

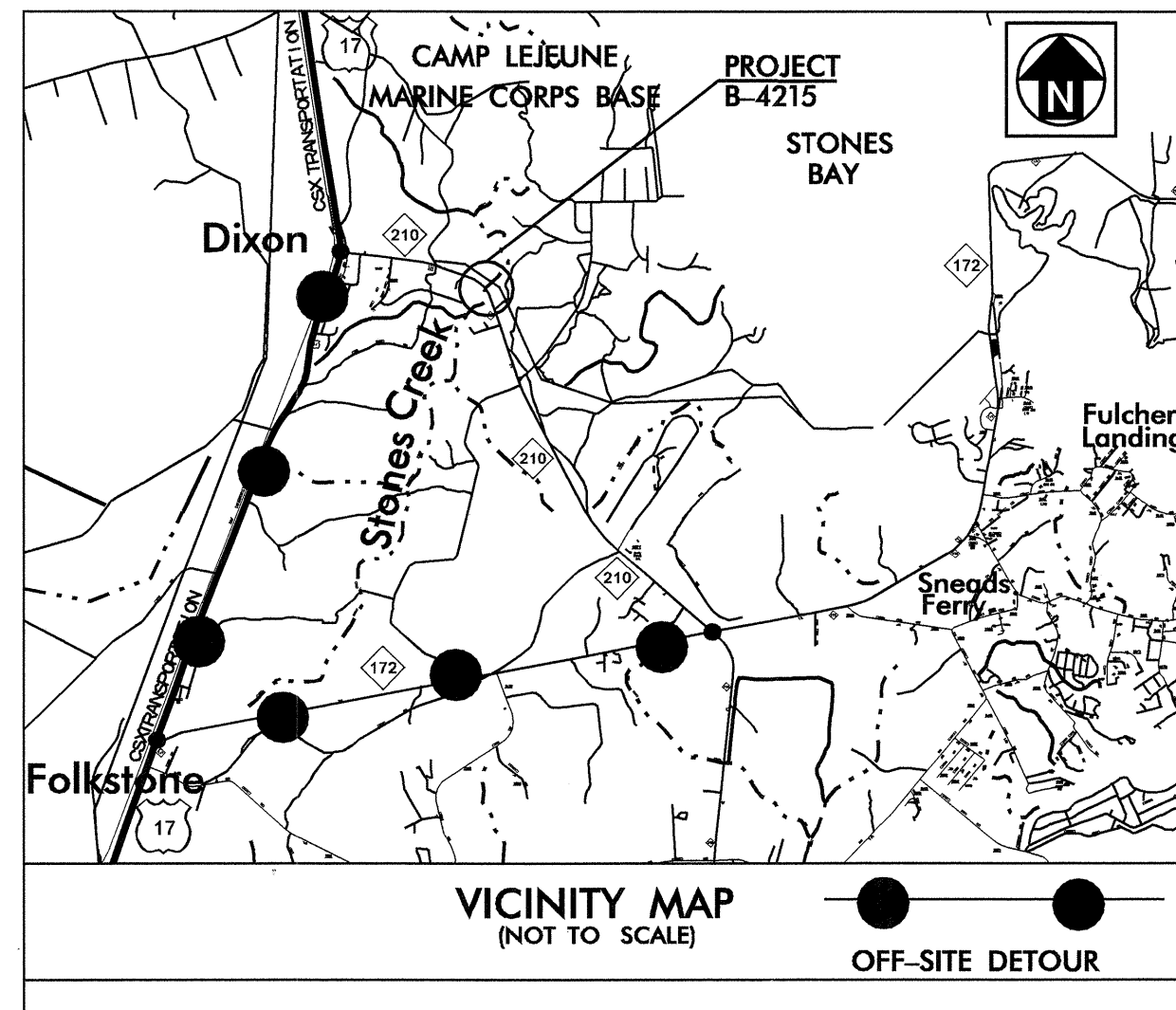
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UTILITY CONSTRUCTION PLANS  
ON SLOW COUNTY**

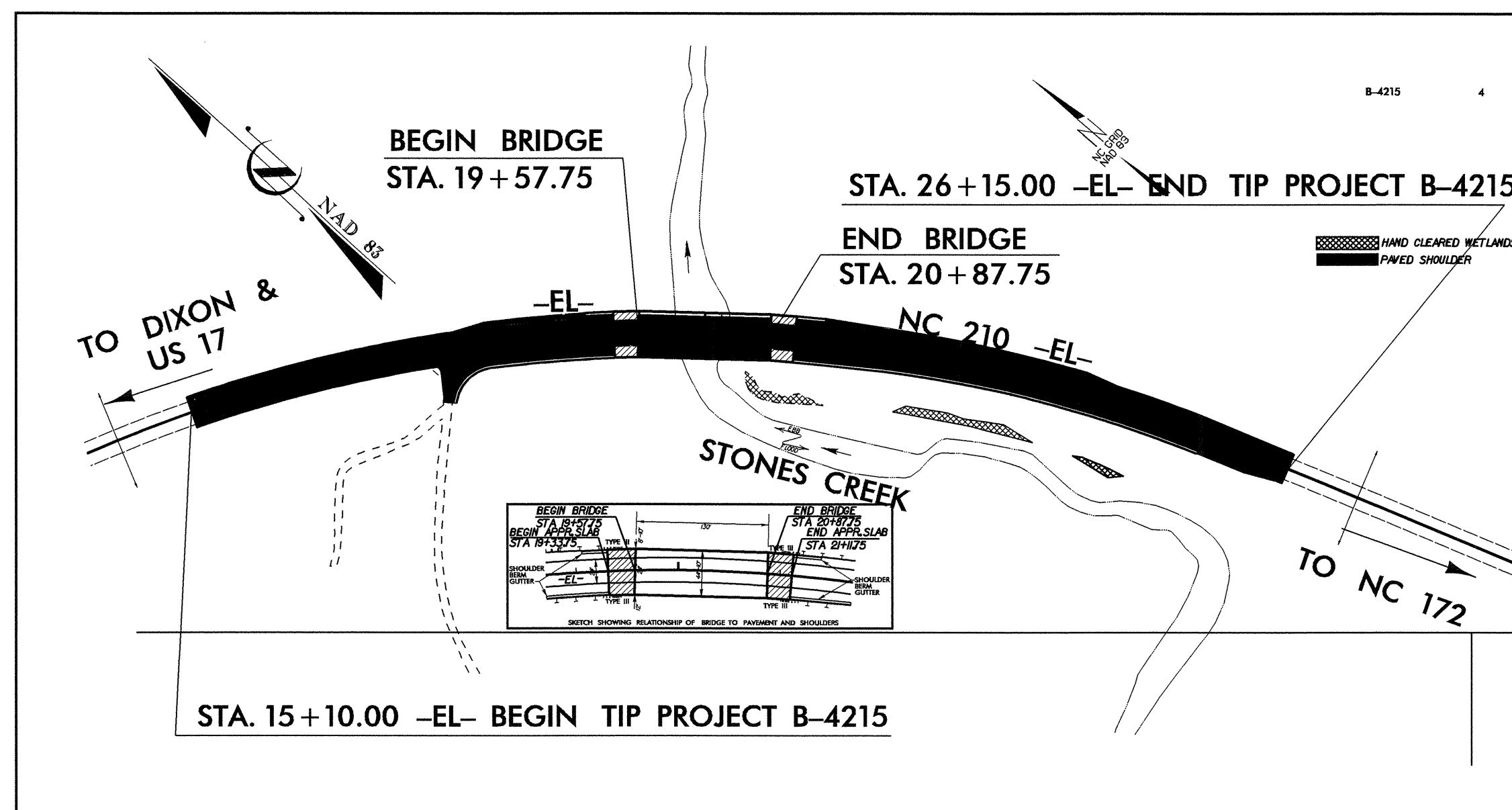
**LOCATION: BRIDGE 19 OVER STONES CREEK ON NC 210**

**TYPE OF WORK: SEWER AND WATER MAIN RELOCATION**

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional Symbols

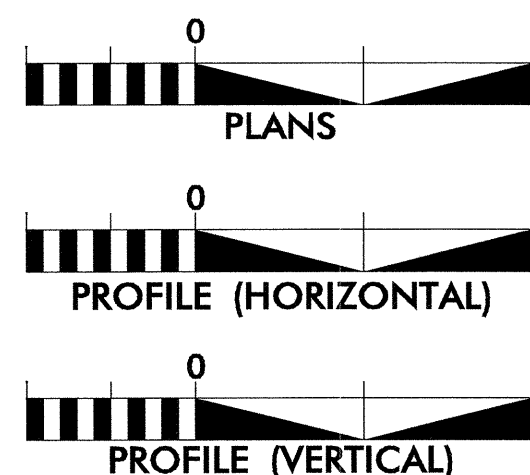


UC-4



**2006 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES**

**GRAPHIC SCALES**

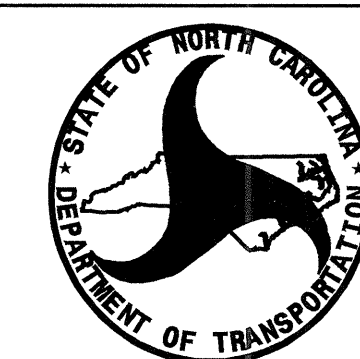
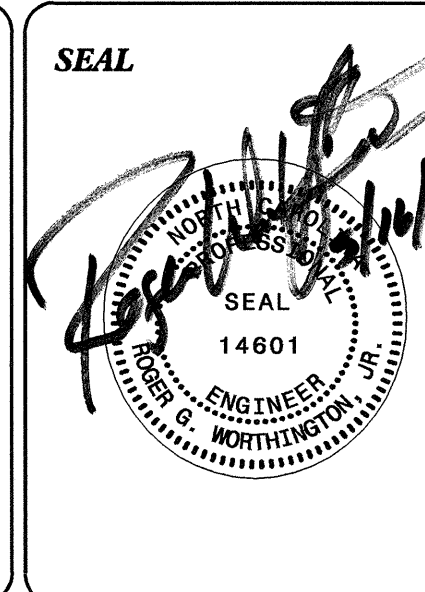


**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2 THRU UC-2A	DETAILS - OTHERS
UC-3	DETAILS SHEET - UTILITIES
UC-4	PLAN SHEET
UC-4	PROFILES

**WATER AND SEWER OWNERS ON PROJECT**

- (1) WATER: ONSLOW COUNTY WATER AND SEWER AUTHORITY
- (2) SANITARY SEWER: NORTH TOPSAIL UTILITIES, INC.



