CONSTRUCTION PLANS FOR

DRAINAGE SYSTEM IMPROVEMENTS

TO SERVE

MISSION – CENTRAL TO ROCKWOOD

THE CITY OF WICHITA,

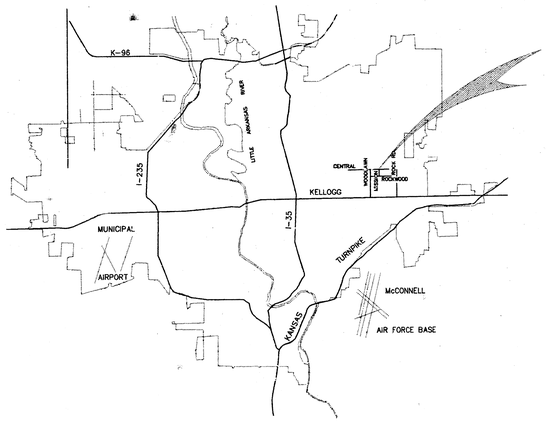
SEDGWICK COUNTY, KANSAS

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

AutoCAD Drawing File Name 9324E-1.DWG
Archive Computer Disk # AC-DWG-22
Plot Scale 1=300

SYMBOL LEGEND

WM WATER METER	TREE
GM GAS METER	W WATER LINE
WV WATER VALVE	G GAS LINE
POWER POLE	SS SANITARY SEWER
FIRE HYDRANT	E ELECTRIC
	GS GAS SERVICE



PROJECT LOCATION

DRAWING INDEX

SHEET	TITLE
1.	MAP AND INDEX
2.	PLAN & PROFILE MISSION, ROCKWOOD TO CENTRAL AVEUNE STA. 9+99 TO STA. 12+46.55 AND GENERAL NOTES
3.	PLAN & PROFILE MISSION, ROCKWOOD TO CENTRAL AVEUNE FROM STA. 12+46.55 TO STA. 22+34.12
4.	DETAIL STANDARD TYPE I CURB INLET (6" :: 5'-0")
5.	STANDARD SHALLOW MANHOLES

BENCH MARKS

B.M. NORTH BOLT OF FIRE HYDRANT, NORTHEAST SIDE OF ROCKWOOD AND MISSION INTERSECTION. ELEVATION 176.85

B.M. CHISELED SQUARE ON SIDEWALK SOUTHWEST CORNER OF CENTRAL AND MISSION. ELEVATION 180.26

B.M. CHISELED SQUARE ON NORTHWEST CURB AT 355 MISSION. ELEVATION 177.07

PHASE III

INDEX CODE - 133108

CITY OF WICHITA PROJECT NO. 468 - 82369

APRIL, 1994

PLANS PREPARED BY

CASTLE & ASSOCIATES

WICHITA, KANSAS

Robert L. Castle 10/12/94

CITY OF WICHITA DRAINAGE IMPROVEMENTS		
MAP AND INDEX		
CASTLE & ASSOCIATES ENGINEERS WICHITA, KANSAS	DSG DR CH APP	DWG FILE NO 9324F – D – 70,015
DATE APRIL 1994		SHEET NO 1 OF 5 REV.

AutoCAD Drawing File Name 9234-3_.DWG
Archive Computer Disk # AC-DWG-19
Plot Scale 1=20

GENERAL NOTES

1. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF TWENTY-FOUR (24) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

CABLEVISION	316-262-4270 OR 263-2061
ARKLA GAS	316-942-8350 OR 263-8161
CITY OF WICHITA	
WATER	316-268-4908
SANITARY & STORM SEWER	316-268-4210
KANSAS ONE-CALL	1-800-344-7233 OR 687-2470
KG&E, THE ELECTRIC CO.	316-264-1141
KG&E GAS SERVICE	316-263-7511
SOUTHWESTERN BELL TELEPHONE	1-571-2611

2. THE CONTRACTOR SHALL NOTIFY PIPELINE COMPANIES AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ACROSS AND/OR ADJACENT TO PIPELINES.

3. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA IS NOT TO BE CARRIED THROUGH CONSTRUCTION. LOCAL BUSINESS OR APARTMENT TRAFFIC GENERATED WITHIN THE PROJECT AREA IS TO BE CARRIED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.

4. 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 OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. 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.

5. A SAW CUT OF AT LEAST ONE-HALF THE DEPTH OF EXISTING SURFACE COURSES OR ONE-FOURTH THE DEPTH OF THE EXISTING TOTAL PAVEMENT THICKNESS SHALL BE PROVIDED AT LOCATIONS WHERE PROPOSED CONSTRUCTION ABUTS AN EXISTING SURFACE COURSE OR PAVEMENT FOR WHICH PARTIAL REMOVAL OF THAT SURFACE OR PAVEMENT IS REQUIRED, EXCEPT WHEN SAW CUTS ARE WITHIN THREE (3) FEET OF AN EXISTING JOINT THE REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT. SUCH SAW CUTS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE REMOVAL OF THE SURFACE OR PAVEMENT.

   CURB AND GUTTER REMOVAL FOR INLETS SHALL BE SAWED AT A MINIMUM OF TWO (2) FEET SIX, (6) INCHES FROM THE BACK OF CURB AND PARALLEL WITH IT AND A MINIMUM OF FOUR (4) FEET, SIX (6) INCHES TO THE LEFT AND RIGHT DIRECTIONS FROM THE CENTER LINE OF THE INLET PERPENDICULAR TO THE BACK OF CURB.

6. 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 ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

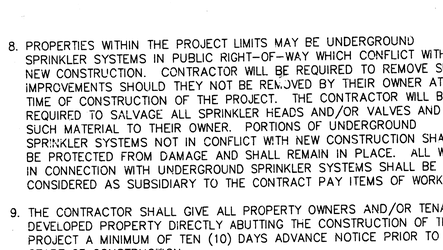
7. THE ENGINEER SHALL TAKE FIELD TIES TO ALL QUARTER SECTION CORNERS. THE CONTRACTOR SHALL SET A CITY SURVEY MONUMENT IN THE REQUIRED LOCATION WHERE SUCH QUARTER SECTION CORNERS FALL WITHIN THE LIMITS OF PAVEMENT CONSTRUCTION. SURVEY MONUMENTS WILL BE FURNISHED BY THE CITY. THE ENGINEER WILL ACCURATELY LOCATE AND INSTALL THE IRON AT THE QUARTER SECTION CORNER. THIS WORK WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE OTHER PAY ITEMS OF WORK IN THE CONTRACT.

8. PROPERTIES WITHIN THE PROJECT LIMITS MAY BE UNDERGROUND SPRINKLER SYSTEMS IN PUBLIC RIGHT-OF-WAY WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO THE CONTRACT PAY ITEMS OF WORK.

