

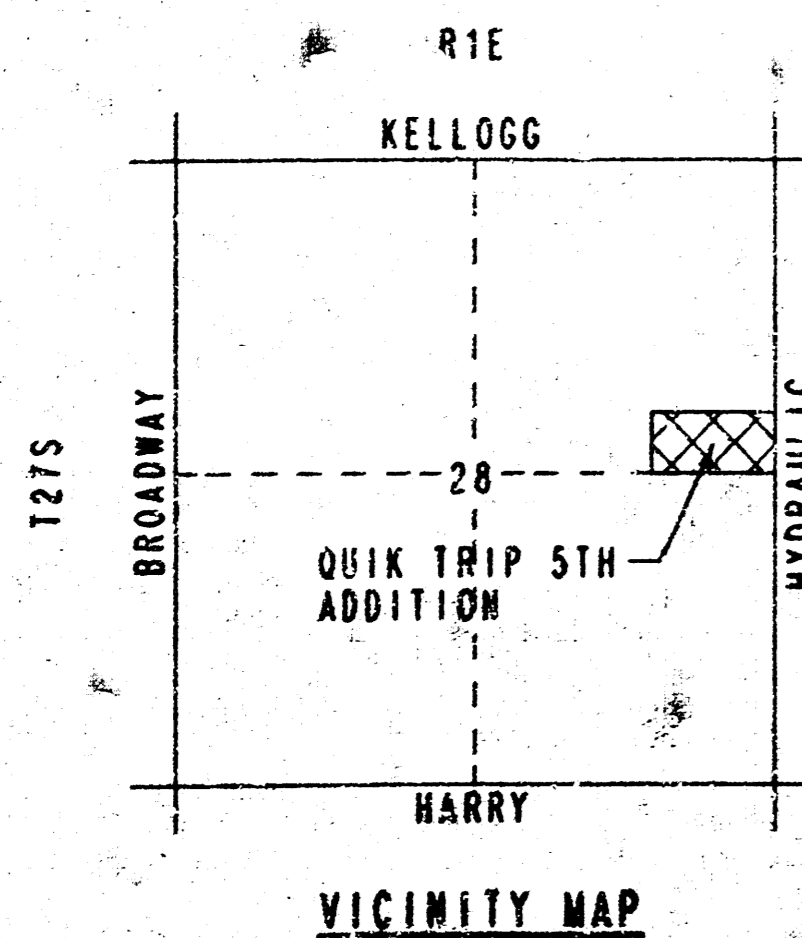
CITY OF WICHITA, KANSAS
 MICHAEL E. LINDEBAK, P.E., CITY ENGINEER
 SANITARY SEWER IMPROVEMENTS
 STORM WATER SEWER IMPROVEMENTS

TO SERVE

QUIK TRIP 5TH ADDITION
 CITY OF WICHITA PRIVATE PROJECT NO. 411PPS(607861)

INDEX OF SHEETS

1. KEY MAP AND GENERAL NOTES
2. PLAT
3. PLAN
4. PROFILE
5. MANHOLE AND DRAINAGE DETAILS
6. TRENCH INLET
7. TYPE P MANHOLE DETAILS
8. MANHOLE FRAME AND COVER DETAILS



DRAWING MADE BY: J2-53233-1 QUIKTRIP TITL
 CHECKED BY: J2-53233-1 QUIKTRIP TITL
 DATE: 9-9-93
 DATE LAST REVISED: 9-9-93
 DATE LAST DRAWN ON: 9-9-93
 DRAWN BY: J2-53233-1 QUIKTRIP TITL

GENERAL NOTES

ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.

ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM.

THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKEND TO LESS THAN 50 FEET.

CONTRACTOR SHALL PROVIDE A MINIMUM FORTY-EIGHT (48) HOUR ADVANCE NOTICE (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO BEGINNING ANY EXCAVATION TO KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (316) 947-7969 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ALL EXISTING LINES WITHIN THE PROJECT AREA: K. O. & E. GAS, ARKLA GAS, K. O. & E. ELECTRIC, SOUTHWESTERN BELL TELEPHONE, MULTIMEDIA CABLEVISION, CITY OF WICHITA SEWER MAINTENANCE AND CITY OF WICHITA WATER DEPARTMENT.

UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. 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.

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.

CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL SANITARY SEWER MANHOLE COVERS.

ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME GRASS/SOD AS EXISTING. RESTORATION OF DISTURBED AREAS SHALL INCLUDE, BUT NOT BE LIMITED TO, TOP SOIL PREPARATION, SEEDING, MULCH, AND/OR RESEEDING. ALL SEEDING/SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. 187B WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING 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.

ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

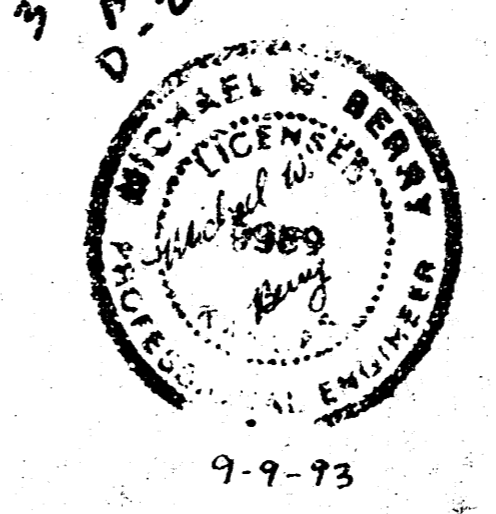
THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS FLOW OF SEWAGE THROUGH CONSTRUCTION. CONTRACTOR'S PROPOSED METHOD FOR MAINTAINING FLOW OF SEWAGE THROUGH CONSTRUCTION WILL NOT BE PAID FOR DIRECTLY.

CONNECTION TO EXISTING INLETS. WHEN IT IS NECESSARY TO CONNECT A NEW SEWER TO AN EXISTING INLET WHICH DOES NOT HAVE A STUB TO FACILITATE THIS CONNECTION THE CONTRACTOR SHALL BREAK INTO THE INLET CAREFULLY SUCH THAT THE STRUCTURAL INTEGRITY OF THE INLET WILL NOT BE IMPAIRED. ALL REPAIR WORK NECESSARY TO CLOSE THE OPENING MADE TO FACILITATE THE INSTALLATION OF THE NEW PIPE SHALL CONFORM TO THE REQUIREMENTS FOR NEW CONSTRUCTION AS SPECIFIED IN THESE SPECIFICATIONS FOR THE TYPE OF INLET INVOLVED. THE FLOOR OF THE INLET SHALL BE MODIFIED SUCH THAT SMOOTH CHANNELS WILL BE FORMED FROM ALL INLET PIPES TO THE OUTLET PIPE SUCH THAT THE INLET WILL BE SELF-CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS STORM WATER FLOWS THROUGH THE STRUCTURE IN ACCORDANCE WITH SUCH REQUIREMENTS SPECIFIED FOR NEW INLET CONSTRUCTION. NO PAYMENT WILL BE MADE FOR CONNECTING NEW SEWER PIPES TO EXISTING INLETS AND ALL COSTS FOR COMPLETING THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS OF WORK EXCEPT WHEN A BID ITEM APPEARS IN THE PROPOSAL FOR THIS WORK.

*Sanitary Sewer Booked
 2/17/94 JKB
 From As Builts*

*Slo's Booked
 3-26-94
 D-1220*



SEPTEMBER, 1993
 PLANS PREPARED BY
 PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

APPROVED AS NOTED
 BY CITY ENGINEER OF WICHITA

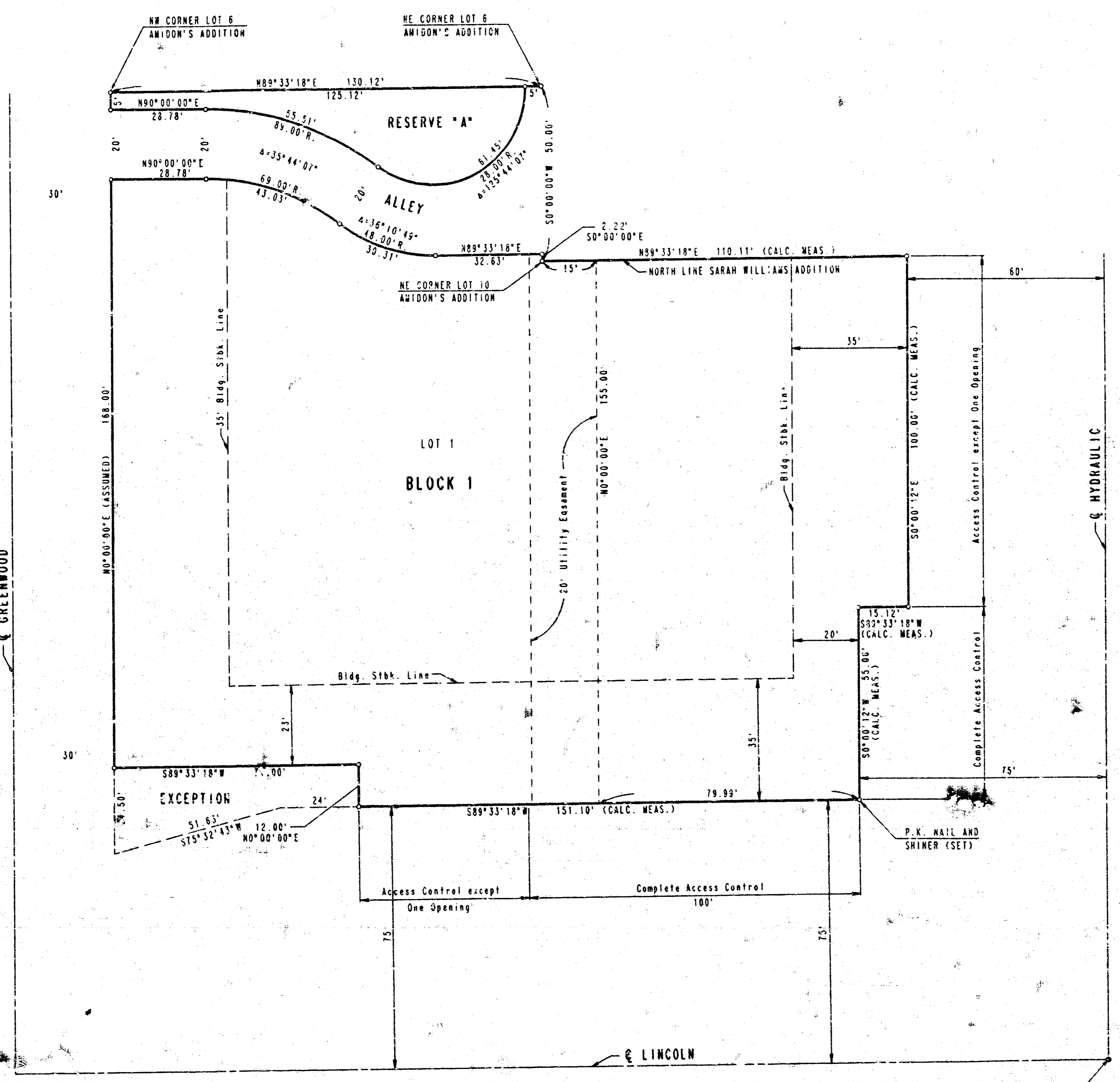
SANITARY SEWERS VRH 9/15/93
 STORM SEWERS VRH 9/15/93
 DRIVEWAY APPROACHES _____
 WATER MAINS _____
 PAVING _____

NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS 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 IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

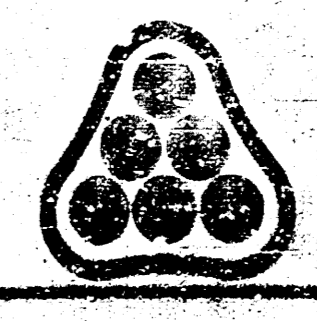
QUIKTRIP 5TH ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

