

**VILLAGE OF DOWNERS GROVE**  
**Report for the Village**  
**1/9/2024**

<b>SUBJECT:</b>	<b>SUBMITTED BY:</b>
McKay Brothers Amendment to License Agreement – 801 Burlington Tower Relocate	Enza Petrarca Village Attorney

**SYNOPSIS**

A resolution has been prepared authorizing execution a first amendment to license agreement between the Village of Downers Grove and McKay Brothers for the operation of telecommunication equipment on Village property currently located at 801 Burlington Avenue (to be relocated to 650 Curtiss Street), Downers Grove.

**STRATEGIC PLAN ALIGNMENT**

The goals for 2023-2025 include *Steward of Financial, Environmental and Neighborhood Sustainability*.

**FISCAL IMPACT**

As of January 1, 2024, the license fee under the current agreement will be \$5,693.25 per month.

**RECOMMENDATION**

Approval on the January 9, 2024 Consent Agenda.

**BACKGROUND**

McKay Brothers, LLC doing business as McKay, is a provider of digital communications in the Chicagoland area. McKay has operated equipment on the 801 Burlington Avenue tower since 2014. The current tower is set to be removed and relocated as part of the Civic Center reconstruction project. McKay wishes to relocate on the new tower at 650 Curtiss Street. The proposed first amendment reflects both the current and new address along with updated plans for the equipment that will be installed on the new tower. Since the term was also nearing its end on December 31, 2025, McKay opted to extend the agreement to December 31, 2035. All other provisions of the prior agreement will remain in full force and effect.

**ATTACHMENTS**

Resolution  
Agreement

## RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION AUTHORIZING EXECUTION OF A  
FIRST AMENDMENT TO LICENSE AGREEMENT BETWEEN  
THE VILLAGE OF DOWNERS GROVE AND MCKAY BROTHERS, LLC  
(801 BURLINGTON AVENUE)**

BE IT RESOLVED by the Village Council of the Village of Downers Grove, DuPage County, Illinois as follows:

1. That the form and substance of a certain First Amendment ("Agreement"), between the Village of Downers Grove ("Village") and McKay Brothers, LLC ("Licensee") for the maintenance and operation of antenna equipment on Village property currently located at 801 Burlington Avenue (to be relocated to 650 Curtis Street), Downers Grove, IL, as set forth in the Agreement submitted to this meeting with the recommendation of the Village Manager, is hereby approved.
2. That the Village Manager and Village Clerk are hereby respectively authorized and directed for and on behalf of the Village to execute, attest, seal and deliver the Agreement, substantially in the form approved in the foregoing paragraph of this Resolution, together with such changes as the Manager shall deem necessary.
3. That the proper officials, agents and employees of the Village are hereby authorized and directed to take such further action as they may deem necessary or appropriate to perform all obligations and commitments of the Village in accordance with the provisions of the Agreement.
4. That all resolutions or parts of resolutions in conflict with the provision of this Resolution are hereby repealed.
5. That this Resolution shall be in full force and effect from and after its passage as provided by law.

\_\_\_\_\_  
Mayor

Passed:

Attest: \_\_\_\_\_  
Village Clerk

## FIRST AMENDMENT TO LICENSE AGREEMENT

THIS FIRST AMENDMENT TO LICENSE AGREEMENT ("**First Amendment**"), dated as of the latter of the signature dates below, is by and between the Village of Downers Grove, an Illinois municipal corporation, having a current mailing address of 801 Burlington Avenue (to be relocated to 850 Curtiss Street), Downers Grove, IL 60515 (hereinafter referred to as "**Village**"), and McKay Brothers, LLC, having a mailing address of 2355 Broadway, Suite 206, Oakland, CA 94606 (hereinafter referred to as "**Licensee**").

WHEREAS, Village and Licensee entered into a License Agreement dated December 8, 2014 (the "**Agreement**"), adopted by the Village on December 16, 2014 by Resolution No. 2014-80, whereby Village licensed to Licensee a certain portion of the property ("**Property**") currently located at 801 Burlington Avenue (to be relocated at 650 Curtiss Street), Downers Grove, IL in order to install communication equipment (hereinafter referred to as the "**Licensee Improvements**") on the Tower (the "**Tower Space**") and certain related equipment on the ground (the "**Ground Space**"); and

WHEREAS, Village and Licensee, in their mutual interest, wish to amend the Agreement as set forth below.

NOW THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Village and Licensee agree that the recitals set forth above are incorporated herein as if set forth in their entirety and further agree as follows:

1. Section 1. "Contract Documents" of the Agreement is stricken and replaced with the following:

1. **CONTRACT DOCUMENTS:**

The provisions set forth in the preamble and the following exhibits are incorporated into and made a part of this Agreement:

- a. Exhibit 1 - Site map(s) of the Property (or upgrades thereto) dated November 8, 2023, as amended from time to time and approved by the Village, showing the Tower Space, Ground Space, together with the areas on the Property licensed to Licensee to provide access and utility service to the Ground Space (collectively the "**Licensed Premises**") which includes location of any proposed underground utilities necessary for operation of the Antenna.
    - b. Exhibit 2 - Plans and specifications (or upgrades thereto) dated November 8, 2023, as amended from time to time and approved by the Village, for the Equipment and any cables, utility lines or equipment cabinets to be installed on the Licensed Premises and used for housing of the related Antenna equipment (collectively the "**Licensee's Improvements**").
    - c. Exhibit 3 - Plans and specifications (or upgrades thereto), as amended from time to time and approved by the Village, for the Licensee's Improvements and any cables or utility lines installed on the Licensed Premises for any sublicensee.

2. Section 4.f of the Agreement is hereby deleted in its entirety and replaced with the following:

Licensee shall be entitled to access the Licensed Premises Monday through Friday, 7:00 a.m. to 3:30 p.m. Central Time, by contacting the Village Building Services Department at (630) 434-5551 (650 Curtiss Tower) or the Public Works Department at (630) 434-5460 (for all other Towers). If access is required after business hours, on weekends, on a holiday or in the event of an emergency, Licensee shall contact the Village at (630) 434-5600. Except in emergency situations, Licensee may be required to pay the Village for costs incurred for Tower access after-hour.

3. Section 6.a of the Agreement shall be amended as follows:

- a. This Agreement shall have an Initial Term beginning, January 1, 2015 or upon the issuance of a building permit, (whichever occurs later), and ending December 31, 2015, and four (4) five-year Extension Terms beginning January 1, 2016, January 1, 2021, January 1, 2026 and January 1, 2031, respectively. The extensions shall automatically commence unless either party provides the other with written notice of its election not to renew the License at least one hundred and twenty (120) days prior to the expiration of the current term. The final date of the agreement shall be December 31, 2035.

4. Section 21. "Notices" of the Agreement is amended to indicate the current addresses of each party:

**21. NOTICES:**

Unless otherwise specified herein, all notices, requests and demands hereunder will be given by first class certified or registered mail, return receipt requested, or by a nationally recognized overnight courier, postage prepaid, to be effective when properly sent and received, refused or returned undelivered. Notices will be addressed to the parties hereto as follows:

*Village:*

Village Manager  
Village of Downers Grove  
850 Curtiss Street  
Downers Grove, IL 60515  
(630) 434-5500  
[dfieldman@downers.us](mailto:dfieldman@downers.us)

*With Copy to:*

Village Attorney  
Village of Downers Grove  
850 Curtis Street  
Downers Grove, IL 60515  
(630) 434-5541  
[epetrarca@downers.us](mailto:epetrarca@downers.us)

*Licensee:*

McKay Brothers, LLC  
 Property Management  
 2355 Broadway, Suite 206  
 Oakland, CA 94606  
 (510) 891-1731  
[tim.fincham@mckay-brothers.com](mailto:tim.fincham@mckay-brothers.com)

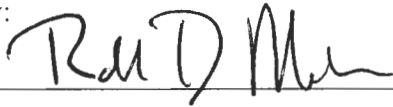
5. Except as amended herein, all terms, conditions, provisions, covenants and agreements contained in the Agreement and First Amendment shall be reinstated and shall remain in full force and effect in their entirety. All capitalized terms used, but not defined herein, shall have the meanings ascribed to such terms in the Agreement. In the event of a conflict between this First Amendment and the Agreement, this First Amendment shall control. Each reference in the Agreement to itself shall be deemed also to refer to this First Amendment.

**IN WITNESS WHEREOF**, the parties hereto have executed this First Amendment to the Agreement on the 6 day of December, 2023.

**LICENSEE:**

**MCKAY BROTHERS, LLC**

By:



Title:

CO-MANAGER

Print Name:

ROBERT D MEADE

Date:

12-6-23

**LICENSOR:**

**VILLAGE OF DOWNERS GROVE**

By:

\_\_\_\_\_  
 Village Manager

**ATTEST:**

\_\_\_\_\_  
 Village Clerk

IMPORTANT SITE NOTES:

1. CONTRACTOR WILL NOT START CONSTRUCTION UNTIL AFTER THEY HAVE RECEIVED THE PRE-CON PACKAGE AND HAVE A PRE-CON WALK WITH THE PROJECT MANAGER.
2. CONTRACTOR TO HIRE PUBLIC (811) AND PRIVATE LOCATING SERVICE IN ORDER TO LOCATE AND PROTECT ALL SURFACE UTILITIES. DO NOT SCALE OFF THESE PLANS FOR ANY BELOW GRADE UTILITIES
3. CONTRACTOR SHALL VERIFY ALL EXISTING BURIED AND OVERHEAD UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL REPAIR ALL DAMAGED UTILITIES AT HIS OWN COST AND COORDINATE ANY REPAIRS WITH RESPECTIVE UTILITY COMPANY.
4. CONTRACTOR TO VERIFY ALL HEIGHTS AND AZIMUTHS IN FIELD PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY CARRIER OF ANY DISCREPANCIES BEFORE PROCEEDING.
5. CONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION.

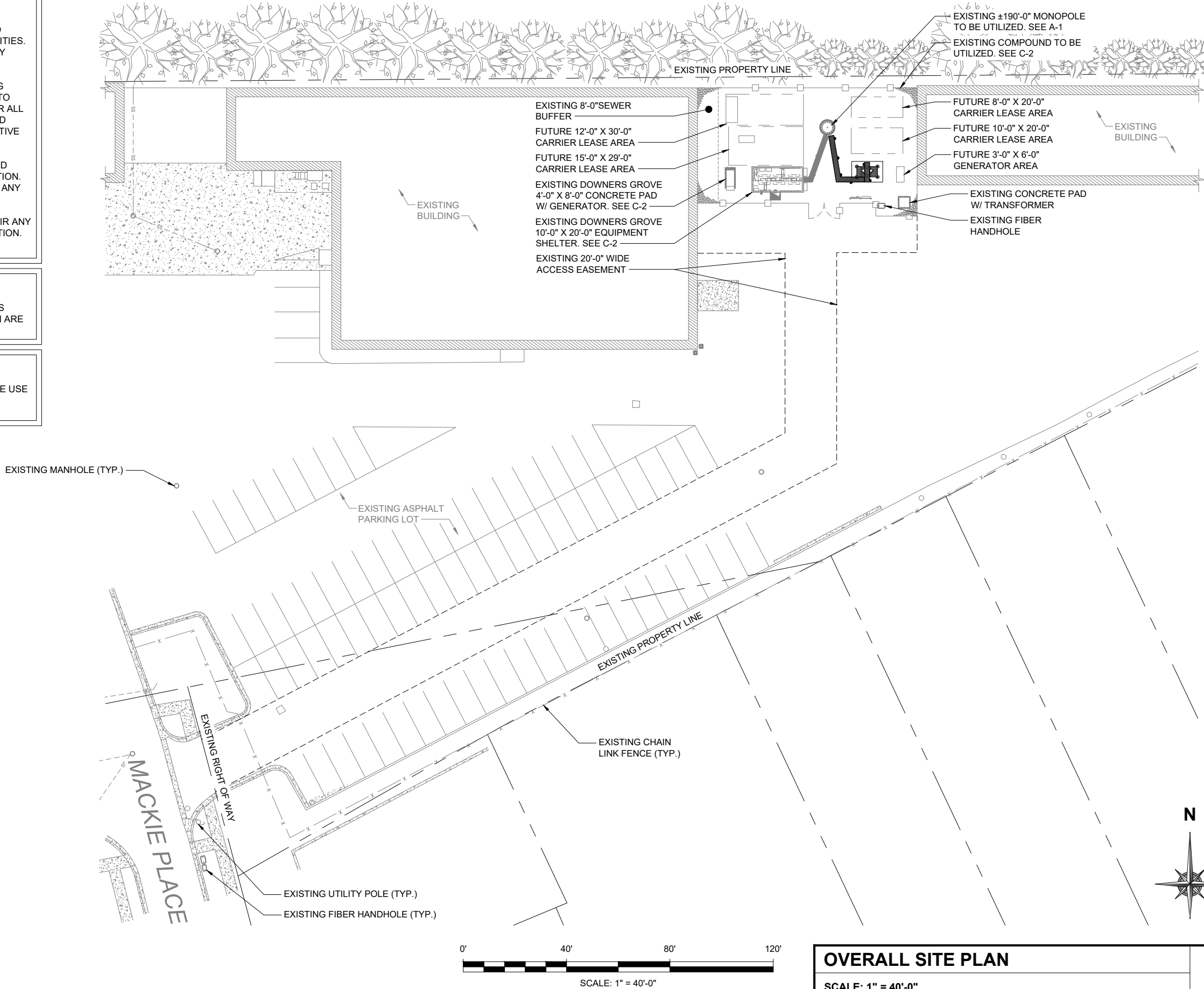
NOTE:

1. NO SURVEY HAS BEEN PERFORMED ON THIS SITE. ALL PARCEL/PROPERTY LINES SHOWN ARE APPROXIMATE LOCATIONS.

NOTE:

1. DRAWINGS HAVE BEEN PREPARED WITH THE USE OF EXISTING CONSTRUCTION DRAWINGS & AERIAL PHOTOS.

APPROXIMATE LATITUDE AND LONGITUDE:  
41.795353° (41° 47' 43.27" N),  
-88.002864° (-88° 00' 10.31" W)



OVERALL SITE PLAN

SCALE: 1" = 40'-0"

1

McKay Brothers

**WT GROUP**  
Engineering with Precision, Pace and Passion  
2975 Pratum Avenue | Hoffman Estates, IL 60132  
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**DOWNERS GROVE, IL**  
650 CURTISS STREET  
DOWNERS GROVE, IL 60515



EXPIRES: 11/30/23 SIGNED: 11/08/23

REVISIONS

REV.	ISSUED FOR	DATE	BY
A	FOR CLIENT REVIEW	06/01/23	JEG
B	FOR CLIENT REVIEW	06/09/23	JEG
0	FINAL	06/22/23	DVL
1	FINAL	07/31/23	DVL
2	FINAL	09/20/23	DVL
3	FINAL	10/04/23	DVL
4	FINAL	10/24/23	DVL

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CIVIL \ TELECOMMUNICATION \ MECHANICAL  
PLUMBING \ ELECTRICAL \ LAND SURVEYING  
ACCESSIBILITY CONSULTING \ STRUCTURAL



CHECK: JKR

DRAWN: JEG

JOB: T2300352

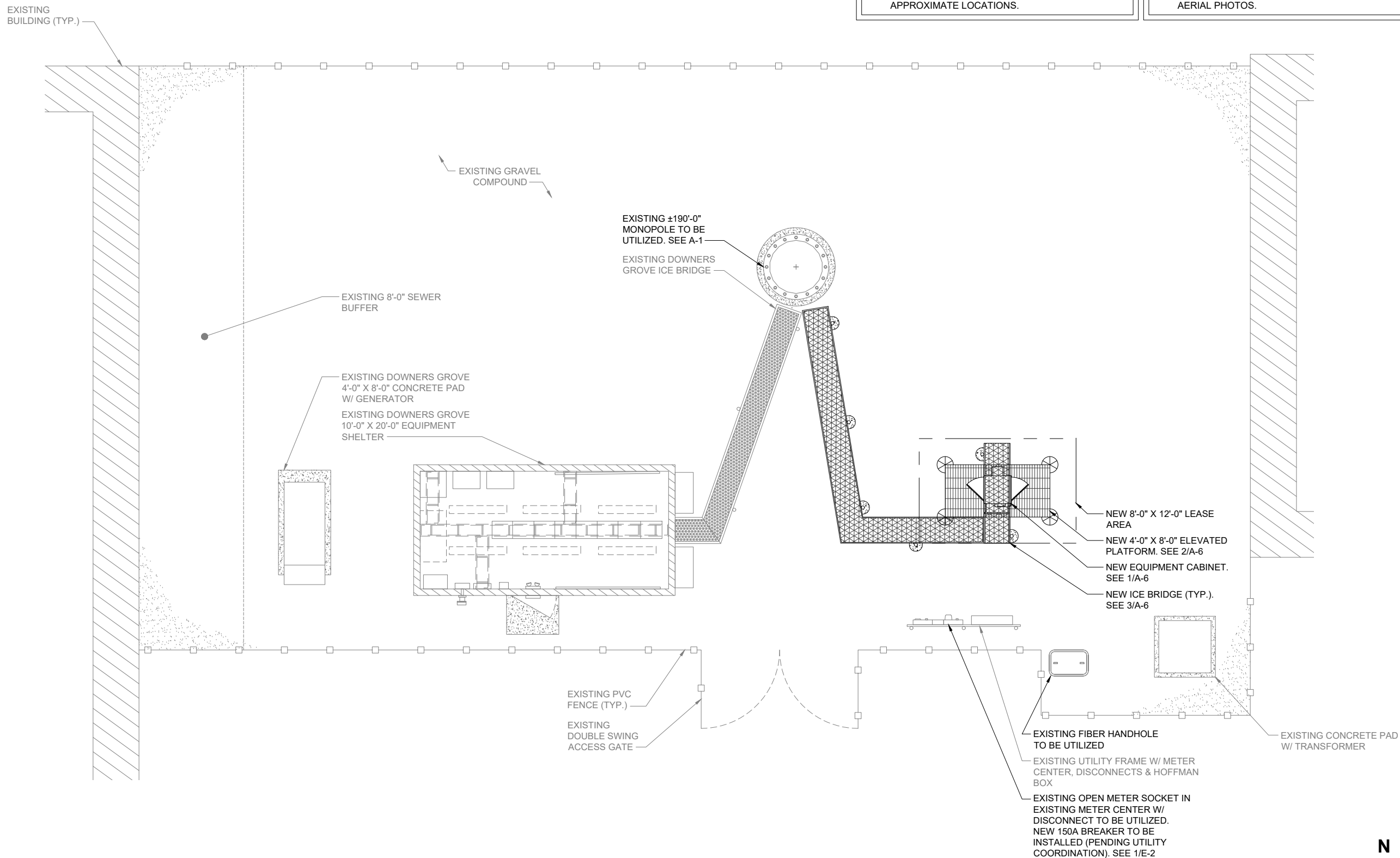
**C-1**

OVERALL SITE PLAN

- NOTE:

1. NO SURVEY HAS BEEN PERFORMED ON THIS SITE. ALL PARCEL/PROPERTY LINES SHOWN ARE APPROXIMATE LOCATIONS.
- NOTE:

1. DRAWINGS HAVE BEEN PREPARED WITH THE USE OF EXISTING CONSTRUCTION DRAWINGS & AERIAL PHOTOS.



( . . . ) McKay Brothers

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Engineering with Precision, Pace and Passion  
2975 Prichard Avenue | Hoffman Estates, IL 60132  
T: 224.293.6333 | F: 224.293.6444  
wtgroup.com

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**DOWNERS GROVE, IL**  
650 CURTISS STREET  
DOWNERS GROVE, IL 60515

092-047235  
REGISTERED  
PROFESSIONAL  
ENGINEER  
OF  
ILLINOIS

*[Signature]*

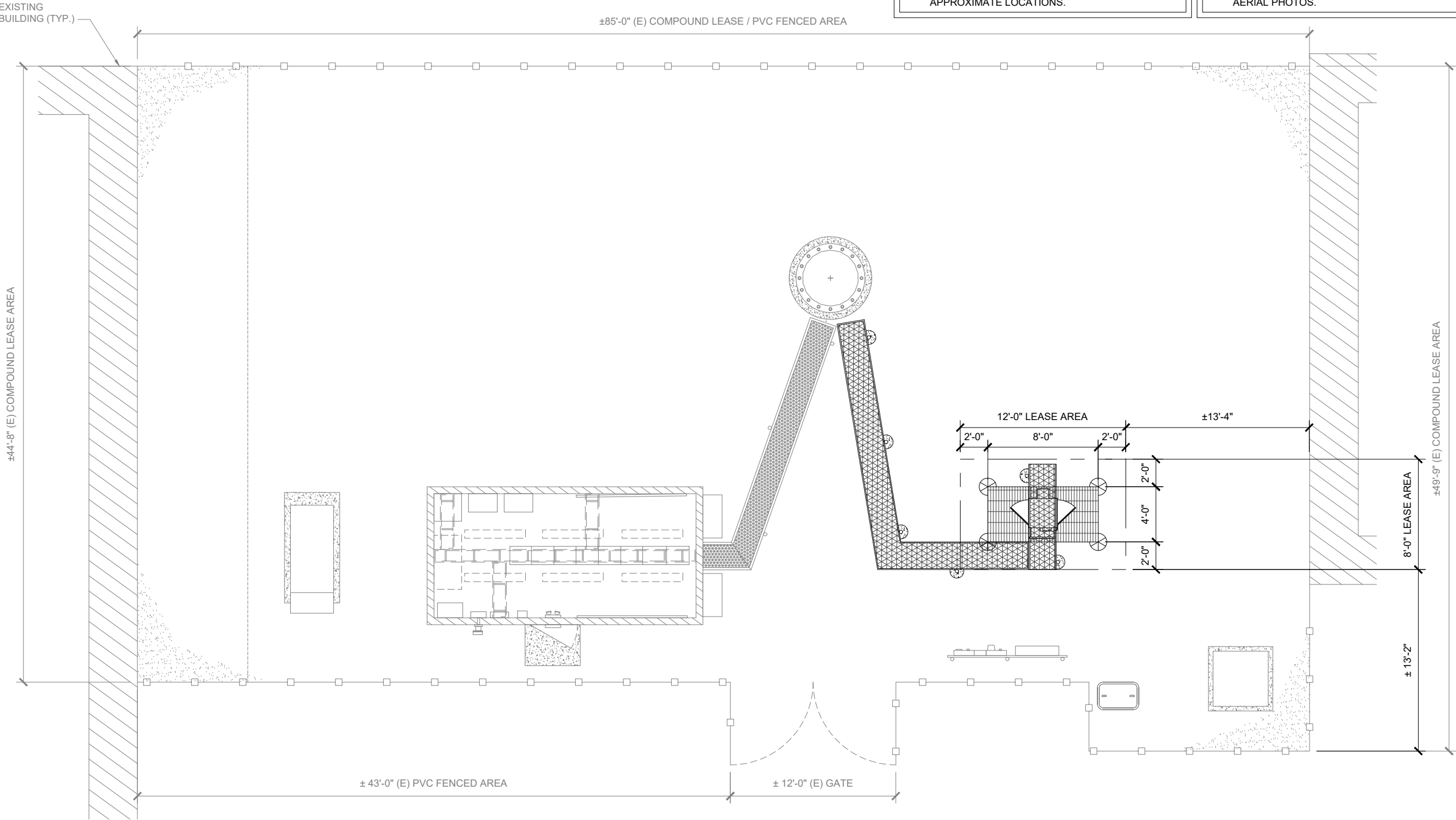
EXPIRES: 11/30/23    SIGNED: 11/08/23

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CHECK: JKR  
DRAWN: JEG  
JOB: T2300352

**C-2**  
ENLARGED SITE PLAN



NOTE:

1. NO SURVEY HAS BEEN PERFORMED ON THIS SITE. ALL PARCEL/PROPERTY LINES SHOWN ARE APPROXIMATE LOCATIONS.

NOTE:

1. DRAWINGS HAVE BEEN PREPARED WITH THE USE OF EXISTING CONSTRUCTION DRAWINGS & AERIAL PHOTOS.



SCALE: 1/8" = 1'-0"

GEOMETRIC PLAN

SCALE: 1/8" = 1'-0"

