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

GENERAL NOTES

1. 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

2. The Contractor must notify the following in case of an emergency

Cox Communications	262-0661
Kansas Gas Service	383-8600
KGE	383-8600
Peoples Natural Gas Company	1-800-303-0357
Southwestern Bell Telephone Company	1-800-296-8313
City of Wichita Water Department	262-5000
City of Wichita Sewer Maintenance	262-6000

3. Existing utilities and their location, as shown on the 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.

4. Any roof drain connections to the storm water sewer system will require a permit from the Office of Central Inspection (OCI).

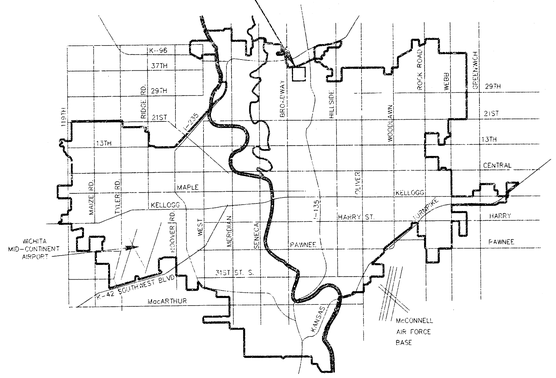
5. The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.

6. All work on this project to be in accordance with City of Wichita Standard Specifications dated March 1998.

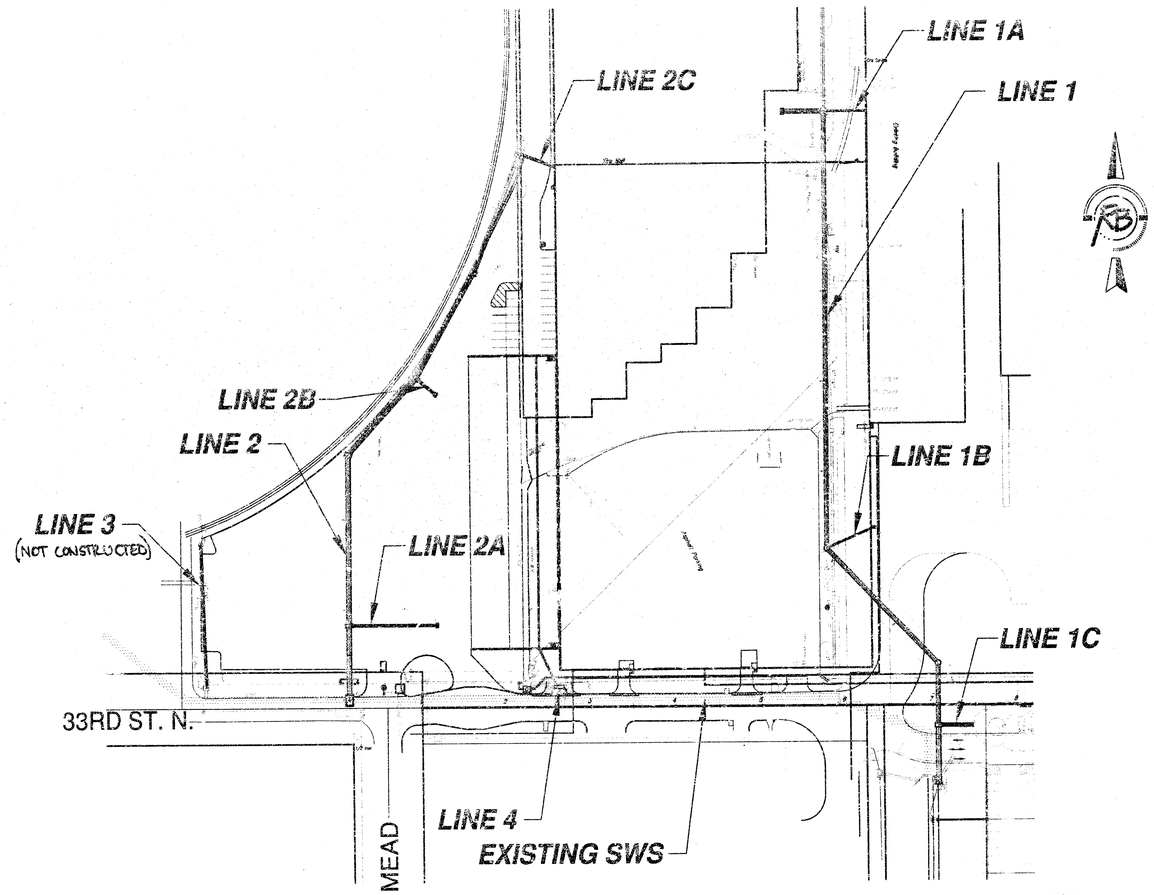
7. Precast stuctures detailed in this project may be constructed as cast-in-place structures with the approval of the Engineer prior to construction.

8. One lane of traffic to be maintained on 33rd Street North at all times.

Project Location



VICINITY MAP



INDEX OF SHEETS

1. TITLE SHEET
2. LINES 1 & 1B - PLAN & PROFILE
3. LINES 1, 1A & 1C - PLAN & PROFILE
4. LINES 2 & 2A - PLAN & PROFILE
5. LINES 2, 2B & 2C - PLAN & PROFILE
6. LINES 3 & 4 - PLAN & PROFILE
7. STANDARD TYPE 1-A CURB INLET DETAIL
8. SPECIAL AREA INLET DETAIL
9. 48" YARD INLET DETAIL
10. REINFORCED CONCRETE MANHOLE DETAIL
11. PRECAST MANHOLE DETAIL
12. MODIFIED TYPE P MANHOLE DETAIL
13. BUTTRESS DETAIL

BENCHMARKS

Benchmark:

PR Spike in CNC, SW Cor. Hubguard, 75± N. of 29th St. N. on Ohio.

Elevation = 1317.01 MSL

On-Site Benchmark:

"□" 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 dedicated 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.

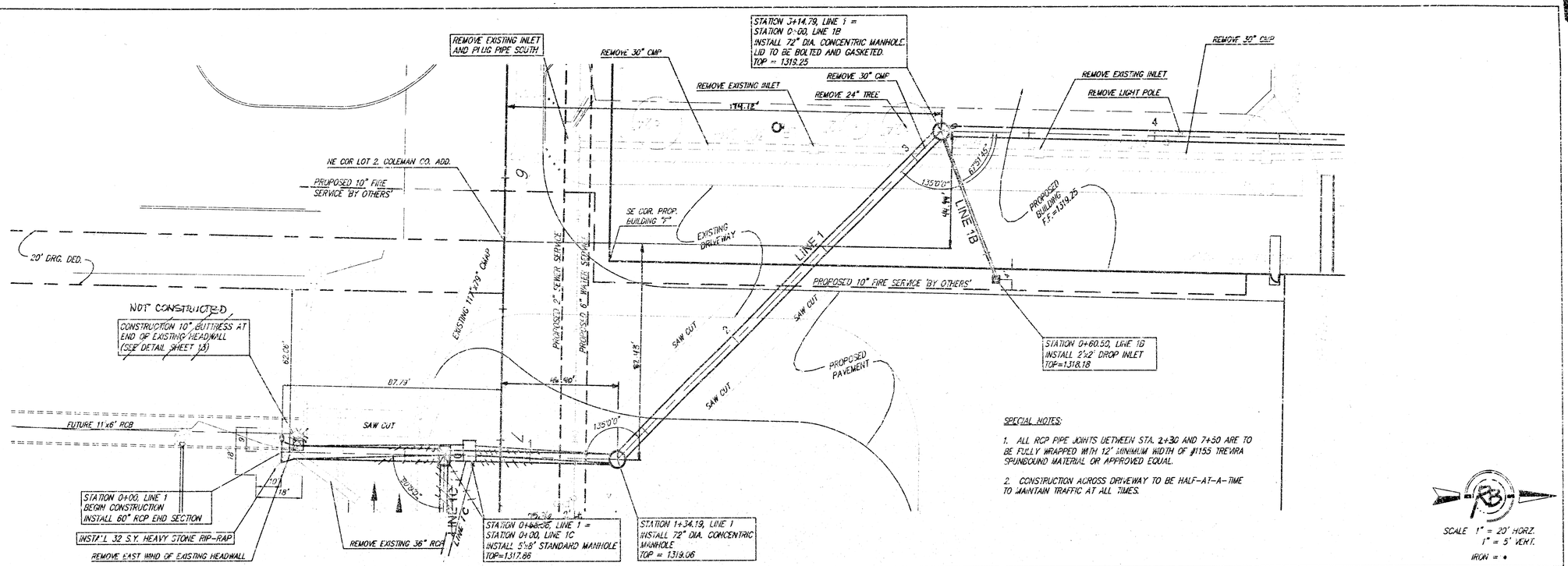
REVISED AS BUILT 4-1-02 JCR

DAVID SCHAFER 15404 2-25-02 KANSAS PROFESSIONAL ENGINEER

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

Ruggles & Bohm, P.A.
Engineering, Surveying, Land Planning
924 North Main (316) 264-8008
Wichita, Kansas 67203 (316) 264-4621 fax
www.rbkansas.com E-mail: info@rbkansas.com

