CITY OF WICHITA
SEDGWICK COUNTY, KANSAS

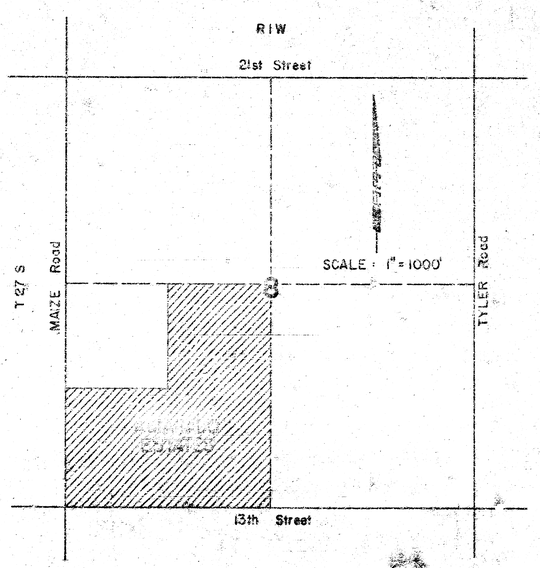
CONSTRUCTION PLANS FOR

STORM WATER SEWER NO. 134
AMARADO ESTATES

PHASE II

CITY PROJECT NO.

468-76-245-80531-000-000-001



LOCATION MAP

INDEX

1. TITLE SHEET
2-4. PLAN/PROFILE SHEETS
5. SUMMARY OF QUANTITIES & GENERAL INFORMATION
6-7. STORM DRAIN DETAILS
8. STANDARD DETAILS, REINFORCED CONCRETE MANHOLES
9. TYPE IA CURB INLET DETAILS

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

MAY 1978

No.	Revision	By

TITLE SHEET
PHASE II
AMARADO ESTATES STORM DRAIN IMPROV
PROFESSIONAL ENGINEERING CONSULTANT
ENGINEERS
WICHITA, KANSAS

℄ Curve Data (Arc)
Δ = 18°02'32"
D = 10°45'12"
R = 535.0'
L = 393.60'
T = 183.61'

CAUTION!
2" Gas Line-Contact
Arkla Gas Co.

@ Sta 3+24.12, 6.0' Lt.
Const. MH M-2
See Schedule, Sht. 8

Install 28.17 LF
15" RCP

@ Sta. 1+59.44, 6.0' Rt.
Const. MH M-1
See Schedule, Sht. 8

Sta. 0+00 ℄ Valleyview =
℄ 13th Street

BM #4.

@ Sta. 1+59.44, 22.17' Lt.
Const. Curb Inlet
Type 1A W=3'10"
Top Elev.=134.90

Sta. 1+40.0
to Alexandria

Drain Easmt

CAUTION!
Underground Elect.
Cable. Contact K.G.&E.
2" Gas Line, Contact
Arkla Gas Co.

15" SD
(To Remain)

Contractor to remove
existing field inlet, 19 LF
18" RCP, 10 LF 12" CMP
& Modify Exist. MH
See Sh. No. 7

12" CMP
Field Inlet

Underground Elec. (DM

48" RCP

60" SD
(To Remain)

8" San. Sewer

10' K.G.&E. Esmt

Reserve A

ALAMO

Sta. 3+46.15 @ Valleyview =
Sta. 0+51.07 @ Alamo St.

Install 96.64 LF
30" RCP

@ Sta 4+20.42, 6.0' Rt.
Const. MH M-3
See Schedule, Sht. 8

5+00

6" Dom. Sewer

E out = 150.08

Install 165.31 LF
42" RCP

Install 16.17 LF
15" RCP

@ Sta. 1+59.44, 22.17' Rt.
Const. Curb Inlet
Type 1A W=3'10"
Top Elev.=134.91

Install 135.69 LF
60"x38" RCPHE

VALLEYVIEW CT. 3

CAUTION!
2" Gas Line-Contact
Arkla Gas Co.

Install 175.40 LF
24" RCP

@ Sta. 4+51.83, 22.17' Lt.
Const. Curb Inlet
Type 1A W=4'10"

E out = 150.75

Install 130.76 LF
30" RCP

@ Sta. 6+51.83, 22.17' Rt.
Const. Curb Inlet
Type 1A W=3'10"
Top Elev.=154.90

Install 44.34 LF
15" RCP

Reserve A

See this sheet
for Plan/Profile

Sta. 8+07.37 @ Valleyview =
Sta. 0+00 @ Valleyview Ct. 1

Sta. 6+00.99 @ Valleyview =
Sta. 0+00 @ Valleyview Ct. 2,3

VALLEYVIEW CT. 1

VALLEYVIEW CT. 2

8" San. Sewer

8" San. Sewer

10' K.G.&E. Esmt

@ Sta. 8+29.31, 22.17' Lt.
Const. Curb Inlet
Type 1A W=4'10"
Top Elev.=153.27

E in = 149.43

@ Sta. 8+37.66, 22.17' Lt.
Const. Curb Inlet
Type 1A W=3'10"
Top Elev.=153.27

E out = 149.44

E in = 149.45

Install 44.34 LF
18"x11" CMPA s=0.10%

E in = 149.45

Install 44.34 LF
18"x11" CMPA s=0.10%

℄ of Valleyview

E out = 149.51

Install 40 LF
18"x11" CMPA Lt. & Rt.

E out = 149.51

E = 149.58

E = 149.88

@ Sta. 8+29.31, 22.17' Rt.
Const. Curb Inlet
Type 1A W=3'10"
Top Elev.=153.21

@ Sta. 8+37.66, 22.17' Rt.
Const. Curb Inlet
Type 1A W=3'10"
Top Elev.=153.21

Sta. 8+10.0 Remove
18"x11"x86' CMPA

VALLEYVIEW

ALAMO

Sta. 3+46.15 @ Valleyview =
Sta. 0+51.07 @ Alamo

(1)

10' Util. Esmt

8" San. Sew.

VALLEYVIEW CT. 3

VALLEYVIEW

CAUTION!
2" Gas Line-Contact
Arkla Gas Co.

VALLEYVIEW CT. 2

Connect to
MH M-3

@ Sta. 4+20.42, 6.0' Rt.
Const. City of Wichita
Std. Drop Inlet
℄ Shanks Gas Co. Ln. 6.