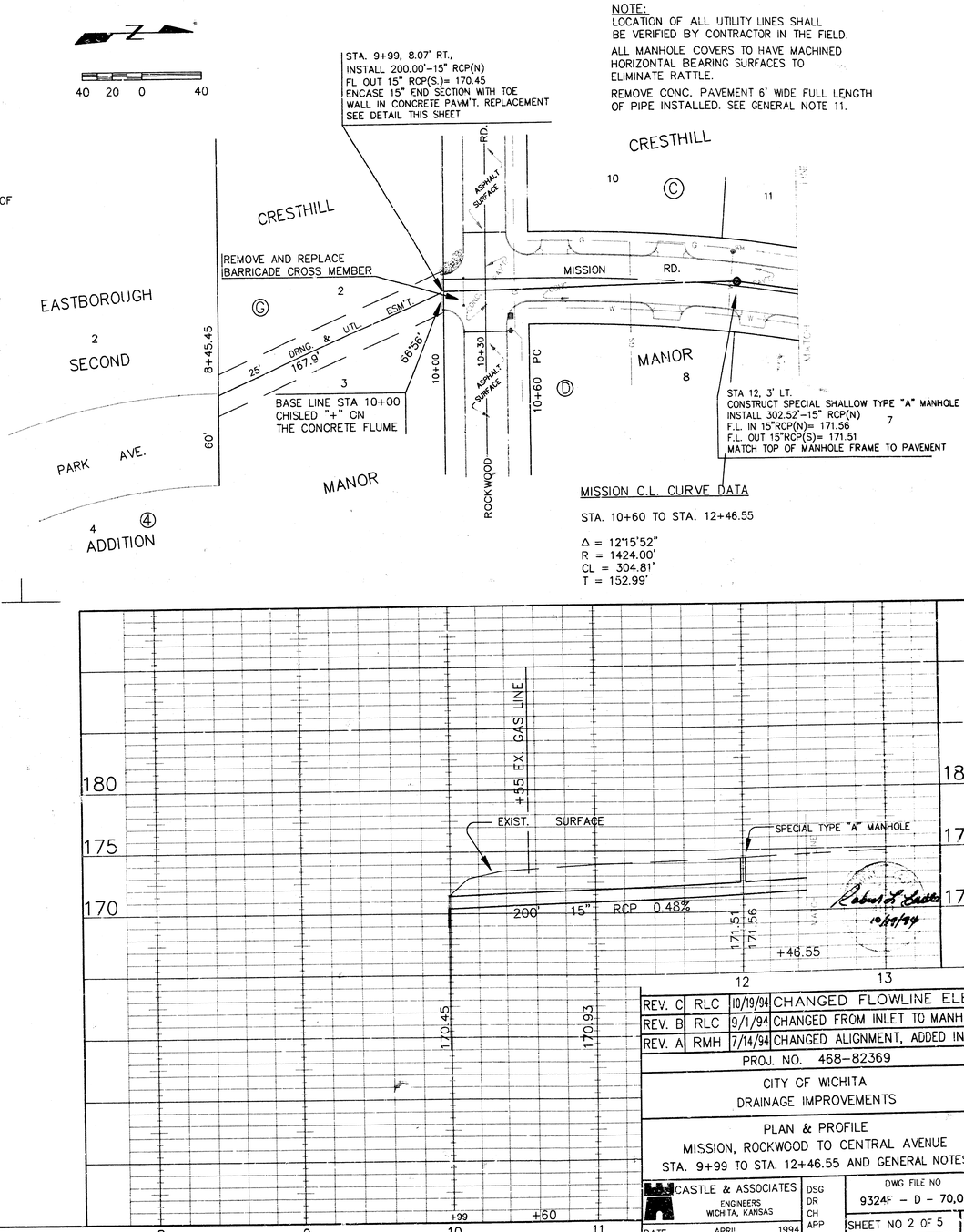
9. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS.

11. ~~ALL COSTS FOR REMOVAL OF EXISTING PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR CLEARING RIGHT-OF-WAY AND SITE PREPARATION. ALL COSTS FOR REPLACEMENT OF EXISTING PAVEMENT SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR SITE RESTORATION.~~ REMOVAL OF EXISTING PAVEMENT AND/OR REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE ONE FOOT BEYOND THE LIMITS OF THE EXCAVATION MADE FOR THE SEWER OR THE STRUCTURE, EXCEPT WHEN SUCH LINES OF REMOVAL ARE WITHIN THREE (3) FEET OF AN EXISTING JOINT THE LIMITS OF REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT.



FLAIRED END SECTION DETAILS
@ STA. 9+95
N.T.S.



NOTE:
LOCATION OF ALL UTILITY LINES SHALL BE VERIFIED BY CONTRACTOR IN THE FIELD.

ALL MANHOLE COVERS TO HAVE MACHINED HORIZONTAL BEARING SURFACES TO ELIMINATE RATTLE.

REMOVE CONC. PAVEMENT 6' WIDE FULL LENGTH OF PIPE INSTALLED. SEE GENERAL NOTE 11.