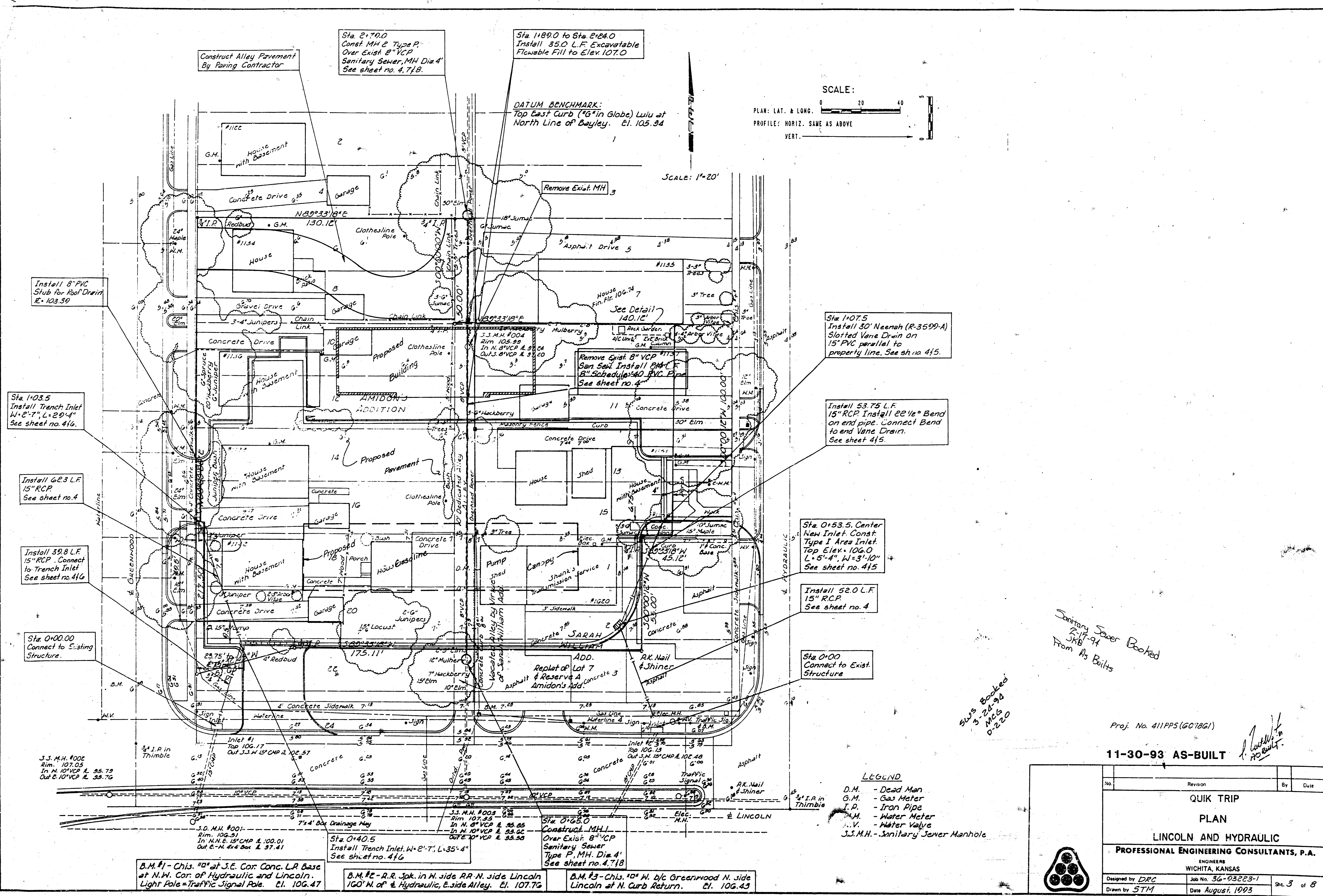
SCALE: 1"=20'
 ○ = 3/4" IRON SET
 ● = IRON FOUND (3/4" I.P.)
 DATUM BENCH MARK:
 TOP EAST CURB (1"0" IN GLOBE)
 LULU AT NORTH LINE OF BAYLEY
 ELEV. 1105.34 CITY DATUM



S.E. CORNER N.E. 1/4
 SEC. 28, T27S, R1E
 OF THE 61N P.M.

No.	Revision	By	Date
PLAT			
Proj. No. 411PPS (GOTBG!)			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.			
ENGINEERS WICHITA, KANSAS			
Designed by	Job No. 932PS-1	Sht. 2 of 8	
Drawn by	Date August, 1995		





Construct Alley Pavement By Paving Contractor

Sta. 2+70.0
Const. MH & Type P
Over Exist. 8" VCP
Sanitary Sewer, MH Dia. 4'
See sheet no. 4.718.

Sta. 1+89.0 to Sta. 2+24.0
Install 35.0 L.F. Excavatable
Flowable Fill to Elev. 107.0

DATUM BENCHMARK:
Top East Curb (16" in Globe) Lulu at
North Line of Bayley. El. 105.34

SCALE:
PLAN: LAT. & LONG. 0 20 40
PROFILE: HORIZ. SAME AS ABOVE
VERT. _____

SCALE: 1"=20'

Install 8" PVC
Stub for Roof Drain
R. 103.39

Sta. 1+03.5
Install Trench Inlet
W=2'-7", L=29'-4"
See sheet no. 416.

Install 62.3 L.F.
15" RCP
See sheet no. 4

Install 39.8 L.F.
15" RCP. Connect
to Trench Inlet
See sheet no. 416

Sta. 0+00.00
Connect to Existing
Structure.

J.S. M.H. #002
Rim. 107.05
In N. 10" VCP & 35.79
Out 6" 10" VCP & 35.76

B.M. #1 - Chis. 10" at S.E. Cor. Conc. L.P. Base
at N.W. Cor. of Hydraulic and Lincoln.
Light Pole = Traffic Signal Pole. El. 106.47

Sta. 0+40.5
Install Trench Inlet, W=2'-7", L=35'-4"
See sheet no. 416

B.M. #2 - R.R. Spk. in N. side RR. N. side Lincoln
100' N. of & Hydraulic, E. side Alley. El. 107.76

Sta. 0+65.0
Construct MH 1
Over Exist. 8" VCP
Sanitary Sewer
Type P, MH Dia. 4'
See sheet no. 4.718

B.M. #3 - Chis. 10" N. d/c Greenwood N. side
Lincoln at N. Curb Return. El. 106.43

Sta. 1+07.5
Install 30' Neenah (R-3599-A)
Slotted Vane Drain on
15" PVC parallel to
property line. See sh. no. 415.

Install 53.75 L.F.
15" RCP. Install 22 1/2° Bend
on end pipe. Connect Bend
to end Vane Drain.
See sheet 415.

Sta. 0+53.5. Center
New Inlet. Const.
Type I Area Inlet.
Top Elev. 106.0
L=5'-4", W=3'-10"
See sheet no. 415

Install 52.0 L.F.
15" RCP.
See sheet no. 4

Sta. 0+00
Connect to Exist.
Structure

LEGEND
D.M. - Dead Man
G.M. - Gas Meter
I.P. - Iron Pipe
W.M. - Water Meter
S.S.M.H. - Sanitary Sewer Manhole



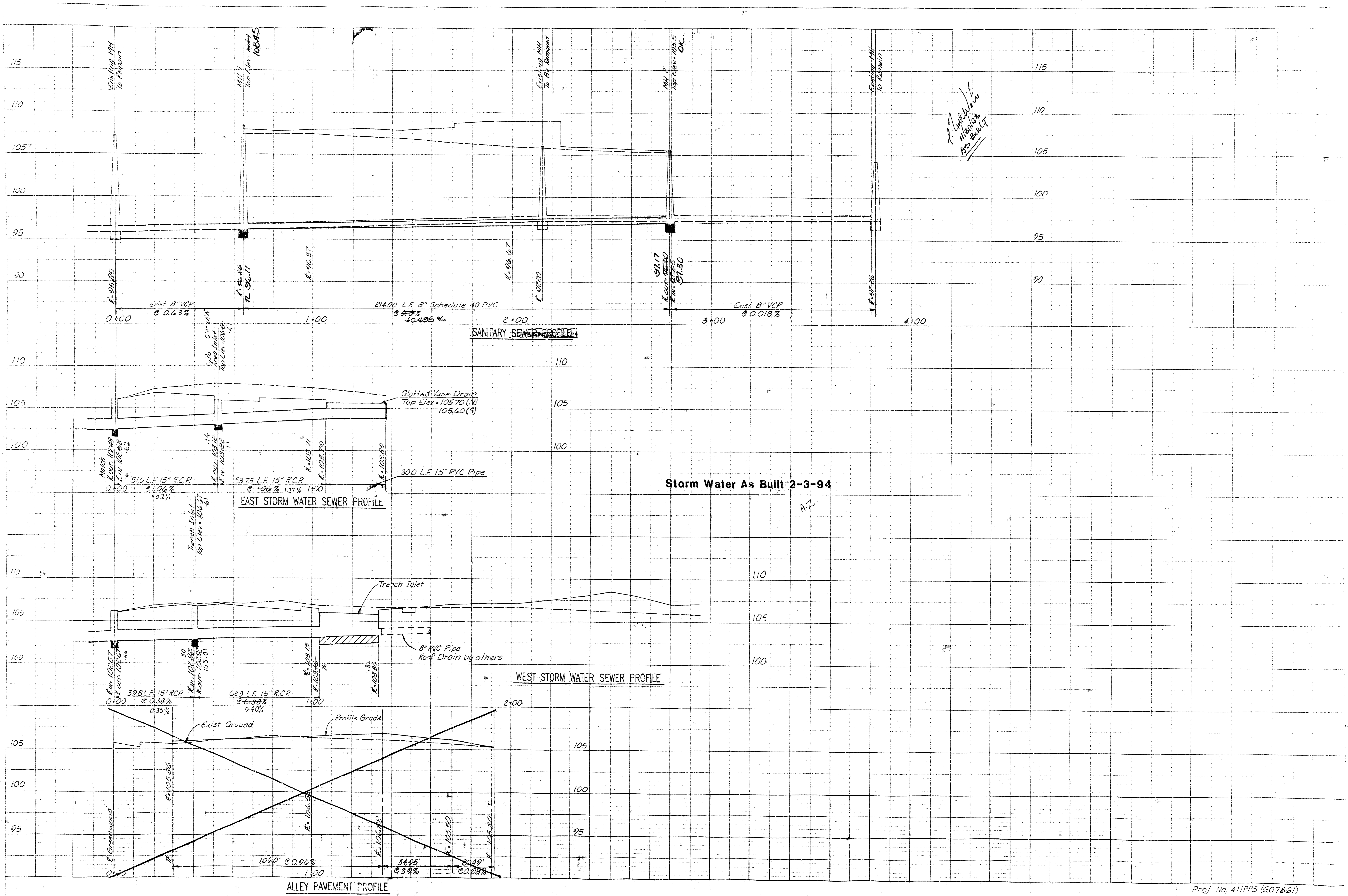
Proj. No. 411PPS(GO78G1)

11-30-93 AS-BUILT

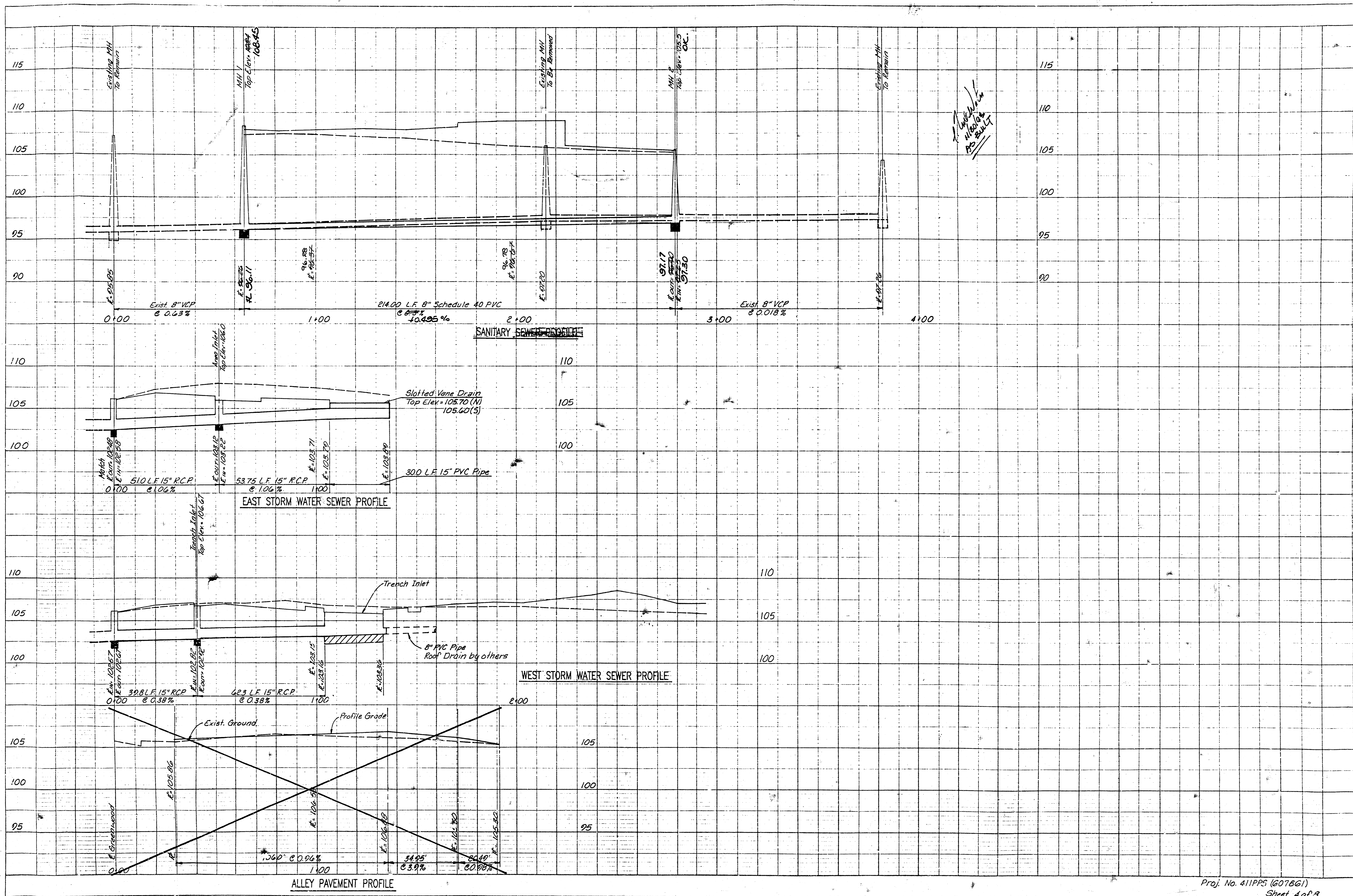
No.	Revision	By	Date
QUICK TRIP			
PLAN			
LINCOLN AND HYDRAULIC			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.			
ENGINEERS WICHITA, KANSAS			
Designed by DRC	Job No. 36-03223-1	Sht. 3 of 8	
Drawn by STM	Date August, 1993		