PREPARED IN THE OFFICE OF:  
**DIVISION OF HIGHWAYS  
PROJECT SERVICES  
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  
**Roger Worthington, P.E.** UTILITIES SQUAD LEADER PROJECT ENGINEER  
**Bernie Bumgarner** UTILITIES PROJECT DESIGNER

**TIP PROJECT: B-4215**

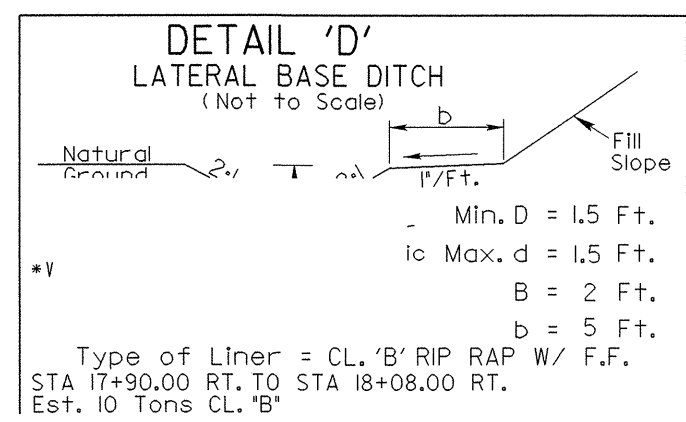
**UTILITIES BY OTHERS**

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

SPRINT TO REMOVE POLES AND RELOCATE OVERHEAD TELEPHONE CABLES/FO CABLES UNDER CREEK BY DIRECTIONAL BORE. RELOCATE CABLES TO INSIDE EDGE OF R/W ON NORTH SIDE OF BRIDGE (47' FROM -EL- CENTERLINE)

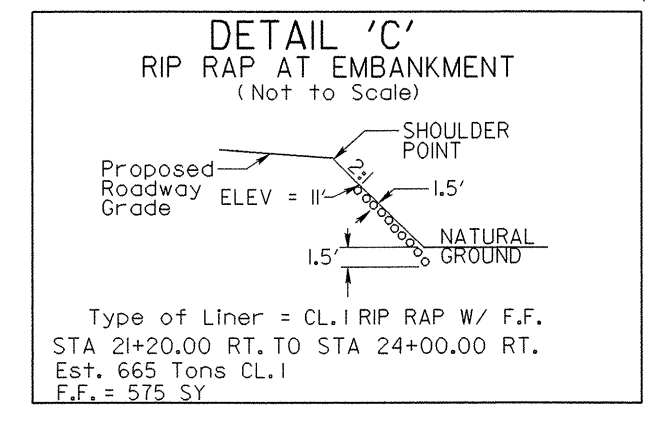
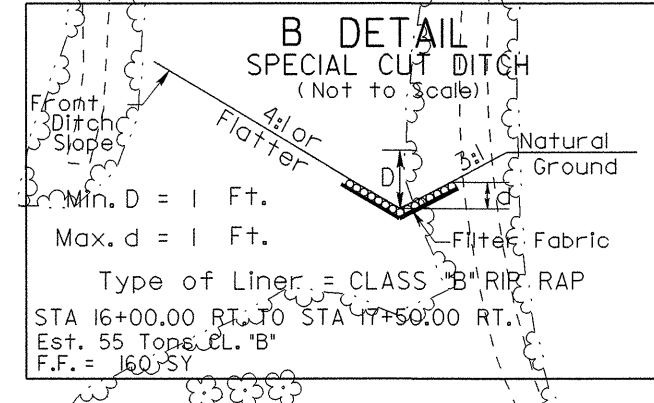
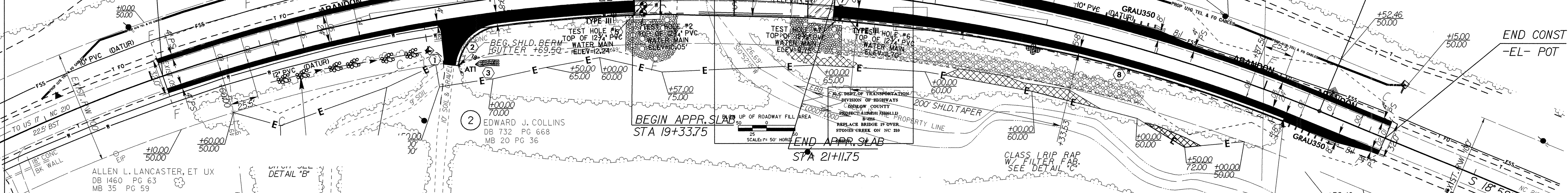
DESIGN EXCEPTION FOR SIGHT DISTANCE

**-EL-**  
 PI Sta 19+46.03  
 $\Delta = 52' 31" 58.6"$  (RT)  
 $D = 4' 00" 00.0"$   
 $L = 1,313.32'$   
 $T = 706.89'$   
 $R = 1,432.39'$   
 $SE = 04$   
 $DS = 55$



-EL- STA 17+23.98 (34.38 LT.)  
 UNITED STATES MARINE CORPS MILITARY RESERVATION

-EL- POC Sta. 15+10.00  
 EL- STA 14+17.66 (17.09 LT.)

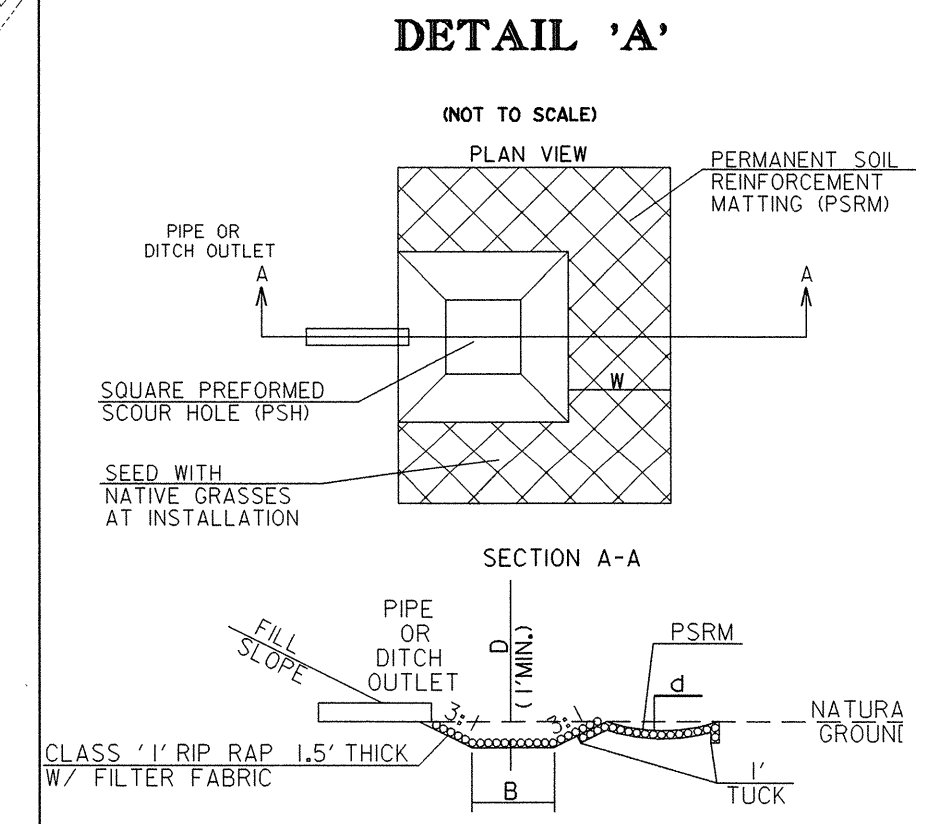


M-1  
 =307714 E=2462968  
 3L STA 14+25 144' LT.  
 -EL- STA 20+24.58 156.78'  
 R/R SPIKE SET IN BASE OF 30" OAK TREE

**BRIDGE HYD BOX GIRDER DIVUL**

DESIGN DISCHARGE	= 1100	CFS
DESIGN FREQUENCY	= 50	YRS
DESIGN HW ELEVATION	= 9.20	FT
100 YEAR DISCHARGE	= 1400	CFS
100 YEAR HW ELEVATION	= 10.10	FT
OVERTOPPING DISCHARGE	= 13900	CFS
OVERTOPPING FREQUENCY	= 500+	YRS
OVERTOPPING ELEVATION	= 17.66	FT

DATE OF SURVEY = 6-3-04  
 W.S. ELEVATION AT DATE OF SURVEY = 1.0 FT



STATION	B	D	W	d	CLASS I RIP RAP TONS	DDE FT	FILTER FABRIC FT
19+20.00 LT.	4.0	1.0	4.0	0.5	5.7	35.1	72
21+25.00 LT.	5.0	1.0	4.0	0.5	7.1	48.6	90

PI = 17+36.00  
 EL = 19.30'  
 VC = 338'  
 K = 136  
 DS = 60

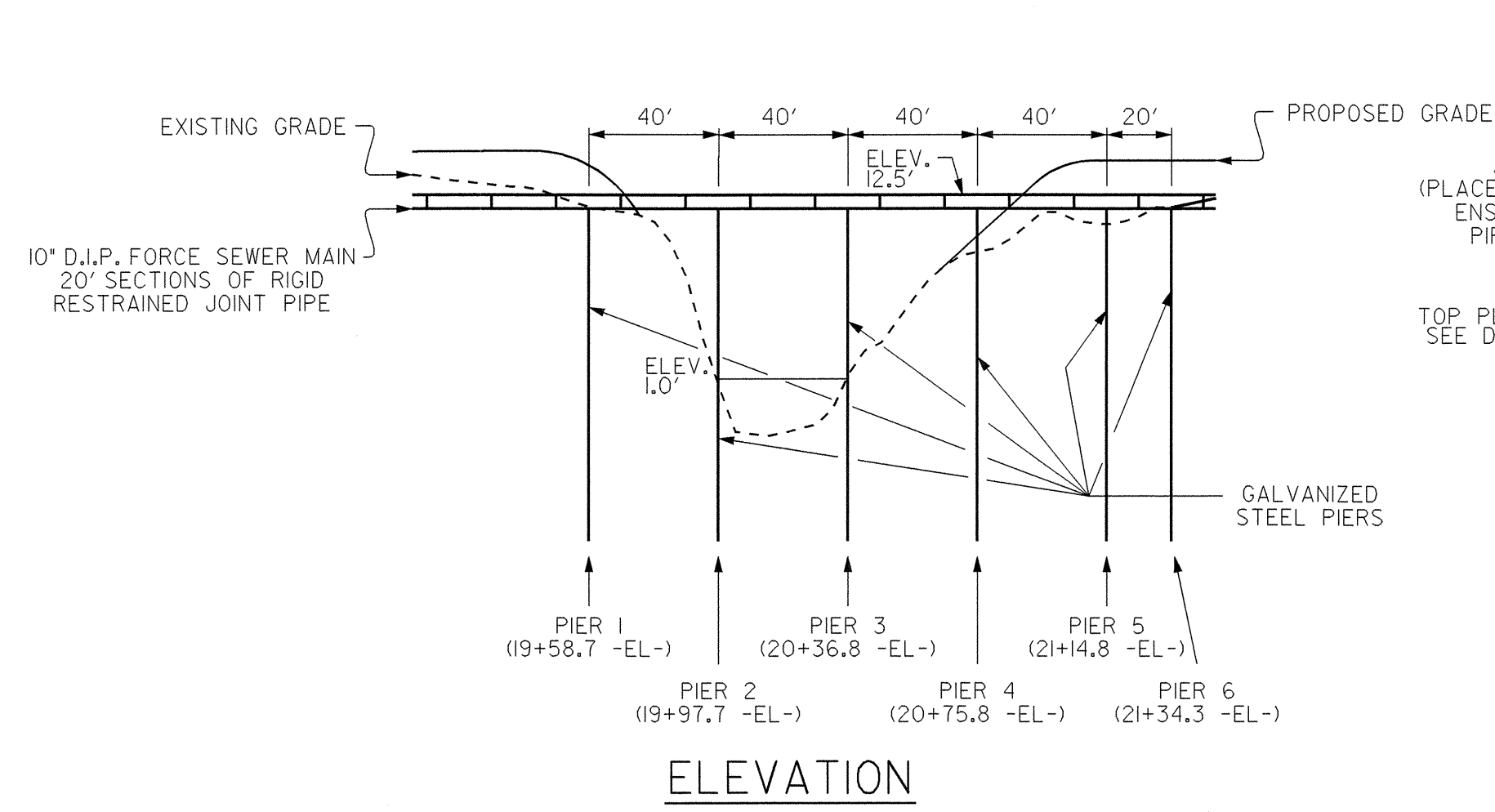
PI = 24+53.00  
 EL = 16.47'  
 VC = 256'  
 K = 136  
 DS = 60

