STORM WATER SEWER NO. 422

TO SERVE A PART OF

SUNRIDGE 2ND ADDITION

TO SEDGWICK COUNTY, KANSAS

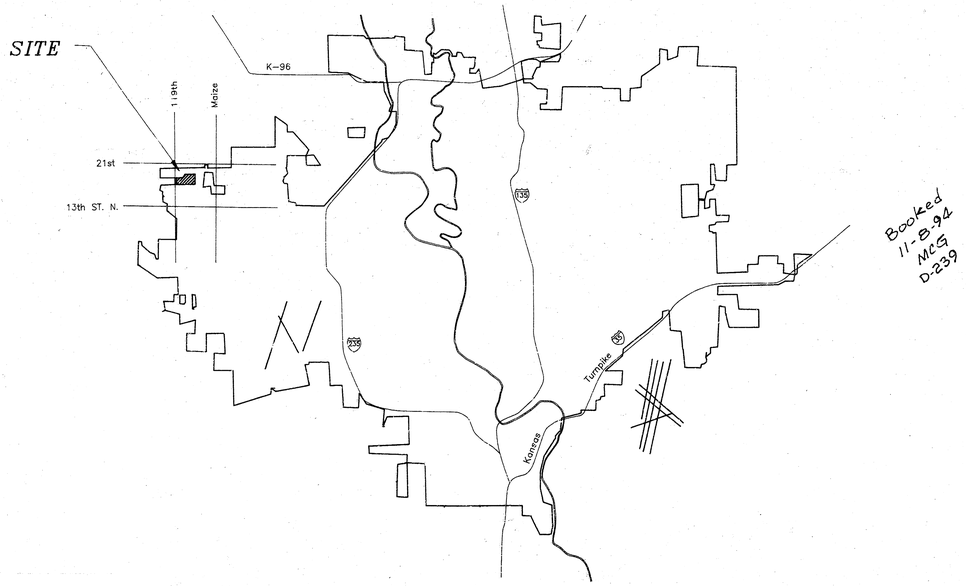
CITY OF WICHITA, KANSAS

M.E. LINDEBAK CITY ENGINEER

CITY PROJECT NO. 468-76-245-82159-000-000-001

INDEX NO. 750521

April 1994



Booked
11-8-94
MLS
D-239

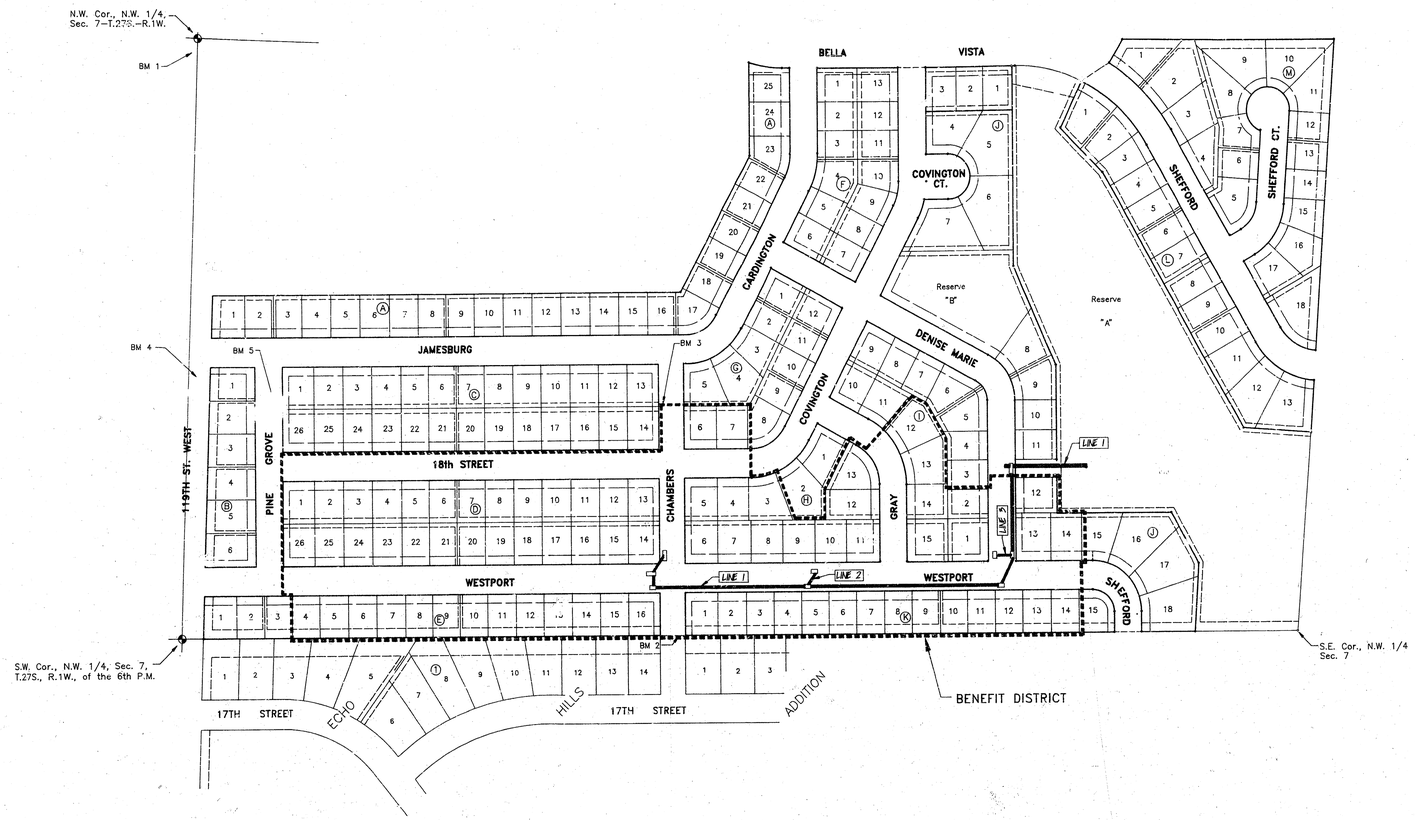
INDEX

DON C. MOEHRING 9463 REGISTERED PROFESSIONAL ENGINEER

4/19/94

MOEHRING & ASSOCIATES
CONSULTING ENGINEERS
WICHITA

STORM WATER SEWER KEY MAP



1" = 150'

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:

   KANSAS ONE-CALL 687-2470

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

CABLEVISION	262-4270 OR 263-2061
K.P. & L. GAS SERVICE COMPANY	263-7511
KANSAS GAS & ELECTRIC	263-1141
ARKLA GAS COMPANY	942-8350 OR 263-8161
SOUTHWESTERN BELL TELEPHUNE COMPANY	1-571-2611
CITY OF WICHITA WATER DEPARTMENT	268-4908
CITY OF WICHITA SEWER MAINTENANCE	268-4071

2. 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.

3. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA IS NOT TO BE CARRIED THROUGH CONSTRUCTION.

4. 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. RUBBLE FROM THE REMOVAL OF MISCELLANSOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED, SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. 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.

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

7. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

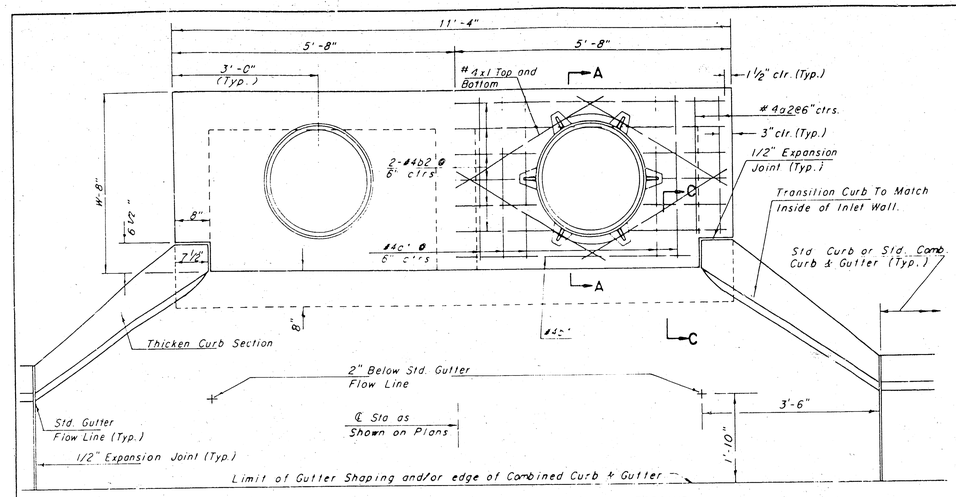
8. CONTRACTOR SHALL GIVE THE OWNER OF PROPERTY ABUTTING THIS PROJECT, WHOSE YARDS WILL BE LOWER THAN THE NEW FINISHED GRADE ELEVATIONS AT THE RIGHT-OF-WAY LINE, AN OPPORTUNITY TO UTILIZE EXCESS EXCAVATED MATERIAL FROM THE PROJECT TO REGRADE THOSE YARDS TO DRAIN. CONTRACTOR WILL BE REQUIRED TO DUMP AND SPREAD THE EXCESS MATERIAL AS REQUIRED BY THE SPECIFICATIONS WHEN REQUESTED BY THE PROPERTY OWNER. THE CONTRACTOR SHALL BE FURNISHED A WRITTEN REQUEST FROM THE PROPERTY OWNER BEFORE ANY SUCH EXCESS MATERIAL IS DELIVERED TO SUCH PROPERTIES.

9. ALL DISTURBED AREAS TO BE RESEEDED USING TEMPORARY RYE GRASS WITHIN 14 DAYS UPON PROJECT COMPLETION.

BENCHMARKS

1. City Disc - 79' South and 46' East of NW Cor., NW 1/4, Sec. 7, T27S, R1W. Elev. = 172.08 City Datum
2. Top of Curb, E. Side Chambers, opposite SW Cor. Lot 1, Blk. "K", Sunridge 2nd Addition. Elev. = 161.19 City Datum
3. Top of Curb, W. Side Chambers, opposite SE Cor., Lot 13, Blk. "C", Sunridge 2nd Addition. Elev = 161.18 City Datum
4. R.R. Spike in U.P., approx. 200' South of NW Prop. Cor. Elev. = 167.02 City Datum
5. Top of Curb, E. Side Pine Grove, opposite SW Cor., Lot 1, Blk. "C", Sunridge 2nd Addition. Elev. = 166.30 City Datum

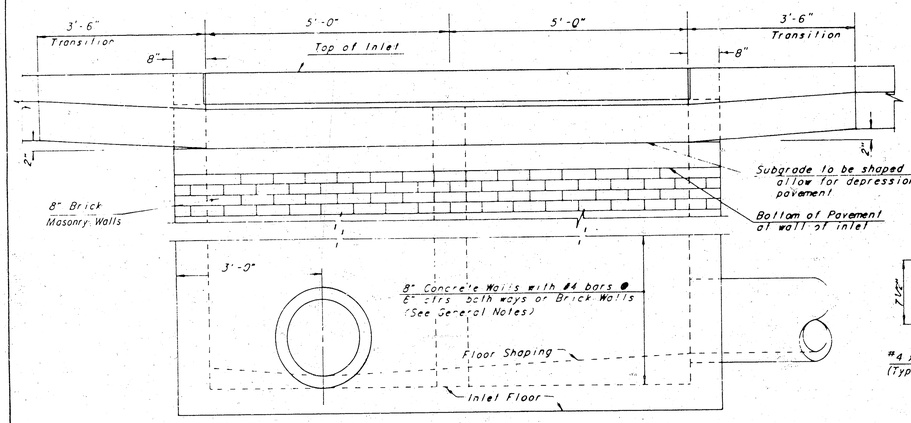
MOEHRING & ASSOCIATES
CONSULTING ENGINEERS
WICHITA



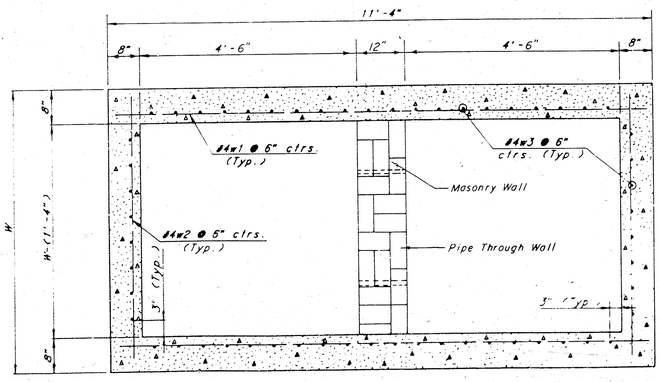
SLAB REINFORCING NOT SHOWN — SHOWING SLAB REINFORCING

PLAN

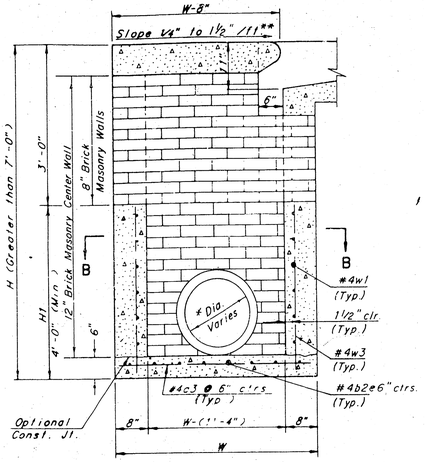
NOTE Expansion Joint only in Curb Area with Conc. Pavement.



