SANITARY SEWER IMPROVEMENTS TO SERVE
Lot 38, Davis Gardens Addition
1588 PPS (607861)
CITY OF WICHITA, KANSAS
Jim Armour, P.E., City Engineer

INDEX OF SHEETS

1 Cover Sheet
2 Plan and Profile
3 Type P Manhole Detail

GENERAL NOTES

1. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

   Kansas One-Call 344-2470

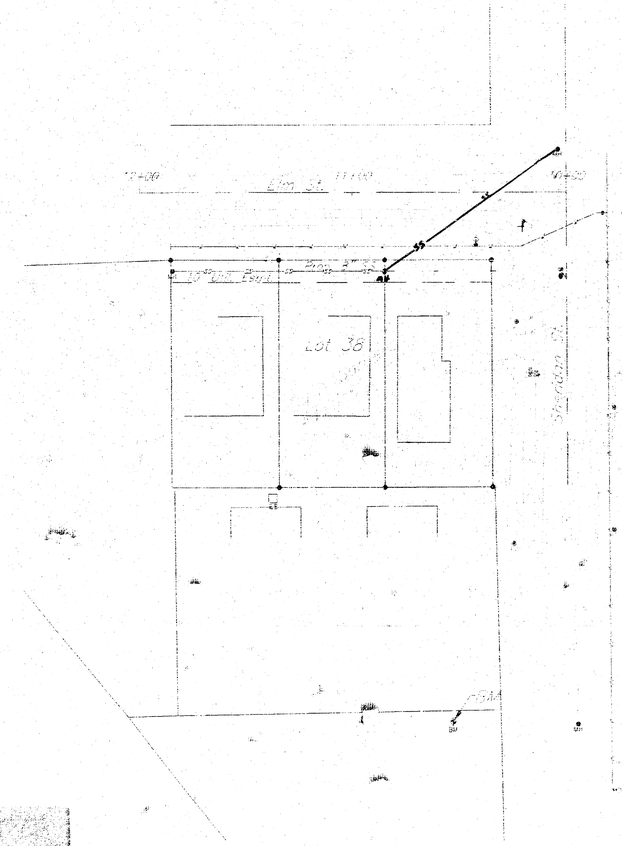
   The Contractor must notify the following in case of an emergency:

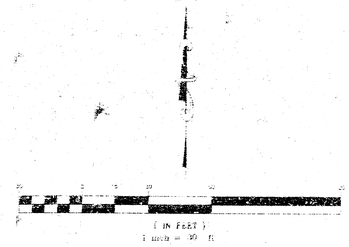
Cablevision	262-4270
or	262-2200
Westar Energy	743-2400
	263-2811
Southwestern Bell Telephone Company	1-511-2411
City of Wichita Water Department	268-4409
City of Wichita Sewer Department	268-4401
Kansas Gas Service	832-3167
or	832-3167

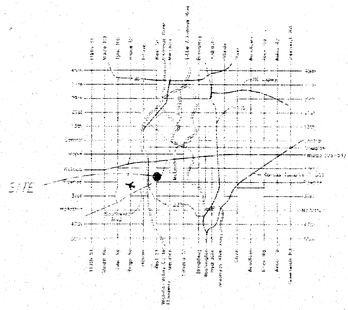
2. Exist. utilities and their locations, as shown on the plans, represent the best information obtainable for design.
4. Location information has been obtained from the various utility companies and is either from company record drawings or company-provided field locations. The Contractor will be required to work around existing utilities which do not conflict with proposed construction.
3. The Contractor to verify utility locations prior to construction of this project.
4. Utility service and installation shall be coordinated with the respective utility owners. Contacts are:

Kansas Gas Service	James Stoltz	831-3122
Westar Energy	Russ Chitwood	261-6351
Wichita Water	Paul Bryant	268-4556
	Steve Palmer	268-4409
Southwestern Bell	Jim Inman	264-2734
Multimedia Cablevision	Mark Arroyo	262-4270

