

STORM WATER SEWER IMPROVEMENTS TO SERVE YORK UPG PROJECT NO. 1208 PPS OCA NO. 607861

GENERAL NOTES

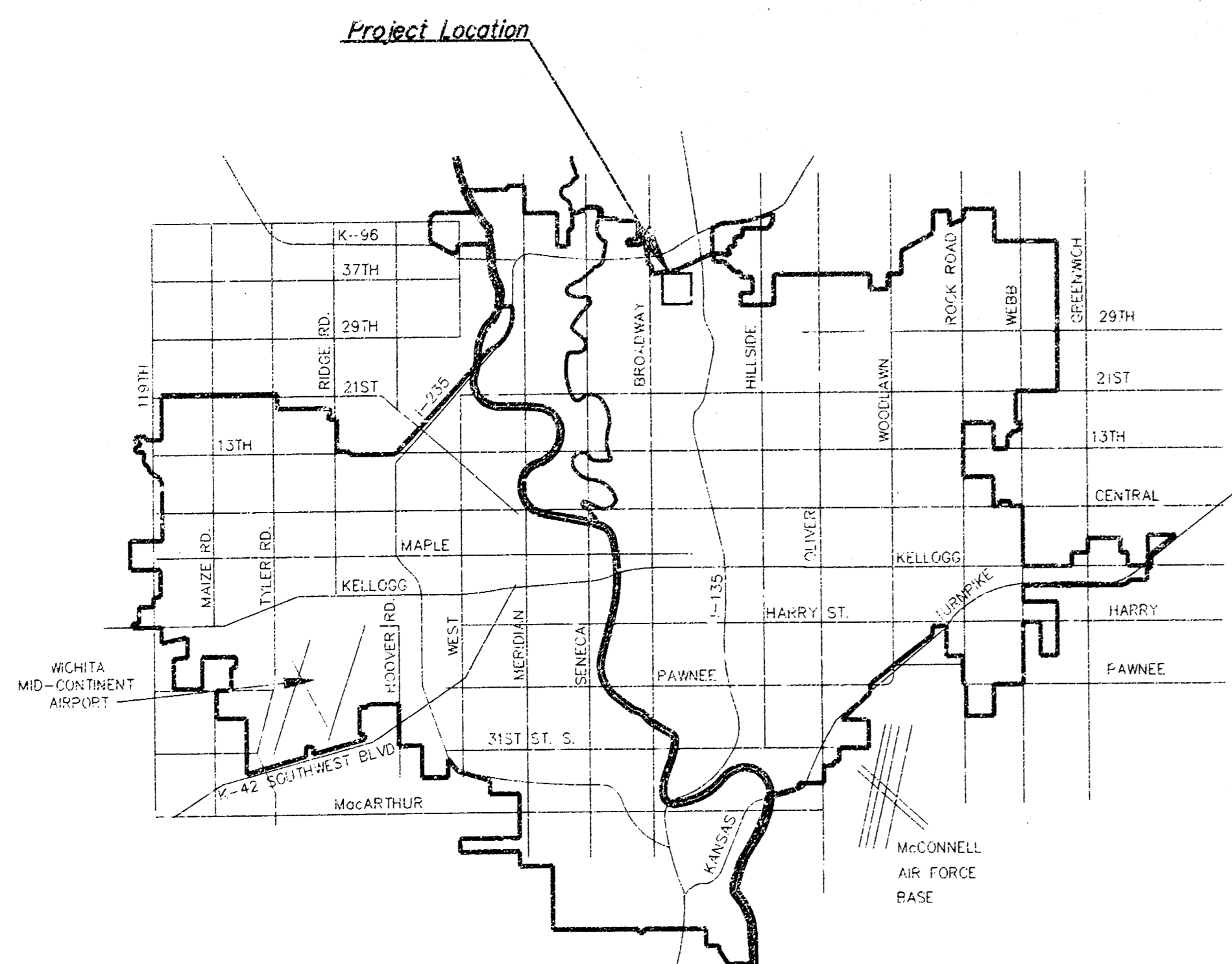
- Contractor will be required to provide a minimum advance notice of forty-eight (48) hours to utility companies prior to starting any excavation as follows:

Kansas One-Call 687-2470

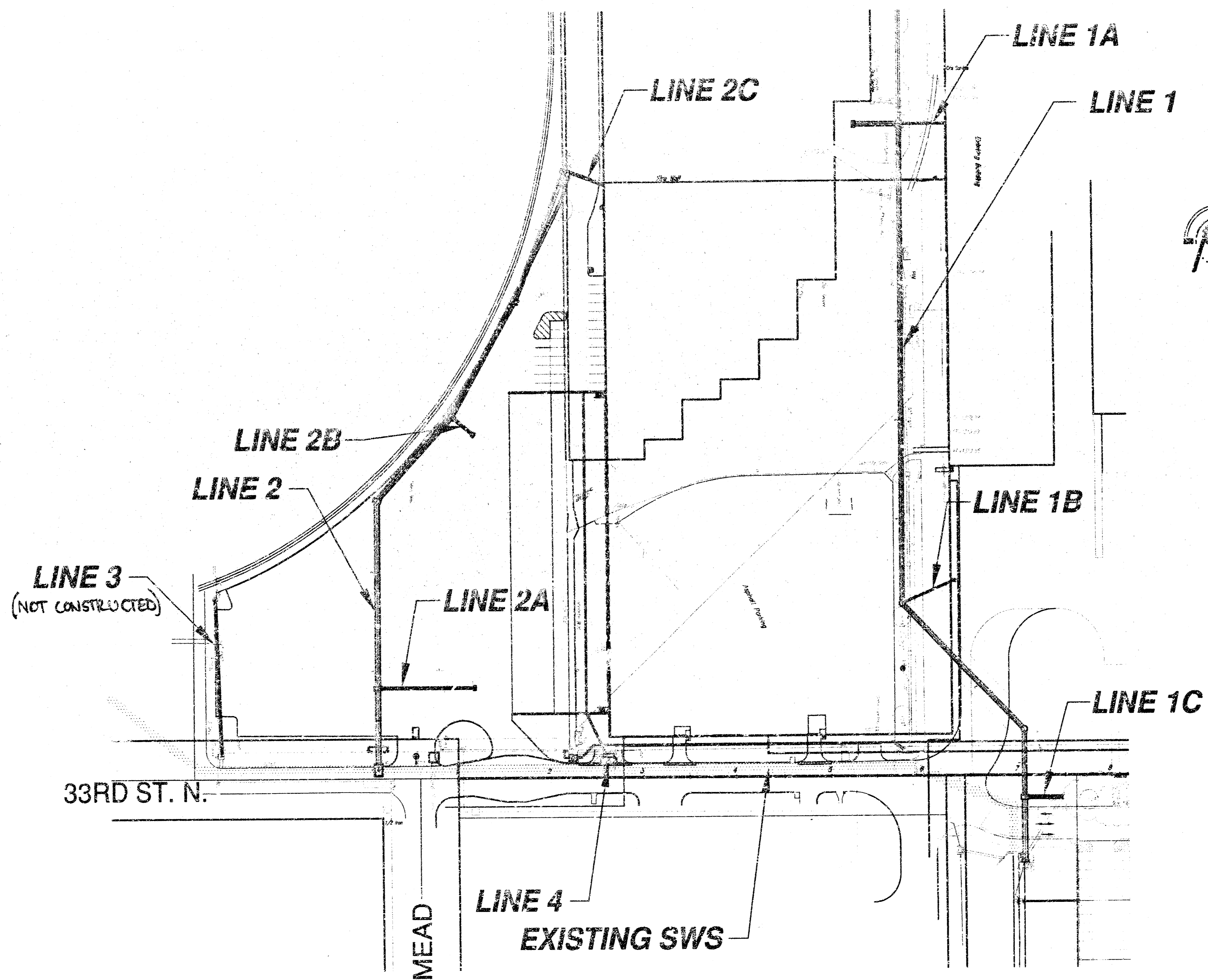
- The Contractor must notify the following in case of an emergency:

Cox Communications 262-9661
 Kansas Gas Service 383-6600
 KGE 383-8600
 Peoples Natural Gas Company 1-800-303-0157
 Southwestern Bell Telephone Company 1-800-296-8313
 City of Wichita Water Department 262-6000
 City of Wichita Sewer Maintenance 262-6000

- Existing utilities and their location, as shown on this plans, represent the best information obtainable for design. Location information has been obtained from the various utility companies and is either from company record drawings or company-provided field locations. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Any roof drain connections to the storm water sewer system will require a permit from the Office of Central Inspection (OCI).
- 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 in accordance with state laws.
- All work on this project to be in accordance with City of Wichita Standard Specifications dated March 1998.
- Precast structures detailed in this project may be constructed as cast-in-place structures with the approval of the Engineer prior to construction.
- One lane of traffic to be maintained on 33rd Street North at all times.



VICINITY MAP



INDEX OF SHEETS

- TITLE SHEET
- LINES 1 & 1B - PLAN & PROFILE
- LINES 1, 1A & 1C - PLAN & PROFILE
- LINES 2 & 2A - PLAN & PROFILE
- LINES 2, 2B & 2C - PLAN & PROFILE
- LINES 3 & 4 - PLAN & PROFILE
- STANDARD TYPE 1-A CURB INLET DETAIL
- SPECIAL AREA INLET DETAIL
- 48" YARD INLET DETAIL
- REINFORCED CONCRETE MANHOLE DETAIL
- PRECAST MANHOLE DETAIL
- MODIFIED TYPE P MANHOLE DETAIL
- BUTRESS DETAIL

BENCHMARKS

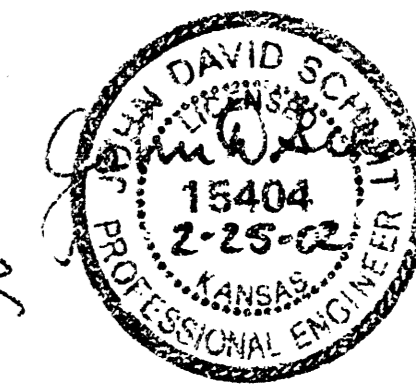
Benchmark:
 RR Spike in CNG, SW Cor. Hiltgard, 75ft N. of 29th St. N. on Ohio.
 Elevation = 1317.01 MSL

On-Site Benchmark:
 "C" Cut in Top of Curb, W. of First Inlet E. of Mead, S. Side of 33rd St. No.
 Elevation = 1317.15 MSL

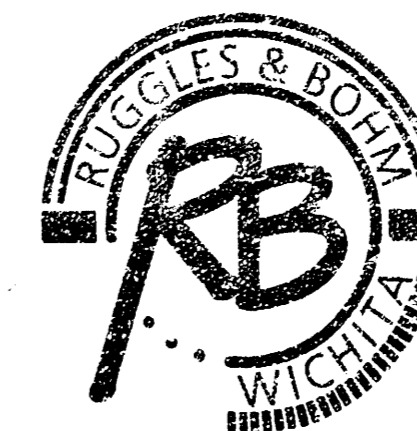
APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

Sanitary Sewers _____
 Storm Sewers VRH 2/27/02
 Driveway Approaches _____
 Water Mains _____
 Paving _____

NOTE TO CONTRACTORS
 Inspection and testing for this project are to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in unadvised easements or public right-of-way by the Contractor without such inspection, nor shall any work be commenced without written authorization by the City Engineer.

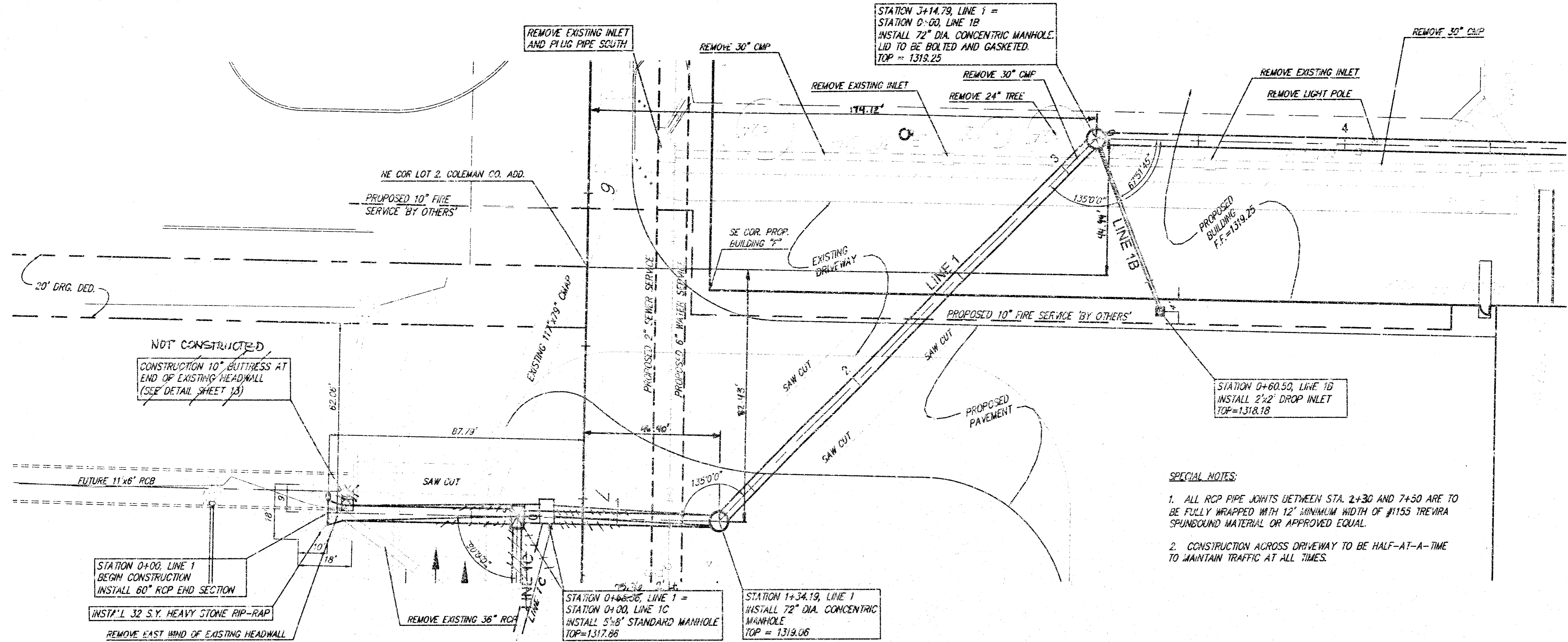


REVISED AS BUILT 4-1-02 JCR

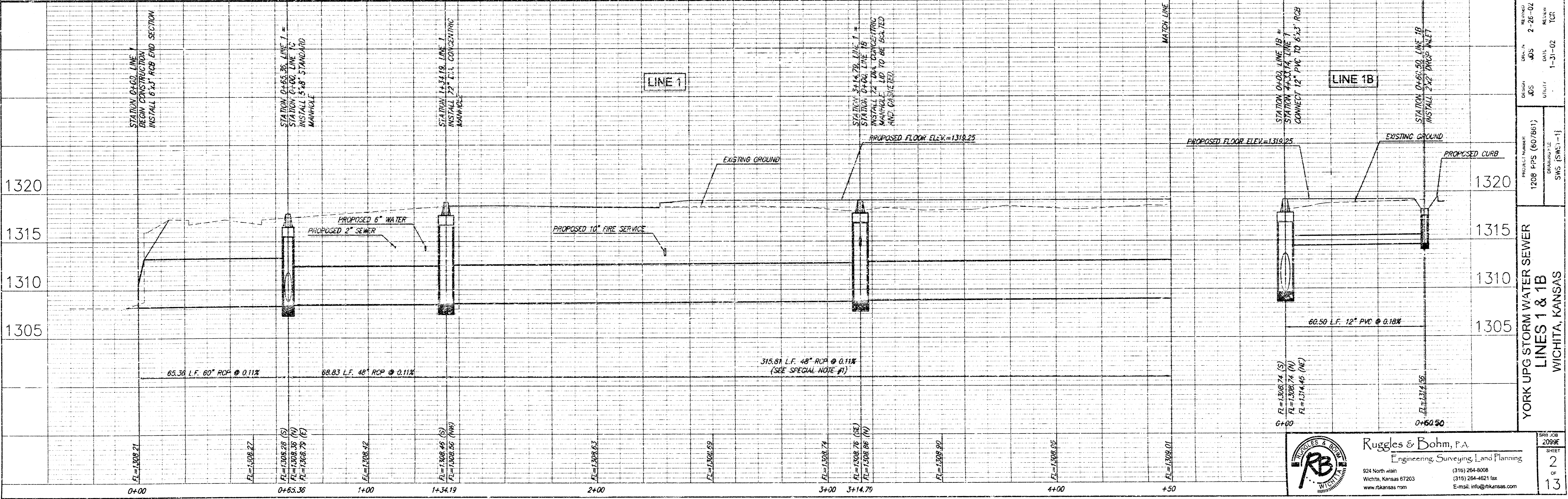
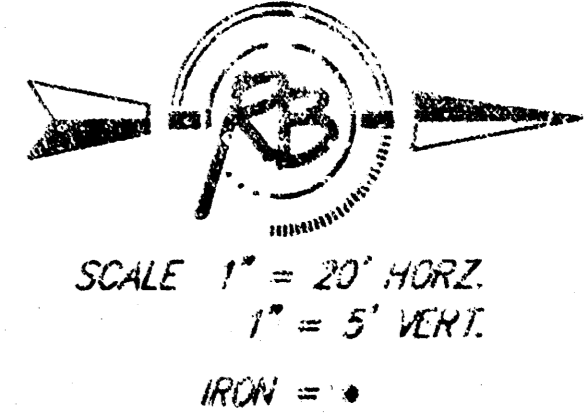


Ruggles & Bohm, P.A.
 Engineering, Surveying, Land Planning
 924 North Main (316) 264-8008
 Wichita, Kansas 67203 (316) 264-4621 fax
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CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER

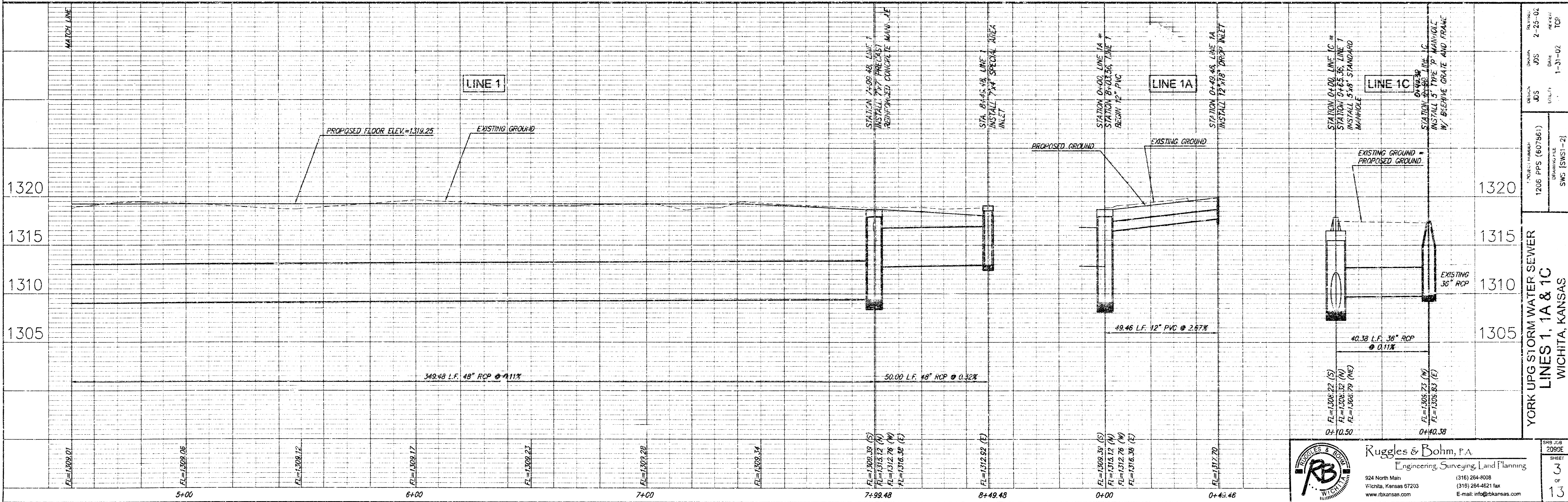
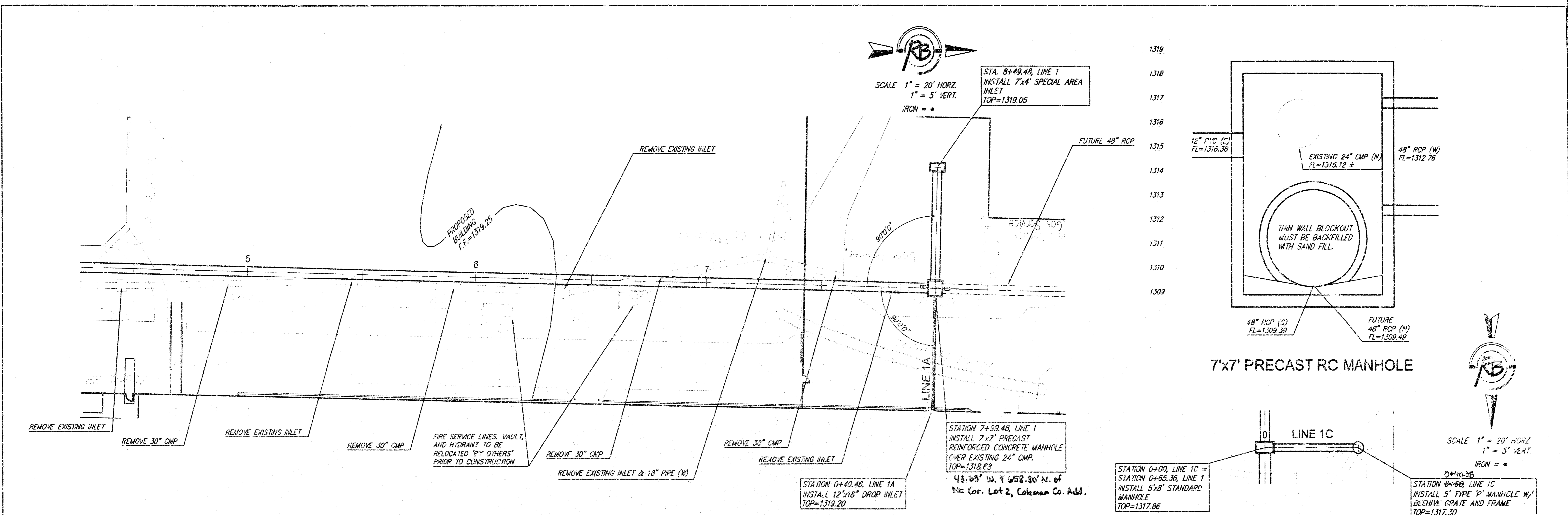


- SPECIAL NOTES:**
1. ALL RCP PIPE JOINTS BETWEEN STA. 2+30 AND 7+50 ARE TO BE FULLY WRAPPED WITH 12" MINIMUM WIDTH OF #155 TREHRA SPUNBOUND MATERIAL OR APPROVED EQUAL.
 2. CONSTRUCTION ACROSS DRIVEWAY TO BE HALF-AT-A-TIME TO MAINTAIN TRAFFIC AT ALL TIMES.



