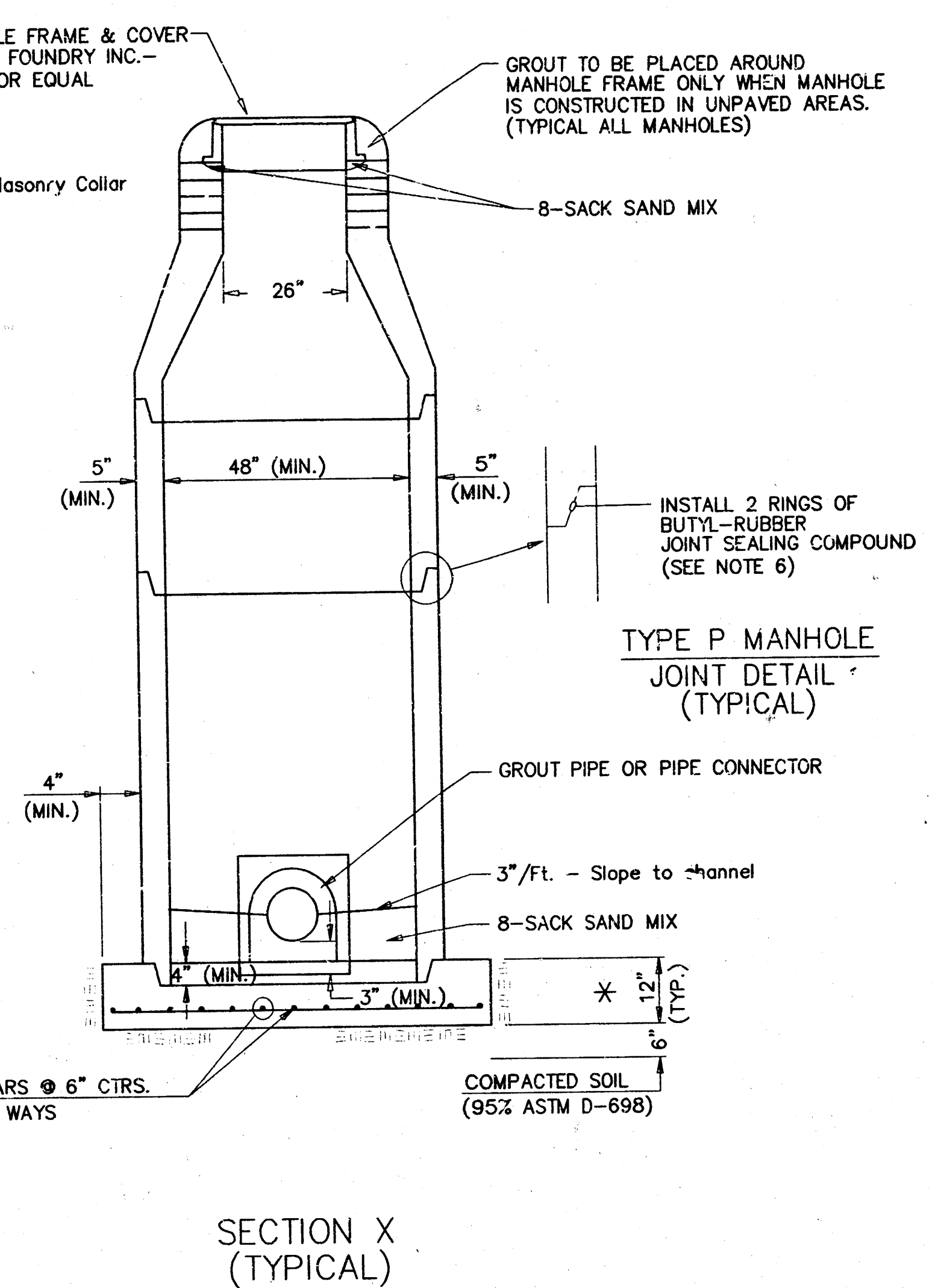