REV. 2-25-02 2J99

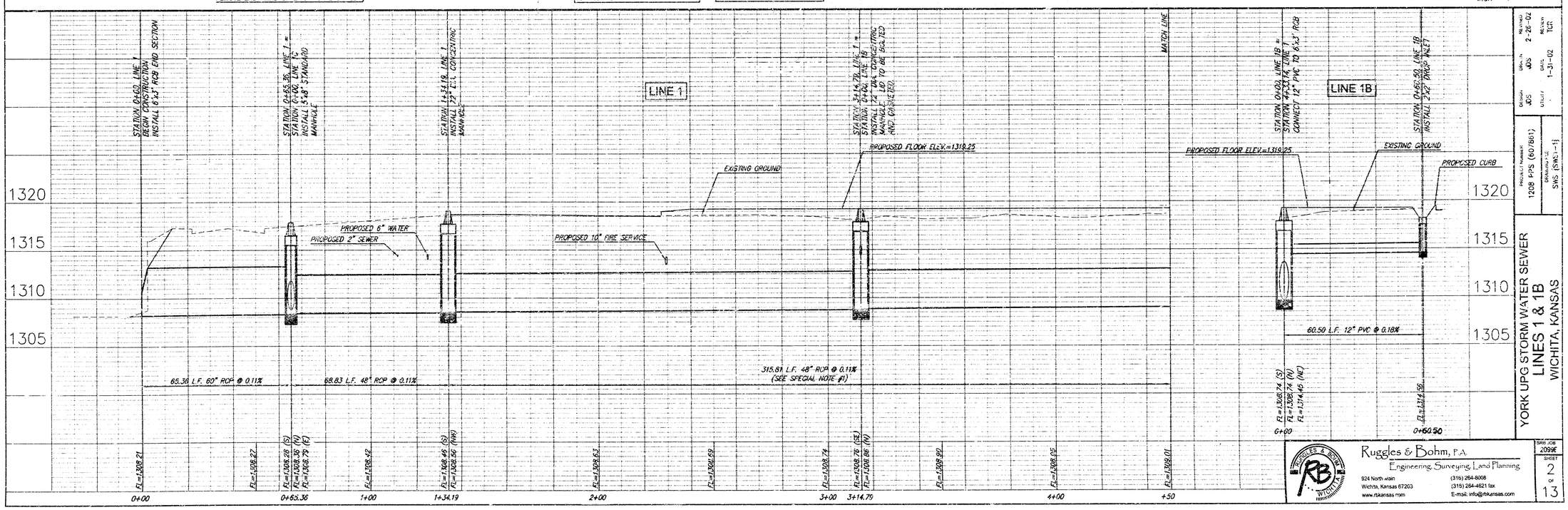


SPECIAL NOTES:

1. ALL RCP PIPE JOINTS BETWEEN STA. 2+30 AND 7+50 ARE TO BE FULLY WRAPPED WITH 12" MINIMUM WIDTH OF #1155 TREVIRA SPUNBOUND MATERIAL OR APPROVED EQUAL.

2. CONSTRUCTION ACROSS DRIVEWAY TO BE HALF-AT-A-TIME TO MAINTAIN TRAFFIC AT ALL TIMES.

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



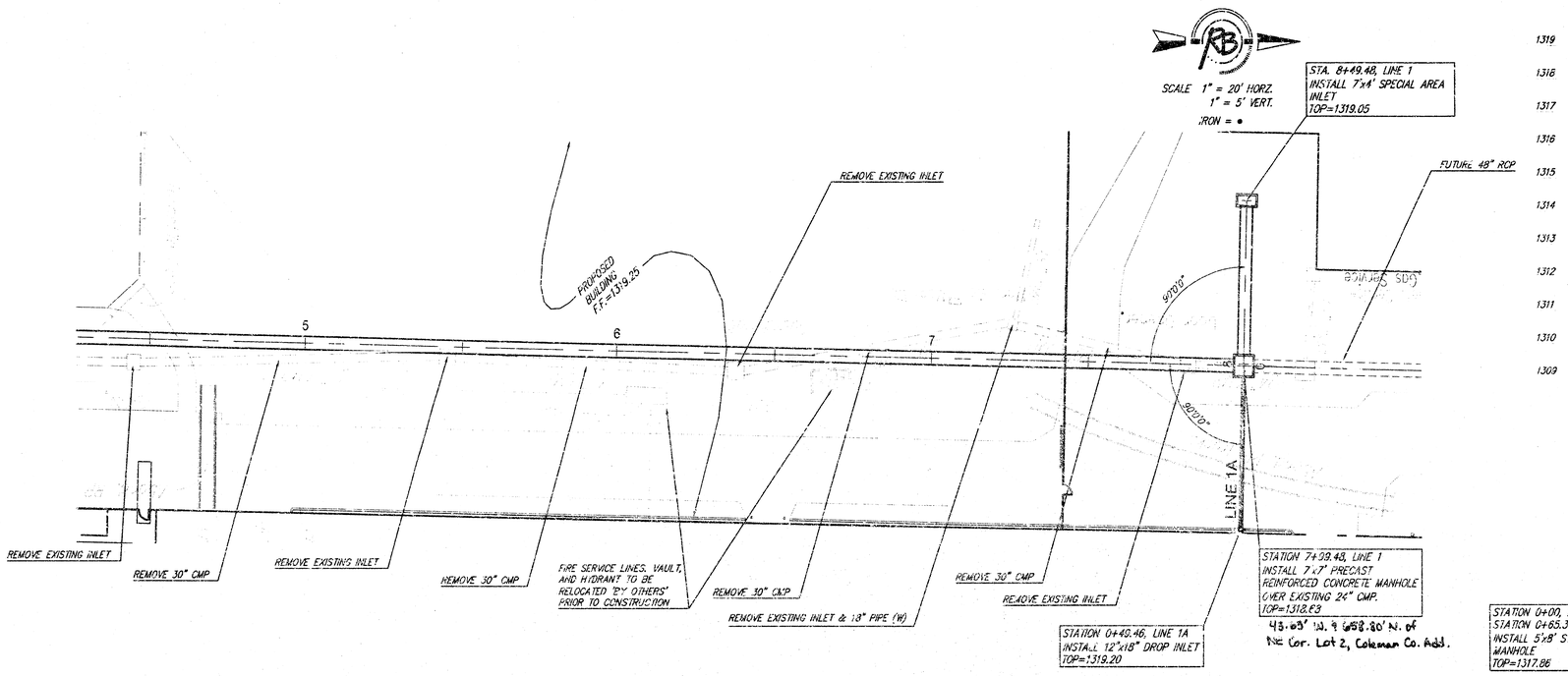
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DRAWN JDS
CHECKED
DATE 1-31-02
REVISED 2-26-02
REVISED TCR

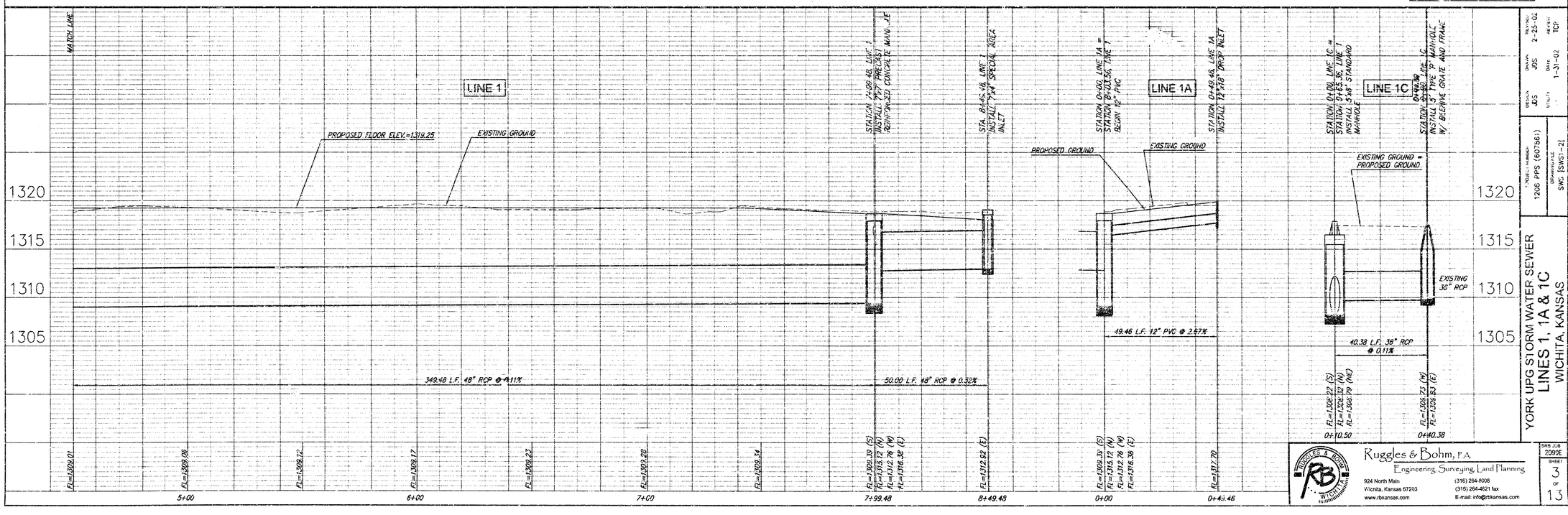
PROJECT Number 1208 PTS (60/861)
DRAWING FILE SHS (SW3-1)