8/17/99  
 18-MAY-2006 10:38  
 B:\Utilities\Proj\B-4215-ut.lib0\_01\_turmin.dgn  
 Bumparter

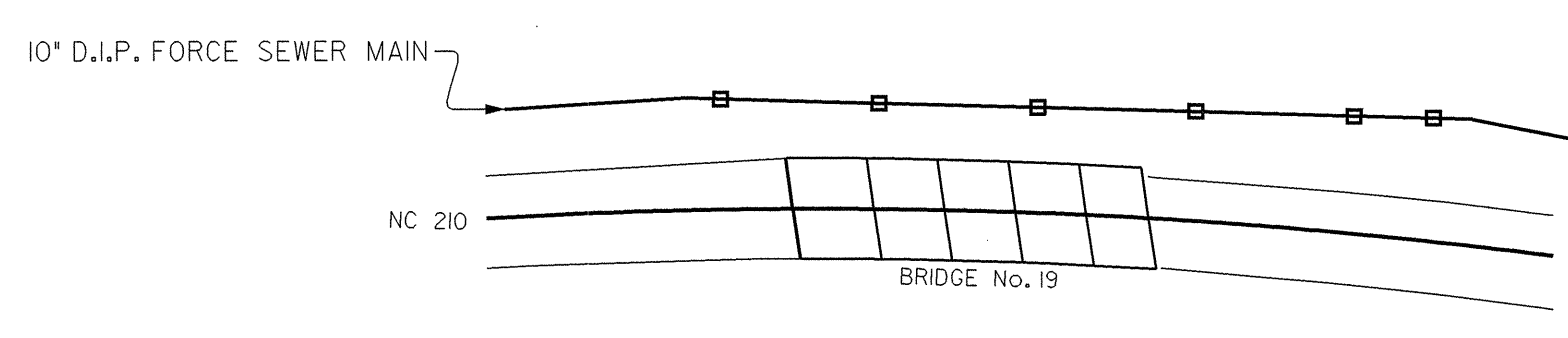
**UTILITY CONSTRUCTION**

5/14/99

18 MAY 2006 09:05 50907 Onslow Pipe Support.bbb ut-border.dgn  
 11:00 AM 5/14/99  
 11:00 AM 5/14/99

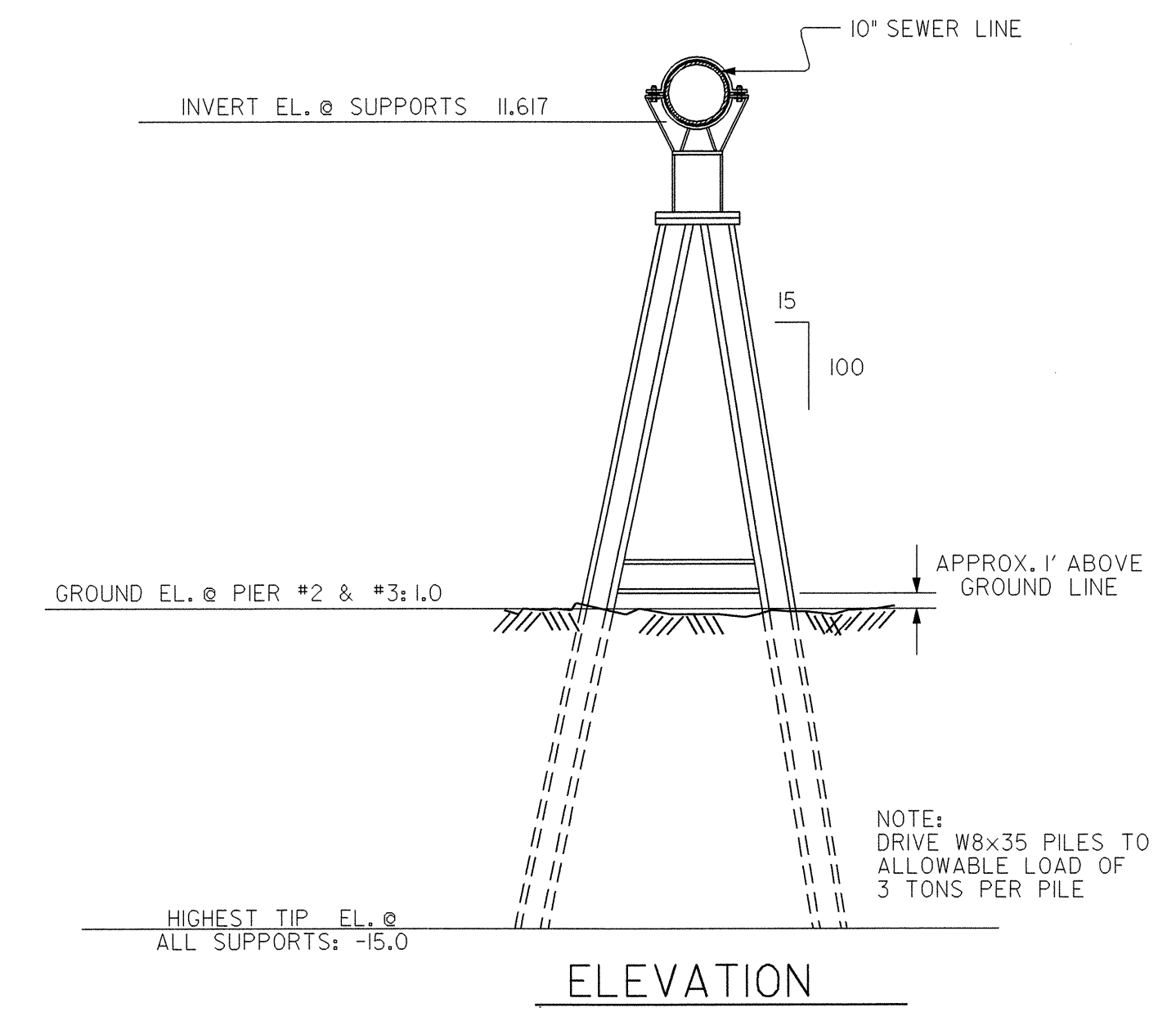


**ELEVATION**

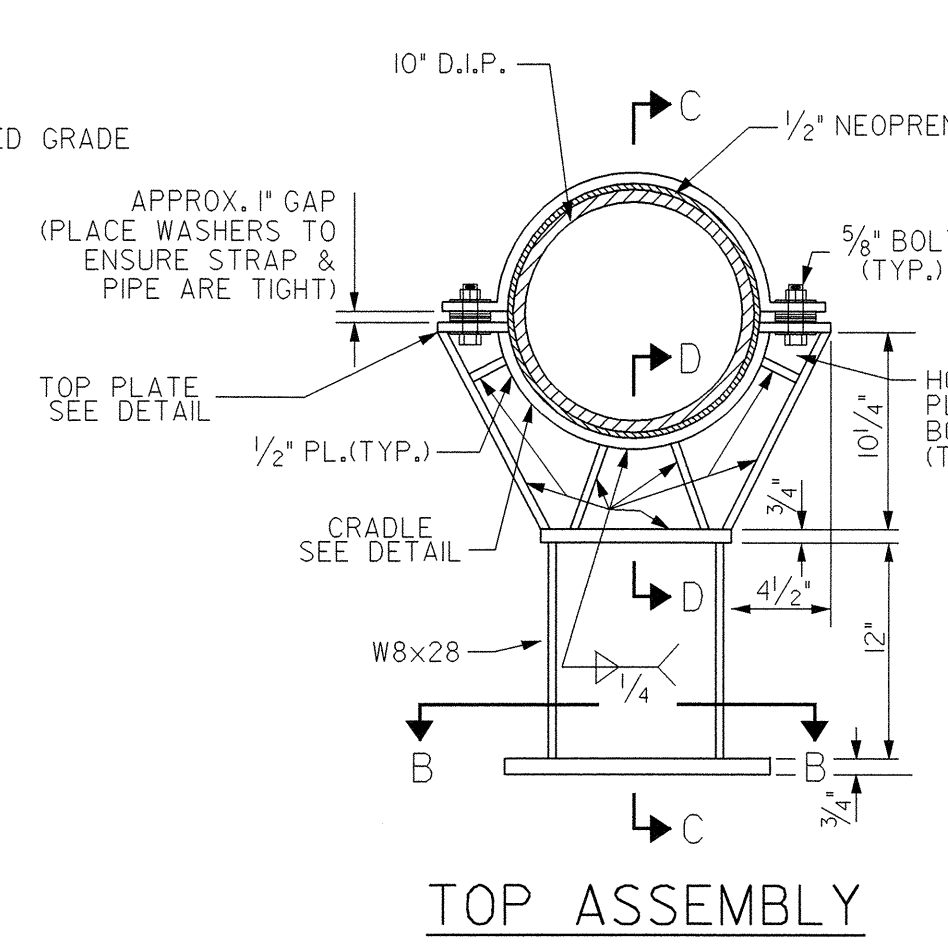


**PLAN**

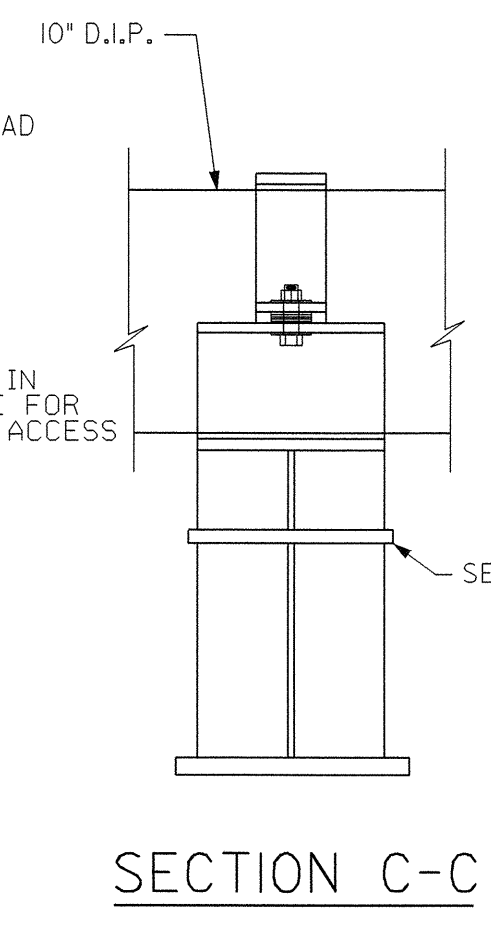
SEE UTILITY DRAWINGS FOR DETAILED INFORMATION ON LAYOUT, ETC.



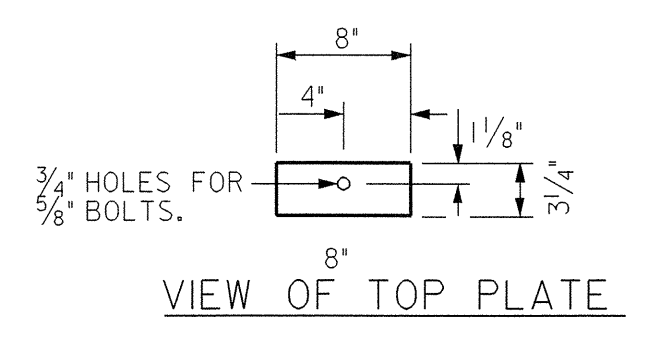
**ELEVATION**



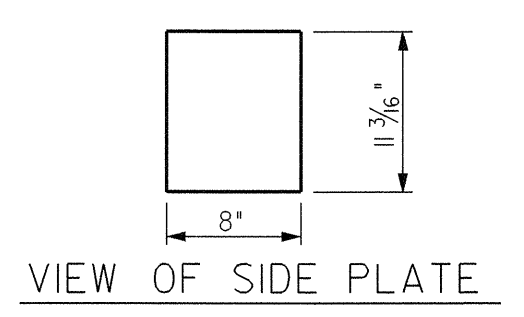
**TOP ASSEMBLY**



**SECTION C-C**



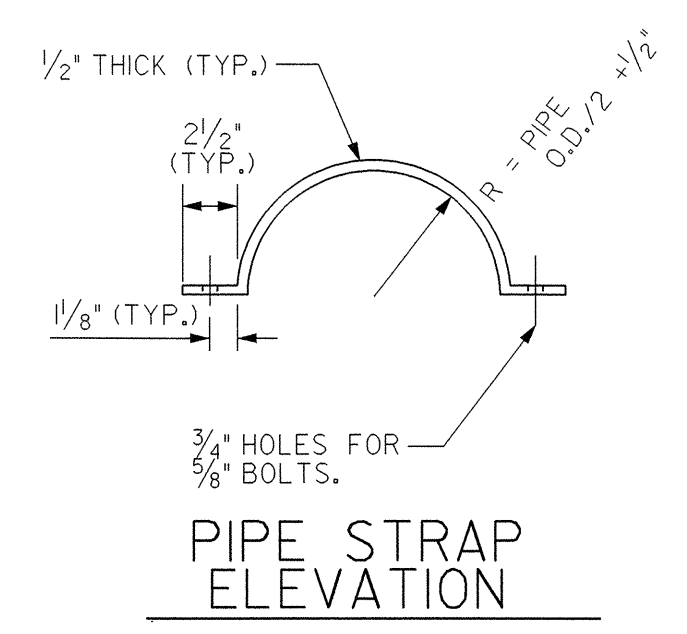
**VIEW OF TOP PLATE**



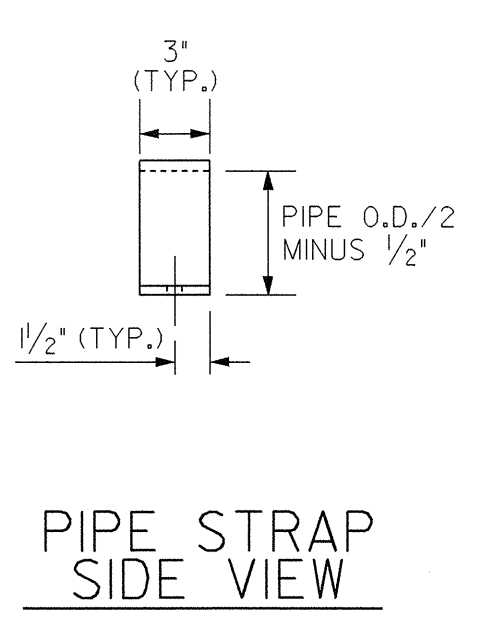
**VIEW OF SIDE PLATE**

**GENERAL NOTES**

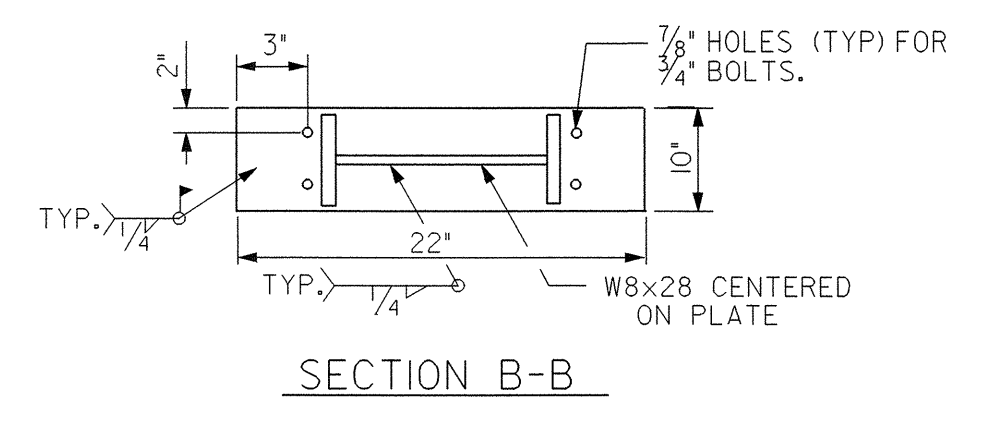
