

# GRAY'S SECOND ADDITION SANITARY SEWER

LAT. 241, SOUTHWEST INTERCEPTOR  
PROJECT NO.

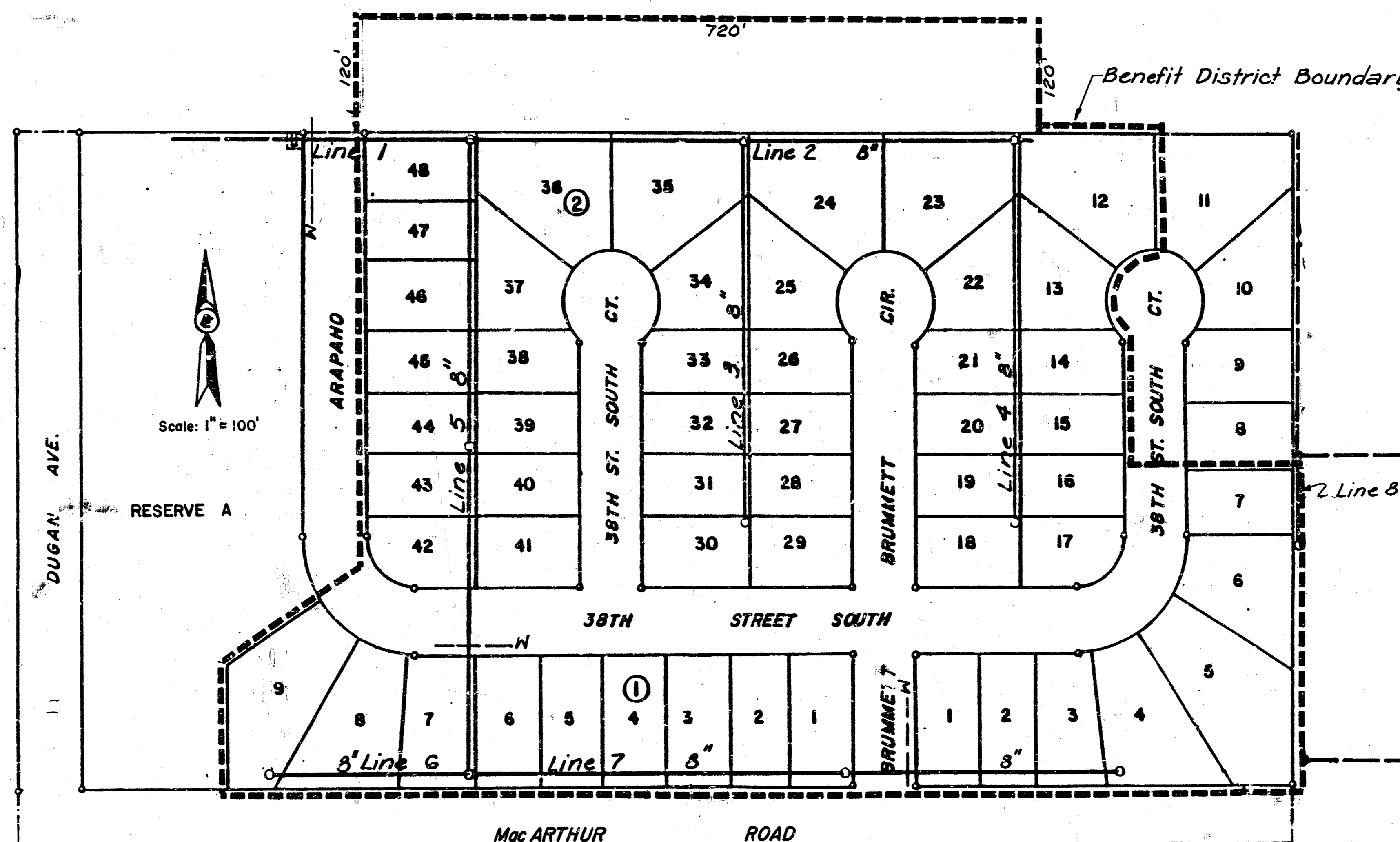
468-76-245-81697-000-000-001

CITY OF WICHITA, KANSAS  
MICHAEL E. LINDEBAK, P.E.  
CITY ENGINEER  
1987

## INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1.	TITLE SHEET
2.	LINE 1, 5 & 6
3.	LINE 2 & 8
4.	LINE 3 & 4
5.	LINE 7
6.	MANHOLE STANDARDS TYPE C
7.	MANHOLE STANDARDS TYPE P
8.	SUBDIVISION PLAT

SANITARY SEWER EXTENSION TO SERVE  
A PORTION OF GRAY'S SECOND ADDITION



### GENERAL NOTES:

1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
2. ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM (USGS-1187.4= CITY DATUM).
3. AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE AT, (316) 687-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA: ARKLA GAS COMPANY, GAS SERVICE COMPANY, K.G. & E., THE WICHITA WATER DEPARTMENT, AND AIR CAPITAL CABLEVISION.
4. THE CONTRACTOR MUST ALSO NOTIFY BELL TELEPHONE COMPANY AT (313) 571-2115 48 HOURS PRIOR TO BEGINNING EXCAVATION AND REQUEST THAT ANY LINES WITHIN THE PROJECT AREA BE FLAGGED.
5. THE BURIED UTILITIES AS LOCATED ON THE PLANS ARE APPROXIMATE LOCATIONS ONLY. IT SHOULD BE NOTED THAT OTHER BURIED LINES AND CABLES MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCHING OPERATIONS TO AVOID DAMAGING THESE LINES. ANY LINES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL 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 BY A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE OTHER ITEMS OF WORK.
7. ALL S'UBS AND PLUGGED PIPES SHALL BE LOCATED WITH GREEN PLASTIC TAPE IN THE SAME MANNER AS RISERS.

