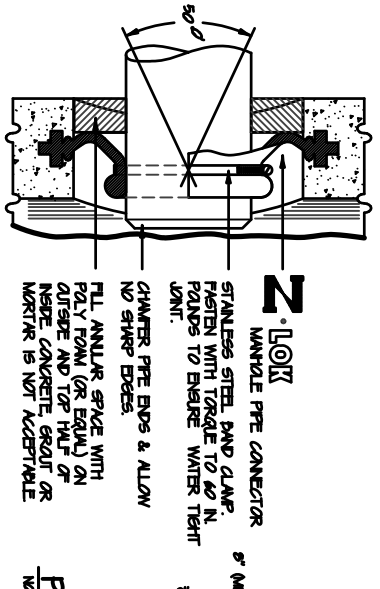
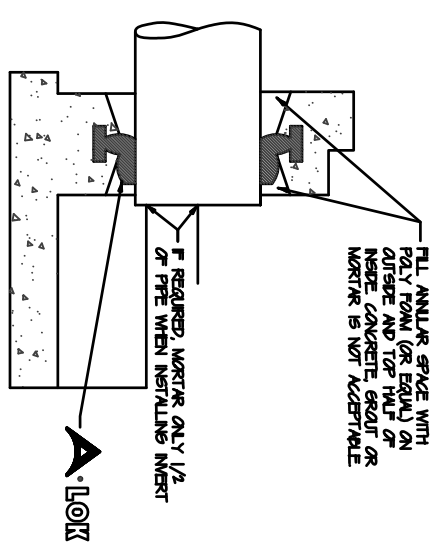
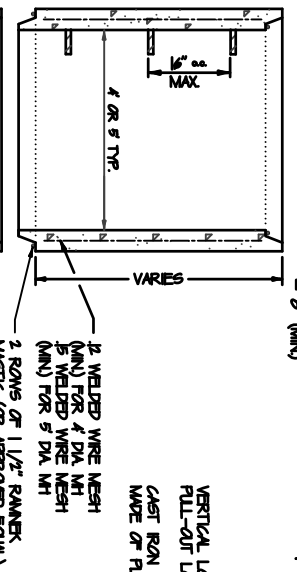
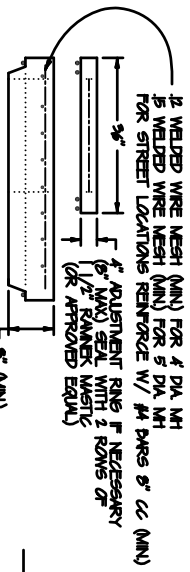


FILL ANNUAL SPACE WITH POLY FOM (OR EQUIV) ON OUTSIDE AND TOP HALF OF MIDGE CONCRETE. GREAT OR MORTAR IS NOT ACCEPTABLE



FOR THE CONNECTION INTO AN EXISTING MANHOLE SAWCUT A SMOOTH PENETRATION INTO THE EXISTING MANHOLE WALL AND UTILIZE AN A-LOCK FIELD SLEEVE WITH WATER STOPS INSTALLED ON THE EXISTING CONCRETE AND THE VOID BETWEEN THE FIELD SLEEVE AND MANHOLE FILLED WITH A NON-SHRINK GROUT.