CONTRACTOR SHALL VERIFY ALL PIPE SEAT ELEVATIONS.  
 ALL STEEL SHALL BE M270 GRADE 245.  
 ALL HOLES SHALL BE DRILLED.  
 BOLTS, WASHERS, NUTS, AND OTHER ASSOCIATED HARDWARE SHALL MEET REQUIREMENTS OF 2006 NCDOT STANDARD SPECIFICATION SECTION 1072-7.  
 TIGHTEN NUTS/ BOLTS TO MINIMUM REQUIREMENTS OF 2006 NCDOT STANDARD SPECIFICATION SECTION 440-10.  
 ALL STEEL COMPONENTS AND HARDWARE SHALL BE GALVANIZED AS PER 2006 NCDOT STANDARD SPECIFICATION SECTION 1076.  
 ALL WELDS SHALL BE DONE IN ACCORDANCE WITH THE LATEST AWS BRIDGE WELDING CODE.  
 ALL ELEVATIONS ARE GIVEN IN FEET.  
 SUPPORT LEGS, W8x35 PILES, SHALL BE DRIVEN TO ALLOWABLE LOAD OF 3 TONS PER PILE. TYPICAL LENGTHS ARE ESTIMATED TO BE APPROX. 25'. TIP ELEVATIONS FOR ALL PIERS SHALL BE NO HIGHER THAN -15.0'.



