

CONSTRUCTION PLANS FOR
WAR INDUSTRIES SEWER EXTENSION

ALONG GYPSUM CREEK FROM KELLOGG TO CENTRAL

PROJECT NO.

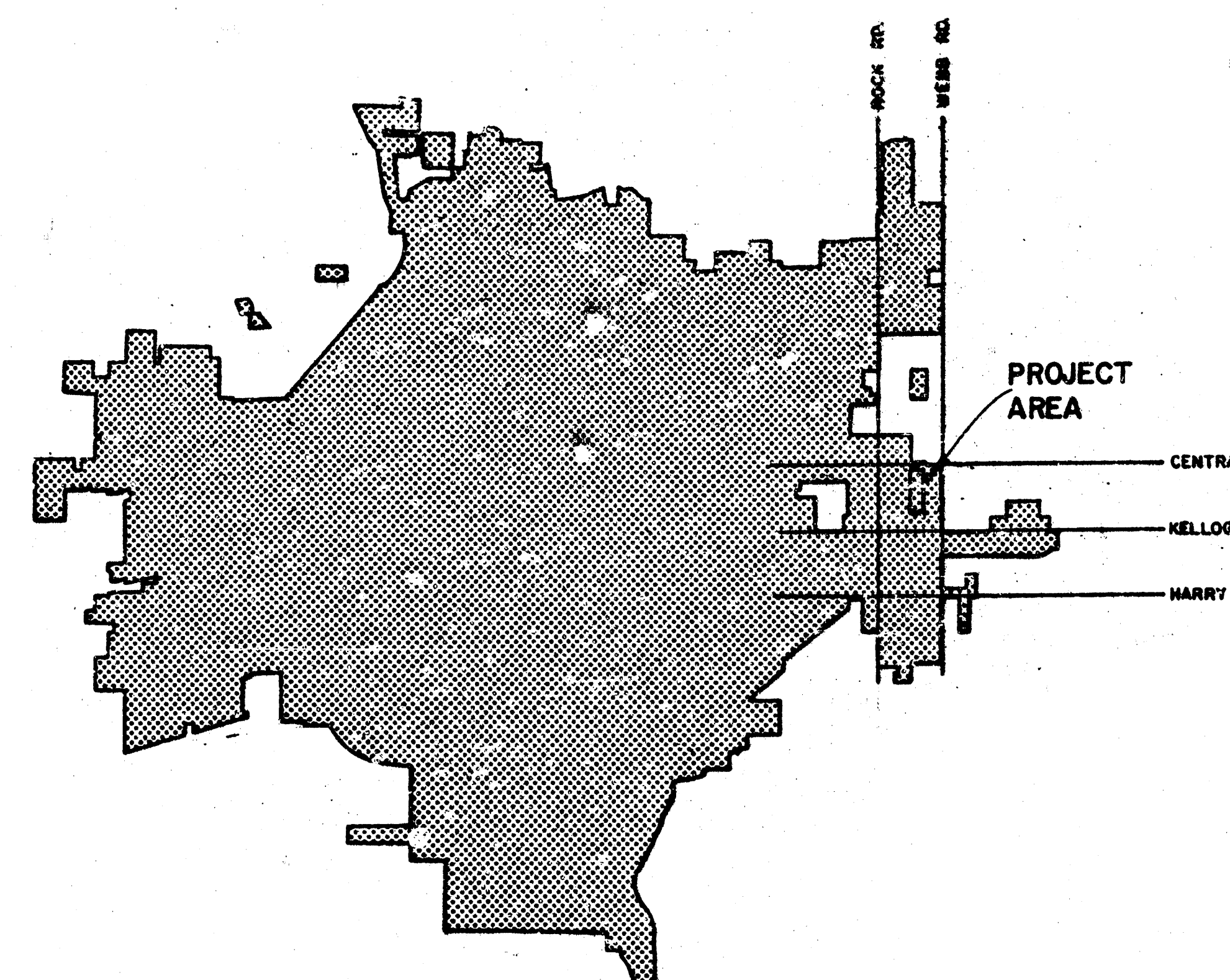
468-76-245-81478-000-000-001

CITY OF WICHITA, KANSAS

MICHAEL E. LINDEBAK

INDEX TO DRAWINGS

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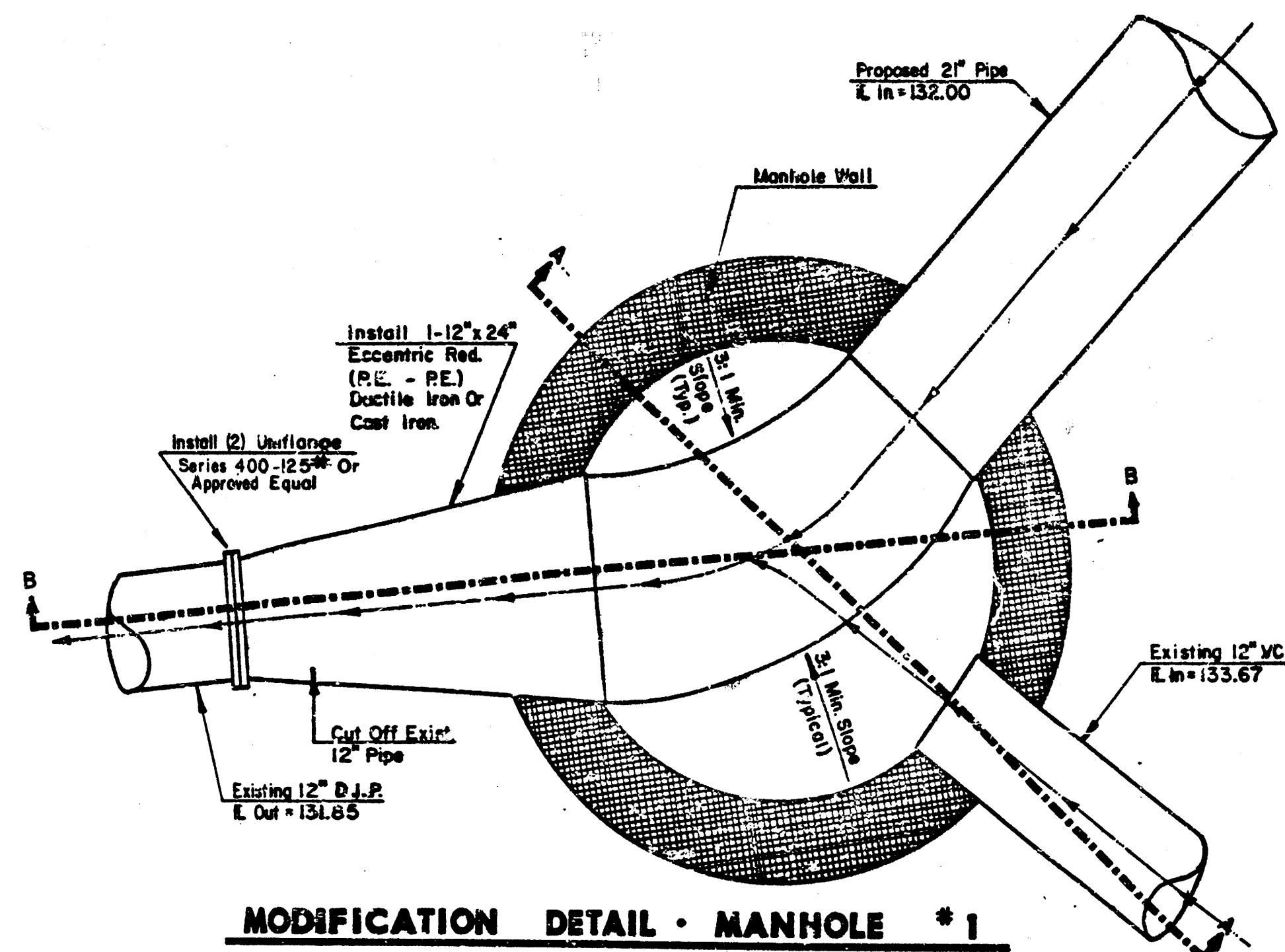
LOCATION MAP

