

09/08/08 09

See Sheet 1-A For Index of Sheets

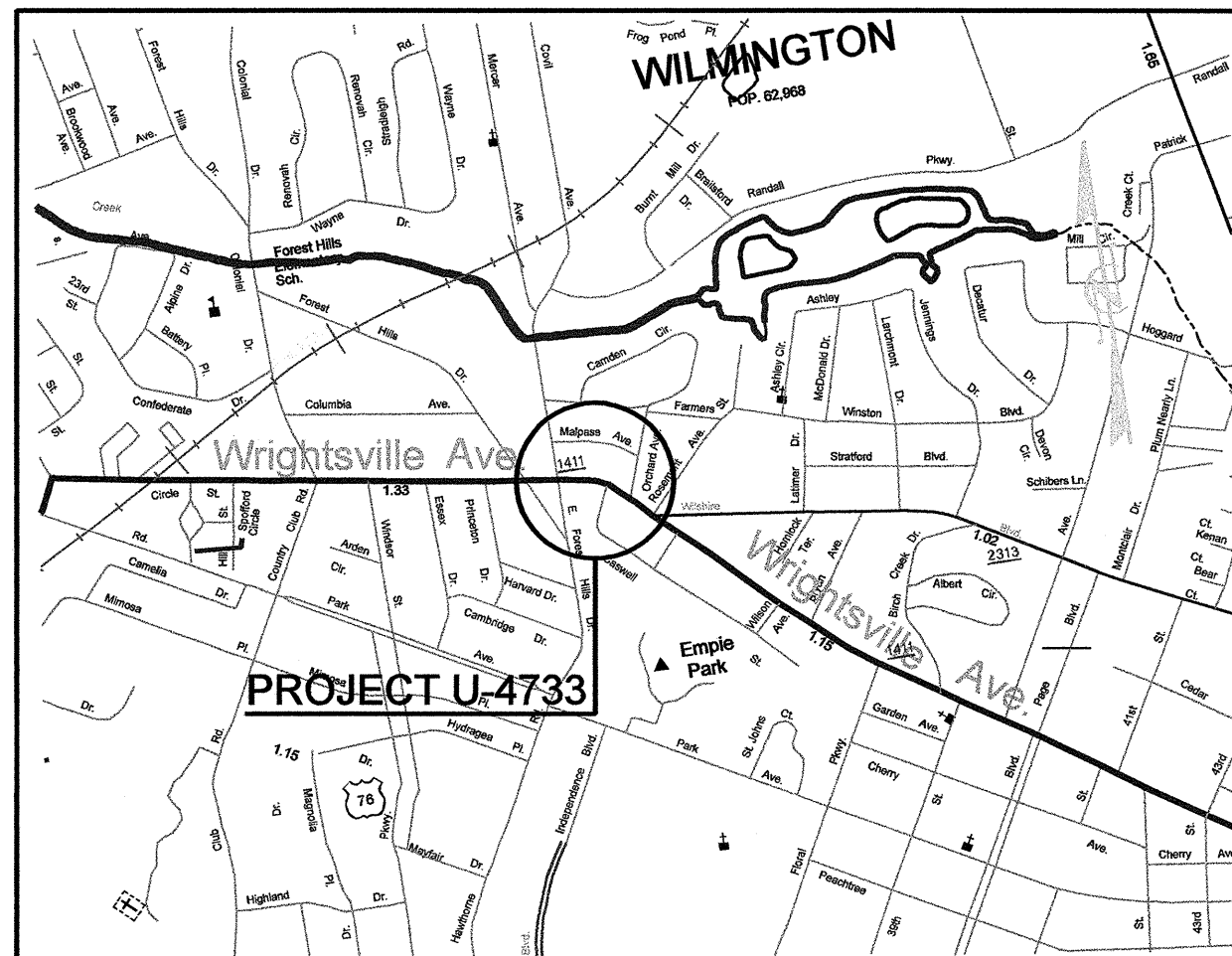
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	U-4733	UC-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

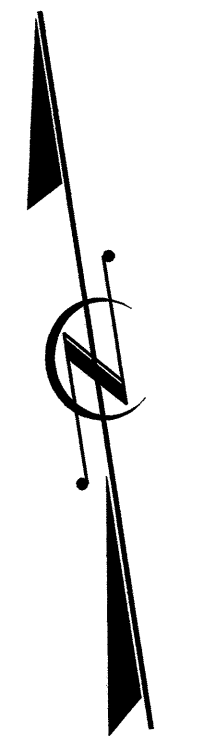
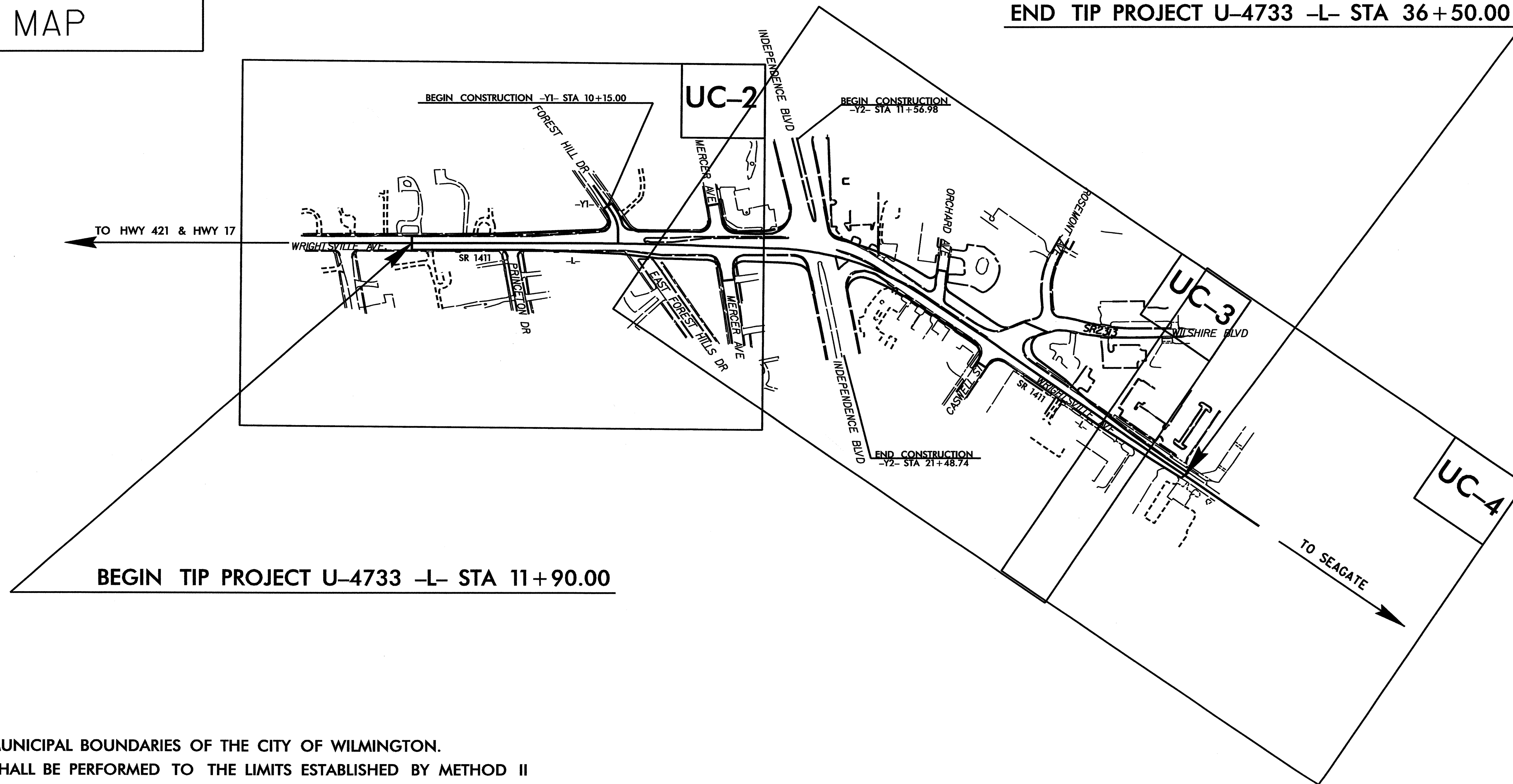
# UTILITY CONSTRUCTION PLANS NEW HANOVER COUNTY

LOCATION: WILMINGTON - SR 141 (WRIGHTSVILLE AVE.) FROM  
SR 2313 (WILSHIRE BLVD.) TO FOREST HILLS DR.

TYPE OF WORK: UTILITIES RELOCATION



VICINITY MAP

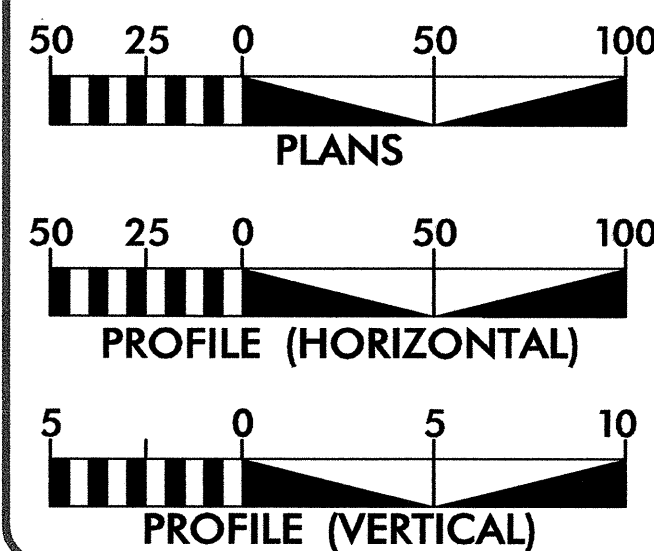


TIP PROJECT: U-4733

CONTRACT: C201847

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF WILMINGTON.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

### GRAPHIC SCALES

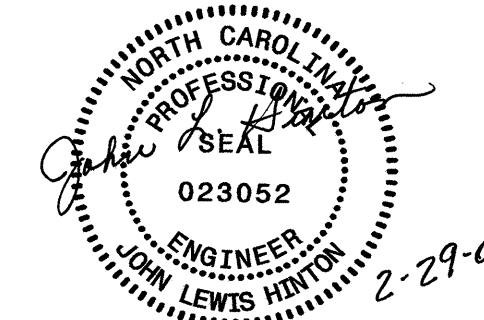


### INDEX OF SHEETS

SHEET No.	DESCRIPTION
UC-1	TITLE SHEET
UC-2 TO UC-4	UTILITY CONSTRUCTION PLAN SHEETS
UC-5 TO UC-7	UTILITY CONSTRUCTION PROFILE SHEETS
UC-8 TO UC-9	UTILITY CONSTRUCTION DETAIL SHEETS

### UTILITY OWNERS ON PROJECT

(1.) CITY OF WILMINGTON (WATER AND SEWER).



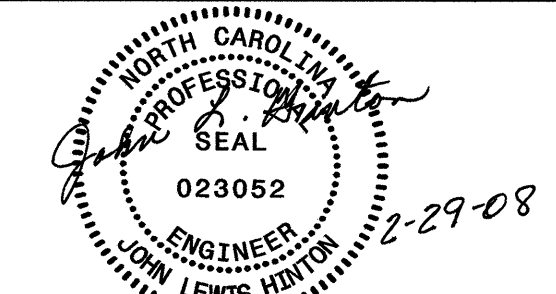
PREPARED BY

**Municipal Services Engineering Company, P.A.**

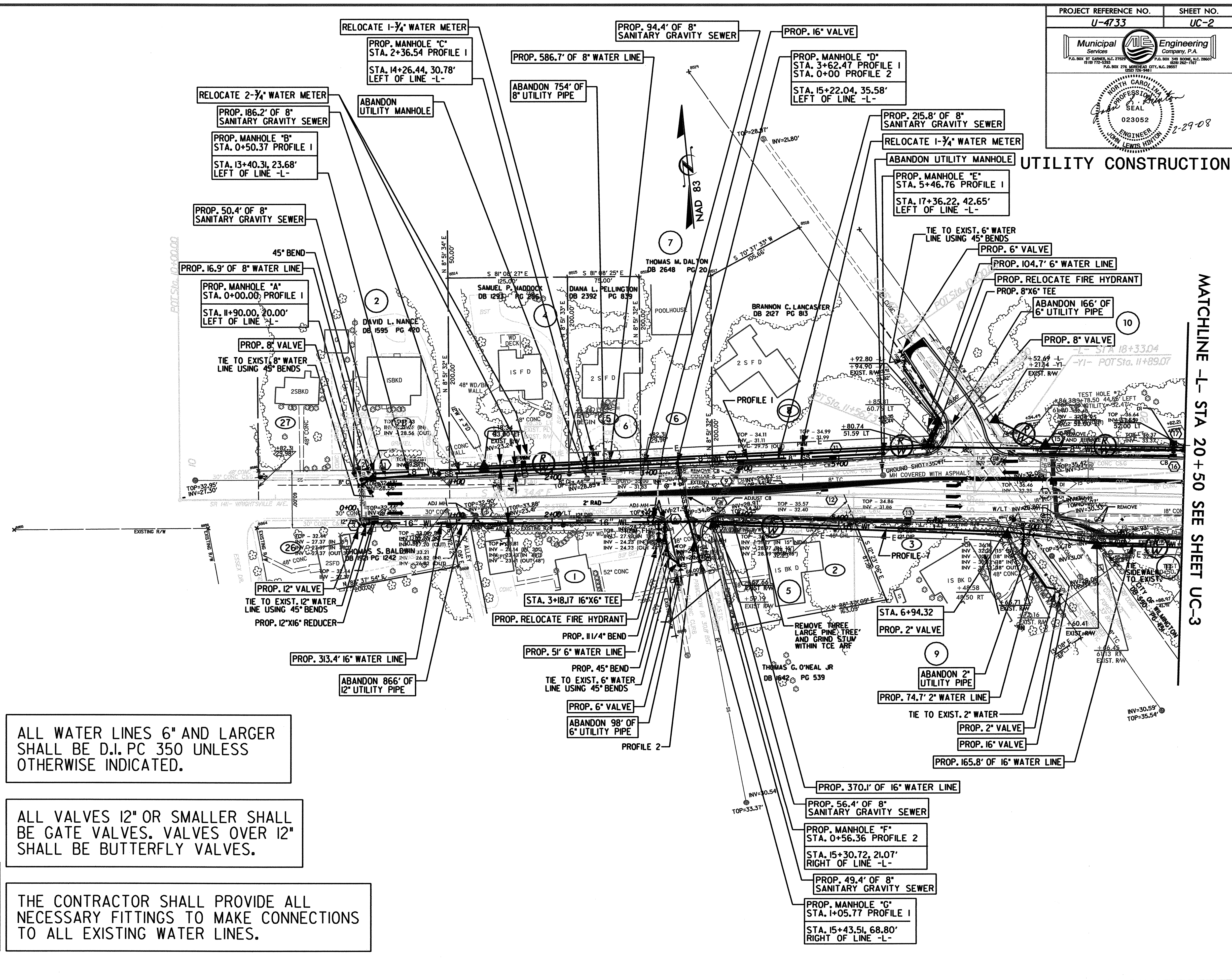
P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393  
P.O. BOX 349 BOONE, N.C. 28607 (828) 262-1767  
P.O. BOX 276 MOREHEAD CITY, N.C. 28557 (252) 726-9481

UTILITY DESIGN ENGINEER JOHN L. HINTON P.E.

