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CONSTRUCTION PLANS
LATERAL 71, SANITARY SEWER NO. 23
TO SERVE LOTS 1 THROUGH 28, BLOCK 1
THE MOORINGS 5TH ADDITION

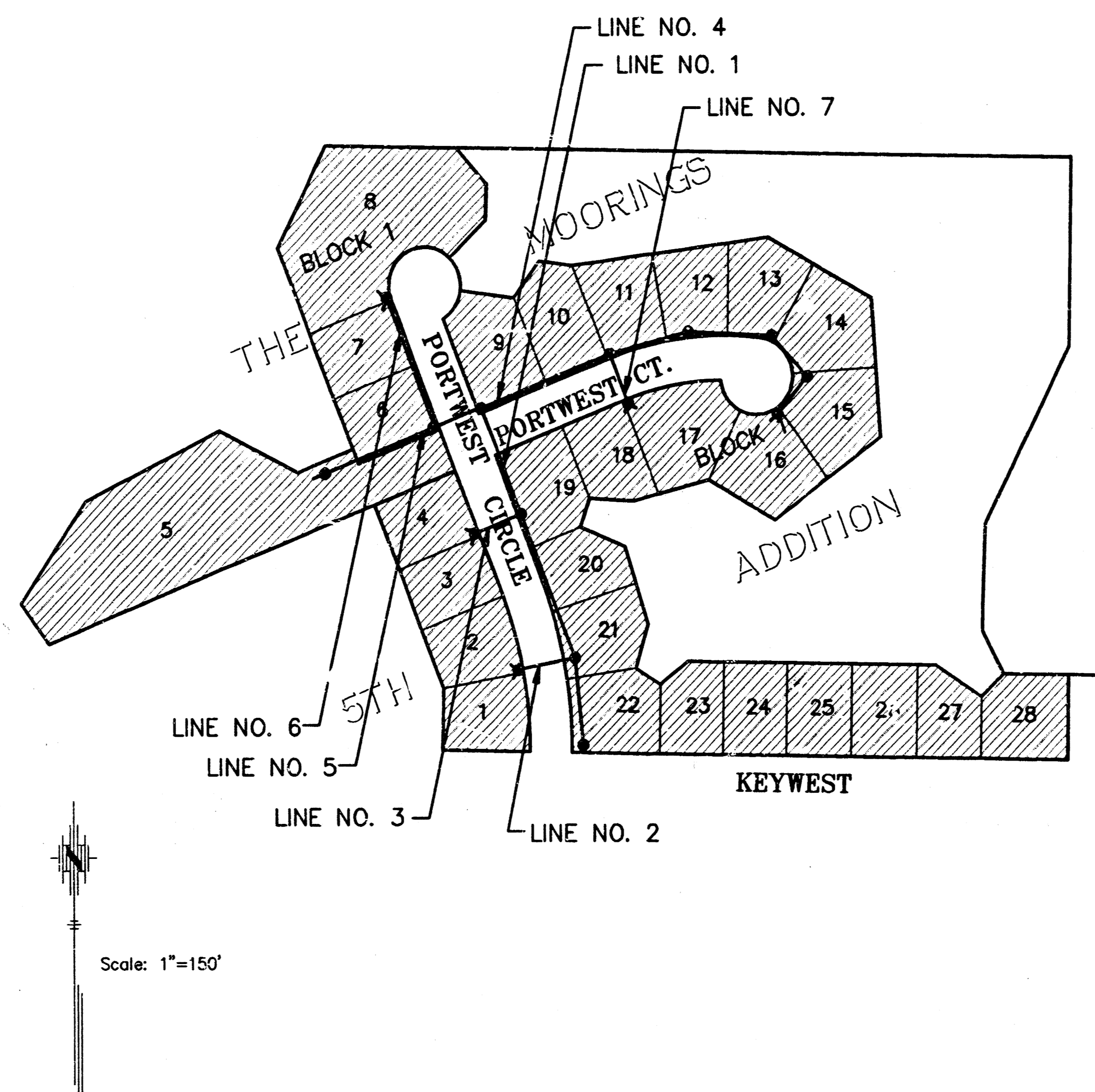
TO
THE CITY OF WICHITA, KANSAS

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER

PROJECT NO. 468-82076
INDEX CODE 740571

GENERAL NOTES:

- Underground utility service lines and overhead poles lines are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved.
- The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractor's proposed method for maintaining sewage flow shall be approved by the Engineer. Cost of maintaining flow of sewage through construction will not be paid for directly and this cost shall be considered as Subsidiary to the other pay items of work.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor or a licensed professional engineer in accordance with state laws.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.



INDEX

TITLE SHEET	SHEET 1
LINE NO. 1, 2 AND 6	SHEET 2
LINE NO. 3 AND 4	SHEET 3
LINE NO. 5 AND 7	SHEET 4
STANDARD MANHOLE TYPE "P"	SHEET 5
STANDARD MANHOLE TYPE "C"	SHEET 6
STANDARD SHALLOW MANHOLE TYPE "P" AND "C"	SHEET 7
THE MOORINGS 5TH ADDITION PLAT	SHEET 8

BENCH MARKS

(City of Wichita Datum)

- "+" cut on MH ring at SW Cor. Keywest on Keywest Ct. 401' E. and 5' S. of the NE Cor. Lot 1, Block 1 of the Moorings 3rd Addition. Elev. 142.64
- "□" cut in S. Hdw. of culvert at 45th Street North and Meridian. Elev. 141.07
- "+" cut in N. side MH ring at NE Cor. Lct 12, Block 1 of the Moorings 3rd Addition. Elev. 146.00
- "+" cut in N. side MH ring at W. side of Portwest Circle between Lots 19 and 20. Elev. 143.90
- Railroad Spk. in S. face of power pole N. side Keywest opposite westerly Keywest Court. Elev. 144.85
- City Standard disc, 59' West of the centerline of Meridian & 32.3' North of the centerline of Keywest. Elev. 141.96

DECEMBER 1990

PLANS PREPARED

BY

P.O.E. & ASSOCIATES OF KANSAS, INC.
CONSULTING ENGINEERS
434 N. Olive - Suite 110 - Wichita, KS 67208 - 316/262-1114