YORK UPG STORM WATER SEWER
LINES 1 & 1B
WICHITA, KANSAS

SHS JOB 2099
SHEET 12 OF 13

Ruggles & Bohm, P.A.
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



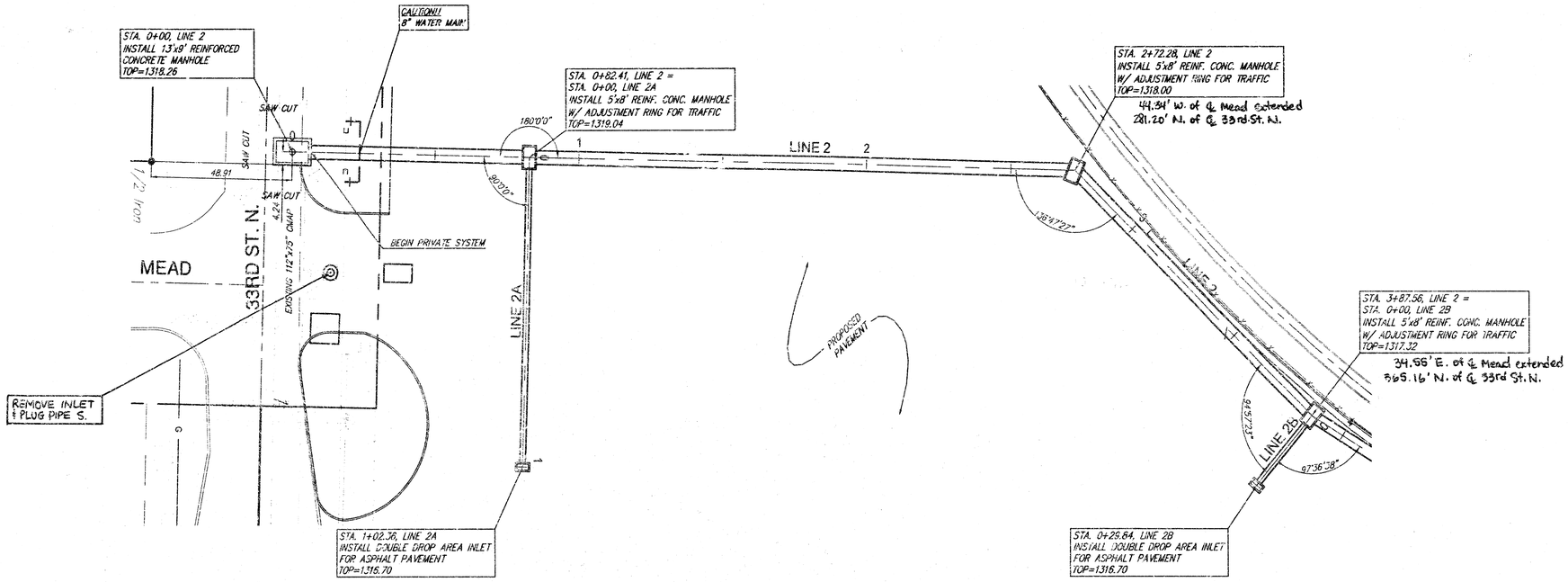


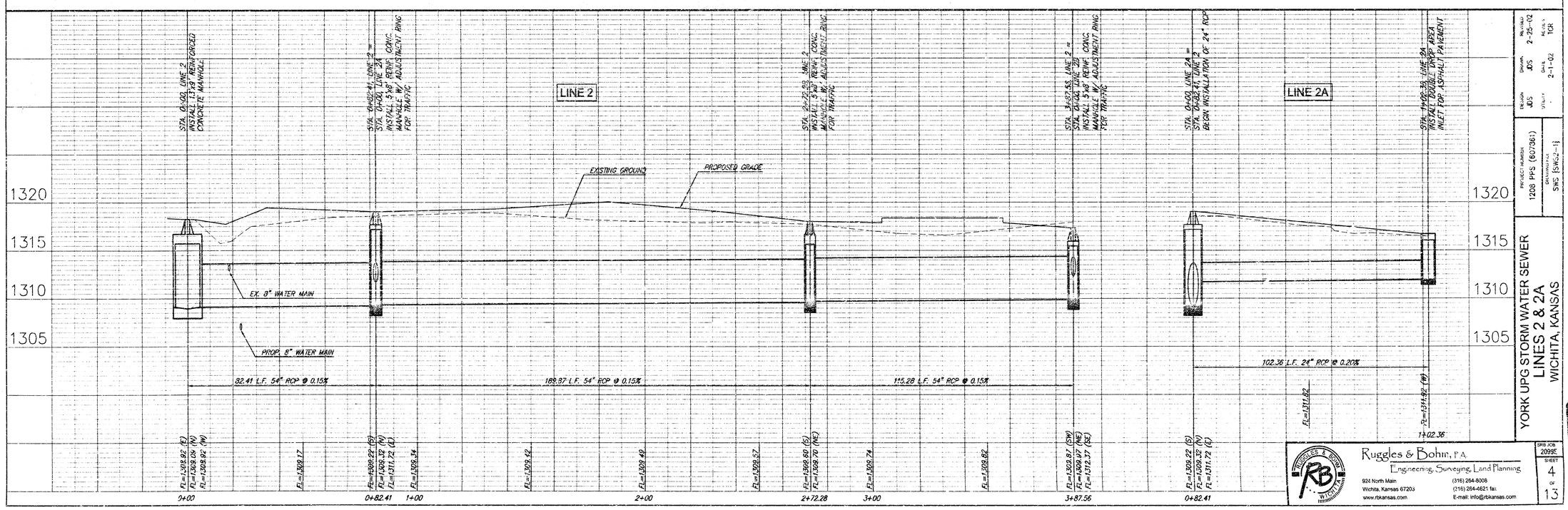
Ruggles & Bohm, P.A.
Engineering Surveying Land Planning
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Wichita, Kansas 67203
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(316) 264-8008
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SRB JOB 2090E
SHEET 13 OF 24

YORK UPG STORM WATER SEWER
LINES 1, 1A & 1C
WICHITA, KANSAS

PROJECT NUMBER 1208 PPS (607861)
DRAWING FILE SWG [SWS1-2]
DESIGN JDS
DRAWN JDS
CHECK TCF
DATE 1-31-02
REVISED 2-25-02





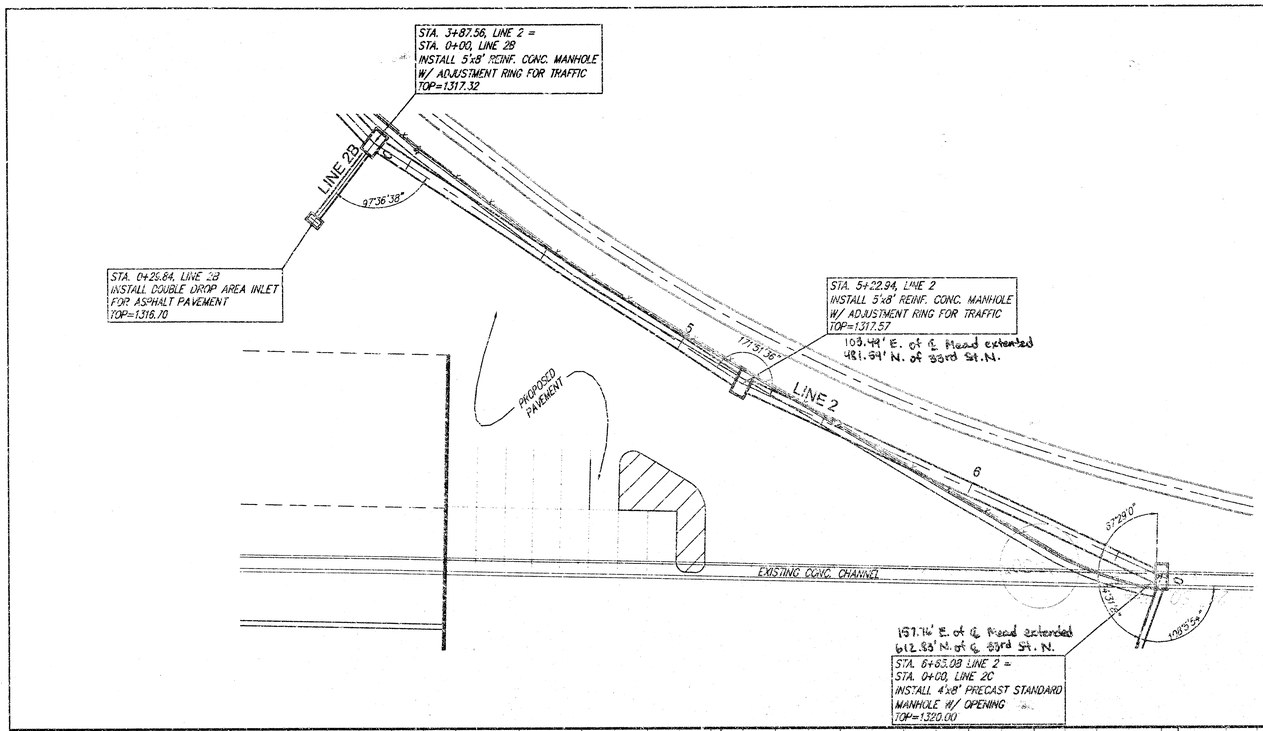
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UTILITY - | DATE 2-1-02 | RE-DES TCR

