

09/08/99

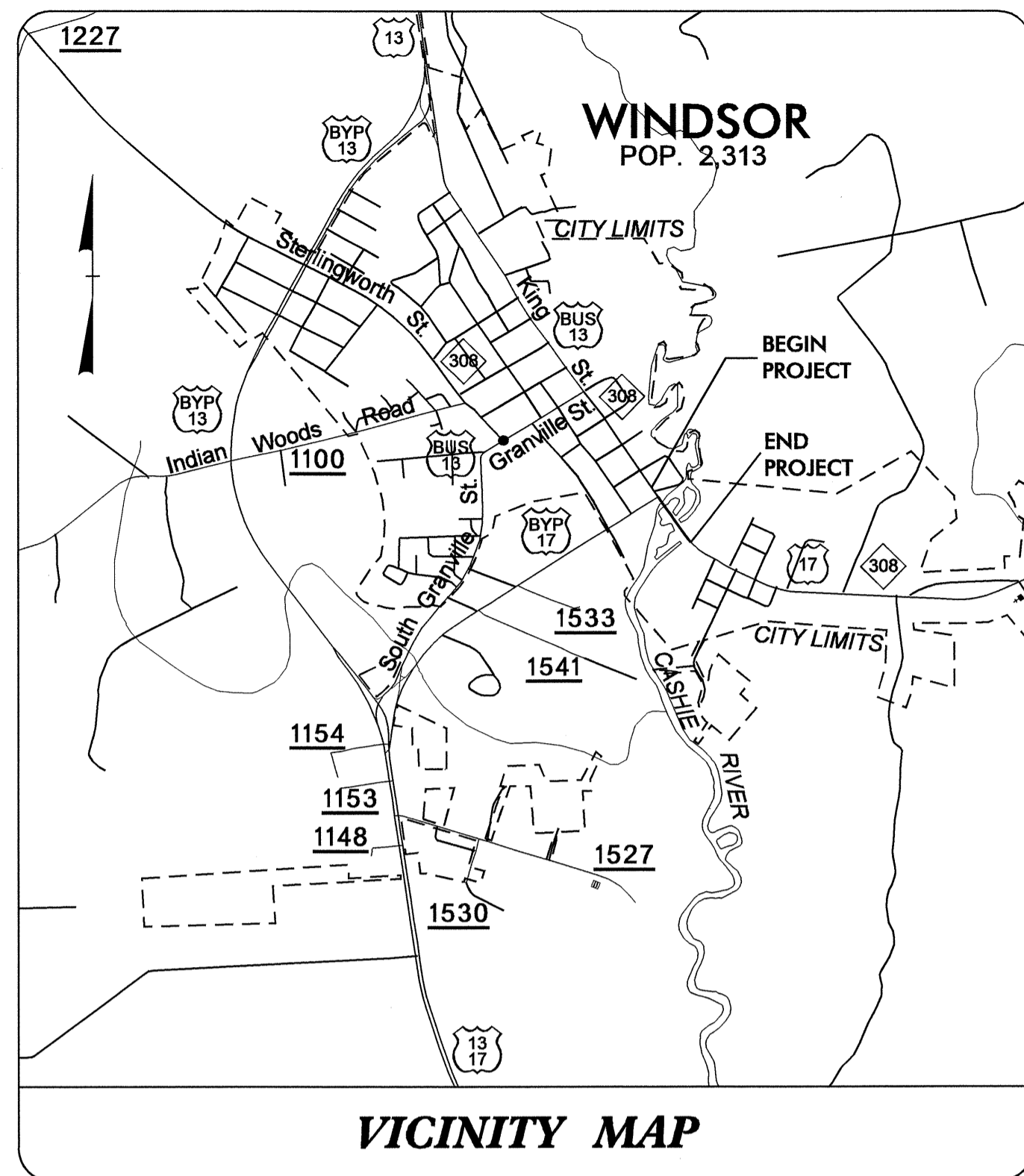
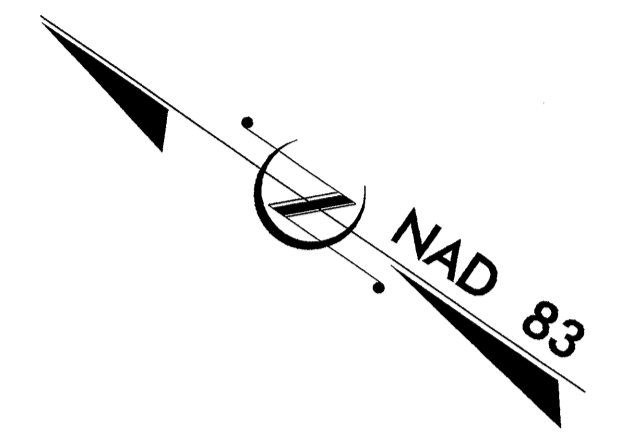
TIP PROJECT: B-4434

T.I.P. NO.	SHEET NO.
B-4434	UC-1

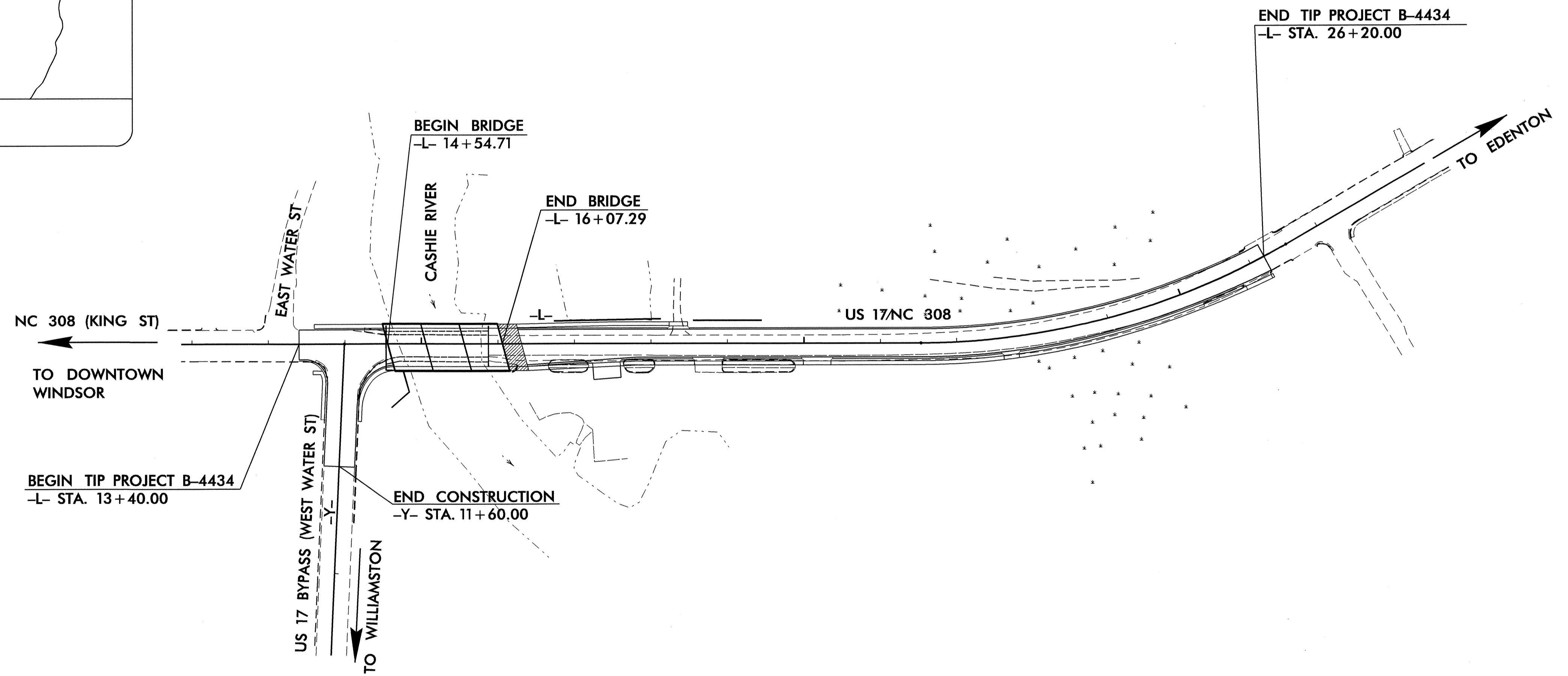
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
BERTIE COUNTY

LOCATION: BRIDGE NO. 14 OVER CASHIE RIVER ON US-17 /NC-308
TYPE OF WORK: RELOCATION OF SANITARY SEWER



VICINITY MAP



END TIP PROJECT B-4434
-L- STA. 26+20.00

12-MAR-2009 08:22
r:\utilities\fdy\ut\proj\b4434_ut+uo_title_sheets.dgn
\$\$\$\$\$USERNAME\$\$\$\$\$

GRAPHIC SCALES
AS PER SHEET

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2 THRU UC-7	UTILITY PLAN SHEETS

- UTILITY OWNERS ON PROJECT**
- (1) FORCE MAIN SANITARY SEWER: TOWN OF WINDSOR
 - (2) GRAVITY SANITARY SEWER: TOWN OF WINDSOR
 - (3) POWER: TOWN OF WINDSOR
 - (4) WATER: TOWN OF WINDSOR
 - (5) TELEPHONE /COMMUNICATIONS: EMBARQ

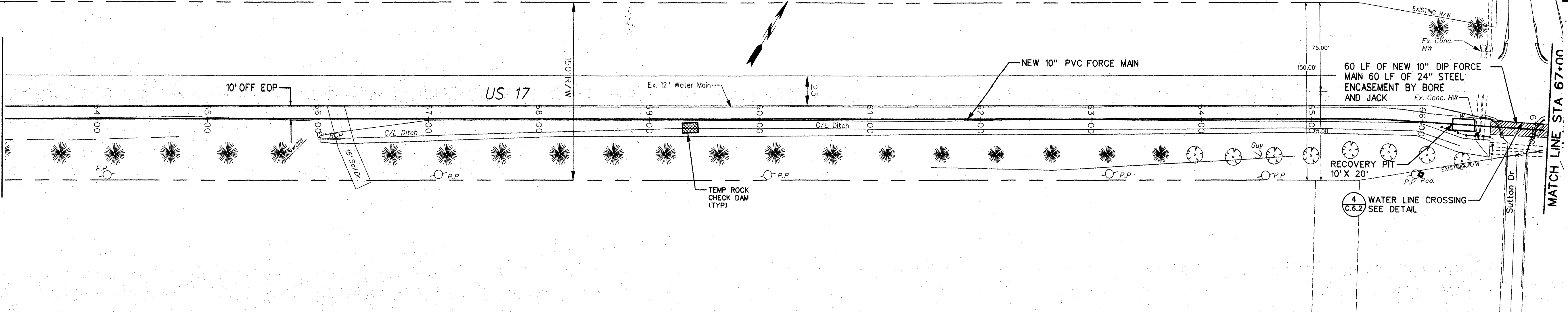


PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
UTILITIES ENGINEERING SECTION

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

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Eric Haugaard, P.E. UTILITIES PROJECT DESIGNER

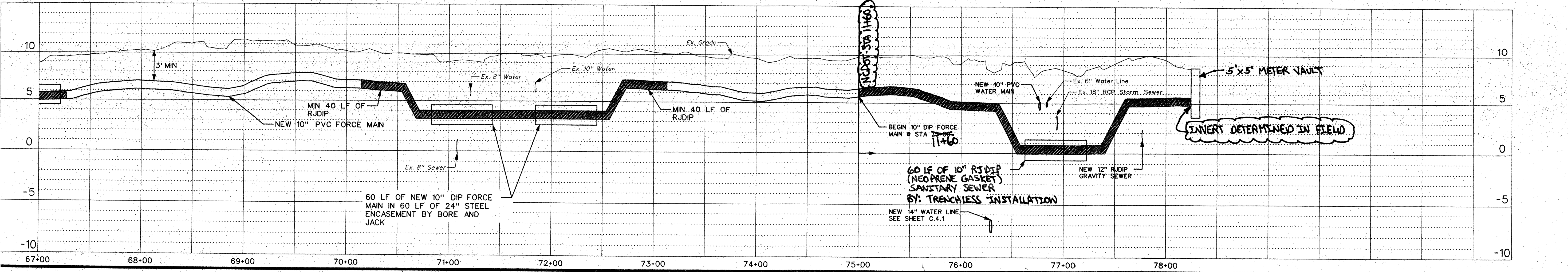
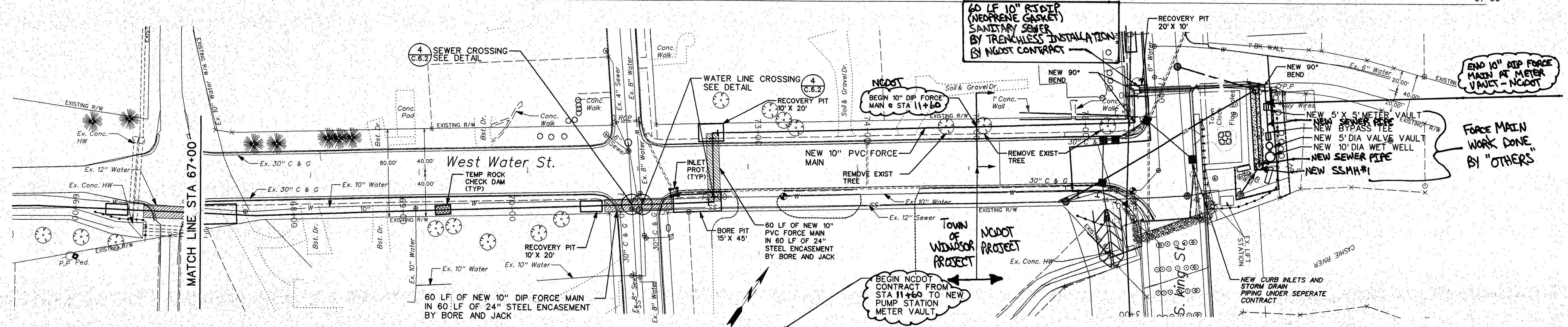
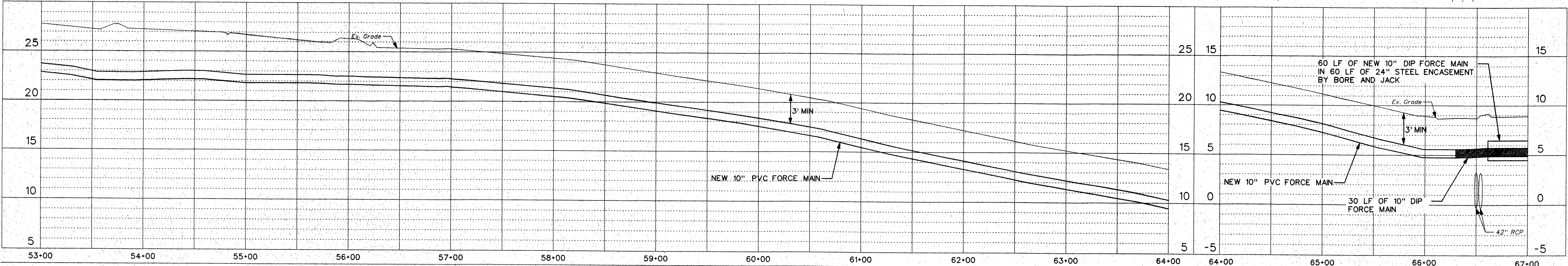
MATCH LINE STA 53+00
SEE SHEET C.2.2



PROJECT REFERENCE NO.	B-4434
SHEET NO.	UC-2
DESIGNED BY:	WOOTEN
DRAWN BY:	WOOTEN
CHECKED BY:	EWH
APPROVED BY:	COB
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SECTION	
PHONE: (919) 250-4128	
FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

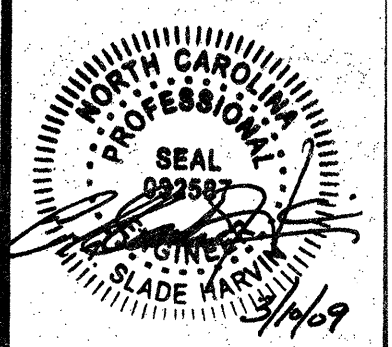
UTILITY CONSTRUCTION

THE WOOTEN COMPANY
 ENGINEERING, PLANNING & ARCHITECTURE
 301 West 14th Street, Greenville, NC 27834
 252-767-2700, fax 252-767-2701



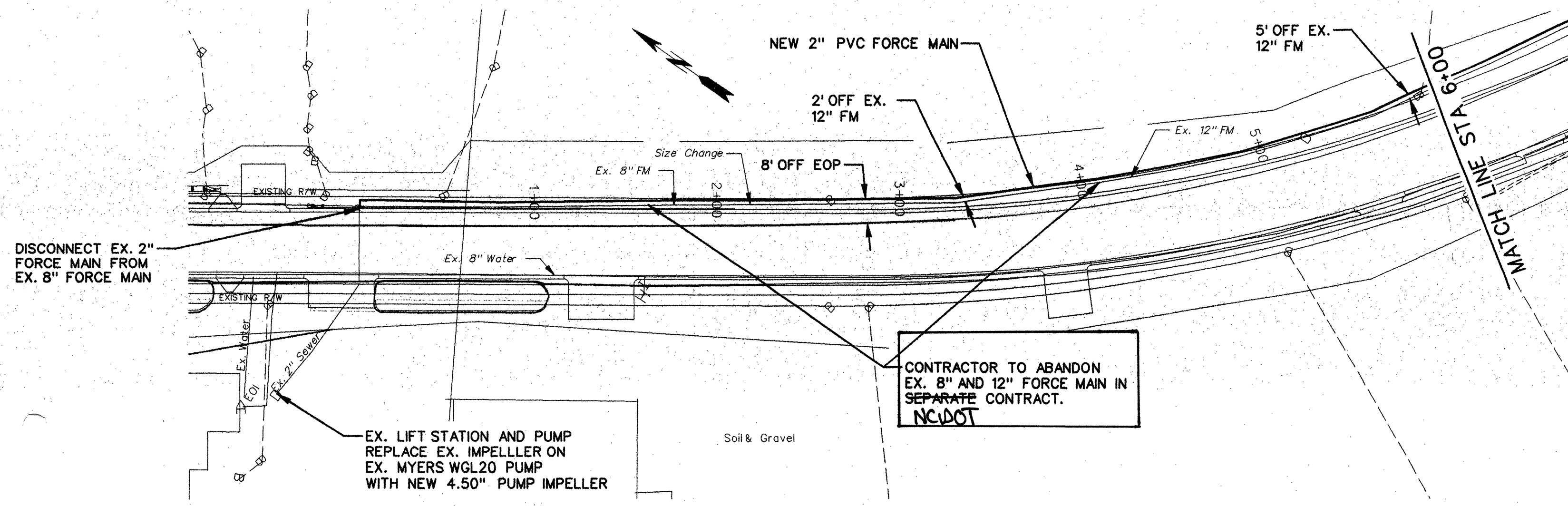
3/12/09 REV. 1, HANDWRITTEN NOTES FOR NCDOT CONTRACT

NORTH CAROLINA
TOWN OF WINDSOR
BERTIE COUNTY
GRAY'S LANDING PUMP STATION AND FORCE MAIN RELOCATION
NEW 10" FORCE MAIN PLAN AND PROFILE
STA 53+00 TO STA 78+23



DESIGNED BY:	ASH
DRAWN BY:	SW - DRS
CHECKED BY:	ASH
PROJECT NO.:	2280 - BJ
DATE:	MARCH 2009
SCALE:	HOR. 1" = 50' VER. 1" = 5'