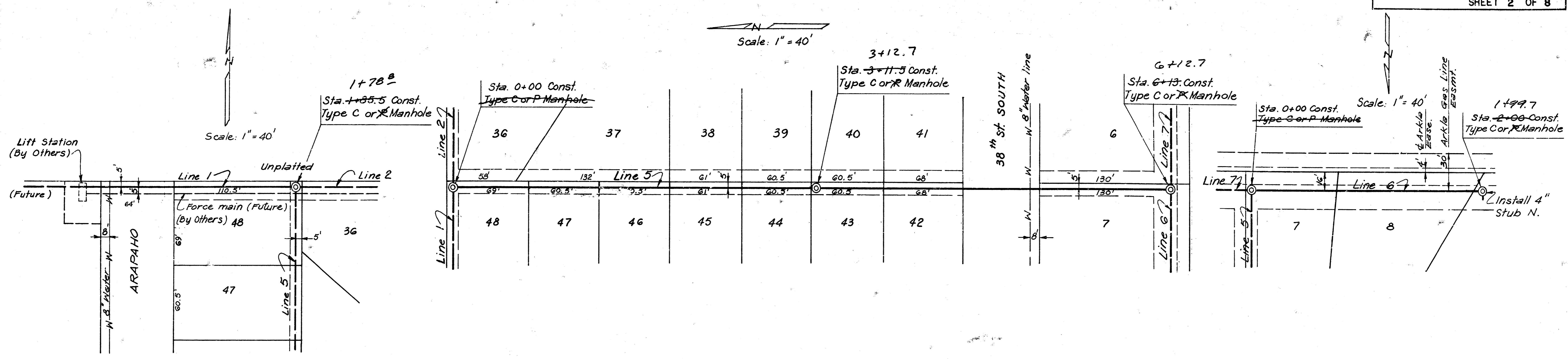
### LEGEND

EXIST. SEWER LINE	---
PROP. SEWER LINE	---
EXIST. MANHOLE	○
PROP. MANHOLE	○

AS BUILT  
RDL  
12-87

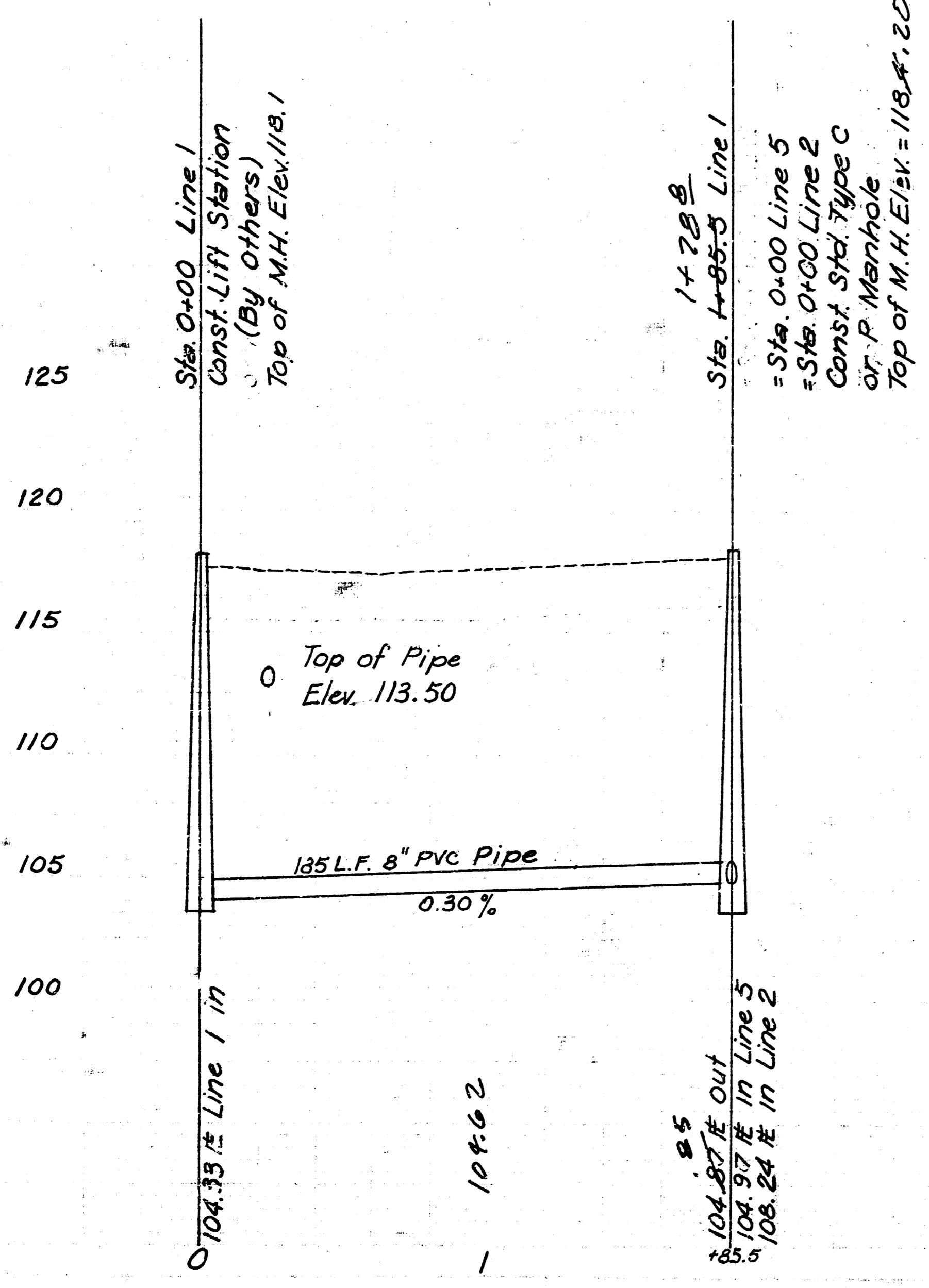
DELAMATER ENGINEERS, INC.  
CONSULTING ENGINEERS  
WICHITA, KANSAS





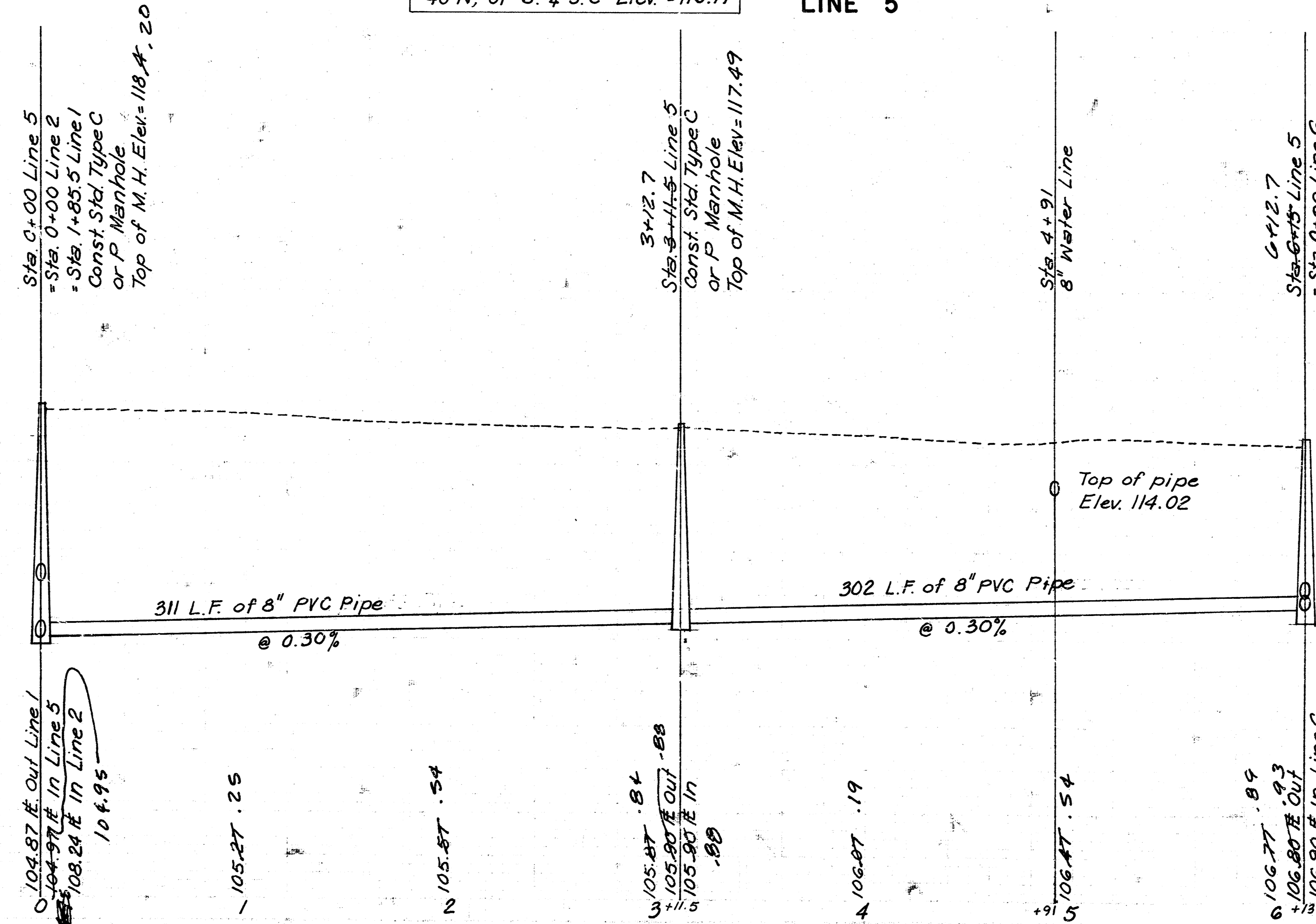