MISSION C.L. CURVE DATA

STA. 10+60 TO STA. 12+46.55

Δ = 12°15'52"
R = 1424.00'
CL = 304.81'
T = 152.99'

REV. C	RLC	10/19/94	CHANGED FLOWLINE ELEV.
REV. B	RLC	9/1/94	CHANGED FROM INLET TO MANHOLE
REV. A	RMH	7/14/94	CHANGED ALIGNMENT, ADDED INLET

PROJ. NO. 468-82369

CITY OF WICHITA
DRAINAGE IMPROVEMENTS

PLAN & PROFILE
MISSION, ROCKWOOD TO CENTRAL AVENUE
STA. 9+99 TO STA. 12+46.55 AND GENERAL NOTES

CASTLE & ASSOCIATES
ENGINEERS
WICHITA, KANSAS

DSG
DR
CH
APP

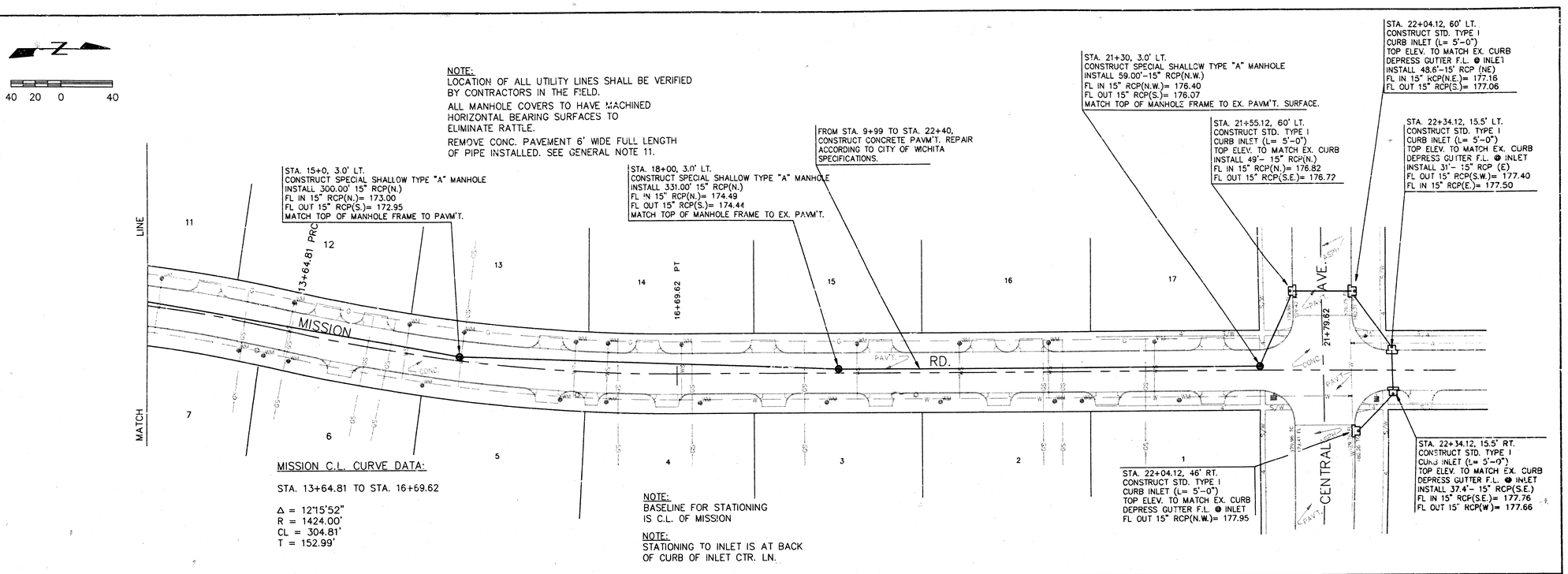
DATE APRIL 1994

DWG FILE NO
9324F - D - 70,016

SHEET NO 2 OF 5

REV. C

AutoCAD Drawing File Name 9234-4___.DWG
Archive Computer Disk # AC-DWG-19
Plot Scale 1=20



REV. C	RLC	10/19/94	CHANGED FLOWLINE ELEV.
REV. B	RLC	9/1/94	CHANGED FROM INLET TO MANHOLE
REV. A	RMH	7/14/94	CHANCED ALIGNMENT, ADDED INLET

