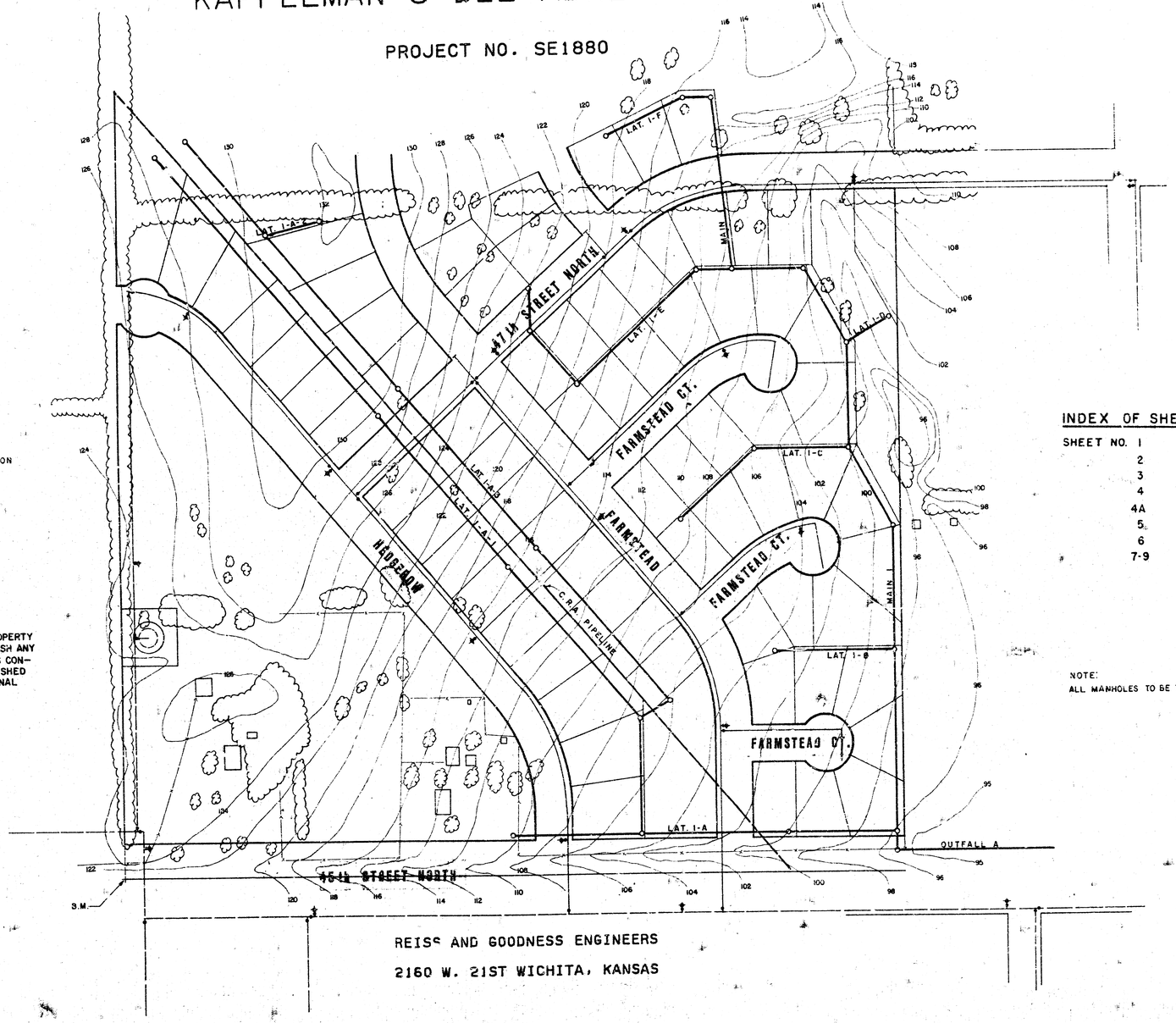
PLANS

SANITARY SEWER EXTENSIONS

KAPPELMAN'S BEL AIRE HEIGHTS

PROJECT NO. SE1880



BENCH MARKS

B. M. 1420.99 TOP IRON IN THIMBLE AT THE INTERSECTION OF 45TH. ST. NO. AND THE WEST LINE OF THE NE 1/4 SECTION 25 - T26S - R1E

NOTE:
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.

INDEX OF SHEETS

SHEET NO. 1	TITLE SHEET
2	MAIN 1
3	LATERALS 1-A, 1-B, 1-A-2
4	LATERAL 1-A-1
4A	LATERAL 1-A-3
5	LATERALS 1-C, 1-D, 1-E, 1-F
6	OUTFALL A
7-9	MANHOLE DETAILS

NOTE:
ALL MANHOLES TO BE TYPE "A" OR "C"

7-15-82
APPROVED AS NOTED
By CITY ENGINEER OF WICHITA
Sanitary Sewers D.L.P.
Storm Sewers
Driveway Approx JG

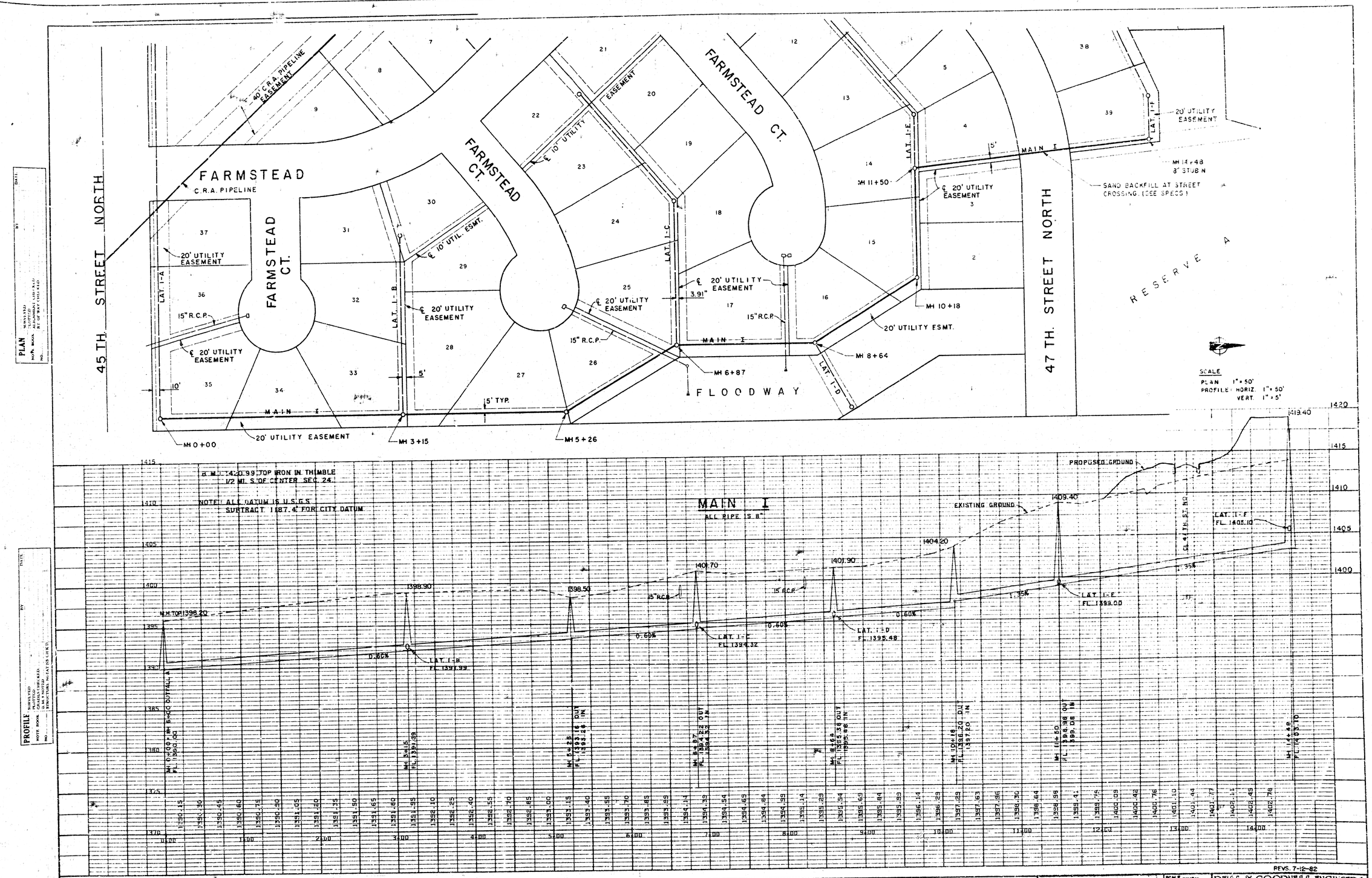
NOTE TO CONTRACTOR
This project will be constructed under the supervision of the CITY ENGINEER and conforming to the SPECIFICATIONS of the CITY OF WICHITA. The CONTRACTOR will prepay the City of Wichita for all costs of Inspection.