Built per plan 7-91 RDL



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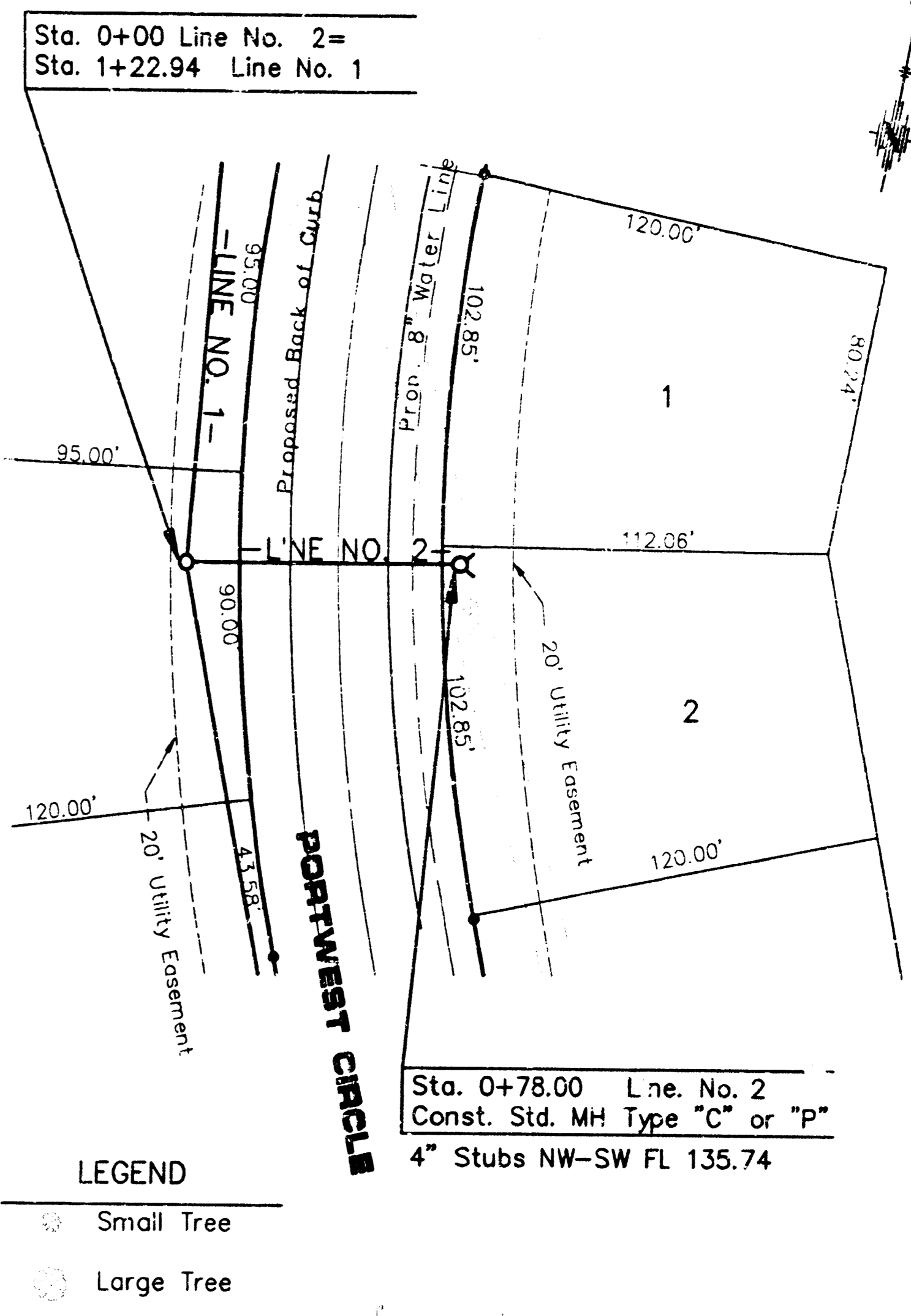
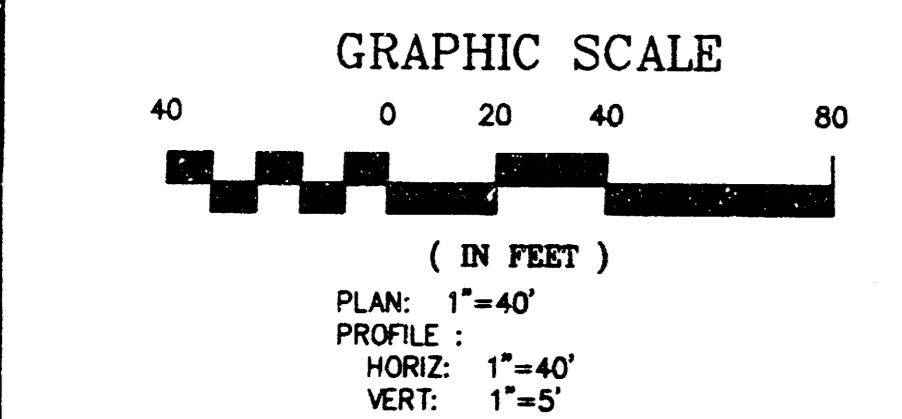
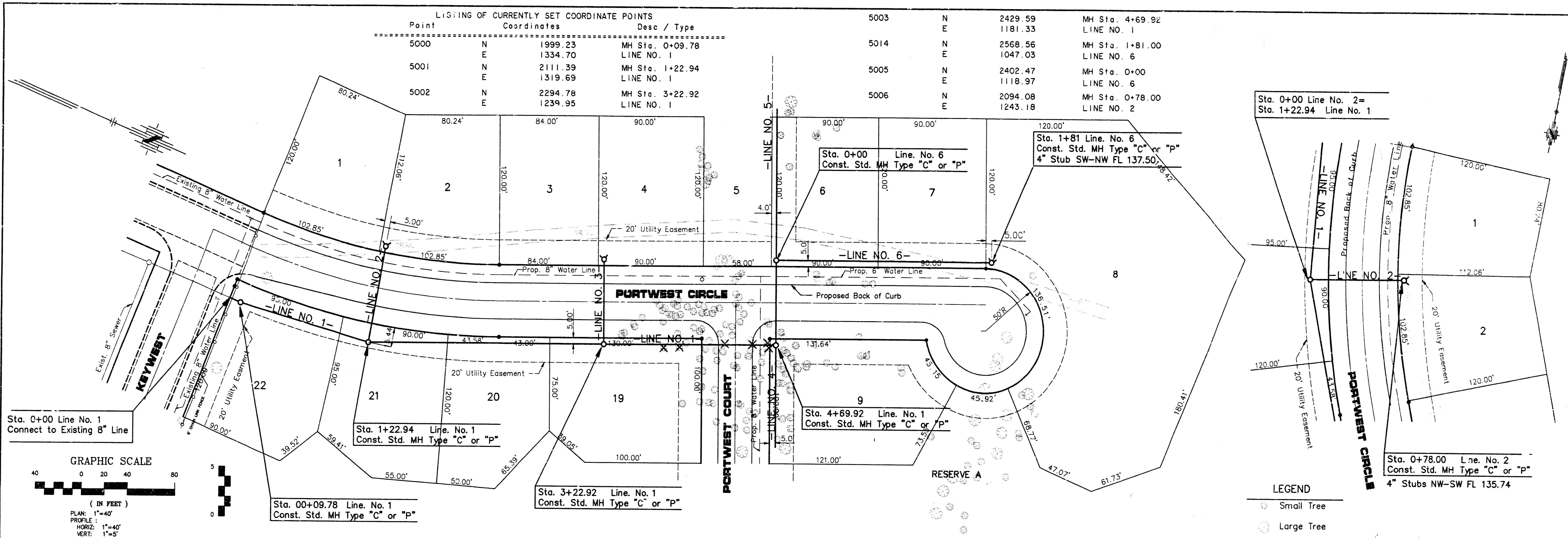
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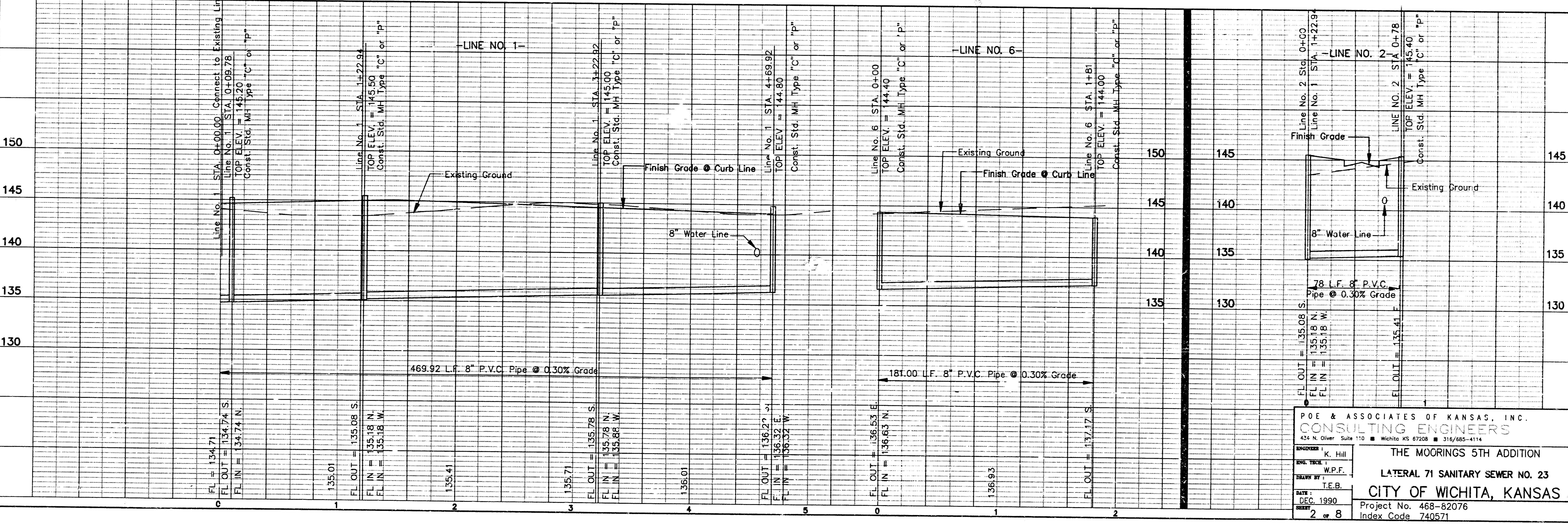
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LISTING OF CURRENTLY SET COORDINATE POINTS

Point	Coordinates	Desc / Type
5000	N 1999.23 E 1334.70	MH Sta. 0+09.78 LINE NO. 1
5001	N 2111.39 E 1319.69	MH Sta. 1+22.94 LINE NO. 1
5002	N 2294.78 E 1239.95	MH Sta. 3+22.92 LINE NO. 1
5003	N 2429.59 E 1181.33	MH Sta. 4+69.92 LINE NO. 1
5014	N 2568.56 E 1047.03	MH Sta. 1+81.00 LINE NO. 6
5005	N 2402.47 E 1118.97	MH Sta. 0+00 LINE NO. 6
5006	N 2094.08 E 1243.18	MH Sta. 0+78.00 LINE NO. 2



LEGEND
 Small Tree
 Large Tree



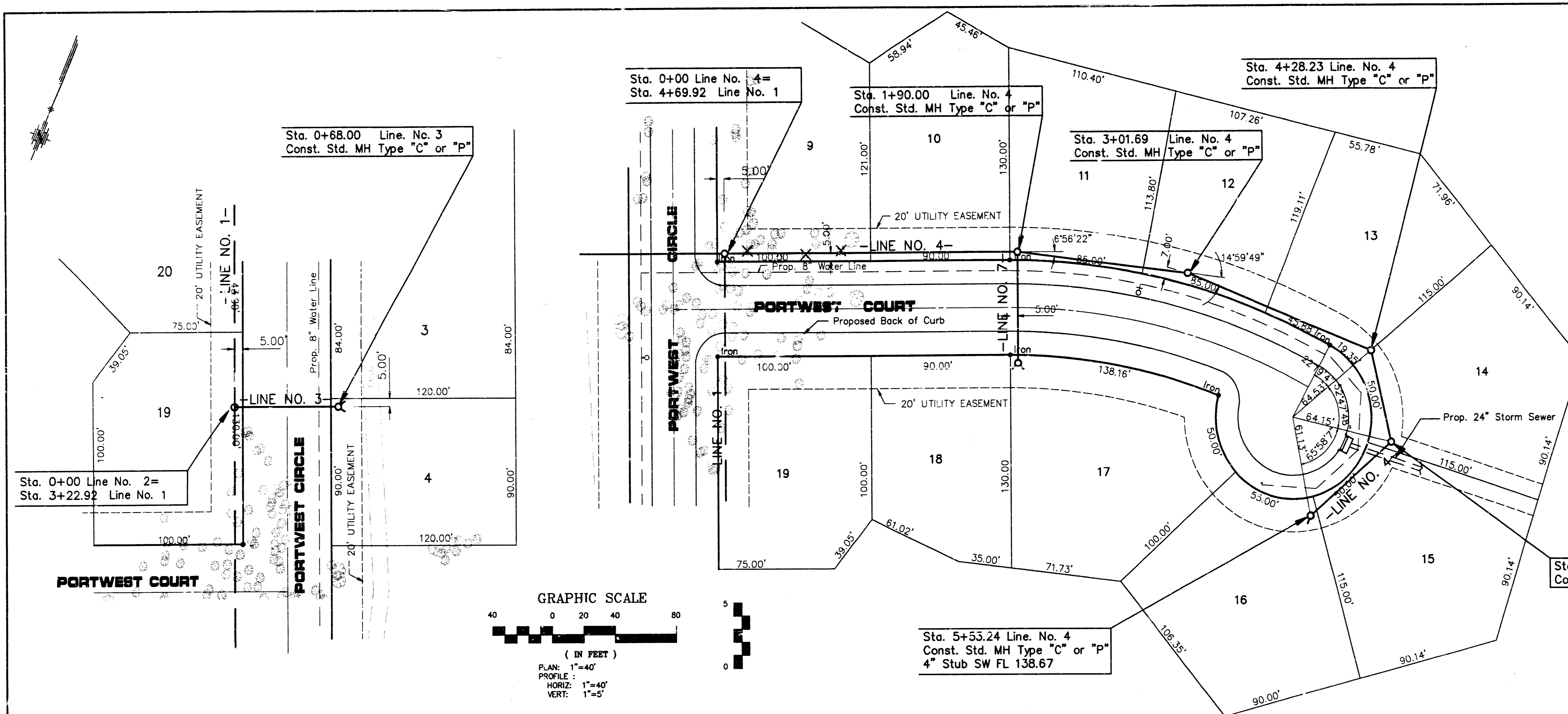
POE & ASSOCIATES OF KANSAS, INC.
 CONSULTING ENGINEERS
 514 N. Oliver, Suite 110 • Wichita, KS 67208 • 316/685-4114

