

MID-CONTINENT AIRPORT

THE WICHITA AIRPORT AUTHORITY

PLANS FOR
INSTALLATION OF

SANITARY SEWER SYSTEM

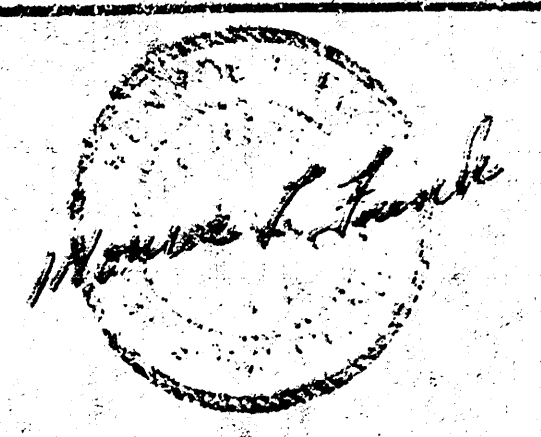
FOR
NORTH CARGO RAMP AREA

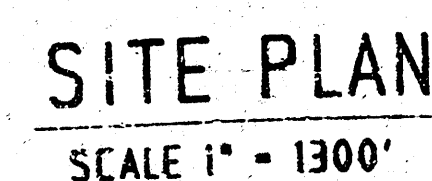
WICHITA, KANSAS

MAY, 1994

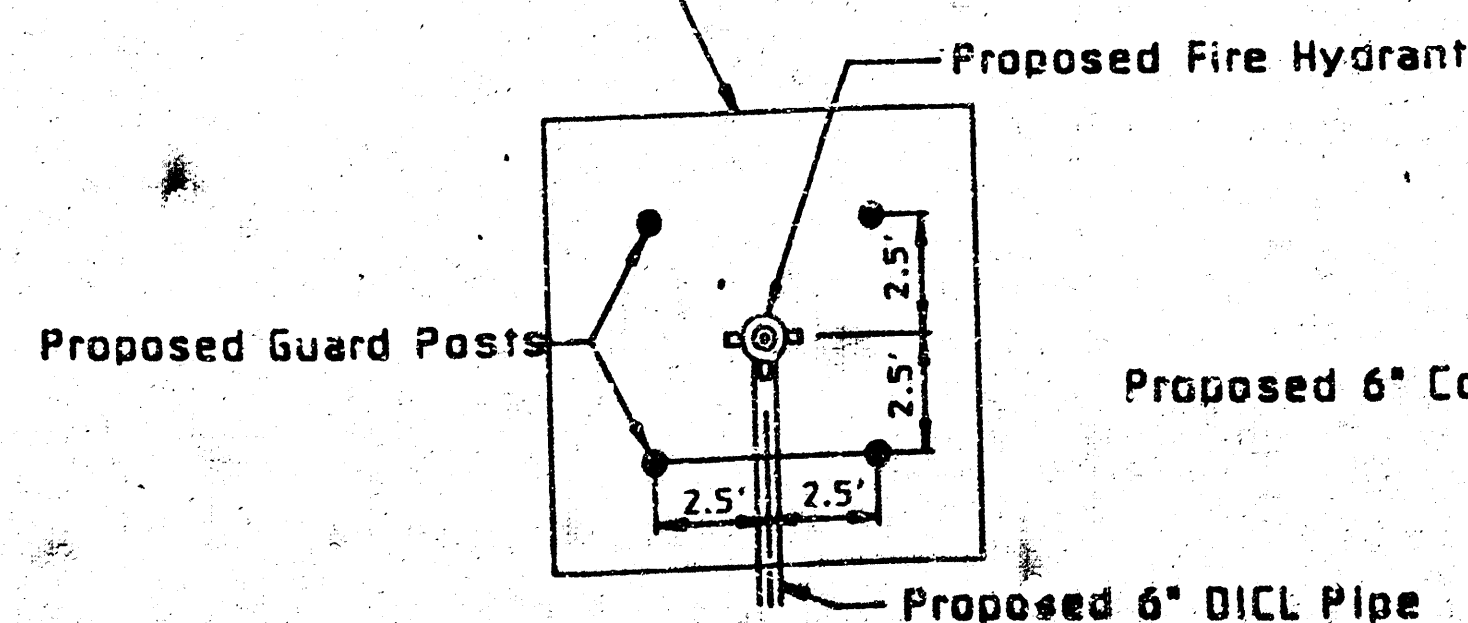
RECORD DRAWING

APPROVED
DIRECTOR OF AIRPORTS <i>Morris L. Fink</i> DIRECTOR OF AIRPORT ENGINEERING

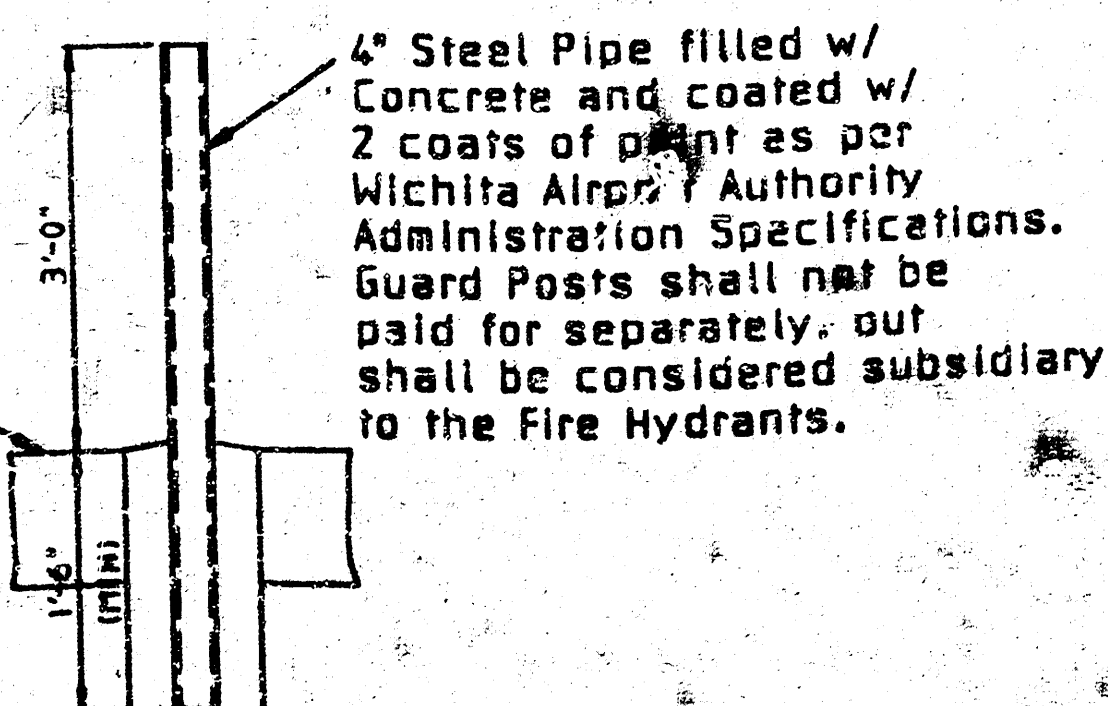




Proposed 10' Sq.
6" concrete pad



GUARD POST SETTING



GUARD POST DETAIL

DETAIL

SHEET NO.	TITLE
1	TITLE SHEET
2	SITE PLAN - SUMMARY OF QUANTITIES, INDEX AND GENERAL NOTES
~~3~~	~~UNITED LINES 1 AND 2 - PLAN AND PROFILE~~
~~4~~	~~STANDARD WATER ASSEMBLY DETAILS~~
5	SANITARY SEWER PLAN AND PROFILE
6	SANITARY SEWER MH DETAILS
7	MANHOLE FRAME AND COVER DETAIL