SYSTEMS TIME DGN USE RENAME



UTILITY CONSTRUCTION



ALL SEWER LINES ON THIS PROJECT ARE OWNED BY THE CITY OF WILMINGTON  
 ALL WATER LINES ON THIS PROJECT ARE OWNED BY THE CITY OF WILMINGTON.

ALL WATER LINES 6" AND LARGER SHALL BE D.I. PC 350 UNLESS OTHERWISE INDICATED.

ALL VALVES 12" OR SMALLER SHALL BE GATE VALVES. VALVES OVER 12" SHALL BE BUTTERFLY VALVES.

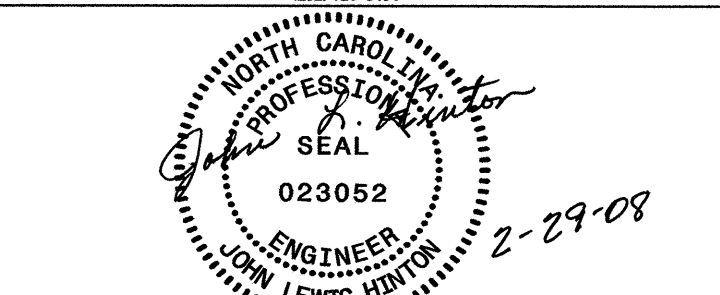
THE CONTRACTOR SHALL USE D.I. IN AREAS AS DESIGNATED ON THE PLANS FOR THE 8" SEWER LINES. ALL OTHER AREAS SHALL BE PVC, C-900 DR-18.

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS TO MAKE CONNECTIONS TO ALL EXISTING WATER LINES.

MATCHLINE -L- STA 20+50 SEE SHEET UC-3

REVISIONS

PROJECT REFERENCE NO. U-4733 SHEET NO. UC-3



UTILITY CONSTRUCTION

PROP. 136.6' OF 8" SANITARY GRAVITY SEWER  
PROP. 117.6' OF 18" ENCASEMENT  
58.8' TRENCHLESS INSTALLATION OF 18" IN SOIL  
58.8' TRENCHLESS INSTALLATION OF 18" NOT IN SOIL

PROP. MANHOLE "I"  
STA. 0+36.34 PROFILE 3  
STA. 21+33.50, 72.92'  
LEFT OF LINE -L-

PROP. 36.3' OF 8" SANITARY GRAVITY SEWER

PROP. 6" VALVE

TIE TO EXIST. 12" WATER LINE USING 45° BENDS

PROP. 35.1' OF 12" WATER LINE

PROP. MANHOLE "H"  
STA. 0+00.00 PROFILE 3  
STA. 21+15.72, 104.61'  
LEFT OF LINE -L-

PROP. 8" X 6" REDUCER

PROP. 12" X 8" CROSS

PROP. 12" VALVE

TIE TO EXIST. 12" WATER LINE USING 45° BENDS

PROP. RELOCATE FIRE HYDRANT

PROP. 40.5' OF 8" WATER LINE

MATCHLINE -L- STA UC-20 + 50  
SEE SHEET UC-4

PROP. 99.4' OF 12" WATER LINE  
PROP. 91.2' OF 24" ENCASEMENT  
45.6' TRENCHLESS INSTALLATION OF 24" IN SOIL  
45.6' TRENCHLESS INSTALLATION OF 24" NOT IN SOIL

PROP. 44.1' OF 16" WATER LINE

STA. 9+04.35 16"x12" CROSS

PROP. 2-16" VALVE

ABANDON 186' OF 12" UTILITY PIPE

PROP. 44.0' OF 12" WATER LINE

TIE TO EXIST. 12" WATER LINE USING 45° BENDS

PROP. 12" VALVE

PROP. MANHOLE "K"  
STA. 2+25.59 PROFILE 3  
STA. 21+41.04, 87.74'  
RIGHT OF LINE -L-

PROP. MANHOLE "J"  
STA. 1+72.95 PROFILE 3  
STA. 21+82.07, 54.76'  
RIGHT OF LINE -L-

PROP. 136.6' OF 8" SANITARY GRAVITY SEWER  
PROP. 52.6' OF 8" SANITARY GRAVITY SEWER

PROP. 110.2' OF 8" SANITARY GRAVITY SEWER  
PROP. 102.4' OF 18" ENCASEMENT  
51.2' TRENCHLESS INSTALLATION OF 18" IN SOIL  
51.2' TRENCHLESS INSTALLATION OF 18" NOT IN SOIL

PROP. MANHOLE "R"  
STA. 6+96.14 PROFILE 4  
STA. 26+15.32, 61.72'  
LEFT OF LINE -L-

PROP. 56.77' OF 8" SANITARY GRAVITY SEWER

PROP. MANHOLE "S"  
STA. 7+52.91 PROFILE 4  
STA. 25+36.89, 61.97'  
LEFT OF LINE -L-

RELOCATE 1-3/4" WATER METER

PROP. RELOCATE FIRE HYDRANT

PROP. 16" VALVE

PROP. 45° BEND

PROFILE 3  
ABANDON 2-UTILITY MANHOLES

ABANDON 952' OF 16" UTILITY PIPE

PROP. 50' OF 2" WATER LINE

PROP. 2" VALVE

TIE TO EXIST. 2" WATER LINE USING 22 1/2° BEND

PROP. RELOCATE FIRE HYDRANT

PROP. 16" VALVE

PROP. 277.9' OF 16" WATER LINE

PROP. MANHOLE "R"  
STA. 6+96.14 PROFILE 4  
STA. 26+15.32, 61.72'  
LEFT OF LINE -L-

PROP. 56.77' OF 8" SANITARY GRAVITY SEWER

PROP. MANHOLE "S"  
STA. 7+52.91 PROFILE 4  
STA. 25+36.89, 61.97'  
LEFT OF LINE -L-

RELOCATE 1-3/4" WATER METER

PROP. RELOCATE FIRE HYDRANT

PROP. 16" VALVE

PROP. 45° BEND

PROFILE 3  
ABANDON 2-UTILITY MANHOLES

ABANDON 952' OF 16" UTILITY PIPE

PROP. 50' OF 2" WATER LINE

PROP. 2" VALVE

TIE TO EXIST. 2" WATER LINE USING 22 1/2° BEND

PROP. RELOCATE FIRE HYDRANT

PROP. 16" VALVE

PROP. 277.9' OF 16" WATER LINE

PROP. MANHOLE "R"  
STA. 6+96.14 PROFILE 4  
STA. 26+15.32, 61.72'  
LEFT OF LINE -L-

PROP. 56.77' OF 8" SANITARY GRAVITY SEWER

PROP. MANHOLE "S"  
STA. 7+52.91 PROFILE 4  
STA. 25+36.89, 61.97'  
LEFT OF LINE -L-

RELOCATE 1-3/4" WATER METER

PROP. RELOCATE FIRE HYDRANT

PROP. 16" VALVE

PROP. 45° BEND

PROFILE 3  
ABANDON 2-UTILITY MANHOLES

PROP. RELOCATE FIRE HYDRANT

PROP. 196.3' OF 16" WATER LINE

PROP. 16" VALVE

STA. 18+56.73 16"x16" TEE

PROP. 1-16" VALVE

TIE TO EXIST. 16" WATER LINE USING 22 1/2° BEND

PROP. 150.8' OF 16" WATER LINE

PROP. 117.6' OF 30" ENCASEMENT  
58.8' TRENCHLESS INSTALLATION OF 30" IN SOIL  
58.8' TRENCHLESS INSTALLATION OF 30" NOT IN SOIL

PROP. MANHOLE "M"  
STA. 0+68.31 PROFILE 4  
STA. 0+00.00 PROFILE 5  
STA. 30+96.39, 41.04'  
LEFT OF LINE -L-

ABANDON 3 UTILITY MANHOLES

PROP. 68.3' OF 8" SANITARY GRAVITY SEWER

PROP. MANHOLE "L"  
STA. 0+00.00 PROFILE 4  
STA. 31+05.79, 108.70'  
LEFT OF LINE -L-

RELOCATE 1-3/4" WATER METER

PROP. 16" VALVE

PROP. 131.5' OF 16" WATER LINE

PROP. 143.8' OF 8" SANITARY GRAVITY SEWER

PROFILE 5

MATCHLINE -L- STA 32 + 40  
SEE SHEET UC-4

RELOCATE 2-3/4" WATER METER

PROP. 153.1' OF 8" SANITARY GRAVITY SEWER

PROP. MANHOLE "N"  
STA. 1+37.45 PROFILE 4  
STA. 0+00.00 PROFILE 6  
STA. 30+86.87, 27.44'  
RIGHT OF LINE -L-

PROP. 69.1' OF 8" SANITARY GRAVITY SEWER

PROP. 64.6' OF 18" ENCASEMENT  
32.3' TRENCHLESS INSTALLATION OF 18" IN SOIL  
32.3' TRENCHLESS INSTALLATION OF 18" NOT IN SOIL

ABANDON 2" UTILITY PIPE

PROP. 145.4' OF 8" SANITARY GRAVITY SEWER

PROP. 163.1' OF 16" WATER LINE  
PROP. 138.6' OF 30" ENCASEMENT  
69.3' TRENCHLESS INSTALLATION OF 30" IN SOIL  
69.3' TRENCHLESS INSTALLATION OF 30" NOT IN SOIL

PROP. 45° BEND

PROP. 28.2' OF 16" WATER LINE

PROP. 16" VALVE

PROP. 22 1/2° BEND

PROP. 250.9' OF 16" WATER LINE

RELOCATE 1-3/4" WATER METER

PROP. MANHOLE "P"  
STA. 4+90.98 PROFILE 4  
STA. 27+31.54, 48.07'  
RIGHT OF LINE -L-

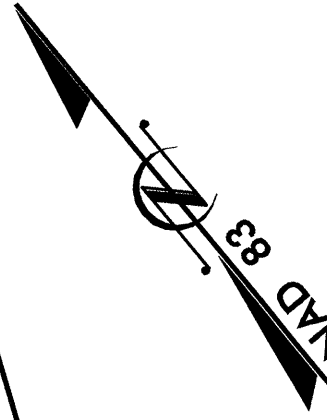
ABANDON 2-UTILITY MANHOLES  
ABANDON 582' OF 8" UTILITY PIPE

RELOCATE 3-3/4" WATER METER

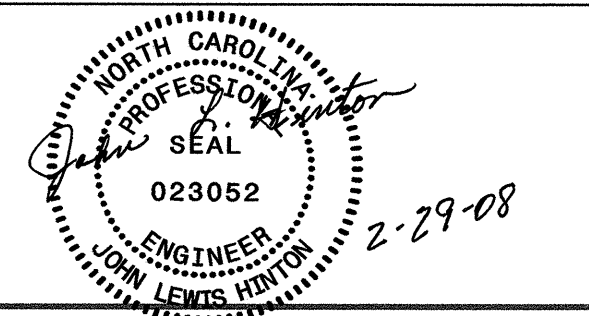
PROP. MANHOLE "O"  
STA. 2+82.81 PROFILE 4  
STA. 29+41.76, 39.71'  
RIGHT OF LINE -L-