ENGINEER: K. Hill
 DATE: DEC. 1990
 SHEET: 2 of 8

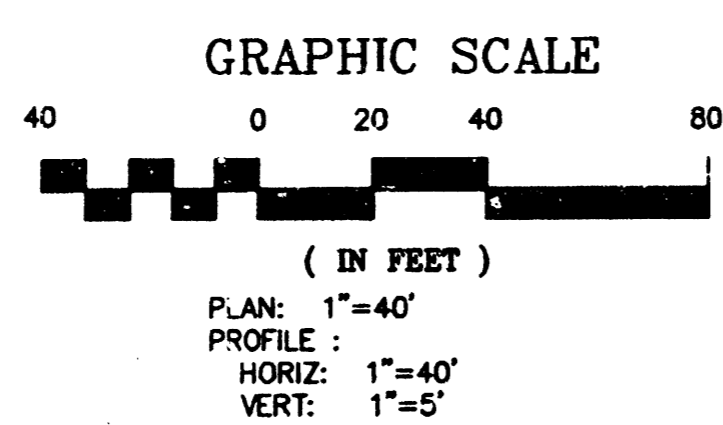
THE MOORINGS 5TH ADDITION
 LATERAL 71 SANITARY SEWER NO. 23
 CITY OF WICHITA, KANSAS
 Project No. 468-82076
 Index Code 740571

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PLAN	DATE	BY
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REVISIONS		
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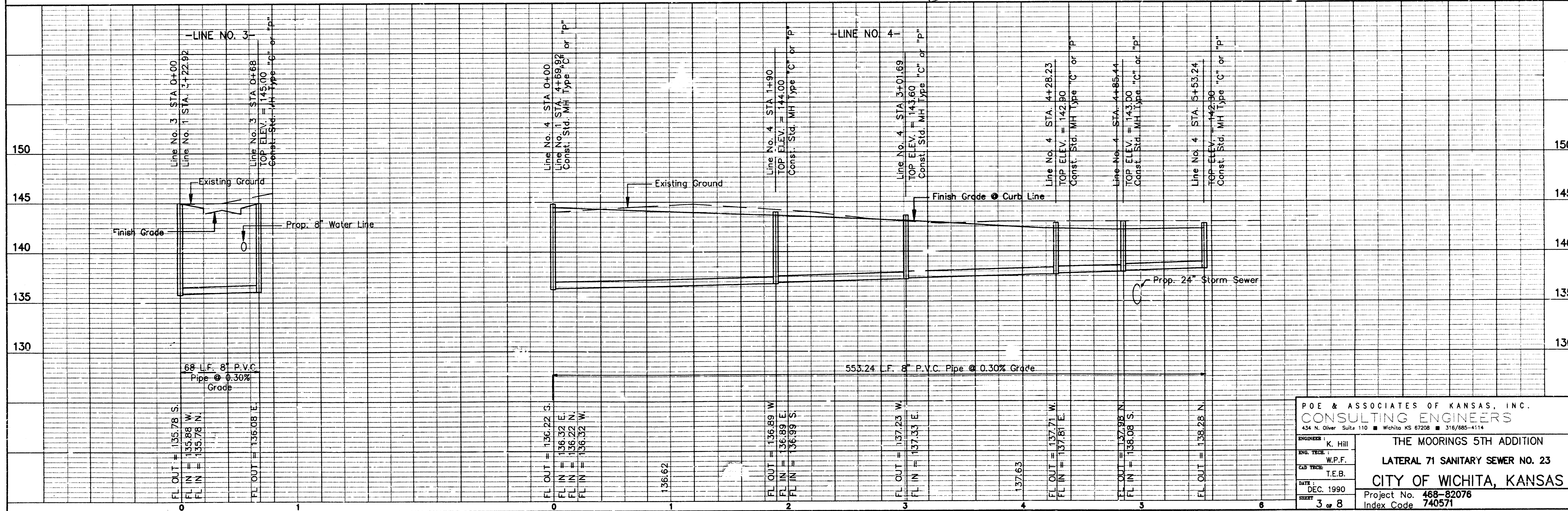


Point	Coordinates	Desc / Type
5003	N 2429.59 E 1181.33	MH Sta. 4+69.92 LINE NO. 1
5007	N 2267.66 E 1177.59	MH Sta. 0+68.00 LINE NO. 3
5008	N 2505.35 E 1355.57	MH Sta. 1+90.00 LINE NO. 4
5009	N 2537.19 E 1462.63	MH Sta. 3+01.69 LINE NO. 4
5010	N 2536.78 E 1579.24	MH Sta. 4+28.23 LINE NO. 4
5011	N 2485.06 E 1629.48	MH Sta. 4+85.44 LINE NO. 4
5012	N 2435.61 E 1590.72	MH Sta. 5+53.24 LINE NO. 4



LEGEND	
	Small Tree
	Large Tree

PROFILE	DATE	BY
DESIGNED		
CHECKED		
NOTED		
REVISIONS		
NO. OF WAY CHECKED		
NO.		



POE & ASSOCIATES OF KANSAS, INC.
CONSULTING ENGINEERS
 434 N. Oliver Suite 110 • Wichita KS 67208 • 316/685-4114

ENGINEER: K. Hill
 ENL. TECH: W.P.F.
 CAD TECH: T.E.B.

DATE: DEC. 1990
 SHEET: 3 of 8

THE MOORINGS 5TH ADDITION
 LATERAL 71 SANITARY SEWER NO. 23
CITY OF WICHITA, KANSAS

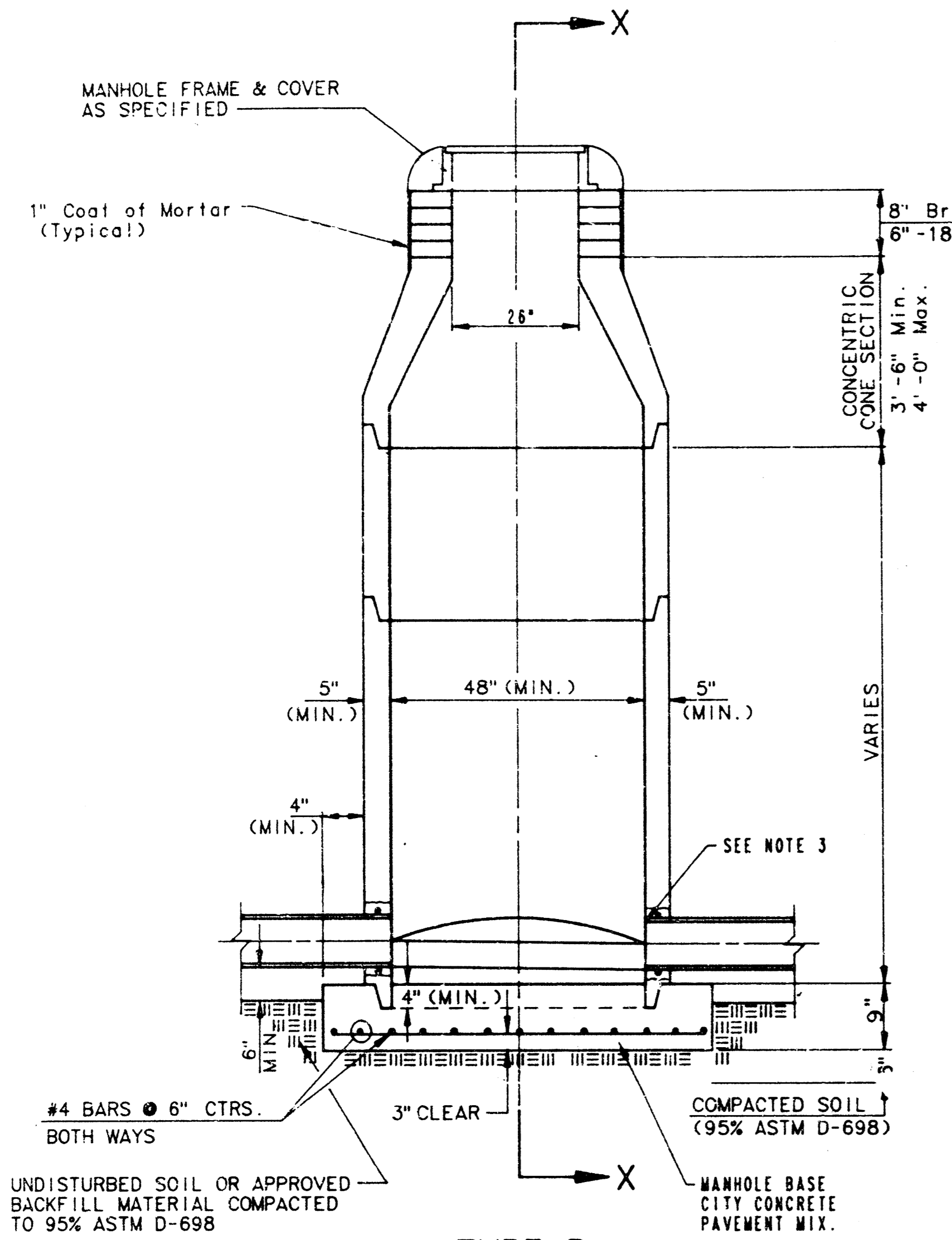
Project No. 468-82076
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SEWER APPURTENANCES DETAILS

