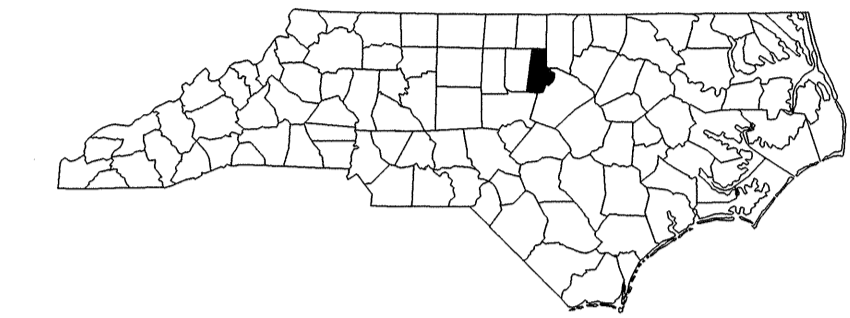
| | |
|------------|-----------|
| T.I.P. NO. | SHEET NO. |
| U-3804 | UC-1 |

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS
DURHAM COUNTY**

**LOCATION: SR 1321 (HILLDALE ROAD) FROM I-85 TO
NORTH OF SR 1407 (CARVER STREET)**

TYPE OF WORK: UTILITIES

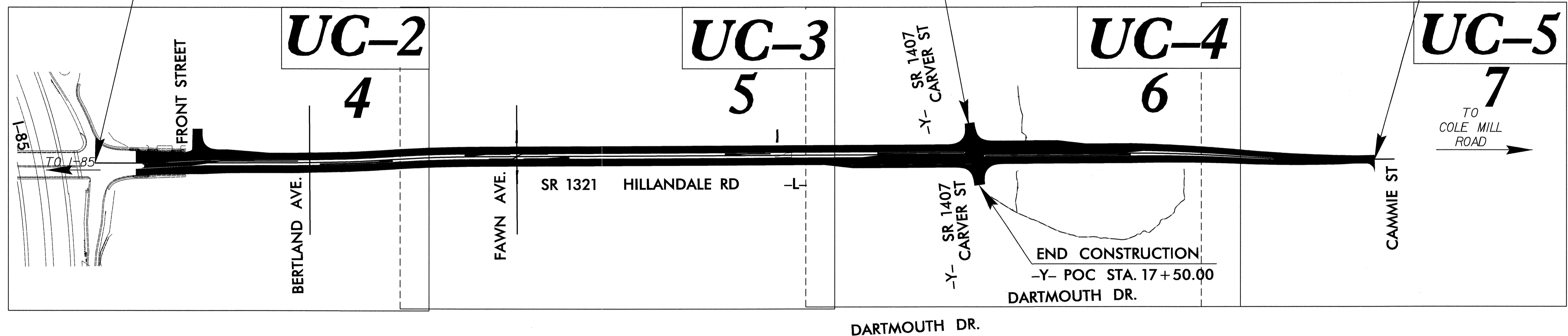


TIP U-3804

BEGIN TIP PROJECT U-3804
-L- POT STA. 10+00.00

BEGIN CONSTRUCTION
-Y- POC STA. 14+50.00

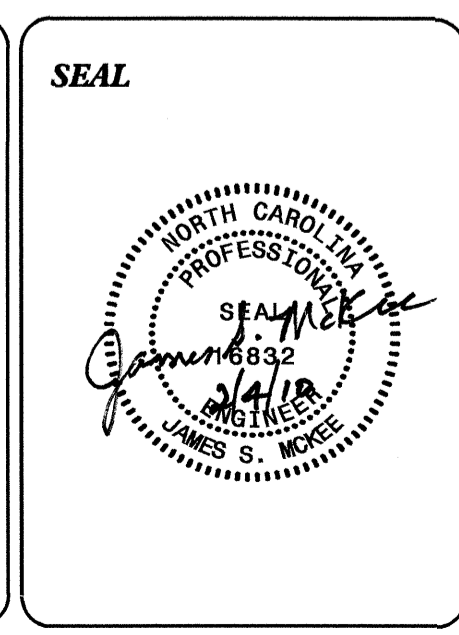
END TIP PROJECT U-3804
-L- POT STA. 54+15.50



| INDEX OF SHEETS | |
|-----------------|----------------------------------|
| SHEET NO. | DESCRIPTION |
| UC-1 | TITLE SHEET |
| UC-2 THRU UC-5 | UTILITY CONSTRUCTION PLAN SHEETS |
| UC-6 THRU UC8 | DETAILS SHEET(S) |
| UC-9 | PROFILE SHEET |

WATER AND SEWER OWNERS ON PROJECT

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

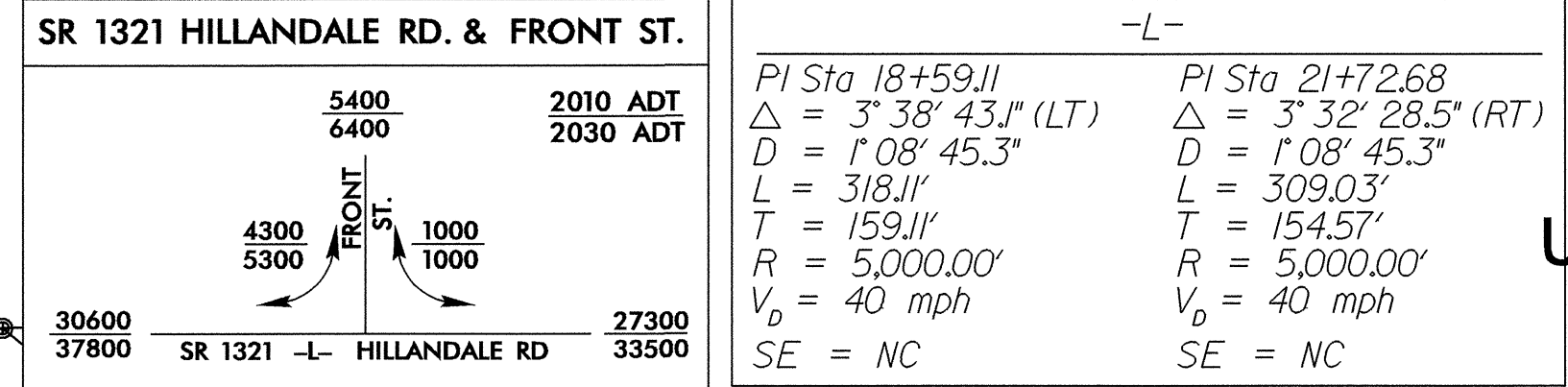
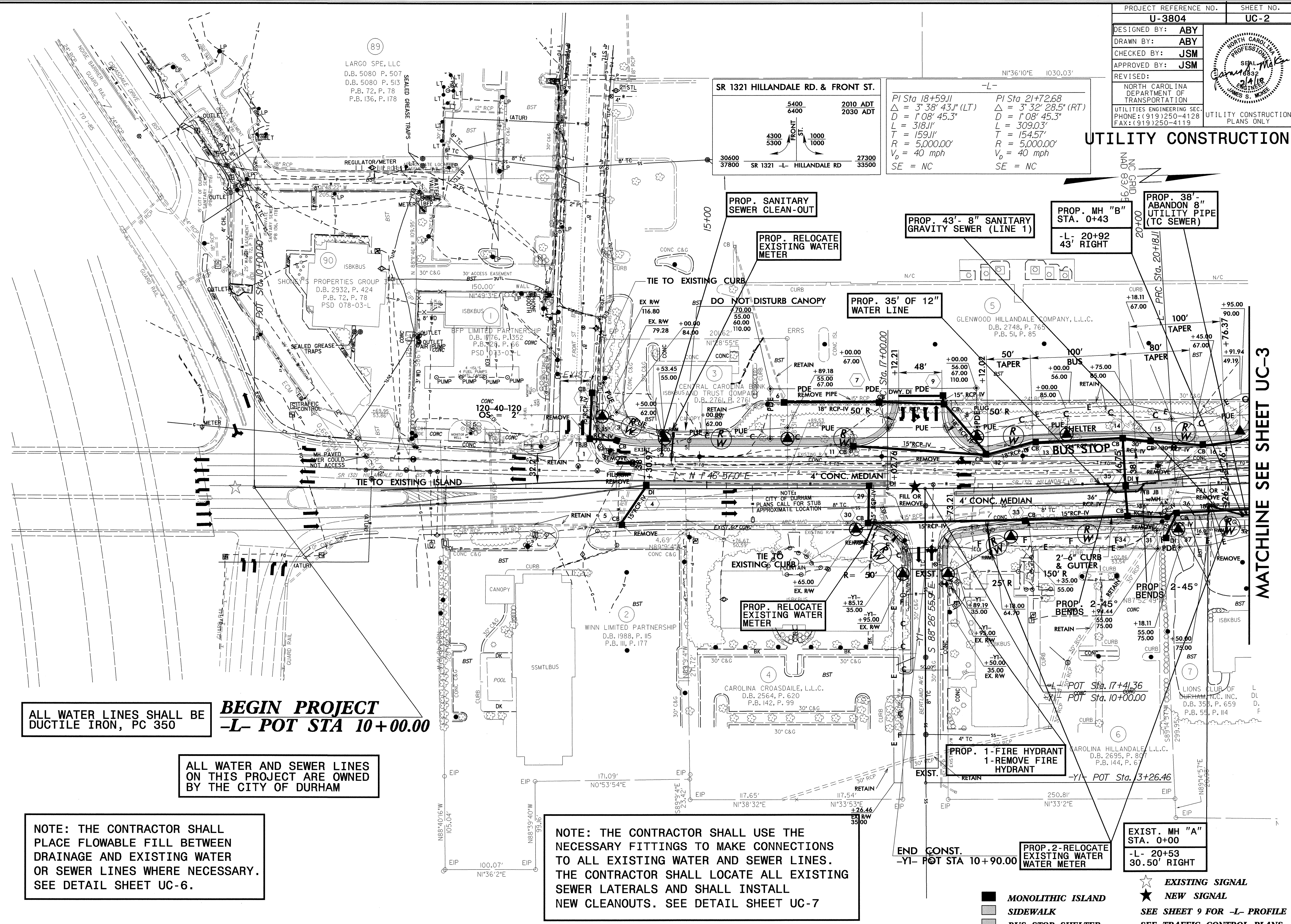


PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES ENGINEERING
SECTION**

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

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Steve McKee, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Alonza Yancey UTILITIES PROJECT DESIGNER

UTILITY CONSTRUCTION



ALL WATER LINES SHALL BE DUCTILE IRON, PC 350

BEGIN PROJECT
 -L- POT STA 10+00.00

ALL WATER AND SEWER LINES ON THIS PROJECT ARE OWNED BY THE CITY OF DURHAM

NOTE: THE CONTRACTOR SHALL PLACE FLOWABLE FILL BETWEEN DRAINAGE AND EXISTING WATER OR SEWER LINES WHERE NECESSARY. SEE DETAIL SHEET UC-6.

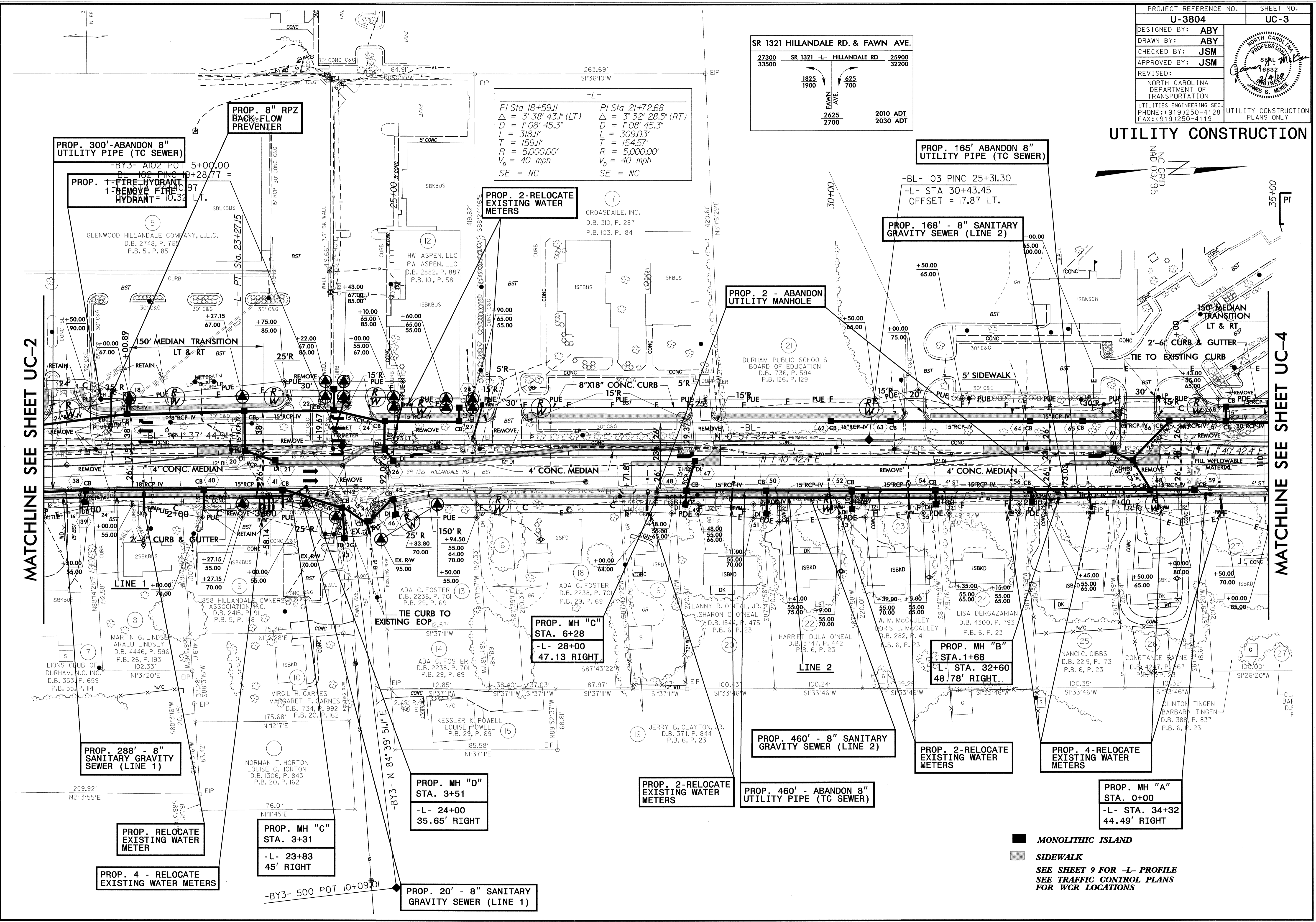
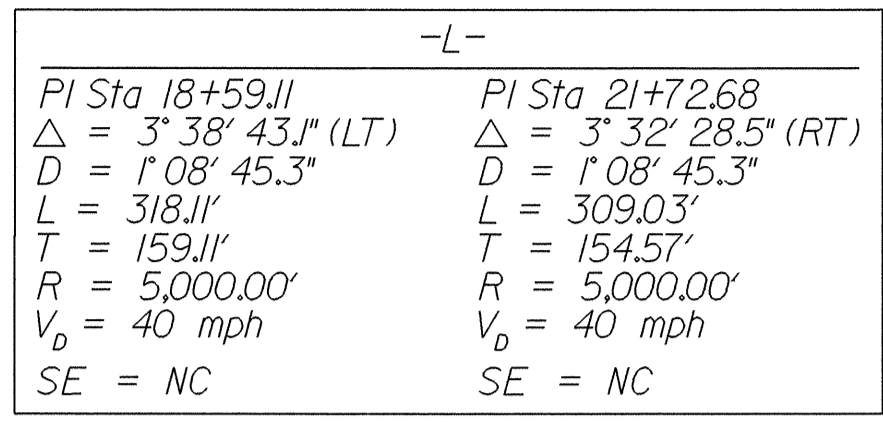
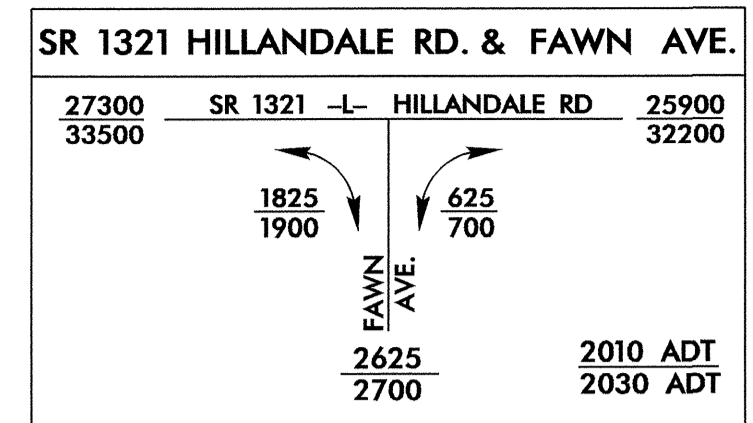
NOTE: THE CONTRACTOR SHALL USE THE NECESSARY FITTINGS TO MAKE CONNECTIONS TO ALL EXISTING WATER AND SEWER LINES. THE CONTRACTOR SHALL LOCATE ALL EXISTING SEWER LATERALS AND SHALL INSTALL NEW CLEANOUTS. SEE DETAIL SHEET UC-7

- MONOLITHIC ISLAND
- SIDEWALK
- BUS STOP SHELTER
- ★ EXISTING SIGNAL
- ★ NEW SIGNAL
- SEE SHEET 9 FOR -L- PROFILE
- SEE TRAFFIC CONTROL PLANS FOR WCR LOCATIONS

MATCHLINE SEE SHEET UC-3

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UTILITY CONSTRUCTION



MATCHLINE SEE SHEET UC-2

MATCHLINE SEE SHEET UC-4

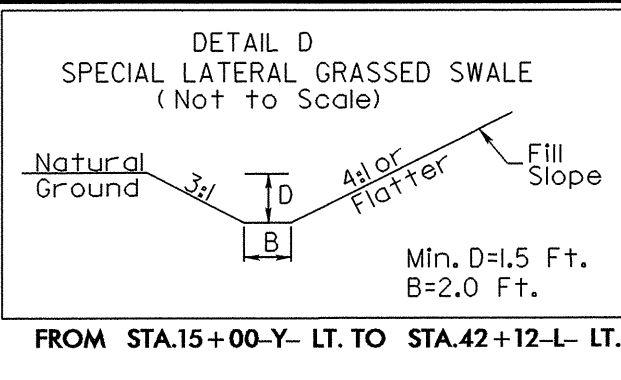
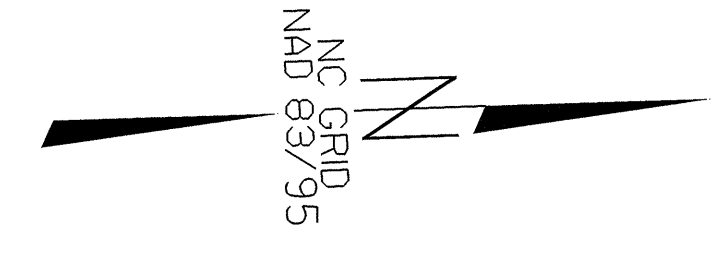
MONOLITHIC ISLAND
 SIDEWALK
 SEE SHEET 9 FOR -L- PROFILE
 SEE TRAFFIC CONTROL PLANS FOR WCR LOCATIONS