REISS AND GOODNESS ENGINEERS
2160 W. 21ST WICHITA, KANSAS

100' 0 100' 200'

REVISED JUNE 18, 1982
JULY 12, 1982

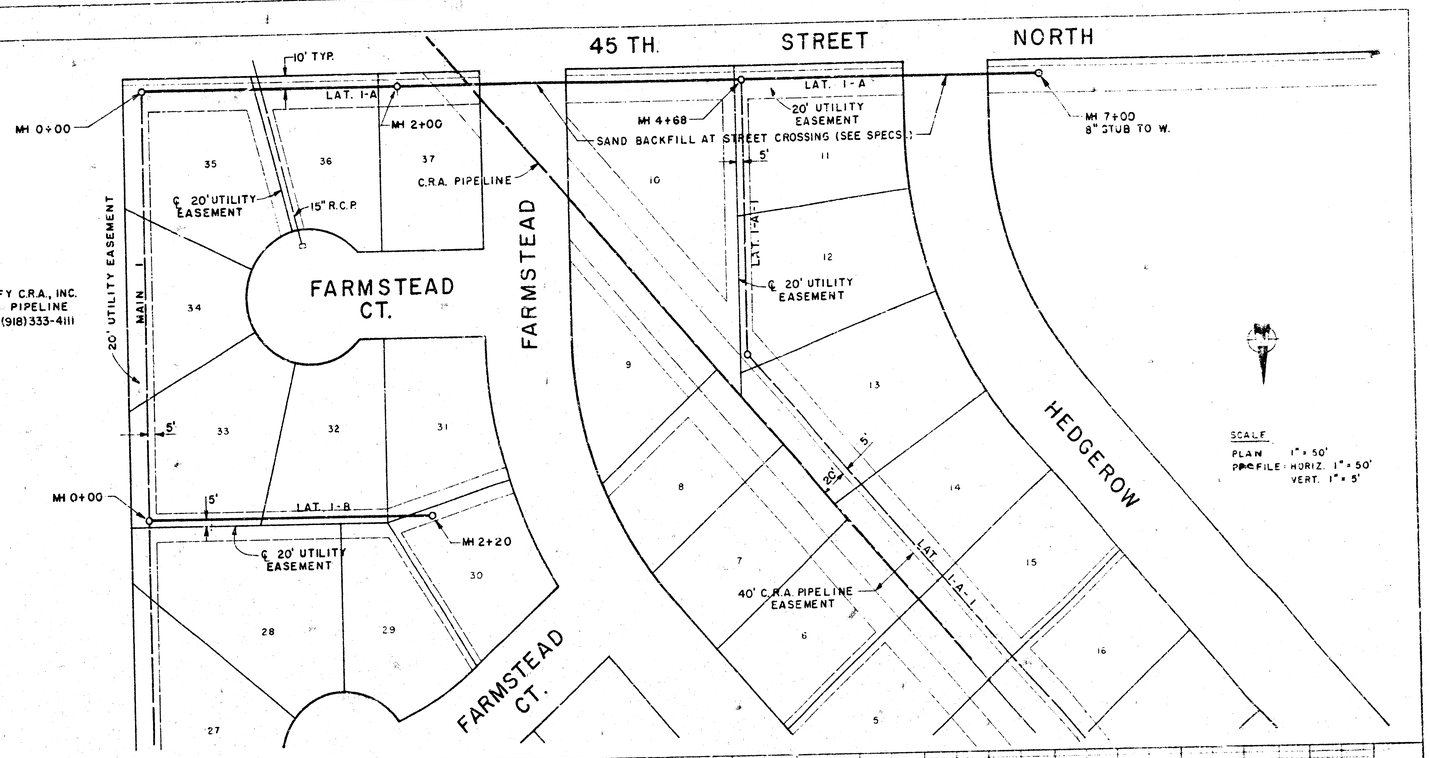
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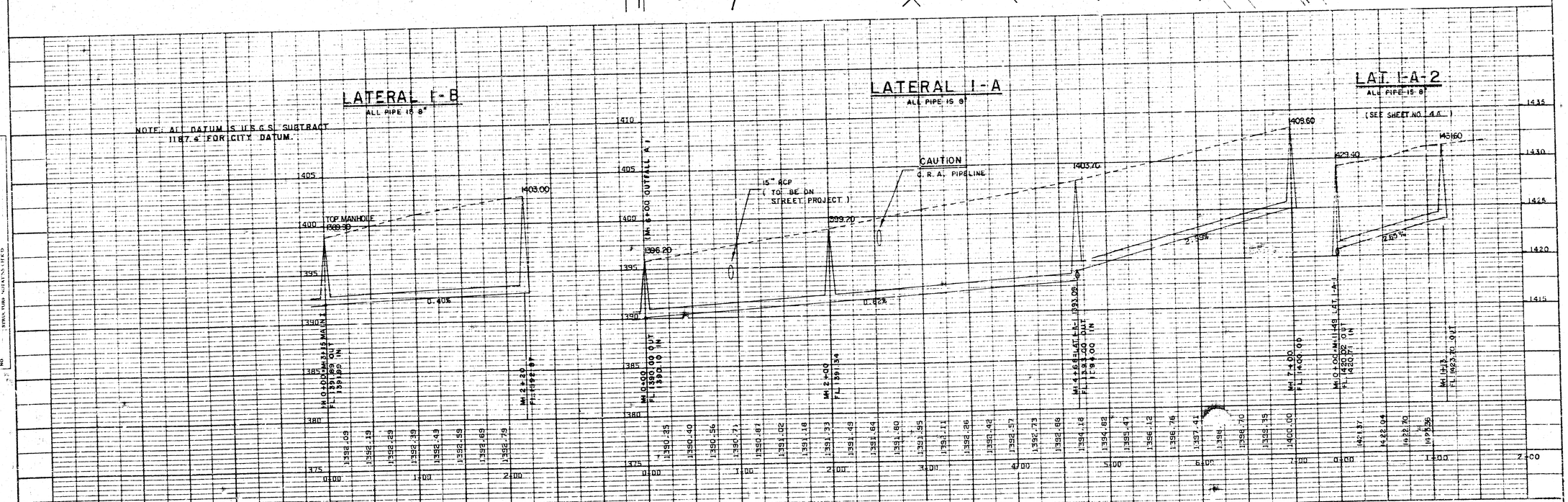
PLAN — SURVEYED / DRAWN / TRACED / NOTE BOOK / ALIGNMENT CHECKED / RIGHT OF WAY CHECKED / NO. / DATE