5. All lawn/turf areas disturbed by construction of proposed improvements shall be restored with sod. All sodding work shall be in accordance with the City of Wichita standard specifications and the City of Wichita administrative regulation No. AR78 which governs cleanup and replacement following construction. All costs for this work shall be subsidiary to the lump sum price bid for "Site Restoration."
6. Traffic affected by the construction of this project shall be handled in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.
7. All commercial signs to be moved by others prior to construction.
8. Properties within the project may have underground irrigation systems (lawn sprinklers) which conflict with the new construction. Contractor shall remove such components as needed during construction of the project. The irrigation system shall be reinstalled in like kind before project completion. Any irrigation system modifications required because of project improvements shall be coordinated with the property owner. Portions of underground irrigation systems not in conflict with construction shall be protected from damage and shall remain in place. All work related to underground irrigation/sprinklers shall be subsidiary to Site Restoration.
9. Cuts made to paved surfaces on public property will be repaired by the City's contractor and charged against the owner / applicant. Unit repair Prices are available from the City at 268-4416. A surcharge may be applicable: Call 268-4416 for details. Repair costs to be paid prior to release of water service if water service is affected.







LOCATION MAP

J.M. Trenching - Contractor
Gann, KE Miller - Inspector
Released 12/13/05
As-Built
.pdf by JDL 12/19/05

Benchmark:
"T" on NE corner of
Sidewalk at SW corner
of Elm and Sheridan
Elev. = 1310.65

APPROVED AS NOTED

City Engineer Office VRH 9/13/05

NOTE TO CONTRACTORS

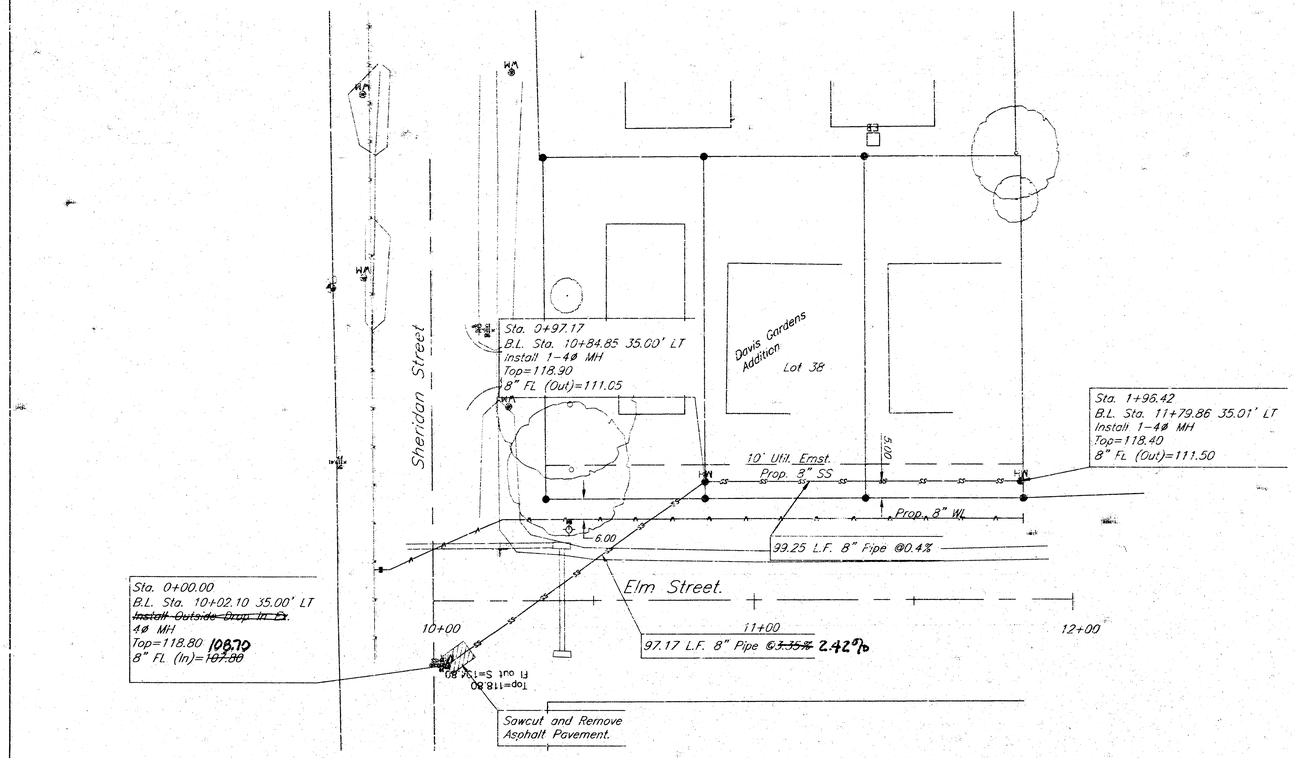
Inspection, inspection and testing for this project is to be provided by an Approved Consulting Engineering Firm under contract with the Owner/Developer. Said inspection is to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed / deposited materials or public right of way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards for the use available in the City Engineer's Office.

