

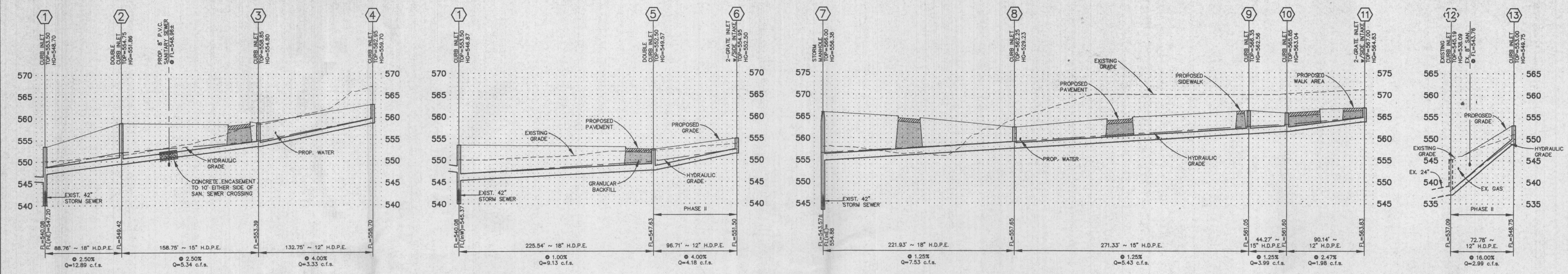
General Contractor:
CLAYCO CONSTRUCTION
Structural Engineer:
MONEALY-SUMBERY ENGINEERING
Civil Engineer:
STOCK & ASSOCIATES
HVAC Design Built:
C & R Mechanical Company
Plumbing Design Built:
**Electrical Design Built:
Aechinger Electric**
Fire Protection:

A NEW OFFICE BUILDING
O'FALLON CORPORATE CENTER
PHASE ONE
O'FALLON MISSOURI

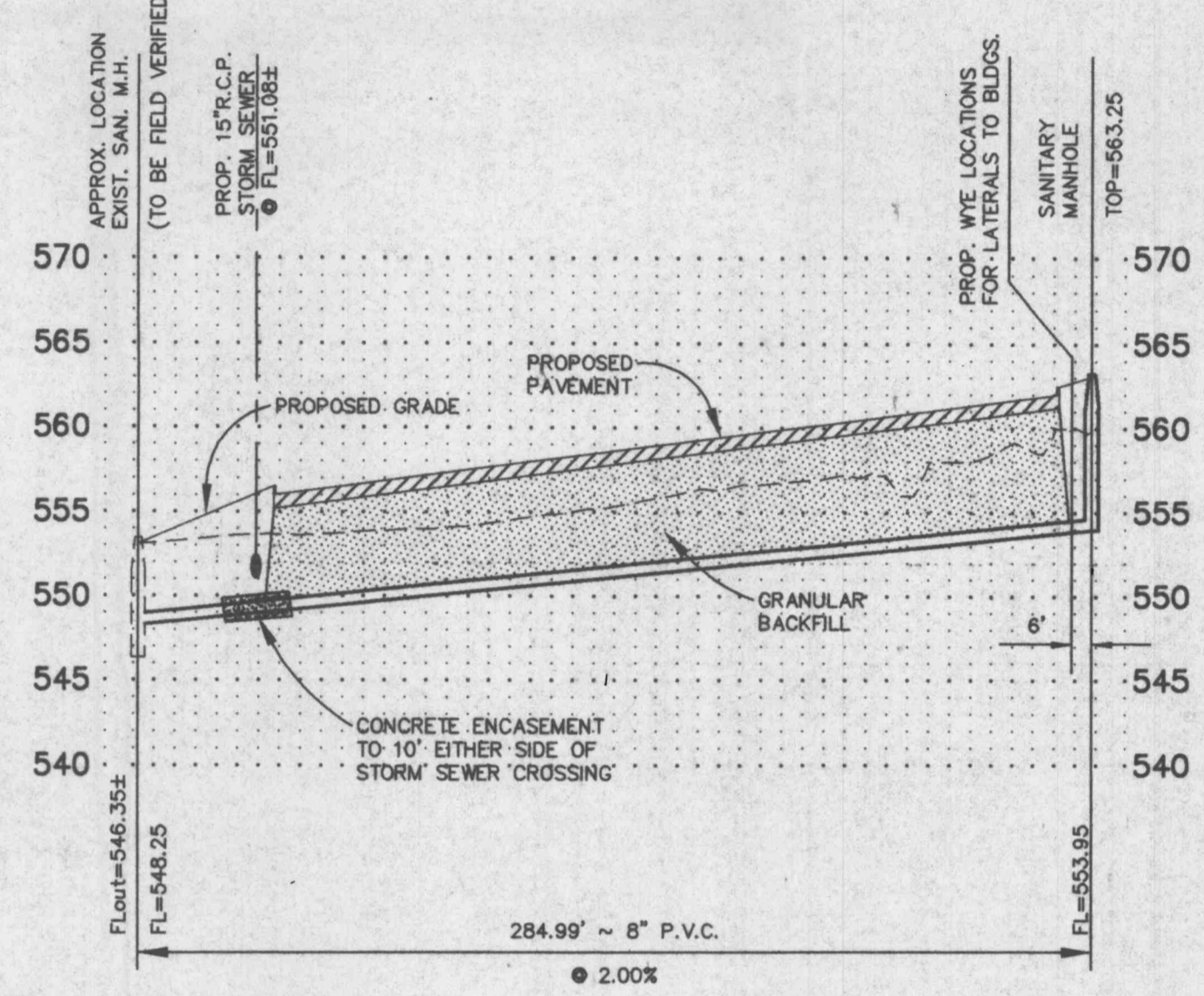