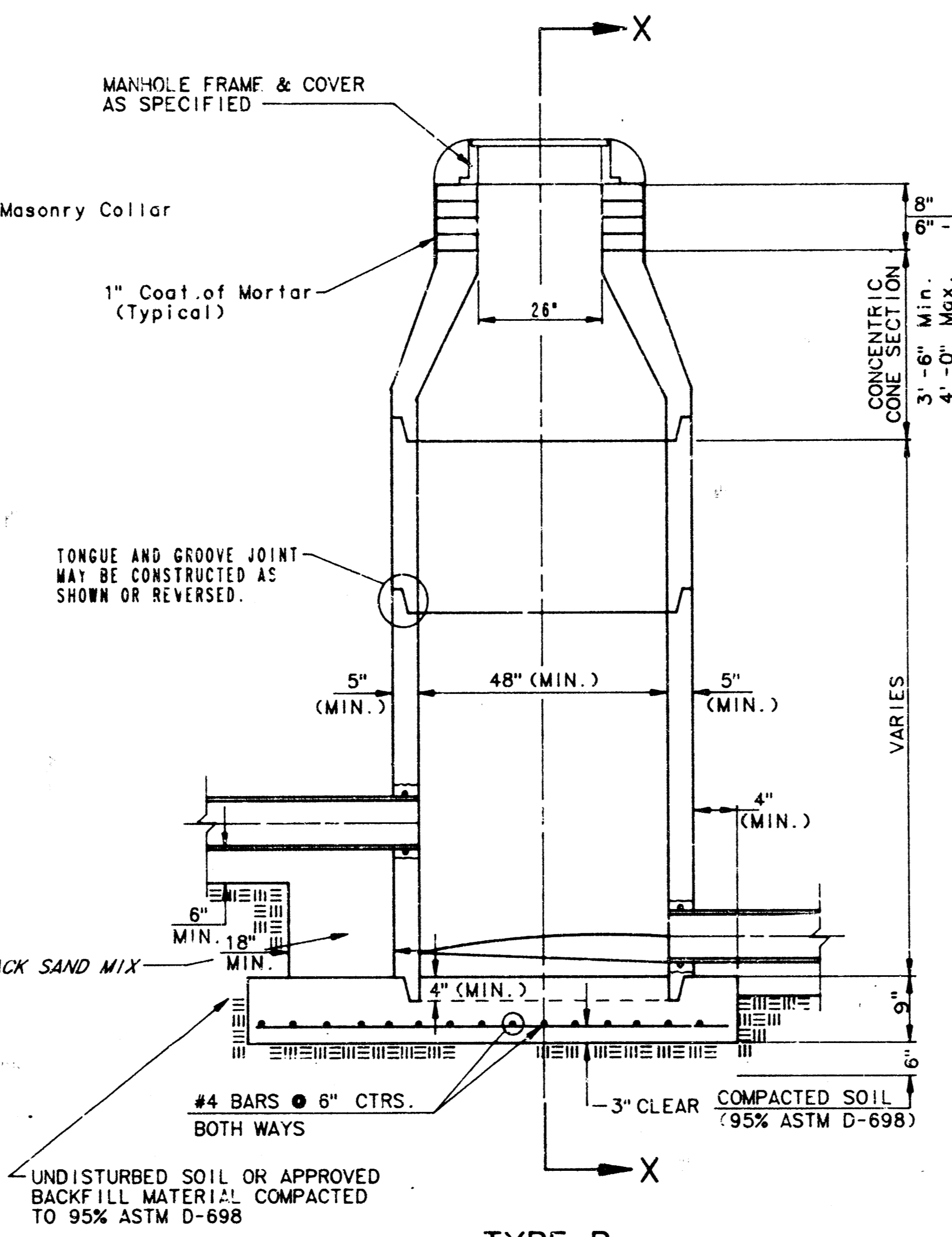
ADOPTED AS STANDARD DESIGN

BY

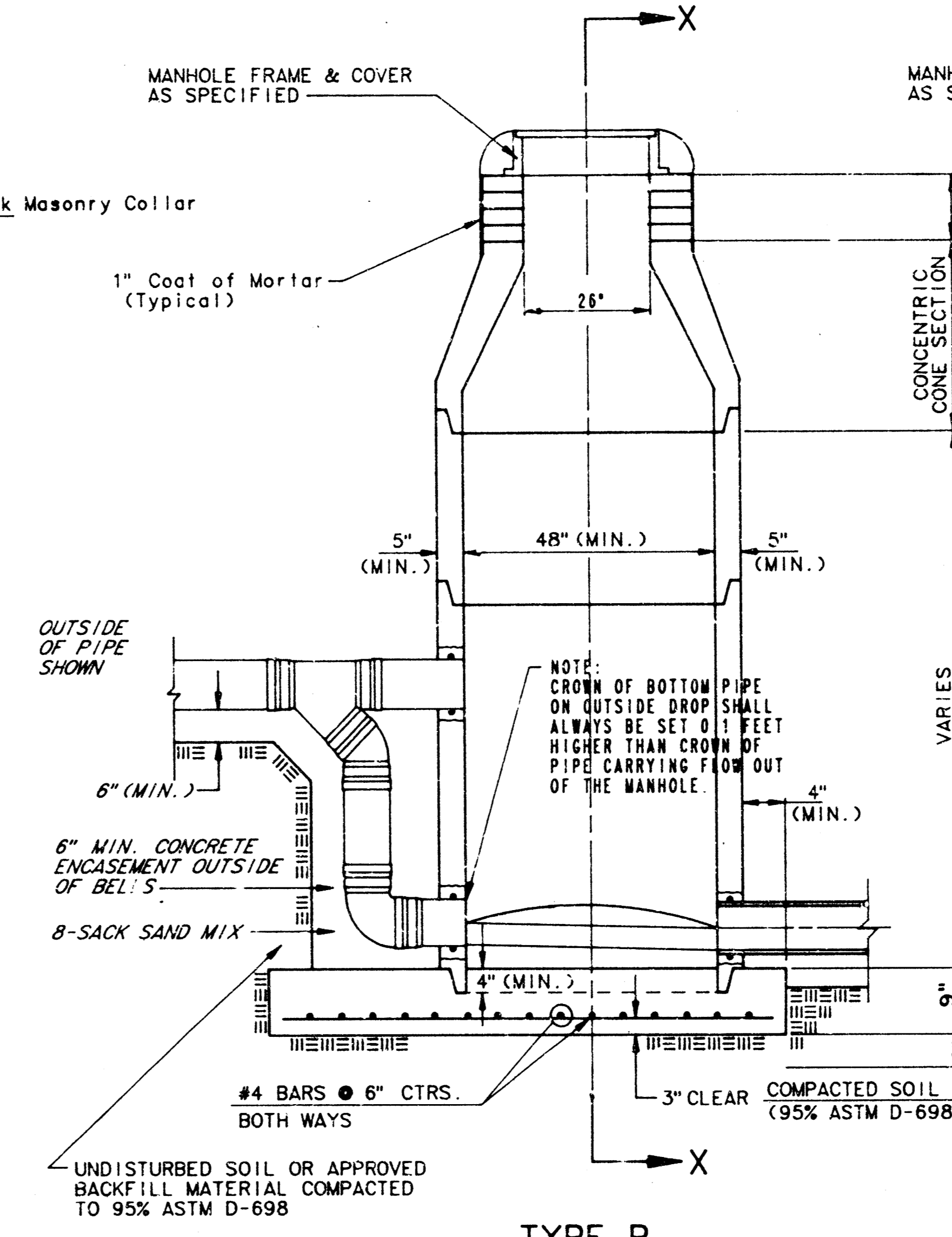
CITY OF WICHITA



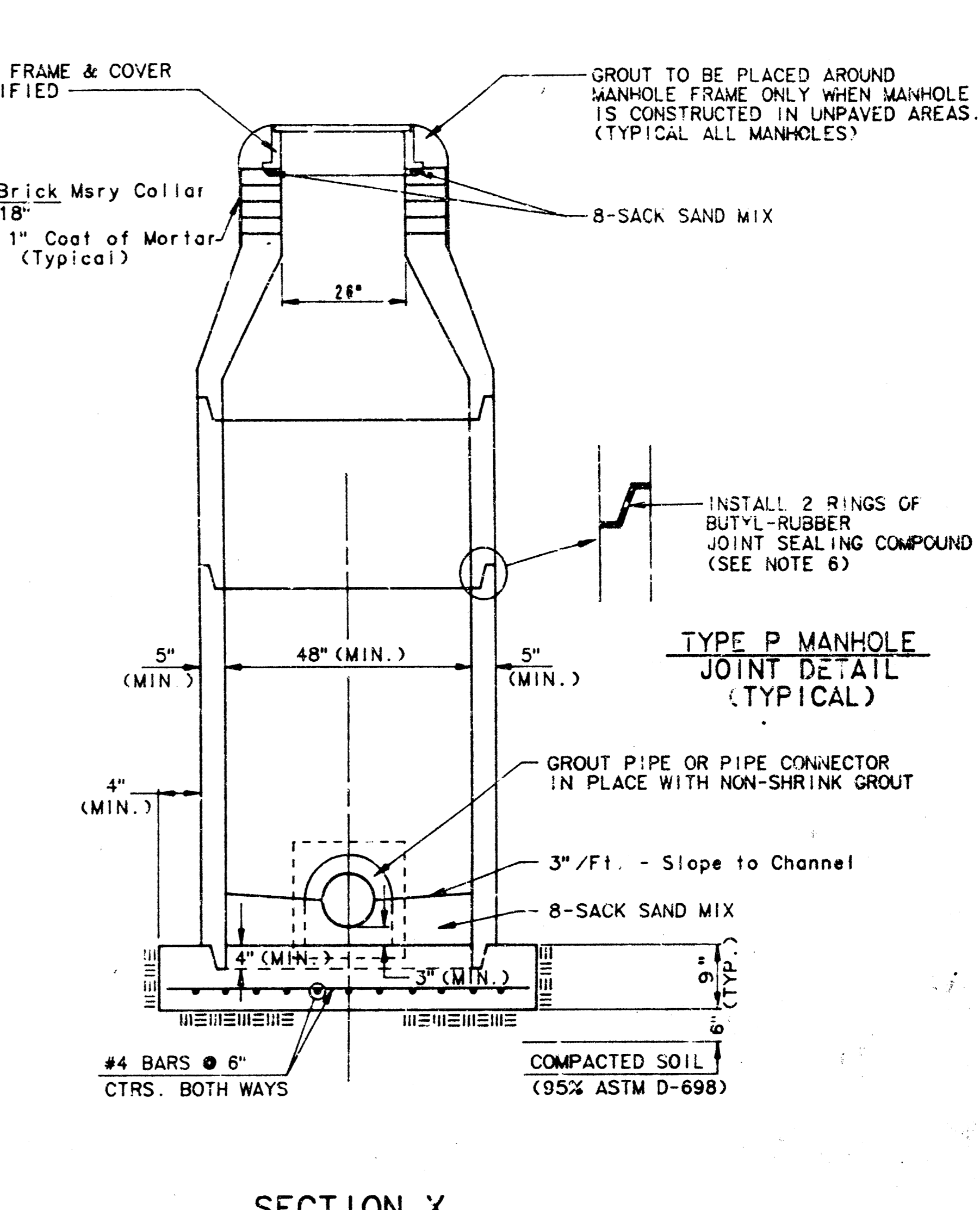
**TYPE P
STANDARD MANHOLE**



**TYPE P
INSIDE DROP MANHOLE**



**TYPE P
OUTSIDE DROP MANHOLE**



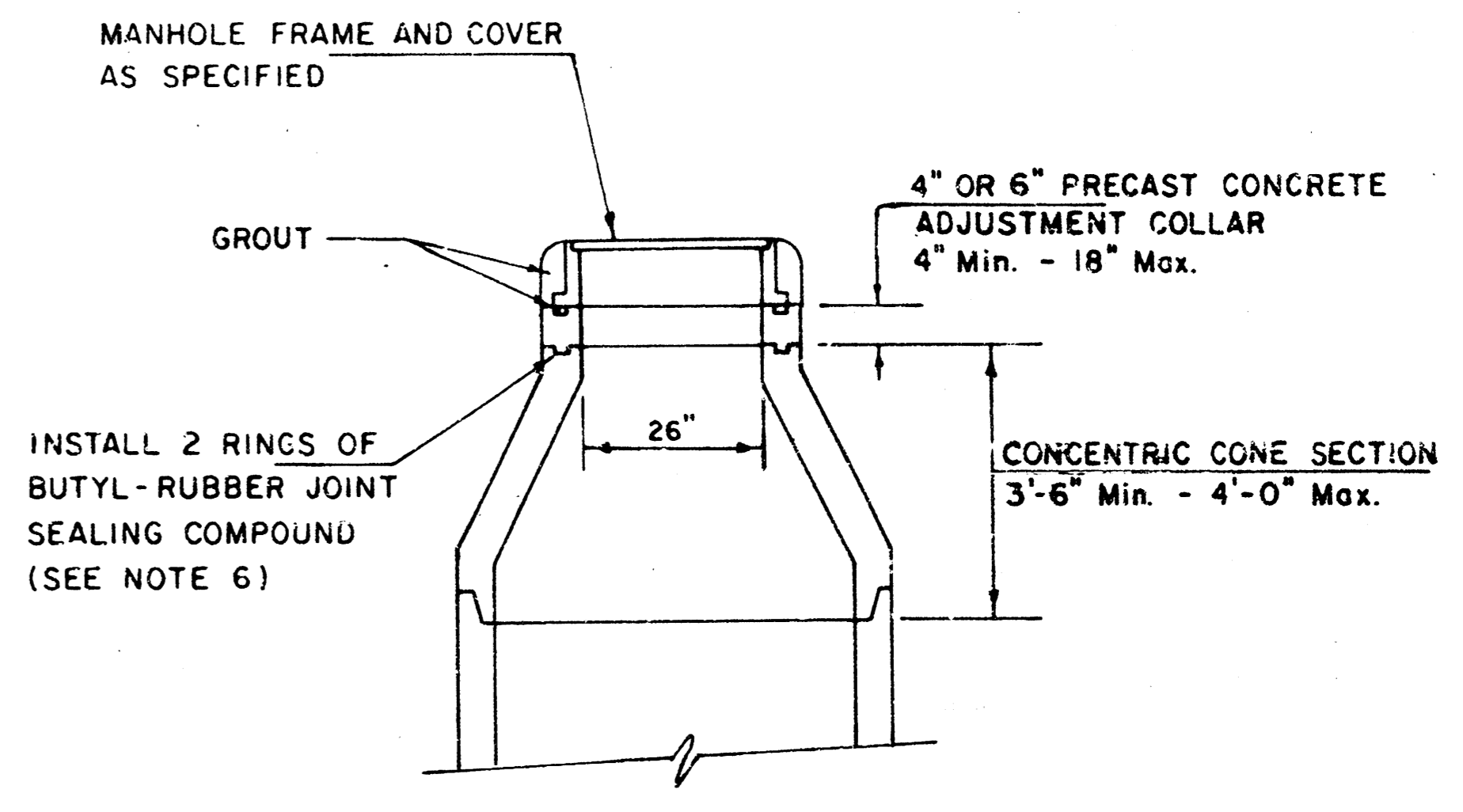
**SECTION X
(TYPICAL)**

**GENERAL NOTES
PRECAST MANHOLE NOTES**

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION 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 JOIN 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 SUPPORTED 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 INMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KEAT 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 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADJUTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4". 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. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL 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 WITH P.V.C. AND A B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NON-SHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. 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 STACK 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 HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY 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 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO REAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN 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 TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE 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 4" FOR INFLOWING PIPES 12" OR SMALLER AND 2" 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" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.