Sanitary Sewer Booked
2-17-94
JMB

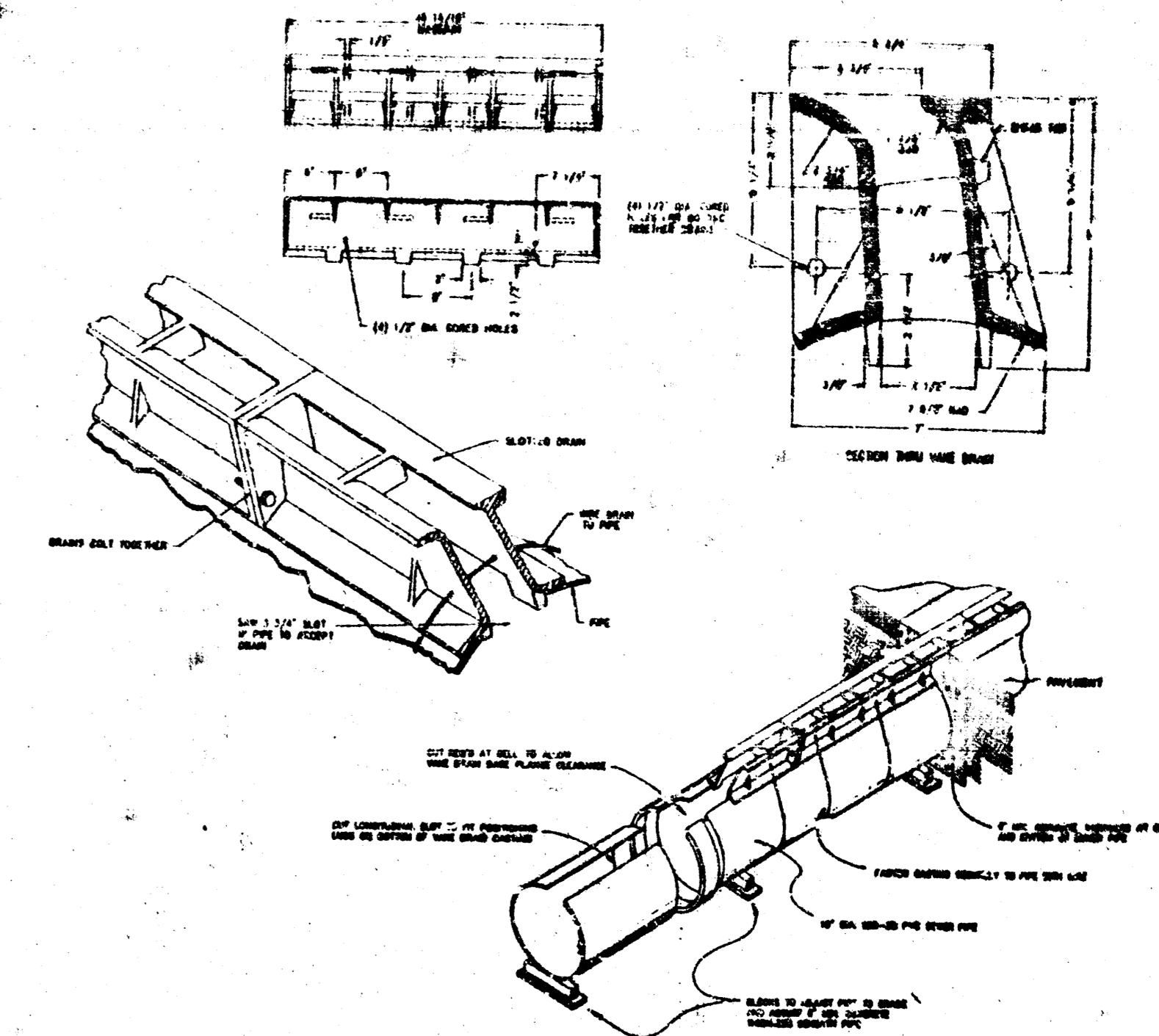
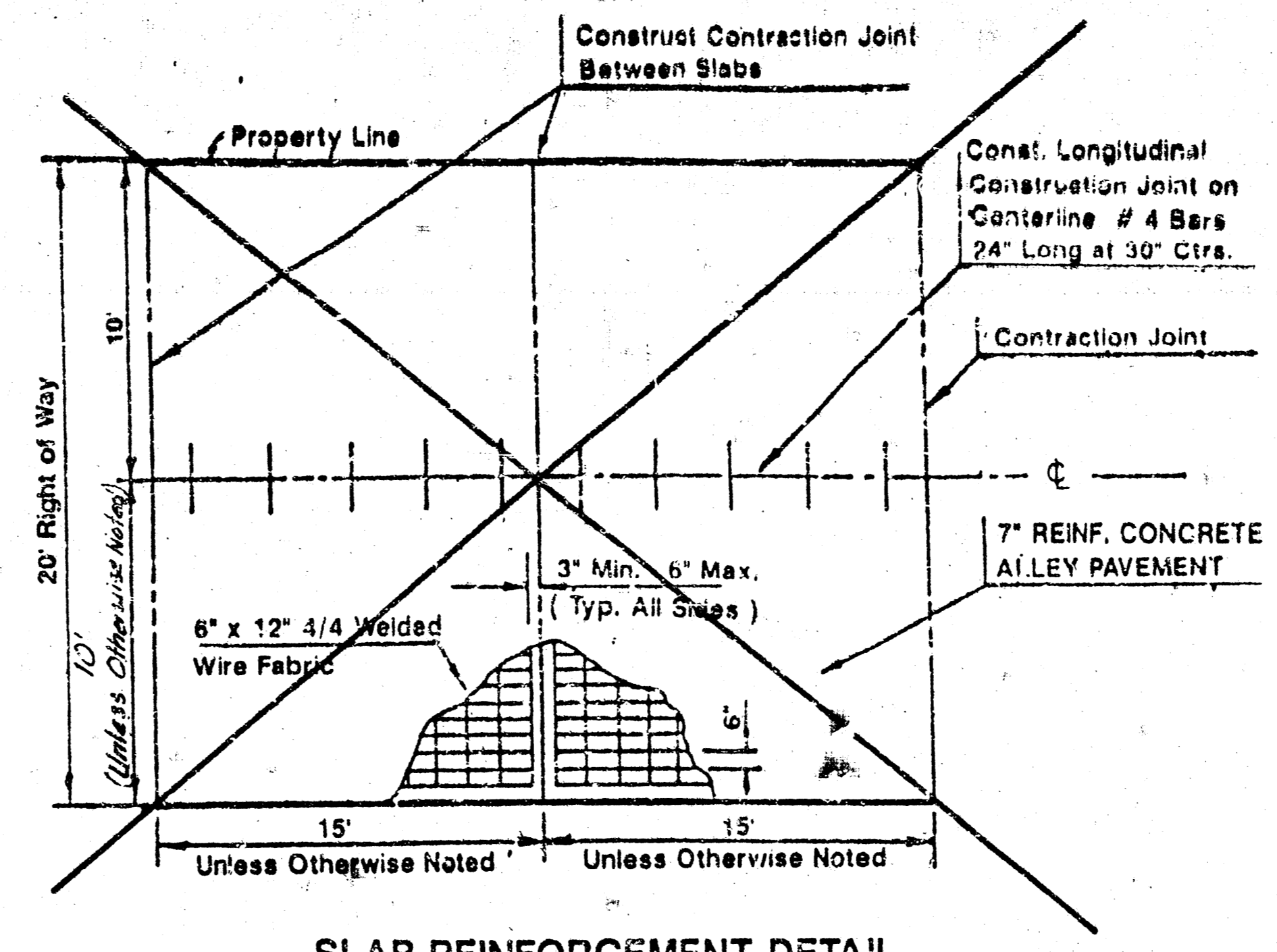
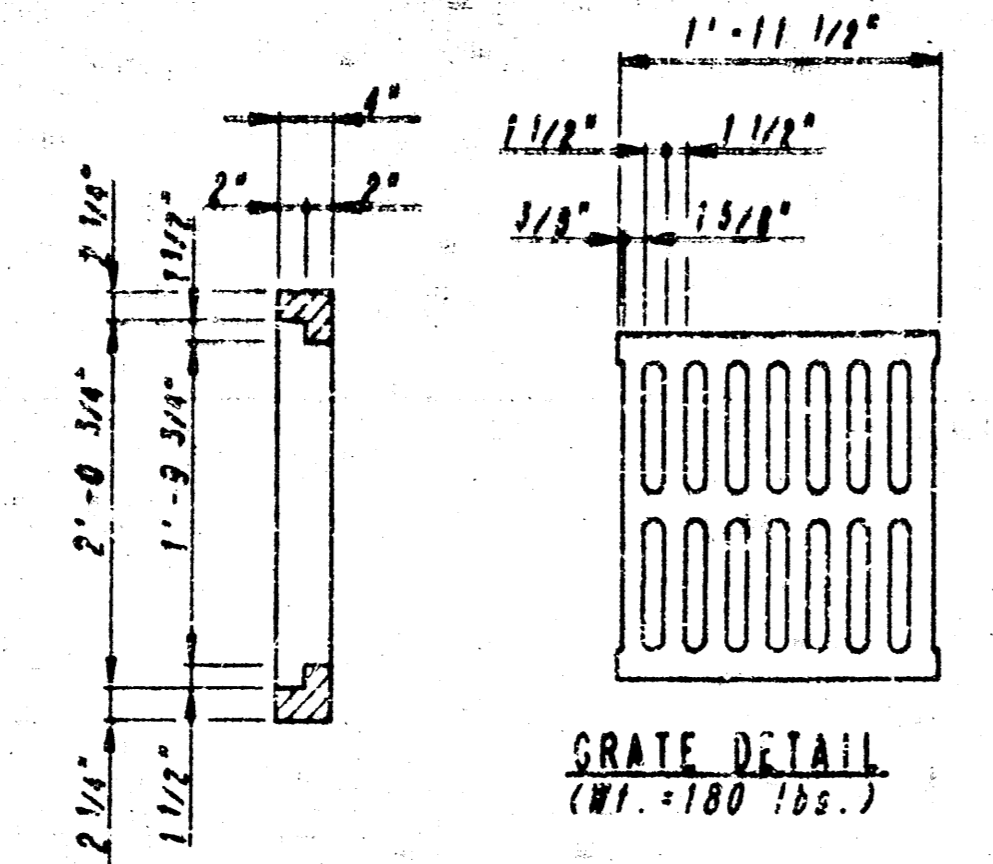
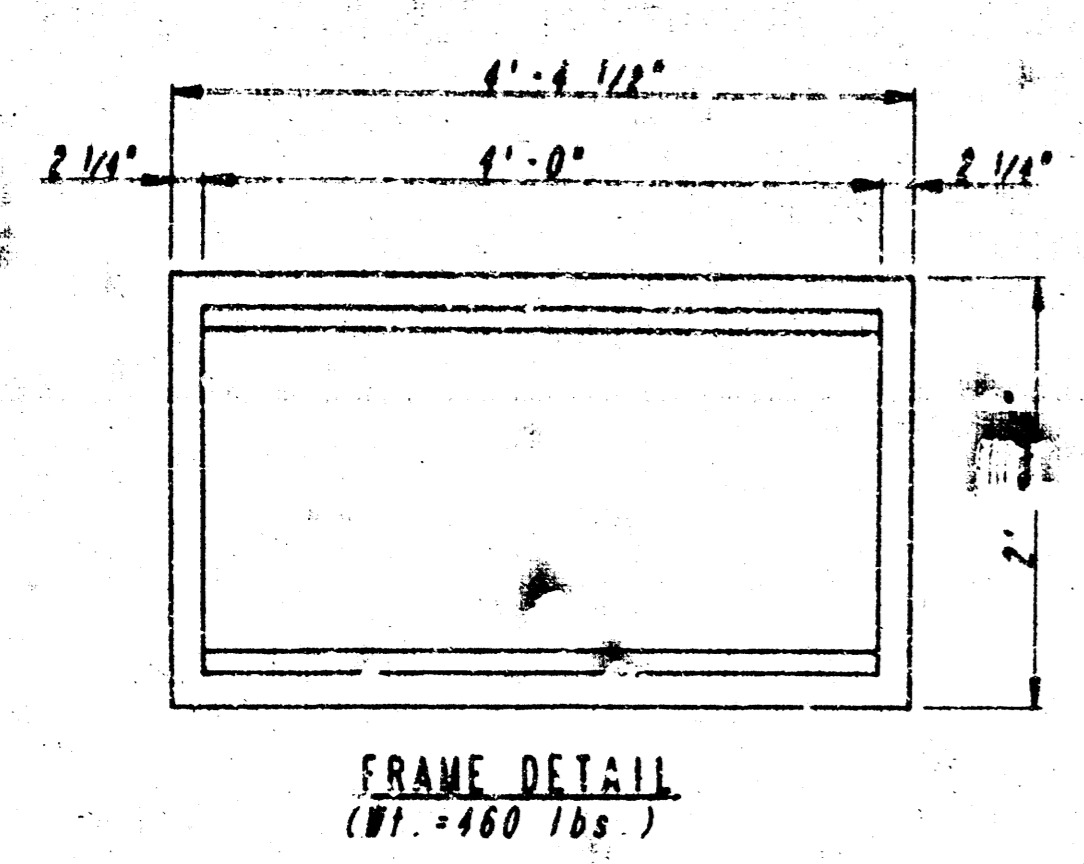
Sw's Booked
3-22-94
MCS
0-2-20