ELEVATION

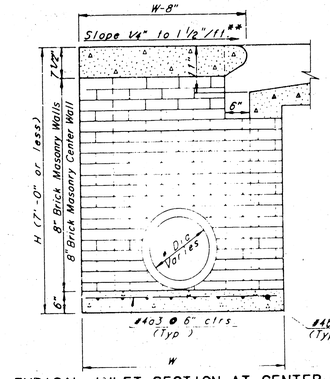


SECTION B-B



TYPICAL INLET SECTION AT CENTER WALL

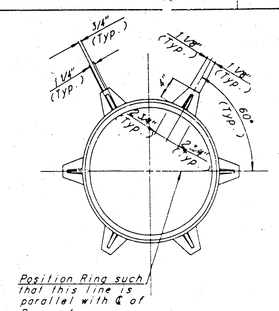
(REINFORCED CONCRETE WALLS)

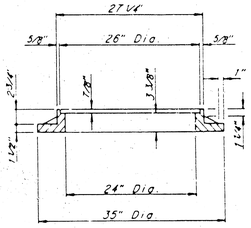


TYPICAL INLET SECTION AT CENTER WALL

(MASONRY WALLS)

* A center wall opening shall be provided by means of a section of reinforced concrete pipe. See Case I and Case II Below.

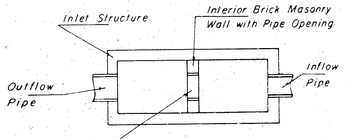




CAST IRON INLET RING

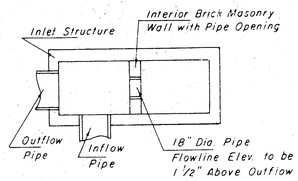
Wt. = 180 lbs.

See City of Wichita Standard Manhole Frame and Cover Detail Sheet for Cover Details to be used with Inlet Frame.



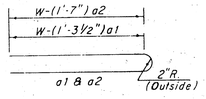
Pipe Size to be the same as Outlet Pipe Size. Flowline Elev. to be Average of Lowest Inflow Pipe Elev. and Outflow Pipe Elev.

CASE I

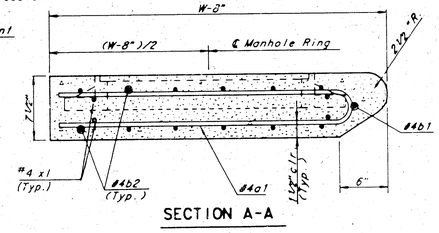


CASE II

NOTE Center Wall Pipe Size shall be as Specified in Inlet Construction Note on the Plan/Profile Sheets for those Cases not shown here.

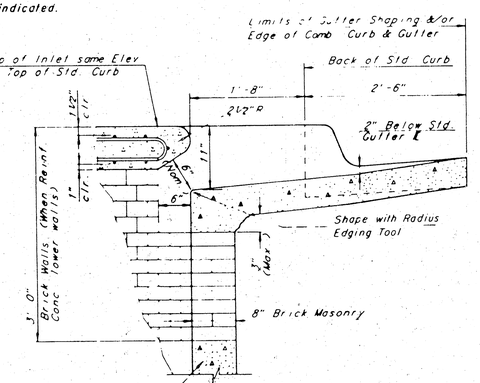


BENDING DIAGRAM



SECTION A-A

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



SECTION C-C

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	②	68	②

* Field bend or cut Reinforcing as required for clearance

① 4(H1-12") (H1-12") Rounded down to nearest 0.5'

② H1-3"

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.

STANDARD CURB INLET PRECAST TOPS

W	PRE-CAST TOP SIZE	SIDE OR INTERIOR WALL PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8" x 11'-4" x 7 1/2"	21" & SMALLER	0.83 ±
5'-4"	4'-8" x 11'-4" x 7 1/2"	24" & 30"	1.09 ±
6'-4"	5'-8" x 11'-4" x 7 1/2"	36" & 42"	1.35 ±
7'-4"	6'-8" x 11'-4" x 7 1/2"	48" & 54"	1.61 ±
8'-4"	7'-8" x 11'-4" x 7 1/2"	60" & 66"	1.87 ±

~~REVISED 12-5-88~~ Revised 2-16-89 ~~REVISED 12-21-84~~

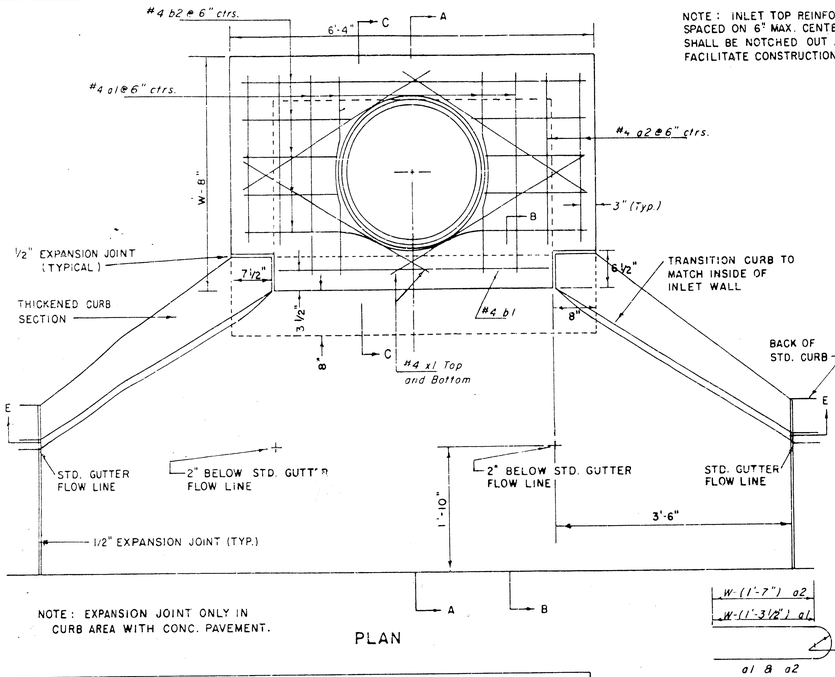
PROJECT NO.	SHEET NO.	TOTAL SHEETS

STANDARD TYPE A CURB INLET

INLET OPENING = 6" x 10'-0"