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40' N, of S. 1/4 S.C Elev. = 115.77

LINE 1



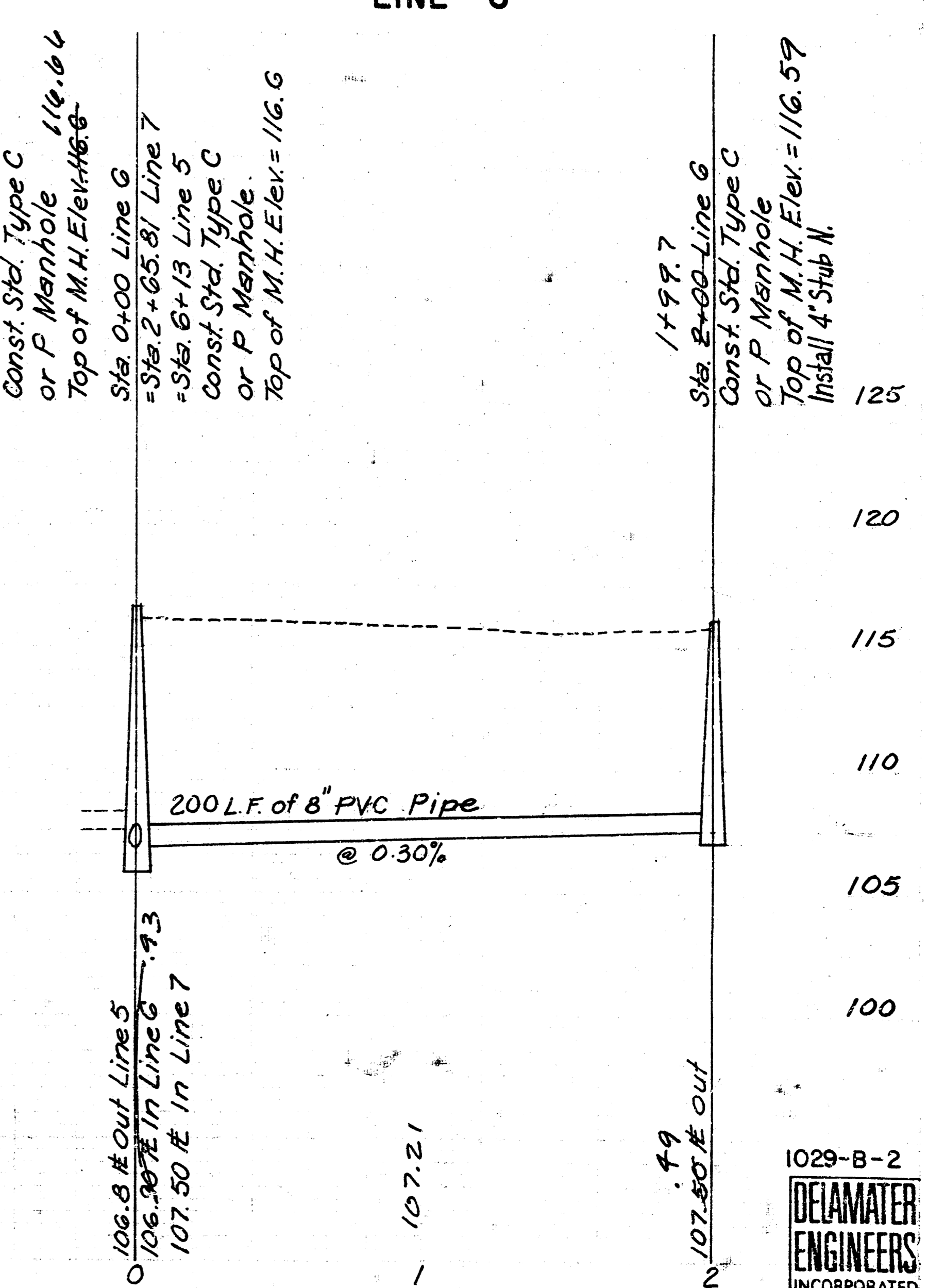
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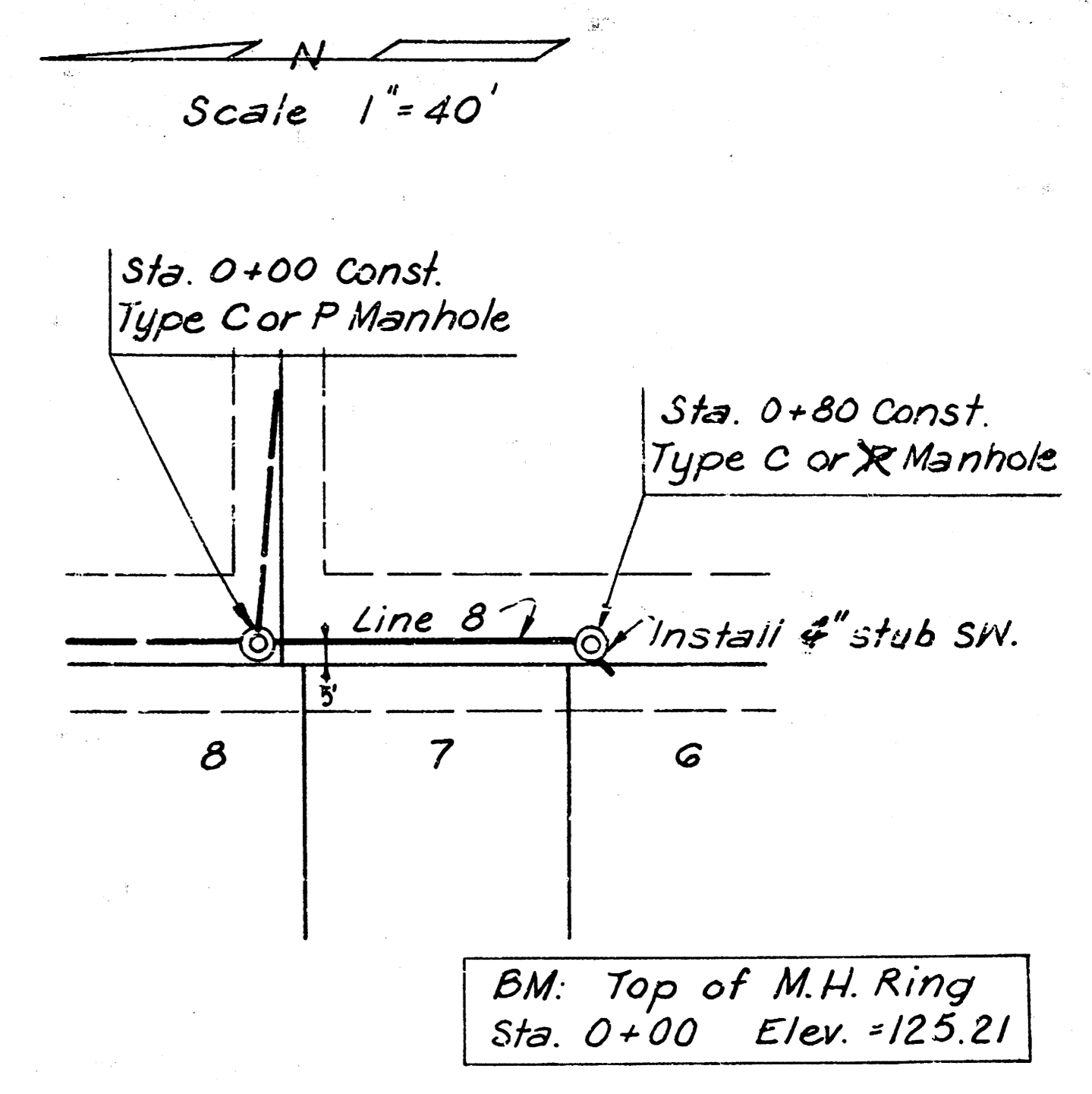
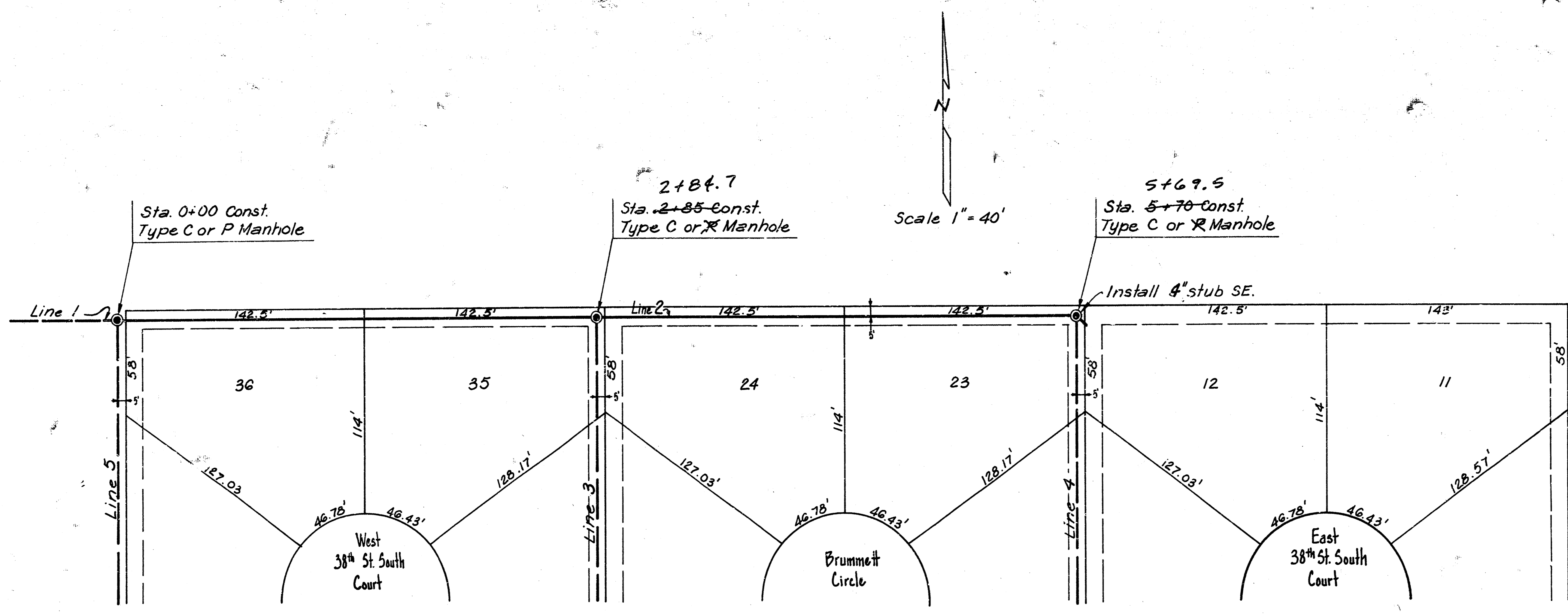
LINE 5