Handwritten: Karen
Rev SWS to
Gork Trip 15th



Handwritten note:
 11/10/11
 AS 2/11/11



GENERAL NOTES

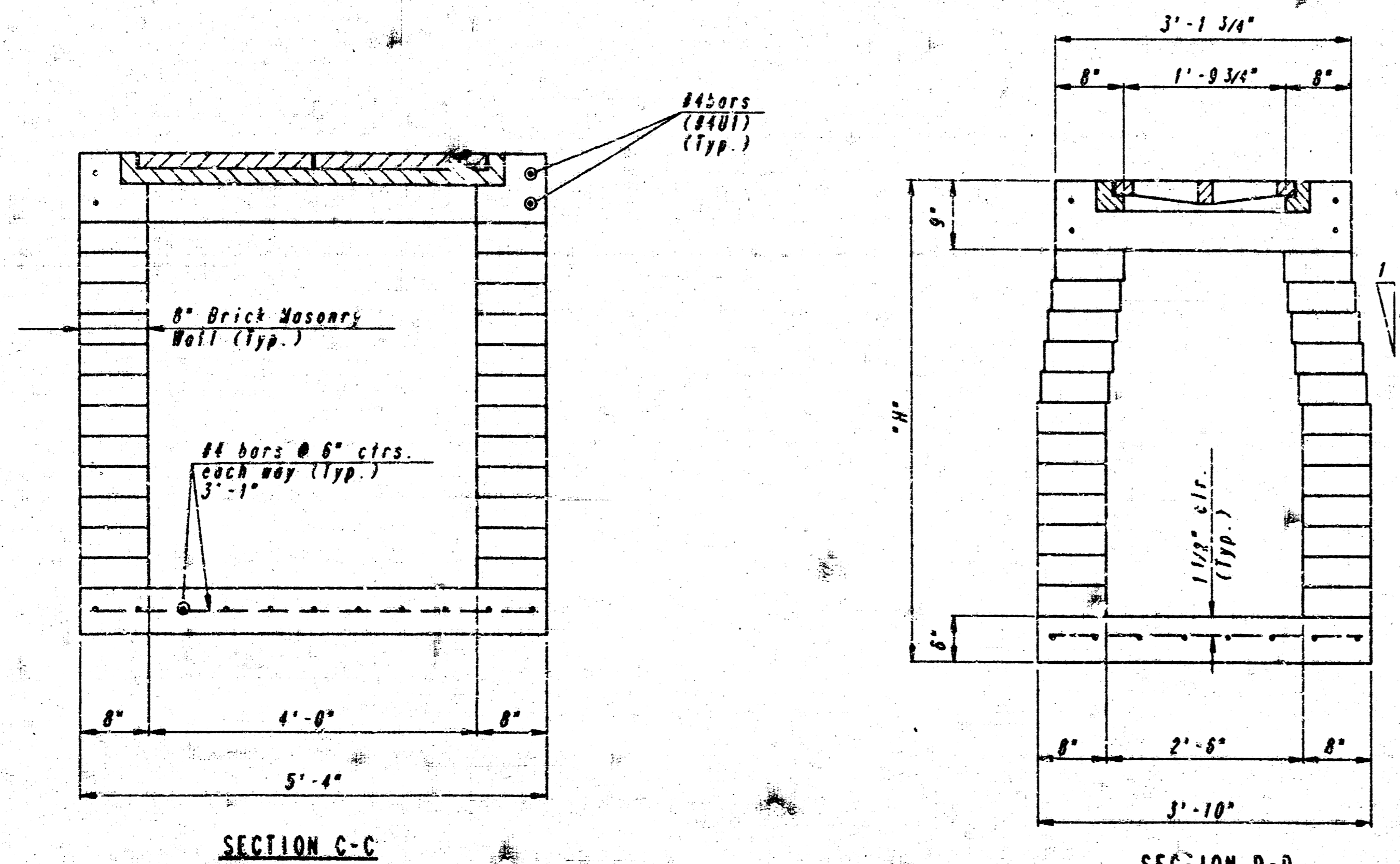
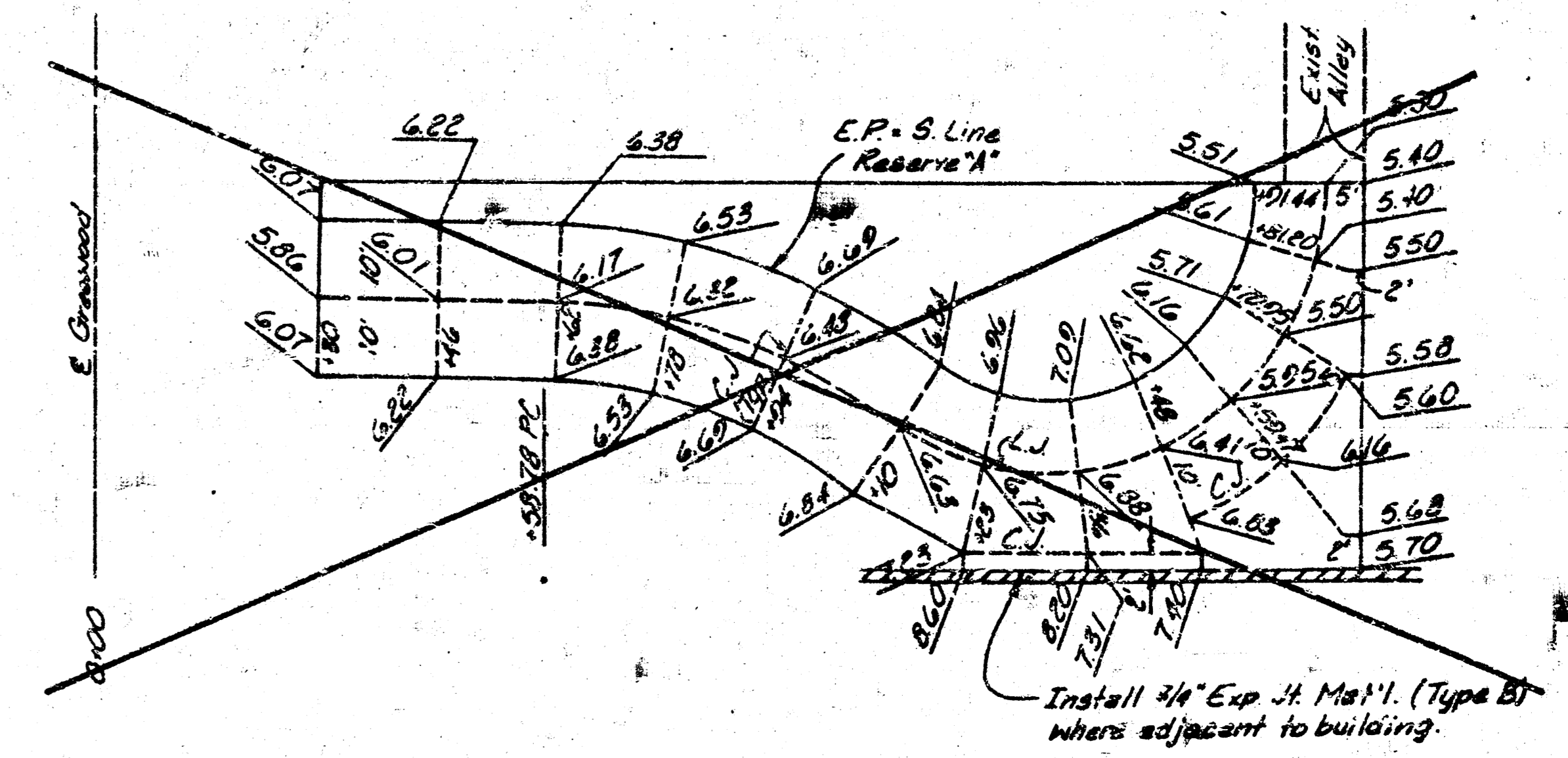
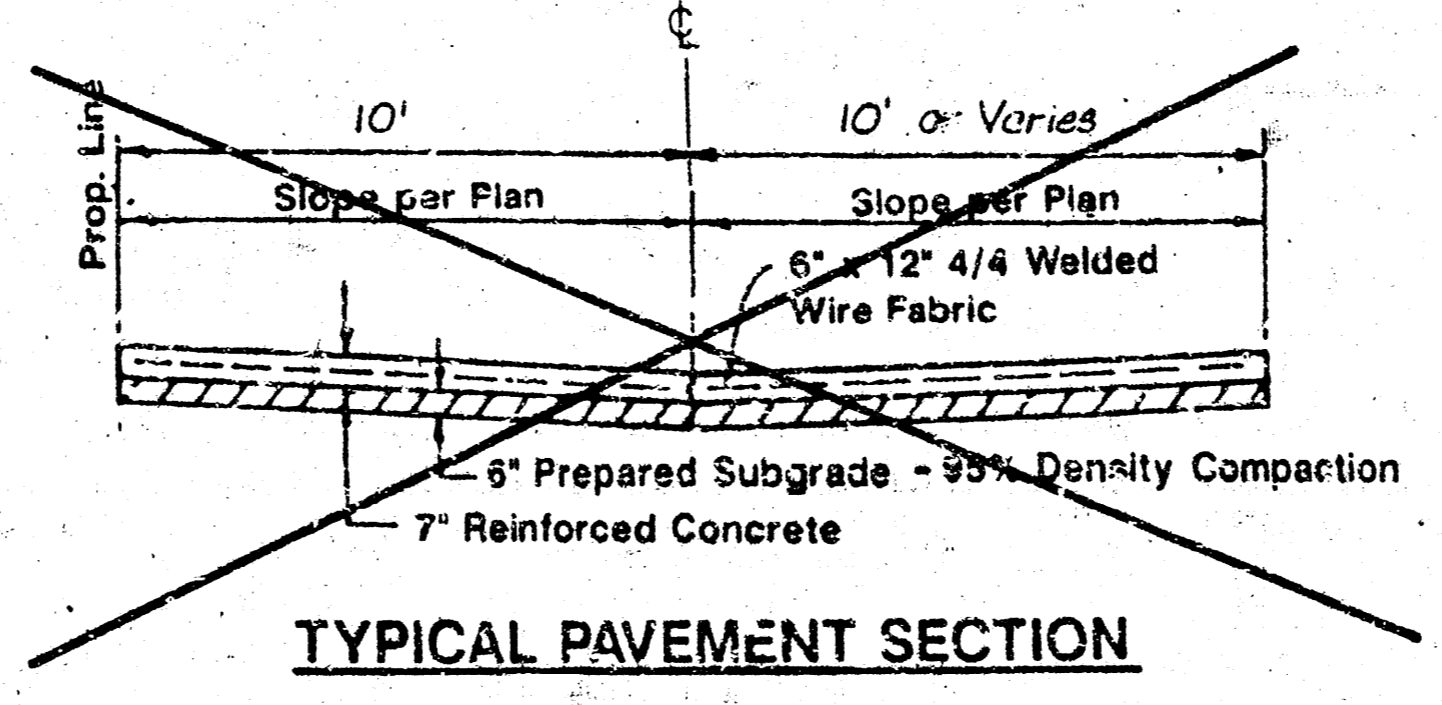
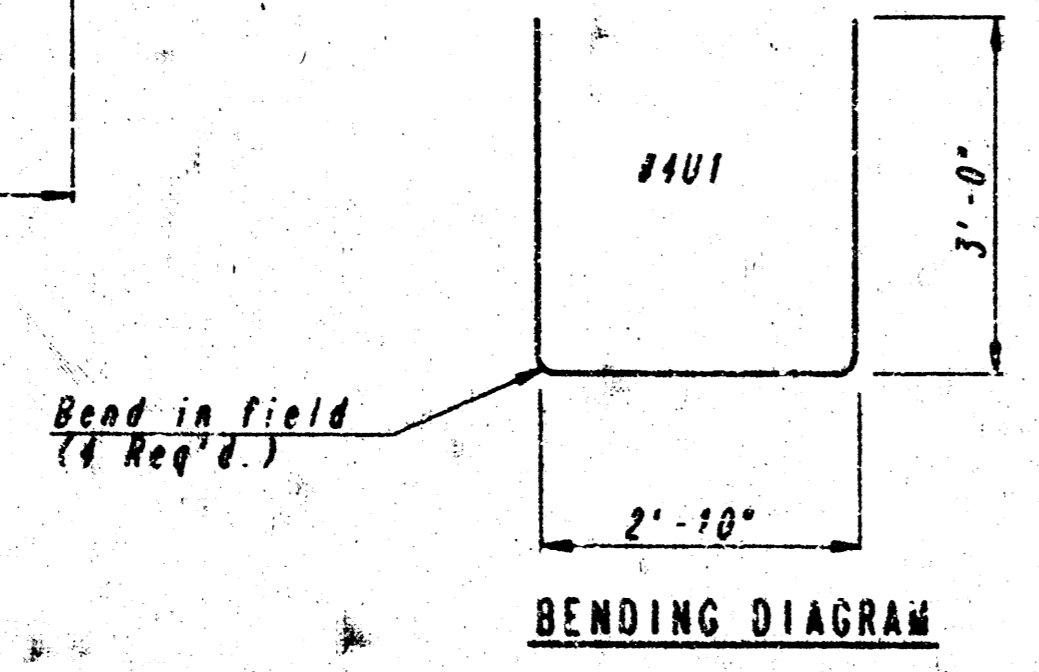
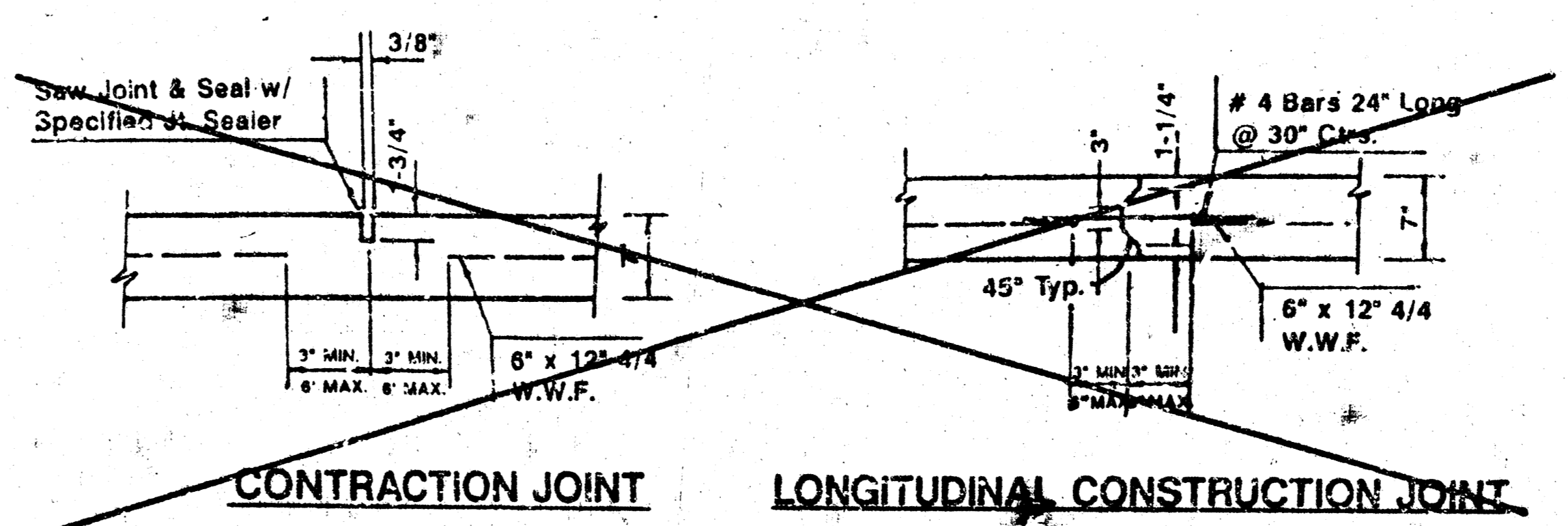
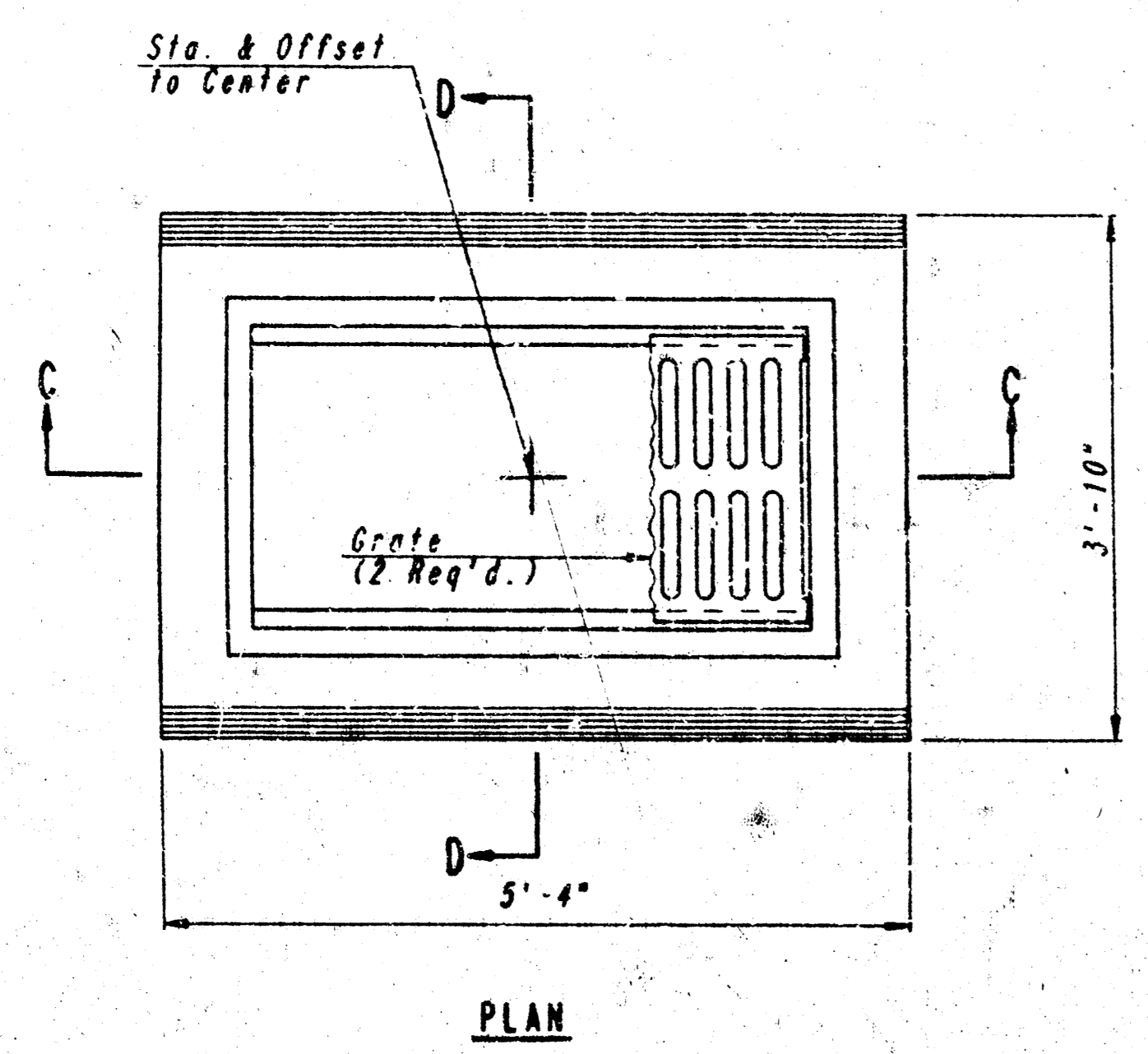
CONCRETE SHALL BE ~~TYPE~~ OR THE MIX USED IN CONCRETE PAVEMENT. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN APPROVED EDGING TOOL.