WICHITA, KANSAS

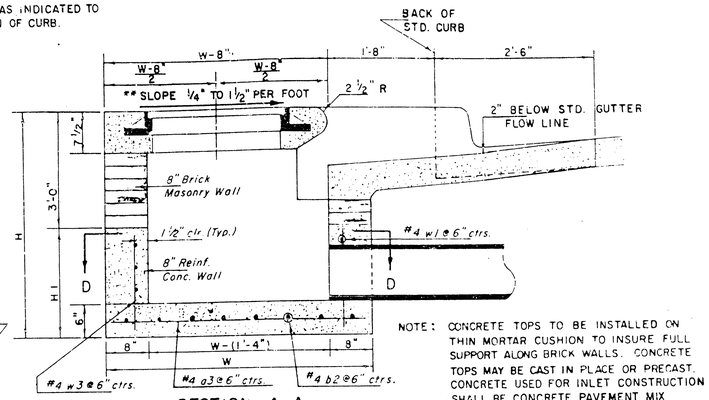
Designed by	BER, KJS, LMH	Checked by	LMH
Drawn by	JCP	Date	Nov., 1984
		Job No.	



NOTE: EXPANSION JOINT ONLY IN CURB AREA WITH CONC. PAVEMENT.

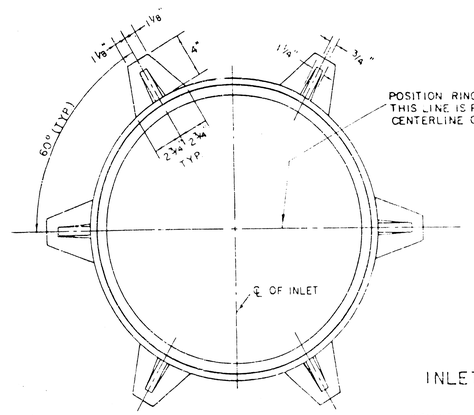
PLAN

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



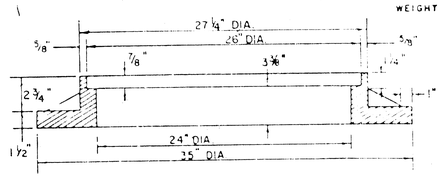
SECTION A-A

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 WITH AIR ENTRAINMENT.



INLET FRAME

WEIGHT = 180 LBS.



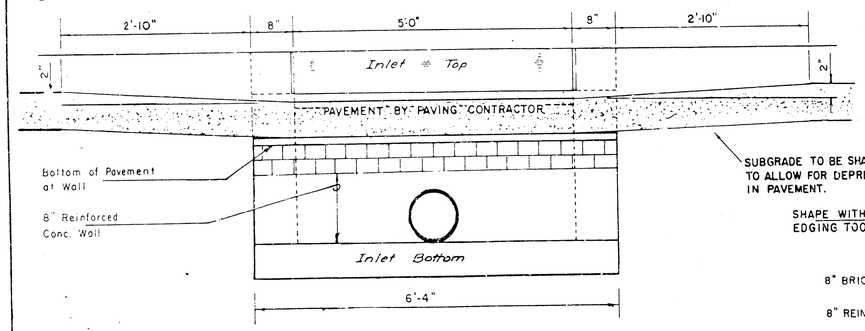
SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

PRECAST 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	5	6'-7"	6	8'-7"	6	10'-7"	6	12'-7"	6	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	13	4'-1"	13	5'-1"	13	6'-1"	13	7'-1"	13	8'-1"
b1	#4	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"
1 b2	#4	23	6'-1"	29	6'-1"	35	6'-1"	41	6'-1"	47	6'-1"
x1	#4	8	3'-10"	8	4'-2"	8	4'-6"	8	4'-10"	8	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	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	32	②	36	②	40	②	44	②	48	②

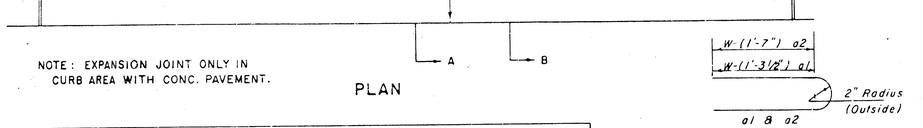
* Field bend or cut Reinforcing as required for clearance.

① 4(H1-12"), (H1-12") Round down to nearest 0.5'

② H1-3"



SECTION E-E



BENDING DIAGRAM

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4' 4"	3'8"x 6'4" x7 1/2"	21" & SMALLER	0.38 ±
5' 4"	4'8"x 6'4" x7 1/2"	24" & 30"	0.51 ±
6' 4"	5'8"x 6'4" x7 1/2"	36" & 42"	0.64 ±
7' 4"	6'8"x 6'4" x7 1/2"	48" & 54"	0.77 ±
8' 4"	7'8"x 6'4" x7 1/2"	60" & 66"	0.90 ±

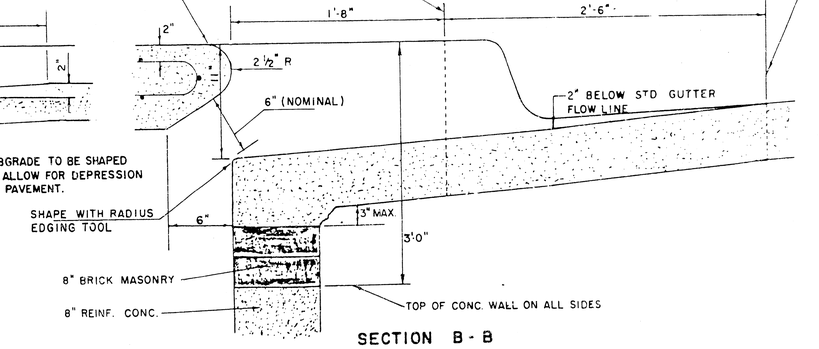
HOTE: CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W = 6'4" AND H = 7'0" OR LESS.

ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET HOOKUP.

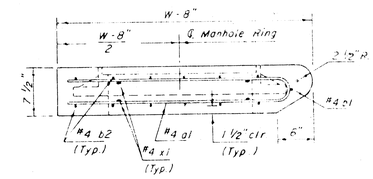
INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

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

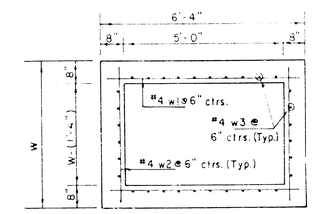
** NOTE: Slope of Inlet Tops to match Sidewalk or Parking Slopes within Limits indicated.



SECTION B-B



SECTION C-C



SECTION D-D

~~REVISED 11-30-1984~~

~~REVISED 12-21-1984~~ Revised 2-16-1989

DETAIL STANDARD TYPE IA CURB INLET

CITY OF WICHITA, KANSAS

INLET OPENING = 6" × 5'0"

JUNE 1984

1" = 20' Horiz.
1" = 5' Vert.
o = Iron

N

STA. 0+00
INSTALL 157 L.F. 48" R.C.P. (INCLUDING END SECTION)(W).
INSTALL 25 S.Y. LIGHT-STONE RIP-RAP.

IDENTICAL POINTS

INSTALL 10 S.Y. LIGHT-STONE RIP-RAP

BACKFILL EXIST. DITCH (See Note This Sheet)

20' Util. Esm't
Exist. 16" Sewer
SPOIL BANK
95'
Exist. Ditch
40'
20' Ctr. Inlet
Future San. Sewer
Future 48" SWS
MARIE
DENISE
Res. "A"
95'
10.33'
9.17'
30' ±
MATCH EXIST. DITCH. END DITCH RE-ALIGNMENT.
Exist. Edge Water
20' Sewer Esm't
Future 64' 35' B-B
Exist. Ditch Bottom
64'
12
11
3
4

STA. 1+57
CONSTRUCT STD. TYPE I-A CURB INLET
W = 6'-4", L = 11'-4", TOP = 159.00
INSTALL 192.09 L.F. 42" R.C.P. (S)
INSTALL 6.0 L.F. 48" R.C.P. (W)

STA. 4+21.54
CONSTRUCT STD. TYPE I-A CURB INLET
W = 6'-4", L = 6'-4", TOP = 159.29
INSTALL 452.20 L.F. 36" R.C.P. (W)

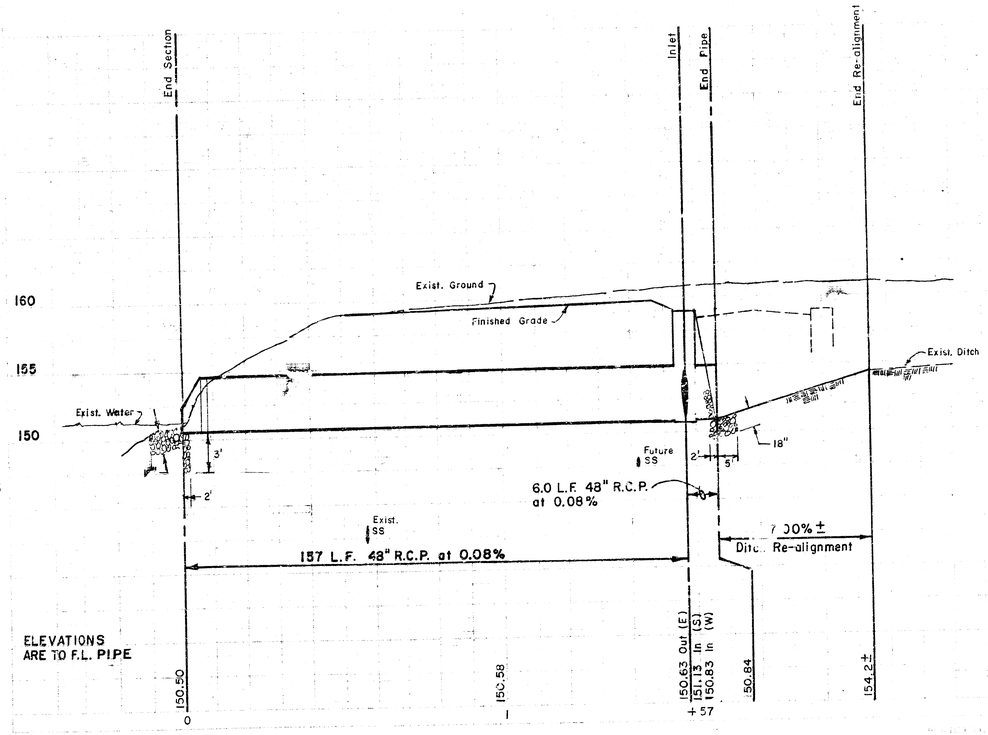
20' Util. Esm't
20' Sewer Esm't
20' Ctr. Inlet
Future Sewer
40'
78'
105.09'
10.33'
Future Water
64'
DENISE MARIE
Future 48" SWS
Future Sewer
Future Pvm't 30' Ex-Ex
LINE 3
68 L.F. Flowable Fill
WESTPORT
64'
94.33'
12
11
13
J
K
I