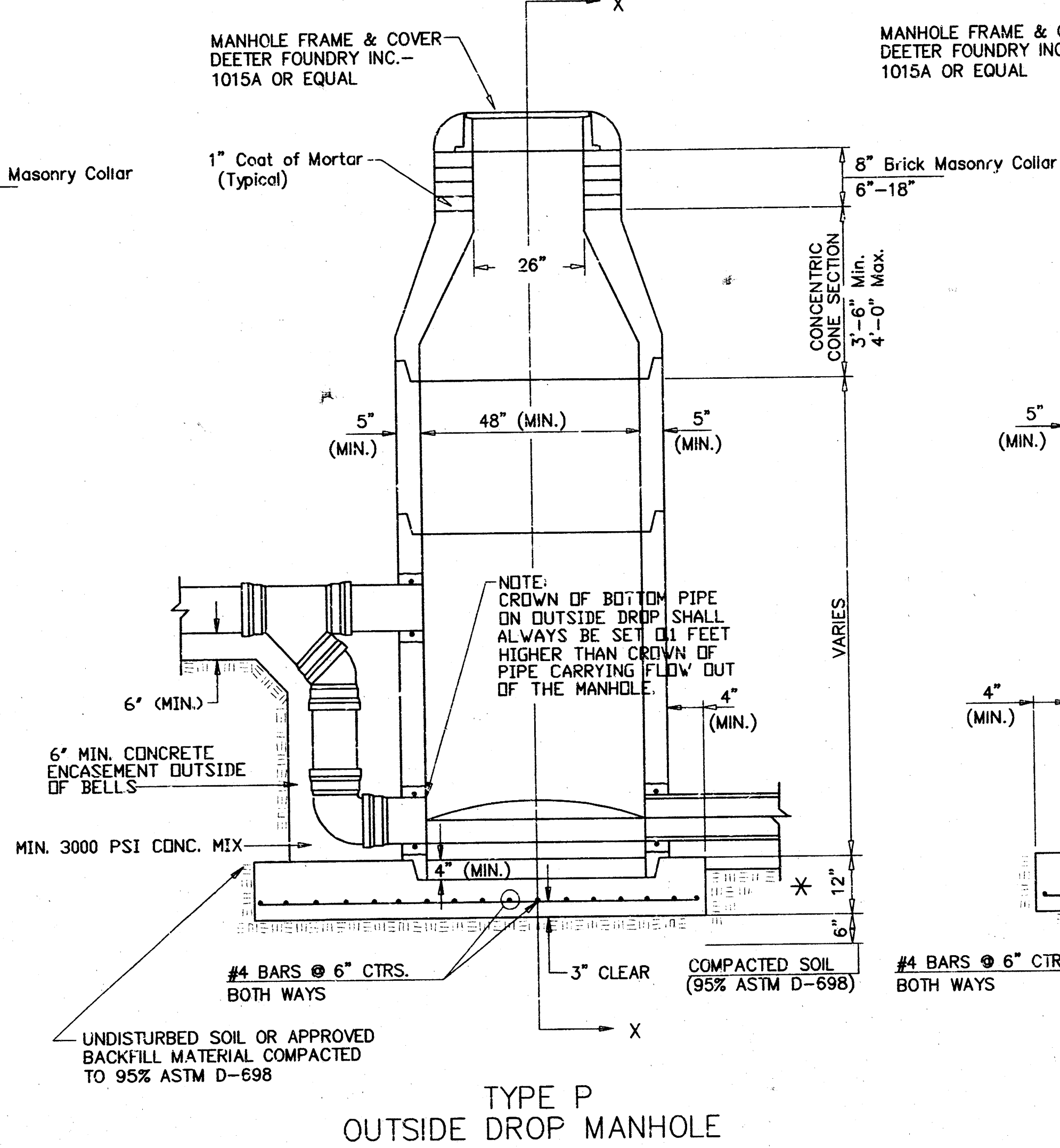