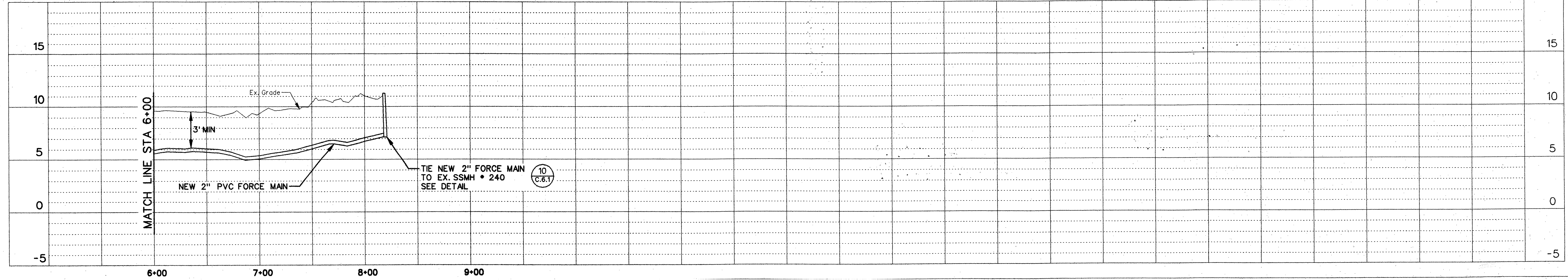
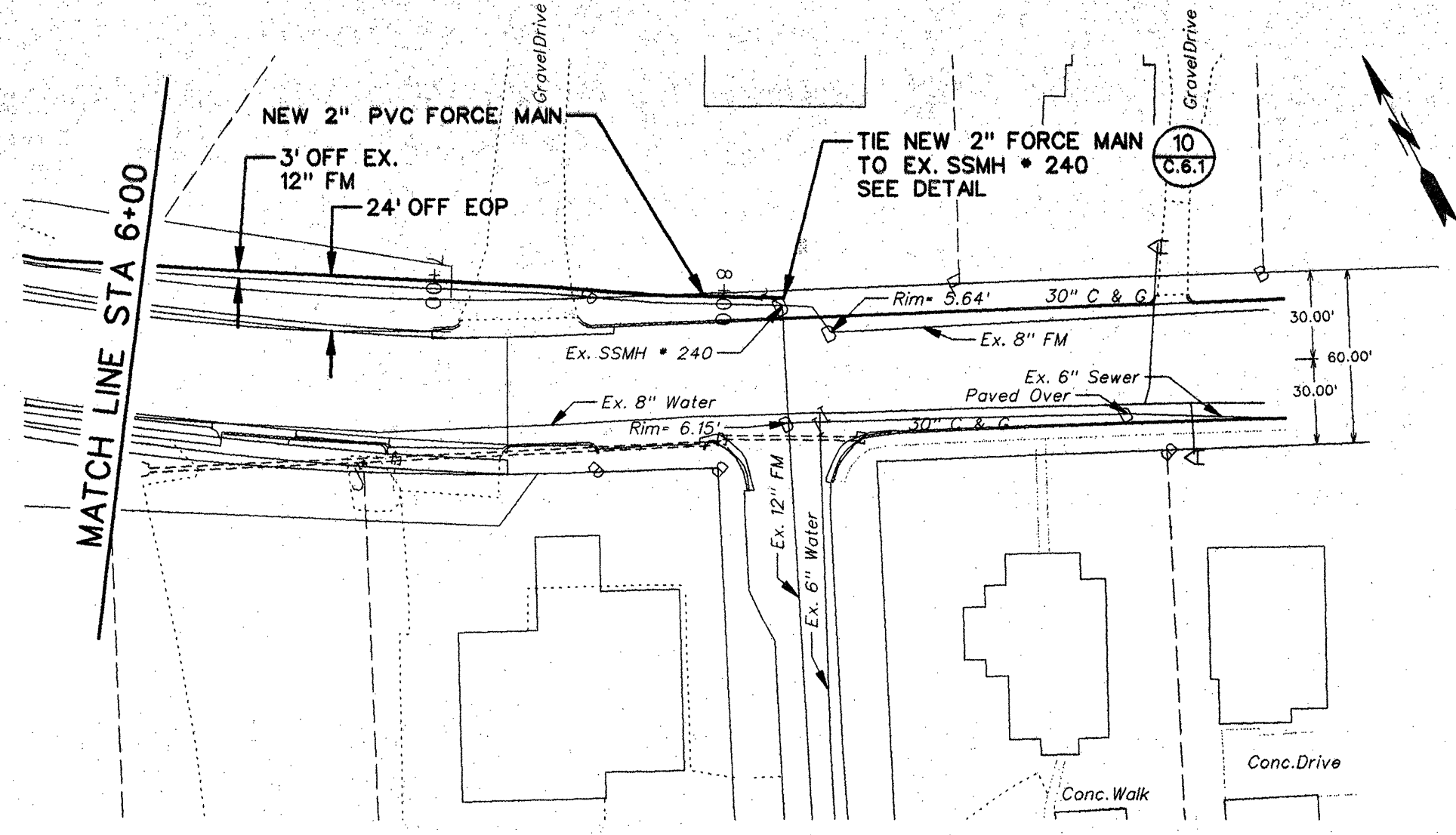
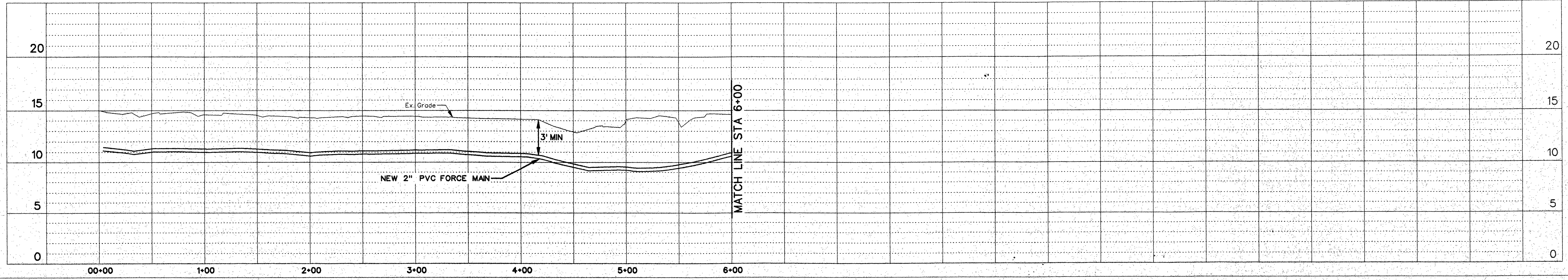
SHEET
C.2.3



PROJECT REFERENCE NO. B-4434	SHEET NO. UC-3
DESIGNED BY: WOOTEN	
DRAWN BY: WOOTEN	
CHECKED BY: EWH	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

THE WOOTEN COMPANY
 ENGINEERING | PLANNING | ARCHITECTURE
 301 West 14th Street, Greenville, NC 27834
 252.757.1095 fax 252.757.4321



3/12/09, REV. 1, HANDWRITTEN NOTES FOR NCDOT CONTRACT

NORTH CAROLINA
 TOWN OF WINDSOR
 GRAY'S LANDING PUMP STATION AND FORCE MAIN RELOCATION
 NEW 2" FORCE MAIN PLAN AND PROFILE
 STA 0+00 TO STA 8+20

DESIGNED BY:	ASH
DRAWN BY:	SW - DRS
CHECKED BY:	ASH
PROJECT NO.:	2290 - BJ
DATE:	MARCH 2008
SCALE:	HOR. 1" = 50' VER. 1" = 5'

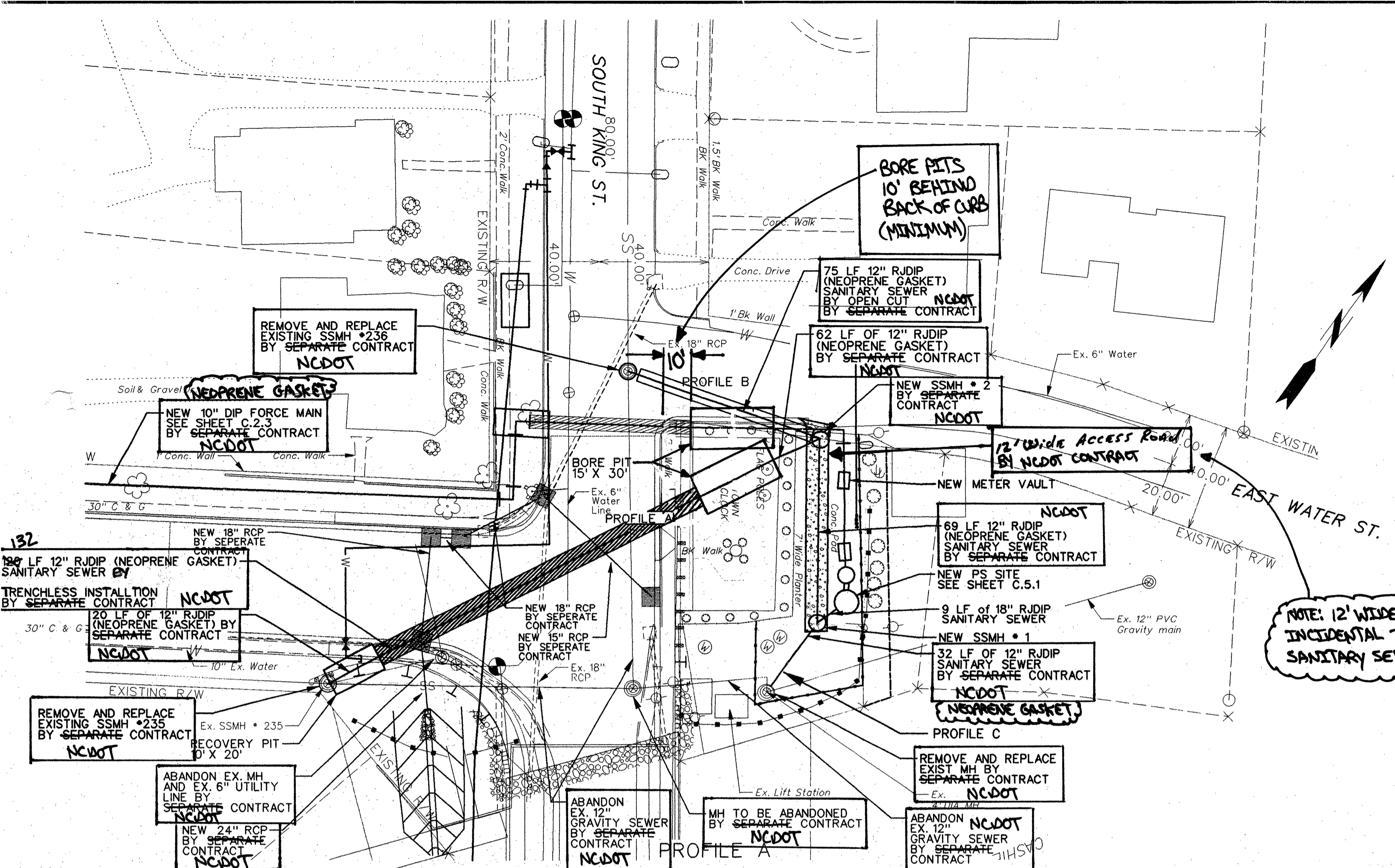
UTILITY CONSTRUCTION

ITEM	QUANTITY
12" GRAVITY SANITARY SEWER	376 288 LF
4' DIA UTILITY MANHOLE	2 * EA
TRENCHLESS INSTALLATION OF 12" RJDIP IN SOIL	120 188 LF
TRENCHLESS INSTALLATION OF 12" RJDIP NOT IN SOIL	12 LF
TRENCHLESS INSTALLATION OF 10" RJDIP IN SOIL	54 LF
TRENCHLESS INSTALLATION OF 10" RJDIP NOT IN SOIL	6 LF
10" RJDIP FORCE MAIN SEWER	290 278 LF
ABANDON 12" UTILITY PIPE	936 288 LF
ABANDON 6" UTILITY PIPE	86 LF
ABANDON 4' DIA UTILITY MANHOLE	2 EA

NOTE: ALL GRAVITY SEWER PIPE SHALL BE RJDIP WITH NEOPRENE GASKETS
 NOTE: ALL FORCE MAIN SEWER PIPE SHALL BE RJDIP WITH NEOPRENE GASKETS

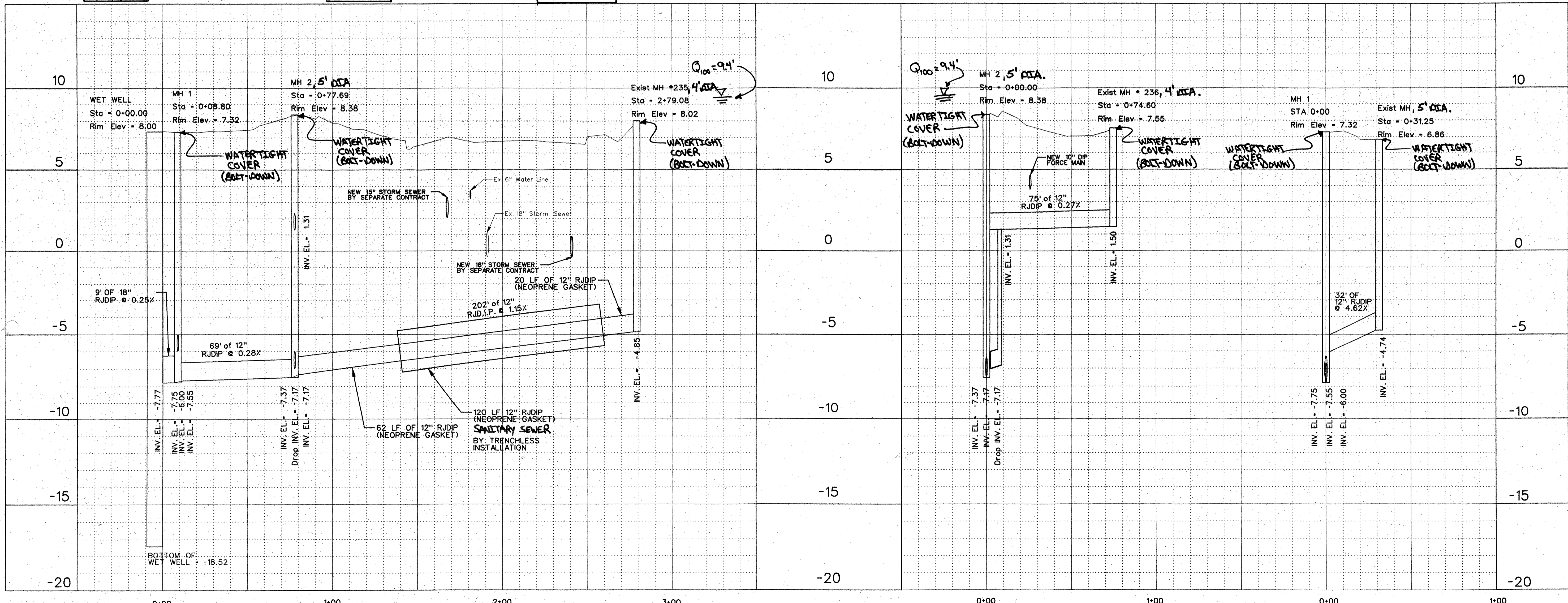
ASPHALT PLANT MIX, PAVEMENT REPAIR	60 TON
5' DIA UTILITY MANHOLE	2 EA
UTILITY MANHOLE WALL, 4' DIA	7 LF
UTILITY MANHOLE WALL, 5' DIA	16 LF
ABANDON 8" UTILITY PIPE	645 LF
ABANDON PUMP STATION (SPECIAL PROVISION)	1 EA

THE WOOTEN COMPANY
 ENGINEERING - PLANNING - ARCHITECTURE
 301 West 10th Street, Greensboro, NC 27404
 252.757.1856 fax 252.757.3221



PROFILE B

PROFILE C



3/12/09, REV. 1, HANDWRITTEN NOTES FOR NCDOT CONTRACT

NORTH CAROLINA
 TOWN OF WINDSOR
 BERTIE COUNTY
 GRAY'S LANDING PUMP STATION AND FORCE MAIN RELOCATION
 NEW 12" GRAVITY SEWER

WOOTEN
 3/12/09

DESIGNED BY: ASH
 DRAWN BY: SW - DRS
 CHECKED BY: ASH
 PROJECT NO.: 2290 - BJ
 DATE: MARCH 2009
 SCALE: HOR. 1" = 30'
 VER. 1" = 3'

SHEET

C.3.1

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 - VERY POOR	ROCK - POOR	TOUGH LBS/FT ²
8"											
11 1/4°	1,108	1	1	1	1	1	1	2	1		
22 1/2°	2,207	1	2	2	1	1	1	3	1		
45°	4,328	2	3	3	1	1	1	2	5	1	
90°	7,998	2	4	5	1	1	1	2	8	1	
PLUG	5,655	2	3	4	1	1	1	2	6	1	
8"											
11 1/4°	1,970	1	1	2	1	1	1	1	2	1	
22 1/2°	3,922	1	2	3	1	1	1	1	4	1	
45°	7,694	2	4	5	1	1	1	2	8	1	
90°	14,215	4	8	9	2	2	2	4	15	2	
PLUG	10,053	3	5	6	2	2	2	3	10	1	
12"											
11 1/4°	4,433	2	3	3	1	1	1	2	5	1	
22 1/2°	8,826	3	5	6	2	2	2	3	9	1	
45°	17,312	5	9	11	3	3	3	5	18	2	
90°	31,983	8	16	19	4	4	4	8	32	4	
PLUG	22,619	6	12	14	3	3	3	6	23	3	
18"											
11 1/4°	7,881	2	4	5	1	1	1	2	8	1	
22 1/2°	15,691	4	8	10	2	2	2	4	16	2	
45°	30,779	8	16	19	4	4	4	8	31	4	
90°	56,861	15	29	35	8	8	8	15	57	8	
PLUG	40,213	10	21	25	5	5	5	10	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
W-10	D.W.C.	8-23-99		

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 - VERY POOR	ROCK - POOR	TOUGH LBS/FT ²
24"											
11 1/4°	17,734	5	9	11	3	3	3	5	18	2	
22 1/2°	35,305	9	18	22	5	5	5	9	36	4	
45°	69,252	18	35	42	9	9	9	18	70	7	
90°	127,936	32	64	77	18	18	18	32	128	13	
PLUG	90,478	23	46	56	12	12	12	23	91	10	
30°											
11 1/4°	27,709	7	14	17	4	4	4	7	2	3	
22 1/2°	55,163	14	28	34	7	7	7	14	5	6	
45°	108,208	28	55	65	14	14	14	28	109	11	
90°	199,900	50	100	120	25	25	25	50	200	20	
PLUG	141,372	36	71	85	18	18	18	36	142	15	
36°											
11 1/4°	39,901	10	20	24	5	5	5	10	40	4	
22 1/2°	79,439	20	40	48	10	10	10	20	30	8	
45°	155,816	39	78	94	20	20	20	39	156	16	
90°	287,855	72	144	172	36	36	36	72	288	29	
PLUG	203,575	51	102	122	26	26	26	51	204	21	
48°											
11 1/4°	70,995	18	36	43	9	9	9	18	71	8	
22 1/2°	141,218	36	71	85	18	18	18	36	142	15	
45°	277,007	70	139	168	35	35	35	70	277	28	
90°	511,742	128	256	320	64	64	64	128	512	52	
PLUG	381,911	91	181	217	46	46	46	91	382	37	

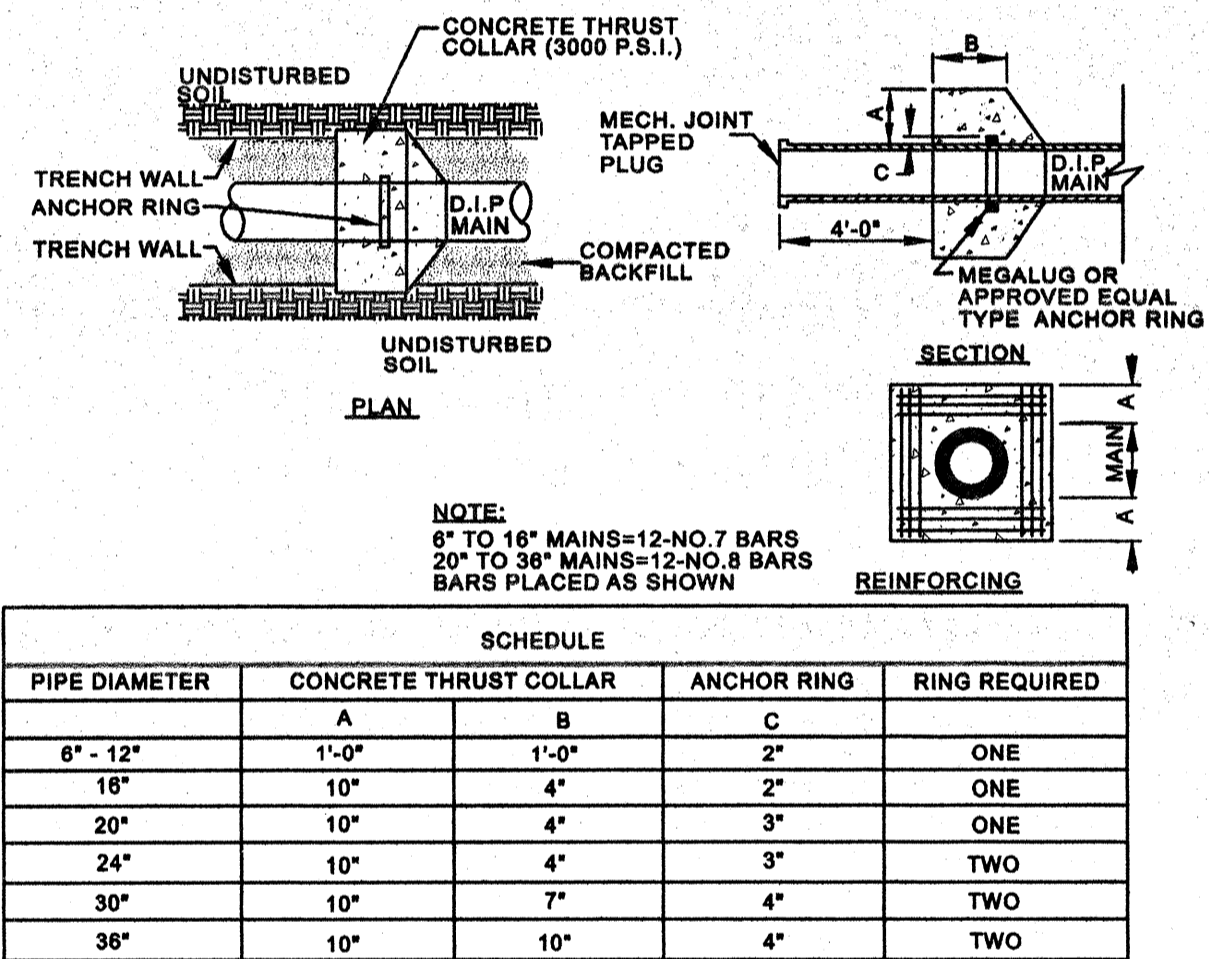
REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.

