# CONSTRUCTION PLANS FOR

# LATERAL 245

OF THE

# SOUTHWEST INTERCEPTOR SEWER

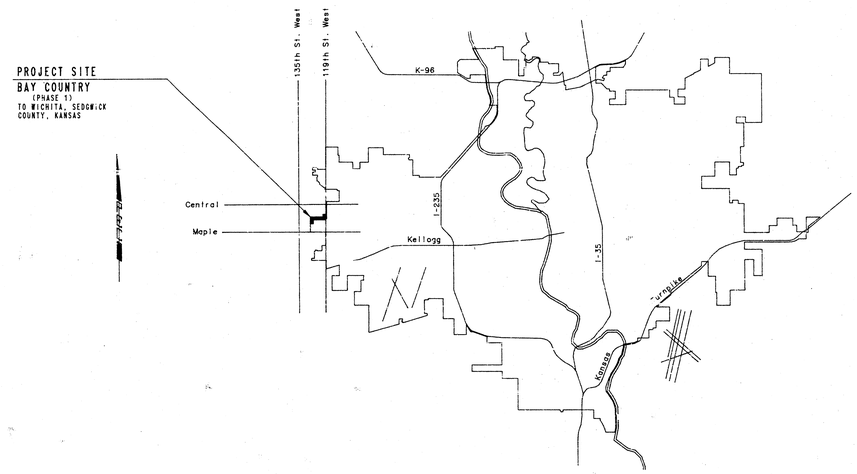
TO

# THE CITY OF WICHITA,

SEDGWICK COUNTY, KANSAS

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

PHASE I




LOCATION MAP

INDEX OF SHEETS


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AS BUILT
ROL
1-88

CITY OF WICHITA PROJECT NO. 468-76-245-81706-000-000-001

# MAY, 1987

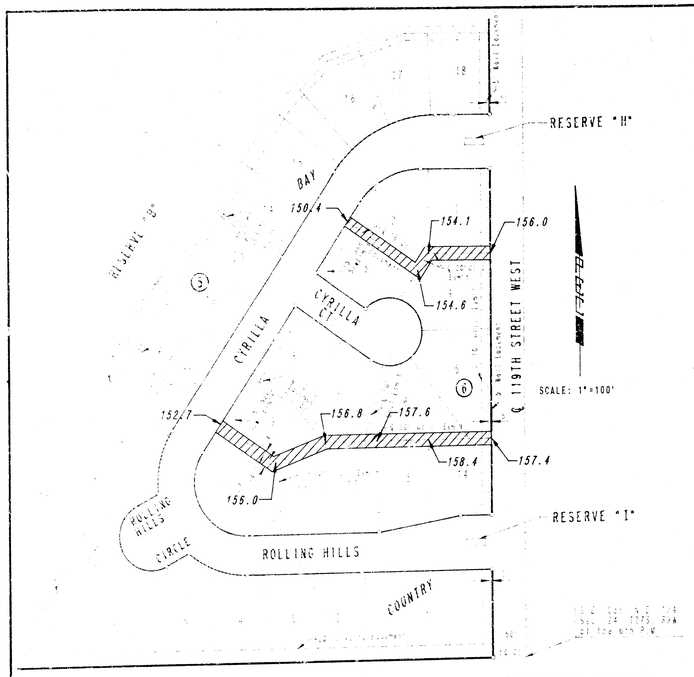
PLANS PREPARED BY

## PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

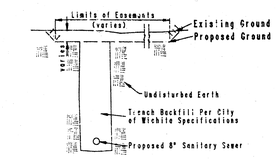
WICHITA, KANSAS

DANIEL LYNN MOORE
LICENSED
9055
KANSAS
PROFESSIONAL ENGINEER

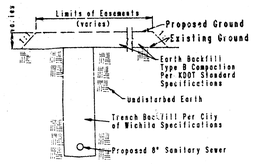



▨ = AREAS TO BE GRADED

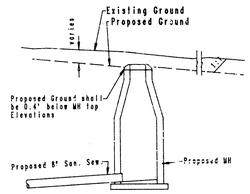
EASEMENT GRADING




TYPICAL SECTION

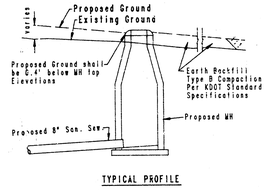



TYPICAL SECTION




TYPICAL PROFILE

"CUT" SITUATIONS



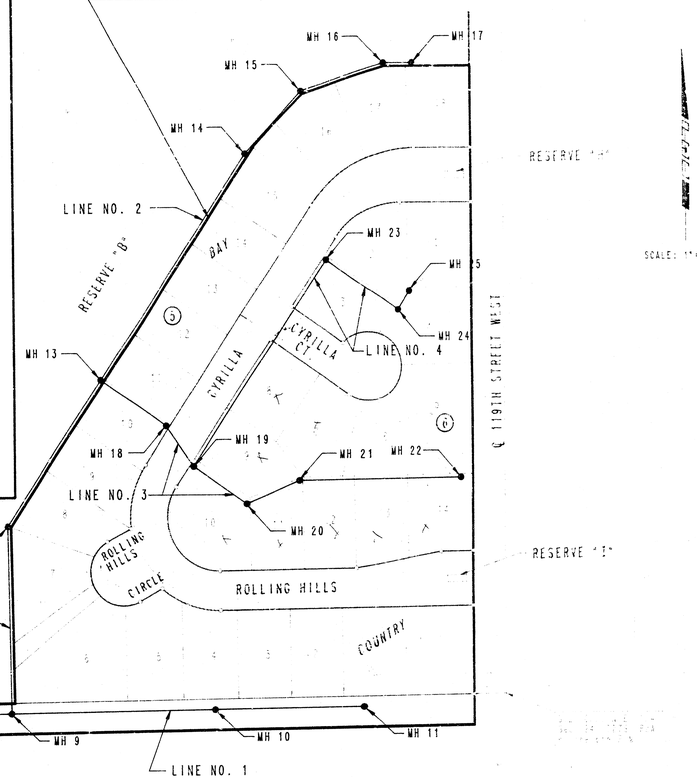

TYPICAL PROFILE

"FILL" SITUATIONS

## BENEFIT DISTRICT

Lots 80 thru 83 inclusive, Block 3
Lots 1 thru 18 inclusive, Block 5
Lots 1 thru 14 inclusive, Block 6

An unplatted tract of land in the Southeast Quarter, Sec. 24, Township 27 South, Range 2 West of the 6th P.M. described as follows: Beginning at a point 50 feet west of the Northeast corner of said Southeast Quarter; thence South 89°06'41" W along the north line of said Southeast Quarter 2190 feet; thence South 0°00'12" E 90 feet; thence North 89°06'41" E 2190 feet; thence N 0°00'12" W 90 feet to the point of beginning.