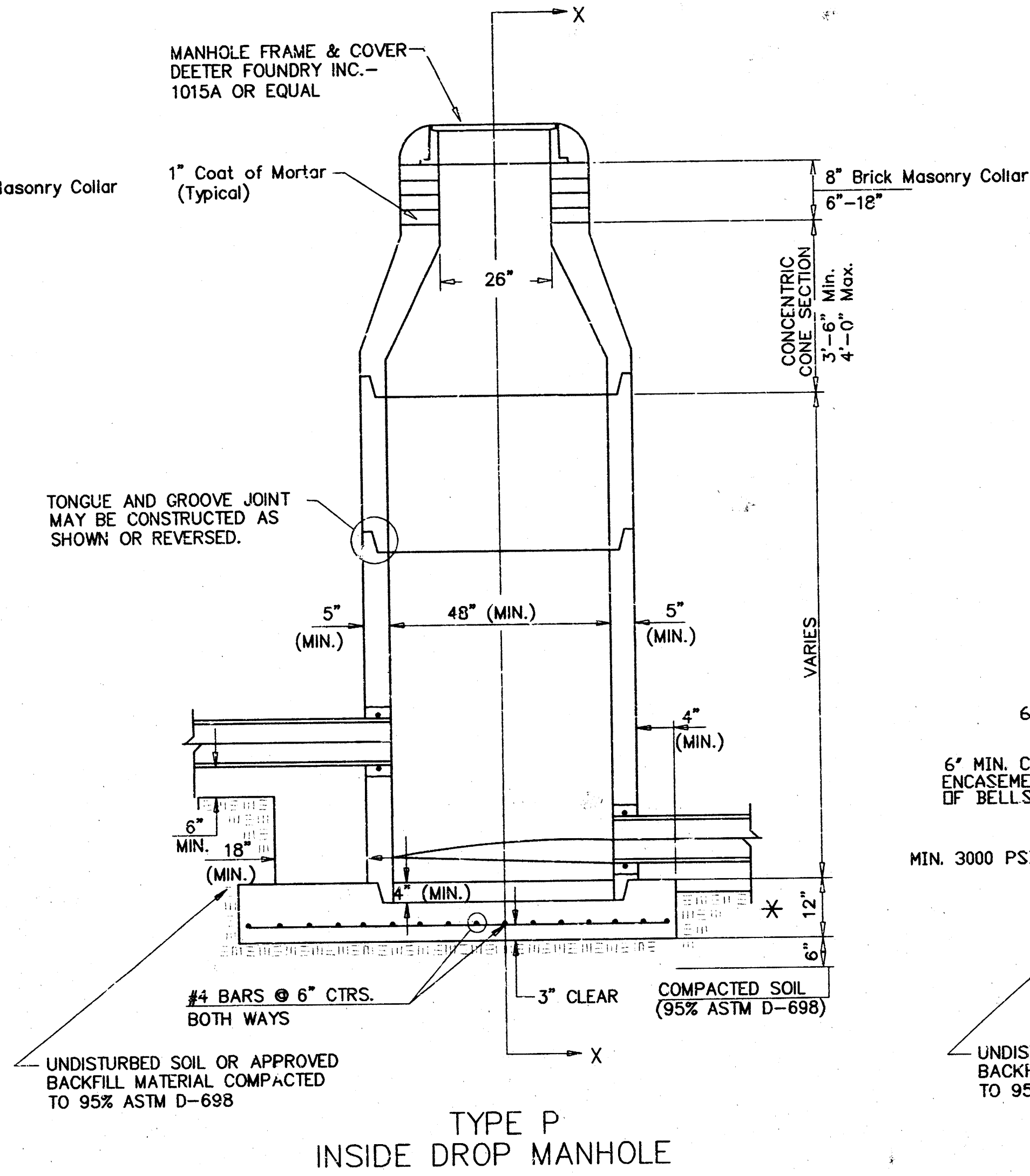