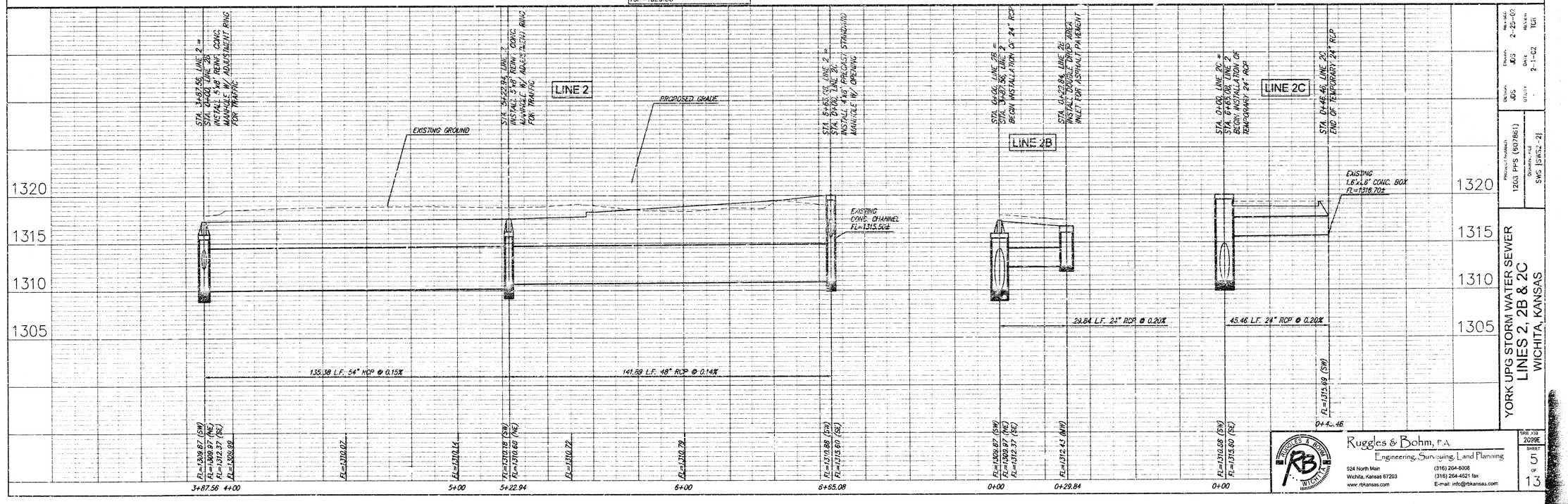
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DRAWING FILE NAME SWG (SW42-1)

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

SRB JOB 2099E
SHEET 4 OF 13

Ruggles & Bohin, P.A.
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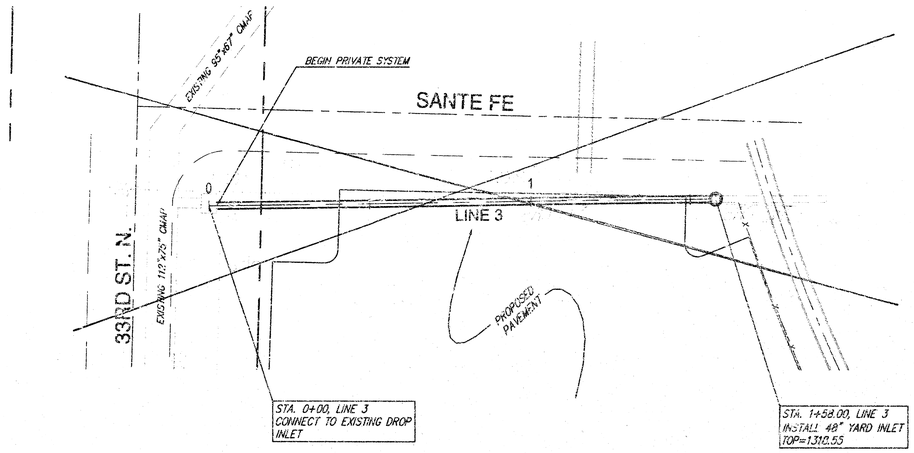
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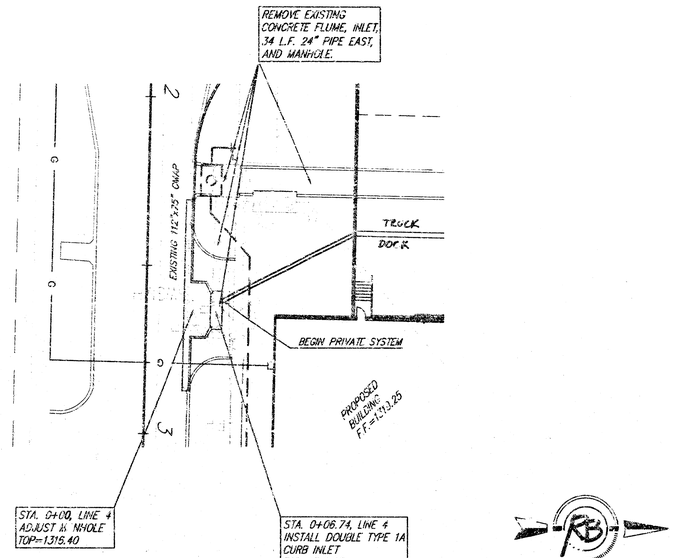
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JGS	2-25-02
Drawn:	Date:
JGS	2-1-02
Utility:	Revision:
-	TGR

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Drawing File: SWS 13WS2-21

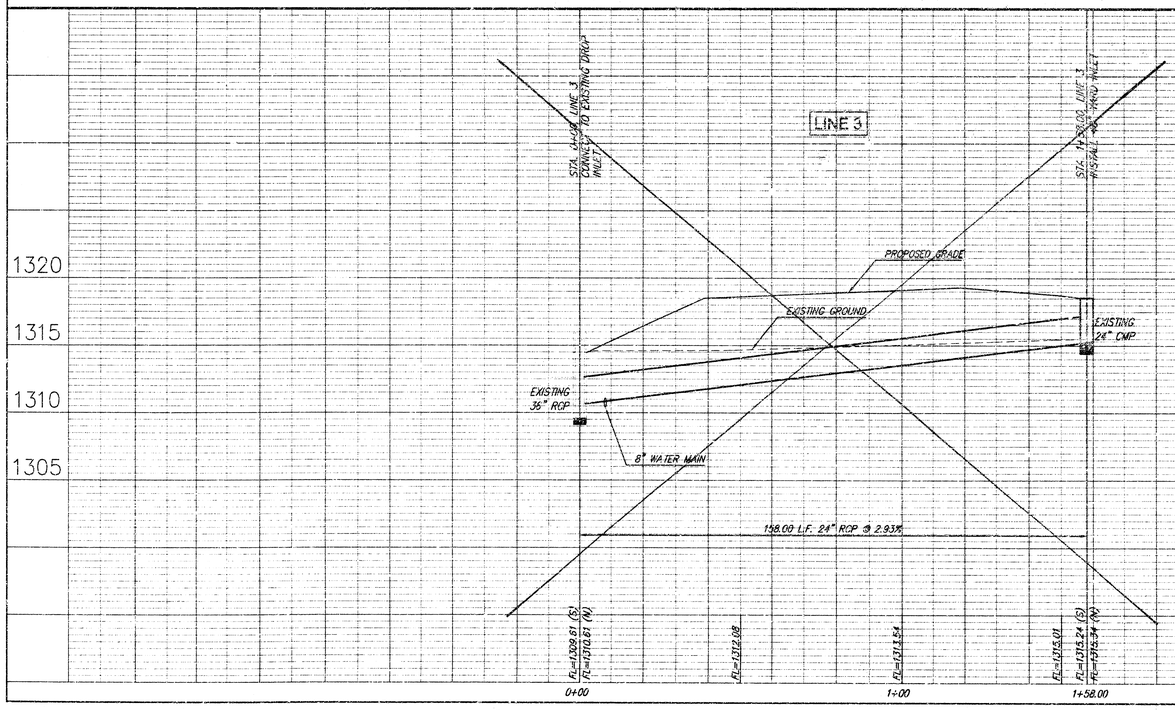
YORK UPG STORM WATER SEWER
LINES 2, 2B & 2C
WICHITA, KANSAS