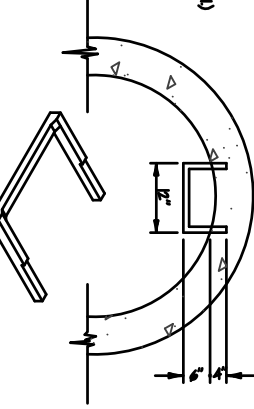
MANHOLE PRE CONNECTOR
NOT TO SCALE



PRECAST FLAT TOP CONCRETE MANHOLE
NOT TO SCALE

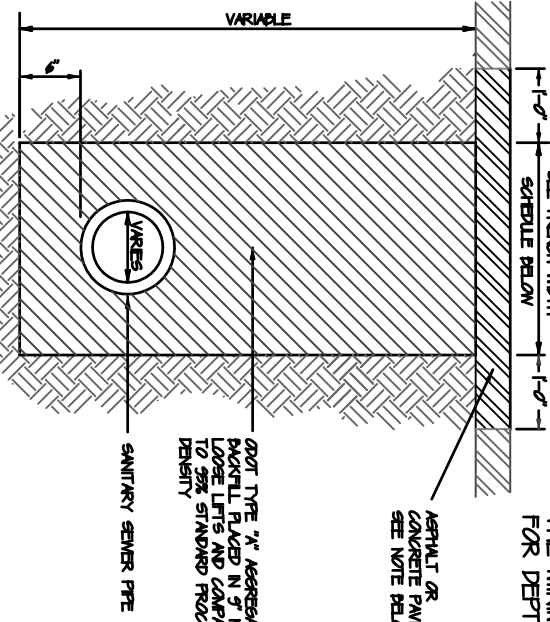
VERTICAL LOAD RESISTANCE: 400 LBS.
FILL-OUT LOAD RESISTANCE: 1000 LBS.
CAST RON CASTINGS CONFORMING TO ASTM-A87-74
MADE OF FLUENT LAMINATE CONFORMING TO ASTM-C289X.

MANHOLE STEPS
NOT TO SCALE

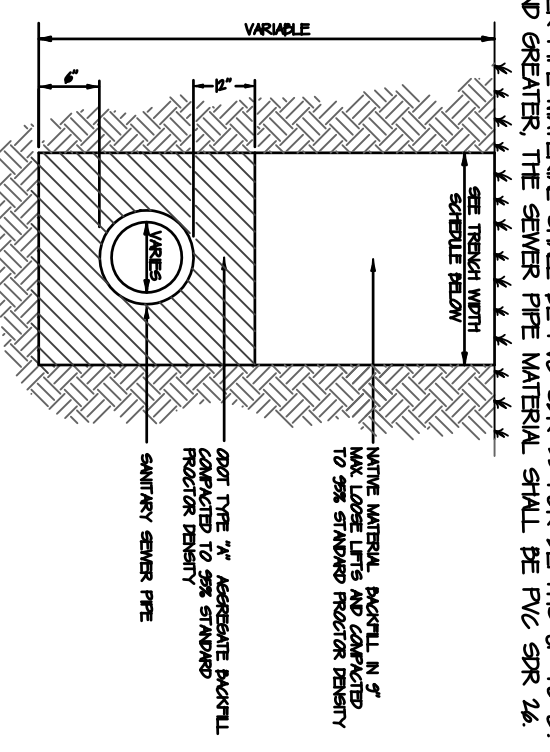


NOTE:
1. PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE A MINIMUM OF 5% (5) NOTES THICK OR MATCH THE EXISTING PAVEMENT THICKNESS WHICHEVER IS GREATER. LAD ON 5% (5) NOTES THICK. 1/4" AGGREGATE BASE WITH A 50% COMPACTED TO NINETY-FIVE PERCENT (95%) STANDARD PROCTOR. CONCRETE TO BE 3500 PSI, 4" SACK MIX. THE CONCRETE SHALL BE DOWNEED INTO THE EXISTING PAVEMENT LANS 24" DIA DOWELS SPACED ON 6" CENTERS AND WITH A 1/2" EMBEDMENT.
2. ASPHALTIC CONCRETE (HOT-MIX HOT-LAD) PAVEMENT SHALL BE A MINIMUM OF 2" (2) NOTES THICK (TYPE 2) OR MATCH THE EXISTING PAVEMENT THICKNESS WHICHEVER IS GREATER. LAD ON A 5% (5) MIX 1/4" AGGREGATE BASE (MATCHED TO 5% STANDARD PROCTOR OVER A 5% STANDARD PROCTOR COMPACTED SURFACE).