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 5/14/99

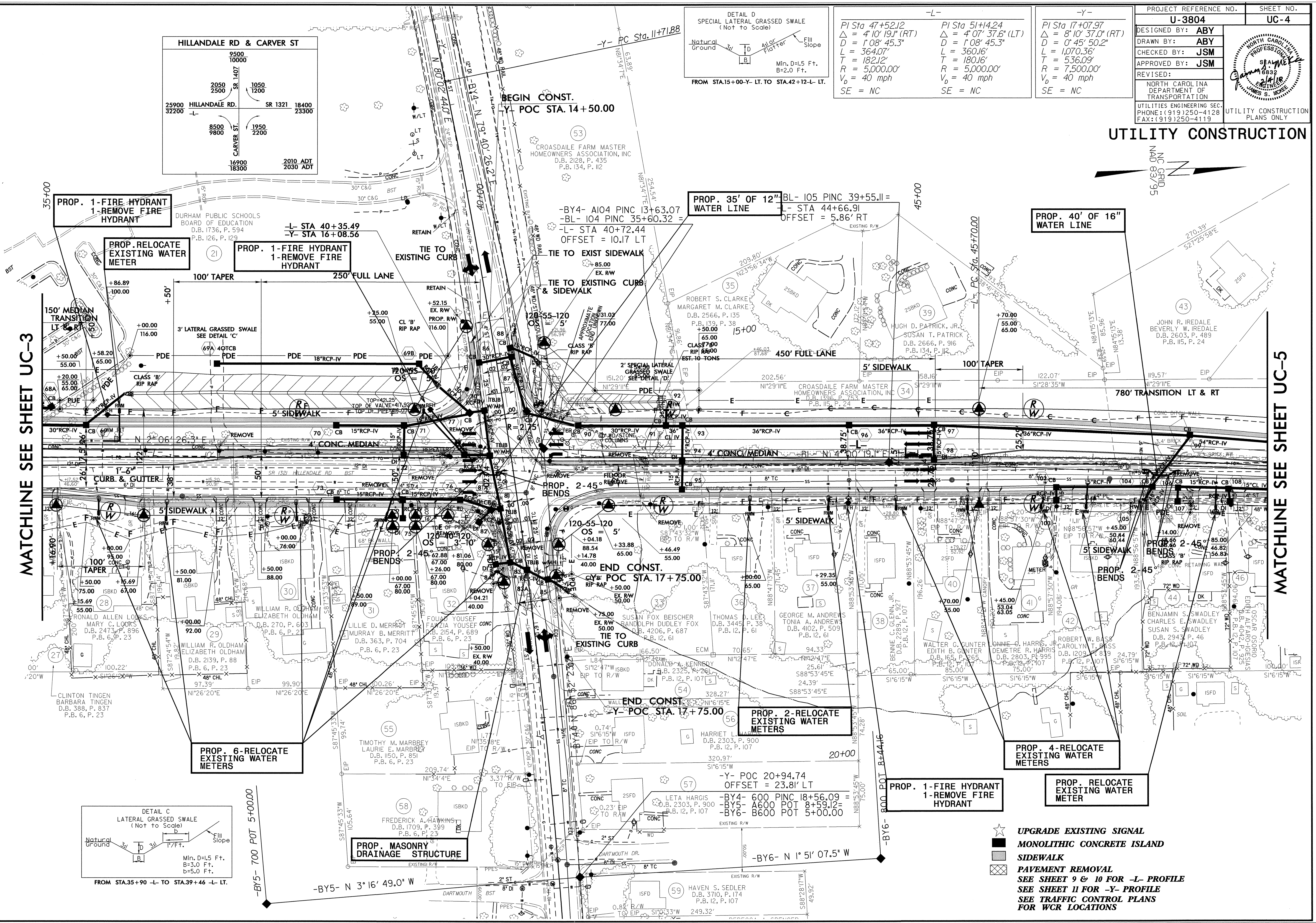
5/14/99

| | |
|--|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-3804 | UC-4 |
| DESIGNED BY: ABY | |
| DRAWN BY: ABY | |
| CHECKED BY: JSM | |
| APPROVED BY: JSM | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION

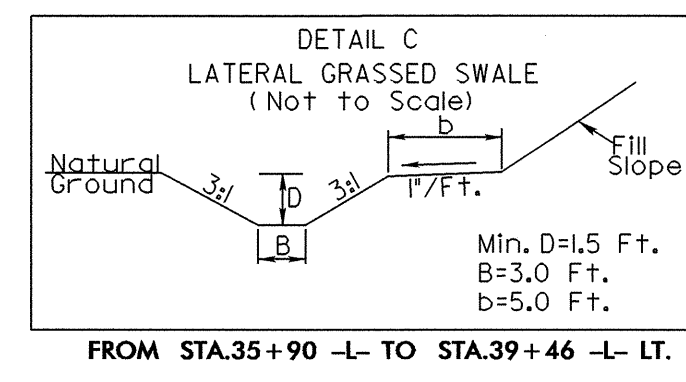


| | | |
|---|--|---|
| P/ Sta 47+52.12 $\Delta = 4' 10' 19.1''$ (RT) $D = 1' 08' 45.3''$ $L = 364.07'$ $T = 182.12'$ $R = 5,000.00'$ $V_0 = 40$ mph $SE = NC$ | P/ Sta 51+4.24 $\Delta = 4' 07' 37.6''$ (LT) $D = 1' 08' 45.3''$ $L = 360.16'$ $T = 180.16'$ $R = 5,000.00'$ $V_0 = 40$ mph $SE = NC$ | P/ Sta 17+07.97 $\Delta = 8' 10' 37.0''$ (RT) $D = 0' 45' 50.2''$ $L = 1,070.36'$ $T = 536.09'$ $R = 7,500.00'$ $V_0 = 40$ mph $SE = NC$ |
|---|--|---|



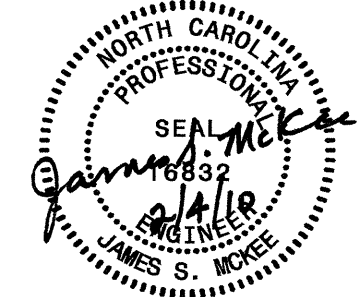
MATCHLINE SEE SHEET UC-3

MATCHLINE SEE SHEET UC-5

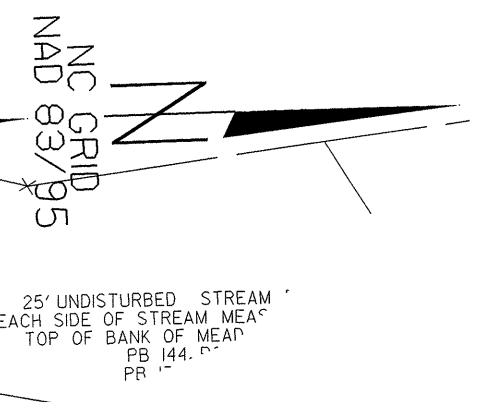


- ★ UPGRADE EXISTING SIGNAL
- MONOLITHIC CONCRETE ISLAND
- ▨ SIDEWALK
- ▧ PAVEMENT REMOVAL
- SEE SHEET 9 & 10 FOR -L- PROFILE
- SEE SHEET 11 FOR -Y- PROFILE
- SEE TRAFFIC CONTROL PLANS FOR WCR LOCATIONS

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| | |
|--|---|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-3804 | UC-5 |
| DESIGNED BY: ABY |  |
| DRAWN BY: ABY | |
| CHECKED BY: JSM | |
| APPROVED BY: JSM | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 250-4128 FAX: (919) 250-4119 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

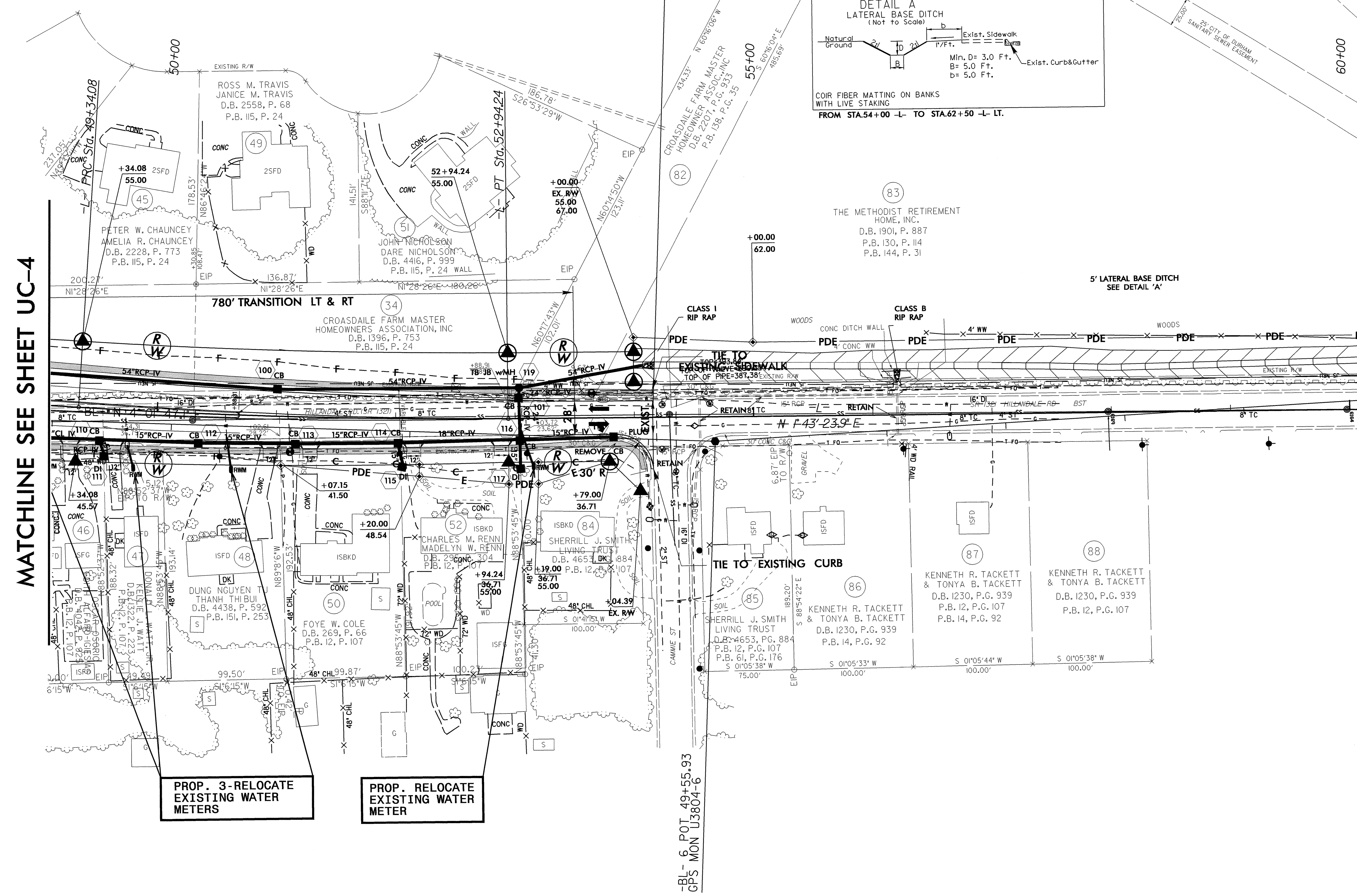
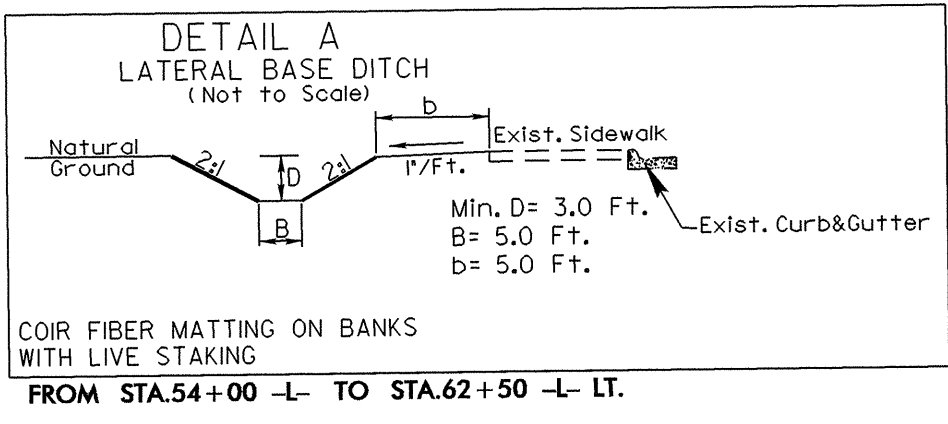
UTILITY CONSTRUCTION



| | |
|--|--|
| -L- | |
| $PI\ Sta\ 47+52.12$ $\Delta = 4^{\circ} 10' 19.1" (RT)$ $D = 1^{\circ} 08' 45.3"$ $L = 364.07'$ $T = 182.12'$ $R = 5,000.00'$ $V_o = 40\ mph$ $SE = NC$ | $PI\ Sta\ 51+14.24$ $\Delta = 4^{\circ} 07' 37.6" (LT)$ $D = 1^{\circ} 08' 45.3"$ $L = 360.16'$ $T = 180.16'$ $R = 5,000.00'$ $V_o = 40\ mph$ $SE = NC$ |