PROFILE — SURVEYED / DRAWN / TRACED / NOTE BOOK / GRADES CHECKED / STRUCTURES CHECKED / NO. / BY / DATE



NOTE:
CONTRACTOR SHALL NOTIFY C.R.A., INC. PRIOR TO WORKING WITHIN PIPELINE EASEMENT. MR. ROY NICHOLS (918) 333-4111

NOTE: ALL DATUM IS U.S.G.S. SUBTRACT 1187.4 FOR CITY DATUM.



PLAN PROFILE 4 A S
KEUFFEL & ESSER CO. S.T.CAT
NO. 7000H-1

KAPPELMAN'S BEL AIRE HEIGHTS
SANITARY SEWER EXTENSIONS

SCALE GIVEN
DATE 3-20-81
PROJECT NO. SE1890
SHEET 3 OF 8

REVISED JUNE 18, 1982 / 7-12-82

BLISS & GOODNESS ENGINEERS
2100 WEST 21ST STREET
WICHITA, KANSAS 67203
(316) 838-0353

3/10

FILMED FROM THE BEST

NOTE: CONTRACTOR TO NOTIFY C.R.A., INC. PRIOR TO WORKING WITHIN PIPELINE EASEMENT: MR. ROY NICHOLS (918) 333-4111

SCALE
PLAN: 1"= 50'
PROFILE: HORIZ 1"= 50'
VERT 1"= 5'

45TH. ST. NO.

HEDGEROW

47TH. STREET NORTH

FARMSTEAD

FARMSTEAD CT.

LAT. 1-A-1

LAT. 1-A-2

LAT. 1-A-3

MH 0+00

MH 2+01

MH 0+00

MH 5+55

MH 4+17

MH 0+52

MH 9+05

MH 12+09

MH 15+20

MH 7+83

MH 0+00 = 11+49

MH 13+74

MH 1+13

10' UTILITY EASEMENT

20' UTILITY EASEMENT

5' (TYP.)

5'

10' UTILITY ESMT.

20' UTILITY ESMT.

℄ 20' UTILITY EASEMENT

℄ 20' UTILITY ESMT.

C.R.A. PIPELINE

40' C.R.A. PIPELINE EASEMENT

SAND BACKFILL AT STREET CROSSING (SEE SPECS)

NOTE:
ALL SEWER TRENCH SHALL HAVE SAND BACKFILL. (SEE SPECS.)

PLAN SURVEYED PLOTTED CHECKED BY R.A.S. NOTE BOOK ALIGNMENT FIELD STAKED BY OR WAY FIELD STAKED NO. DATE

PROFILE SURVEYED PLOTTED CHECKED BY R.A.S. NOTE BOOK ALIGNMENT FIELD STAKED BY OR WAY FIELD STAKED NO. STRUCTURE NOTATIONS FIELD DATE

LATERAL 1-A-1

ALL PIPE IS 8"

NOTE: ALL DATUM IS U.S.G.S. SUBTRACT 1182.4 FOR CITY DATUM.

MH 0+00 INV. 1398.68 LAT. 1-A-1
FL 1399.00 OUT
FL 1398.91 IN

MH 2+01 OUT
FL 1395.61
1396.50 IN

MH 5+55 OUT
FL 1404.62
1404.50 IN

MH 9+05 OUT
FL 1416.46
1416.56 IN

MH 12+09 OUT
FL 1417.76
1417.86 IN

MH 15+20
FL 1419.43

LAT. 1-A
FL 1394.00

LAT. 1-A-3 1397.60

1403.70
1406.40
1415.60
1429.90
1430.60
1428.40

2.25%
5.10%
0.40%
0.40%

1430
1425
1420
1415
1410
1405
1400
1395
1390
1385

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00

1393.40 1393.72 1394.03 1394.34 1394.66 1394.97 1395.28 1395.60 1395.86 1396.45 1396.04 1396.63 1397.21 1397.80 1398.39 1399.00 1399.58 1400.17 1400.76 1401.35 1402.15 1402.74 1403.33 1403.91 1404.50 1405.12 1405.89 1406.67 1407.44 1408.22 1408.99 1409.76 1410.54 1411.31 1412.09 1413.09 1413.86 1414.63 1415.41 1416.18 1416.52 1416.72 1416.82 1416.92 1417.02 1417.12 1417.22 1417.32 1417.42 1417.52 1417.62 1417.72 1417.82 1418.02 1418.12 1418.22 1418.32 1418.42 1418.52 1418.62 1418.72 1418.82 1418.92 1419.02 1419.12 1419.43

REVISED JUNE 18, 1982 / 7-12-82

PLATE I - PLAN - PROFILE U.S.G.S. CLEARPRINT PARIS CO., S.F.CA. NO. 1000H

KAPPELMAN'S BEL AIRE HEIGHTS SANITARY SEWER EXTENSIONS

SCALE GIVEN
DATE 3-20-81
PROJECT NO. SE1880
SHEET 4 OF 9

RUSS & GOODNESS ENGINEERS
2160 WEST 21ST STREET
WICHITA, KANSAS 67203
(316) 832-0123

4/10

FILMED FROM THE BEST

NOTE: CONTRACTOR TO NOTIFY C.R.A., INC. PRIOR TO WORKING WITHIN PIPELINE EASEMENT
MR. ROY NICHOLS (918) 333-4111

HEDGEROW

45TH ST. NO.

47TH STREET NORTH

FARMSTEAD

FARMSTEAD CT.

LAT. 1-A-1

LAT. 1-A-2

LAT. 1-A-3

MH 0+00

MH 2+01

MH 0+52

MH 4+17

MH 5+55

MH 7+83

MH 9+09

MH 11+49

MH 12+09

MH 13+13

MH 14+54

MH 15+20

10' UTILITY ESMT

20' UTILITY ESMT

20' UTILITY EASEMENT

5' (TYP)

10' UTILITY EASEMENT

SAND BACKFILL AT STREET CROSSING (SEE SPECS.)

C.R.A. PIPELINE

40' C.R.A. PIPELINE EASEMENT

NOTE:
ALL SEWER TRENCH SHALL HAVE SAND BACKFILL. (SEE SPECS.)

