GENERAL NOTES

1. 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.

2. EXISTING UTILITIES AND THEIR LOCATIONS 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 PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.

3. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE-CALL	1-800-344-7233 or 687-2470 (LOCAL WICHITA)

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

SOUTHWESTERN BELL TELEPHONE COMPANY	1-571-2115
CABLEVISION	262-0661
KANSAS GAS & ELECTRIC	264-1141
KG&E (GAS)	832-3169 OR 3180
ARKLA GAS COMPANY	942-8350 OR 263-8161
CITY OF WICHITA WATER & SEWER DEPARTMENT	268-4908
KANEB PIPELINE	262-1480

4. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

5. COST OF EXCAVATION, HAULING, AND DUMPING OF EXCESS EXCAVATION SHALL BE SUBSIDIARY TO THE PROJECT.

6. A PORTION OF EXCESS EXCAVATED MATERIAL SHALL BE MOUNDED AROUND MANHOLES WHICH EXTEND MORE THAN ONE (1) FOOT ABOVE THE EXISTING GROUND. SUCH MOUNDS SHALL BE CONSTRUCTED WITH A SIX (6) FOOT DIAMETER FLAT TOP WITH 4 TO 1 SIDE SLOPES DOWN TO THE ORIGINAL GROUND. THE ELEVATION OF THE FLAT TOP OF THE MOUND SHALL BE 0.4 FOOT BELOW THE TOP OF THE MANHOLE.

7. ALL STUBS AND PLUGGED PIPES SHALL BE LOCATED WITH GREEN PLASTIC TAPE IN THE SAME MANNER AS RISERS.

8. PRIOR TO LAYING SEWER LINES USING EXISTING STUBS IN EXISTING MANHOLES, THE CONTRACTOR SHALL EXPOSE AND VERIFY THE ELEVATION, GRADE AND ALIGNMENT OF EXISTING STUBS AND NOTIFY THE ENGINEER OF ANY DEVIATION FROM THE PLAN. WHERE CONNECTION TO AN EXISTING MANHOLE THAT DOES NOT HAVE AN EXISTING STUB OR THE STUB IS UNUSABLE DUE TO ELEVATION GRADE OR ALIGNMENT, THE CONTRACTOR SHALL RESHAPE THE EXISTING MANHOLE INVERT TO PROVIDE SMOOTH FLOW. THE COST OF RE-SHAPING EXISTING MANHOLE INVERTS IS INCIDENTAL TO THE PROJECT.

9. 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.

10. CONTRACTOR SHALL FINAL GRADE EASEMENTS ACCORDING TO THE PROPOSED PROFILE INDICATED IN THESE PLANS.

11. THE PROJECT IS AN EXTENSION TO THE CITY OF WICHITA METROPOLITIAN AREA SANITARY SEWER SYSTEM. PLANS AND SPECIFICATIONS CONFORM TO THE REQUIREMENTS OF THE CITY OF WICHITA. IF THESE PLANS OR SPECIFICATIONS CONFLICT WITH CITY OF WICHITA SPECIFICATIONS, CITY OF WICHITA SPECIFICATIONS WILL PREVAIL. CONSTRUCTION DETAILS NOT INCLUDED WILL BE AS PUBLISHED IN THE CITY OF WICHITA STANDARD SPECIFICATIONS.