END PROJECT

-L- POT STA 54+15.50



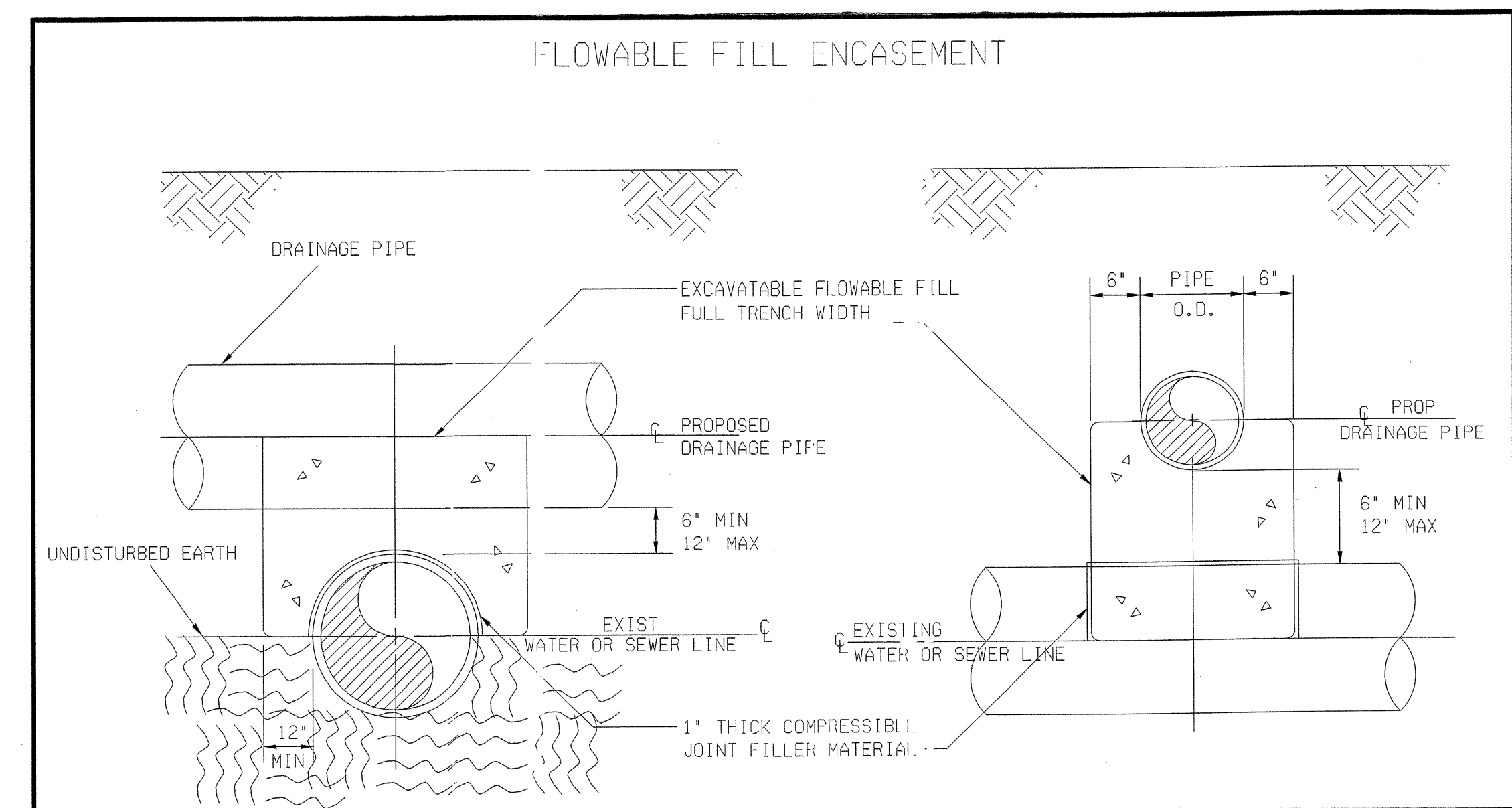
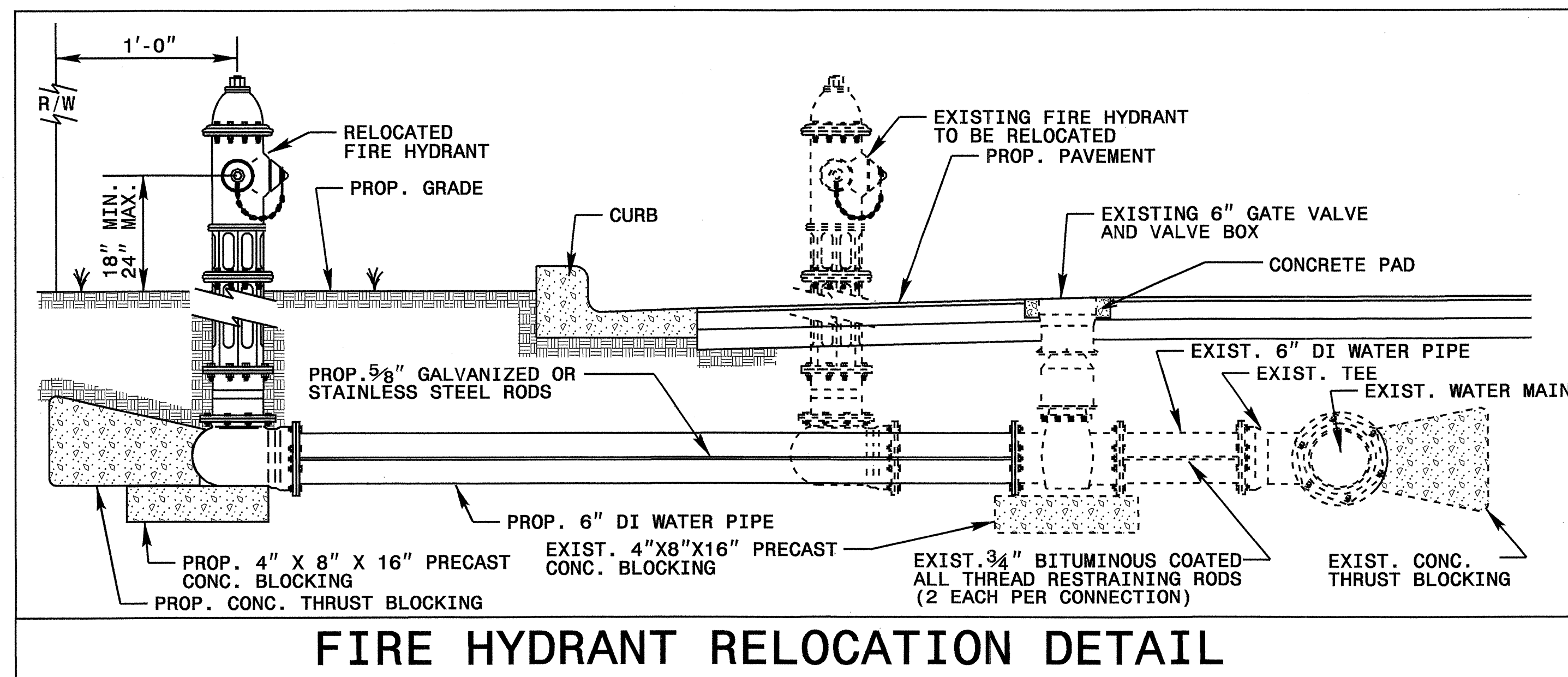
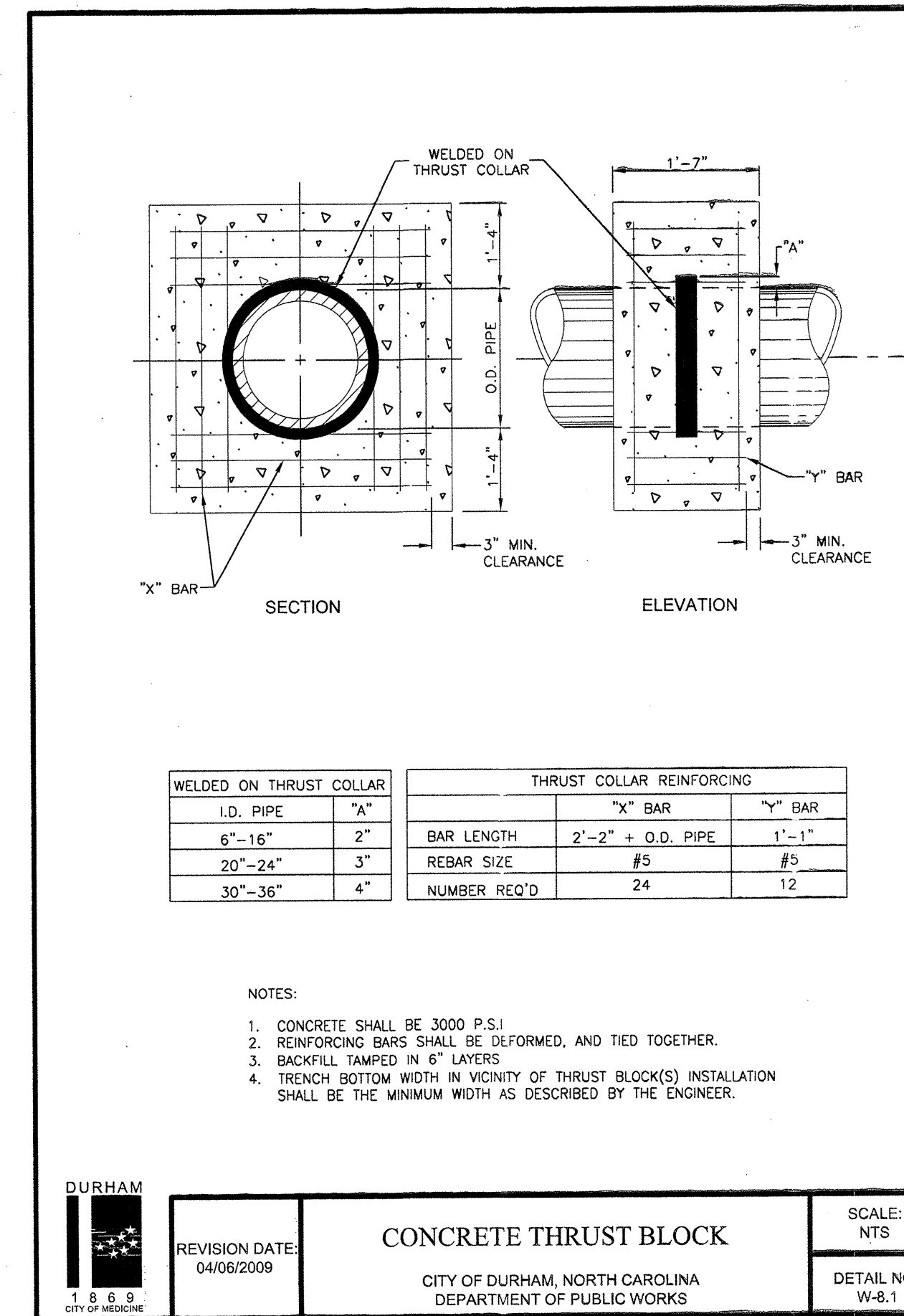
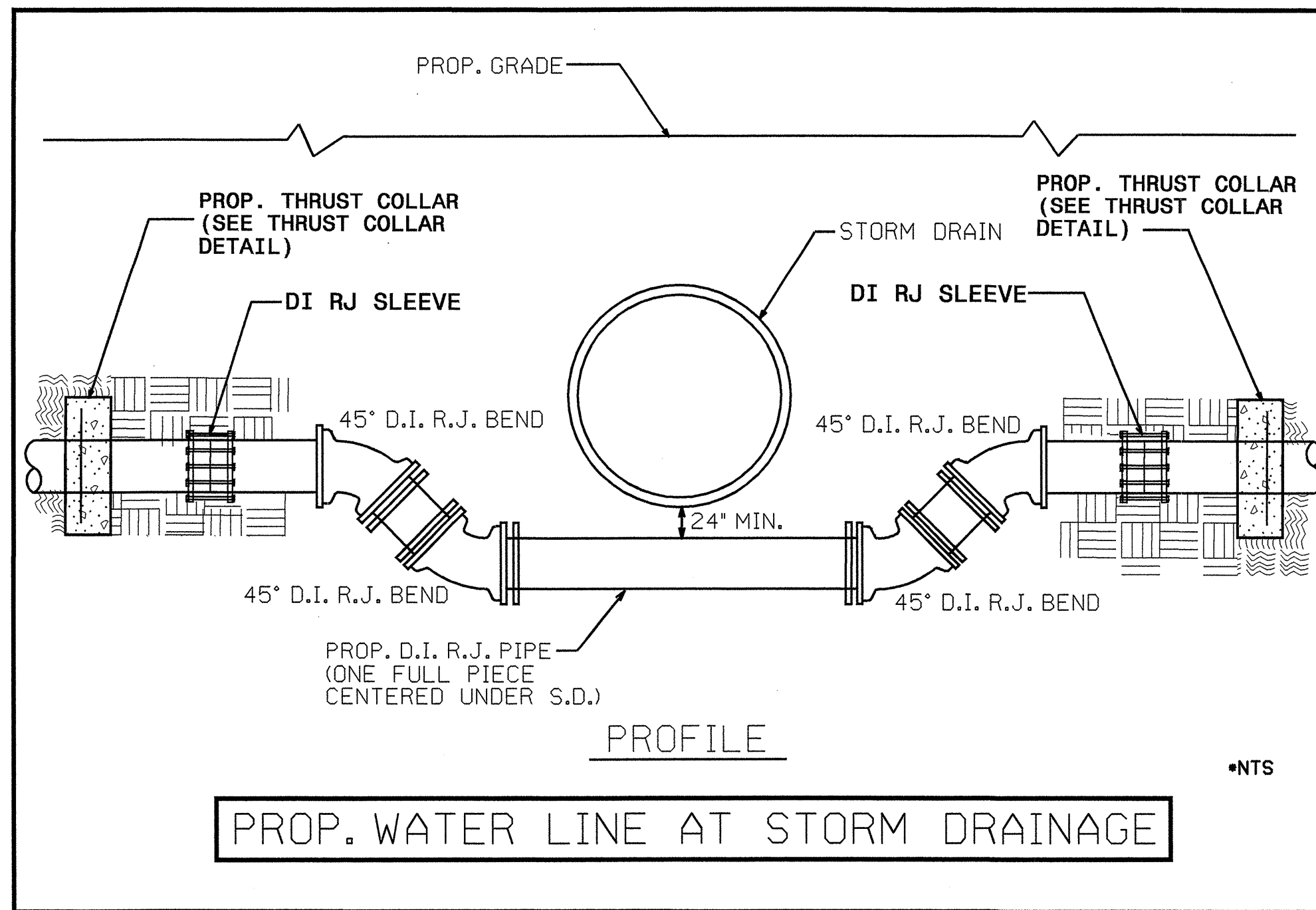
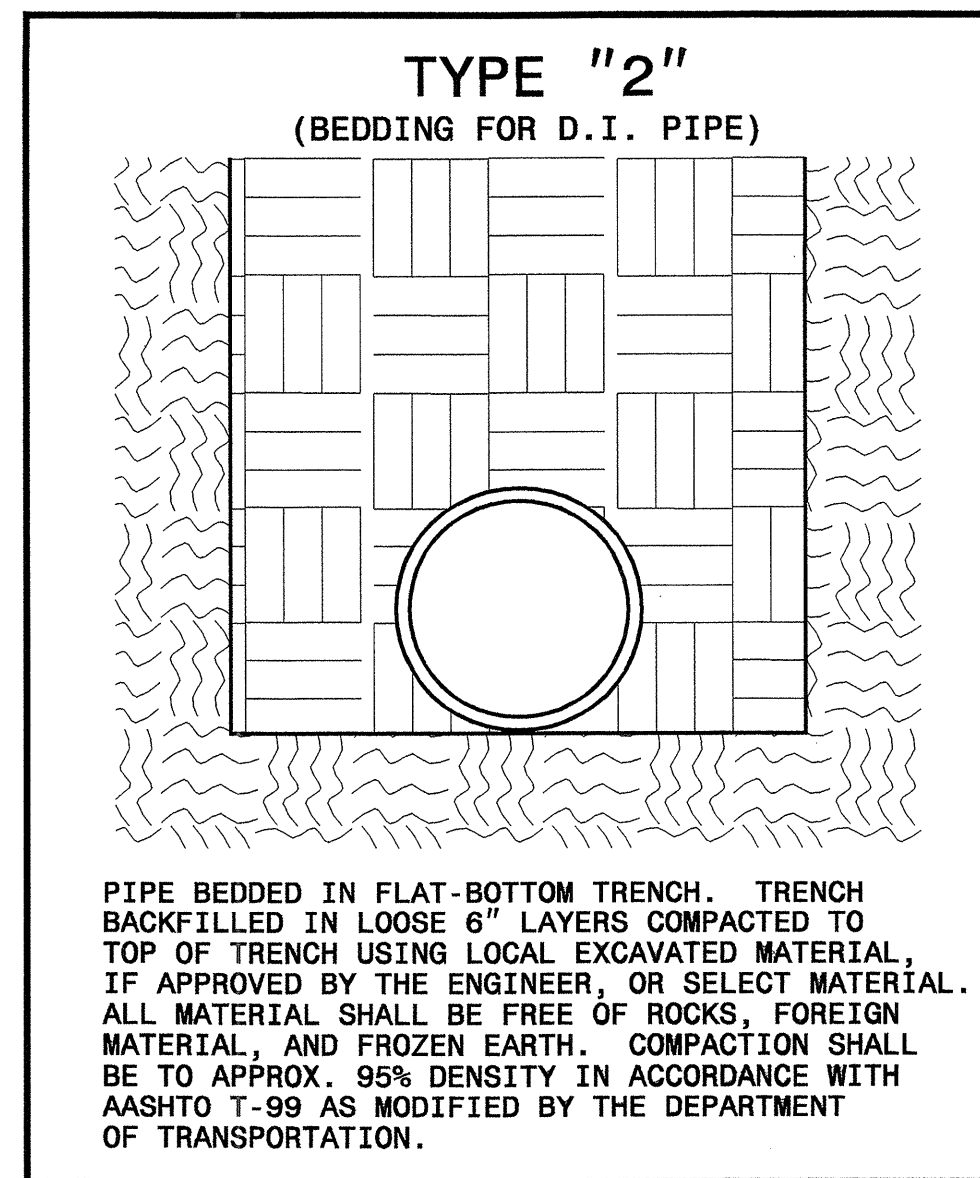
MATCHLINE SEE SHEET UC-4

MATCHLINE SEE SHEET NO. 8

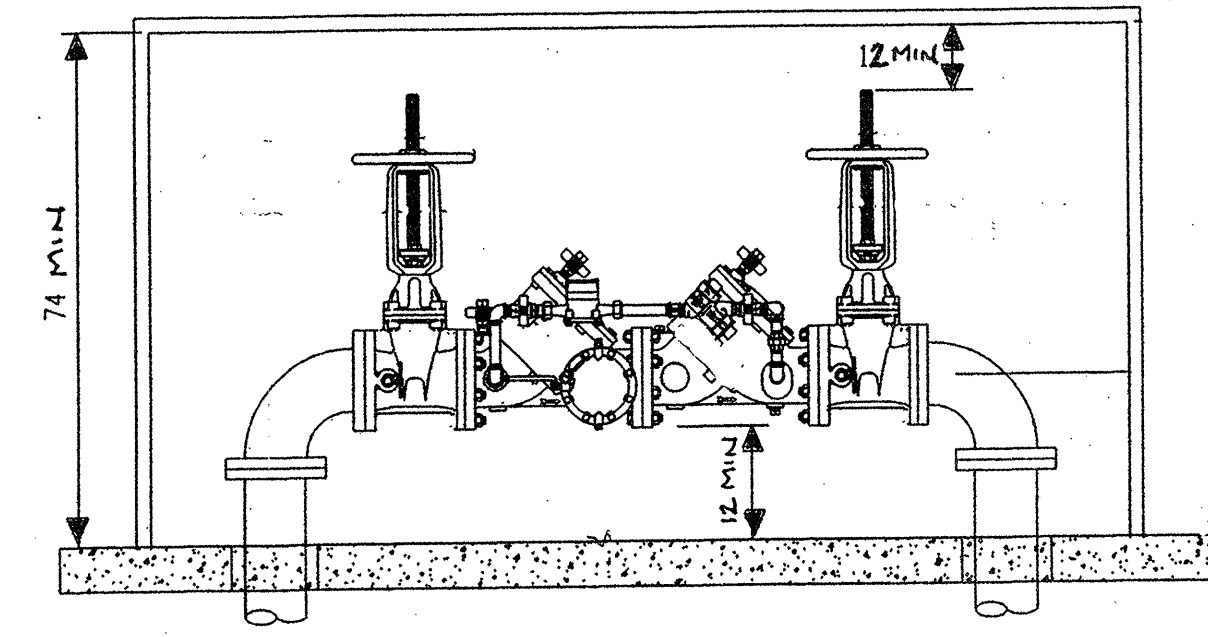
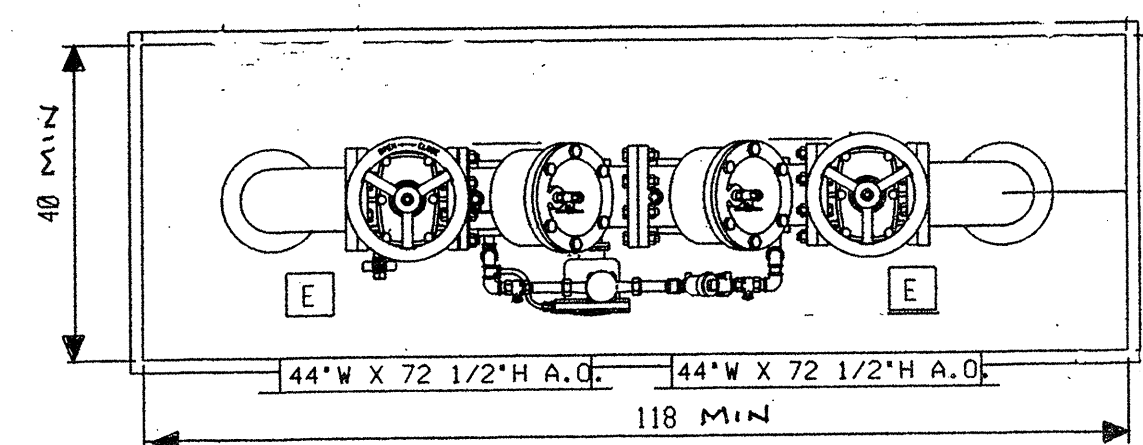
UTILITY CONSTRUCTION