PROP. 208.2' OF 8" SANITARY GRAVITY SEWER

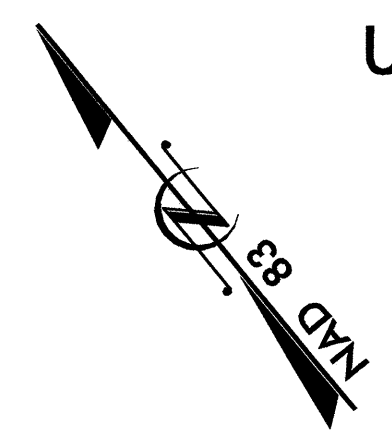
RELOCATE 1-3/4" WATER METER



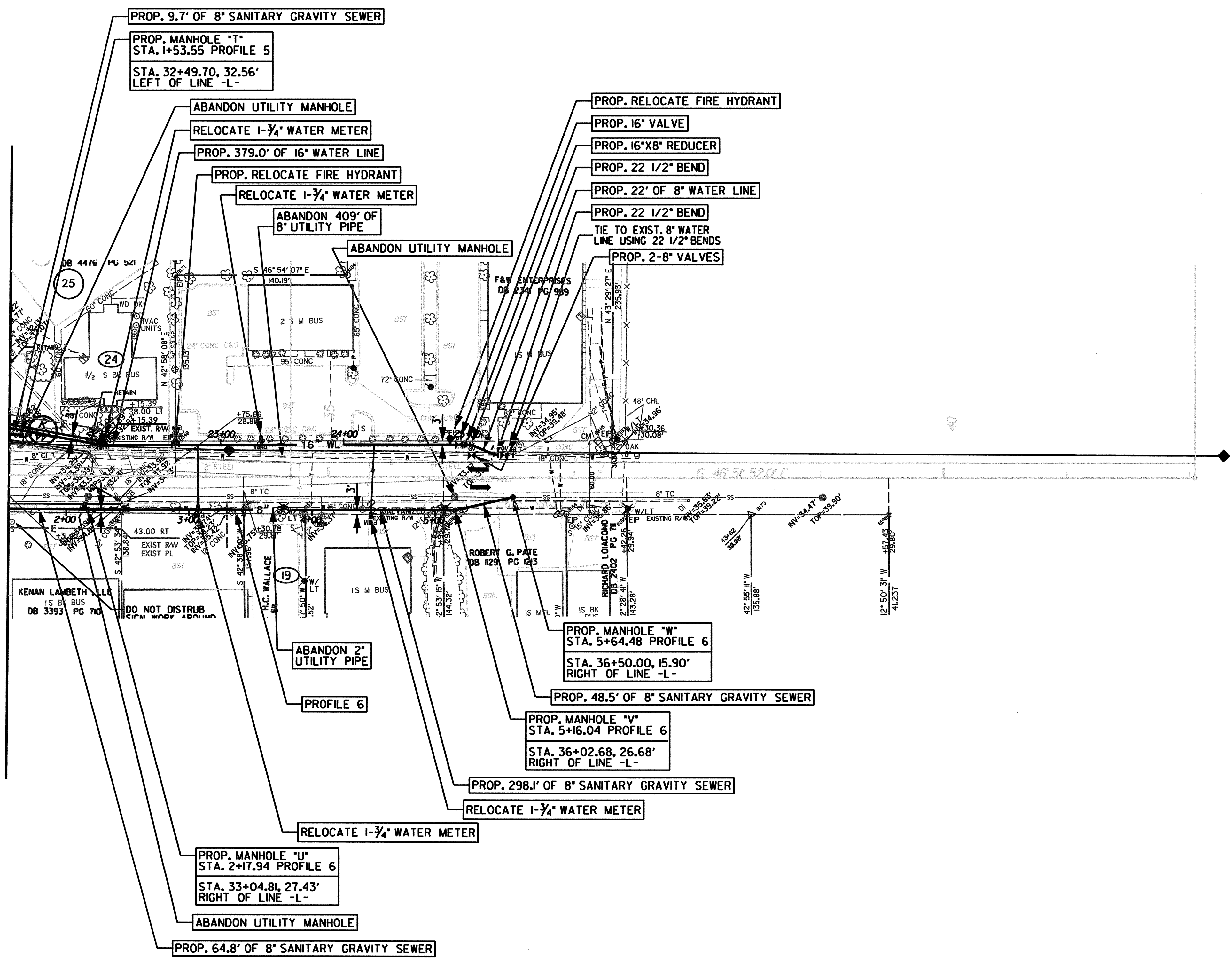
SEE SHEET 7 FOR PROFILE

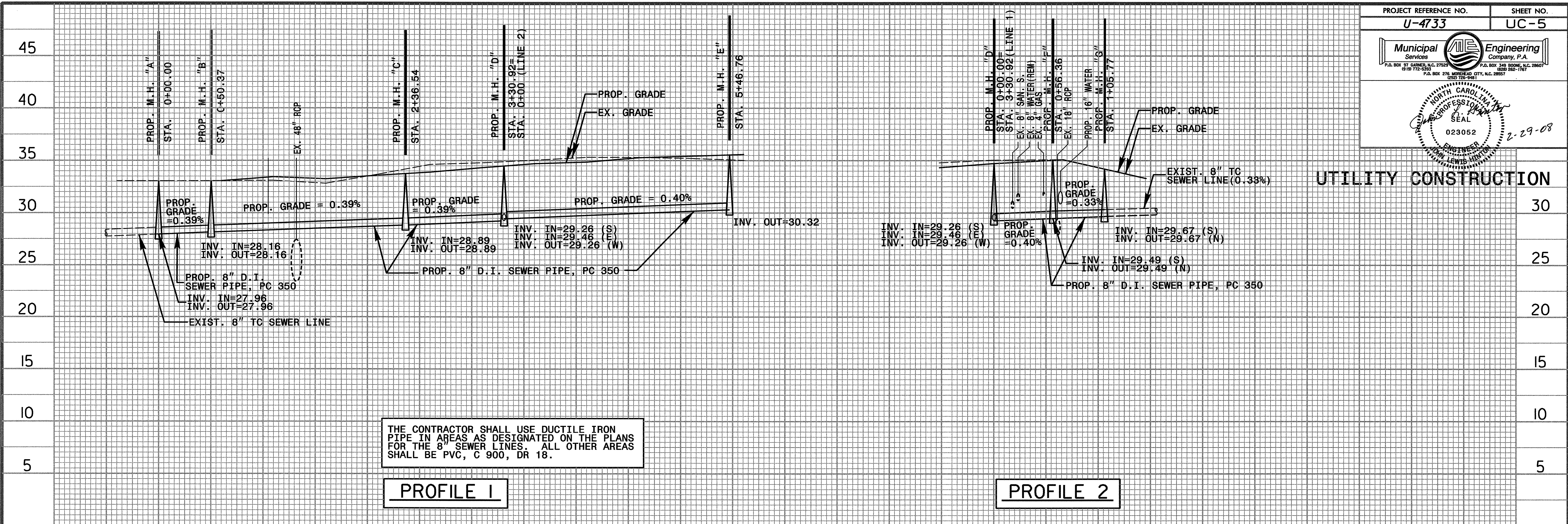


UTILITY CONSTRUCTION



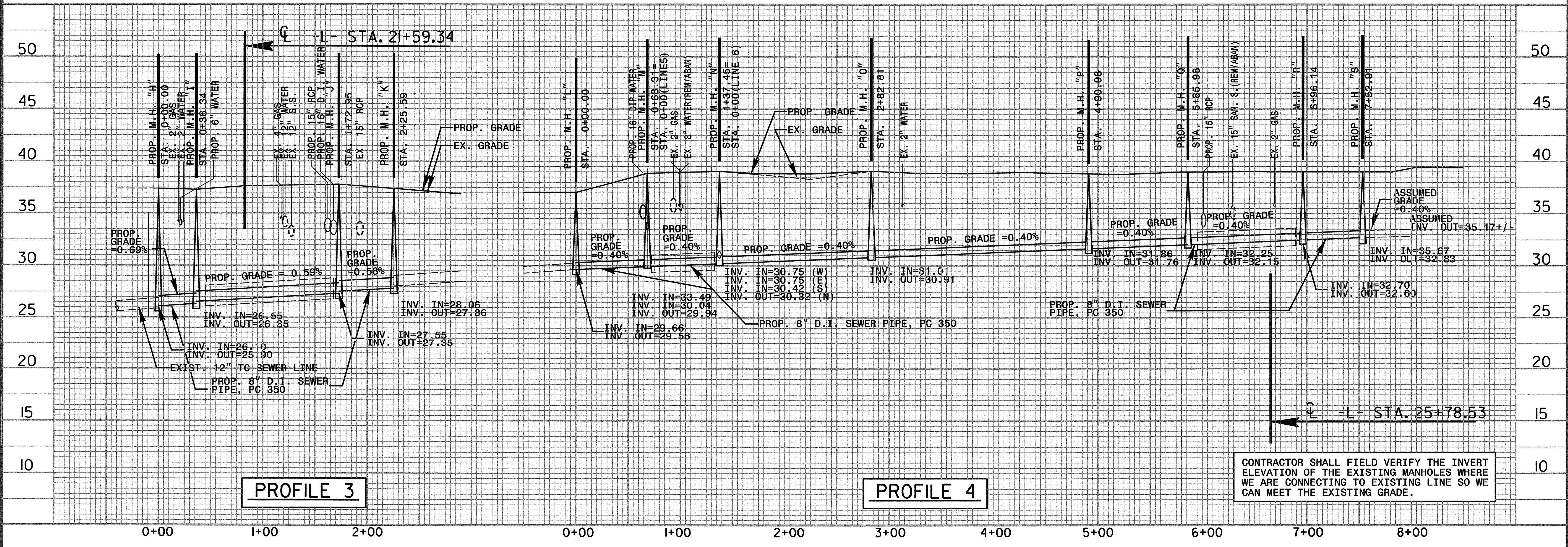
MATCHLINE -L- STA 32 + 40 SEE SHEET UC-3






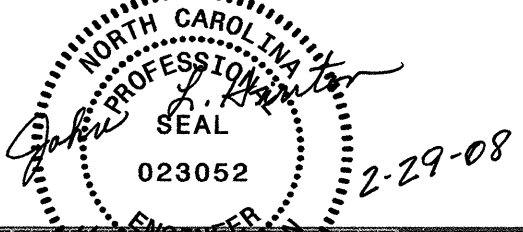
THE CONTRACTOR SHALL USE DUCTILE IRON PIPE IN AREAS AS DESIGNATED ON THE PLANS FOR THE 8" SEWER LINES. ALL OTHER AREAS SHALL BE PVC, C 900, DR 18.

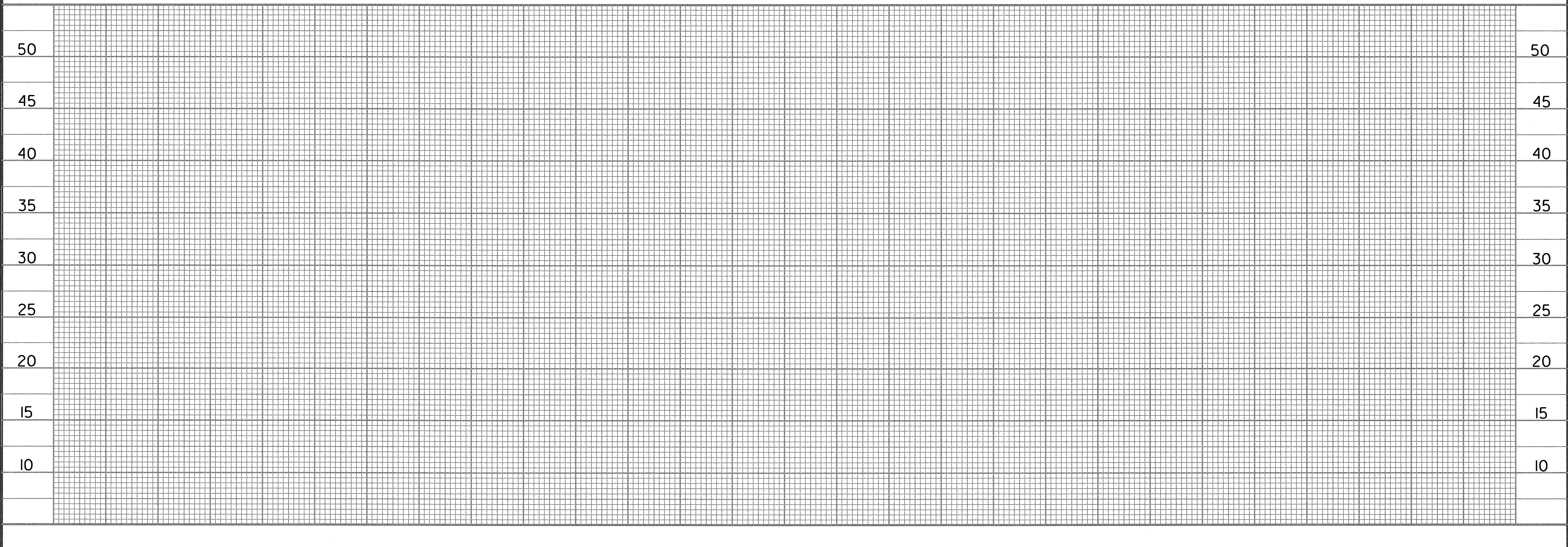
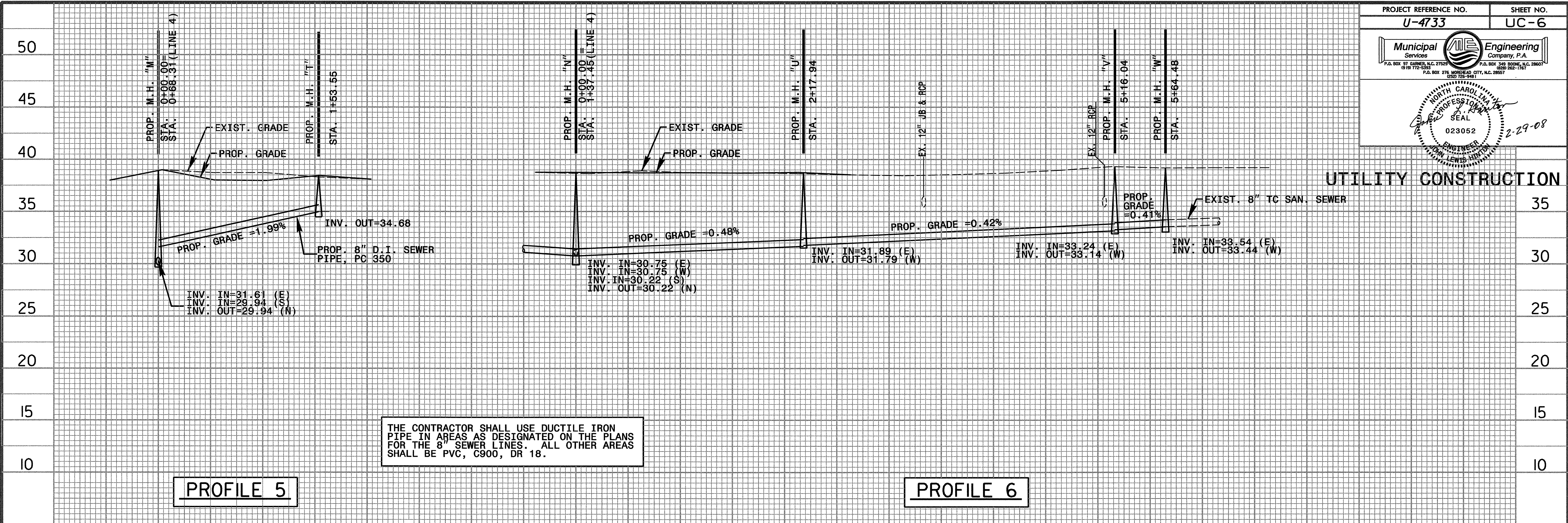
**UTILITY CONSTRUCTION**