SCALE
PLAN 1" = 50'
PROFILE HORIZ 1" = 50'
VERT 1" = 5'

PROFILE

LATERAL 1-A-3

ALL PIPE IS 8"

NOTE: ALL DATUM IS U.S.G.S. SUBTRACT 1187.4' FOR CITY DATUM.

MH 0+00 = MH 2+01 LAT 1-A-1
FL. 1395.60 OUT
1397.80 IN

MH 0+52
FL. 1398.00 OUT
1398.20 IN

MH 4+17
FL. 1407.60

MH 7+83
FL. 1418.46 OUT
1418.66 IN

MH 11+49
FL. 1423.02

MH 14+54
F.L. 1421.24

LAT. 1-A-2
FL. 1420.71

1431.00

1429.40

1427.90

1417.90

1407.90

1406.40

0.79%

2.55%

0.39%

0.39%

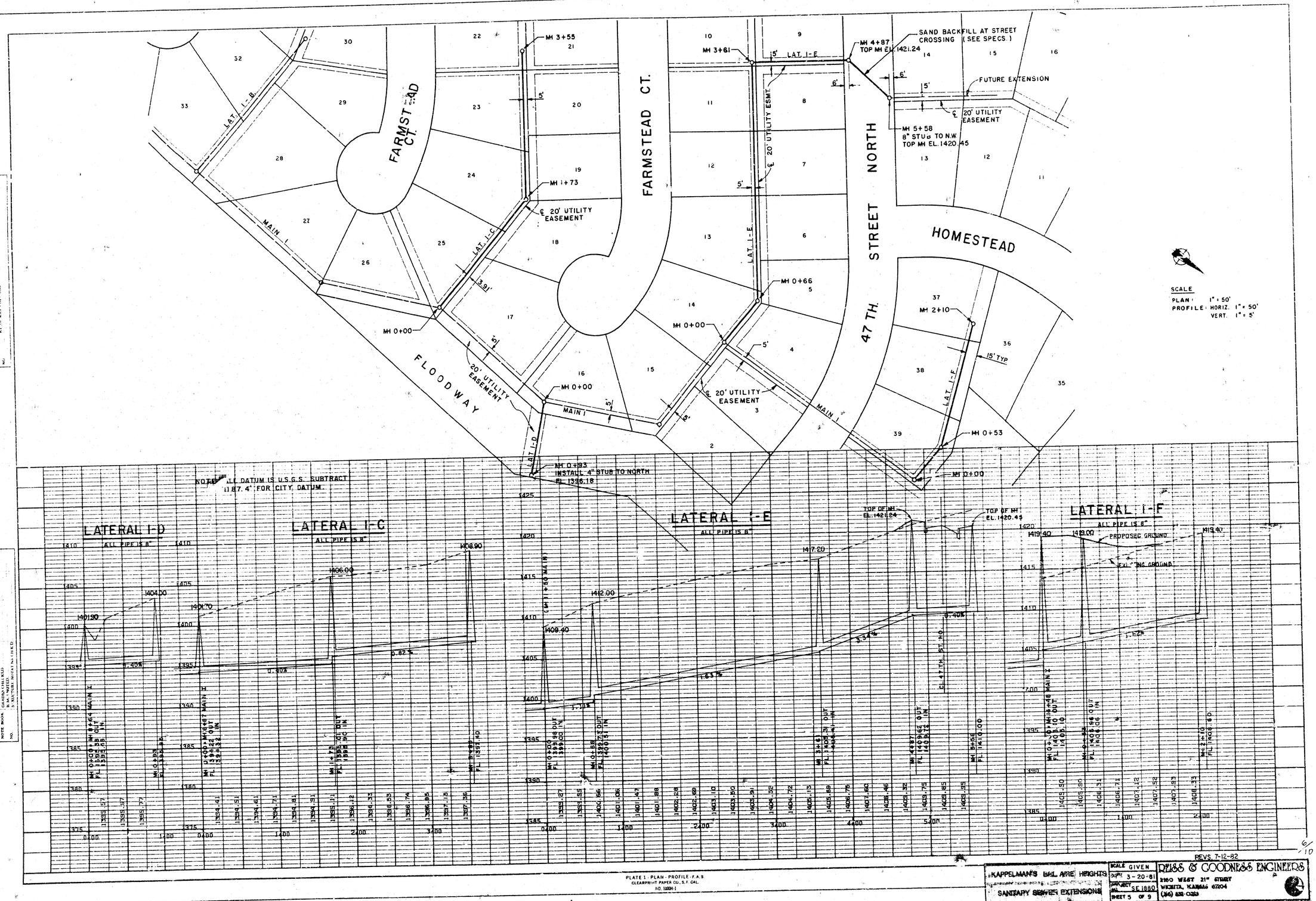
REVISED JUNE 18, 1982 / 7-12-82

KAPPELMAN'S BEL AIRE HEIGHTS
SANITARY SEWER EXTENSIONS

SCALE GIVEN
DATE 3-20-81
PROJECT NO. SE-880
SHEET 4 A OF 9

REISS & GOODNESS ENGINEERS
2100 WEST 21ST STREET
WICHITA, KANSAS 67203
(316) 832-0213

5/10


FARMSTEAD CT.
FARMSTEAD CT.
47TH. STREET NORTH
HOMESTEAD
FLOOD WAY
MAIN I
LAT. I-B
LAT. I-C
LAT. I-D
LAT. I-E
LAT. I-F
MH 3+55
MH 1+73
MH 0+00
MH 3+61
MH 4+87
TOP MH EL. 1421.24
SAND BACKFILL AT STREET CROSSING (SEE SPECS.)
FUTURE EXTENSION
20' UTILITY EASEMENT
MH 5+58
8" STUB TO N.W.
TOP MH EL. 1420.45
MH 0+66
MH 2+10
MH 0+53
MH 0+93
INSTALL 4" STUB TO NORTH
EL. 1396.18
15' TYP
5'
6'
SCALE
PLAN: 1" = 50'
PROFILE: HORIZ. 1" = 50'
VERT. 1" = 5'
NOTE: ALL DATUM IS U.S.G.S. SUBTRACT 1187.4' FOR CITY DATUM
LATERAL I-D
ALL PIPE IS 8"
LATERAL I-C
ALL PIPE IS 8"
LATERAL I-E
ALL PIPE IS 8"
LATERAL I-F
ALL PIPE IS 8"
TOP OF MH EL. 1421.24
TOP OF MH EL. 1420.45
PROPOSED GROUND
EXISTING GROUND
CL 47TH. ST. NO.
(MH 1+50 MAIN I)
0.40%
0.82%
1.63%
3.34%
1.22%
1.03%
0.40%
PLAN
PROFILL
PLATE 1 - PLAN - PROFILE - F.A.S.
CLEARPRINT PAPER CO., S.F. CAL.
NO. 1000H
REVS 7-12-82
6/10
KAPPELMAN'S 8th ADD. APPLE HEIGHTS
SANITARY SEWER EXTENSIONS
SCALE GIVEN
DATE 3-20-81
PROJECT SE 1880
SHEET 5 OF 9
DILLS & GOODNESS ENGINEERS
2180 WEST 21st STREET
WICHITA, KANSAS 67204
(316) 838-0253