REINFORCING STEEL SHALL BE A MINIMUM GRADE 40, A. S. T. M. A615. ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

INLET CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A. S. T. M. DESIGNATION A-48. DIMENSIONS AND HEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE 7% UNIFORM QUALITY, FREE FROM BUBBLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER EFFECTS.

CONSTRUCTION REQUIREMENTS AND MATERIALS FOR MASONRY WALLS SHALL CONFORM TO CITY STANDARD SPECIFICATION.

INLET FLOOR SHALL BE SHAPED WITH UNREINFORCED CONCRETE TO CREATE FLOW CHANNELS AND TO IMPROVE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF-CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.



AREA INLET (TYPE 1)

PLAN	SURVEYED	DATE
	NOTED	
	ALIGNED	
	CHECKED	
	BY	

DRAWING NAME:
LOCAL COORDINATES:
NOTATION ANGLE:
DATE LAST WORKED ON:
STOREY MORRISON

ALLEY-RESERVE "A" PAVING PLAN

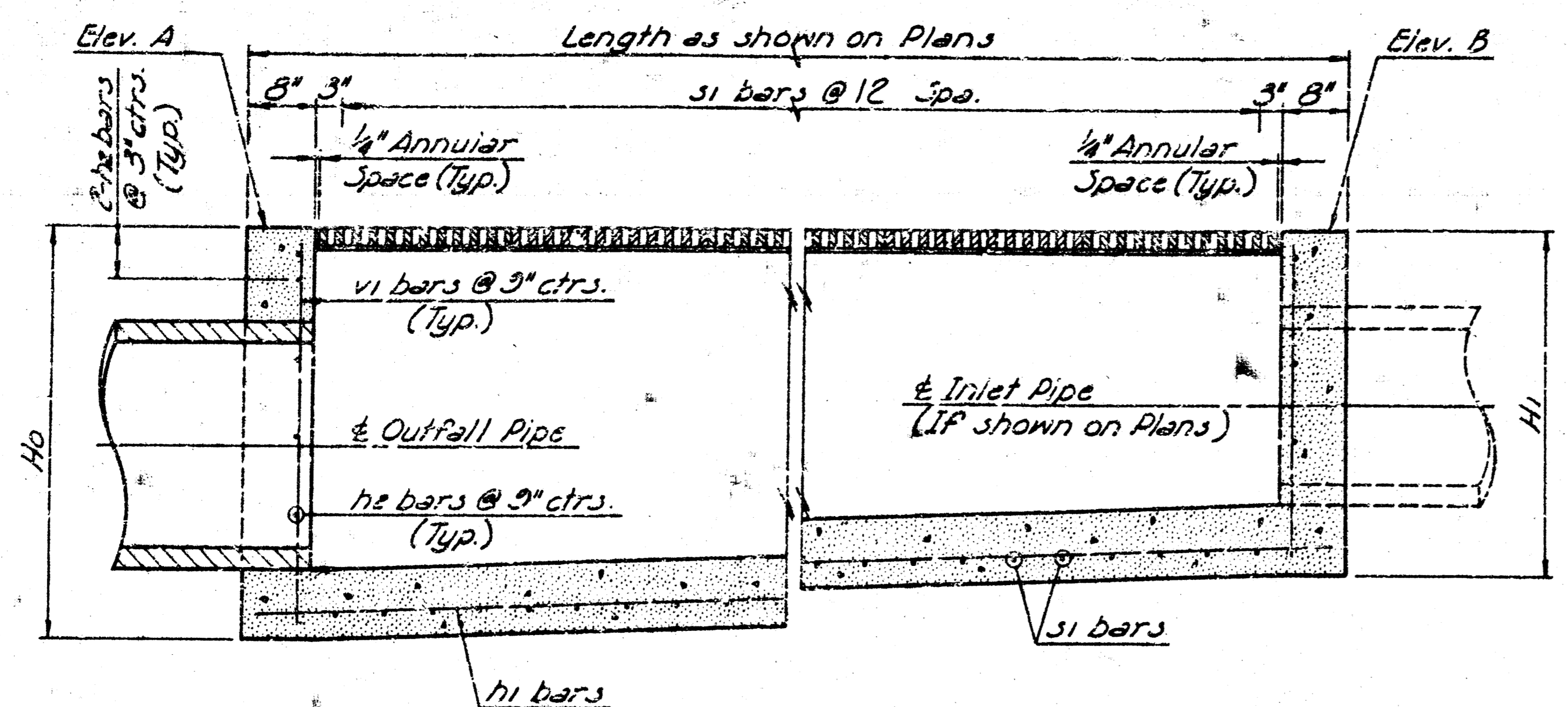
QUICK TRIP

DRAINAGE DETAILS

LINCOLN AND HYDRAULIC
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

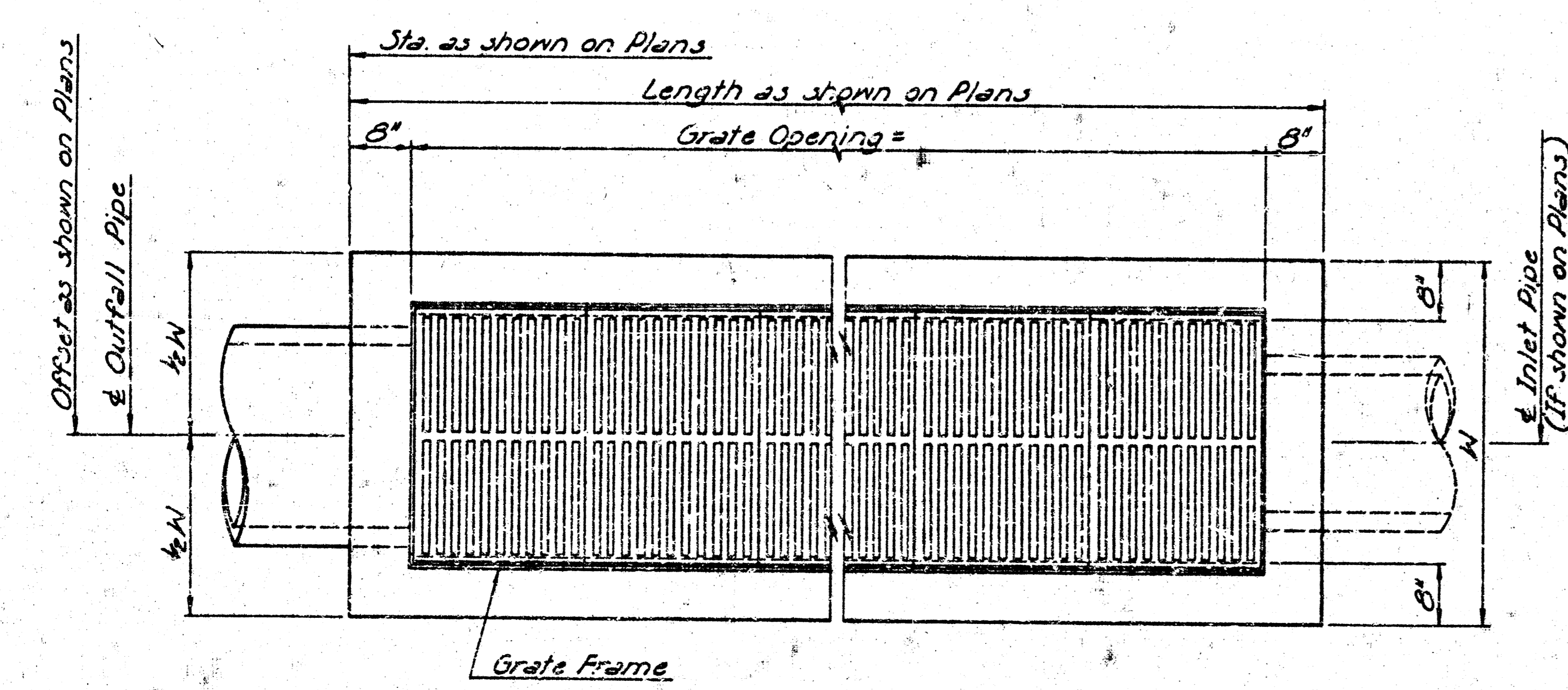
Designed by	DRC	Checked by	MJB
Drawn by	STW	Date	August 1993