1



( . . . . McKay Brothers

DOWNERS GROVE, IL  
650 CURTISS STREET  
DOWNERS GROVE, IL 60515

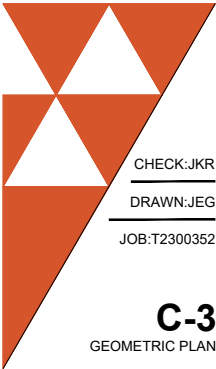


EXPIRES: 11/30/23 SIGNED: 11/08/23

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ACCESSIBILITY CONSULTING \ STRUCTURAL



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DRAWN:JEG

JOB:T2300352

C-3

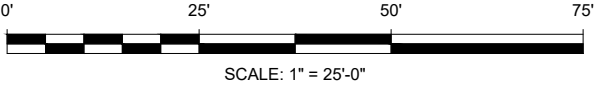
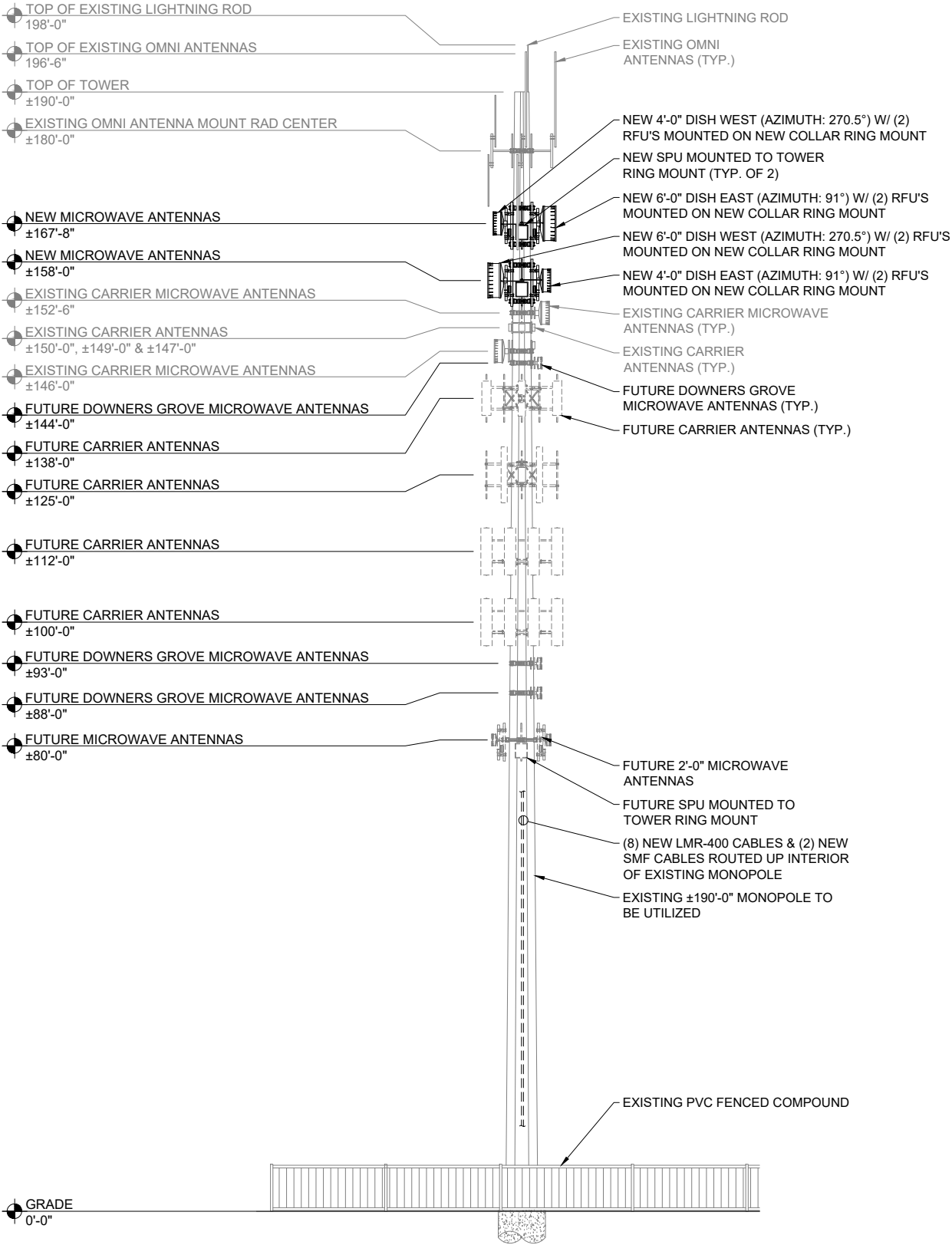
GEOMETRIC PLAN

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NOTE:  
W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. NEW ANTENNAS AND EQUIPMENT SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE TOWER OR STRUCTURE HAS THE CAPACITY TO ADEQUATELY SUPPORT THESE ANTENNAS. PRIOR TO ANY ANTENNA OR EQUIPMENT INSTALLATION, A STRUCTURAL EVALUATION OF THE TOWER OR STRUCTURE, INCLUDING ALL ANTENNA MOUNTING SYSTEMS & HARDWARE SHALL BE PERFORMED.

NOTE:  
W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS ANTENNA MOUNT. NEW ANTENNAS AND EQUIPMENT SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE MOUNT HAS THE CAPACITY TO ADEQUATELY SUPPORT THESE ANTENNAS. PRIOR TO ANY ANTENNA OR EQUIPMENT INSTALLATION, A STRUCTURAL EVALUATION OF THE MOUNT, INCLUDING ALL ANTENNA MOUNTING SYSTEMS & HARDWARE SHALL BE PERFORMED.



**TOWER ELEVATION**

SCALE: 1" = 25'-0"

1

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PLUMBING \ ELECTRICAL \ LAND SURVEYING  
ACCESSIBILITY CONSULTING \ STRUCTURAL

CHECK:JKR  
DRAWN:JEG  
JOB:T2300352

**A-1**  
TOWER ELEVATION

062-047235  
REGISTERED  
PROFESSIONAL  
ENGINEER  
OF  
ILLINOIS

EXPIRES: 11/30/23 SIGNED:11/08/23

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**McKay Brothers**

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ANTENNAS	ANTENNA ID	STATUS	AZ.	ANTENNA MODEL	DIMENSION/ WEIGHT	RECEIVE SITE	RAD CENTER	MECH. DOWNTILT	ELEC. DOWNTILT	RFU (#)
	EAST 1	NEW	91°	RFS UXA6-107BC	79" Ø 243 LBS	T.B.D.	±167'-8"	0°	0°	2
	EAST 2	NEW	91°	RFS UHX4-107	52.4" Ø 88 LBS	T.B.D.	±158'-0"	0°	0°	2
	WEST 1	NEW	270.5°	RFS UHX4-107	52.4" Ø 88 LBS	T.B.D.	±167'-8"	0°	0°	2
	WEST 2	NEW	270.5°	RFS UXA6-107BC	79" Ø 243 LBS	T.B.D.	±158'-0"	0°	0°	2

NOTE:  
WT'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS ANTENNA MOUNT. NEW ANTENNAS AND EQUIPMENT SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE MOUNT HAS THE CAPACITY TO ADEQUATELY SUPPORT THESE ANTENNAS. PRIOR TO ANY ANTENNA OR EQUIPMENT INSTALLATION, A STRUCTURAL EVALUATION OF THE MOUNT, INCLUDING ALL ANTENNA MOUNTING SYSTEMS & HARDWARE SHALL BE PERFORMED.

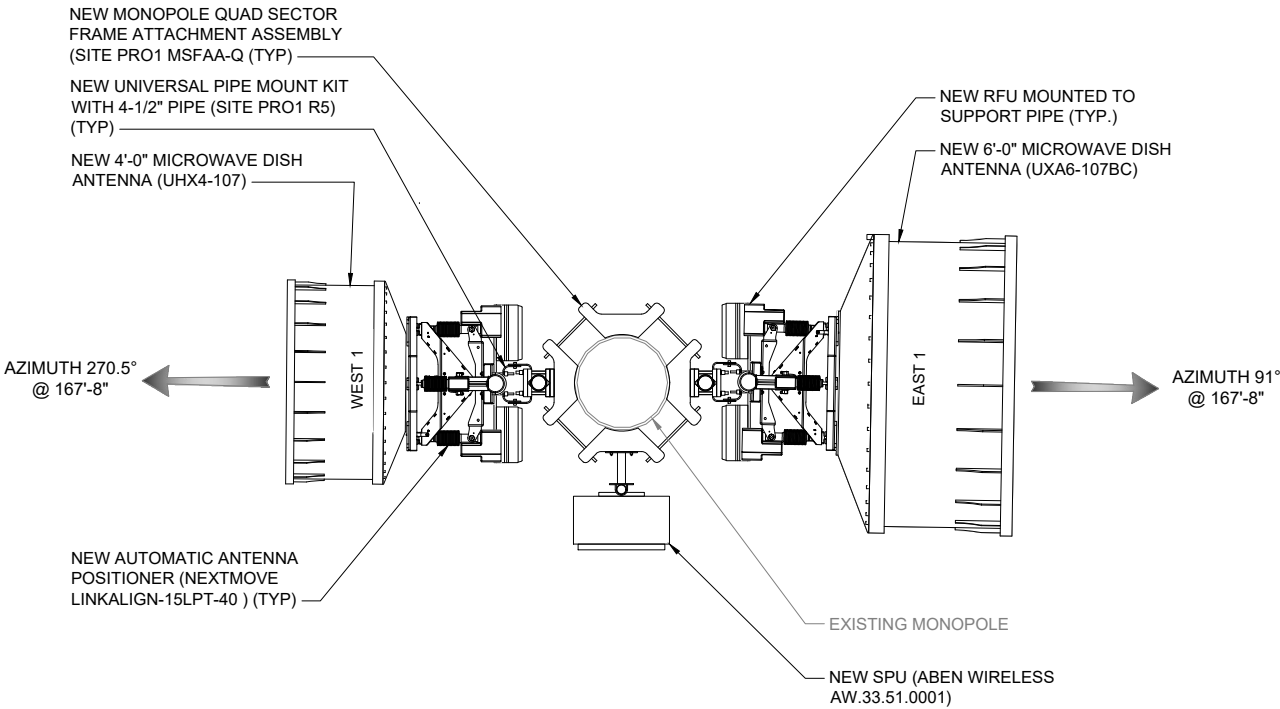
NOTE:  
INSTALLATION OF MOUNTS, ANTENNAS, CABLE AND EQUIPMENT NOT TO INTERFERE WITH CLIMBING LADDER OR SAFETY CLIMB.