KEY MAP

### GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
2. ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM (USGS-1187.4 = CITY DATUM).
3. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WLEKENDS TO LESS THAN 50 FEET.
4. AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION, IF REQUIRED, (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (316) 687-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA: GAS SERVICE COMPANY, K.G.&E., THE WICHITA WATER DEPARTMENT, AIR CAPITAL CABLEVISION, AND THE TELEPHONE COMPANY.
5. 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. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL 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. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE OTHER ITEMS OF WORK.
7. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
8. CONTRACTOR SHALL GRADE THE EASEMENTS TO THE ELEVATIONS SHOWN ON THE EASEMENT GRADING PLAN. COSTS FOR EASEMENT GRADING SHALL BE SUBSIDIARY TO THE OTHER ITEMS OF WORK. ANY EXCESS EXCAVATED MATERIAL REMAINING AFTER GRADING EASEMENTS AS REQUIRED ON THE "EASEMENT GRADING PLAN" SHALL BE USED TO GRADE THE 20' SANITARY SEWER EASEMENT AS SHOWN ON SHEETS 4 AND 5 ON LINE NO. 1, MH 1, 2, 3 AND FROM MH 4 TO MH 6.
9. UNLESS OTHERWISE SPECIFIED ON THE PLANS MANHOLES MAY BE TYPE 'P', 'C', OR 'D' MANHOLES. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
10. CONTRACTOR SHALL INSTALL TEE SADDLES AND RISERS AS INDICATED ON THE RISER LOCATION TABLE ON THIS SHEET.
11. CONTRACTOR MAY REMOVE TREES AS INDICATED ON THE PLANS. TREES INDICATED FOR REMOVAL MAY BE SPARED AT THE CONTRACTORS OPTION. TREES WITH TRUNK SIZE LESS THAN 3" MAY BE REMOVED AS REQUIRED. TREES WITH TRUNK SIZE 3" AND GREATER NOT INDICATED FOR REMOVAL SHALL BE SPARED.
12. THE CONTRACTOR SHALL AVOID TRIMMING OF ANY TREES NOT MARKED FOR REMOVAL WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES TRIMMING IS UNAVOIDABLE HE SHALL COORDINATE SUCH WORK WITH THE ENGINEER.

RISER LOCATION TABLE

| TEE SADDLE LOCATION | | | | | RISER PIPE |
|---|---|---|---|---|---|
| LINE NO. | STATION | BLOCK NO. | LOT NO. | DIRECTION | (L.F.) |
| 1 | 19+72.7 | 3 | 83 | Lt. | 8.0 |

DANIEL LYNN MOORE LICENSED 9065 KANSAS PROFESSIONAL ENGINEER

| No. | Revision | By | Date |
|---|---|---|---|

LATERAL 245 OF THE SOUTHWEST INTERCEPTOR SEWER

# KEY MAP

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81706-000-000-001

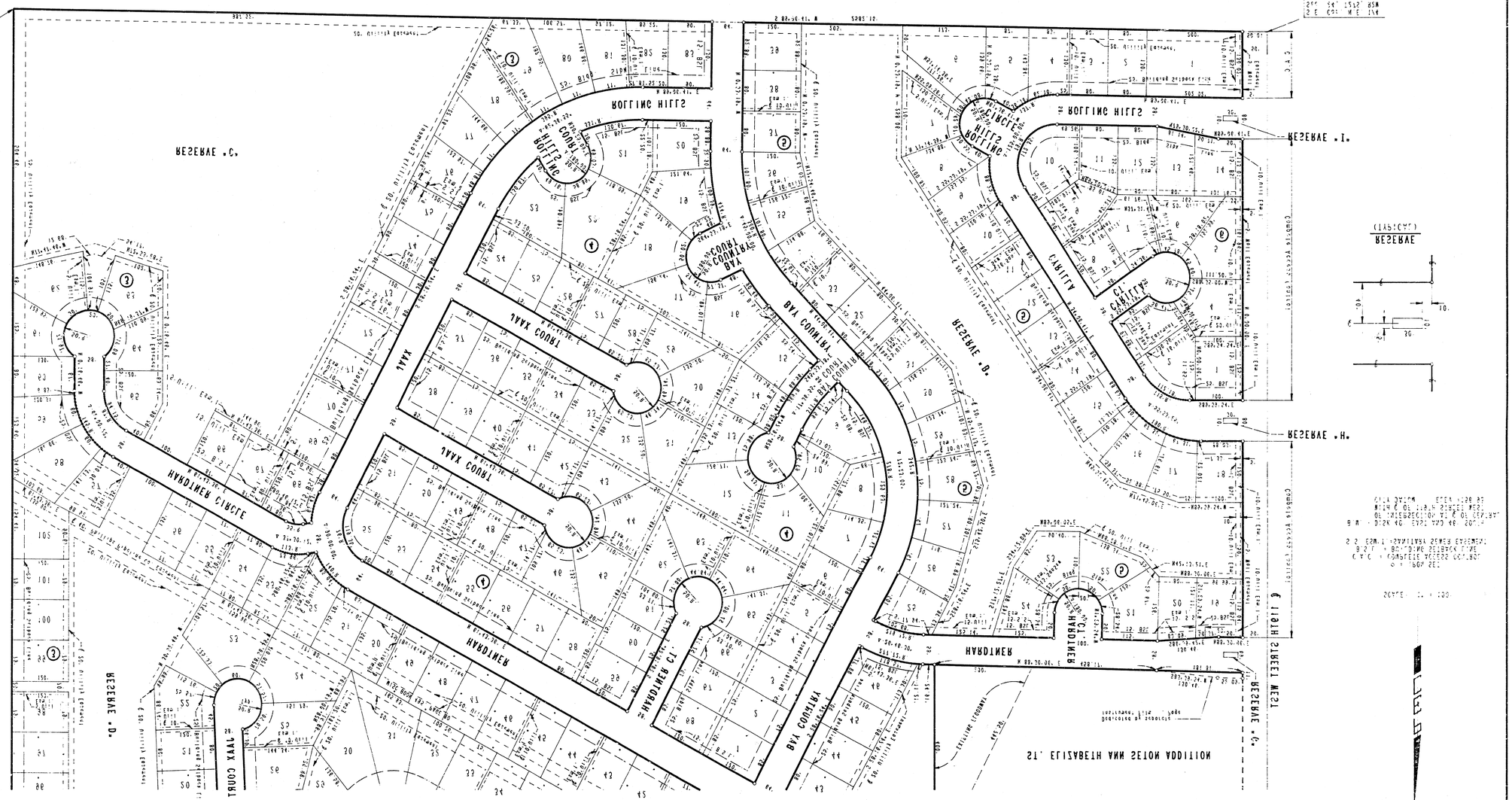
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by DLM, GM | Job No. 34-87090-3 | Sht. 2 of 14
Drawn by DMM | Date MAY, 1987

2/14

# BAY COUNTRY

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE:
PLAN: LAT. & LONG 40 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

Sta. 0+90.0
Break into Existing Brick Manhole and install new 10" PVC Pipe.
Grout watertight w/ non-shrink grout
Reshape MH floor to provide smooth flow.

Sta. 0+25.4
Const. MH 1
Standard MH
(TYPE 'P' OR 'X' ONLY)

+23.9
Sta. 3+21.4
Const. MH 2
Standard MH
(TYPE 'P' OR 'X' ONLY)

+22.5
Sta. 6+23.4
Const. MH 3
Standard MH
(TYPE 'P' OR 'X' ONLY)

+39.3
Sta. 9+40.0
Const. MH 4
Standard MH
(TYPE 'P' OR 'X' ONLY)

Install 1-8" Stub and Plug

Install 25.4 L.F. 10" PVC Pipe

Install 299.0 L.F. 10" PVC Pipe

Install 299.0 L.F. 10" PVC Pipe

Install 316.6 L.F. 10" PVC Pipe

IDENTICAL POINTS

"UNPLATTED"

COUNTRY VILLA ESTATE Block A Lot 1

BAY

RESERVE 'B' FLOODWAY

ASHLAND LAKES WEST THIRD ADDITION

-- Denotes Tree Removal

Note: Tree Removal shall be considered subsidiary to other items of work.