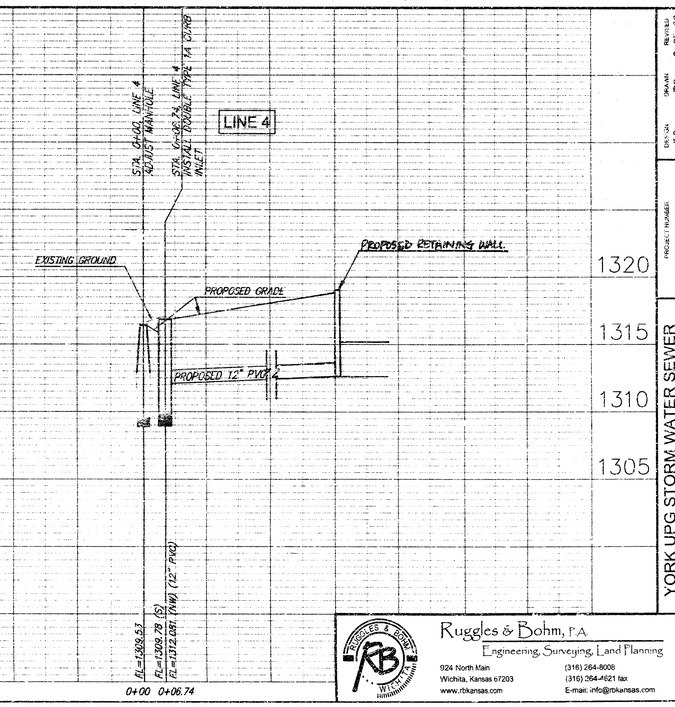
SMS JOB 2099E
SHEET 5 OF 13





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





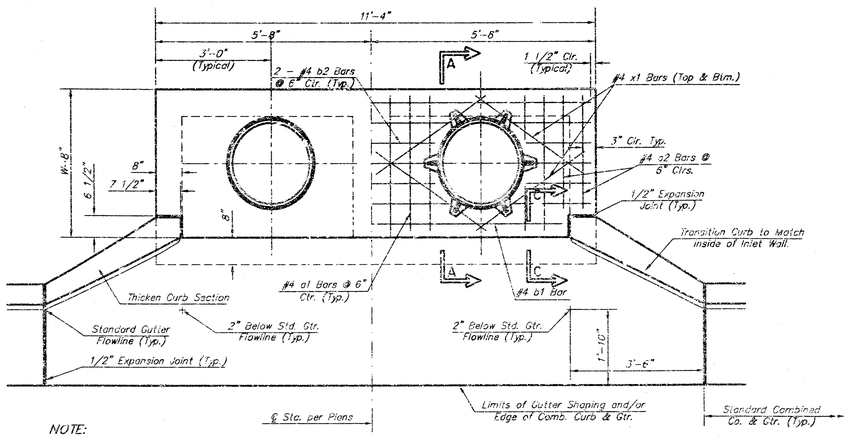
DESIGNED	JDS
DRAWN	JDS
CHECKED	SAH
REVISED	2-28-02
REVISED	2-1-02
REVIEW	TCR

PROJECT NUMBER: 1208 FPS (307861)
DRAWING FILE: SWS 13x36.dgn

YORK UPG STORM WATER SEWER
LINES 3 & 4
WICHITA, KANSAS

Ruggles & Bohm, P.A.
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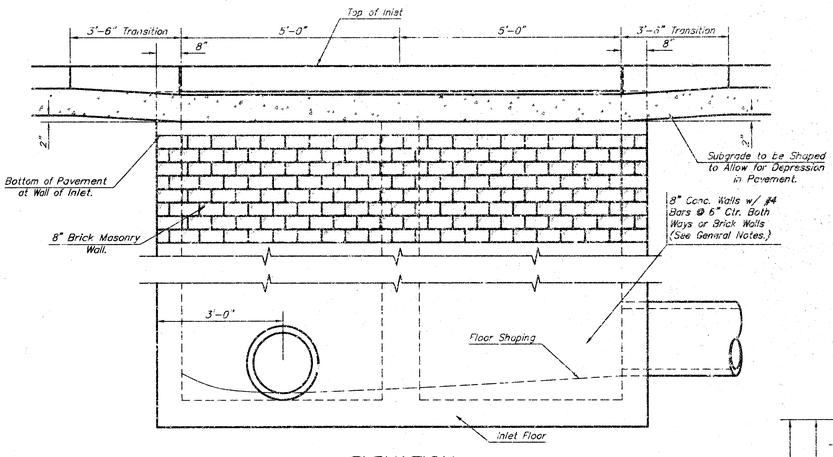
RnB JOB 2099E
SHEET 13 OF 16



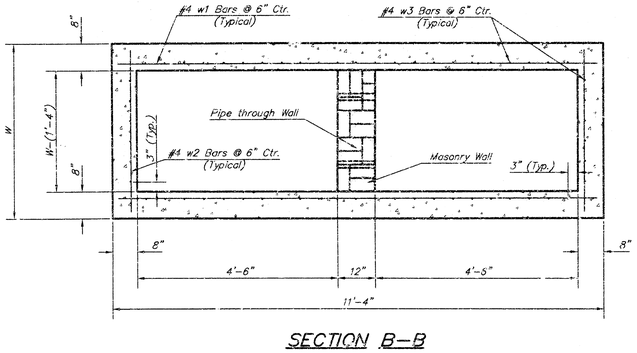
NOTE:
Expansion Joint Only in Curb Area with Concrete Pavement.

PLAN

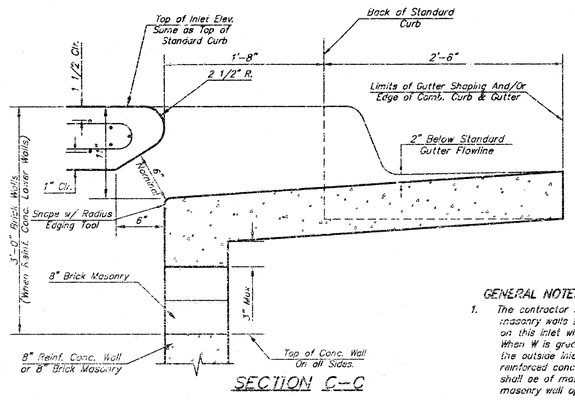
*Left Side Shown Without Slab Reinforcing, Right Side Shown With Slab Reinforcing



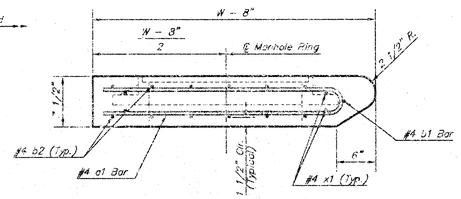
ELEVATION



SECTION B-B



SECTION C-C



SECTION A-A

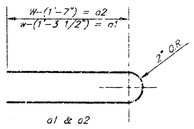
PRECAST SLAB AND FLOOR REINFORCING									
		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
* a1	#4	13	6'-7"	13	8'-7"	13	10'-7"	13	12'-7"	13	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	23	4'-1"	23	5'-1"	23	6'-1"	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											
		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
MARK	SIZE	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	③	68	②

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

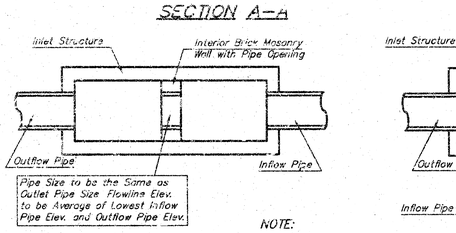
GENERAL NOTES:

1. 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.
2. 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 and/or outlet pipes.
3. 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.
4. 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.
5. The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall.