SEE NOTE 15

△ SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	UNITS	AS PROPOSED	AS BUILT
1	8" PVC SANITARY SEWER IN PLACE	LF	1,200	1,207
2	MANHOLE (TYPE P) IN PLACE	EA	4	4
3	18" STEEL CASING IN PLACE BY BORING	LF	~~150~~ 73	93
4	20" STEEL CASING IN PLACE BY OPEN CUT	LF	~~90~~ 90	90
5	~~12" PVC WATER LINE IN PLACE~~	~~LF~~	~~1,312~~	
6	~~8" PVC WATER LINE IN PLACE~~	~~LF~~	~~350~~	
7	~~8" VALVE ASSEMBLY~~	~~EA~~	~~1~~	
8	~~12" VALVE ASSEMBLY~~	~~EA~~	~~1~~	
9	~~12" JET TAP~~	~~EA~~	~~1~~	
10	~~FIRE HYDRANT IN PLACE~~	~~EA~~	~~3~~	
11	~~12" 80' CPM TEE~~	~~EA~~	~~1~~	

SEE NOTE 15:

GENERAL NOTES

1. ALL WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR WATER MAIN INSTALLATIONS, NUMBER 14533.
2. ALL ELEVATIONS SHOWN ARE MEAN SEA LEVEL.
3. 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 LICENSED LAND SURVEYOR OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STANDARD. ALL COST FOR THIS WORK SHALL BE SUBSIDIARY TO THE OTHER ITEMS OF WORK.
4. AT LEAST 48 HOURS PRIOR TO BEGINNING EXCAVATION EXCLUDING WEEKENDS AND HOLIDAYS, THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (816) 462-4262 TO REQUEST THE FOLLOWING: UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA; THE WICHITA WATER DEPARTMENT, AIR CAPITAL CABLEVISION, AND SOUTHWESTERN BELL.
5. PRIOR TO BEGINNING CONSTRUCTION THE CONTRACTOR SHALL CONTACT THE DIRECTOR OF AIRPORT ENGINEERING AND PLANNING OF THE WICHITA AIRPORT AUTHORITY (MR. NORMAN FUNK, 946-4715) AND REQUEST THAT ALL PRIVATELY OWNED BURIED UTILITIES WITHIN THE PROJECT ARE FLAGGED.
6. THE BURIED UTILITIES AS LOCATED ON THE PLANS ARE APPROXIMATE LOCATIONS ONLY. IT SHOULD BE NOTED THAT OTHER BURIED LINES OR CABLES MAY EXIST WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION DURING TRENCING OPERATIONS TO AVOID DAMAGING THESE LINES. ANY LINES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
7. ALL WATER MAINS TO HAVE A MINIMUM OF 1' CLEARANCE BETWEEN BOTTOM OF STORM SEWER PIPE AND TOP OF WATER MAIN, UNLESS SHOWN OTHERWISE ON PLANS.
8. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, ENTRANCES, AND DRIVEWAYS TO ORIGINAL GRADES EXCEPT AS SHOWN OTHERWISE.
9. ALL CONSTRUCTION AND MATERIALS FOR THE SANITARY SEWER SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
10. ALL EXCESS EXCAVATED MATERIAL FROM THIS PROJECT SHALL BE WASTED ON SITE. NO EXCESS MATERIAL SHALL BE PLACED WITHIN STREET RIGHT-OF-WAY. THE CONTRACTOR SHALL CONTACT THE WICHITA AIRPORT AUTHORITY REPRESENTATIVE FOR INFORMATION REGARDING ANY ACCEPTABLE LOCATIONS FOR THE DISPOSITION OF WASTE MATERIAL. WASTE MATERIAL SHALL BE BLENDED SMOOTH AND SLOPED TO DRAIN. THIS WORK SHALL BE SUBSIDIARY TO OTHER BID ITEMS.
11. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
12. WHERE CONNECTION TO AN EXISTING SEWER IS REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PROGRESS OF SANITARY SEWAGE THROUGH CONSTRUCTION. CONTRACTOR'S PROPOSED METHOD FOR MAINTAINING FLOW SHALL BE APPROVED BY THE ENGINEER. COST OF MAINTAINING FLOW THROUGH CONSTRUCTION WILL NOT BE PAID FOR DIRECTLY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE OTHER ITEMS OF WORK.
13. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF THE EXISTING SANITARY SEWER WHERE MANHOLE CONSTRUCTION IS PROPOSED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF IT APPEARS NECESSARY TO ADJUST THE PROPOSED HORIZONTAL OR VERTICAL LOCATIONS.
14. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE PROPOSED MANHOLE TOP ELEVATIONS WITH THE WICHITA AIRPORT AUTHORITY PRIOR TO BEGINNING CONSTRUCTION. (MR. NORMAN FUNK, 946 4715).
15. INDEX AND SUMMARY OF QUANTITIES ARE REVISED PER APPLICABLE PROJECT DRAWINGS. PROJECT DRAWINGS ARE SEPARATED INTO TWO SETS FOR RECORD DRAWINGS.

NOTE:
WATER LINE VALVES TO BE OPERATED BY CONTRACTOR
ONLY IF WATER INSPECTOR IS ON SITE

RECORD DRAWING

△ REVISED 9/7/94 C. W.A.A.