CITY OF WICHITA – PROJ. NO. 468-82369

CITY OF WICHITA
DRAINAGE IMPROVEMENTS

PLAN & PROFILE
MISSION, ROCKWOOD TO CENTRAL AVENUE
FROM STA. 12+46.55 TO STA. 21+30

CASTLE & ASSOCIATES
ENGINEERS
WICHITA, KANSAS

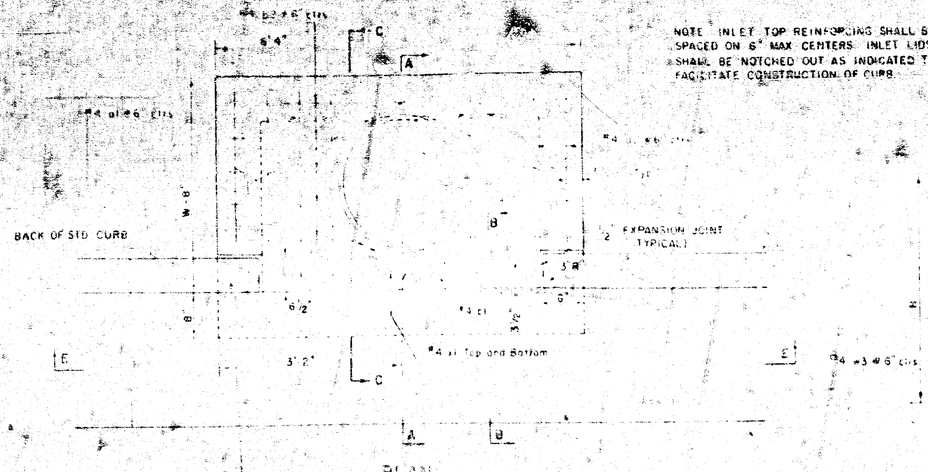
DSG
DR
CH
APP

DATE APRIL 1994

DWG FILE NO
9324F – D – 70,017

SHEET NO 3 OF 5

REV. C

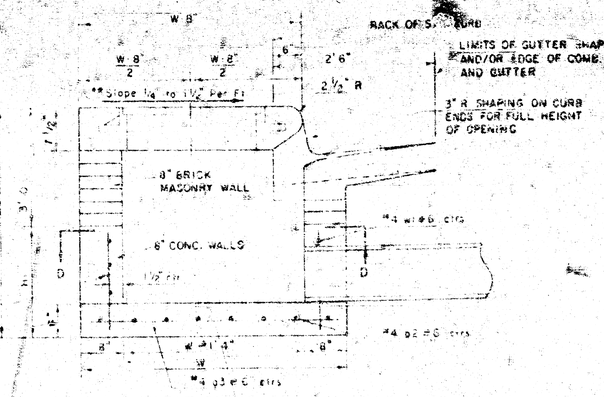


PLAN

WARP CURB TO MATCH INLET TOP WITH 1' MIN. TRANSITION LENGTH

NOTE: INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB.

NOTE: 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.



LIMITS OF GUTTER SHAPING AND/OR EDGE OF COMB. CURB AND GUTTER

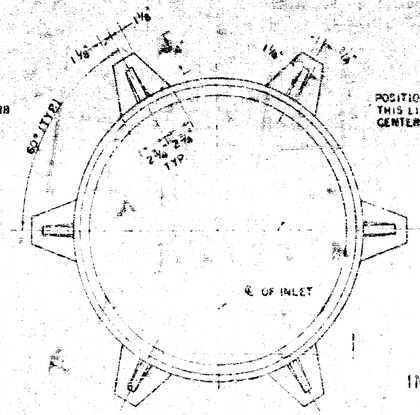
SECTION A-A

** NOTE: Slope of Inlet Top to match Sidewalk or Parking Slopes within Limits indicated

NOTE: CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W = 6'4" AND H = 7'0" OR LESS.

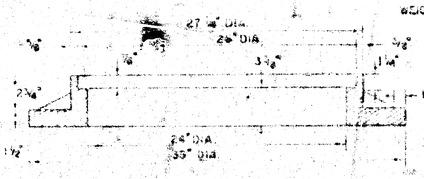
INLET INVERT SHALL BE SHAPED WITH 6 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.



INLET FRAME

WEIGHT = 180 LBS.



SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

PRECAST SIDE AND FLOOR REINFORCING																			
	W = 4'-4"						W = 5'-4"						W = 6'-4"						
Mark	Size	No.	Length	Mark	Size	No.	Length	Mark	Size	No.	Length	Mark	Size	No.	Length	Mark	Size	No.	Length
																		6	14'-7"
																		4	14'-0"
																		13	8'-1"
																		1	4'-9"
																		47	6'-1"
																		8	5'-2"

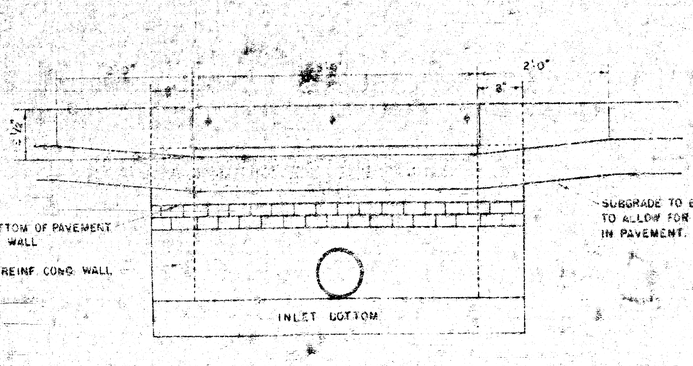
WALL REINFORCING																			
	W = 4'-4"						W = 5'-4"						W = 6'-4"						
Mark	Size	No.	Length	Mark	Size	No.	Length	Mark	Size	No.	Length	Mark	Size	No.	Length	Mark	Size	No.	Length
																		6	14'-7"
																		4	14'-0"
																		13	8'-1"
																		1	4'-9"
																		47	6'-1"
																		8	5'-2"

WALL REINFORCING																			
	W = 7'-4"						W = 9'-4"												
Mark	Size	No.	Length	Mark	Size	No.	Length	Mark	Size	No.	Length								

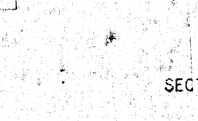
① #4 (#5-12") (W-12") Round Avail to nearest 0.5"
② #5-3"

Field bend or cut Reinforcing as required for clearance

STANDARD CURB INLET PRECAST TOPS					
W	PRECAST TOP SIZE		PIPE SIZE	CU YD CONC.
4'-4"	3'-0"	6'-4"	7 1/2"	21" & SMALLER	0.38
5'-4"	4'-0"	6'-4"	7 1/2"	24" & 30"	0.51
6'-4"	5'-0"	6'-4"	7 1/2"	36" & 42"	0.64
7'-4"	6'-0"	6'-4"	7 1/2"	48" & 54"	0.78
8'-4"	7'-0"	6'-4"	7 1/2"	60" & 66"	0.90