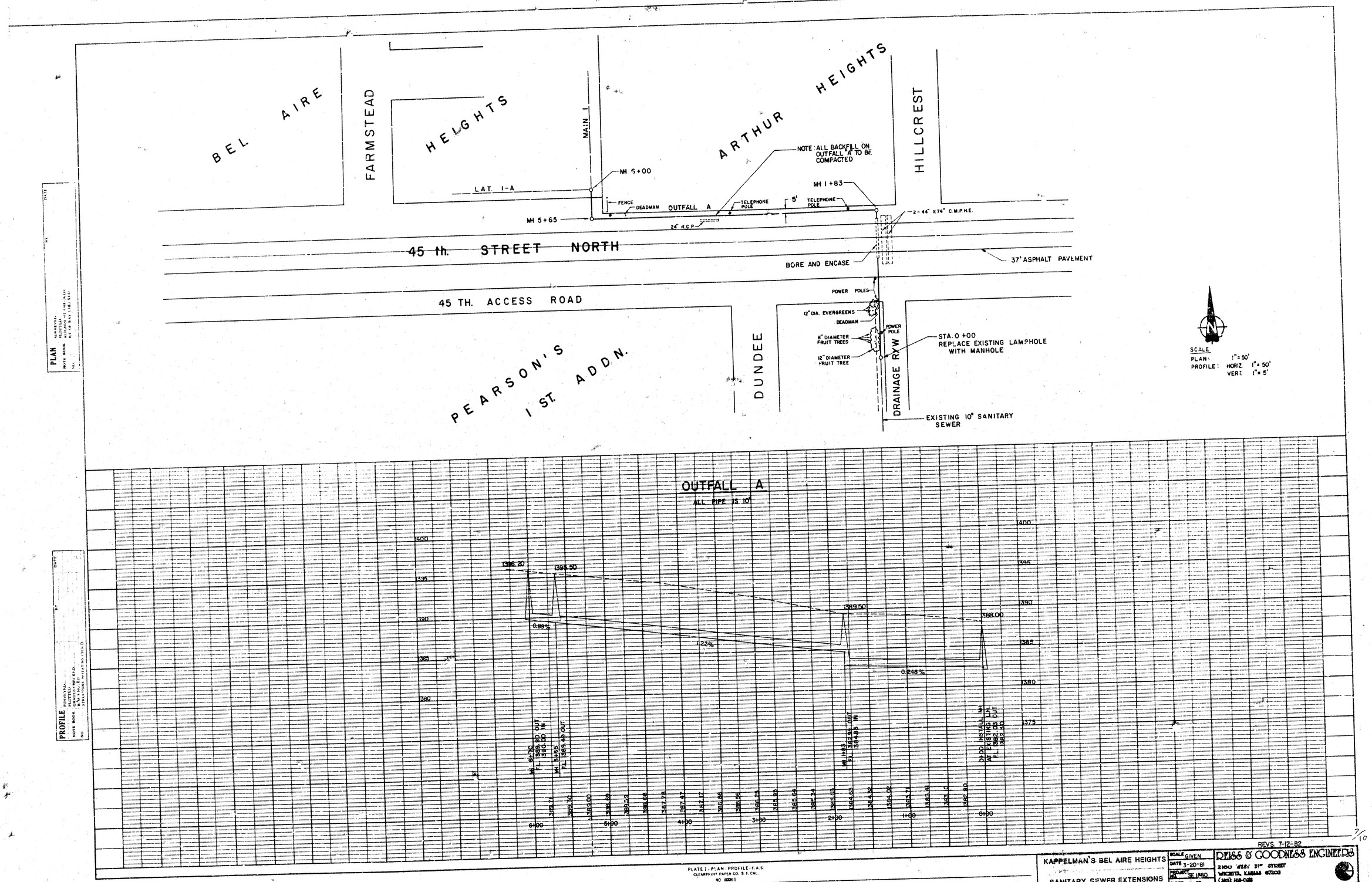


PLATE I - PLAN - PROFILE - F.A.S.
CLEARPRINT PAPER CO. S.F. CAL.
NO 1000H 1

KAPPELMAN'S BEL AIRE HEIGHTS
SANITARY SEWER EXTENSIONS

SCALE GIVEN
DATE 3-20-81
PROJECT NO. SE 1880
SHEET 6 OF 8

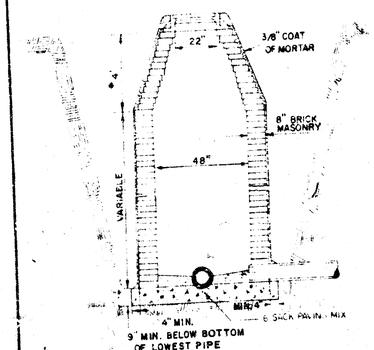
REVS. 7-12-82

DEISS & GOODNESS ENGINEERS
2100 'ASE' 21st STREET
WICHITA, KANSAS 67203
(316) 268-0228

7/10

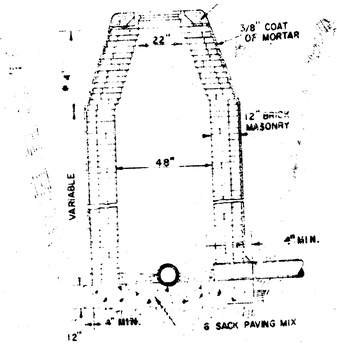
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GROUT TO BE PLACED AROUND MANHOLE RING ONLY WHEN MANHOLE IS CONSTRUCTED IN UNPAVED AREAS (TYPICAL ALL MANHOLES)

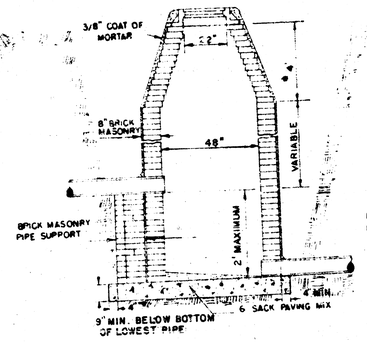


STANDARD MANHOLE TYPE "A"

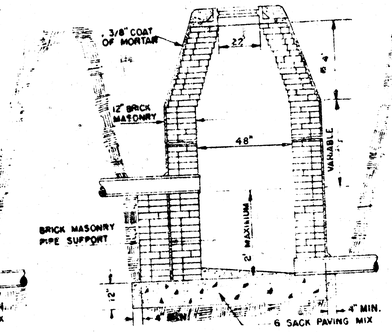
* DRAW = 6' ON 5' DIA. M.H.