REVISION	DATE	BY	CHK
2-26-02			
1-31-02			
PROJECT NUMBER: 1208 PPS (60/861)			
SHEET: 2 OF 13			
PROJECT TITLE: YORK UPG STORM WATER SEWER LINES 1 & 1B WICHITA, KANSAS			
DRAWN BY: [Signature]			
CHECKED BY: [Signature]			
DATE: 2-26-02			

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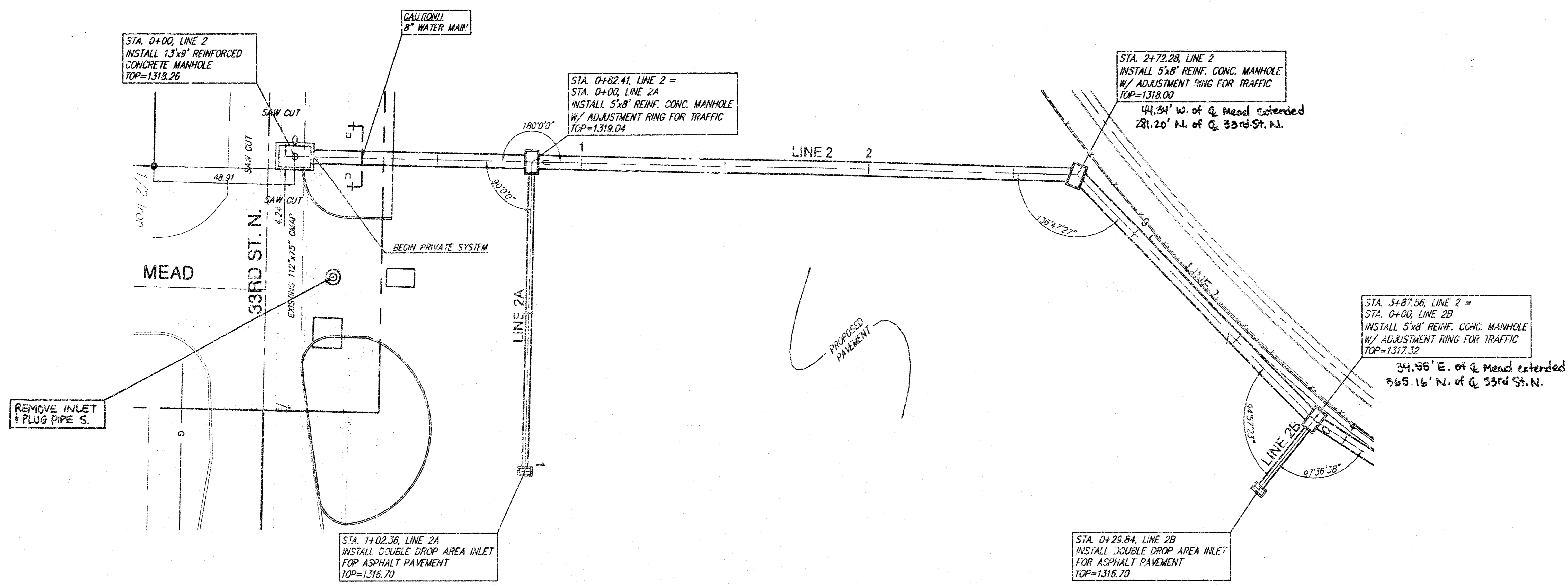
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 E-mail: info@rbkansas.com

SWG [SWS1-2]
 1206 PPS (607861)
 2-25-02

13
 3
 3

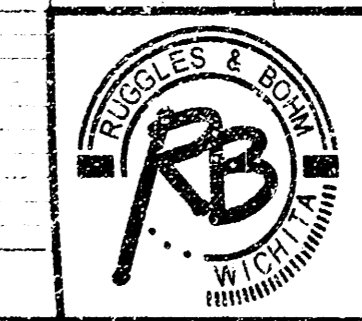


SCALE 1" = 20' HORZ.
1" = 5' VERT.
IRON = •



PROJECT NUMBER	1208 PPS (607361)
DRAWN BY	SWG [SWS-2-1]
DATE	2-25-02
SCALE	AS SHOWN
REVISION	2-25-02 TOR
DATE	2-11-02
BY	TOR

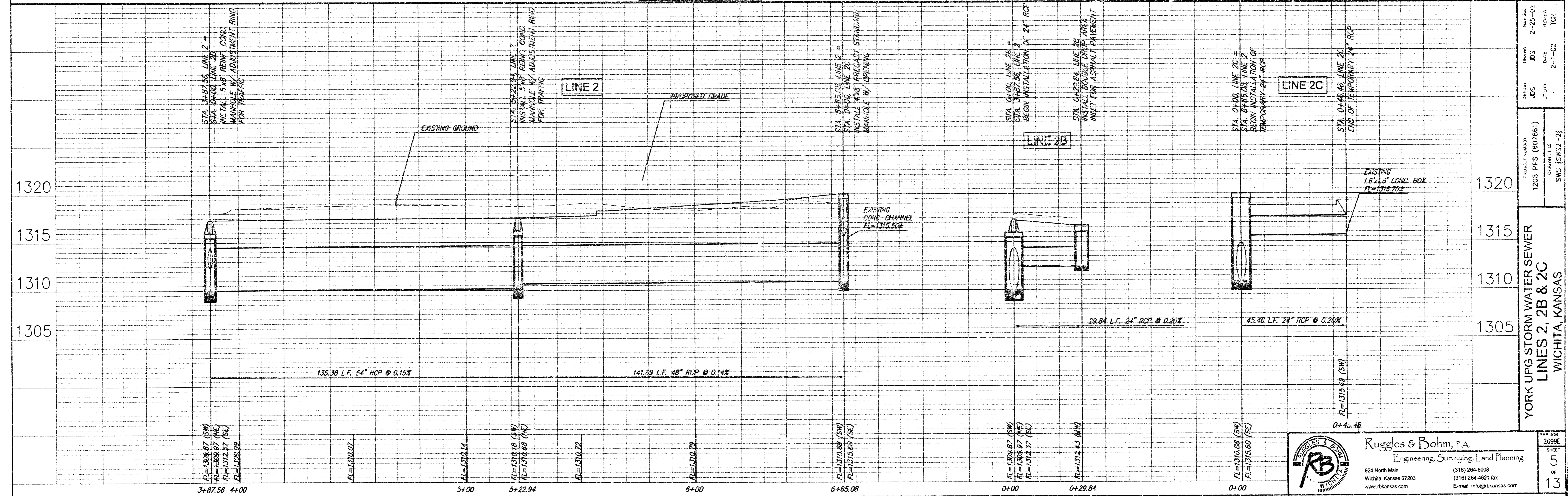
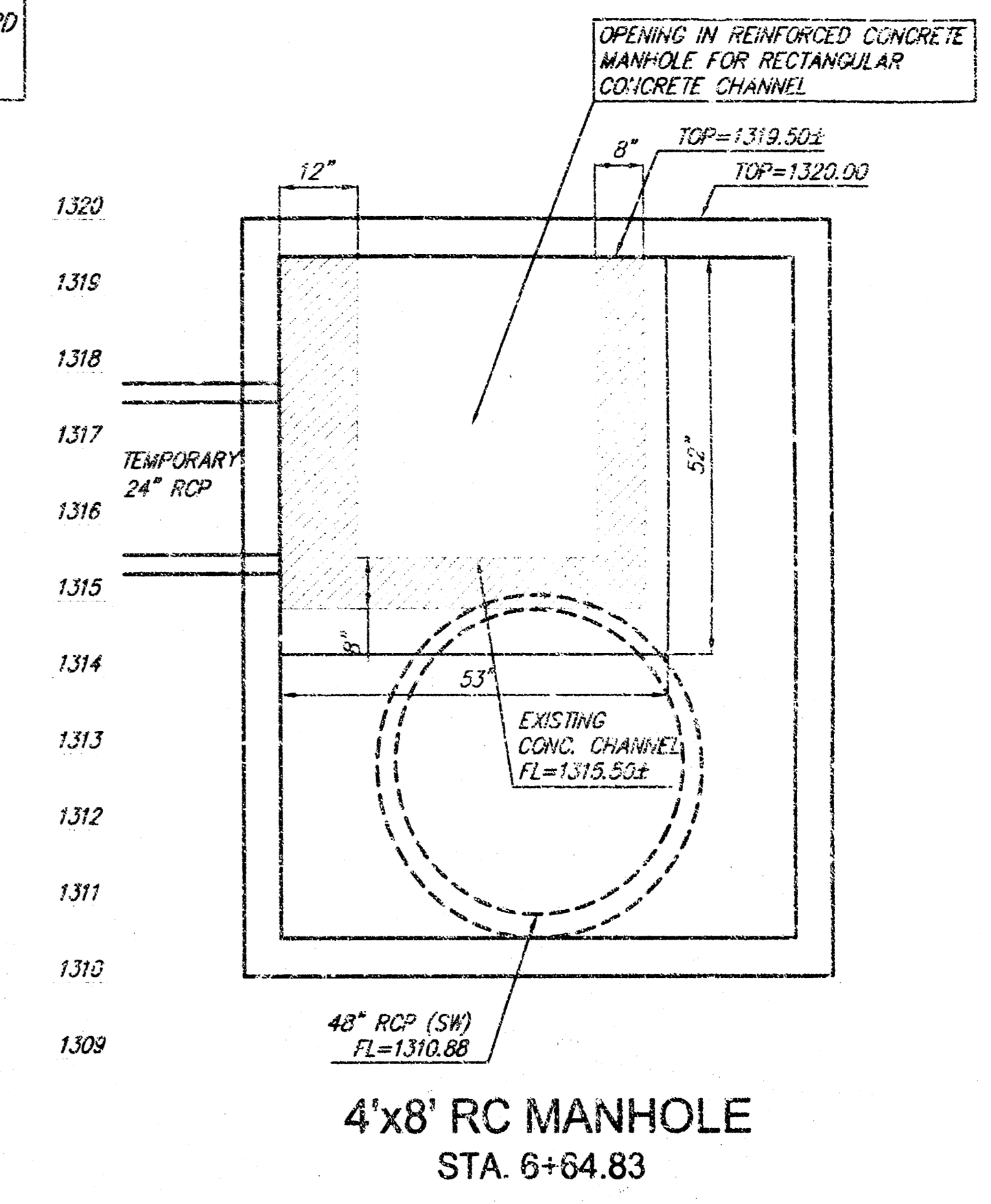
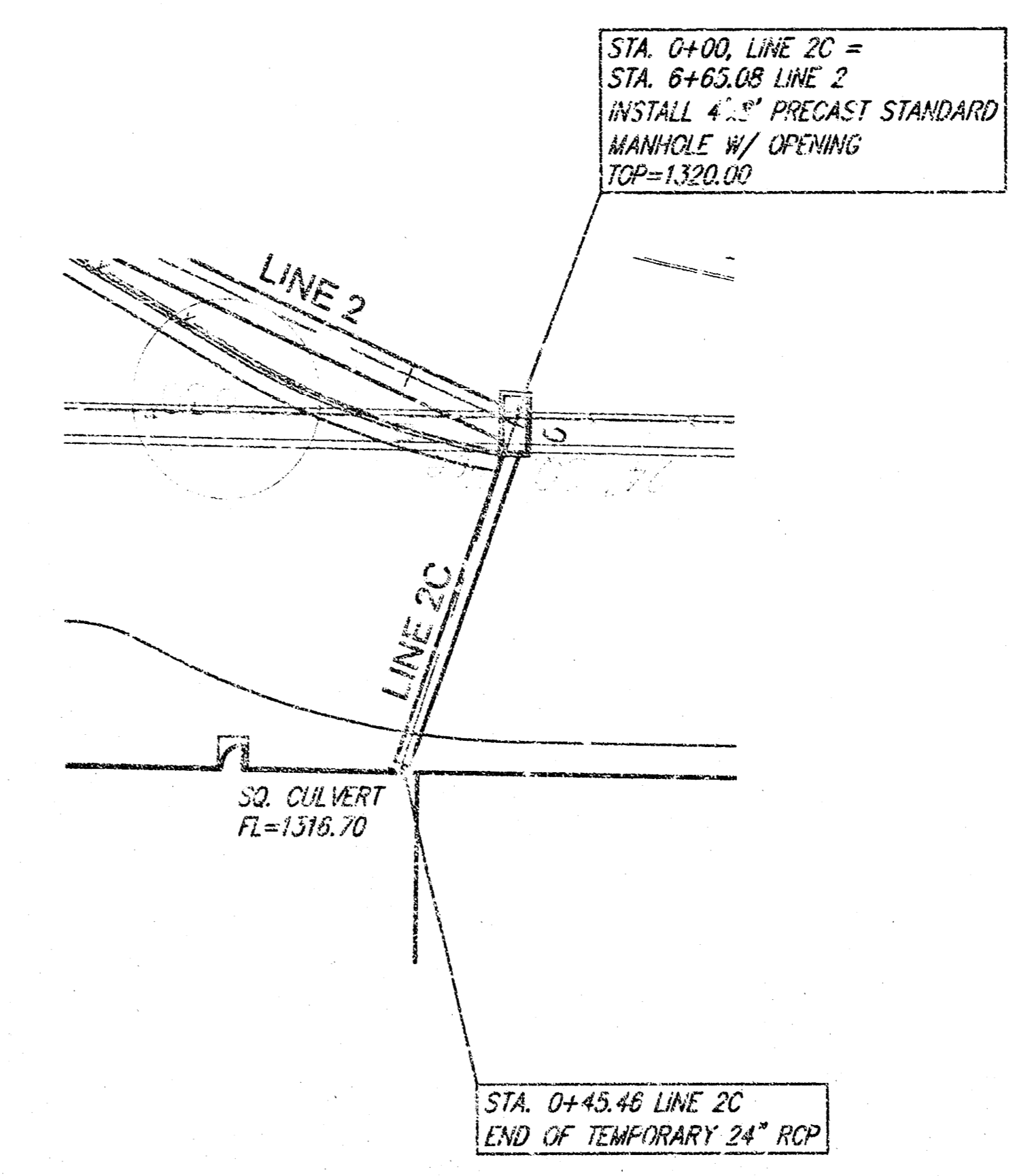
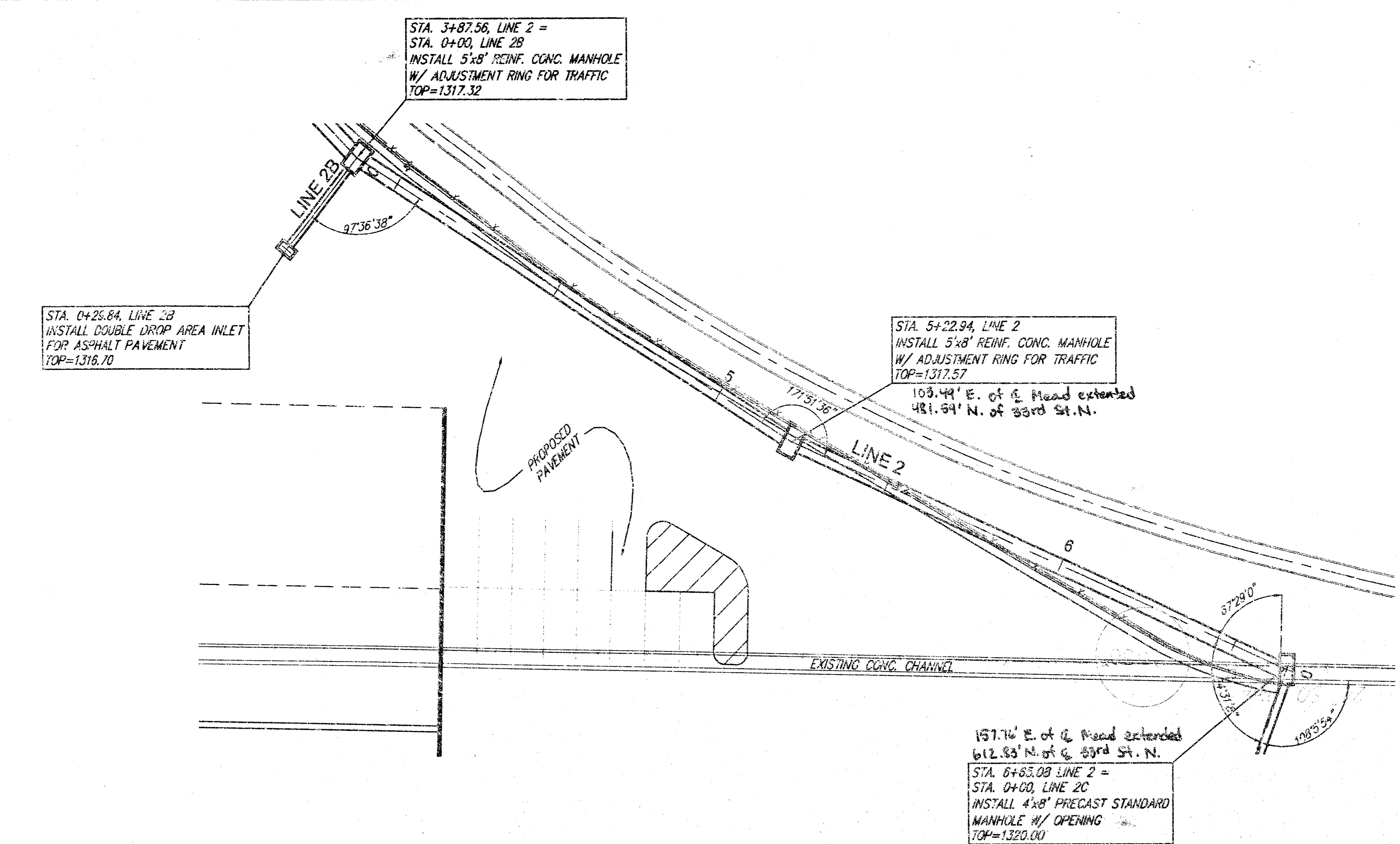
YORK UPG STORM WATER SEWER
LINES 2 & 2A
WICHITA, KANSAS



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SHEET
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4
13

SCALE 1" = 20' HORIZ.
1" = 5' VERT.
IRGN = 0



YORK UPG STORM WATER SEWER
LINES 2, 2B & 2C
WICHITA, KANSAS

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PROJECT NUMBER:
1203 PFS (807861)

DATE: 2-25-07

UTILITY: 2-1-02

TUR:

DATE: 2-1-02

PROJECT: 1203 PFS (807861)