**ALTERNATE CONSTRUCTION
IN UNPAVED AREAS**

5/8

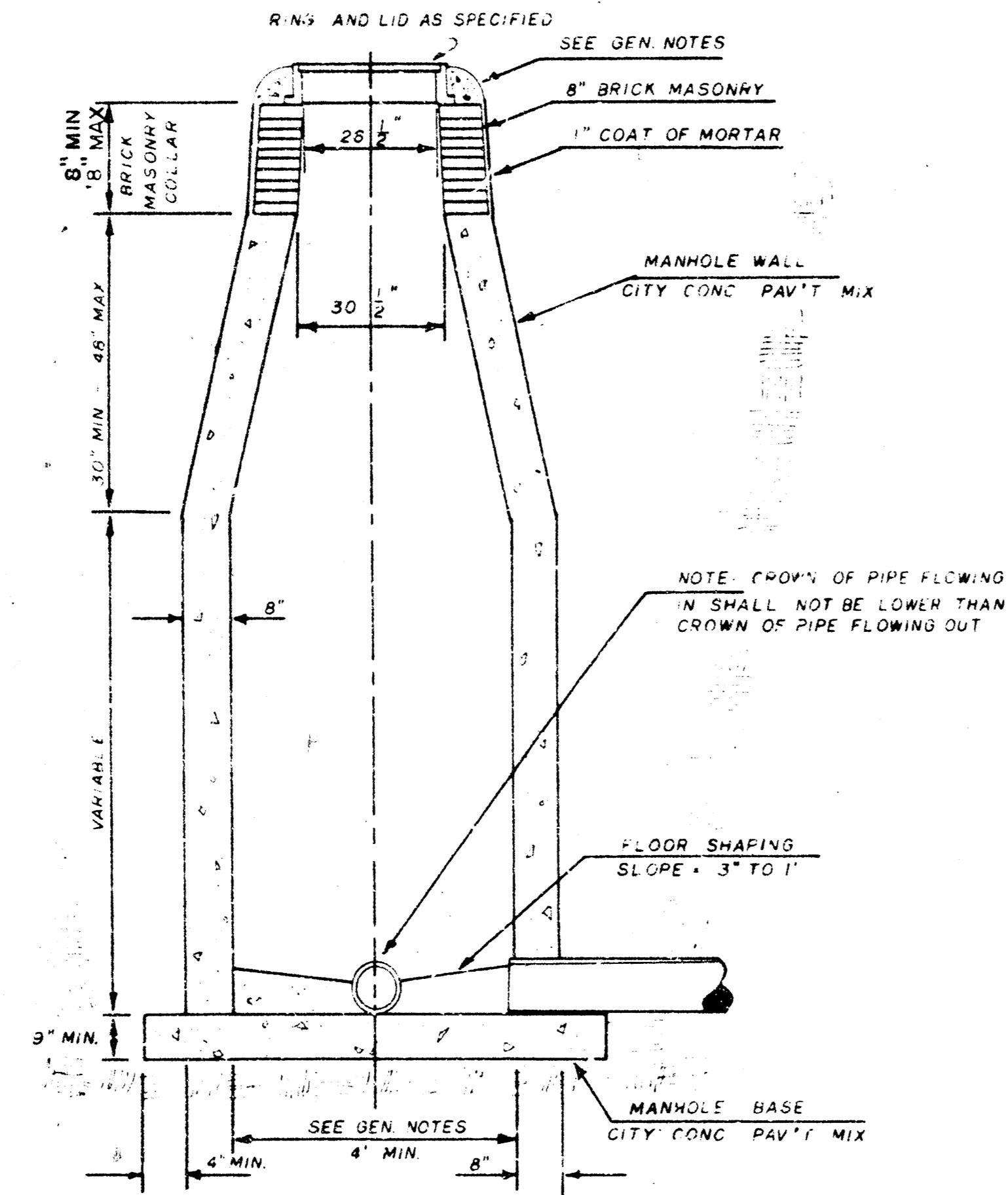
SEWER APPURTENANCES DETAILS

ADOPTED AS STANDARD DESIGN

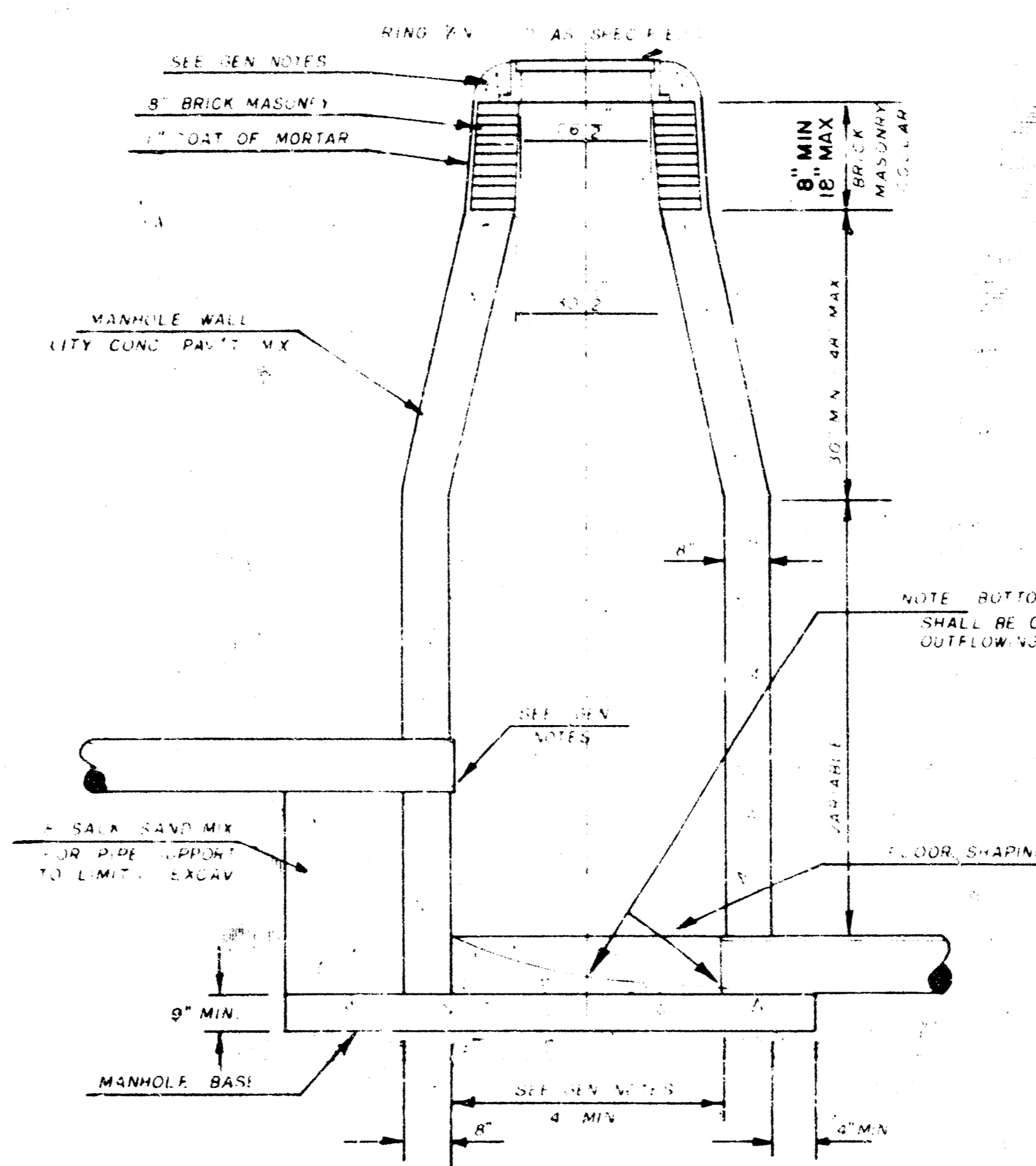
BY

City of Wichita, Kansas

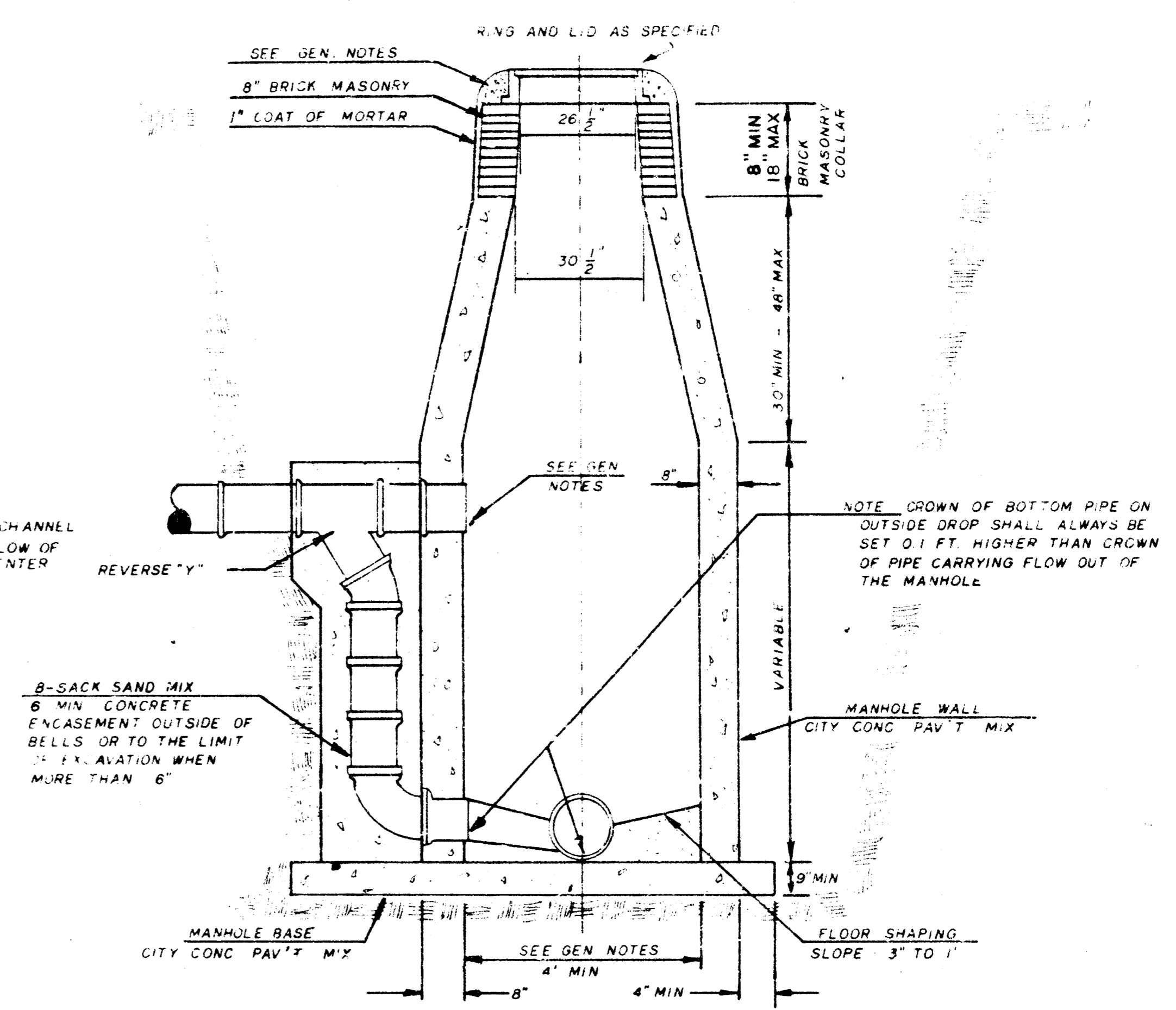
STANDARD MANHOLE TYPE "C"



INSIDE DROP MANHOLE TYPE "C"



OUTSIDE DROP MANHOLE TYPE "C"



- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 6 BAGS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE TOP CONCRETE PAVEMENT AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS. CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURES SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN IN THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. TYPE "C" MANHOLES CAN BE CONSTRUCTED ONLY WHERE PIPE SIZES ARE 8" OR SMALLER. THE 8" DIA. TYPE "C" MANHOLES SHALL BE 8". COMPLETED MANHOLES SHALL BE Airtight LEAKS AND WATER TIGHT.
- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE WALLS AND FLOORING. REINFORCING STEEL SHALL BE PLACED IN THE MANHOLE WALLS AND FLOORING. REINFORCING STEEL SHALL BE PLACED IN THE MANHOLE WALLS AND FLOORING. REINFORCING STEEL SHALL BE PLACED IN THE MANHOLE WALLS AND FLOORING.
- AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE PIPE TO BE DROPPED INTO THE MANHOLE. THE OPENING SHALL BE MADE BY CUTTING A 4" DIA. HOLE IN THE MANHOLE WALL. THE OPENING SHALL BE MADE BY CUTTING A 4" DIA. HOLE IN THE MANHOLE WALL. THE OPENING SHALL BE MADE BY CUTTING A 4" DIA. HOLE IN THE MANHOLE WALL.
- THE MANHOLE SHALL BE CONSTRUCTED WITH A 3" DIA. RING AND LID AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS. THE MANHOLE SHALL BE CONSTRUCTED WITH A 3" DIA. RING AND LID AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS.

