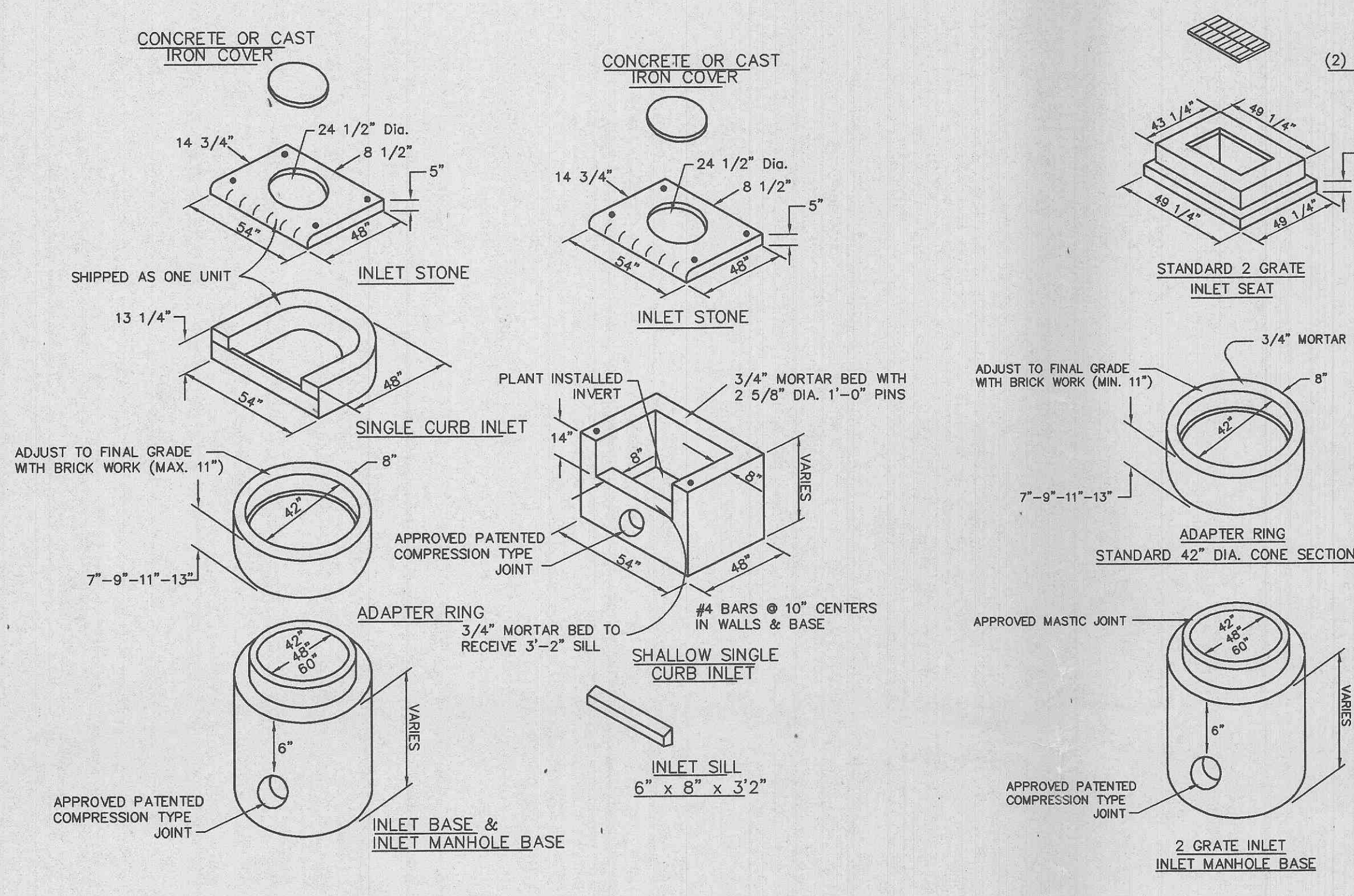
