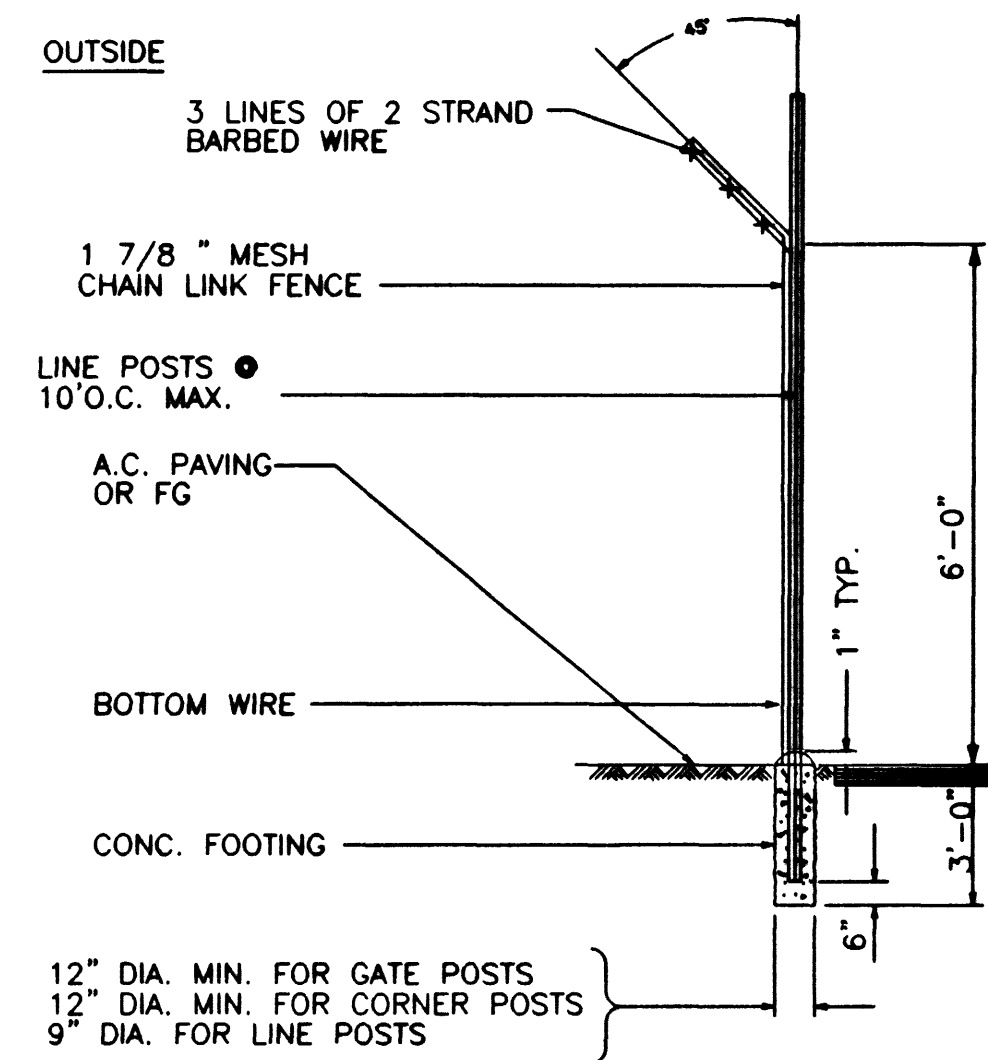




NOTE:
EXTENSION ARM MAY BE TURNED IN. AT OPTION OF OWNER.

SPECIFICATION

BARBED WIRE 2 STRANDS OF NO. 12 1/2 STEEL WIRE WITH 4 POINT BARBS.

FABRIC NO. 9 GALV. STEEL WIRE, 1 7/8 " MESH.

FABRIC TIES NO. 9 GALV. STEEL WIRE SPACED 14" APART ON POSTS AND 24" APART ON RAILS.

CORNER POST 3" O.D. PIPE, 5.79#/FT.

LINE POSTS 2.25" H - COLUMN SECTION, 4.1#/FT. OR STD. WEIGHT 2 1/2" O.D. PIPE, 3.65#/FT.