BM R.R. Spike in Northeast face of 9" Hackberry, North and East of center Sec.24-T27S-R2W
Elev. =138.93

MICHAEL LYNN MOORE LICENSED 9055 KANSAS PROFESSIONAL ENGINEER

# LINE NO. 1

Existing MH Top Elev. =138.36
MH 1 Top Elev. =138.45
MH 2 Top Elev. =139.37
MH 3 Top Elev. =139.48
MH 4 Top Elev. =139.43

Proposed Ground
Existing Ground

E in =128.32 from Exist. 10" Stub (N)
E in =128.29 from Exist. 10" SS
E out =128.28 (12")
E in =128.20
E out =128.06
E in =128.00
E out =128.04
E in =127.94
E out =127.85
E in =127.74
E out =127.66
E in =127.56
E out =127.42
E in =127.32
E out =127.59
E in =127.49
E out =127.41
E in =127.31
E out =127.93
E in =127.83
E out =128.01
E in =127.91
E out =128.10
E in =128.00
E out =128.13
E in =127.93

25.4 L.F. 10" PVC Pipe @ 0.18 %
299.0 L.F. 10" PVC Pipe @ 0.18 %
299.0 L.F. 10" PVC Pipe @ 0.18 %
316.6 L.F. 10" PVC Pipe @ 0.18 %

0+00 1+00 2+00 3+00 4+00 5+00 6 30 7+00 8+00 9+00

150 145 140 135 130 125 120 115 110

LATERAL 245 OF THE SOUTHWEST INTERCEPTOR SEWER

LINE NO. 1

MICHAEL F. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-91706-000-000 001

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

Designed By DLM, CM
Drawn By DMM
Job No. 34-87090-3
Date MAY, 1987

7/14

Sheet 4 of 14

SCALE:

PLAN: LAT. & LONG. 40 0 40 80

PROFILE: HORIZ SAME AS ABOVE

VERT. ——————

Sta. 9 ~~+49.6~~ +39.3
MH 4

Sta. 12 ~~+75.2~~ +74.8
Const. MH 5
Standard MH
(TYPE 'P' OR 'X' ONLY)

Sta. 16+03.~~6~~ .0
Const. MH 6
Standard MH
(TYPE 'P' OR 'X' ONLY)

Sta. 19 ~~+06.7~~ +19.8
Const. MH 7
Standard MH

Install 1-8" Stub and Plug

Install 1-4" Stub and Plug

BAY

COUNTRY

"UNPLATTED"

Install 335.2 L.F. 10" PVC Pipe

Install 328.4 L.F. 10" PVC Pipe

Install 313.1 L.F. 8" Pipe

Install 1-8" Stub and Plug

-- Denotes Tree Removal

BM R.R. Spike in Northeast face of 9" Hackberry, North and East of center Sec.24-T27S-R2W Elev. =1318.93

# LINE NO. 1

MH 4 Top Elev. =1319.43

MH 5 Top Elev. =1318.55

MH 6 Top Elev. =1319.51

MH 7 Top Elev. =1319.43

E in =130.13

E =130.28

E =130.53

E =130.27

E =130.96

E =131.00

E =131.08

E =131.36

E in =137.89

E in =137.53

E =132.02

E =132.47

E =132.91

E =132.98

E in =141.00
from 1-4" Stub (N)

E in =134.96
from 1-8" Stub (S)

E in =136.71
from 1-8" Stub (NW)

Proposed Ground

Existing Ground

335.2 L.F. 10" PVC Pipe @ 0.18 %

328.4 L.F. 10" PVC Pipe @ 0.18 %

313.1 L.F. 8" Pipe @ 0.40 %

155 150 145 140 135 130 125 120 115

9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00 18+00 19+00

LATERAL 245 OF THE
SOUTHWEST INTERCEPTOR SEWER

LINE NO. 1

MICHAEL E. LINDEBAK P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-86 245-81706 000-000 001

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

Designed By DLM, GM | Job No. 34-87090-2
Drawn By DMM | Date MAY, 1987

Sheet 5 of 14

MICHAEL LYNN MINDE
NUMBER
9068
KANSAS
PROFESSIONAL ENGINEER

SCALE:
PLAN: LAT. & LONG. 40 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

Sta. 19+~~40.7~~ +14.8
WH 7

Sta. 22+~~30.7~~ +29.1
Const. MH 8
Standard MH
'P'

Install 1-8" Stub and Plug

Sta. 24+~~35.7~~ +34.9
Const. MH 9
Standard MH
'P'

LINE NO. 2
See Sht. No. 7

Sta. 27+50.2
Const. MH 10
Standard MH
'P'

Sta. 30+~~45.1~~ +14.1
Const. MH 11
Standard MH
'P'

ROLLING HILLS CIRCLE

SAY COUNTRY

"UNPLATTED"

135'

70'

15'

5'

90°00'00"

180°00'00"

Install 314.0 L.F. 8" Pipe

Install 205.0 L.F. 8" Pipe

Install 315.0 L.F. 8" Pipe

Remove and Replace Soil Saver as required in kind (incidental)

Install 265.0 L.F. 8" Pipe

Install 1-4" Stub and Plug

-- Denotes Tree Removal

DARREL LYNN MOORE LICENSED 9055 KANSAS PROFESSIONAL ENGINEER

# LINE NO. 1

BM R.R. Spike in east face hedge tree, 50' ± East of East 1/4 cor. Sec. 24-T27S-R2W. Elev. =159.61

WH 7 Top Elev. =153.33

WH 8 Top Elev. =147.45

WH 9 Top Elev. =141.45

WH 10 Top Elev. =152.51

WH 11 Top Elev. =160.36

Existing Ground

Proposed Ground (by others)

E in =134.32 from 1-8" Stub (E)

E in =136.28 from LINE NO. 2

E in =148.34 from 1-4" Stub (WE)

E =138.90

E =133.81

E =133.70

E =134.29

E out =134.20
E in =134.33

E =134.91

E =135.73

E out =136.02
E in =136.28

E =138.34

E =140.36

E out =143.38
E in =143.39

E =145.81

E =146.83

E =147.84
E in =147.98

314.0 L.F. 8" Pipe @ 0.70 %

205.0 L.F. 8" Pipe @ 0.80 %

315.0 L.F. 8" Pipe @ 2.00 %

265.0 L.F. 8" Pipe @ 1.00 %

165 160 155 150 145 140 135 130 125

19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00

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

Designed By JLM, GW
Drawn By JMM

Job No. 34-87090-3
Date MAY, 1987

LATERAL 245 OF THE SOUTHWEST INTERCEPTOR SEWER

LINE NO. 1

MICHAEL C. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-74-245 81104 1060 000 001

6/14

Sheet 6 of 14

SCALE:
PLAN: LAT. & LONG. 40 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

Sta. 21+35.7, LINE NO. 1 = Sta. 0+00.0 LINE NO. 2
WH 9

Remove Soil Saver and fences as required

+76.0
Sta. 2~~+41.8~~
Const. WH 12
Standard MH 'P'

+32.8
Sta. 5+~~33.0~~
Const. WH 13
Standard MH 'P'

Sta. 9+33.~~0~~.4
Const. WH 14
Standard MH 'P'

Sta. 10+57.8
Const. WH 15
Standard MH 'P'

Proposed 36" RCP Storm Drain (by others)

RESERVE "3"

BAY

COUNTRY

35° 00' 00"
180° 00' 00"
30° 00' 00"
90° 00' 00"
180° 00' 00"
28° 49' 13"
28° 49' 13"

5' 15'