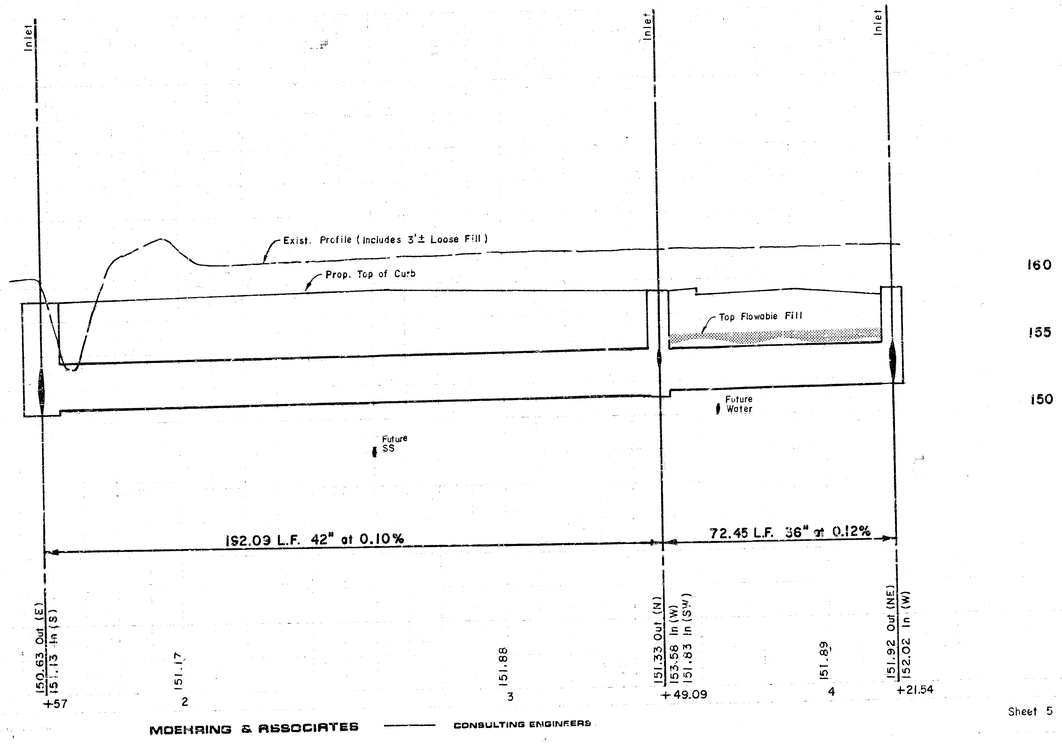
STA. 3+49.09
CONSTRUCT STD. TYPE I-A CURB INLET
W = 6'-4", L = 6'-4", TOP = 159.22
INSTALL 72.45 L.F. 36" R.C.P. (SW)

CONSTRUCTION NOTE:

RE-ALIGN DITCH FLOW INTO 48" STUB ON WEST SIDE OF INLET STRUCTURE. BACKFILL EXISTING DITCH TO FINISHED GRADE WITH MATERIAL FROM SPOIL BANK AND/OR EXCESS EXCAVATION. BACKFILL SHALL BE COMPACTED TO 90% STANDARD DENSITY AND 95% STANDARD DENSITY WITHIN STREET R/W. THIS ITEM OF WORK TO BE SUBSIDIARY TO OTHER BID ITEMS.

LINE 1





MOEHRING & ASSOCIATES —— CONSULTING ENGINEERS

1" = 20' Horiz.
1" = 5' Vert
o = Iron

N

STA. 4+21.54

STA. 8+73.74
CONSTRUCT STD. TYPE I-A CURB INLET
W = 6'-4", L = 6'-4", TOP = 159.32
INSTALL 343.80 L.F. 30" R.C.P. (W)

12 11 10 9 8 (K) 7 6 5 4

6' 64.6' 10.33' 6' 64.6' 10.33'

LINE 2

64' 64'

Future Pvmt 35' BK to BK

WESTPORT

Future Water

64' 95' 95' 64' 76' 75' 75'

13 (J) 1 15 (I) 11 10 (H) 9 8

DENISE MARIE

GRAY

LINE 1

Inlet Inlet

165 160 155 150

Exist. Ground

Proposed Top of Curb

452.20 L.F. 36" R.C.P. at 0.12%

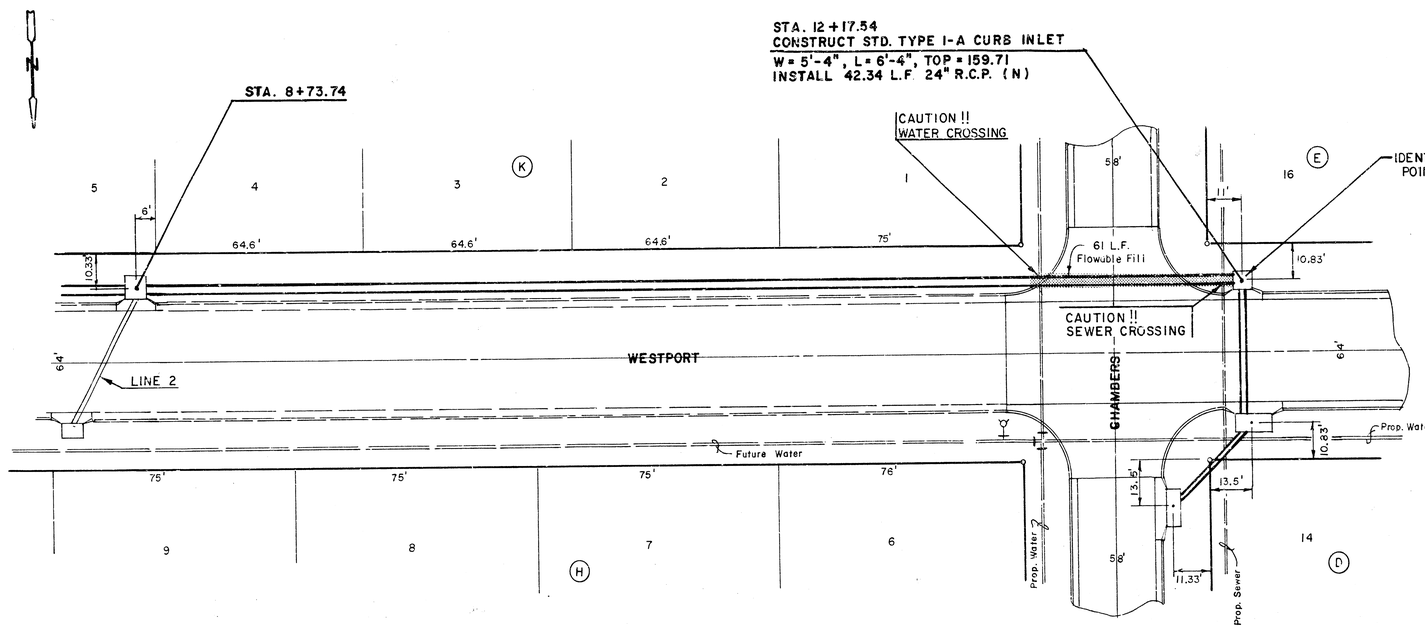
ELEVATIONS ARE TO TOP PIPE.