MAXIMUM TRENCH WIDTH AT TOP OF PIPE

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

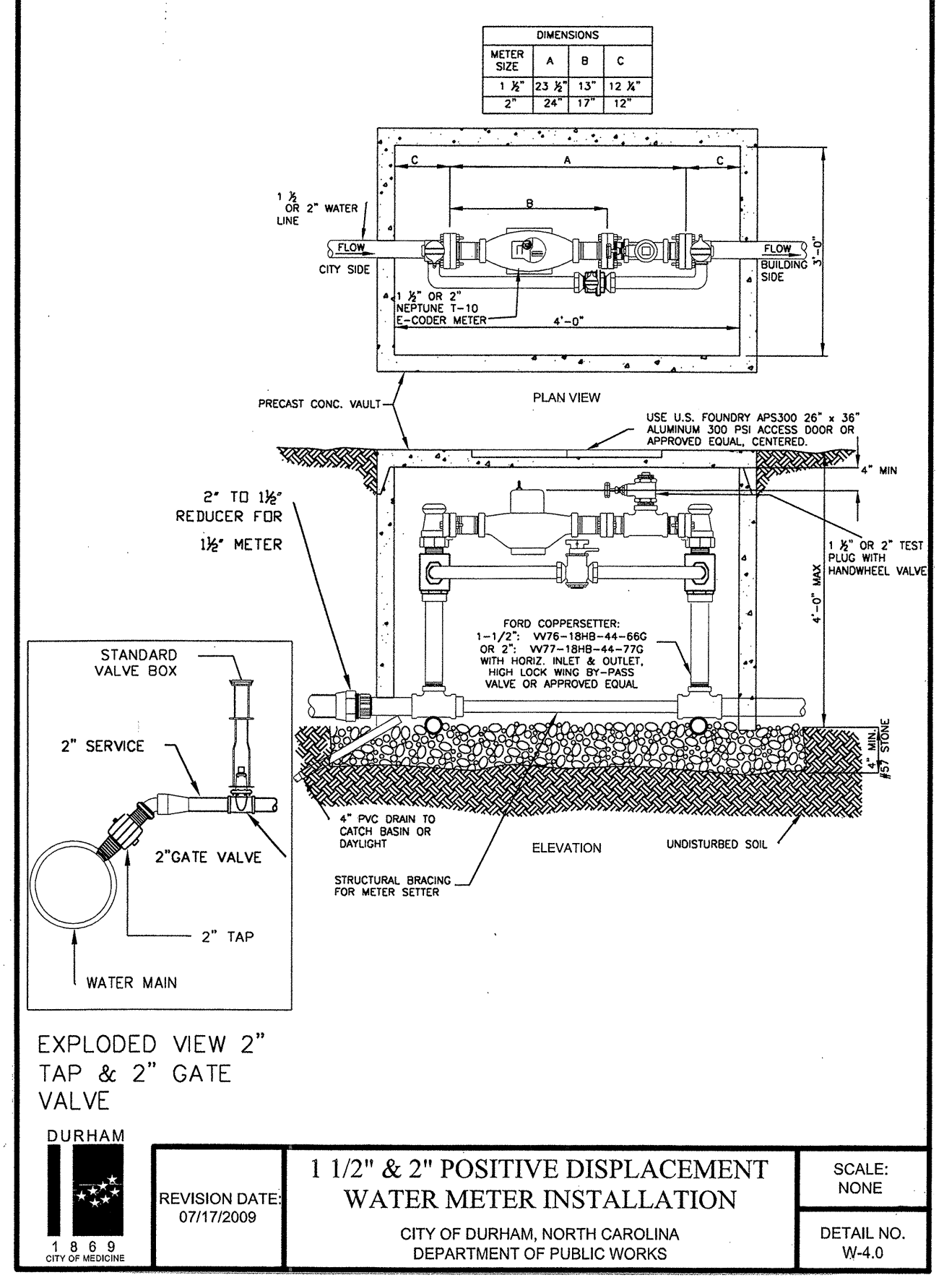


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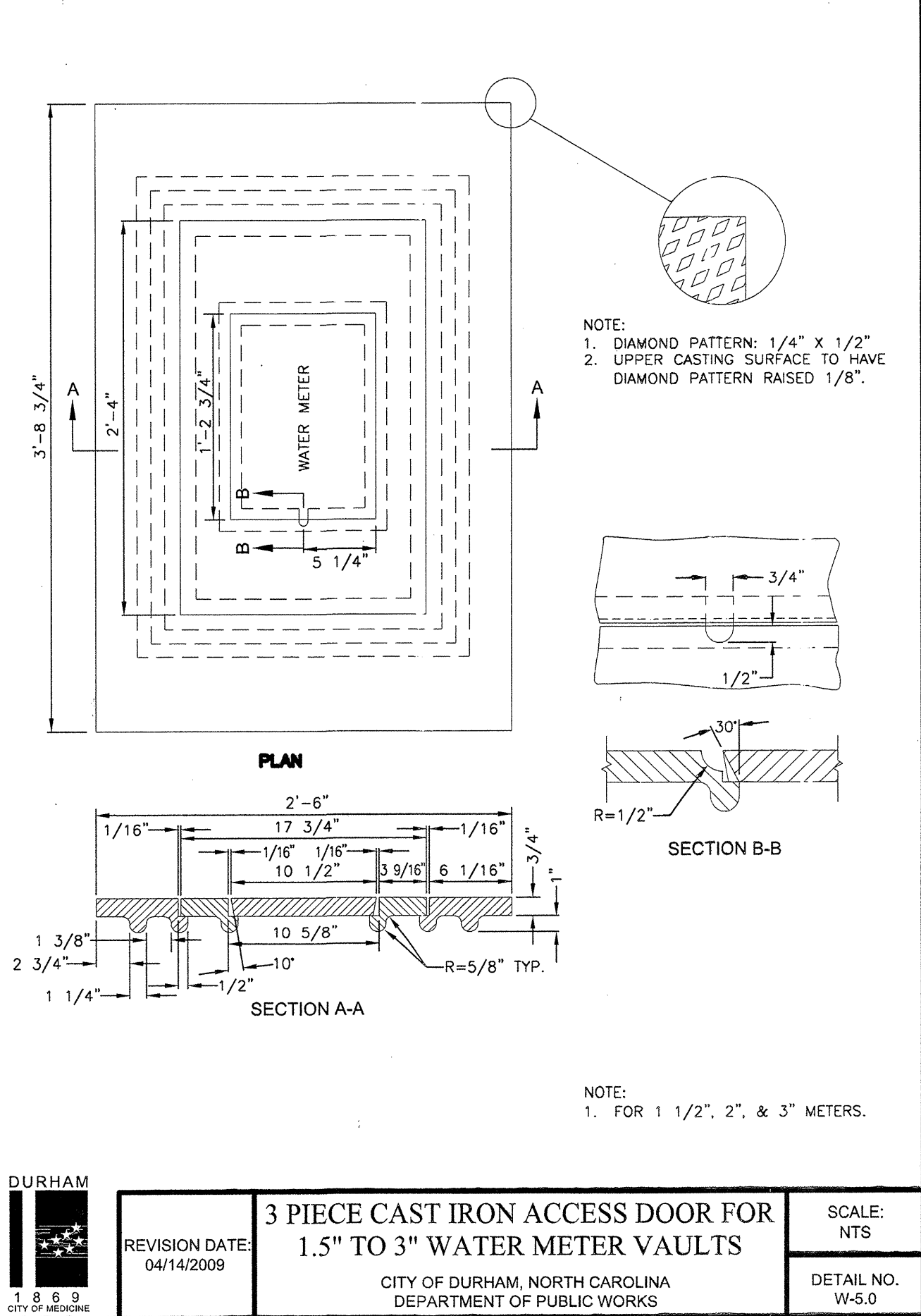


| | | | |
|--|-----------|---------------------|------------|
| 8" REDUCED PRESSURE DETECTOR ASSEMBLY AND ENCLOSURE | | | |
| ENGINEER / CONTRACTOR: | LOCATION: | APPROVED/DATE: | |
| REV. 1: | REV. 2: | REV. 3: | QUOTE NO.: |
| SCALE: N.T.S. | | REF. / DISTRIBUTOR: | |

- NOTES:**
1. ALL DIMENSIONS ARE APPROXIMATED IN INCHES.
 2. RECOMMENDED SLAB SIZE = 130" X 52" X 4" MINIMUM THICKNESS.
 3. "E" INDICATES THE ELECTRICAL RECEPTACLE. IT SHALL BE MOUNTED A MINIMUM OF 30" ABOVE THE SLAB.
 4. "A.O." INDICATES THE SIZE AND GENERAL LOCATION OF THE ACCESS OPENINGS.
 5. ENCLOSURE MUST BE ASSE ID60 CERTIFIED.



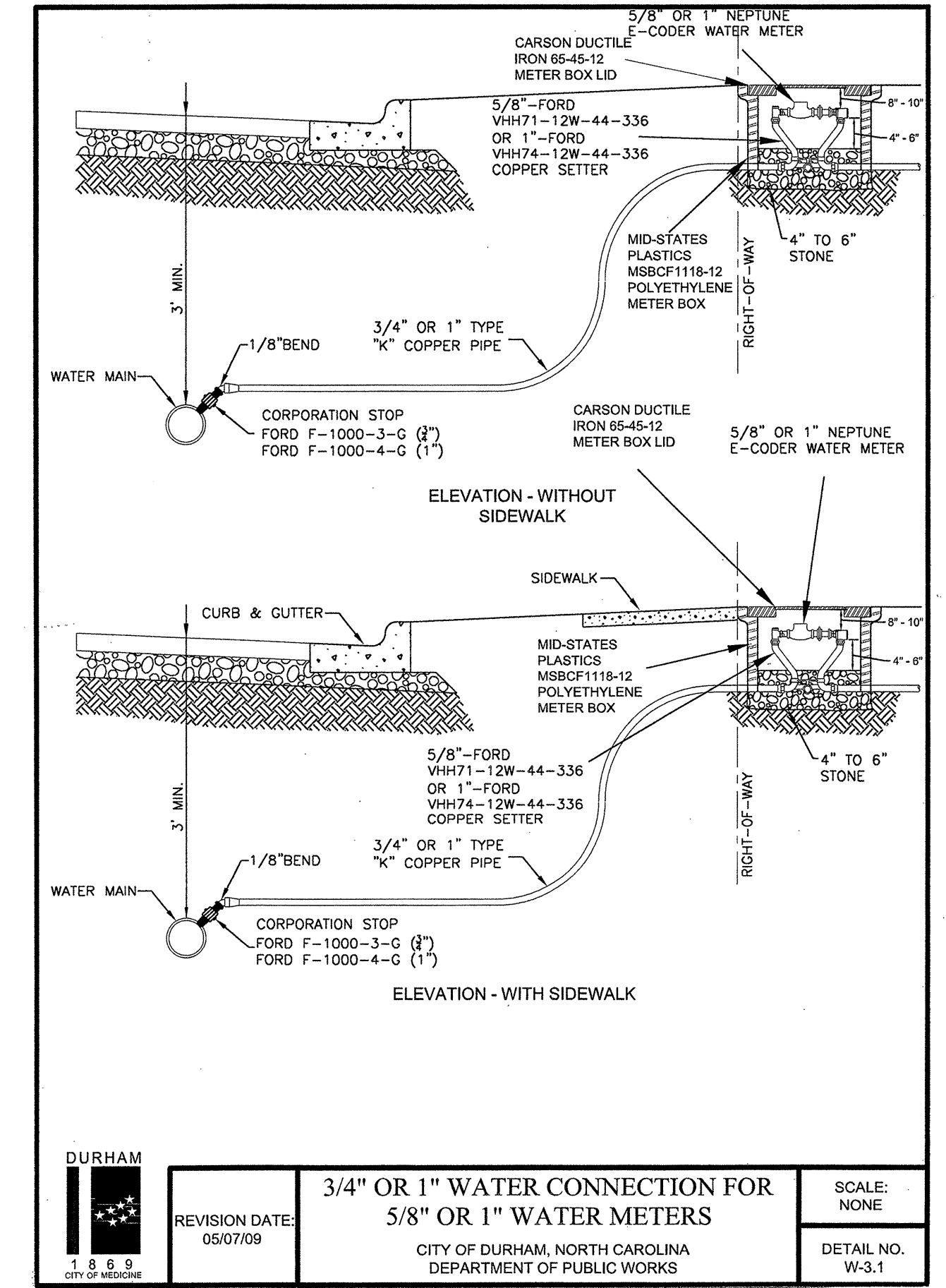
| | | |
|---|---------------------------|------------------|
| 1 1/2" & 2" POSITIVE DISPLACEMENT WATER METER INSTALLATION | REVISION DATE: 07/17/2009 | SCALE: NONE |
| CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS | | DETAIL NO. W-4.0 |



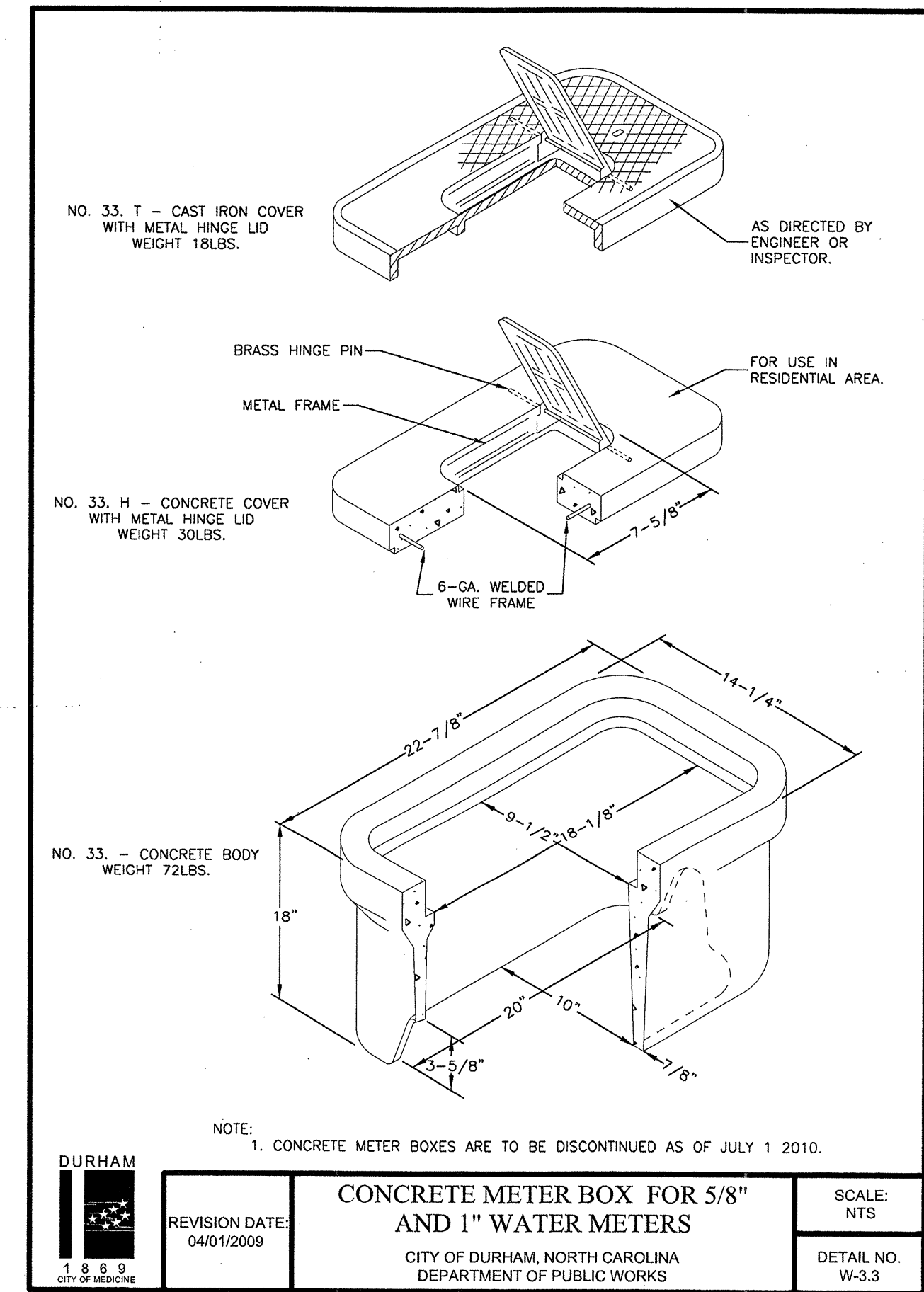
| | | |
|--|---------------------------|------------------|
| 3 PIECE CAST IRON ACCESS DOOR FOR 1.5" TO 3" WATER METER VAULTS | REVISION DATE: 04/14/2009 | SCALE: NTS |
| CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS | | DETAIL NO. W-5.0 |

| | |
|--|---------------------------------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-3804 | UC-7 |
| DESIGNED BY: ABY | |
| DRAWN BY: ABY | |
| CHECKED BY: JSM | |
| APPROVED BY: JSM | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119 | UTILITY CONSTRUCTION PLANS ONLY |