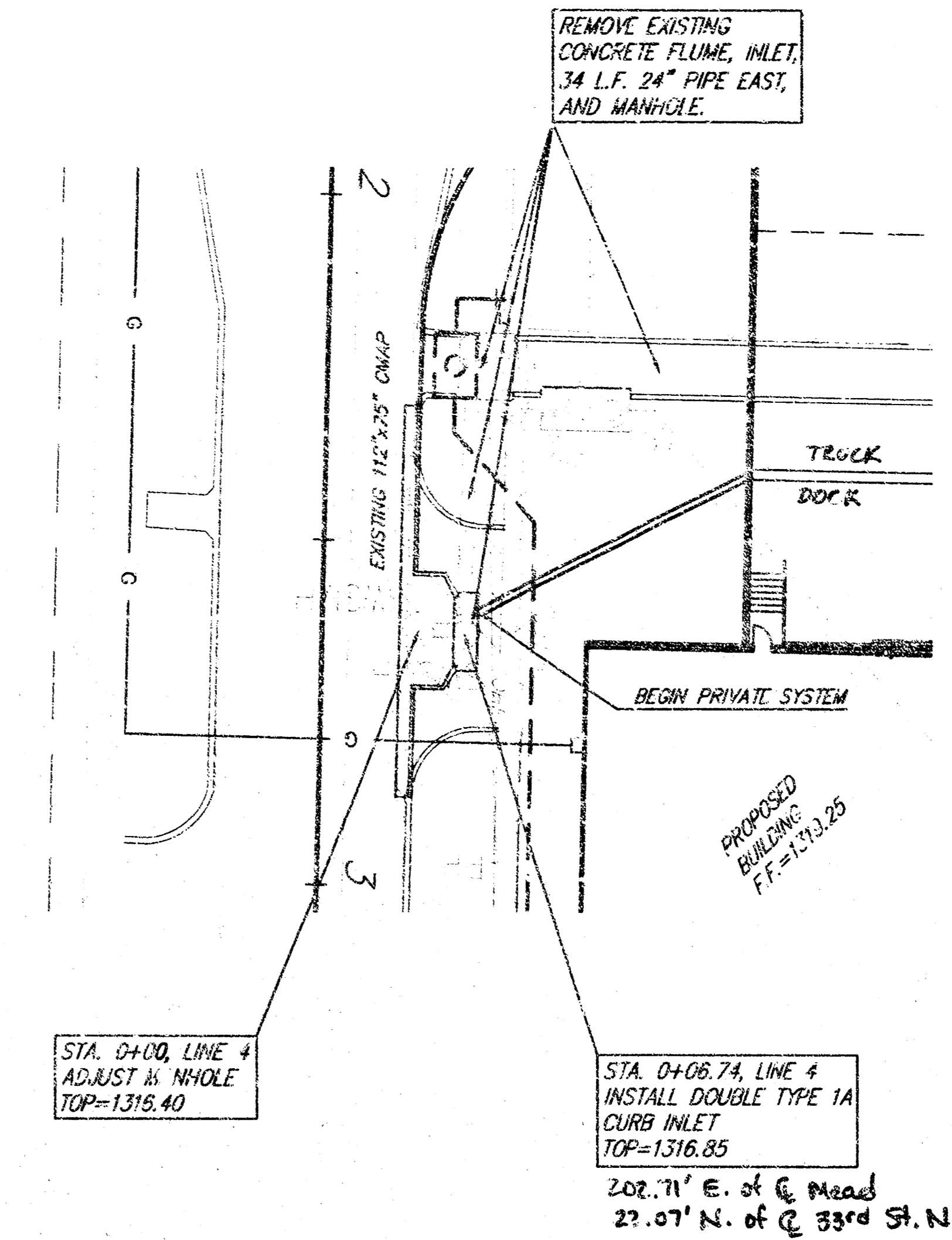
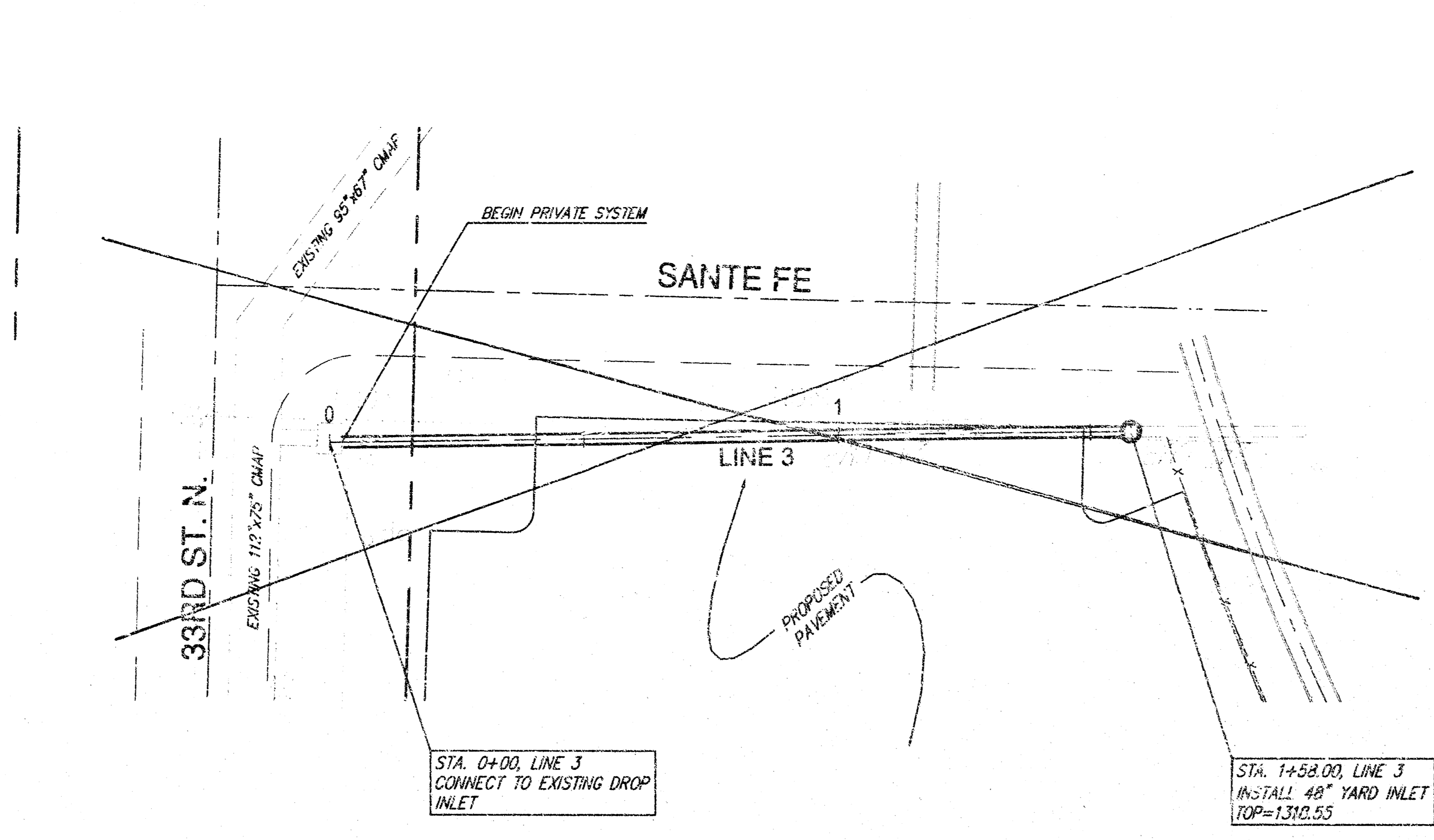
DATE: 2-25-07


UTILITY: 2-1-02

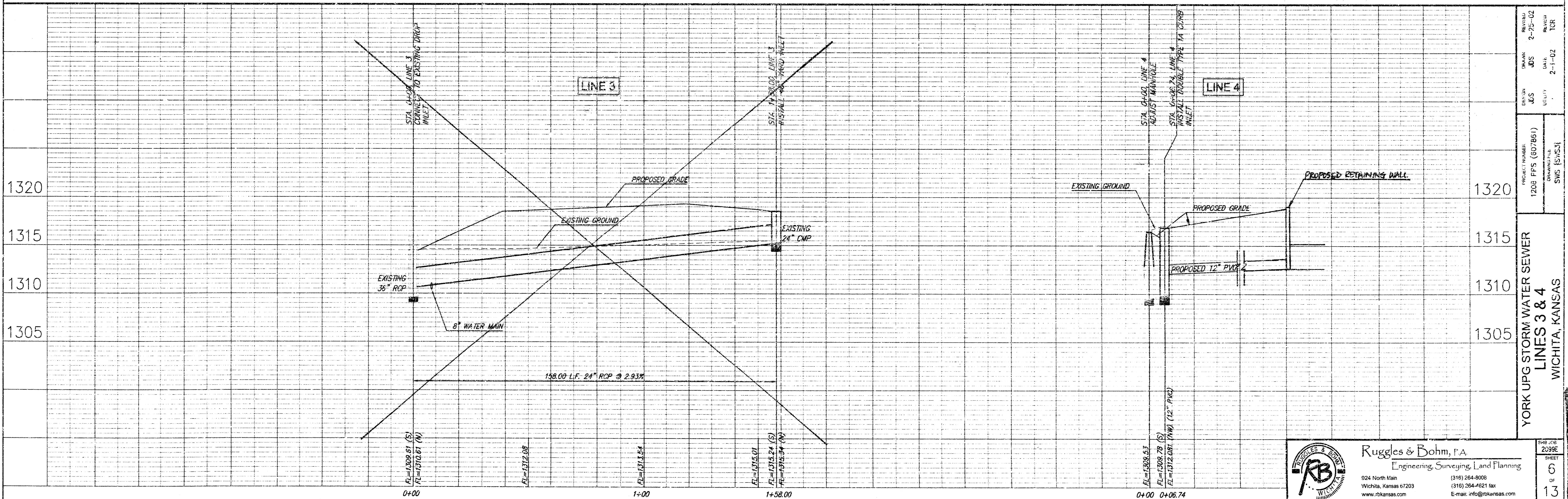
TUR:

DATE: 2-1-02

TUR:

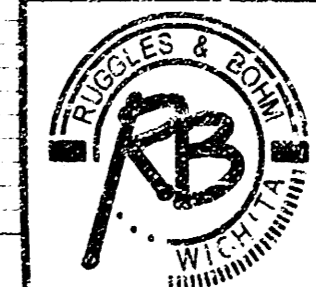


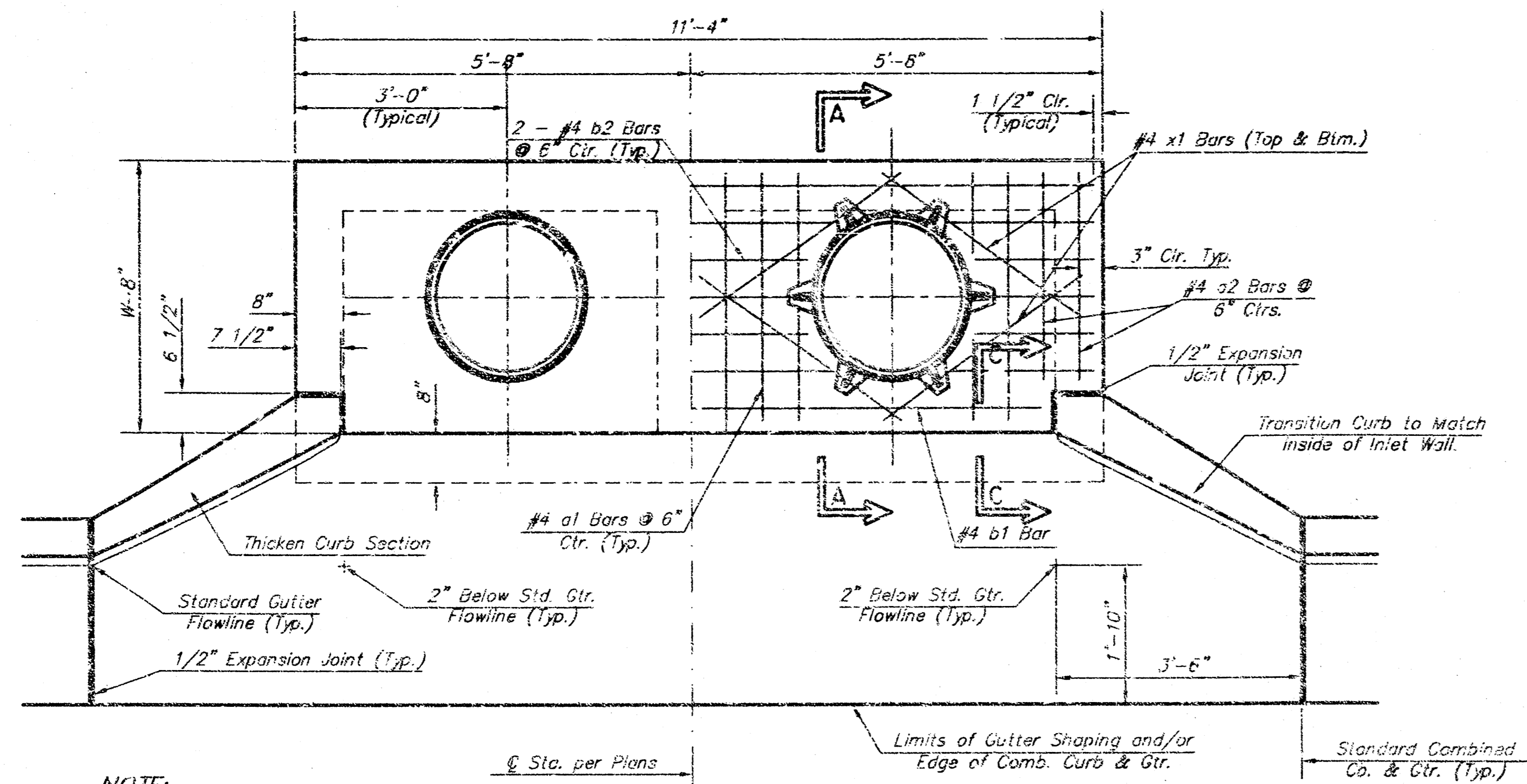

 SCALE 1" = 20' HORIZ.
 1" = 5' VERT.
 IRGN = •



REVISION	DATE	BY	CHKD	APP'D
2-25-02		JDS	JDS	JDS
2-1-02		JDS	JDS	JDS

PROJECT NUMBER: 1208 FFS (607861)
 DRAWING TITLE: SWS 151531
 YORK UPG STORM WATER SEWER LINES 3 & 4 WICHITA, KANSAS

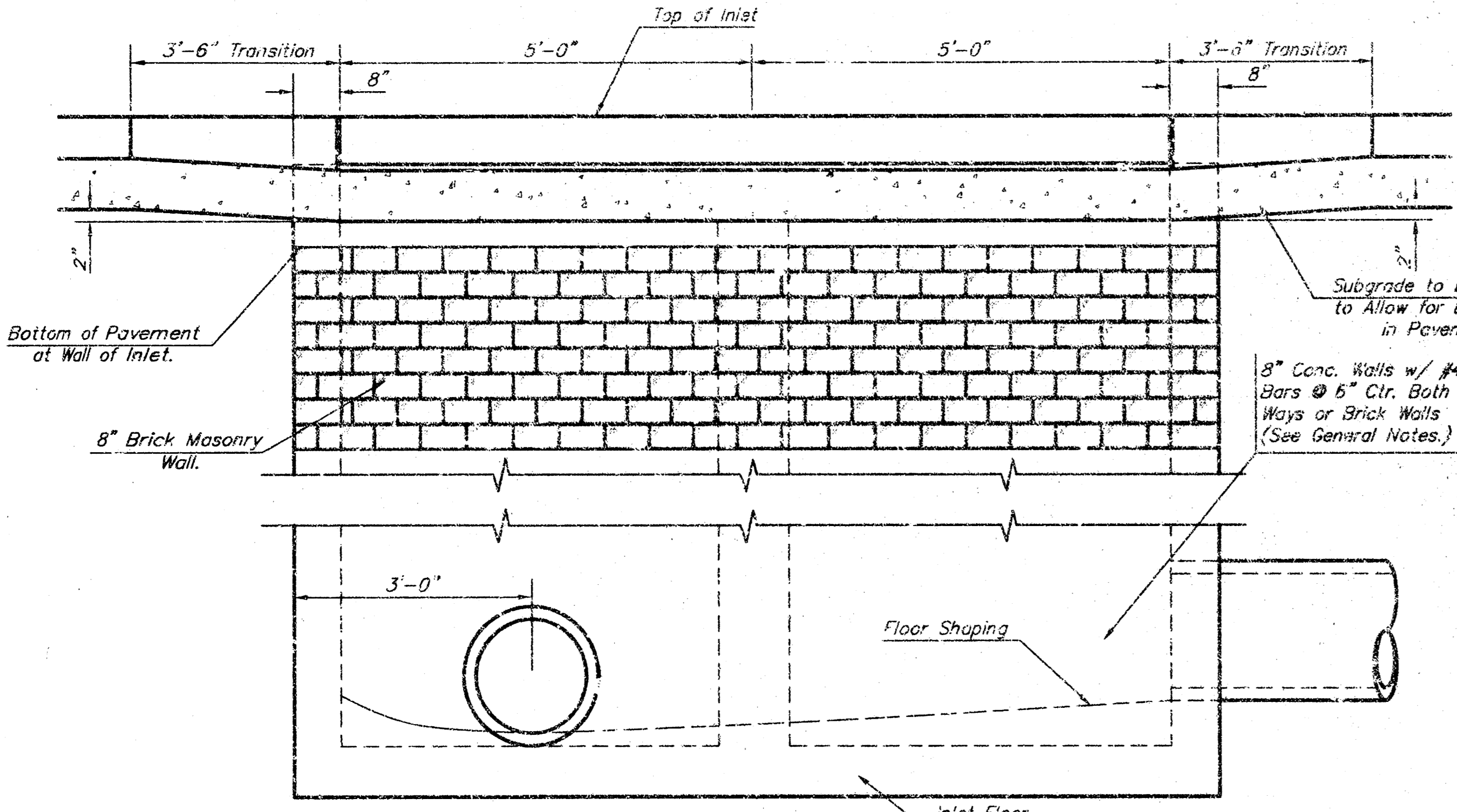

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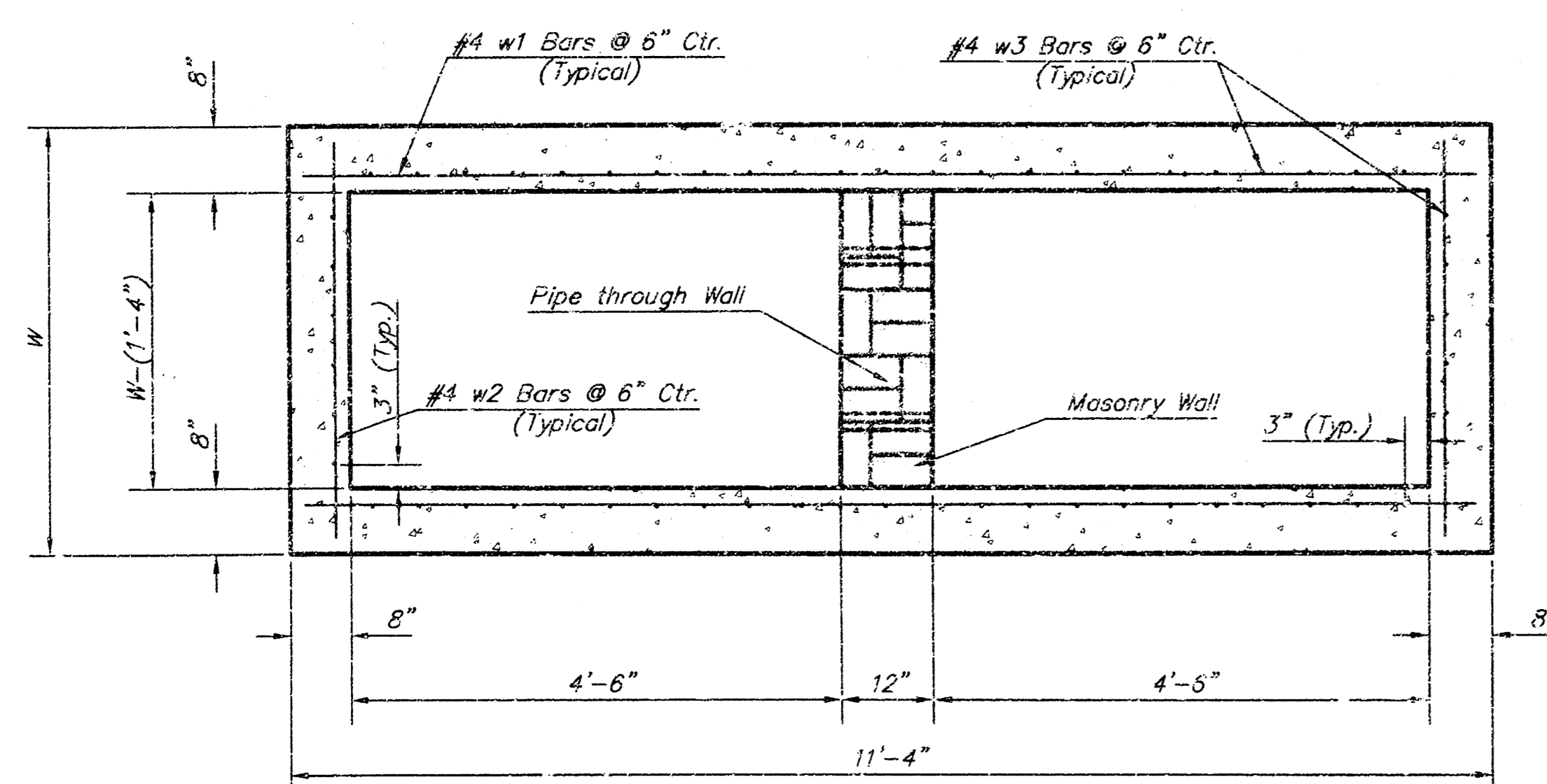
NOTE:
Expansion Joint Only in Curb Area with Concrete Pavement.