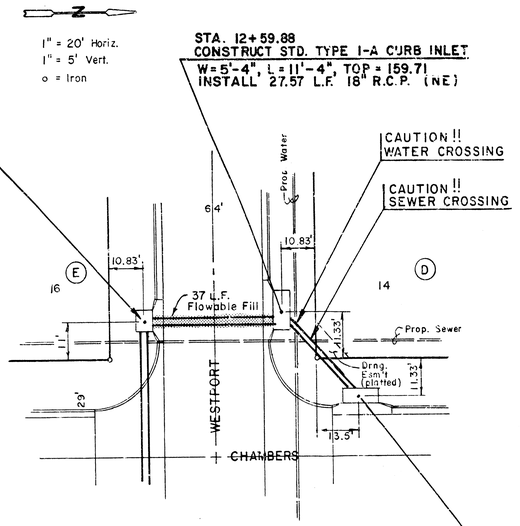
151.92 Out (NE)
152.02 In (W)

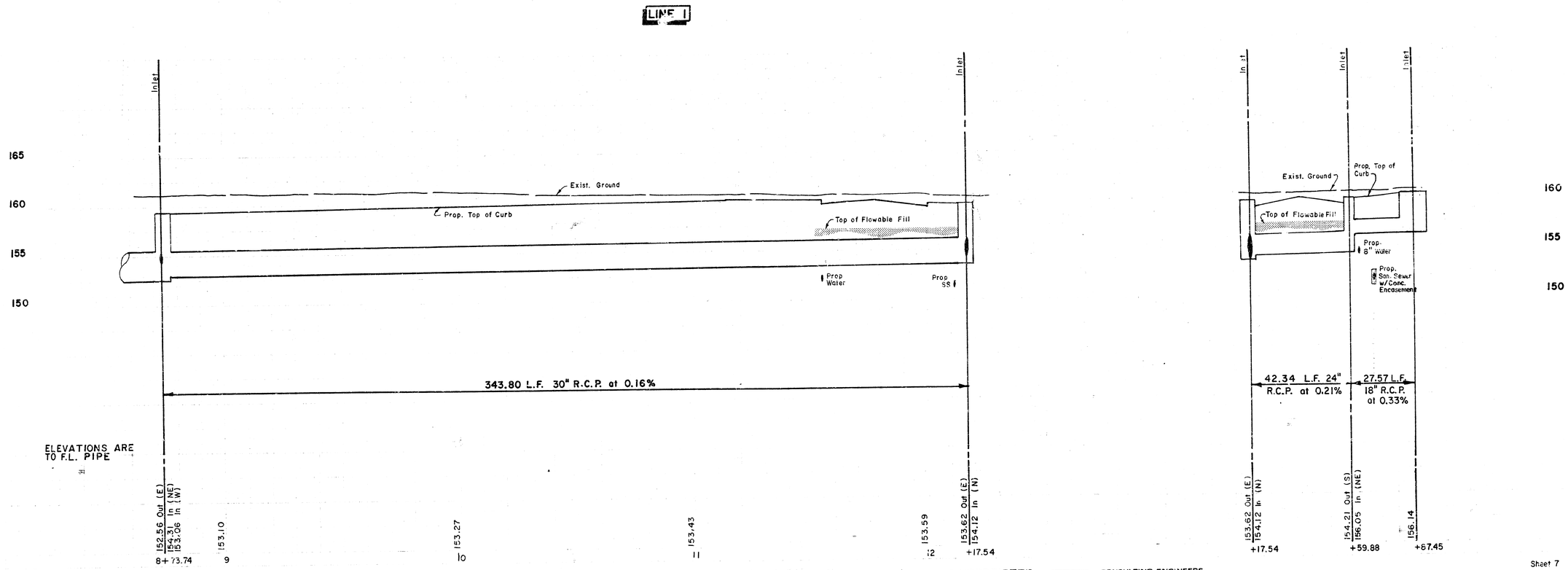
152.56 Out (E)
154.31 In (NE)
153.06 In (W)

4 +21.54 5 152.11 6 152.23 7 152.35 8 152.47 +73.74

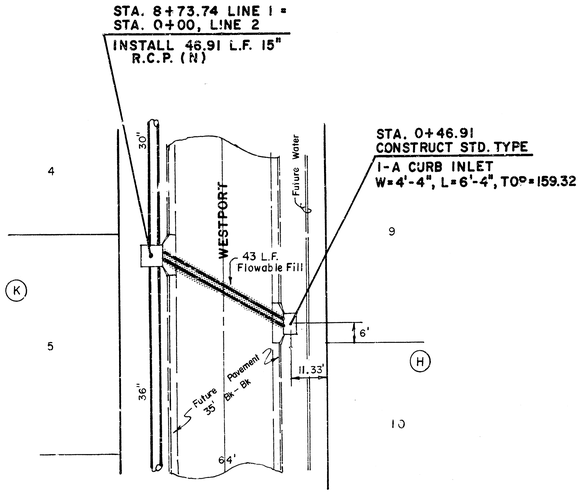
MOEHRING & ASSOCIATES —— CONSULTING ENGINEERS

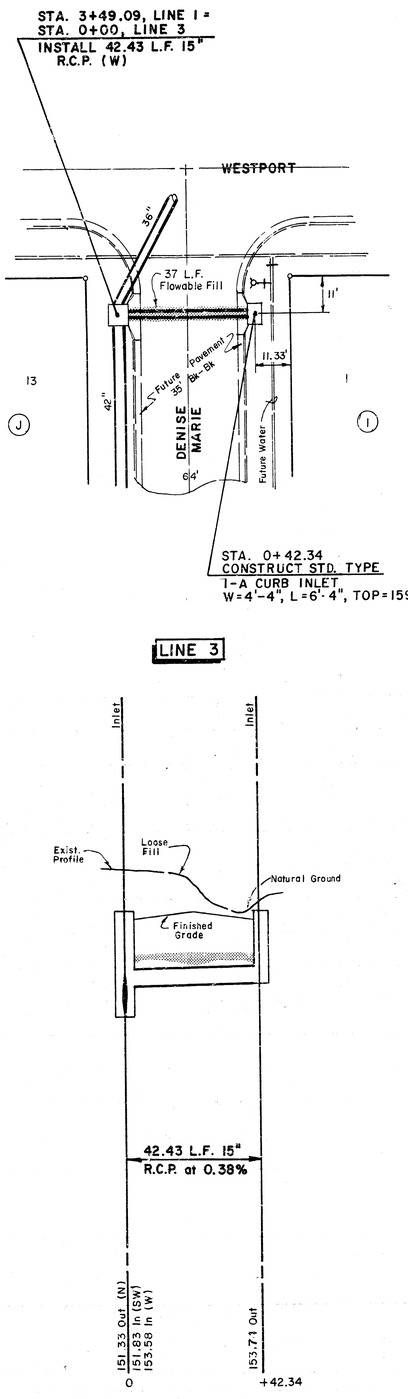






MOEHRING & ASSOCIATES —— CONSULTING ENGINEERS





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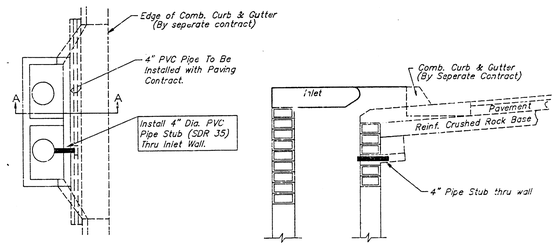