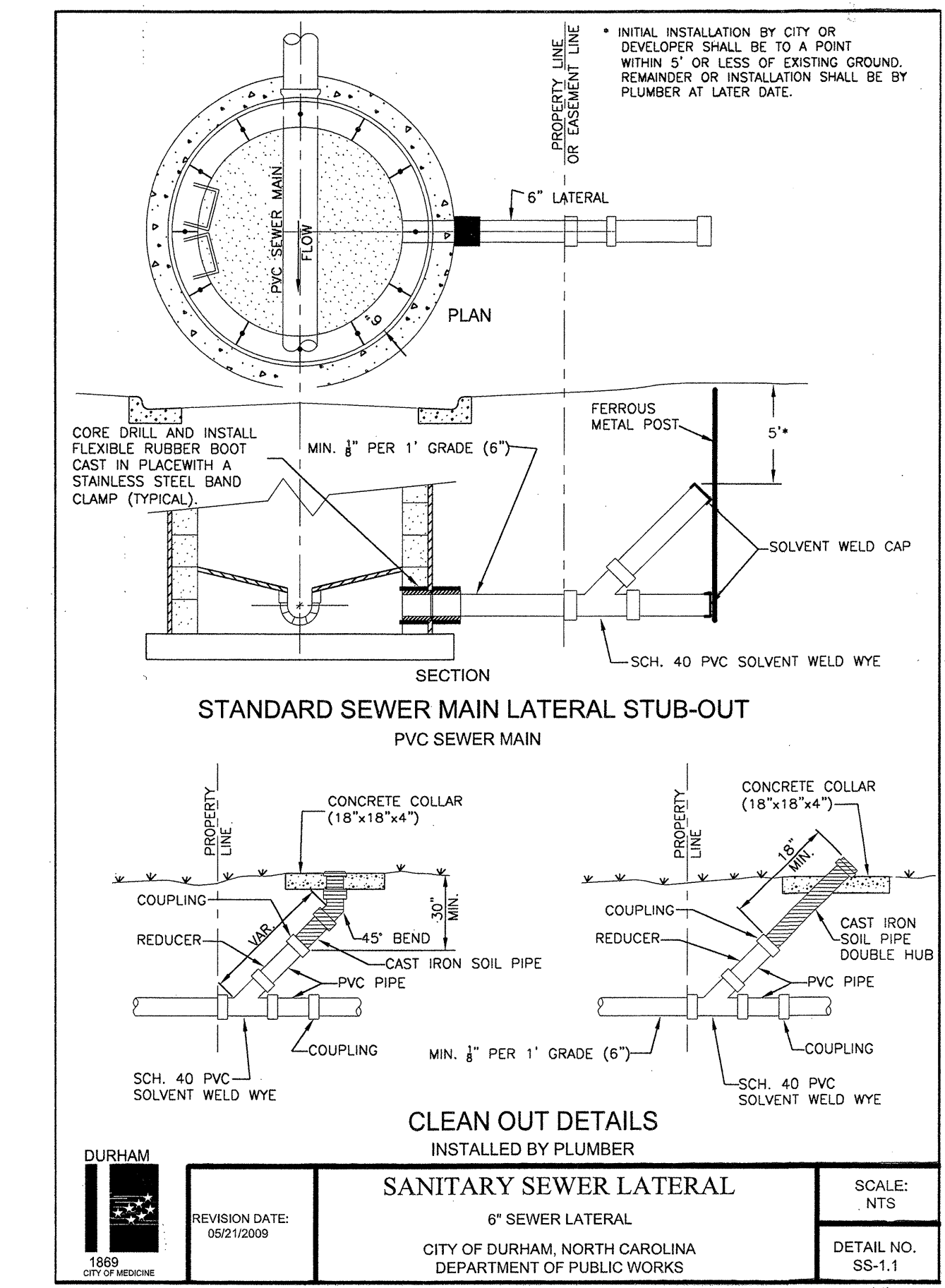
UTILITY CONSTRUCTION



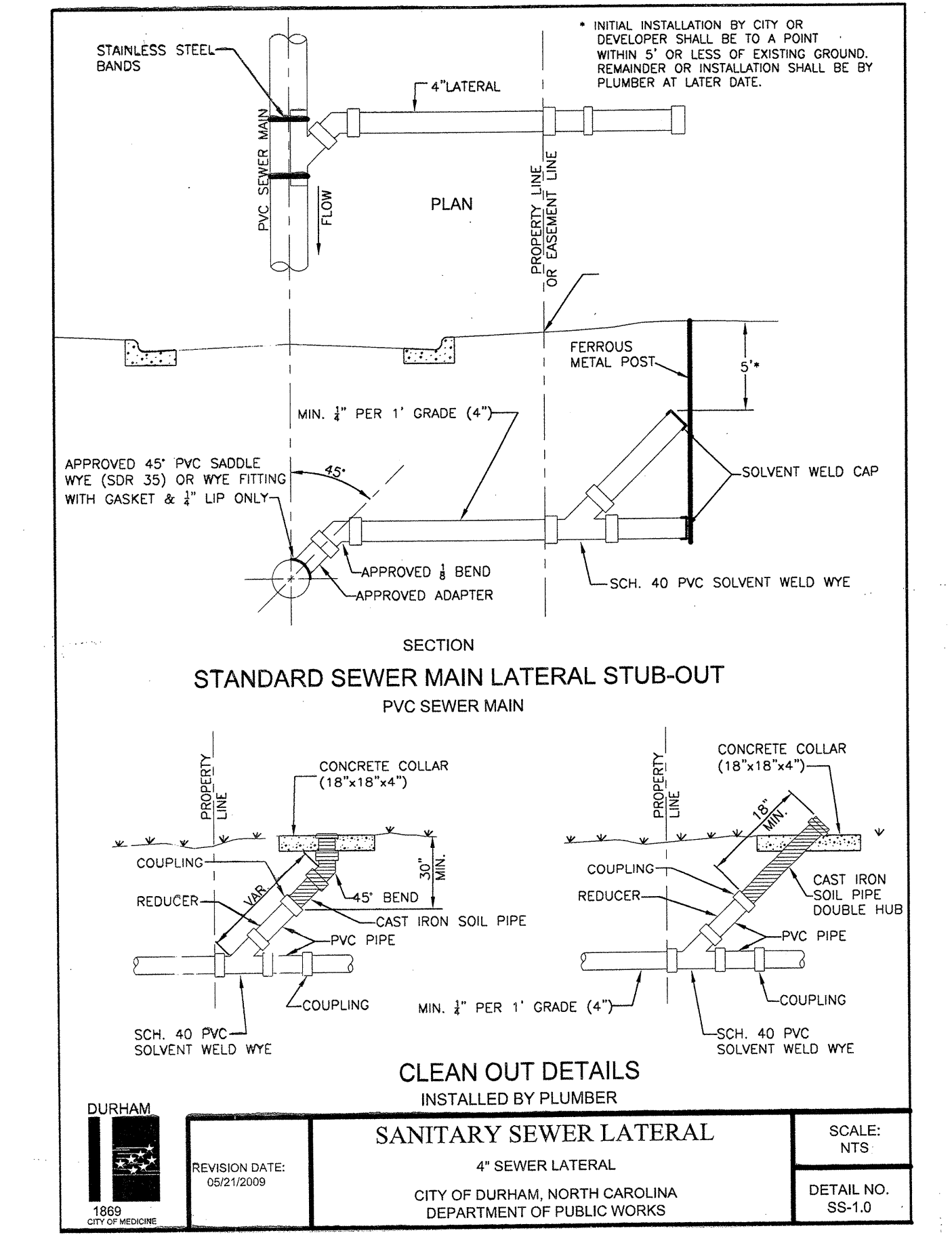
| | | |
|--|-------------------------|------------------|
| 3/4" OR 1" WATER CONNECTION FOR 5/8" OR 1" WATER METERS | REVISION DATE: 05/07/09 | SCALE: NONE |
| CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS | | DETAIL NO. W-3.1 |



| | | |
|--|---------------------------|------------------|
| CONCRETE METER BOX FOR 5/8" AND 1" WATER METERS | REVISION DATE: 04/01/2009 | SCALE: NTS |
| CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS | | DETAIL NO. W-3.3 |



| | | |
|--|---------------------------|-------------------|
| SANITARY SEWER LATERAL | REVISION DATE: 05/21/2009 | SCALE: NTS |
| CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS | | DETAIL NO. SS-1.1 |



| | | |
|--|---------------------------|-------------------|
| SANITARY SEWER LATERAL | REVISION DATE: 05/21/2009 | SCALE: NTS |
| CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS | | DETAIL NO. SS-1.0 |

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5/14/09

PROJECT REFERENCE NO. SHEET NO.
U-3804 UC-8
 DESIGNED BY: **ABY**
 DRAWN BY: **ABY**
 CHECKED BY: **JSM**
 APPROVED BY: **JSM**
 REVISED:
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 UTILITIES ENGINEERING SEC.
 PHONE: (919) 250-4128
 FAX: (919) 250-4119
 UTILITY CONSTRUCTION PLANS ONLY

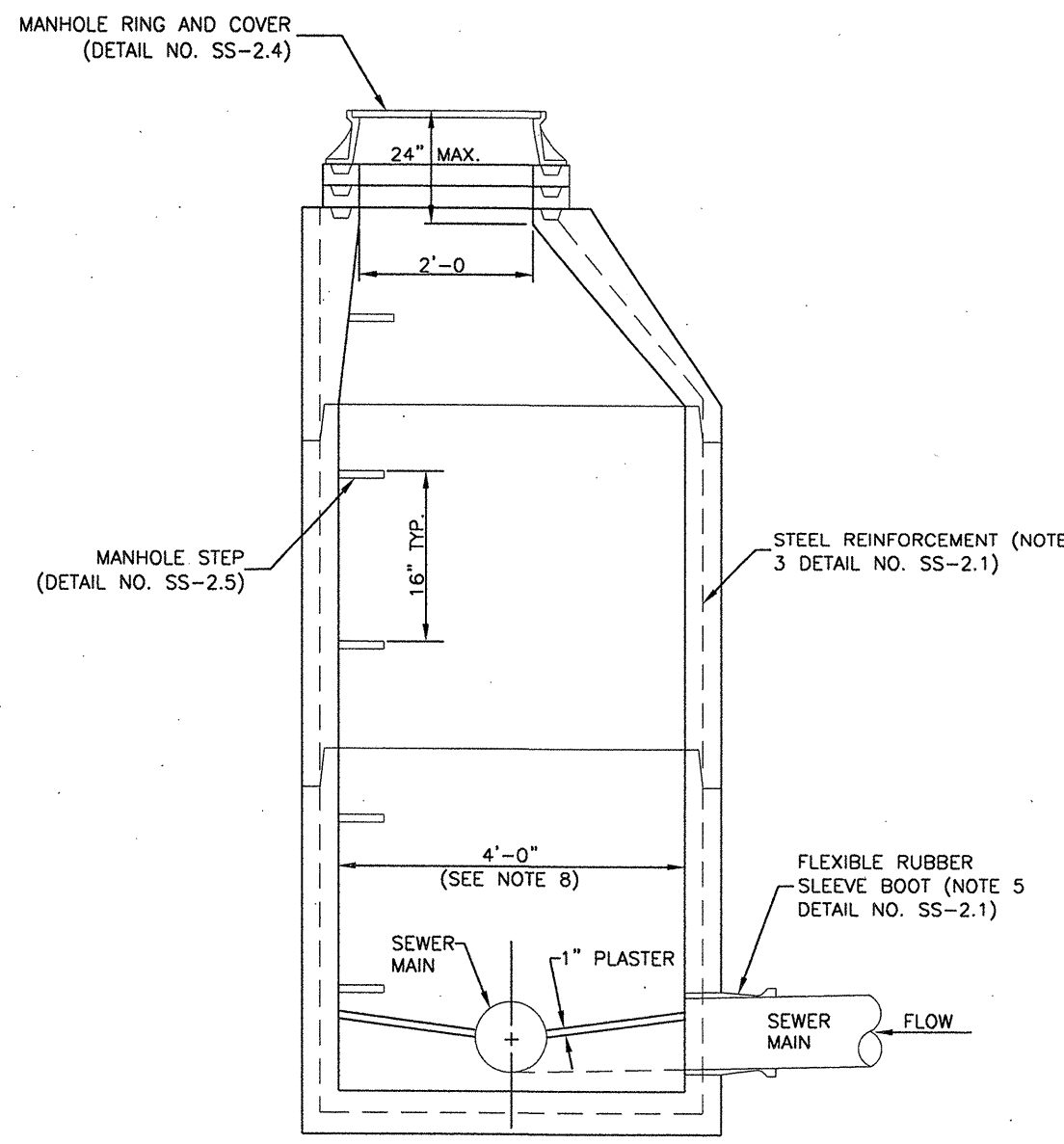
UTILITY CONSTRUCTION

NOTES

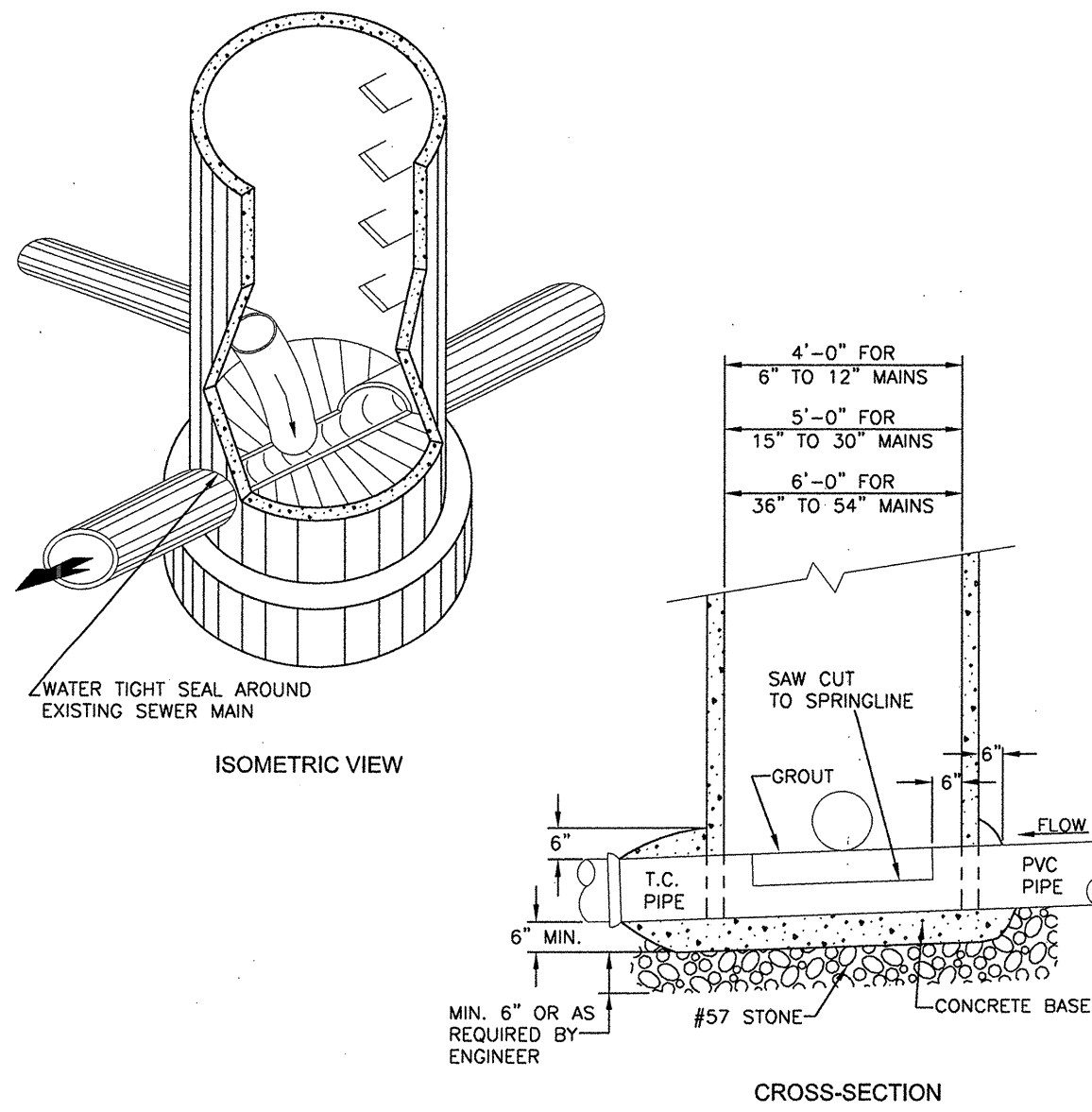
1. ALL PRE CAST CONCRETE MANHOLES SHALL CONFORM TO THE LATEST REVISION OF ASTM C478.
2. CONCRETE SHALL BE 4000 PSI AT 28 DAYS MINIMUM.
3. STEEL REINFORCEMENT SHALL BE GRADE 40 BILLET STEEL CONFORMING TO THE LATEST REVISION OF ASTM-A-185 FOR WALL REINFORCEMENT, AND THE LATEST REVISION OF ASTM-A615 FOR THE BASE REINFORCEMENT.
4. STANDARD JOINTS SHALL BE SEALED WITH PUTTY TYPE PLASTIC CEMENT PER FED. SPEC. SS-C-153 OR AN G-RING TYPE JOINT CONFORMING TO THE LATEST REVISION OF ASTM-C443.
5. MANHOLE INLETS AND OUTLETS SHALL BE CAST IN PLACE FLEXIBLE RUBBER SLEEVES BOOTS PER THE LATEST REVISION OF ASTM-C923.
6. INVERTS TO BE CONSTRUCTED OF BRICK WITH A CONCRETE BENCH (DETAIL NO. SS-2.2).
7. THE MAXIMUM SEPARATION OR INVERT IN TO INVERT OUT WITHIN A MANHOLE IS 0.5 FEET. WHEN THE SEPARATION IS GREATER THAN 0.5 FEET A DROP MANHOLE MUST BE USED.
8. MANHOLES GREATER THAN 18 FEET IN DEPTH SHALL HAVE AN INSIDE DIAMETER OR 5'-0" FOR SANITARY SEWER MAINS GREATER THAN EIGHTEEN INCHES (18") IN DIAMETER, MANHOLES SHALL BE A MINIMUM OF 5'-0" IN DIAMETER.
9. RIM ELEVATIONS SHALL BE AT GRADE IN STREETS & PARKING LOTS.
10. RIM ELEVATIONS ALONG OUTFALLS SHALL BE A MINIMUM OF 3' ABOVE EXISTING GROUND ELEVATION. IF THE OUTFALL IS LOCATED WITHIN THE FLOOD PLAIN, RIM ELEVATIONS SHALL BE 2' ABOVE THE 100-YEAR FLOOD ELEVATION (WHILE STILL MAINTAINING THE 3' ABOVE THE EXISTING GROUND ELEVATION MINIMUM REQUIREMENT). THE 100-YEAR FLOOD ELEVATION SHALL BE NOTED ON THE CONSTRUCTION DRAWINGS.
11. DEPENDING UPON THE HEIGHT OF THE MANHOLE, THE CITY OF DURHAM ENGINEERING DIVISION MAY REQUIRE FLAT MANHOLES, EXTERIOR STEPS AND SAFETY BARS ON TOP OF THE MANHOLE.

| SIZE AND DEGREE OF BEND | STATIC THRUST | CLAY BRICK | CLAY PIPE | CONCRETE | STEEL | WOOD |
|-------------------------|---------------|------------|-----------|----------|-------|------|
| 6" PIPE | 1,108 | 1 | 1 | 1 | 1 | 1 |
| 22 1/2" | 2,207 | 2 | 2 | 2 | 2 | 2 |
| 45 | 4,328 | 2 | 3 | 3 | 3 | 3 |
| 90 | 7,996 | 2 | 4 | 5 | 5 | 5 |
| PLUG OR TEE | 5,655 | 2 | 3 | 4 | 1 | 2 |
| 8" PIPE | 1,970 | 1 | 1 | 2 | 1 | 1 |
| 22 1/2" | 3,922 | 2 | 2 | 2 | 2 | 2 |
| 45 | 7,694 | 2 | 4 | 5 | 5 | 5 |
| 90 | 14,215 | 4 | 8 | 9 | 2 | 4 |
| PLUG OR TEE | 10,053 | 3 | 5 | 6 | 2 | 3 |
| 12" PIPE | 4,433 | 2 | 3 | 3 | 1 | 1 |
| 22 1/2" | 8,826 | 3 | 5 | 6 | 2 | 2 |
| 45 | 17,312 | 5 | 9 | 11 | 3 | 3 |
| 90 | 31,983 | 8 | 16 | 19 | 4 | 4 |
| PLUG OR TEE | 22,619 | 6 | 12 | 14 | 3 | 3 |
| 16" PIPE | 7,881 | 2 | 4 | 5 | 1 | 1 |
| 22 1/2" | 15,691 | 4 | 8 | 10 | 2 | 2 |
| 45 | 31,382 | 8 | 16 | 19 | 4 | 4 |
| 90 | 56,861 | 15 | 29 | 35 | 8 | 8 |
| PLUG OR TEE | 40,213 | 10 | 21 | 25 | 5 | 5 |
| 20" PIPE | 12,315 | 3 | 7 | 8 | 2 | 2 |
| 22 1/2" | 24,517 | 7 | 13 | 15 | 4 | 4 |
| 45 | 48,991 | 12 | 24 | 29 | 6 | 6 |
| 90 | 88,844 | 23 | 45 | 53 | 12 | 12 |
| PLUG OR TEE | 62,832 | 16 | 32 | 38 | 8 | 8 |
| 24" PIPE | 17,734 | 5 | 9 | 11 | 3 | 3 |
| 22 1/2" | 35,305 | 9 | 18 | 22 | 5 | 5 |
| 45 | 69,252 | 18 | 35 | 42 | 9 | 9 |
| 90 | 127,436 | 32 | 64 | 77 | 16 | 16 |
| PLUG OR TEE | 90,478 | 23 | 46 | 55 | 12 | 12 |
| 30" PIPE | 27,709 | 7 | 14 | 17 | 4 | 4 |
| 22 1/2" | 55,163 | 14 | 28 | 34 | 7 | 7 |
| 45 | 108,206 | 28 | 55 | 65 | 14 | 14 |
| 90 | 199,200 | 50 | 100 | 120 | 25 | 25 |
| PLUG OR TEE | 141,372 | 36 | 71 | 85 | 18 | 18 |
| 36" PIPE | 39,901 | 10 | 20 | 24 | 5 | 5 |
| 22 1/2" | 79,435 | 20 | 40 | 48 | 10 | 10 |
| 45 | 155,816 | 39 | 78 | 94 | 20 | 20 |
| 90 | 247,855 | 72 | 144 | 172 | 36 | 36 |
| PLUG OR TEE | 203,575 | 51 | 102 | 122 | 26 | 26 |

GENERAL NOTES:
 1. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE SPECIFIED.
 2. THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.
 3. USE 6"-90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTORS.