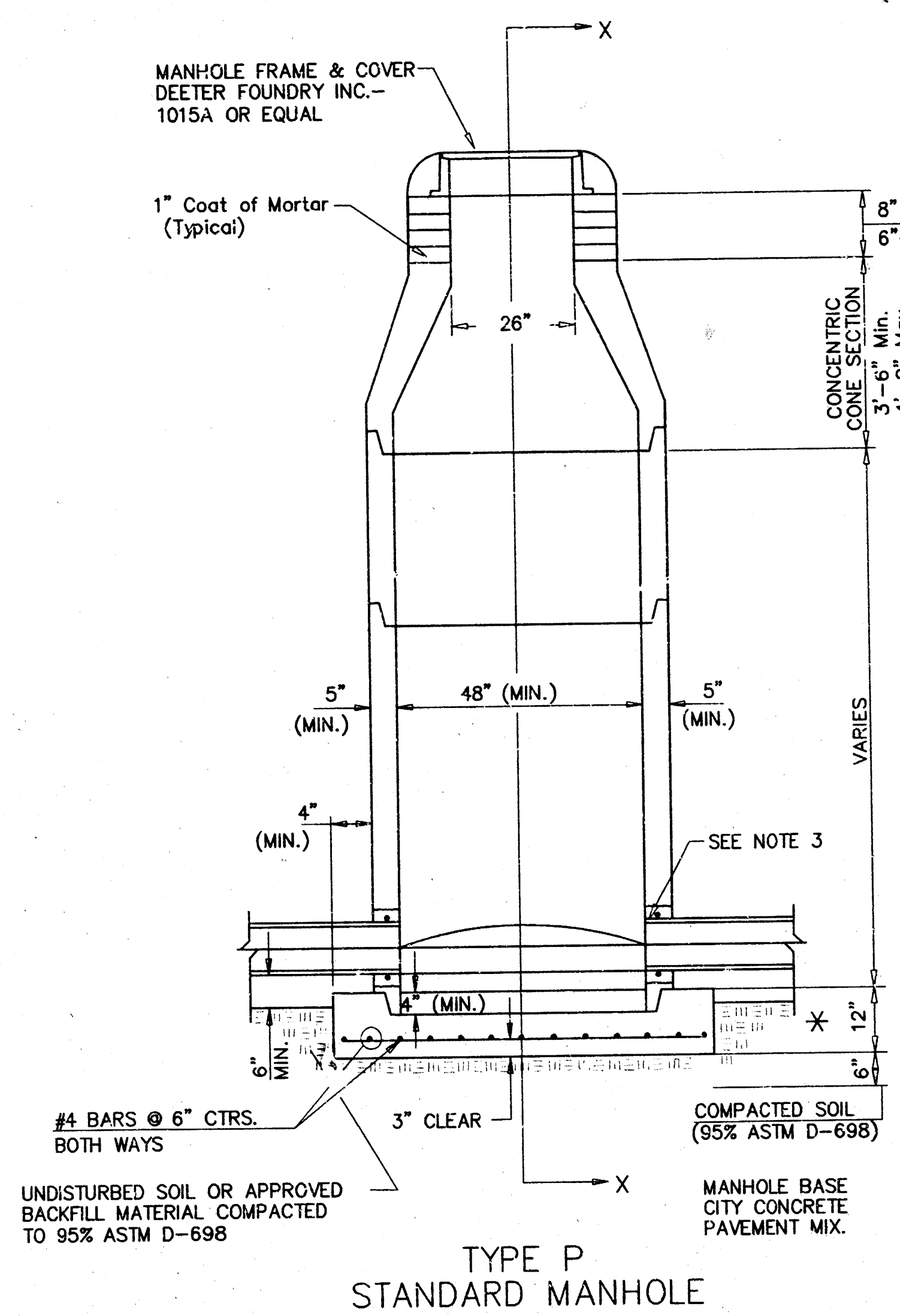