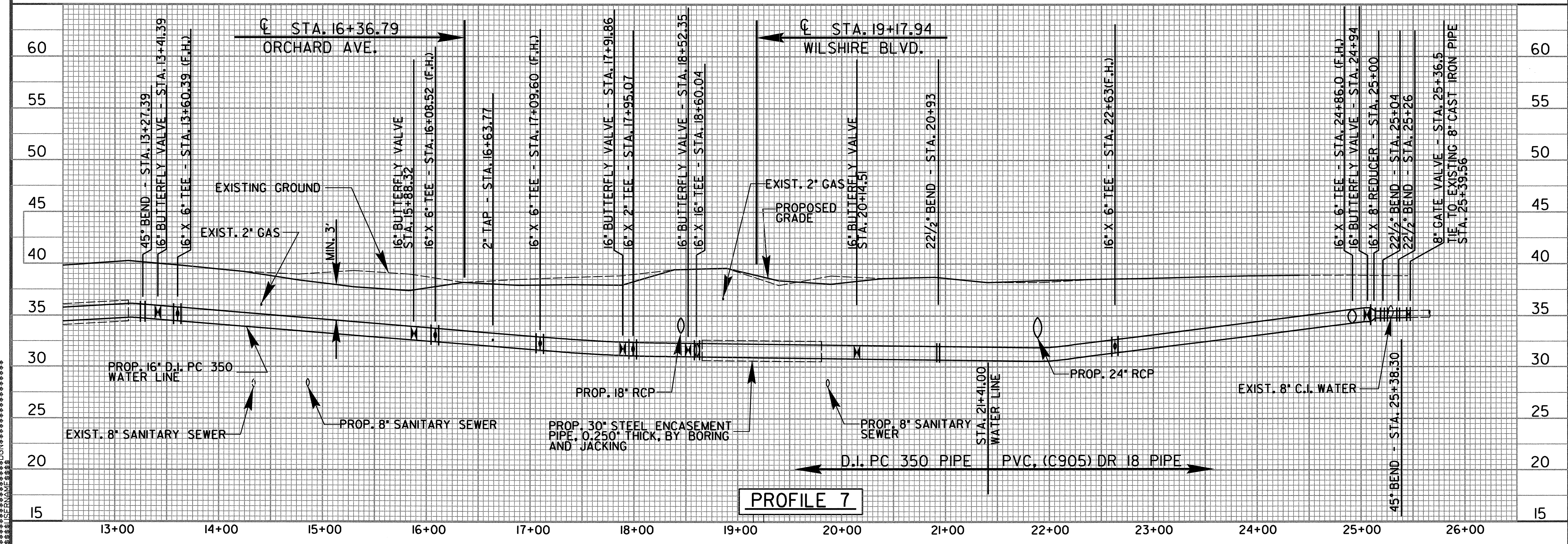
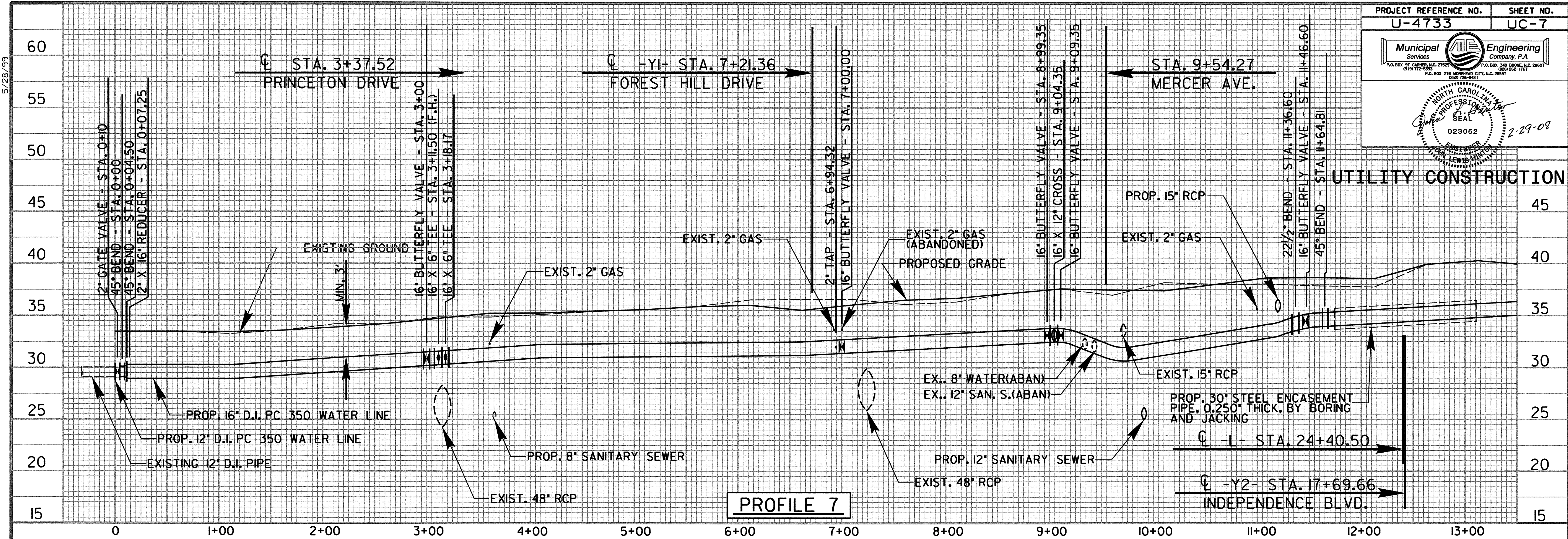
CONTRACTOR SHALL FIELD VERIFY THE INVERT ELEVATION OF THE EXISTING MANHOLES WHERE WE ARE CONNECTING TO EXISTING LINE SO WE CAN MEET THE EXISTING GRADE.

5/28/99

PROJECT REFERENCE NO. <b>U-4733</b>	SHEET NO. <b>UC-6</b>
	
	



**UTILITY CONSTRUCTION**



5/28/99

SYTIME/EDON  
/IL/ANAL/

### REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS

BASED ON TEST PRESSURE OF 200 P.S.I.

ALL AREAS GIVEN IN SQUARE FEET.

SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	MODERATELY DRY CLAY	SOFT CLAY	GRAVEL / COARSE SAND	DRY CLAY - ALWAYS DRY	SAND - COMPACT FIRM	SAND - CLEAN DRY	QUICKSAND	ROCK - POOR
6"									
11 1/4°	1,108	1	1	1	1	1	2	1	
22 1/2°	2,207	1	2	2	1	1	3	1	
45°	4,328	2	3	3	1	1	5	1	
90°	7,996	2	4	5	1	1	8	1	
PLUG	5,655	2	3	4	1	1	6	1	
8"									
11 1/4°	1,970	1	1	2	1	1	2	1	
22 1/2°	3,922	1	2	3	1	1	4	1	
45°	7,694	2	4	5	1	1	8	1	
90°	14,215	4	8	9	2	2	15	2	
PLUG	10,053	3	5	6	2	2	10	1	
12"									
11 1/4°	4,433	2	3	3	1	1	5	1	
22 1/2°	8,826	3	5	6	2	2	9	1	
45°	17,312	5	9	11	3	3	18	2	
90°	31,983	8	16	19	4	4	32	4	
PLUG	22,619	6	12	14	3	3	23	3	
16"									
11 1/4°	7,881	2	4	5	1	1	8	1	
22 1/2°	15,691	4	8	10	2	2	16	2	
45°	30,779	8	16	19	4	4	31	4	
90°	56,861	15	29	35	8	8	57	6	
PLUG	40,213	10	21	25	5	5	41	5	

REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.  
USE 6° - 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