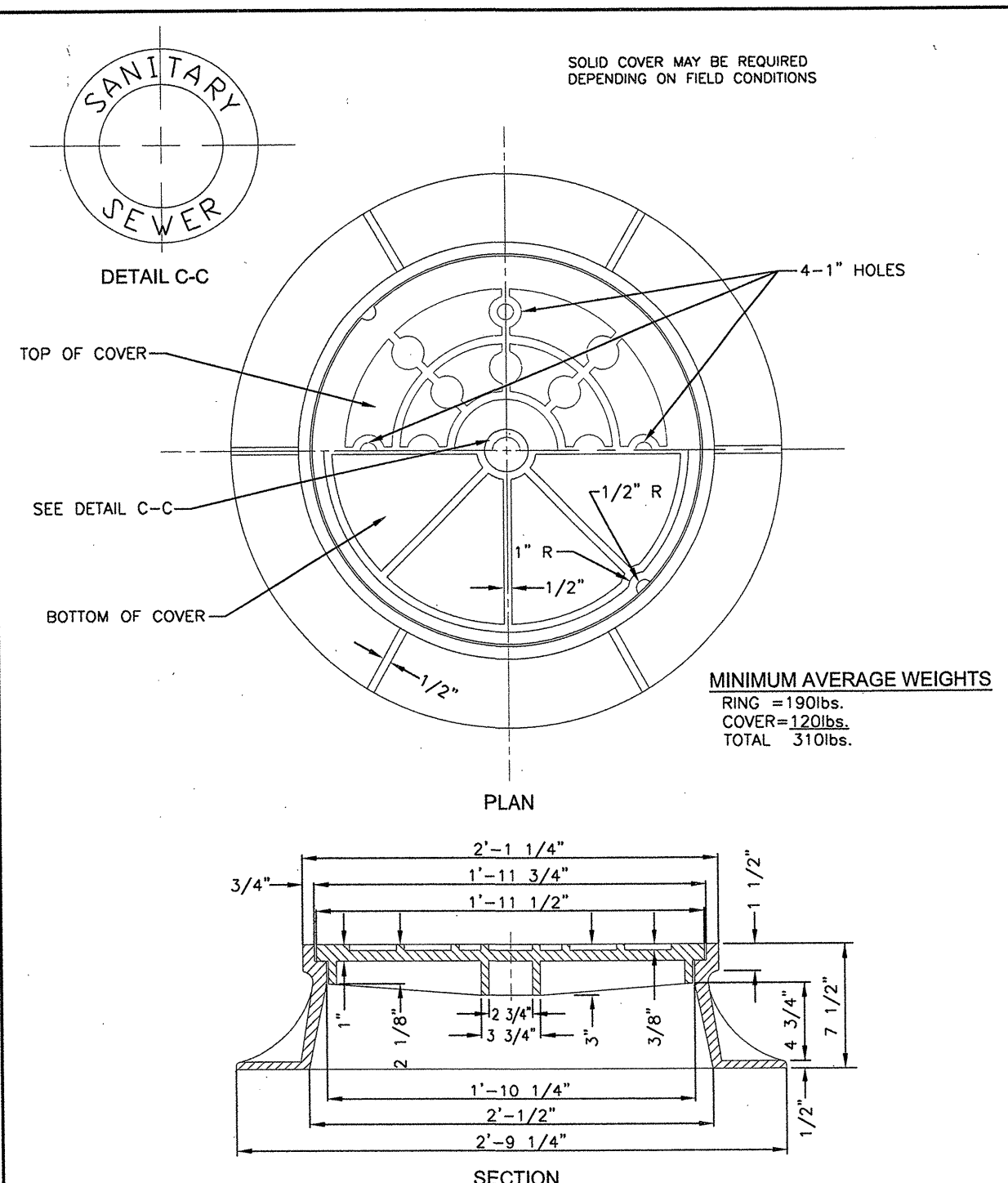


DURHAM CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS
 REVISION DATE: 04/15/2009
PRECAST CONCRETE SANITARY SEWER MANHOLE
 SCALE: NTS
 DETAIL NO. SS-2.0

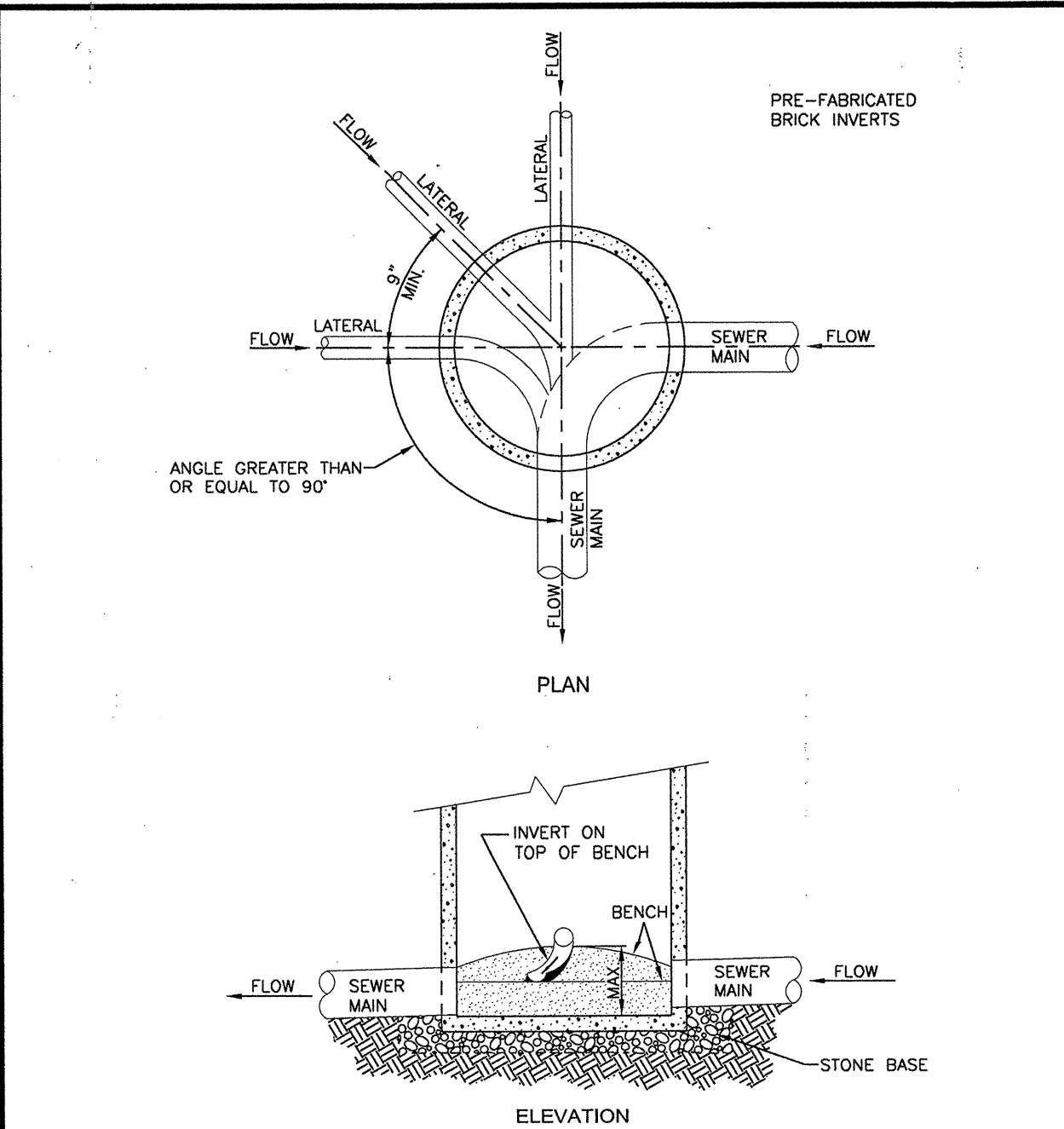


- NOTES:
1. MANHOLE TO BE SET ON CONCRETE BASE AND BASE TO BE ONE POUR.
 2. FOR VITRIFIED CLAY PIPE, CONCRETE SHALL BE POURED TO NEXT EXISTING JOINT (BOTH SIDES OF MANHOLE).
 3. PIPE OPENING SHALL BE PRECAST BY MANUFACTURER.
 4. FLOW SHALL BE MAINTAINED DURING CONSTRUCTION.
 5. MINIMUM OF 4000 PSI CONCRETE REQUIRED.
 6. THE CONTRACTOR SHALL PROVIDE A MINIMUM 6" COMPACTED #57 STONE BASE.
 7. INVERT TO BE BUILT FROM PROPOSED PIPE TO EFFLUENT PIPE, ACCORDING TO DETAIL ON INVERTS.

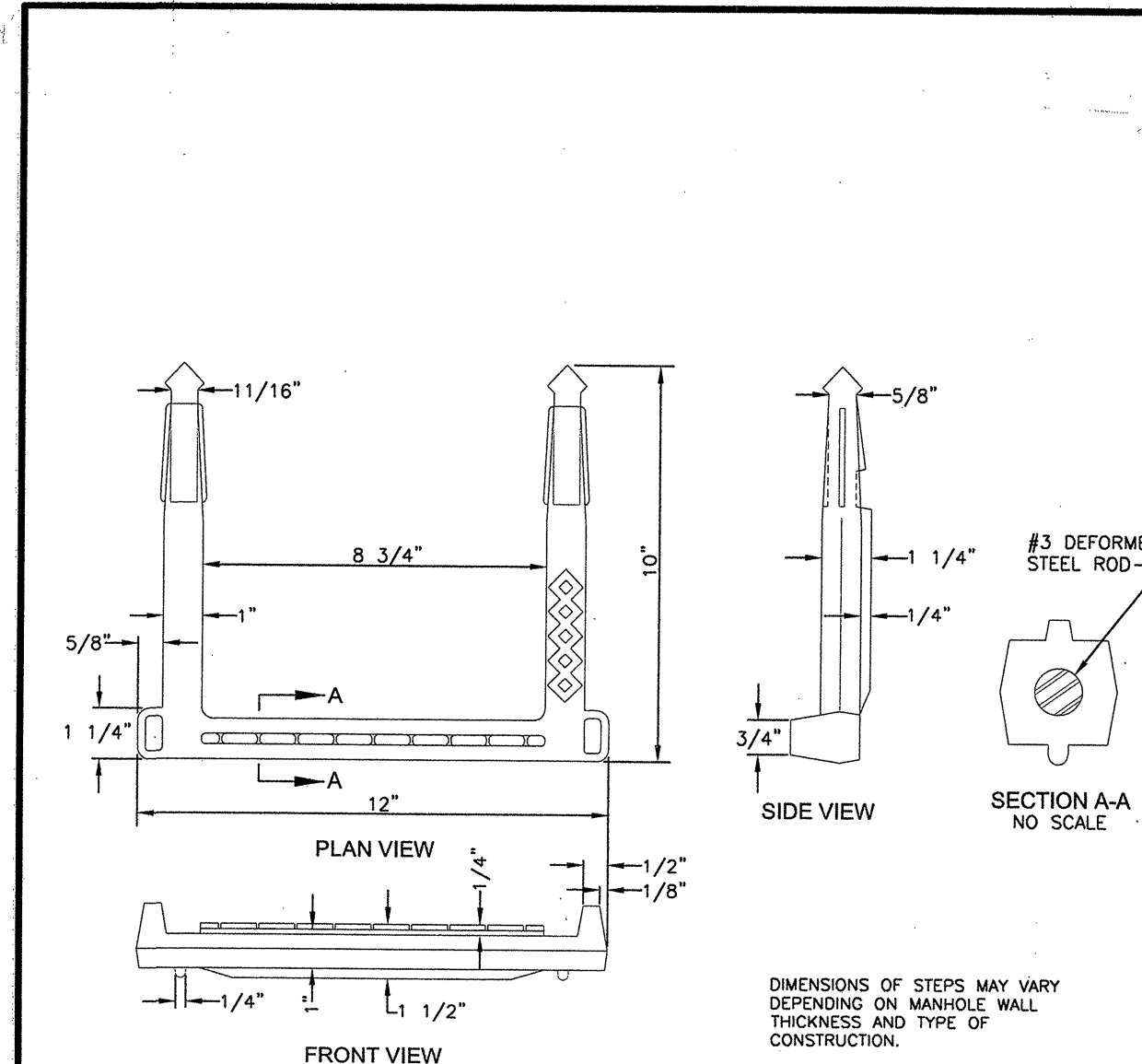
DURHAM CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS
 REVISION DATE: 04/15/2009
DOGHOUSE MANHOLE INSTALLATION OVER EXISTING SEWER MAIN
 SCALE: NTS
 DETAIL NO. SS-3.0



DURHAM CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS
 REVISION DATE: 05/21/2009
SANITARY SEWER MANHOLE RING AND COVER
 SCALE: NTS
 DETAIL NO. SS-2.4

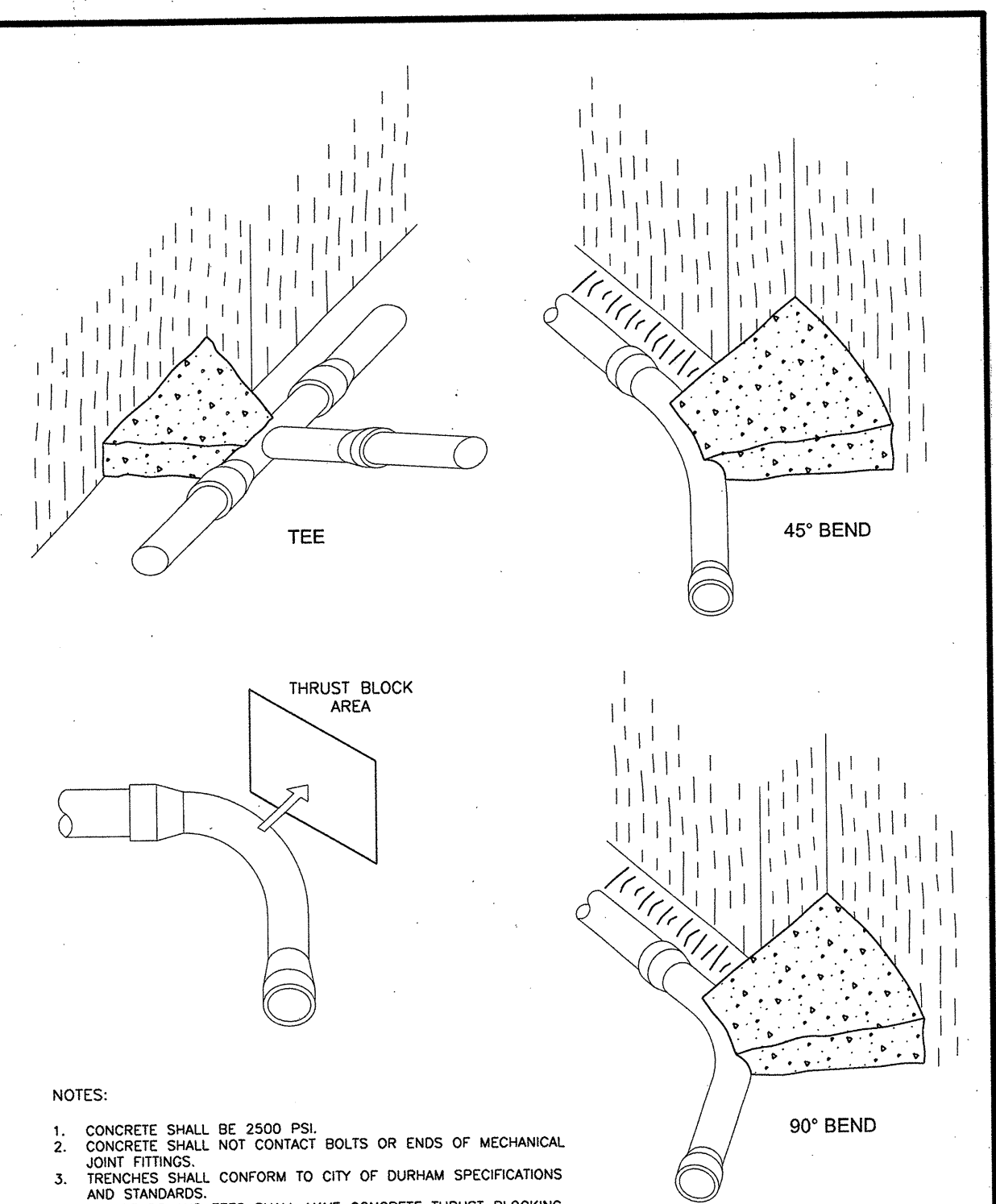


DURHAM CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS
 REVISION DATE: 04/15/2009
SANITARY SEWER LATERAL AT MANHOLE
 SCALE: NTS
 DETAIL NO. SS-1.2



DURHAM CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS
 REVISION DATE: 04/15/2009
PLASTIC COATED SANITARY SEWER MANHOLE STEPS
 SCALE: NTS
 DETAIL NO. SS-2.5

DURHAM CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS
 REVISION DATE: 04/06/2009
HORIZONTAL THRUST BLOCKING SCHEDULE
 SCALE: NTS
 DETAIL NO. W-8.2



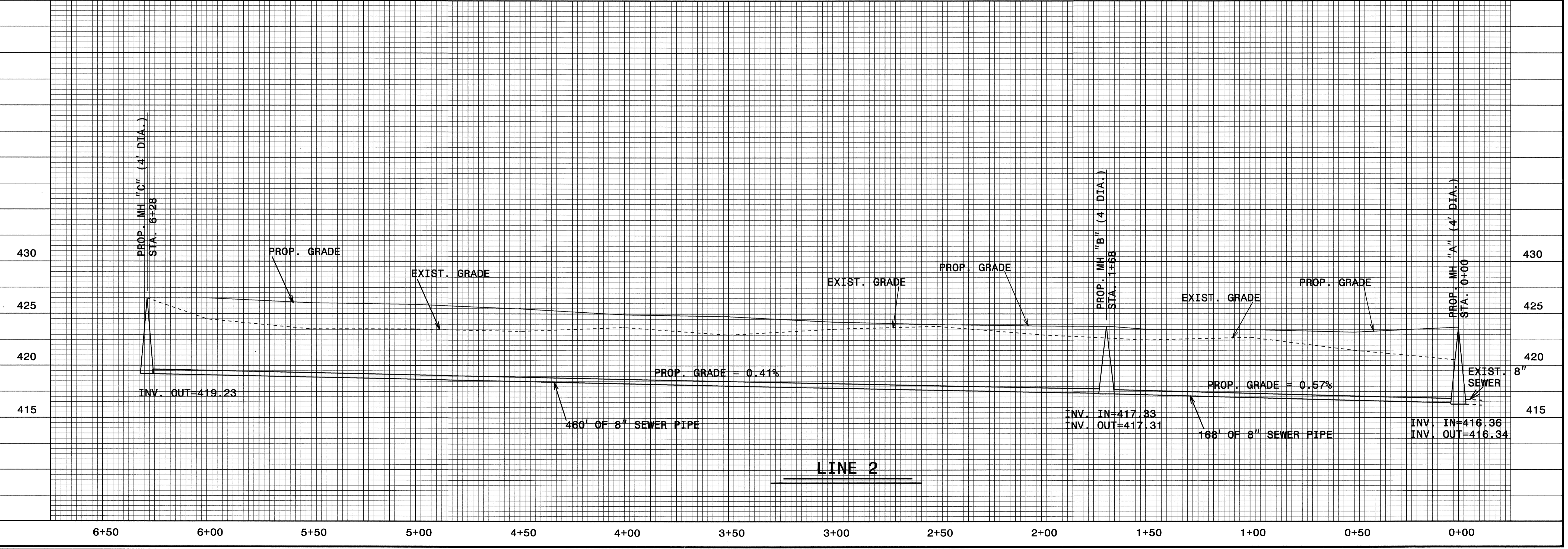
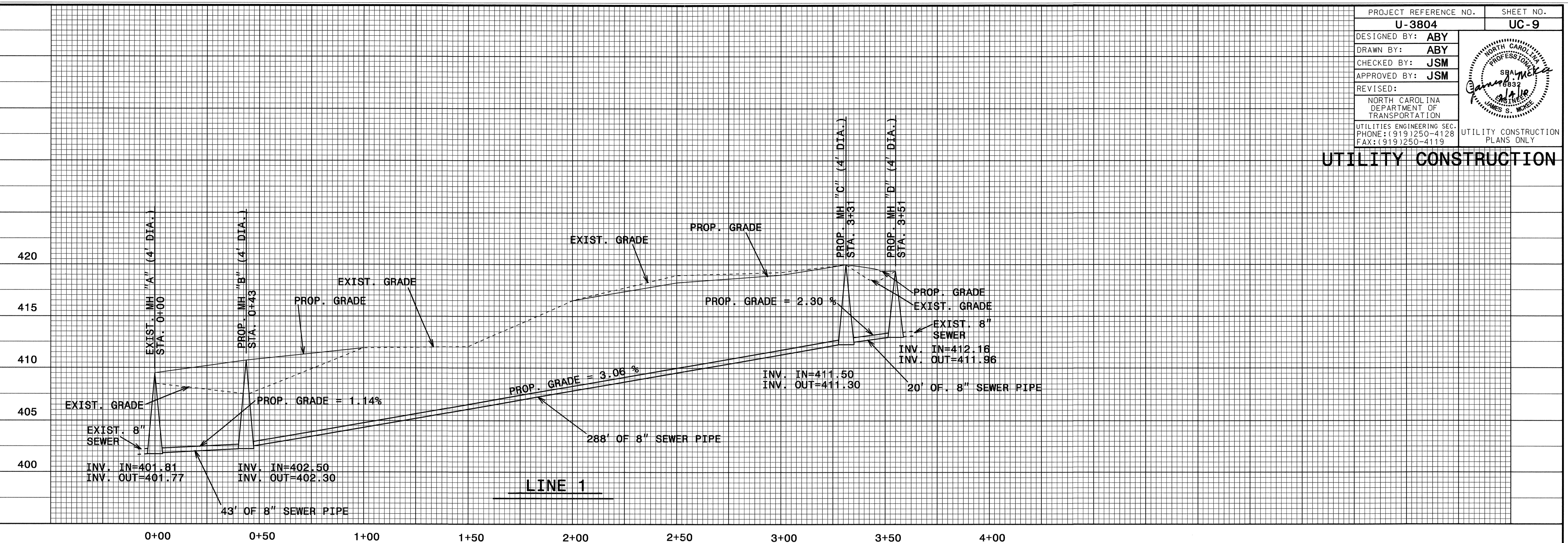
DURHAM CITY OF DURHAM, NORTH CAROLINA DEPARTMENT OF PUBLIC WORKS
 REVISION DATE: 03/14/2007
HORIZONTAL THRUST BLOCKING ISOMETRIC VIEWS
 REVISOR: D. SCHMOYER
 SCALE: NONE
 DETAIL NO. W-8.0

