

**GENERAL NOTES:**

1. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF TWENTY-FOUR (24) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

KANSAS ONE-CALL 1-800-344-7233

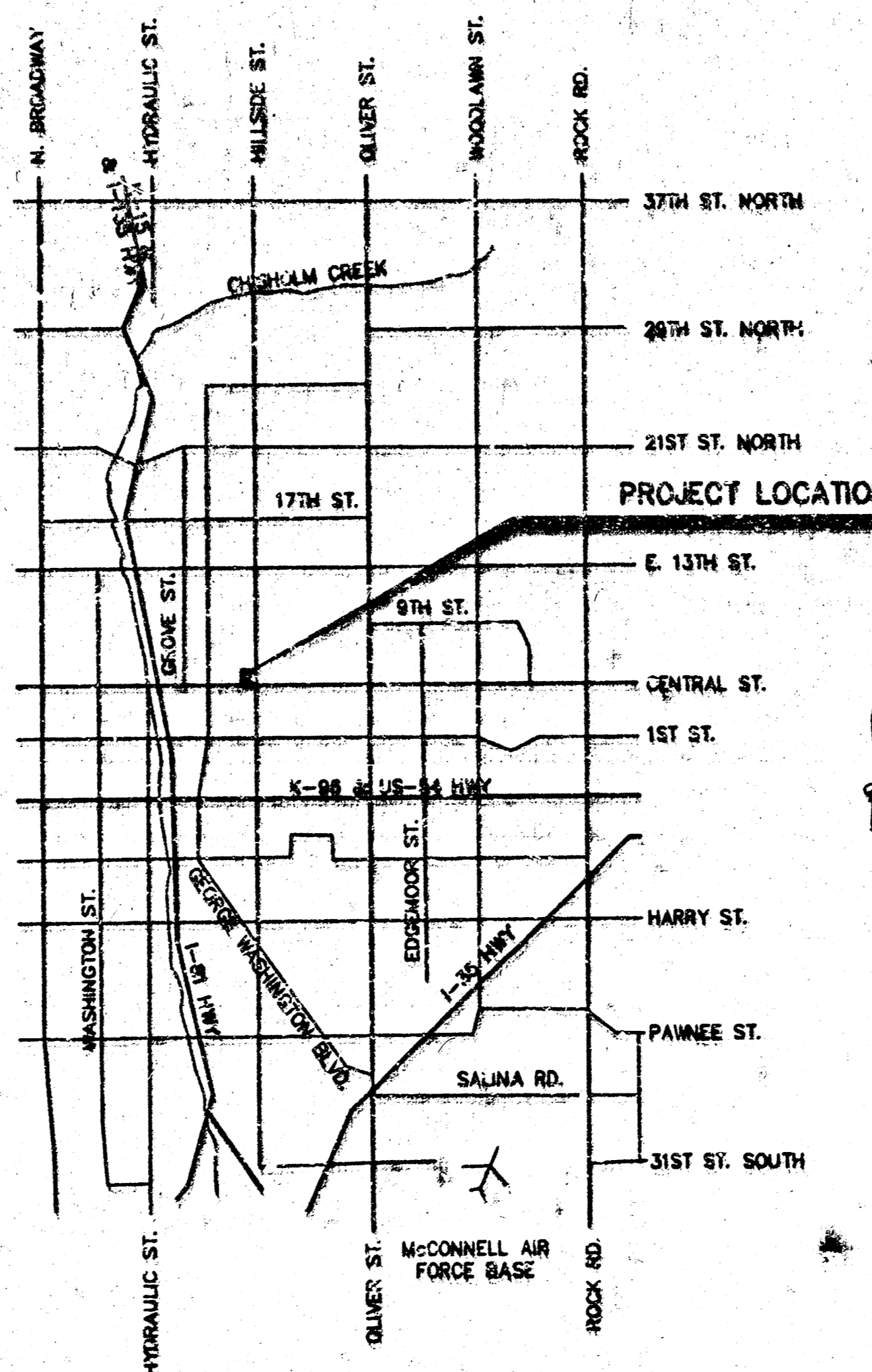
THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF EMERGENCY:

KANSAS GAS & ELECTRIC GAS: 1-316-261-8734  
 SOUTHWESTERN BELL TELEPHONE COMPANY 1-316-268-2222  
 CITY OF WICHITA WATER DEPARTMENT 1-316-265-1300  
 CITY OF WICHITA SEWER MAINTENANCE 1-316-268-4071

