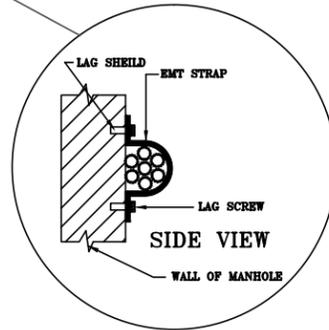
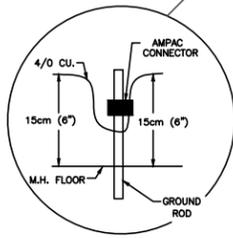
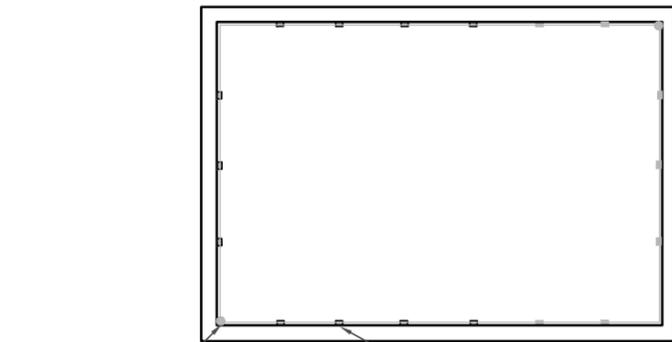


F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338/IL 59	2011-035-1	DUPAGE		
CONTRACT 60P42				
FED.ROAD.DIST.NO.	ILLINOIS	FED. AID PROJECT		



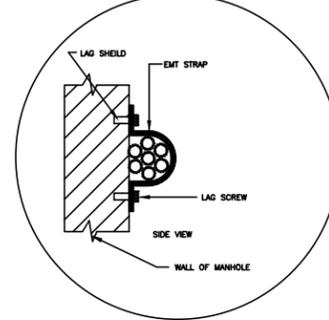
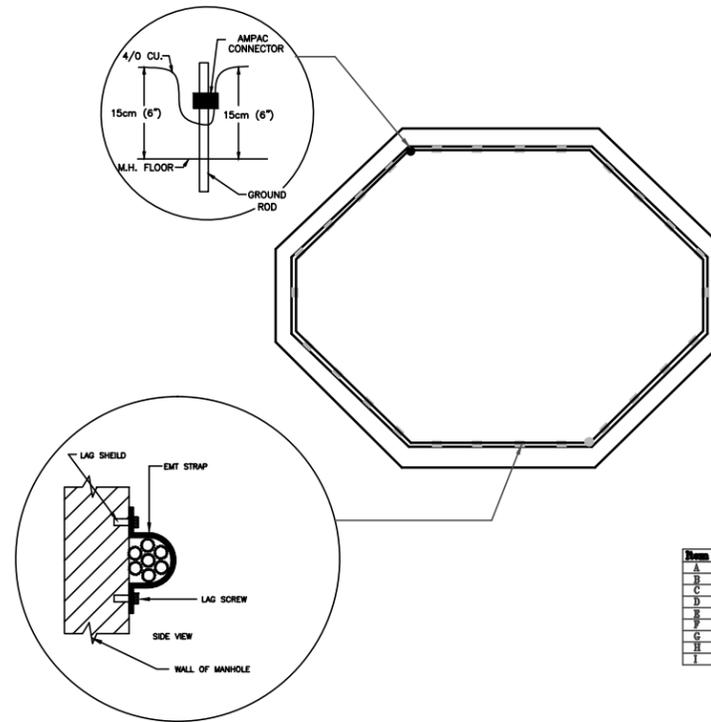
UGMH: GROUNDING MANHOLE

Item	Item Code	Description 1	Description 2	QTY	QTY	QTY	QTY
A	280 107 00070	CU BARE SD	4/0 7-STR	40	40		200
B	283 155 00030	GROUND ROD, COPPER CLAD	5/8" X 6' USE 10 FOOTER	4		4	4
C	283 155 00040	COUPLING, BRONZE	5/8" ROD	2		2	2
D	284 199 00460	LAG SHIELD, LEAD SHEET	1/4"	28			
E	284 199 00470	LAG SCREW, SS	1/4" X 1"	28	28		
F	285 199 00200	STRAP, EMT	1/2" SS	28	28		
G	286 100 00260	CONNECTOR, WEDGE CU	4/0 STR(7) - 4/0 STR(7)	1		1	2
H	286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(7) - 5/8" ROD	2		2	
I	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.
- SEE STANDARD C30-0020 FOR COUNTERPOISE IF TYPICAL DRIVEN GROUNDS ARE IMPOSSIBLE.