Contract Stm
Drain Easmt by Seperate Instrument. Film No. 2617 pg. 018 Sht

Reserve A

Install 58.00 LF
15" RCP

Sta. 8+07.37 @ Valleyview =
Sta. 0+00.0 @ Valleyview Ct. 1

VALLEYVIEW CT. 1

BM #4 Top of the S.W. bolt in base of Power
Pole 127.7' Lt. Sta. 0+41 Valleyview El.=157.05

@ Sta. 0+29.28, 55.32' Rt.
Connect to Exist. MH Manhole

@ Sta. 1+59.44, 6.0' Rt.
Const. MH M-1
Top Elev.=164.72

@ Sta. 3+24.12, 6.0' Lt.
Const. MH M-2
Top Elev.=165.20

@ Sta. 4+20.42, 6.0' Rt.
Const. MH M-3
Top Elev.=165.45

@ Sta. 4+51.83, 22.17' Lt.
(5.25' Curb Ht.)
Top Elev.=154.30

@ Sta. 8+29.31, 22.17' Lt.
Inlet

@ Sta. 8+37.66, 22.17' Rt.
Const. Curb Inlet
Top Elev.=153.21

@ Sta. 4+20.42, 6.0' Rt.
Connect to MH M-3

@ Sta. 4+20.42, 22.17' Rt.
Const. Curb Inlet
Top Elev.=153.21

160

155

150

145

140

Conc. encased
K.G.&E. Elect.
Cable

Exist. Grd.

E in = 160.0
from Lt. & Rt.

E = 145.20
8" ABS San Sewer

E in = 146.35
From Lt.
(See sheet 3
for profile)

E in = 160.19
from Rt.
(See profile this sheet)

E = 146.09
8" ABS San Sewer

E in = 140.36
from Rt.

E = 146.34
8" VCP San Sewer

See detail this sheet
for pipe connections

135.69 LF 60" 38" RCPHE
S=0.04%

165.31 LF 42" RCP
S=0.06%

96.64 LF 30" RCP
S=0.091%

280.76 LF 30" RCP
S=0.068%

173.10 LF 24" RCP
S=0.07%

58.00 LF
15" RCP
S=0.11%

E out = 147.20
E in = 147.35

E out = 146.95
E in = 146.95

E out = 146.94
E in = 146.94

E out = 146.0
E in = 146.23

E out = 145.40
E in = 145.40

E in = 150.19
E out = 150.13

PEC No. 30-77482-4-3rd

℄ MAIZE RD.

ALAMO

ALAMO CT. 1

ALAMO CT. 2

VALLEYVIEW

Reserve A

0+00

Sta. 6+00 ℄ Alamo = ℄ Maize Rd

Sta. 6+07.03 ℄ Alamo = Sta. 0+00 ℄ Alamo Ct. 1

Install 55.34 LF 15" RCP

Install 146.0 LF 15" RCP

Install 170.06 LF 18" RCP

Sta. 4+78.48 ℄ Alamo = Sta. 0+00 ℄ Alamo Ct. 2

Install 146.13 LF 30" RCP

Install 38.34 LF 15" RCP

Proposed C & G

Install 286.01 LF 30" RCP

Sta. 9+51.07 ℄ Alamo = Sta. 3+46.15 ℄ Valleyview

Connect to MH M-2

8" San. Sewer

8" San. Sewer Permit by Sep. Instrument Film 181, p. 415

* By Seperate Instrument Film 181, p. 481 to 483

15+50 A.D. Easement*

Rec'd A

@ Sta. 3+38.86, 64.58' Lt. Const. City of Wichita Std. Drop Inlet & Grates, See Sh. 6

@ Sta. 3+38.86, 19.17' Lt. Const. Curb Inlet Type 1A W=3'10"

@ Sta. 3+38.86, 19.17' Rt. Const. Curb Inlet Type 1A W=3'10" Top Elev = 155.77

E out = 151.28

See Sheet 4 for Plan/Profile

@ Sta. 5+05.0, 67.0' Lt. Const. MH M-A See Schedule Sheet No. 8

@ Sta. 6+54.0, 19.17' Lt. Const. Curb Inlet Type 1A W=4'10"

E out = 150.62

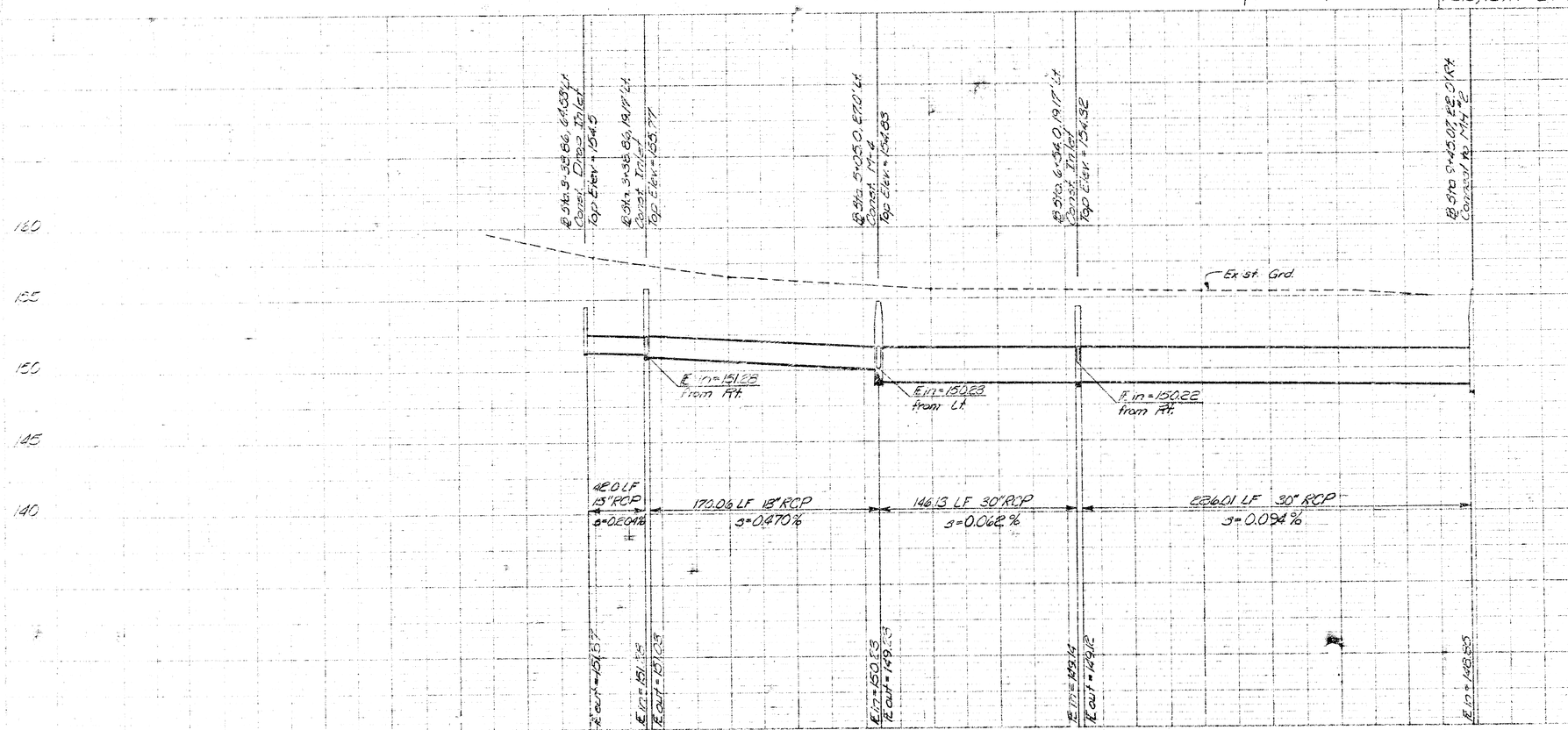
@ Sta. 6+54.0, 19.17' Rt. Const. Curb Inlet Type 1A W=3'10" Top Elev = 154.32