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY PINS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY PINS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH PINS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
- 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 COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
- 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 ARCHEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- COST OF EXCAVATION, HAULING, AND DUMPING OF EXCESS EXCAVATION SHALL BE SUBSIDIARY TO THE PROJECT.
- A PORTION OF EXCESS EXCAVATED MATERIAL SHALL BE MOUNDING 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.
- ALL STUBS AND PLUGGED PIPES SHALL BE LOCATED WITH GREEN PLASTIC TAPE IN THE SAME MANNER AS RISERS.
- PRIOR TO LAYING SEWER LINES USING EXISTING MAINS OR MANHOLES, THE CONTRACTOR SHALL EXPOSE AND VERIFY THE ELEVATION, GRADE AND ALIGNMENT OF EXISTING 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 SUFFICIENT FLOW. THE COST OF RESHAPING EXISTING MANHOLE INVERTS IS INCIDENTAL TO THE PROJECT.
- 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.
- ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED BACK TO ORIGINAL GROUND LINE, SEEDED AND MULCHED.
- ALL WORK TO BE DONE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND DETAILS.

# SANITARY SEWER PLANS TO SERVE BOSTON MARKET DEVELOPMENT

PRIVATE PROJECT NO. 671PPS  
 INDEX CODE : 607861  
 MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER  
 CITY OF WICHITA  
 SEDGWICK COUNTY, KANSAS



NOT TO SCALE  
VICINITY MAP

CONTACT PERSONS:  
 SAMUEL D. MALINOWSKY, P.E., KAW VALLEY ENGINEERING, INC. 913-782-5049

APPROVED AS NOTED

BY CITY ENGINEER OF WICHITA

SANITARY SEWERS UR 14: 4/15/96

**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.

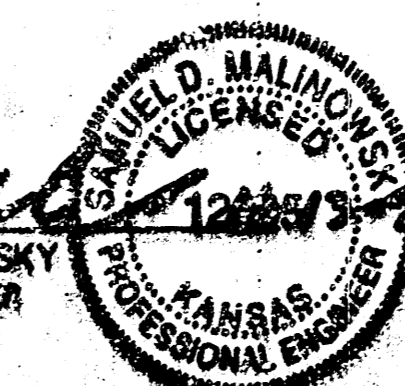
**INDEX TO SHEETS:**

- TITLE SHEET
- SANITARY SEWER PLAN

**BENCHMARKS:**

BENCHMARK #1: C.O.W. BENCHMARK. SE CORNER OF HILLSIDE & CENTRAL; NE CORNER CONCRETE BASE FOR LIGHT TOWER IN PARKING LOT. DLR #94 (EASEMENT IN CONCRETE) ELEV.=145.32  
 BENCHMARK #2: CHSD "S" IN SE CORNER OF HILLSIDE & CENTRAL IN SIDEWALK. ELEV.=144.38  
 BENCHMARK #3: MOST NORTHERLY CHSD "X" IN SIDEWALK AT NE CORNER OF TRACT. ELEV.=147.68