ROLMAR FAMILIE
LIMITED
PARTNERSHIP

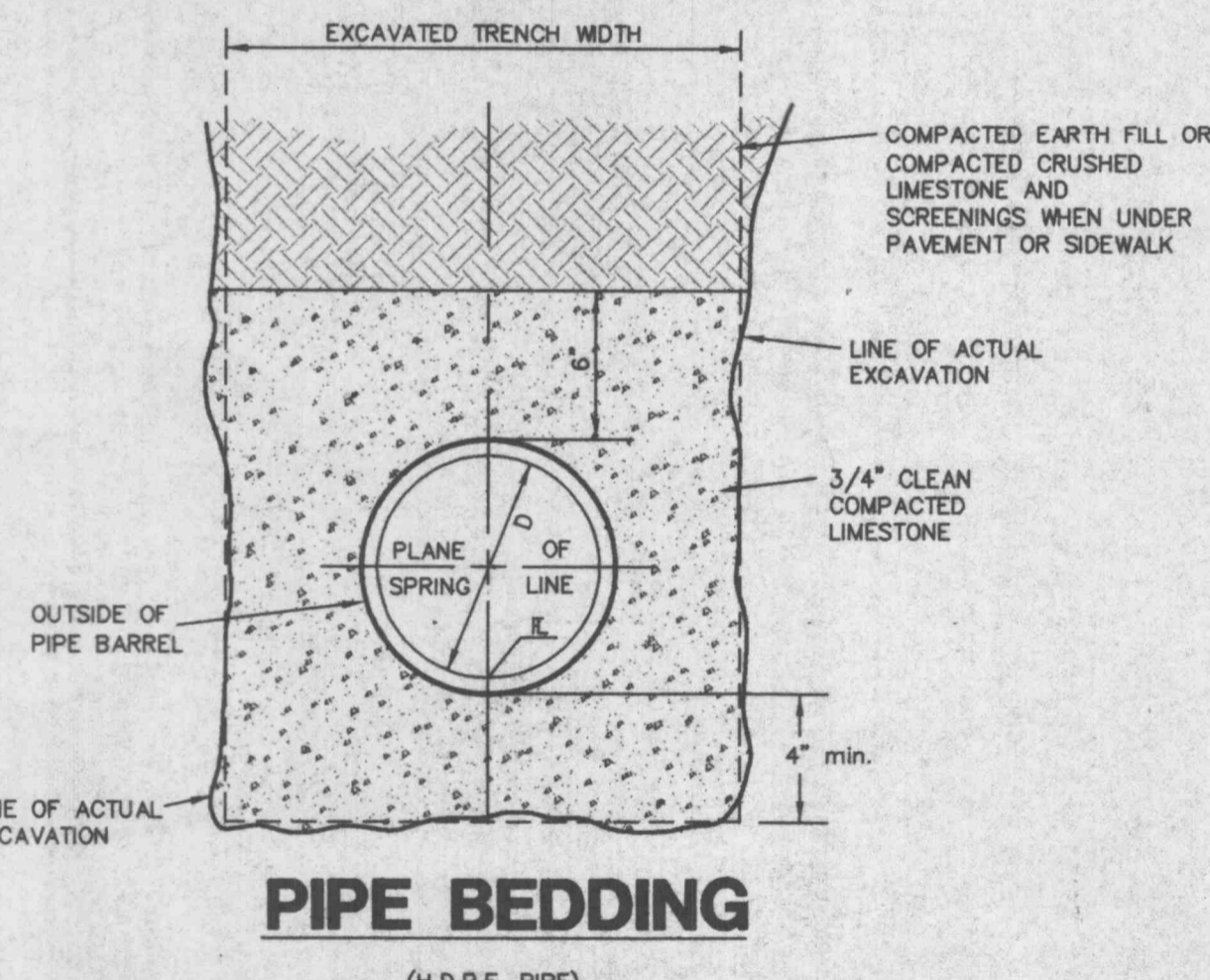
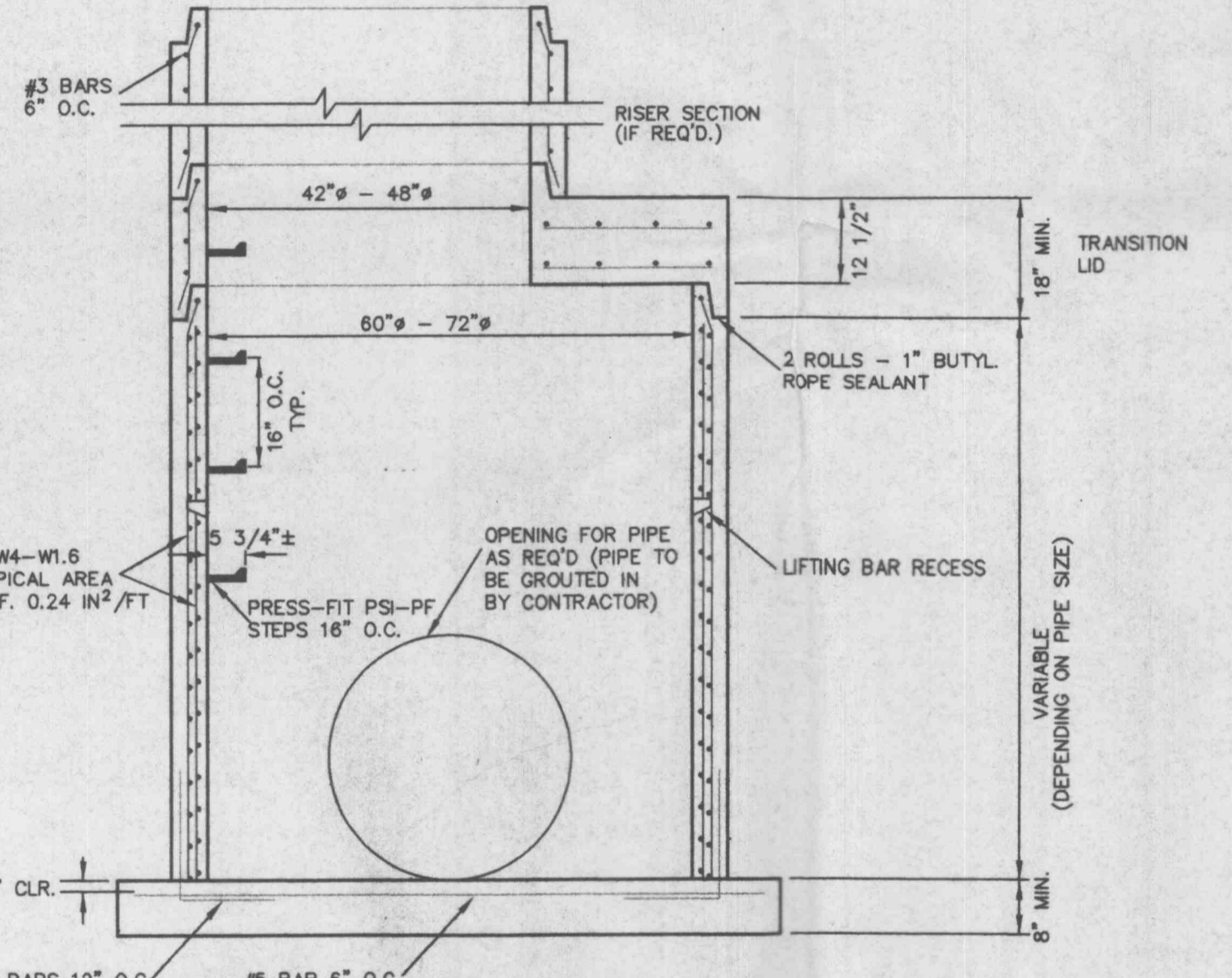