A5 BUILT
RDL
2-87

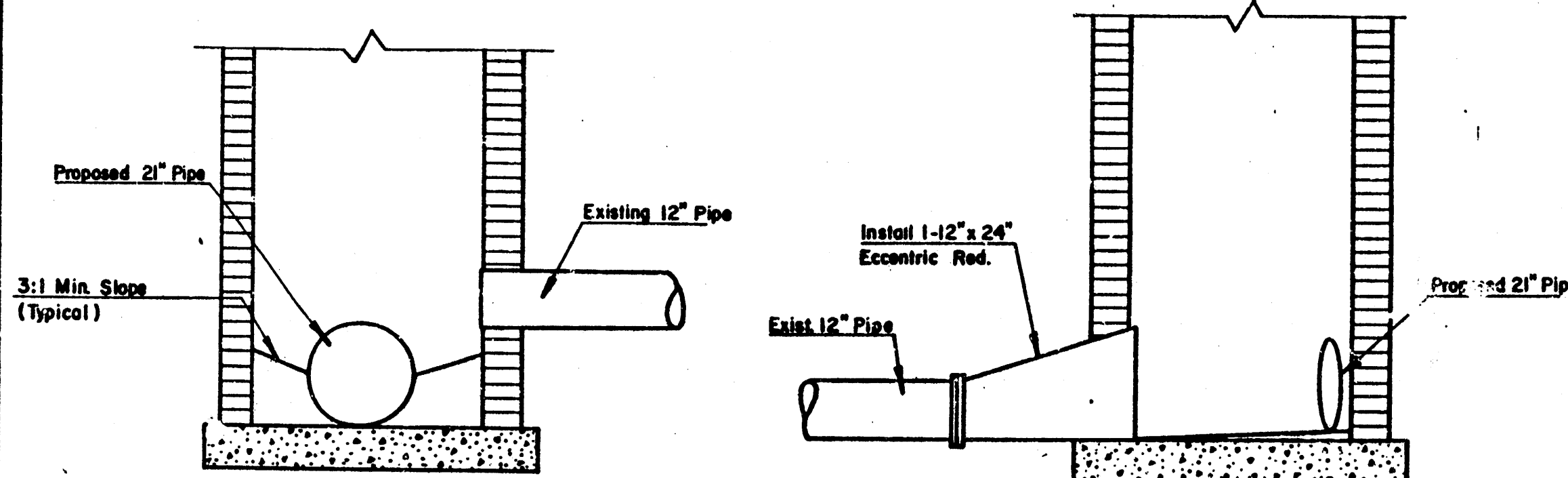


	WAR INDUSTRIES	Design D.H.
	SEWER EXTENSIONS	Drawn by D.L.M.
CONSTRUCTION PLANS		Checked by M.H.B.
		Date March 1986
MID-KANSAS ENGINEERING CONSULTANTS PA 3500 NORTH ROCK ROAD BUILDING #800 WICHITA, KANSAS 67226		Job no.
		Sheet 1 of 8

SC - F 87



MODIFICATION DETAIL - MANHOLE #1

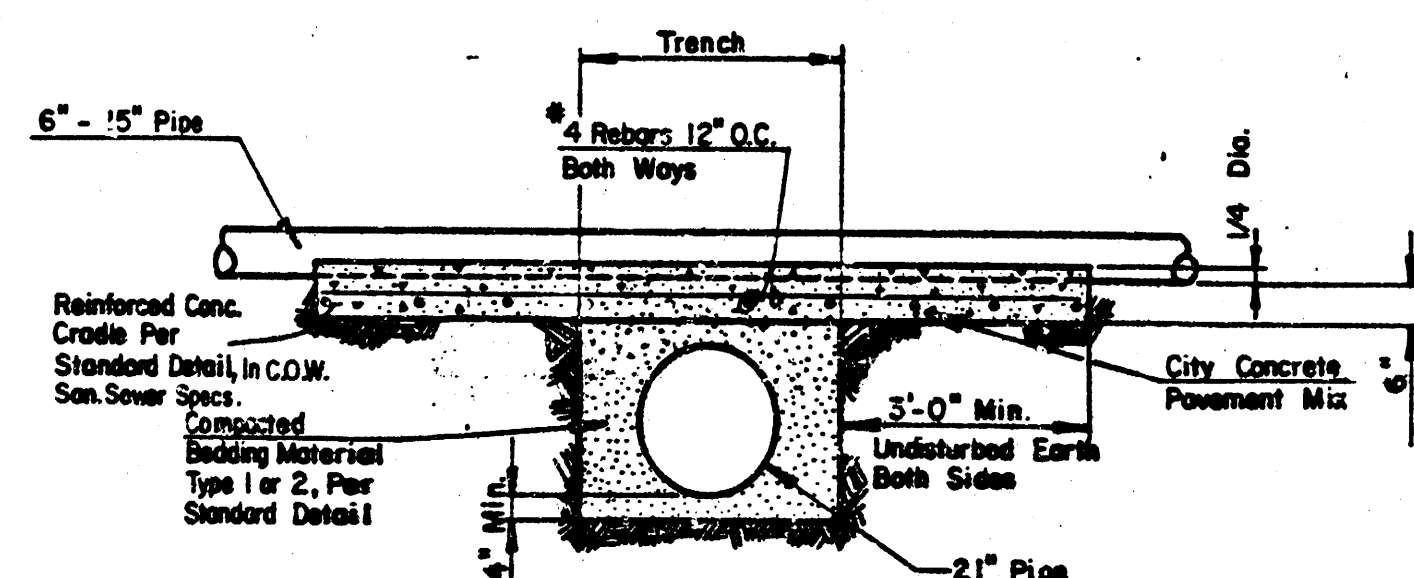


SECTION A-A

SECTION B-B

NOTES:

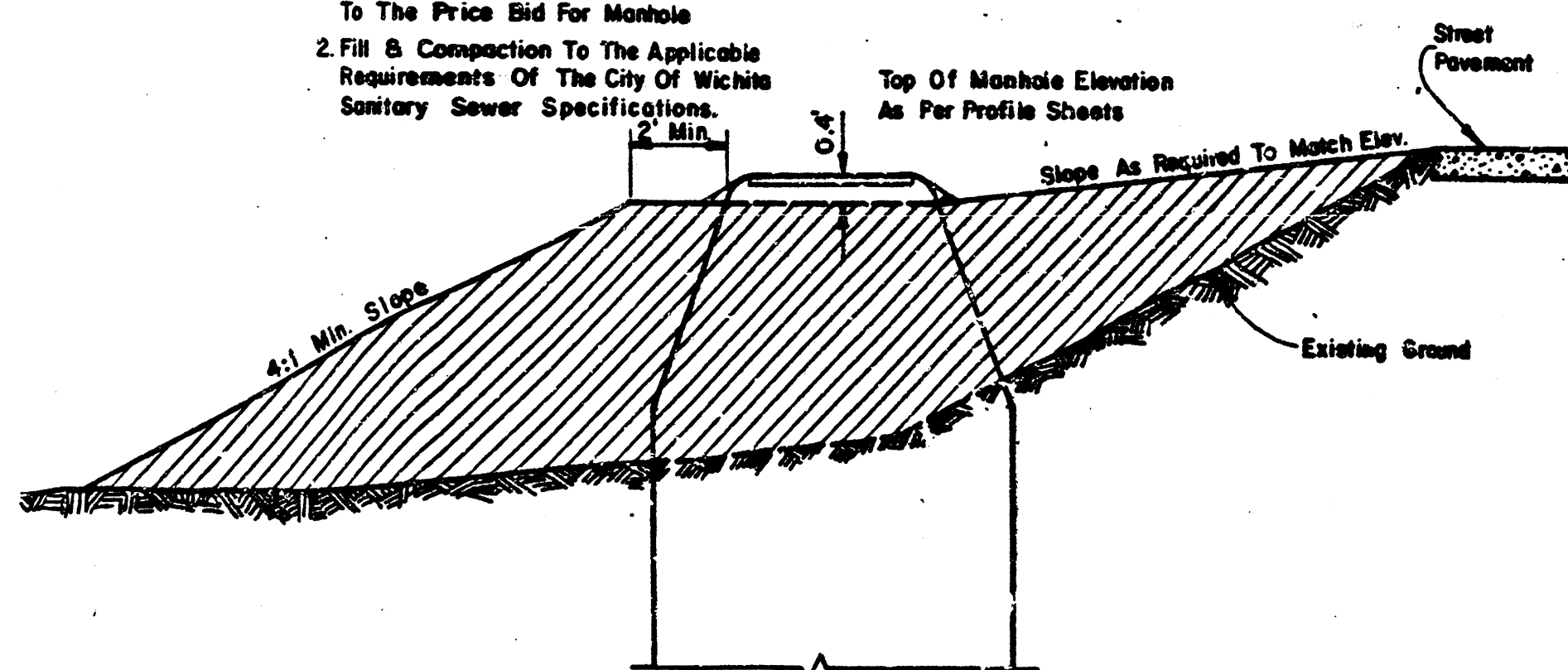
1. Concrete Cradle Shall Begin @ Or Terminate Only At Joints In VCP.
2. Install Cradle At All Crossings Where Clearance Between Pipes Is Less Than 12\"
3. Cost Of Crossing Cradle Shall Be Considered Subsidiary To The Price Bid For 21\"