*S. D. Malinowsky*  
 SAMUEL D. MALINOWSKY  
 PROFESSIONAL ENGINEER



AS-BUILT 1-1996

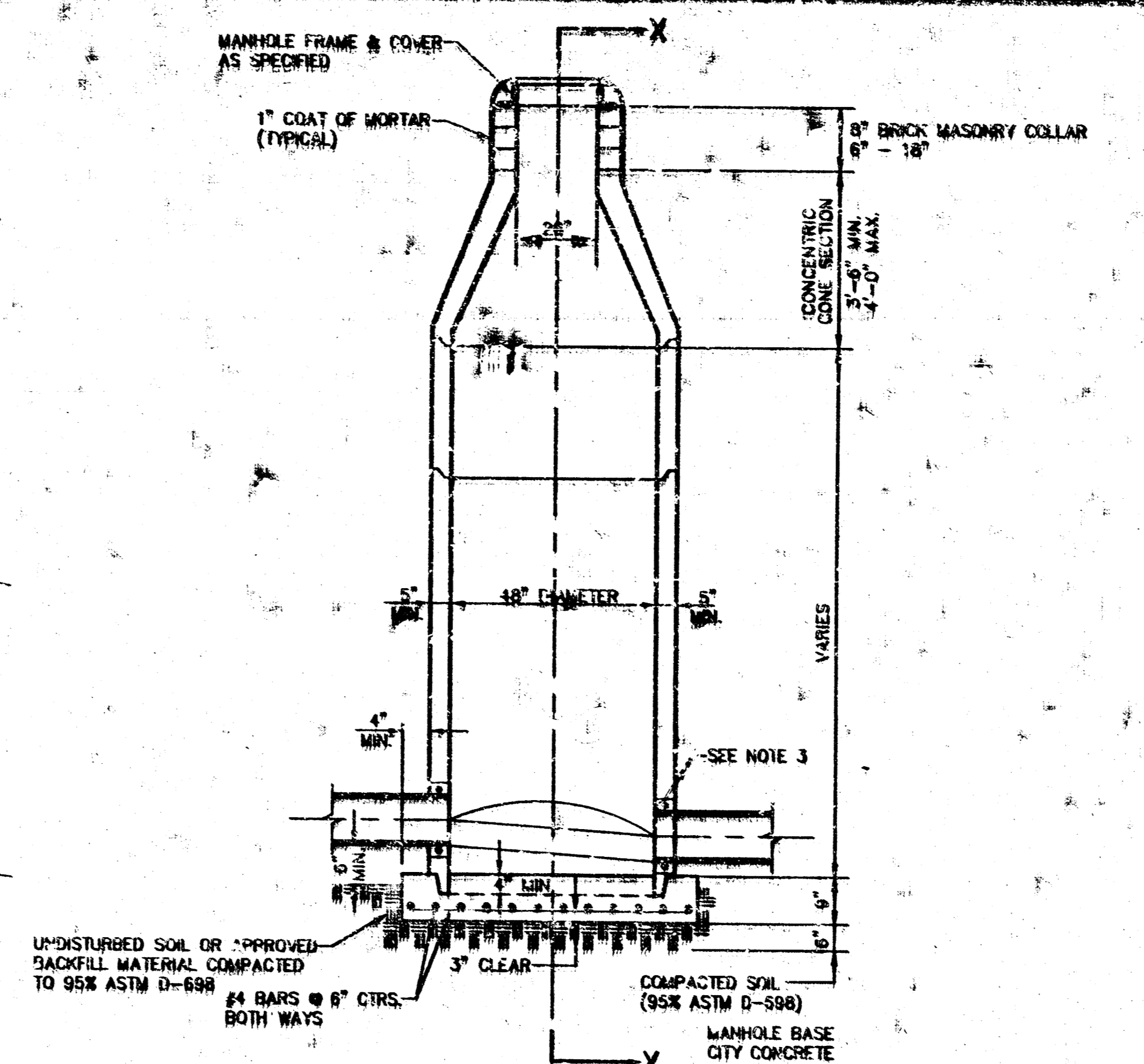
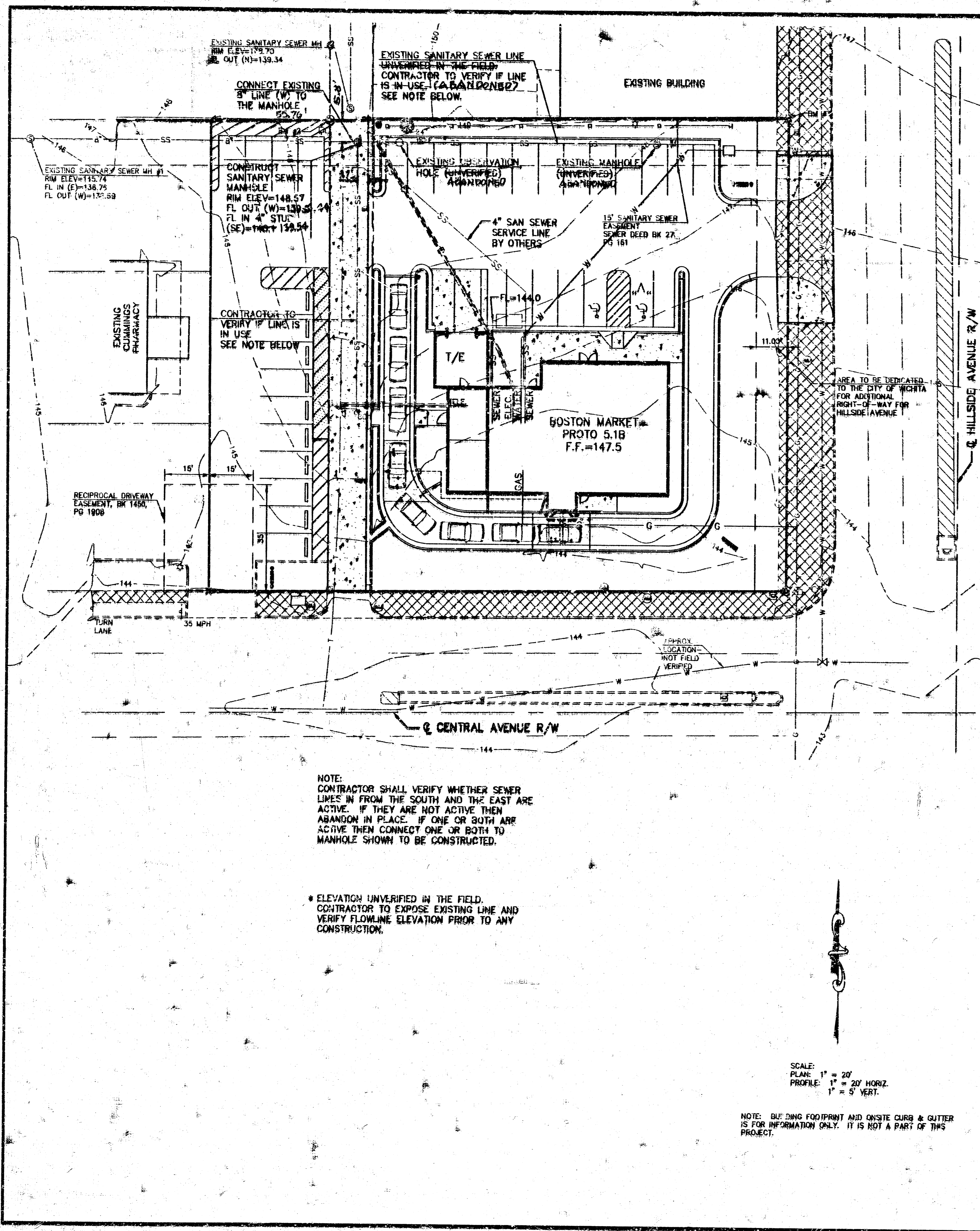
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| 1   | 11/13/96 | REVISED PER CITY OF WICHITA | JMT |