ASSEMBLY CODES		
CODE	QTY	DESCRIPTION
UGMH	1	GROUNDING MANHOLE

NAPEVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC DIVISION	GROUNDING DETAIL TYPE "A" MANHOLE	DATE: 03-17-04 C30-1140
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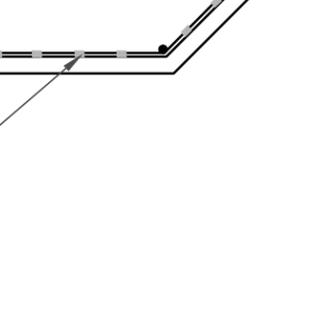
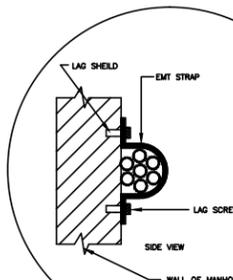
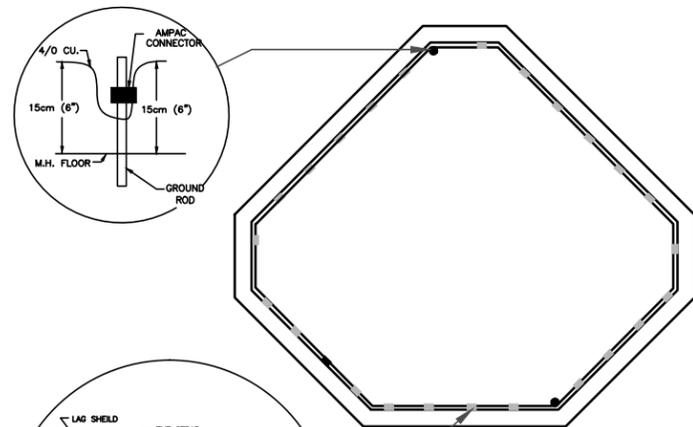
UGMH: GROUNDING MANHOLE

Item	Item Code	Description 1	Description 2	QTY	QTY	QTY	QTY
A	280 107 00070	CU BARE SD	4/0 7-STR	40	40		200
B	283 155 00030	GROUND ROD, COPPER CLAD	5/8" X 6' USE 10 FOOTER	4		4	4
C	283 155 00040	COUPLING, BRONZE	5/8" ROD	2		2	2
D	284 199 00460	LAG SHIELD, LEAD SHEET	1/4"	28			
E	284 199 00470	LAG SCREW, SS	1/4" X 1"	28	28		
F	285 199 00200	STRAP, EMT	1/2" SS	28	28		
G	286 100 00260	CONNECTOR, WEDGE CU	4/0 STR(7) - 4/0 STR(7)	1		1	2
H	286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(7) - 5/8" ROD	2		2	
I	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.
- SEE STANDARD C30-0020 FOR COUNTERPOISE IF TYPICAL DRIVEN GROUNDS ARE IMPOSSIBLE.

ASSEMBLY CODES		
CODE	QTY	DESCRIPTION
UGMH	1	GROUNDING MANHOLE

NAPEVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC DIVISION	GROUNDING DETAIL TYPE "E" MANHOLE	DATE: 03-17-04 C30-1160
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UGMH: GROUNDING MANHOLE

Item	Item Code	Description 1	Description 2	QTY	QTY	QTY	QTY
A	280 107 00070	CU BARE SD	4/0 7-STR	40	40		200
B	283 155 00030	GROUND ROD, COPPER CLAD	5/8" X 6' USE 10 FOOTER	4		4	4
C	283 155 00040	COUPLING, BRONZE	5/8" ROD	2		2	2
D	284 199 00460	LAG SHIELD, LEAD SHEET	1/4"	28			
E	284 199 00470	LAG SCREW, SS	1/4" X 1"	28	28		
F	285 199 00200	STRAP, EMT	1/2" SS	28	28		
G	286 100 00260	CONNECTOR, WEDGE CU	4/0 STR(7) - 4/0 STR(7)	1		1	2
H	286 100 00320	CONNECTOR, WEDGE CU	4/0 STR(7) - 5/8" ROD	2		2	
I	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.
- SEE STANDARD C30-0020 FOR COUNTERPOISE IF TYPICAL DRIVEN GROUNDS ARE IMPOSSIBLE.

ASSEMBLY CODES		
CODE	QTY	DESCRIPTION
UGMH	1	GROUNDING MANHOLE

NAPEVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC DIVISION	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.

PROJECT TITLE				ROUTE 59 ROAD IMPROVEMENTS			
PROJECT DESCRIPTION				DETAILS AND STANDARDS			
ENGINEER	DRAFTING DATE	MAP #	SCALE				
BCC	5-11-12	4211,4212,4223	N.T.S.				
DESIGN BY	DRAFTED BY	AT&T JOINT AGREEMENT #	PROJECT #				
DL	PSM	N/A	EU-12				
CHECKED BY	APPROVED BY	CAD FILE	SHEET #				
		0060648001D13DWG	23 OF 63				
Naperville			Department of Public Utilities Electric Division		WORK REQUEST #		
					60468		