GENERAL NOTES

1. THE MANHOLE WALLS SHALL HAVE A MINIMUM THICKNESS OF 8" BRICK MASONRY WITH A 1" COAT OF MORTAR. THE MANHOLE WALLS SHALL HAVE A MINIMUM THICKNESS OF 8" BRICK MASONRY WITH A 1" COAT OF MORTAR.

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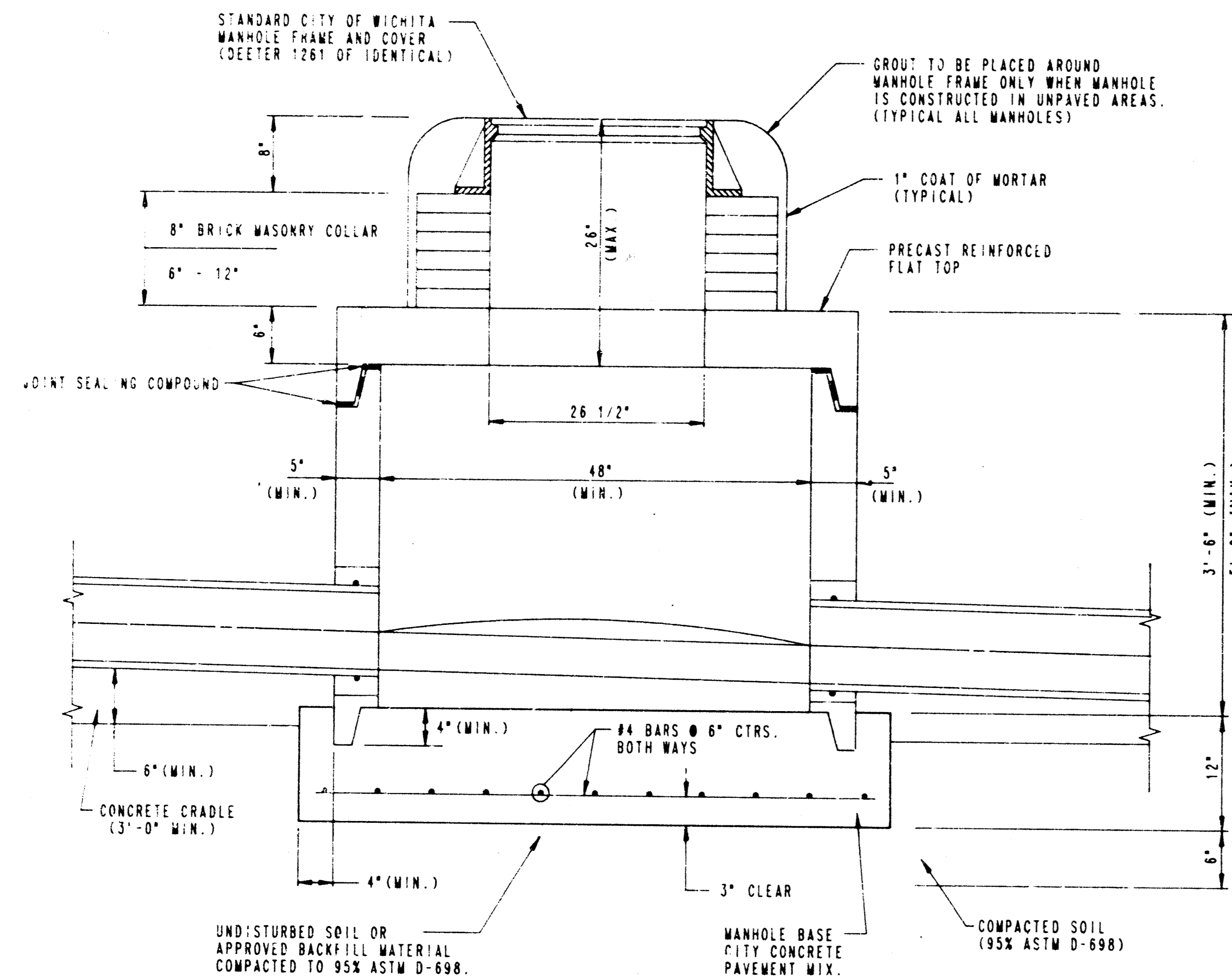
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SEWER APPURTENANCES DETAILS