LINE NO. 3
See Sht. No. 8

LINE NO. 1
See Sht. No. 6

Install 274.6 L.F. 8" Pipe

Install 258.4 L.F. 8" Pipe

Install 400.0 L.F. 8" Pipe

Install 124.8 L.F. 8" Pipe

-- Denotes Tree Removal

DANIEL LYNN MOORE LICENSED 9055 KANSAS PROFESSIONAL ENGINEER

BM City of Wichita Brass Disk, 30' North and 40' East of Intersection 119th St. West and Rolling Hills. Elev. 157.92

## LINE NO. 2

WH 9 Top Elev. =141.15
WH 12 Top Elev. =141.16
WH 13 Top Elev. =141.42
WH 14 Top Elev. =141.12
WH 15 Top Elev. =141.12

E out =136.06
E in =136.20

E =136.41
E =137.03
E =137.34
E =137.44
E =137.88
E =138.20
E =138.42 OUT
E =138.52 IN
E =138.82
E =139.28
E =139.72
E =140.18
E =140.33
E =140.72
E =141.05

E in =138.59 from LINE NO. 3

Existing Ground
Proposed Ground (by others)

+.22 Proposed 36" S.D. (by others)
E =142.67

274.6 L.F. 8" Pipe @ 0.40 %
258.4 L.F. 8" Pipe @ 0.40 %
400.0 L.F. 8" Pipe @ 0.50 %
124.8 L.F. 8" Pipe @ 0.50 %

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00

160 155 150 145 140 135 130 125 120

7/14

LATERAL 245 OF THE SOUTHWEST INTERCEPTOR SEWER

LINE NO. 2

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81706-100-00-001

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

Job No. 34-87090
Date MAY, 1987
Designed By DLM, GM
Drawn By DMM

Sheet 7 of 14

SCALE:
PLAN: HOR. & LONG. 40 0 40 80
PROFILE: HORIZ. SAME AS ABOVE
VERT.

BAY

Sta. 10+57.8
MH 15

Sta. 11+88.4
Const. MH 16
Standard MH 'P'

Sta. 12+35.5
Const. MH 17
Standard MH 'P'

28° 49' 13"
18° 15' 00"
15'
5'
10'
50'
COUNTRY

Install 130.4 L.F.
8" Pipe

Install 45.6 L.F.
8" Pipe

Install 1-4" Stub
and Plug

LINE NO. 2

Sta. 5+33.0, LINE NO. 2 =
Sta. 0+00.0, LINE NO. 3
MH 13

LINE NO. 4
See Sht. No. 9

Sta. 1+20.6
Const. MH 18
Standard MH 'P'

Sta. 1+92.8
Const. MH 19
Standard MH 'P'

Sta. 2+90.1
Const. MH 20
Standard MH 'P'

Sta. 3+75.1
Const. MH 21
Standard MH 'P'

Sta. 6+23.6
Const. MH 22
Standard MH 'P'

Install 1-4" Stub
and Plug

180° 00' 00"
90° 00' 00"
20° 55' 28"
89° 14' 05"
21° 41' 23"
54° 00' 19"
19° 17' 00"
10°
5'
NOT PARALLEL
NOT PARALLEL
COUNTRY

Future 8" Water Main
(by others)

Install 120.0 L.F.
8" Pipe

Install 72.8 L.F.
8" Pipe

Install 97.9 L.F.
8" Pipe

Install 85.0 L.F.
8" Pipe

Install 248.2 L.F.
8" Pipe

LINE NO. 2
See Sht. No. 7

BM City of Wichita Brass Disk, 30' North and 40' East of intersection 119th St. West and Rolling Hills. Elev. 157.92

LINE NO. 3

Existing Ground
Proposed Ground (by others)
WH 15 Top Elev. = 147.12
WH 16 Top Elev. = 142.33
WH 17 Top Elev. = 139.12
E in = 143.10 from 1-4" Stub (SE)
E out = 141.05
E in = 141.46
E out = 140.31
E in = 140.98
130.4 L.F. 8" Pipe @ 1.00 %
45.6 L.F. 8" Pipe @ 1.90 %
10+00
11+00
12+00

Existing Ground
Proposed Ground (by others)
WH 13 Top Elev. = 141.62
WH 18 Top Elev. = 152.57
WH 19 Top Elev. = 155.95
WH 20 Top Elev. = 156.42
WH 21 Top Elev. = 156.85
WH 22 Top Elev. = 156.76
E in = 148.04 from 1-4" Stub (W)
E in = 139.75 from LINE NO. 4
E out = 138.39
E in = 138.44
E out = 138.05
E in = 139.17
E out = 139.55
E in = 141.43
E out = 141.56
E in = 145.19
E out = 145.23
E in = 146.39
E out = 146.85
E in = 146.94
E out = 147.54
E in = 147.69
120.0 L.F. 8" Pipe @ 0.59 %
72.8 L.F. 8" Pipe @ 0.58 %
97.9 L.F. 8" Pipe @ 2.00 %
85.0 L.F. 8" Pipe @ 0.60 %
248.2 L.F. 8" Pipe @ 0.60 %
0+00
1+00
2+00
3+00
4+00
5+00
6+00

MICHAEL LYNN MOORE
LICENSED
8058
KANSAS
PROFESSIONAL ENGINEER

LATERAL 245 OF THE
SOUTHWEST INTERCEPTOR SEWER

# LINE NO. 2 & LINE NO. 3

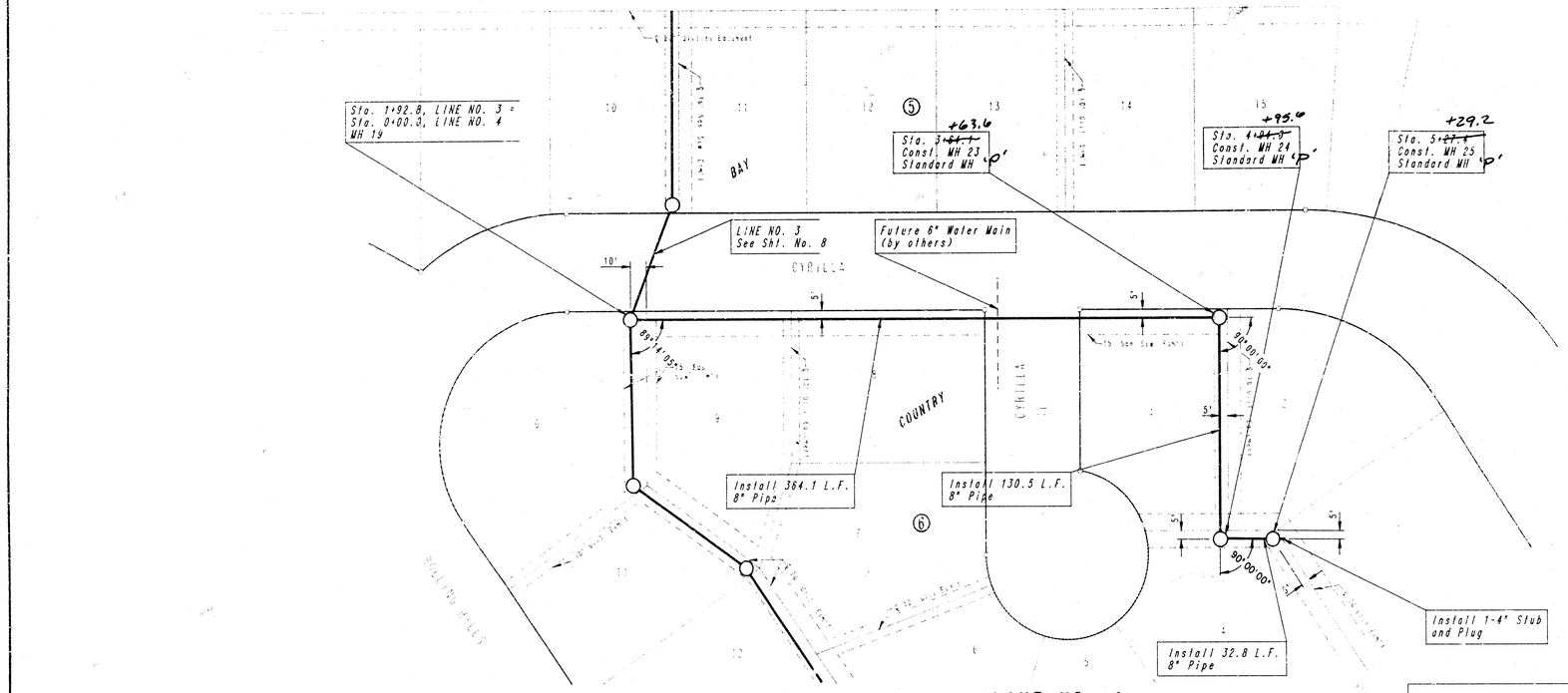
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81706-000-000-001