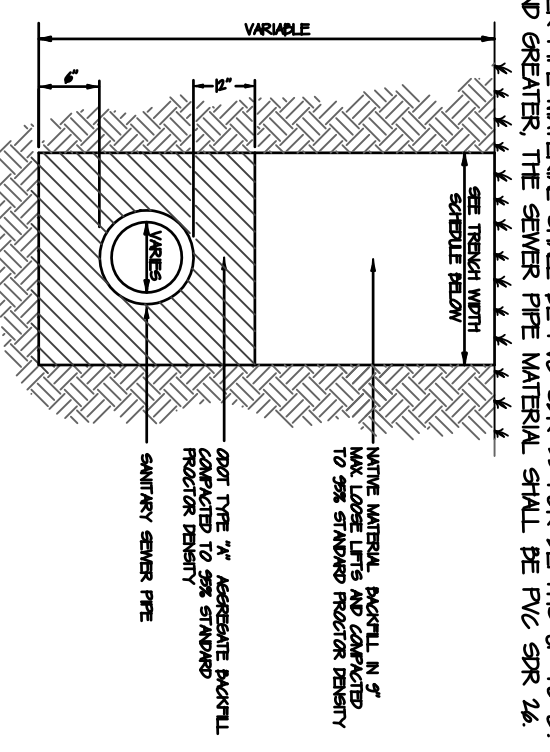
PAVED
NOT TO SCALE



SANITARY SEWER BACKFILL DETAIL
NOT TO SCALE



UNPAVED
NOT TO SCALE

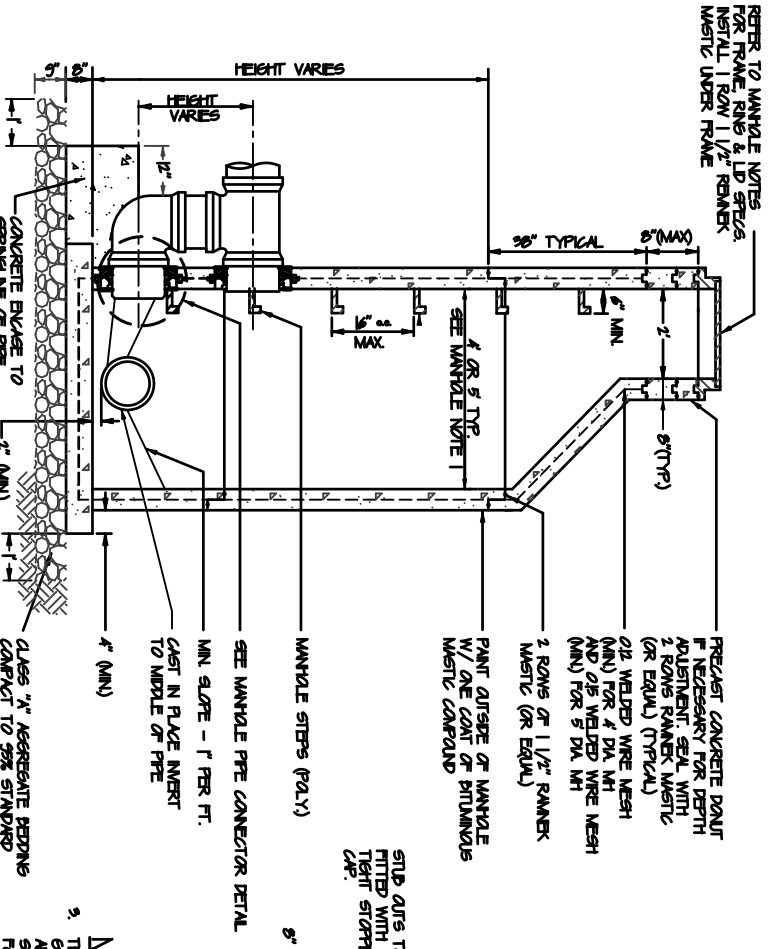


TRENCH WIDTH SCHEDULE

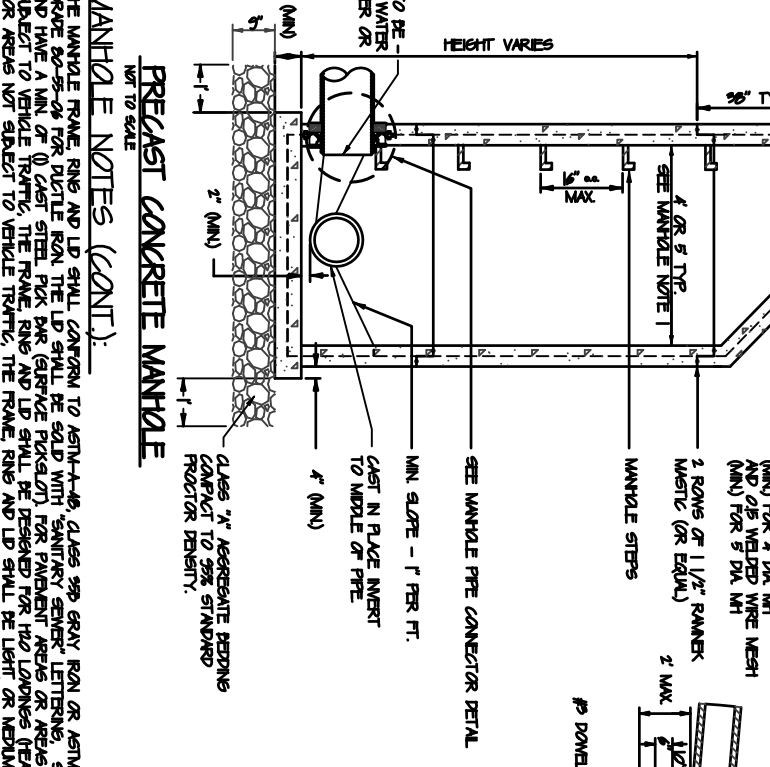
MANHOLE PFE DIAMETER	MINIMUM WIDTH OF TRENCH AT CENTER OF PFE	MINIMUM WIDTH OF TRENCH ABOVE OUTSIDE TOP OF PFE
6" - 8"	24"	36"
10" - 12"	24"	36"