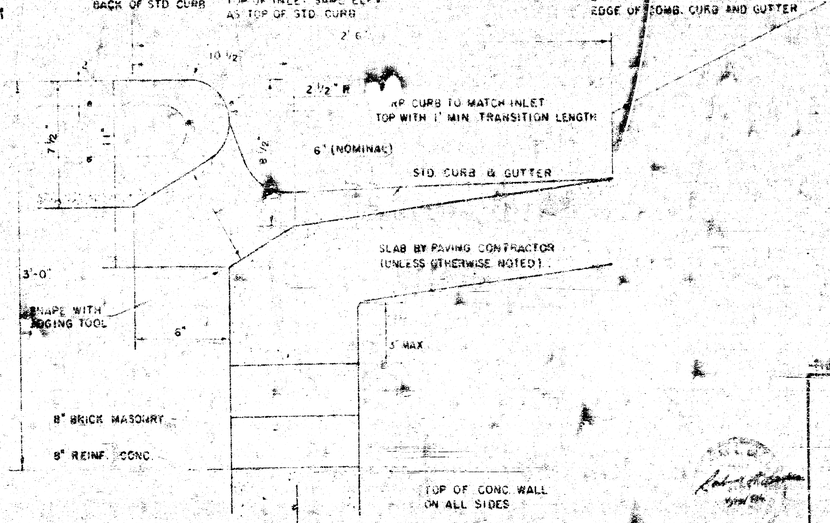
SECTION E-E

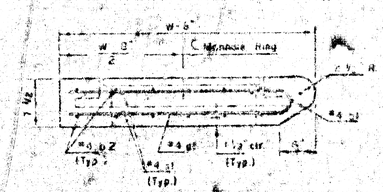


a1 & a2

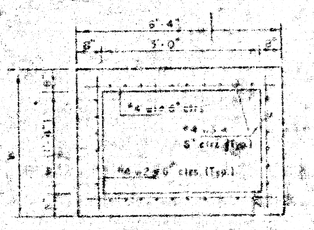
BENDING DIAGRAM

SECTION B-B





SECTION C-C



SECTION D-D

REVISED 2-15-1999

DETAIL STANDARD TYPE I CURB INLET

CITY OF WICHITA, KANSAS

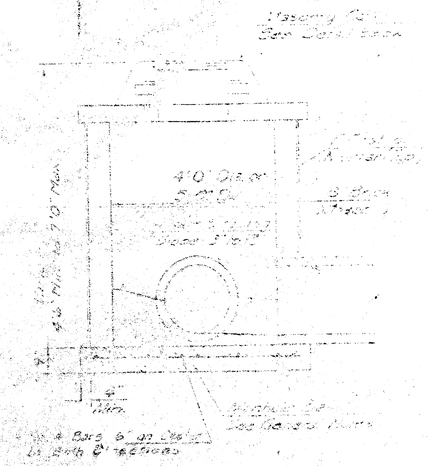
INLET OPENING = 6" × 5'0"