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SEWER APPURTENANCES DETAILS



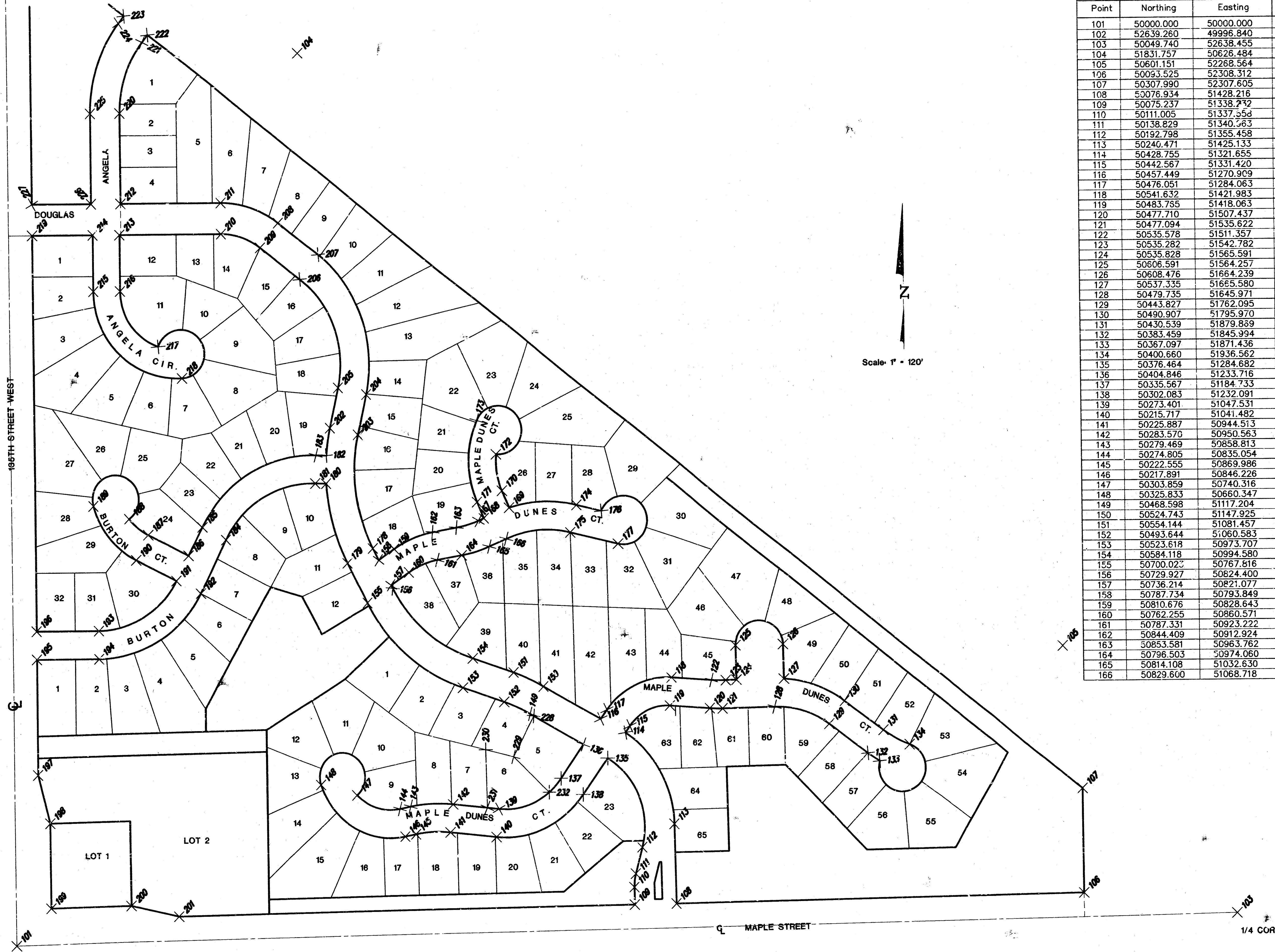
GENERAL NOTES
PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOINT THE SEWER TO THE MANHOLE WALL. WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED, FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE EMBEDDED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TENEMEC SERIES 66 HI-BUILD EPOXIDINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 BAGS OF CEMENT PER CUBIC YARD CONCRETE USED IN MANHOLE BASES. SHOWN TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 2" MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5". COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE. BASE REINFORCEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED ON P.C. AND A.B.C. CONCRETE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS SEAL. THE CONNECTION SHALL BE COVERED WITH A CONCRETE FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP SHAFTS CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALF OF THE FLOW CHANNELS OF THE OUTLET PIPE. THE FLOW CHANNELS SHALL BE SHOWN ON THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 1/8" PER FEET TOWARD THE OUTSIDE OF THE MANHOLE. FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE CRADLES. THE CRADLE SHALL BE CRADLED WITHIN THE EXCAVATION WHEN THE PIPE IS USED. THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MAHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE CRADLE. THE CRADLE WITHIN THE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER. FOR INFLOWING PIPES LARGER THAN 12" THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" ABOVE AND 6" BELOW THE CONCENTRIC CONE. MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.
- * 19. ALL MANHOLE BASE CONSTRUCTION THAT OCCURS IN THE FIELD MUST HAVE A MINIMUM OF EIGHT (8) INCHES OF CONCRETE BELOW THE MANHOLE WALL AND THE WALL SECTION SHOULD EXTEND FOUR INCHES INTO THE BASE RESULTING IN A MINIMUM TOTAL BASE THICKNESS OF 12 INCHES. MONOLITHIC BASE SECTIONS CONSTRUCTED IN THE FIELD SHALL HAVE A MINIMUM OF EIGHT (8) INCHES OF CONCRETE AND A MINIMUM EIGHT (8) INCH THICK CONCRETE BASE. BASE SECTIONS CONSTRUCTED IN THE FACTORY UTILIZING A PREVIOUSLY MANUFACTURED MANHOLE WALL SECTION, AS OUTLINED IN THE ABOVE PARAGRAPH, MUST HAVE A MINIMUM OF TWO INCHES OF CONCRETE. THE WALL SECTION EXTENDING FOUR INCHES INTO THE BASE AND BE MANUFACTURED IN COMPLIANCE WITH ASTM C478.