CABLES	ANTENNA ID	SPU	FROM CABINET TO SPU				FROM SPU TO RFU				FROM ANTENNA TO ANTENNA			
			CABLE TYPE	NUMBER	LENGTH	TOTAL	CABLE TYPE	NUMBER	LENGTH	TOTAL	CABLE TYPE	NUMBER	LENGTH	TOTAL
	EAST 1	(1) SPU1 (NORTH)	3 PAIR LC/LC ARMORED FIBER	1	225'	225'	HYBRID	2	30'	60'	CH 1 IF RX/TX INTERCONNECT CABLE	4	30'	120'
	WEST 1		LRM-400	4	225'	900'	HYBRID	2	30'	60'	CH 2 IF RX/TX INTERCONNECT CABLE	4	30'	120'
	EAST 2	(1) SPU2 (SOUTH)	3 PAIR LC/LC ARMORED FIBER	1	215'	215'	HYBRID	2	30'	60'	CH 1 IF RX/TX INTERCONNECT CABLE	4	30'	120'
	WEST 2		LRM-400	4	215'	860'	HYBRID	2	30'	60'	CH 2 IF RX/TX INTERCONNECT CABLE	4	30'	120'

NEW ANTENNA & CABLE TABLE

SCALE: NONE

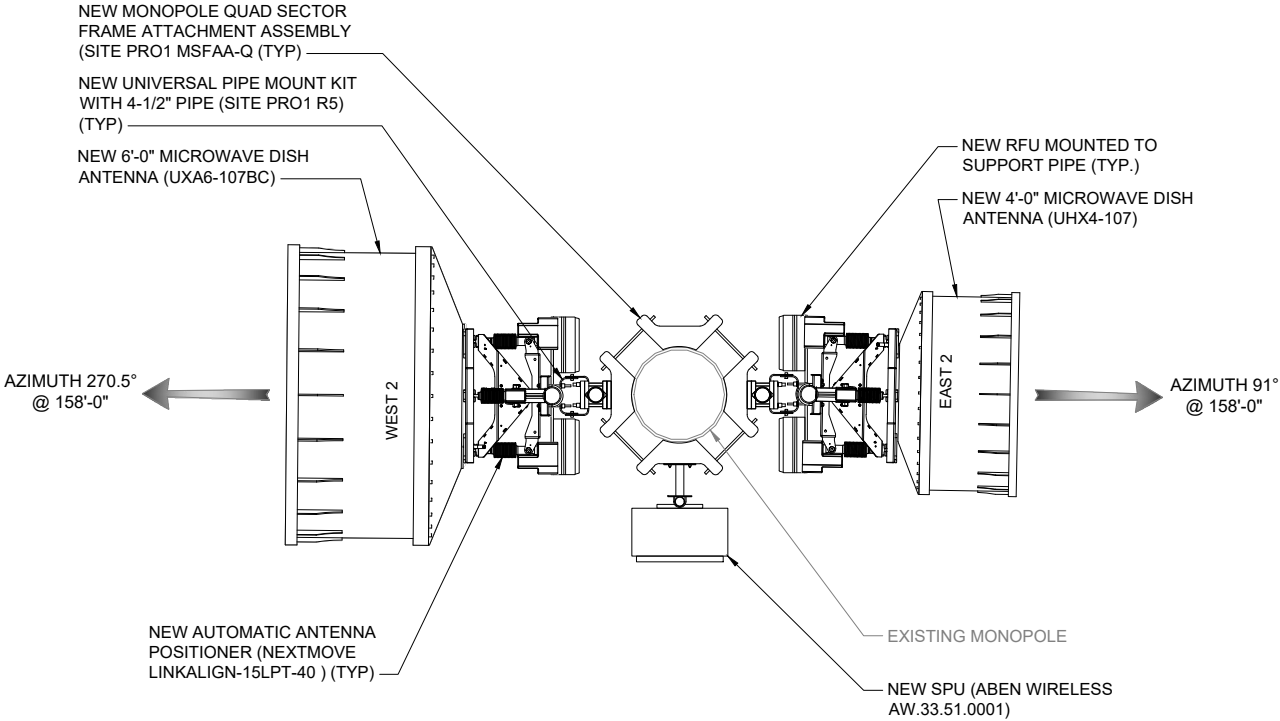
1



NEW ANTENNA DIAGRAM (@ 167'-8'')

SCALE: NONE

2



NEW ANTENNA DIAGRAM (@ 158'-0'')

SCALE: NONE

3

McKay Brothers

DOWNERS GROVE, IL  
650 CURTISS STREET  
DOWNERS GROVE, IL 60515



EXPIRES: 11/30/23 SIGNED: 11/08/23

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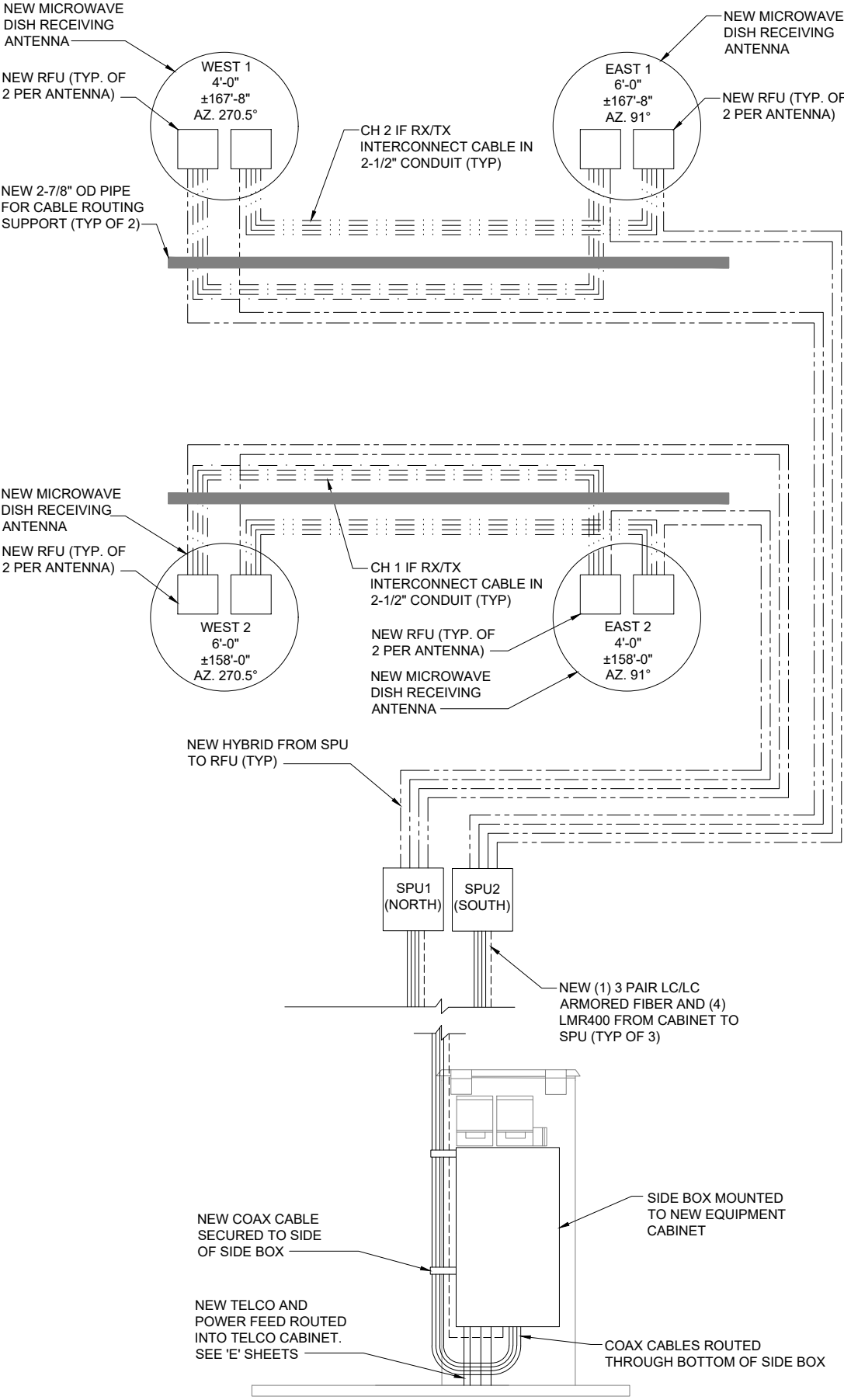
CHECK:JKR

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JOB:T2300352

A-2

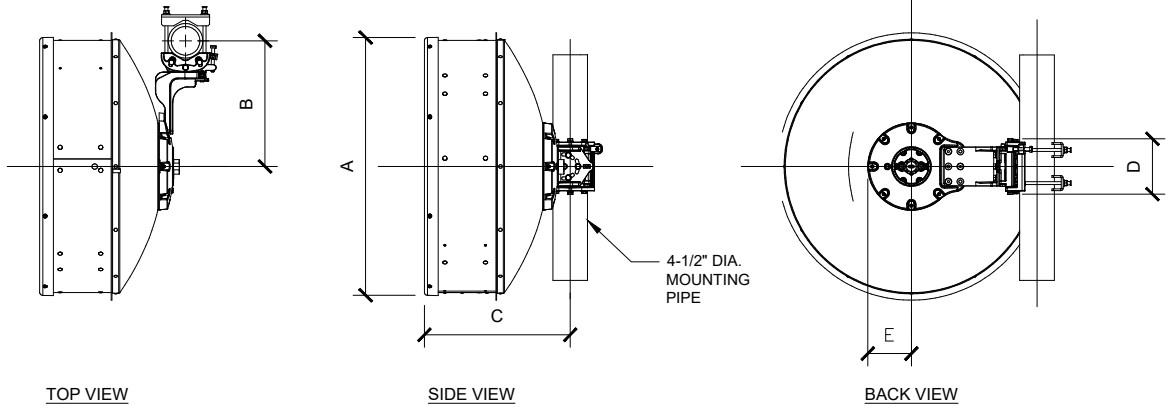
ANTENNA TABLE & DIAGRAM



ANTENNA LINE DIAGRAM

SCALE: NONE

1



UHX4-107  
ANTENNA DIMENSIONS  
ALL DIMENSIONS IN  
INCHES (MM)

A	52.4 (1330)
B	10.4 (264)
C	37.0 (950)
D	20.79 (528)

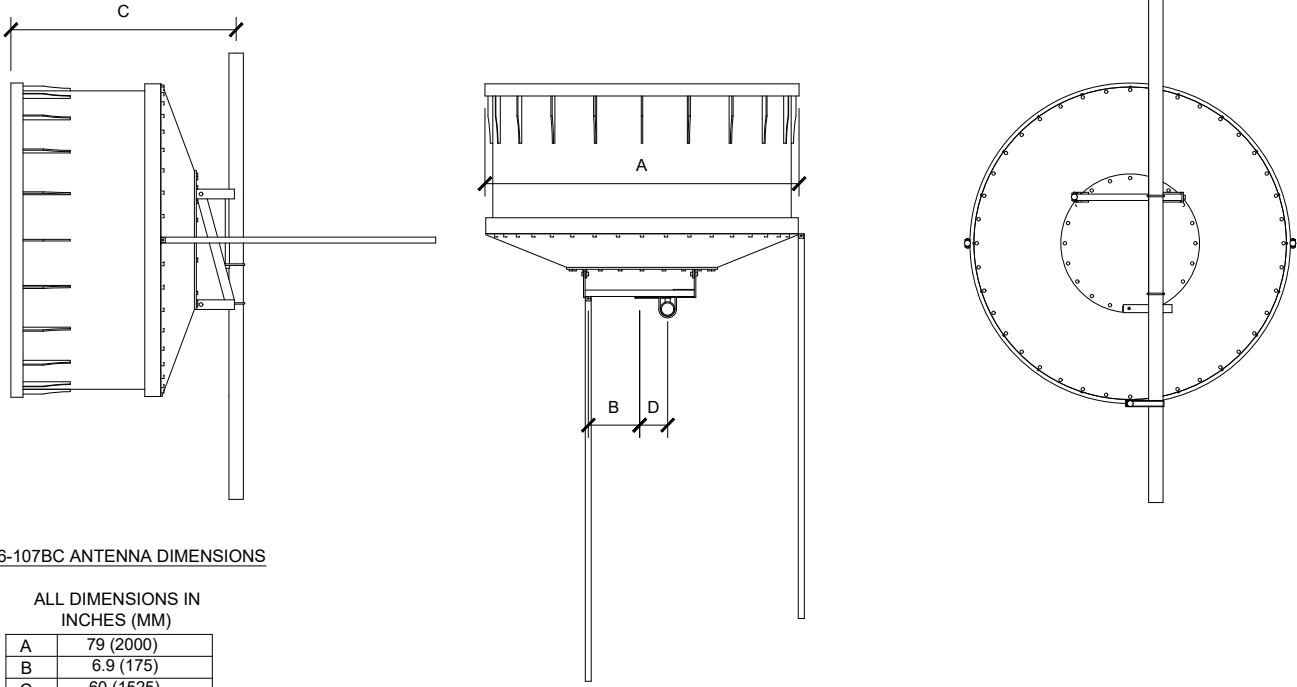
WEIGHT: 88 LBS

NOTE:  
CONTRACTOR TO USE PROPER  
TORQUE WRENCH WHEN INSTALLING  
AND TIGHTENING CONNECTORS  
TO ENSURE PROPER FIT.

UHX4-107 DISH SPECIFICATIONS

SCALE: NONE

2



UXA6-107BC ANTENNA DIMENSIONS

ALL DIMENSIONS IN  
INCHES (MM)

A	79 (2000)
B	6.9 (175)
C	60 (1525)
D	11.1 (283)

WEIGHT: 243 LBS

NOTE:  
CONTRACTOR TO PROVIDE AND INSTALL TIE BACKS  
PER MANUFACTURER'S SPECIFICATIONS AND THOSE  
FOUND IN: MICROWAVE INSTALLATION ANTENNA &  
TRANSMISSION LINES HANDBOOK.

