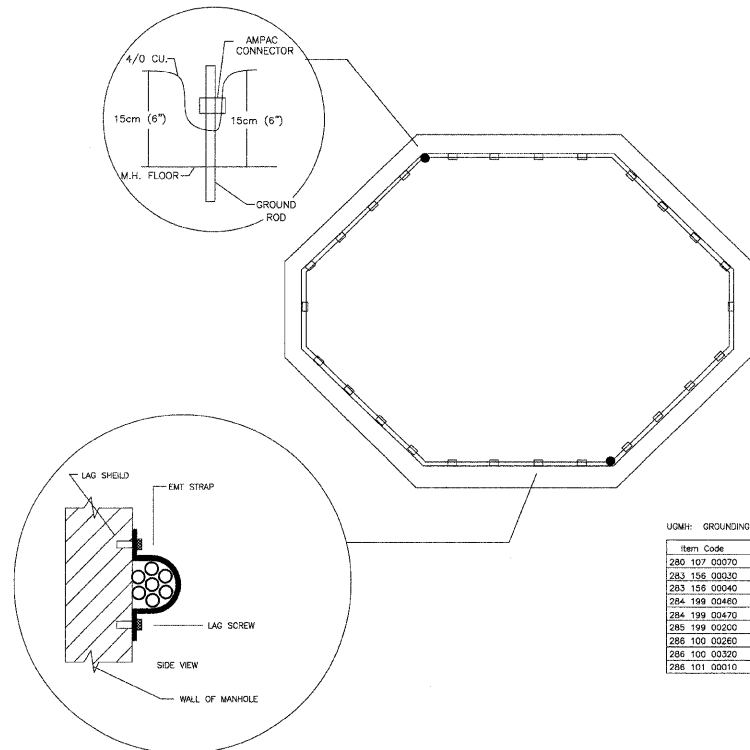


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3570	00-00116-00-BR	DUPAGE	106	68
STA. 4+38.47		TO STA. 14+62.4		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT 83827				

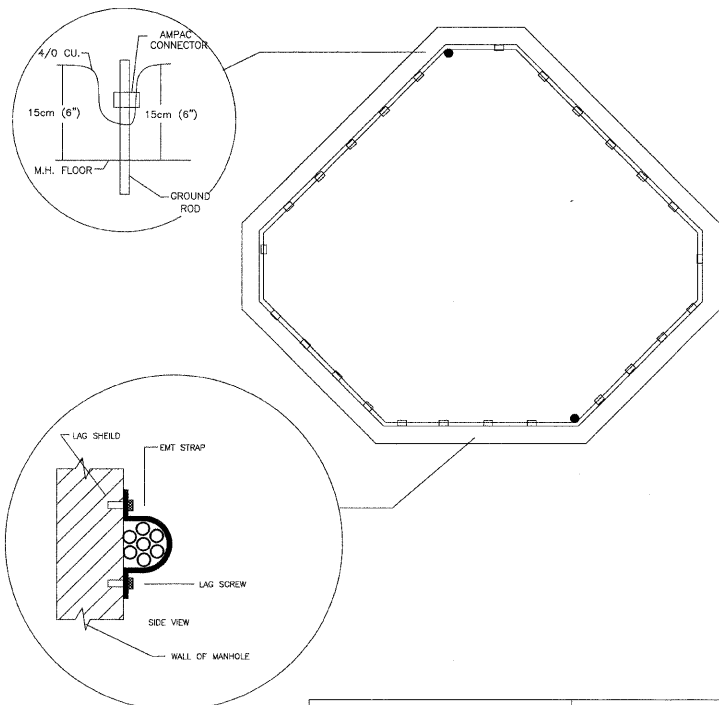


UGMH: GROUNDING MANHOLE				UGMH	UGMHG	UGMHR
Item Code	Description 1	Description 2	Qty	Qty	Qty	
280 107 00070	CU BARE SD	4/0 7-STR	40	40		
283 158 00030	GROUND ROD, COPPER CLAD	5/8" X 5' USE 10 FOOTER	4		4	
283 158 00040	COUPLING, BRONZE	5/8" ROD	2		2	
284 199 00460	LAG SHIELD, LEAD SHORT	1/4"	26			
284 199 00470	LAG SCREW, SS	1/4" X 1"	26	26		
285 199 00200	STRAP, EMT	1/2" SS	26	26		
286 100 00280	CONNECTOR, WEDGE CU	4/0 STR(7) - 4/0 STR(7)	1	1		
286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(7) - 5/8" ROD	2	2		
286 101 00010	SHELL, WEDGE AMP	WHITE	3	3		

- KEEP 4/0 CU IN ONE PIECE AROUND INNER WALL; TIE TOGETHER WITH ONE AMPAC. 4/0 IS SUPPORTED ALONG INNER WALL OF M.H., 15cm (6") ABOVE M.H. FLOOR, AT (2 FOOT) INTERVALS.
- COPPER STRAP AND LEAD ANCHOR SHALL BE INSTALL AT 60cm (TWO FOOT) INTERVALS.
- THE TWO KNOCKOUTS IN THE FLOOR SHOULD BE USED. IF SOLID ROCK IS ENCOUNTERED UNDER THE MANHOLE, REFER TO ENGINEERING.
- TWO 1.5 METER (5') GROUND RODS AND ONE COUPLING SHOULD BE INSTALLED WITH A DRIVING STUD PER KNOCKOUT.