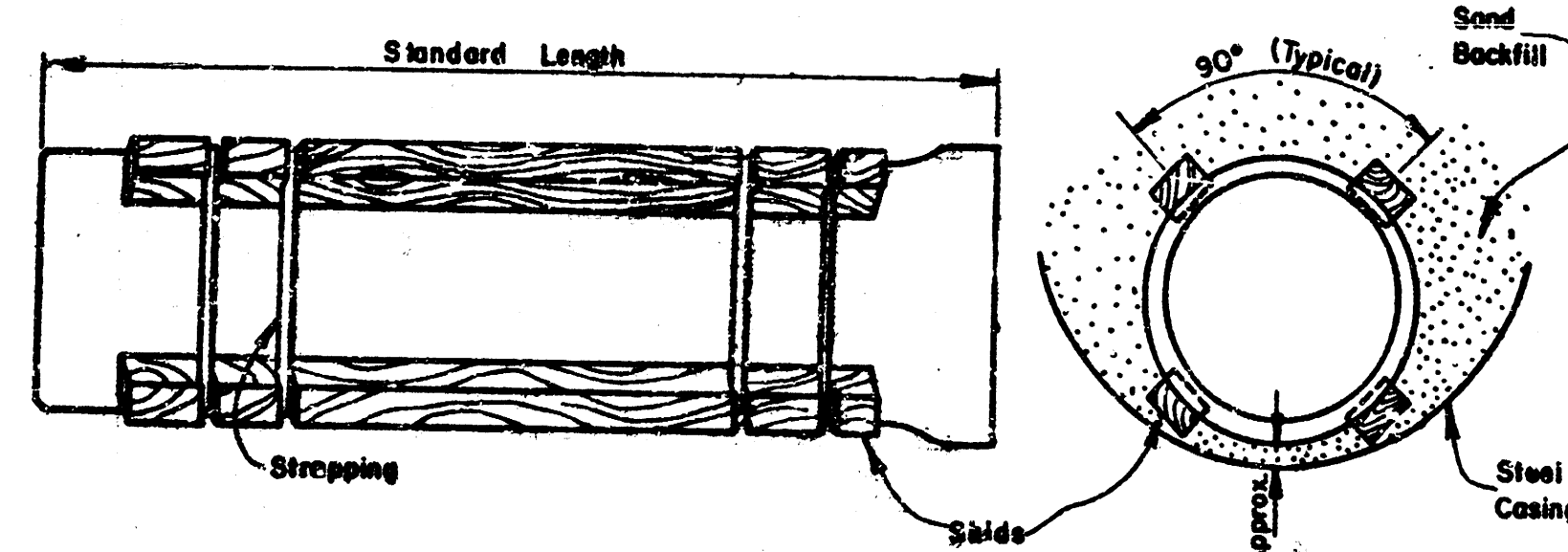
SEWER PIPE CROSSING CONCRETE CRADLE DETAIL

NOTES:

1. Cost Of Embankment Shall Be Subsidiary To The Price Bid For Manhole.
2. Fill @ Connection To The Applicable Requirements Of The City Of Wichita Sanitary Sewer Specifications.



TYPICAL EMBANKMENT AROUND MANHOLE



STEEL ENCASMENT DETAIL

NOTES FOR MANHOLE #1

1. THE OPENINGS CUT INTO EXISTING MANHOLE SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPES IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. PIPE. THE NEW PIPES SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTIONS SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTIONS WILL BE WATER TIGHT.
2. THE FLOOR OF MANHOLE SHALL BE MODIFIED AND SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLE WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLUTION COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNEL SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING 21\"
3. PIPE AND REDUCER INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION.
4. EXTERIOR AND INTERIOR SURFACES OF REDUCER PIPE SHALL BE RESPECTIVELY COVERED WITH BITUMINOUS COATING AND A CHEMICALLY INERT LINER AS REQUIRED BY CITY OF WICHITA SANITARY SEWER SPECIFICATIONS FOR DUCTILE IRON PIPE (D.I.P.).

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
2. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL TRAFFIC GENERATED WITHIN THE PROJECT AREA ARE TO BE CARRIED THROUGH CONSTRUCTION ON EXISTING ROADWAYS AT ALL TIMES. VEHICULAR ACCESS TO ALL DWELLINGS IN THE PROJECT AREA SHALL BE PROVIDED AT ALL TIMES. THE CONTRACTOR SHALL ERECT WARNING SIGNS, FLASHING LIGHTS, AND BARRICADES IN COMPLIANCE WITH THE STANDARD SPECIFICATIONS.
3. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHTS AND WEEKENDS TO LESS THAN 50 FEET.
4. THE CONTRACTOR WILL BE REQUIRED TO NOTIFY EACH OF THE FOLLOWING UTILITY COMPANIES PRIOR TO THE BEGINNING OF CONSTRUCTION AND SHOULD REQUEST THAT ANY EXISTING LINES BE FLAGGED:

KANSAS ONE-CALL
(FOR EXACT LOCATION OF ALL UNDERGROUND UTILITIES)
1-800-344-7233

KPL GAS SERVICE
1021 E. 26TH ST. NORTH
WICHITA, KANSAS 67219
ERIC WENDT
316-263-7511

SOUTHWESTERN BELL TELEPHONE COMPANY
154 N. BROADWAY
WICHITA, KANSAS 67202
DENNIS BEARD
316-268-2102
BEFORE DIGGING: 1-800-571-2115

KG&E, THE ELECTRIC COMPANY
1900 E. CENTRAL
WICHITA, KANSAS 67214
DOUG PAUL
316-261-6311

AIRCAPITAL CABLEVISION
701 E. DOUGLAS
WICHITA, KANSAS 67202
DON SHUE
316-262-4270

CITY OF WICHITA
455 N. MAIN
WICHITA, KANSAS 67202
WATER: ORVILLE PRINE
316-266-4555
SANITARY & STORM SEWERS:
JERRY BLAIN
316-268-4210

5. THE CONTRACTOR MUST ALSO NOTIFY THE TELEPHONE COMPANY 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION WORK NEAR BURIED TELEPHONE LINES.
6. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING CONSTRUCTION TO AVOID DAMAGING THESE LINES. THE CONTRACTOR SHOULD COORDINATE ANY TRENCHING OPERATIONS THROUGH THE UTILITIES LISTED TO AVOID ANY DAMAGE TO THE LINES. IF ANY LINES ARE DAMAGED THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL RESTORE ALL DITCHES, CHANNELS, BANK STABILIZATION, SHALES, ROAD SHOULDERS, PAVEMENT ENTRANCES, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. WHERE EXISTING ENTRANCE PIPE, DRAINAGE PIPE, SPRINKLER SYSTEMS, SIDEWALK DRIVES, RETAINING WALLS, SIGNS, FENCES, EXERCISE EQUIPMENT, ETC., CONFLICT WITH THE PROPOSED WORK HEREIN THEY SHALL BE REMOVED AND REPLACED OR RESET IN LIKE KIND. ALL OF THE ABOVE INCLUDING TREES, SHRUBS, GRASS, SOO AND OTHER LANDSCAPING, WHERE NOTED SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID FOR SITE RESTORATION.
8. THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL COORDINATE SUCH WORK WITH THE ENGINEER. COSTS FOR TRIMMING, REMOVAL AND DISPOSAL SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID FOR SITE PREPARATION.
9. POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGEWAYS SHALL BE MAINTAINED.
10. WHERE REMOVAL OF EXISTING FENCES NEXT TO THE CONSTRUCTION IS DEEMED NECESSARY BY THE CONTRACTOR, THE CONTRACTOR SHALL COORDINATE REMOVAL WITH ADJACENT PROPERTY OWNERS. ALL REMOVAL AND RESETTING OF FENCES SHALL BE CONSIDERED SUBSIDIARY TO SITE PREPARATION AND SITE RESTORATION, RESPECTIVELY.
11. 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.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS FLOW FOR SEWAGE THROUGH CONSTRUCTION. CONTRACTOR'S PROPOSED METHOD FOR MAINTAINING SEWAGE FLOW SHALL BE APPROVED BY THE ENGINEER. COST OF MAINTAINING SEWAGE FLOW THROUGH CONSTRUCTION SHALL BE CONSIDERED SUBSIDIARY TO THE OTHER ITEMS OF WORK.
13. ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM. CITY DATUM = USGS MSL -1187.4
14. BASE LINE COORDINATE SYSTEM IS BASED ON THE COORDINATES OF N 1000.00 AND E 1000.00 BEING LOCATED AT THE SOUTHWEST CORNER, SOUTHWEST QUARTER, SOUTHEAST QUARTER, SECTION 20, TOWNSHIP 27 SOUTH, RANGE 2 EAST, AND ALSO THE WEST LINE OF SAID QUARTER BEING AN ASSUMED BEARING OF N 0° 00' 00\"
15. A SAW CUT OF AT LEAST ONE-HALF THE DEPTH OF EXISTING SURFACE COURSES OR ONE-FOURTH THE DEPTH OF THE EXISTING TOTAL PAVEMENT THICKNESS SHALL BE PROVIDED AT LOCATIONS WHERE PROPOSED CONSTRUCTION ABUTS AN EXISTING SURFACE COURSE OR PAVEMENT FOR WHICH PARTIAL REMOVAL OF THAT SURFACE OR PAVEMENT IS REQUIRED. SUCH SAW CUTS WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE PRICE BID FOR SITE PREPARATION.

16. ALL COSTS FOR REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID FOR SITE PREPARATION AND SITE RESTORATION, RESPECTIVELY. REMOVAL OF EXISTING PAVEMENT AND/OR REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE ONE FOOT BEYOND THE LIMITS OF THE EXCAVATION MADE FOR THE SEWER OR THE STRUCTURE, OR TO EXISTING PAVEMENT JOINT IF IT IS THREE FEET OR LESS BEYOND THE MINIMUM LIMITS.

17. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF PROPERTY DIRECTLY AFFECTED BY THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF 24 HOURS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.