### THRUST BLOCKING DESIGN QUANTITY TABLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
D.W.C.		5-23-99		

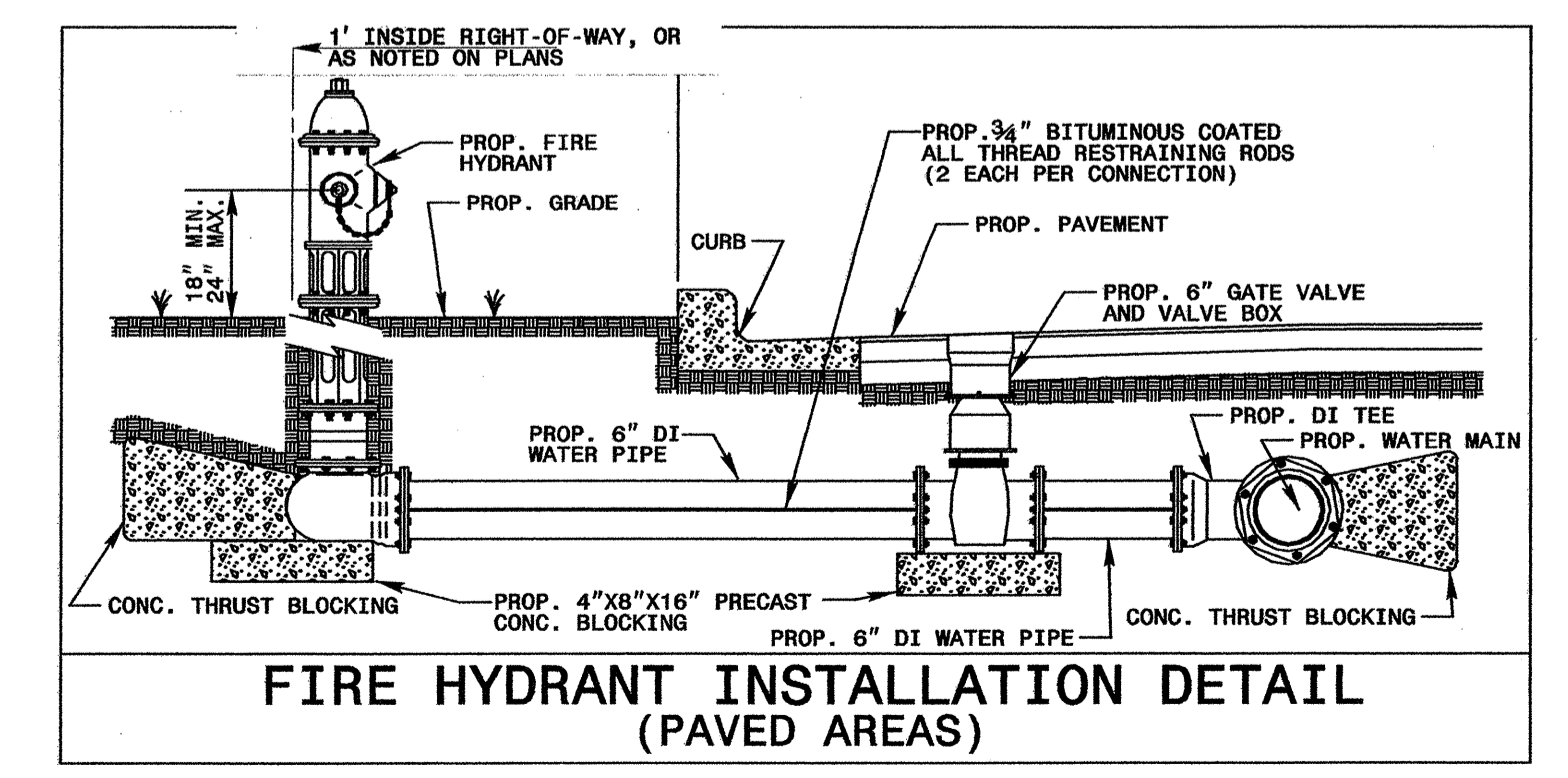
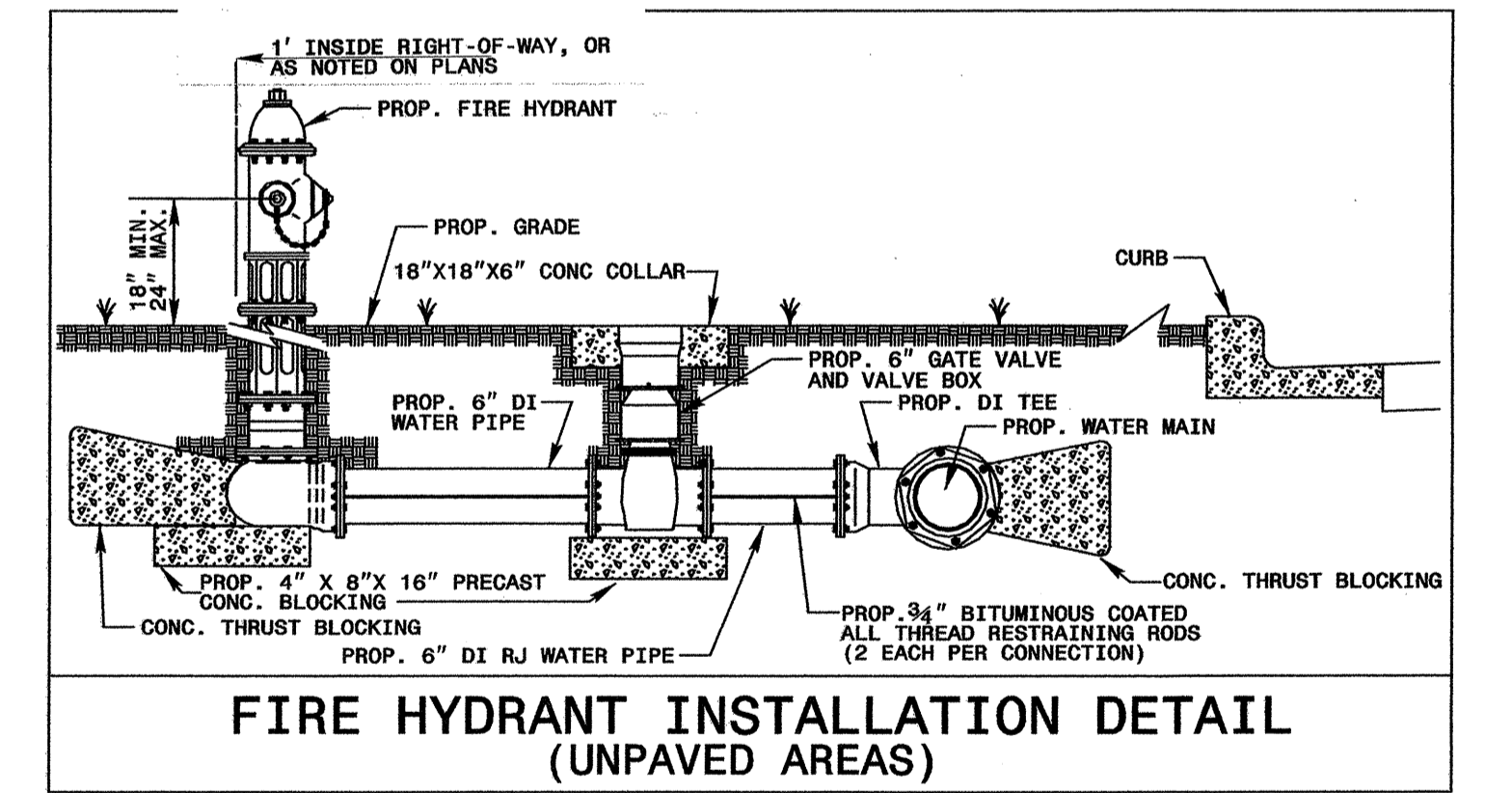
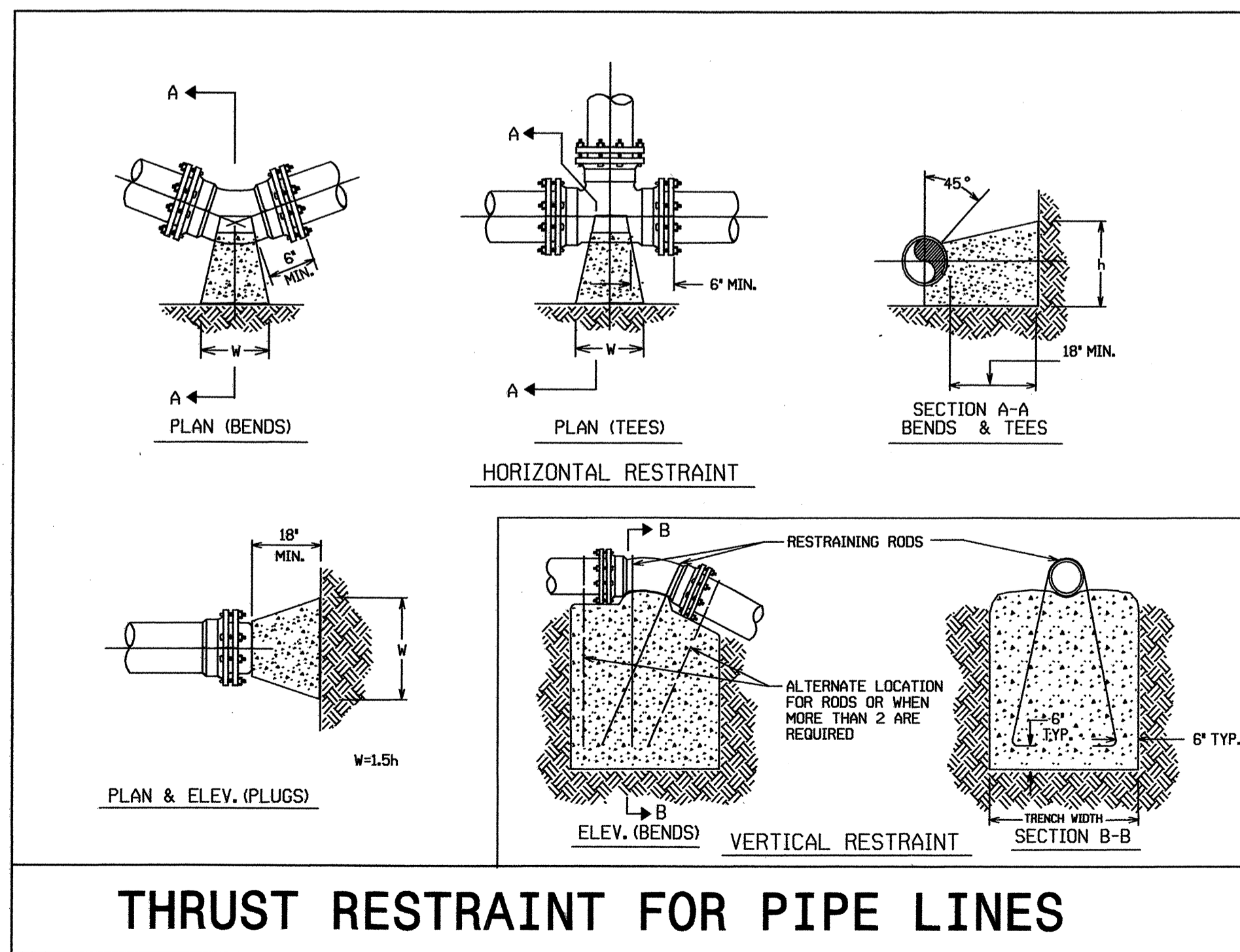
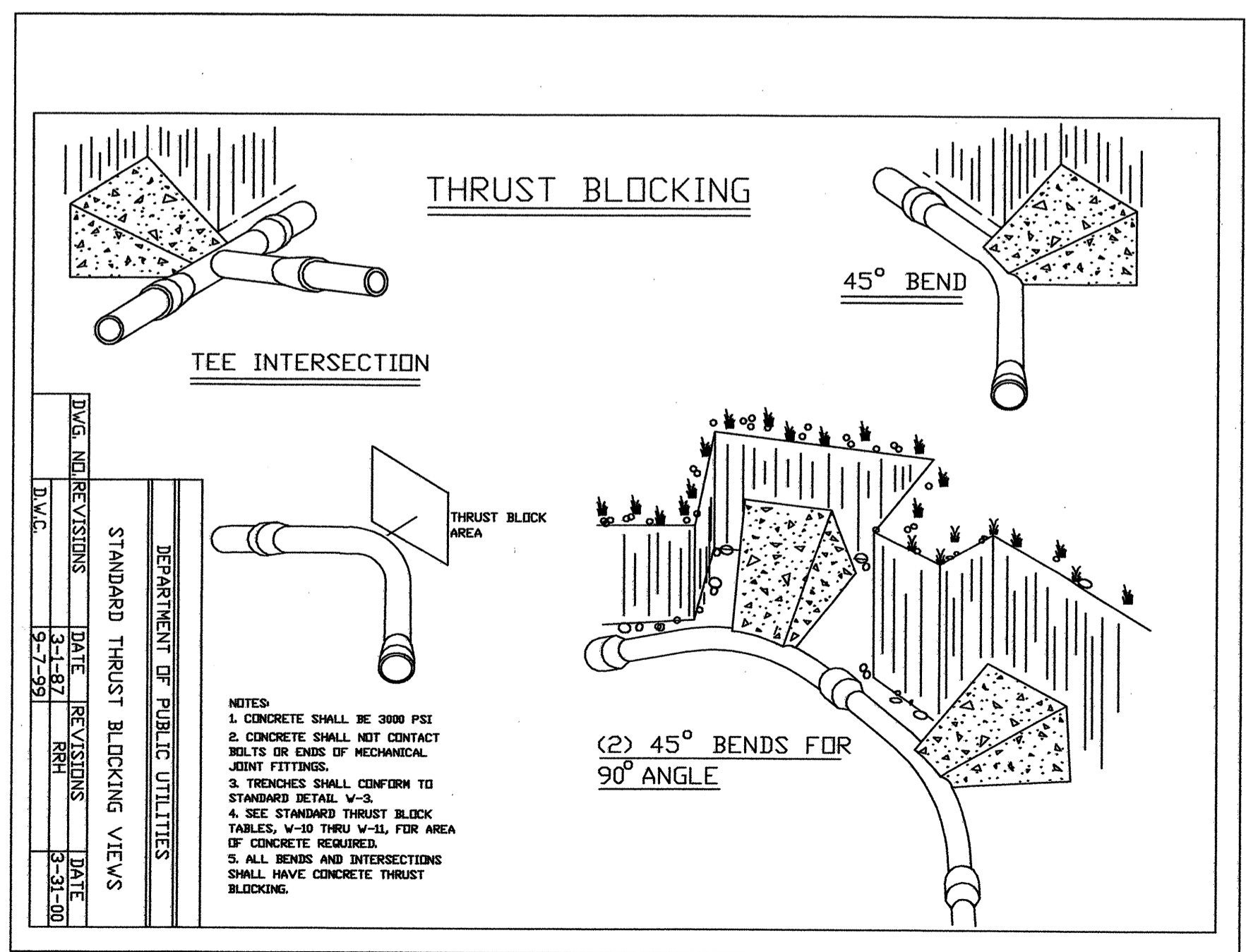
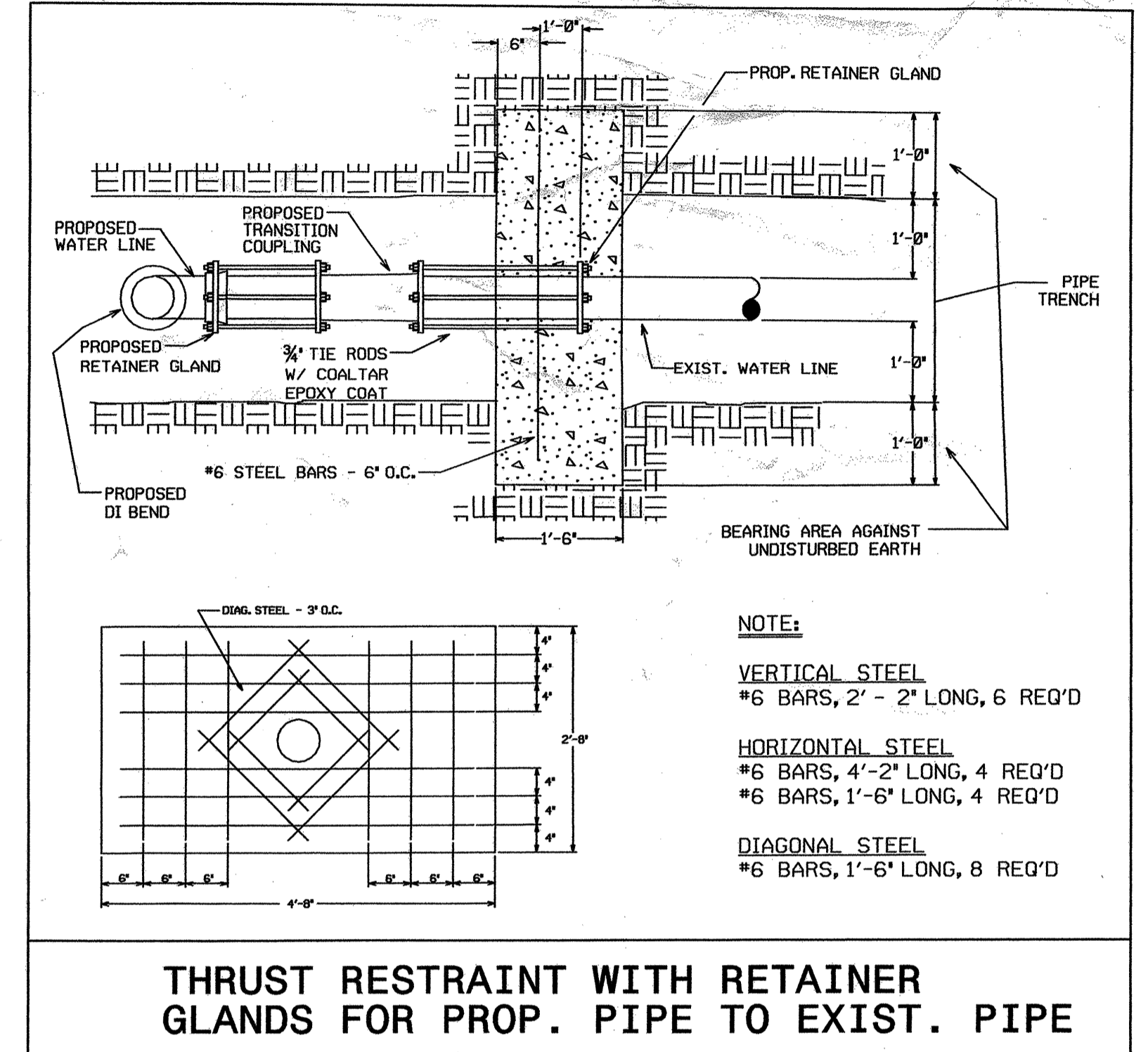
### THRUST RESTRAINT FOR WATER MAINS

BASED ON TEST PRESSURE OF 200 P.S.I.

PIPE SIZE	DEGREE OF BEND	LBS. STATIC THRUST *	ALLOWABLE SOIL BEARING (PSF)																
			1000	2000	3000	4000	5000	6000	7000	8000									
4"	11 1/4°	586	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4"	22 1/2°	1,172	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4"	45°	2,344	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4"	90°	4,688	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
4"	PLUG	3,513	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
6"	11 1/4°	1,172	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6"	22 1/2°	2,344	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6"	45°	4,688	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
6"	90°	9,376	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
6"	PLUG	7,032	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
8"	11 1/4°	1,970	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8"	22 1/2°	3,940	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8"	45°	7,880	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
8"	90°	15,760	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
8"	PLUG	11,820	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
10"	11 1/4°	2,960	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10"	22 1/2°	5,920	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
10"	45°	11,840	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
10"	90°	23,680	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
10"	PLUG	17,760	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
12"	11 1/4°	3,940	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12"	22 1/2°	7,880	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
12"	45°	15,760	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
12"	90°	31,520	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
12"	PLUG	23,680	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
14"	11 1/4°	5,184	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
14"	22 1/2°	10,368	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14"	45°	20,736	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
14"	90°	41,472	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
14"	PLUG	31,104	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
16"	11 1/4°	6,912	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
16"	22 1/2°	13,824	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
16"	45°	27,648	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
16"	90°	55,296	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
16"	PLUG	40,265	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

\* INCLUDES 1.25 SAFETY FACTOR

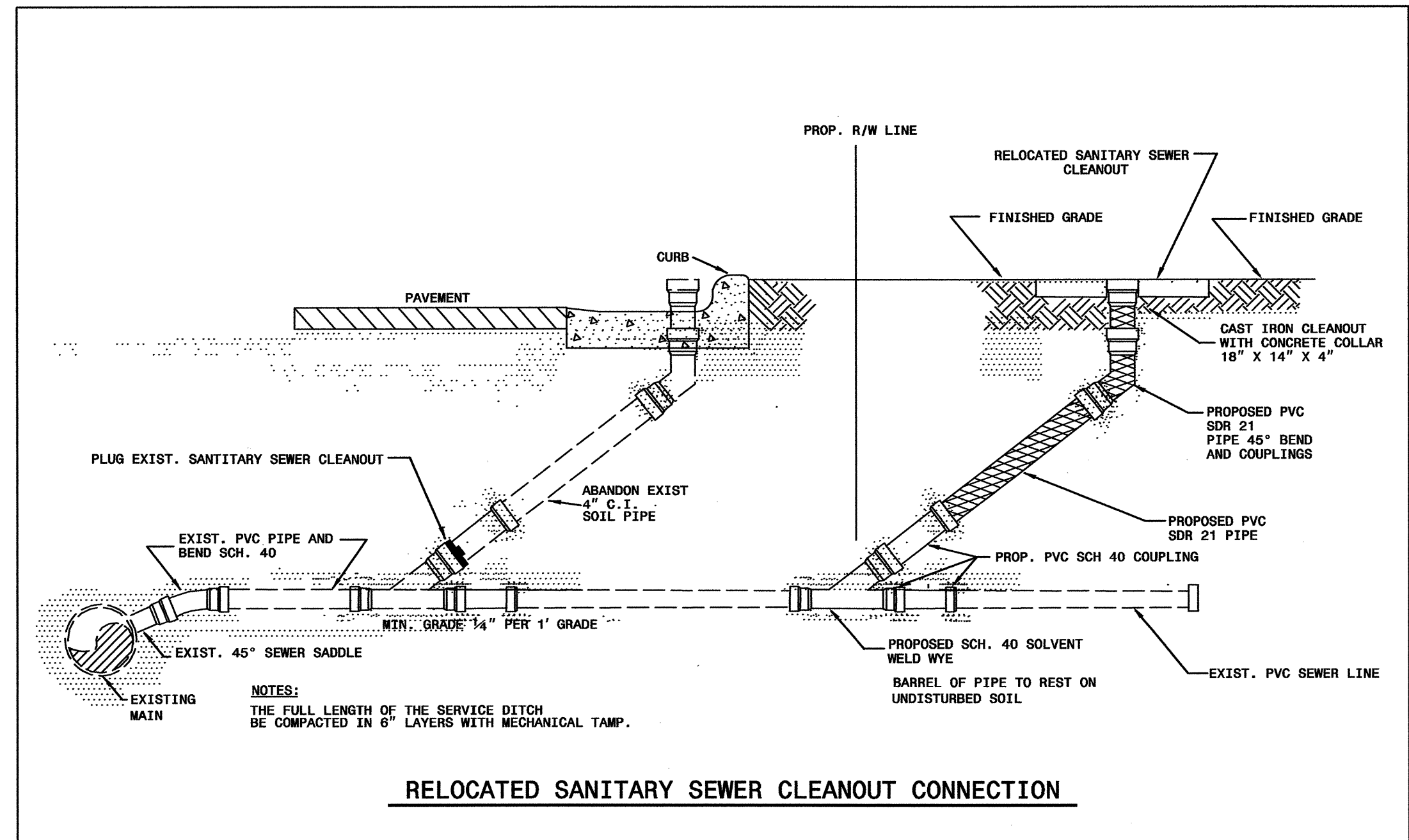
GENERAL NOTES:  
1. CONCRETE SHALL BE CLASS "B".  
2. CONCRETE SHALL NOT CONTACT BOLTS ENDS OF MECHANICAL JOINT FITTINGS.  
3. CONSULT WITH ENGINEER FOR CONCRETE REQUIREMENTS ON MAINS LARGER THAN 16 INCHES. (FOR VERTICAL & HORIZONTAL BENDS)  
4. ALLOWABLE SOIL BEARING SHALL BE DETERMINED BY THE ENGINEER.