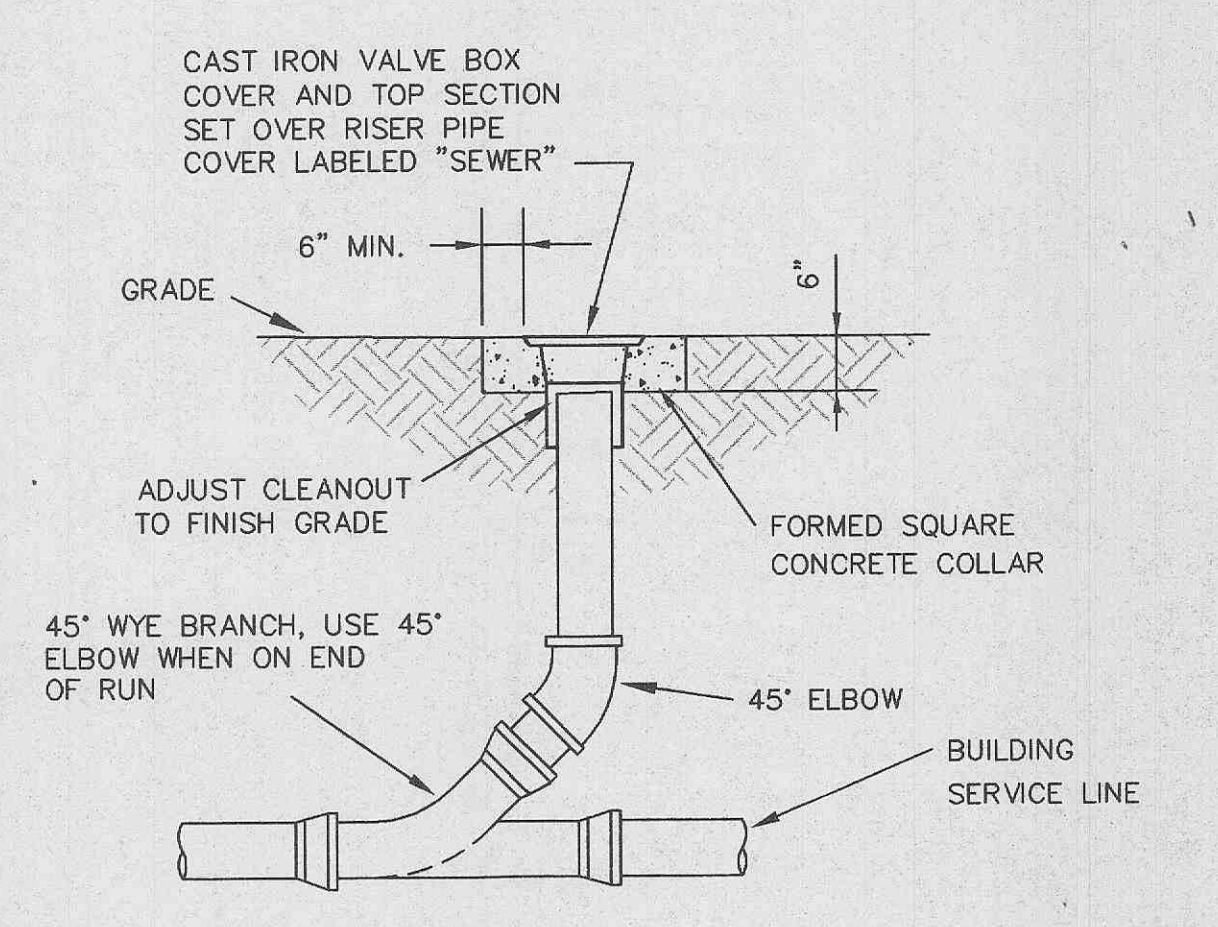