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

Designed By DLM, GM
Drawn By DMW
Job No. 34-87090-3
Date MAY, 1987

Sheet 8 of 14

8/14




SCALE:

PLAN: LAT. & LONG 40 0 40 80

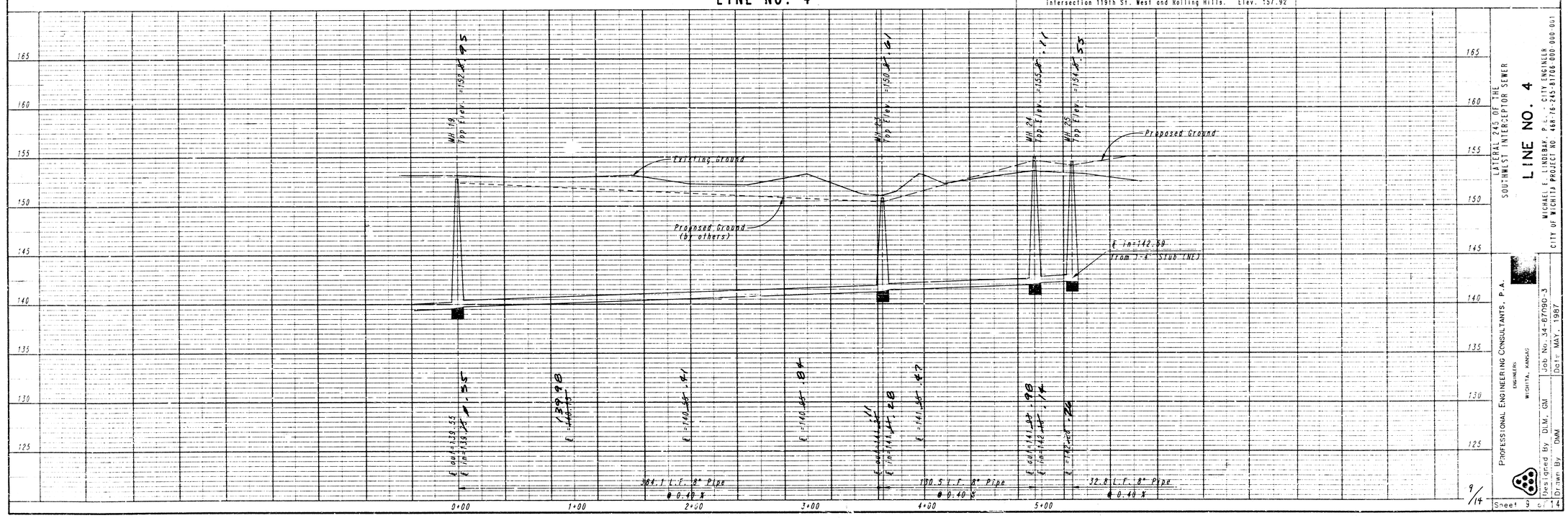
PROFILE: HORIZ. SAME AS ABOVE

VERT.

DARREL LYNN MOORE LICENSED 9055 KANSAS PROFESSIONAL ENGINEER

# LINE NO. 4

BM City of Wichita Brass Disk, 30' North and 40' East of Intersection 119th St. West and Rolling Hills. Elev. 157.92




LATERAL 245 OF THE SOUTHWEST INTERCEPTOR SEWER

LINE NO. 4

MICHAEL F. LINDIBAK, P.E. - CITY ENGINEER

CITY OF WICHITA PROJECT NO. 468-76-245-81706 000 000 001

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

WICHITA, KANSAS

Designed by DLM, GM | Job No. 34-67090-3

Drawn By DMM | Date MAY, 1987

9/14

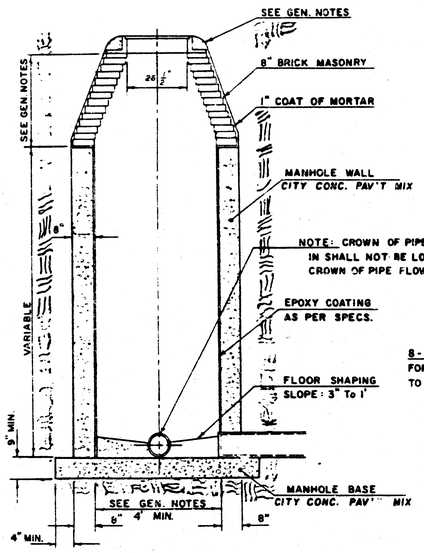
Sheet 9 of 14

# SEWER APPURTENANCES DETAILS

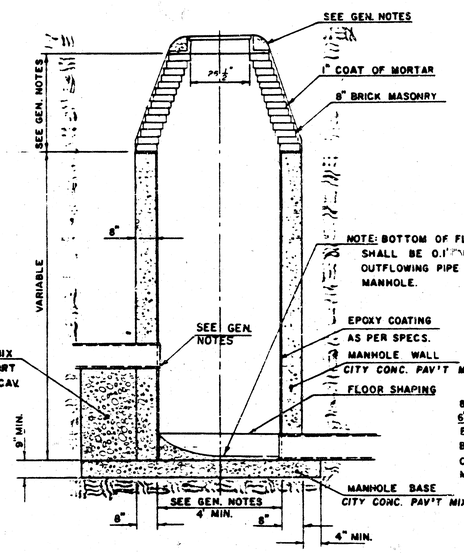
## ADOPTED AS STANDARD DESIGN
## BY

## CITY OF WICHITA, KANSAS

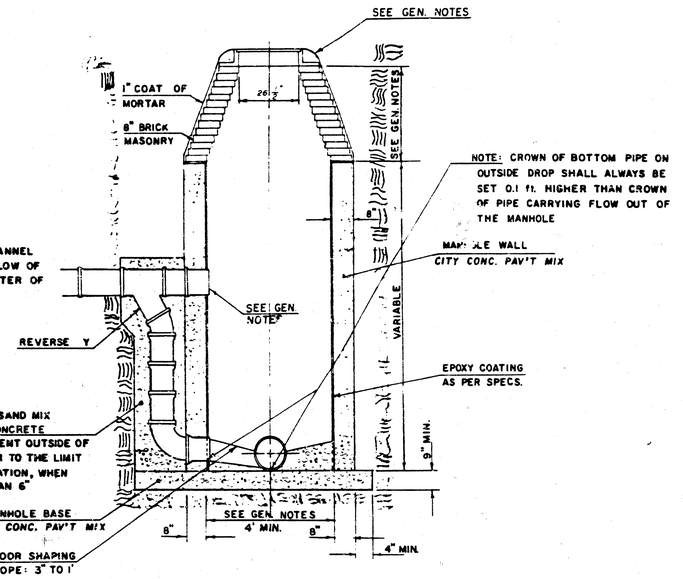
TYPE "D" MANHOLE




TYPE "D" INSIDE DROP MANHOLE




TYPE "D" OUTSIDE DROP MANHOLE




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 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.

   ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WALL WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE PROTECTED BY AN APPROVED EPOXY COATING. TYPE "D" MANHOLES MAY BE USED ON PIPE SIZES 8" TO 36" WHEN THE MANHOLE DEPTH EXCEEDS THE REQUIRED CORBEL HEIGHT BY 1' PLUS THE OUTSIDE DIAMETER OF THE LARGEST PIPE IN THE MANHOLE.

   MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE A DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE THE PIPE SIZES ARE 24" OR LARGER SHALL HAVE A DIAMETER OF 5'. THE HEIGHT OF THE CORBELS ON 4' DIAMETER MANHOLES SHALL BE 4' MANHOLES HAVING A DIAMETER OF 5' SHALL HAVE CORBELS 6' IN HEIGHT. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

2. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. REINFORCING STEEL SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. COST OF FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

3. AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE GROUTED INTO THIS OPENING WITH NON-SHRINK GROUT. THE EXTERIOR OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. THE INTERIOR PLASTIC LINING SHALL BE SEALED AROUND THE INLET PIPE OPENING IN SUCH A MANNER THAT WILL EFFECTIVELY MAINTAIN THE INTEGRITY OF THE PROTECTIVE PLASTIC LINER.

4. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEARING 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.

5. 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.

6. 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.

7. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' 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.

8. STANDARD MANHOLES TYPE "D" AND STANDARD INSIDE DROP MANHOLES TYPE "D" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. O SIDE DROP MANHOLES TYPE "D" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

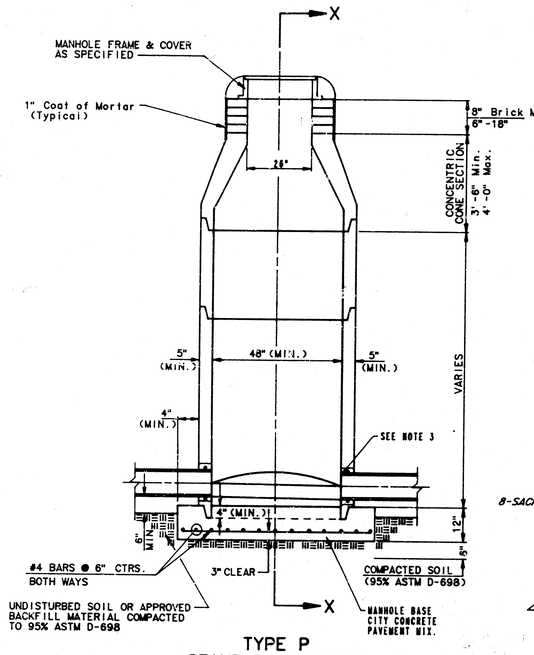
NOTE: EPOXY COATINGS ON INTERIOR CONCRETE SURFACES MAY BE DELETED WHEN TYPE "D" MANHOLES ARE CONSTRUCTED ON SEWERS WITH DIAMETERS SMALLER THAN 10".



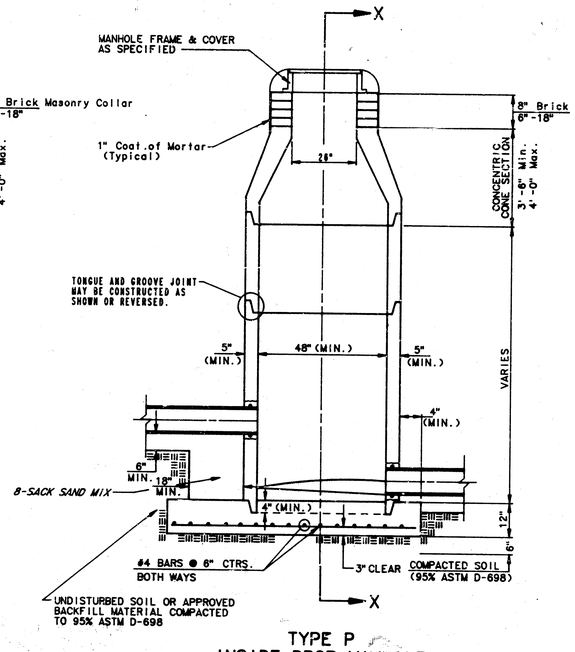
APRIL 1987

# SEWER APPURTENANCES DETAILS

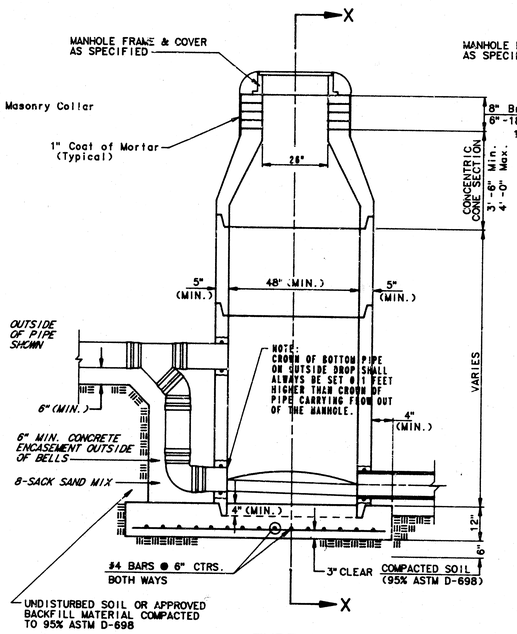
## ADOPTED AS STANDARD DESIGN
## BY
## CITY OF WICHITA



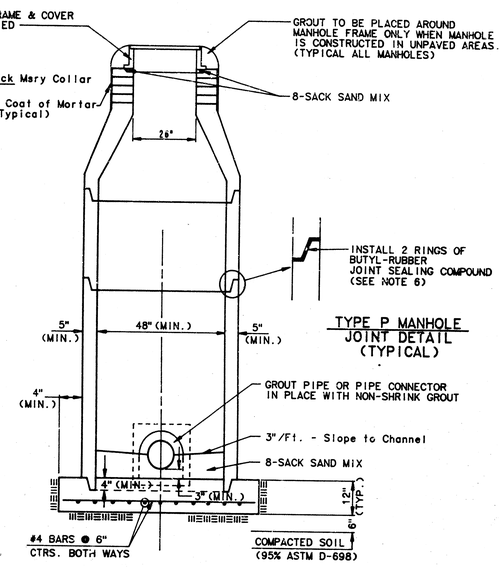

TYPE P
STANDARD MANHOLE




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 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 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 BITUMINUS 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 6 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 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 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 MEET 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 4' 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.