CAUTION! 4" Gas Line-Contact Arkla Gas Co.

B.M. #4 Top of the S.W. bolt in base of Power Pole, 127.7' Lt. Sta. 0+41 Valleyview El = 157.05

℄ Curve Data (Arc)
Δ = 30°59'57"
D = 13°38'31"
R = 420.0'
L = 227.23'
T = 116.47'

℄ Curve Data (Arc)
Δ = 48°34'57"
D = 16°31'03"
R = 346.0'
L = 211.28'
T = 111.24'



PFC No. 30-77482-4-360

℄ Curve Data (Arc)
Δ = 45°44'57"
D = 8°44'29"
R = 649.27'
L = 518.42'
T = 273.92'

Reserve A

Sta. 4+78.48 ℄ Alamo = Sta. 0+00 ℄ Alamo Ct 2

8" San. Sewer

Sta. 0+65, 19.17' Lt. Const. Curb Inlet Type 1A W=3'10"

Install 38.34 LF 15" RCP

Radius Pt. Sta. 5+47.27

Proposed ℄ & G

ALAMO CT. 2

Ct. R.C.T. to T.H. 11-4

ALAMO

Install 36.18 LF 18" RCP

Sta. 0+65, 19.17' Rt. Const. Curb Inlet Type 1A W=3'10"

8" San. Sewer

@ Sta. 0+39.39, 0.22' Lt. Connect to existing 24" RCP stub

60' S.D.

10' A.C.+℄ Easement

8" San. Sewer

@ Sta. 0+00 = ℄ 13th St.

CAUTION! 8" Gas Line - Contact Arkla Gas Co.

℄ 13th St.

10' x 25' Drainage Esmt. by Separate Instrument. Film No. 297 p. 811-812

66' S.D.

10" San. Sewer

@ Sta. 1+87.33, 0.22' Lt. Const. Curb Inlet Type 1A W=3'10"

℄ 20' Drainage & Util. Esmt.

VALLEYVIEW CT. 1

@ Sta. 2+68.17, 0.22' Lt. Const. Curb Inlet Type 1A W=3'10"

@ Sta. 0+00 ℄ 13th St.

8" Lot Line

7

Install 146.0 LF 24" RCP

℄ Sta. 2+07 = Sta. 5+93.13 ℄ Valleyview Ct 1

Install 38.34 LF 15" RCP

5

12

13

11

8

9

10

Radial Pt. 13' Lt. Sta. 6+93.13

Reserve A

B.M. #4 Top of the S.W. bolt in base of Power Pole, 127.7' Lt. Sta. 0+41 Valleyview El. = 157.05

B.M. #5 Chis. "a" on top of E curb Caddy Ln. 105' S. ℄ 13th St. El. = 153.05

Connect to 1.74 I.T.4

@ Sta. 0+65, 19.17' Rt. Const. Inlet Top Elev. = 154.66

@ Sta. 0+65, 19.17' Lt. Const. Inlet Top Elev. = 154.66

@ Sta. 0+39.39, 0.22' Lt. Connect to exist 24" RCP stub

@ Sta. 1+87.33, 0.22' Lt. Const. Inlet Top Elev. = 154.76

@ Sta. 2+68.17, 0.22' Lt. Const. Inlet Top Elev. = 154.76

160

155

150

145

140

Exist. Grd.

Exist. Grd.

36.18 LF 18" RCP S=0.11%

38.34 LF 15" RCP S=0.08%

E = 144.09 8" San. Sewer

14½ LF 24" RCP S=0.5%

38.34 LF 15" RCP S=0.5%

E in = 150.58

E out = 150.47

E in = 150.58

E out = 150.55

Exist E = 149.08

E = 149.38

E out = 149.81

E in = 150.36

E out = 150.75

GENERAL NOTES

1. All Elevations are City of Wichita Datum
2. 160.659891 = Coordinate North / 2699.165186 = Coordinate East
3. 0.00N & 0.00E. = ℄ 13th St. @ ℄ Maize Rd.
4. All Storm Drain construction and materials to comply with City of Wichita Standards and Specifications.
5. (A/3) A/3 — Section Letter or Detail No. / Sheet on which Section or Detail is shown
6. All radii shown are to back of curb