SITE PLAN

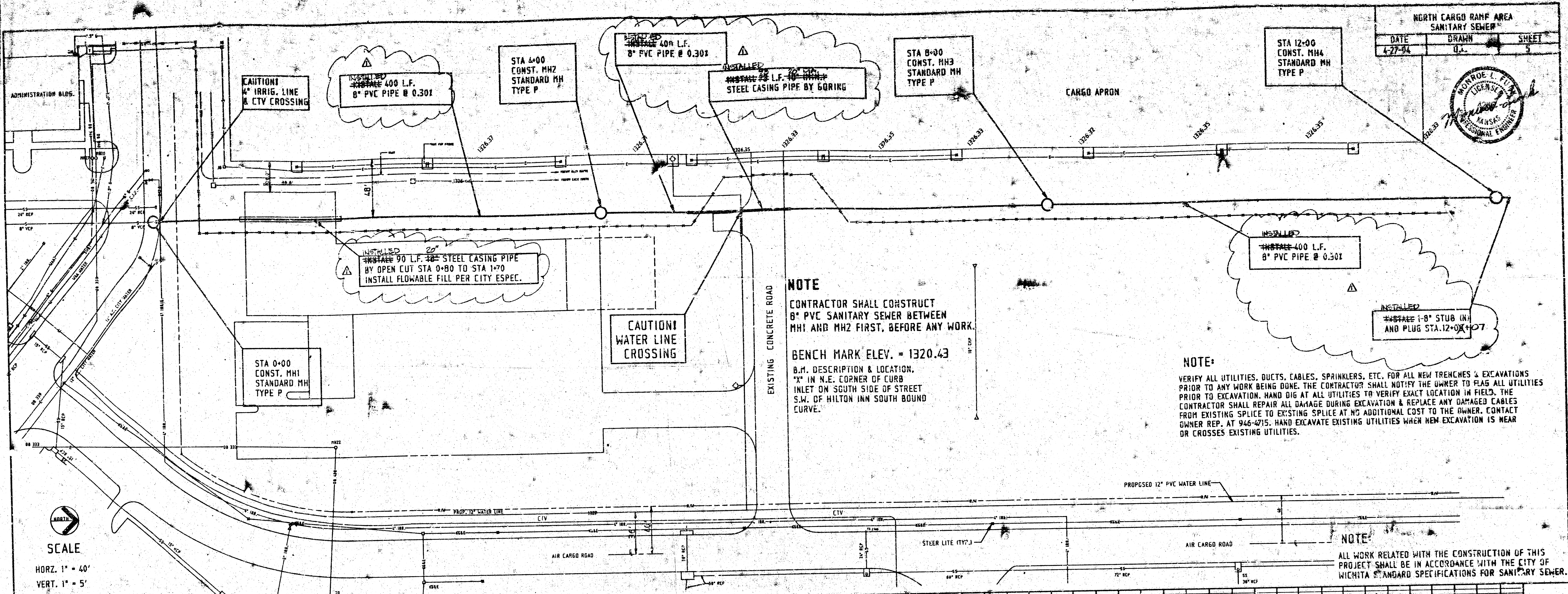
NORTH CARGO AREA

MID-CONTINENT AIRPORT

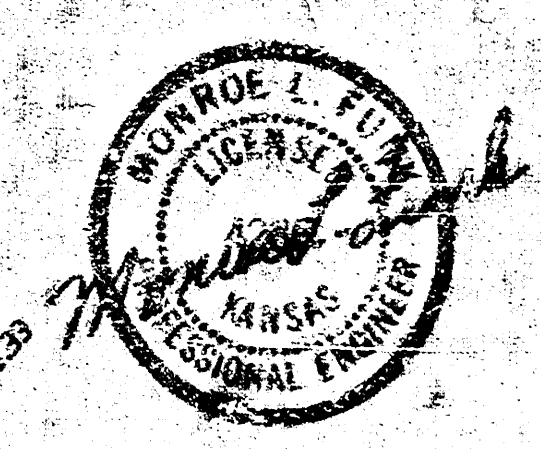
THE WICHITA AIRPORT AUTHORITY

WICHITA, KANSAS

DATE	DRAWN BY	SCALE	SHEET
6-77-96	D.L.	AS SHOWN	2



NORTH CARGO RAMP AREA SANITARY SEWER		
DATE	DRAWN	SHEET
4-77-94	J.L.	5

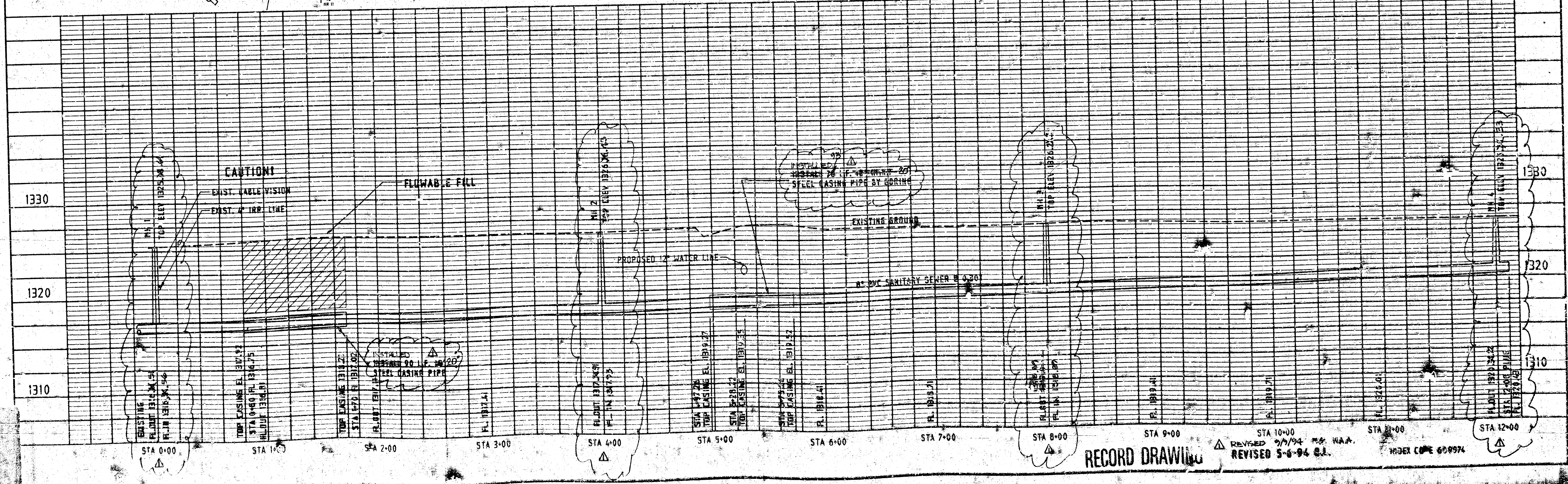


NOTE
 CONTRACTOR SHALL CONSTRUCT
 8" PVC SANITARY SEWER BETWEEN
 MH1 AND MH2 FIRST, BEFORE ANY WORK.
 BENCH MARK ELEV. = 1320.43
 B.M. DESCRIPTION & LOCATION:
 "X" IN N.E. CORNER OF CURB
 INLET ON SOUTH SIDE OF STREET
 S.W. OF HILTON INN SOUTH BOUND
 CURVE.

NOTE:
 VERIFY ALL UTILITIES, DUCTS, CABLES, SPRINKLERS, ETC. FOR ALL NEW TRENCHES & EXCAVATIONS
 PRIOR TO ANY WORK BEING DONE. THE CONTRACTOR SHALL NOTIFY THE OWNER TO FLAG ALL UTILITIES
 PRIOR TO EXCAVATION. HAND DIG AT ALL UTILITIES TO VERIFY EXACT LOCATION IN FIELD. THE
 CONTRACTOR SHALL REPAIR ALL DAMAGE DURING EXCAVATION & REPLACE ANY DAMAGED CABLES
 FROM EXISTING SPLICE TO EXISTING SPLICE AT NO ADDITIONAL COST TO THE OWNER. CONTACT
 OWNER REP. AT 946-4715. HAND EXCAVATE EXISTING UTILITIES WHEN NEW EXCAVATION IS NEAR
 OR CROSSES EXISTING UTILITIES.

NOTE:
 ALL WORK RELATED WITH THE CONSTRUCTION OF THIS
 PROJECT SHALL BE IN ACCORDANCE WITH THE CITY OF
 WICHITA STANDARD SPECIFICATIONS FOR SANITARY SEWER.

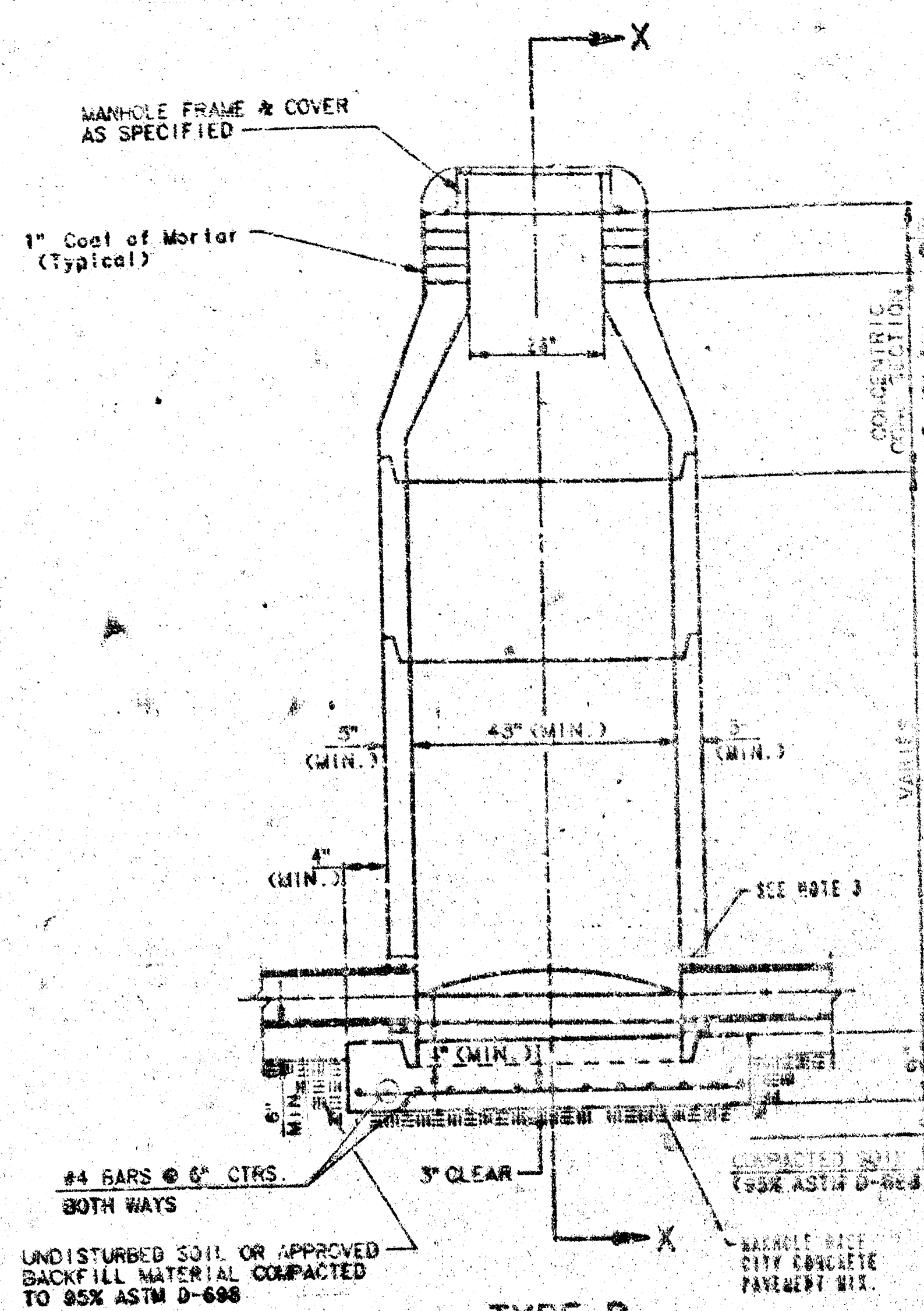
SCALE
 HORZ. 1" = 40'
 VERT. 1" = 5'