PLAN

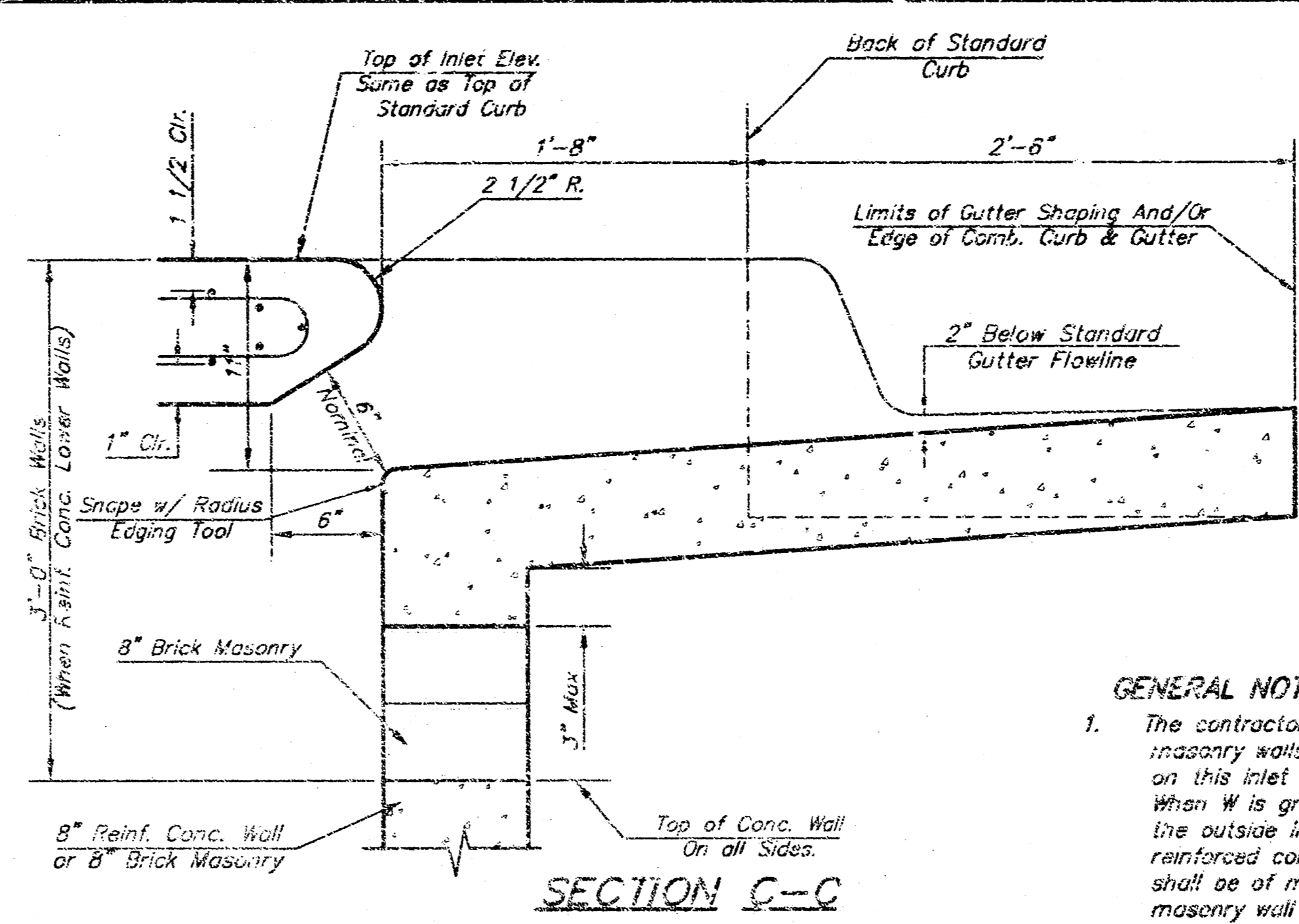
*Left Side Shown Without Slab Reinforcing, Right Side Shown With Slab Reinforcing



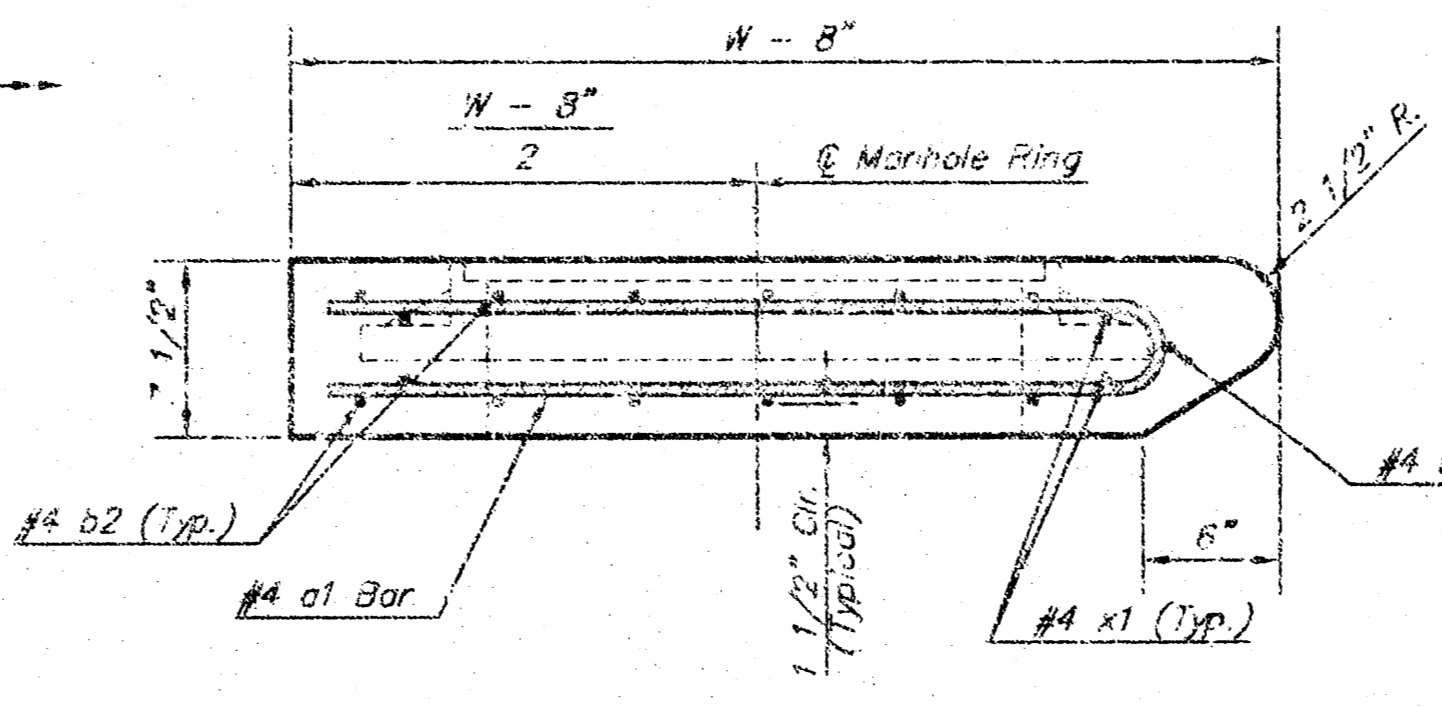
ELEVATION



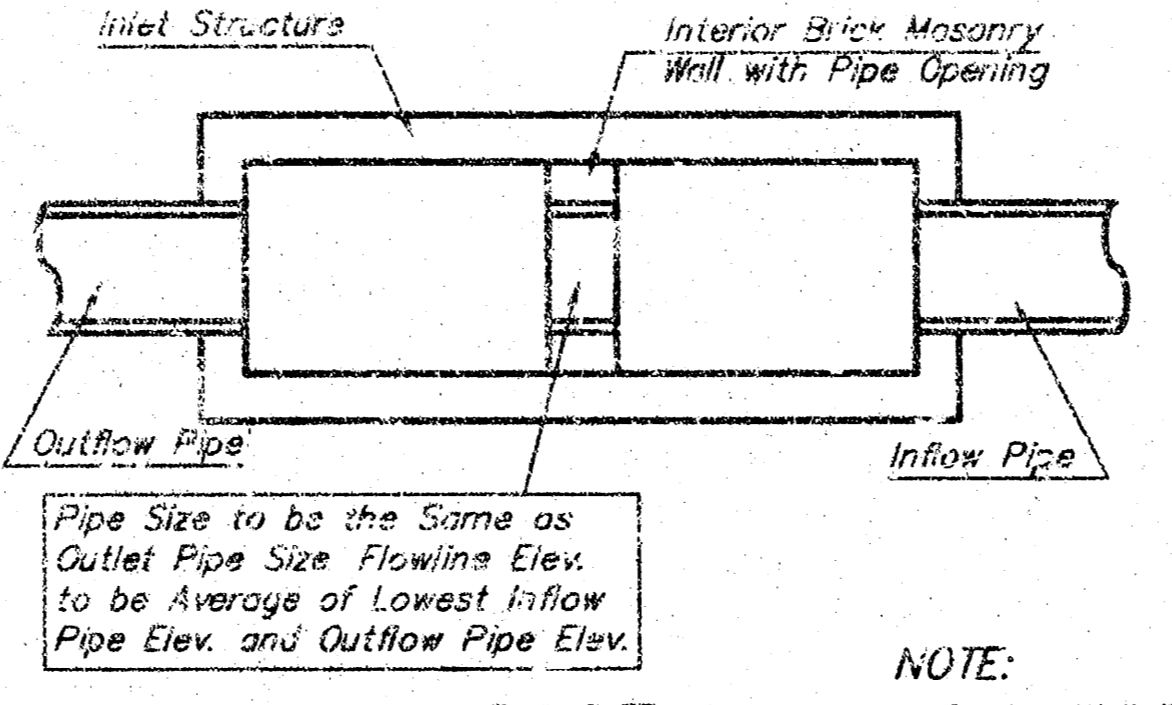
SECTION B-B



SECTION C-C

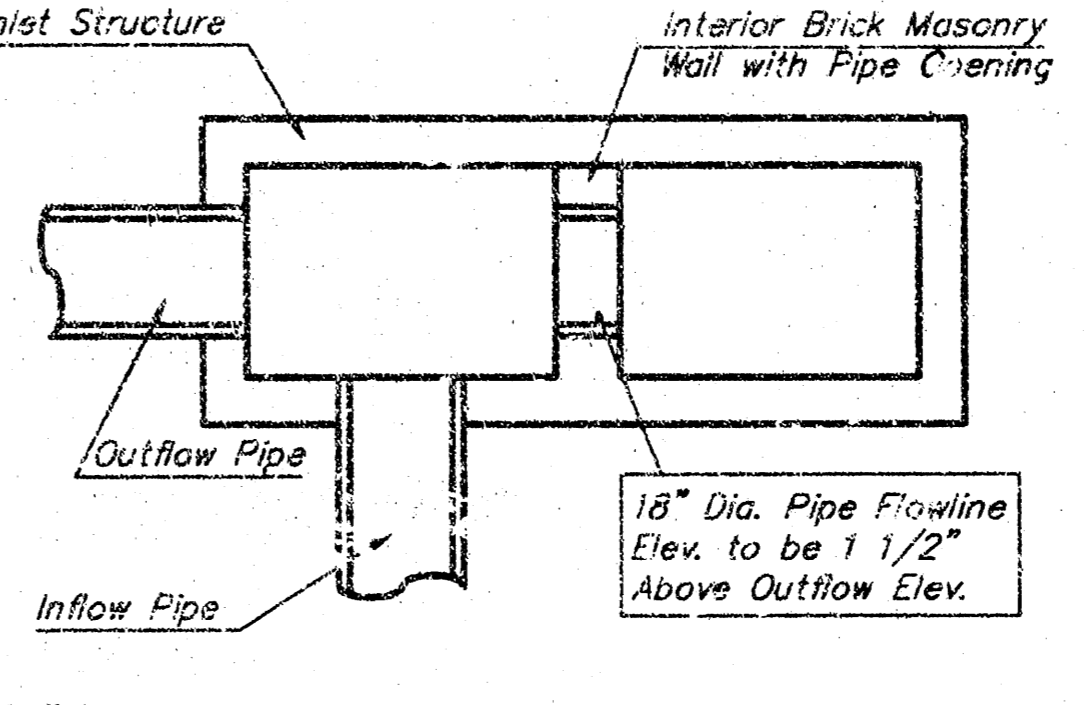


SECTION A-A

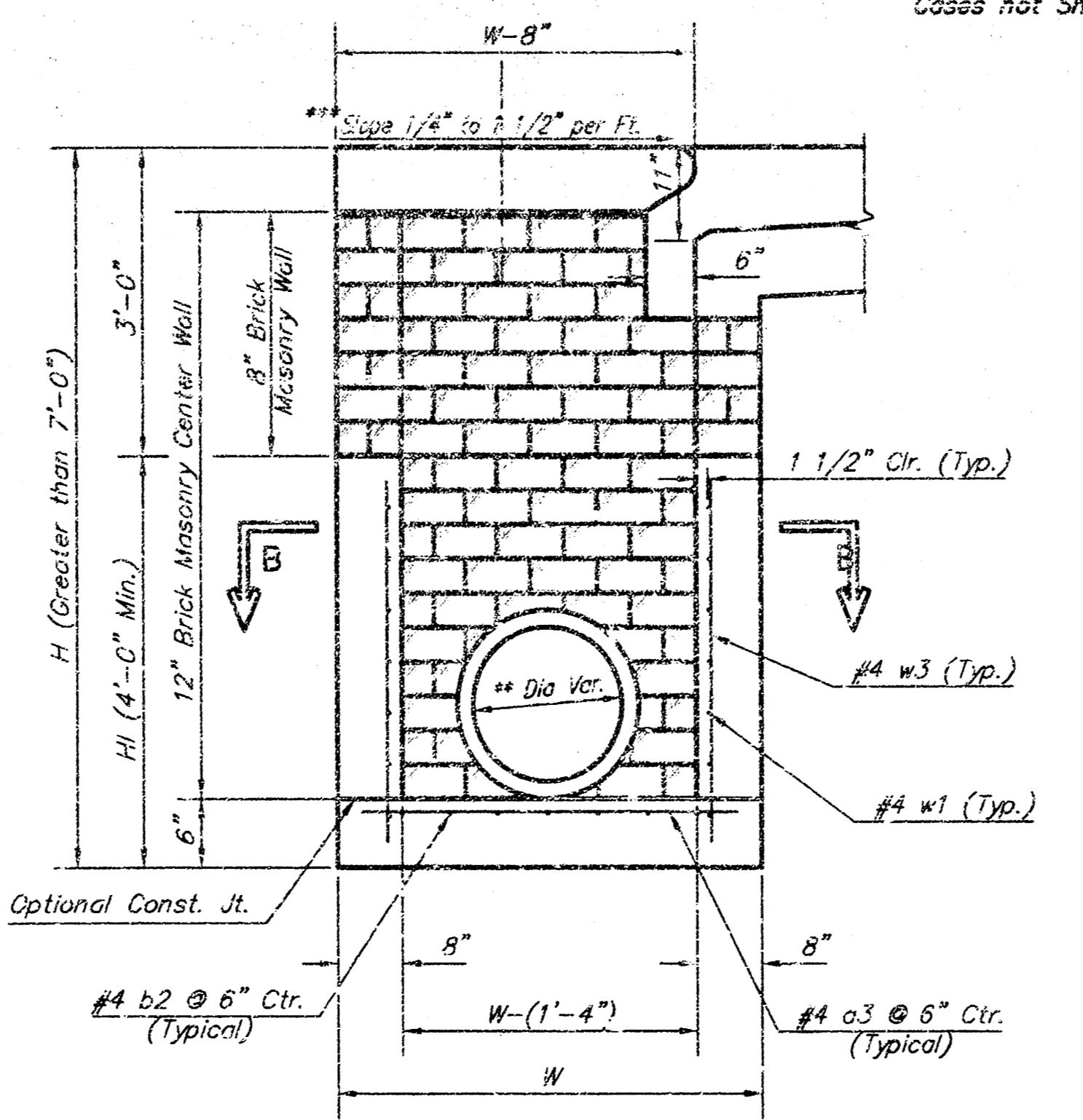


CASE I

NOTE:
Center Wall Pipe Size shall be as Specified in Inlet Construction Notes on the Plan/Profile Sheets for these Cases not Shown Here.



CASE II



TYPICAL INLET SECTION AT CENTER WALL (Reinforced Concrete Walls)

NOTES:

- * A center wall opening shall be provided by means of a section of reinforced concrete pipe. See Case I and Case II above.
- ** Slope of inlet top to match sidewalk of parking slopes within limits indicated.

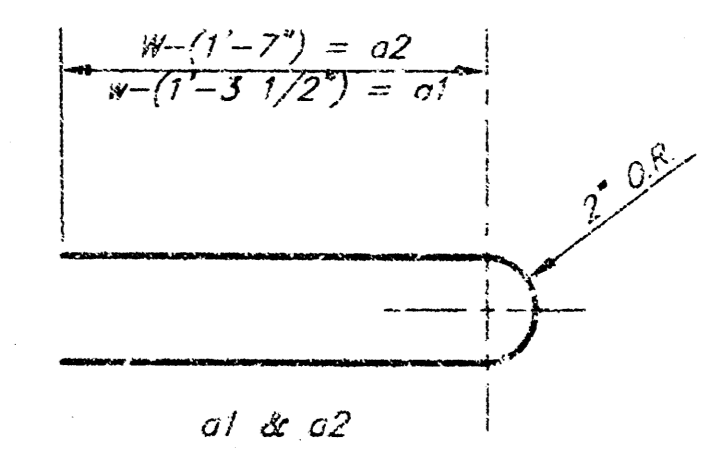
PRECAST SLAB AND FLOOR REINFORCING											
MARK	SIZE	W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
a1	#4	13	6'-7"	13	8'-7"	13	10'-7"	13	12'-7"	13	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	23	4'-1"	23	5'-1"	23	6'-1"	23	7'-1"	23	8'-1"
b1	#4	1	9'-9"	1	9'-9"	1	9'-9"	1	9'-9"	1	9'-9"
* b2	#4	23	11'-1"	29	11'-1"	35	11'-1"	41	11'-1"	47	11'-1"
x1	#4	16	3'-10"	16	4'-2"	16	4'-6"	16	4'-10"	16	5'-2"

WALL REINFORCING											
MARK	SIZE	W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
		NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
w1	#4	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	52	②	56	②	60	②	64	②	68	②

* Field Bend or Cut Reinforcing as Required for Clearance.
① 4 (H - 12") (H - 21") Rounded down to nearest 0.5"
② H - 3"

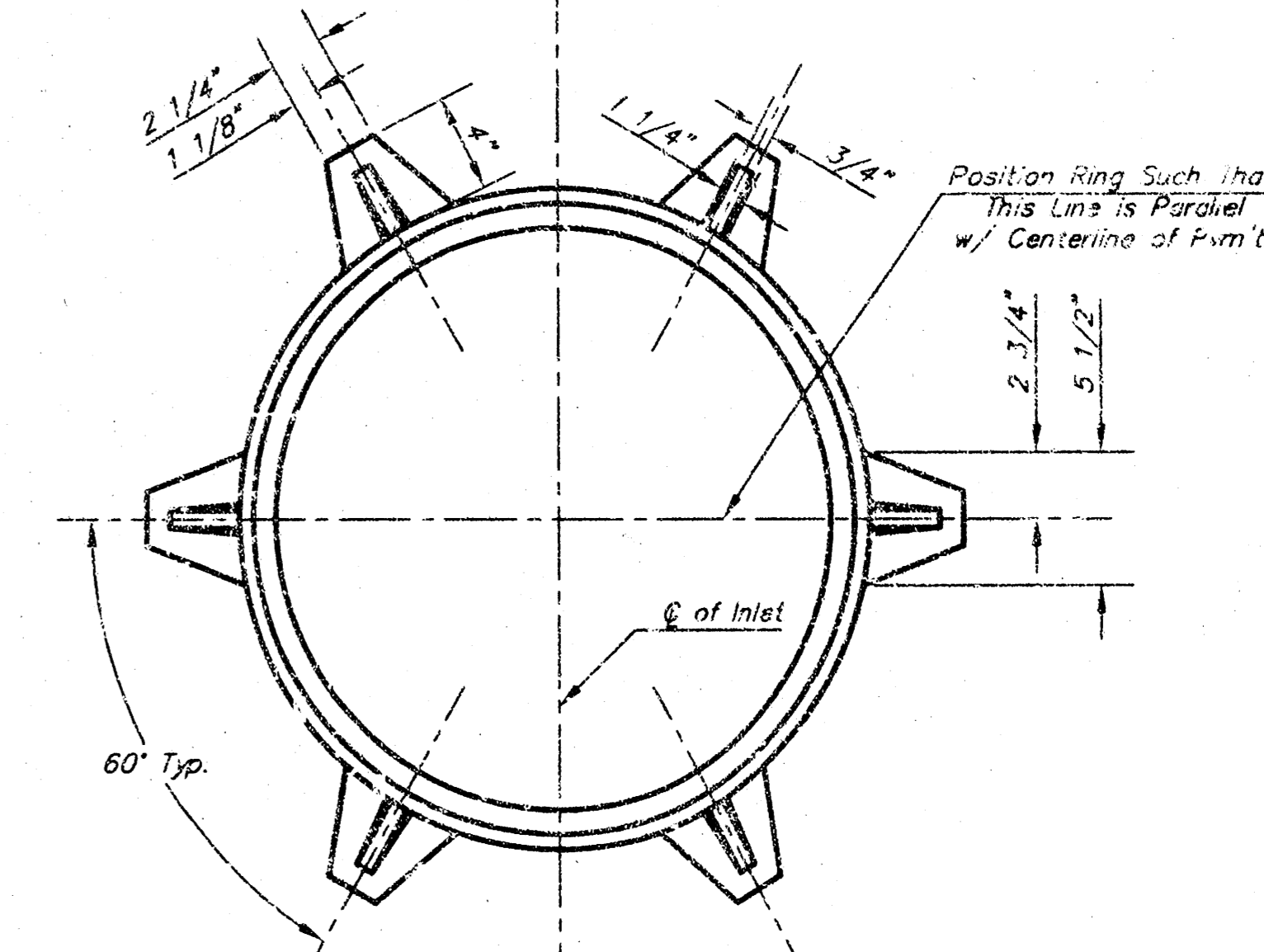
GENERAL NOTES:

- The contractor shall be required to construct 8" brick masonry walls between the concrete inlet base and top on this inlet when W=6'-4" or less and H=7'-0" or less. When W is greater than 6'-4" and H is less than 7'-0" the outside inlet walls below the brick stack shall be reinforced concrete construction and the center wall shall be of masonry construction as shown for the masonry wall option.
- Inlet invert shall be shaped with 8 sack sand mix concrete to create flow channels and to increase hydraulic efficiency such that the inlet will be self cleaning between all inlet end/or outlet pipes.
- Concrete tops to be installed on thin mortar cushion to insure full support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix.
- Inlet top reinforcing shall be spaced on 6" max. centers. Inlet lids shall be notched out as indicated to facilitate construction of curb. Bars in inlet top to be field bent or cut to clear manhole ring.
- The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall.