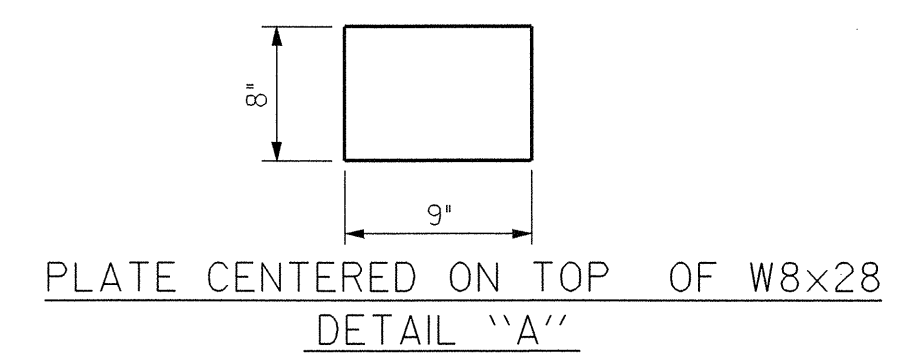
**PIPE STRAP ELEVATION**



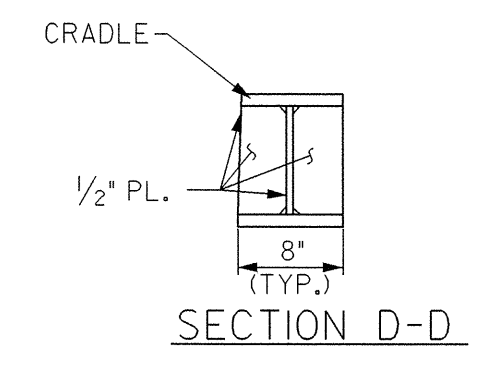
**PIPE STRAP SIDE VIEW**



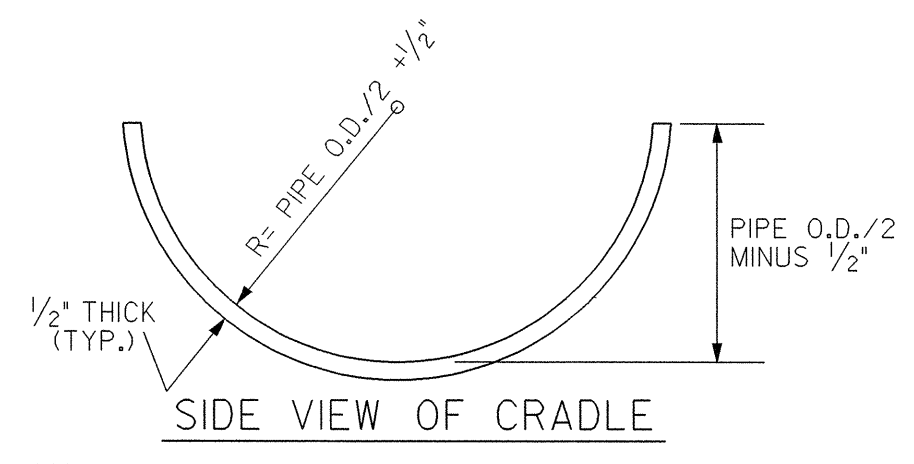
**SECTION B-B**



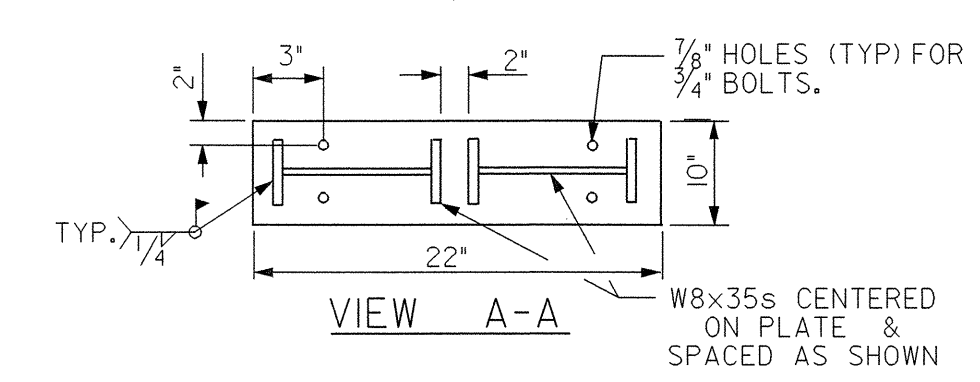
**DETAIL "A"**



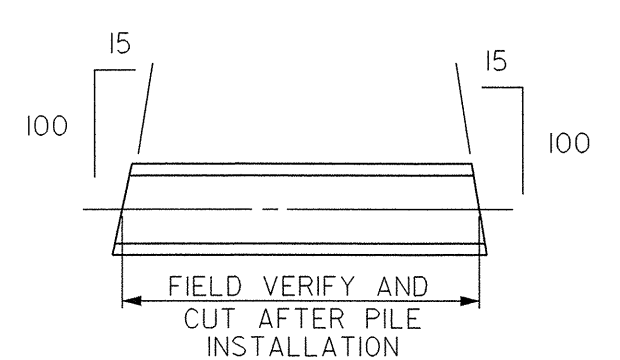
**SECTION D-D**



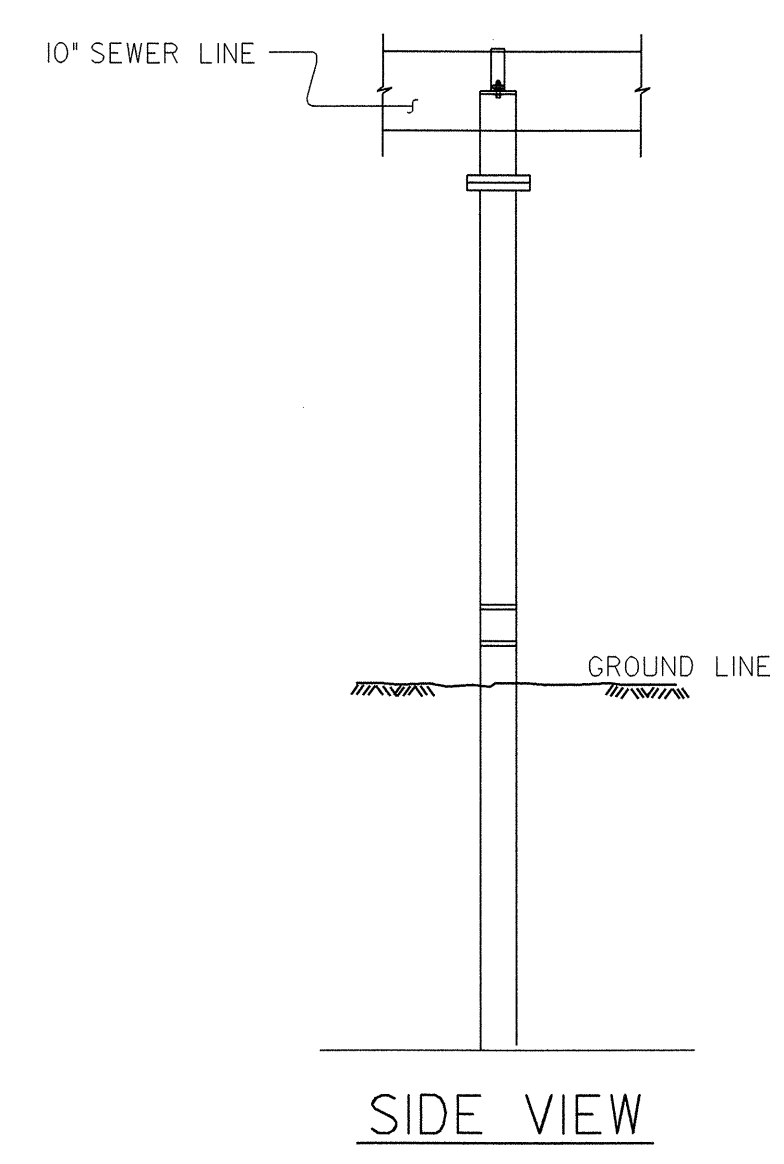
**SIDE VIEW OF CRADLE**



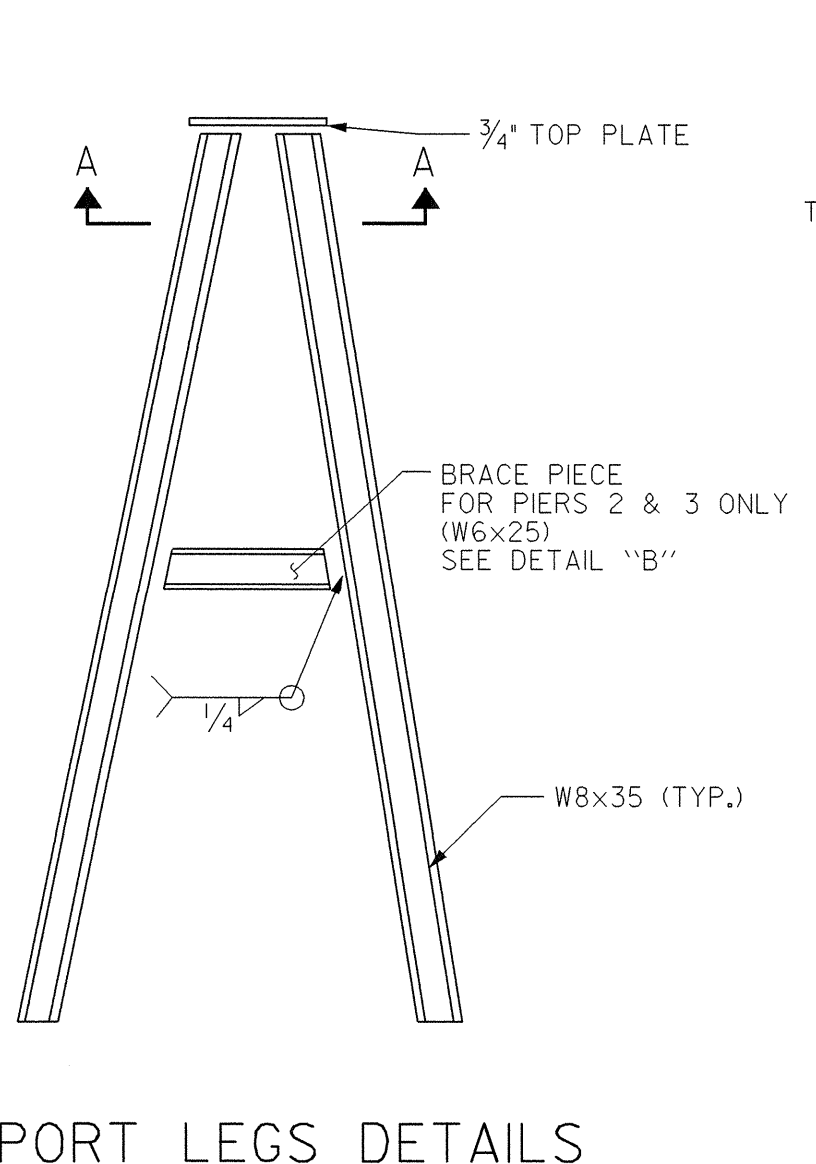
**VIEW A-A**



**DETAIL "B"**



**SIDE VIEW**



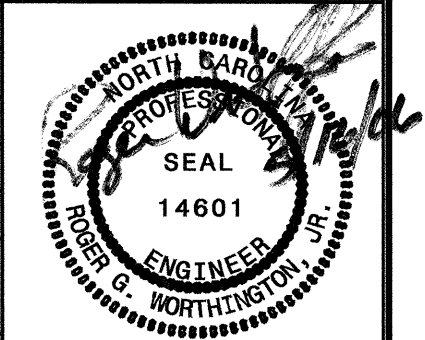