USE 6" - 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

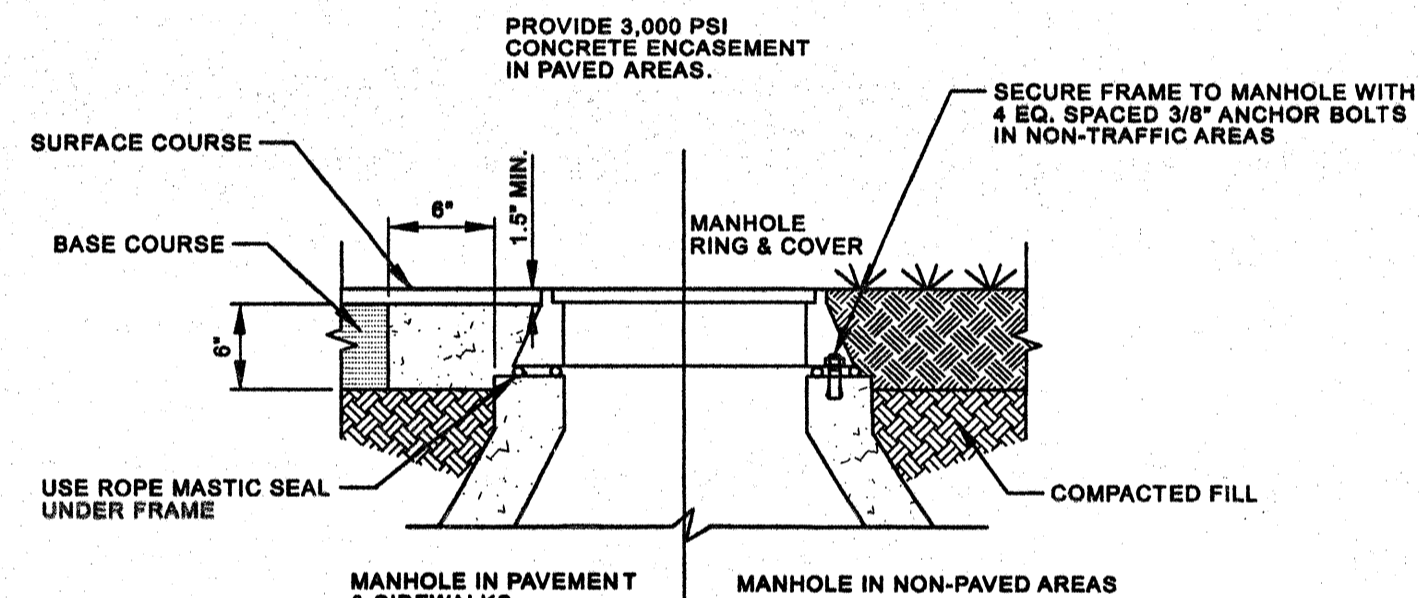
THRUST BLOCKING DESIGN QUANTITY TABLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-11	D.W.C.	8-23-99		

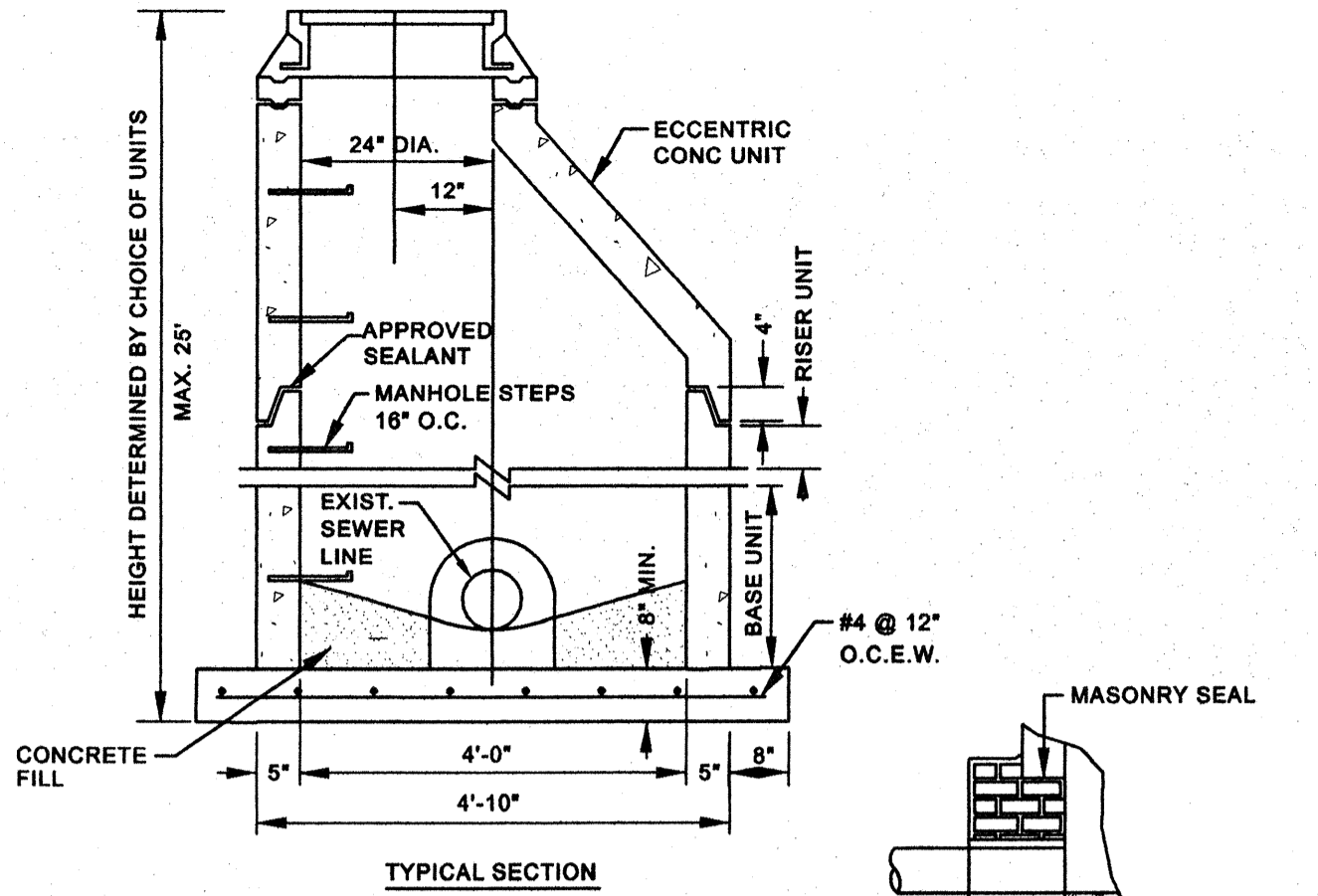
1 STANDARD THRUST BLOCKING
C.6.1 NOT TO SCALE



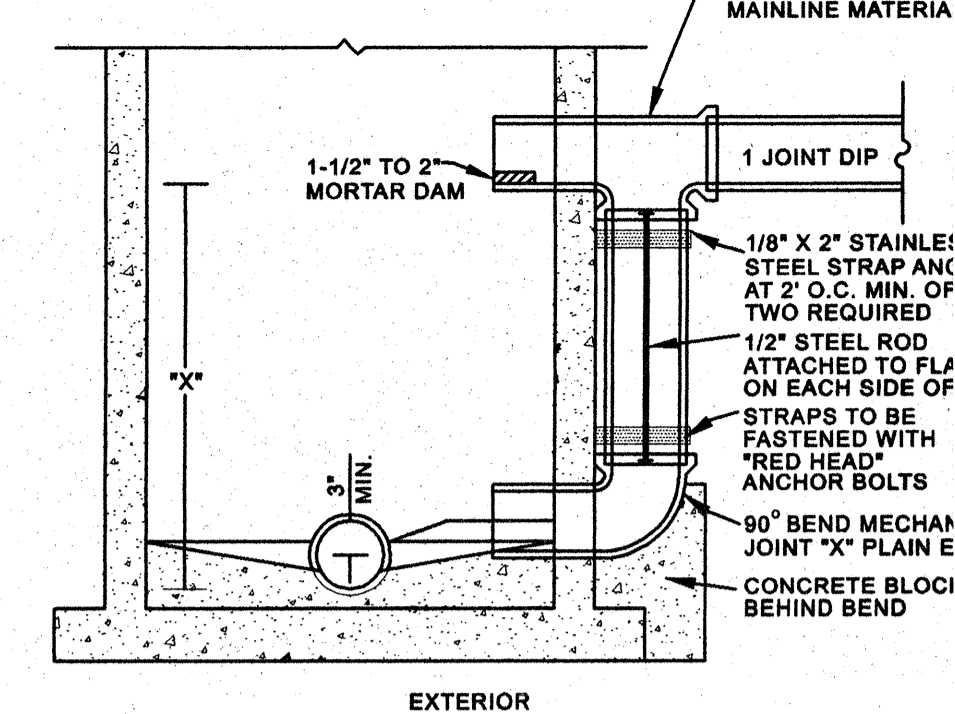
4 STANDARD THRUST COLLAR INSTALLATION
C.6.1 NOT TO SCALE



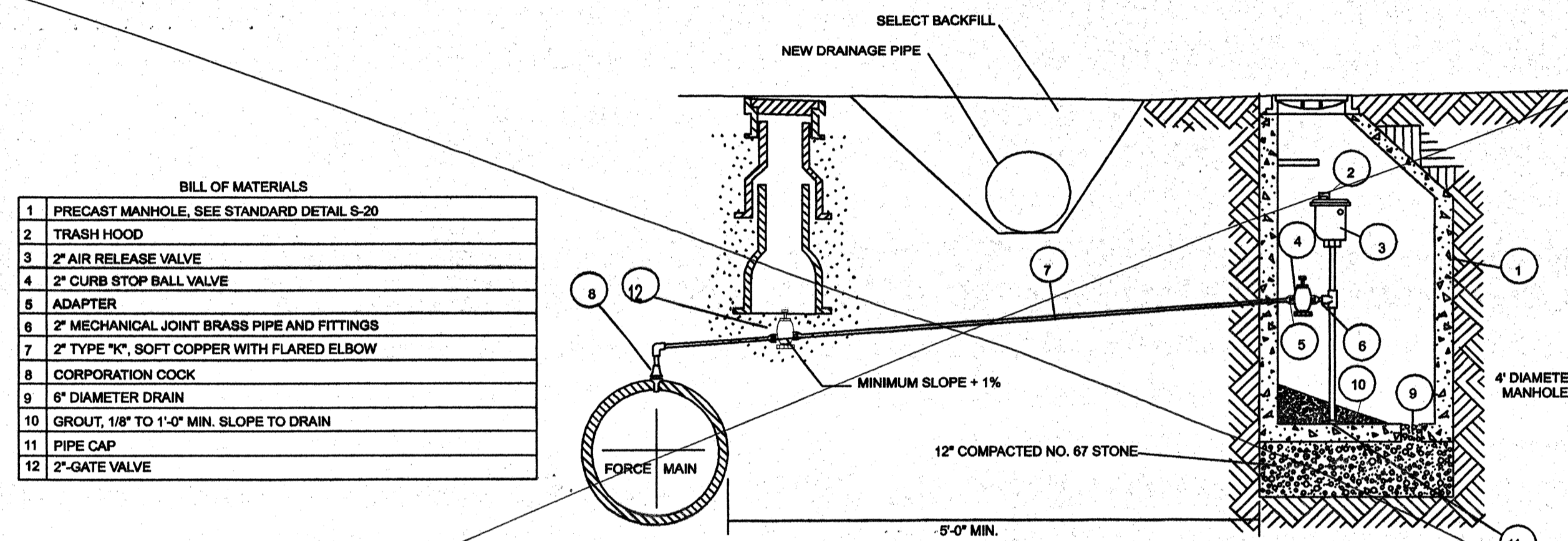
5 MANHOLE FRAME & COVER
C.6.1 NOT TO SCALE



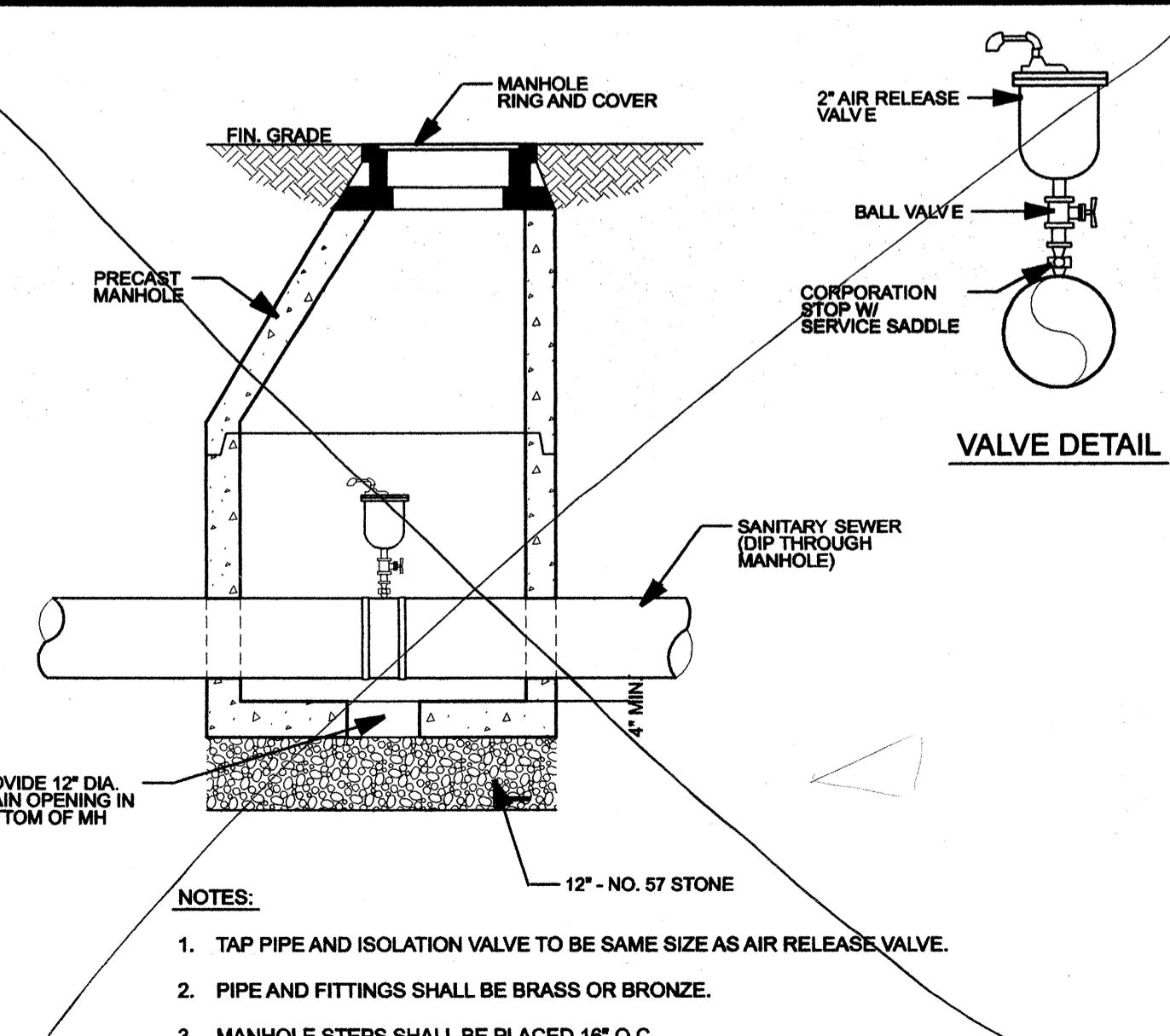
2 DOGHOUSE MANHOLE
C.6.1 NOT TO SCALE



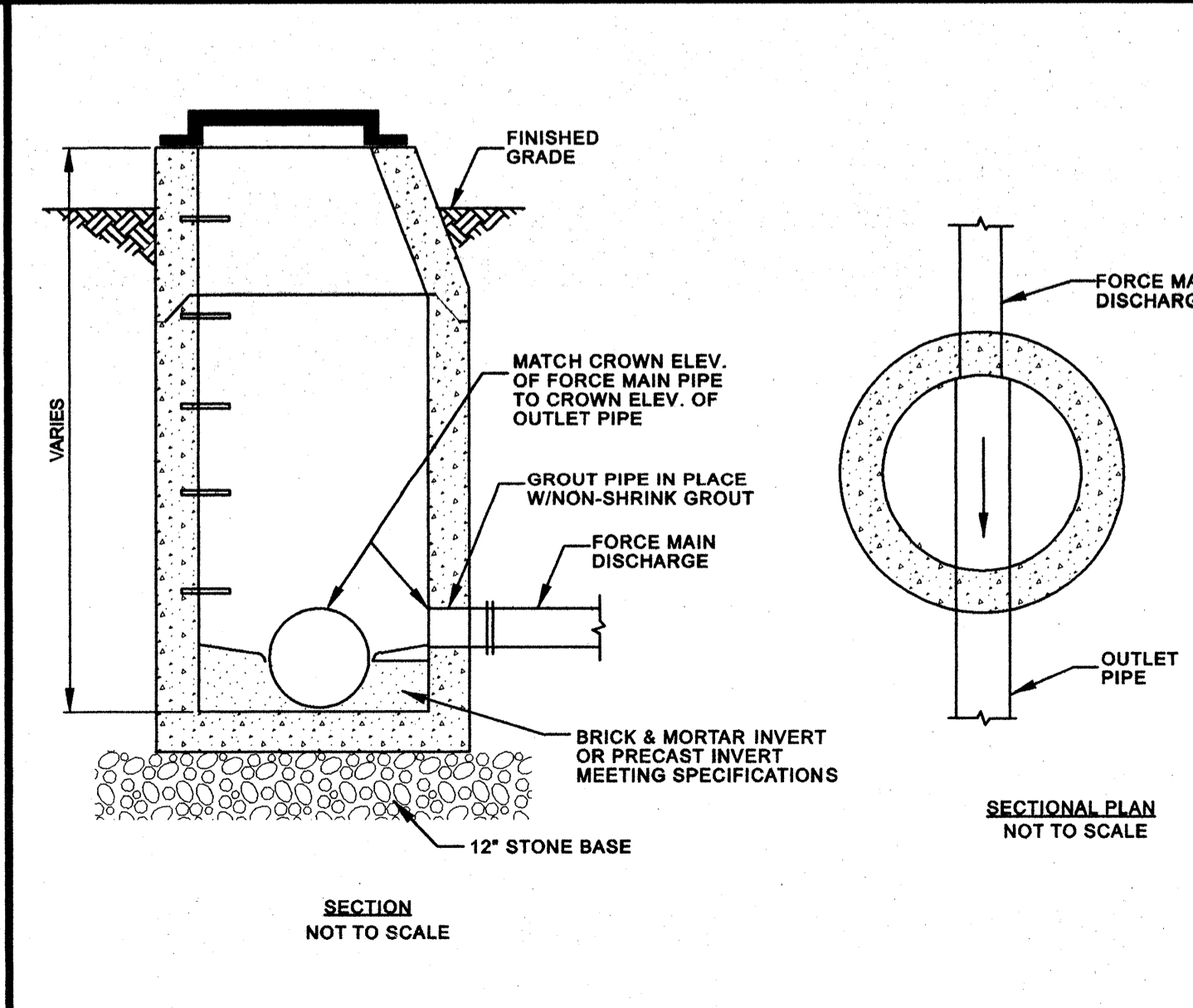
3 STANDARD DROP CONNECTION FOR SANITARY SEWER MANHOLE
C.6.1 NOT TO SCALE



6 OFF-SET AIR RELEASE VALVE & MANHOLE
C.6.1 NOT TO SCALE



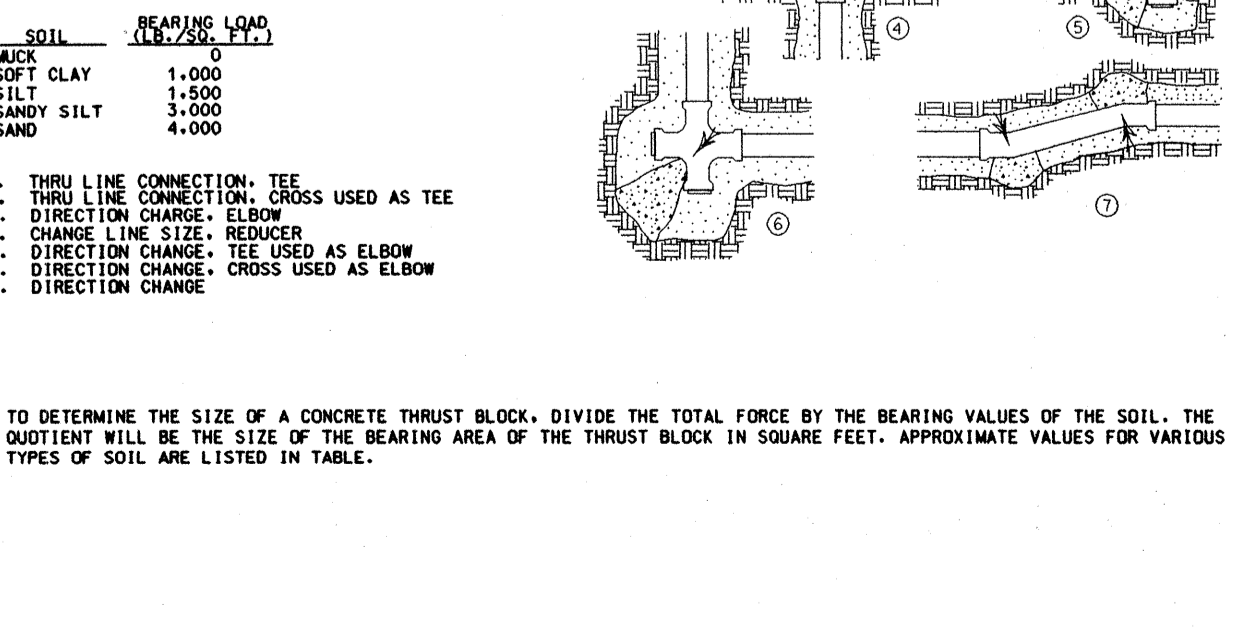
9 AIR RELEASE VALVE & MANHOLE
C.6.1 NOT TO SCALE