14" - 16"	30"	42"
18" - 20"	36"	48"
24" - 26"	42"	54"
30" - 36"	48"	60"

THE MINIMUM SEWER PIPE MATERIAL SHALL BE PVC SPR 35 FOR DEPTHS UP TO 8'. FOR DEPTHS 8' AND GREATER, THE SEWER PIPE MATERIAL SHALL BE PVC SPR 16.

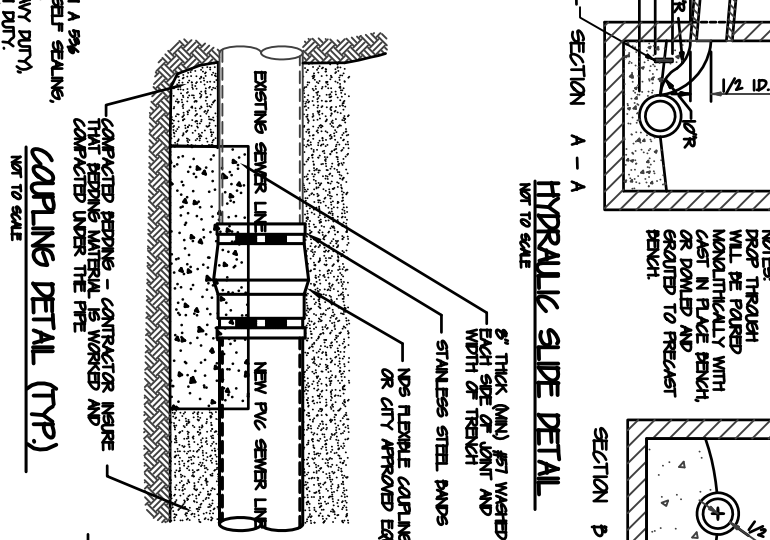
MANHOLE PRE CONNECTOR
NOT TO SCALE



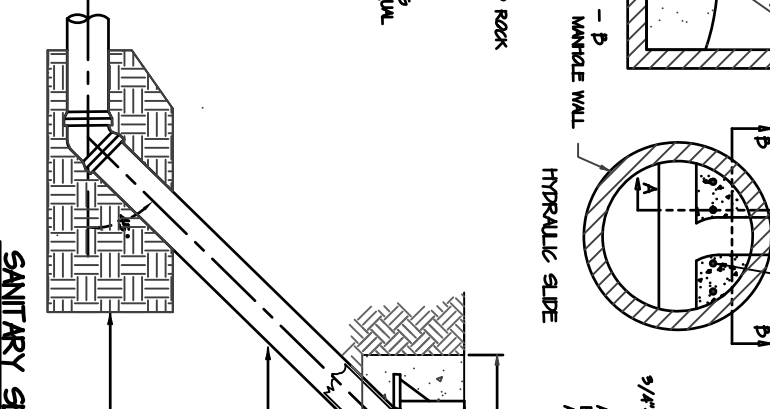
PRECAST DROP MANHOLE DETAIL
NOT TO SCALE