18. THE COST OF CONCRETE ENCASEMENTS AND CONCRETE CRADLES, SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID FOR SEWER PIPE INSTALLATION.

19. ALTERNATE FOR TYPE "D" MANHOLE INTERIOR LINING: IN LIEU OF T-LOCK LINER REQUIRED BY CITY OF WICHITA SPECIFICATIONS AND DRAWINGS, TMECC SERIES 66 EPOXOLINE, OR APPROVED EQUAL, MAY BE USED.

SURFACE PREPARATION: SURFACES TO BE PAINTED SHALL BE DRY AND FREE OF DIRT, DUST, SAND, GRIT, MUD/OIL, GREASE, RUST, OR OTHER OBJECTIONABLE SUBSTANCES. CLEANING AND PAINTING OPERATIONS WILL BE PERFORMED IN A MANNER WHICH WILL PREVENT DUST OR OTHER CONTAMINANTS FROM GETTING ON FRESHLY PAINTED SURFACES. OIL AND GREASE SHALL BE COMPLETELY REMOVED BY USE OF SOLVENTS OR DETERGENTS BEFORE MECHANICAL CLEANING IS STARTED.

SURFACES SHALL BE FREE OF CRACKS, PITS, PROJECTIONS, OR OTHER IMPERFECTIONS WHICH WOULD PREVENT THE FORMATION OF A SMOOTH, UNBROKEN PAINT FILM. THE SURFACE SHALL THEN BE CLEANED IN ACCORDANCE WITH SPECIFICATION SSPC-SP7 (BRUSH-OFF BLAST CLEANING.)

INSTALLATION: APPLY ONE INTERMEDIATE AND ONE FINAL COATINGS OF EPOXY PAINT. PAINT PREPARATION & APPLICATION SHALL BE AS RECOMMENDED BY THE MANUFACTURER. PAINT FILM WITH SAGS, CHECKS, BLISTERS, AND OTHER IMPERFECTIONS SHALL BE REMOVED AND THE SURFACE REPAINTED. THICKNESS SHALL BE 9.0 - 10.5 WET MILS AND 4.0 - 6.0 DRY MILS PER COAT.

20. WHERE SHOWN ON DRAWINGS, GASKETED MANHOLE LIDS SHALL BE INSTALLED WITH REPLACEABLE RUBBER O-RING SELF-SEALING GASKETS. PROVIDE ONE SPARE GASKET FOR EACH MANHOLE FRAME AND COVER INSTALLED. DO NOT INSTALL GASKETS UNTIL AFTER FINAL INSPECTION.

21. CONTRACTOR'S EQUIPMENT, VEHICLES AND EMPLOYEE VEHICLES SHALL BE RESTRICTED TO THE WEST HALF OF LINDEN DRIVE, BETWEEN DOUGLAS AND CENTRAL.

22. MAILBOXES WITHIN THE LIMITS OF THE PROJECT SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AS APPROVED BY THE ENGINEER AND POST OFFICE. CONTRACTOR WILL BE REQUIRED TO MAKE SATISFACTORY PROVISIONS FOR MAIL DELIVERY TO PROPERTIES AFFECTED BY THIS PROJECT DURING CONSTRUCTION. COSTS SHALL BE SUBSIDIARY TO THE PRICE BID FOR SITE PREPARATION.

23. ALL EXISTING GRASSED AREAS WHICH ARE DISTURBED OR DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE RESTORED TO ORIGINAL CONDITIONS, AND RESEEDED OR RESEDDED IN LIKE KIND, UNLESS OTHERWISE NOTED ON THE PLANS. COSTS SHALL BE CONSIDERED SUBSIDIARY TO THE PRICE BID FOR SITE RESTORATION. APPLICATION RATE FOR THE VARIOUS SEED MIXTURES SHALL BE AS APPROVED BY THE ENGINEER. SEEDING SHALL CONFORM TO APPLICABLE REQUIREMENTS OF STANDARD SPECIFICATIONS. SODDING SHALL CONFORM TO APPLICABLE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATIONS.

24. SLOPES STEEPER THAN 10 TO 1 SHALL BE MULCHED AS REQUIRED BY STANDARD SPECIFICATIONS. COST OF MULCHING SHALL BE INCLUDED IN PRICE BID FOR SITE RESTORATION.



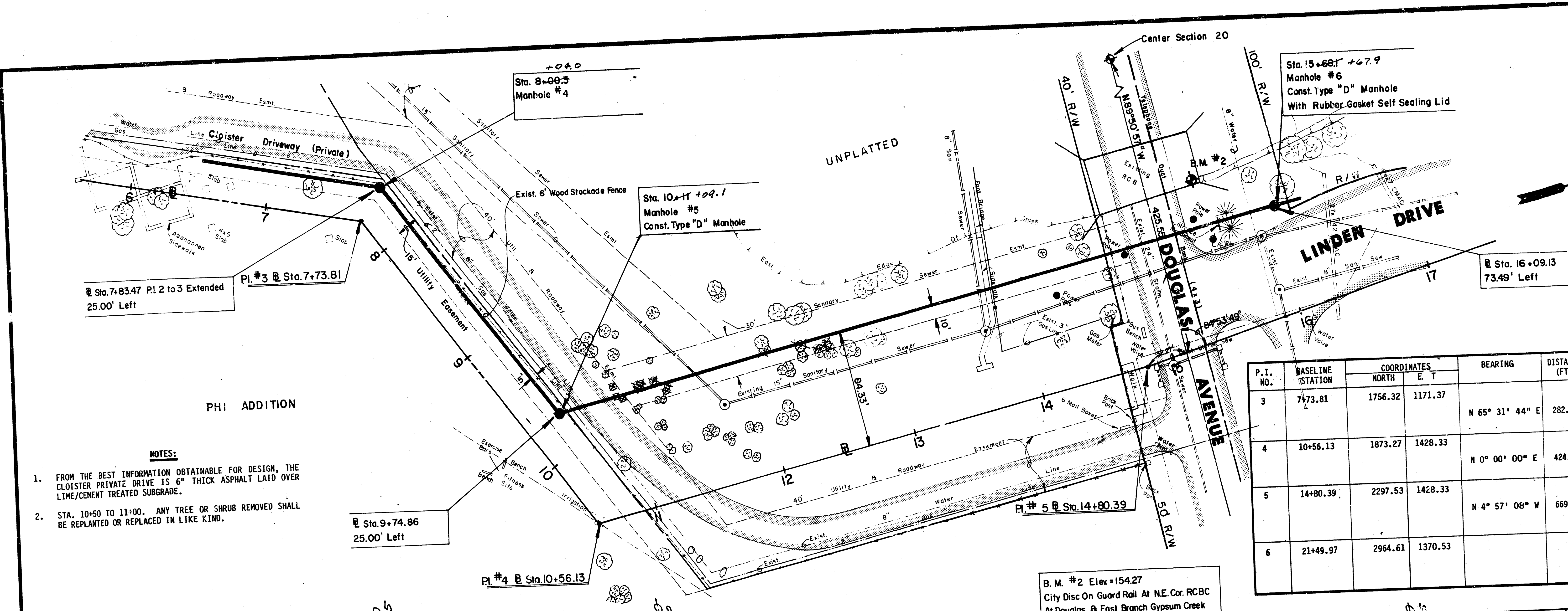
CITY OF WICHITA, KANSAS
WAR INDUSTRIES SEWER EXTENSION
PROJECT NO.
468-76-245-81478-000-001
**GENERAL NOTES
& DETAILS**