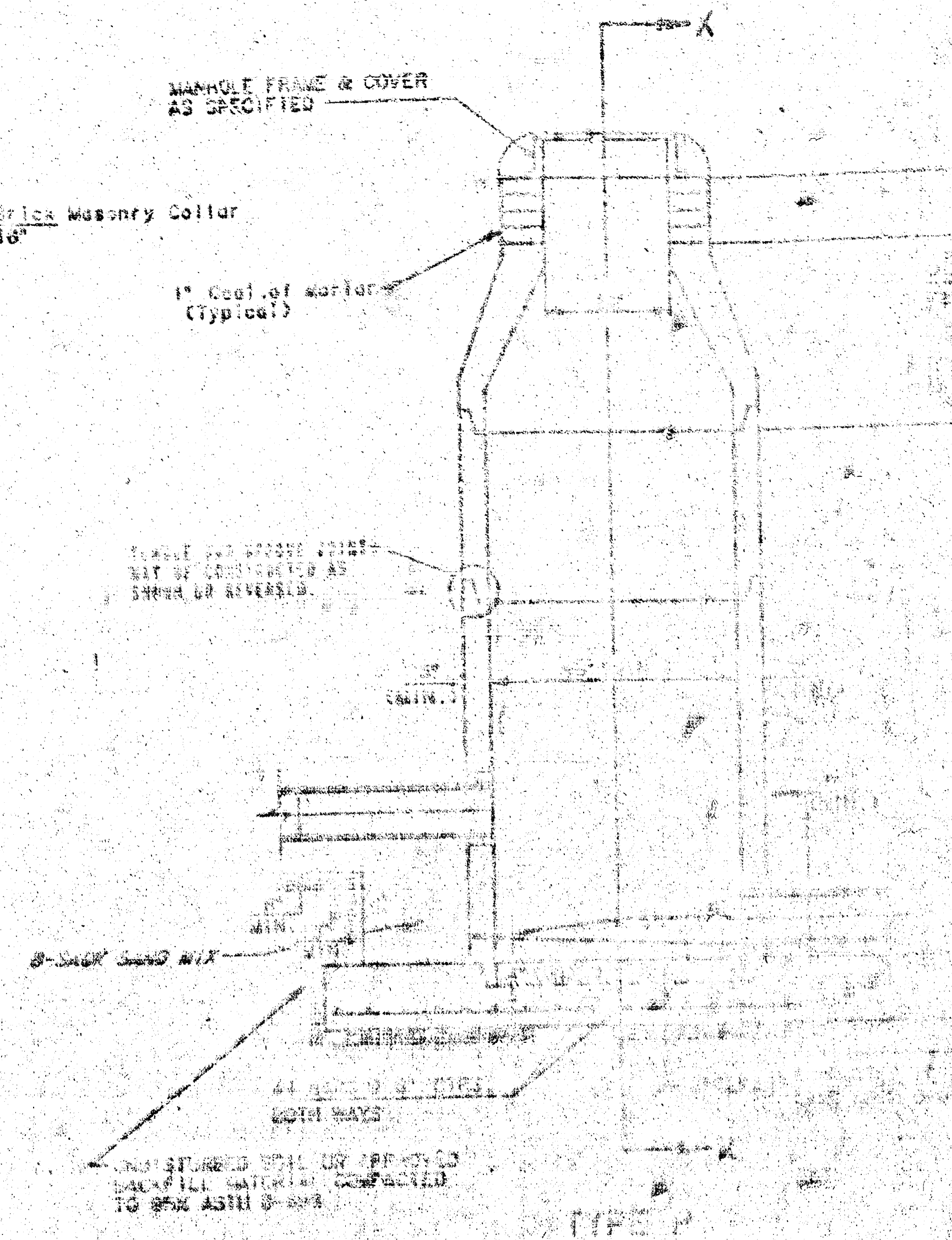
RECORD DRAWING

REVISED 2/9/94 M.S. H.A.A.
 REVISED 3-6-94 G.J.
 ORDER CODE 60-0974

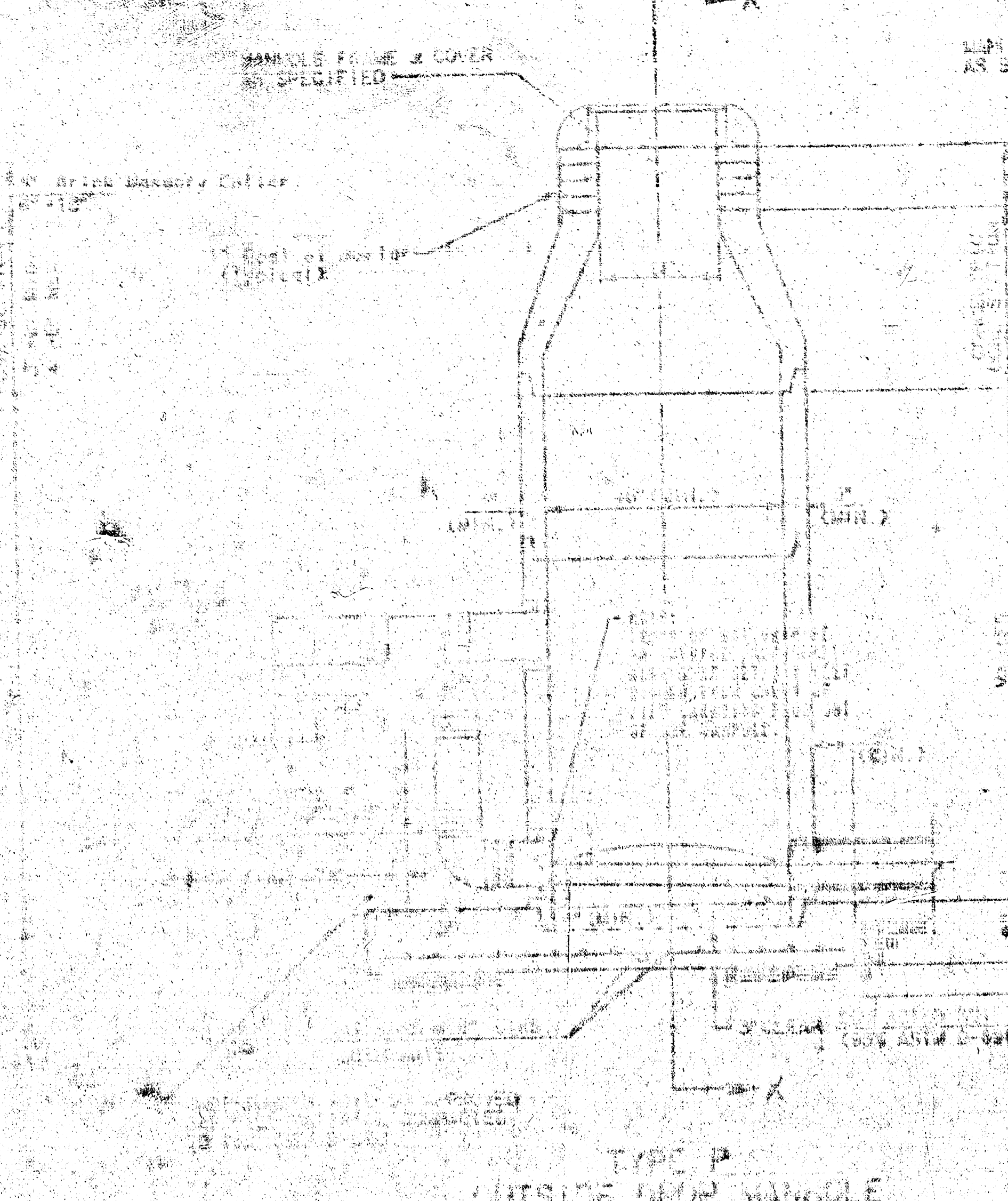
SEWER APPURTENANCES DETAILS ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA



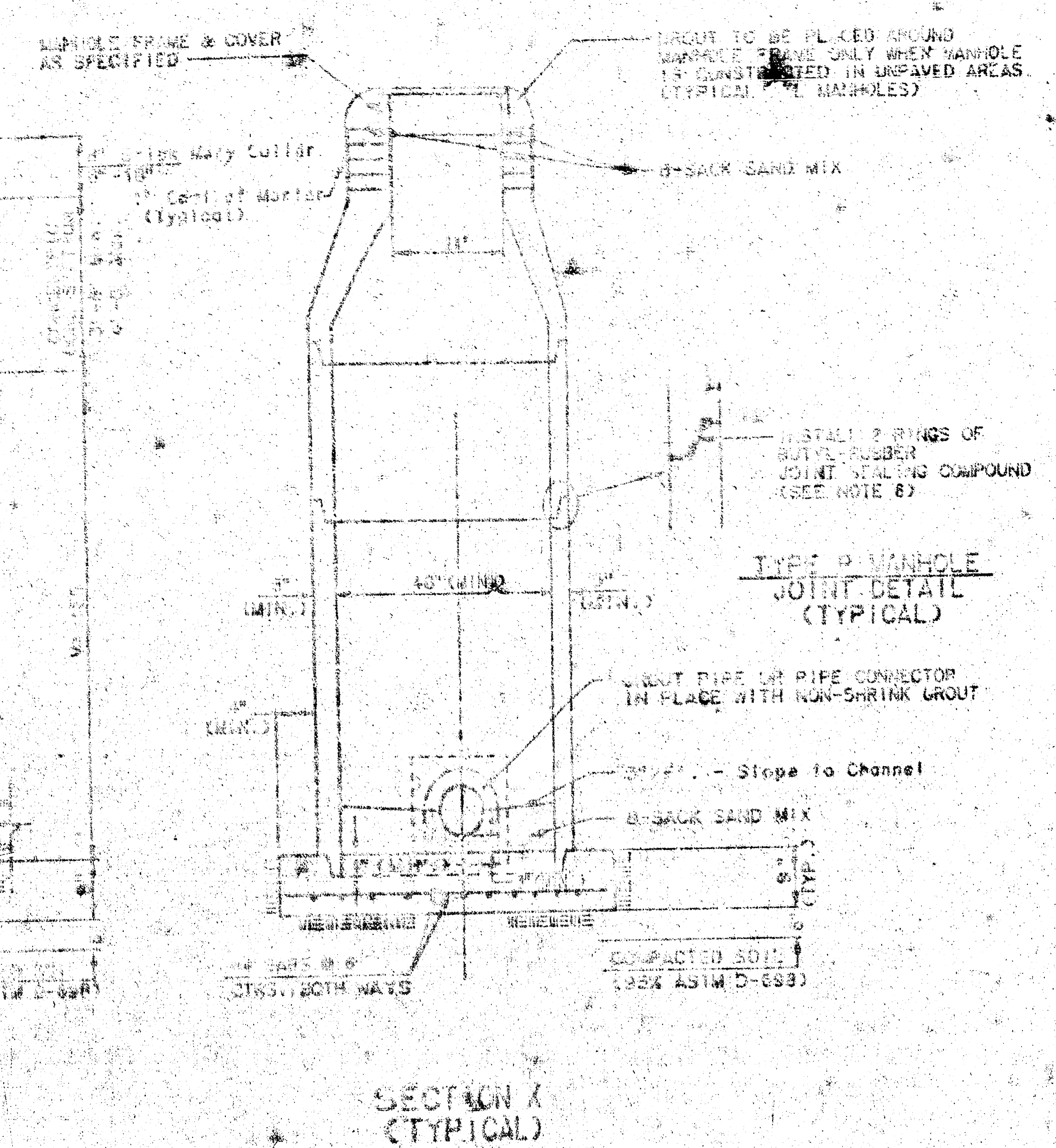
**TYPE P
STANDARD MANHOLE**



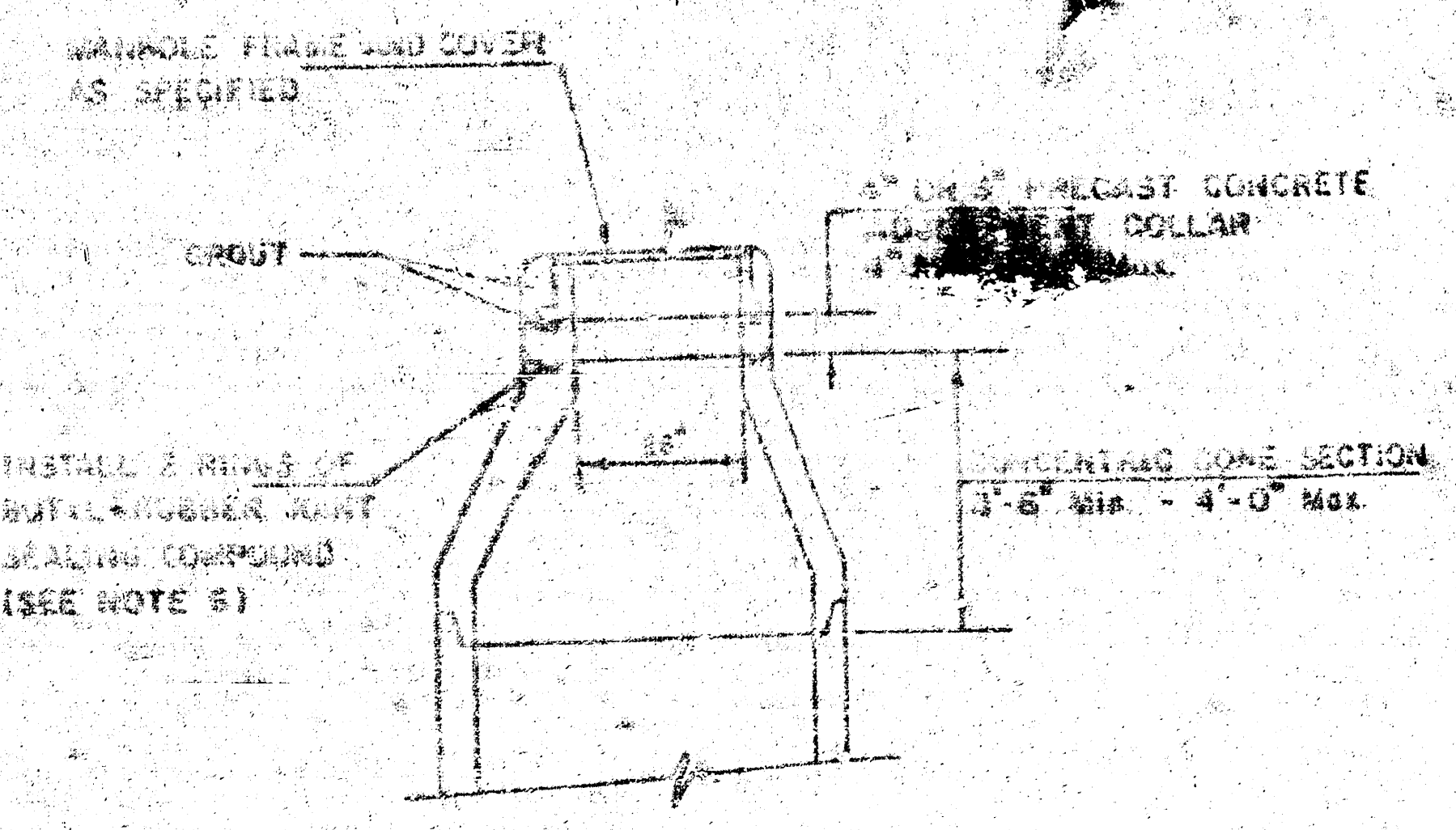
**TYPE P
INSIDE DROP MANHOLE**



**TYPE P
OUTSIDE DROP MANHOLE**



**SECTION X
(TYPICAL)**



**ALTERNATE CONSTRUCTION
IN UNPAVED AREAS**

- 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 ENCASUREMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND IN 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 THICKNESS 40 M-1 BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.)
 5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
 6. JOINT SEALING COMPOUND SHALL BE RENT SEAL NO. 2 OR APPROVED EQUAL.
 7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE RISE.
 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 3 BAGS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT SPECIFICATIONS USED IN THE CITY STANDARD PAVING CONSTRUCTION AS SPECIFIED. IN THE CITY STANDARD PAVING CONSTRUCTION USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHERE PIPE SIZES ARE UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24\"/>

11. UNDERPINNING STEEL SHALL BE INSTALLED IN THE BASE OF THE MANHOLE SHALL BE MADE OF 3\"/>
- 12. OPERABLE TRAIL BY CITY OPEN TOP MANHOLE WALL WHEN EXISTING ARE CONSTRUCTED OR EXISTING MANHOLES. SUCH OPERABLE TRAIL EXISTING MANHOLES SHALL BE AT LEAST AS PRACTICALLY FEASIBLE. EXISTING MANHOLES SHALL BE REINFORCED WITH 4\"/>