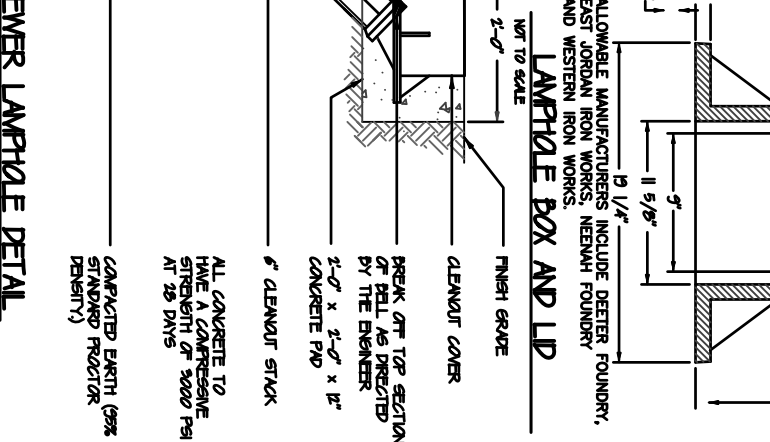
MANHOLE NOTES (CONT.)
NOT TO SCALE



CAPLING DETAIL (TYP.)
NOT TO SCALE

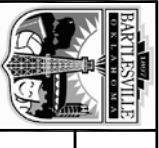


SANITARY SEWER LAMPHOLE DETAIL
NOT TO SCALE



MANHOLE NOTES:
1. CONTRACTOR TO PROVIDE FOUNDATION BRANDES FROM MANHOLE MANUFACTURER OR REGISTERED PROFESSIONAL ENGINEER FOR MANHOLES OVER A DEPTH OF 1/2 FEET. MANHOLES OVER 1/2 FEET IN DEPTH SHALL BE 5 FEET IN DIAMETER (TO BE APPROVED BY CITY OF BARTLESVILLE PRIOR TO CONSTRUCTION).
2. DETERMINE THE KICKOUTS FOR PRECAST MANHOLES ARE NOT ACCEPTABLE UNLESS OTHERWISE APPROVED BY THE CITY.

3. THE MANHOLE FRAME, RING AND LID SHALL CONFORM TO ASTM-A48, CLASS 300, GRAY IRON OR ASTM-A 94, GRADE 50-55 OR FOR DUCTILE IRON THE LID SHALL BE SOLID WITH SANITARY SEWER LETTERING SELF SEALING AND HAVE A MIN. OF 0" CAST STEEL RING BAR (SURFACE POLISHED) FOR PAVEMENT AREAS OR AREAS SUBJECT TO VEHICLE TRAFFIC. THE FRAME, RING AND LID SHALL BE DESIGNED FOR TWO LOADS (HEAVY DUTY) FOR AREAS NOT SUBJECT TO VEHICLE TRAFFIC. THE FRAME, RING AND LID SHALL BE LIGHT OR MEDIUM DUTY. WHERE THE MANHOLE IS SUBJECT TO INUNDATION FROM STORM WATER, USE A LOCKABLE (WATERPROOF) FRAME AND LID. FOR ALL FLAT TOP MANHOLES OR MANHOLES WHERE THE CONICAL SECTION WILL EXTEND TO THE TOP OF THE PRECAST GRADE, AN INSERTED FRAME SHALL BE UTILIZED FOR THE MANHOLE LID.
4. IF A MANHOLE HEIGHT IS BELOW THE MINIMUM HEIGHT FOR A PRECAST UNIT, THEN A CAST IN PLACE MANHOLE MAY BE REQUIRED. LOCATIONS WHERE A CAST IN PLACE MANHOLE IS ALLOWED.
5. IF A PRE-CAST MANHOLE IS TRY-CAST, THE EXTERIOR FINISHES SHALL NOT BE REQUIRED. IF A WET-CAST METHOD MANHOLE IS UTILIZED THEN THE EXTERIOR FINISHES SHALL BE REQUIRED AND SHALL BE TOPPED WITH A 2" OR APPROVED EQUAL DESTINATION FROM THE PRE-CAST COMPANY SHALL BE PROVIDED ON THE METHOD OF CASTING AND APPROVED BY THE CITY PRIOR TO BEGINNING WORK ON THE PROJECT.



CITY OF BARTLESVILLE
ENGINEERING SERVICES
SANITARY SEWER DETAILS

APPROVED BY CITY ENGINEER
REVISED - MAY 2009