Job No. 93225-1
6 of 8

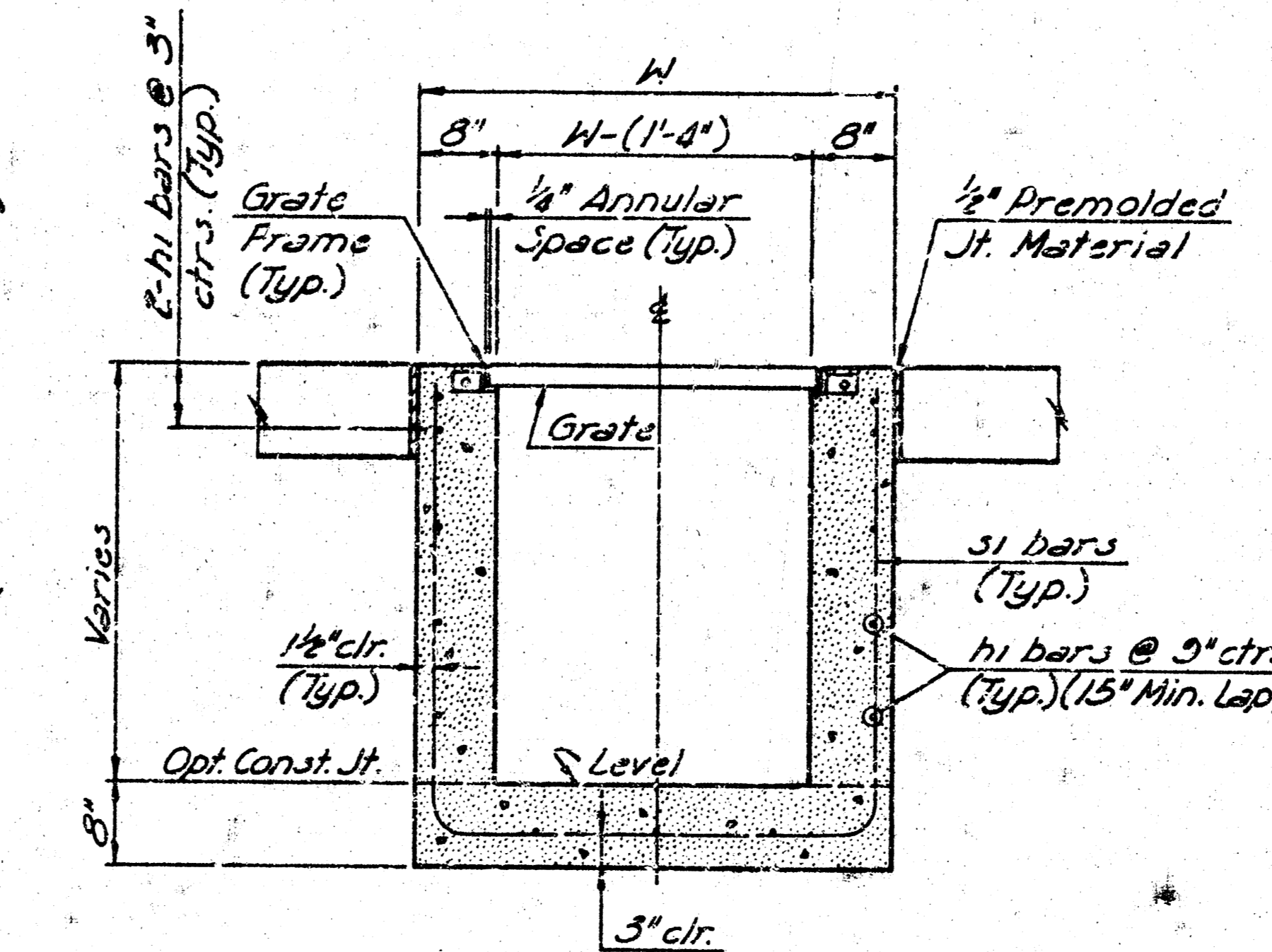


OUTFALL END CLOSED OR INLET END

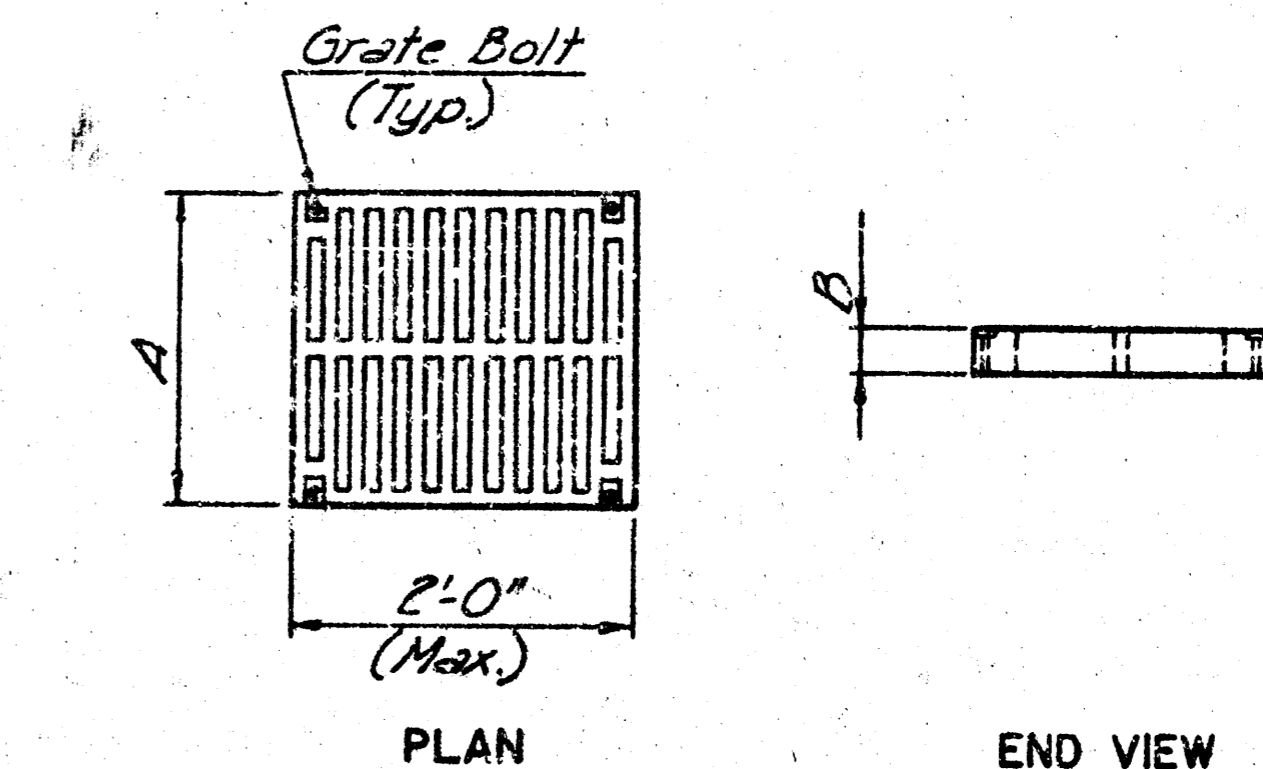
SECTION AT TRENCH INLET



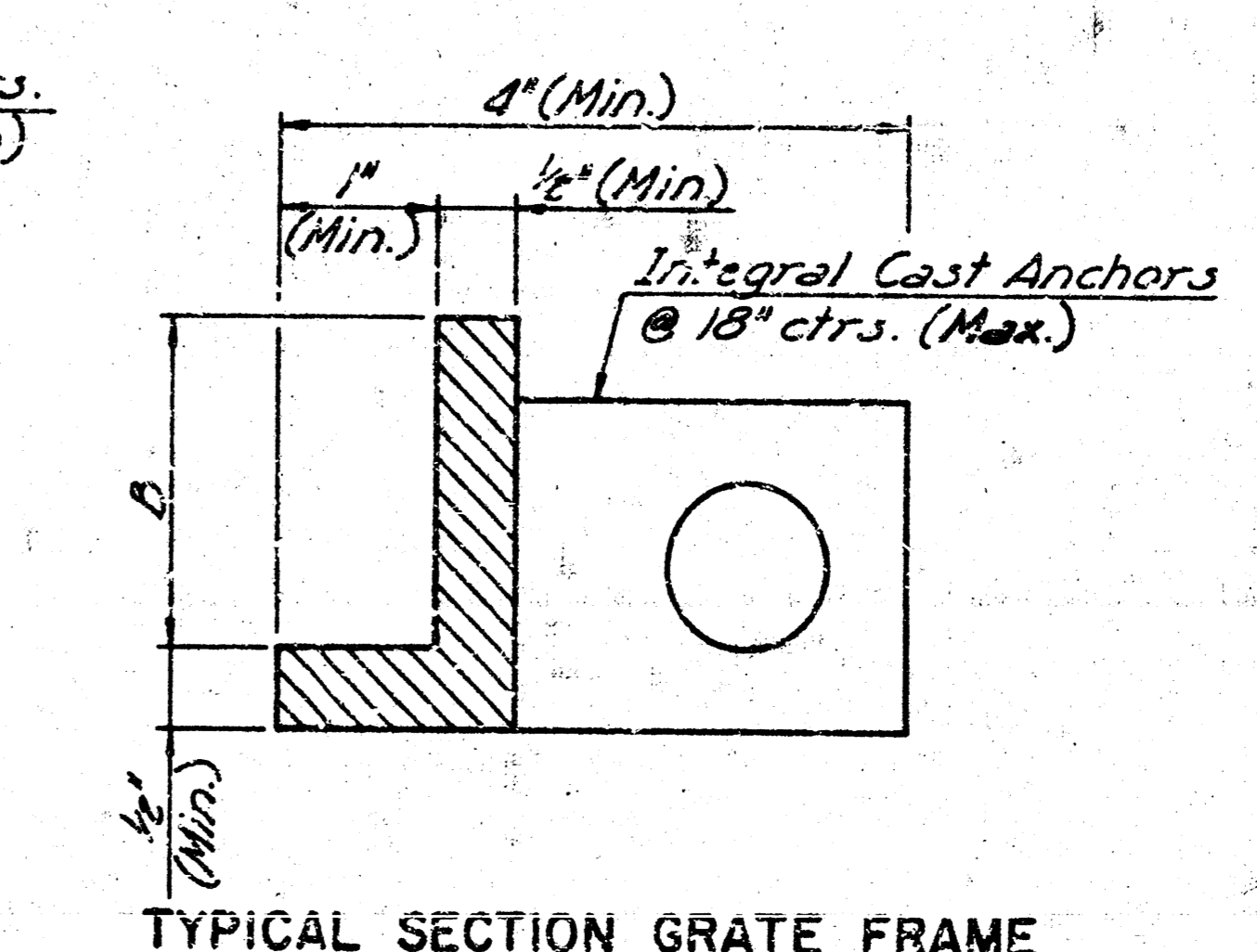
PLAN



TYPICAL TRENCH SECTION



GRATE DETAIL
(Grates shall be bolted to frame when specified on Plans according to Manufacturer's Specifications)



TYPICAL SECTION GRATE FRAME

GRATE DIMENSIONS, TYPES & REINFORCING															
Inlet Dimens.		Outfall Pipe Dia. (In.)	Approved Grates						Reinforcing						
W (In.)	H _o (Min.) (In.)		Weenah Foundry Co.†		Clay & Bailey Mfg. Co.		Deeter Foundry Co.†		s1*	h1	h2**	v1**			
		Catalog No.	Grate Dim. A (In.)	Grate Dim. B (In.)	Catalog No.	Grate Dim. A (In.)	Grate Dim. B (In.)	Catalog No.	Grate Dim. A (In.)	Grate Dim. B (In.)	Size # Spc.	Size # Spc.	Size # Spc.	Size # Spc.	
28	36	R-4990-1K	14	2	2143-D	14	2	3990-D	14	2	#4@12"	#4@9"	#4@9"	#4@9"	
31	39 1/2	R-4990-2K	17	2	2143-E	17	2	3990-E	17 1/2	2	#4@12"	#4@9"	#4@9"	#4@9"	
34	43	R-4990-3K	20	2	2143-F	20	2	3990-F	20 1/2	2	#4@12"	#4@9"	#4@9"	#4@9"	
37	46 1/2	R-4990-4K	23	2	2143-G	23	2	3990-G	23 1/2	2	#4@12"	#4@9"	#4@9"	#4@9"	
40	50	R-4990-5K	26	2	2143-H	26	2	3990-H	26 1/2	2	#4@12"	#4@9"	#4@9"	#4@9"	
43	53 1/2	R-4990-6K	30	2 1/2	2143-J	30	2 1/2	---	---	---	#4@12"	#4@9"	#4@9"	#4@9"	
46	57	R-4990-7K	33	2 1/2	---	---	---	3990-K	32 1/2	2 1/2	#5@12"	#4@9"	#4@9"	#4@9"	
52	64	R-4990-8K	39	2 1/2	---	---	---	3990-M	39	2 1/2	#5@12"	#4@9"	#4@9"	#4@9"	
58	71	R-4990-9K	45	3	---	---	---	---	---	---	#5@12"	#4@9"	#4@9"	#4@9"	
64	78	R-4990-10K	51	3	---	---	---	---	---	---	#5@12"	#4@9"	#4@9"	#4@9"	

† Type A Grate

* Field Cut bars at shallow end for vertical clearance.
** Field Cut or Bend for clearance.