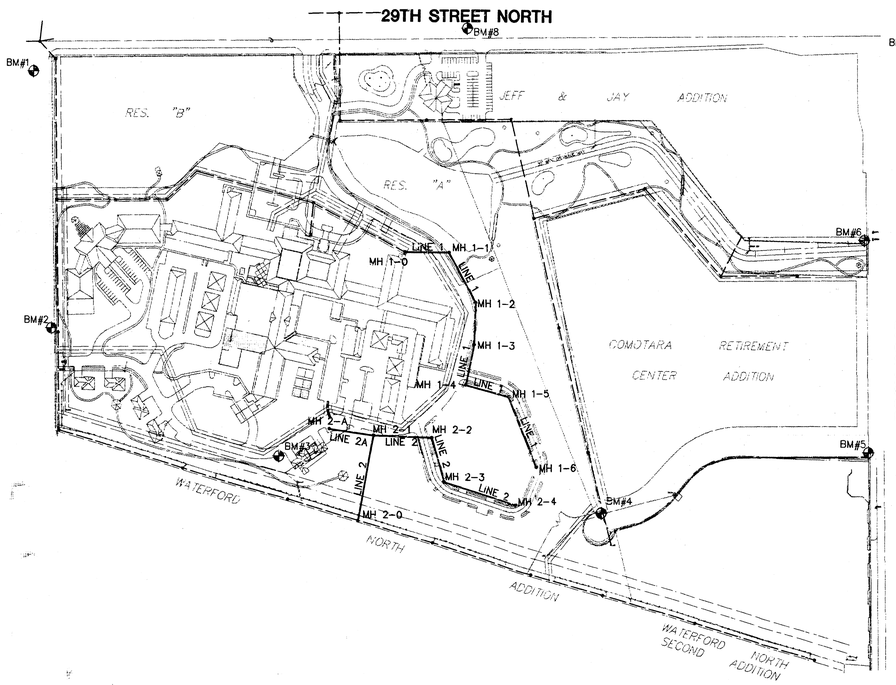
BENCHMARKS

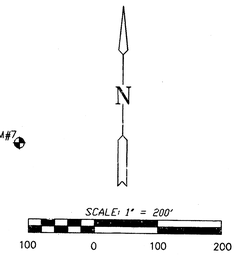
BM #1	C.O.W. BENCH MARK. NW COR. RCBC. 100'± SOUTH OF 29TH., ON GOVERNEOUR. ELEV. = 183.46
BM #2	"□" CUT ON TOP OF CURB GOVERNEOUR. ELEV. = 190.89
BM #3	"□" CUT LIGHT POLE BASE. ELEV. = 190.89
BM #4	"□" CUT ON NW COR. INLET. ELEV. = 206.78
BM #5	"□" CUT ON TOP OF CURB W. END SW RETURN. ELEV. = 219.63
BM #6	"□" CUT ON S. END OF HDWL, ROCK RD. ELEV. = 211.99
BM #7	C.O.W. BENCH MARK. SE COR. INTERSECTION TRAFFIC SIGNAL POLE ROCK RD. AND 29TH. ST. N. ELEV. = 216.21
BM #8	"□" CUT ON INLET 29TH. ST. N. ELEV. = 196.35

PRIVATE CONSTRUCTION PLANS FOR SANITARY SEWER IMPROVEMENTS TO SERVE

LARKSFIELD PLACE
THE VILLAS

WICHITA, SEDGWICK COUNTY, KANSAS
PROJECT NO. 507PPS (607861)





APPROVED AS NOTED

BY CITY ENGINEER OF WICHITA

SANITARY SEWERS _____

STORM SEWERS _____

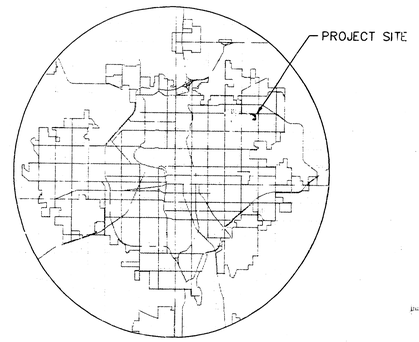
DRIVEWAY APPROACHED _____

WATER MAINS _____

PAVING _____

NOTE TO CONTRACTOR

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.



INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	LINE 1 PLAN & PROFILE
3	LINE 2 & 2A PLAN & PROFILE
4	TYPE "P" MANHOLE DETAILS