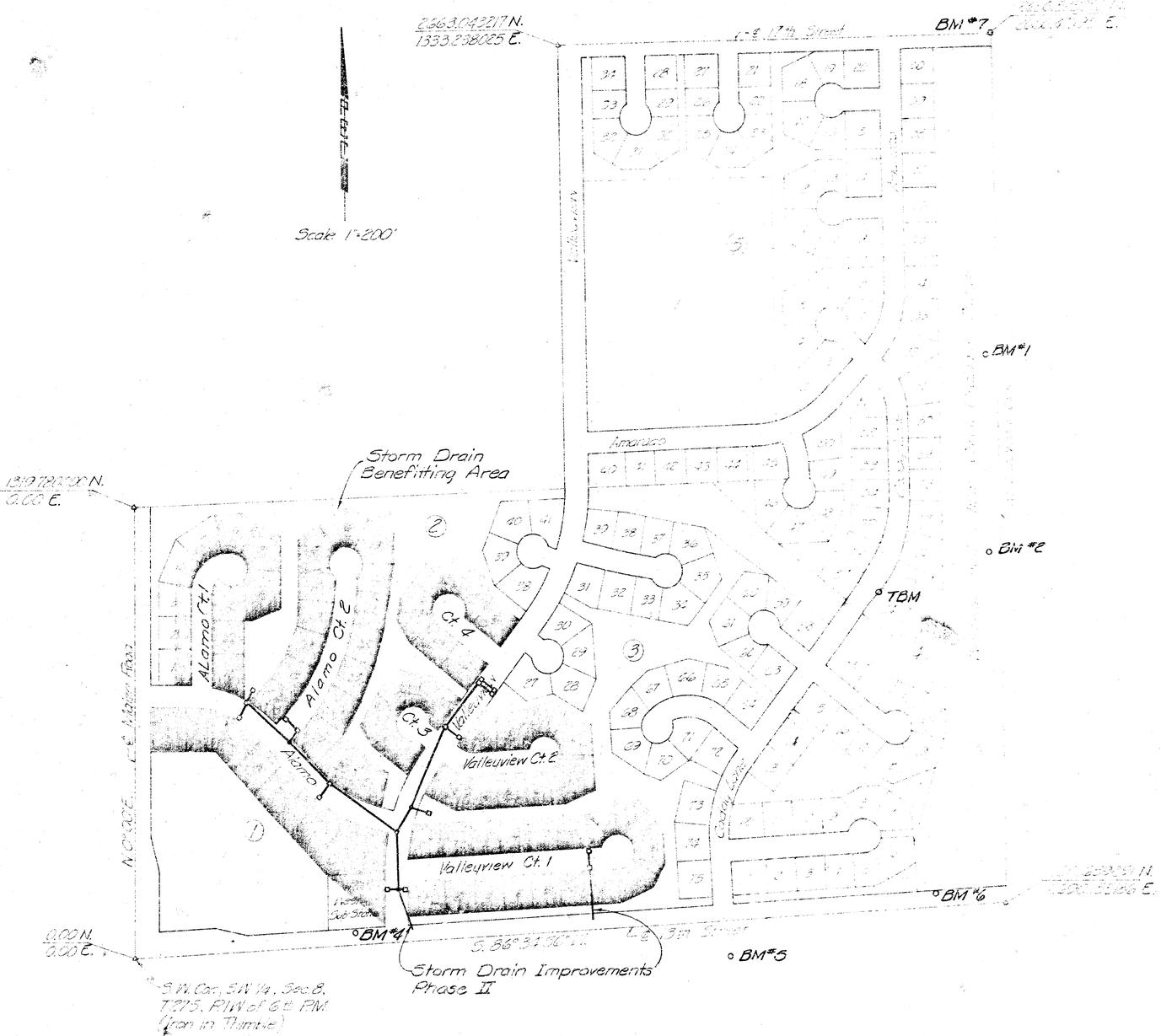
LEGEND

- Existing Iron to be maintained
- Existing Sanitary Sewer and Manhole
- Proposed Sanitary Sewer and Manhole
- 6"—W— Existing Water Line and Fire Hydrant
- G 2" Existing Gas Line
- Existing Underground Electric and Lightpole
- Existing Underground Electric and Transformer
- 8"—W— Proposed Water Line and Fire Hydrant

NOTE: Underground Electric Cable locations supplied by Kansas Gas & Electric and have not been verified by Survey.
Gas line sizes and locations supplied by Arkla Gas Co. and have not been verified by Survey.

SUMMARY OF QUANTITIES

BID ITEM NO.	DESCRIPTION	UNIT	PROPOSED QUANTITIES	CONSTRUCTED QUANTITIES
1	15" RCP	LF	342	
2	18" RCP	LF	209	
3	24" RCP	LF	320	
4	30" RCP	LF	760	
5	42" RCP	LF	166	
6	60" x 38" RCPHE	LF	136	
7	18" x 11" CMPA	LF	97	
8	Curb Inlet Type 1A	Ea.	16	
9	Standard Drop Inlet (2 Grates)	Ea.	2	
10	Reinforced Conc. Manhole	Ea.	4	
11	Pipe Removal	LF	85	
12	Inlet Removal	Ea.	1	



AMARADO ESTATES

BENCH MARKS

- BM #1 - W. Rim of MH Sta. 16+49.8 Westlink San. Sew. Main #3 El = 155.13
- BM #2 - W. Rim of MH Sta. 7+92.3 Westlink San. Sew. Main #3 El = 154.71
- BM #4 - Top of SW bolt in base of P.P. 127.7' Lt. Sta. 0+41 Valleyview El. = 157.05
- BM #5 - Chis. "□" on Top of E. Curb Caddy Lane 105' S. ℄ 13th Street El = 153.85
- BM #6 - Brass Cap on NW Cor of Handrail on RCB 204' W. & 40' N. S¼ Cor., Sec. 8, T27S, R1W. El = 155.67
- BM #7 - RR Spike in Hedge Stump near Center Sec. 8 El = 160.72
- TBM - Iron at P.C. of curve ℄ Sta. 11+28.31, 32' Rt. El = 160.80

SUMMARY OF QUANTITIES AND GENERAL INFORMATION

PHASE II

AMARADO ESTATES STORM DRAIN IMPROVEMENTS

PROFESSIONAL ENGINEERING CONSULTANTS

ENGINEERS WICHITA, KANSAS

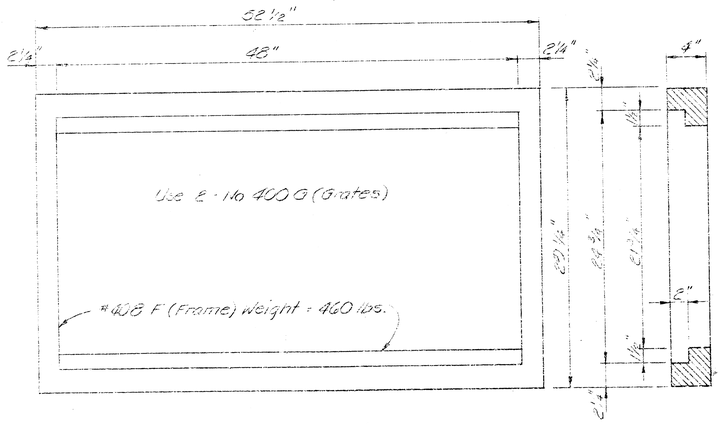
Designed by	CD, CB	Checked by	
Drawn by	SG, NH	Date	May, 1978