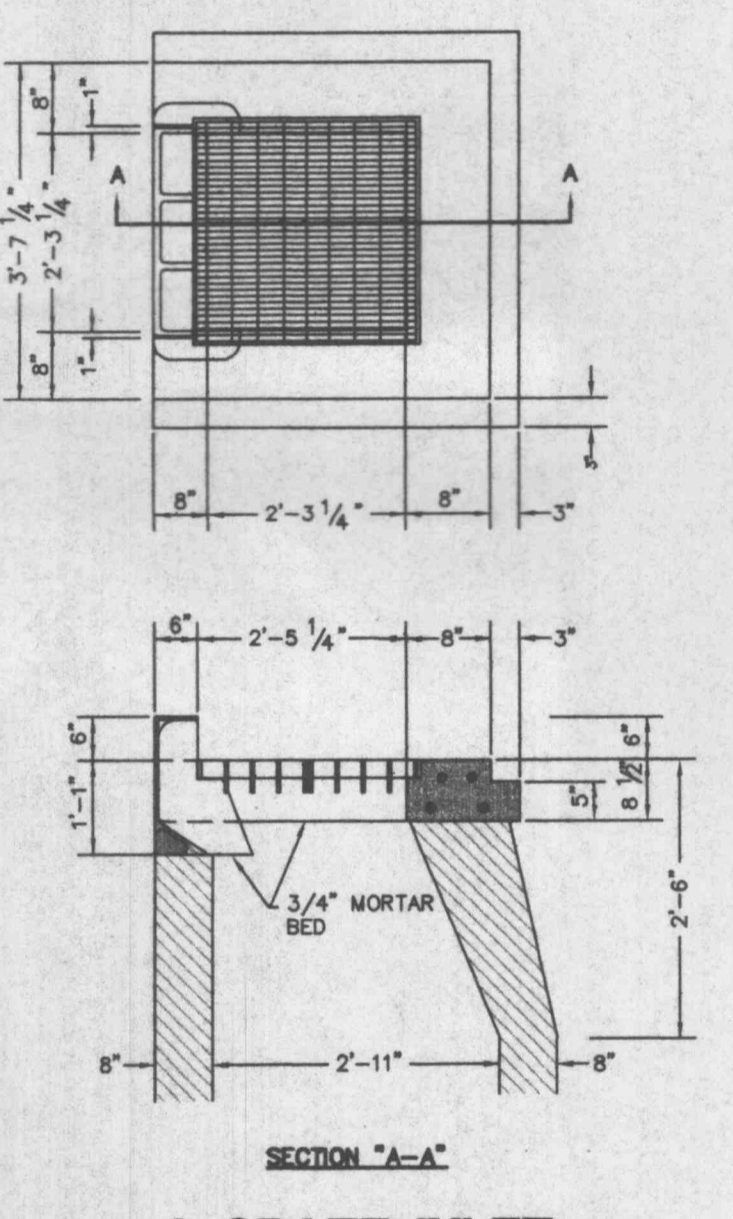
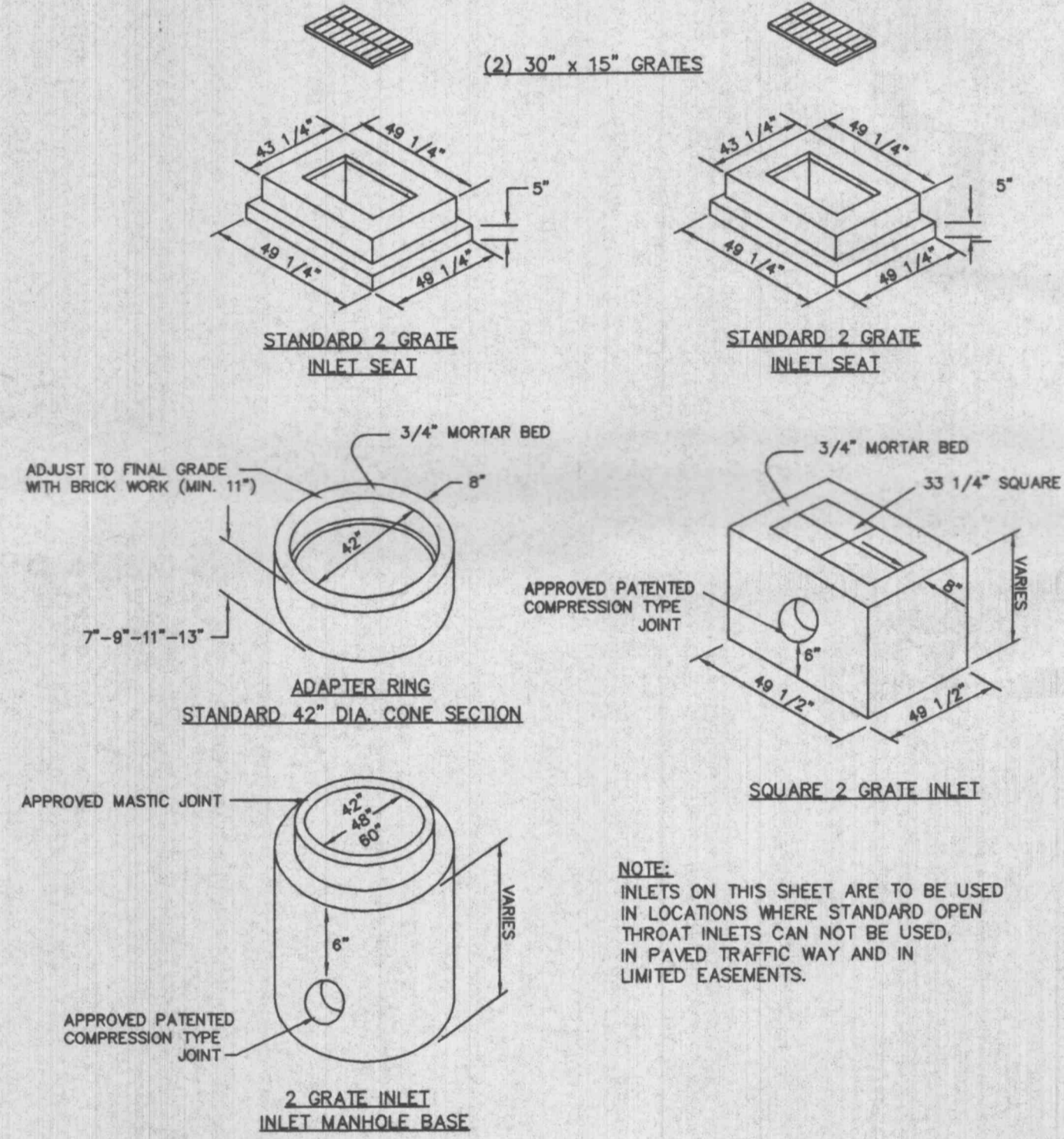
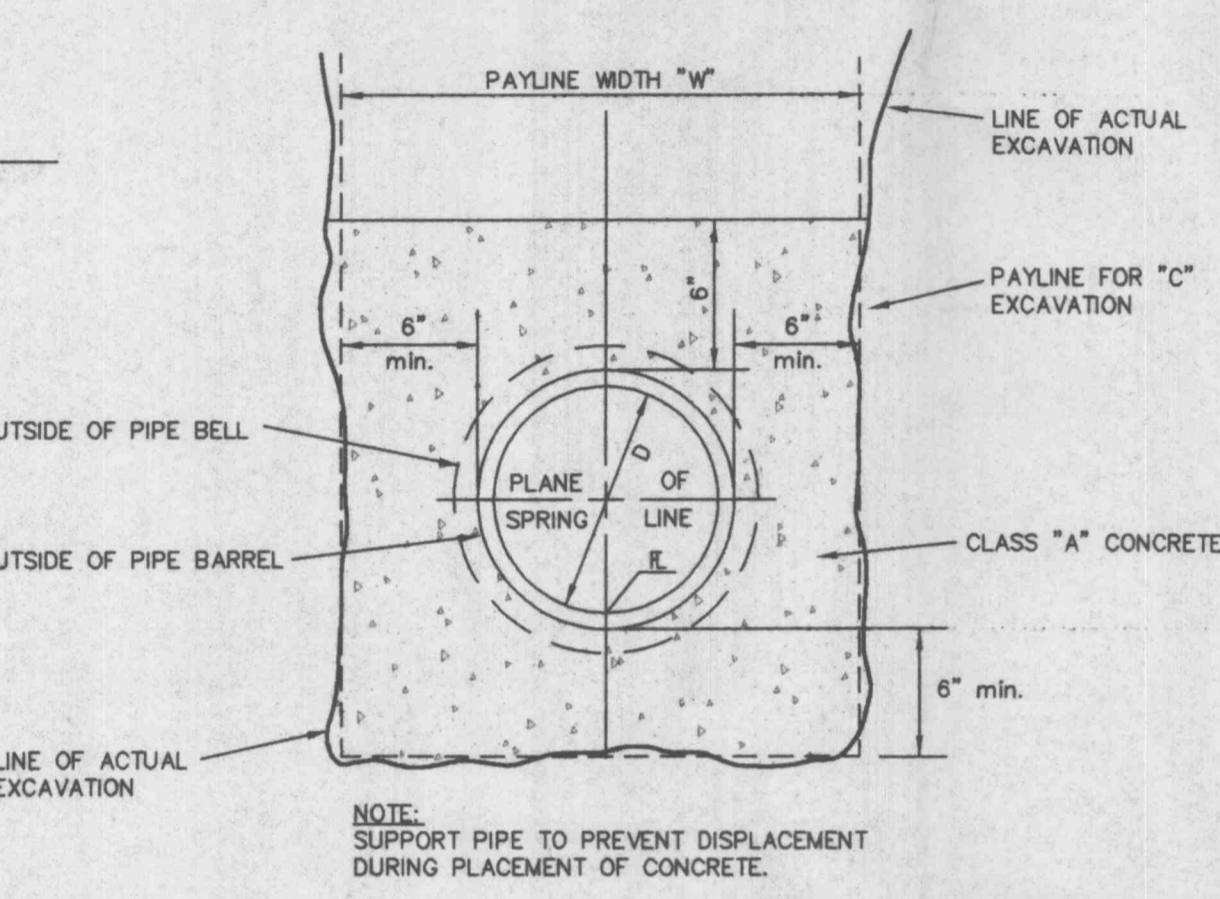