UXA6-107BC DISH SPECIFICATIONS

SCALE: NONE

3

McKay Brothers

DOWNERS GROVE, IL  
650 CURTISS STREET  
DOWNERS GROVE, IL 60515



EXPIRES: 11/30/23 SIGNED: 11/08/23

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PLUMBING \ ELECTRICAL \ LAND SURVEYING  
ACCESSIBILITY CONSULTING \ STRUCTURAL



CHECK: JKR

DRAWN: JEG

JOB: T2300352

A-3

ANTENNA DETAILS



1



2



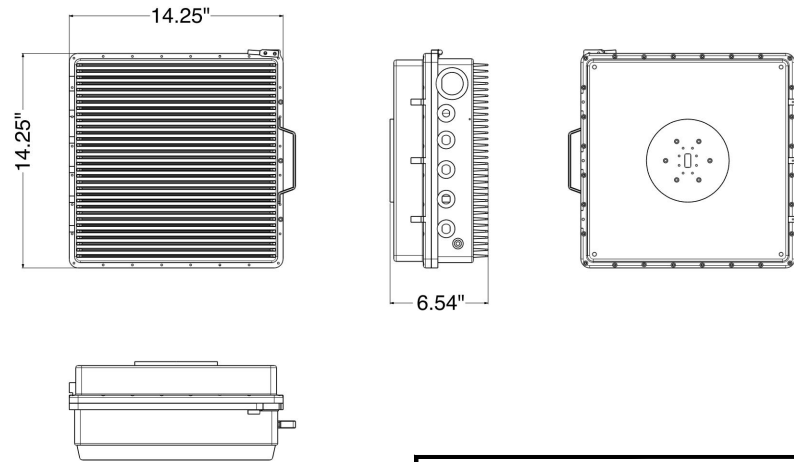
3



4



GENERAL	
Manufacturer	Aben Wireless, LLC
RFU Model Number	AW.RFU.LL.XX
RFU Enclosure Part Number	AW.31.240.100F
RFU Mount Part Number	
RFU Shield Part Number	
Notes: RFU Model Part Number XX, XX Denotes the Frequency Band of specific unit (i.e. 06, 08, 11, etc)	
RFU MECHANICAL SPECIFICATION	
Depth (in inches)	6.54"
Width (in inches)	14.25"
Length (in inches)	14.25"
Weight (in lbs.)	36.62 lbs.
RFU MOUNT MECHANICAL SPECIFICATION	
Thickness (in inches)	0.12"
Width (in inches)	
Length (in inches)	22.1"
Weight (in lbs.)	
RFU SHIELD MECHANICAL SPECIFICATION	
Depth (in inches)	
Width (in inches)	
Length (in inches)	
Weight (in lbs.)	

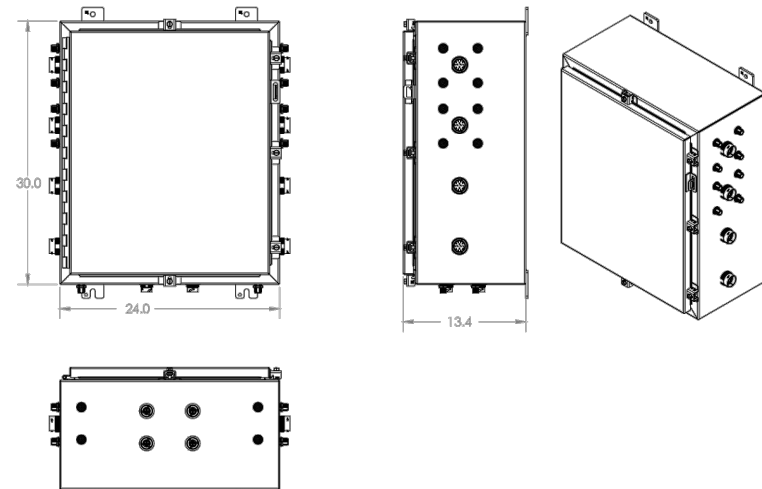


## RADIO FREQUENCY UNIT (RFU) DETAIL

SCALE: NONE

1

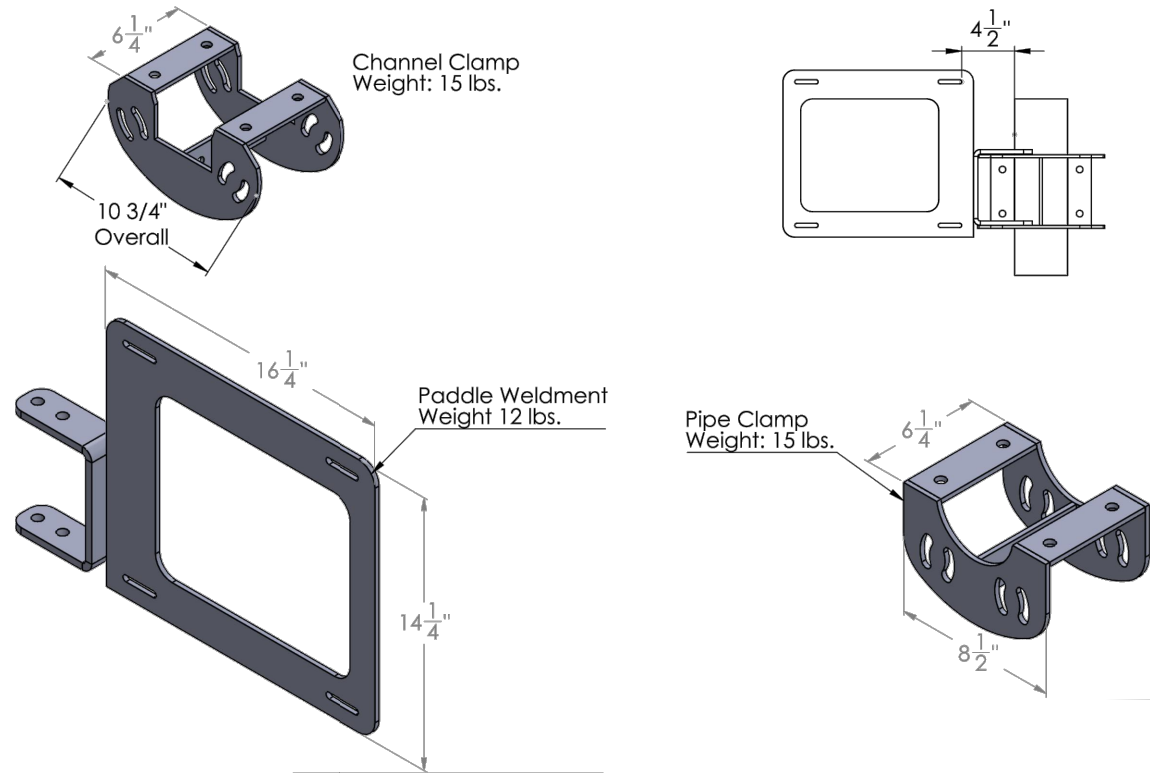
GENERAL	
Manufacturer	Aben Wireless, LLC
SPU Model Number	AW.33.51.0001
SPU Enclosure Part Number	AW.31.240.1100
MECHANICAL SPECIFICATION	
Depth (in inches)	13.4"
Width (in inches)	24"
Length (in inches)	30"
Weight (in lbs.)	88.19 lbs.



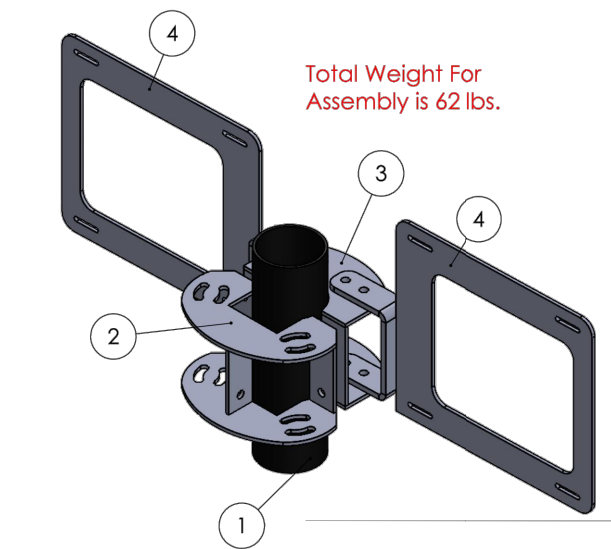
## SIGNAL PROCESSING UNIT (SPU) DETAIL

SCALE: NONE

2



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Pipe	Pipe Ref.	1
2	174825-2B	Pipe Clamp	1
3	174825-3B	Pipe Clamp	1
4	174825-1	Plate and Ears	2



Hardware included in Kit	
Quantity	Description
4 (+1)	1/2" x 2 1/2" A-325 Bolt Assy.
8 (+1)	1/2" x 1 3/4" A-325 Bolt Assy.
8 (+1)	8mm Double End Stud (SS)
16 (+1)	8mm Flatwasher (SS)
8 (+1)	8mm Lockwasher (SS)
8 (+1)	8mm Hex Nuts (SS)

This Assembly is  
INNOVAMUS KIT #174901

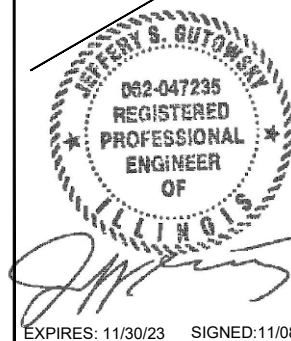
## RFU MOUNT ASSEMBLY

SCALE: NONE

3

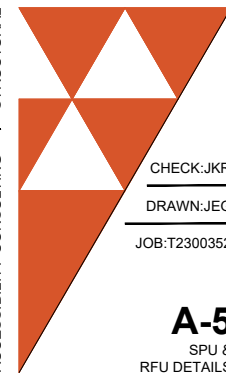
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CHECK:JKR