STORM WATER SEWER #134 Sheet 5 of

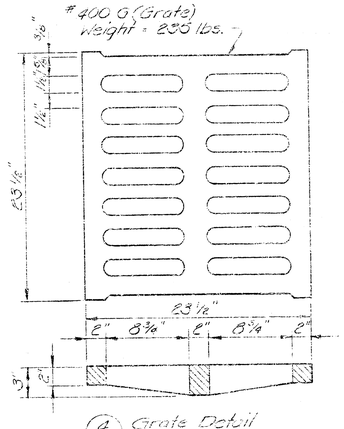
Weight 800 LBS. Ring No. 500A6

5" Western Iron and Foundry (No. 500A6)

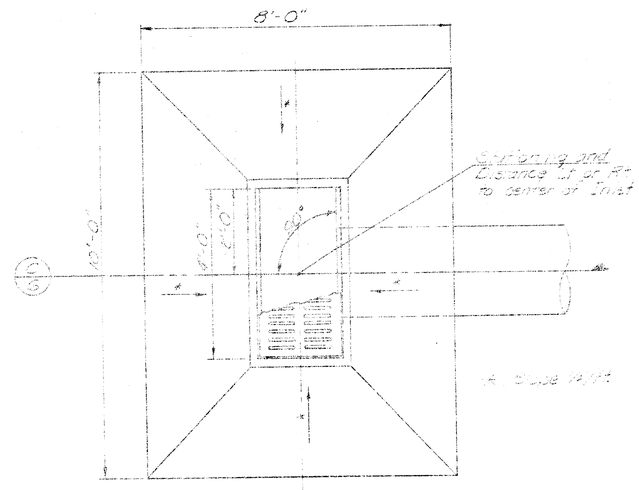
Section



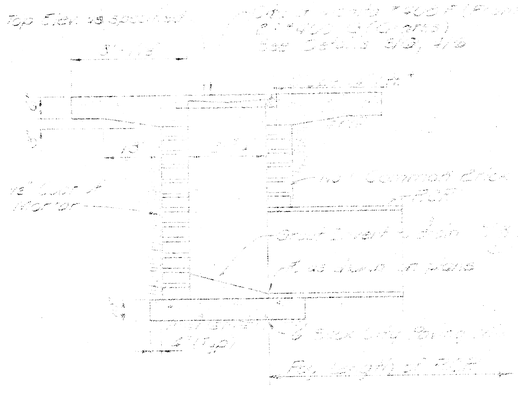
Frame Detail



Grate Detail



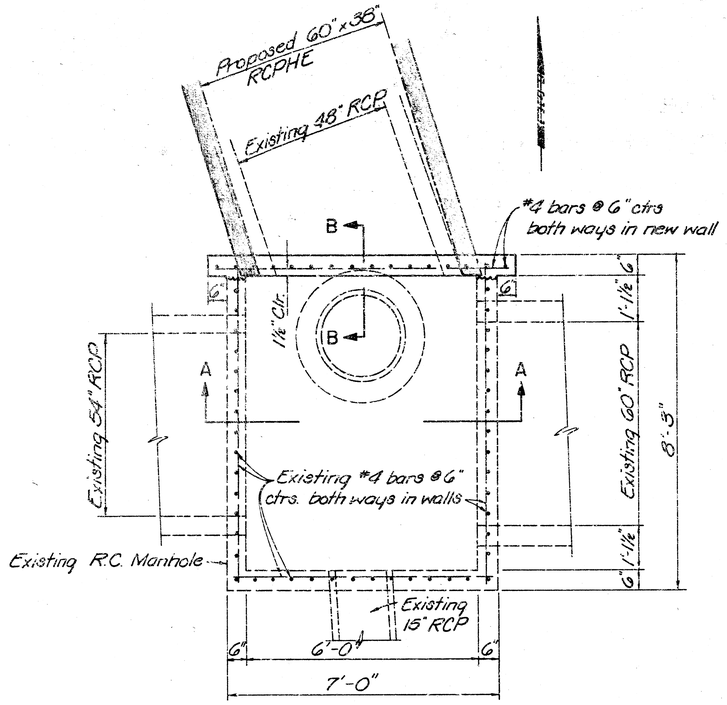
Drop Inlet



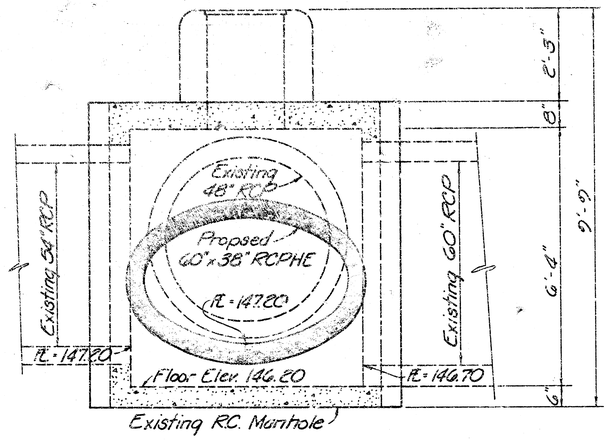
Drop Inlet Detail

PHASE II
STORM DRAIN

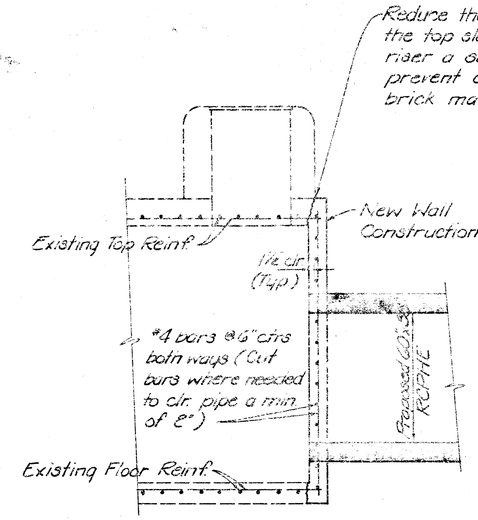
STORM WATER SEWER # 134



PLAN
(Showing Wall Reinforcing)



SECTION A-A



SECTION B-B

CONNECTION DETAILS TO EXISTING R.C. MANHOLE

GENERAL NOTES

Contractor shall remove entire north wall of existing manhole and portions of top, floor and east & west walls even with inside face of north wall. Contractor shall preserve all exposed reinforcing steel when concrete is removed so that it may extend into new wall. New reinforcing steel in north wall shall be bent or cut to clear RCPHE storm drain pipe a minimum of 2" as directed by the Engineer.