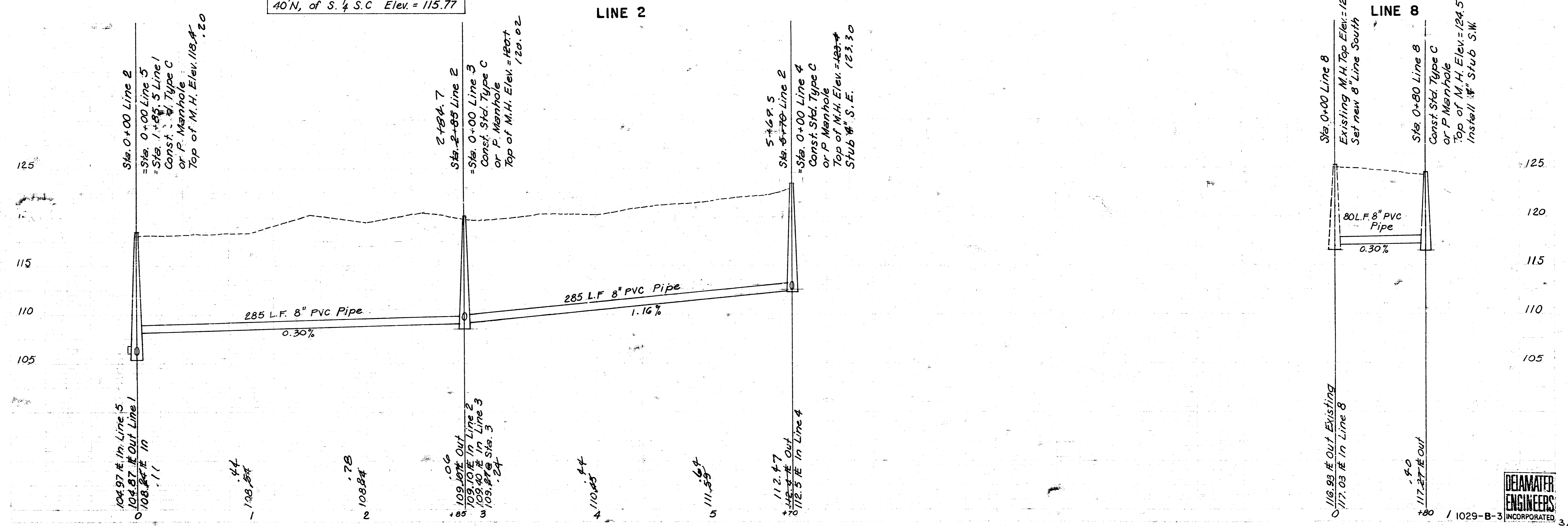
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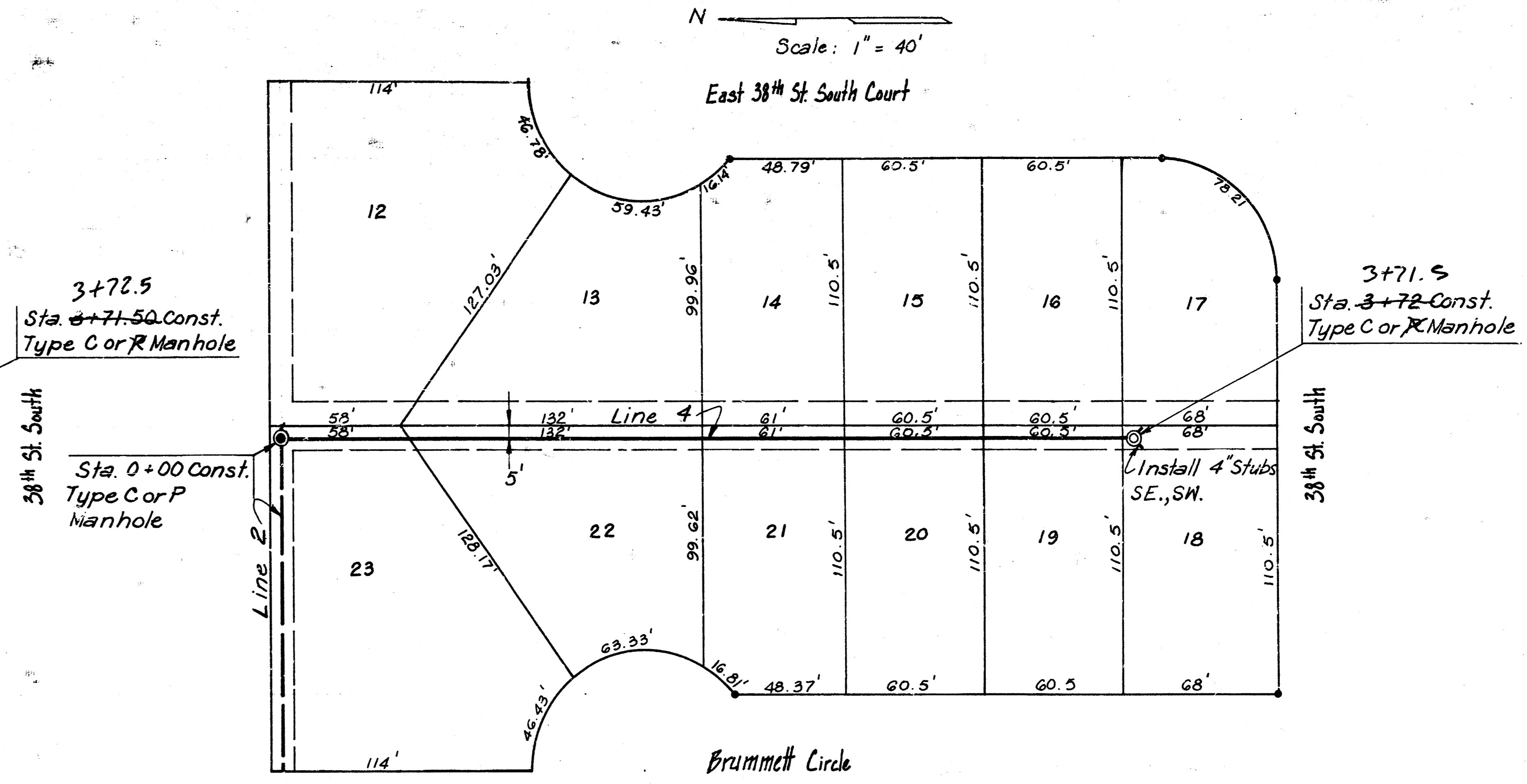
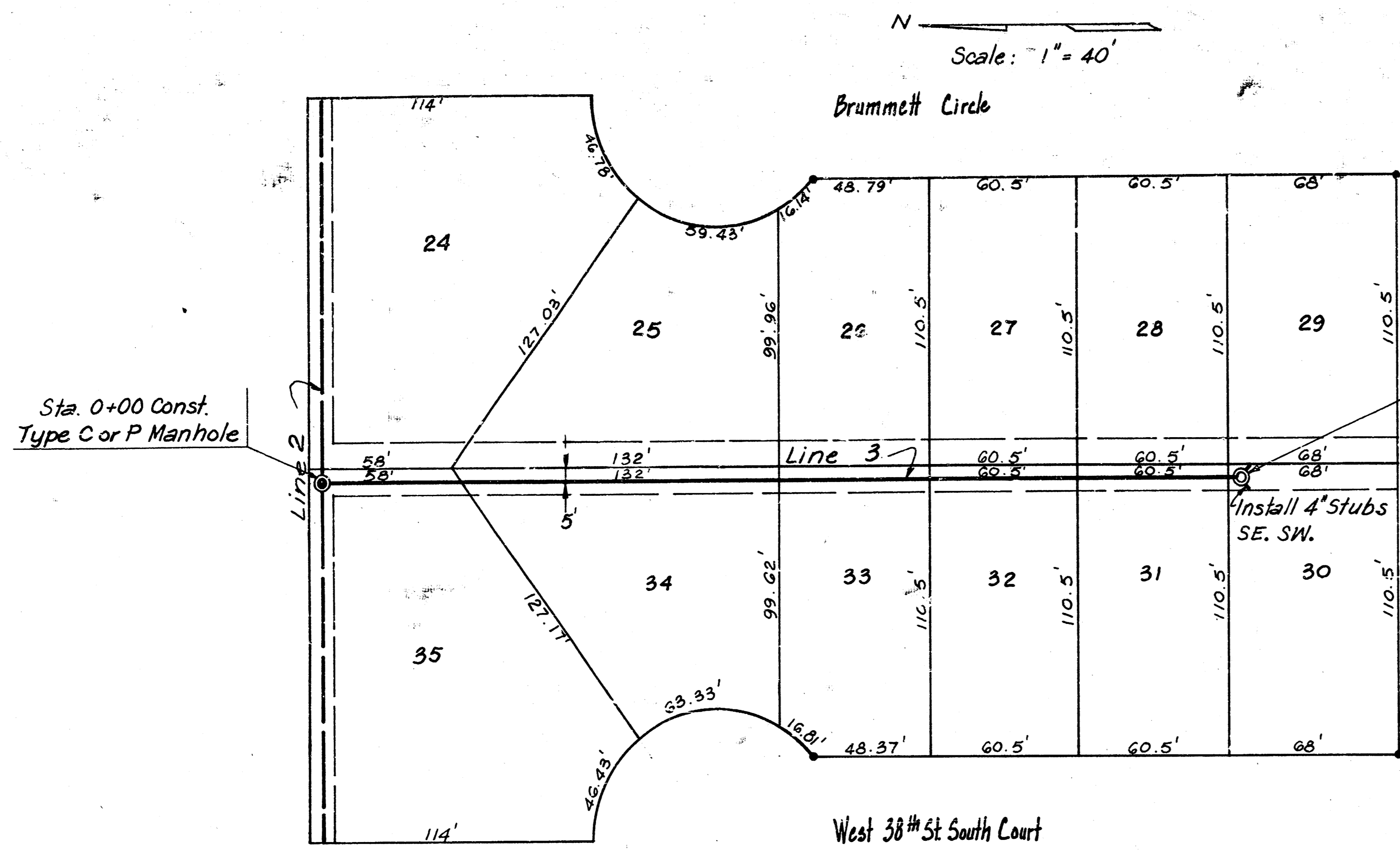
LINE 6