Booked 9/5/95 JKB From As Builts

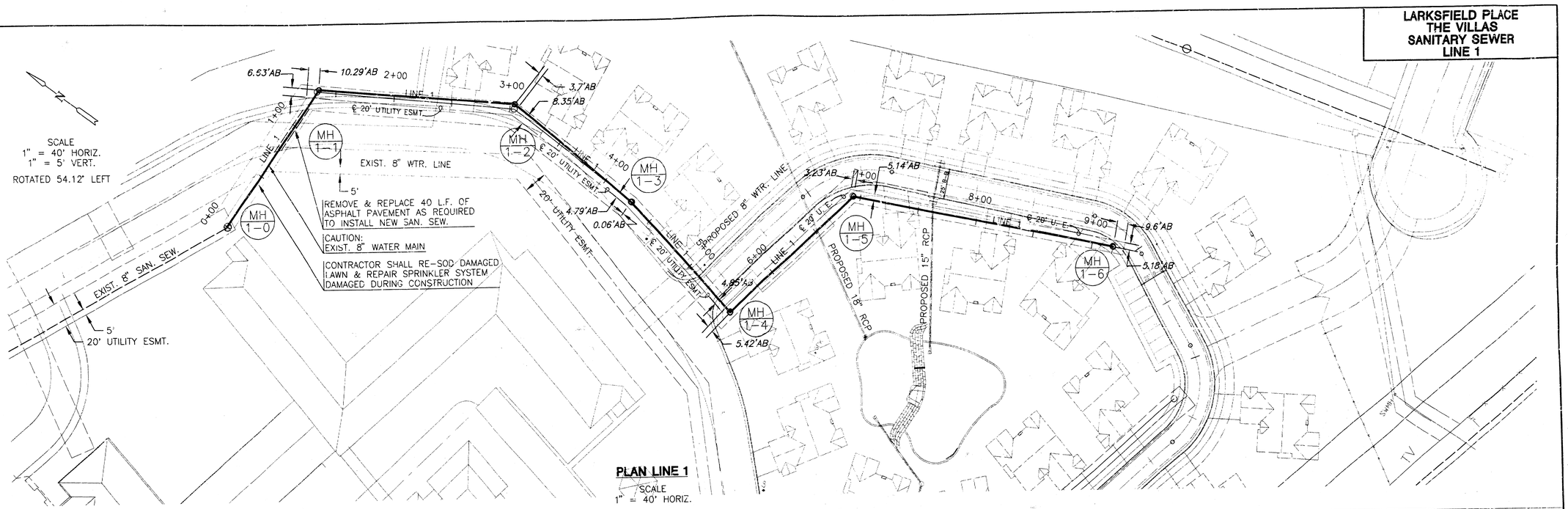
AS BUILTS 2-10-95

LARKSFIELD PLACE THE VILLAS	Design JTC
PRIVATE SANITARY SEWER PLANS	Drawn by DLM
	Checked by JTC
	Date 10/94
	Job no. 9436CVR

MID-KANSAS ENGINEERING CONSULTANTS INC.
411 N. WEBB ROAD
WICHITA, KANSAS 67206 (316) 684-9600

Sheet 1 Of 4

LARKSFIELD PLACE
THE VILLAS
SANITARY SEWER
LINE 1

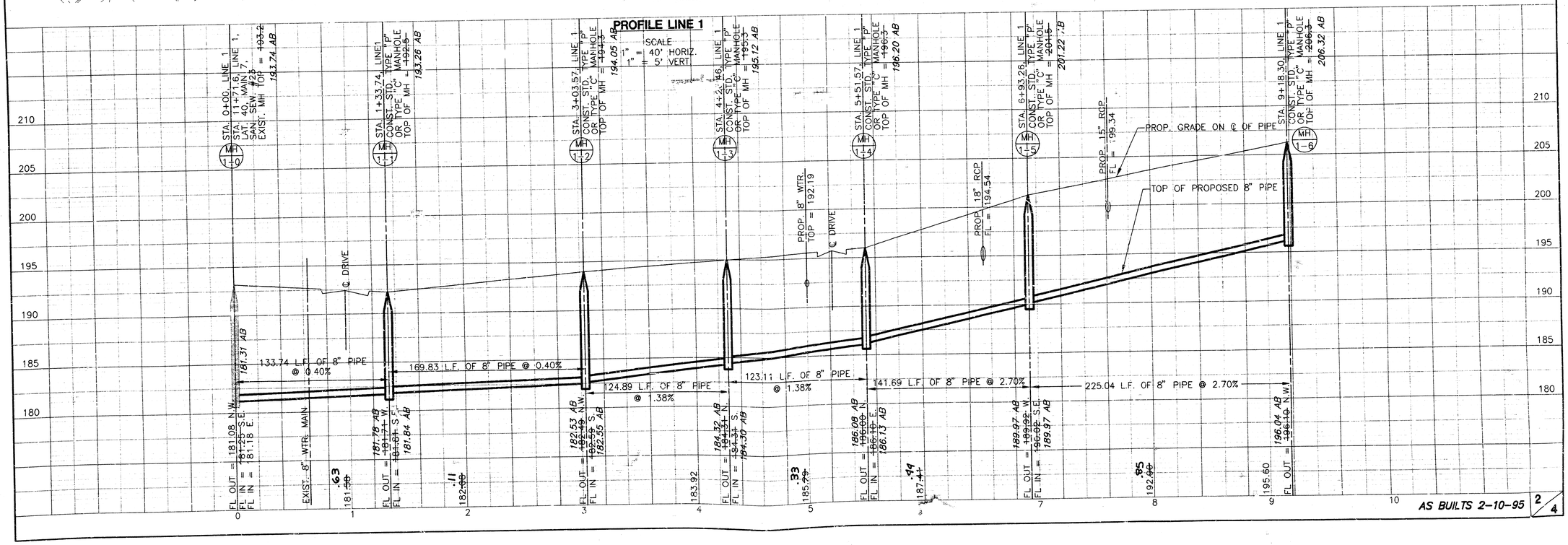


PLAN LINE 1

SCALE
1" = 40' HORIZ.