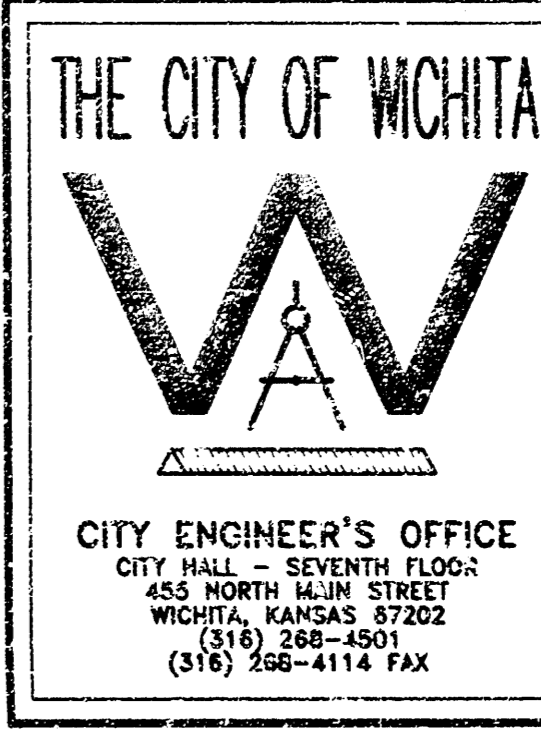
BENDING DIAGRAM

STANDARD CURB INLET PRECAST TOPS				
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.	
4'-4"	3'-8" 11'-4" 7 1/2"	21" & SMALLER	0.23±	
5'-4"	4'-8" 11'-4" 7 1/2"	24" & 30"	1.58±	
6'-4"	5'-8" 11'-4" 7 1/2"	36" & 42"	1.35±	
7'-4"	6'-8" 11'-4" 7 1/2"	48" & 54"	1.61±	
8'-4"	7'-8" 11'-4" 7 1/2"	60" & 66"	1.87±	



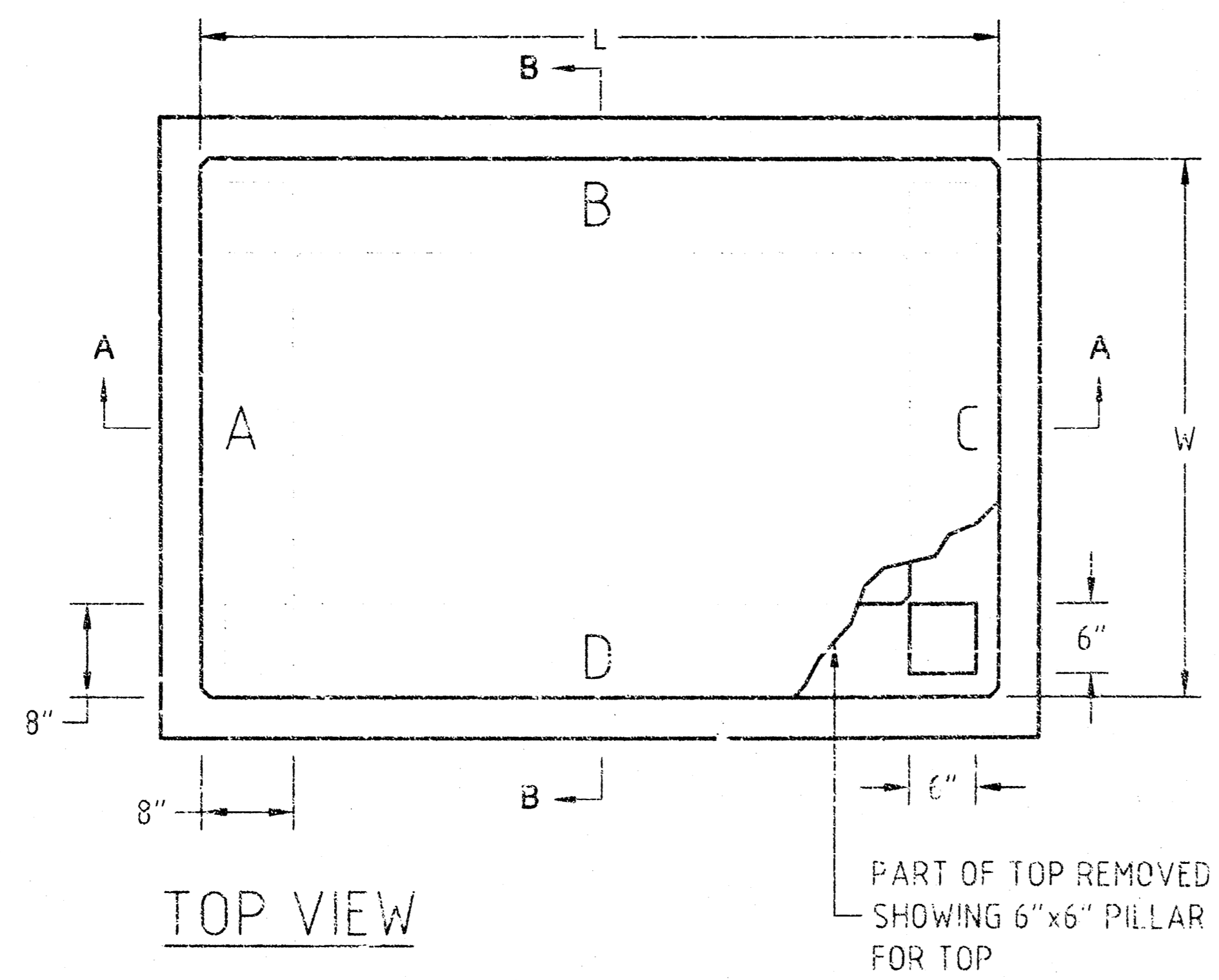
MANHOLE RING AND COVER

Weight = 180 lbs.
*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.

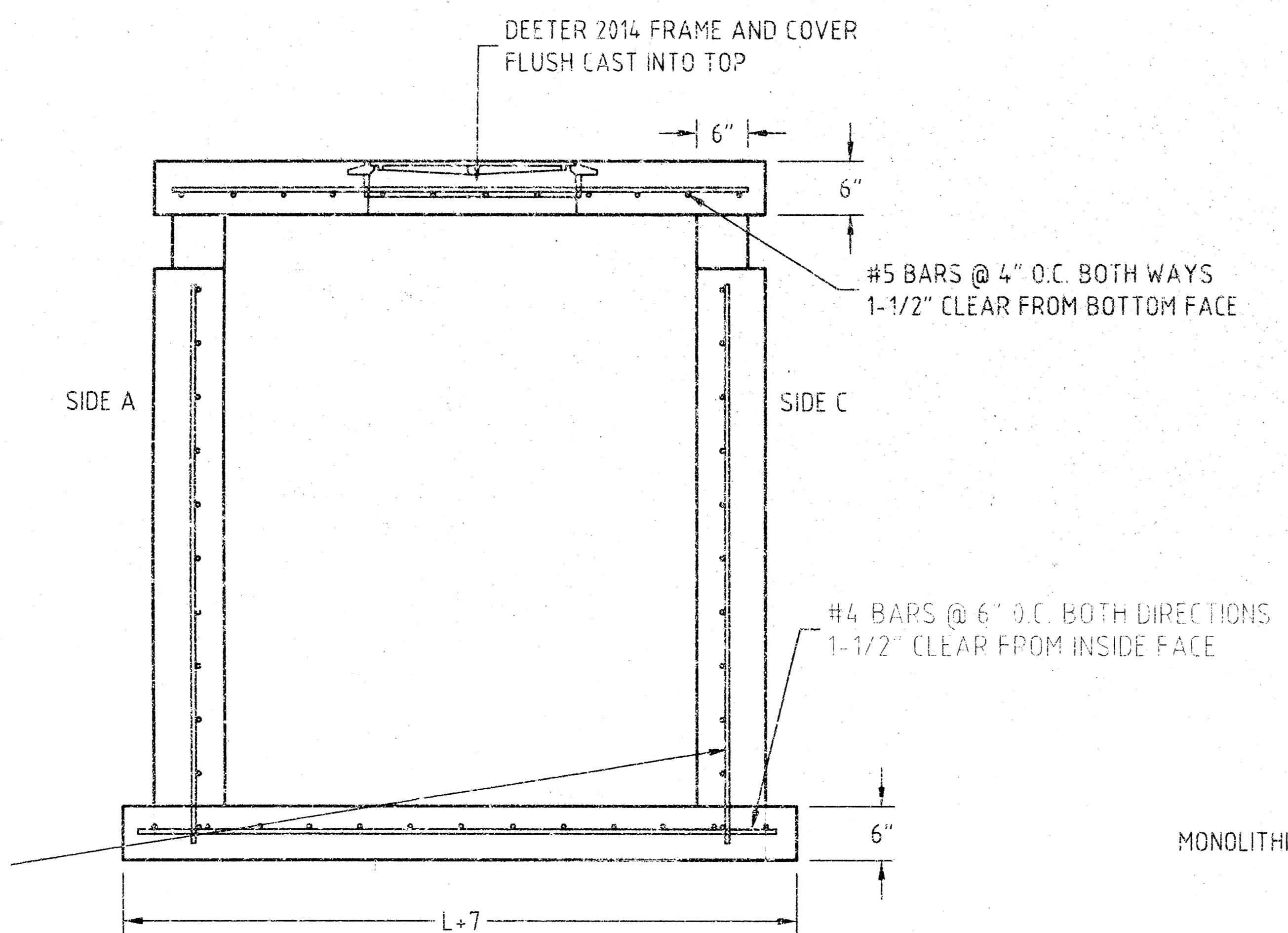
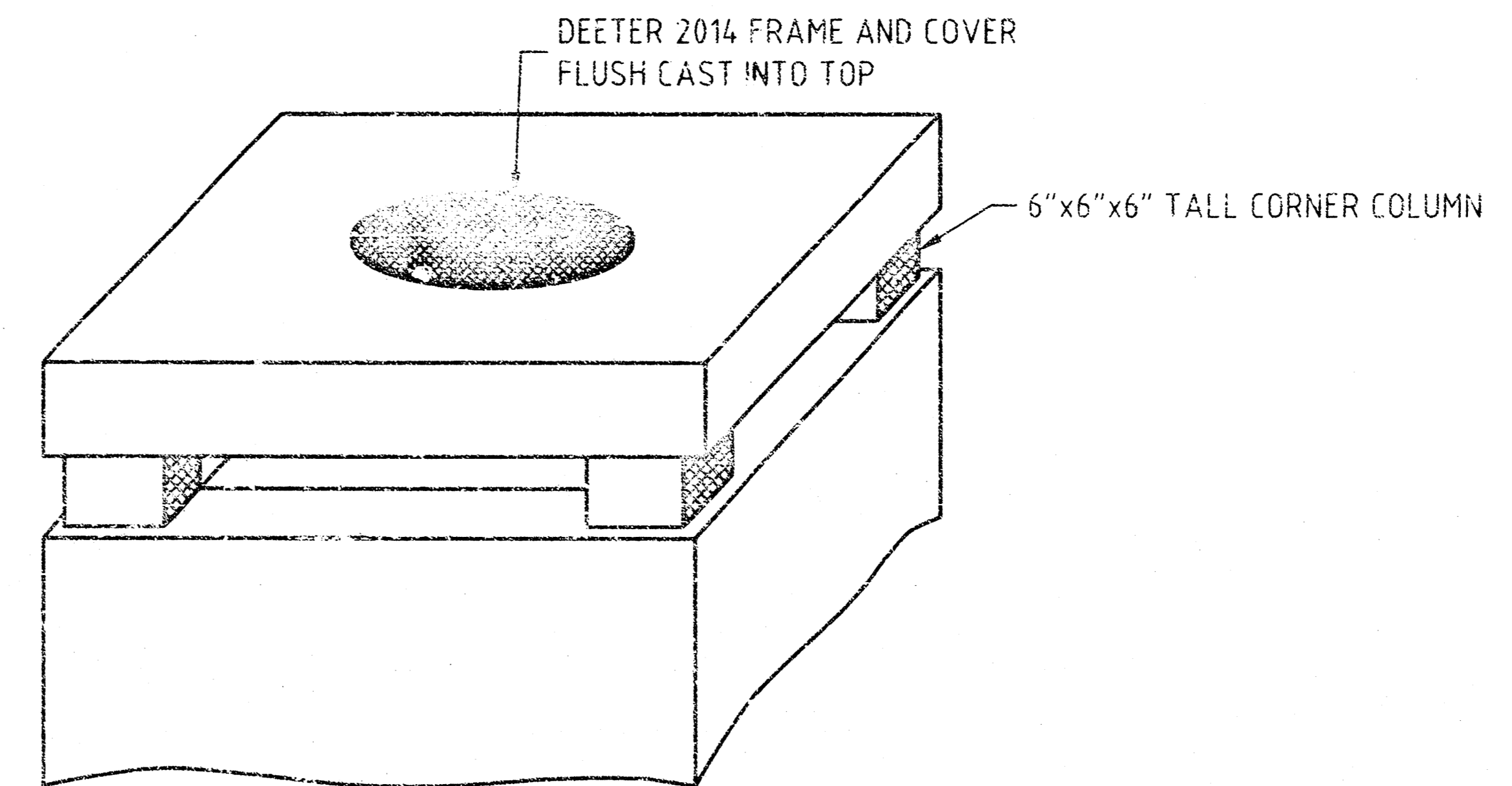


STANDARD TYPE 1-A CURB INLET OPENING = 6"x10'-0"

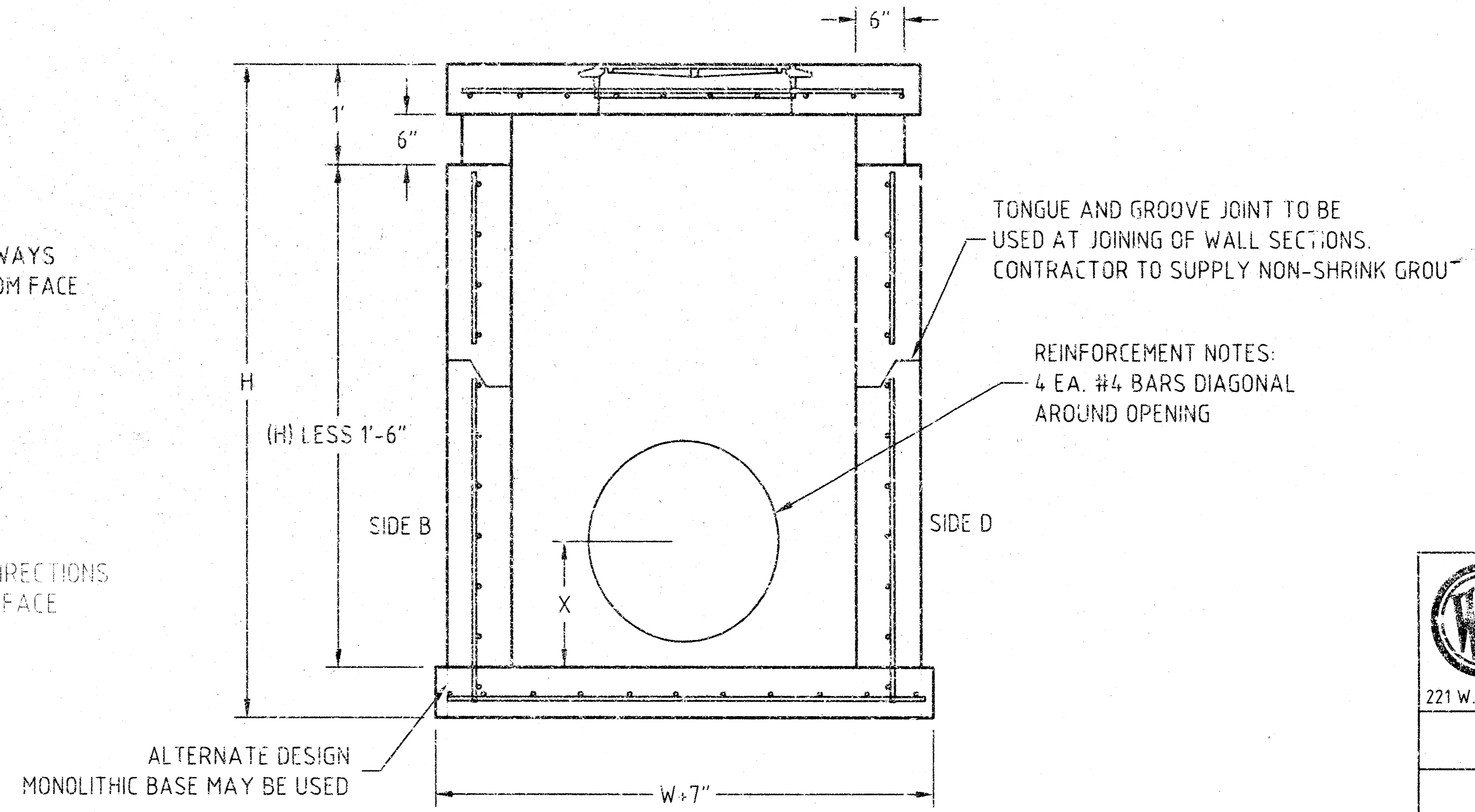
M. E. LINDEBAK P.E. - CITY ENGINEER
PROJECT NUMBER: 1208 PFS
CITY ENGINEER'S OFFICE: 452 NORTH MAIN STREET, WICHITA, KANSAS 67202
DATE: MAR 96
SHEET 7 OF 13



TOP VIEW



SECTION "A-A"



SECTION "B-B"

WICHITA CONCRETE PIPE COMPANY
 221 W. 37th St. North, Wichita, KS. 67204 (316)-838-8651
SPECIAL AREA INLET

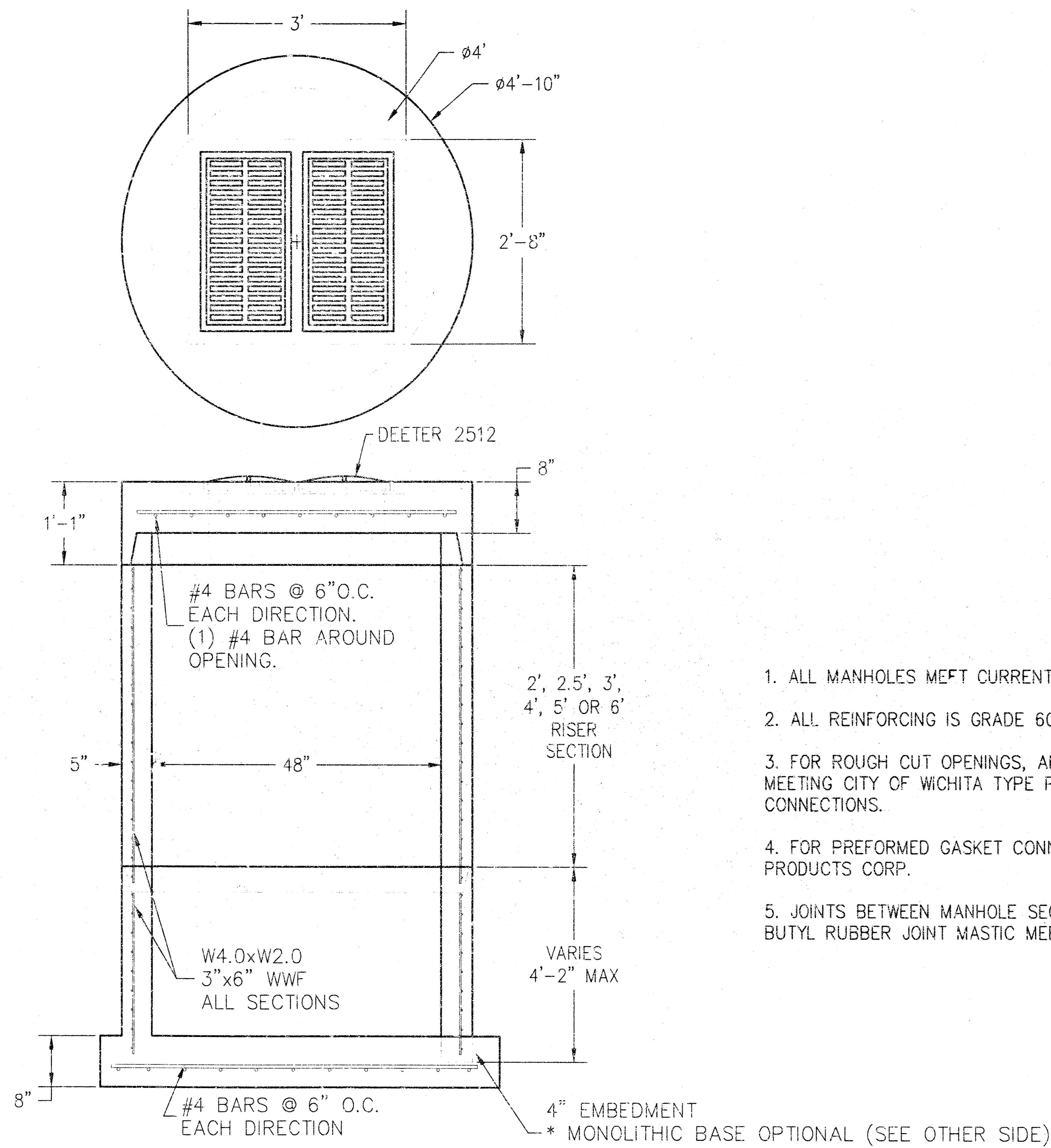
SPECIAL AREA INLET

Al special.dwg 1/25/02 TWL

REVISED

YORK UPG STORM WATER SEWER SPECIAL AREA INLET WICHITA, KANSAS

 Ruggles & Bohm, P.A. Engineering, Surveying, Land Planning 924 North Main Wichita, Kansas 67203 www.rkansas.com (316) 284-8008 (316) 284-4621 fax info@rkansas.com	DESIGN WCP	SHEET 8 OF 13
	DRAWN WCP	
DRAWING FILE Al special {Detail}	PROJECT NUMBER 1208 PPS (607861)	DATE 2-25-02



STANDARD MANHOLE

1. ALL MANHOLES MEET CURRENT ASTM C478 SPECIFICATIONS.
2. ALL REINFORCING IS GRADE 60.
3. FOR ROUGH CUT OPENINGS, AN APPROVED WATERSTOP GASKET AND NON-SHRINK GROUT MEETING CITY OF WICHITA TYPE P MANHOLES WILL BE USED FOR PIPE TO MANHOLE CONNECTIONS.
4. FOR PREFORMED GASKET CONNECTION USE A-LOK GASKET AS MANUFACTURED BY A-LOK PRODUCTS CORP.
5. JOINTS BETWEEN MANHOLE SECTIONS TO BE SEALED WITH TWO WRAPS OF EXTRUDED BUTYL RUBBER JOINT MASTIC MEETING CITY OF WICHITA TYPE P MANHOLE SPECIFICATIONS.