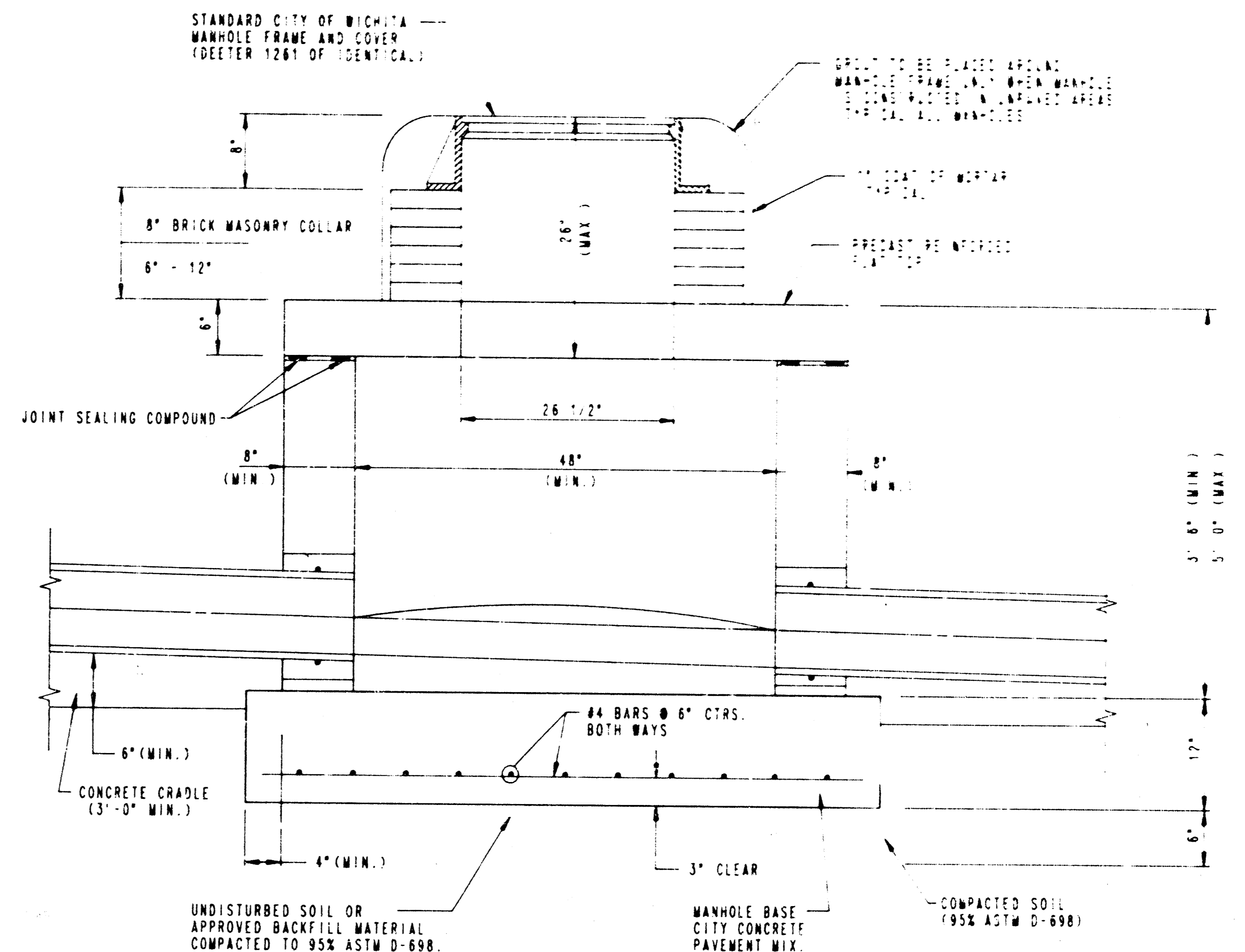
ADOPTED AS STANDARD DESIGN

BY

CITY OF WICHITA



**TYPE P
SHALLOW MANHOLE
(PRECAST)**



**TYPE C
SHALLOW MANHOLE
(CAST-IN-PLACE)**

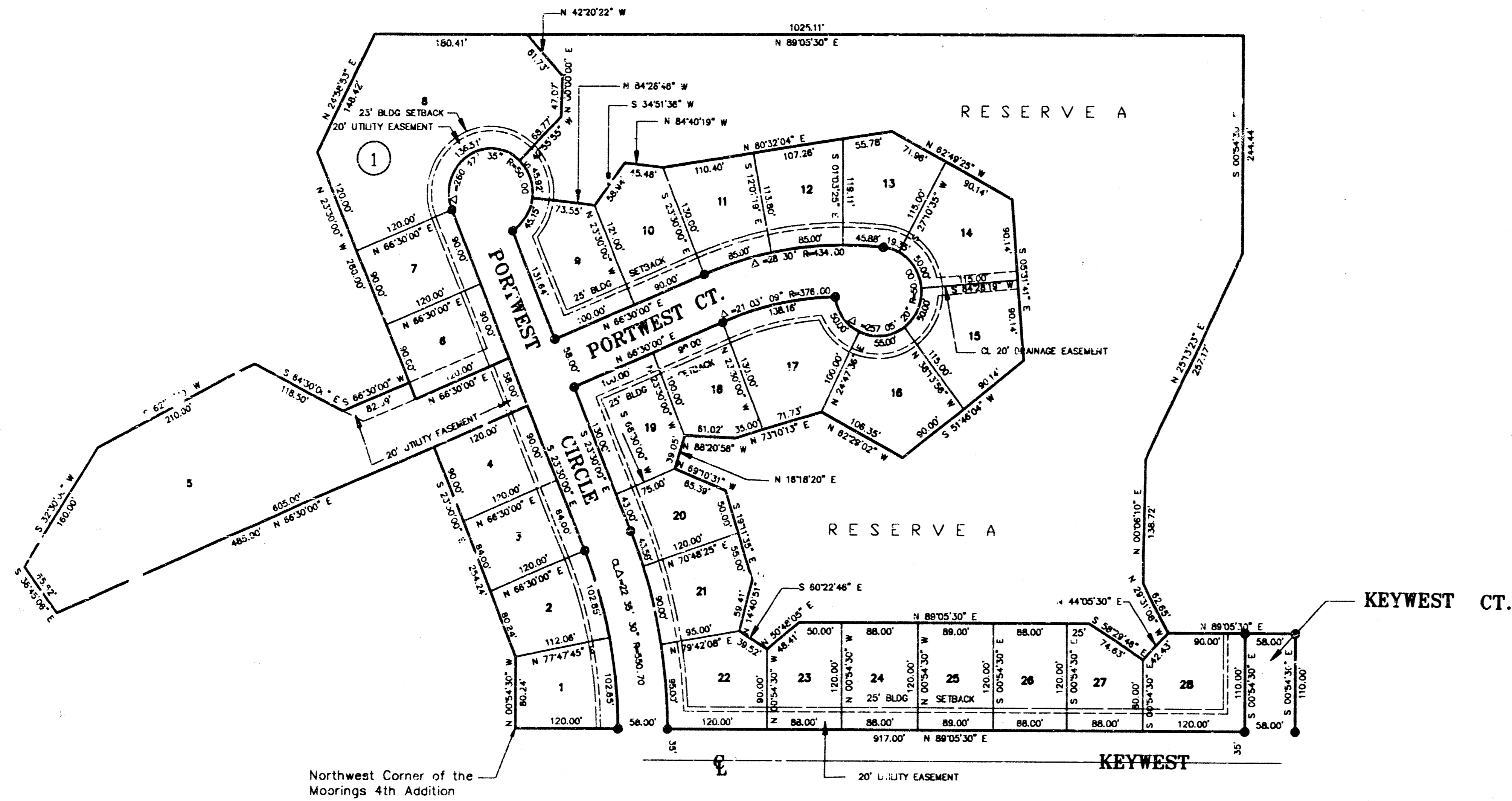
PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN PLASTIC PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT.
3. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
4. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION (3' MIN.). WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE (3' MIN.). THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
5. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS (NEMEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.)).
6. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
7. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
8. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
9. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE CROWN LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
10. JOINTS IN PIPES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE EXTERIOR SURFACE COATED AS SPECIFIED.
11. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4". 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.
12. 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. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE 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 HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO REAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. 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.
15. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
16. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE PRECAST REINFORCED FLAT TOP. THE COLLAR WILL HAVE 6" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.
17. SHALLOW MANHOLES TYPE "P" SHALL BE BID AS SHALLOW MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4" UNLESS INDICATED OTHERWISE.

CAST-IN-PLACE MANHOLE NOTES

1. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN PLASTIC PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION (3' MIN.). WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE (3' MIN.). THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
4. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
5. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE CROWN LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
6. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM 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 RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. TYPE "C" MANHOLES CAN BE CONSTRUCTED ONLY WHERE PIPE SIZES ARE 8" OR SMALLER. THE INSIDE DIAMETER OF TYPE "C" MANHOLES SHALL BE 4" COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
7. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. REINFORCING STEEL SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. COST OF FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
8. 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 HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO REAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
9. 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.
10. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
11. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE PRECAST REINFORCED FLAT TOP. THE COLLAR WILL HAVE 6" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.
12. SHALLOW MANHOLES TYPE "C" SHALL BE BID AS SHALLOW MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4" UNLESS INDICATED OTHERWISE.

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STATE OF KANSAS
 COUNTY OF SEDGWICK

I, Kenny E. Hill, being a duly licensed Land Surveyor in said County and State, do hereby certify that I have been in responsible charge of surveying and plotting THE MOORINGS 5TH ADDITION to Wichita, Kansas, being described as follows:

Commencing at the Northeast Corner of the Southeast Quarter (SE1/4) of Section 24, Township 28 South, Range 1, West of the 6th P.M., Sedgwick County, Kansas; thence S 0° 00' 30" E on the East line of the Southeast Quarter (SE1/4) of said Section 24 for a distance of 614.11 feet to the Northeast Corner of the Moorings Addition; thence S 89° 05' 30" W on the North line of Keywest for a distance of 2861.68 feet more or less to the Northwest Corner of the Moorings 4th Addition being the point of beginning; thence N 0° 54' 30" W for a distance of 80.24 feet; thence N 23° 30' 00" W for a distance of 254.24 feet; thence S 66° 30' 00" W for a distance of 485.00 feet; thence N 38° 45' 00" W for a distance of 65.62 feet; thence N 32° 30' 00" E for a distance of 160.00 feet; thence N 62° 30' 00" E for a distance of 210.00 feet; thence S 64° 30' 00" E for a distance of 118.50 feet; thence N 56° 30' 00" E for a distance of 82.38 feet; thence N 23° 30' 00" W for a distance of 280.00 feet; thence N 24° 58' 53" E for a distance of 148.42 feet; thence N 88° 05' 30" E for a distance of 1025.11 feet; thence S 0° 54' 30" E for a distance of 244.44 feet; thence S 25° 13' 23" W for a distance of 257.17 feet; thence S 0° 06' 10" W for a distance of 136.72 feet; thence S 29° 31' 08" E for a distance of 62.65 feet; thence N 88° 05' 30" E for a distance of 148.00 feet; thence S 0° 54' 30" E for a distance of 110.00 feet; to a point on the North line of Keywest; thence S 89° 05' 30" W for a distance of 917.00 feet to the point of beginning, containing 18.25 acres more or less.

The accompanying plat is a true and correct exhibit of property surveyed.

Dated this 6th day of July, 1990.

Kenny E. Hill
 Kenny E. Hill, L.S.

KNOW ALL MEN BY THESE PRESENTS:

That we, MIBAC, INC., have caused the land described in the Surveyor's Certificate to be platted into lots, blocks, streets, and a reserve. The streets are hereby dedicated to and for the use of the public. Easements are hereby granted as indicated for the construction and maintenance of drainage and utilities. Reserve "A" is reserved for open space and a lake to be owned and maintained by a lot (or lots) owners' association. Lots adjacent to the lake shall have a continuous minimum high point ground elevation of 143.0 City Datum.

MIBAC, INC.

C. Bill Bachman, President

STATE OF KANSAS
 COUNTY OF SEDGWICK

This instrument was acknowledged before me on this 9th day of July, 1990, by C. BILL BACHMAN.

Carol R. Barnes
 Notary Public
 Carol R. Barnes

My Appointment Expires:

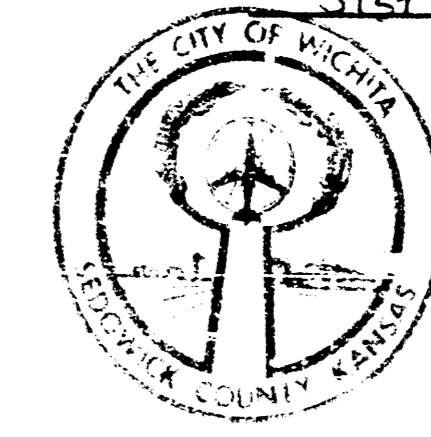


This Plat of THE MOORINGS 5TH ADDITION to Wichita to Sedgwick County, Kansas has been submitted to and approved by this WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION, Wichita, Kansas.

Dated this 5th day of July, 1990.

WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION
George D. Sherman, Acting Chairman
Marvin S. Krout, Secretary
 Marvin S. Krout (SEAL)

This Plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this 3rd day of July, 1990.

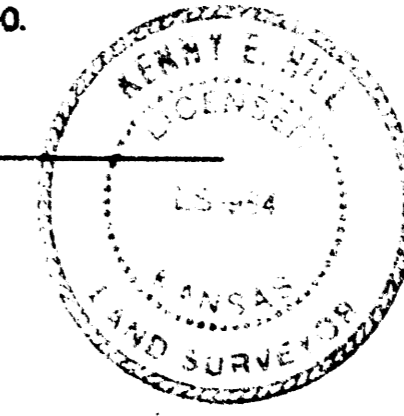


Bob Knight
 Mayor
 Bob Knight

Pat Burnett
 Deputy City Clerk
 Pat Burnett

Entered on transfer record this 7th day of August, 1990.

Don Wright
 County Clerk
 Don Wright



This is to certify that this instrument was filed for record in the Register of Deeds Office at 3:00 P.M. on the 7th day of August, 1990.

Pat Kettler
 Register of Deeds
 Pat Kettler

54-Res
 Chief Deputy

THE MOORINGS 5th ADDITION

To Wichita Sedgwick County, Kansas