**TITLE SHEET**

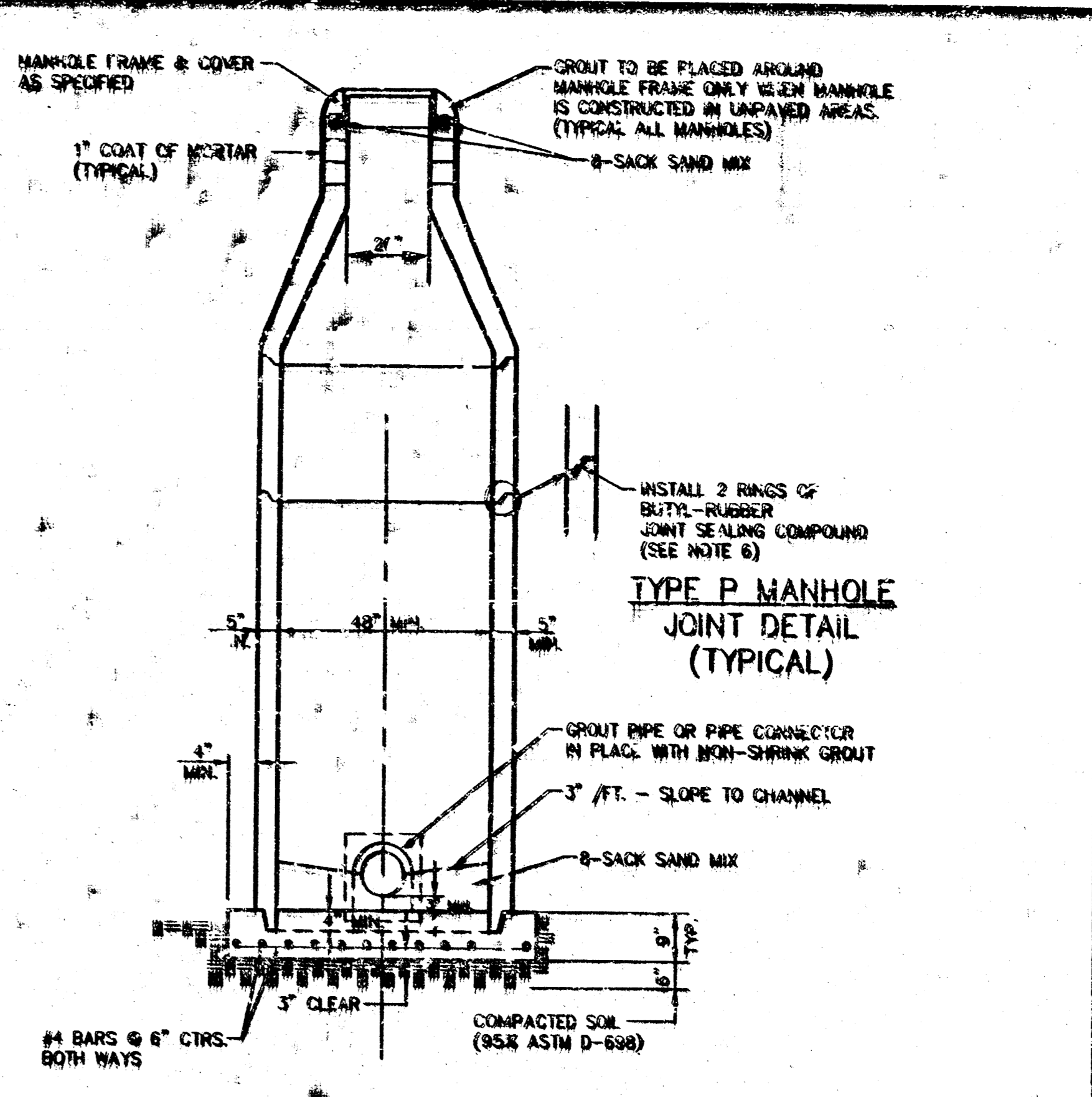
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| P.O. BOX 1391<br>2518 NORTH JACKSON<br>JUNCTION CITY, KANSAS 66441<br>(913) 782-5040<br>FAX 913-782-7744 | <b>KAW VALLEY<br/>ENGINEERING, INC.</b> | 132 N.E. PARKWAY<br>WYANDOTE, KANSAS 66201<br>(913) 947-2633<br>877 ALLEN ROAD<br>LENEXA, KANSAS 66245<br>(816) 944-1840 | PROJ. NO. 671-1918<br>DATE: OCT 14, 1996<br>DESIGNER: JMT<br>DRAWN BY: JMT<br>CHECKED BY: JMT<br>SCALE: CIVIL/SEWERS<br>SHEET 1 OF 2 |
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671PPS