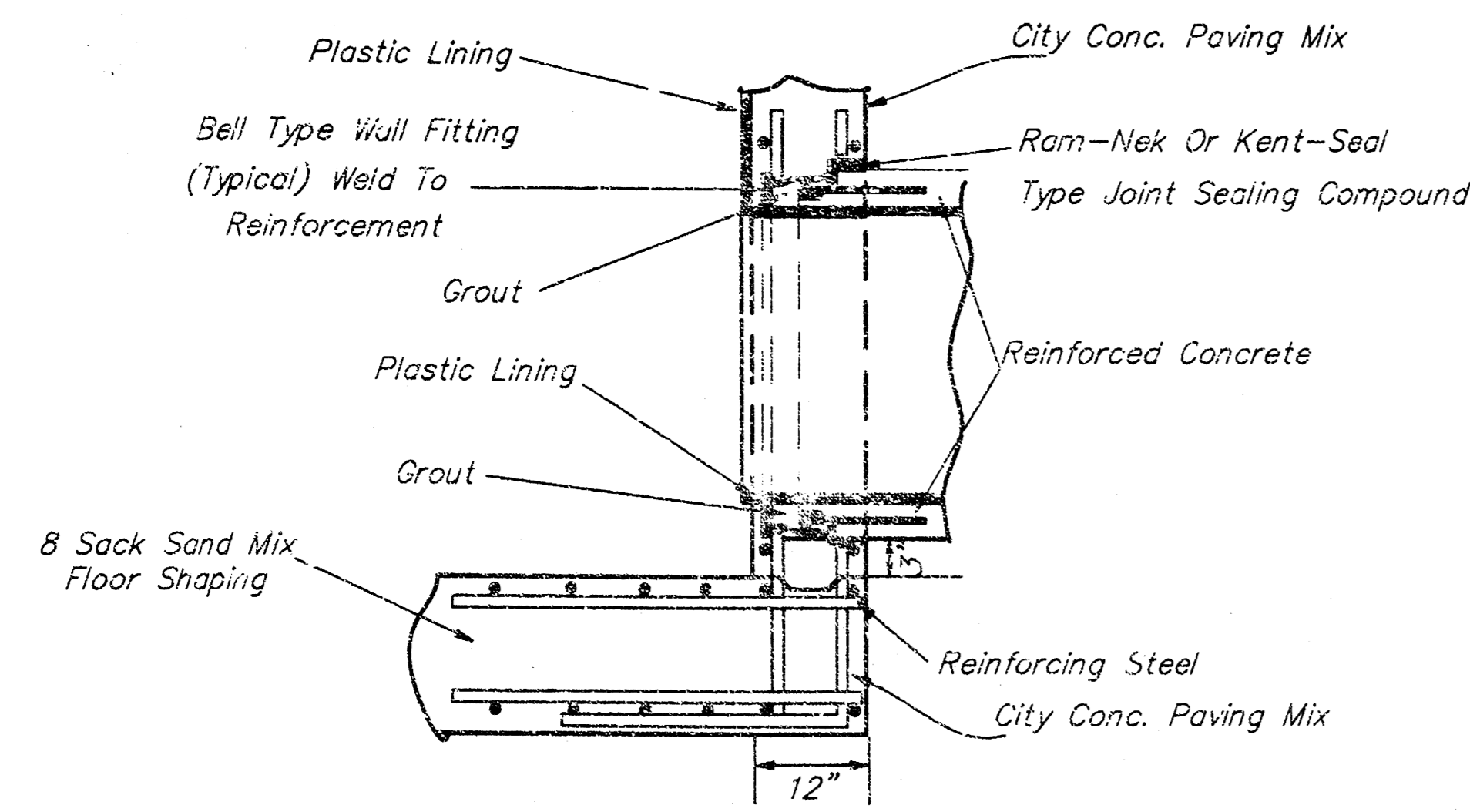
Project:	WCP WICHITA, KS	Drawn by:	TWL	Approved By:	
File name:	48YARD.dwg	Date:	2/6/02		
Title:	48" YARD INLET				

WICHITA CONCRETE PIPE COMPANY
 Concrete Pipe - Precast Manholes - Storm Sewer Inlets - Junction Boxes - Specialty Items

REVISED

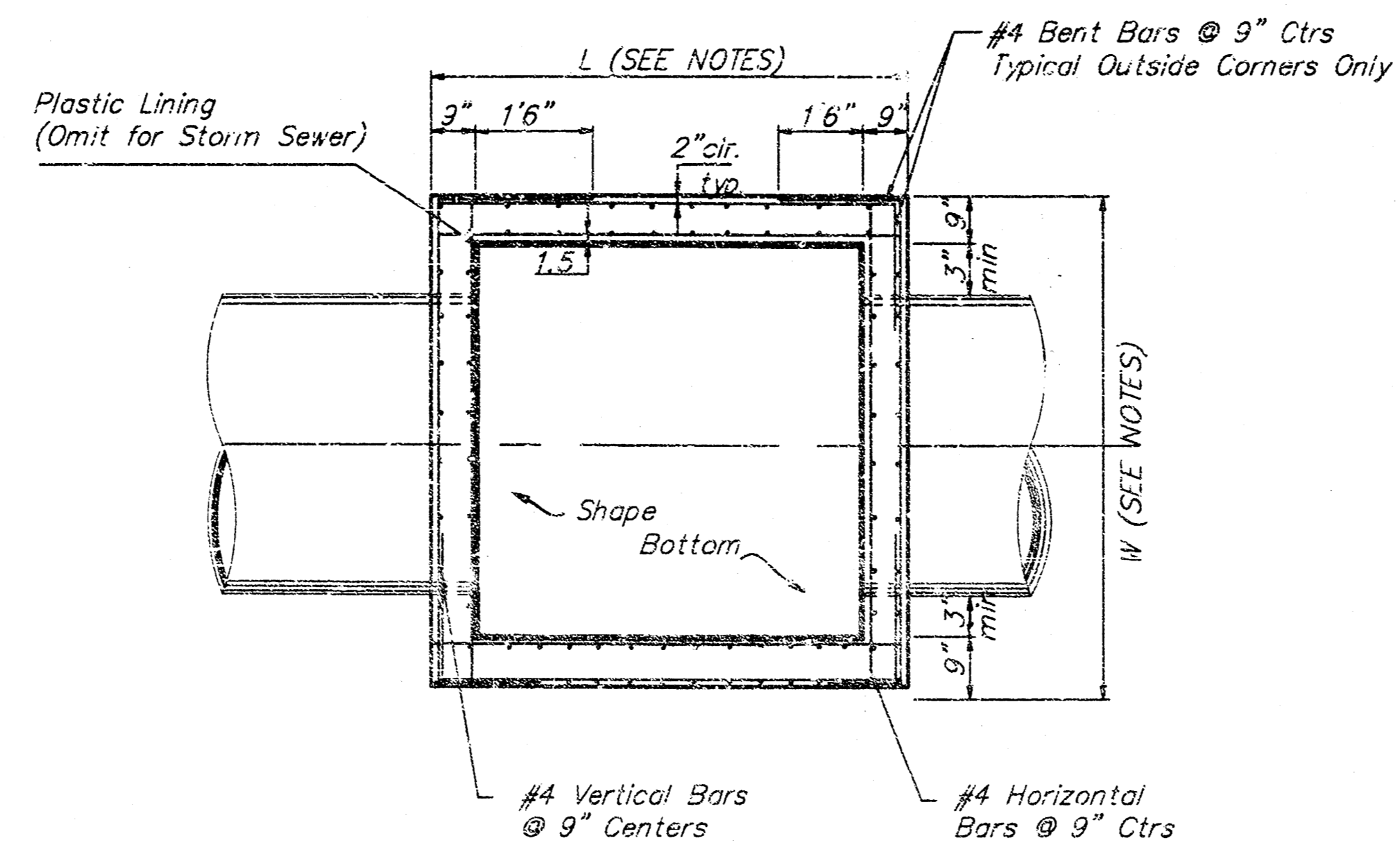
**YORK UPG STORM WATER SEWER
48" YARD INLET
WICHITA, KANSAS**

 Ruggles & Bohm, PA Engineering, Surveying, Land Planning 924 North Main Wichita, Kansas 67203 www.rbkansas.com (316) 264-8008 (316) 264-4621 fax E-mail: info@rbkansas.com	DESIGN	WCP	SHEET
	DRAWN	WCP	
	REVIEW		OF
	UTILITY		13
DRAWING FILE	PROJECT NUMBER	DATE	
48YARD {Detail}	1208 PPS (607861)	2-7-02	



R.C.P. CONNECTION DETAIL

SANITARY SEWER ONLY

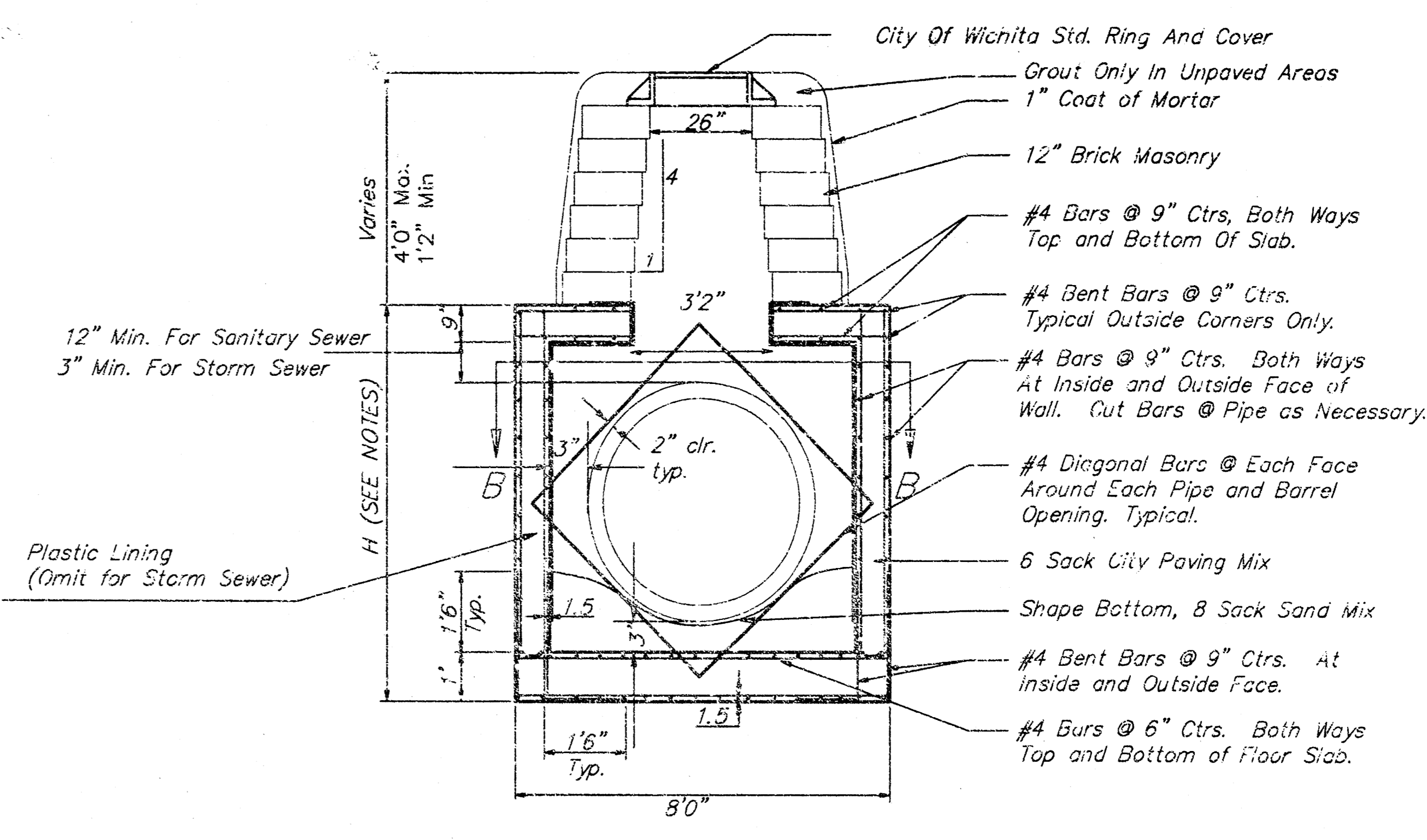


NOTE:
Bend Bars Not More Than 8" to Clear Pipes, or Cut Bars 2" Clear of Pipe, as Necessary.

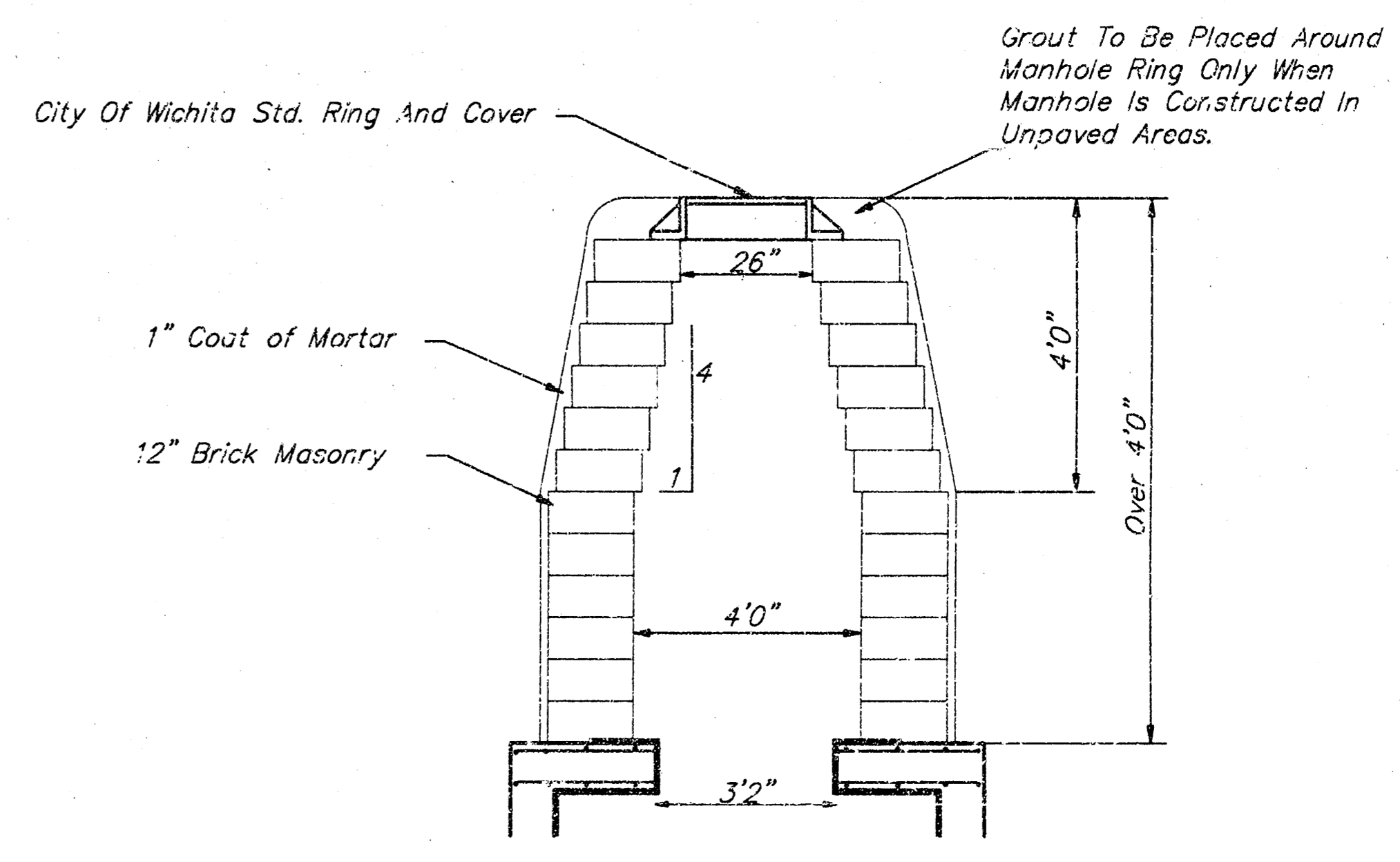
TOP VIEW

GENERAL NOTES:

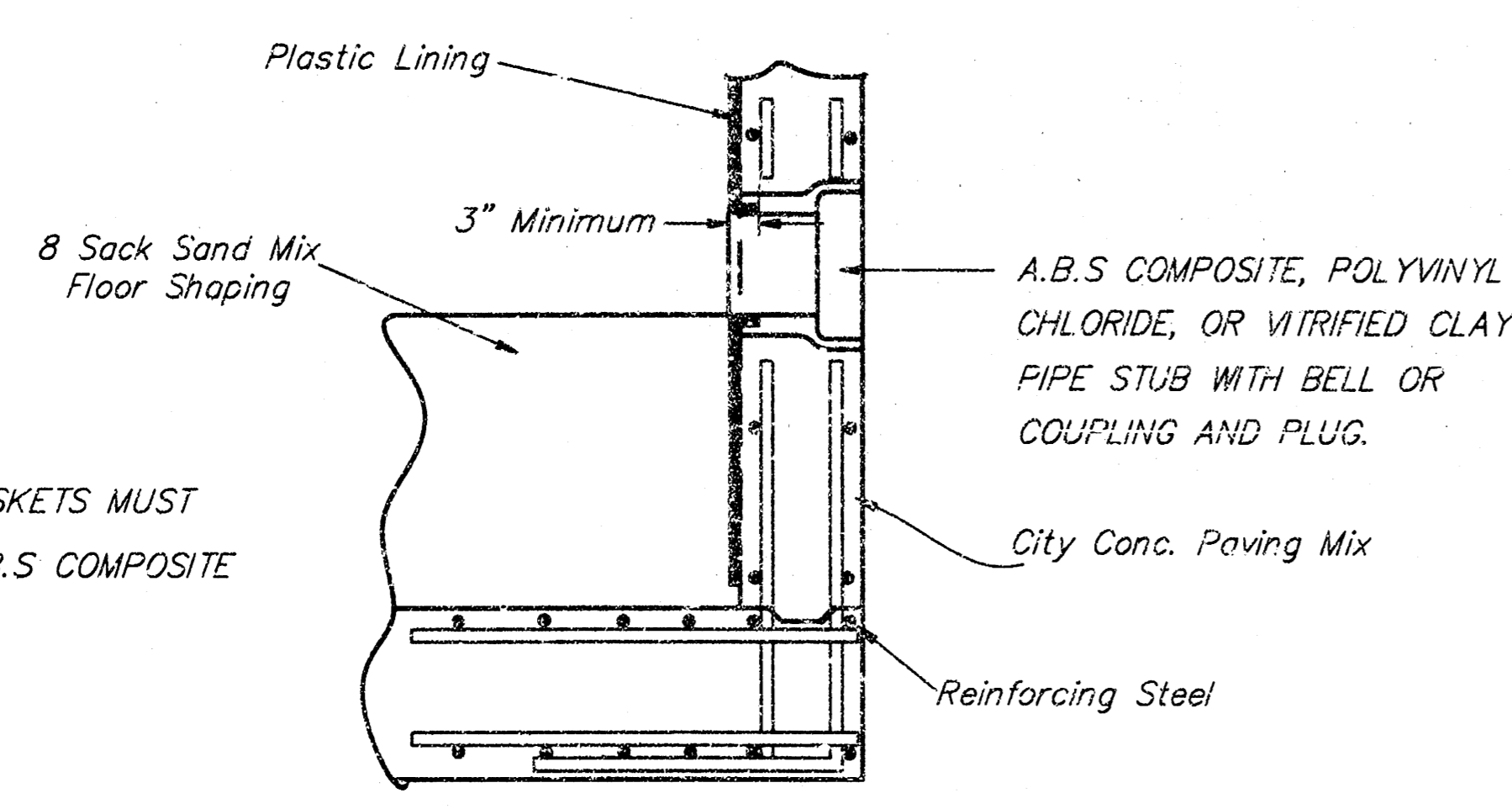
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS, USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING MIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING. USING 8-SACK SAND MIX CONCRETE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS.
- 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 ENDS OF ALL PIPES IN MANHOLES SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF MANHOLE WALL.