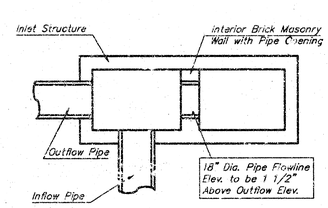


BENDING DIAGRAM

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	0.8¼
5'-4"	4'-8" 11'-4" 7 1/2"	24" & 30"	1.0¾
5'-4"	5'-8" 11'-4" 7 1/2"	36" & 42"	1.3¾
7'-4"	6'-8" 11'-4" 7 1/2"	48" & 54"	1.6¾
9'-4"	7'-8" 11'-4" 7 1/2"	60" & 66"	1.9¾

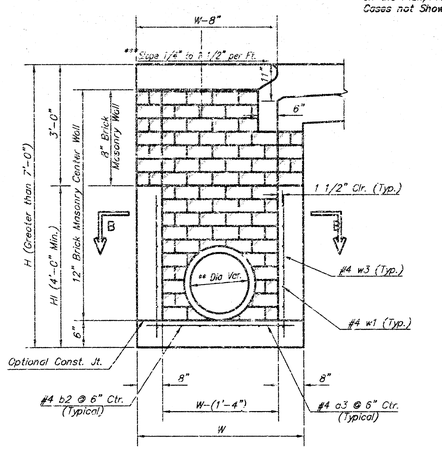


CASE I



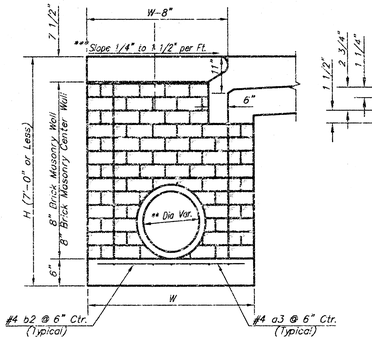
CASE II

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



TYPICAL INLET SECTION AT CENTER WALL

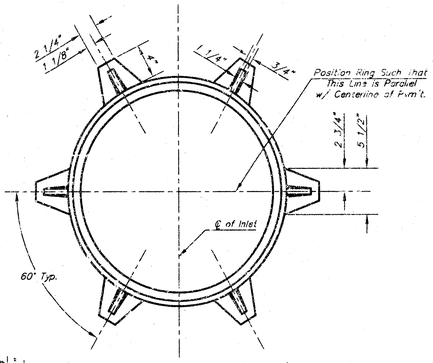
(Reinforced Concrete Walls)



TYPICAL INLET SECTION AT CENTER WALL

(Masonry 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 tops to match sidewalk of parking slopes within limits indicated.



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.

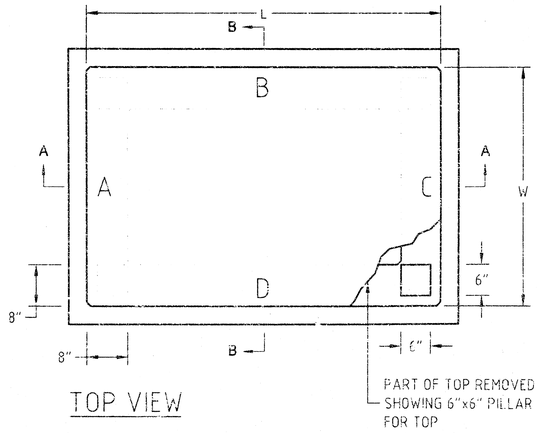
THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

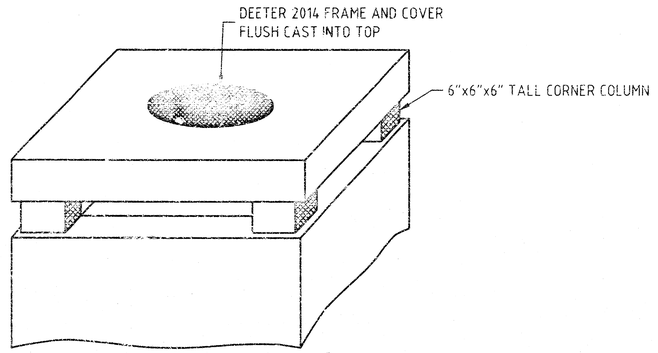
STANDARD TYPE 1-A CURB INLET OPENING = 6"x10'-0"

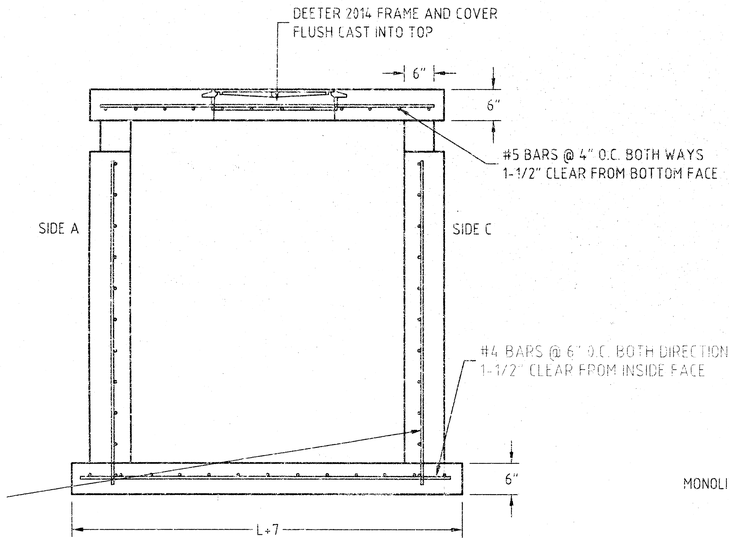
M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER	OCA #
1208 PPS	607861
DATE: MAR 96	SHEET 7 OF 13

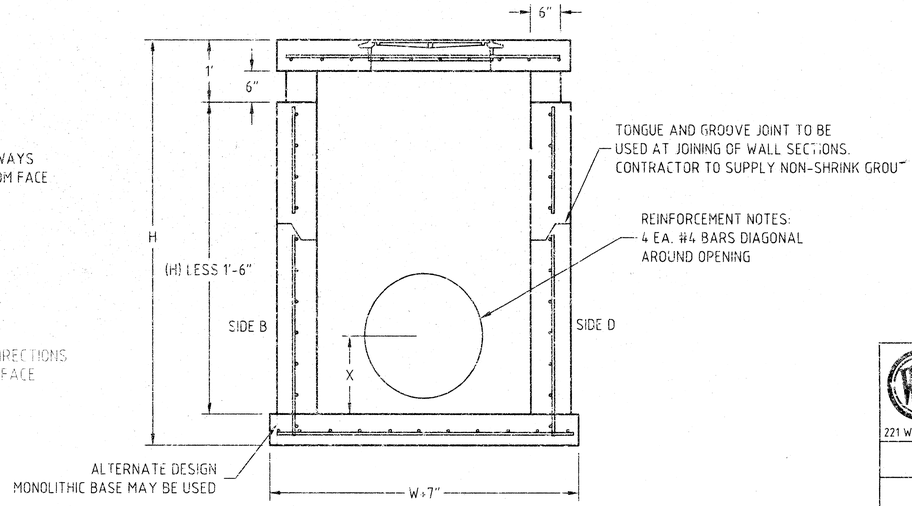


TOP VIEW





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

Ai special.dwg 1/25/02 TWL

REVISED

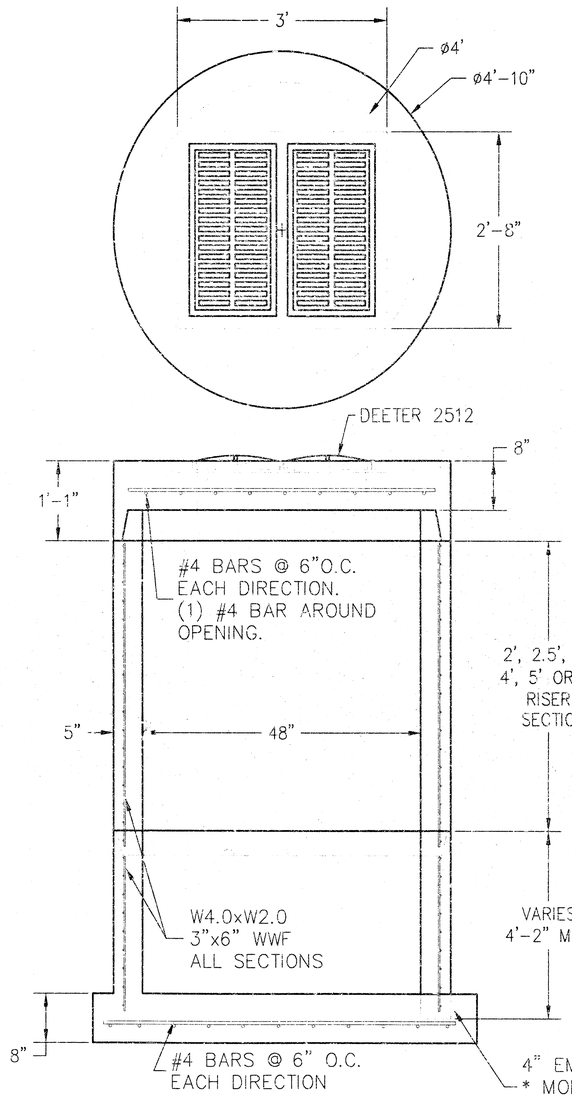
YORK UPG STORM WATER SEWER
SPECIAL AREA INLET
WICHITA, KANSAS

Ruggles & Bohm, P.A.
Engineering Surveying, Land Planning
924 North Main
Wichita, Kansas 67203
www.rbkansas.com
(316) 264-8008
(316) 264-4621 fax
E-mail: info@rbkansas.com

DESIGN WCP
DRAWN WCP
REVIEW
UTILITY
DATE 2-25-02

DRAWING FILE Ai special {Detail}
PROJECT NUMBER 1208 PFS (607861)

SHEET 8 OF 13



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.