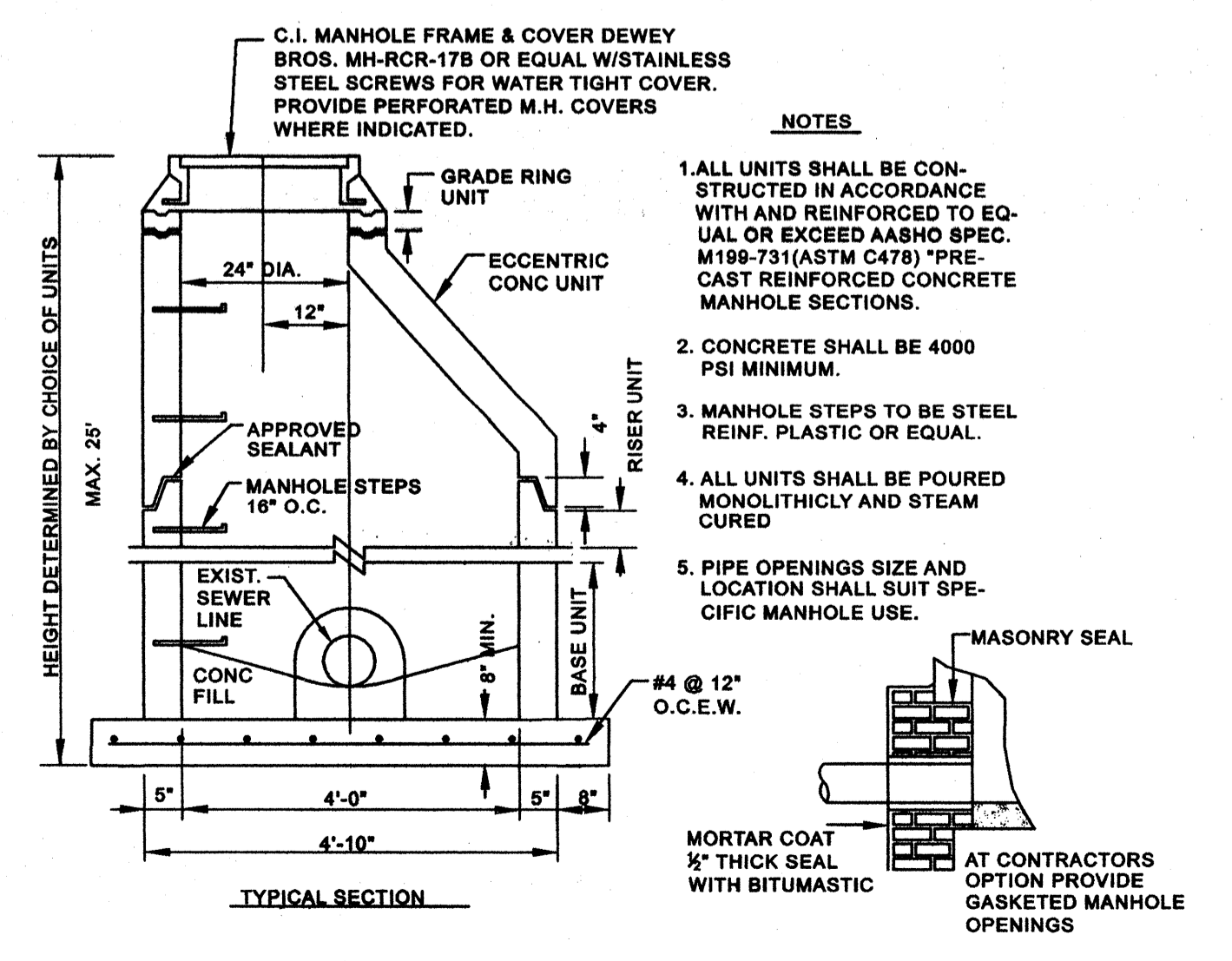
10 FORCE MAIN CONNECTION TO MANHOLE
C.6.1 NOT TO SCALE

RESULTANT THRUST AT FITTING AT 150 P.S.I. WATER PRESSURE

NOMINAL PIPE DIT	TOTAL POUNDS				
	DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4"	2,700	3,800	2,100	1,100	530
6"	5,600	8,000	4,300	2,200	1,100
8"	9,700	13,600	7,400	3,800	1,900
10"	14,500	20,500	11,100	5,700	2,900
12"	20,500	29,000	15,700	8,000	4,000
14"	27,600	39,000	21,100	11,000	5,400
16"	35,700	50,400	27,300	14,000	7,000



7 THRUST BLOCKING
C.6.1 NOT TO SCALE



8 MANHOLE BUILT OVER EXISTING SANITARY SEWER
C.6.1 NOT TO SCALE

PROJECT REFERENCE NO. B-4434 SHEET NO. UC-5

DESIGNED BY: WOOTEN
DRAWN BY: WOOTEN
CHECKED BY: EWH
APPROVED BY: CDB

REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SECTION
PHONE: (919) 250-4128
FAX: (919) 250-4119

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION PLANS ONLY

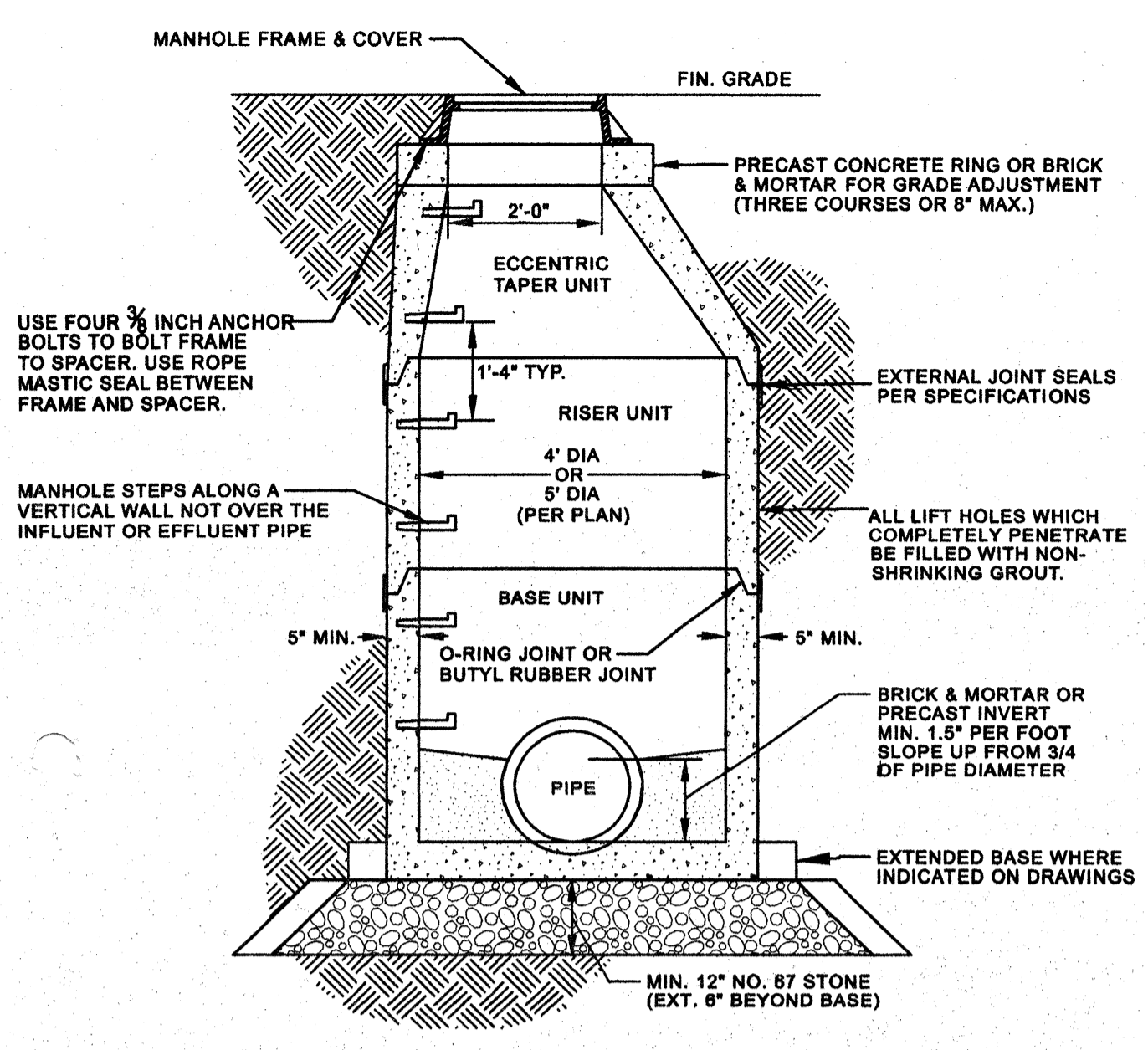
THE WOOTEN COMPANY
ENGINEERING - PLANNING - ARCHITECTURE
300 West 14th Street, Greensboro, NC 27404
252.757.1896 fax 252.757.3221

BERTIE COUNTY
TOWN OF WINDSOR
NORTH CAROLINA
GRAY'S LANDING PUMP STATION AND FORCE MAIN RELOCATION
SEWER DETAILS

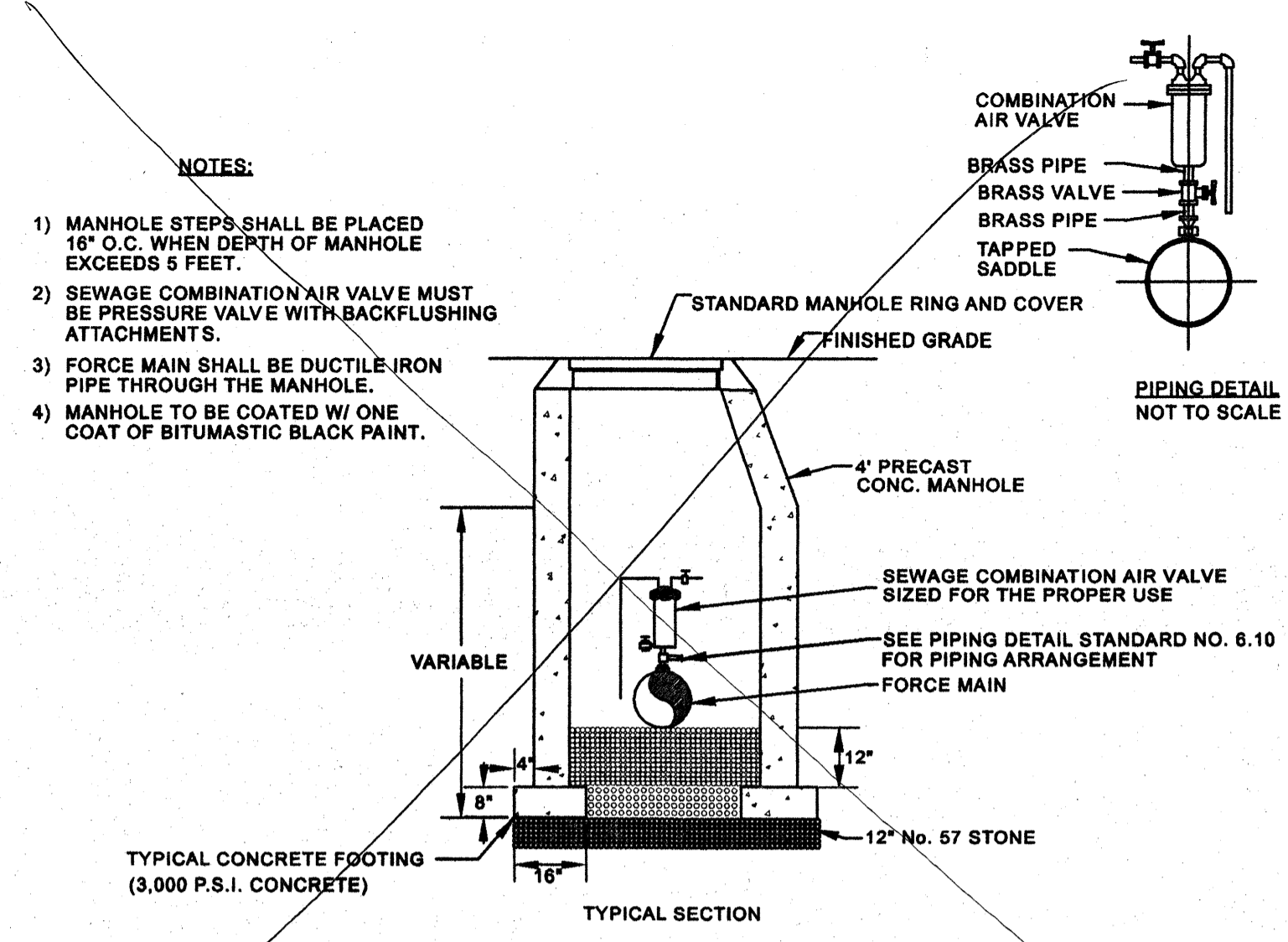
PROFESSIONAL SEAL
3/12/09
3/12/09

DESIGNED BY: ASH
DRAWN BY: SW - DRS
CHECKED BY: ASH
PROJECT NO.: 2290 - BU
DATE: MARCH 2009
SCALE:

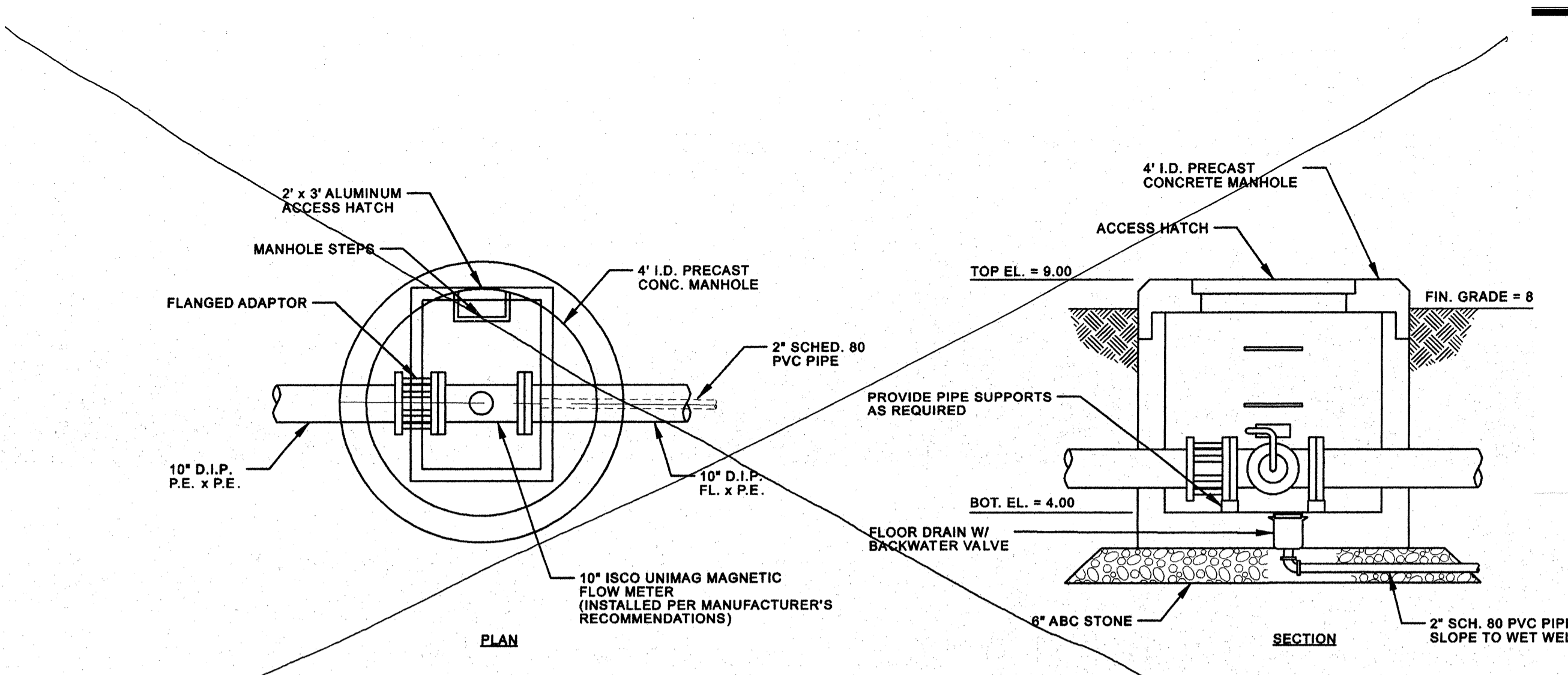
AS NOTED
SHEET
C.6.1



1 PRECAST CONCRETE MANHOLE
C.6.2 NOT TO SCALE



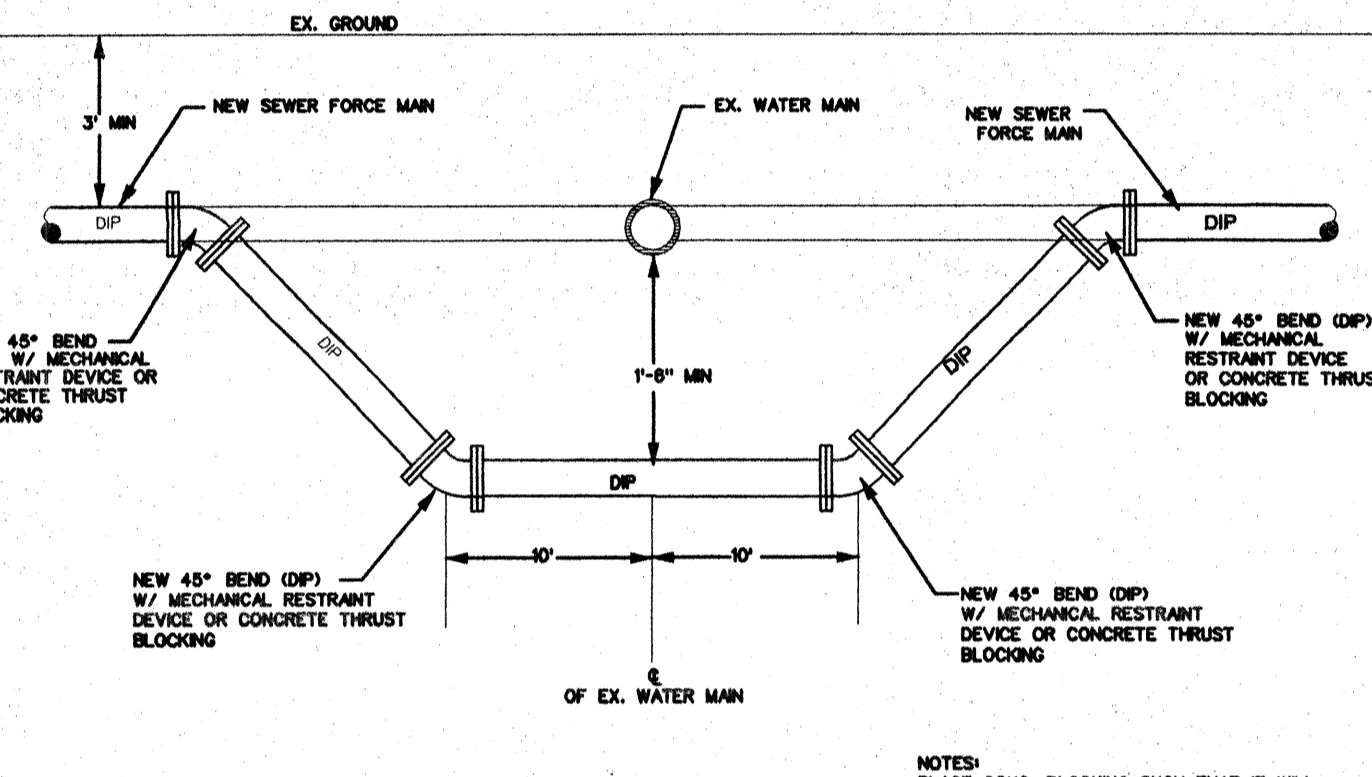
2 COMBINATION SEWAGE AIR VALVE MANHOLE
C.6.2 NOT TO SCALE