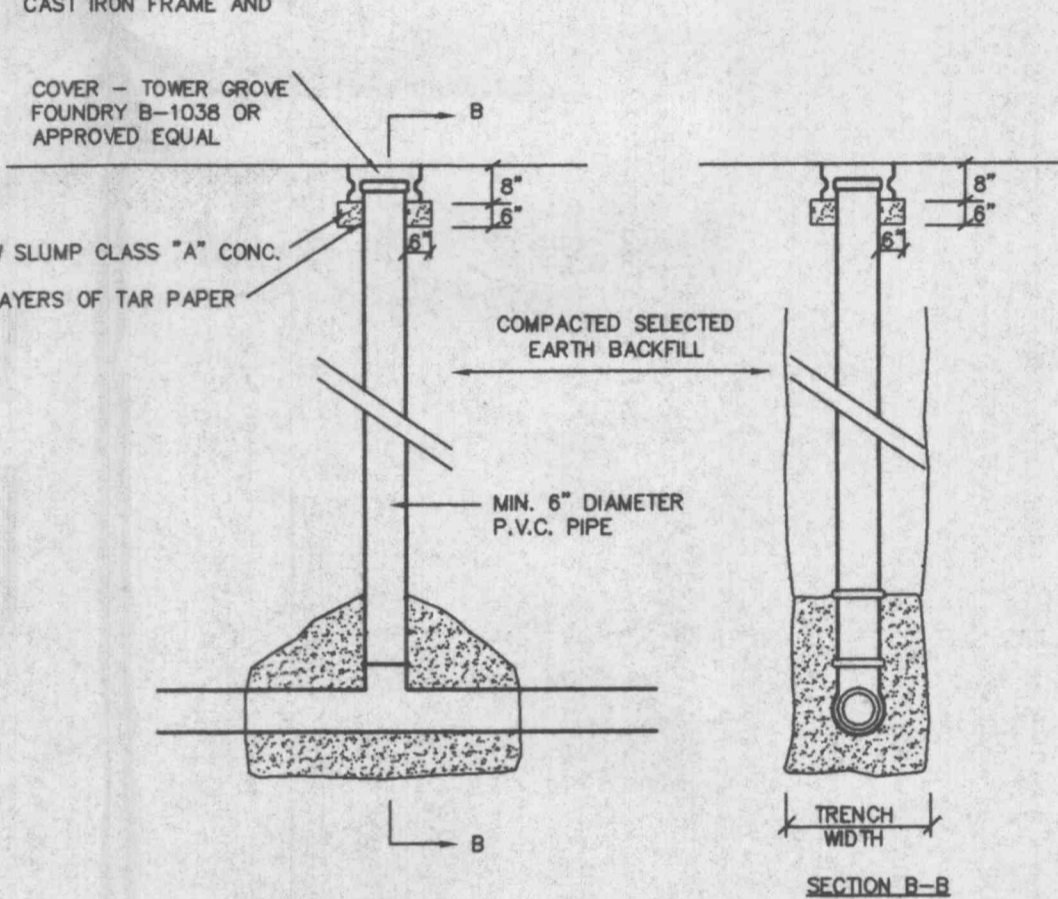
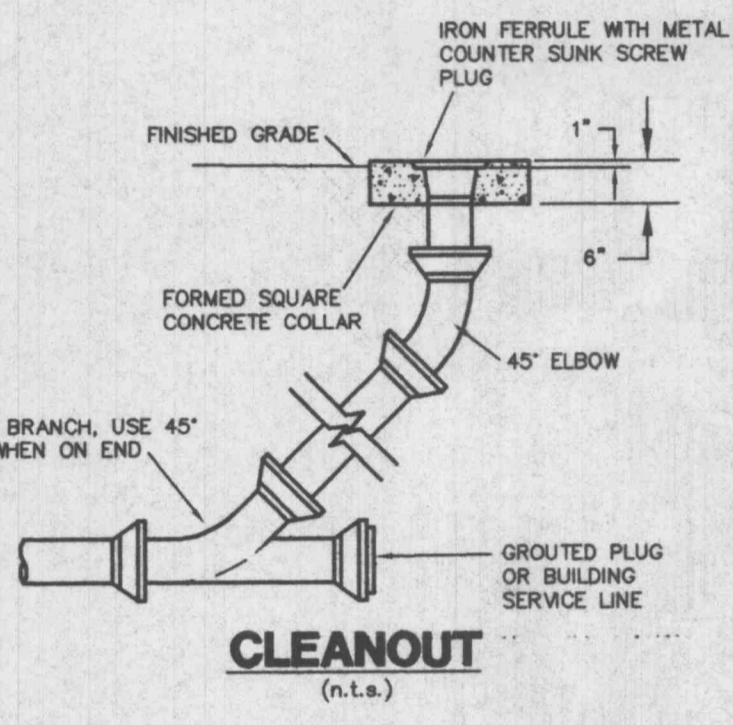
gray
Interiors + Architecture + Planning