PRECAST MANHOLE
SEWERS 8"-18"

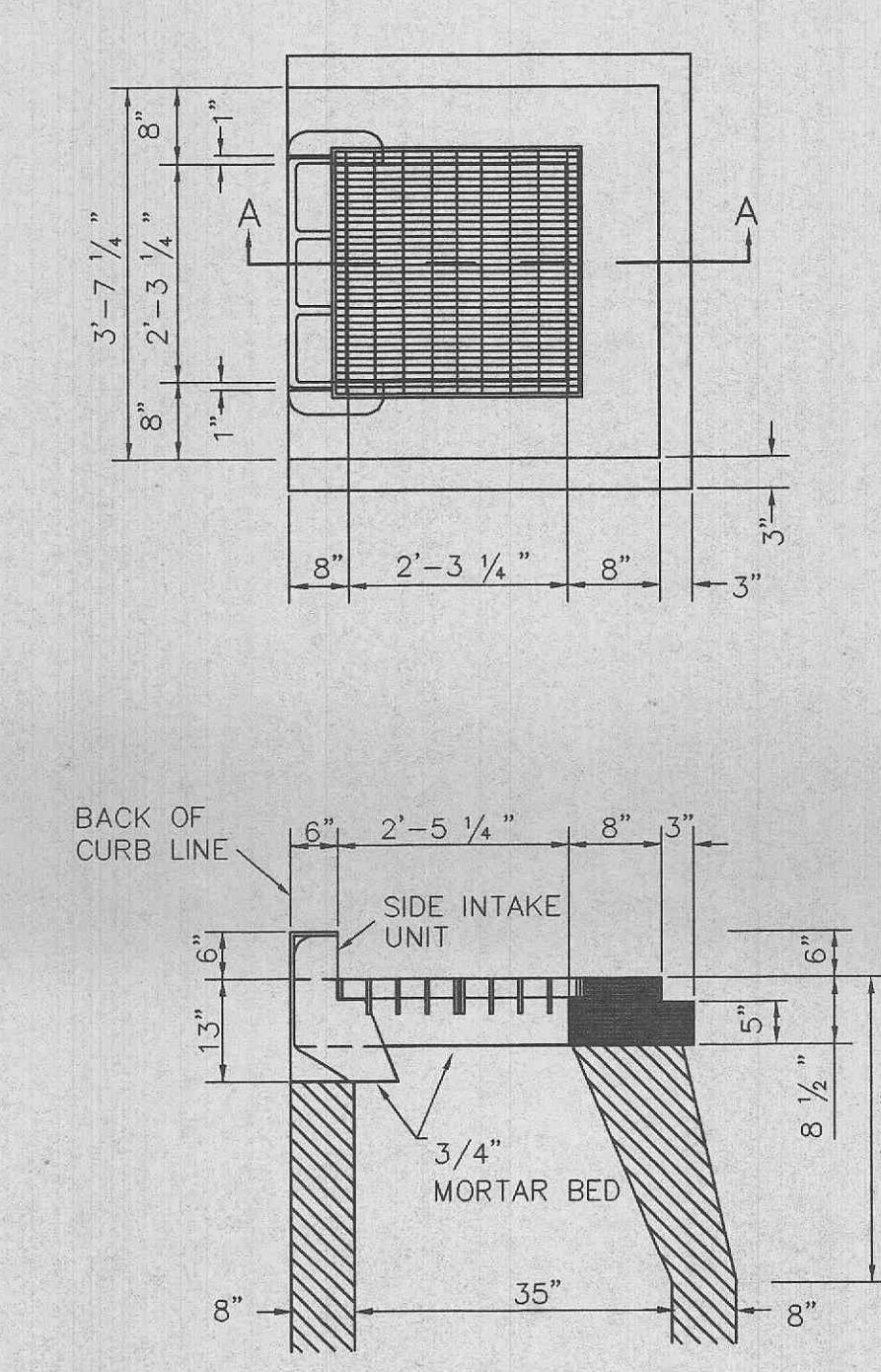


SINGLE STREET INLET
PRECAST CONCRETE