PHYSICAL



Scale: 1" = 120'

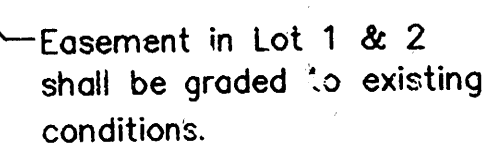
FINAL

Engineer: J. Ubert
Drawn By: M. Perez
Sheet No.: 186A
Date: January 2000



POE & ASSOCIATES OF KANSAS, INC.
CONSULTING ENGINEERS
Shirley L. Carver, P.E. 200 S. 10th St., Suite 310, Topeka, KS 66606-1114

MAPLE DUNES PHASE 3
COORDINATE POINT LIST
CITY OF WICHITA, KANSAS
MICHAEL E. UNCLERK, P.E. - CITY ENGINEER
PROJECT NO. 489-82716 OCA NUMBER 743824



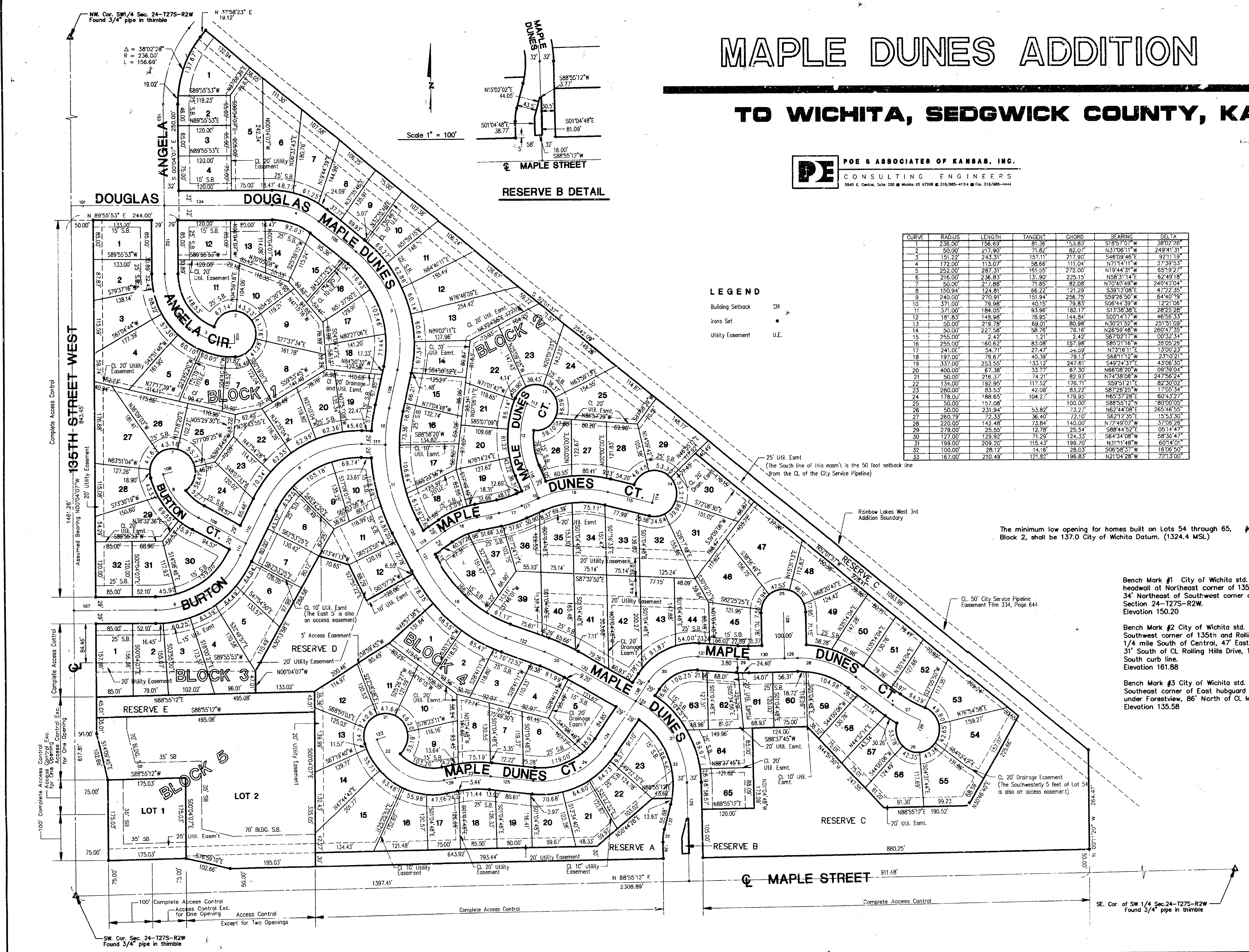
TYPICAL CUT SECTION

Easement Grading

MAPLE DUNES ADDITION

TO WICHITA, SEDGWICK COUNTY, KANSAS

PE POE & ASSOCIATES OF KANSAS, INC.
CONSULTING ENGINEERS
5940 E. Central, Suite 200 • Wichita KS 67208 • 316/855-4114 • Fax 316/855-4444



RESERVE B DETAIL

LEGEND

- Building Setback
- Iron Set
- Utility Easement

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1	236.00'	156.69'	81.36'	153.83'	S18°57'07\"	38°02'28\"
2	50.00'	217.90'	71.82'	82.07'	N37°06'11\"	24°41'31\"
3	151.22'	243.31'	157.11'	217.90'	S48°09'46\"	92°11'18\"
4	172.00'	113.07'	58.66'	111.04'	N71°14'11\"	37°39'53\"
5	252.00'	287.31'	161.55'	272.00'	N19°44'31\"	65°19'27\"
6	216.00'	236.83'	131.90'	225.15'	N36°37'14\"	62°49'18\"
7	50.00'	27.88'	71.85'	82.08'	N70°40'49\"	24°43'04\"
8	150.94'	124.81'	66.22'	121.29'	S38°12'08\"	47°22'35\"
9	240.00'	270.91'	151.94'	256.75'	S59°26'50\"	64°49'02\"