Contractor shall remove existing shaped floor as directed by the Engineer to accomodate proposed storm drain pipeline and shall reshape floor with 8 sack sand mix.

No separate payment shall be made for alterations to existing manhole and storm drain connection thereto.

PIPING ALTERNATIVES			
R.C.P. n=0.013	R.C.P.H.E. n=0.013	C.M.P.* n=0.013	C.M.P.A.* n=0.013
15"	———	15"	18"x11"
18"	23"x14"	18"	22"x13"
24"	30"x19"	24"	29"x18"
30"	38"x24"	30"	36"x22"
36"	45"x29"	36"	43"x27"
42"	53"x34"	42"	50"x31"
48"	60"x38"	48"	58"x36"
54"	68"x43"	54"	65"x40"
60"	76"x48"	60"	72"x44"

* Fully Paved except 15" & 18" and their equivalent CMPA which shall be Helically Corrugated.

NOTE:

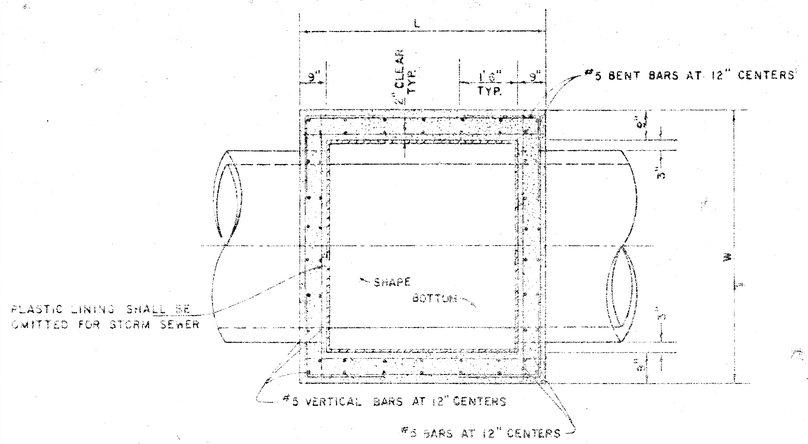
1. Where Plan and Bid Items refer to Reinforced Concrete Pipe, Corrugated Metal Pipe may be substituted as shown in table above.

STORM DRAIN DETAILS

PHASE II
AMARADO ESTATES STORM DRAIN IMPROVEMENTS

PROFESSIONAL ENGINEERING CONSULTANTS
ENGINEERS
WICHITA, KANSAS

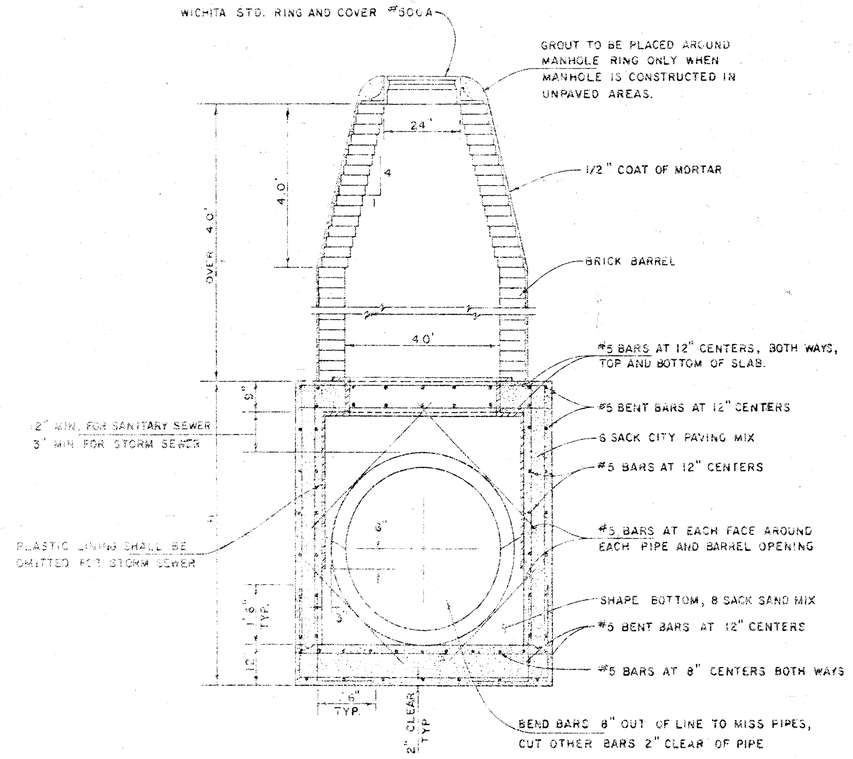
Designed by	DD CB	Checked by	
Drawn by	SG CM	Date	



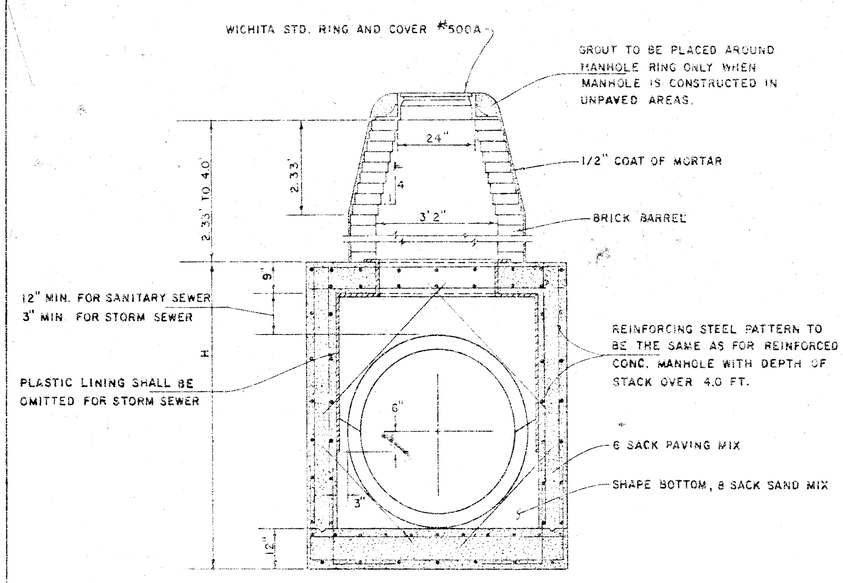
MANHOLE SCHEDULE

MANHOLE NO.	LOCATION	TYPE	L (FT.)	W (FT.)	H (FT.)	TYPE M.H. RING	REMARKS
1	@ Sta. 1+59.44 60' Rt - Valleyview	R.C.	5.5	7.92	6.84	W.F.	Const. normal to 60"x38" S.D.
2	@ Sta. 3+24.12 60' Lt - Valleyview	R.C.	5.75	6.26	6.26	W.F.	Const. normal to 42" S.D.
3	@ Sta. 4+20.42 60' Rt - Valleyview	R.C.	5.5	5.08	5.08	W.F.	Const. normal to 30" S.D.
4	@ Sta. 5+05.00 27.0' Lt - Alamo	R.C.	5.5	5.08	5.08	W.F.	Const. normal to 30" S.D.