**SUPPORT LEGS DETAILS**

PROJECT NO. **B-4215**  
 ONSLOW COUNTY  
 STATION: \_\_\_\_\_

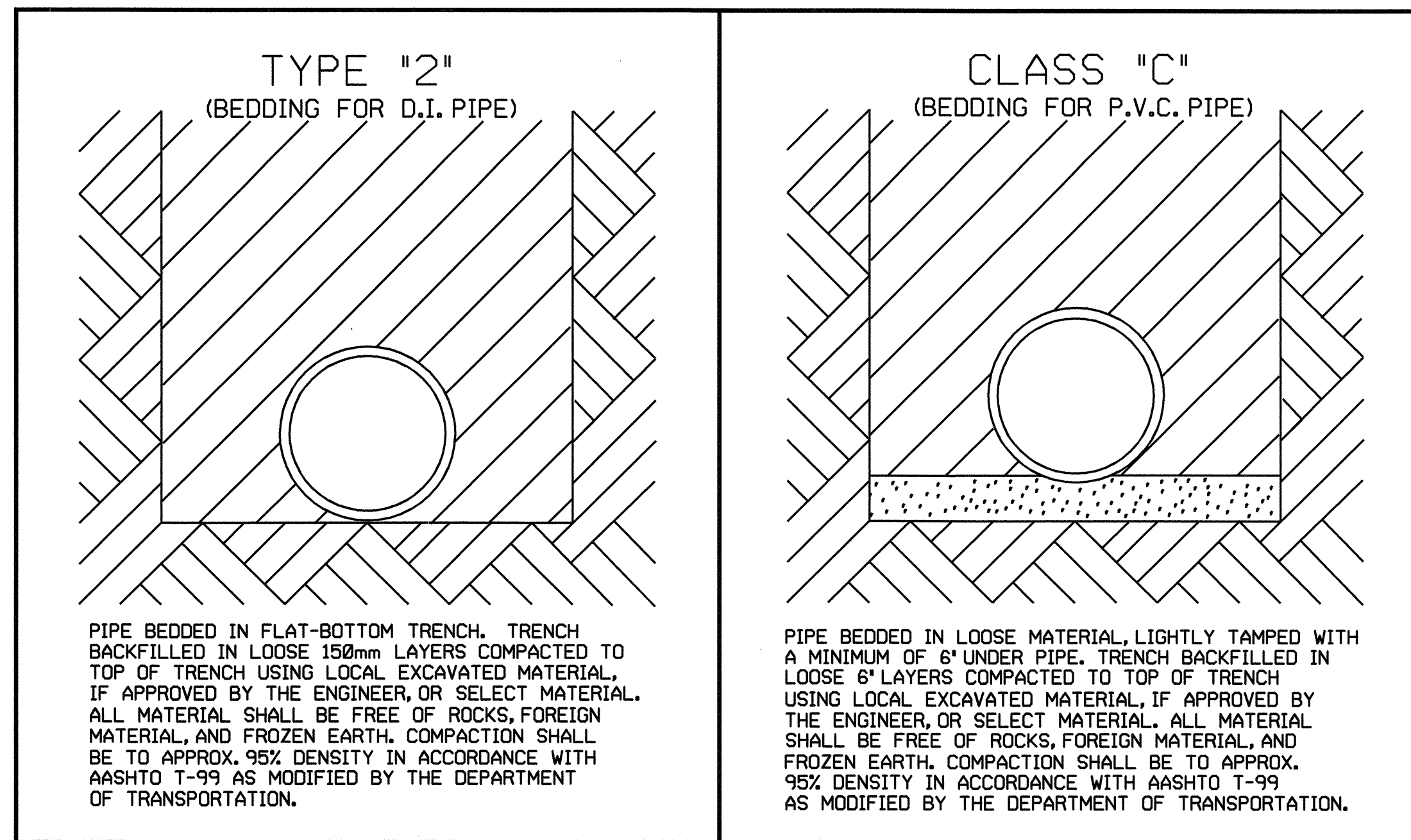
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**SUPPORTS FOR 10" SEWER LINE OVER STONE'S CREEK ON NC 210**

REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

DRAWN BY: **R.W. WRIGHT** DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

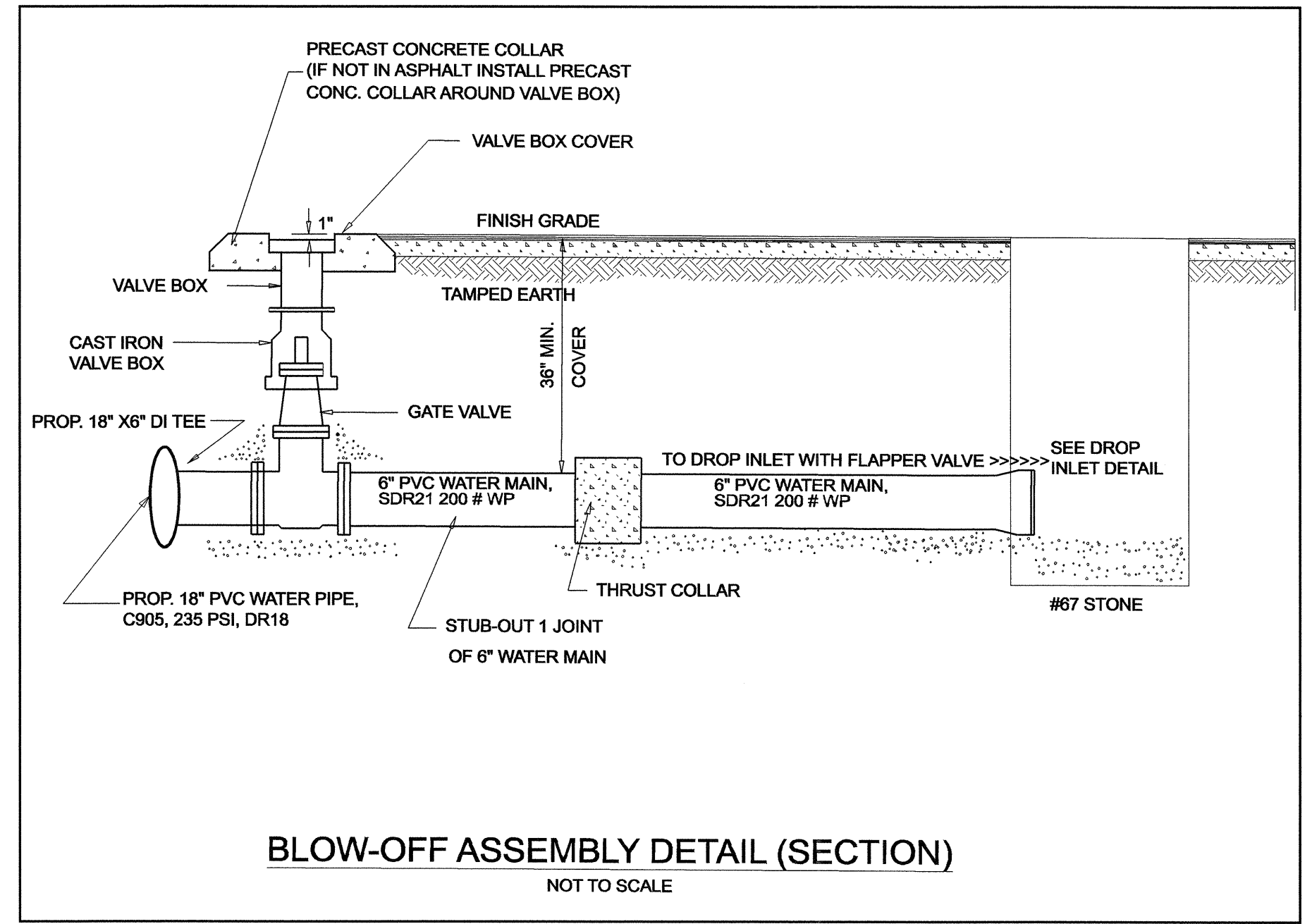
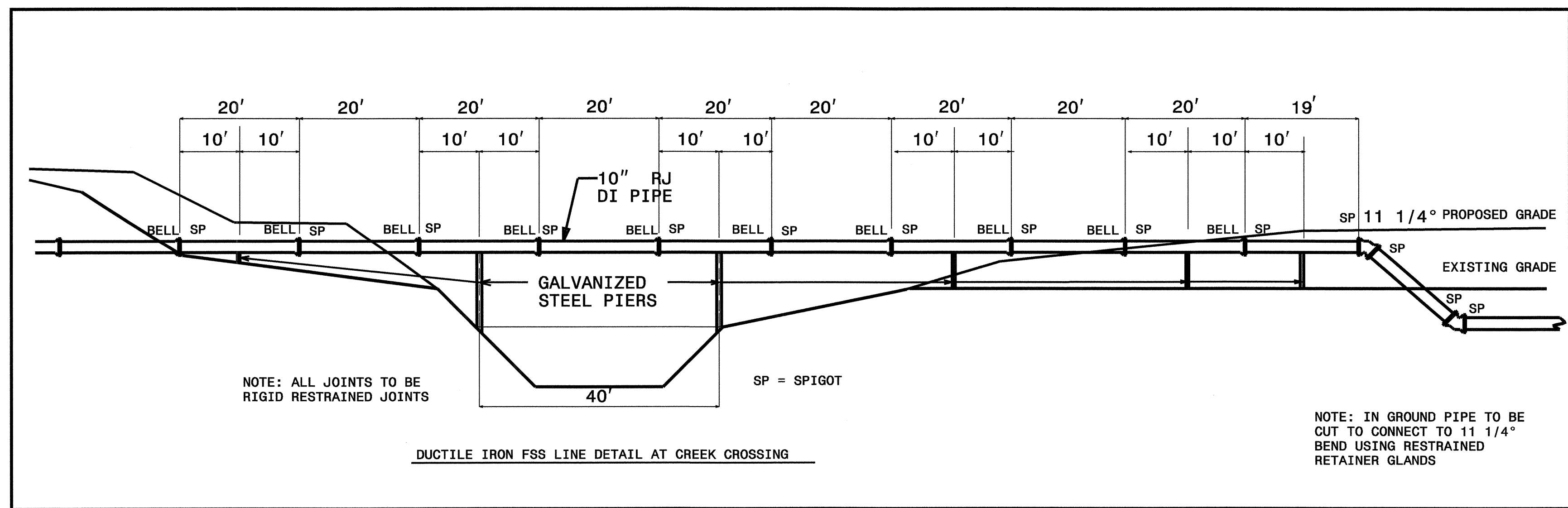
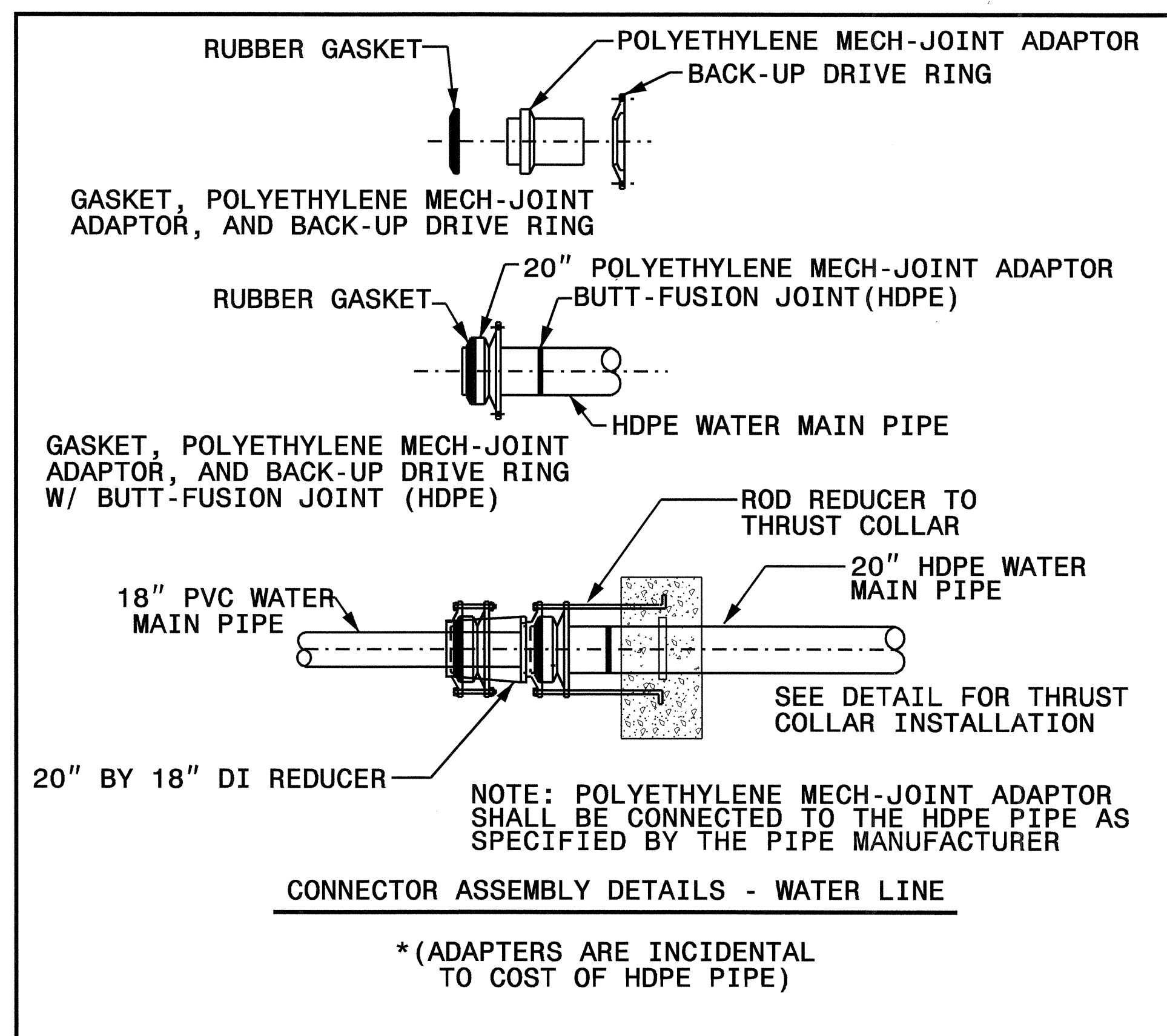