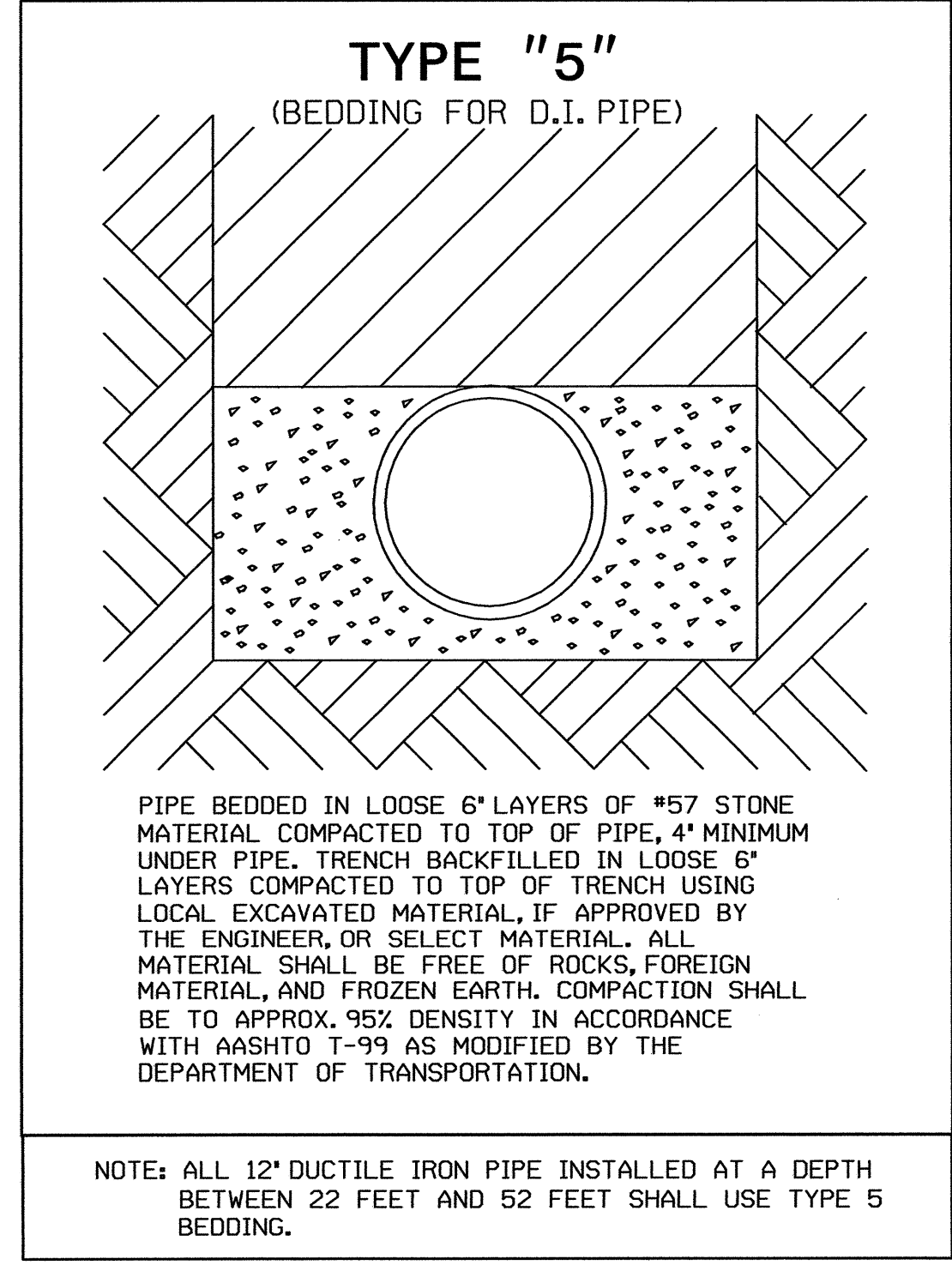
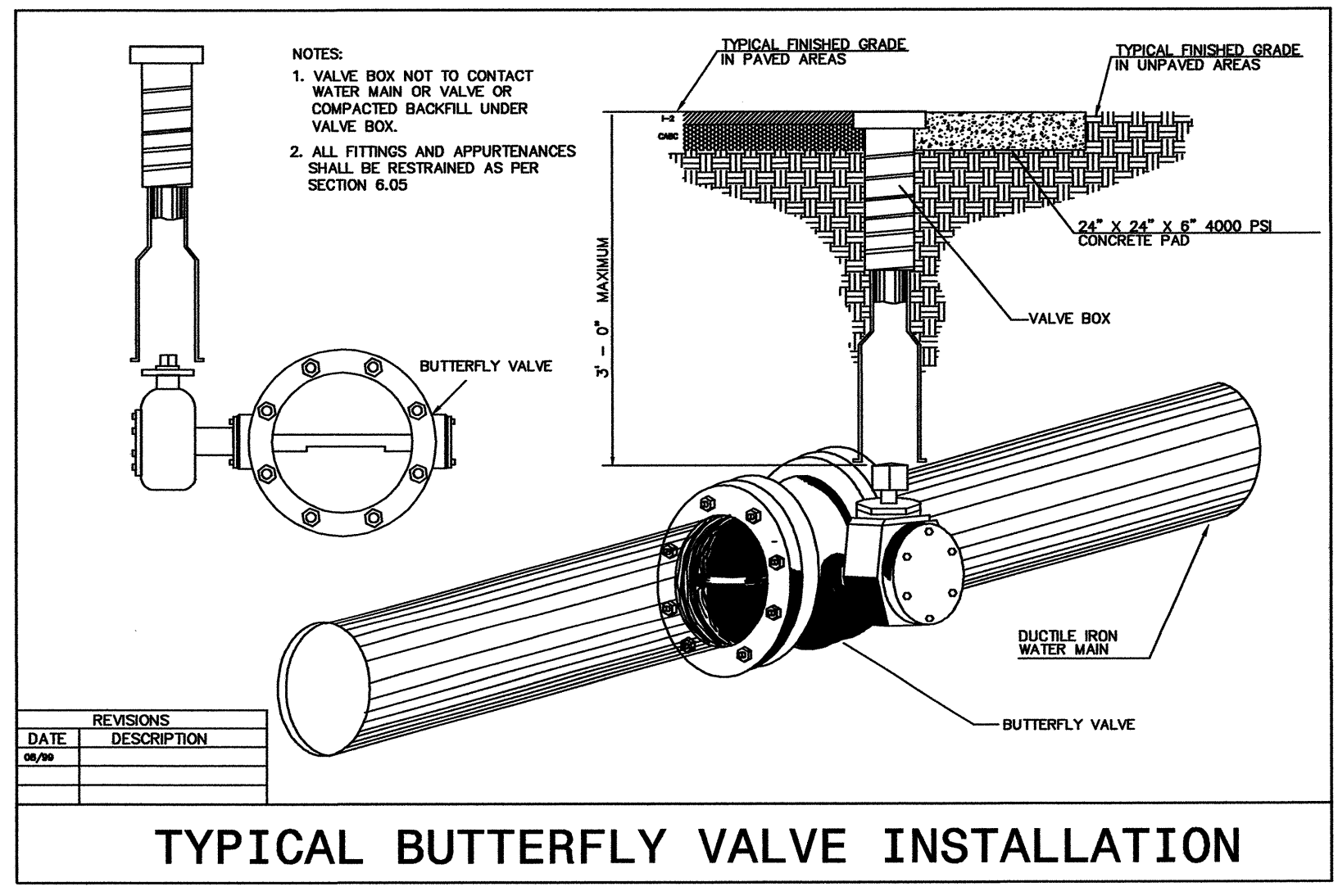
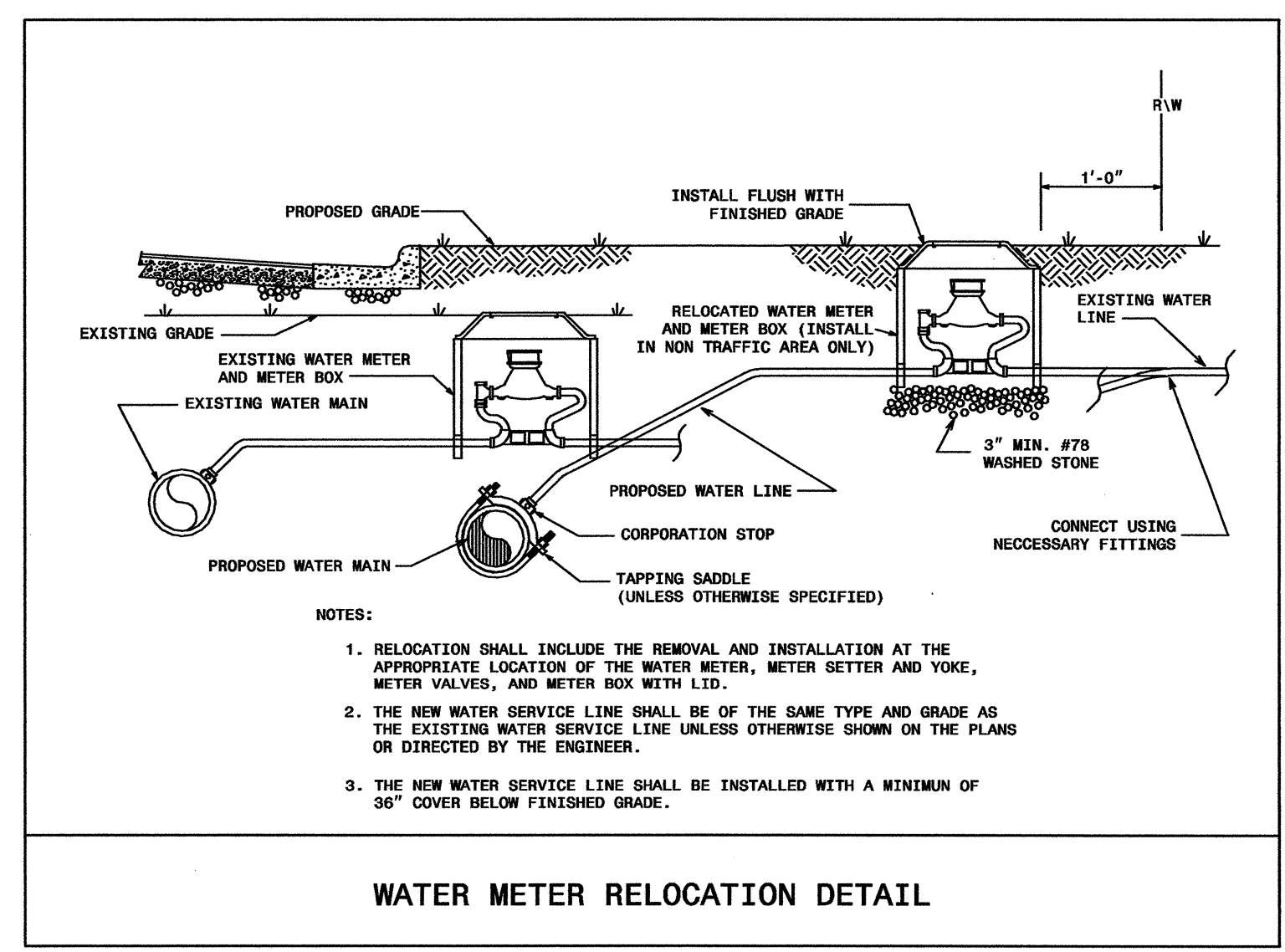
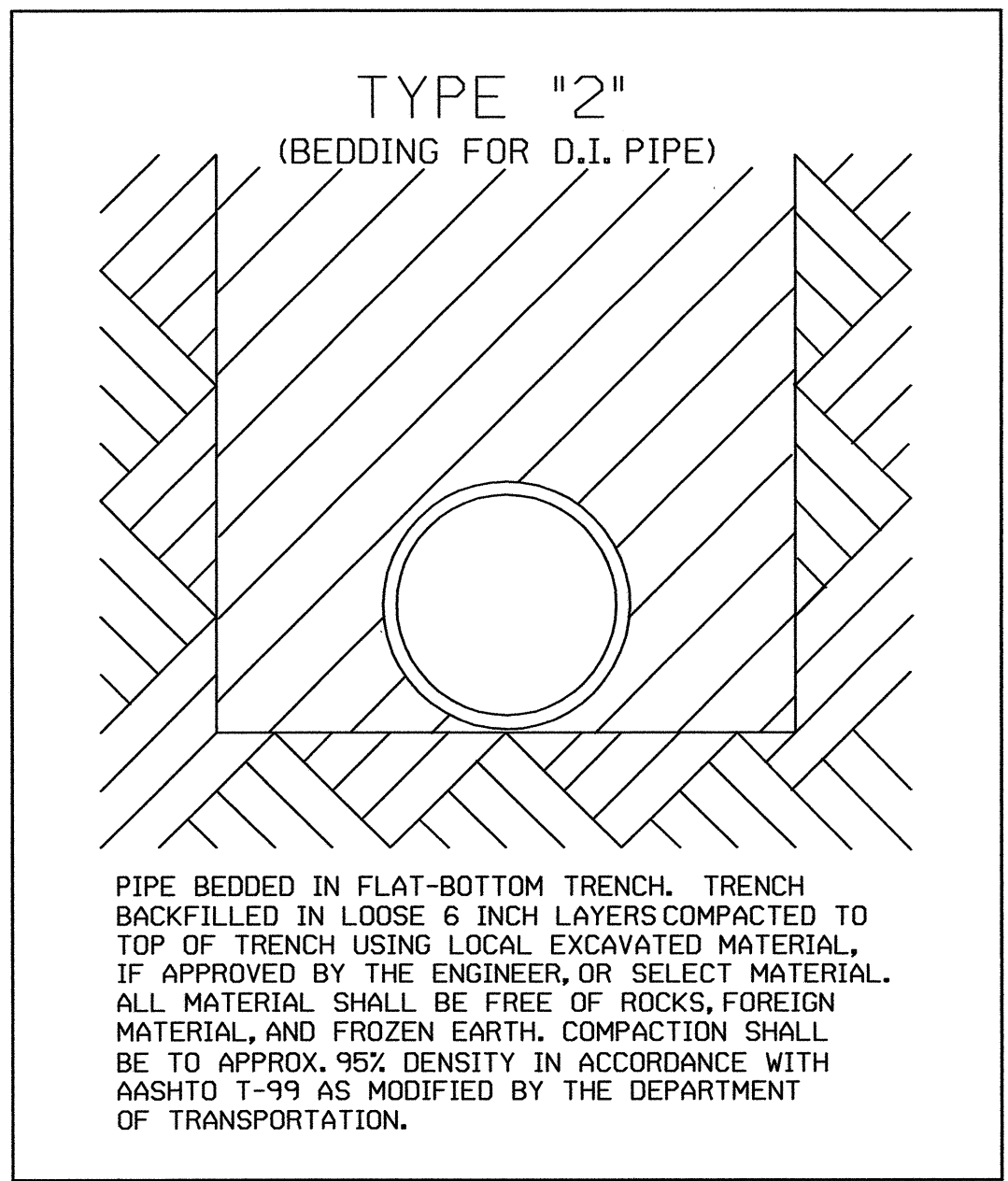
PROJECT REFERENCE NO. <b>U-4733</b>	SHEET NO. <b>UC-9</b>