MID-KANSAS ENGINEERING CONSULTANTS PA
3500 NORTH ROCK ROAD
BUILDING #800
WICHITA, KANSAS 67226

682-6561

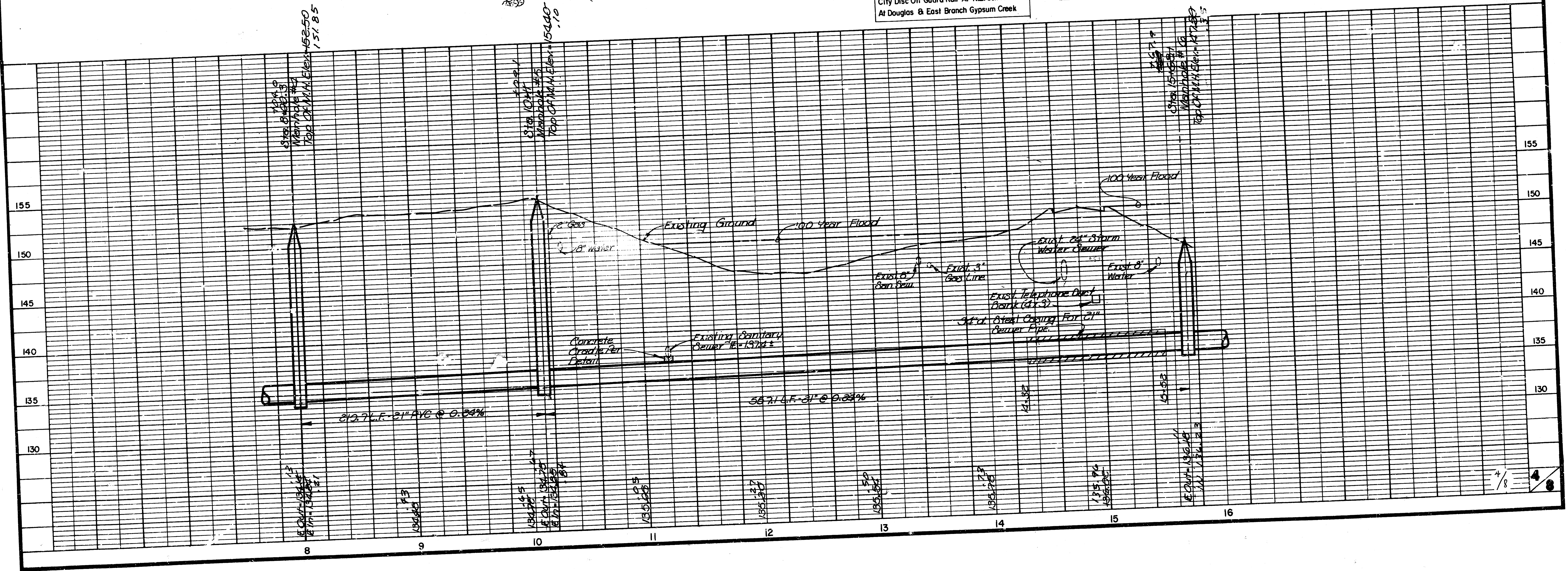
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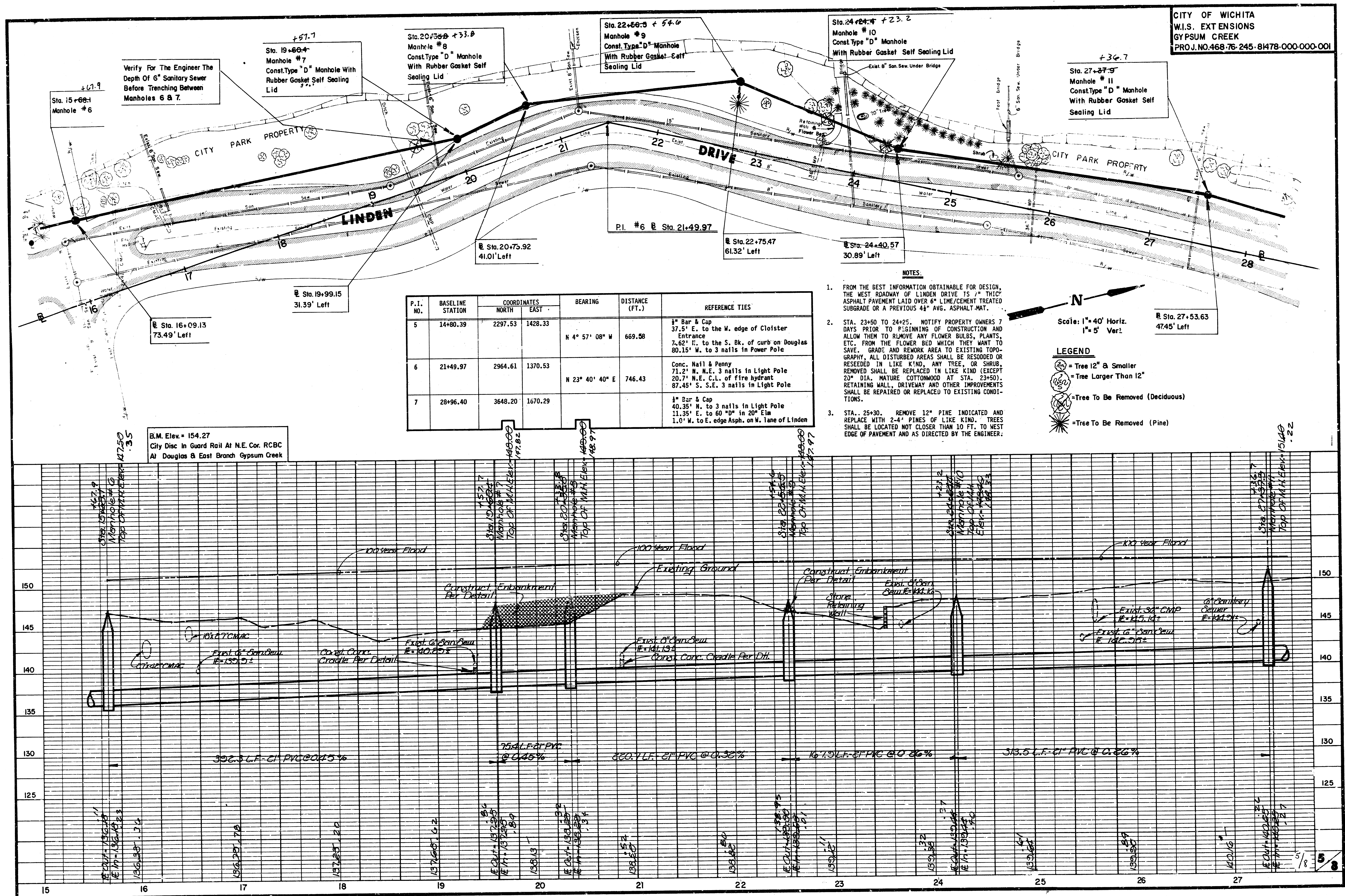
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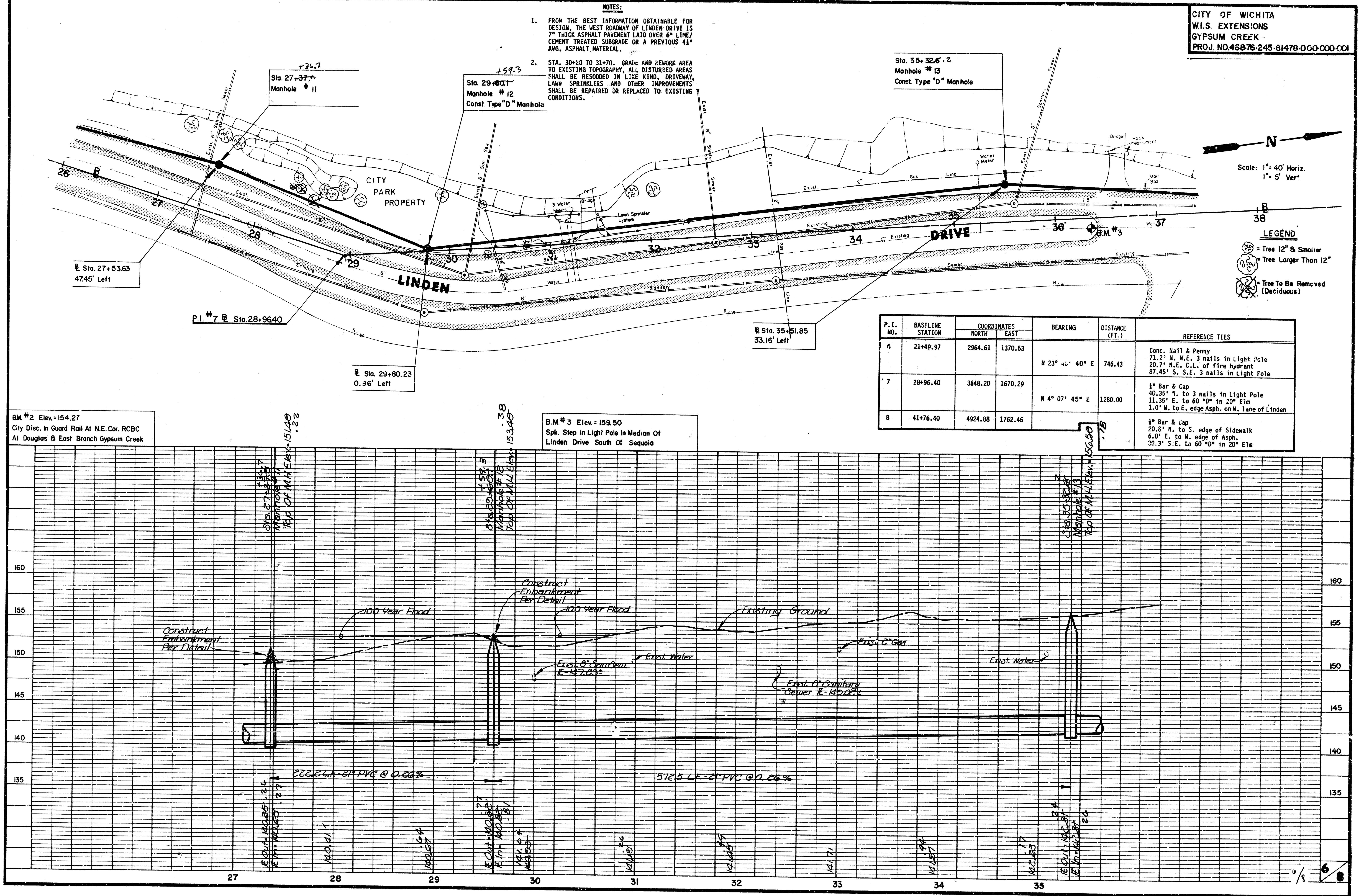


- NOTES:**
- FROM THE BEST INFORMATION OBTAINABLE FOR DESIGN, THE CLOISTER PRIVATE DRIVE IS 6" THICK ASPHALT LAID OVER LIME/CEMENT TREATED SUBGRADE.
 - STA. 10+50 TO 11+00. ANY TREE OR SHRUB REMOVED SHALL BE REPLANTED OR REPLACED IN LIKE KIND.