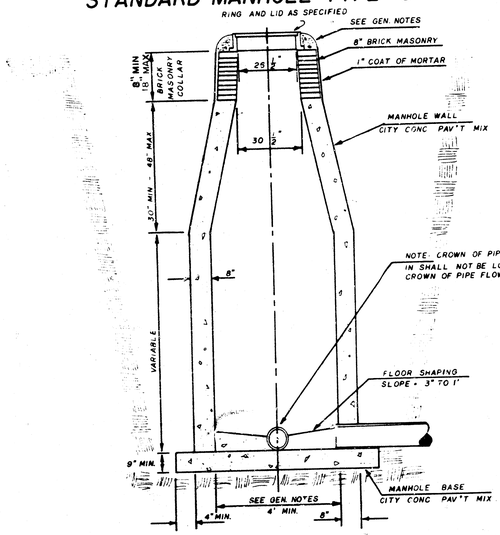
Revised: June 12, 1986

# SEWER APPURTENANCES DETAILS

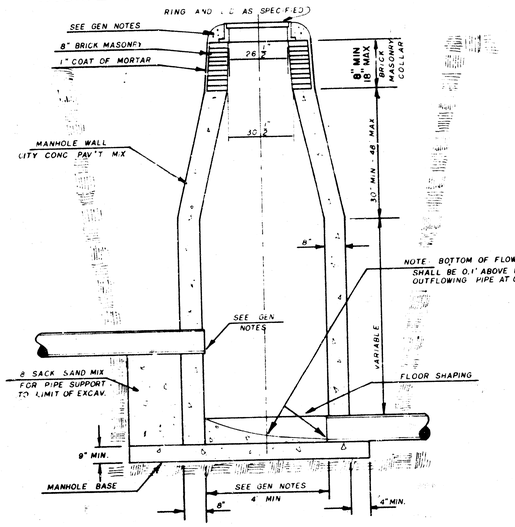
## ADOPTED AS STANDARD DESIGN
## BY

## City of Wichita, Kansas

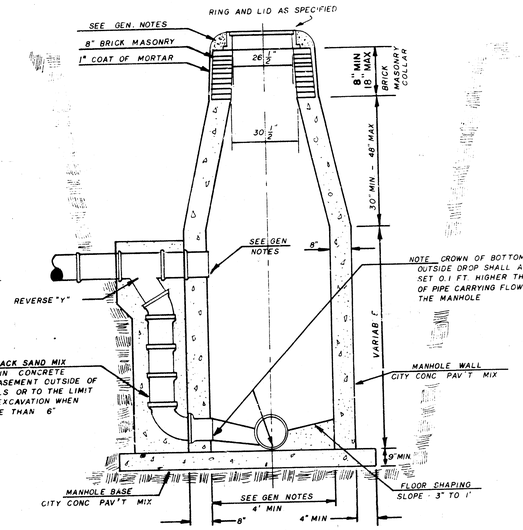
### STANDARD MANHOLE TYPE "C"




### INSIDE DROP MANHOLE TYPE "C"




### OUTSIDE DROP MANHOLE TYPE "C"




### 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 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. TYPE "C" MANHOLES CAN BE CONSTRUCTED ONLY WHERE PIPE SIZES ARE 8" OR SMALLER. THE INSIDE DIAMETER OF TYPE "C" MANHOLES SHALL BE 4'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

2. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. REINFORCING STEEL SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. COST OF FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

3. AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE GROUTED INTO THIS OPENING WITH NON-SHRINK GROUT. THE EXTERIOR OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT.

4. 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 MANHOLE 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.

5. 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.

6. 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.

7. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' 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.

8. STANDARD MANHOLES TYPE "C" AND STANDARD INSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.



JNL JAN. 1982

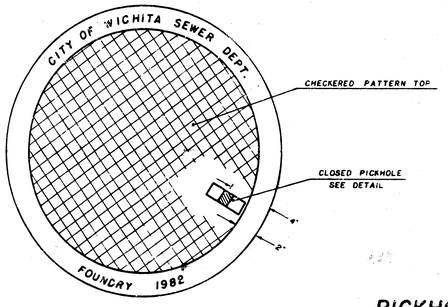
# MANHOLE FRAME AND COVER DETAIL

## ADOPTED AS STANDARD DESIGN BY

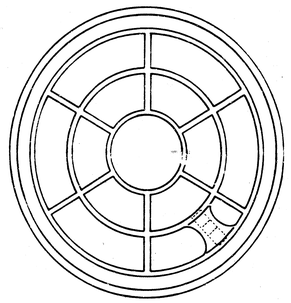
## City of Wichita, Kansas

### MANHOLE COVER

Weight: 180 Lbs.

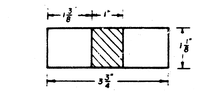



TOP VIEW

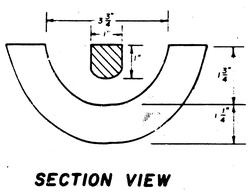


BOTTOM VIEW

### PICKHOLE DETAIL



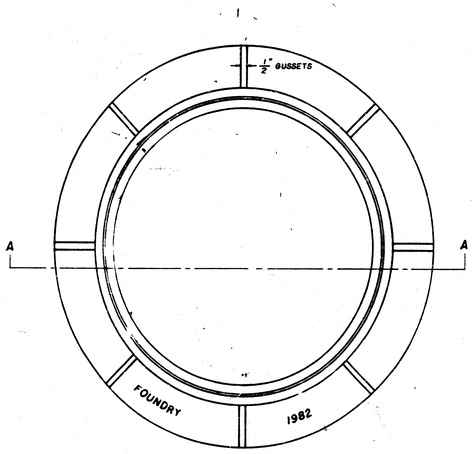

TOP VIEW



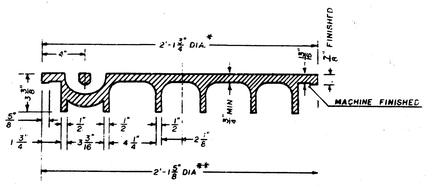

SECTION VIEW

### MANHOLE FRAME

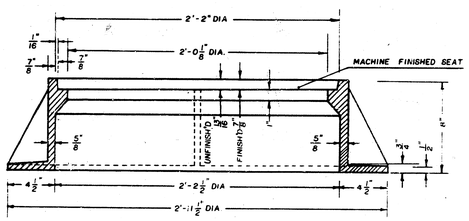
Weight: 240 Lbs.




TOP VIEW




SECTION VIEW




SECTION A-A

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

### GENERAL NOTES

1. 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.

2. MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.

3. 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.

4. 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.

5. 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.