**UTILITY CONSTRUCTION**



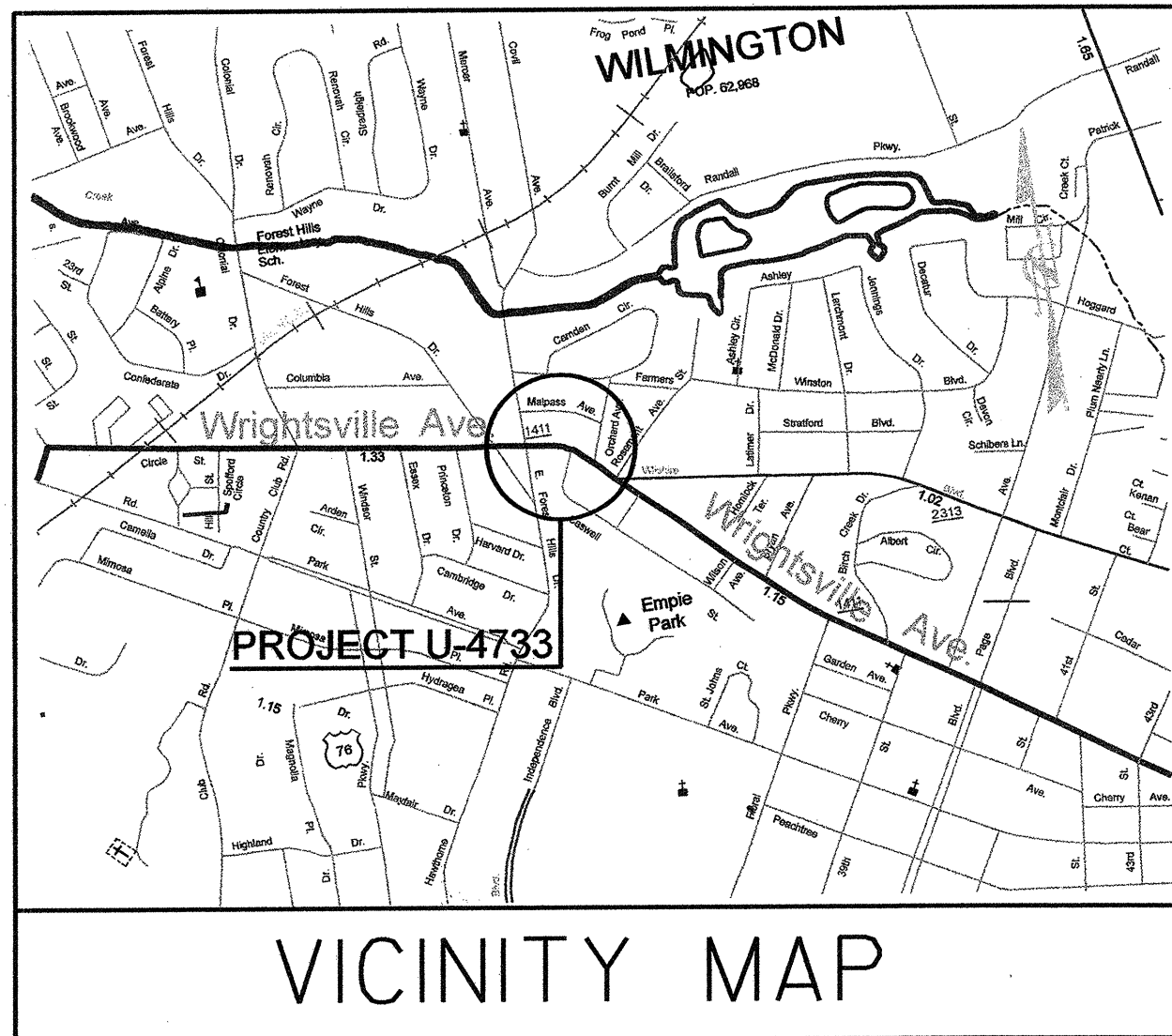
MAXIMUM TRENCH WIDTH AT TOP OF PIPE

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		



CONTRACT: C201847 TIP PROJECT: U-4733  
 SYSTEMS: DGN, USER: JLN, DATE: 3/21/08, TIME: 3:21:41 PM

See Sheet 1-A For Index of Sheets



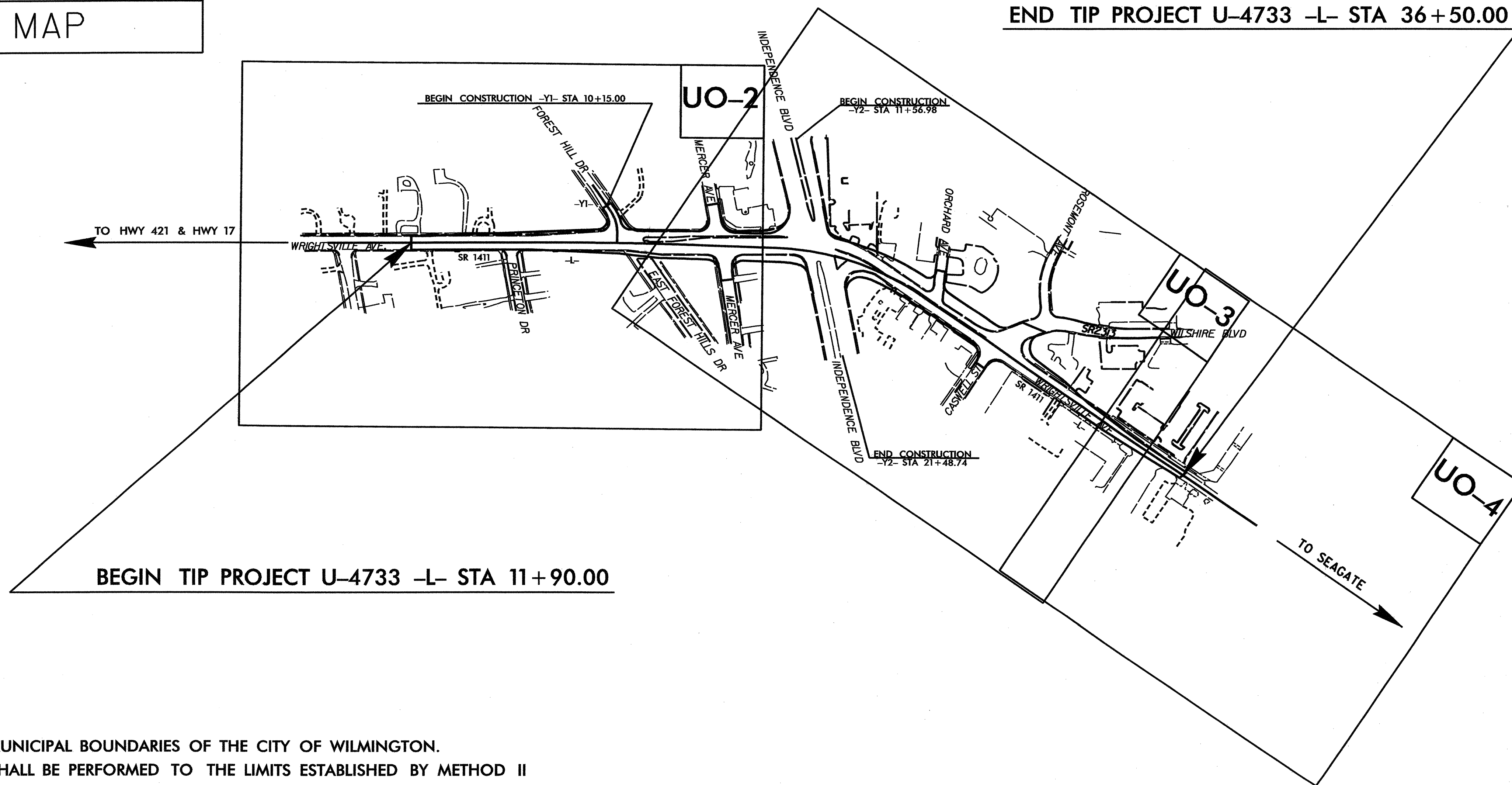
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SECRET NO.
N.C.	U-4733	UO-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION

**UTILITIES BY OTHERS  
NEW HANOVER COUNTY**

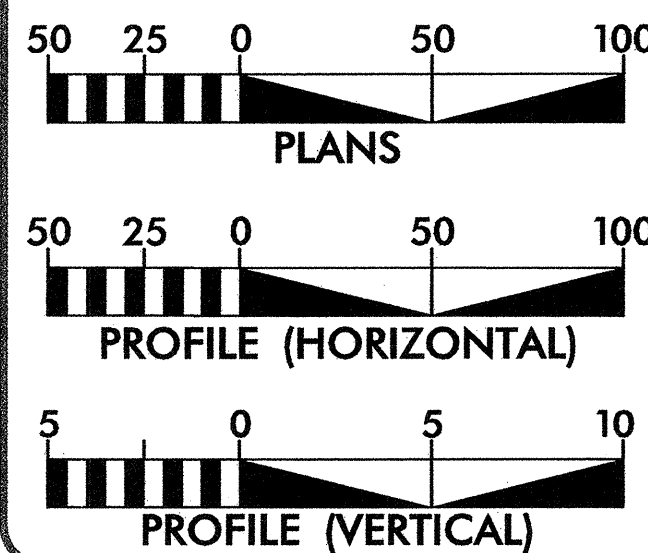
LOCATION: WILMINGTON - SR 1411 (WRIGHTSVILLE AVE.) FROM  
SR 2313 (WILSHIRE BLVD.) TO FOREST HILLS DR.

TYPE OF WORK: UTILITIES RELOCATION



THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITY OF WILMINGTON.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

GRAPHIC SCALES



INDEX OF SHEETS

SHEET No.	DESCRIPTION
UO-1	TITLE SHEET
UO-2 THRU UO-4	UTILITIES BY OTHERS PLAN SHEETS

UTILITY OWNERS ON PROJECT

- (1) PROGRESS ENERGY (POWER)
- (2) A.T. & T. (TELEPHONE)
- (3) BTI DELTA COM (TELEPHONE)
- (4) PIEDMONT NATURAL (GAS)
- (5) TIME WARNER CABLE (CATV)

PREPARED BY

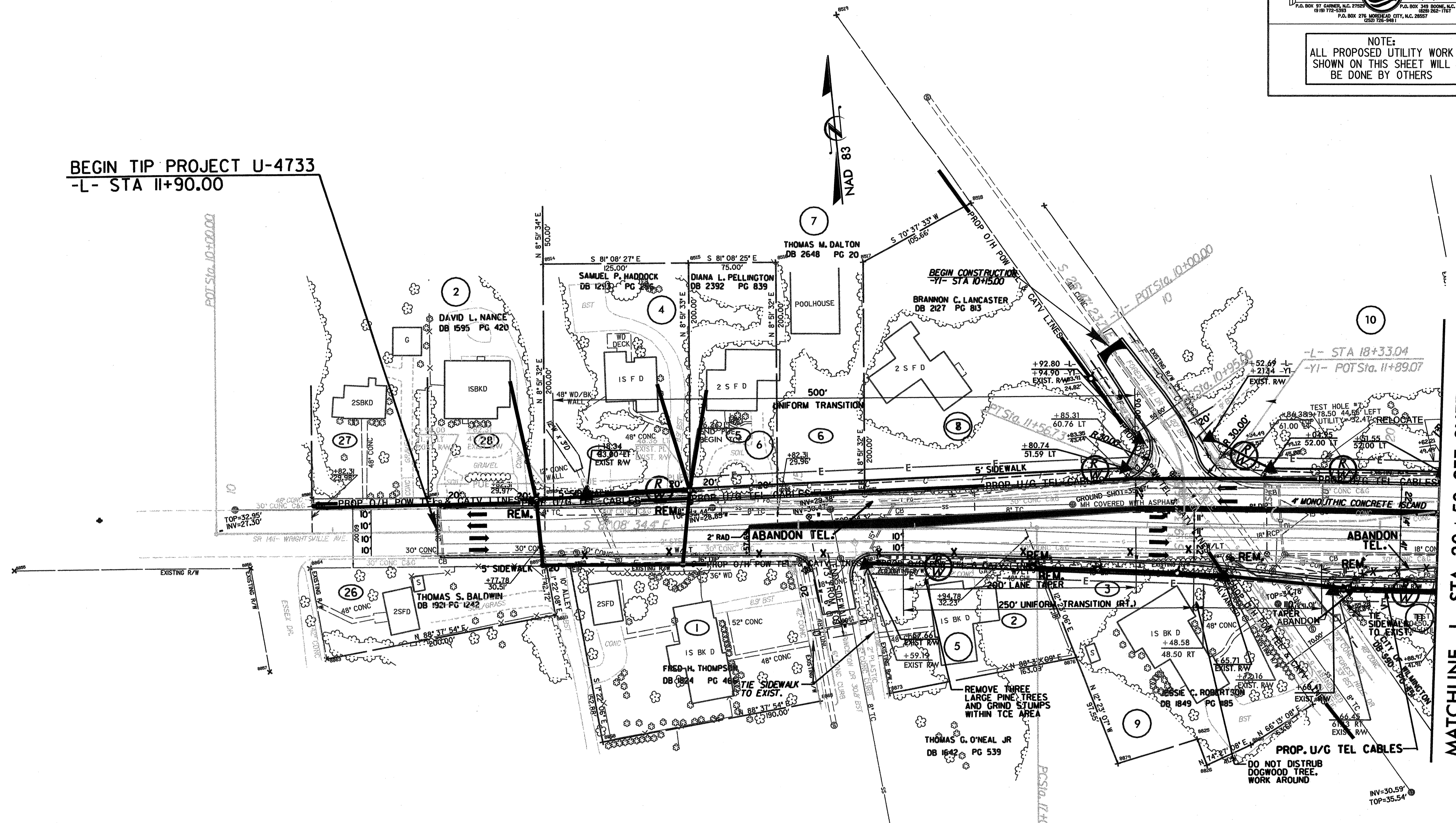
Municipal Services Engineering Company, P.A.