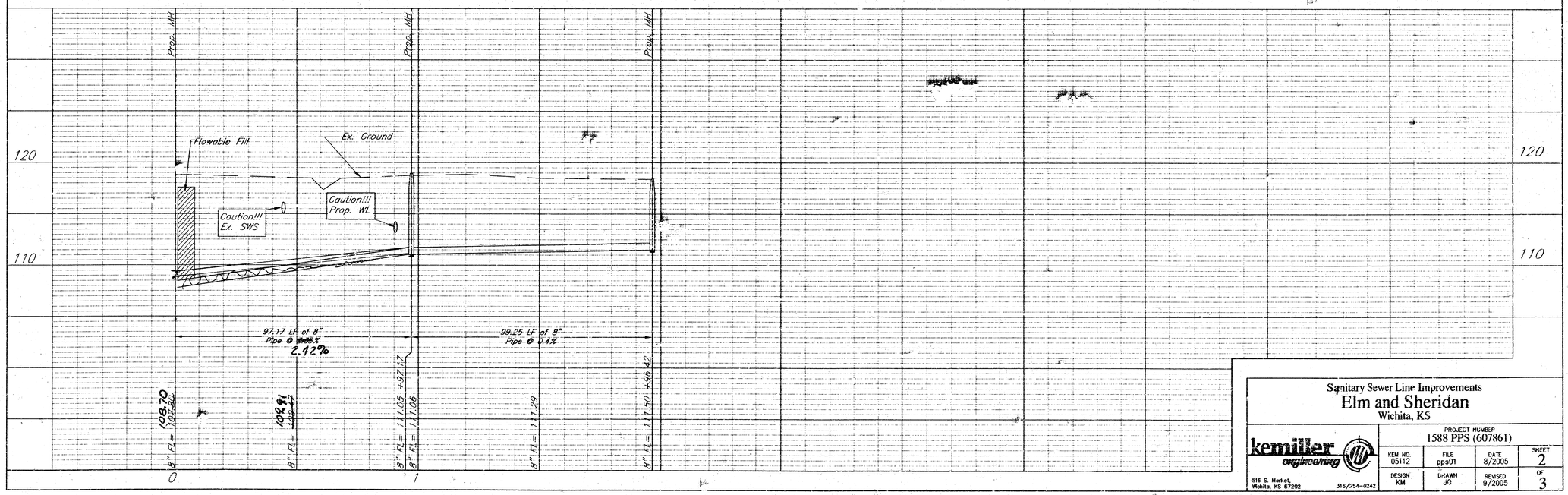
AS-BUILT
11/30/05
Date
K.L. Miller

KANSAS LICENSED PROFESSIONAL ENGINEER 9/13/05

kemiller engineering
816 S. Market
Wichita, KS 67202 316/264-0242

August, 2005





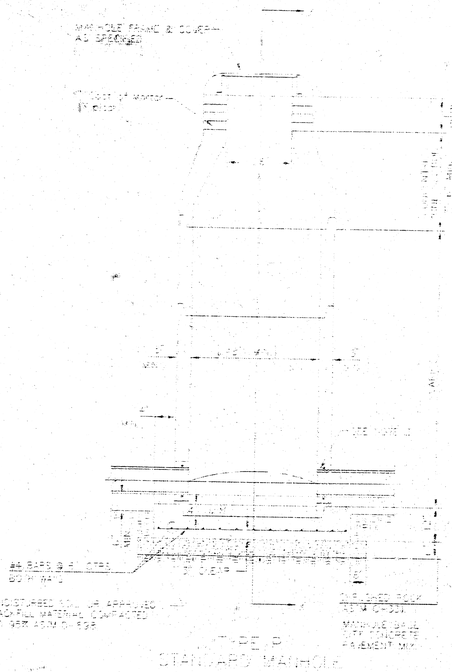
Sanitary Sewer Line Improvements
Elm and Sheridan
Wichita, KS

kemiller engineering
516 S. Market, Wichita, KS 67202 316/754-0242

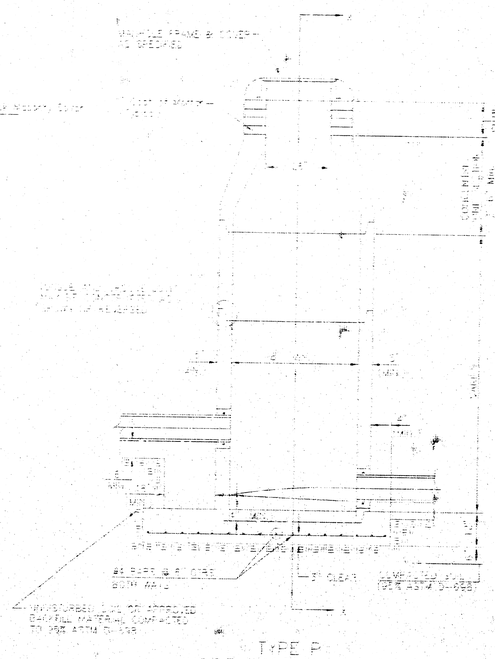
PROJECT NUMBER
1588 PPS (607861)