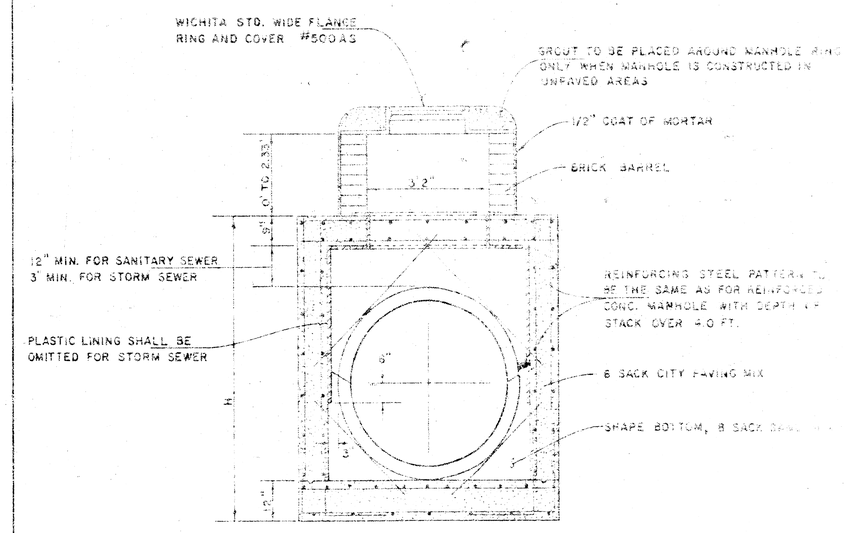
R.C. = Reinforced Concrete
W.F. = Wide Flange #500AS



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: OVER 4.0'
SCALE 1" = 2'



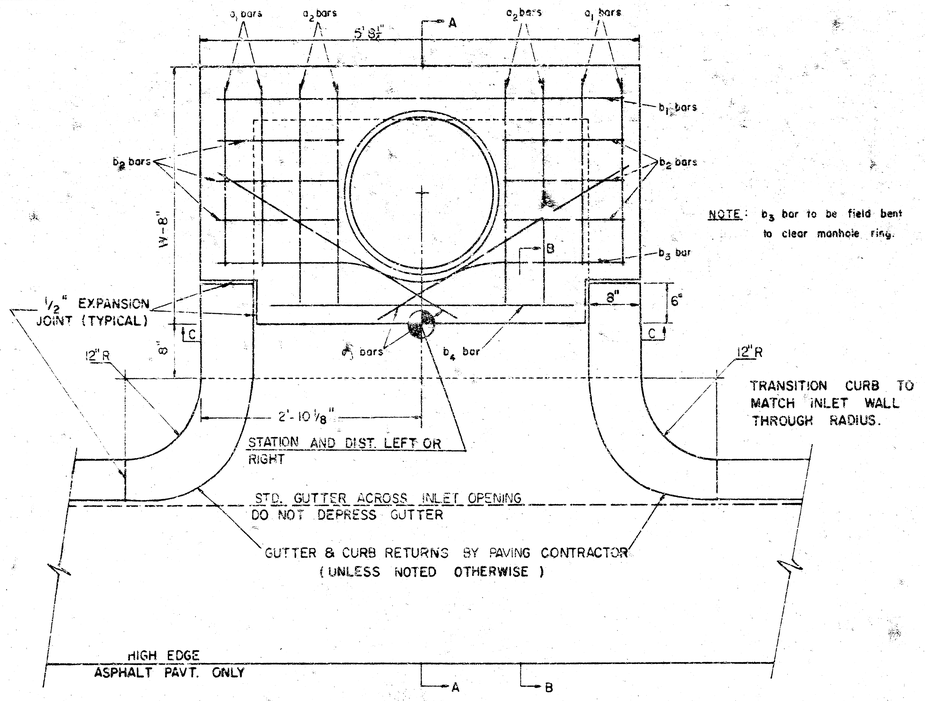
REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 2.33' TO 4.0'
SCALE 1" = 2'



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 0' TO 2.33'
SCALE 1" = 2'

STANDARD DETAILS
REINFORCED CONCRETE MANHOLE

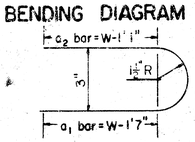
CITY OF WICHITA
R. W. LINN - CITY ENGINEER
APRIL 1978



NOTE: b_3 bar to be field bent to clear manhole ring.

PLAN (SCALE: 1" = 1'0")