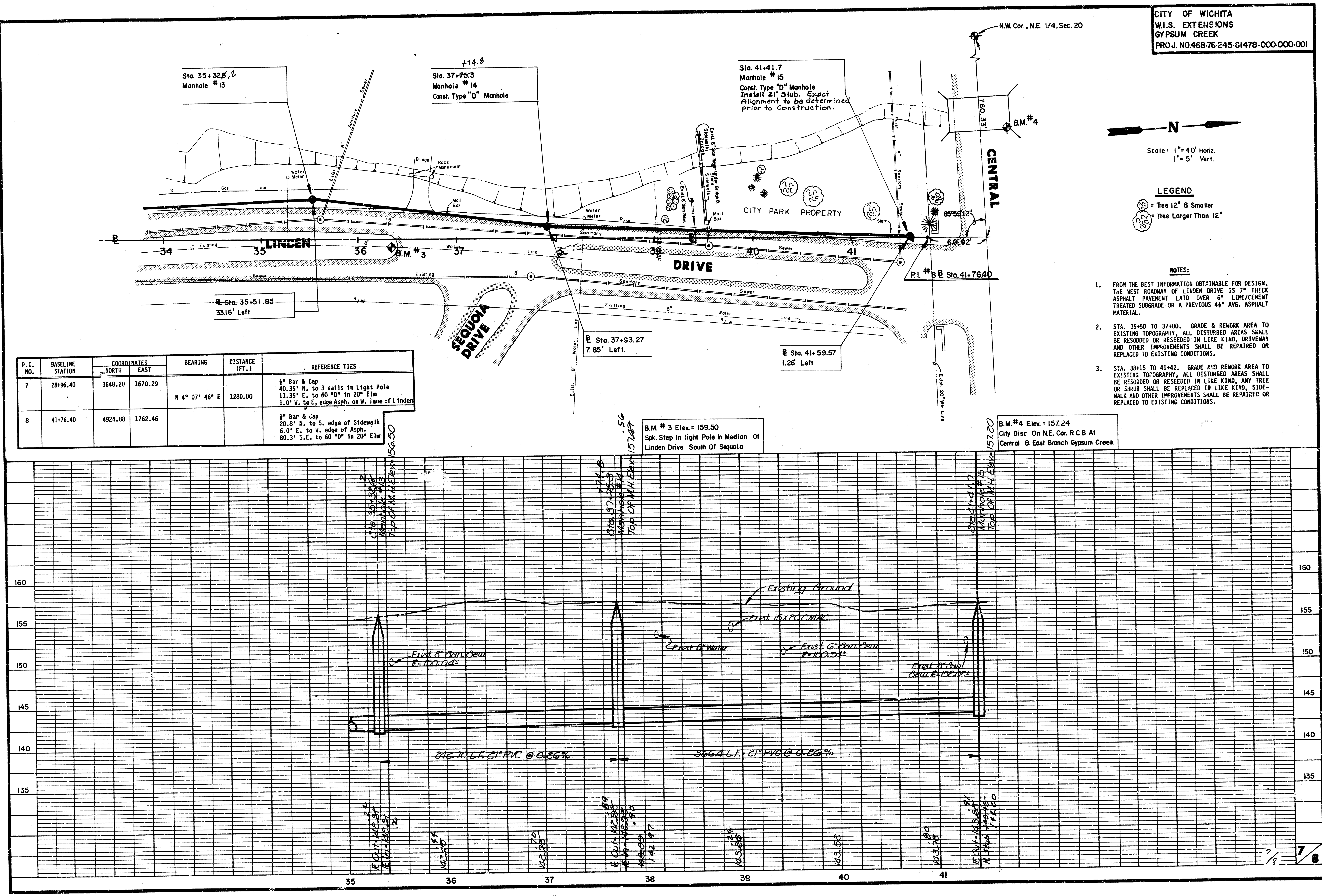
P.I. NO.	BASELINE STATION	COORDINATES NORTH	COORDINATES EAST	BEARING	DISTANCE (FT.)	REFERENCE TIES
3	7+73.81	1756.32	1171.37	N 65° 31' 44" E	282.32	1" Bar & Cap 42.85' S.W. to 60" D" in 48" Cottonwood 28.3' W. N.W. to Fence running S. S.W. 28.3' N. N.W. to Fence running E. N.E.
4	10+56.13	1873.27	1428.33	N 0° 00' 00" E	424.26	1" Bar & Cap 25.2' S. to 60" D" in 20" Cottonwood 39.5' N.W. to 1" Pipe @ Prop. Corner 33.6' N. N.W. to Fence running E. N.E.
5	14+80.39	2297.53	1428.33	N 4° 57' 06" W	669.58	1" Bar & Cap 37.5' E. to the W. edge of Cloister Entrance 7.62' N. to the S. Bk. of curb on Douglas 80.15' W. to 3 nails in Power Pole
6	21+49.97	2964.61	1370.53			Conc. Nail & Penny 71.2' N. N.E. 3 nails in Light Pole 20.7' N.E. C.L. of fire hydrant 87.45' S. S.E. 3 nails in Light Pole







CITY OF WICHITA
W.I.S. EXTENSIONS
GYPSUM CREEK
PROJ. NO. 468-76-245-81478-000-000-001



P.I. NO.	BASELINE STATION	COORDINATES		BEARING	DISTANCE (FT.)	REFERENCE TIES
		NORTH	EAST			
7	28+96.40	3648.20	1670.29	N 4° 07' 46" E	1280.00	1" Bar & Cap 40.35' N. to 3 nails in Light Pole 11.35' E. to 60 "D" in 20" Elm 1.0' W. to E. edge Asph. on W. Lane of Linden
8	41+76.40	4924.88	1762.46			1" Bar & Cap 20.8' N. to S. edge of Sidewalk 6.0' E. to W. edge of Asph. 80.3' S.E. to 60 "D" in 20" Elm

N
Scale: 1" = 40' Horiz.
1" = 5' Vert.

LEGEND
 = Tree 12" & Smaller
 = Tree Larger Than 12"

- NOTES:**
- FROM THE BEST INFORMATION OBTAINABLE FOR DESIGN, THE WEST ROADWAY OF LINDEN DRIVE IS 7" THICK ASPHALT PAVEMENT LAID OVER 6" LIME/CEMENT TREATED SUBGRADE OR A PREVIOUS 4 1/2" AVG. ASPHALT MATERIAL.
 - STA. 35+50 TO 37+00. GRADE & REWORK AREA TO EXISTING TOPOGRAPHY, ALL DISTURBED AREAS SHALL BE RESODDED OR RESEDED IN LIKE KIND, DRIVEWAY AND OTHER IMPROVEMENTS SHALL BE REPAIRED OR REPLACED TO EXISTING CONDITIONS.
 - STA. 38+15 TO 41+42. GRADE AND REWORK AREA TO EXISTING TOPOGRAPHY, ALL DISTURBED AREAS SHALL BE RESODDED OR RESEDED IN LIKE KIND, ANY TREE OR SHRUB SHALL BE REPLACED IN LIKE KIND, SIDEWALK AND OTHER IMPROVEMENTS SHALL BE REPAIRED OR REPLACED TO EXISTING CONDITIONS.