KEM NO.	FILE	DATE	SHEET
05112	pps01	8/2005	2
DESIGN	DRAWN	REVISED	OF
KM	JO	9/2005	3

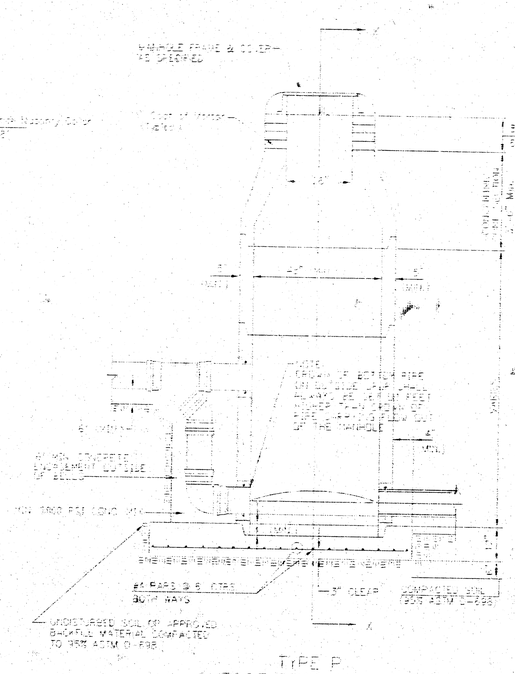
SEWER APPURTENANCES DETAILS



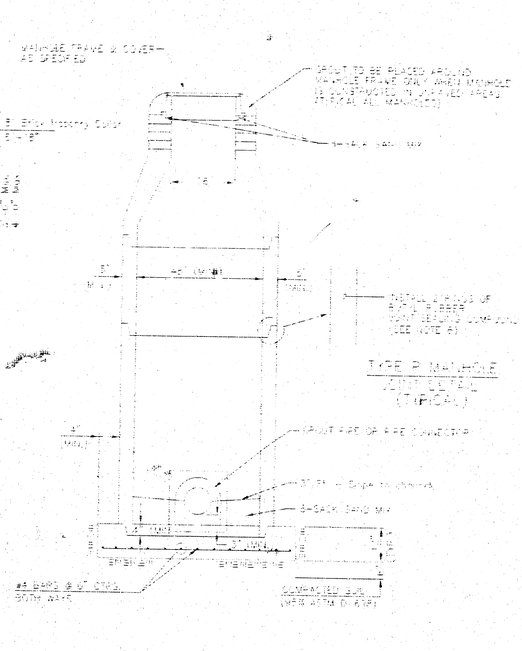
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



SECTION A-A
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REQUIREMENTS OF A.S.T.M. DESIGNATION C-478 AS MODIFIED BY THE SPECIFICATIONS.
2. Non-Shrink Grout shall be Non-Metallic Type.
3. APPROVED FLEXIBLE WATERTIGHT GASKETS SHALL BE INSTALLED AT THE JOINT OF THE MANHOLE WALL AND EACH CONCRETE PIPE OR R.C.P. PIPE STUB. FOR OTHER PIPED OR PIPE MATERIALS, THE OPENING SHALL BE CORE DRILLED TO ALLOW THE NEW SEWER PIPE TO BE CONNECTED WITH A FLEXIBLE COUPLING A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR P.V.C. PIPE (WHAT THE JOINT REQUIRES) OR MORE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWAGE FLOW SHALL BE PAINTED WITH 2 COATS "SUNNY SEERS 66 HI-BUILD EPOXAMINE DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE PAINTED WITH TWO MANHOLE COATS 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 TO BE IMPERVIOUS, SHALL CURED AS SPECIFIED.
10. MORTAR USED TO MINISTRY CONCRETE SHALL CONTAIN 5 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. WHERE CITY PAVEMENT IS PRESENTLY MIX WITHOUT AIR ENTRAINING ADMIXTURE, MORTAR SHALL BE PLACED AROUND THE MANHOLE PIPE AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES (WHETHER PRECAST OR CAST-IN-PLACE) SMALLER THAN 54" 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.