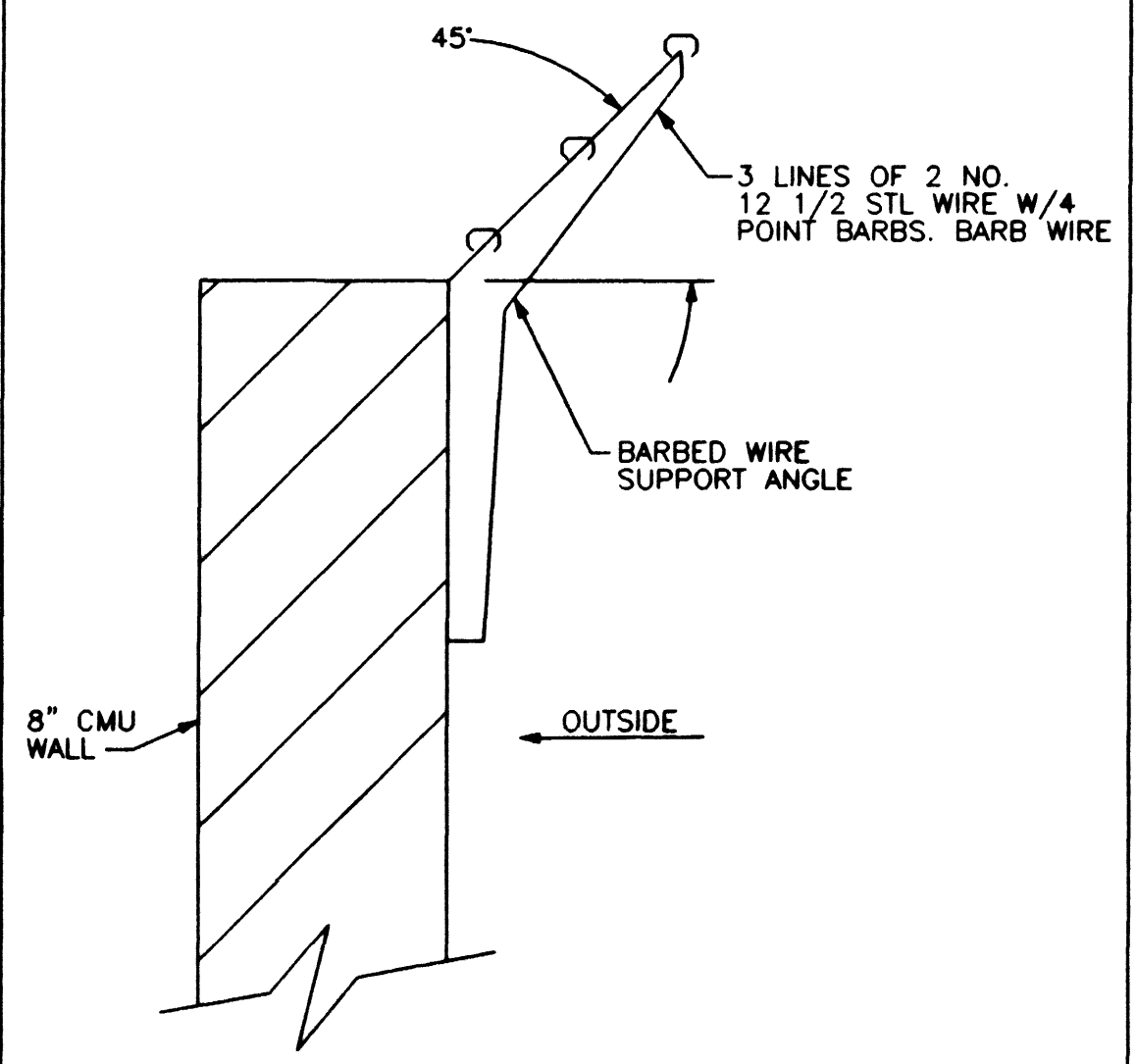
SWING GATE POSTS 4" O.D. PIPE, 9.1#/FT.

TOP RAIL & BRACES 1 5/8" O.D. PIPE, 2.27#/FT. OR 1 1/2" x 1 5/16" H - COLUMN SECTION, 2.00#/FT.

BOTTOM WIRE COIL SPRING WIRE 7 GA.

ALL FENCING MATERIALS TO BE HOT - DIPPED GALVANIZED AFTER FABRICATION.