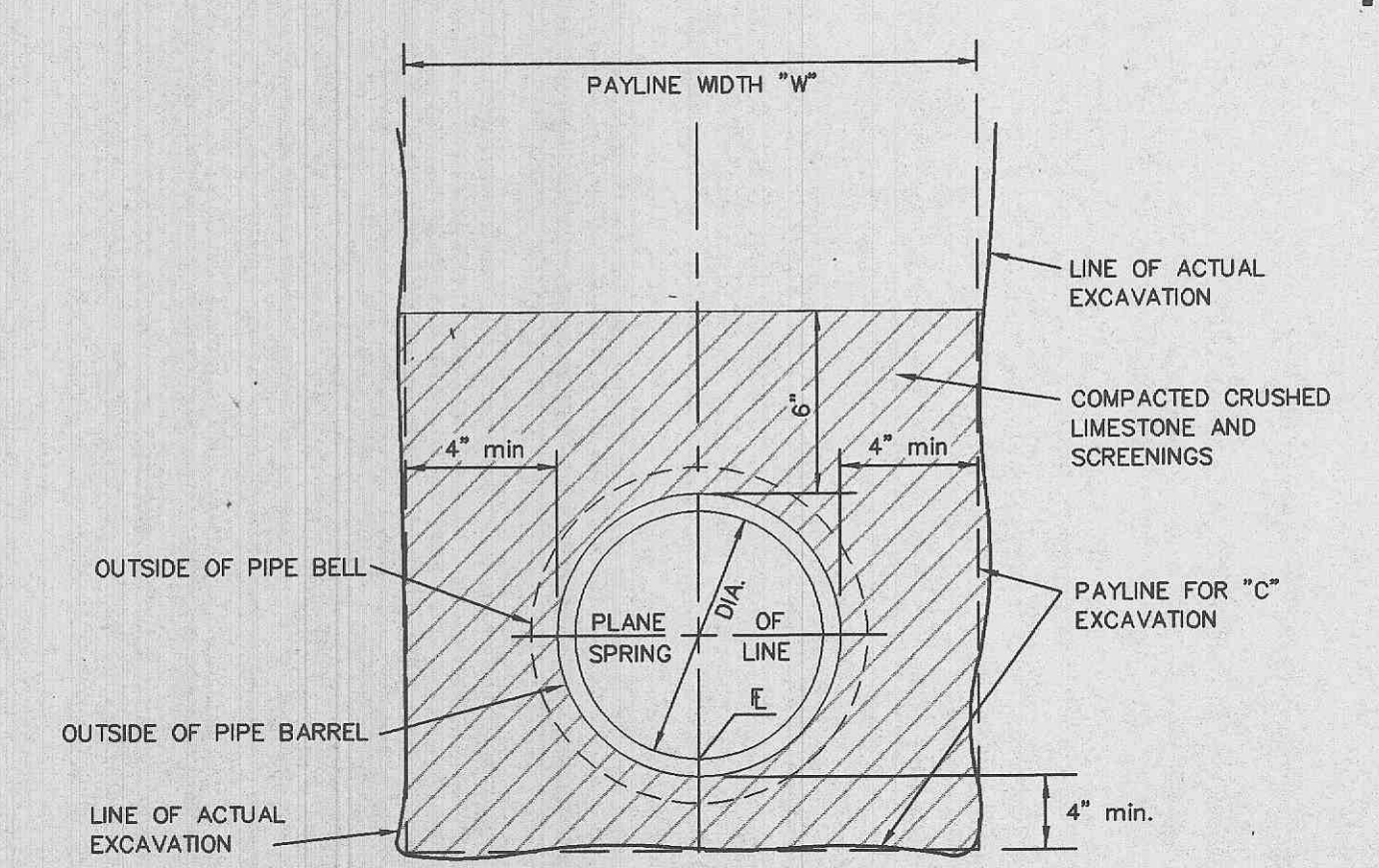
2 GRATE INLETS
PRE-CAST CONCRETE



SANITARY SEWER CLEANOUT

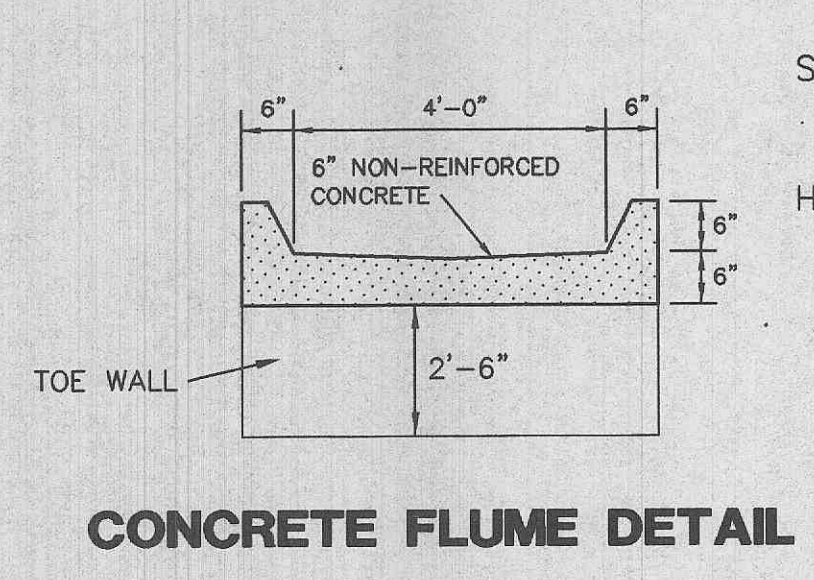