06-JAN-2010 13:58 P:\utilities\du\proj\du3804\utl\uc5.psh7.dgn

5/28/99

| | |
|--|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-3804 | UC-9 |
| DESIGNED BY: ABY | |
| DRAWN BY: ABY | |
| CHECKED BY: JSM | |
| APPROVED BY: JSM | |
| REVISED: | |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | |
| UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119 | |
| UTILITY CONSTRUCTION PLANS ONLY | |

UTILITY CONSTRUCTION



03-FEB-2000 07:53
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JSM

09/06/99

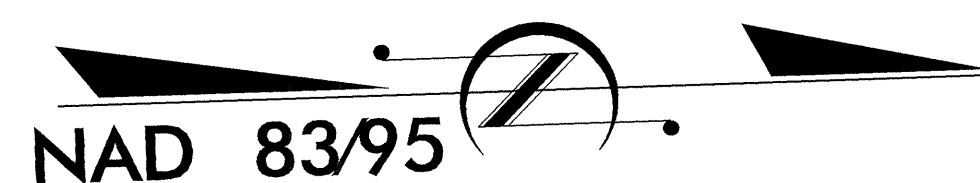
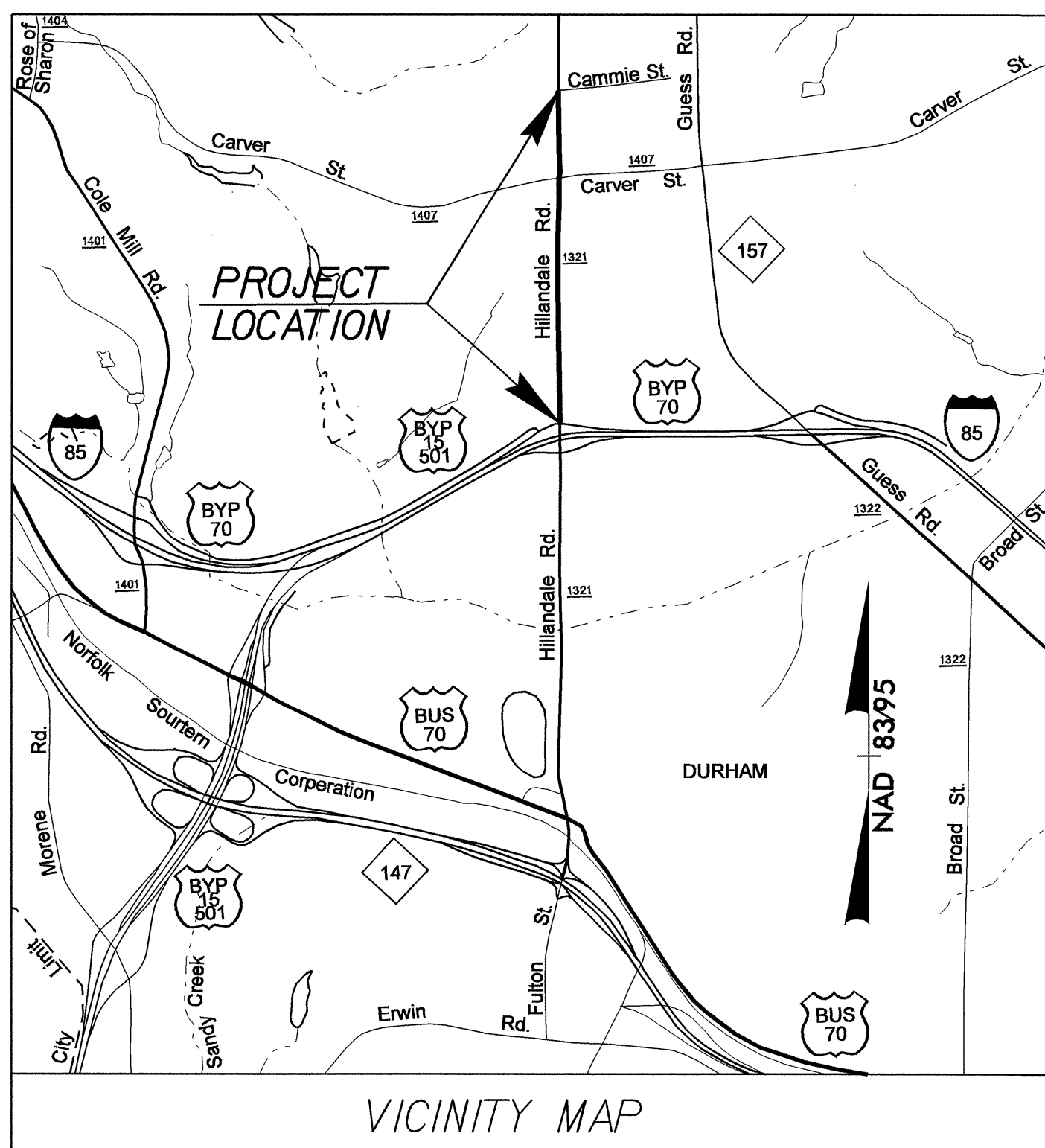
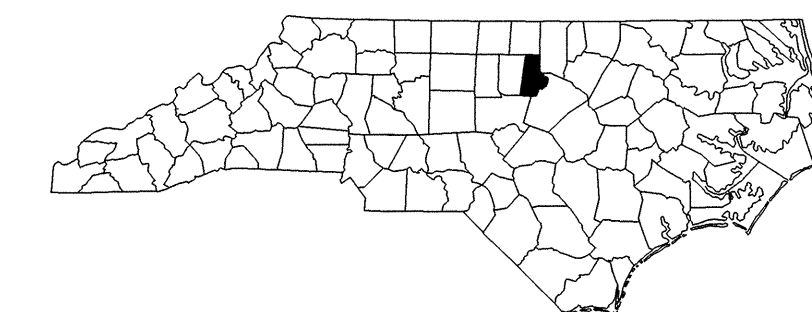
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| T.I.P. NO. | SHEET NO. |
| U-3804 | UO-1 |

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS
DURHAM COUNTY**

**LOCATION: SR 1321 (HILLDALE ROAD) FROM I-85 TO
NORTH OF SR 1407 (CARVER STREET)**

TYPE OF WORK: UTILITIES

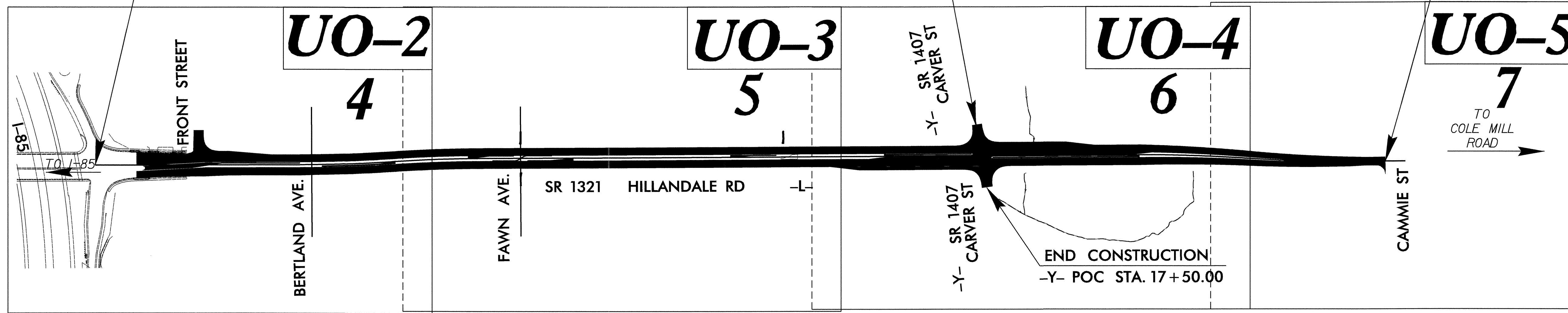


TIP U-3804

BEGIN TIP PROJECT U-3804
-L- POT STA. 10+00.00

BEGIN CONSTRUCTION
-Y- POC STA. 14+50.00

END TIP PROJECT U-3804
-L- POT STA. 54+15.50

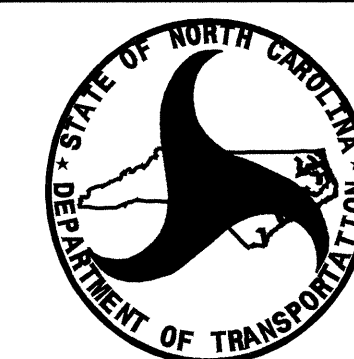


INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|----------------|-------------------------------|
| UO-1 | TITLE SHEET |
| UO-2 THRU UO-6 | UTILITY BY OTHERS PLAN SHEETS |

UTILITY OWNERS ON PROJECT

- (1) DUKE ENERGY (DISTRIBUTION)
- (2) PSNC ENERGY
- (3) AT&T
- (4) TIME WARNER
- (5) VERIZON



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

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

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Steve McKee, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Alonza Yancey UTILITIES PROJECT DESIGNER

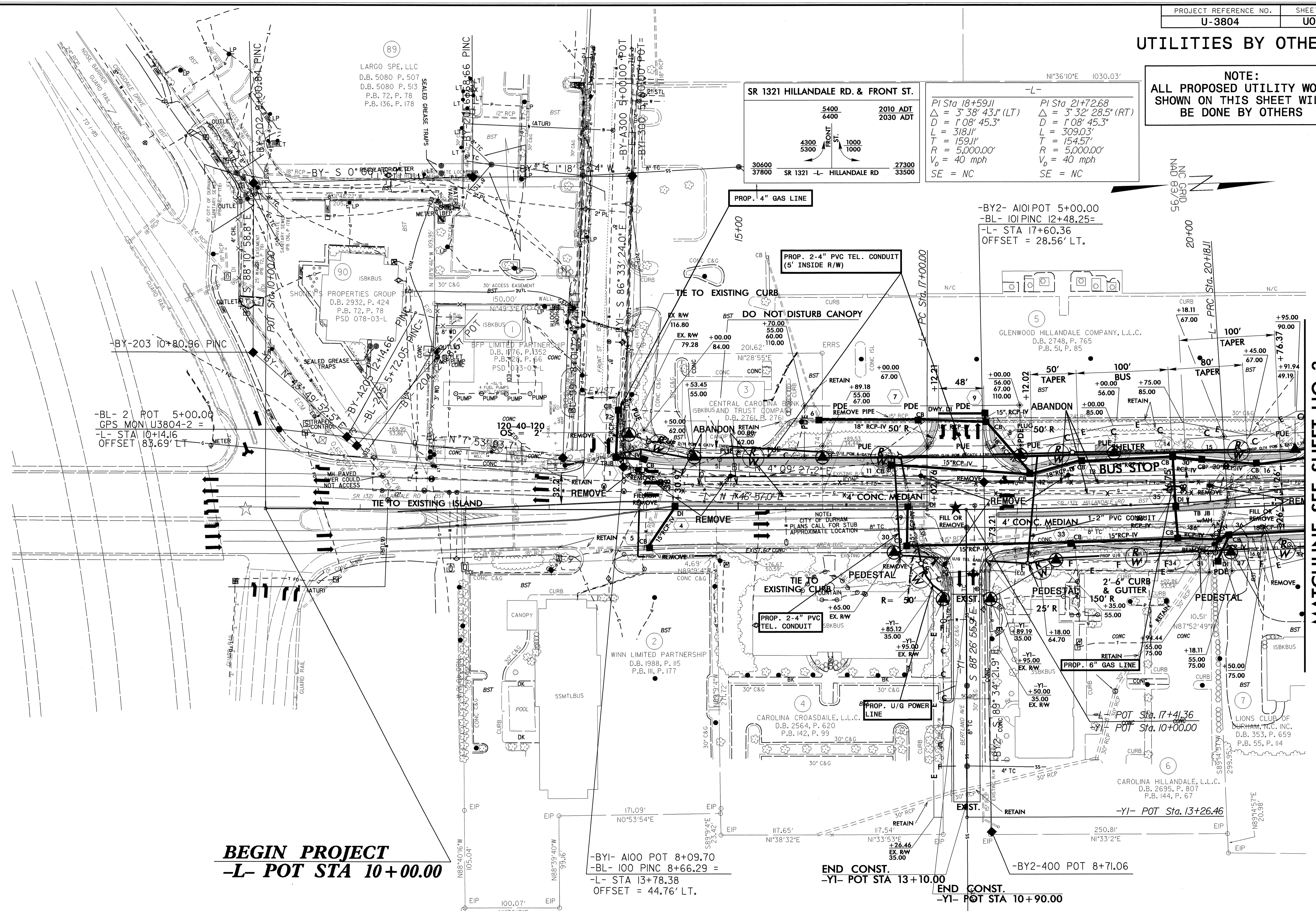
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\$\$\$\$\$USERNAME\$\$\$\$\$

UTILITIES BY OTHERS

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

| SR 1321 HILLANDALE RD. & FRONT ST. | |
|------------------------------------|---------------------------|
| 5400 6400 | 2010 ADT 2030 ADT |
| 4300 5300 | FRONT ST. |
| 30600 37800 | SR 1321 -L- HILLANDALE RD |
| 27300 33500 | |

| -L- | |
|--------------------------------------|--------------------------------------|
| PI Sta 18+59.11 | PI Sta 21+72.68 |
| $\Delta = 3^{\circ} 38' 43.1''$ (LT) | $\Delta = 3^{\circ} 32' 28.5''$ (RT) |
| $D = 1^{\circ} 08' 45.3''$ | $D = 1^{\circ} 08' 45.3''$ |
| $L = 318.11'$ | $L = 309.03'$ |
| $T = 159.11'$ | $T = 154.57'$ |
| $R = 5,000.00'$ | $R = 5,000.00'$ |
| $V_b = 40$ mph | $V_b = 40$ mph |
| SE = NC | SE = NC |



BEGIN PROJECT
-L- POT STA 10+00.00

-BY1- A100 POT 8+09.70
-BL- 100 PINC 8+66.29 =
-L- STA 13+78.38
OFFSET = 44.76' LT.