11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND IN 2 FULL LENGTH 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 FLEXIBLE SEALS ARE CONSTRUCTED FOR EXISTING MANHOLES. ALL OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND OPERATING THE NEW PIPE IN PLACE. WATERSTOP EXPERTS SHALL BE USED WITH E.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW MANHOLE SHALL BE CONSTRUCTED TO THE GRADING PLANS AS APPROVED BY SHRINK GRADE FOR THE FULL MANHOLE WALL THICKNESS. THE SYSTEM OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED FLEXIBLE SEAL 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 AND ANY 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 PIPE INVERTS 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 HEAD 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 SIZED 12" OR SMALLER AND 3' FOR INFLOWING PIPES LARGER THAN 12". 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. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.
19. CRUSHED ROCK CONFORMING TO ASTM C-33 WITH A GRADATION OF NO. 67 SHALL BE INSTALLED AT THE BASE OF THE MANHOLE TO A DEPTH OF NO LESS THAN 6" AND SHALL EXTEND NO LESS THAN 6" OUTSIDE THE DIAMETER OF THE CONCRETE FLOOR OF THE MANHOLE.

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

STANDARD TYPE 'P' MANHOLES

JIM ARMOUR P.E. - CITY ENGINEER

PROJECT NUMBER	INDEX CODE
XXXX FPS	607861
DATE: MAR 96	SHEET 3 OF 3