2 GRATE INLET
WITH SIDE INTAKE

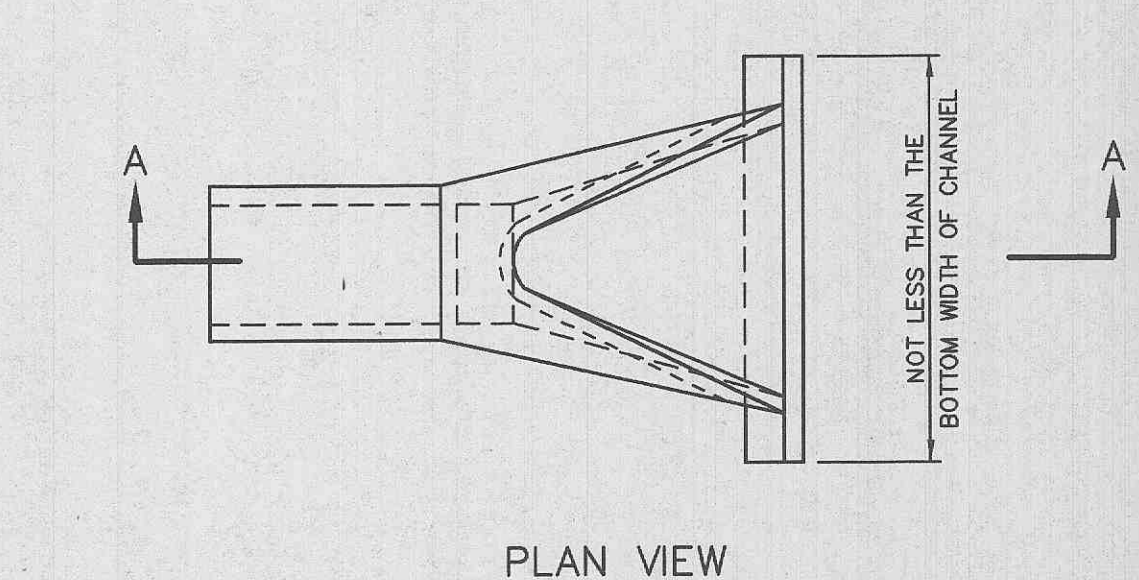


PIPE BEDDING CLASS "C"