PROJECT NO.	SHEET NO.	TOTAL SHEETS
411 PPS (607821)	6	8

- GENERAL NOTES
1. THE TRENCH GRATE AND FRAME SHALL BE AS SHOWN ABOVE OR APPROVED EQUAL. THE GRATE SHALL BE THE HEAVY DUTY TYPE WITH A DESIGN LOADING OF H20-44 AND SHALL BE BICYCLE SAFE. THE GRATE AND FRAME MATERIAL SHALL BE GRAY CAST IRON CONFORMING TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR GRAY-IRON CASTINGS", ASTM A 48, GRADE 30.
 2. USE CLASS A CONCRETE THROUGHOUT. AT THE CONTRACTOR'S OPTION CLASS B CONCRETE (PRE-OR MIX) USED IN THE CONCRETE PAVEMENT MAY BE USED THROUGHOUT.
 3. BEVEL ALL EXPOSED EDGES OF THE CONCRETE WITH A 3/4" TRIANGULAR HOLDING.
 4. ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF "STANDARD SPECIFICATIONS FOR REFORSED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", ASTM A 616, GRADE 40 OR GRADE 60.

Station	DIMENSIONS		ELEVATIONS		PIPE SIZE		REINFORCING												
	W (In.)	H _o (In.)	H _i (In.)	A	B	Outfall Pipe Size (In.)	Inlet Pipe Size (In.)	s1*			h1			h2**		v1**			
								Size # Spc.	No.	Length	Size # Spc.	No.	Length	Size # Spc.	No.	Length	Size # Spc.	No.	Length
West Line 0+40.5	31	56 1/2	52	106.67	106.67	15"	15"	#4@12"	35	11'	#4@9"	15	35'-1"	#4@9"	12	2'-4"	#4@9"	8	4'-5"
West Line 1+03.5	31	44 1/2	37	106.00	105.75	15"	15"	#4@12"	29	8'	#4@9"	13	29'-1"	#4@9"	10	2'-4"	#4@9"	8	3'-5"

TRENCH INLET DETAILS

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by: R.J.S. Checked by: R.J.S.
Drawn by: M.L.L. Date August, 1983 Job No. 932237

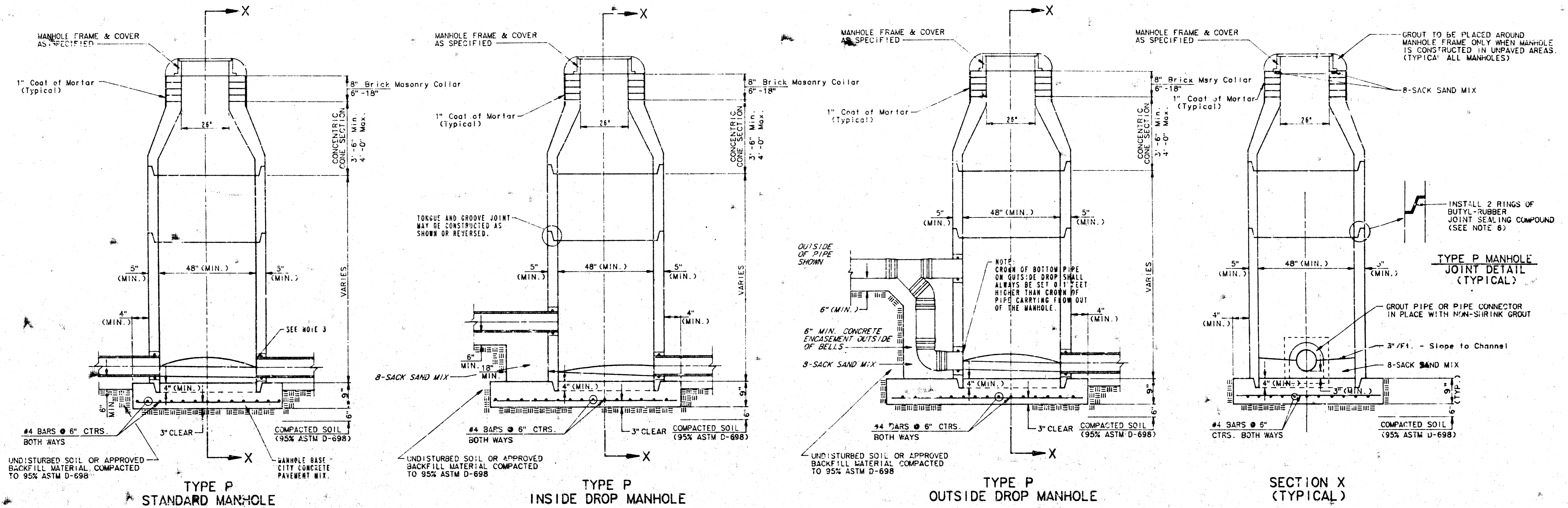
Sheet 6 of 8

SEWER APPURTENANCES DETAILS

ADOPTED AS STANDARD DESIGN

BY

CITY OF WICHITA



- 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 P.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 TMECC SERIES 66 HI-BUILD EPOXYLINE, 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 SHARPED INVERT.
 9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
 10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 BAGS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES 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 @ 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 INSTALLATION 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 STACKS 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 NEAR LINES FOR THE FLOW 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 UP TO 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 FREE FALL DROP, INSIDE MANHOLES SHALL NOT EXCEED 2'. 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**
- NOTE NO. 18 REVISED JAN. 1925
Revised 3-21-89
Proj. No. 411PPS(607861) Revised 8-10-88
Sheet 7 of 8 Revised: June 12, 1995