- 13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF-CLEANING AND FREE OF DEPOSITS. WHERE SPILLERS COULD BE DEPOSITED AS DEPOSITS FORMED THROUGHOUT THE FLOW CHANNELS SHALL BE SHAPED TO ENTER THE BOTTOM HALF OF THE FLOW CHANNELS. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO ENTER THE BOTTOM HALF OF THE FLOW CHANNELS. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO ENTER THE BOTTOM HALF OF THE FLOW CHANNELS. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO ENTER THE BOTTOM HALF OF THE FLOW CHANNELS.
- 14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE GRADED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CHADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CHADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CHADLE BEHIND MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

15. THE VERTICAL FLOW OF WATER THROUGH MANHOLES SHALL NOT EXCEED 2\"/>
- 16. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF-CLEANING AND FREE OF DEPOSITS. WHERE SPILLERS COULD BE DEPOSITED AS DEPOSITS FORMED THROUGHOUT THE FLOW CHANNELS SHALL BE SHAPED TO ENTER THE BOTTOM HALF OF THE FLOW CHANNELS. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO ENTER THE BOTTOM HALF OF THE FLOW CHANNELS. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED TO ENTER THE BOTTOM HALF OF THE FLOW CHANNELS.

NOTE NO. 16 REVISED JAN. 1991
Revised 5-21-89
Revised 3-10-88
Revised June 19 1988

RECORD DRAWING

SHEET 6

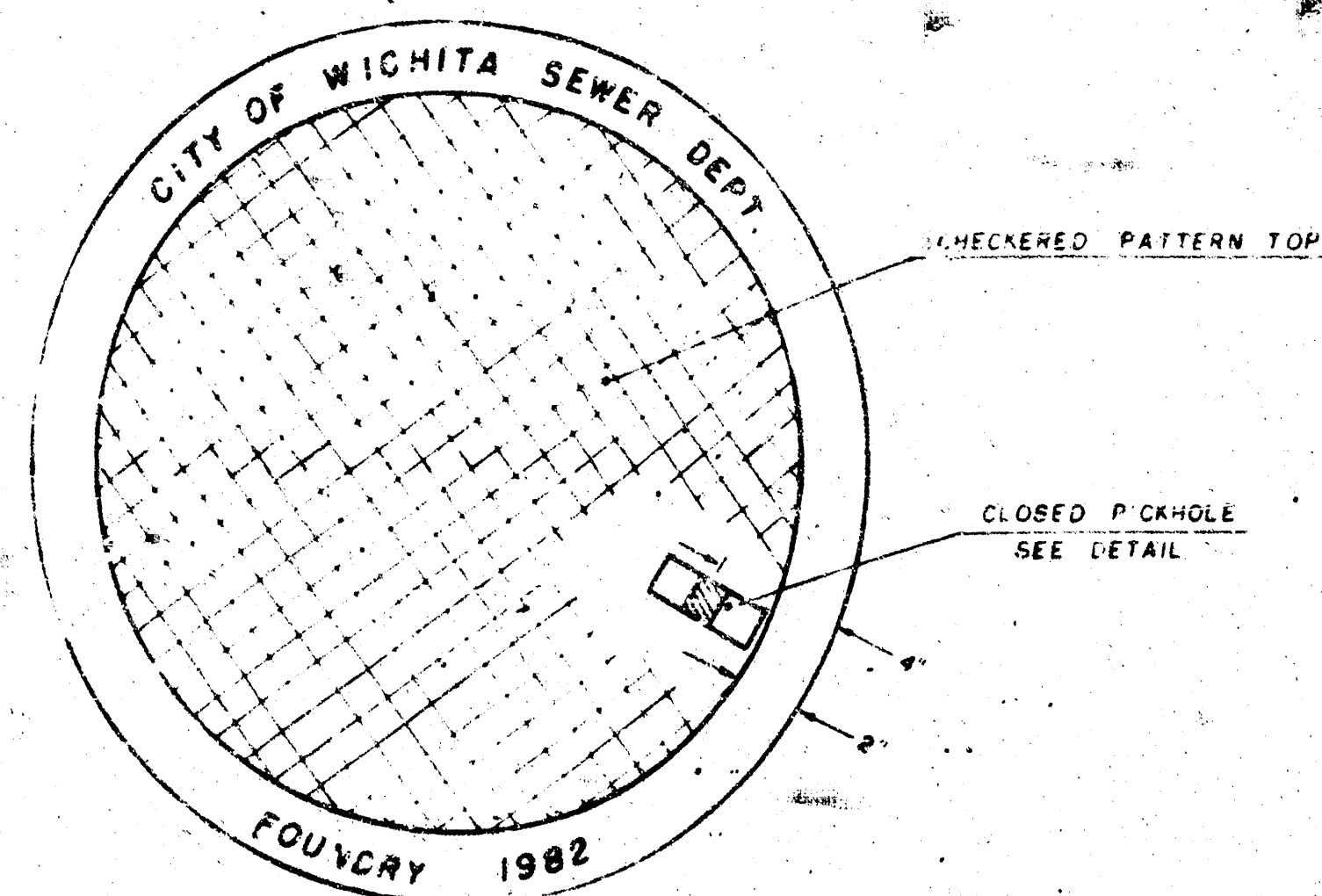
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN
BY