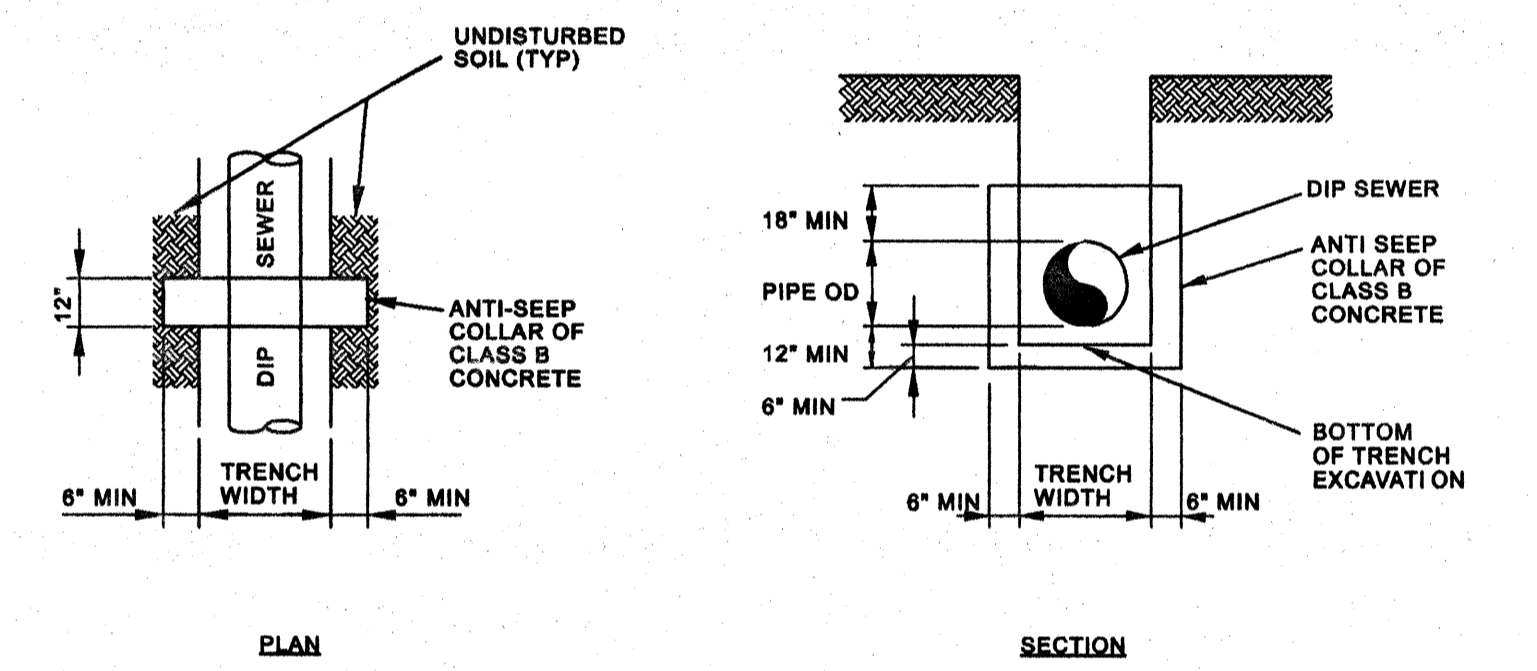
3 FLOW METER VAULT
C.6.2 NOT TO SCALE

PROJECT REFERENCE NO.	B-4434	SHEET NO.	UC-6
DESIGNED BY:	WOOTEN		
DRAWN BY:	WOOTEN		
CHECKED BY:	EMH		
APPROVED BY:	CDB		
REVISED BY:		UTILITY CONSTRUCTION PLANS ONLY	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITIES ENGINEERING SEC. PHONE: (919) 250-4128 FAX: (919) 250-4119	

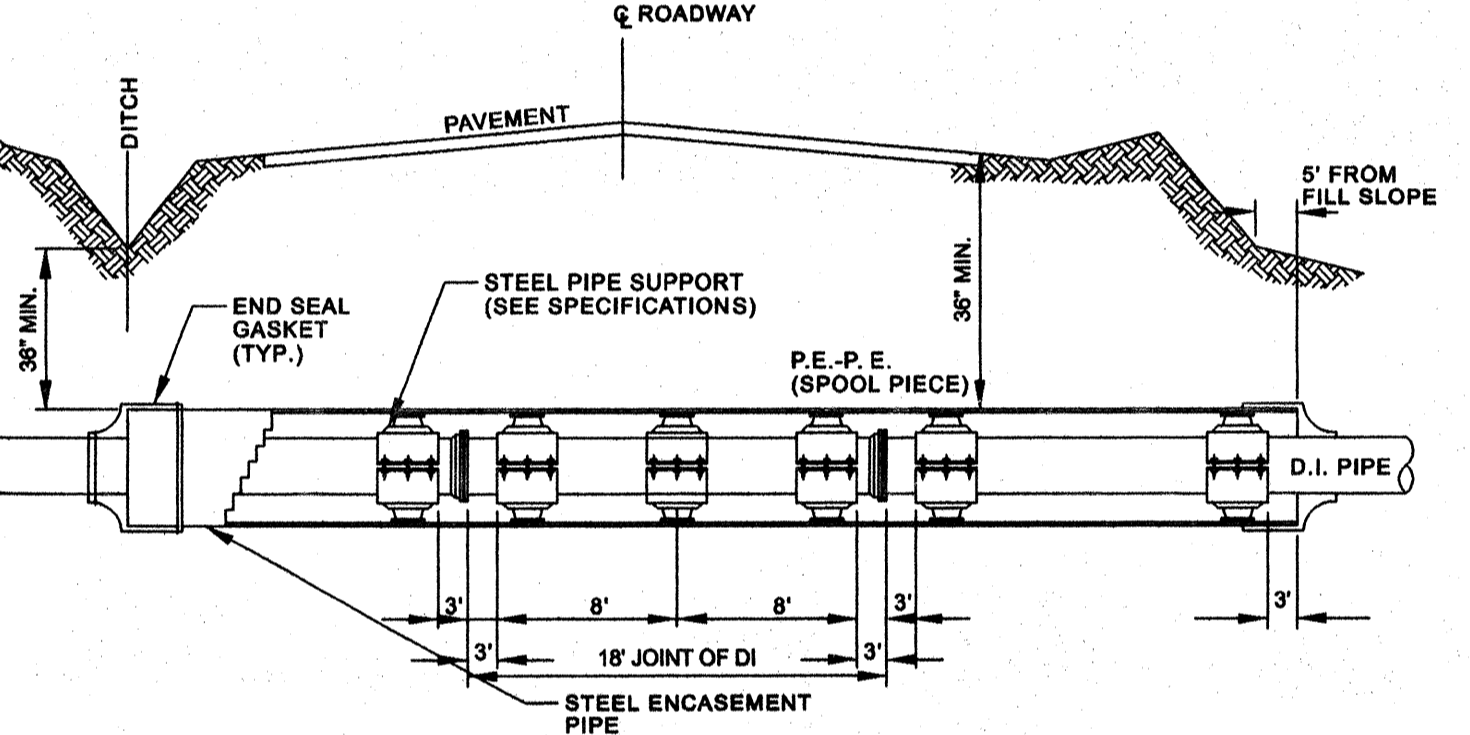
THE WOOTEN COMPANY
 ENGINEERING | PLANNING | ARCHITECTURE
 301 West 14th Street, Greenville, NC 27834
 252-571-0506 Fax 252-757-3221



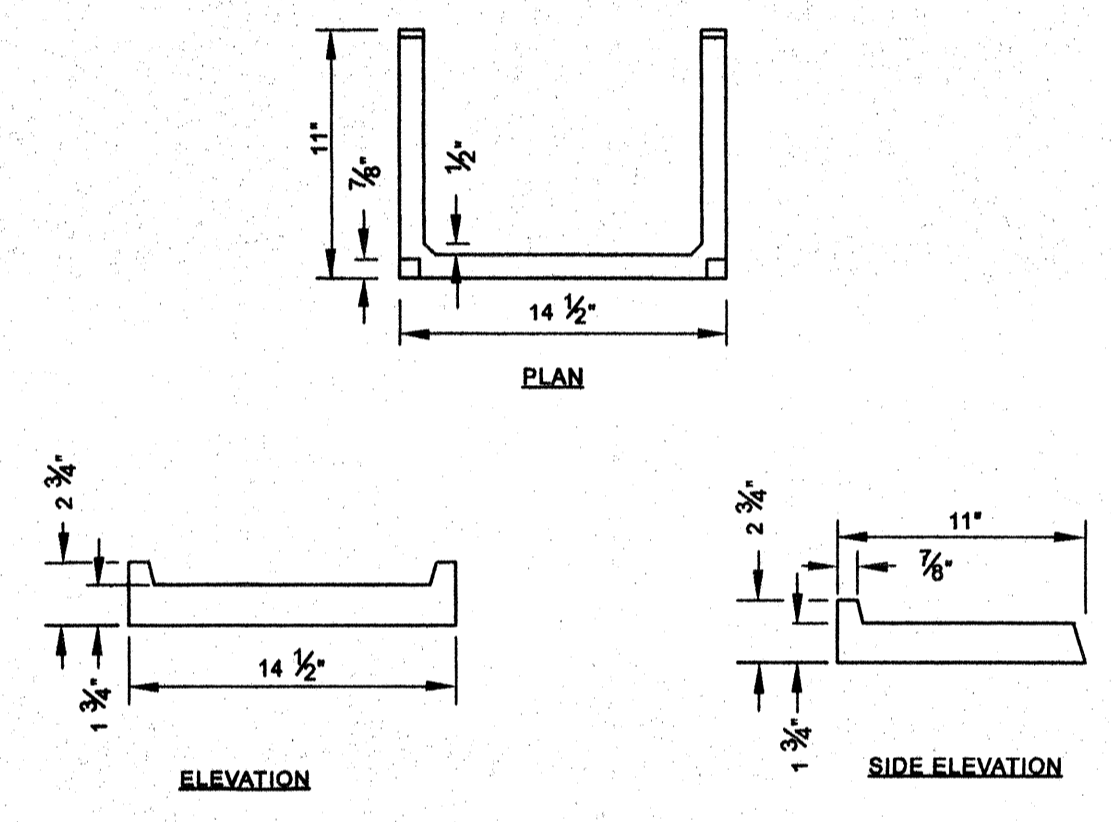
4 WATER MAIN & SEWER CROSSING
C.6.2 NOT TO SCALE



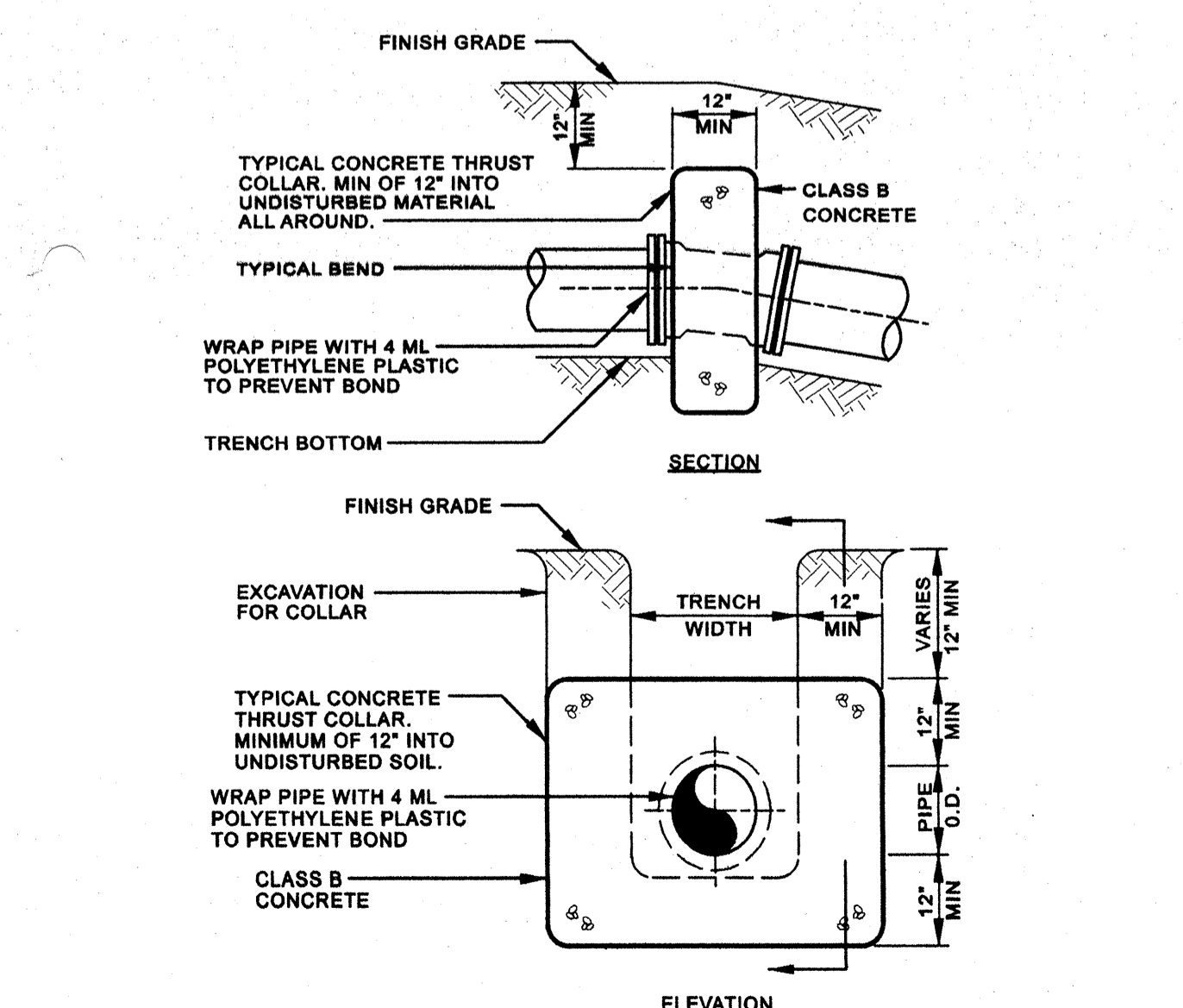
5 ANTI-SEEP COLLAR
C.6.2 NOT TO SCALE



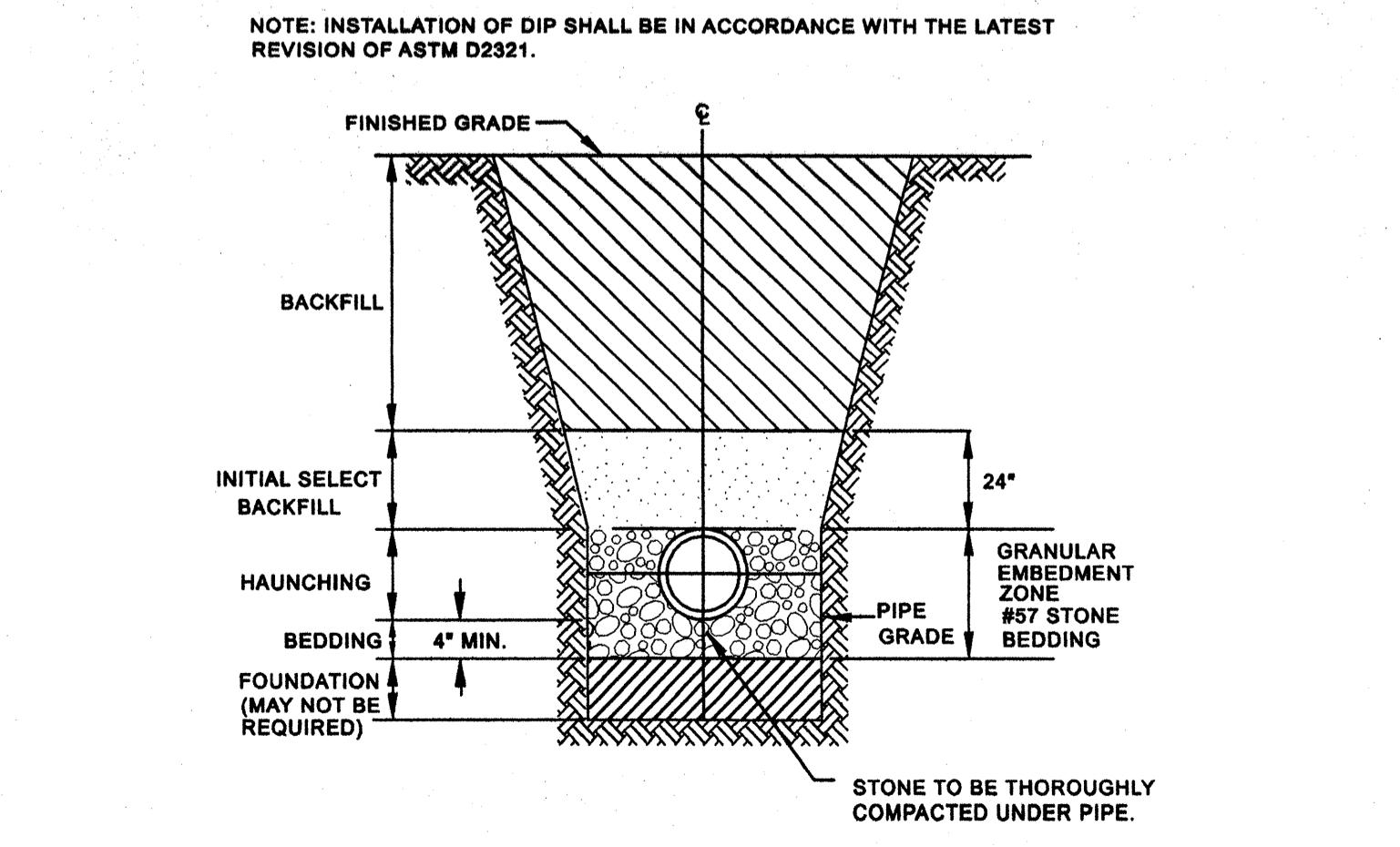
6 STEEL ENCASEMENT DETAIL
C.6.2 NOT TO SCALE



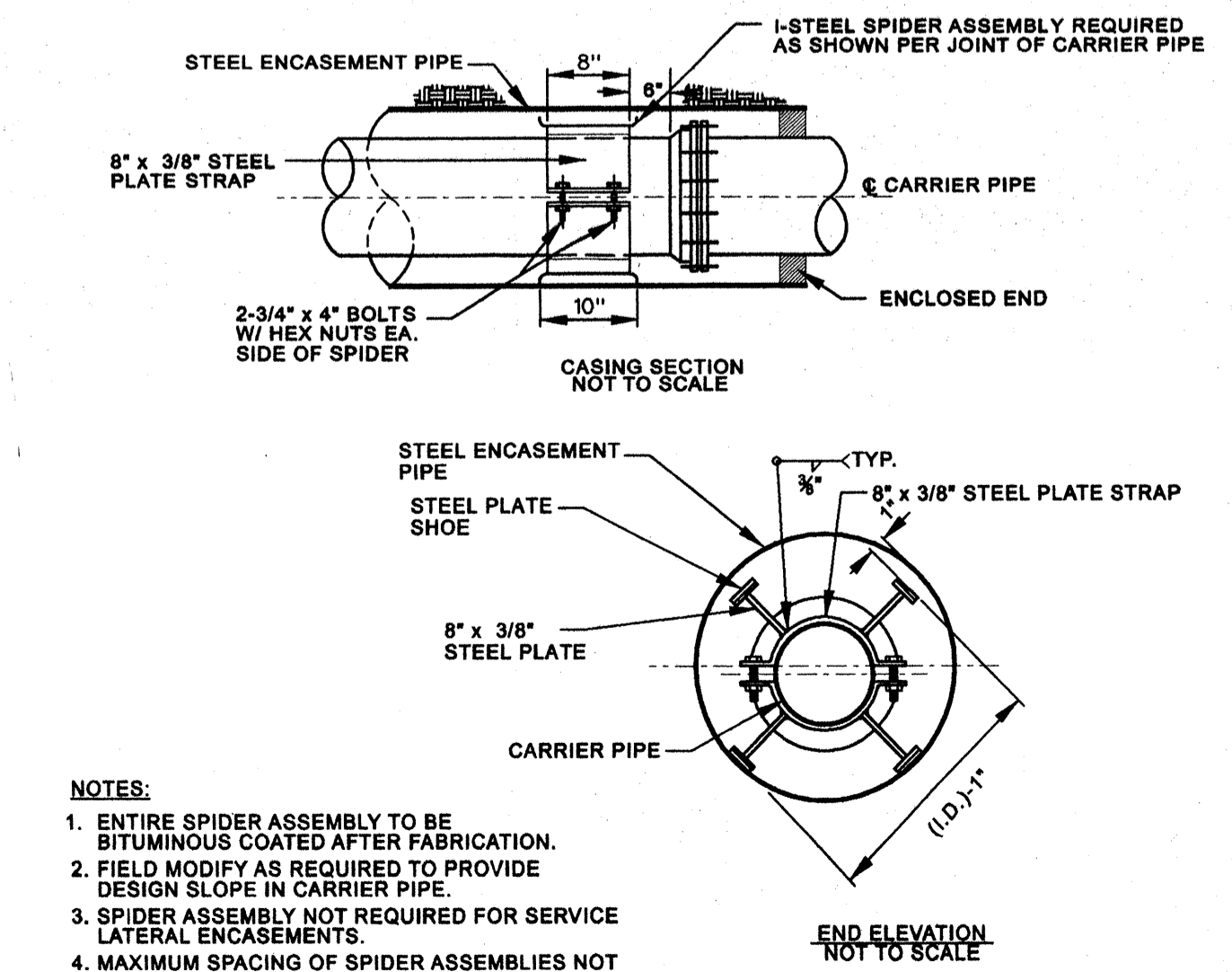
7 MANHOLE STEP DETAIL
C.6.2 NOT TO SCALE