10	371.00'	79.86'	40.15'	76.83'	S69°44'39\"	12°01'06\"
11	371.00'	184.05'	93.96'	182.17'	S13°38'38\"	28°25'28\"
12	181.83'	148.98'	76.95'	144.84'	S00°14'17\"	46°56'33\"
13	50.00'	219.78'	69.01'	80.88'	N30°21'52\"	23°51'08\"
14	50.00'	227.58'	58.76'	76.16'	N26°59'48\"	26°47'35\"
15	255.00'	2.42'	2.21'	2.42'	S67°02'17\"	00°32'34\"
16	255.00'	160.67'	83.08'	157.98'	S85°27'16\"	35°05'25\"
17	241.00'	54.71'	27.47'	54.38'	N73°16'11\"	13°00'23\"
18	197.00'	79.67'	40.39'	79.13'	S68°11'12\"	23°10'21\"
19	337.00'	253.55'	133.12'	247.61'	S48°24'57\"	43°06'30\"
20	400.00'	61.36'	33.77'	61.36'	N66°08'20\"	09°59'04\"
21	50.00'	216.37'	74.21'	82.93'	N74°38'08\"	24°56'24\"
22	134.00'	192.95'	117.52'	176.71'	S59°51'21\"	82°30'02\"
23	280.00'	83.53'	42.08'	83.22'	S87°26'25\"	17°05'54\"
24	178.00'	188.65'	104.27'	179.95'	N65°37'28\"	60°43'27\"
25	50.00'	157.06'	53.82'	100.00'	S88°53'12\"	80°00'00\"
26	50.00'	231.94'	73.27'	72.10'	N62°44'08\"	26°54'55\"
27	280.78'	73.43'	36.40'	72.10'	S62°17'35\"	15°53'30\"
28	220.00'	142.48'	73.84'	140.00'	N72°49'07\"	37°06'26\"
29	279.00'	25.55'	12.78'	25.54'	S88°44'52\"	05°14'47\"
30	127.00'	129.92'	71.29'	124.33'	S64°34'08\"	58°53'47\"
31	199.00'	209.20'	115.43'	199.70'	N31°11'48\"	60°14'01\"
32	100.00'	28.12'	14.16'	28.03'	S06°58'37\"	16°06'50\"
33	167.00'	210.49'	121.82'	196.83'	N21°04'28\"	72°13'00\"