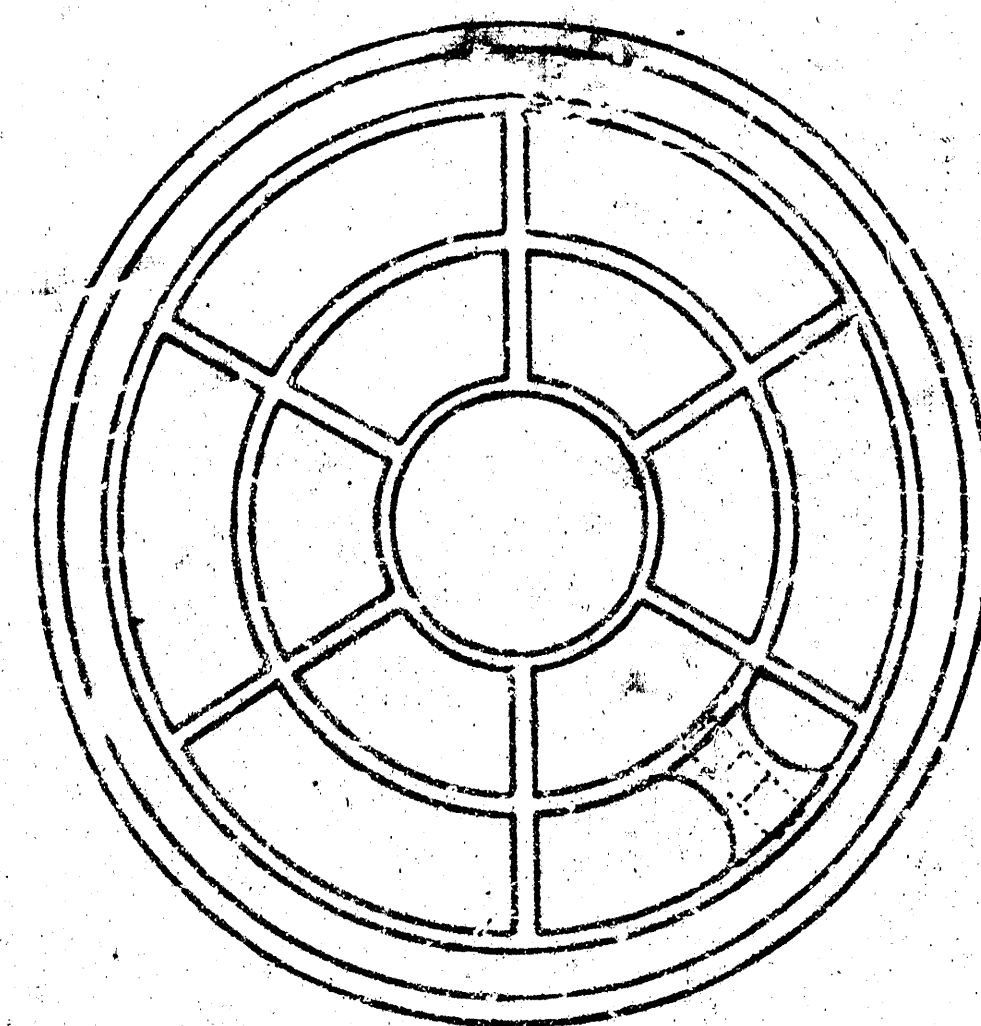
City of Wichita, Kansas

MANHOLE COVER

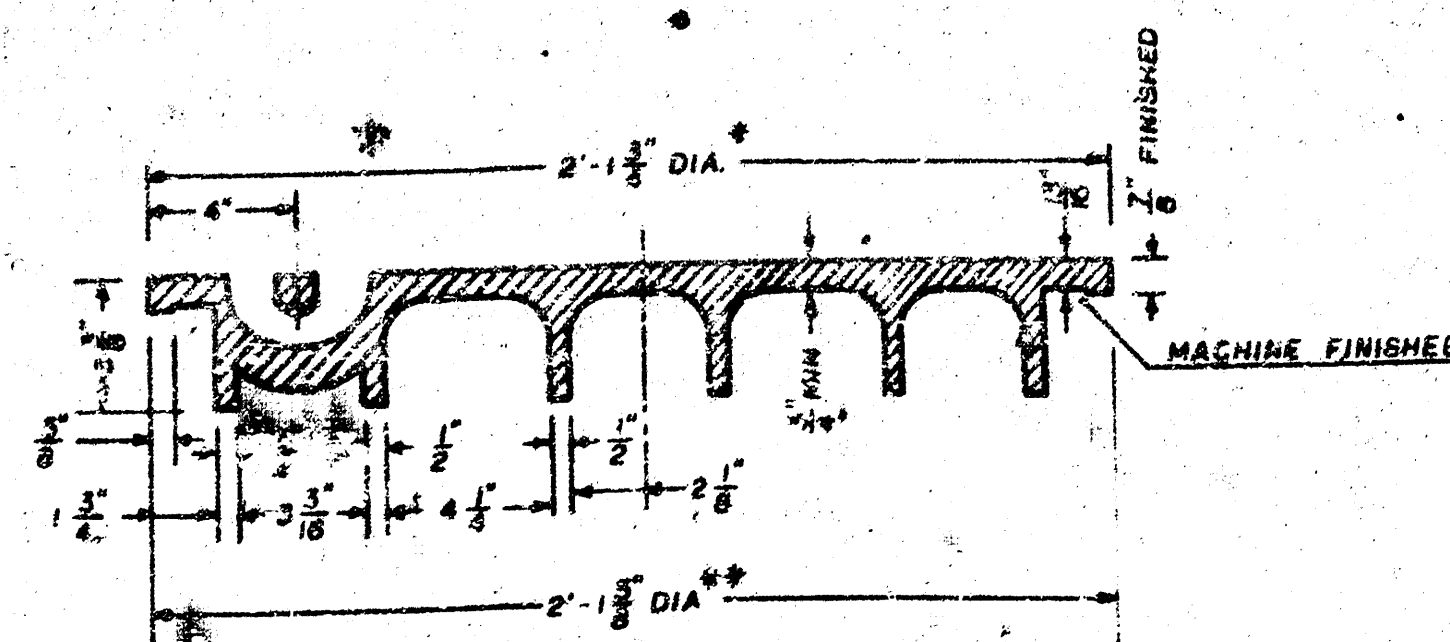
Weight: 130 Lbs.