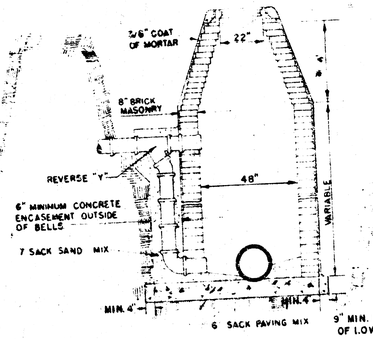
STANDARD MANHOLE TYPE "B"



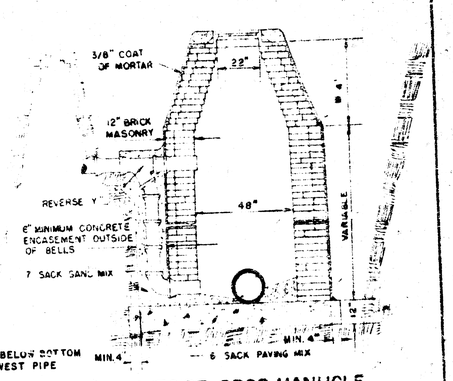
DROP MANHOLE TYPE "A"



DROP MANHOLE TYPE "B"

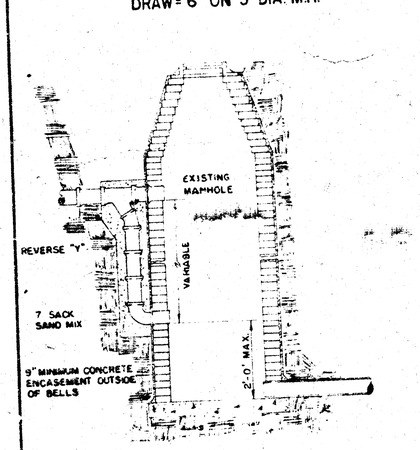


OUTSIDE DROP MANHOLE TYPE "A"



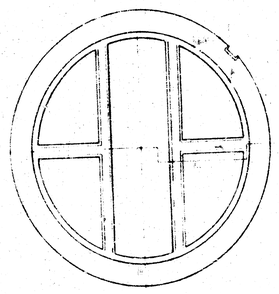
OUTSIDE DROP MANHOLE TYPE "B"

NOTE : REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES 6" ABOVE THE BOTTOM. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE COST OF REINFORCING STEEL IS TO BE INCLUDED IN THE PRICE BID FOR THE MANHOLE.



DETAIL OF DROP STACK

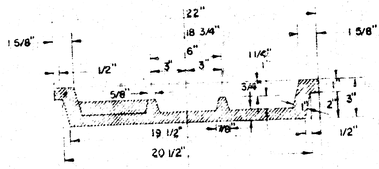
FOR EXISTING MANHOLES IN GROUND WATER



TOP VIEW

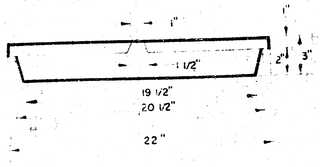
MANHOLE COVER

WEIGHT 110 LBS.



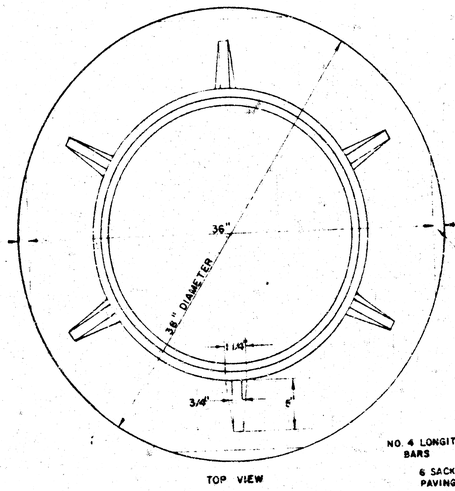
SECTION A-A

MANHOLE COVER



SIDE VIEW

MANHOLE COVER

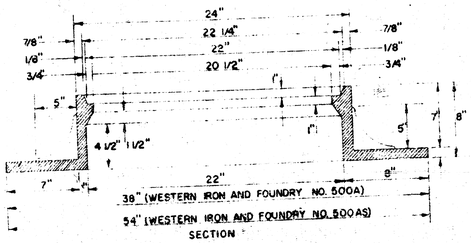


TOP VIEW

MANHOLE RING

WEIGHT 325 LBS. RING NO. 500A

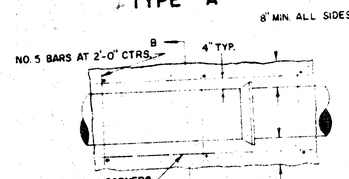
WEIGHT 800 LBS. RING NO. 500AS

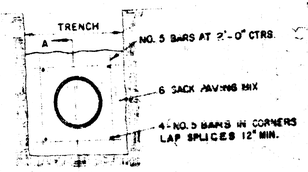


SECTION

MANHOLE RING

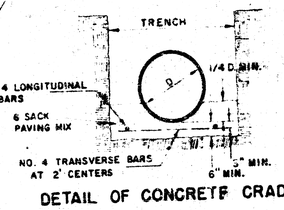
OUTSIDE CIRCUMFERENCE OF COVER AND THE INNER FACE AND SEAT OF RING TO BE MACHINE FIT.



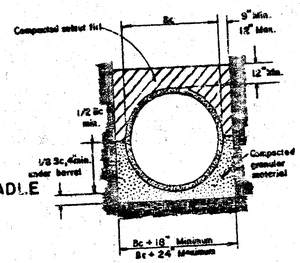


REINFORCED CONCRETE ENCASEMENT

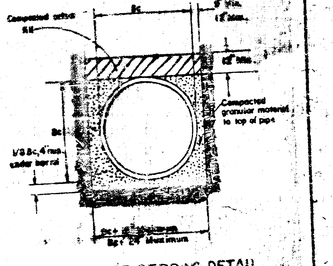
NOTE : CONCRETE ENCASEMENT AND CONCRETE CRADLE SHALL BEGIN AND END AT A JOINT WHEN CLAY PIPE IS USED. MINIMUM CONCRETE COVERAGE OF REBAR TO BE 3".



DETAIL OF CONCRETE CRADLE



A.B.S. PIPE BEDDING DETAIL



P.V.C. PIPE BEDDING DETAIL

GENERAL NOTES

- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD.
- STANDARD MANHOLES TYPE 'A' OR TYPE 'B' AND STANDARD DROP MANHOLES TYPE 'A' OR TYPE 'B' SHALL BE BID PER LINEAR FOOT OF MANHOLES CONSTRUCTED. 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. MANHOLES WITH PIPE SIZES LARGER THAN 24" SHALL BE 5' DIAMETER.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO INCREASE HYDRAULIC EFFICIENCY USING 8 SACK SAND MIX CONCRETE.
- PIPES INSTALLED WITHIN THE MANHOLE EXCAVATION SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. COST OF CRADLE WITHIN MANHOLE EXCAVATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR MANHOLES CONSTRUCTED. CRADLE SHALL EXTEND TO FIRST JOINT OUTSIDE OF MANHOLE WHEN CLAY PIPE IS USED.