**TYPE P  
STANDARD MANHOLE**



**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 P.V.C. 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 THEMED SERIES BE H-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
  5. EXTERIOR MANHOLE WALL SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS 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 ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24 INCHES SHALL HAVE AN INSIDE DIAMETER OF 4 FEET. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24 INCHES OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5 FEET. 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 8 INCH CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3 INCHES ABOVE THE BOTTOM OF THE MANHOLE BASE.
  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 NON-SHRINK 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.
  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 REVEAL 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.
  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 FREE FALL DROP INSIDE MANHOLES SHALL NOT EXCEED 2 FEET. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
  17. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8 INCH WALLS AND A VERTICAL HEIGHT OF 6 INCHES MINIMUM AND 18 INCHES MAXIMUM. A 1 INCH COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.
  18. MANHOLE RIMS NOT IN PAVED AREAS ARE TO BE 0.4' ABOVE FINISHED GROUND.

NOTE:  
CONTRACTOR SHALL VERIFY WHETHER SEWER LINES IN FROM THE SOUTH AND THE EAST ARE ACTIVE. IF THEY ARE NOT ACTIVE THEN ABANDON IN PLACE. IF ONE OR BOTH ARE ACTIVE THEN CONNECT ONE OR BOTH TO MANHOLE SHOWN TO BE CONSTRUCTED.

\* ELEVATION UNVERIFIED IN THE FIELD.  
CONTRACTOR TO EXPOSE EXISTING LINE AND VERIFY FLOWLINE ELEVATION PRIOR TO ANY CONSTRUCTION.

SCALE:  
PLANE: 1" = 20'  
PROFILE: 1" = 5' VERT.

NOTE: DURING FOOTPRINT AND ON-SITE CURB & GUTTER IS FOR INFORMATION ONLY. IT IS NOT A PART OF THIS PROJECT.

BENCHMARK #1: C.O.W. BENCHMARK, SE CORNER OF HILLSIDE & CENTRAL, NE CORNER CONCRETE BASE FOR LIGHT TOWER IN PARKING LOT, 6" X 6" BRASS DISC IN CONCRETE, ELEV.=145.32  
BENCHMARK #2: CHSD 7" X 7" SE CORNER OF HILLSIDE & CENTRAL IN SIDEWALK, ELEV.=144.38  
BENCHMARK #3: MOST NORTHERLY CHSD 7" X 7" IN SIDEWALK AT NE CORNER OF TRACT, ELEV.=147.58

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| NO.                         | DATE | REVISION | BY  |

**SANITARY SEWER PLAN**

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SHEET 2 OF 2

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