REINFORCED CONCRETE MANHOLE
MANHOLE STACK 2.33' TO 4'0"

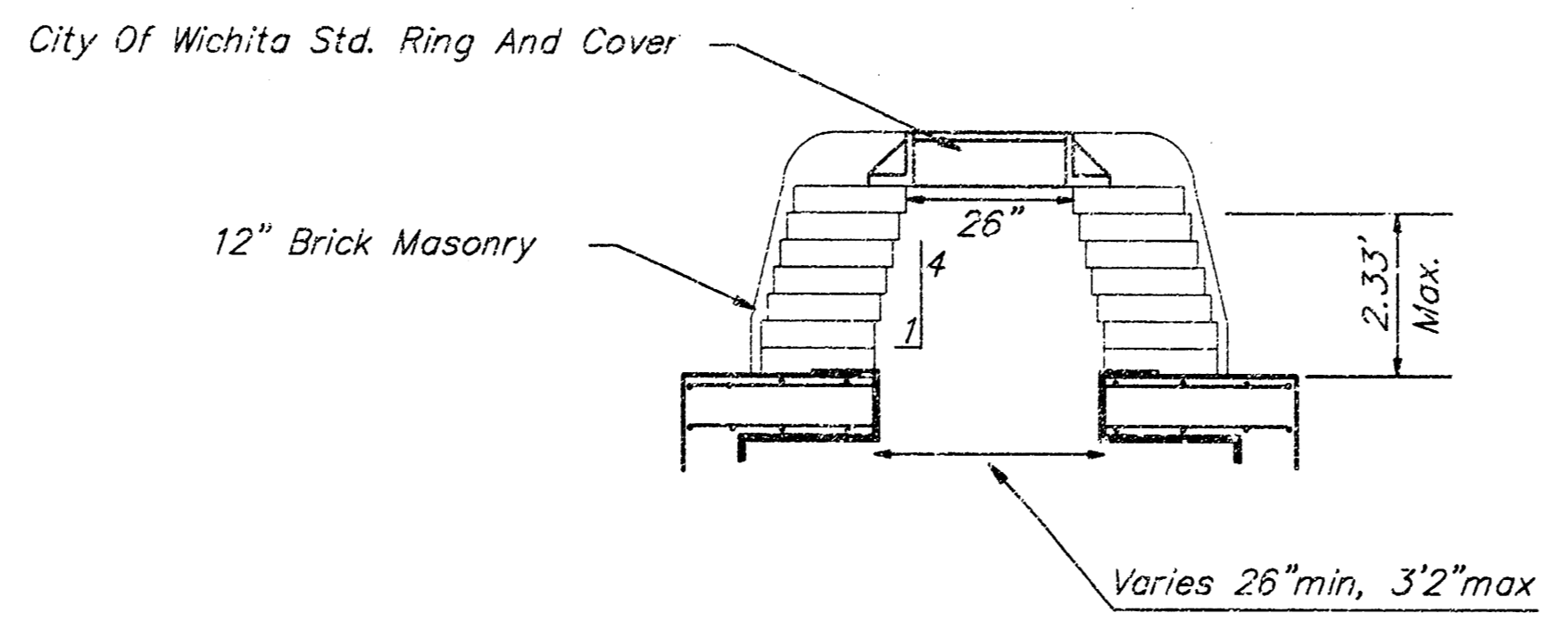


REINFORCED CONCRETE MANHOLE
MANHOLE STACK OVER 4'0"



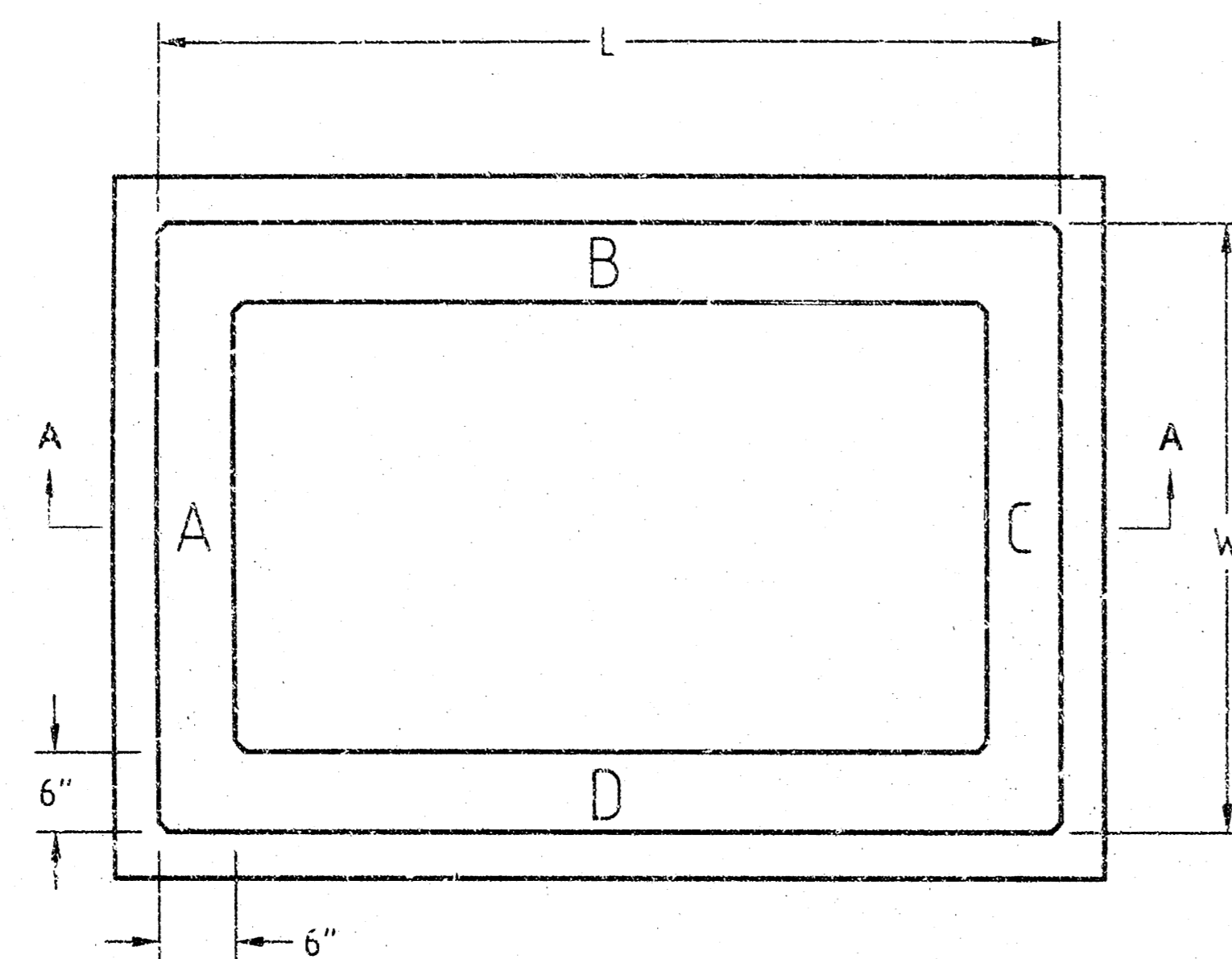
NOTE: WATERSHOP GASKETS MUST BE USED WITH A.B.S. COMPOSITE OR P.V.C. PIPE.

PIPE STUB DETAIL
SANITARY SEWER ONLY

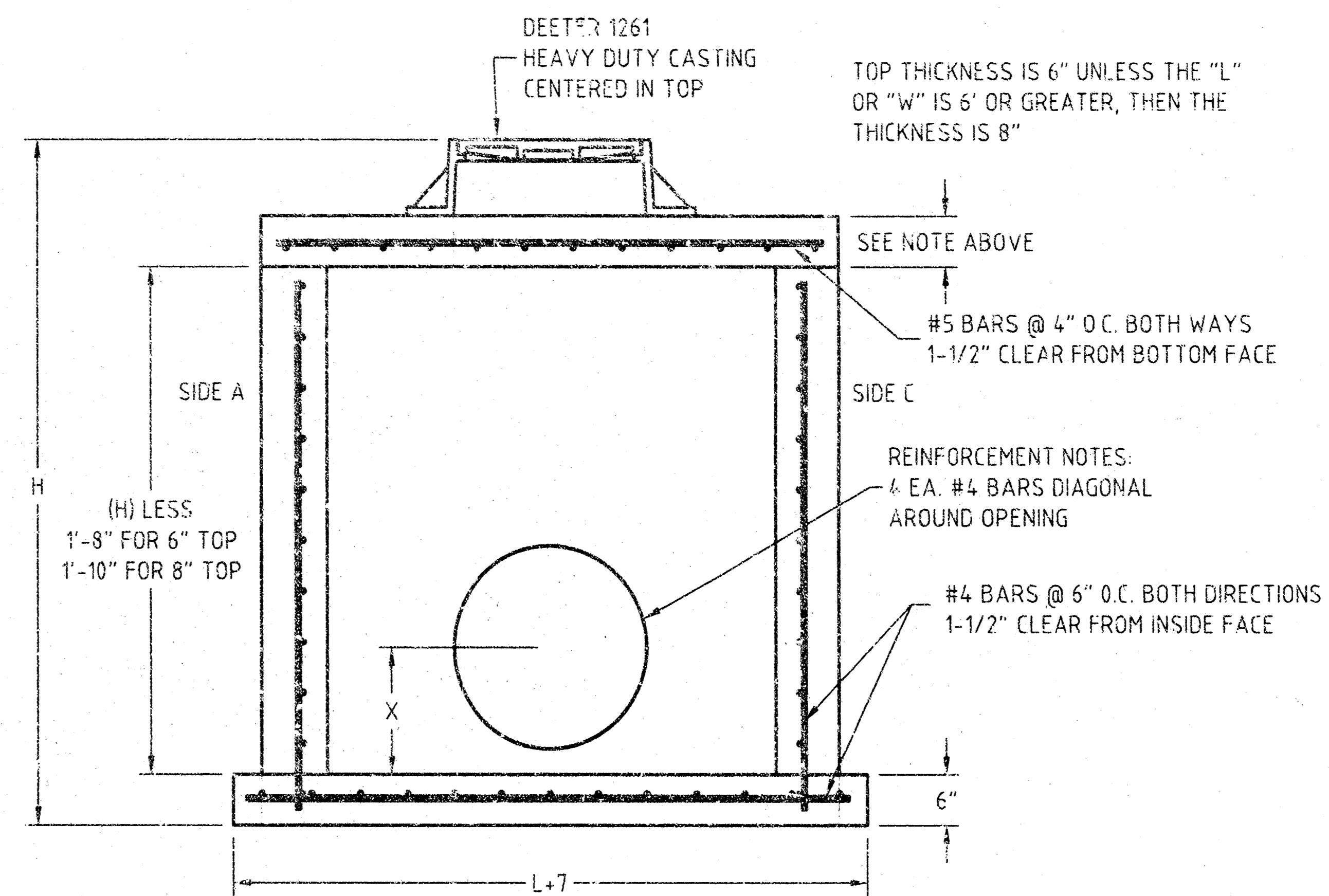


REINFORCED CONCRETE MANHOLE
MANHOLE STACK LESS THAN 2.33'

<p>THE CITY OF WICHITA CITY ENGINEER'S OFFICE CITY HALL - 800TH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 255-4242 FAX (316) 268-4114 FAX</p>	REINFORCED CONCRETE MANHOLE	
	M. E. LINDEBAK P.E. - CITY ENGINEER	
	PROJECT NUMBER 1208 PPS	INDEX CODE 607861
	DATE APRIL 99	SHEET 10 OF 13



TOP VIEW



SECTION "A-A"

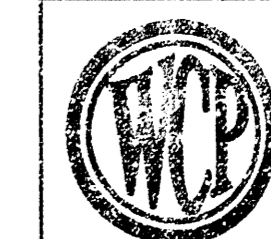
TOP THICKNESS IS 6" UNLESS THE "L" OR "W" IS 6' OR GREATER, THEN THE THICKNESS IS 8"

SEE NOTE ABOVE

#5 BARS @ 4" O.C. BOTH WAYS
1-1/2" CLEAR FROM BOTTOM FACE

REINFORCEMENT NOTES:
- EA. #4 BARS DIAGONAL AROUND OPENING

#4 BARS @ 6" O.C. BOTH DIRECTIONS
1-1/2" CLEAR FROM INSIDE FACE

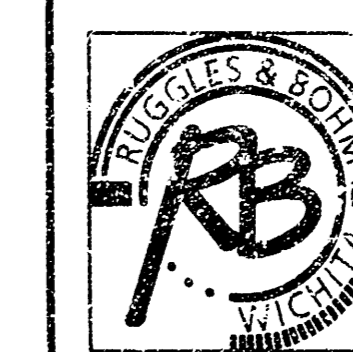


**WICHITA
CONCRETE
PIPE COMPANY**

221 W. 37th St. North, Wichita, KS. 67204 (316)-838-8651

REVISED

**YORK UPG STORM WATER SEWER
PRECAST MANHOLE
WICHITA, KANSAS**



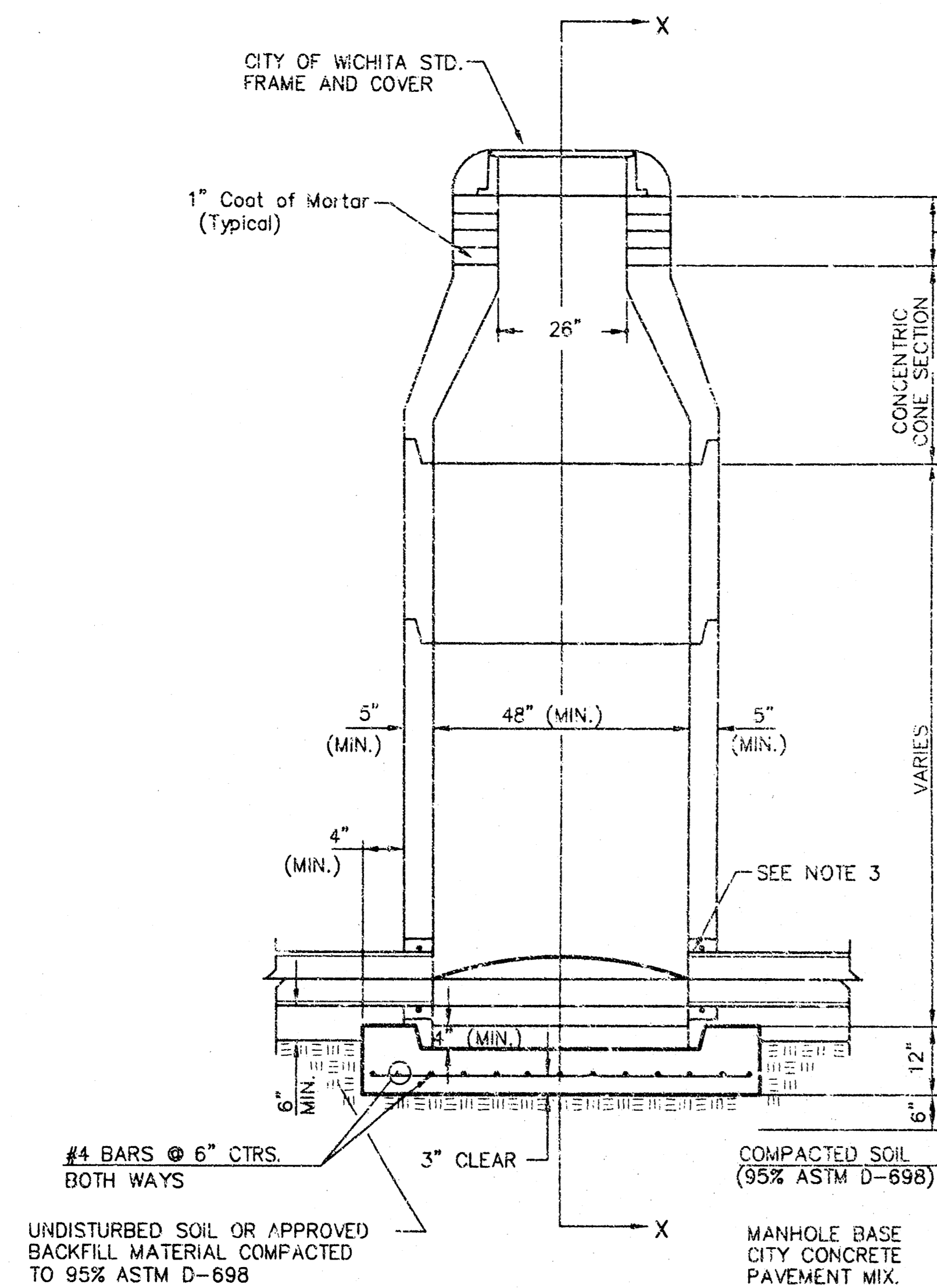
Ruggies & Bohm, P.A.
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924 North Main (316) 264-8068
Wichita, Kansas 67203 (316) 264-4631 fax
www.rbkansas.com E-mail: info@rbkansas.com

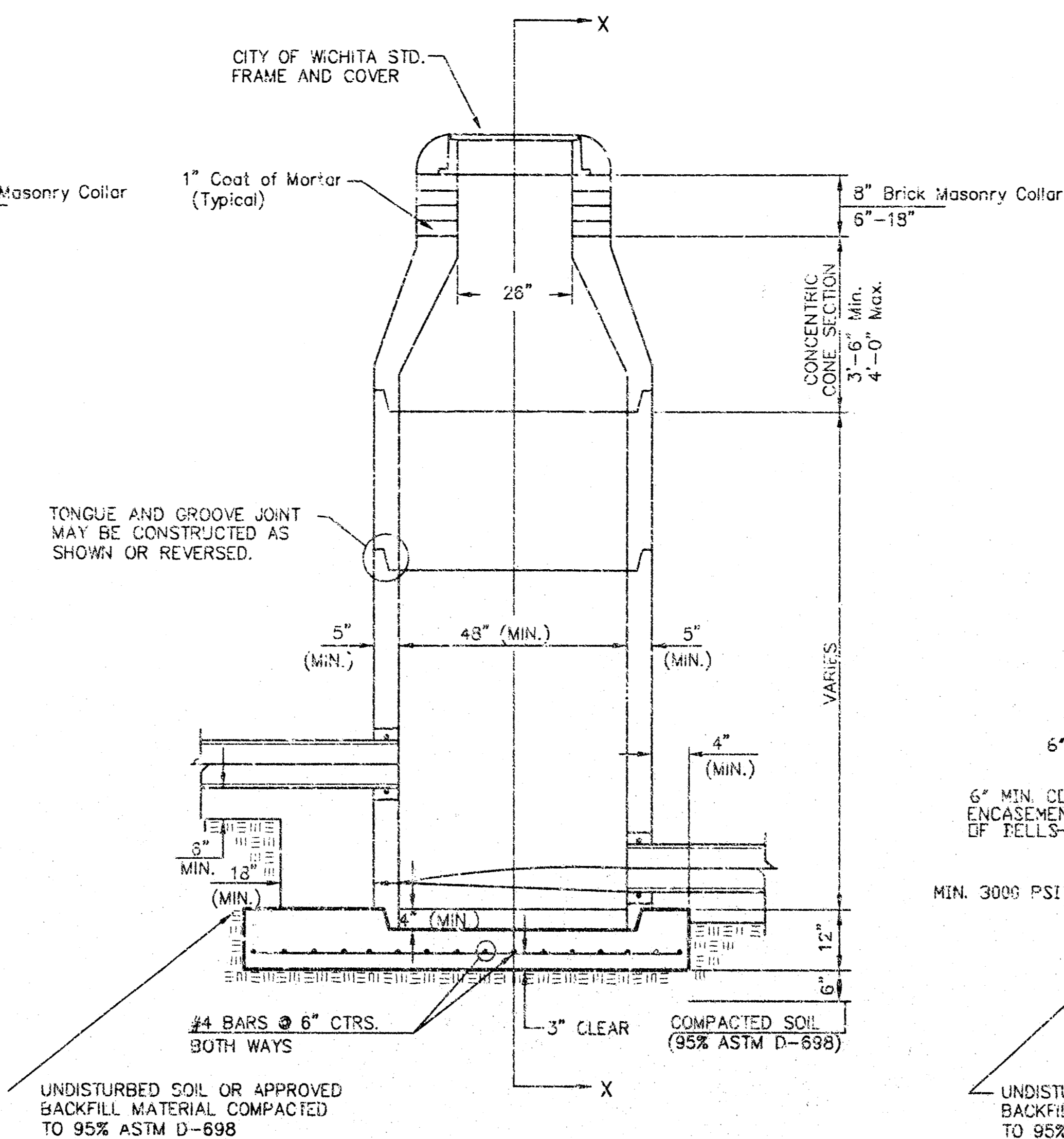
DRAWING FILE: StandardMHEX [Detail] PROJECT NUMBER: 1208 PPS (607861) DATE: 2-25-02

DESIGN	WCP	SHEET 11 OF 13
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REVIEW		
UTILITY		