TOP VIEW



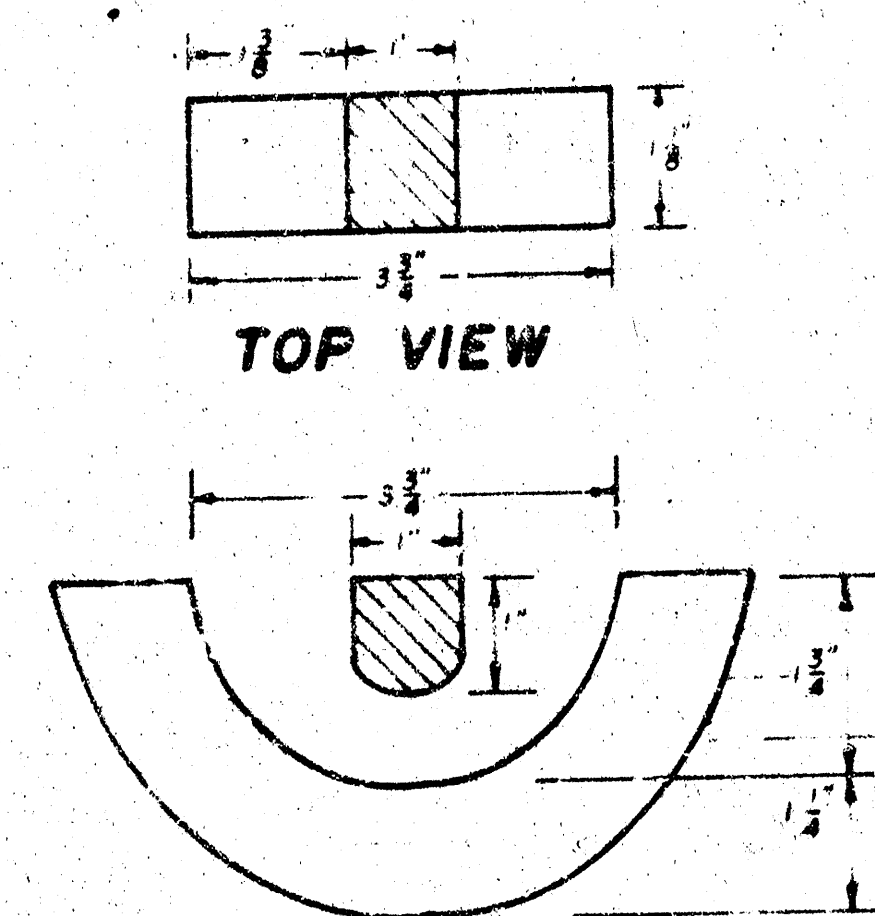
BOTTOM VIEW



SECTION VIEW

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

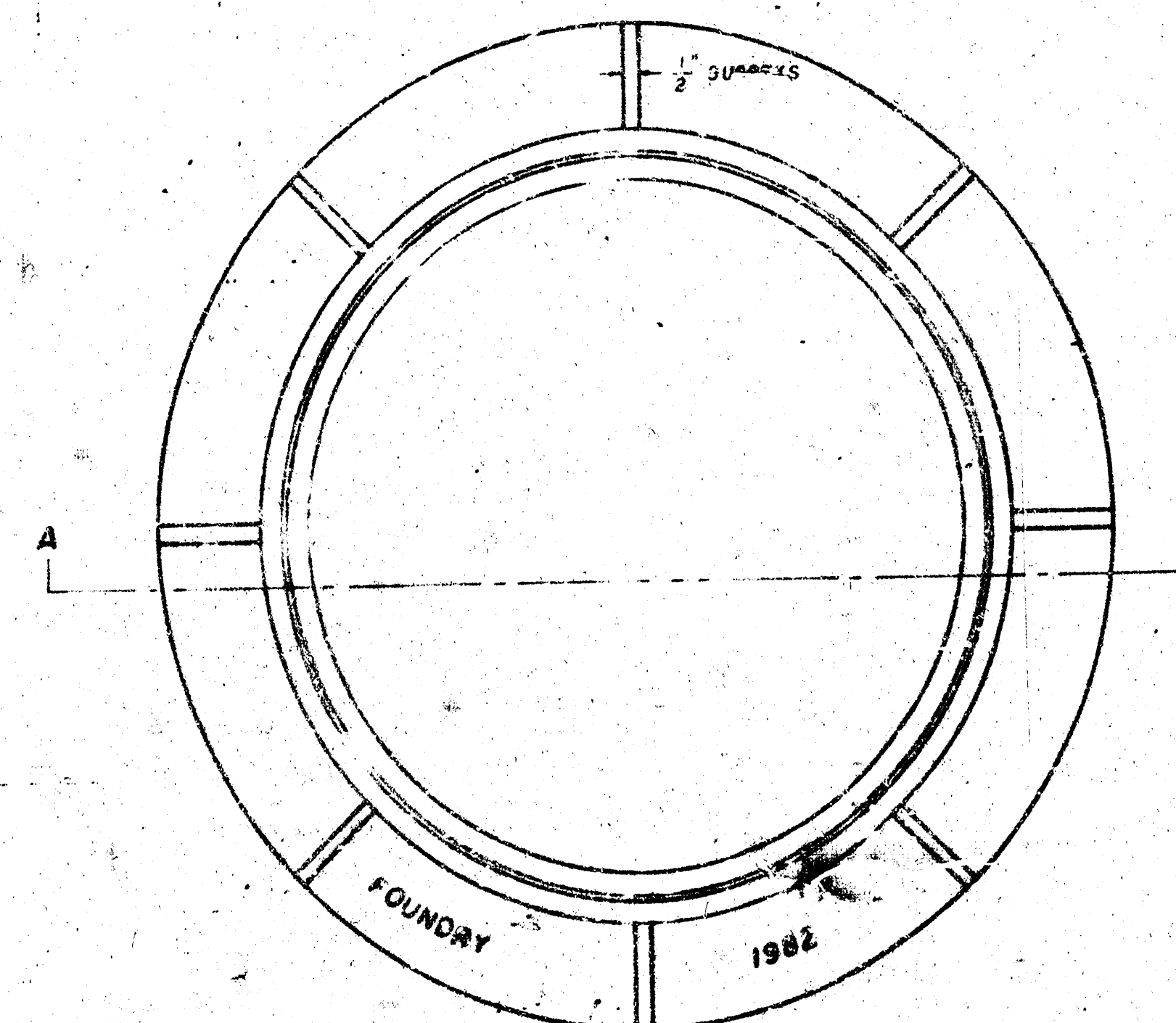
PICKHOLE DETAIL



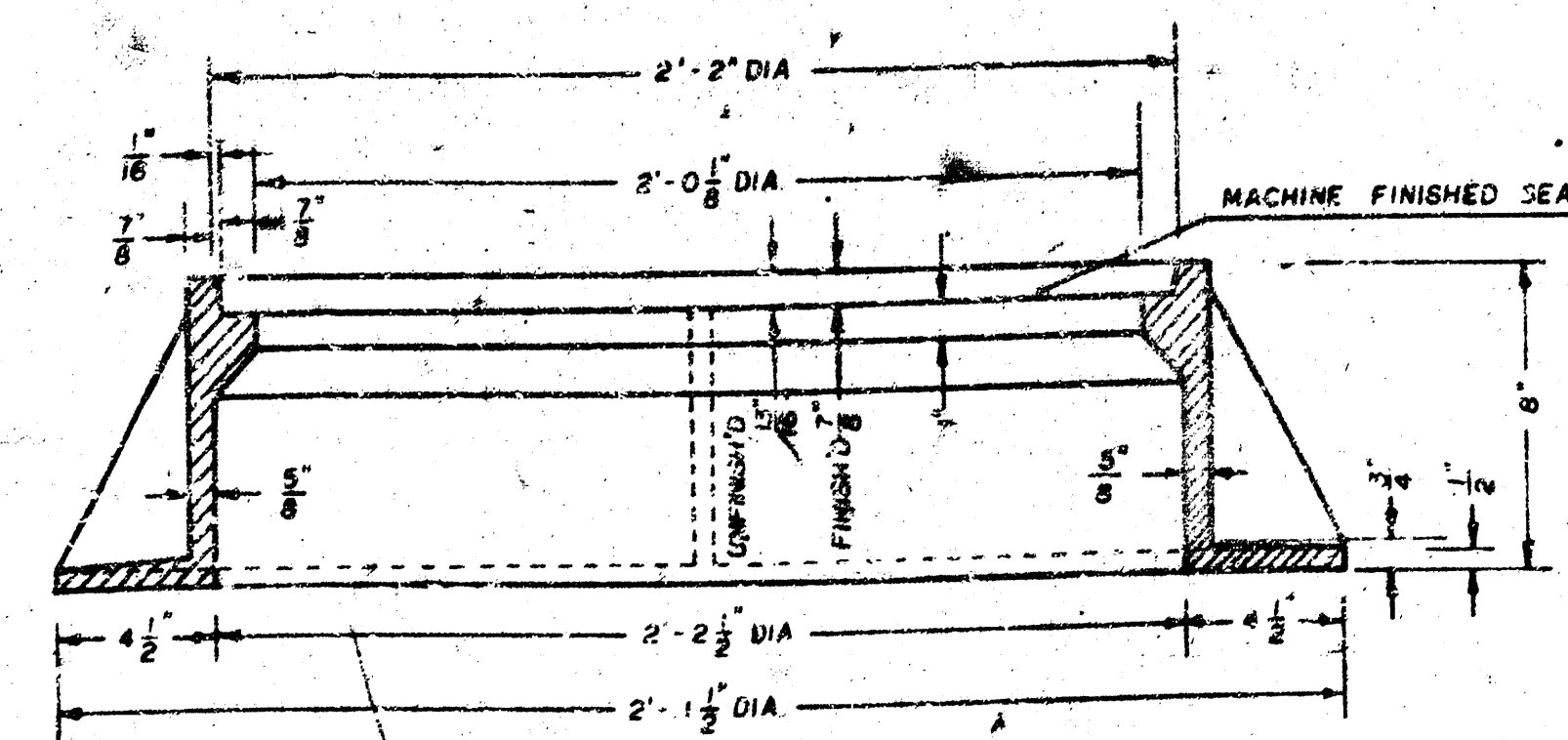
SECTION VIEW

MANHOLE FRAME

Weight: 240 Lbs.



TOP VIEW



SECTION A-A

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 DETAIL 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.

RECORD DRAWING

SHEET 7