CHAIN LINK FENCE DETAIL C-101
NOT TO SCALE C-3



BARBED WIRE SUPPORT DETAIL C-102
NOT TO SCALE C-3

FLEXIBLE PIPE TYPICAL TRENCH SECTIONS

A. FLEXIBLE PIPE REFERS TO ALL STEEL, DUCTILE-IRON AND PLASTIC PIPES.

B. TYPICAL TRENCH SECTIONS (I, II AND III) ARE TO BE USED ONLY WHERE STABLE, COMPACT SOIL CONDITIONS EXIST. IF BOULDER OR LARGE OBSTRUCTIONS WOULD BE ENCOUNTERED, TRENCH SECTIONS MAY BE DEEPER OR WIDER THAN SHOWN. THE ENGINEER SHOULD BE ADVISED SHOULD THIS OCCUR.

C. THE NEED FOR PROTECTIVE SYSTEMS, AND EXCAVATION SLOPES SHALL BE DETERMINED CONSIDERING APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS AND GEOTECHNICAL CONSULTANTS' RECOMMENDATIONS.

D. PROTECTIVE SYSTEMS SHALL BE DESIGNED AND BUILT IN ACCORDANCE WITH THE APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS.

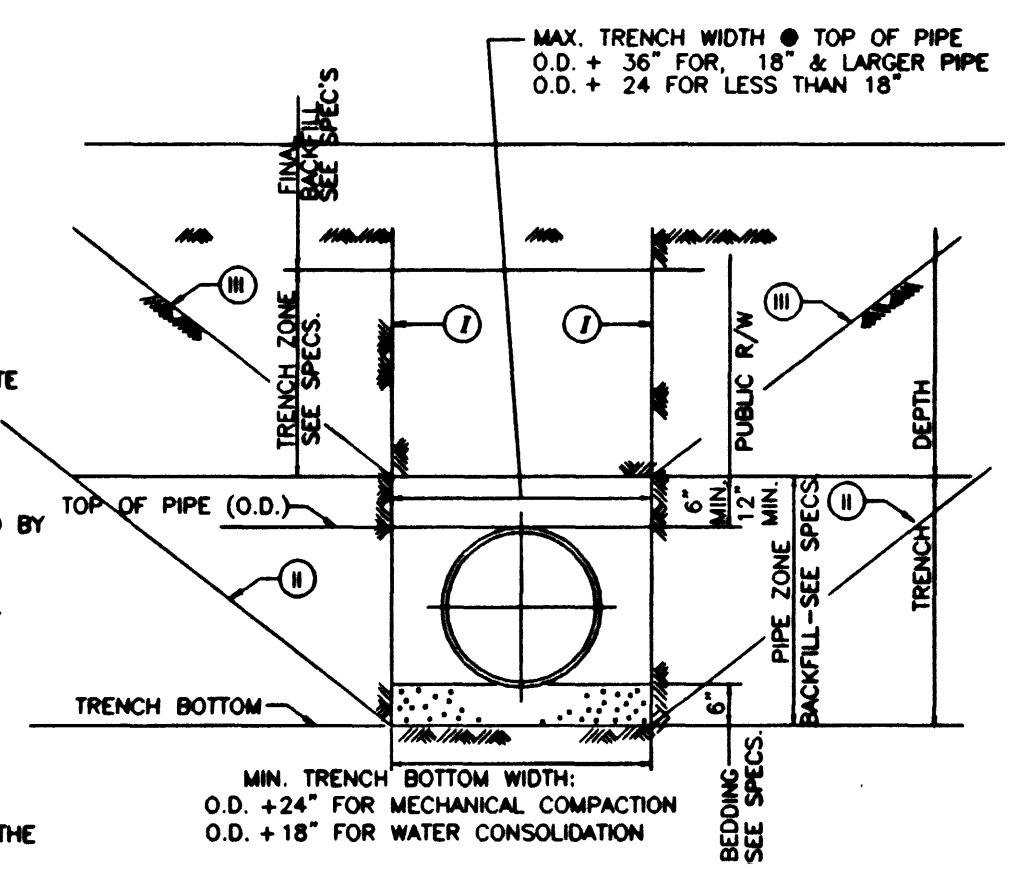
E. SUPPORTING DOCUMENTATION SHALL BE SUBMITTED TO THE ENGINEER REGARDING PIPE DESIGN AND COMPLIANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS.

F. UNSUPPORTED VERTICAL AND/OR SLOPING TRENCH WALL SLOPES SHALL NOT BE STEEPER THAN ALLOWED BY APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS, UNLESS SUPPORTING DOCUMENTATION IS SUBMITTED, ACCORDING TO AFOREMENTIONED SAFETY STANDARDS.