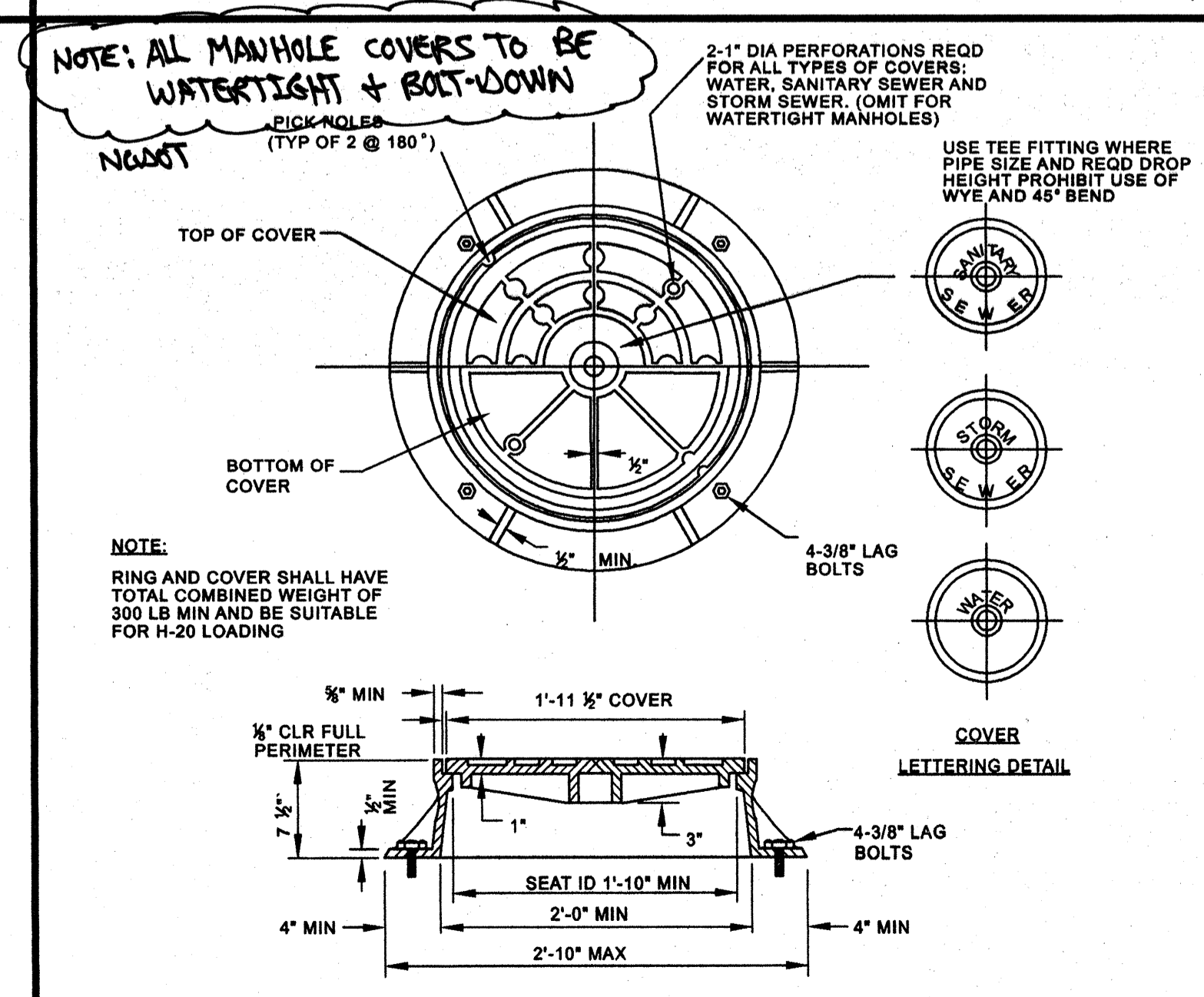
8 THRUST COLLAR FOR VERTICAL BENDS DETAIL
C.6.2 NOT TO SCALE



9 TRENCH SECTION DETAIL GRAVITY SEWER MAIN
C.6.2 NOT TO SCALE



10 SANITARY SEWER STEEL ENCASEMENT
C.6.2 NOT TO SCALE



11 STANDARD MANHOLE RING AND COVER
C.6.2 NOT TO SCALE

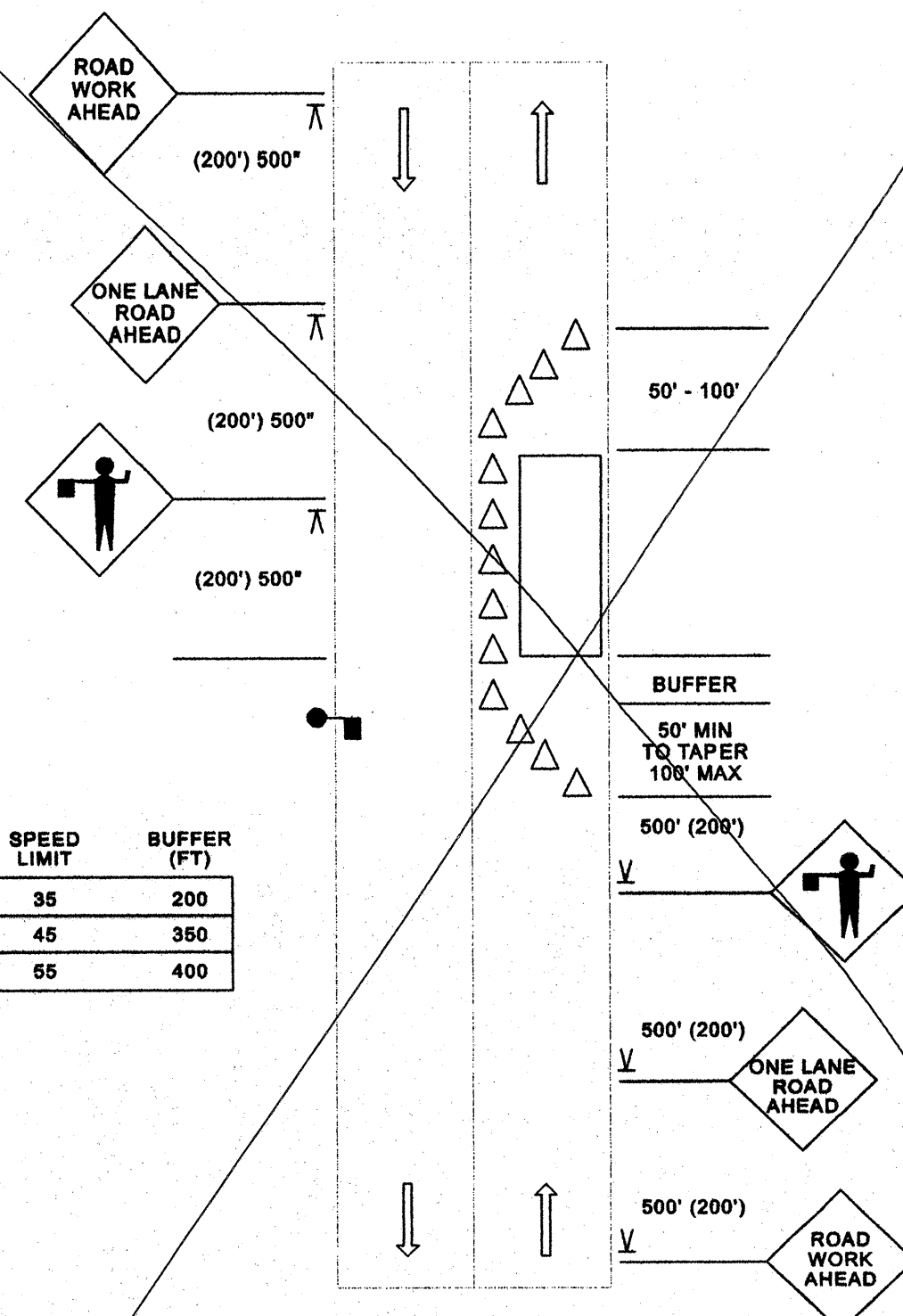
3/12/09 Rev. 1 Marked out Details not Associated with NCDOT Contract
 TOWN OF WINDSOR
 NORTH CAROLINA
 GRAY'S LANDING PUMP STATION AND FORCE MAIN RELOCATION
 SEWER DETAILS
 BERTIE COUNTY

NORTH CAROLINA PROFESSIONAL SEAL
 WOOTEN
 5/12/09

DESIGNED BY:	ASH
DRAWN BY:	SW - DRS
CHECKED BY:	ASH
PROJECT NO.:	2290 - BJ
DATE:	MARCH 2009
SCALE:	AS NOTED

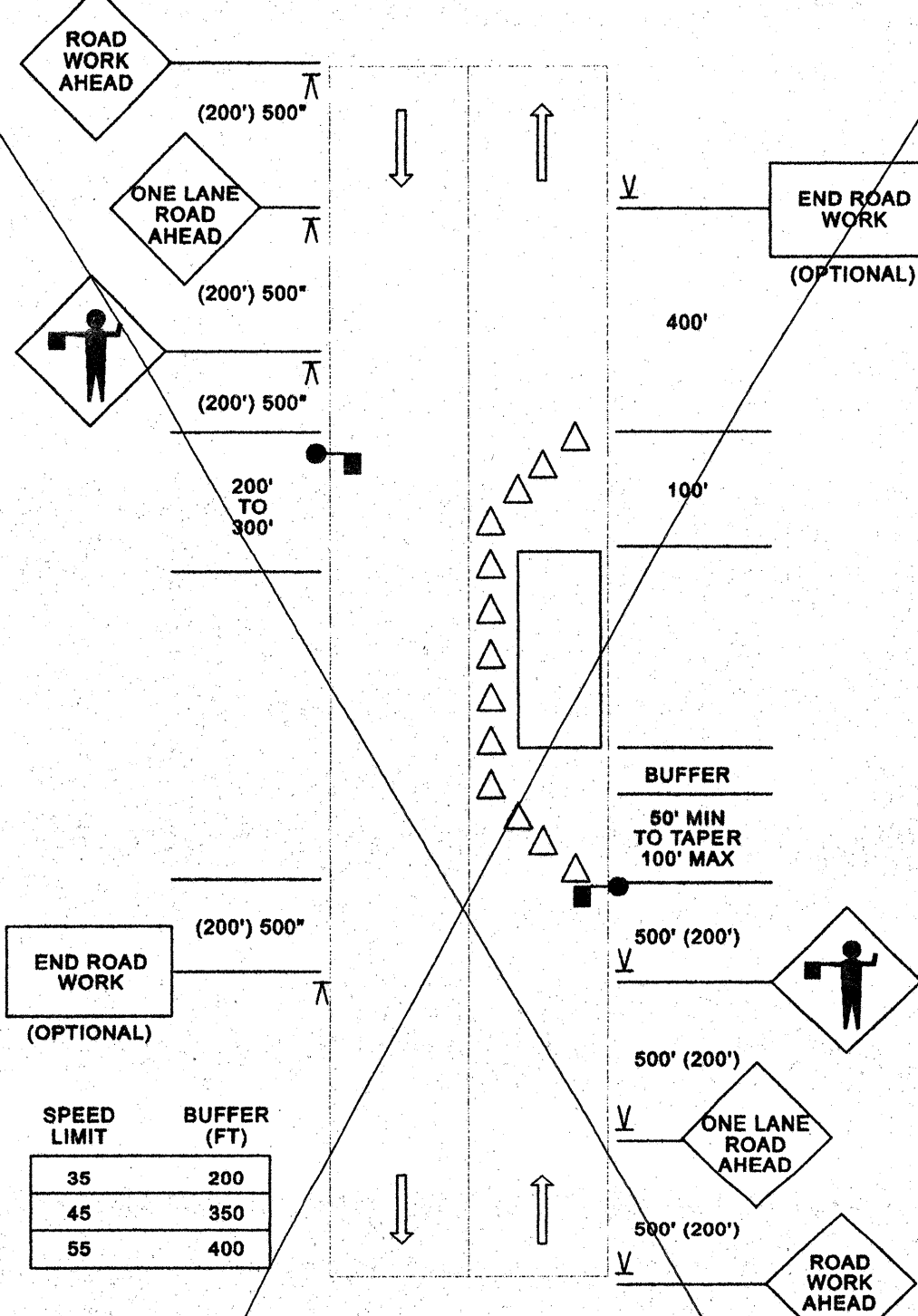
SHEET
C.6.2

LANE CLOSURE ON A TWO-LANE LOW-VOLUME ROAD
(ONE FLAGGER OPERATION)



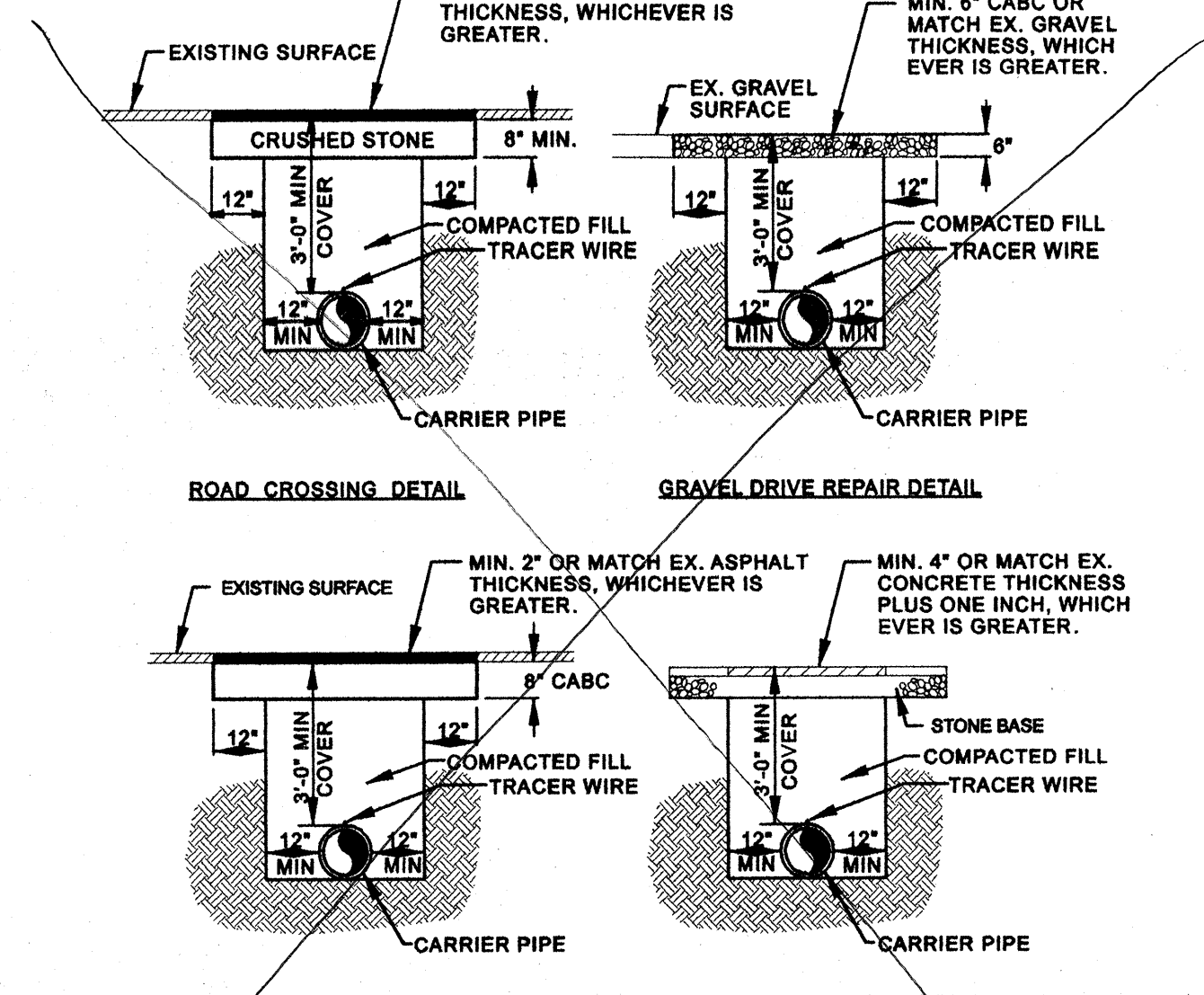
- NOTES:
- A SINGLE FLAGGER MAY BE ADEQUATE FOR LOW VOLUME APPLICATIONS. WHERE ONE FLAGGER IS USED, SUCH AS FOR SHORT WORK AREAS ON STRAIGHT ROADWAYS, THE FLAGGER MUST BE VISIBLE TO APPROACHING TRAFFIC FROM BOTH DIRECTIONS.
 - FOR OPERATIONS OF 80 MINUTES OR LESS, THE "ROAD WORK AHEAD" SIGN MAY BE OMITTED.
 - FOR TWO-LANE, LOW - SPEED (35 MPH OR LESS) URBAN STREETS, A 200 FOOT SIGN SPACING MAY BE USED.

LANE CLOSURE ON A TWO-LANE LOW-VOLUME ROAD
(TWO FLAGGER OPERATION)

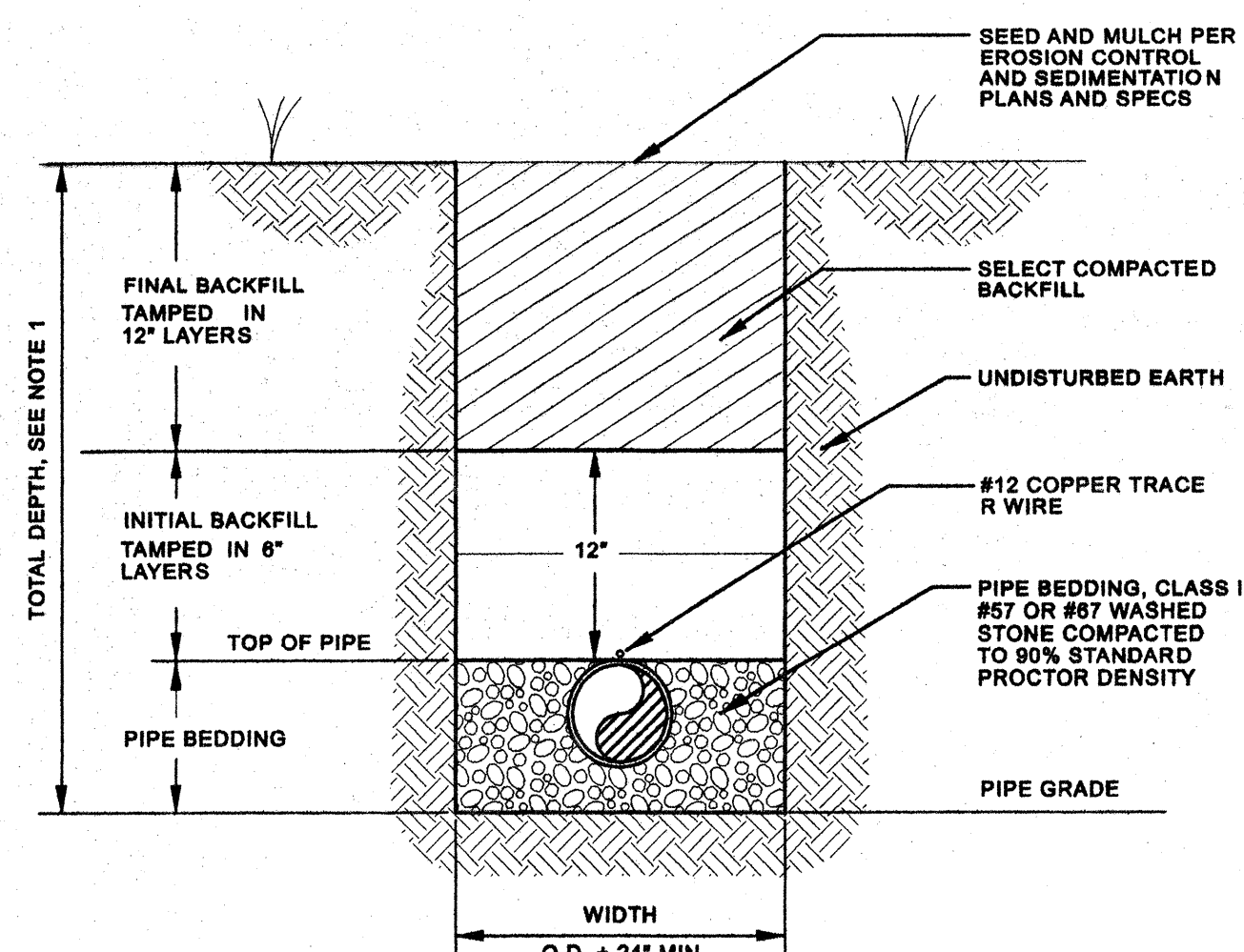


- NOTES:
- FOR OPERATIONS OF 80 MINUTES OR LESS, THE "ROAD WORK AHEAD" SIGN MAY BE OMITTED.
 - FOR TWO-LANE, LOW - SPEED (35 MPH OR LESS) URBAN STREETS, A 200 FOOT SIGN SPACING MAY BE USED.
 - GENERALLY, THE USE OF "END ROAD WORK" SIGNS IS OPTIONAL FOR SHORT DURATION WORK SITES. HOWEVER, IF THE WORK SITE, ITSELF, IS LONG, OR THE BEGINNING AND END OF THE WORK SITE ARE NOT VISIBLE TO A DRIVER PASSING THROUGH IT, THEN "END OF WORK" SIGNS SHOULD BE USED.