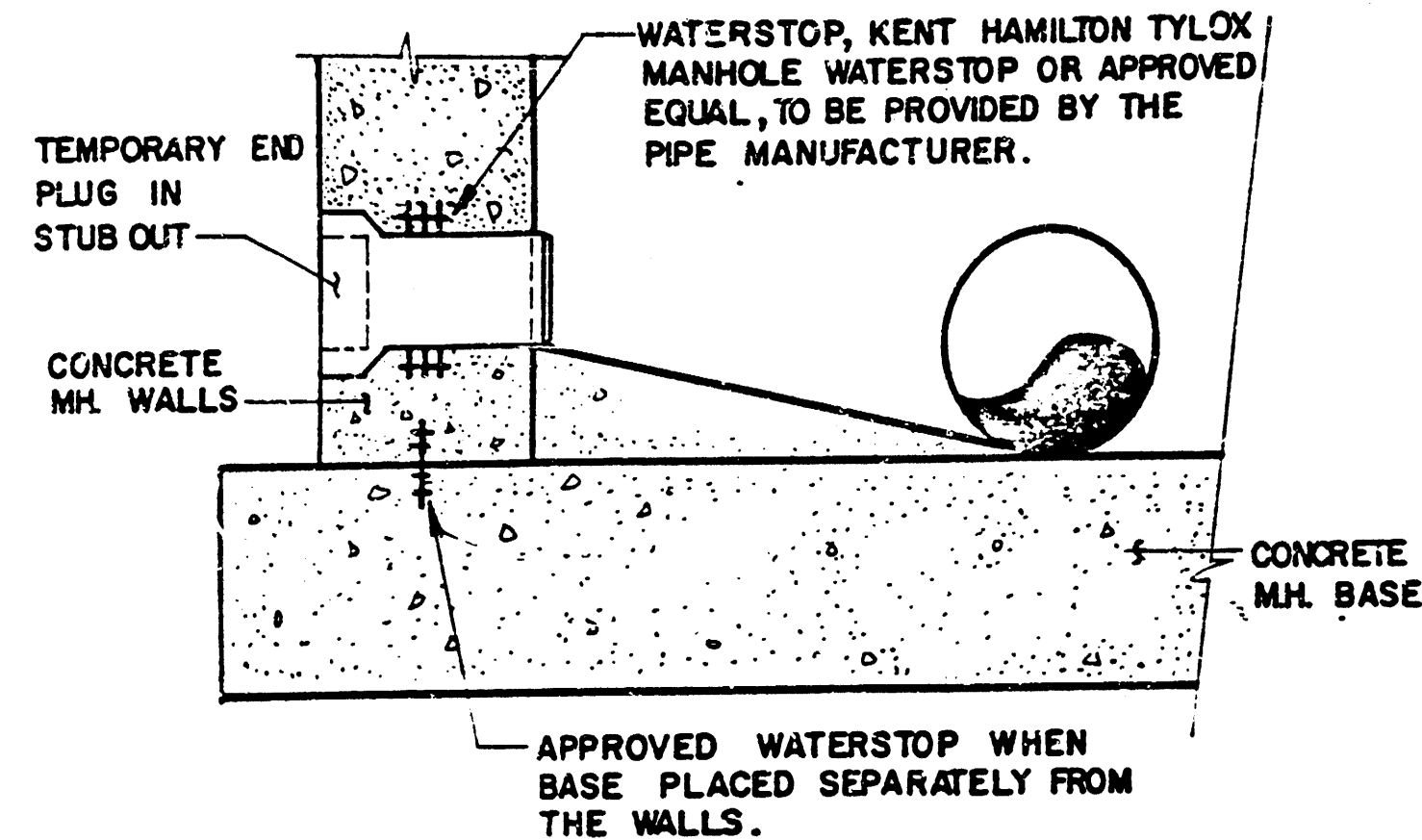
SEWER APPURTENANCES DETAILS

ADOPTED AS STANDARD DESIGN
BY

CITY OF WICHITA, KANSAS

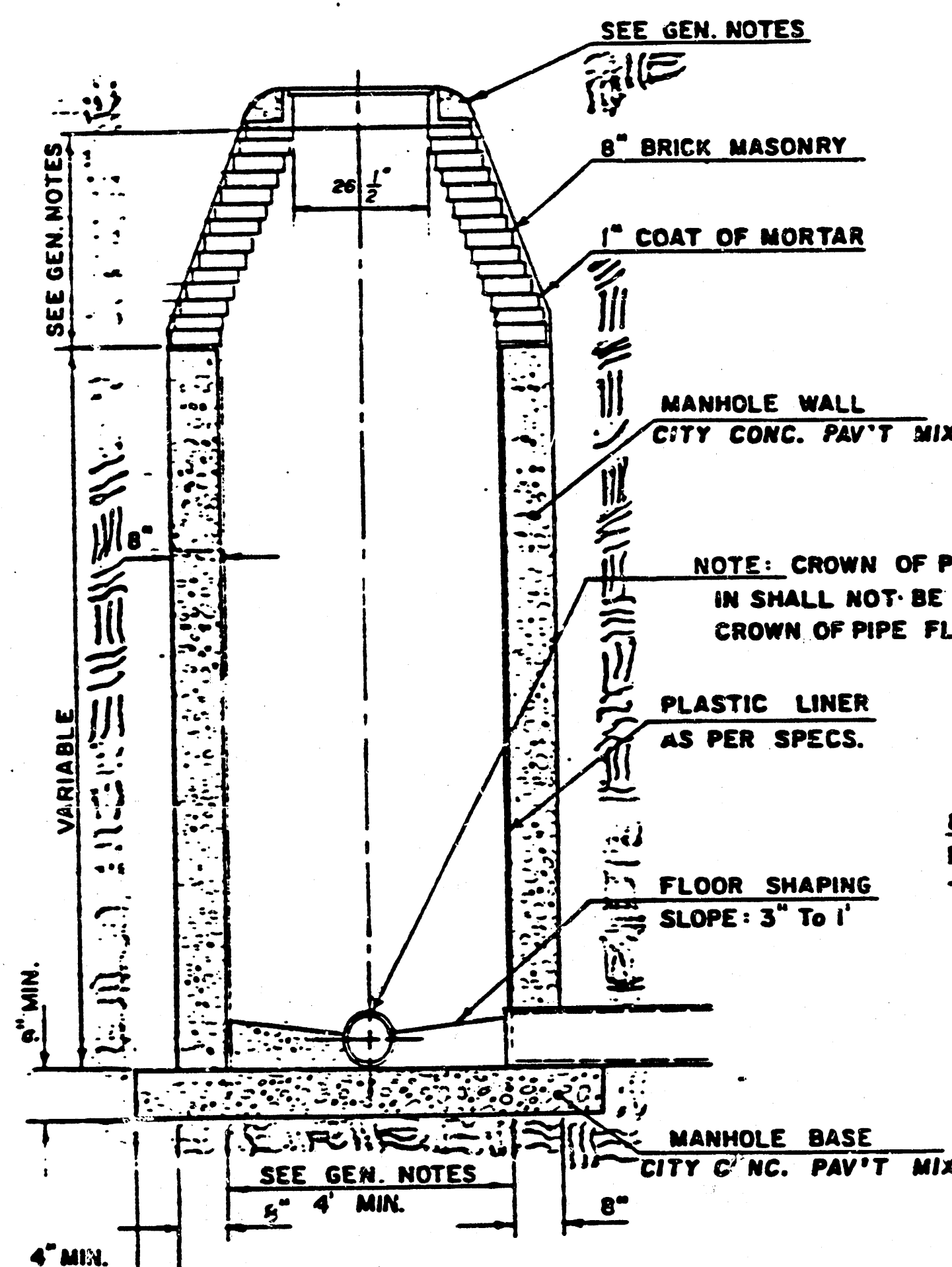
NOTE: PIPE STUB OUT AND WATERSTOP
INTEGRAL WITH MANHOLE WALL