WCP
WICHITA, KS

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

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

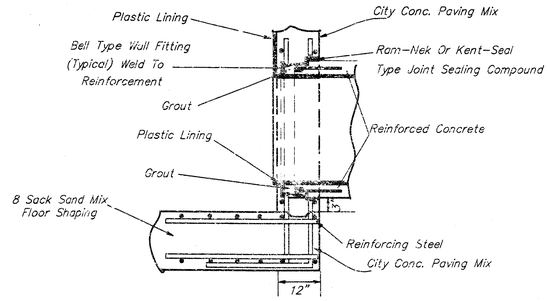
REVISED

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

Ruggles & Bohm, P.A.
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

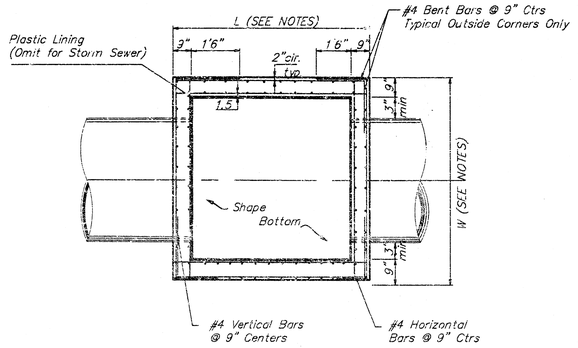
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WCP	WCP			2-7-02	48YARD {Detail}	1208 PPS (607861)	9 OF 13

SEE JOB 2096



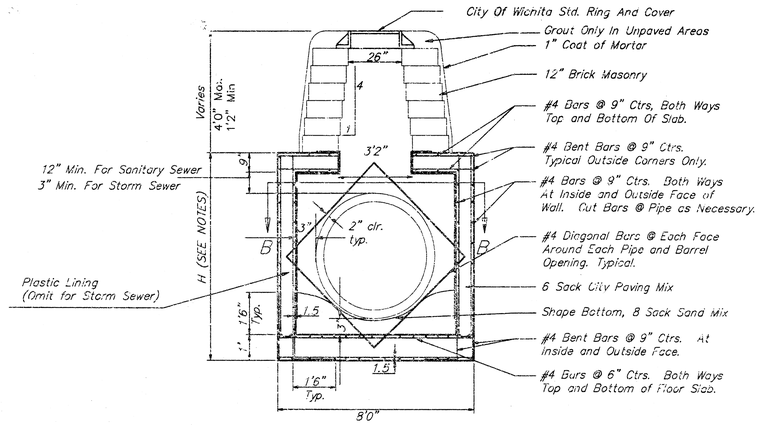
R.C.P. CONNECTION DETAIL

SANITARY SEWER ONLY



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

TOP VIEW



REINFORCED CONCRETE MANHOLE

MANHOLE STACK 2.33' TO 4'0"

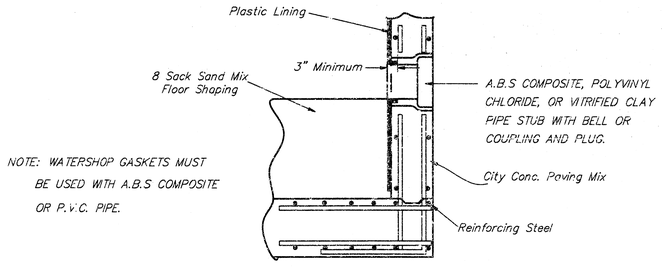
GENERAL NOTES:

1. 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 ADMIXTURE. 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.

2. 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.

3. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE RE-QUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.

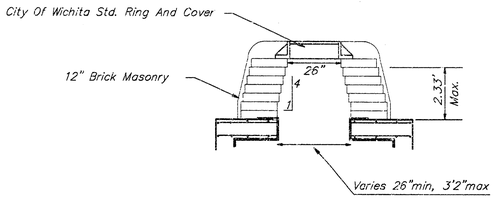
4. THE ENDS OF ALL PIPES IN MANHOLES SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF MANHOLE WALL.



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

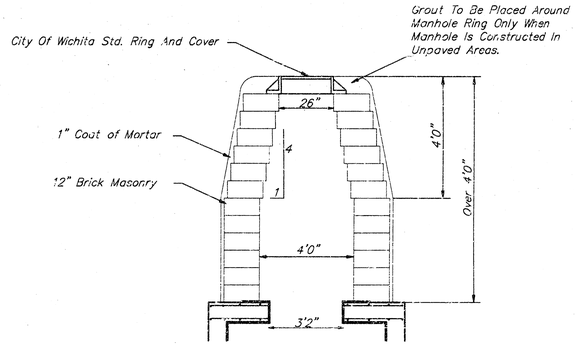
PIPE STUB DETAIL

SANITARY SEWER ONLY



REINFORCED CONCRETE MANHOLE

MANHOLE STACK LESS THAN 2.33'



REINFORCED CONCRETE MANHOLE

MANHOLE STACK OVER 4'0"

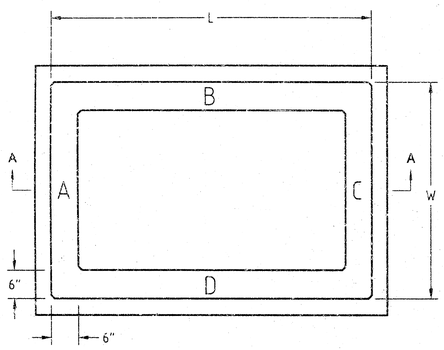
THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

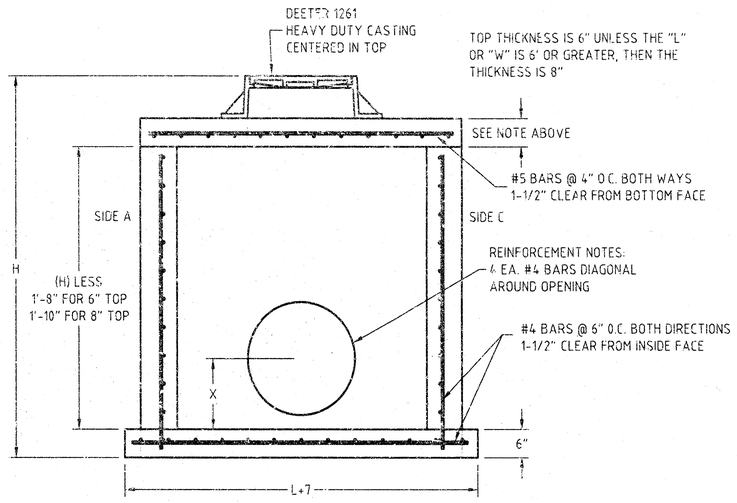
REINFORCED CONCRETE MANHOLE

M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER	INDEX CODE
1208 PPS	607861
DATE: APRIL 99	SHEET 10 OF 13



TOP VIEW



SECTION "A-A"