PROJ. NO. 468-82360

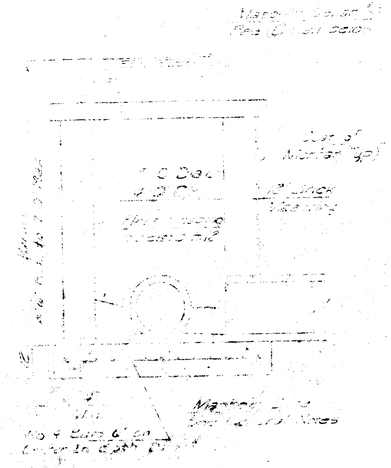
JUNE 1984

SHEET NO. 4 OF 6

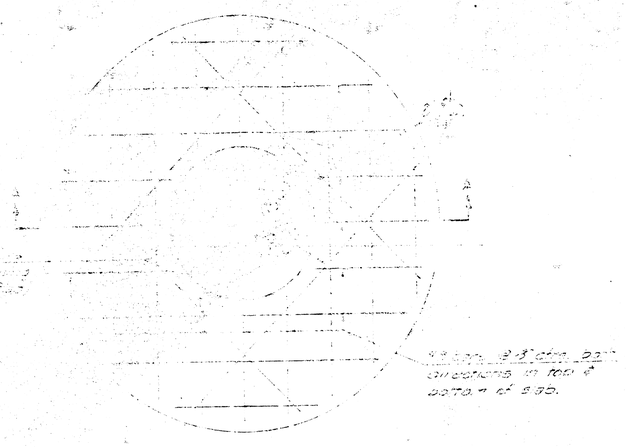
9324F-D-20.013



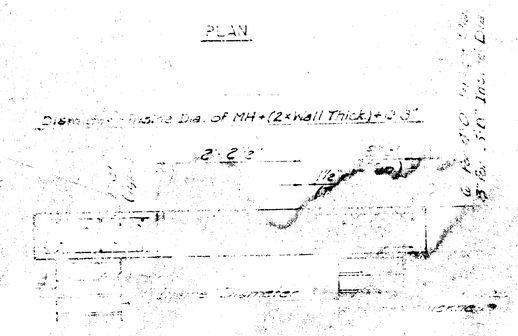
SHALLOW TYPE 'A' MANHOLE



SHALLOW TYPE 'B' MANHOLE

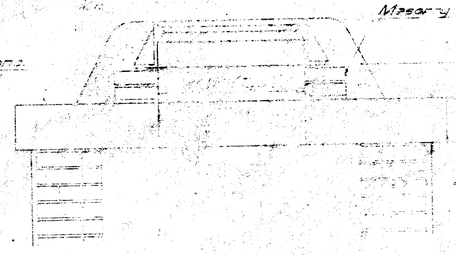


PLAN

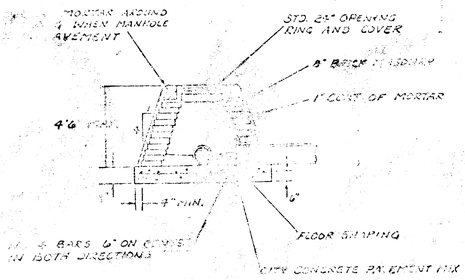


SECTION A-A

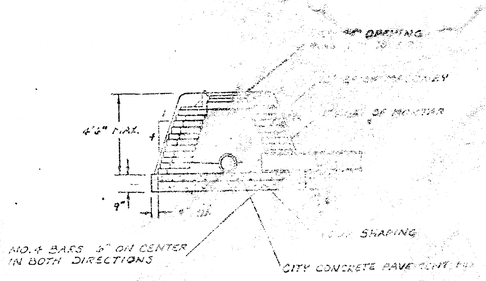
FLAT CONCRETE SLAB DETAILS



MASONRY COLLAR DETAIL



SPECIAL SHALLOW TYPE 'A' MANHOLE



SPECIAL SHALLOW TYPE 'B' MANHOLE

GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL [illegible] OF CEMENT PER CUBIC YD. CONCRETE USED IN MANHOLE [illegible] MM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVING [illegible] AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS. [illegible] CONCRETE OR EQUAL MIX WITHOUT AIR ENTRAINING ADMIXTURE. [illegible] OF PLACED CONCRETE THE MANHOLE BASE AS SHOWN ON THE DRAWINGS. [illegible] CONSTRUCTED IN DRAINED MANHOLE [illegible] PIPE 24" SHALLOW MANHOLE [illegible] OR DEEPER WITH THE MANHOLE IS NOT LOCATED WITHIN PAVEMENT [illegible]. 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.

2. 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 USED AS [illegible] FOR THE SLAB IN THE MANHOLE CASE. ALL COSTS FOR FURNISHING AND [illegible] REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

3. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF DEPOSITS. [illegible] SHALL BE REQUIRED IN SEWAGE FLOWS THROUGH THE MANHOLE. [illegible] TO THE INLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE CROWN OF THE INFLUENT PIPES AND THE EFFLUENT PIPE AS SHOWN ON THE CONSTRUCTION. MANHOLE FLOORS SHALL HAVE SLOPES OF 1" PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNEL. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED. [illegible] SIZES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. [illegible] SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.

4. PIPE INSTALLED WITHIN THE EXCAVATION MADE FOR [illegible] SHALL BE SUPPORTED WITH CONCRETE OR THE LIMIT OF THE MANHOLE EXCAVATION. [illegible] CLAY PIPE IS USED, THE CRADLE SHALL EXTEND [illegible] THE MANHOLE. THE CRADLE SHALL BE TERMINATED [illegible] A PANNEL WHICH WILL MAINTAIN THE FLEXIBLE [illegible] GRADE WITHIN MANHOLE EXCAVATION OR TO CLASS [illegible] MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

5. 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 DRAWINGS.

6. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE 12" LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.

7. STANDARD SHALLOW MANHOLES TYPE 'A' AND 'B' SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE AND DIAMETER INDICATED. STANDARD SPECIAL SHALLOW MANHOLES TYPE 'A' AND 'B' SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE INDICATED AND STANDARD SHALLOW MANHOLE DIAMETERS, WILL BE 4' UNLESS INDICATED OTHERWISE.

CITY OF WICHITA, KANSAS
STANDARD SHALLOW MANHOLES
TYPE 'A' AND TYPE 'B'

PROJ. NO. 468-[illegible]-39 SHEET 5 OF 5

Checked By [illegible]
Date [illegible]

18-4-3-1