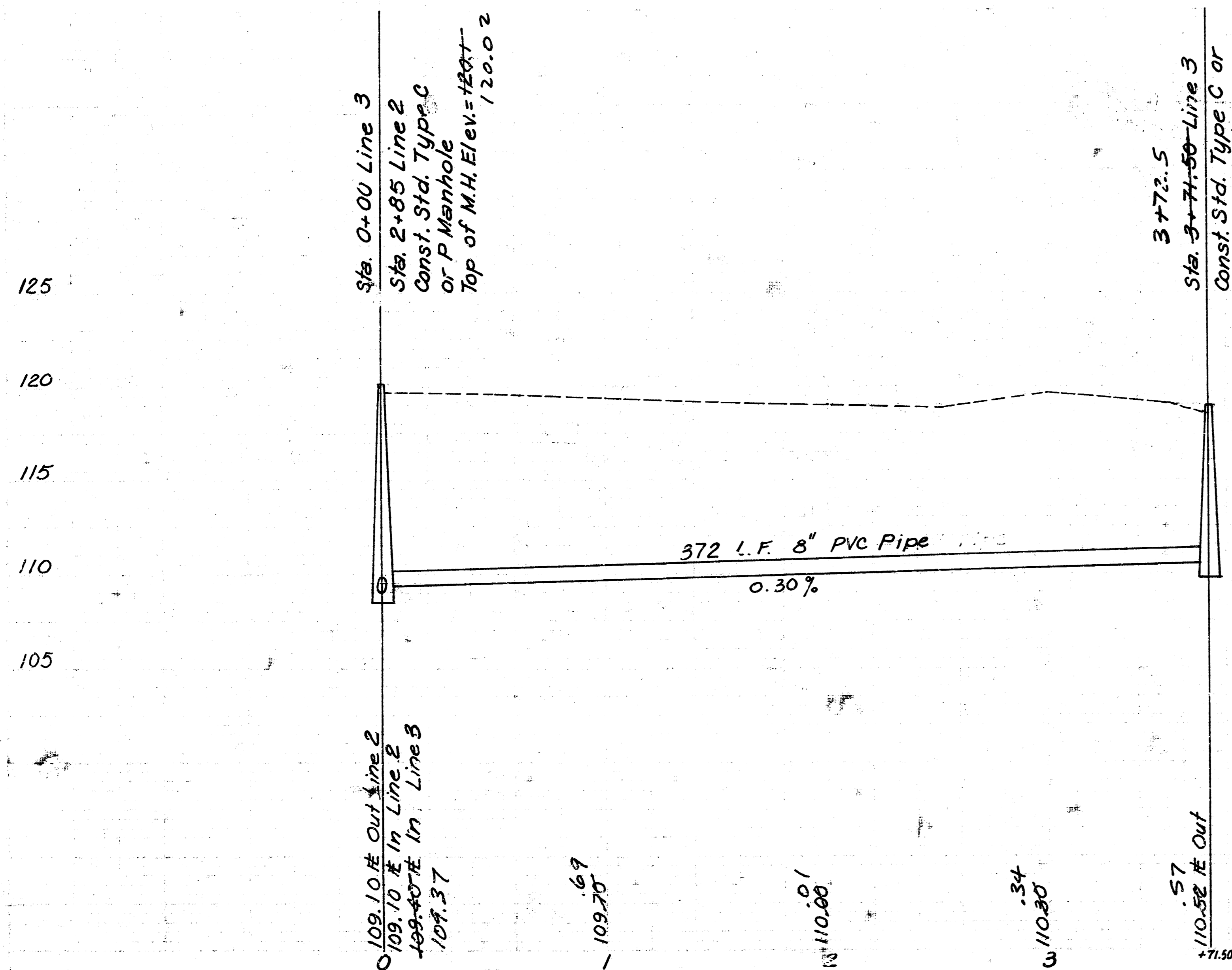
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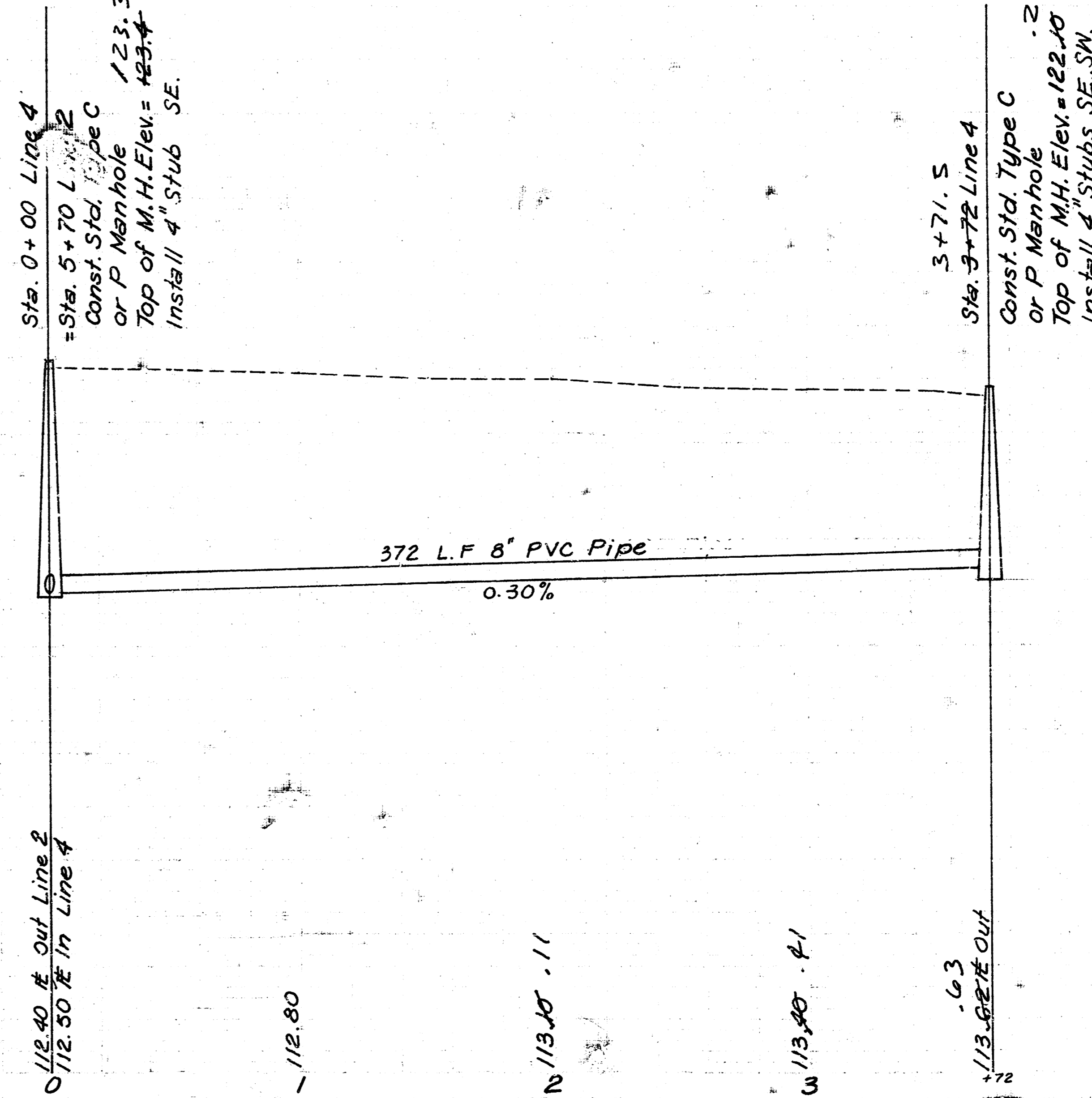
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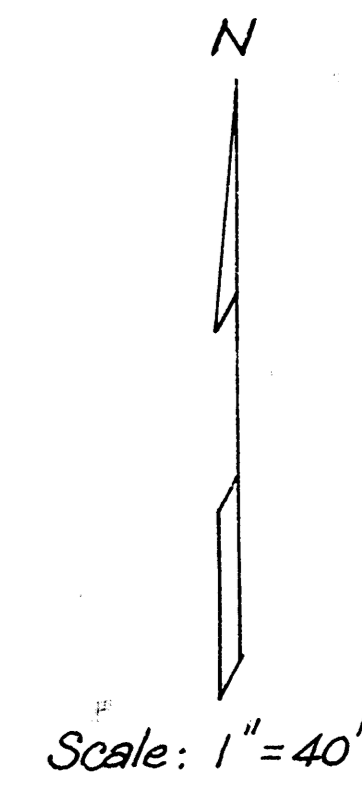
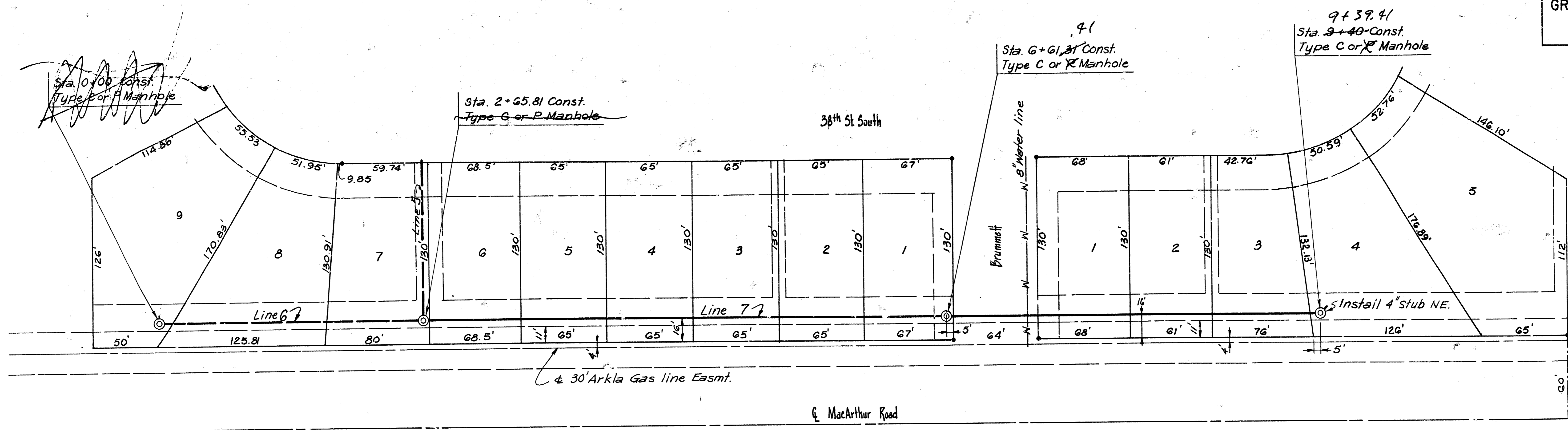
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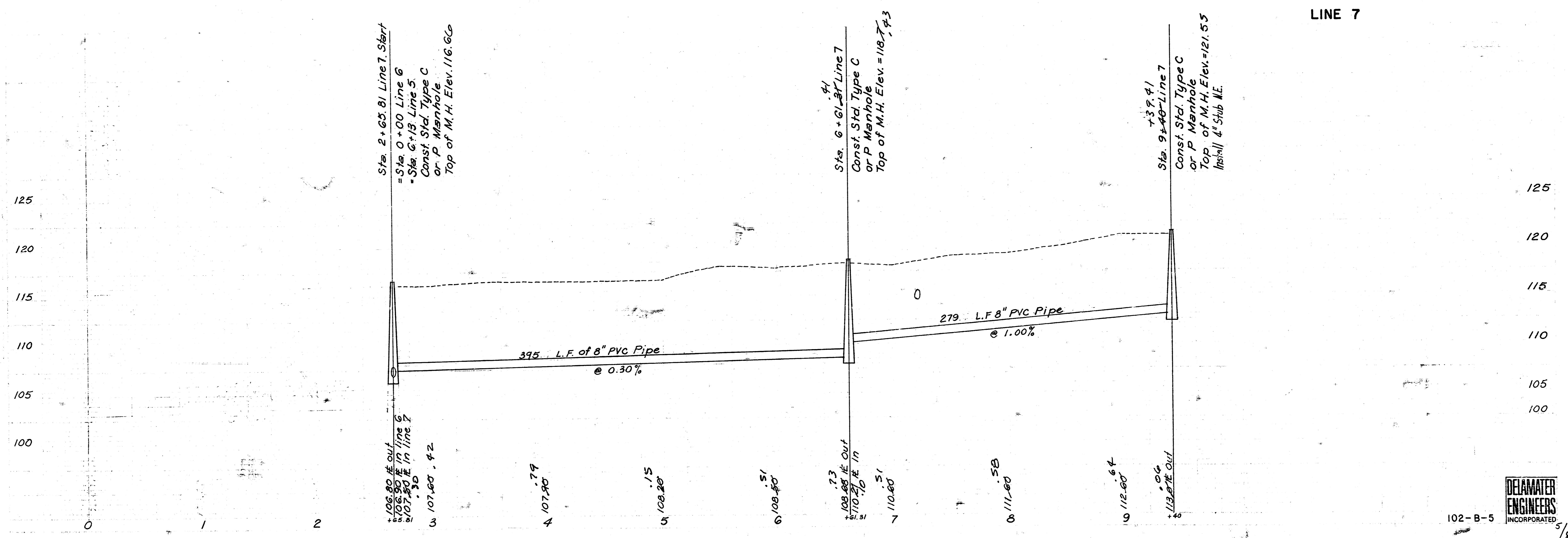
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LINE 4