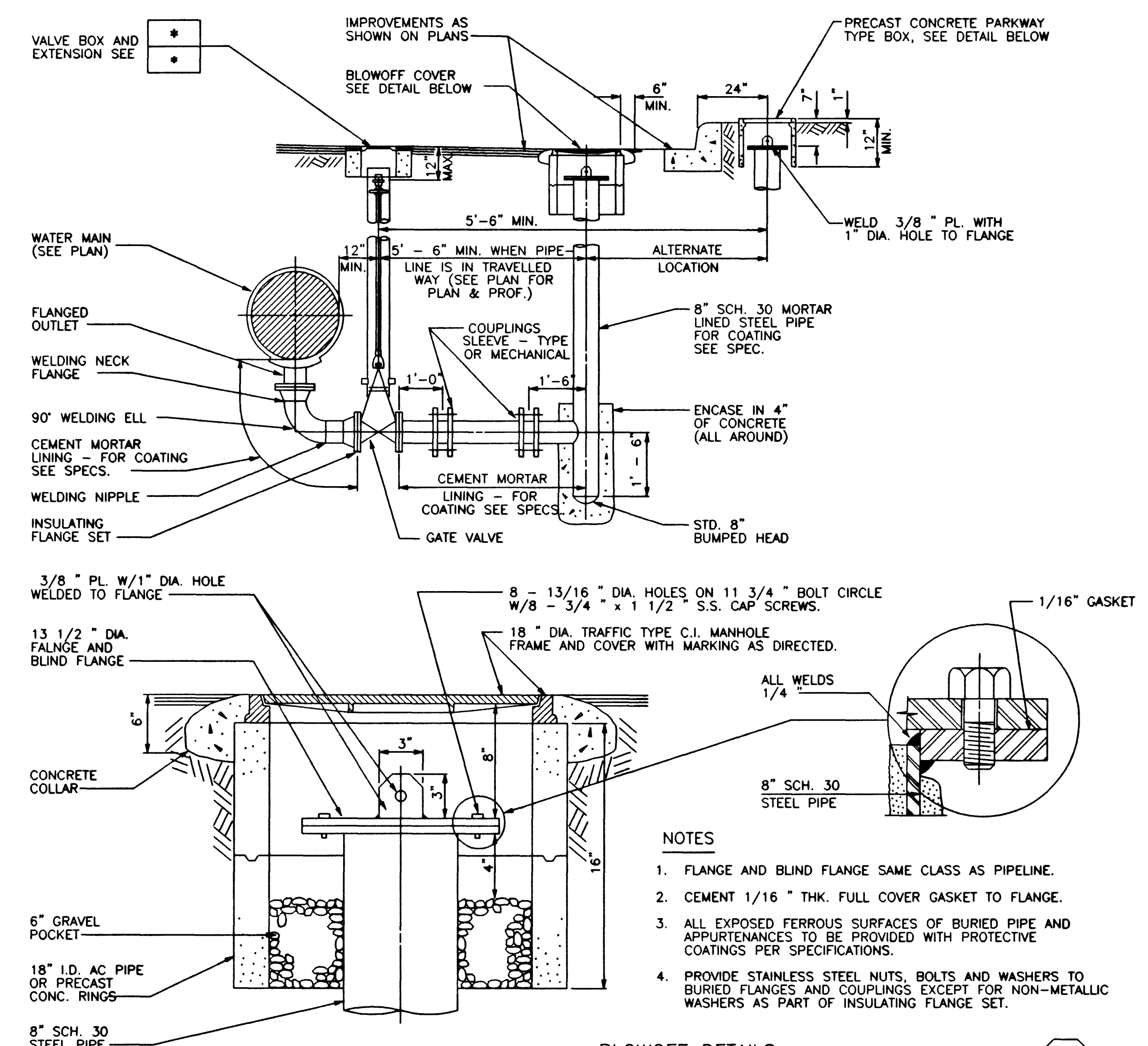
G. TRENCH SECTIONS OTHER THAN THE TYPICAL SECTIONS SHOWN MAY BE UTILIZED PROVIDED THEY COMPLY WITH APPLICABLE LOCAL, STATE AND FEDERAL (OSHA) SAFETY STANDARDS AND REGULATIONS. DOCUMENTATION SUPPORTING THIS COMPLIANCE AND PIPE DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER.