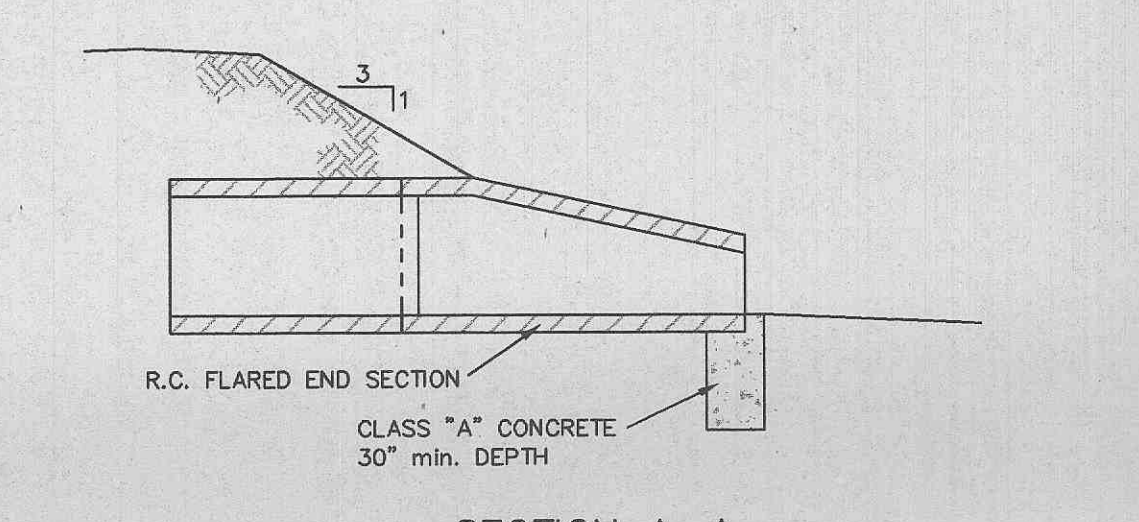
- NOTES:**
- CONCRETE SHALL BE 3000 p.s.i. STRENGTH AT 28 DAYS.
 - TOE WALL SHALL BE CONSTRUCTED AT BOTH UPSTREAM AND DOWNSTREAM ENDS.
 - MINIMUM CHANNEL SLOPE TO BE 0.5%.
 - DISTURBED AREAS TO BE SEEDED AND MULCHED UPON COMPLETION OF CONSTRUCTION AND EROSION CONTROL DEVICES INSTALLED PER DIRECTION OF OWNER OR ENGINEER.