END CONST.
-Y1- POT STA 13+10.00

END CONST.
-Y1- POT STA 10+90.00

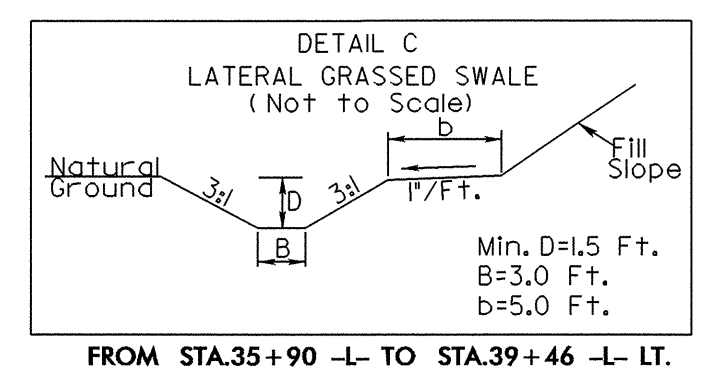
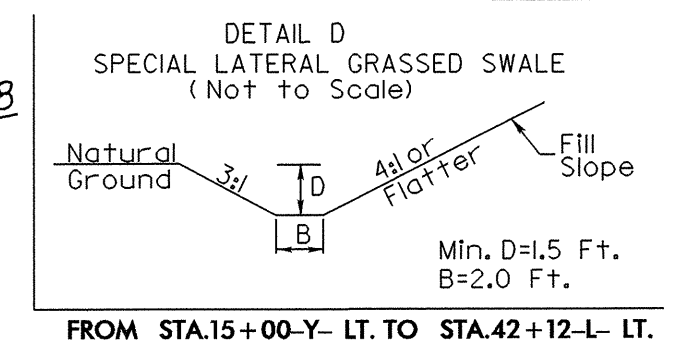
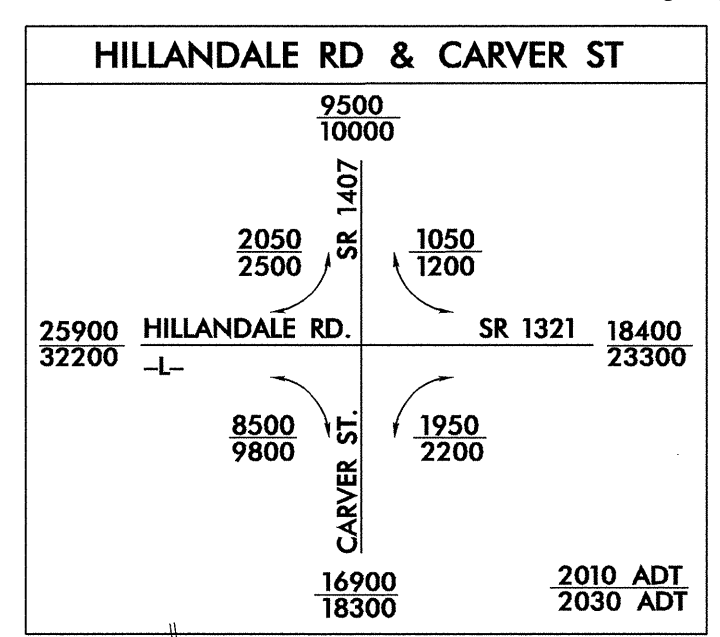
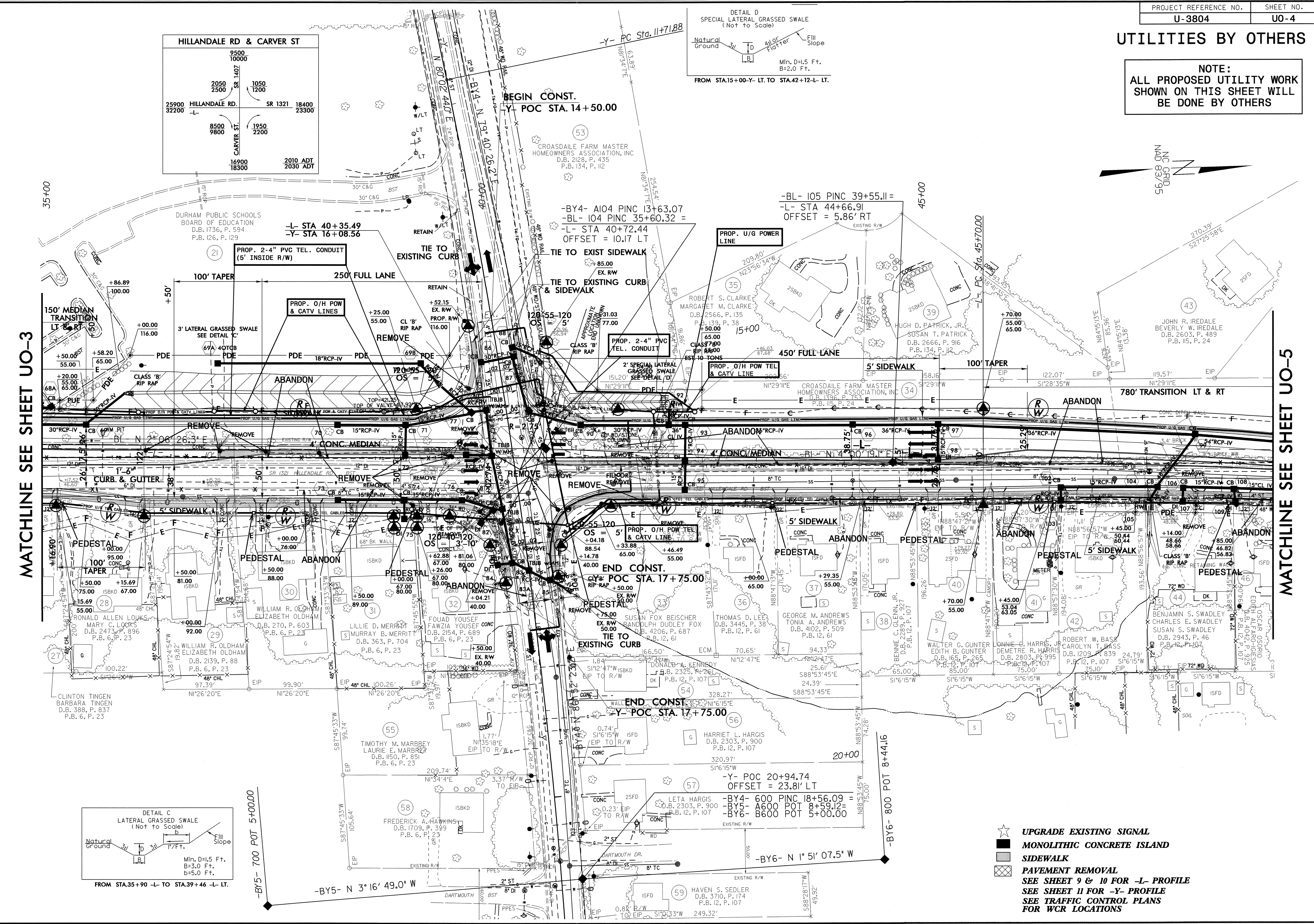
- MONOLITHIC ISLAND
- ▨ SIDEWALK
- ▨ BUS STOP SHELTER

- ★ EXISTING SIGNAL
- ★ NEW SIGNAL
- SEE SHEET 9 FOR -L- PROFILE
- SEE TRAFFIC CONTROL PLANS FOR WCR LOCATIONS

MATCHLINE SEE SHEET UO-3

UTILITIES BY OTHERS

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



- ★ UPGRADE EXISTING SIGNAL
- MONOLITHIC CONCRETE ISLAND
- ▨ SIDEWALK
- ▧ PAVEMENT REMOVAL
- SEE SHEET 9 & 10 FOR -L- PROFILE
- SEE SHEET 11 FOR -Y- PROFILE
- SEE TRAFFIC CONTROL PLANS FOR WCR LOCATIONS

MATCHLINE SEE SHEET UO-3

MATCHLINE SEE SHEET UO-5

5/14/09

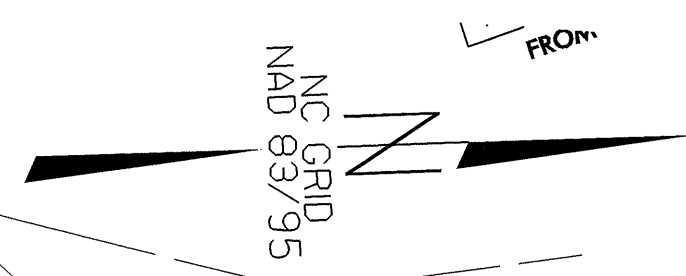
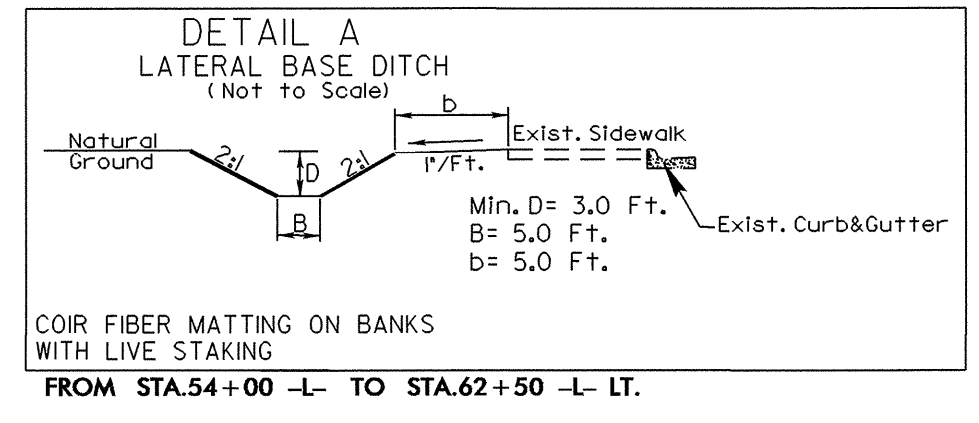
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UTILITIES BY OTHERS

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

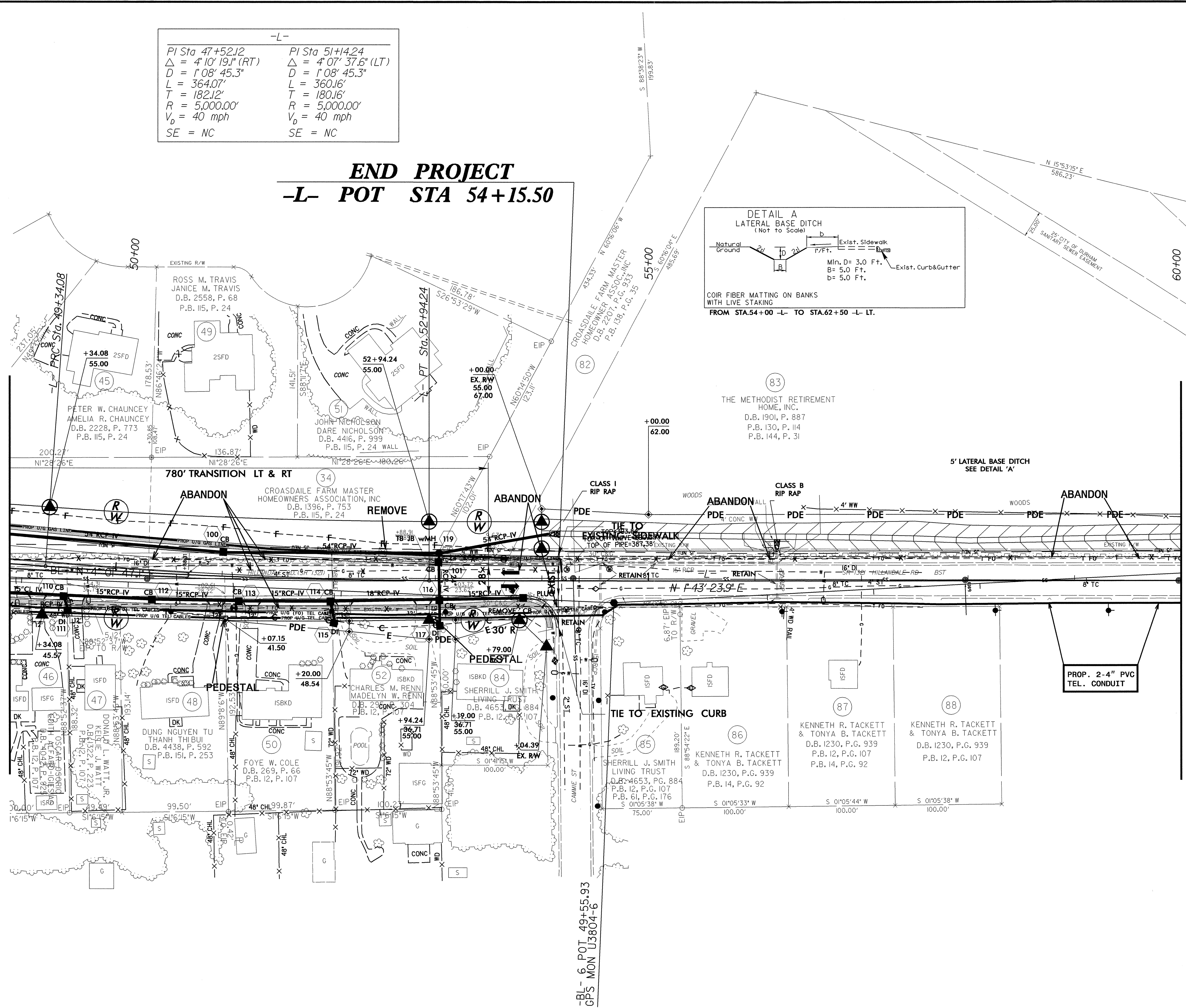
| | |
|------------------------------|------------------------------|
| -L- | |
| PI Sta 47+52.12 | PI Sta 51+4.24 |
| $\Delta = 4' 10' 19.1" (RT)$ | $\Delta = 4' 07' 37.6" (LT)$ |
| $D = 1' 08' 45.3"$ | $D = 1' 08' 45.3"$ |
| $L = 364.07'$ | $L = 360.16'$ |
| $T = 182.12'$ | $T = 180.16'$ |
| $R = 5,000.00'$ | $R = 5,000.00'$ |
| $V_d = 40 \text{ mph}$ | $V_d = 40 \text{ mph}$ |
| SE = NC | SE = NC |

END PROJECT -L- POT STA 54+15.50



MATCHLINE SEE SHEET UO-4

MATCHLINE SEE SHEET UO-6



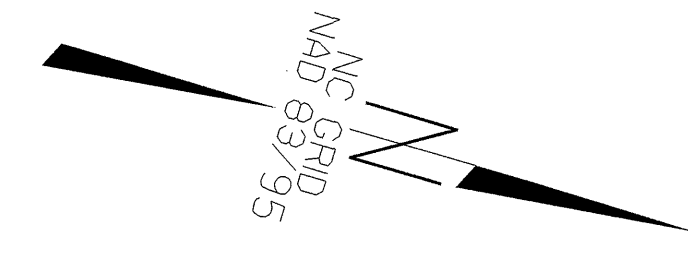
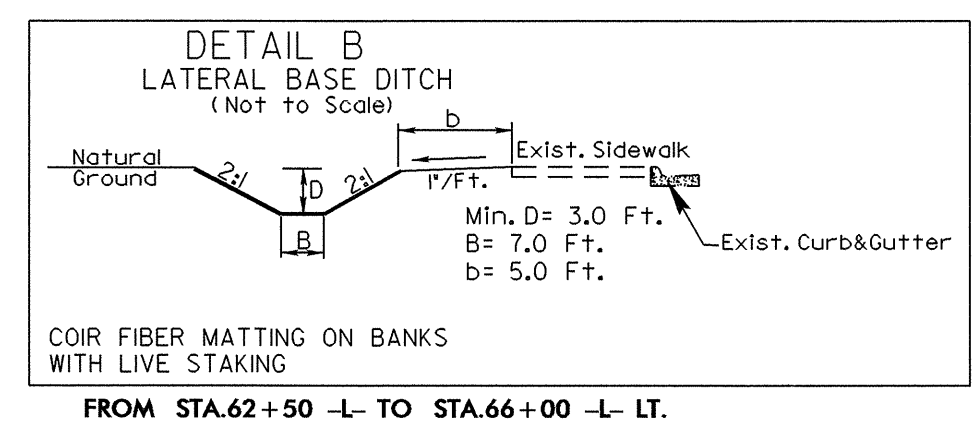
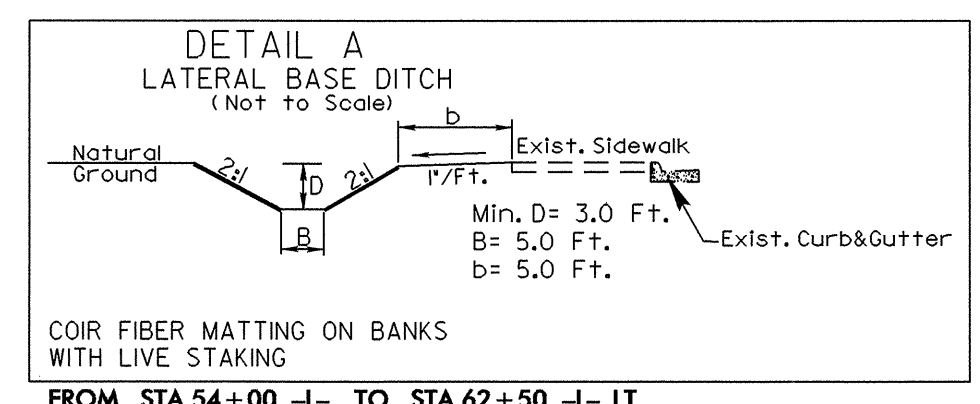
-BL- 6 POT 49+55.93
GPS MON U3804-6

- SIDEWALK
 - PAVEMENT REMOVAL
- SEE SHEET 10 FOR -L- PROFILE
SEE TRAFFIC CONTROL PLANS FOR WCR LOCATIONS

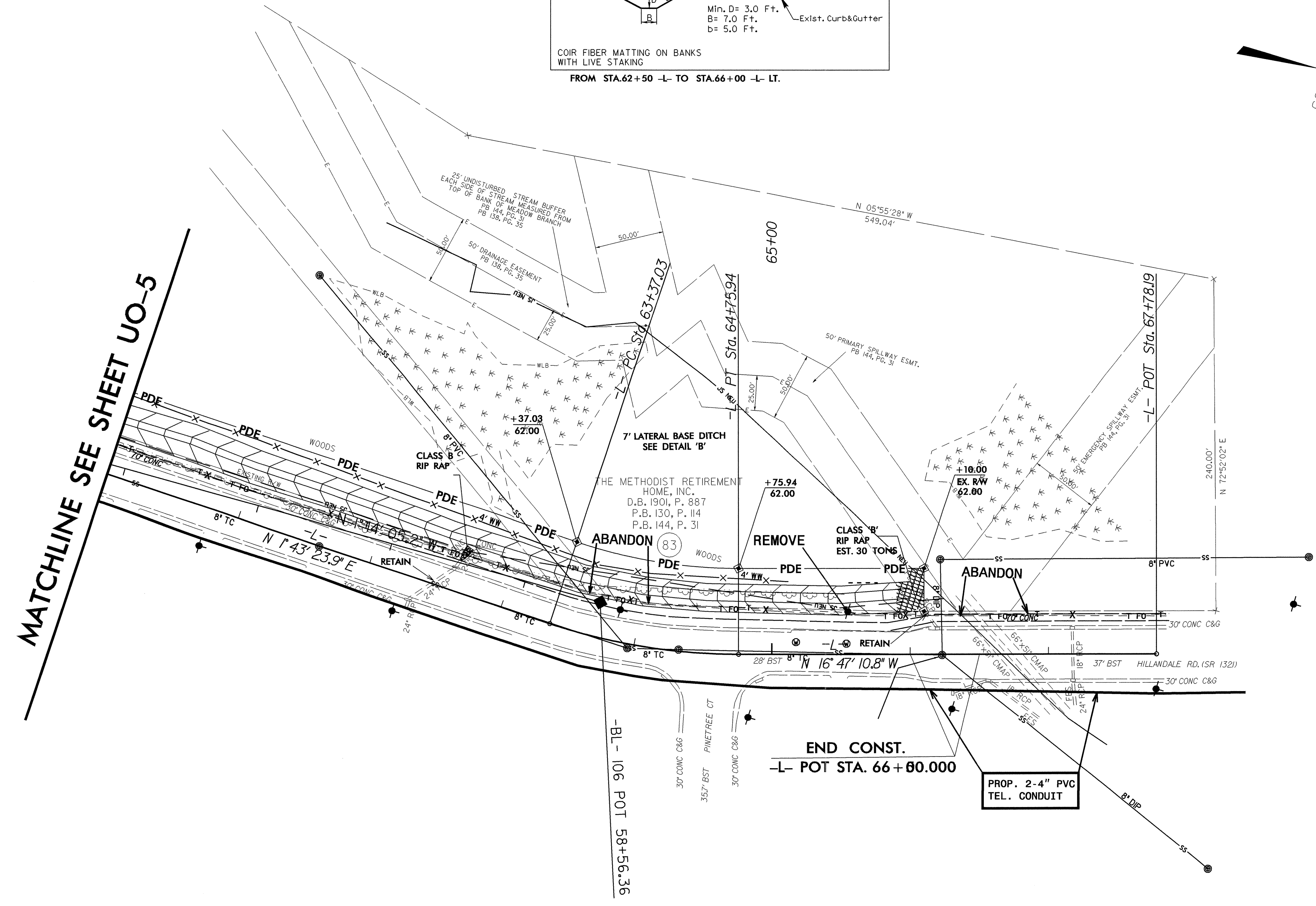
UTILITIES BY OTHERS

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

-L-
 PI Sta 64+07.09
 $\Delta = 18^{\circ} 30' 34.8''$ (LT)
 $D = 13^{\circ} 19' 28.6''$
 $L = 138.91'$
 $T = 70.07'$
 $R = 430.00'$
 $V_0 = N/A$
 $SE = EXIST.$



MATCHLINE SEE SHEET U0-5



END CONST.
 -L- POT STA. 66+80.000

PROP. 2.4" PVC TEL. CONDUIT

5/14/99
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