H. IF OVER-EXCAVATION DUE TO POOR FOUNDATION MATERIAL IS ORDERED BY THE ENGINEER, THE BACKFILL MATERIAL SHALL BE ACCORDING TO THE EARTHWORK SECTION OF THE SPECIFICATIONS ARTICLE ENTITLED, "USE OF FILL, BACKFILL AND EMBANKMENT MATERIAL TYPES."

I. IF DURING CONSTRUCTION, THE WATER TABLE WILL BE DISCOVERED TO BE ABOVE THE TRENCH BOTTOM, THE ENGINEER SHALL BE NOTIFIED, AND APPROPRIATE DEWATERING SHALL BE IMPLEMENTED TO LOWER THE WATER LEVEL BELOW THE TRENCH BOTTOM. THE BACKFILL MATERIAL SHALL BE ACCORDING TO THE EARTHWORK SECTIONS OF THE SPECIFICATIONS, OR AS ORDERED BY THE ENGINEER.



FLEXIBLE PIPE TYPICAL TRENCH SECTION C-103
NOT TO SCALE



NOTES

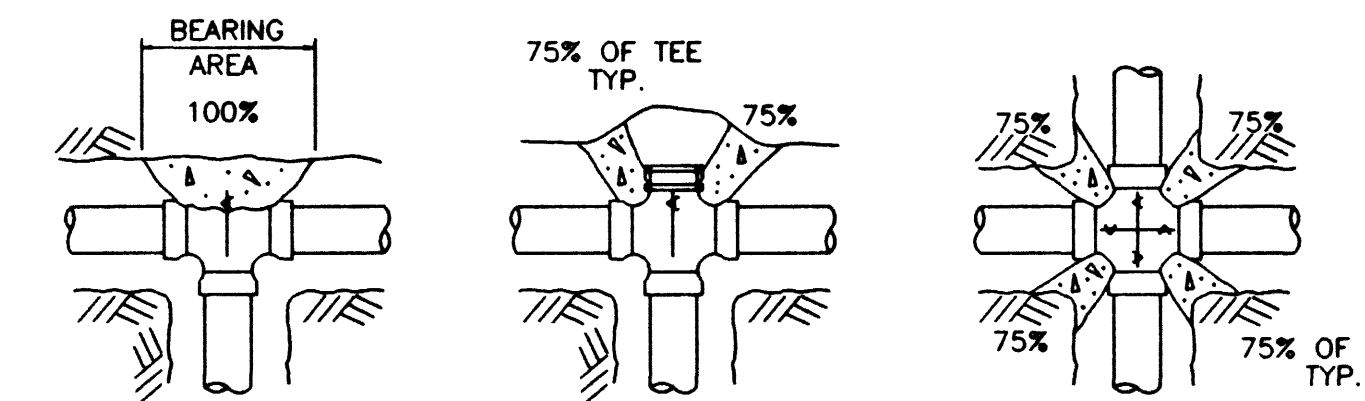
1. FLANGE AND BLIND FLANGE SAME CLASS AS PIPELINE.

2. CEMENT 1/16" THK. FULL COVER GASKET TO FLANGE.

3. ALL EXPOSED FERROUS SURFACES OF BURIED PIPE AND APPURTENANCES TO BE PROVIDED WITH PROTECTIVE COATINGS PER SPECIFICATIONS.

4. PROVIDE STAINLESS STEEL NUTS, BOLTS AND WASHERS TO BURIED FLANGES AND COUPLINGS EXCEPT FOR NON-METALLIC WASHERS AS PART OF INSULATING FLANGE SET.

BLOWOFF DETAILS C-223
NOT TO SCALE 090189



PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
4	19	27	15	7
6	39	55	30	15
8	67	94	51	26
10	109	154	84	43
12	155	218	119	61
14	210	296	161	82
16	275	383	209	106
18	351	494	269	137
20	434	611	333	169
24	623	878	478	244

EXAMPLE:

8 INCH 90° ELBOW, PRESSURE = 200LB./ SQ. IN. FROM TABLE:

THRUST = 94 x 200 = 18,800 LBS.

ASSUME BEARING STRENGTH OF SOIL = 2000 LB./SQ. FT.

18,800 / 2000 = 9.4 SQ. FT. = AREA OF BEARING REQUIRED FOR THRUST BLOCK.