1 TRAFFIC CONTROL DETAIL
C.8.1 NOT TO SCALE

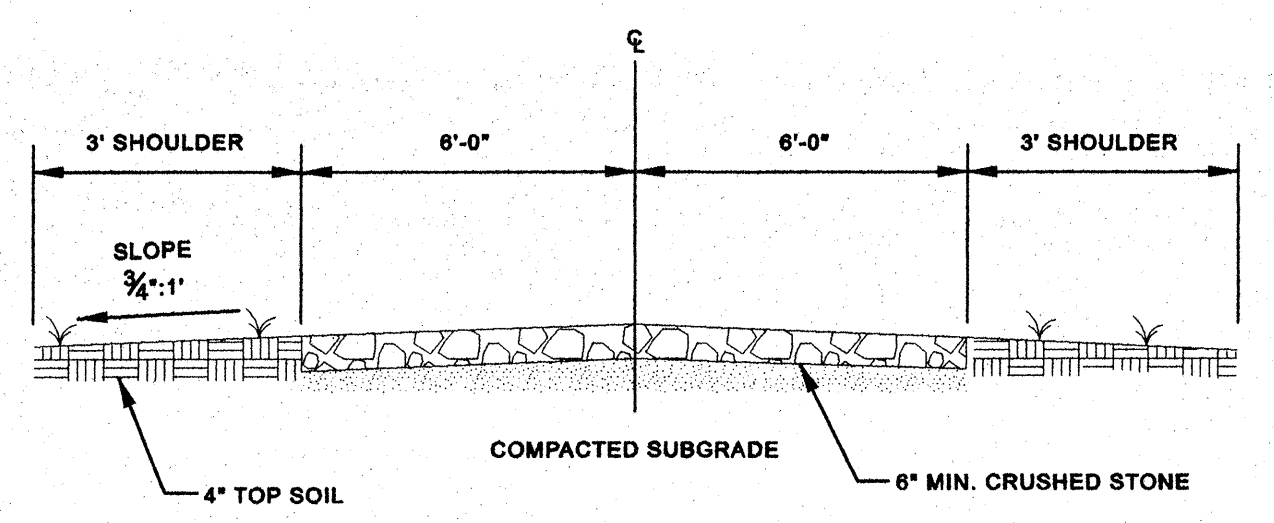


2 TYPICAL TRENCH SURFACE REPAIR DETAIL
C.8.1 NOT TO SCALE

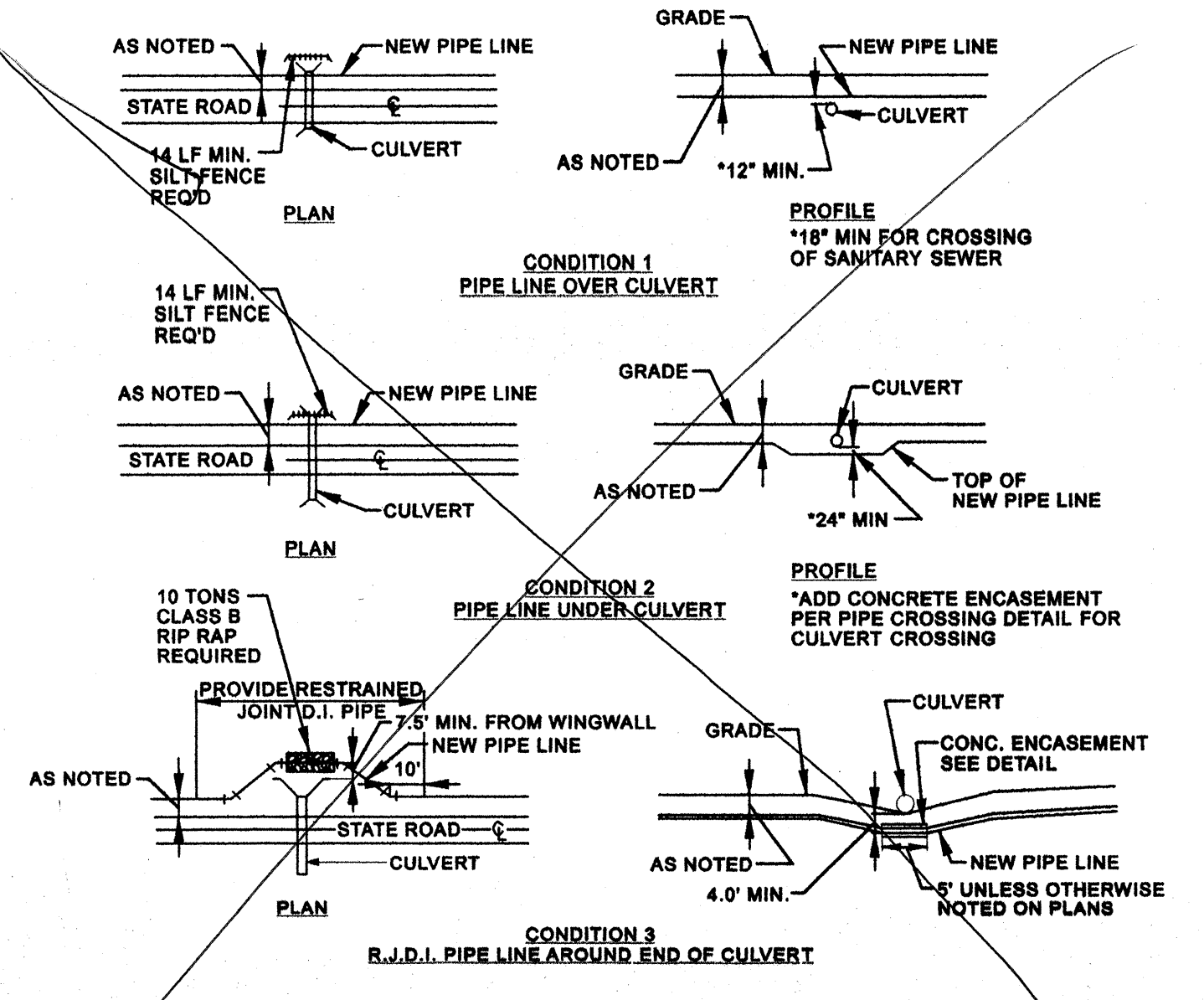


- NOTES:
- TYPICAL FOR PIPE DEPTHS OF 3' TO 14'. FOR DEPTHS GREATER THEN 14' THE INITIAL BACKFILL SHALL BE SAME MATERIAL AS PIPE BEDDING MATERIAL. ALL TRENCHES 20' OR GREATER SHALL BE DUCTILE IRON PIPE.
 - FOR DEEP TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
 - STONE BEDDING FOR PVC WATER MAINS SHALL BE REQUIRED WHERE UNSUITABLE SUBSURFACE CONDITIONS EXIST AS DIRECTED BY THE ENGINEER.
 - NO ROCKS OR BOULDERS 4" OR LARGER SHALL BE USED IN INITIAL BACKFILL.
 - SELECT BACKFILL MATERIAL SHALL BE USED IN ALL LOCATIONS WHERE EXCAVATED MATERIAL IS DETERMINED, BY THE ENGINEER/CONSTRUCTION OBSERVER, TO BE UNSUITABLE FOR BACKFILLING.
 - ALL TRENCHING AND EXCAVATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NORTH CAROLINA OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY MANUAL.

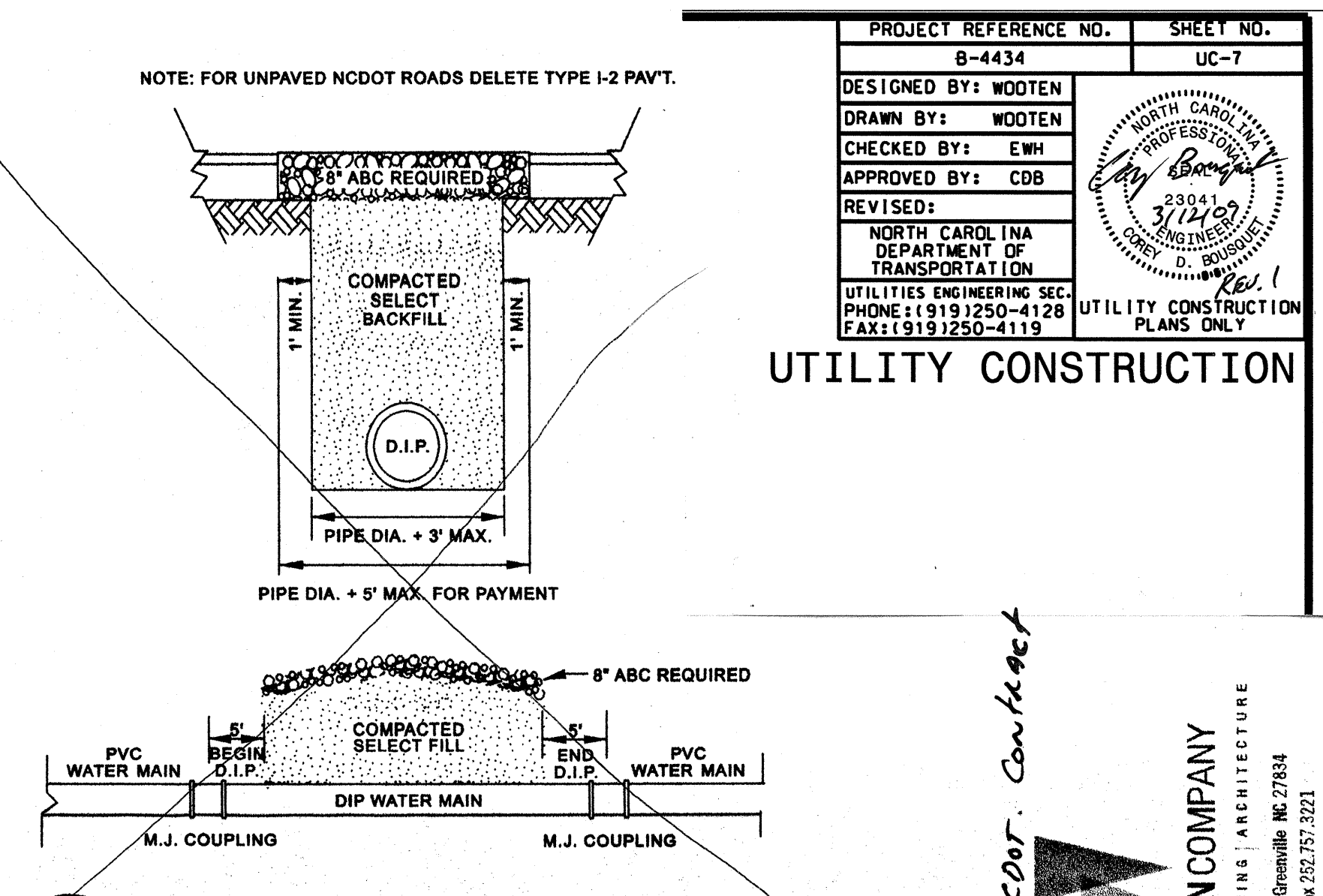
5 TYPICAL PIPE TRENCH AND PIPE BEDDING DETAIL
C.8.1 NOT TO SCALE



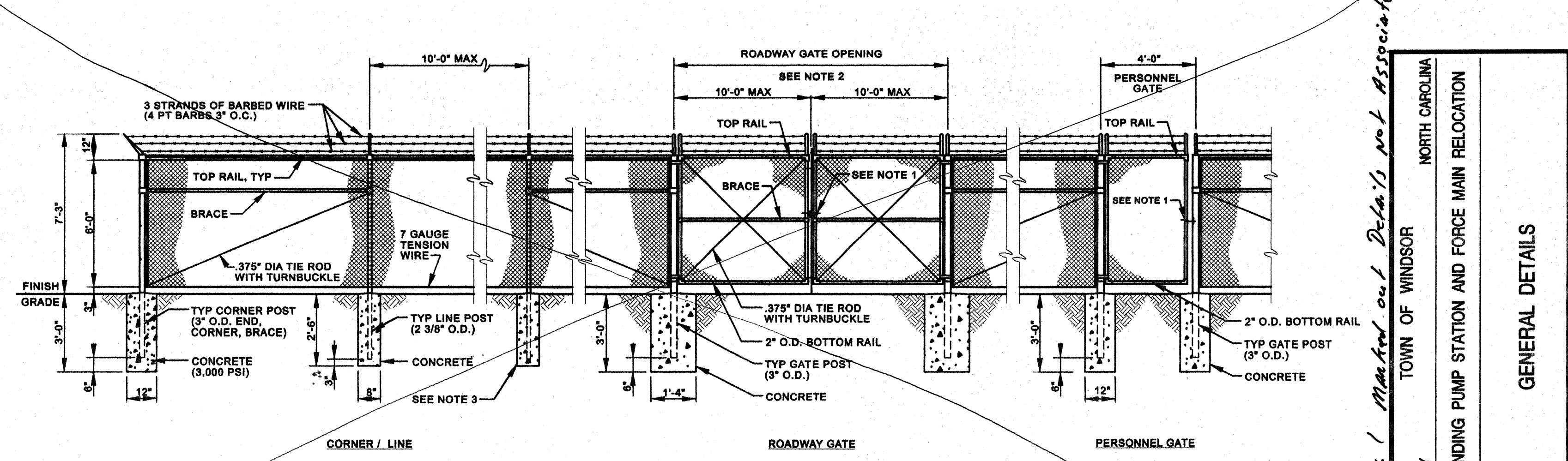
7 TYPICAL ACCESS ROAD SECTION DETAIL
C.8.1 NOT TO SCALE



3 INSTALLATION OF PIPE LINE AT CULVERT DETAIL
C.8.1 NOT TO SCALE

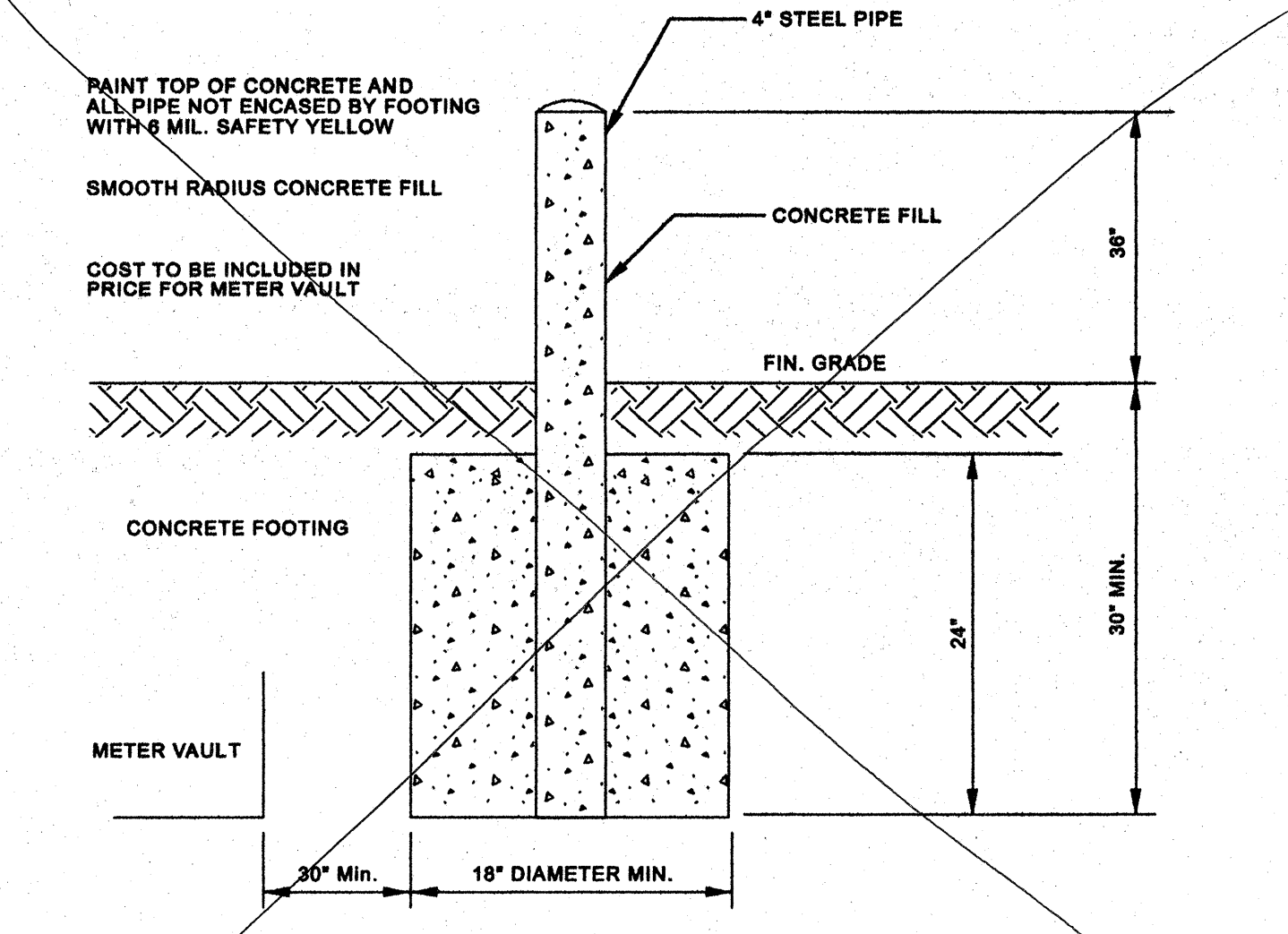


4 NCDOT ROAD OPEN CUT DETAIL
C.8.1 NOT TO SCALE

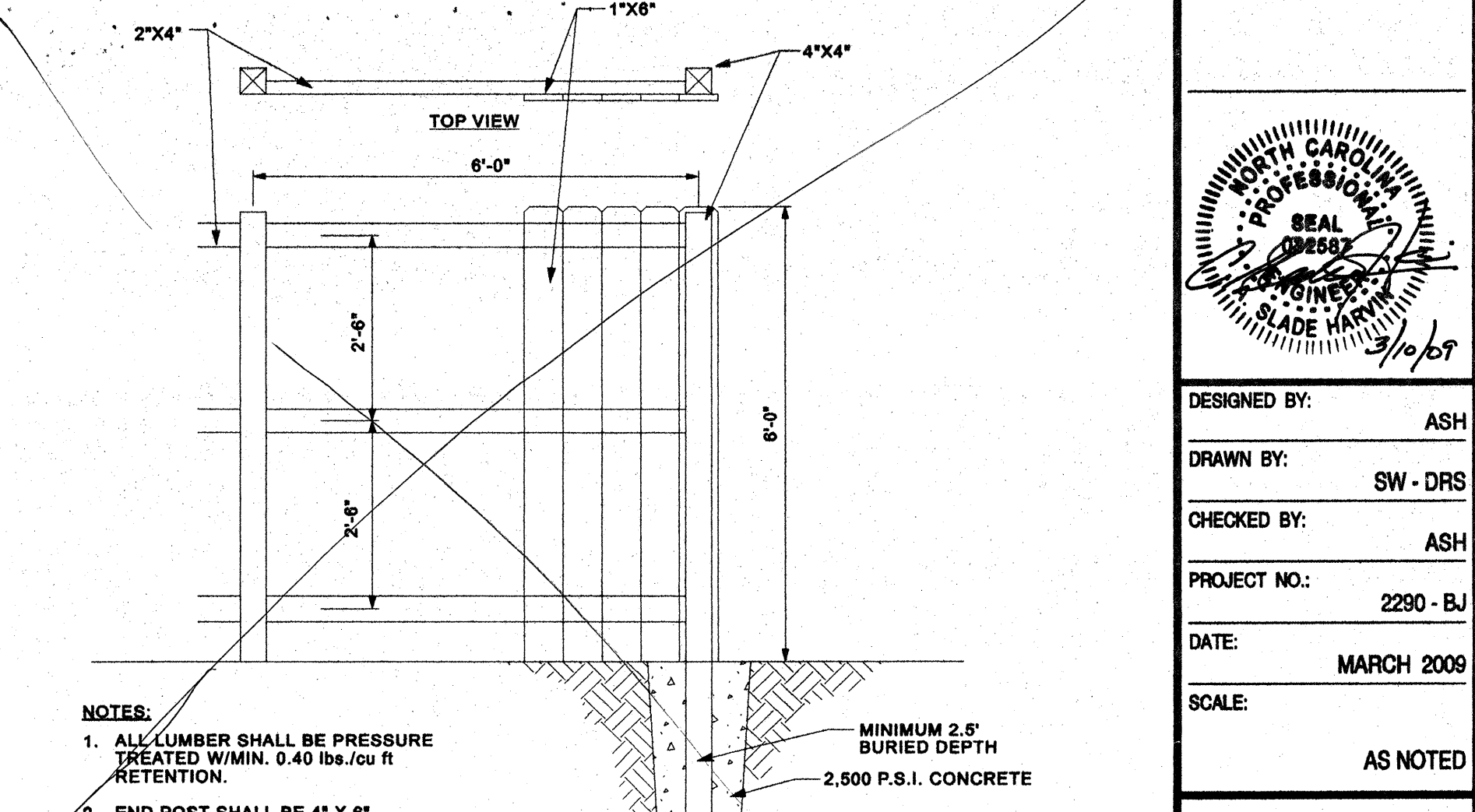


- NOTES:
- PROVIDE LOCKING LATCHING DEVICES FOR SECURITY. (PADLOCKS BY OWNER)
 - PROVIDE LATCHING DEVICES TO HOLD GATES IN OPEN POSITION.
 - IF ROCK IS ENCOUNTERED WHEN SETTING POSTS, DRILL HOLES 4-INCHES LARGER IN DIAMETER THAN POSTS AND BACKFILL TO GRADE WITH CLASS "B" CONCRETE.