LINE	DIRECTION	DISTANCE
100	S02°52'28\"	21.00'
101	N68°55'53\"	212.30'
102	N00°04'07\"	212.89'
103	N00°04'07\"	218.00'
104	N89°55'53\"	245.47'
105	S52°24'44\"	107.71'
106	S12°35'12\"	84.99'
107	S89°55'53\"	187.10'
108	S74°29'10\"	21.00'
109	S62°53'25\"	123.57'
110	S27°06'35\"	94.46'
111	S27°06'35\"	78.97'
112	S89°12'56\"	54.00'
113	N66°17'27\"	21.00'
114	S13°23'59\"	21.00'
115	N76°56'01\"	103.58'
116	S23°14'00\"	65.32'
117	N66°48'00\"	39.27'
118	S72°48'22\"	51.68'
119	N56°36'01\"	76.64'
120	S27°41'22\"	59.89'
121	S27°41'22\"	13.14'
122	S70°51'52\"	81.90'
123	S71°23'40\"	21.00'
124	S71°23'40\"	21.00'
125	S84°00'43\"	97.50'
126	S19°50'40\"	21.30'
127	S54°15'50\"	103.36'
128	S01°04'48\"	99.57'
129	N88°37'45\"	29.16'
130	N88°37'45\"	81.22'
131	N66°07'28\"	89.58'
132	S61°18'49\"	165.69'
133	S61°18'49\"	13.42'
134	N35°15'45\"	120.40'
135	S01°04'48\"	213.57'
136	S01°04'48\"	35.77'
137	N16°02'02\"	55.88'
138	N35°15'45\"	51.63'
139	N76°53'38\"	24.21'

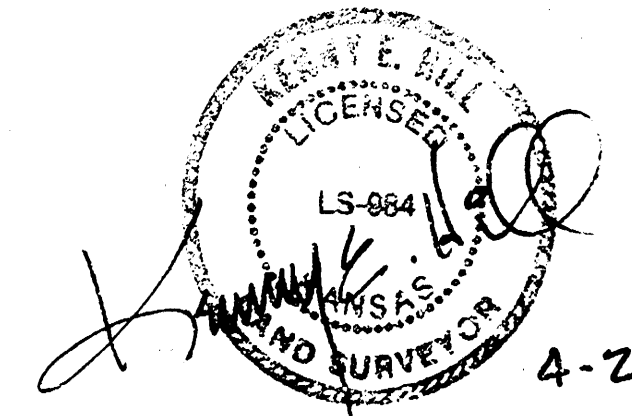
The minimum low opening for homes built on Lots 54 through 65, Block 2, shall be 137.0 City of Wichita Datum. (1324.4 MSL)

Bench Mark #1 City of Wichita std. disk on headwall at Northeast corner of 135th & Maple, 34' Northeast of Southwest corner of Section 24-T27S-R2W. Elevation 150.20

Bench Mark #2 City of Wichita std. disk at Southwest corner of 135th and Rolling Hills Drive, 1/4 mile South of Central, 47' East of CL 135th, 31' South of CL Rolling Hills Drive, 14' South of South curb line. Elevation 161.88

Bench Mark #3 City of Wichita std. disk on Southeast corner of East hubguard of RCB under Forestview, 86' North of CL Maple. Elevation 135.58

Scale 1" = 100'



Sheet No. 1 of 2

PC77-4A

11-02-05-11