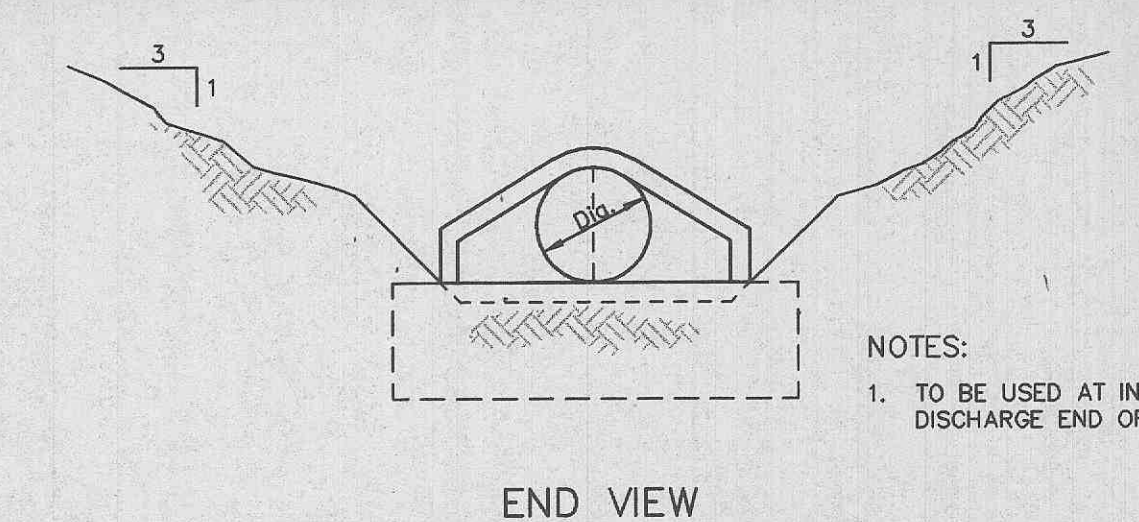
CONCRETE FLUME DETAIL



PLAN VIEW



SECTION A-A



END VIEW

FLARED END SECTION

- NOTES:**
- TO BE USED AT INTAKE AND DISCHARGE END OF PIPE

J.R. GRIMES
CONSULTING ENGINEERS, INC.
HYDRAULIC DATA 25 YEAR STORM
VER. 2.0

STRUCTURE	UPR	LOWER	FLOWLINE	LENGTH	GRADE	PIPE	"n"	Q	TOTAL	V	Vh	PIPE LOSSES (ft)			STRUCTURE LOSSES (ft)			HYD. ELEV.	HYD. GRADE	LOWEST	FREEBOARD	PIPE CAPACITY	Q/CAP	DEPTH	VELOCITY	GIVEN	LOWER	
												FRIC	CURVE	TOTAL	LOSS	LOSS	LOSS											UPPER
2	1	483.16	482.72	55	0.0080	24	0.01	1.66	13.51	4.30	0.29	3.88	0.12	0.00	0.12	0.18	0.08	0.26	486.33	485.95	0.0021	489.50	3.17	26.30	0.51	1.00	4.30	485.95
3	2	484.22	483.16	134	0.0079	24	0.01	2.72	11.85	3.64	0.21	2.44	0.20	0.00	0.20	0.01	0.14	0.15	486.68	486.33	0.0015	488.68	1.90	26.16	0.45	0.92	3.77	
4	3	485.43	484.22	152	0.0080	18	0.01	3.31	6.35	3.63	0.20	1.30	0.34	0.00	0.34	0.18	0.04	0.22	487.24	486.68	0.0022	488.50	2.26	12.18	0.52	0.77	3.59	
5	4	486.82	485.43	173	0.0080	15	0.01	3.04	3.04	2.33	0.08	0.26	0.20	0.00	0.20	0.08	0.00	0.08	487.45	487.24	0.0012	489.40	1.95	7.53	0.40	0.55	2.48	
6	3	485.07	484.22	106	0.0080	15	0.01	0.00	2.78	2.07	0.07	0.19	0.10	0.00	0.10	0.04	0.04	0.07	486.85	486.68	0.0009	490.50	3.65	7.52	0.37	0.52	2.27	
7	6	485.89	485.07	103	0.0080	15	0.01	2.78	2.78	2.07	0.07	0.19	0.09	0.00	0.09	0.07	0.00	0.07	486.95	486.85	0.0009	490.50	3.55	7.49	0.37	0.52	2.27	

CALC BY D MARTIN
DATE 10/5/99
REVISED



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YMCA of Greater St. Louis
OFALLON YMCA
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O'Fallon, Missouri 63366

NO.	DATE	REVISIONS
2	10/6/99	CITY COMMENTS
3	11/4/99	CITY COMMENTS

DRAWN BY: D.M. CHECKED BY: J.R.G.
JOB NO. 333 DATE: 04-14-99
SHEET NO.

C5