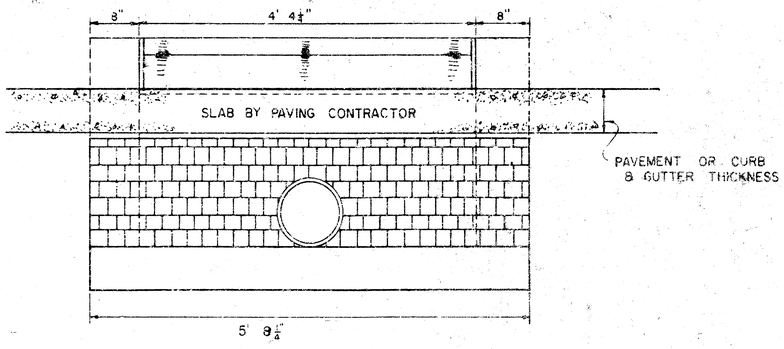
BENDING DIAGRAM



STEEL SCHEDULE

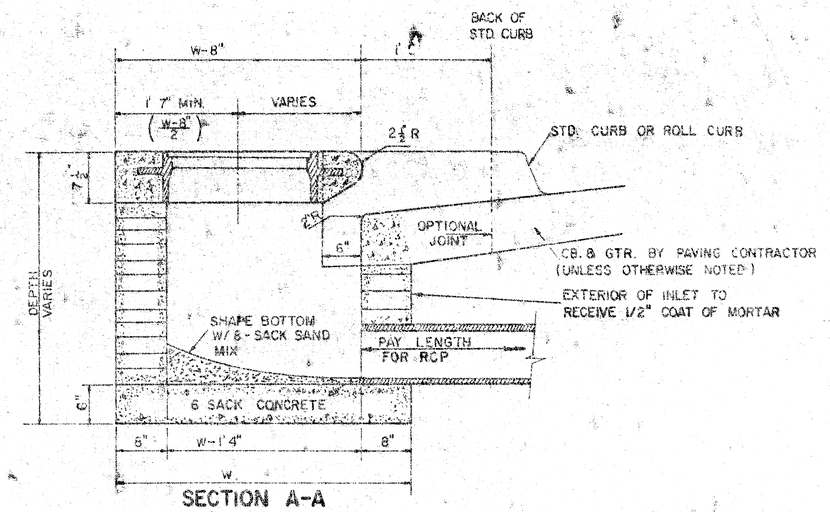
BAR		a_1	a_2	a_3*	D: W=3'10"	D: W=4'10"	D: W=5'10"	D: W=6'10"	b_2	b_3	b_4	Wt. Lbs.
NUMBER		4	4	2	1	3	5	7	6	1	1	
SIZE		#4	#4	#4	#4	#4	#4	#4	#4	#4	#6	
LENGTH	W=3'10"	4'9"	5'9"	3'7"	5'5"	—	—	—	1'7"	5'6"	4'0"	53
	W=4'10"	6'9"	7'9"	4'7"	—	5'5"	—	—	1'7"	5'6"	4'0"	72
	W=5'10"	8'9"	9'9"	5'7"	—	—	5'5"	—	1'7"	5'6"	4'0"	91
	W=6'10"	10'9"	11'9"	6'7"	—	—	—	5'5"	1'7"	5'6"	4'0"	110

* NOTE: a_3 BARS TO BE PLACED APPROX. 2" BELOW TOP OF INLET COVER.



SECTION C-C
(SCALE 1" = 1'0")

BRICK FOR INLET CONSTRUCTION SHALL CONFORM WITH THE LATEST REVISION OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS DESIGNATION C32 FOR MANHOLE BRICK GRADE MS.



SECTION A-A
(SCALE 1" = 1'0")

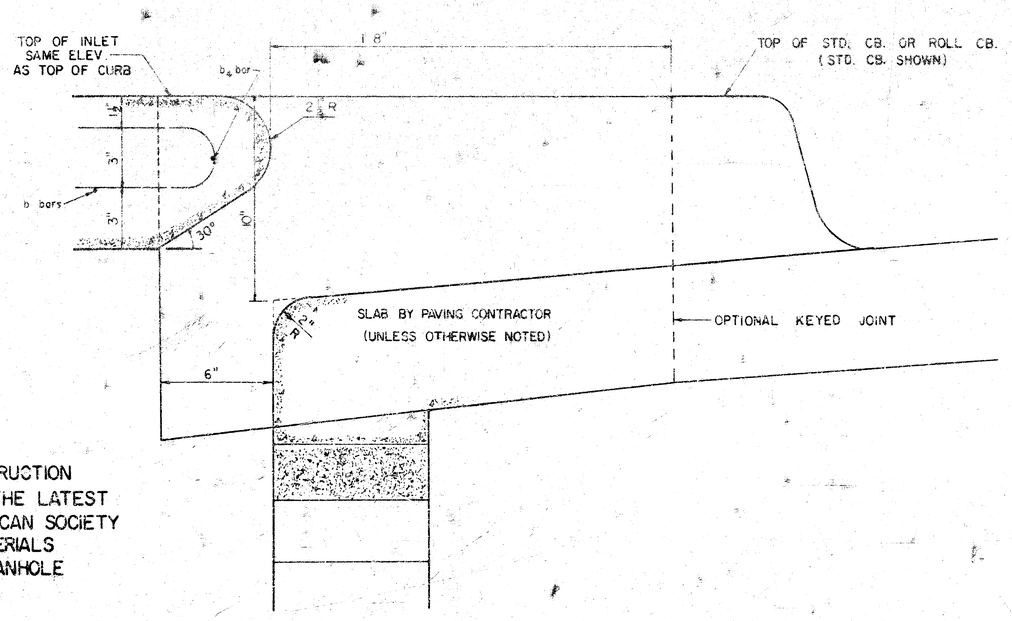
STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
3'10"	3'2" X 5'8½" X 7½"	18" & SMALLER	0.42*
4'10"	4'2" X 5'8½" X 7½"	24" & 30"	0.55*
5'10"	5'2" X 5'8½" X 7½"	36" & 42"	0.68*
6'10"	5'2" X 5'8¾" X 7½"	48" & 52"	0.82*

* GROSS VOLUME

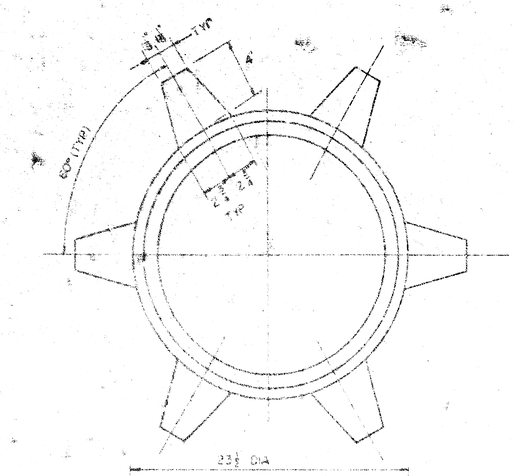
W = BASIS OF PAYMENT FOR INLETS (EACH INLET DEPTH VARIES)

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 FOR INLET TOPS AND FLOORS SHALL BE 6 SACK PAVING MIX.

STORM DRAIN PIPES TO BE INSTALLED THROUGH INLET WALLS IN A POSITION TO FACILITATE FLOOR SHAPING.



SECTION B-B
(SCALE 3" = 1'0")



MANHOLE RING

(MANHOLE COVERS TO BE EQUIVALENT TO STANDARD CITY OF WICHITA NO. 500A)

STD. CITY OF WICHITA TYPE IA CURB INLET

No.	Revision

TYPE IA CURB INLET DET
PHASE II

AMARADO ESTATES STORM DRAIN IMPRO

PROFESSIONAL ENGINEERING CONSULTANTS
ENGINEERS
WICHITA, KANSAS

Designed by:	Job No. 77482-4
Drawn by:	Date: May, 1978

STORM WATER SEWER #134