**UTILITY CONSTRUCTION**



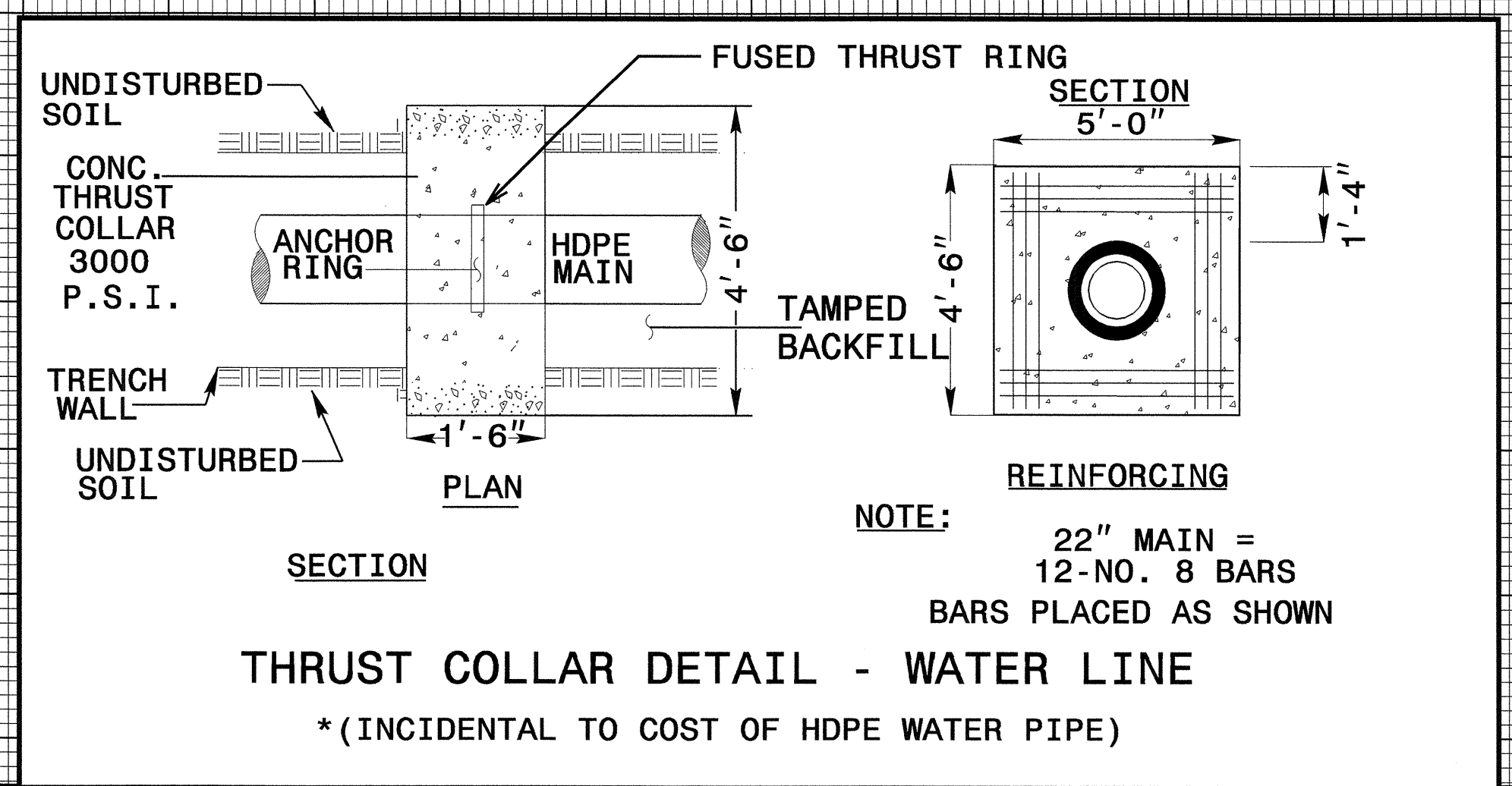
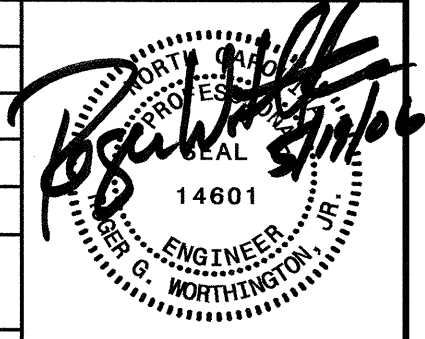
MAXIMUM TRENCH WIDTH  
AT TOP OF PIPE

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		

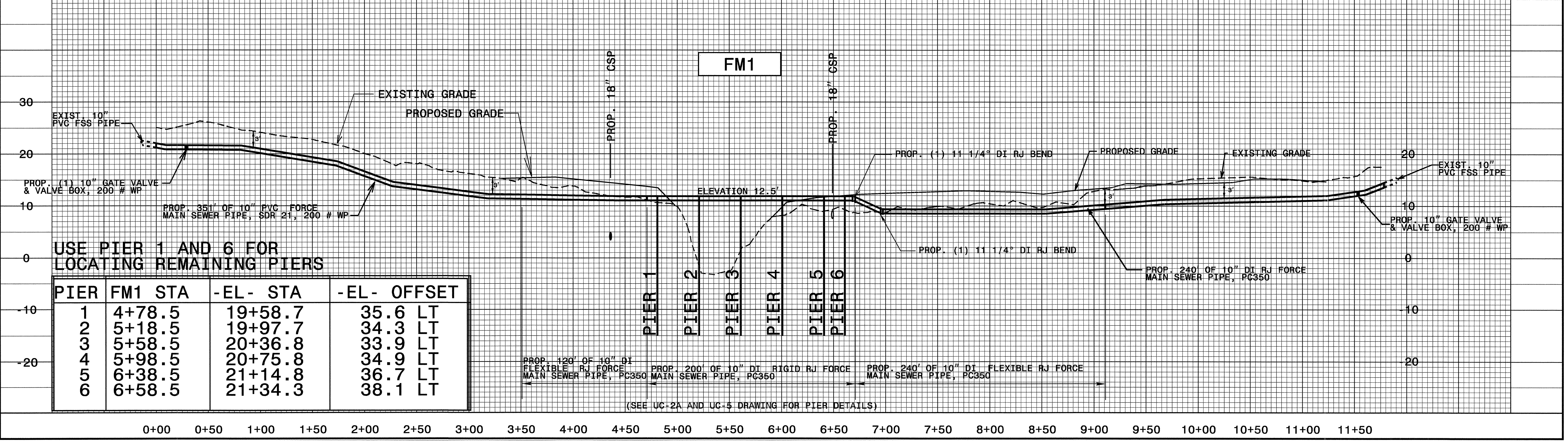
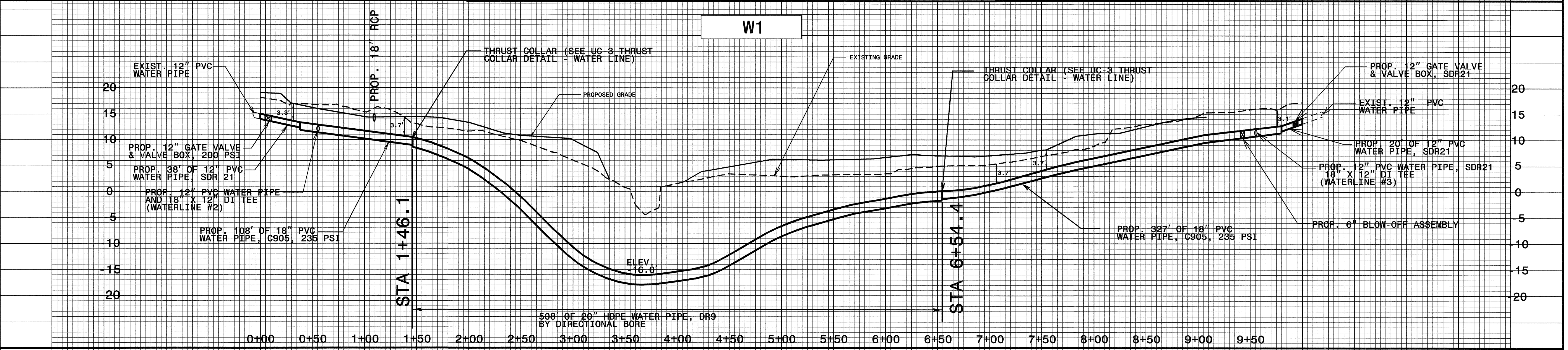


