



PRECAST 4' x 4' x 4' MANHOLE DETAILS  
N.T.S. (NOT TO SCALE)

PRECAST 4'x4'x4' ELECTRICAL MANHOLE NOTES

1. 4'x4'x4' ELECTRICAL MANHOLE SHALL BE CONSTRUCTED TO MEET THE FOLLOWING:

DESIGN CRITERIA:

- 1) DESIGN SPECIFICATION: ACI 318, AASHTO LOAD FACTOR DESIGN METHOD, AND ASTM C858
- 2) DESIGN LOADING: AASHTO HS20 (32,000 LB/AXLE)
- 3) LIVE LOAD SURCHARGE: .5% OF THE WHEEL LOADING APPLIED TO 8'-0" OF DEPTH.
- 4) CONCRETE COMPRESSIVE STRENGTH:  $F'_c = 4500$  PSI
- 5) REINFORCING STEEL: ASTM A706,  $F_y = 60000$  PSI

DESIGN ASSUMPTIONS:

- 1) GROUND WATER LEVEL: 3'-6" BELOW GRADE.
- 2) EARTH COVER: 2'-0" MINIMUM TO 5'-0" MAXIMUM
- 3) LIVE LOAD IMPACT: 2'-0"  $I = 20\%$   
2'-1" TO 2'-11"  $I = 10\%$   
3'-0" TO 5'-0"  $I = 0\%$
- 4) COEFFICIENT OF ACTIVE EARTH PRESSURE:  $K_a = 0.3$
- 5) SPECIFIC WEIGHT OF STD. AGGREGATE CONCRETE" 150 PCF
- 6) SPECIFIC WEIGHT OF DRY EARTH: 100 PCF
- 7) SPECIFIC WEIGHT OF SATURATED EARTH: 120 PCF
- 8) EQUIVALENT FLUID PRESSURE OF DRY EARTH: 30 PSF
- 9) EQUIVALENT FLUID PRESSURE OF SATURATED EARTH: 80 PSF

THE SUPPLIER SHALL PROVIDE CERTIFICATION THAT THE PRECAST MANHOLES MEET OR EXCEED THESE REQUIREMENTS PRIOR TO INSTALLATION.

2. MANHOLE FRAME & LID SHALL BE CAPABLE OF WITHSTANDING MINIMUM 50,000 POUND LOADS. MANHOLE FRAME & LID SHALL BE NEENAH CATALOG NO. R-1640-C OR APPROVED EQUAL. LID FOR HIGH VOLTAGE MANHOLE SHALL BE LABELED "HIGH VOLTAGE". LID FOR LOW VOLTAGE MANHOLE SHALL BE LABELED "LOW VOLTAGE" OR "OV-600V".
3. COORDINATE DUCT BANK INTERFACE & OPENINGS WITH THE MANHOLE MFR. CONTRACTOR SHALL SLOPE DUCT BANK TO PRECAST MANHOLE OPENINGS. ALL OPENINGS SHALL BE SEALED WATERTIGHT AFTER DUCT BANK INSTALLATION.
4. 4'x4'x4' MANHOLE SHALL BE MANUFACTURED BY A CONCRETE ELECTRICAL MANHOLE PRODUCER ON THE ILLINOIS DEPARTMENT OF TRANSPORTATION APPROVED LIST OF CERTIFIED PRECAST CONCRETE PRODUCERS..
5. 4'x4'x4' MANHOLE SHALL BE PAID FOR UNDER ITEM AR110710 ELECTRICAL MANHOLE PER EACH.
6. CABLE RACKS SHALL BE HEAVY DUTY CORROSION RESISTANT NYLON MATERIAL WITH CORROSION RESISTANT STAINLESS STEEL MOUNTING HARDWARE; UNDERGROUND DEVICES, INC. CAT. NO. 3SR1N, 3SR2N OR 3SR3N OR EQUAL. PROVIDE AT LEAST TWO TRIPLE HOOK CABLE RACKS ON EACH MANHOLE WALL, SPACED TO SUPPORT RESPECTIVE CABLES.
7. COORDINATE INSTALLATION OF MANHOLES WITH RESPECTIVE FINISHED GRADE ELEVATIONS.

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REVISION	DATE

EDGAR COUNTY AIRPORT  
PARIS, ILLINOIS  
A.I.P. PROJ.: 3-17-0077-B13  
IL PROJ.: PRG-4018

Hanson Proj. No. 10A0053	01/06/11
Filename E-506.DWG	KNL
Scale NONE	MLH
Date 03/10/11	CAH
LAYOUT	REVIEWED
DRAWN	

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CONSTRUCT CROSSWIND  
RUNWAY 18-36  
4'X4'X4' ELECTRICAL  
MANHOLE