PIPE SIZE	SIDE THRUST-100 LB./SQ. IN. PRESSURE PER DEGREE OF DEFLECTION	PIPE SIZE	SIDE THRUST-100 LB./SQ. IN. PRESSURE PER DEGREE OF DEFLECTION
4	35	14	377
6	72	16	486
8	122	18	665
10	197	20	790
12	278	24	1150

NOTES:

1. IN USING THE ABOVE TABLES, USE THE MAXIMUM INTERNAL PRESSURE ANTICIPATED (i.e. HYDROSTATIC TEST PRESSURE, POSSIBLE SURGE PRESSURE DUE TO PUMP SHUT-OFF, ETC).

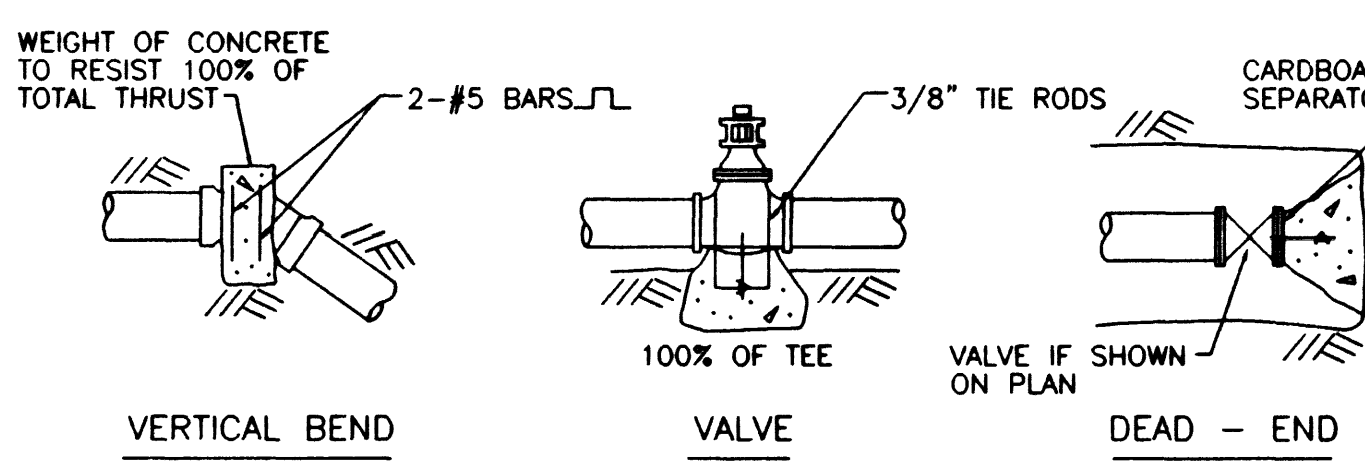
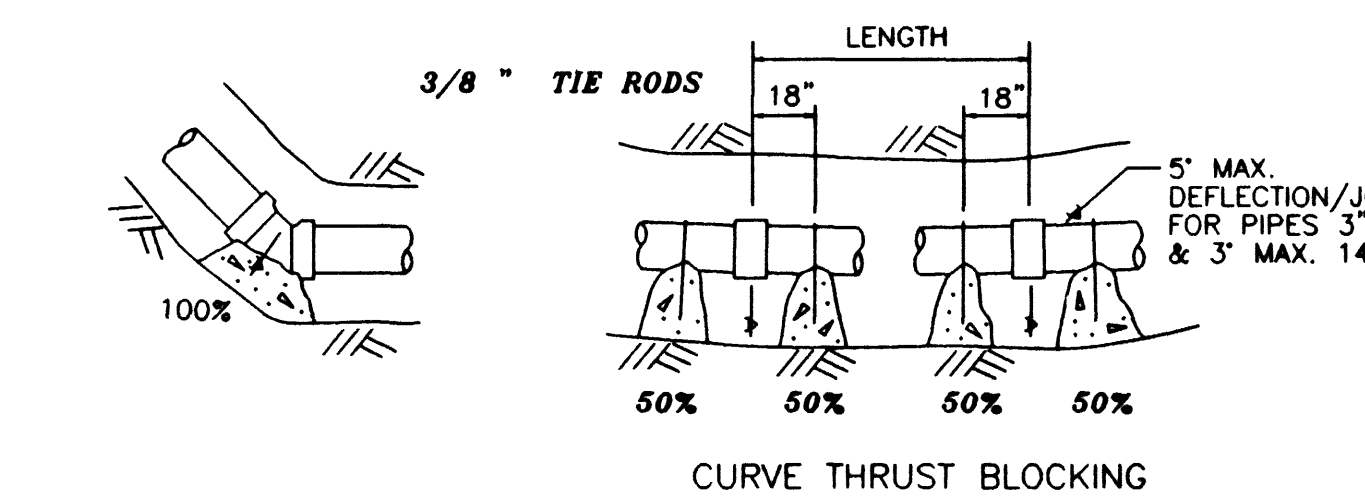
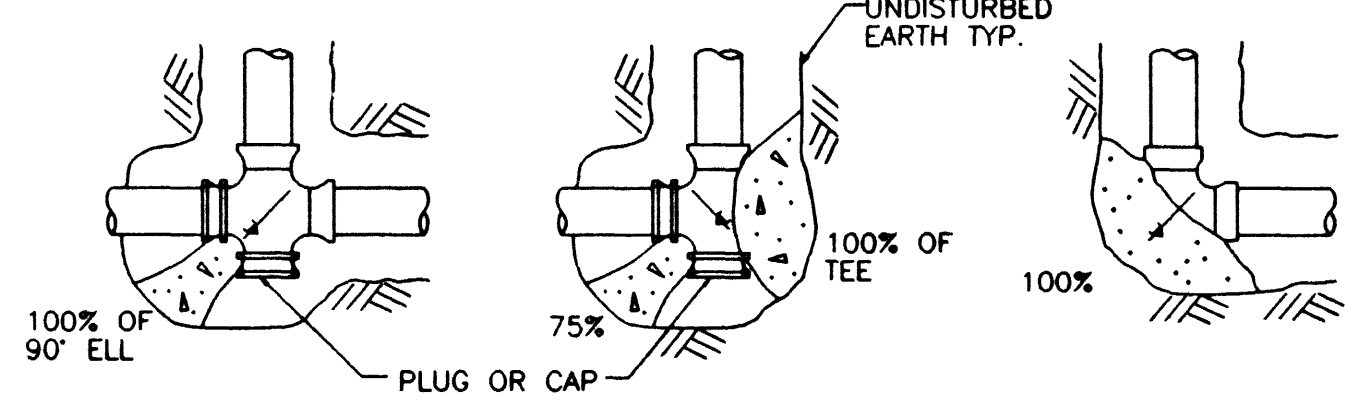
2. SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL. IN THE ABSENCE OF A SOILS REPORT, AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 3000 P.S.F.