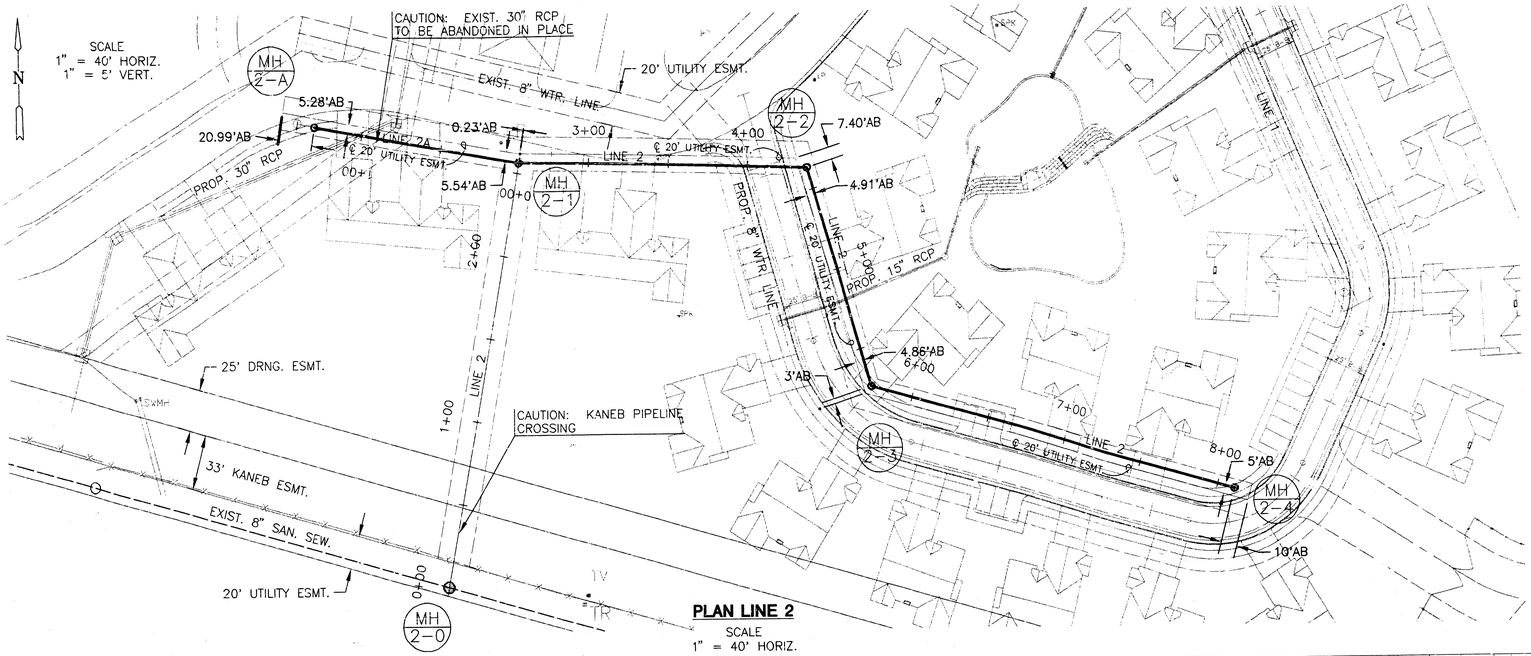
PROFILE LINE 1

SCALE
1" = 40' HORIZ.
1" = 5' VERT.