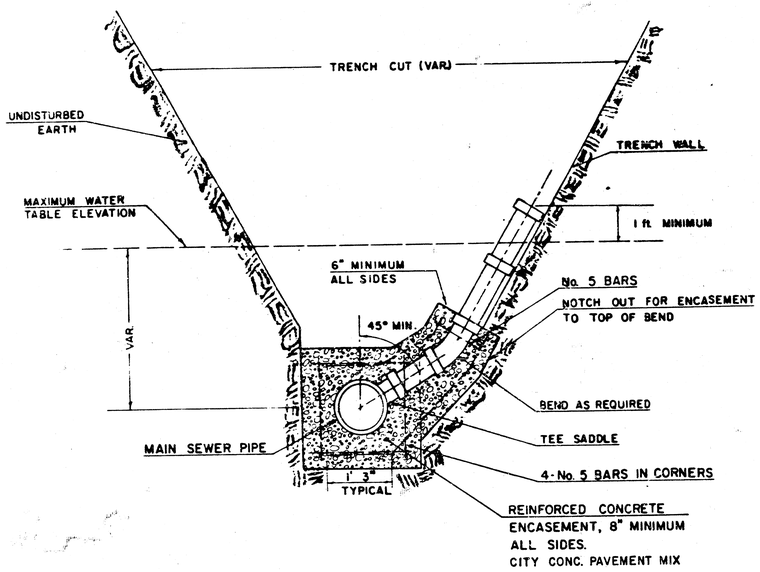
JNL DEC. 1981

REVISED APRIL, 1980

# VERTICAL RISER DETAIL

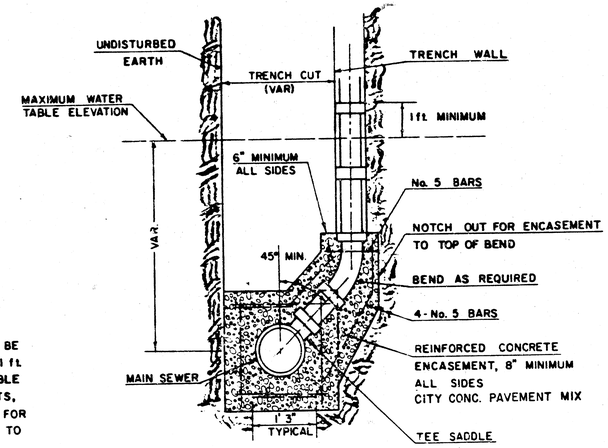
## ADOPTED AS STANDARD DESIGN BY

## CITY OF WICHITA, KANSAS

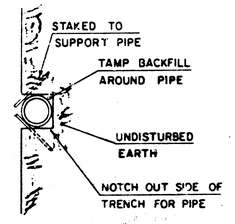



TYPICAL RISER FOR SLOPING TRENCH WALLS

NOTE:
TOP OF 4" OR 6" RISER PIPE TO BE EXTENDED TO AN ELEVATION OF 1 ft MINIMUM ABOVE THE WATER TABLE ELEVATION, WHEN WATER EXISTS, OR TO AN ELEVATION SUITABLE FOR PROVIDING SERVICE TO THE LOT TO BE SERVED AND THEN PLUGGED.




TYPICAL RISER FOR VERTICAL TRENCH WALLS




GENERAL NOTE

RISERS SHALL BE INSTALLED TO SERVE ALL LOTS OR TRACTS WHEN THE MAIN SEWER LINE IS BELOW THE WATER TABLE. RISERS SHALL ALSO BE INSTALLED TO SERVE ALL LOTS AND TRACTS WHEN THE MAIN SEWER LINE DEPTH IS SUCH THAT WOULD MAKE THE BUILDING SEWER LINE CONNECTION DIFFICULT. INSTALLATION OF RISERS BECAUSE OF MAIN LINE SEWER DEPTH SHALL BE AS APPROVED BY THE ENGINEER. THE LOCATION OF RISERS TO SERVE DEVELOPED PROPERTY SHALL BE APPROVED BY THE PROPERTY OWNER. PIPE STUBS SHALL BE INSTALLED IN MANHOLES WHERE LOCATIONS OF MANHOLES WILL PROVIDE SATISFACTORY SERVICE CONNECTIONS AS DETERMINED BY THE FIELD ENGINEER. THE VERTICAL DISTANCE BETWEEN THE FLOW LINE OF THE MANHOLE PIPE STUB AND THE FLOW LINE OF THE MAIN SEWER LINE SHALL NOT EXCEED 4 FT. MANHOLE PIPE STUBS SHALL NOT BE SET BELOW AN ELEVATION WHICH WILL PERMIT THE TOP OF THE INSIDE OF THE STUB TO MATCH THE TOP OF THE INSIDE OF THE MAIN SEWER PIPE. PIPE STUBS AND RISERS INSTALLED TO SERVE COMMERCIAL OR INDUSTRIAL PROPERTY SHALL BE 6 INCH. PIPE STUBS AND RISERS INSTALLED TO SERVE RESIDENTIAL PROPERTY MAY BE EITHER 4 INCH OR 6 INCH DEPENDING UPON THE AVAILABLE GRADE AND THE SIZE OF THE LOT AS DETERMINED BY THE FIELD ENGINEER. ENCASEMENT OF VITRIFIED CLAY MAIN SEWER PIPE SHALL EXTEND TO THE FIRST JOINT IN THE MAIN SEWER CLAY PIPE ON EACH SIDE OF THE RISER INSTALLATION. ENCASEMENT OF A.B.S. COMPOSITE OR P.V.C. MAIN SEWER PIPE SHALL EXTEND A MINIMUM OF 3 FT. ON BOTH SIDES OF THE CENTERLINE OF THE RISER. FOUR INCH AND SIX INCH RISER PIPE SHALL BE ENCASED WITH CONCRETE TO THE TOP OF THE BEND AS INDICATED IN THE DRAWINGS. FOUR INCH AND SIX INCH CLAY PIPE USED FOR RISERS SHALL BE EXTRA STRENGTH PIPE CONFORMING TO THE REQUIREMENTS OF THE LATEST REVISION OF A.S.T.M. DESIGNATION C700 WITH COMPRESSION JOINTS AS SPECIFIED FOR CLAY PIPE IN THE STANDARD SPECIFICATIONS. FOUR INCH AND SIX INCH A.B.S. OR P.V.C. PIPE SHALL BE PIPE APPROVED FOR USE IN THE CITY BY THE CHIEF PLUMBING AND MECHANICAL INSPECTOR FOR THE CENTRAL INSPECTION DIVISION OF THE DEPARTMENT OF HOUSING AND ECONOMIC DEVELOPMENT. LOCATIONS OF THE ENDS OF THE RISERS SHALL BE MARKED BY FASTENING GREEN COLORED PLASTIC TAPE TO THE END OF THE RISER WHICH SHALL BE EXTENDED TO THE GROUND SURFACE AS THE EXCAVATION IS BACKFILLED SUCH THAT THE COLORED TAPE WILL BE VISIBLE WHEN THE PROJECT IS COMPLETED. THE ENDS OF THE RISER PIPE AND MANHOLE STUBS SHALL BE CAPPED OR PLUGGED USING FITTINGS FURNISHED BY THE MANUFACTURER OF THE PIPE. CONTRACTOR'S METHODS FOR SUPPORTING AND BACKFILLING RISER PIPE SHALL BE APPROVED BY THE ENGINEER.

FURNISHING AND INSTALLING RISERS SHALL BE PAID FOR AT THE UNIT PRICES BID FOR -" PIPE, 6" PIPE AND REINFORCED CONCRETE ENCASEMENT FOR THE VARIOUS MAIN SEWER PIPE SIZES INDICATED; WHICH PRICE SHALL INCLUDE ALL COSTS FOR COMPLETION OF THIS ITEM INCLUDING SADDLES, BENDS, CONCRETE, REINFORCING STEEL, CAPS OR PLUGS, AND ALL OTHER NECESSARY MATERIALS OR WORK. CONCRETE ENCASEMENT OF THE RISER PIPE TO THE TOP OF THE BEND AS SHOWN BY THE DRAWINGS WILL NOT BE PAID FOR DIRECTLY AND THE COST FOR THIS WORK SHALL BE CONSIDERED AS SUBSIDIARY TO THE OTHER ITEMS OF WORK.

THE PROJECT INSPECTOR SHALL REPORT ON INSPECTOR CARDS THE LOCATION OF ALL RISERS CONSTRUCTED AS MEASURED FROM THE NEAREST MANHOLE, THE DIRECTION OF SERVICE, THE ELEVATION OF THE TOP OF THE RISER, AND THE PAY QUANTITIES INVOLVED. THE PROJECT INSPECTOR SHALL ALSO REPORT ON INSPECTOR CARDS THE LOCATION, DIRECTION OF SERVICE, AND SIZE OF ALL STUBS INSTALLED IN MANHOLES.