MANHOLE FRAME AND COVER DETAIL

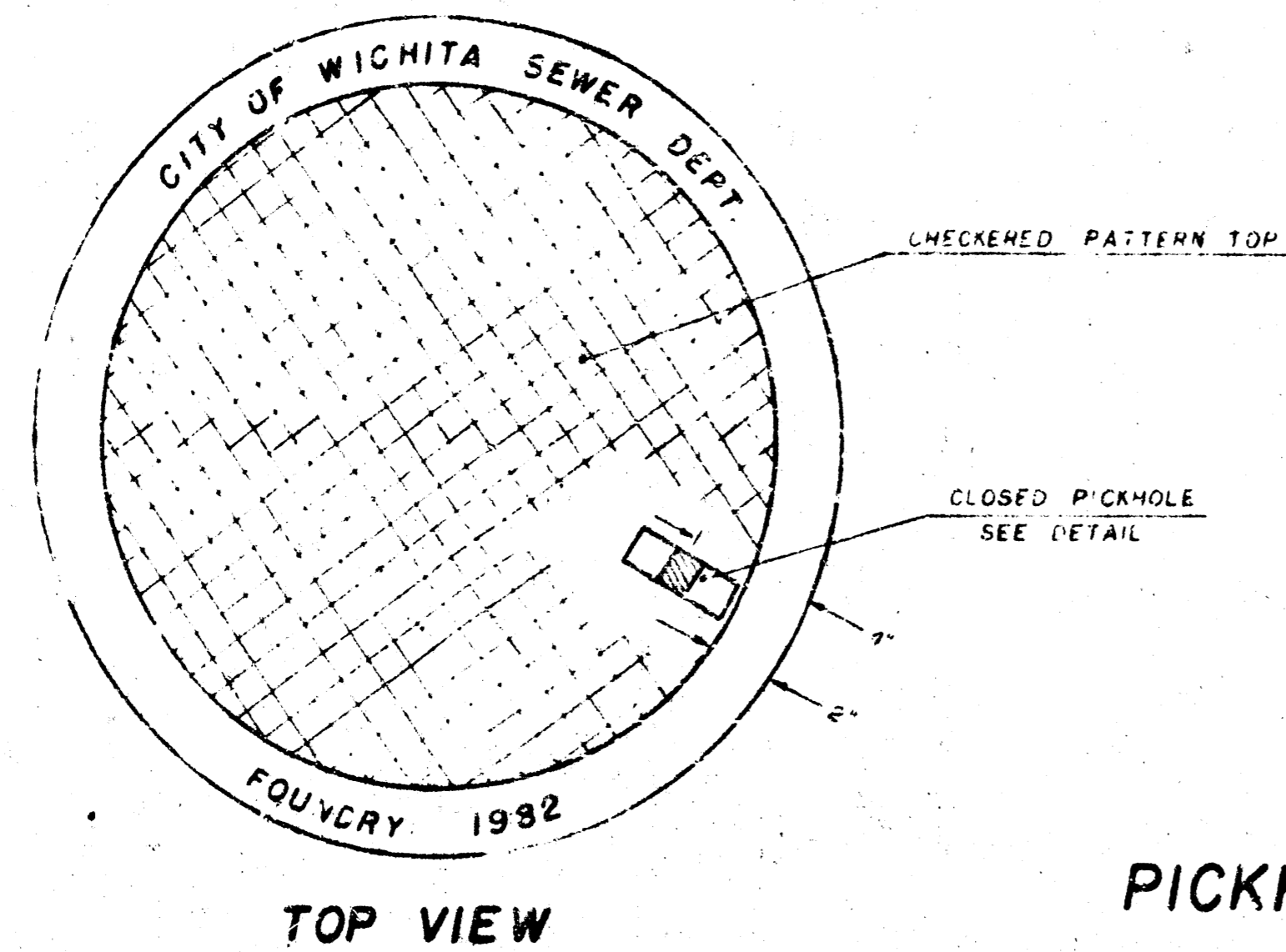
ADOPTED AS STANDARD DESIGN

BY

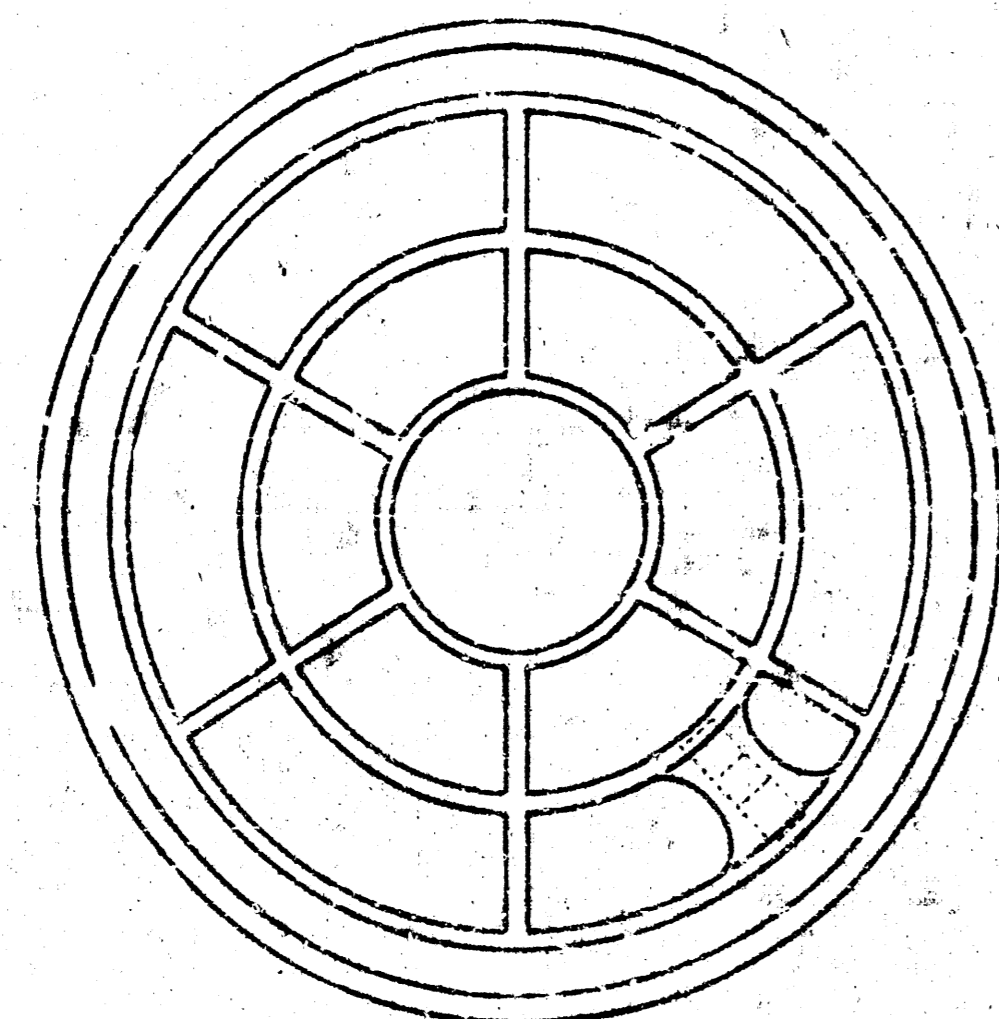
City of Wichita, Kansas

MANHOLE COVER

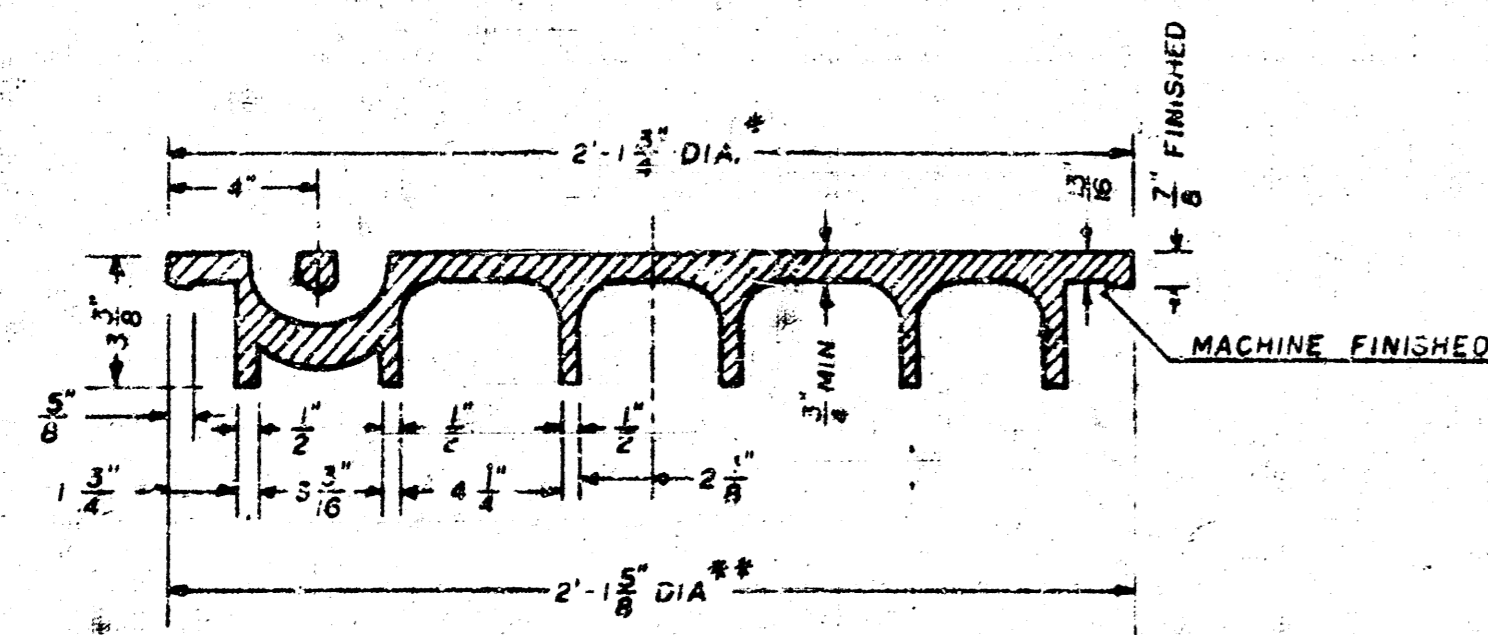
Weight: 180 Lbs.



TOP VIEW



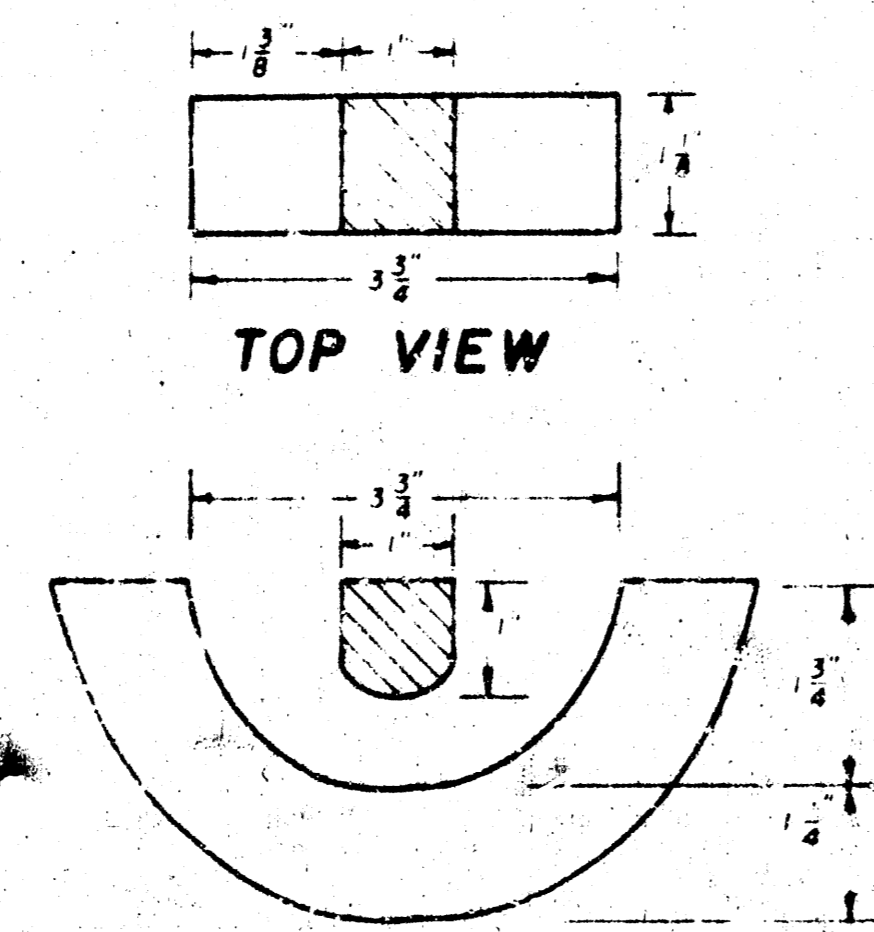
BOTTOM VIEW



SECTION VIEW

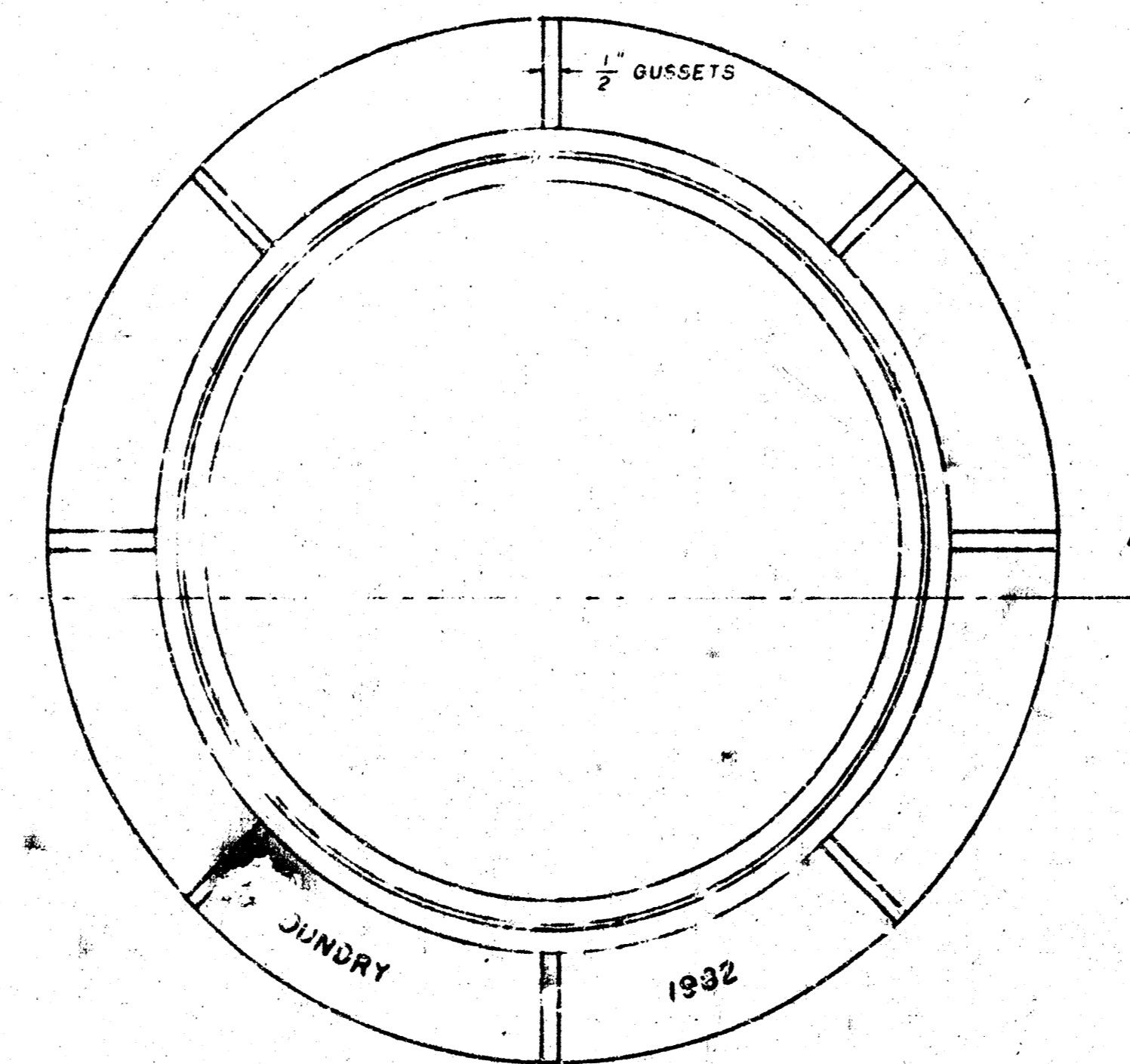
* OUTSIDE DIA TOP OF COVER
** OUTSIDE DIA BOTTOM OF COVER

PICKHOLE DETAIL

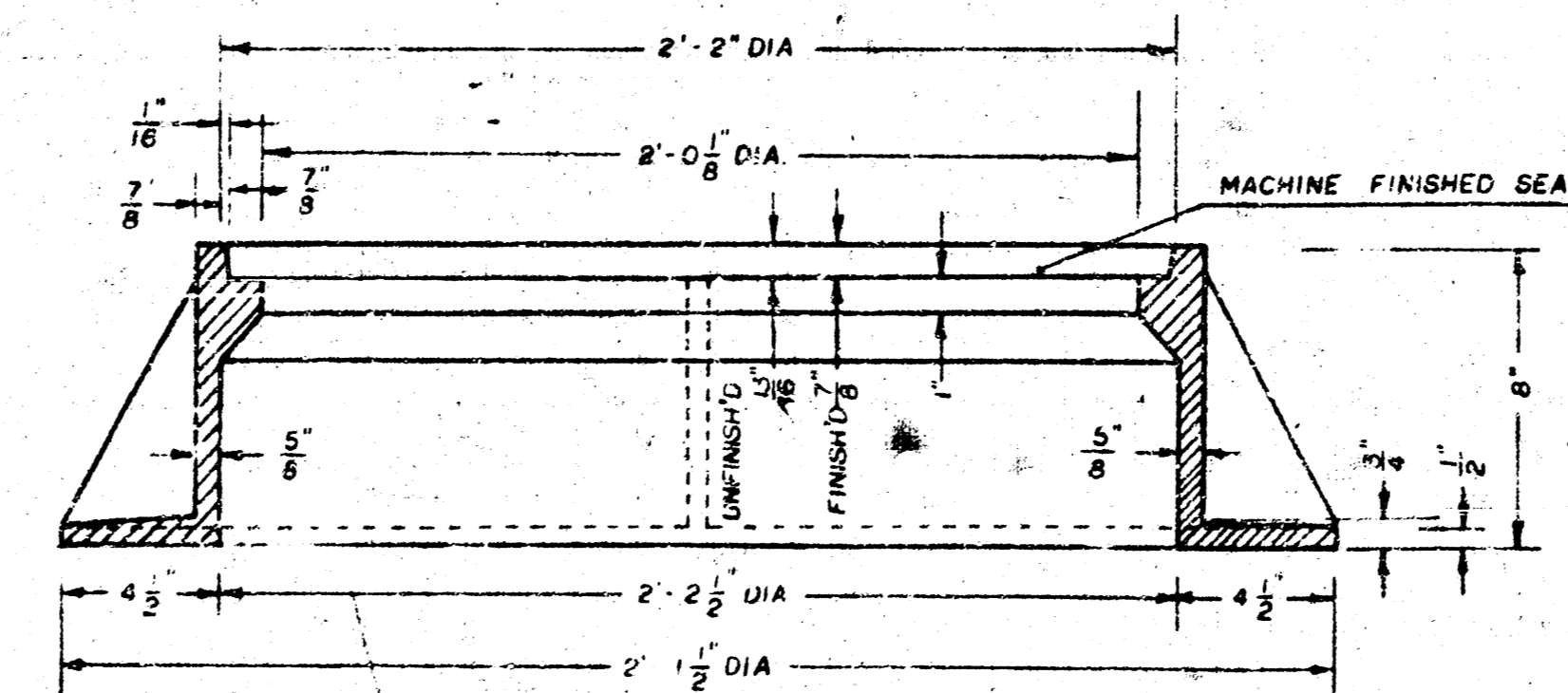


MANHOLE FRAME

Weight: 240 Lbs.



TOP VIEW



SECTION A-A

GENERAL NOTES

- MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
- MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.
- MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
- THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
- THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.