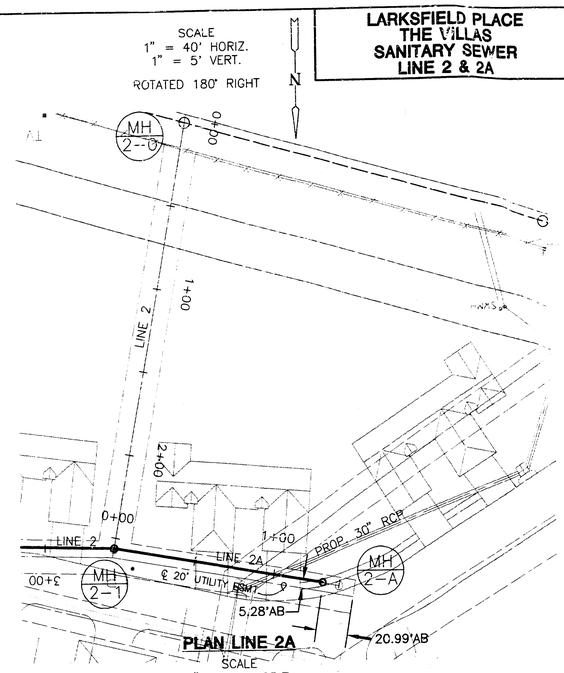


AS BUILTS 2-10-95

LARKSFIELD PLACE
THE VILLAS
SANITARY SEWER
LINE 2 & 2A



PLAN LINE 2
SCALE
1" = 40' HORIZ.



PLAN LINE 2A
SCALE
1" = 40' HORIZ.

PROFILE LINE 2
SCALE
1" = 40' HORIZ.
1" = 5' VERT.

STA. 0+00, LINE 2
STA. 2+56.61, LINE 2A
CONST. STD. TYPE "P" MANHOLE
OR TYPE "C"
TOP OF MH = 192.73 AB

STA. 2+56.61, LINE 2
STA. 0+00, LINE 2A
CONST. STD. TYPE "P" MANHOLE
OR TYPE "C"
TOP OF MH = 192.73 AB

STA. 4+36.44, LINE 2
CONST. STD. TYPE "P" MANHOLE
OR TYPE "C"
TOP OF MH = 196.69 AB

STA. 5+73.34, LINE 2
CONST. STD. TYPE "P" MANHOLE
OR TYPE "C"
TOP OF MH = 203.47 AB

STA. 8+10.97, LINE 2
CONST. STD. TYPE "P" MANHOLE
OR TYPE "C"
TOP OF MH = 207.06 AB

STA. 0+00, LINE 2A
STA. 2+56.61, LINE 1
CONST. STD. TYPE "P" MANHOLE
TOP OF MH = 192.73 AB

STA. 1+41.01, LINE 2A
CONST. STD. TYPE "P" MANHOLE
OR TYPE "C"
TOP OF MH = 192.20 AB

CAUTION: KANEB PIPELINE CROSSING
PROP. GRND.
TOP OF PROPOSED 8" PIPE
PROP. 8" WTR. TOP = 190.80
℄ DRIVE
PROP. 15" RCP FL = 195.99
PROP. 30" RCP FL = 184.87
EXIST. 30" RCP

256.61 L.F. OF 8" PIPE @ 0.40%
179.83 L.F. OF 8" PIPE @ 0.40%
136.90 L.F. OF 8" PIPE @ 4.47%
237.63 L.F. OF 8" PIPE @ 1.35%
141.01 L.F. OF 8" PIPE @ 1.37%

FL OUT = 185.33 N.W.
FL IN = 185.33 S.E.
FL IN = 185.45 N.

FL OUT = ~~186.46~~ 186.53 AB S
FL IN = ~~186.56~~ 186.56 W.
FL IN = ~~186.56~~ 186.63 AB E.

FL OUT = ~~187.23~~ 187.33 AB W.
FL IN = ~~187.23~~ 187.39 AB S.

FL OUT = ~~193.50~~ 193.56 AB N.
FL IN = ~~193.60~~ 193.54 AB E.

FL OUT = ~~196.00~~ 196.08 AB W.

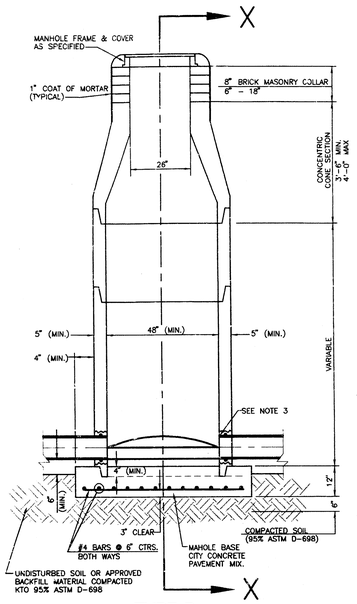
FL OUT = ~~186.46~~ 186.53 AB S
FL IN = ~~186.56~~ 186.56 E.
FL IN = ~~186.56~~ 186.63 AB W.