6 CHAIN LINK FENCE DETAIL
C.8.1 NOT TO SCALE



8 PIPE BOLLARD DETAILS
C.8.1 NOT TO SCALE



9 6' PRIVACY FENCE DETAIL
C.8.1 NOT TO SCALE

PROJECT REFERENCE NO. 8-4434 SHEET NO. UC-7
 DESIGNED BY: WOOTEN
 DRAWN BY: WOOTEN
 CHECKED BY: EWH
 APPROVED BY: CDB
 REVISED:
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 UTILITIES ENGINEERING SEC.
 PHONE: (919) 250-4128
 FAX: (919) 250-4119
 UTILITY CONSTRUCTION PLANS ONLY

THE WOOTEN COMPANY
 ENGINEERING PLANNING ARCHITECTURE
 301 West 14th Street, Greenville, NC 27834
 252.757.1096 Fax 252.757.3221

NORTH CAROLINA
 TOWN OF WINDSOR
 BERTIE COUNTY
 GRAY'S LANDING PUMP STATION AND FORCE MAIN RELOCATION
 GENERAL DETAILS

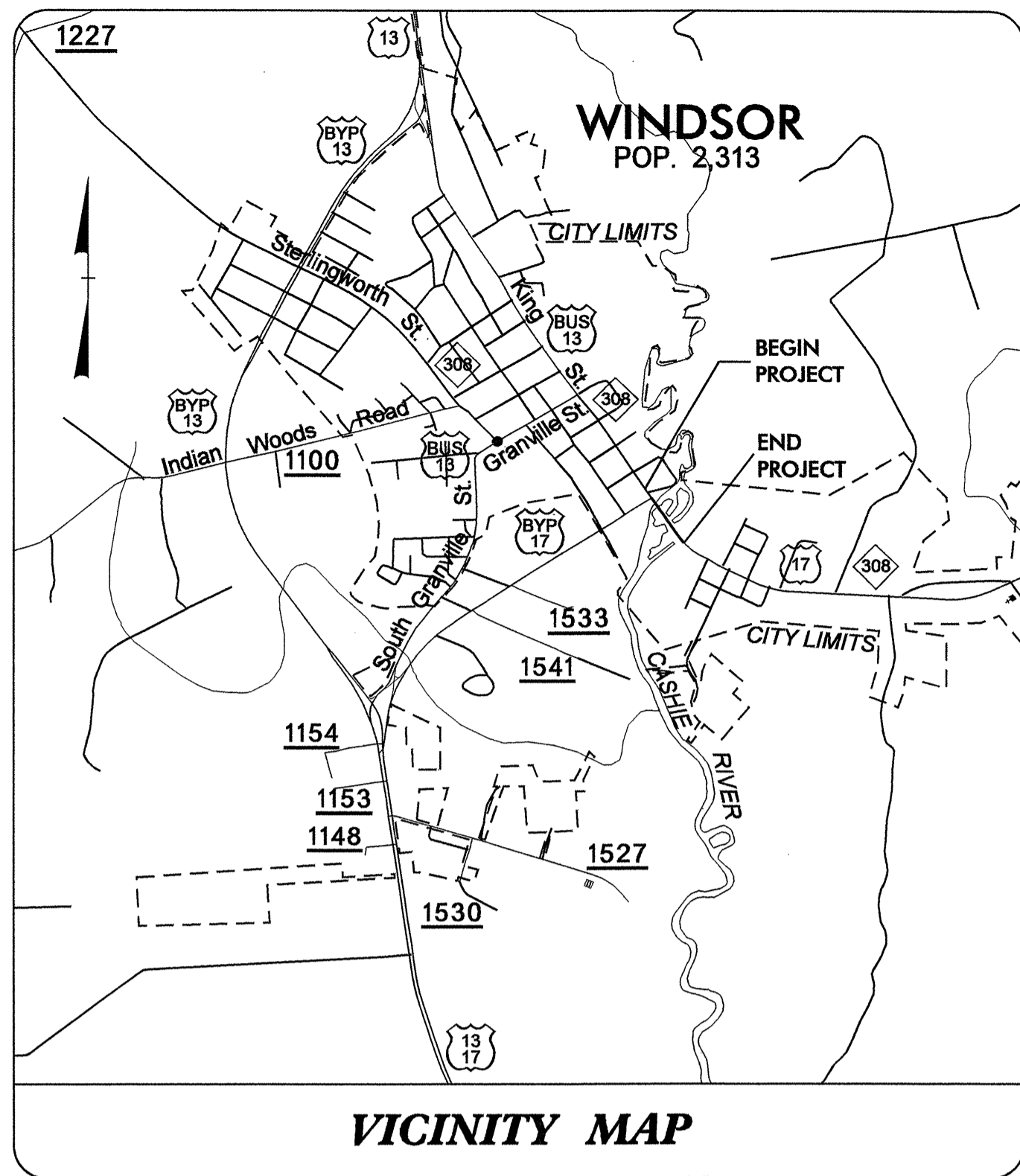
DESIGNED BY: ASH
 DRAWN BY: SW - DRS
 CHECKED BY: ASH
 PROJECT NO.: 2290 - BJ
 DATE: MARCH 2009
 SCALE: AS NOTED

3/12/09 Rev. 1 Matched out Detail's not Associated with NCDOT Contract
 SEAL
 3/10/09

SHEET
 C.8.1

I2-MAR-2009 08:23
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TIP PROJECT: B-4434



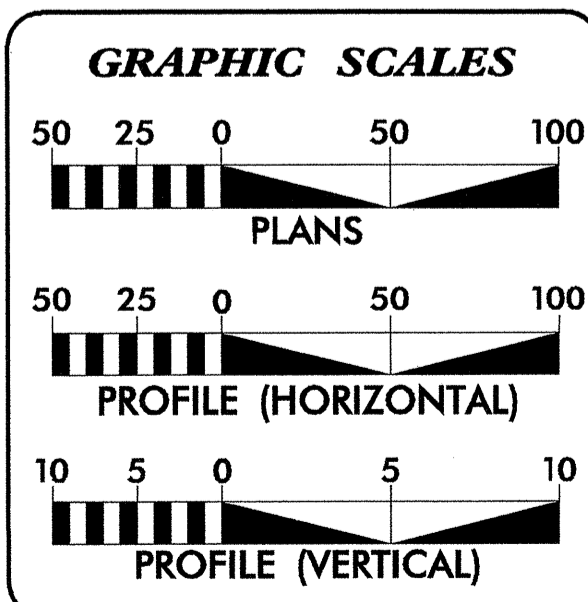
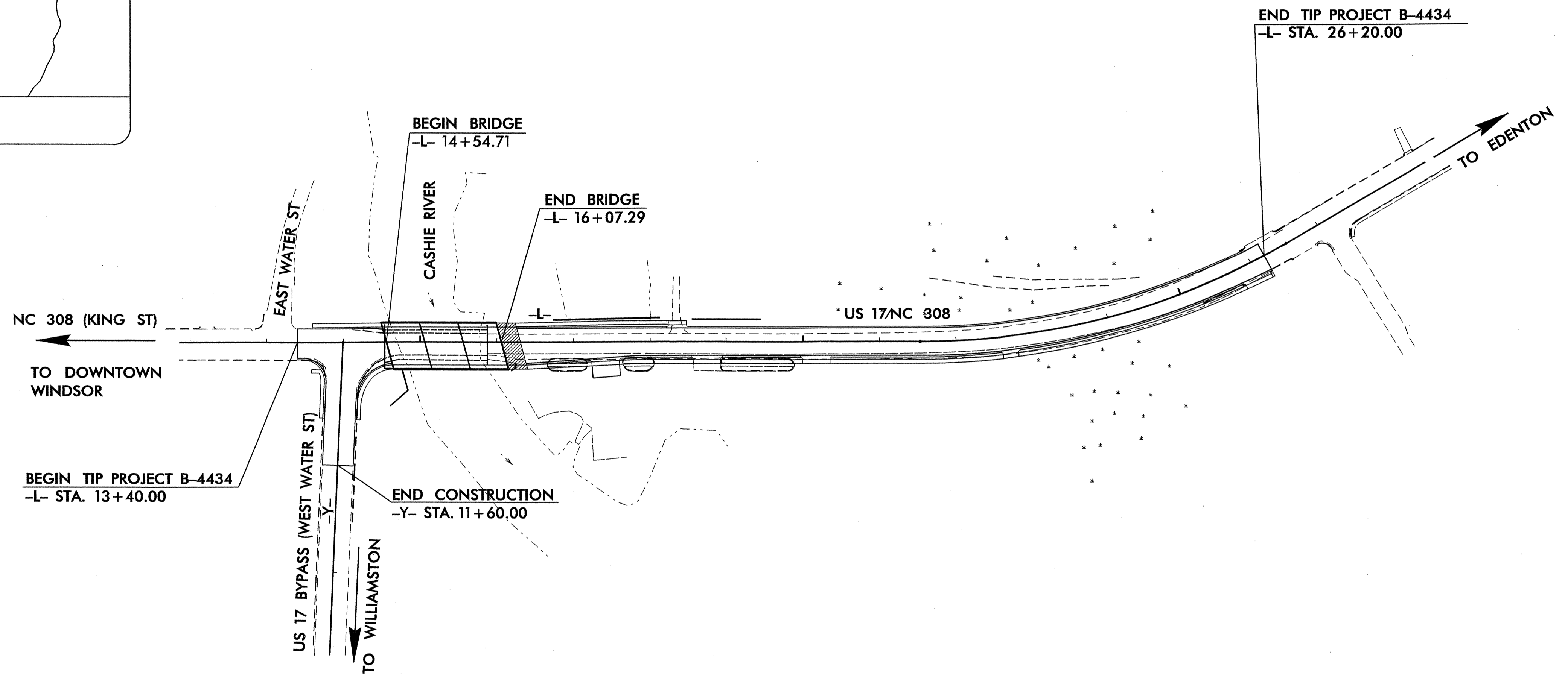
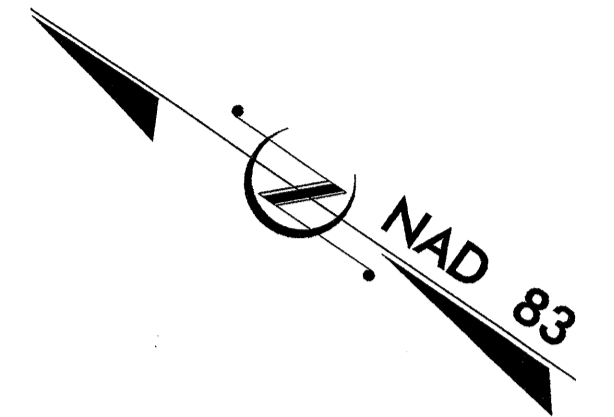
VICINITY MAP

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

UTILITIES BY OTHERS PLANS
 BERTIE COUNTY

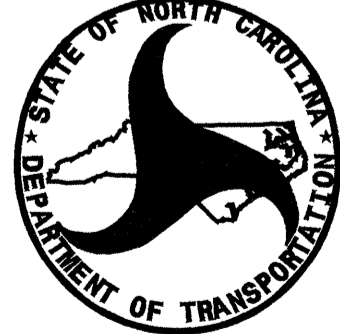
LOCATION: BRIDGE NO. 14 OVER CASHIE RIVER ON US-17 /NC-308
 TYPE OF WORK: RELOCATION OF WATER AND TELEPHONE LINES

T.I.P. NO.	SHEET NO.
B-4434	UO-1



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UO-1	TITLE SHEET
UO-2	UTILITY BY OTHERS PLAN SHEET

- UTILITY OWNERS ON PROJECT**
- (1) FORCE MAIN SANITARY SEWER: TOWN OF WINDSOR
 - (2) GRAVITY SANITARY SEWER: TOWN OF WINDSOR
 - (3) POWER: TOWN OF WINDSOR
 - (4) WATER: TOWN OF WINDSOR
 - (5) TELEPHONE /COMMUNICATIONS: EMBARQ



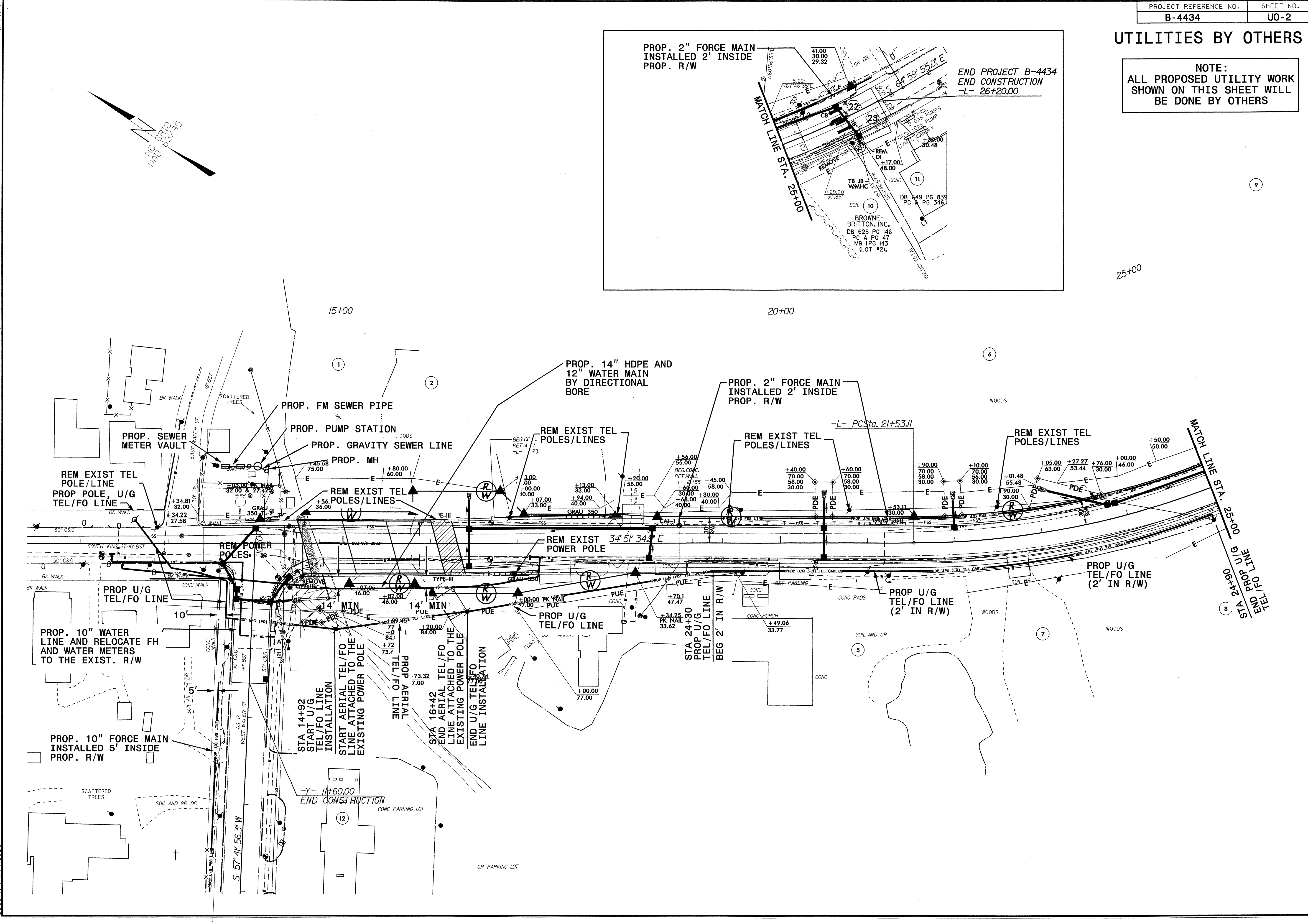
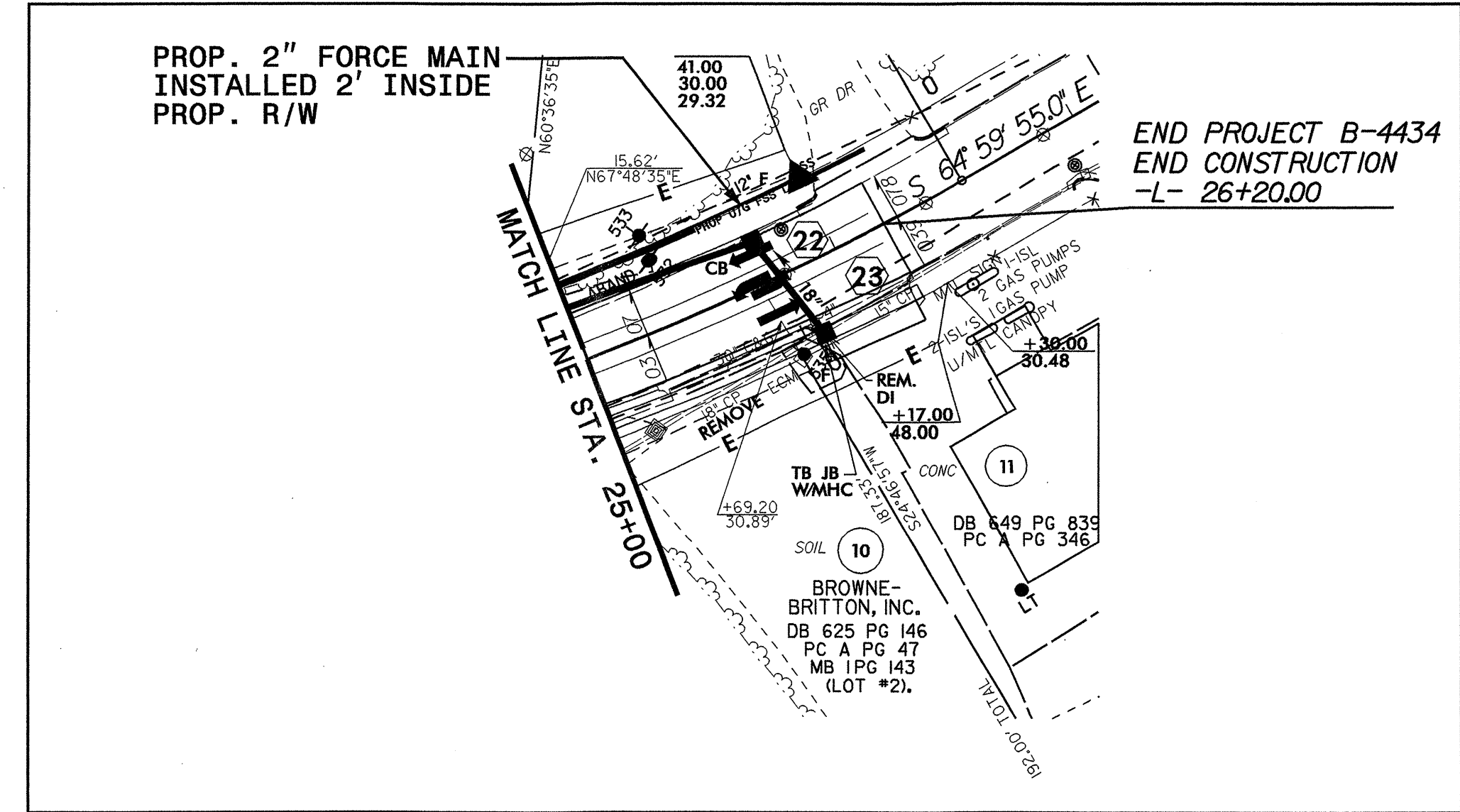
PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
 UTILITIES ENGINEERING
 SECTION**

1591 MAIL SERVICES CENTER
 RALEIGH NC 27699-1591
 PHONE (919) 259-4128
 FAX (919) 259-4119

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Corey Bousquet, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Eric Haugaard, P.E. UTILITIES PROJECT DESIGNER

UTILITIES BY OTHERS

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



5/14/99
 12-MAR-2009 08:30
 Utilities\Bentley\proj\B4434_uo_plans.dgn