DETAILS OF

SEWER APPURTENANCES

ADOPTED AS STANDARD DESIGN

BY

ENGINEERING DIVISION

CITY OF WICHITA, KANSAS

R. W. LINN CITY ENGINEER

KAPPELMAN'S BEL AIRE HEIGHTS

SANITARY SEWER EXTENSIONS

SCALE GIVEN

DATE 3-20-81

PROJECT NO. BE 1880

SHEET 3 OF 9

REISS & GOODNESS ENGINEERS

2180 WEST 21ST STREET

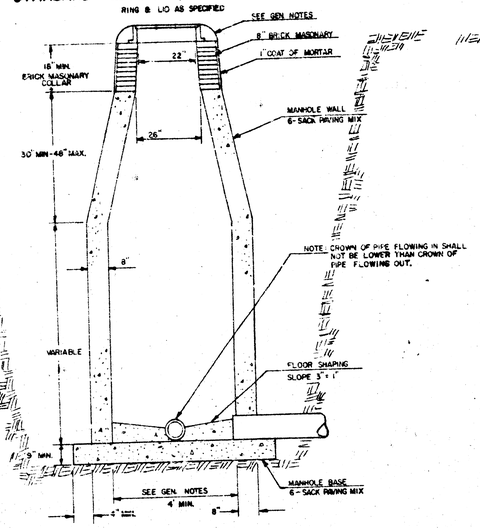
WICHITA, KANSAS 67204

(316) 832-0123

FILMED FROM THE BEST

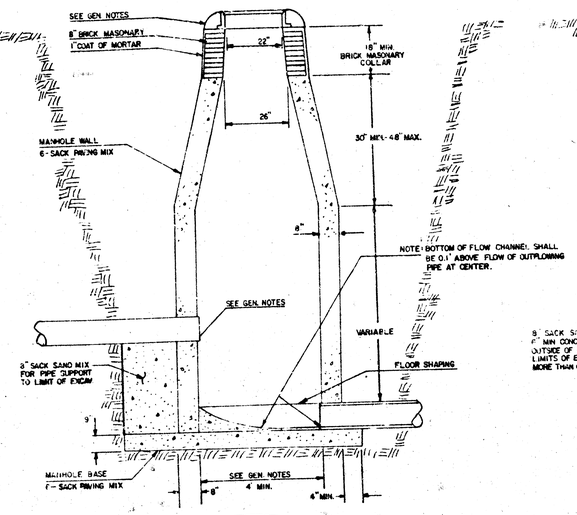
STANDARD MANHOLE, TYPE "C"

RING & LID AS SPECIFIED



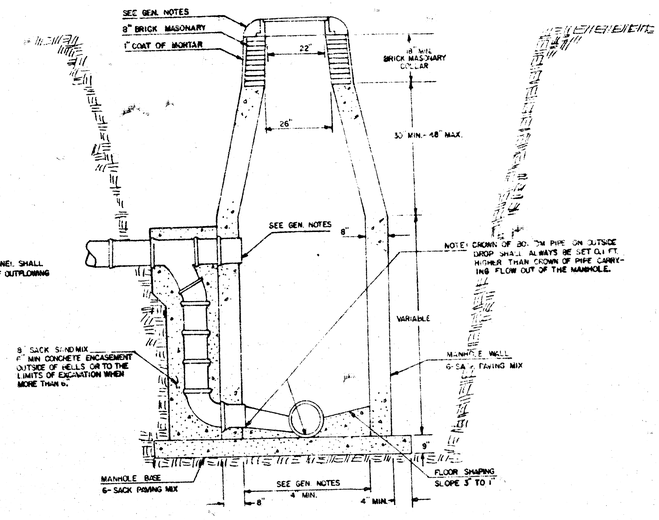
INSIDE DROP MANHOLE, TYPE "C"

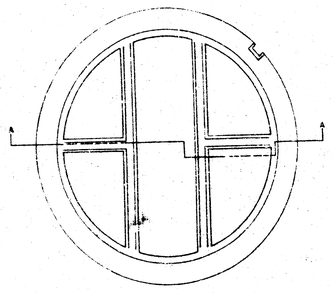
RING & LID AS SPECIFIED



OUTSIDE DROP MANHOLE, TYPE "C"

RING & LID AS SPECIFIED

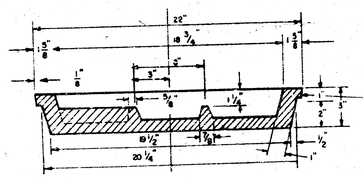




TOP VIEW

MANHOLE COVER

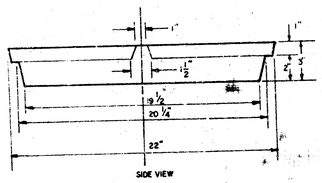
WEIGHT 140 LBS.



OUTSIDE CIRCUMFERENCE OF COVER AND THE INNER FACE AND SEAT OF RING TO BE MACHINE FIT.

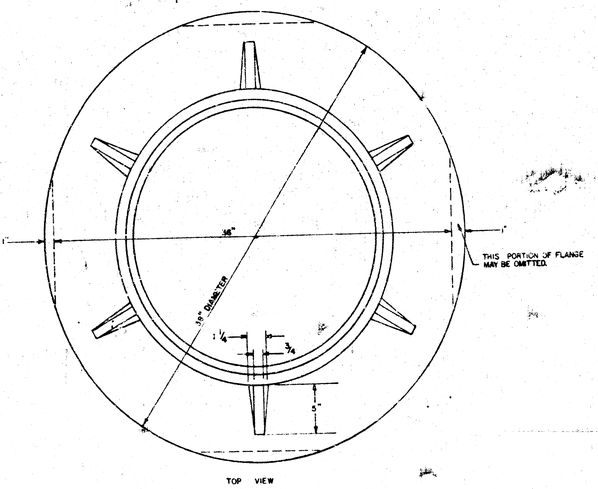
SEC. A-A

MANHOLE COVER



SIDE VIEW

MANHOLE COVER

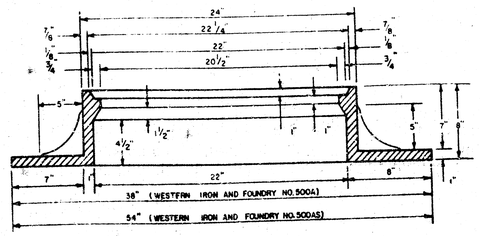


TOP VIEW

MANHOLE RING

325 LBS. RING NO. 500A

WEIGHT 800 LBS. RING NO. 500AS



MANHOLE RING

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 6 SACKS OF CEMENT PER CUBIC YARD WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL 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 MANHOLES CONSTRUCTED.

3. AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE INSIDE INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE GROUTED INTO THESE 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 DRAWINGS. 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 MEAT 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 AT EITHER MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR MANHOLES CONSTRUCTED.

6. THE OUTSIDE CIRCUMFERENCE OF MANHOLE COVERS, THE INSIDE CIRCUMFERENCE OF MANHOLE RINGS, AND THE SEATING FACES BETWEEN THE COVER AND THE RING SHALL BE MACHINED TO THE DIMENSIONS INDICATED SO THE MANHOLE COVER WILL FIT INTO THE RING SUCH THAT THE CLEARANCE BETWEEN THE COVER AND THE RING WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE RING AND COVER SHALL BE MACHINED SUCH THAT THESE SURFACES WILL MAKE CONTACT FOR THEIR FULL CIRCUMFERENCE WITHOUT ROCKING. A PICK HOLE SHALL BE FABRICATED AT ONE LOCATION IN THE OUTER CIRCUMFERENCE OF THE COVER TO FACILITATE REMOVAL OF THE COVER. THE PICK HOLE SHALL BE FABRICATED IN SUCH A MANNER THAT WILL PRECLUDE AS OPENING THROUGH WHICH SEWER GAS COULD ENTER INTO THE MANHOLE.

7. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWN OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.

SANITARY SEWER EXTENSIONS
KAPPELMAN'S BEL AIRE HEIGHTS

NO.	REVISION	BY	DATE
12-3-80	10-10-90		

SEDGWICK COUNTY DEPARTMENT OF PUBLIC WORKS

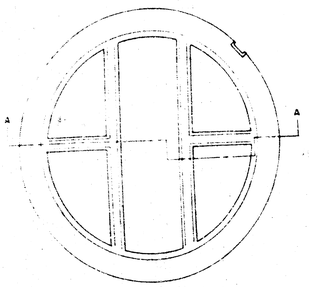
CONCRETE MANHOLE DETAILS
(TYPE C MANHOLES)

REISS & GOODNESS ENGINEERS
2100 WEST 21ST STREET
WICHITA, KANSAS 67204
(316) 832-0213

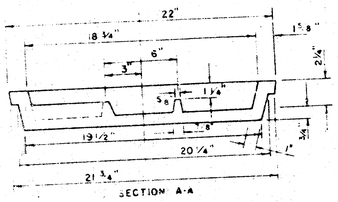
9/10

DESIGNED BY CITY OF WICHITA	JOB NO. SE 1880	SHT 8 OF 9
DRAWN BY TG	DATE 3-20-81	

SEWER APPURTENANCES DETAILS

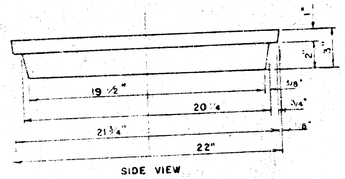


TOP VIEW



SECTION A-A

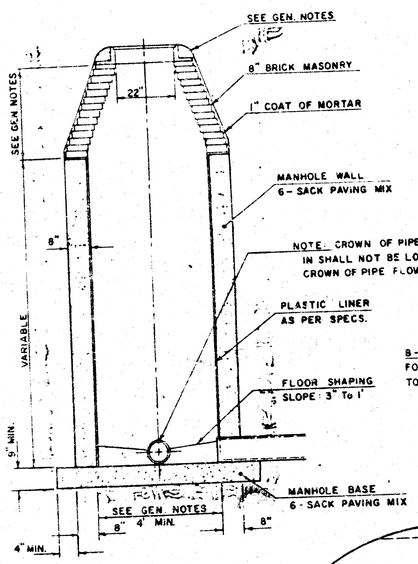
MANHOLE COVER



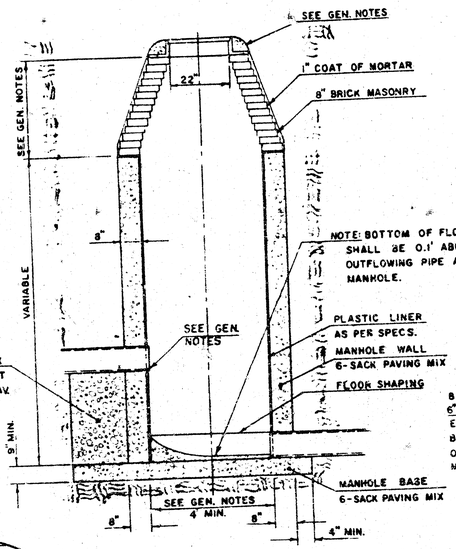
SIDE VIEW

WEIGHT OF MANHOLE COVER = 140 lbs

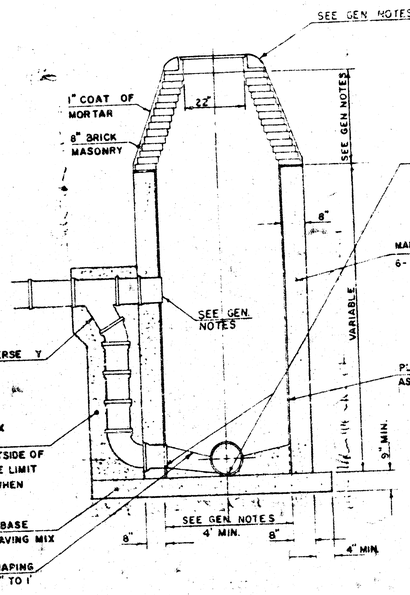
TYPE "D" MANHOLE

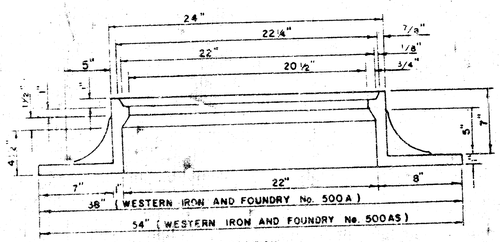


TYPE "D" INSIDE DROP MANHOLE



TYPE "D" OUTSIDE DROP MANHOLE

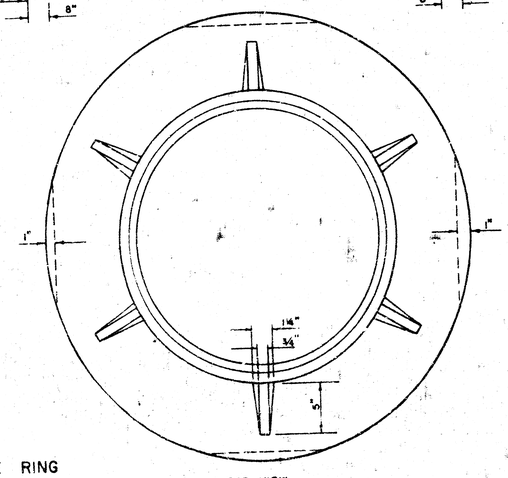




SECTION

WEIGHT OF MANHOLE RING NO. 500A = 325 lbs
WEIGHT OF MANHOLE RING NO. 500AS = 400 lbs

MANHOLE RING



TOP VIEW

GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 6 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 6 SACKS OF CEMENT PER CUBIC YARD WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. PLASTIC LINING INSIDE THE MANHOLE SHALL CONFORM TO THE REQUIREMENTS SPECIFIED IN THE STANDARD SPECIFICATIONS FOR PLASTIC LINING FOR REINFORCED CONCRETE PIPE FOR SANITARY SEWER CONSTRUCTION. ALL INSIDE SURFACES OF THE MANHOLE WALL WHICH WOULD BE EXPOSED TO SEWER AS SHALL BE PROTECTED BY THE PLASTIC LINING. TYPE D MANHOLES MAY BE USED ON PIPE SIZES 10" 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 5'. 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 SECTIONS. REINFORCING STEEL SHALL BE PLACED 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. COST OF FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR MANHOLES CONSTRUCTED.

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 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 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 MANHOLES CONSTRUCTED.

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7. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' 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. OUTSIDE 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.

9. PLASTIC LINING SHALL BE AMBER-PLATE, T-LOCK, OR APPROVED EQUAL.

JUNE, 1980

KAPPELMAN'S BEL AIRE HEIGHTS	SCALE GIVEN	DEISS & GOODNESS ENGINEERS
	DATE 3-20-81	2160 WEST 21st STREET
SANITARY SEWER EXTENSIONS	PROJECT NO. SE 1880	WICHITA, KANSAS 67204
	SHEET 9 OF 9	(316) 832-0313

10/10

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