5/14/99  
 12-MAY-2006 10:09  
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 boubaner AT P527266





UTILITY CONSTRUCTION



USE PIER 1 AND 6 FOR LOCATING REMAINING PIERS

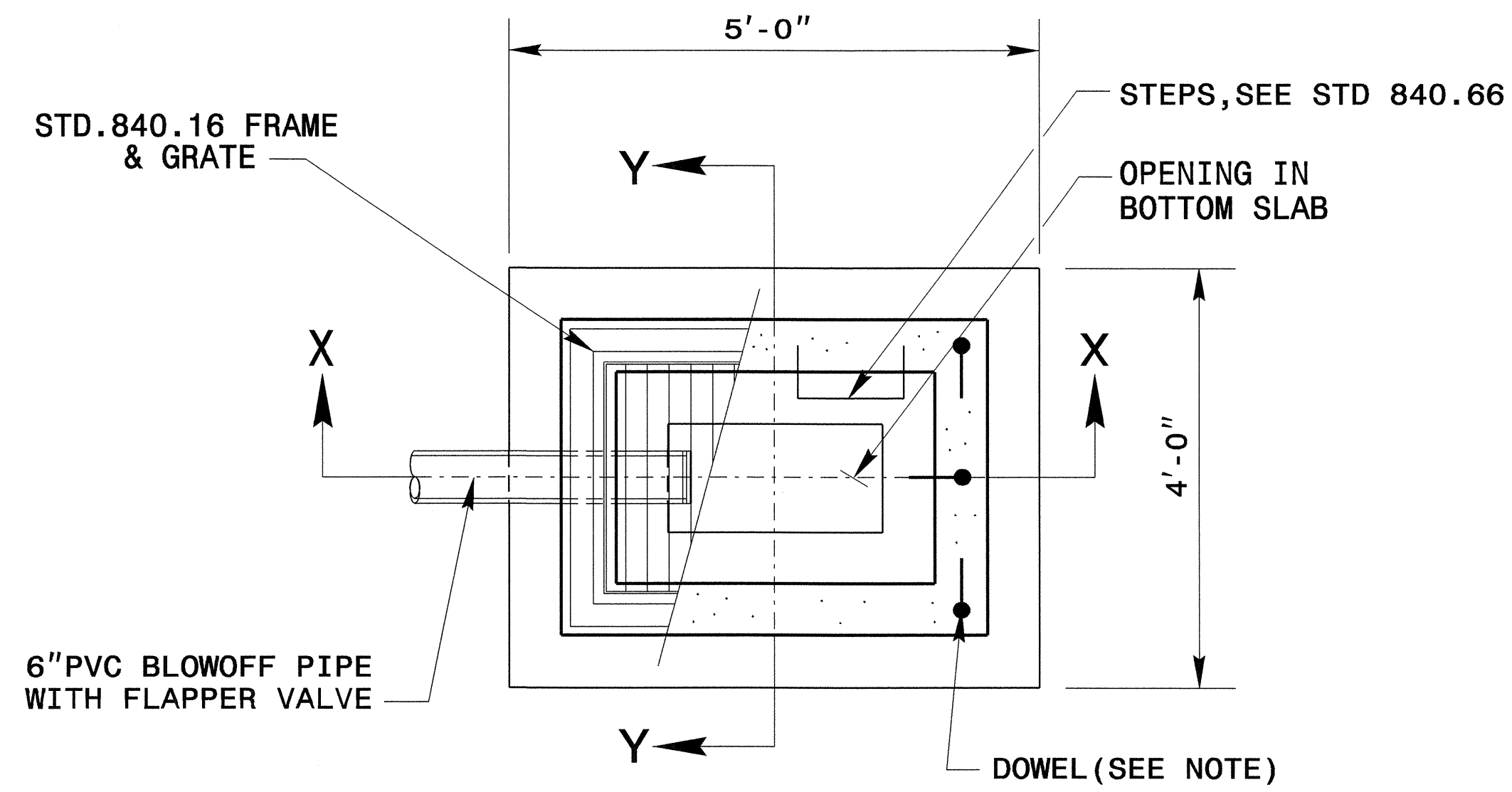
PIER	FM1 STA	-EL- STA	-EL- OFFSET
1	4+78.5	19+58.7	35.6 LT
2	5+18.5	19+97.7	34.3 LT
3	5+58.5	20+36.8	33.9 LT
4	5+98.5	20+75.8	34.9 LT
5	6+38.5	21+14.8	36.7 LT
6	6+58.5	21+34.3	38.1 LT

18-MAY-2006 10:20 L:\S:\FINAL UTILITY PLANS\4215-ut.uc.upr.-15elev.dgn

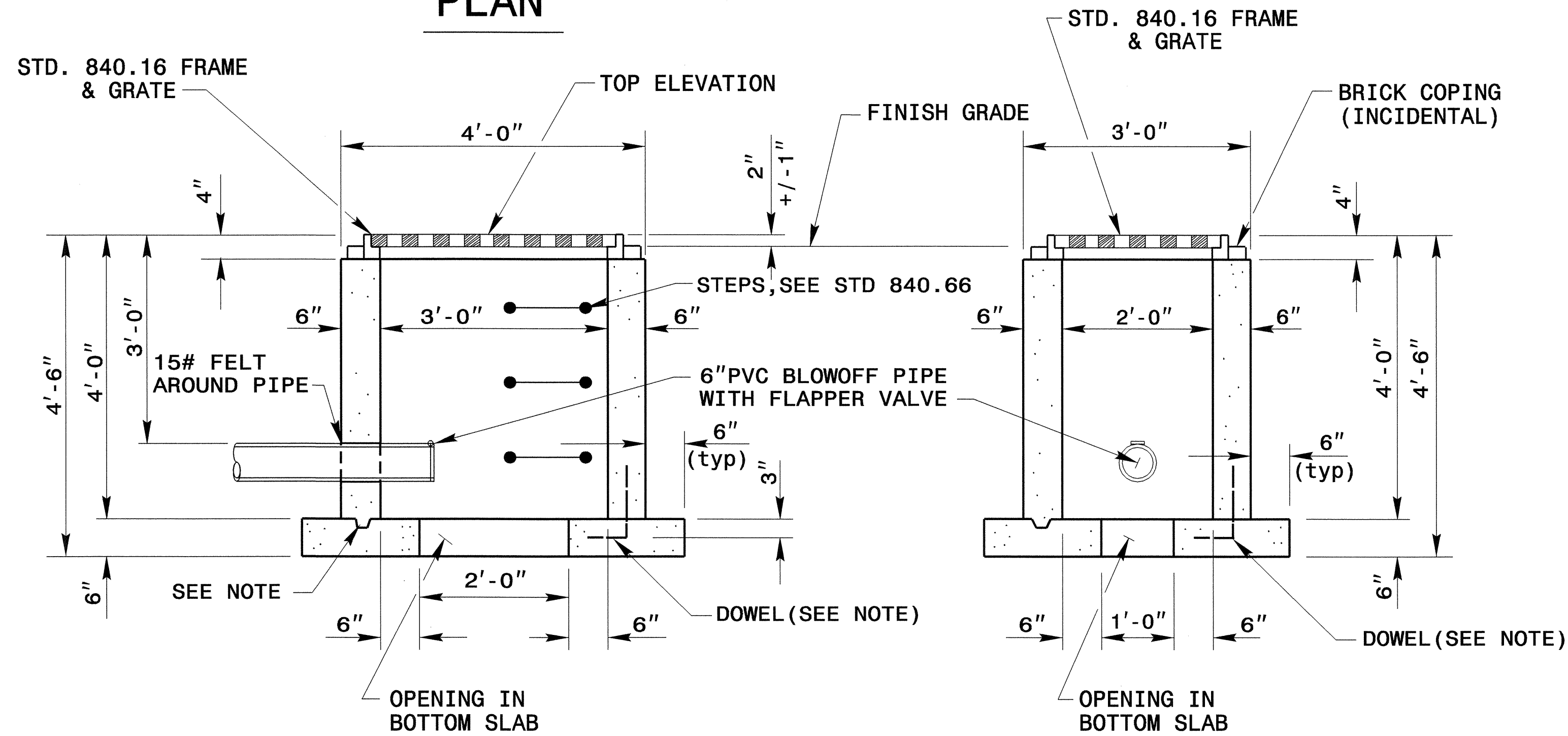
STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR  
**CONCRETE DROP INLET**

SHEET 1 OF 1  
**840D14**



**PLAN**



**SECTION X-X**

**SECTION Y-Y**

**GENERAL NOTES:**  
 USE CLASS "B" CONCRETE THROUGHOUT.  
 PROVIDE ALL DROP INLETS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.  
 OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.  
 USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.  
 CHAMFER ALL EXPOSED CORNERS 1".  
 DRAWING NOT TO SCALE.

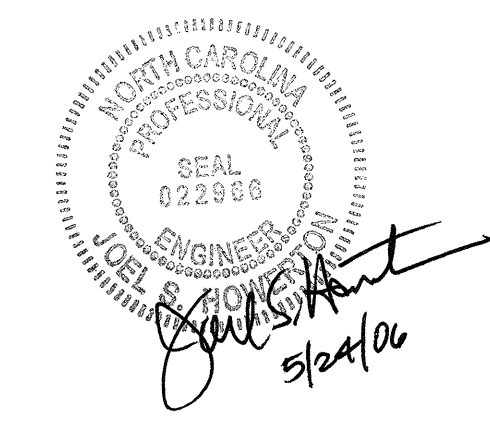
**QUANTITIES:**  
 1.2 CU.YDS. CLASS "B" CONCRETE  
 14- #4 DOWELS = 15 LBS. (OPTIONAL)  
 NO DEDUCTION MADE FOR 6" PVC PIPE

STATE OF NORTH CAROLINA  
 DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR  
**CONCRETE DROP INLET**

SHEET 1 OF 1  
**840D14**

18-MAY-2006 08:47 J:\AP\9\FINAL UTILITY PLANS\b4215 conc dt BB.dgn  
 R:\Utilities\RD\PS222\96  
 bbrugner



**PROJECT SERVICES UNIT  
 STANDARDS AND SPECIAL DESIGN**  
 Office 919-250-4128 FAX 919-250-4119

**CONCRETE DROP INLET**

ORIGINAL BY:	DATE:
MODIFIED BY: rnbritt	DATE: 05-03-06
CHECKED BY:	DATE:
FILE SPEC.: details/nbritt/english/bridge/b4215concd1.dgn	