(Min. 16 Perforations Per Lin. Ft. @ 1/4" Dia.)
Perforations To Be on Bottom Half

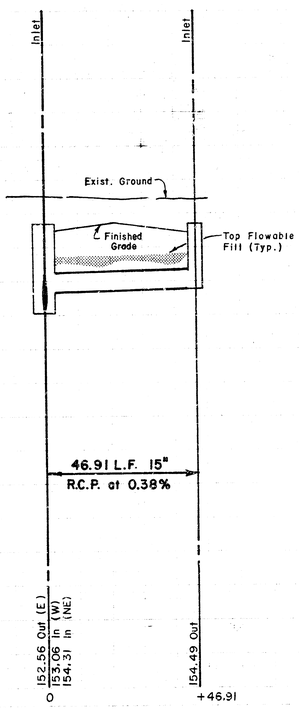
PLAN — SECTION A–A

NOTE:
1. Place 4" PVC Pipe Stub at all Inlet Locations.
2. Cost of 4" PVC Pipe Stub to be Incidental To The Price Bid For Other Items Of Work.
3. Inlet Type May Vary From That Shown.

PAVEMENT UNDERDRAIN DETAIL

NOT TO SCALE

LINE 2



ELEVATIONS ARE
TO FL. PIPE

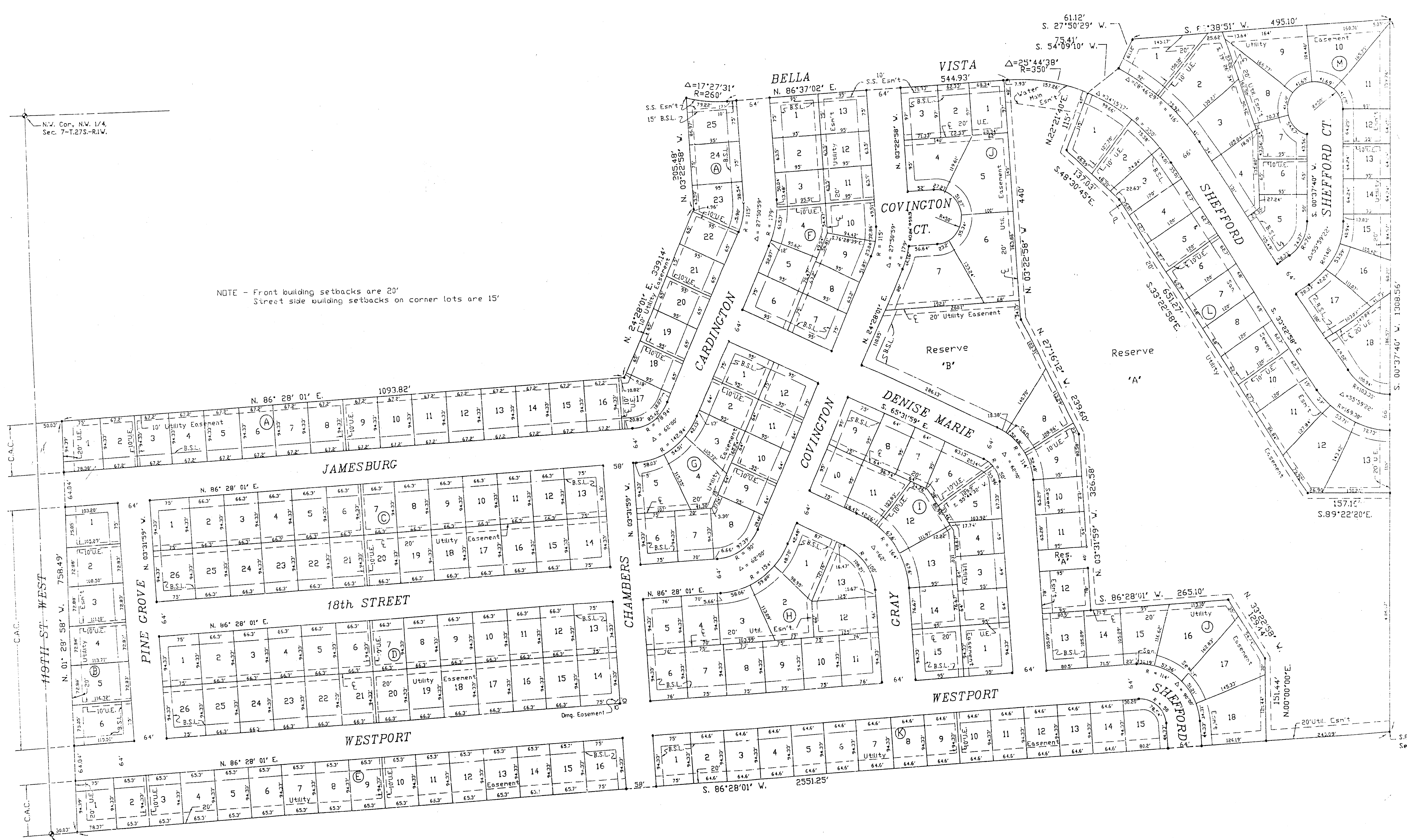
LINE 3

SUNRIDGE 2ND ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS

N 1" = 100'

BENCHMARK
City Disc - 79' S. and 46' E. of the NW Cor. of the NW 1/4, Sec. 7, T.27 S., R.1 W.
Elev. = 1359.49 M.S.L.
= 172.08 City Datum



C.A.C. = Complete Access Control
B.S.L. = Building Setback Line