REVISED

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

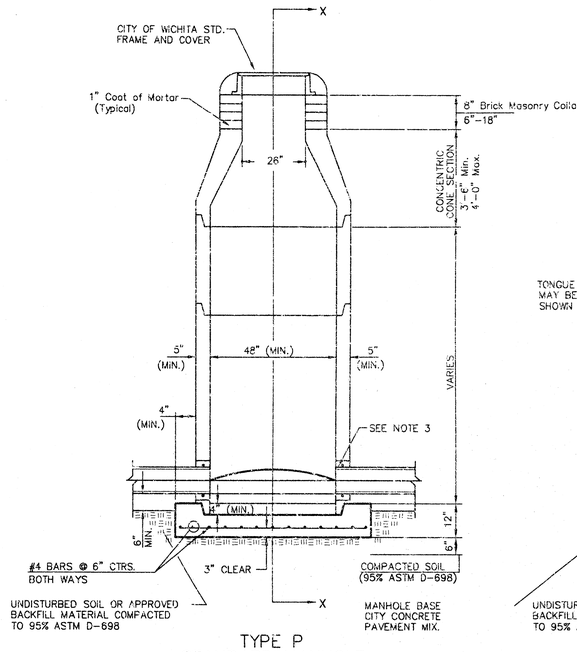
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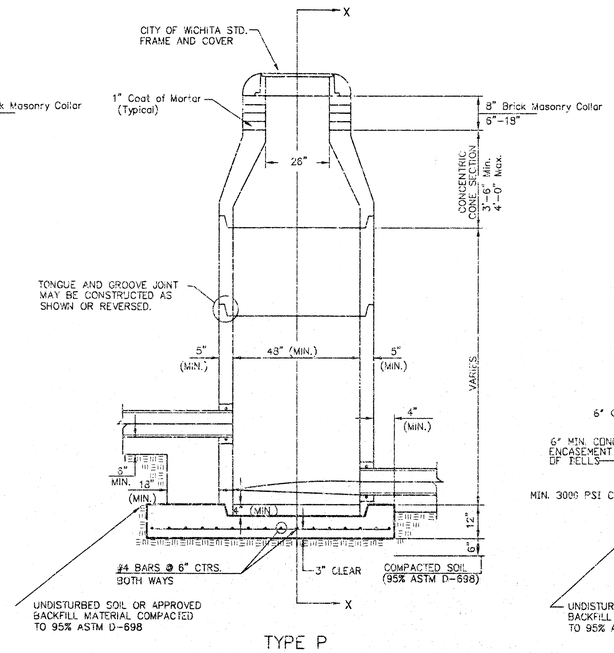
DESIGN	WCP
DRAWN	WCP
REVIEW	
UTILITY	
DATE	2-25-02
SHEET	11 OF 13

DRAWING FILE: StandardMHEX {Detail}
PROJECT NUMBER: 1208 PPS (607861)

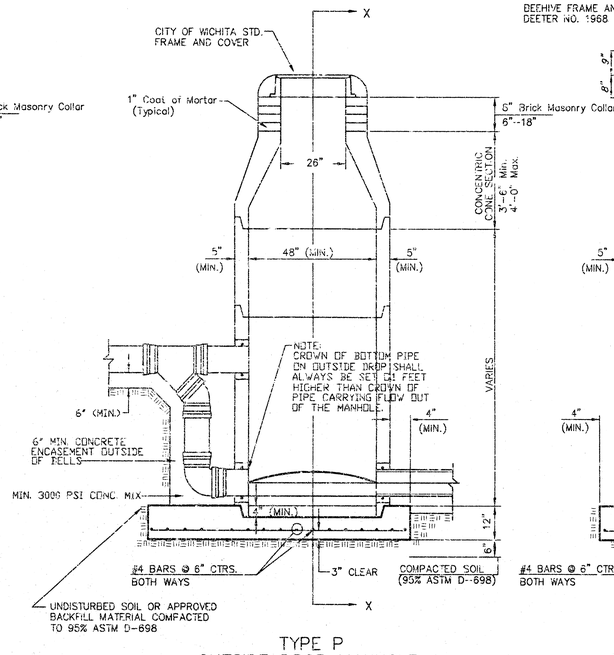
SEWER APPURTENANCES DETAILS



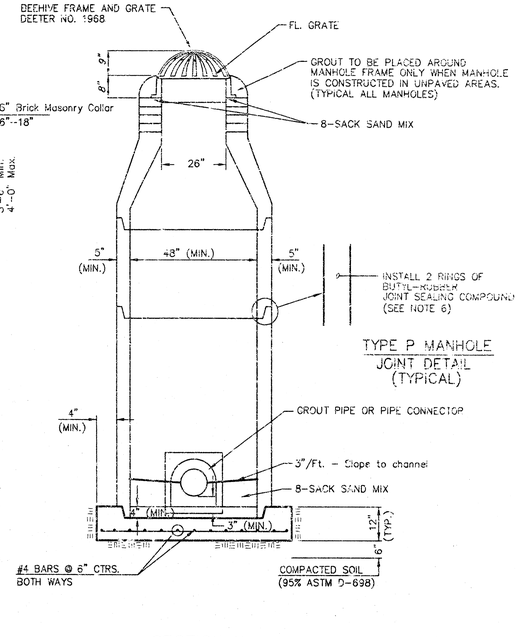
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

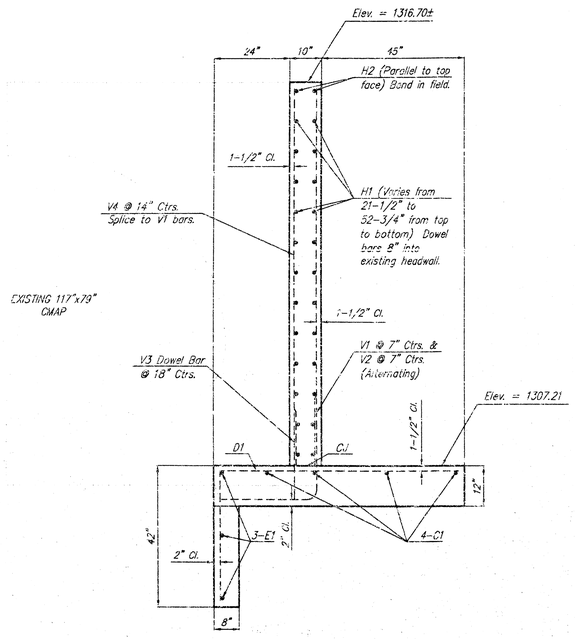
1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE 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 THEMEC SERIES 66 HI-BUILD EPOXOLINE, 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 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 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 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.
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 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.
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. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

REVISED

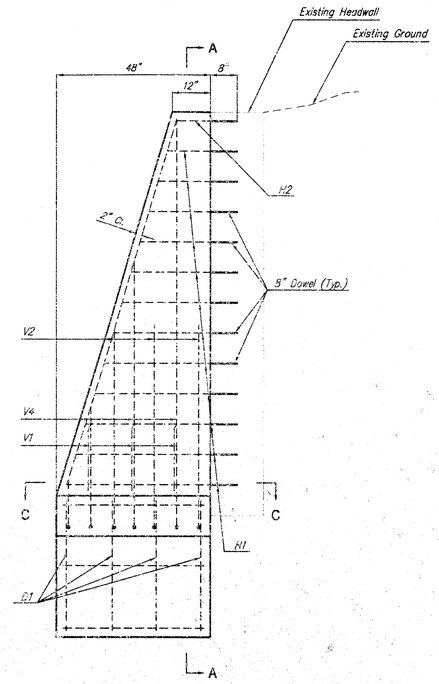
YORK UPG STORM WATER SEWER
MODIFIED TYPE P MANHOLE
WICHITA, KANSAS

Ruggles & Bohm, P.A.
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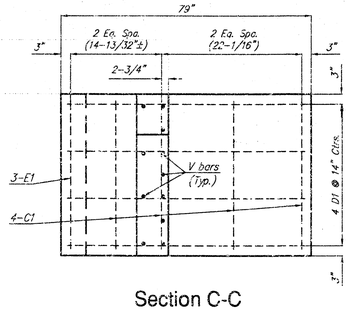
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UTILITY		OF	13
DRAWING FILE	std mh type p	PROJECT NUMBER	1208 PPS (607861)
DATE	2-25-02		



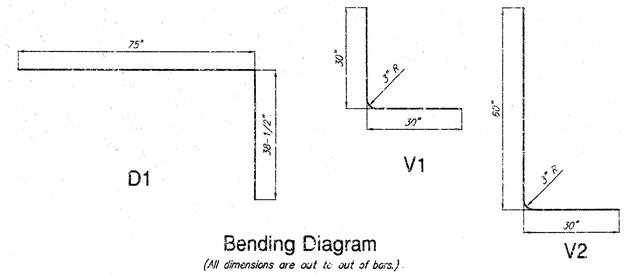
Section A-A



Elevation of Buttress



Section C-C
(Plan of Footing)



Bending Diagram
(All dimensions are out to out of bars.)

GENERAL NOTES:

UNIT STRESSES: Class AAA Concrete: f'c = 4,000 psi
Reinforcing Steel: fy = 60,000 psi

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

REINFORCING: All reinforcing shall conform to ASTM A615M, Grade 400.

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
BUTTRESS DETAIL
WICHITA, KANSAS

Ruggles & Bohm, P.A.
Engineering, Surveying, Land Planning
924 North Main
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www.rbkansas.com
(316) 264-8908
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E-mail: info@rbkansas.com

DESIGN	JDS
DRAWN	JDS
REVIEW	
UTILITY	
DATE	2-25-02
SHEET	13 OF 13

DRAWING FILE: SWS (Buttress Detail)
PROJECT NUMBER: 1208 PPS (607861)

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