STORM SEWER PROFILES
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'

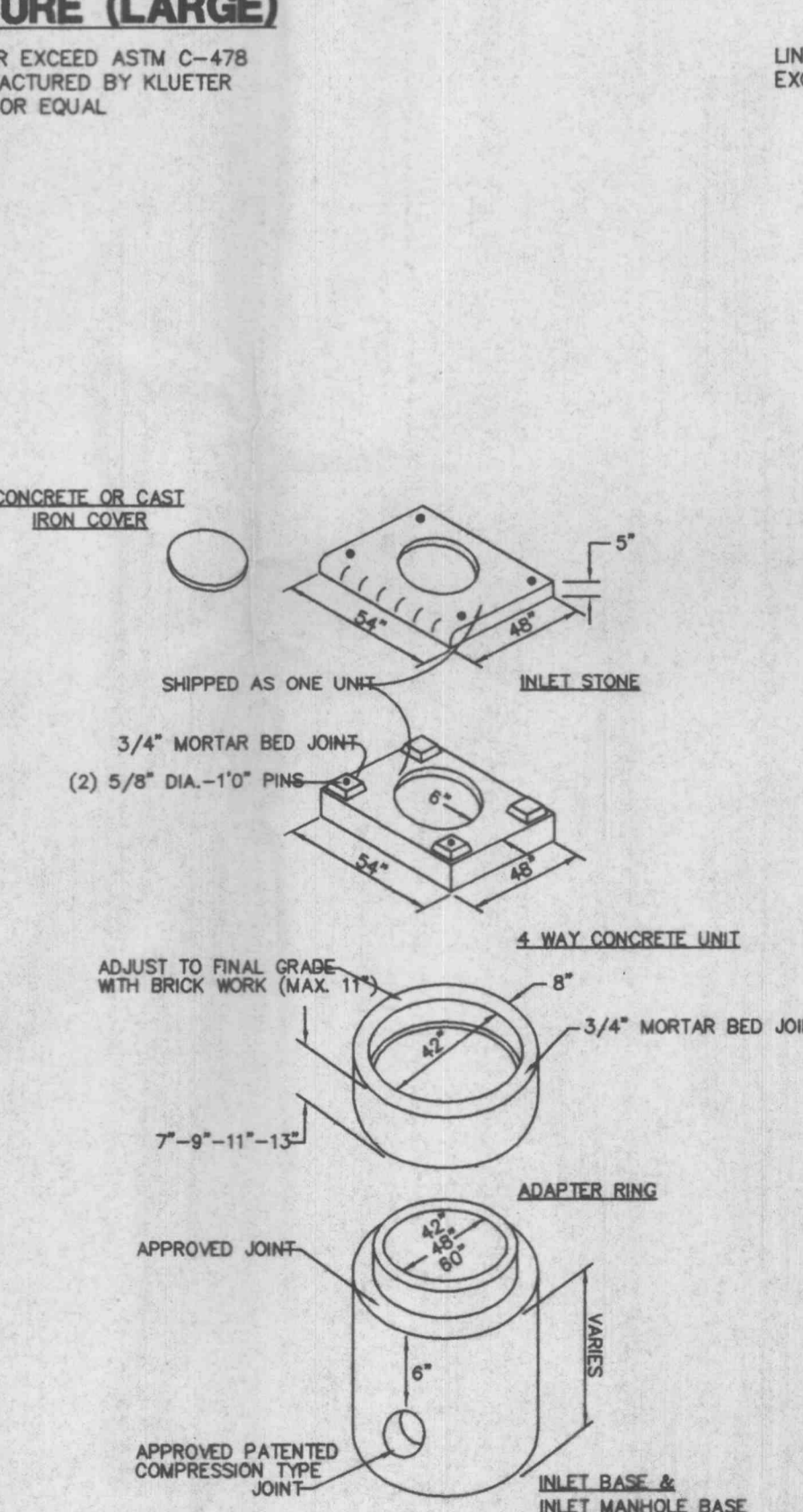
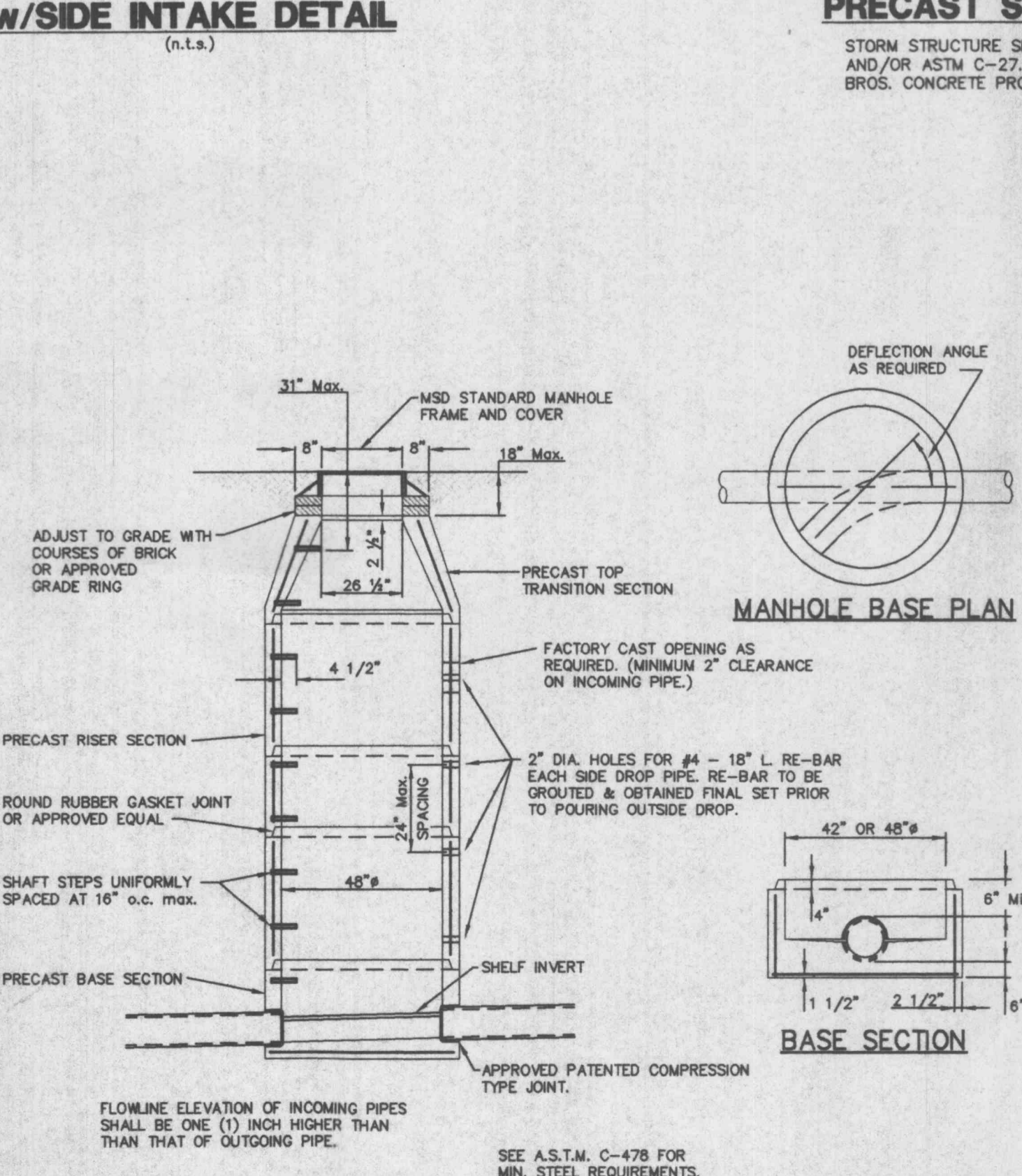
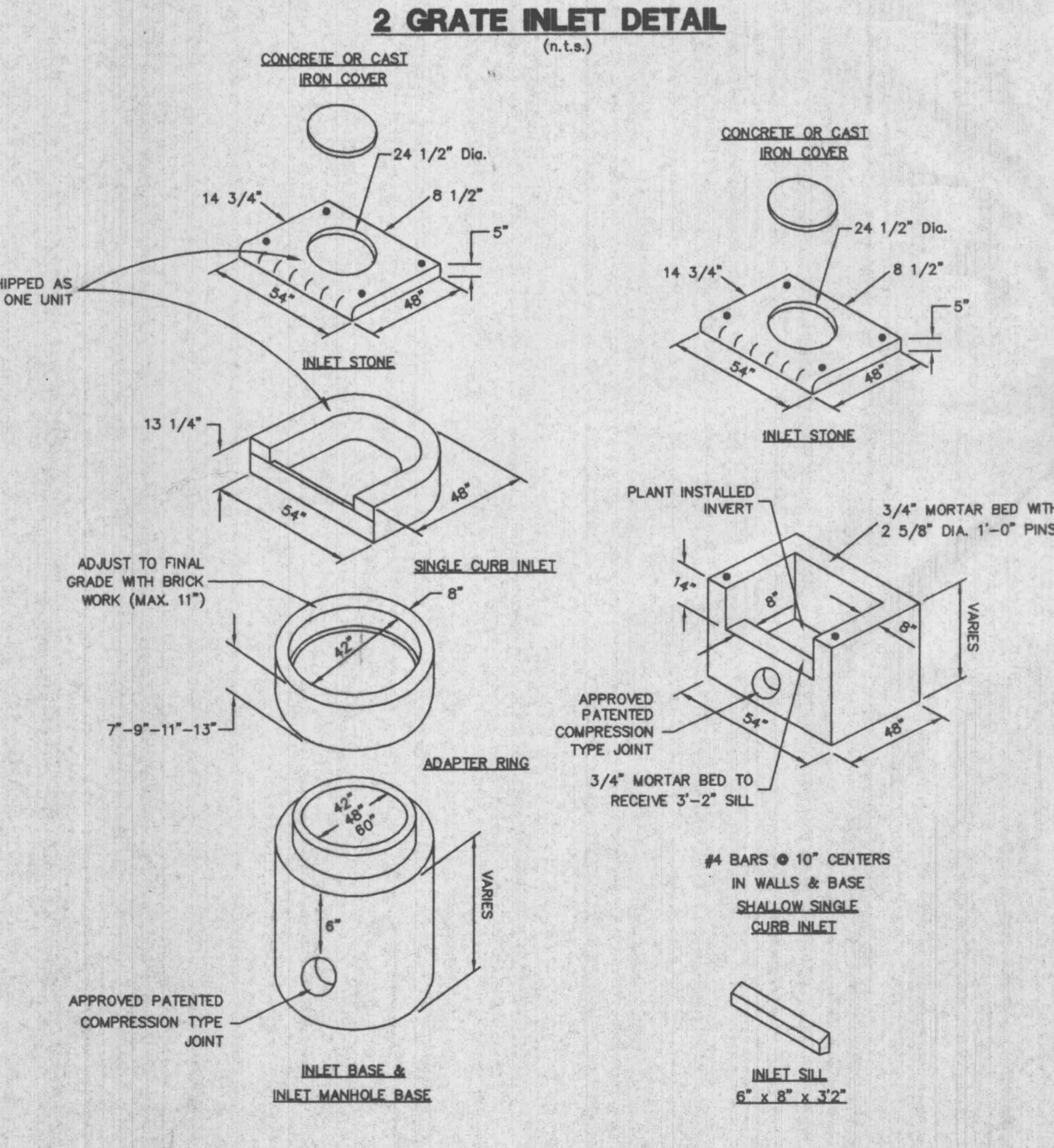