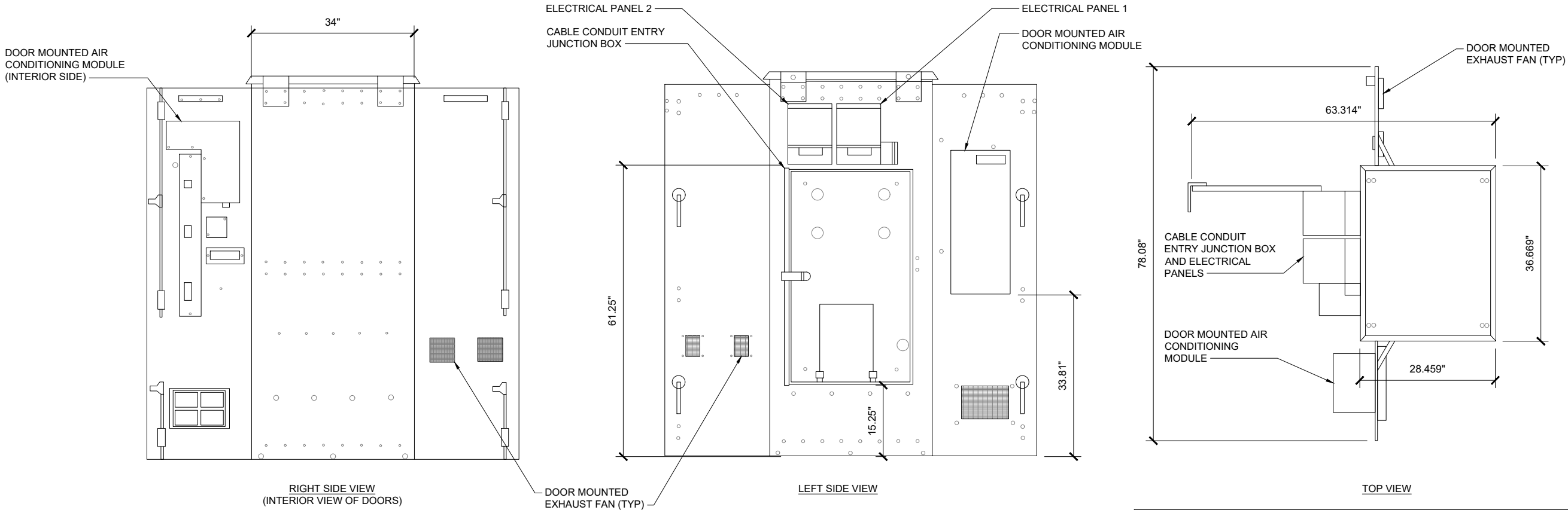
DRAWN:JEG

JOB:T2300352

A-5

SPU &  
RFU DETAILS

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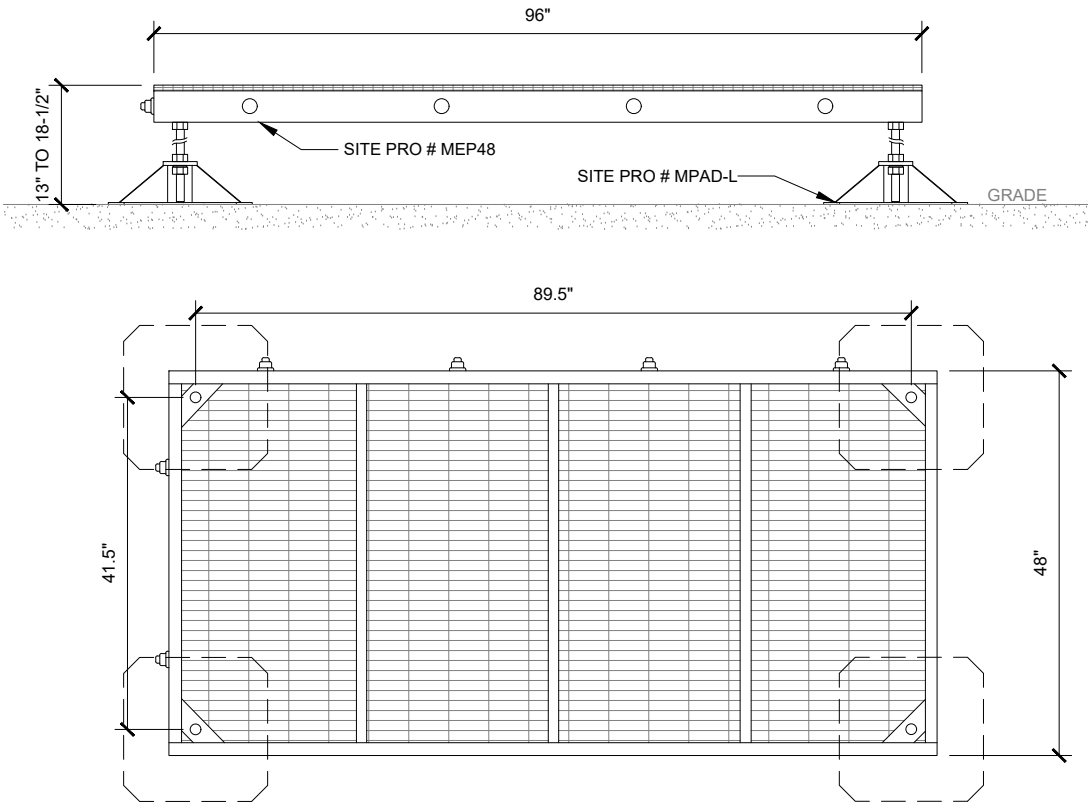


ESTIMATED WEIGHT: 1,000 LBS

EQUIPMENT CABINET DETAILS

SCALE: NONE

1

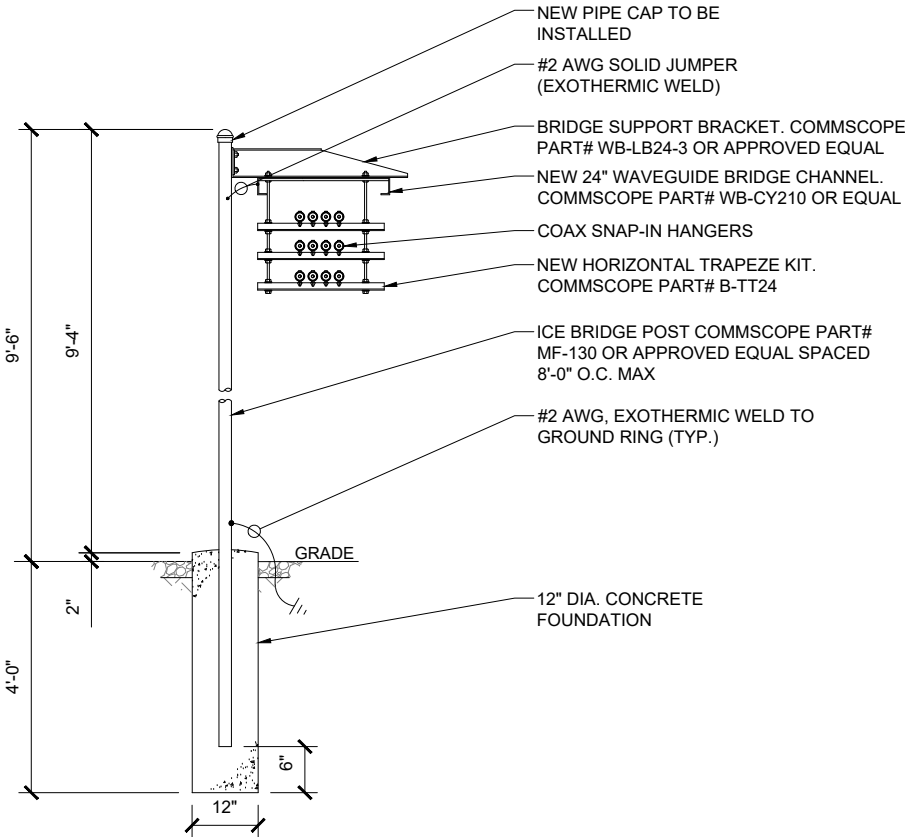


NOTE:  
WT'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL ANALYSIS OF THE EQUIPMENT PLATFORM. THE INFORMATION SHOWN IS DIAGRAMMATIC ONLY. A STRUCTURAL ANALYSIS SHALL BE PERFORMED PRIOR TO CONSTRUCTION.

EQUIPMENT PLATFORM DETAILS

SCALE: NONE

2



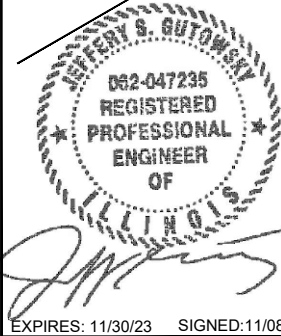
ICE BRIDGE DETAIL

SCALE: NONE

3

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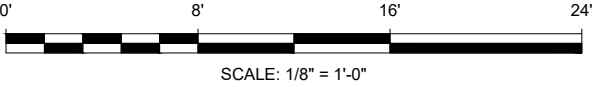
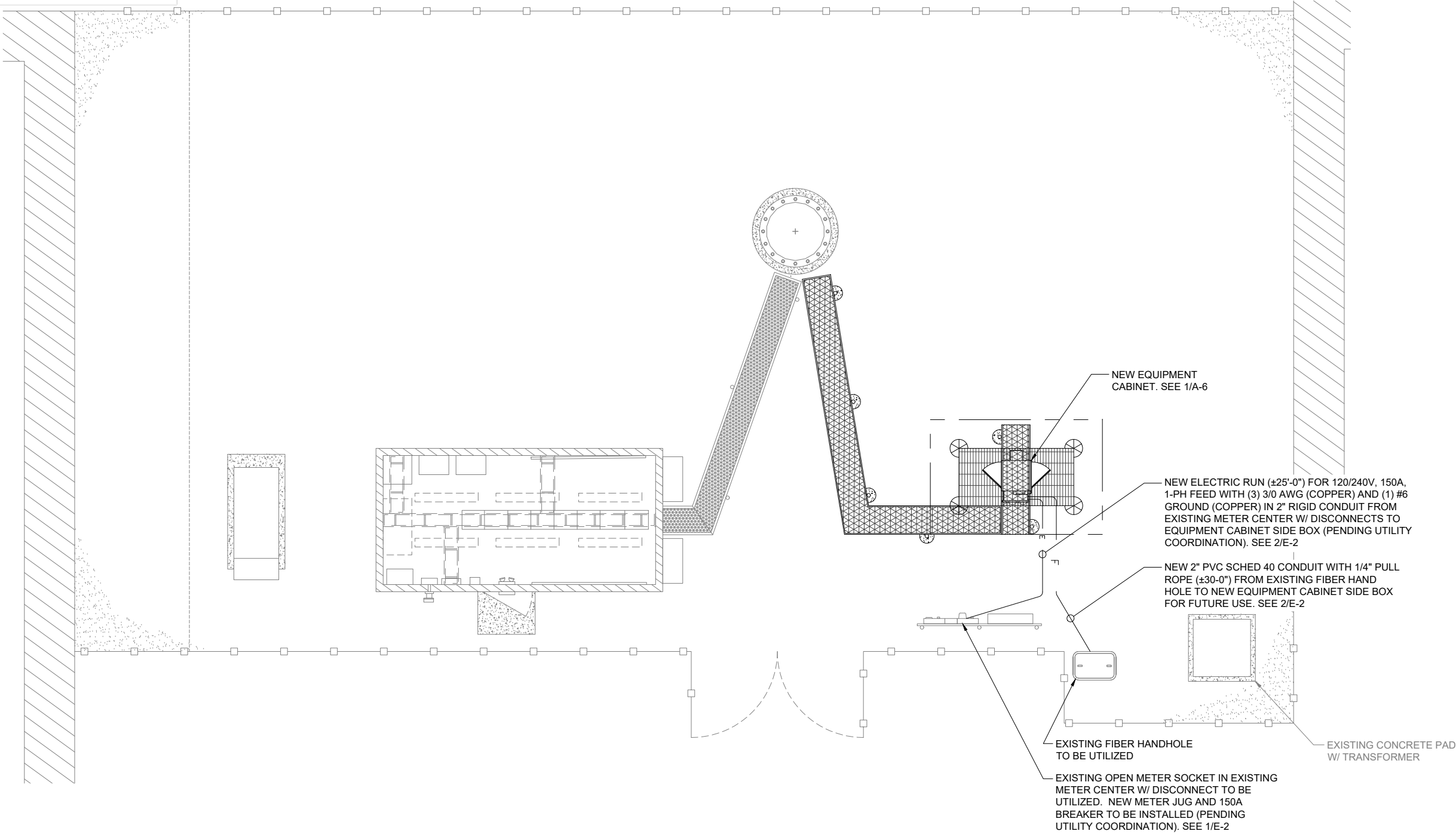


CHECK:JKR  
DRAWN:JEG  
JOB:T2300352

A-6  
EQUIPMENT DETAILS

FINAL UTILITY  
ROUTING PENDING  
UTILITY  
COORDINATION

VOLTAGE DROP (150A, 120/240V, 1PH) FROM METER TO EQUIPMENT			
LENGTH	WIRE SIZE	VOLTAGE DROP	PERCENTAGE OF DROP
25'-0"	(1) RUN OF (3) 3/0 AWG (COPPER)	0.58V	0.24%



UTILITY PLAN

SCALE: 1/8" = 1'-0"

1

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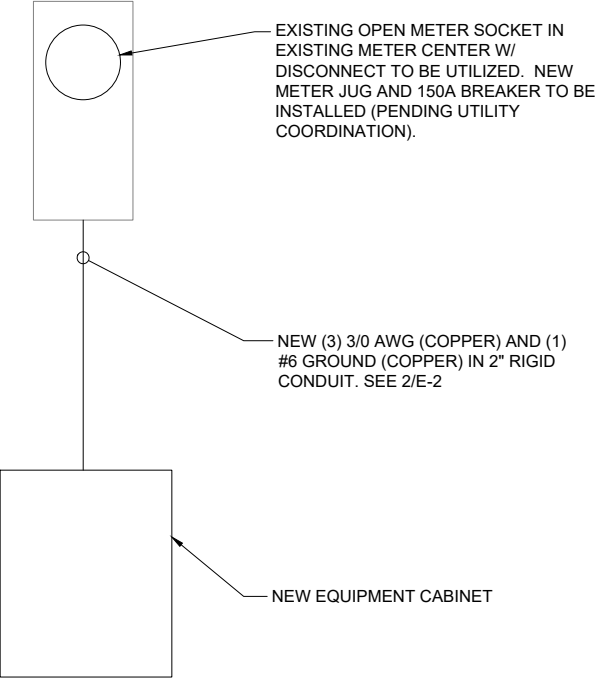
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E-1  
UTILITY PLAN