INSTALL WATERSTOP IN THE SAME
MANNER AT ALL PIPE TO MANHOLE
CONNECTIONS

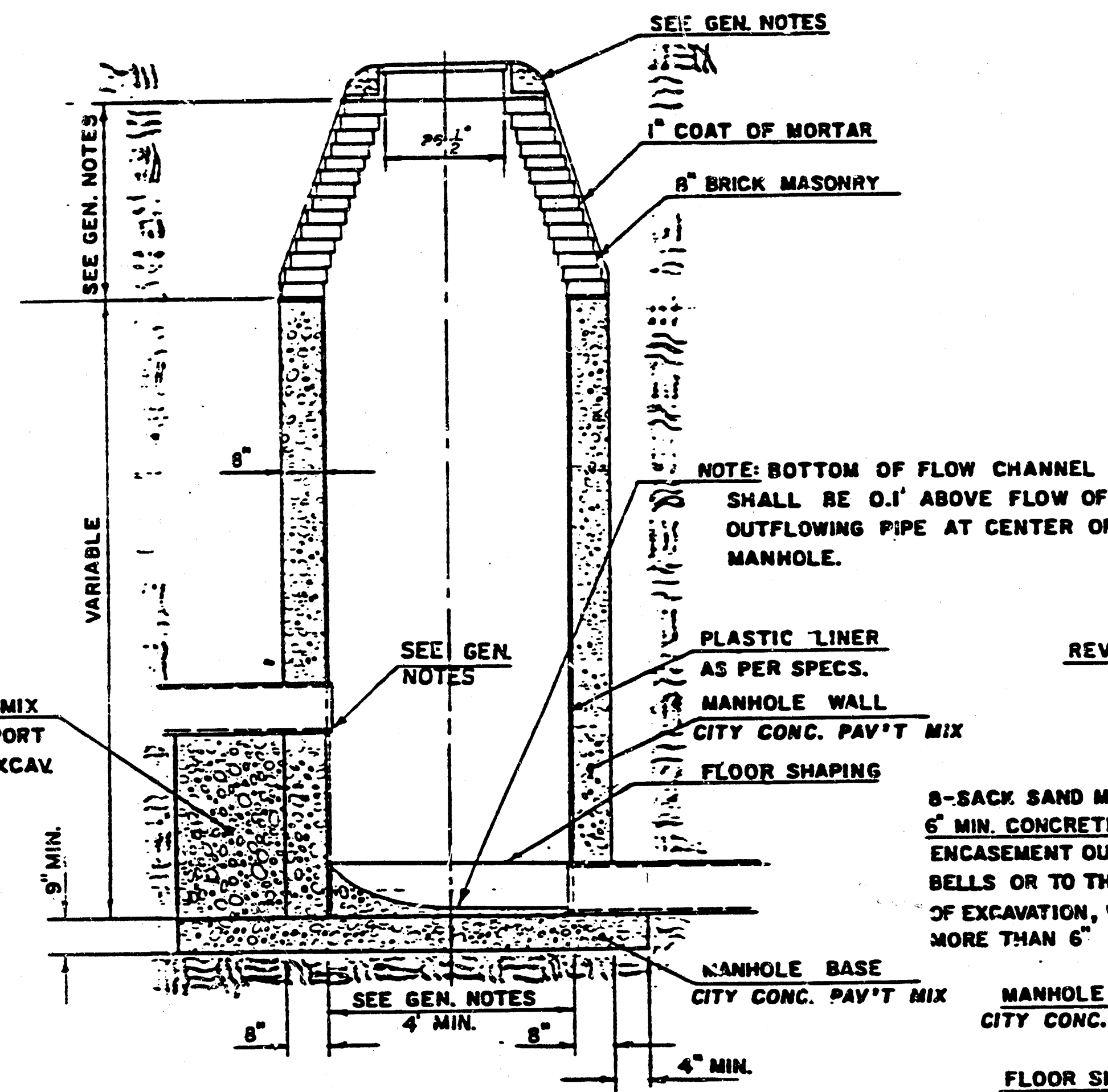


WATER STOP DETAIL

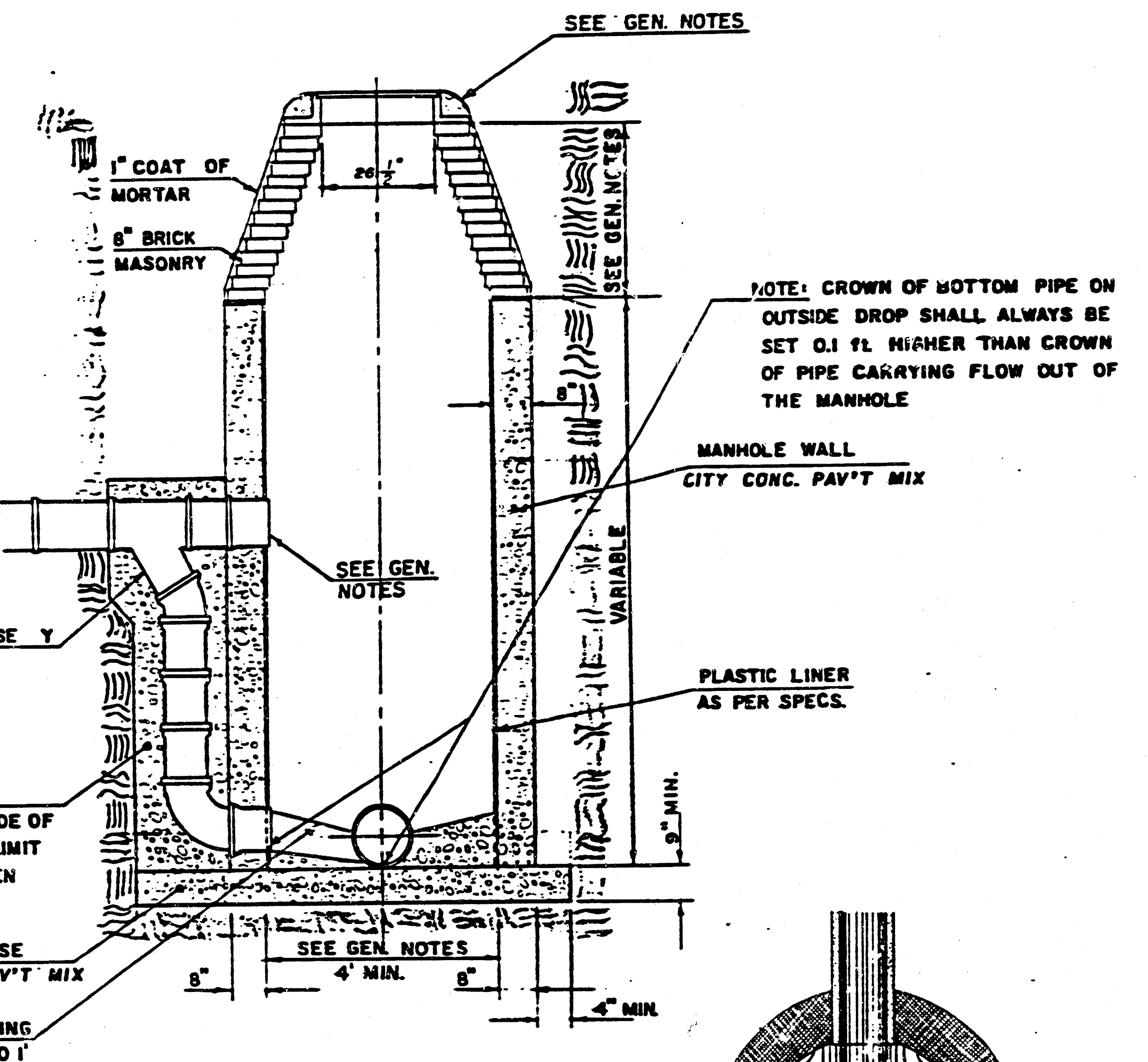
TYPE "D" MANHOLE



TYPE "D" INSIDE DROP MANHOLE

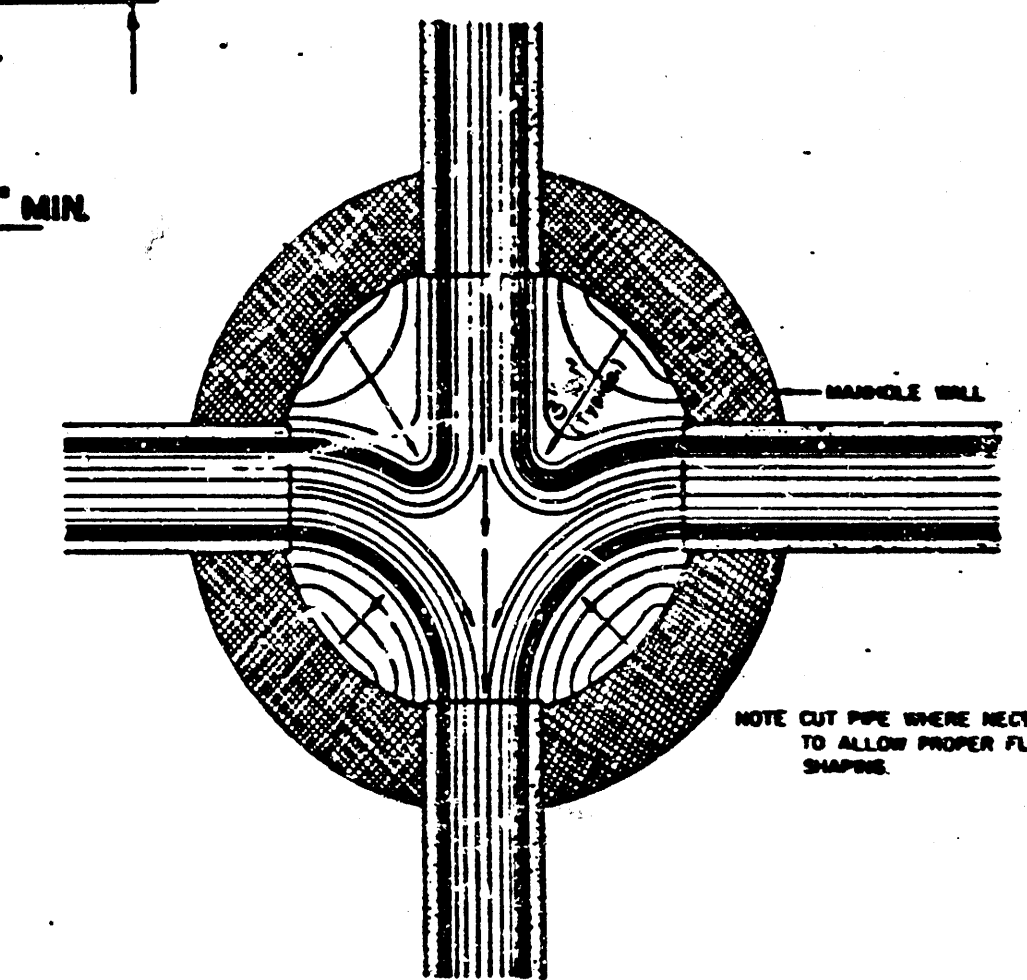


TYPE "D" OUTSIDE DROP MANHOLE



GENERAL NOTES

- 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. 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 GAS 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 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.
- 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.
- 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.
- 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 JOINT 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.
- 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.
- 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.
- 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.
- 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.



TYPICAL MANHOLE
FLOOR SHAPING

	CITY OF WICHITA, KANSAS WAR INDUSTRIAL SEWER EXTENSION PROJECT NO. 468-76-245-81478-000-000-001	Design Drawn by Checked by Date Job No.
	MANHOLE "D" DETAIL	
	MID-KANSAS ENGINEERING CONSULTANTS PA 240 NORTH ROCK ROAD SUITE 130 WICHITA, KANSAS 67206	Sheet 8 of 8
	682-6561	