3. THRUST BLOCKS ARE NOT REQUIRED ON P.V.C. PIPE WITH SOLVENT WELDED JOINTS.

4. CONCRETE FOR THRUST BLOCKS TO BE 3000 P.S.I. AT 28 DAYS.

5. ARROWS () INDICATE THRUST DIRECTION

6. FIGURE (100%) AT THRUST BLOCK INDICATES PERCENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA.



CONCRETE THRUST BLOCKS FOR CAST IRON ASBESTOS CEMENT AND P.V.C. PIPE C-224
NOT TO SCALE REV 051588

DATE/TIME 11/11/00 11:11

JOB No. 1540.0131 FILE No. 11/11/00 11:11

REV	DATE	BY	DESCRIPTION

DESIGNED: McCLELLAND	SUBMITTED: THE ORIGINAL CONTRACT DOCUMENT WAS SIGNED BY BEN EMERSON
DRAWN: McCLELLAND	PROJECT ENGINEER R. C. E. NO. DATE
CHECKED: B. EMERSON	RECOMMENDED: THE ORIGINAL CONTRACT DOCUMENT WAS SIGNED BY VICKI J. SCARHORST
	MONTGOMERY WATSON R. C. E. NO. DATE

MONTGOMERY WATSON
Las Vegas, Nevada

MONTGOMERY WATSON
3014 WEST CHARLESTON BLVD
LAS VEGAS, NV. 89102-1944
(702) 878-8010

COPYRIGHT © 1997 BY MONTGOMERY WATSON
ALL RIGHTS RESERVED

CITY OF LAS VEGAS	DWG. GC-2
BONANZA/MOJAVE WATER RESOURCE CENTER	9
MISCELLANEOUS CIVIL DETAILS- 1	513-64

AS BUILT
DATE 9 APR 99

Call before you Dig

1-800-227-2600

BEN EMERSON CIVIL

126255