FL OUT = ~~188.43~~ 188.22 AB E.

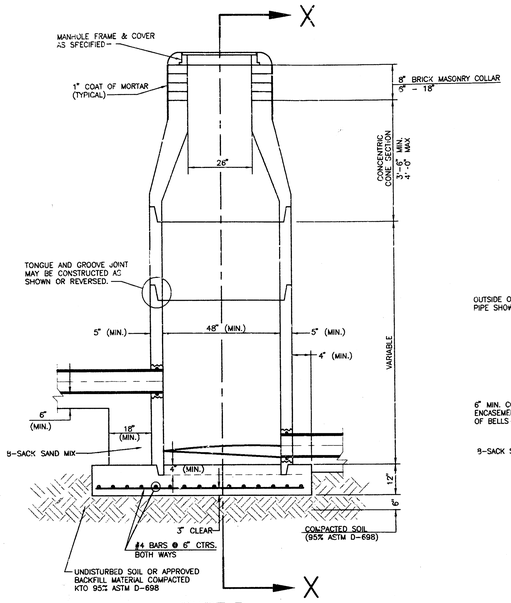
AS BUILTS 2-10-95

SEWER APPURTENANCES DETAILS

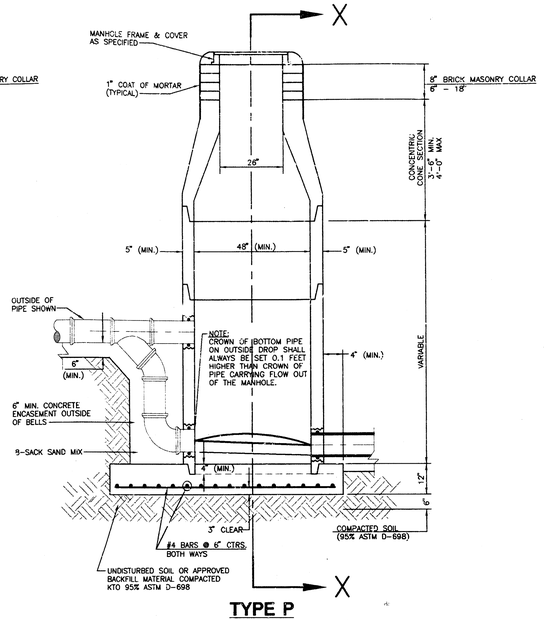
ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA



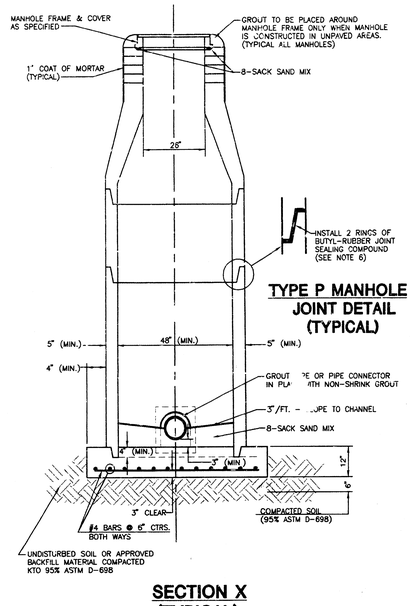
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE JOINT DETAIL (TYPICAL)

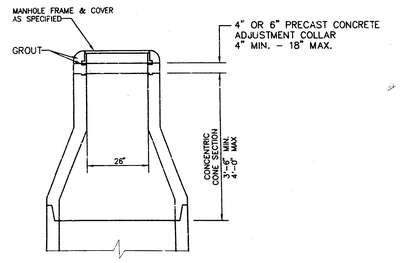
SECTION X (TYPICAL)

GENERAL NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS 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 TNEMEC 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 8 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 ENTERING 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.

PRECAST MANHOLE NOTES

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 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.
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 2' FOR INFLOWING PIPES. 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.



ALTERNATE CONSTRUCTION IN UNPAVED AREAS

AS BUILTS 2--10--95

MANHOLE DETAILS

Design	GA
Drawn by	AN
Checked by	GA
Date	6/92
Job no.	MHDTLS
Sheet	4
of	4

MID-KANSAS ENGINEERING CONSULTANTS INC.
3500 NORTH ROCK ROAD
BUILDING #800
WICHITA, KANSAS 67226 (316) 636-5566