SANITARY SEWER PROFILE
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'



- STORM SEWER NOTES:**
- 1) STORM SEWER PIPE TO BE HIGH DENSITY POLYETHYLENE (H.D.P.E.) WITH WATER TIGHT GASKETED JOINTS WITH RUBBER O-RING GASKETS MEETING ASTM F477. O-RING GASKET SHALL BE INSTALLED ON THE SPIGOT END OF PIPE.
 - 2) 12" TO 36" PIPE SHALL CONFORM TO THE AASHTO M294 CLASSIFICATION "TYPE S" AND 42" TO 48" SHALL CONFORM TO AASHTO M95-95 CLASSIFICATION "TYPE D".
 - 3) ALL PIPE JOINTS SHALL CONSIST OF BELL AND SPIGOT JOINTING SYSTEM WITH THE BELL COVERING TWO PIPE CORRUGATIONS AS RECOMMENDED IN AASHTO M294.
 - 4) PIPE MANUFACTURED FOR THIS SPECIFICATION SHALL COMPLY WITH THE REQUIREMENTS FOR TEST METHODS, DIMENSIONS AND MARKINGS FOUND IN AASHTO DESIGNATIONS M292 AND M294. PIPE AND FITTINGS SHALL BE MADE FROM VIRGIN PE COMPOUNDS WHICH CONFORM WITH THE REQUIREMENTS OF CELL CLASS 335420C AS DEFINED AND DESCRIBED IN ASTM D3550.
 - 5) FITTINGS MAY BE EITHER MOLDED OR FABRICATED AND SHALL CONFORM TO THE REQUIREMENTS AASHTO M252 AND M294. THE FITTINGS SHALL NOT REDUCE OR IMPAIR THE OVERALL INTEGRITY OR FUNCTION OF THE PIPE LINE. ONLY FITTINGS SUPPLIED OR RECOMMENDED BY THE PIPE MANUFACTURER SHALL BE USED.
 - 6) INSTALLATION OF THE PIPE SPECIFIED ABOVE SHALL BE IN ACCORDANCE WITH THE ASTM RECOMMENDED PRACTICE D2321.
 - 7) BOTH BELL AND SPIGOT (WITH O-RING GASKET) ENDS OF THE PIPE SHALL BE LUBRICATED AS RECOMMENDED BY MANUFACTURER AND INSERTED TO THE HOMING MARK ON THE SPIGOT END OF THE PIPE.
 - 8) MINIMUM RECOMMENDED TRENCH WIDTH SHALL BE NOT LESS THAN THE GREATER OF EITHER PIPE OUTSIDE DIAMETER PLUS 18 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25, PLUS 12 INCHES AS OUTLINED HEREIN:

NOMINAL PIPE DIAMETER	MINIMUM TRENCH WIDTH
12" (300mm)	31"
15" (375mm)	34"
18" (450mm)	39"
24" (600mm)	42"
30" (750mm)	54"
36" (900mm)	68"
42" (1050mm)	71"
48" (1200mm)	78"



HYDRAULIC DATA SHEET (ASSUMED FULL FLOW)

DATE: _____
CALC. BY: _____
CHECKED BY: _____

REVISIONS: _____

PROJECT NO: 98-1634
PROJECT NAME: O'FALLON OFFICE BLDG
PHASE / PLAN: _____

LINE	LENGTH	FLOWLINE ELEVATIONS	SLOPE	FRICION LOSSES	HYDRAULIC ELEVATIONS	15 YEAR STORM		20 MINUTE DURATION		REMARKS													
						UPPER STRUC. ELEV.	LOWER STRUC. ELEV.	UPPER STRUC. ELEV.	LOWER STRUC. ELEV.														
13	13	548.75	537.09	72.78	0.1800	12	2.99	3.81	0.23	0.67	0.51	548.75	538.80	538.09	549.78	533.00	3.25	0.013	14.25				
12	12	537.09					ASSUME TOP OF PIPE @ HYDRAULIC GRADE = 538.09																
11	11	563.83	561.80	90.14	0.0247	12	1.98	2.52	0.10	0.20	0.28	564.83	563.32	563.04	564.83	567.00	2.17	0.013	5.60				
10	10	561.80	561.05	44.27	0.0228	15	3.99	3.25	0.18	0.65	0.17	0.19	562.85	562.73	562.56	563.04	565.85	2.81	0.013	7.22			
9	9	561.05	557.85	271.33	0.0228	15	5.43	4.42	0.30	1.65	1.82	0.24	0.02	0.28	562.30	561.15	529.23	562.56	566.35	3.79	0.013	7.22	
8	8	557.85	554.88	261.93	0.0228	18	7.53	4.26	0.28	2.12	1.14	0.08	0.08	559.15	557.52	559.39	559.23	562.25	3.02	0.013	11.74		
7	7	543.374					ASSUME TOP OF PIPE @ HYDRAULIC GRADE = 558.38																
6	8	551.50	547.63	60.71	0.0460	12	4.18	5.32	0.44	1.84	1.33	0.08	0.08	552.50	550.90	549.57	552.50	554.95	2.45	0.013	7.13		
5	5	547.83	545.37	288.54	0.0160	18	9.13	6.27	0.43	4.01	1.77	0.31	0.13	0.44	549.13	548.64	548.87	549.57	552.50	2.83	0.013	10.50	
1	1	540.08					ASSUME TOP OF PIPE @ HYDRAULIC GRADE = 546.87																
4	4	558.70	553.39	132.79	0.0460	12	3.33	4.24	0.28	0.93	1.18	0.08	0.08	558.70	555.96	554.90	559.70	562.85	3.25	0.013	7.13		
3	3	553.39	548.42	198.79	0.0250	15	5.34	4.35	0.29	1.57	1.08	0.18	0.18	554.64	552.84	551.86	554.80	558.85	4.05	0.013	10.21		
2	2	549.42	547.20	88.76	0.0250	18	12.89	7.29	0.83	10.65	1.34	0.94	0.04	0.84	550.92	550.04	548.70	551.86	554.75	2.88	0.013	16.61	
1	1	540.08					ASSUME TOP OF PIPE @ HYDRAULIC GRADE = 548.70																

FORMULAS: MEAN FULL FLOW VELOCITY $V = 0.574 C \sqrt{R S}$
 FRICTION LOSS $H_f = 2.48 L \frac{V^2}{D^5}$
 VELOCITY HEAD $h_v = \frac{V^2}{2g}$

NOTES: 1. IF MORE THAN ONE INCOMING LINE, CALCULATE EACH BRANCH LOSS AND ADD TOGETHER.
 2. NO STRUCTURE LOSSES TO BE CALCULATED AT A DRAWD.
 3. IF $Q_{IN} > Q_{OUT}$, NO ANNE. LOSS TO BE CALCULATED.