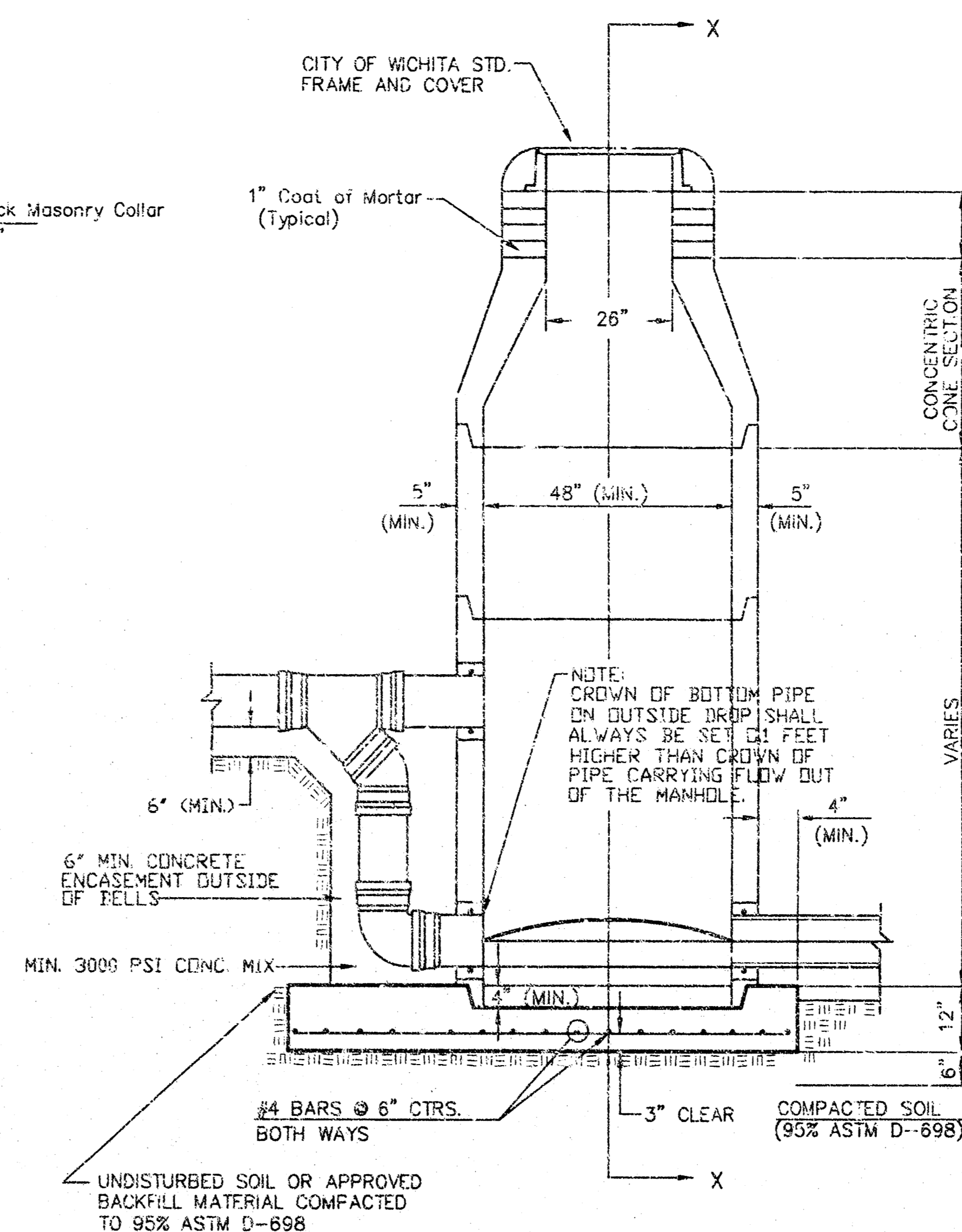
SEWER APPURTENANCES DETAILS



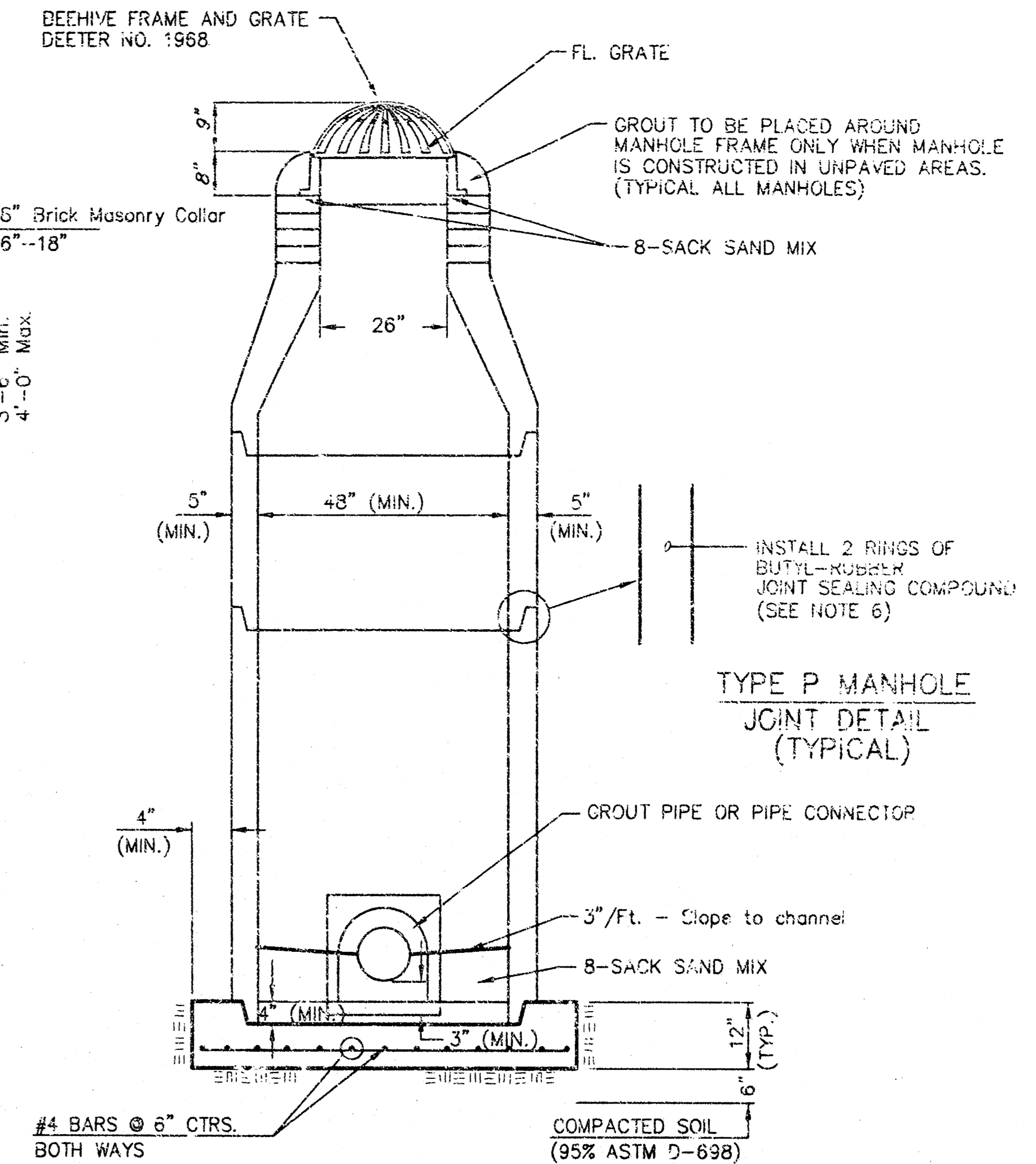
TYPE P STANDARD MANHOLE



TYPE P INSIDE DROP MANHOLE



TYPE P OUTSIDE DROP MANHOLE



SECTION X (TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- 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 ENGAGEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS THEMEX SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.).
- EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
- JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
- 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 SHARP INVERT.
- LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
- 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.

- 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.
- 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.
- 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 NEAT 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 2' 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 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.
- 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. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

REVISED

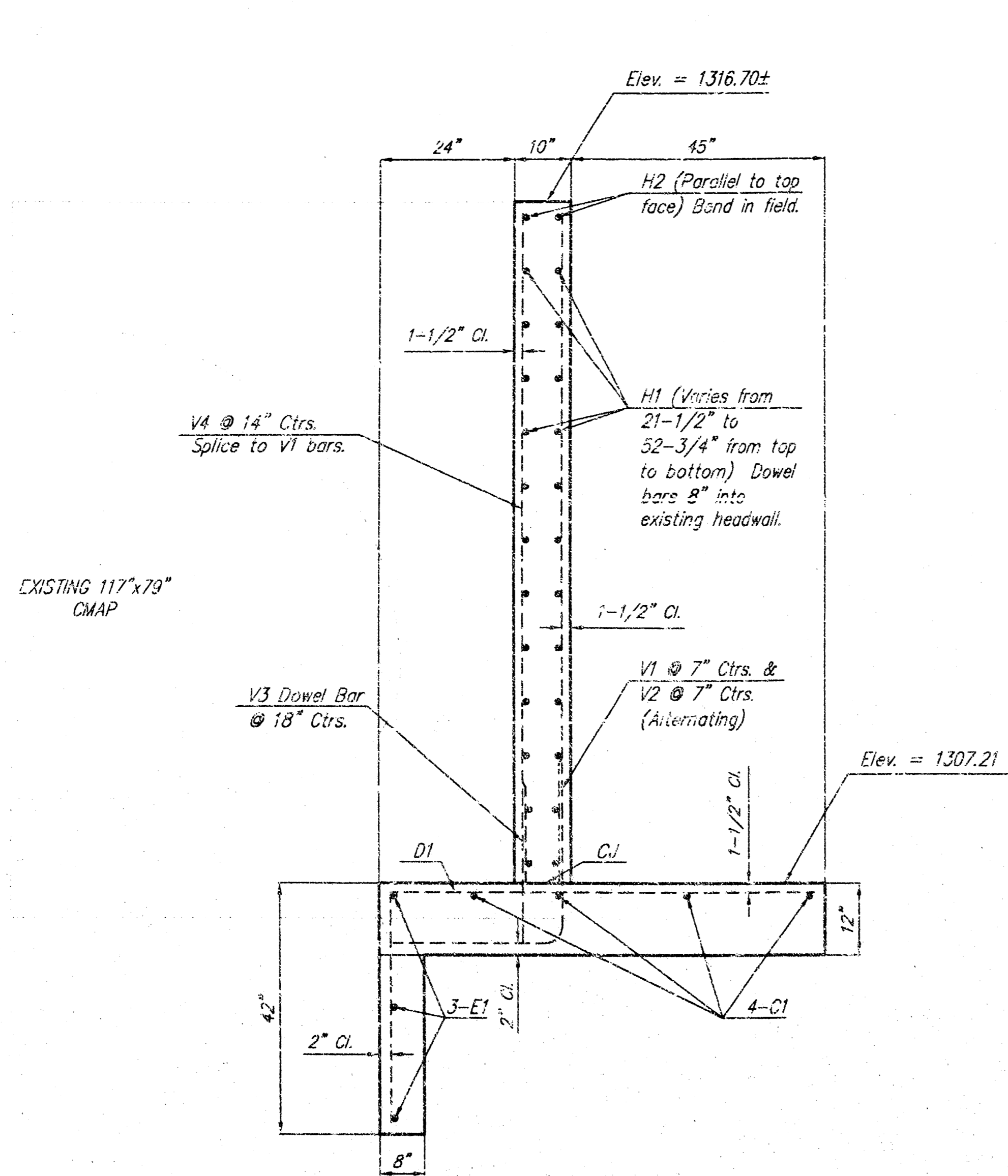
**YORK UPG STORM WATER SEWER
MODIFIED TYPE P MANHOLE
WICHITA, KANSAS**



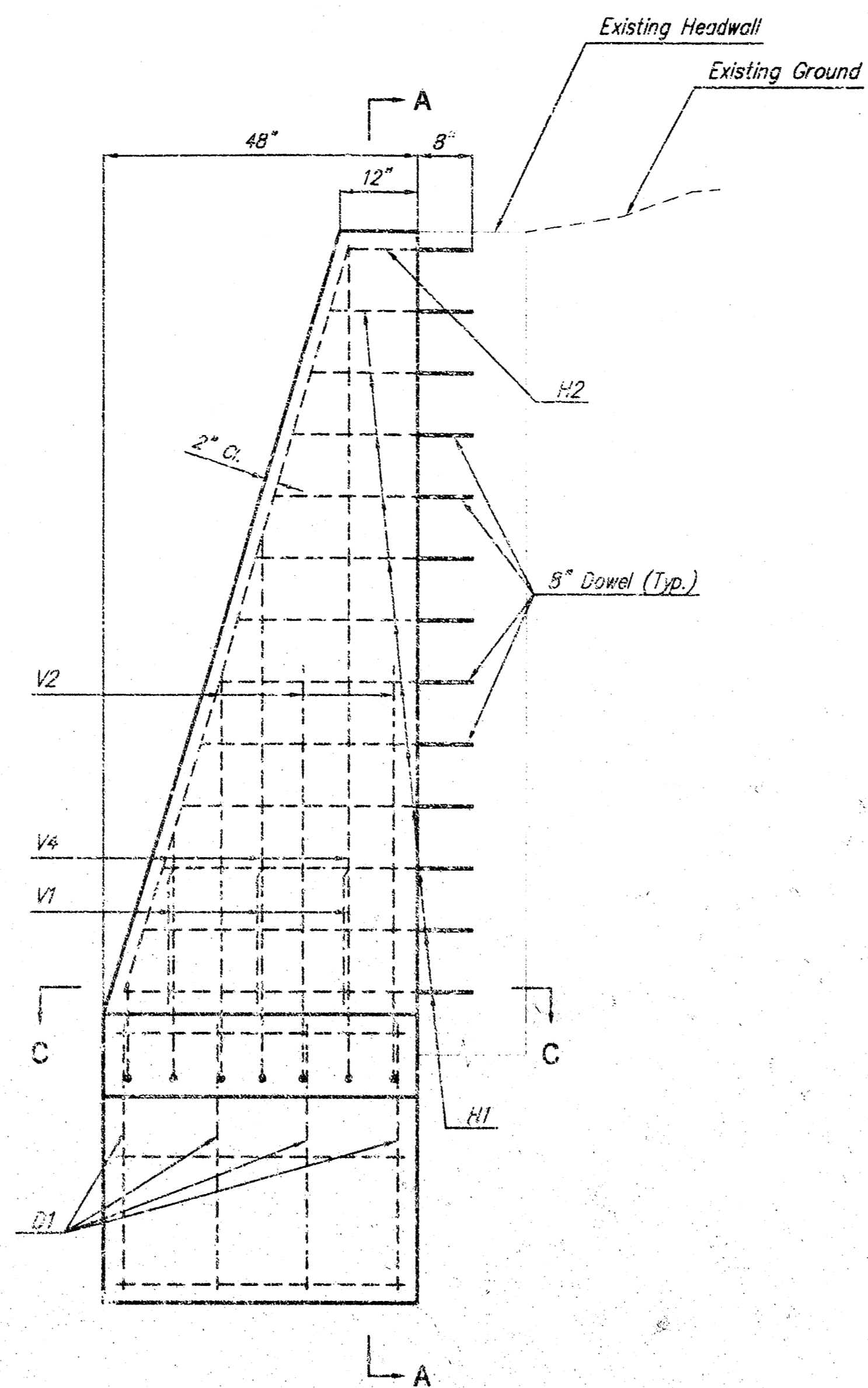
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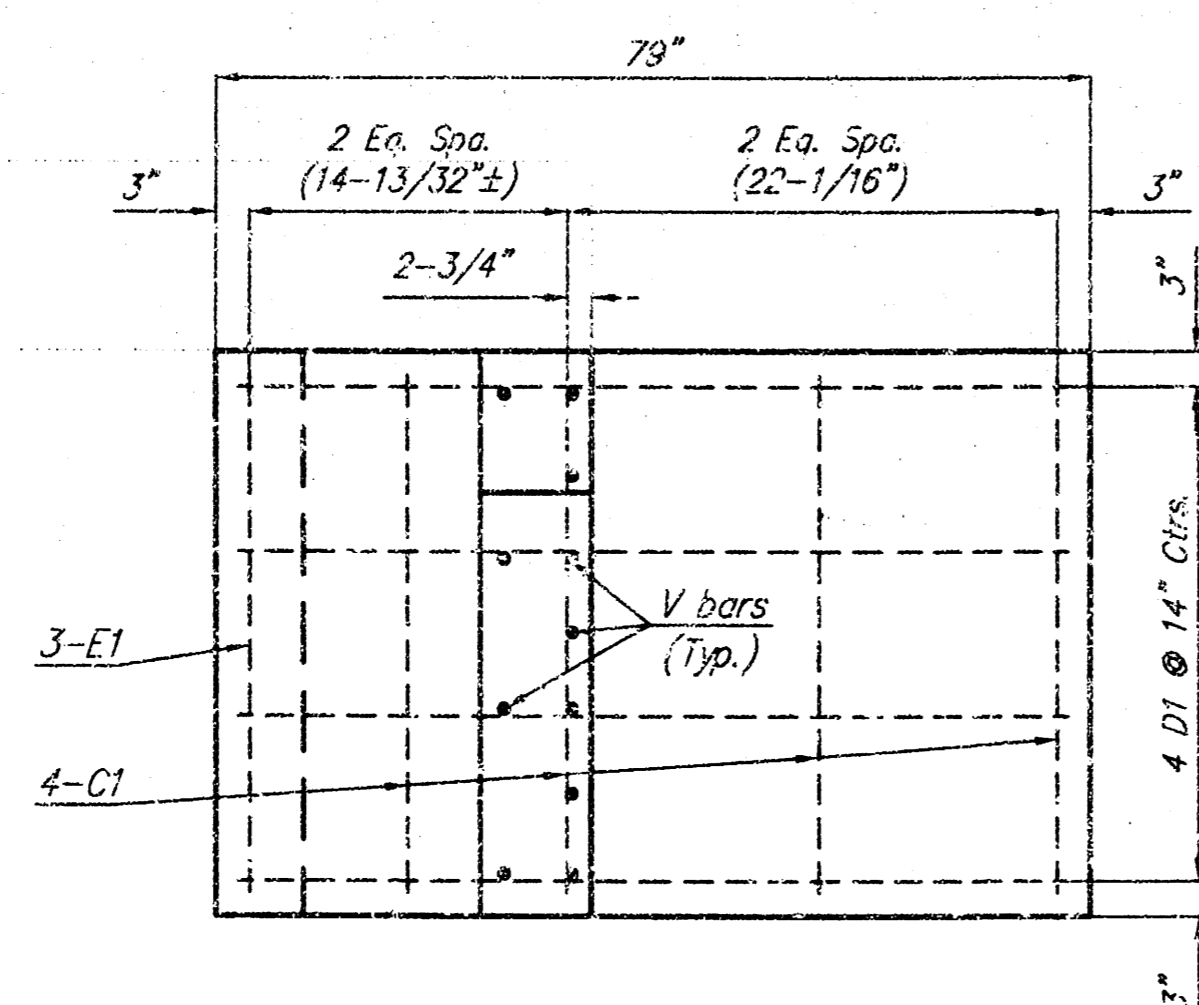
DESIGN	COW	SHEET 12 OF 13
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UTILITY		



Section A-A



Elevation of Buttress



Section C-C
(Plan of Footing)

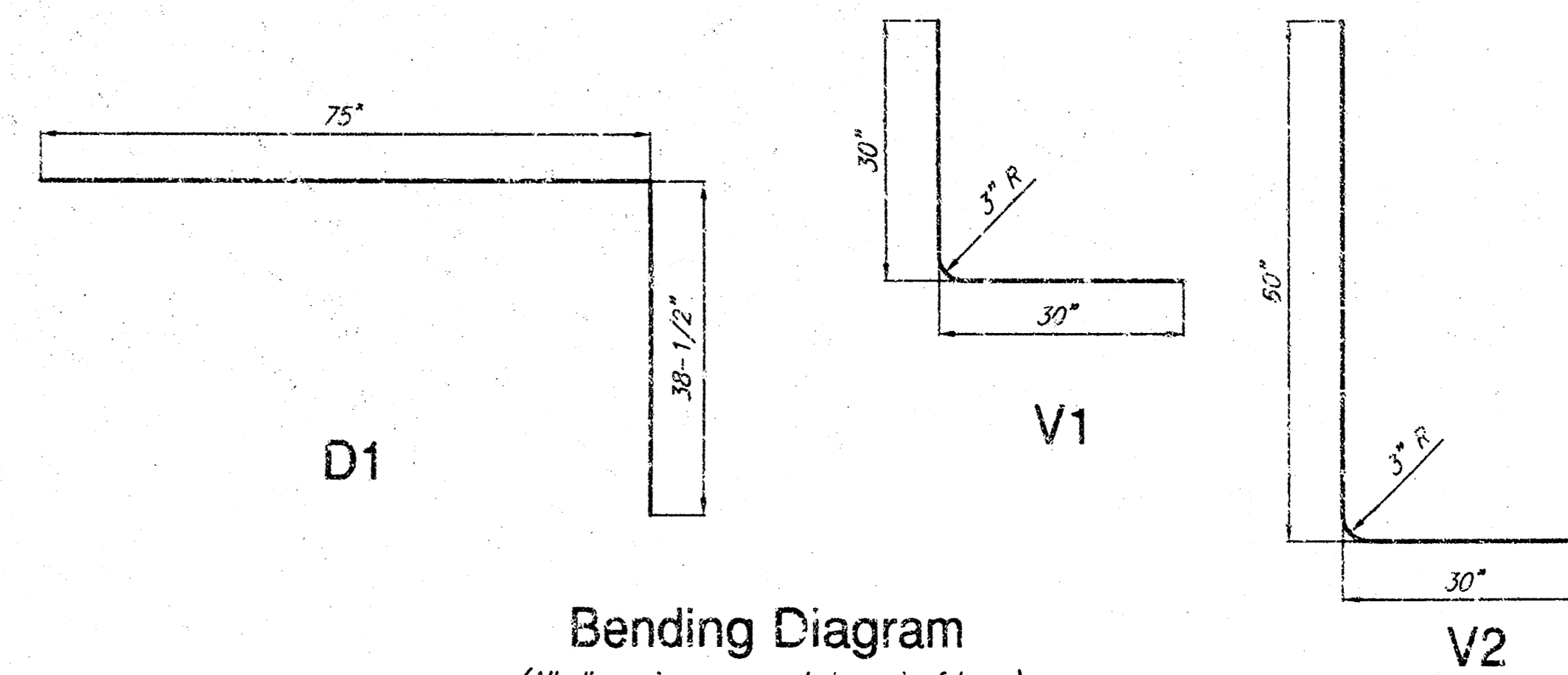
GENERAL NOTES:

UNIT STRESSES: Class AAA Concrete: $f'_c = 4,000$ psi
Reinforcing Steel: $f_y = 60,000$ psi

CONCRETE: Class AAA Concrete shall be used throughout. Bevel all exposed edges with a 3/4" triangular mounding.

REINFORCING: All reinforcing shall conform to ASTM A615M, Grade 40D.

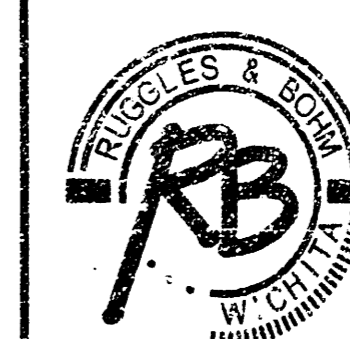
FOUNDATION AND BACKFILL MATERIAL: Soils judged as high plasticity clays, fat clays, expansive clays, or organic clays are unsuitable for foundation and/or backfill material for wingwalls and will not be used. Where these conditions exist, Foundation Stabilization and/or Granular Backfill (Wingwalls) shall be used as determined by the Engineer.



NOT CONSTRUCTED

REVISED AS BUILT

YORK UPG STORM WATER SEWER
BUTRESS DETAIL
WICHITA, KANSAS



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DRAWING FILE: SWS [Buttress Detail]

PROJECT NUMBER: 1208 PPS (607861)

DATE: 2-25-02

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