P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393  
 P.O. BOX 349 BOONE, N.C. 28607 (828) 262-1767  
 P.O. BOX 276 MOREHEAD CITY, N.C. 28557 (252) 726-9481

UTILITY DESIGN ENGINEER JOHN L. HINTON P.E.



BEGIN TIP PROJECT U-4733  
 -L- STA 11+90.00

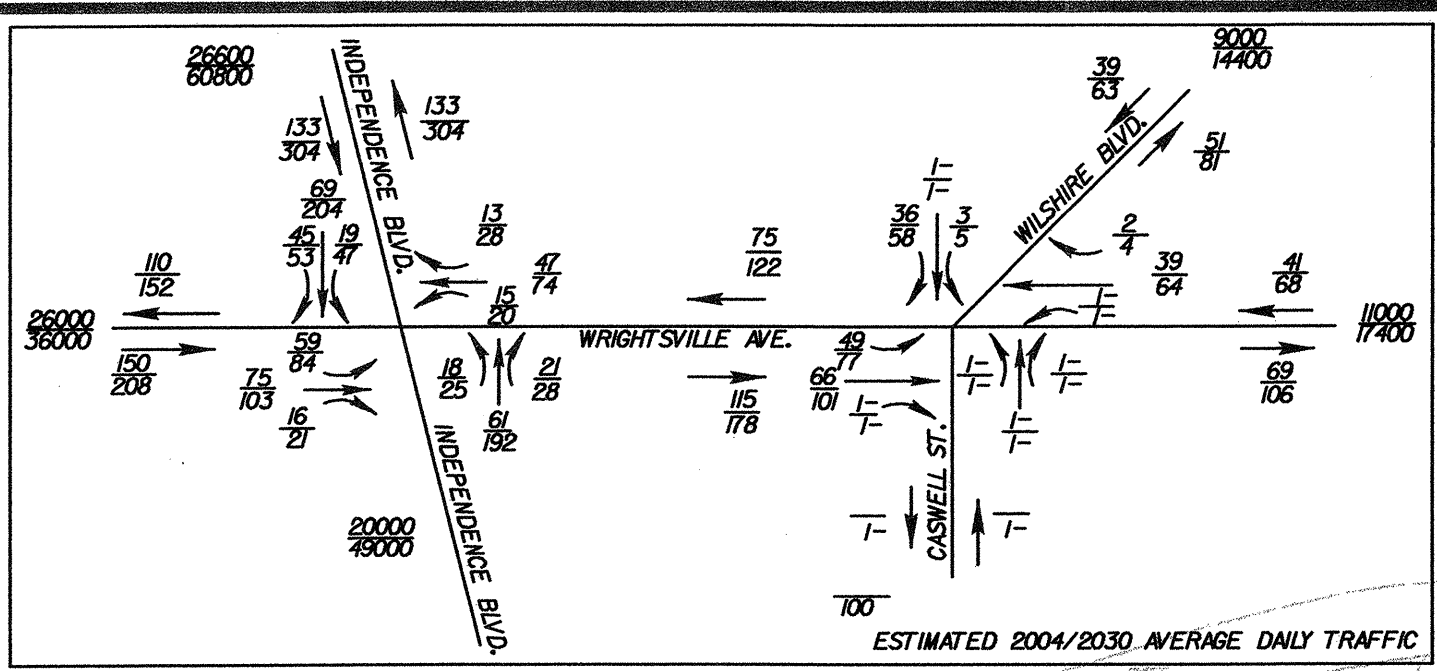
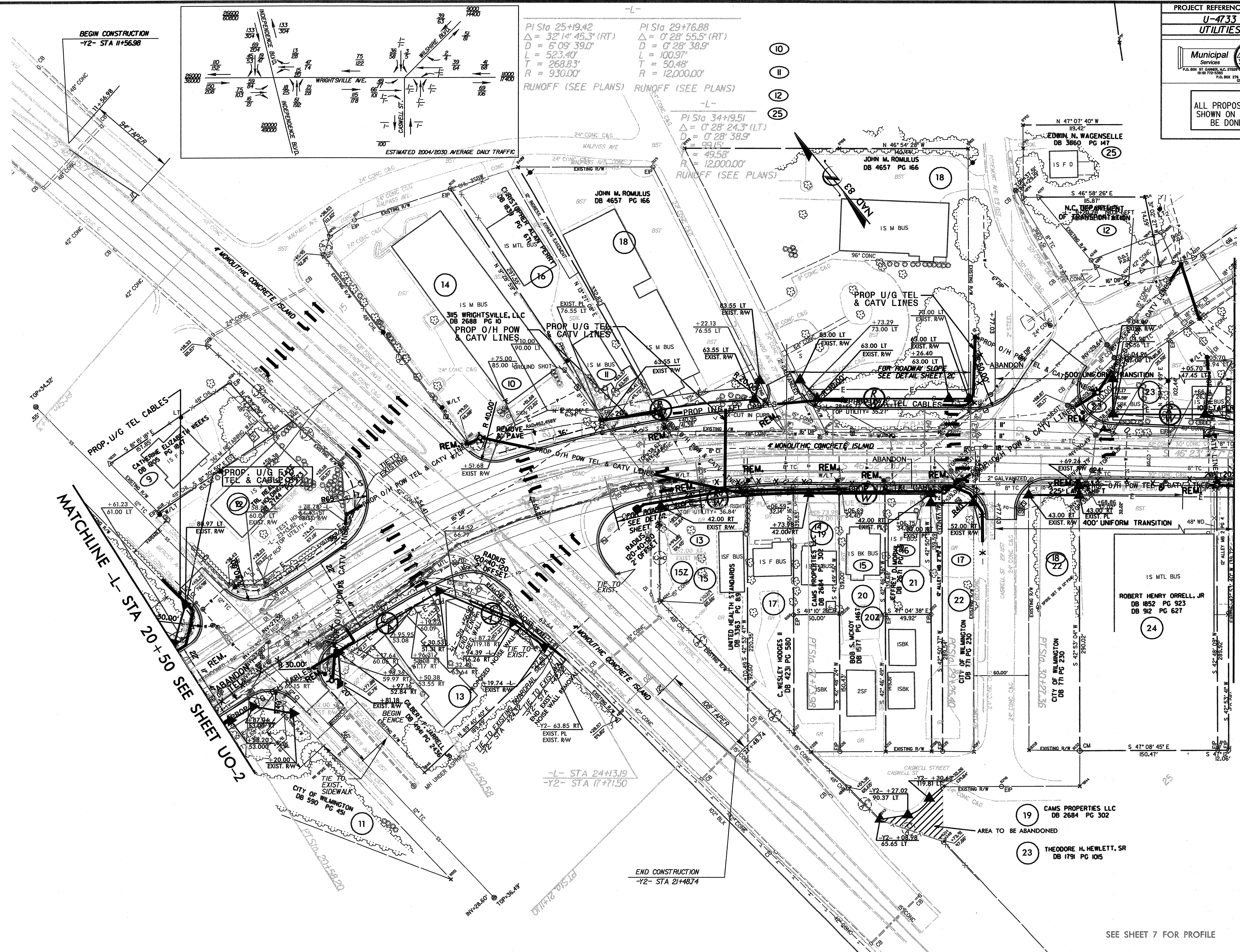


REVISIONS

MATCHLINE -L- STA 20+50 SEE SHEET UO-3

SEE SHEET 7 FOR PROFILE

PROJECT REFERENCE NO.	SHEET NO.
U-4733	UO-3
UTILITIES BY OTHERS	
<p>NOTE: ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS</p>	



PI Sta 25+19.42  
 $\Delta = 32^{\circ}14'45.3"$  (RT)  
 $D = 6^{\circ}09'39.0"$   
 $L = 523.40'$   
 $T = 268.83'$   
 $R = 930.00'$

PI Sta 29+76.88  
 $\Delta = 0^{\circ}28'55.5"$  (RT)  
 $D = 0^{\circ}28'38.9"$   
 $L = 100.97'$   
 $T = 50.48'$   
 $R = 12,000.00'$

PI Sta 34+19.51  
 $\Delta = 0^{\circ}28'24.3"$  (LT)  
 $D = 0^{\circ}28'38.9"$   
 $L = 99.15'$   
 $T = 49.58'$   
 $R = 12,000.00'$

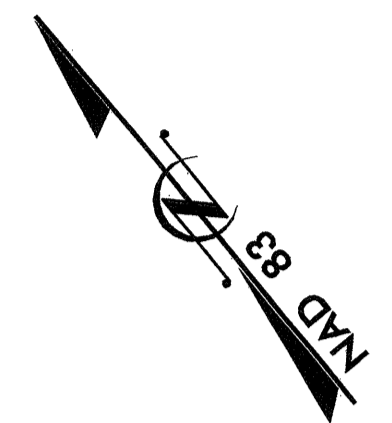
REVISIONS  
 8/17/09  
 MATCHLINE -L- STA 20+50 SEE SHEET UO-2  
 MATCHLINE -L- STA 32+40 SEE SHEET UO-4  
 SEE SHEET 7 FOR PROFILE

END CONSTRUCTION  
 -Y2- STA 21+4874  
 BEGIN CONSTRUCTION  
 -Y2- STA 11+5698



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

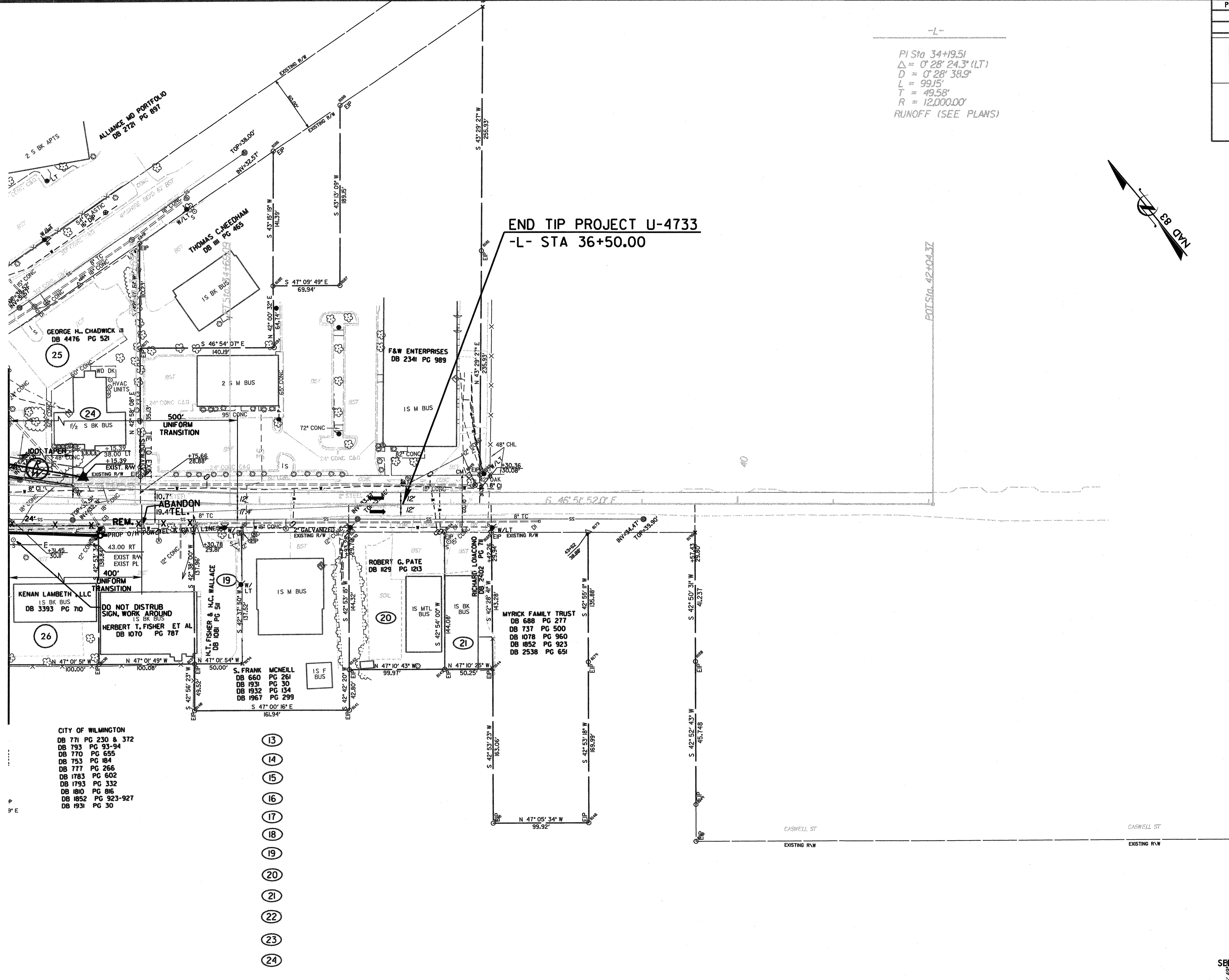
-L-  
PI Sta 34+19.51  
Δ = 0° 28' 24.3" (LT)  
D = 0° 28' 38.9"  
L = 99.15'  
T = 49.58'  
R = 12,000.00'  
RUNOFF (SEE PLANS)



END TIP PROJECT U-4733  
-L- STA 36+50.00

MATCHLINE -L- STA 32 + 40 SEE SHEET UO-3

REVISIONS



- CITY OF WILMINGTON
- DB 771 PG 230 & 372
- DB 793 PG 93-94
- DB 770 PG 655
- DB 753 PG 184
- DB 777 PG 266
- DB 1783 PG 602
- DB 1793 PG 332
- DB 1810 PG 816
- DB 1852 PG 923-927
- DB 1931 PG 30

- (13)
- (14)
- (15)
- (16)
- (17)
- (18)
- (19)
- (20)
- (21)
- (22)
- (23)
- (24)

SEE SHEET 7 FOR PROFILE

42° 53' 45"  
289.87'