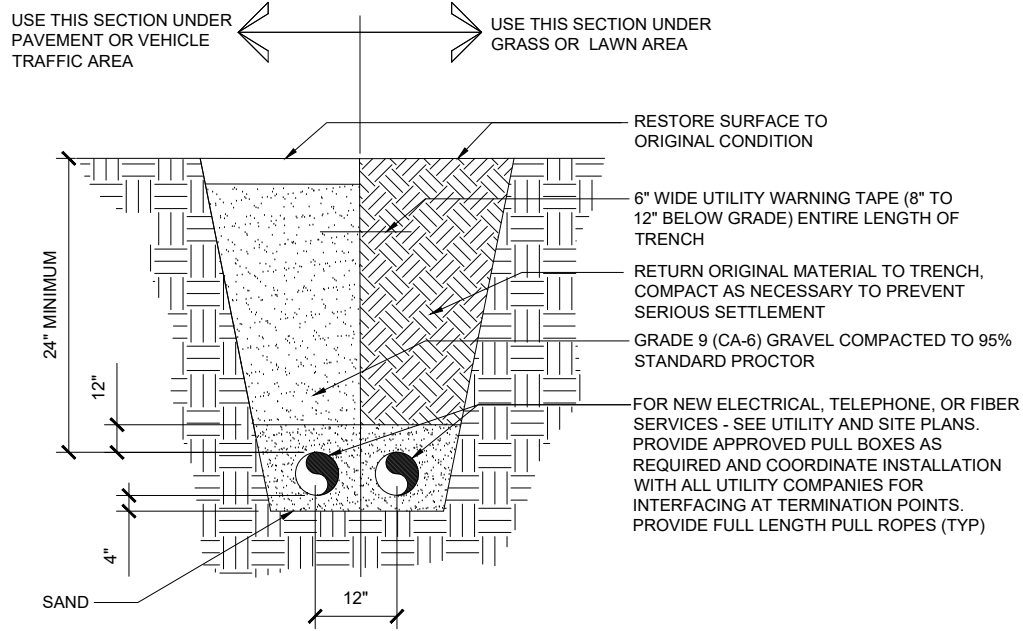
PENDING UTILITY  
COORDINATION



ONE-LINE DIAGRAM

SCALE: NONE

1



UTILITY TRENCH DETAIL

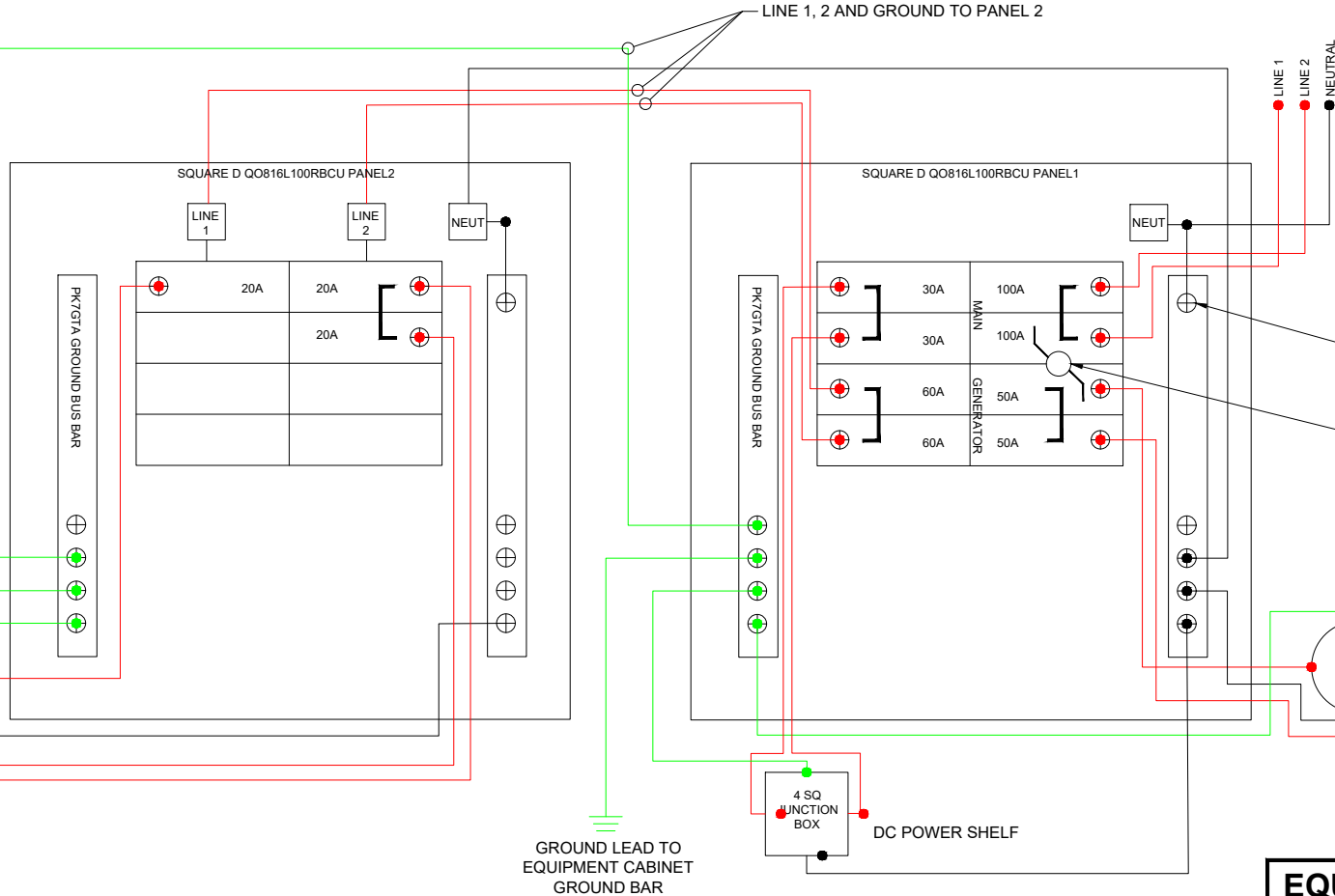
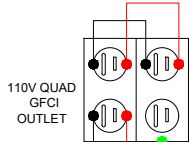
SCALE: NONE

2

PANEL	VOLTAGE	DESCRIPTION	WIRES	MAINS
QO816L100RBCU	120/240VAC	A	3 WIRE + PK7GTA	100A MLO
LOAD NAME	TRIP	POLES	CKT. NO.	PART NUMBER
AC UNIT	20A	2	1	QO220
GENERATOR OUTLET	20A	1	2	QO120
			3	
			4	
			5	
			6	
			7	
			8	

MANUFACTURER TO BE SQUARE D

NOTE: INTERIOR LIGHTING  
PLUGS INTO 1 OUTLET. THE  
OTHER 3 ARE FOR SERVICE  
PERSONNEL ONLY.



PANEL	VOLTAGE	DESCRIPTION	WIRES	MAINS	
QO816L100RBCU	120/240VAC	A	3 WIRE + PK7GTA	100A MLO	
LOAD NAME	TRIP	POLES	CKT. NO.	PART NUMBER	NOTES
MAIN	100A	2	1	QOH2100	1,2
			2		
GENERATOR	50A	2	3	QO250	1,2
			4		
DC POWER SHELF	30A	2	5	QO230	
			6		
FEEDER TO PANEL 2	60A	2	7	QO260	
			8		

1. PROVIDE QO2DTIM INTERLOCK  
2. PROVIDE PK2MB RETAINER

MANUFACTURER TO BE SQUARE D

NEUTRAL GROUND BOND TAB TO BE INSTALLED  
ONLY IF THIS LOAD CENTER IS THE #1  
DISCONNECT FOLLOWING THE METER BASE

MECHANICAL INTERLOCK INSTALLED BETWEEN  
MAIN AND GEN BREAKER, BOLTED TO CHASSIS

GENERATOR 220V 4-POLE,  
4 WIRE 50A FLANGED INLET

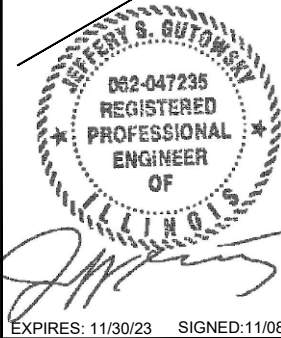
EQUIPMENT CABINET PANEL LAYOUT

SCALE: NONE

3

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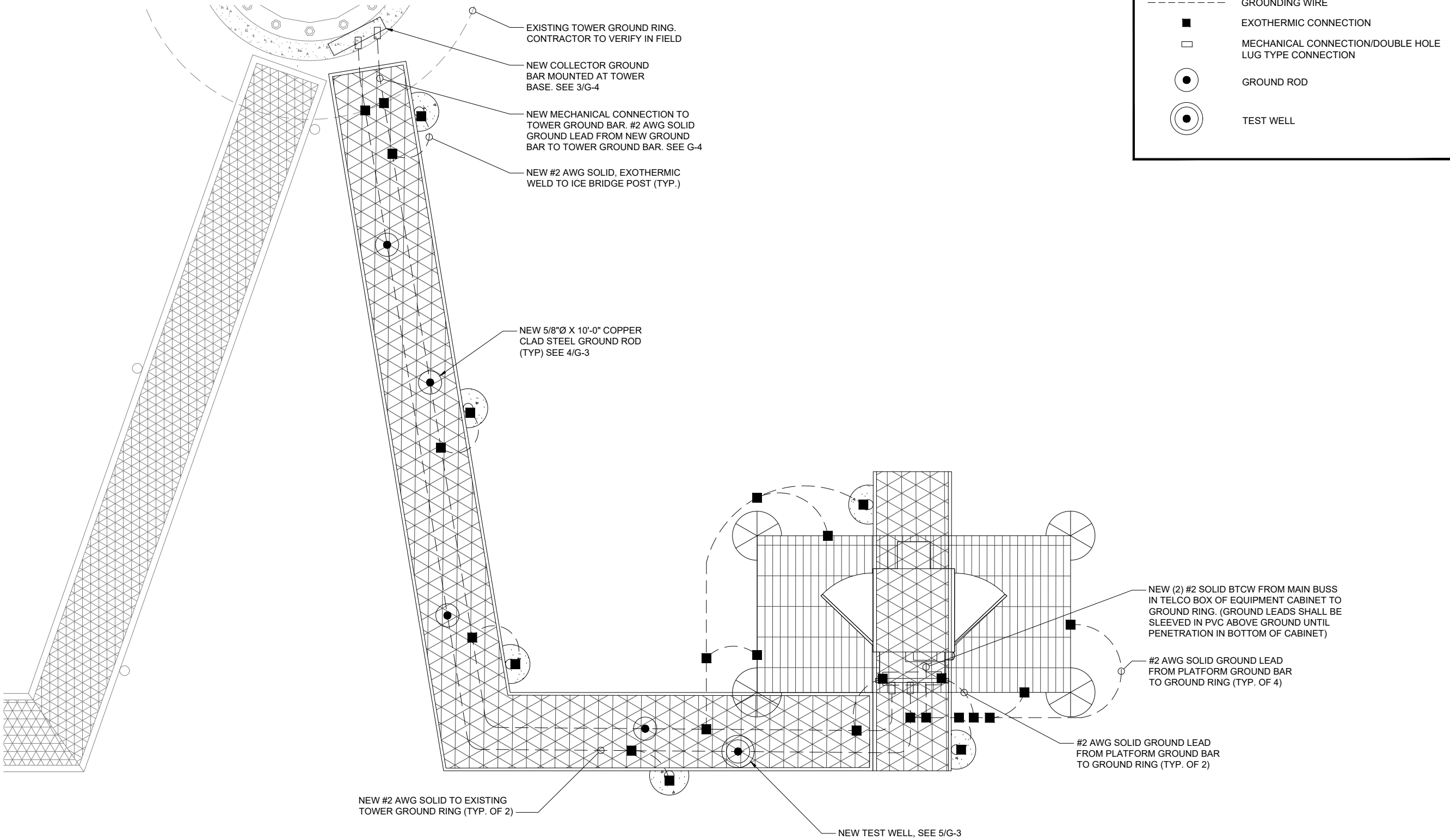


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E-2  
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**GROUNDING PLAN**

SCALE: 3/8" = 1'-0"