ASSEMBLY CODES		
CODE	QTY	DESCRIPTION
UGMH	1	GROUNDING MANHOLE

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	GROUNDING DETAIL TYPE "E" MANHOLE	DATE: 03-17-04 C30-1160
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UGMH: GROUNDING MANHOLE				UGMH	UGMHG	UGMHR
Item Code	Description 1	Description 2	Qty	Qty	Qty	
280 107 00070	CU BARE SD	4/0 7-STR	40	40		
283 158 00030	GROUND ROD, COPPER CLAD	5/8" X 5' USE 10 FOOTER	4		4	
283 158 00040	COUPLING, BRONZE	5/8" ROD	2		2	
284 199 00460	LAG SHIELD, LEAD SHORT	1/4"	26			
284 199 00470	LAG SCREW, SS	1/4" X 1"	26	26		
285 199 00200	STRAP, EMT	1/2" SS	26	26		
286 100 00280	CONNECTOR, WEDGE CU	4/0 STR(7) - 4/0 STR(7)	1	1		
286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(7) - 5/8" ROD	2	2		
286 101 00010	SHELL, WEDGE AMP	WHITE	3	3		

- KEEP 4/0 CU IN ONE PIECE AROUND INNER WALL; TIE TOGETHER WITH ONE AMPAC. 4/0 IS SUPPORTED ALONG INNER WALL OF M.H., 15cm (6") ABOVE M.H. FLOOR, AT (2 FOOT) INTERVALS.
- COPPER STRAP AND LEAD ANCHOR SHALL BE INSTALL AT 60cm (TWO FOOT) INTERVALS.
- THE TWO KNOCKOUTS IN THE FLOOR SHOULD BE USED. IF SOLID ROCK IS ENCOUNTERED UNDER THE MANHOLE, REFER TO ENGINEERING.
- TWO 1.5 METER (5') GROUND RODS AND ONE COUPLING SHOULD BE INSTALLED WITH A DRIVING STUD PER KNOCKOUT.

ASSEMBLY CODES		
CODE	QTY	DESCRIPTION
UGMH	1	GROUNDING MANHOLE

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	GROUNDING DETAIL TYPE "G" MANHOLE	DATE: 03-17-04 C30-1170
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NOTES:

- ALL MANHOLES SHALL BE INSTALLED AND GROUNDS INSTALLED AND GROUND RODS TESTED IMMEDIATELY.
- IF TESTING INDICATES A GROUND RESISTANCE MORE THAN 25 OHMS ADDITIONAL RODS NEED TO BE ADDED OR COUNTER POISE INSTALLED.
- THE COUNTER POISE IF REQUIRED, WILL BE INSTALLED IN THE TRENCH WHEN THE DUCT IS INSTALLED. INSTALL 4/0 BARE 7-STRAND COPPER WIRE THRU THE 2-KNOCKOUTS IN WALL. TRAIN AROUND MANHOLE TO DUCT RUNS AND INSTALL 200 FEET OF COUNTER POISE IN TWO DIRECTIONS FROM MANHOLE ABOVE DUCT AND BEFORE BACK FILLING.
- CONTRACTOR IS ADVISED IF THE DUCT IS INSTALLED PRIOR TO MANHOLE WORK. THE CONTRACTOR SHALL TEST SOIL RESISTANCE AT MANHOLE LOCATION PRIOR TO INSTALLING DUCT.
- AFTER COUNTER POISE IS INSTALLED GROUNDS SHALL BE RETESTED AND FINDINGS GIVEN TO THE CITY.

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC					
CALL J.U.I.E. 48 HRS. PRIOR TO CONSTRUCTION					
PROJECT TITLE	JEFFERSON AV. BRIDGE DUCTBANK INSTALLATION		MAP NO.:	CAD FILE: 0054679001D13.DWG	
PROJECT DESCRIPTION	MANHOLE DETAILS		DRAWN BY:	PROJECT NO.: EU13-04-06	
DATE	4-01 09		WORK REQUEST NO.	54679	COMPLETED BY:
ISSUED			CHKD:		
ENGINEER	PSM		APPR:		
REVISION	1	2	SCALE:	NTS	SHEET 13 OF 30