BM: 60d Spk in H.L.D 65' E,  
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LINE 7

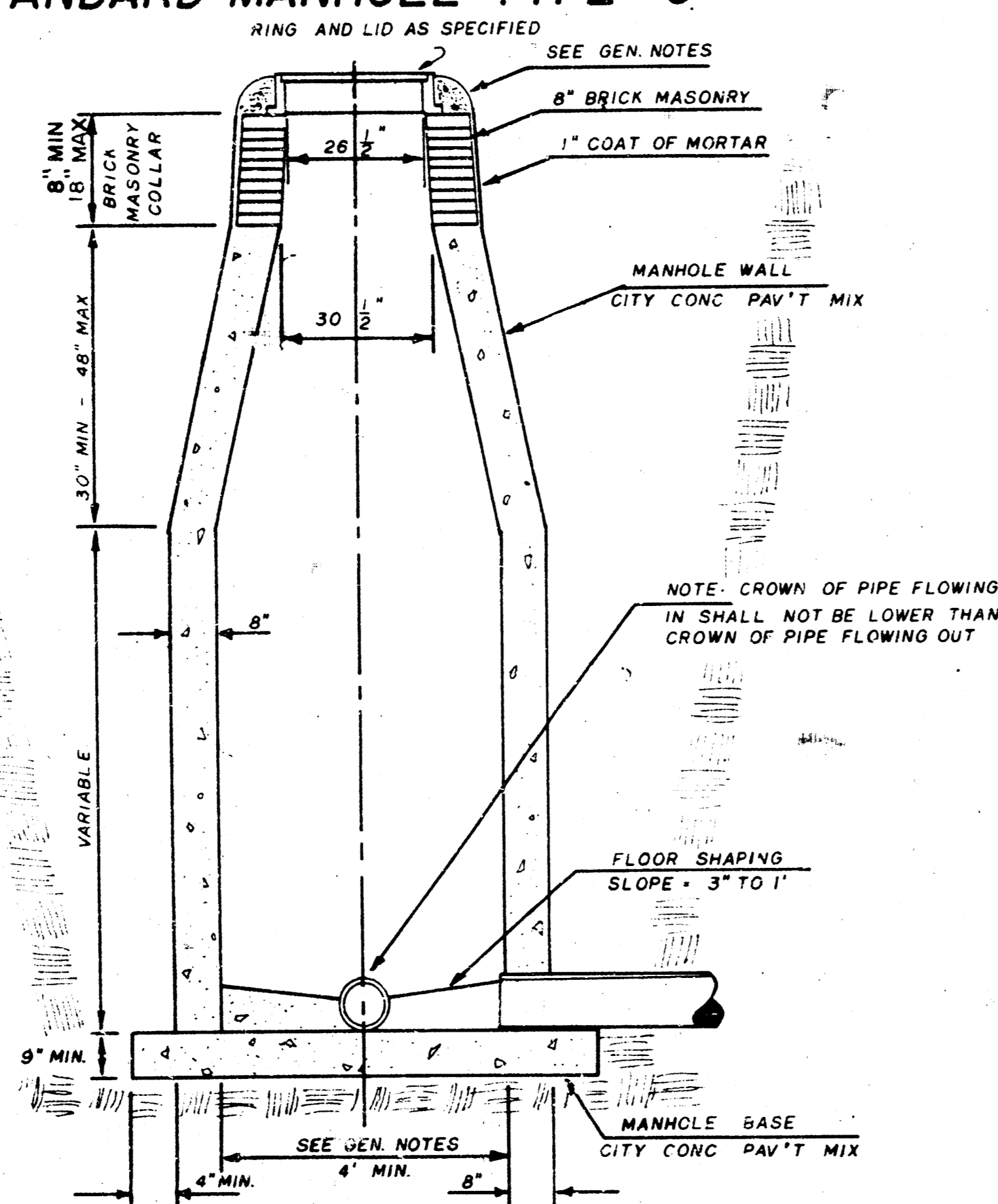
# SEWER APPURTENANCES DETAILS

ADOPTED AS STANDARD DESIGN

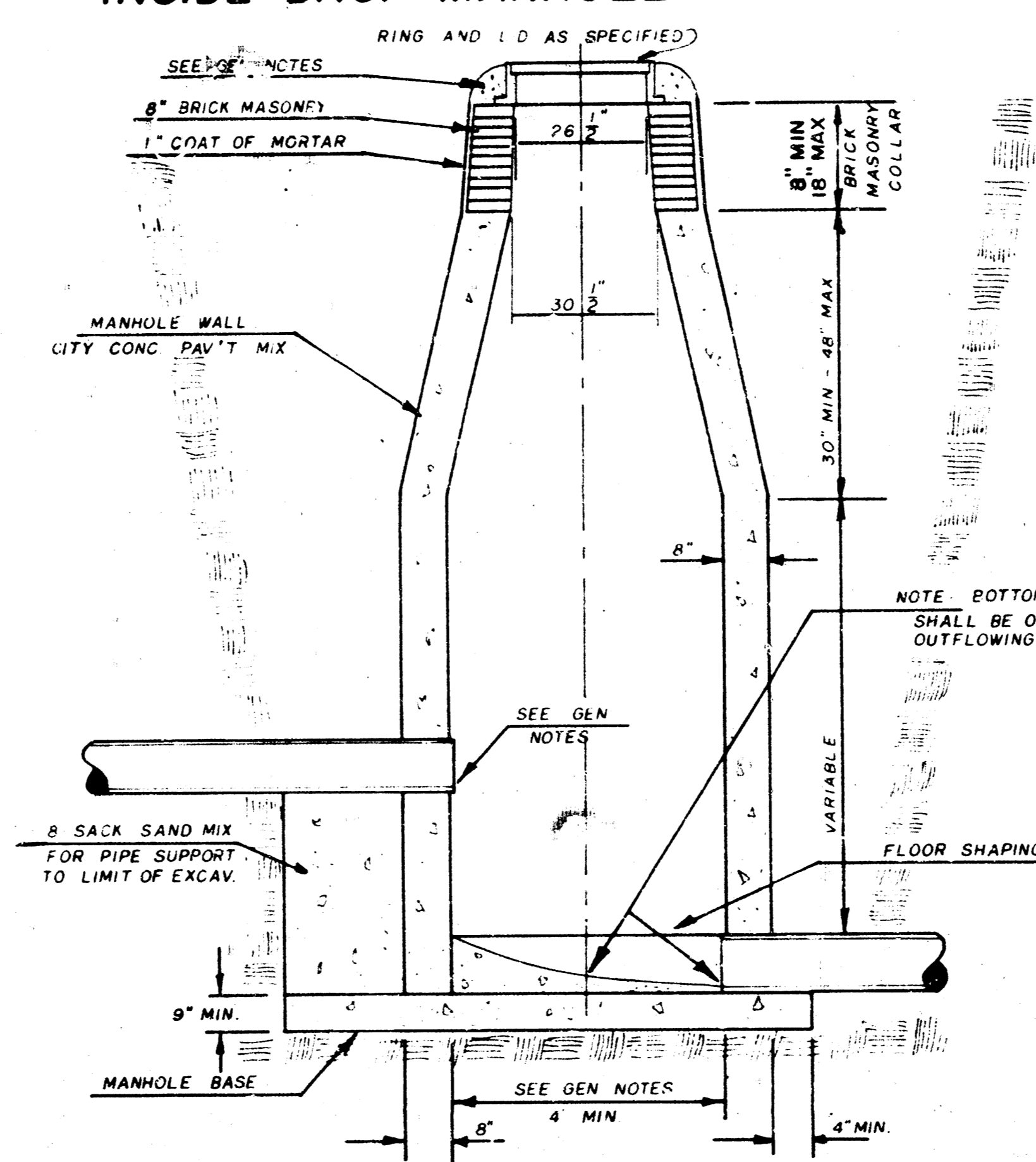
BY

City of Wichita, Kansas

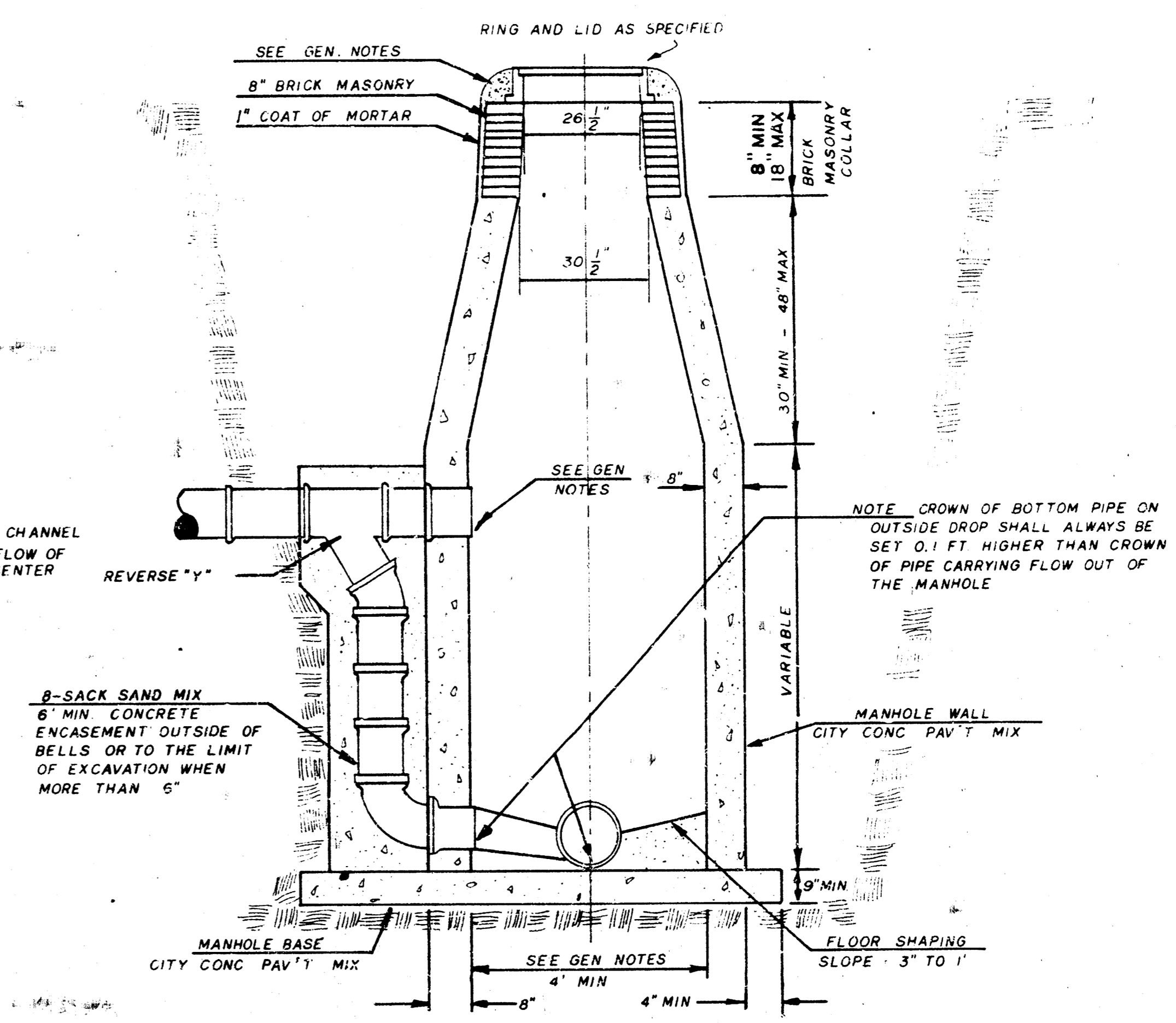
STANDARD MANHOLE TYPE "C"



INSIDE DROP MANHOLE TYPE "C"



OUTSIDE DROP MANHOLE TYPE "C"



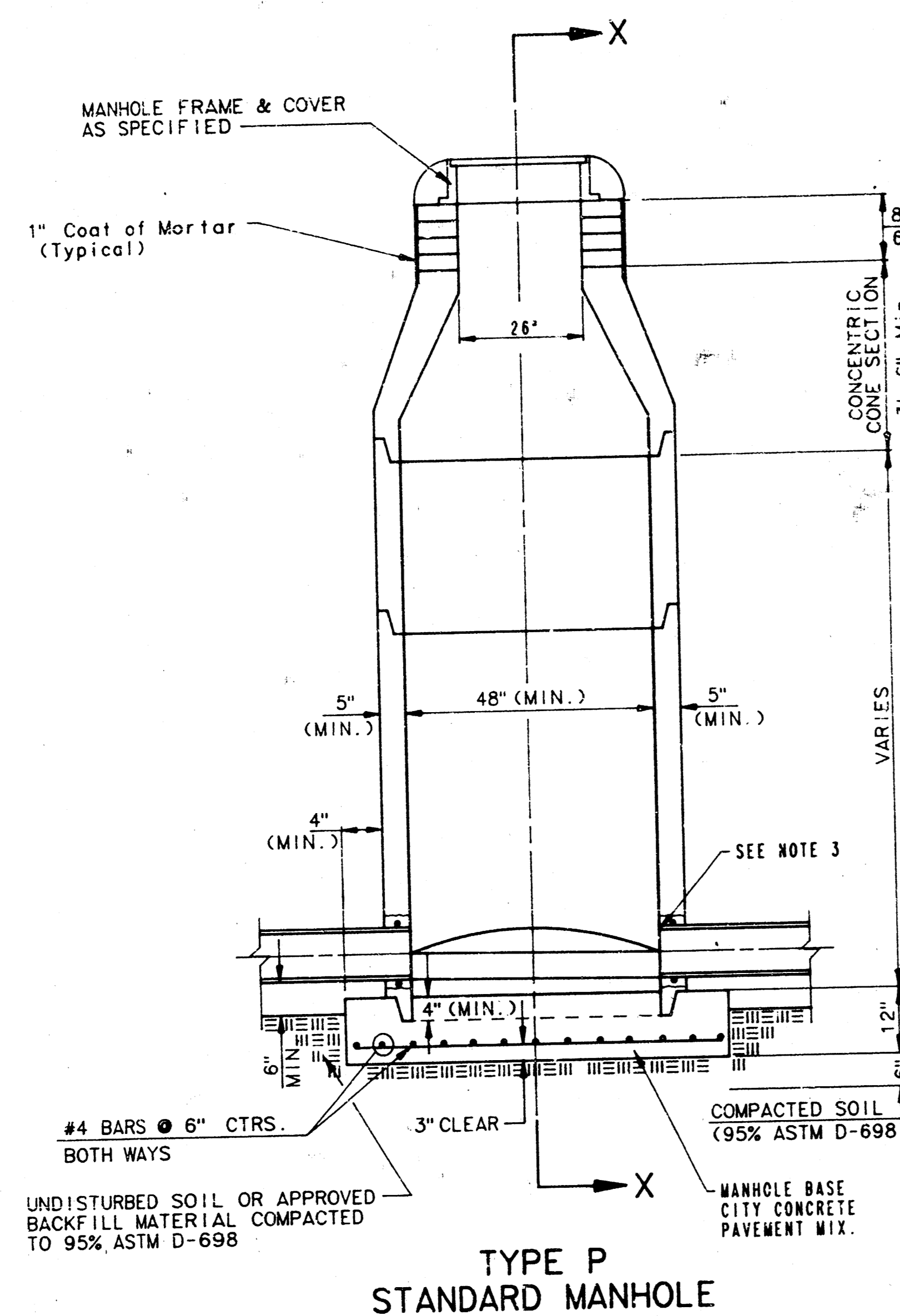
GENERAL NOTES

- 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.
- 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 6" 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.
- AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE GROUTED INTO THIS OPENING WITH NON-SHRINK GROUT. THE EXTERIOR OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT.
- 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 ON THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLE. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY

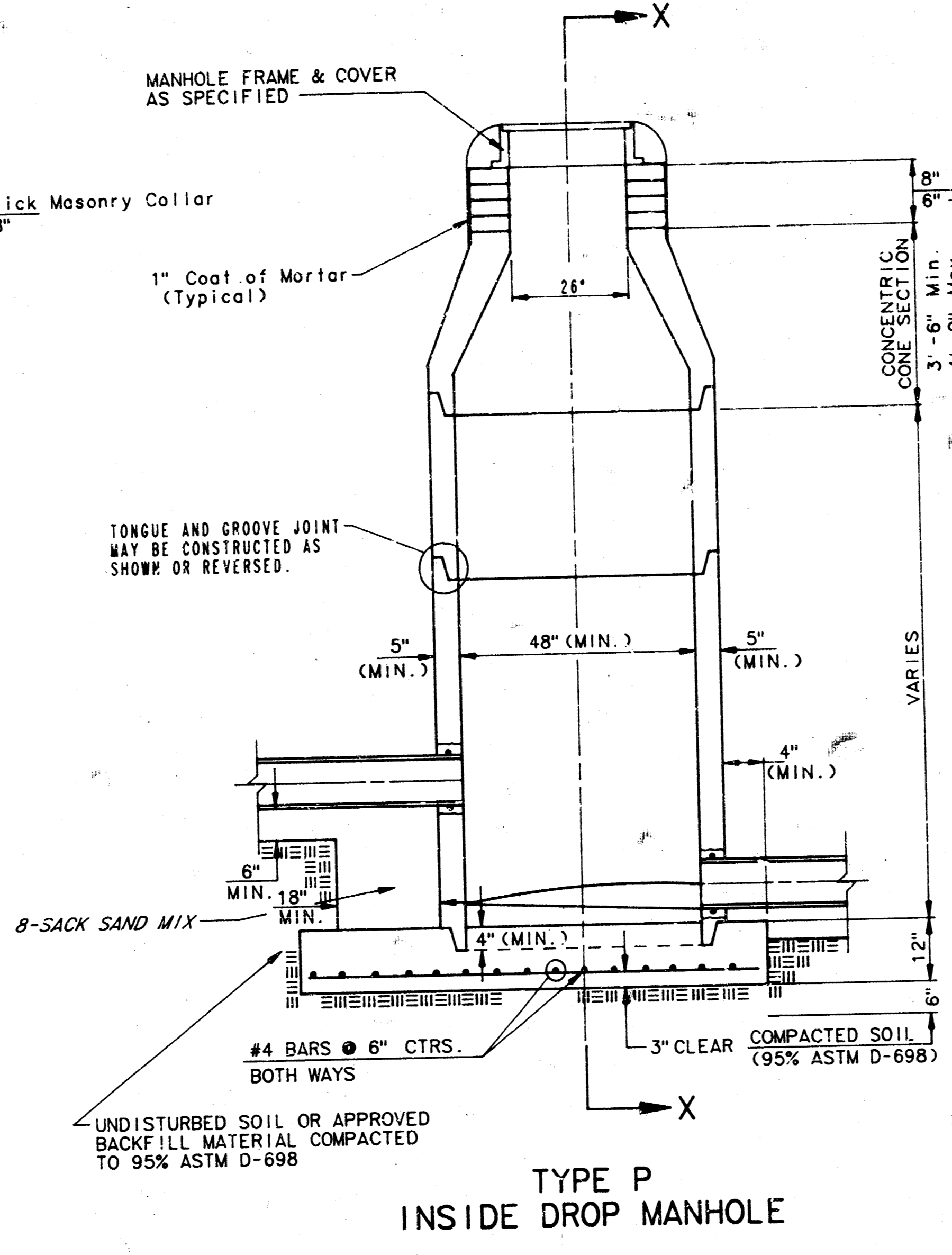
THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLE CHANNELS HAVE THE TOP HALF REMOVED TO MEET LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.

- 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.
- 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.
- THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4" FOR INFLOWING PIPES SIZED 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.
- STANDARD MANHOLES TYPE "C" AND STANDARD INSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

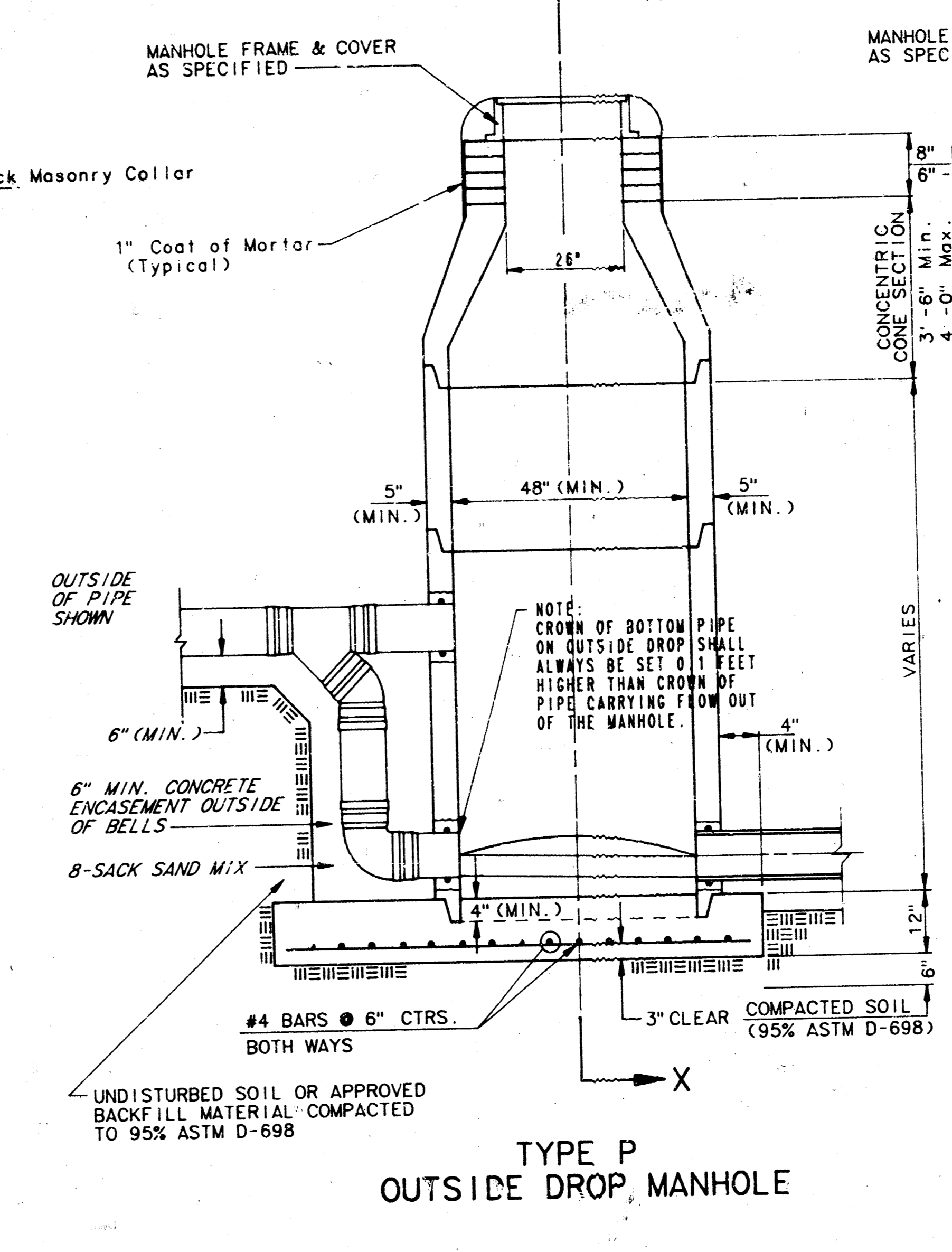
# SEWER APPURTENANCES DETAILS ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA



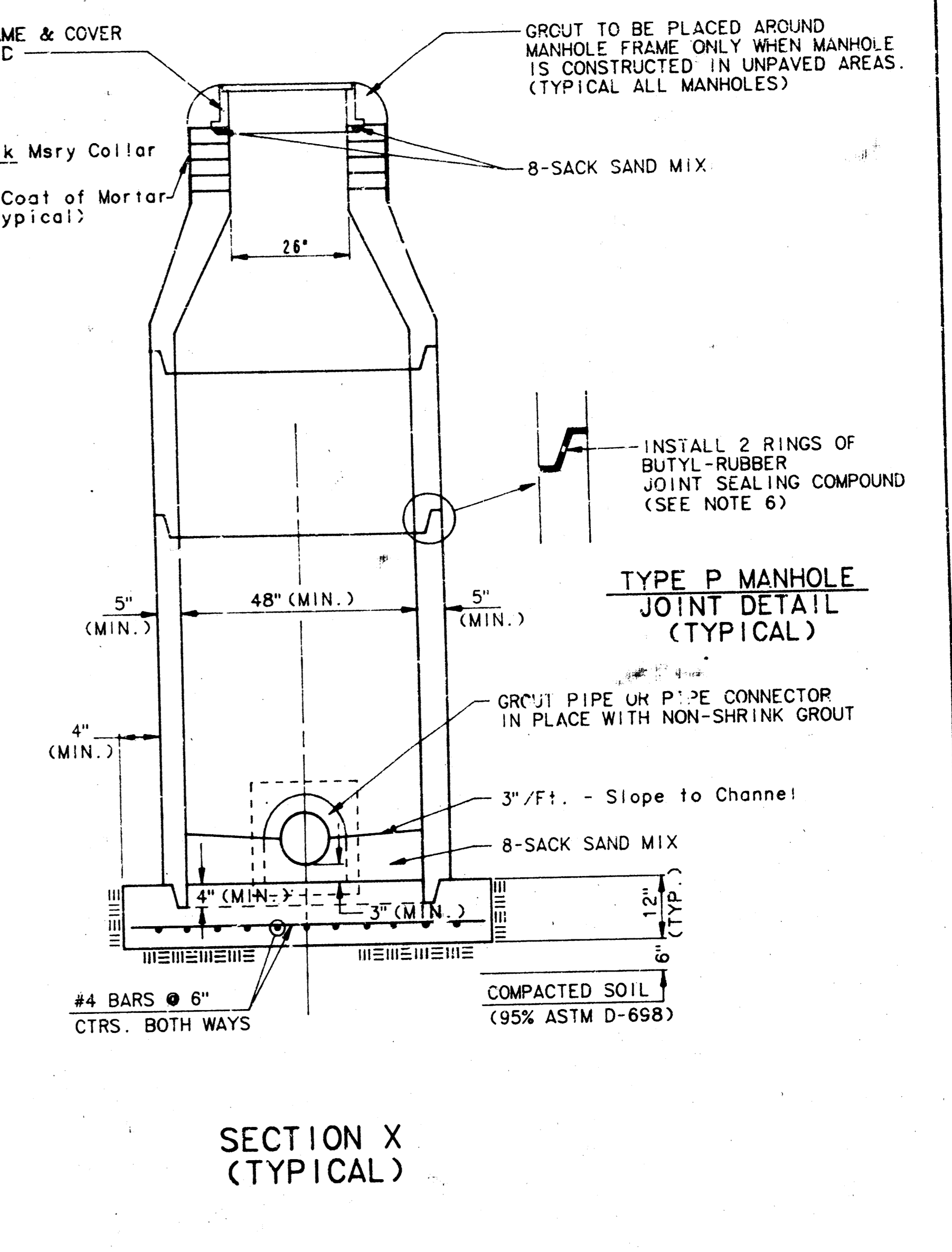
**TYPE P  
STANDARD MANHOLE**



**TYPE P  
INSIDE DROP MANHOLE**



**TYPE P  
OUTSIDE DROP MANHOLE**



**SECTION X  
(TYPICAL)**

**GENERAL NOTES**

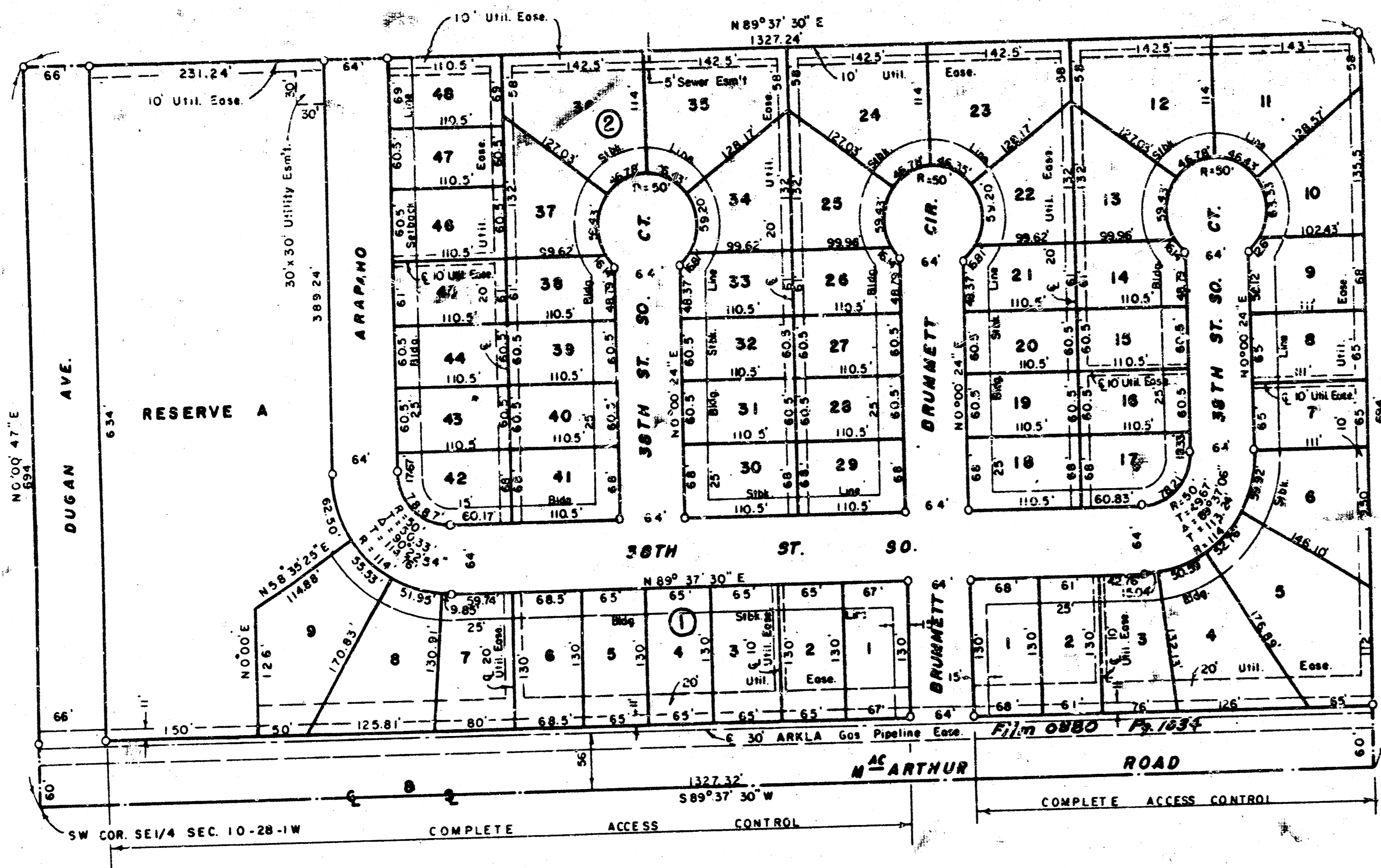
- PRECAST MANHOLE NOTES**
1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
  2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
  3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL 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 OF MEMEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.)
  5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT OF MEMEC 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 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. 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 NONSHRINK 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 HEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOOR 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 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 SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FOR INFLOWING PIPES SIZED 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.

# GRAY'S SECOND ADDITION

## SEDGWICK COUNTY, KANSAS



State of Kansas, County of Sedgwick, SS.

I, Lowell D. High, Land Surveyor in said State and County do hereby certify that I have surveyed and platted, "Gray's Second Addition", Sedgwick County, Kansas, and that the accompanying plat is a true and correct exhibit of said survey described as follows: The south and west 1/2 of the SE 1/4 of Section 10, T28S, R17W of the 6th P.M., Sedgwick County, Kansas.

*Lowell D. High*  
Lowell D. High  
Land Surveyor

Know all men by these presents that Gray Construction, Inc., by Billy J. Gray, President, has caused the land described in the Land Surveyor's certificate to be platted into Lots, Blocks, a Reserve, and Streets to be known as "Gray's Second Addition", Sedgwick County, Kansas. The streets are hereby dedicated to and for the use of the public. Utility Easements as indicated on the plat are hereby granted for the construction and maintenance of all public utilities.

All abutter's rights of access to or from MacArthur Road, over and across the south line of Lots 1, 2, 3, 4, and 5, Block 2, are hereby granted to the appropriate governing body.

All abutter's rights of access to or from MacArthur Road, over and across the south line of Lots 1, 2, 3, 4, 5, 6, 7, 8, and 9, Block 1, are hereby granted to the appropriate governing body.

All abutter's rights of access to or from MacArthur Road, over and across the south line of Reserve A, are hereby granted to the appropriate governing body.

Reserve A is hereby designated for drainage purposes. Reserve A is to be owned and maintained by a home owners association.

Gray Construction, Inc.

*Billy J. Gray*      *Denise M. Gray*  
Billy J. Gray, President      Denise M. Gray, Secretary

State of Kansas, County of Sedgwick, SS.

The foregoing instrument was acknowledged before me this 17<sup>th</sup> day of March, 1987 by Billy J. Gray, President, and Denise M. Gray, Secretary, of Gray Construction, Inc.

*Jim E. Bishop*  
Jim E. Bishop, Notary Public  
My Commission expires: April 10, 1989

4-10-89

This plat approved and all dedications shown hereon, if any, accepted by this Board of City Commissioners of the City of Wichita, Kansas this 12<sup>th</sup> day of May, 1987.

*Robert G. Knight*  
Robert G. Knight, Mayor  
*Deputy Clerk*  
Deputy Clerk

This plat approved and all dedications shown hereon, if any, accepted by the Board of County Commissioners of Sedgwick County, Kansas this 27<sup>th</sup> day of May, 1987.

*Tom Scott*  
Tom Scott, Chairman  
*Commissioner*  
Commissioner  
*Commissioner*  
Commissioner  
*Commissioner*  
Commissioner  
*Commissioner*  
Commissioner

ATTEST:  
*Don Wright*  
Don Wright, County Clerk

State of Kansas, County of Sedgwick, SS.

This is to certify that this instrument was filed for record in the Register of Deeds Office, at 9:00 o'clock, A.M., on the 28<sup>th</sup> day of May, 1987.

*Pat Kettler*  
Pat Kettler, Register of Deeds  
*Ed Resa*  
Ed Resa, Deputy

Entered on transfer record this 28<sup>th</sup> day of May, 1987.

*Don Wright*  
Don Wright, County Clerk

Bank of Mid America, Inc., by Kermit W. Clark, Executive V.P., mortgagee of the land described in the Land Surveyor's certificate, does hereby consent to the platting of "Gray's Second Addition", Sedgwick County, Kansas.

Bank of Mid America, Inc.

*Kermit W. Clark*      E.V.P.

ATTEST:

*Alan D. Guthrie*      A.V.P.

State of Kansas, County of Sedgwick, SS.

The foregoing instrument was acknowledged before me this      day of     , by      of Bank of Mid America, Inc.

*Nancy Givan*  
Nancy Givan, Notary Public  
My Commission expires:     

NANCY GIVAN  
NOTARY PUBLIC  
STATE OF KANSAS  
My Appl. Exp.     

This plat of "Gray's Second Addition", Sedgwick County, Kansas has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this 19<sup>th</sup> day of February, 1987.

Wichita-Sedgwick County Metropolitan  
Area Planning Commission.

*Chairman*  
Chairman  
*Secretary*  
Secretary

20.00