1

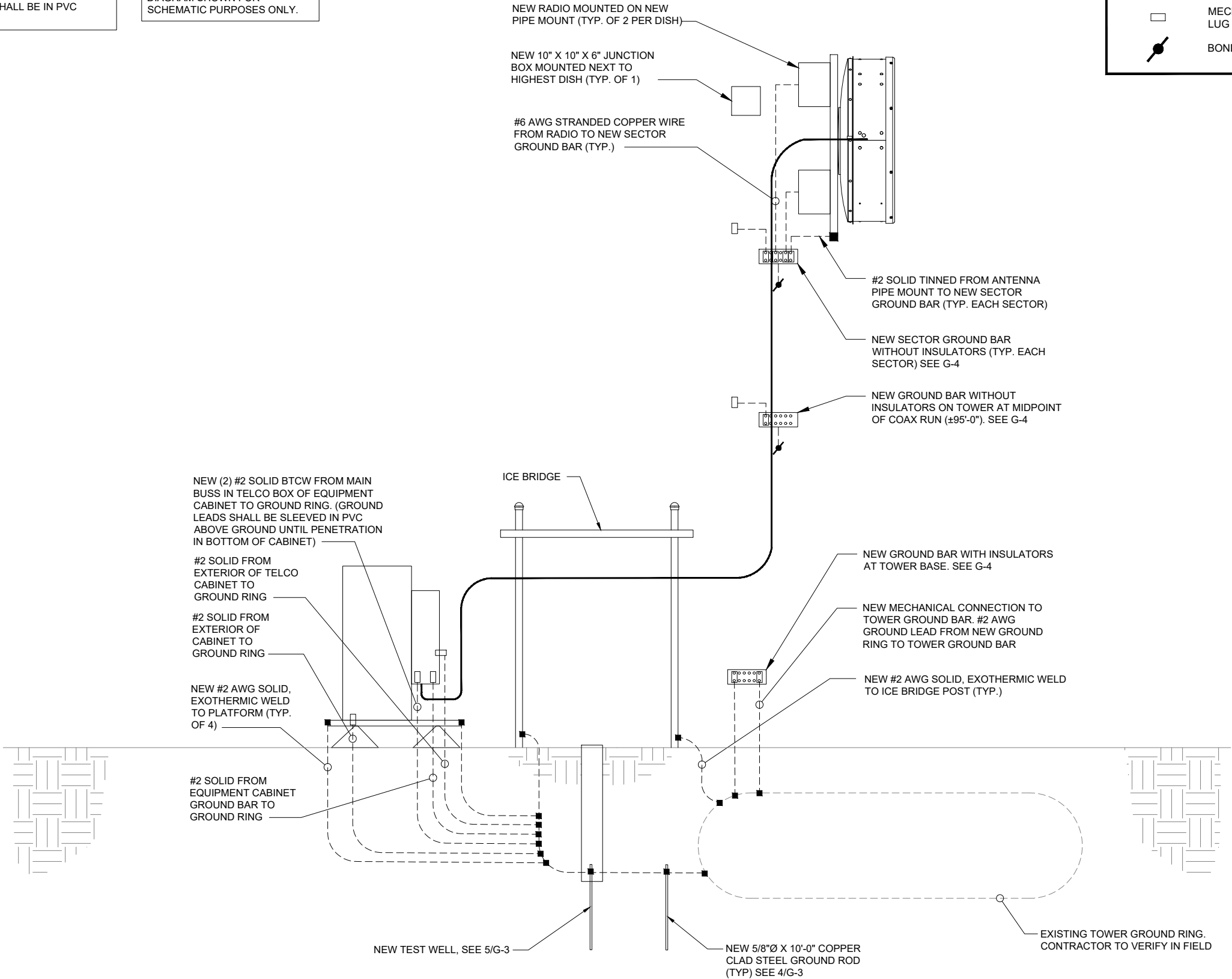
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JOB:T2300352

G-1  
GROUNDING PLAN

NOTE:  
ALL GROUND LEADS ENTERING  
GROUND SHALL BE IN PVC  
SLEEVE.

NOTE:  
DIAGRAM SHOWN FOR  
SCHEMATIC PURPOSES ONLY.



LEGEND

- GROUNDING WIRE
- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION/DOUBLE HOLE  
LUG TYPE CONNECTION
- ⚡ BOND TO TOWER

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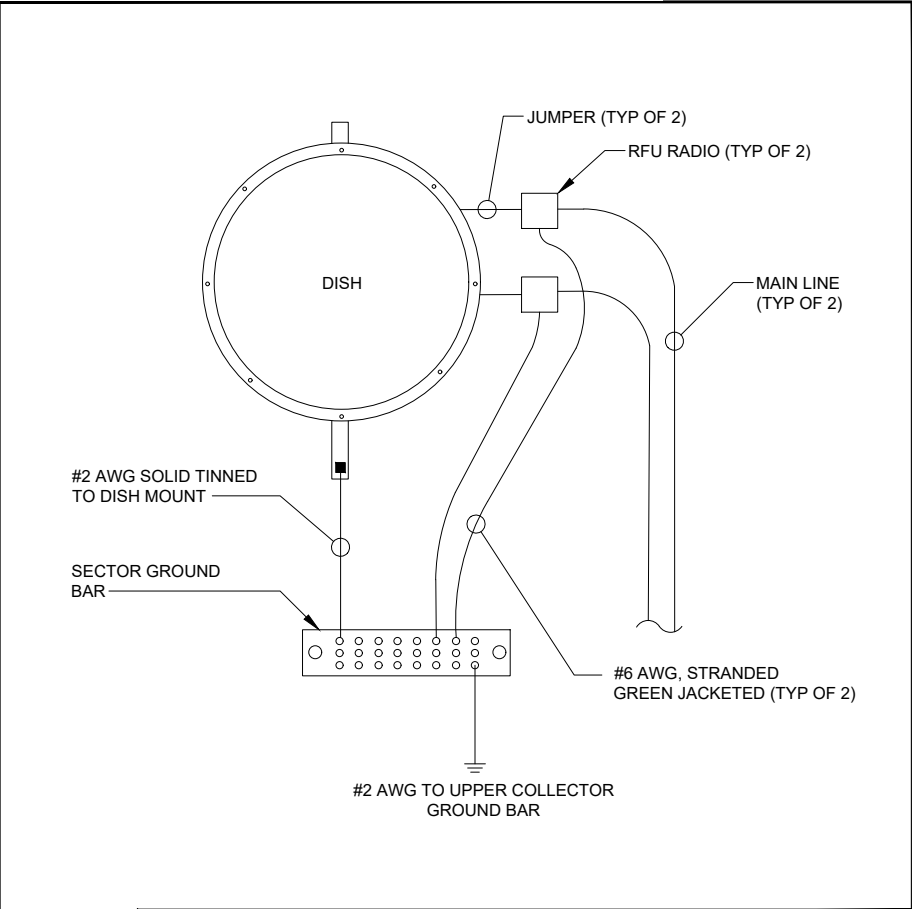
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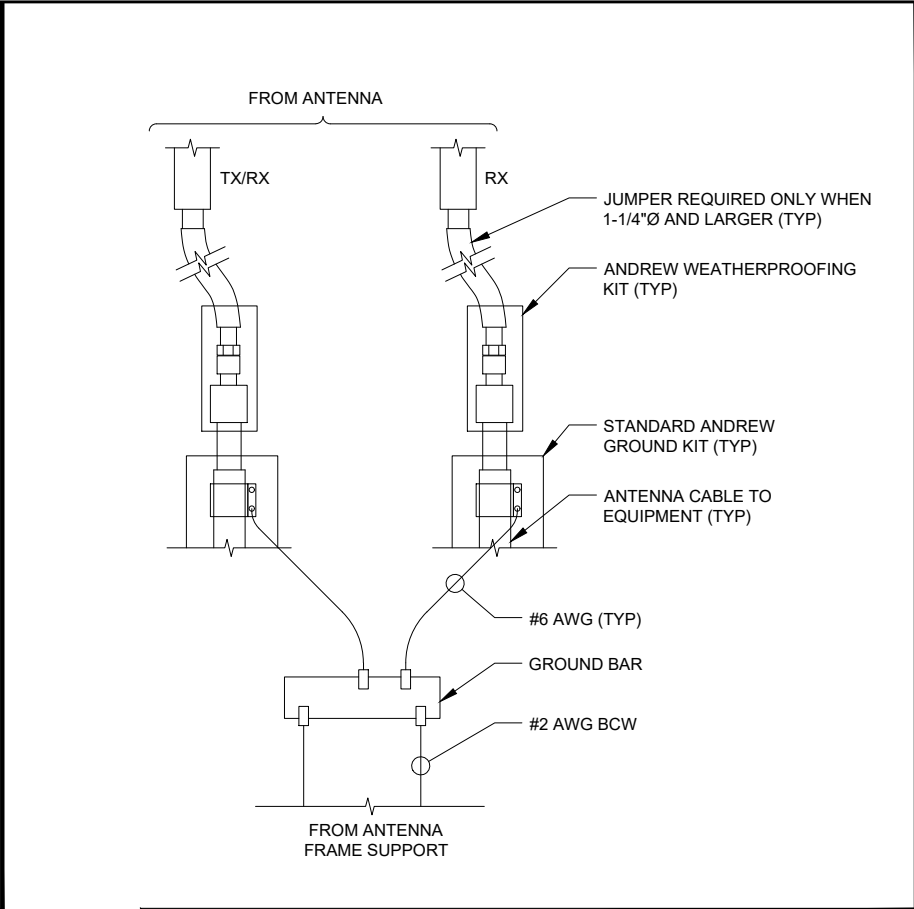
G-2  
GROUNDING RISER

GROUNDING RISER

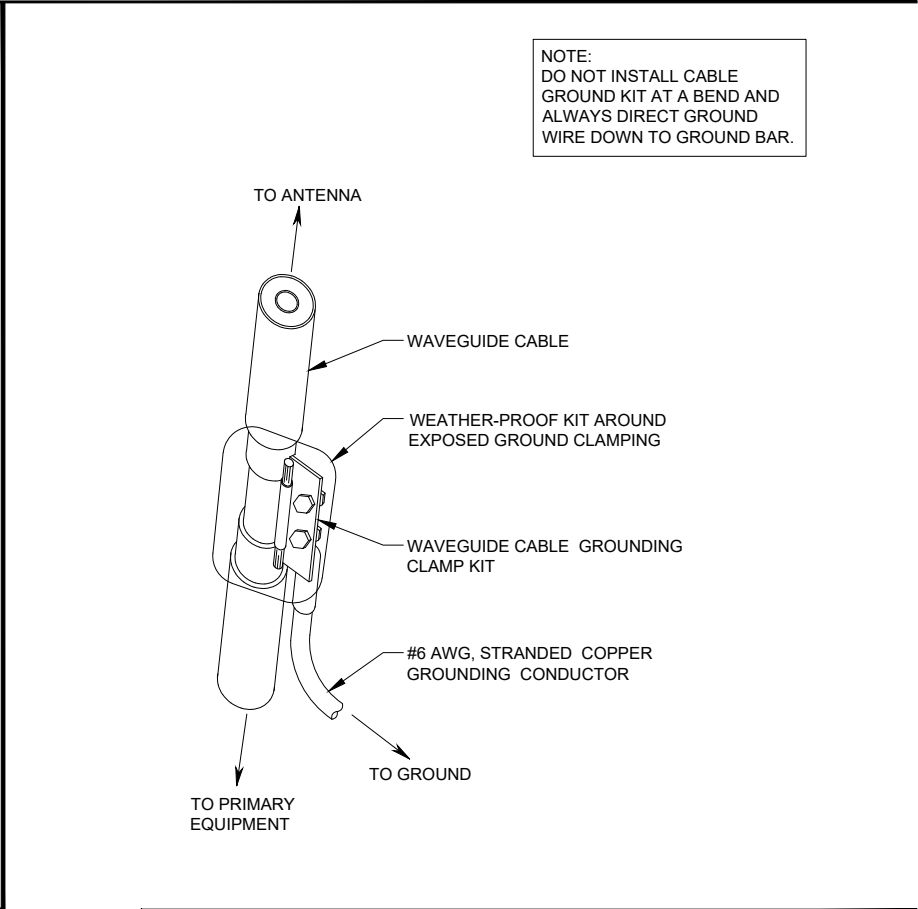
SCALE: NONE



<b>DISH GROUND DETAIL</b>	1
SCALE: NONE	

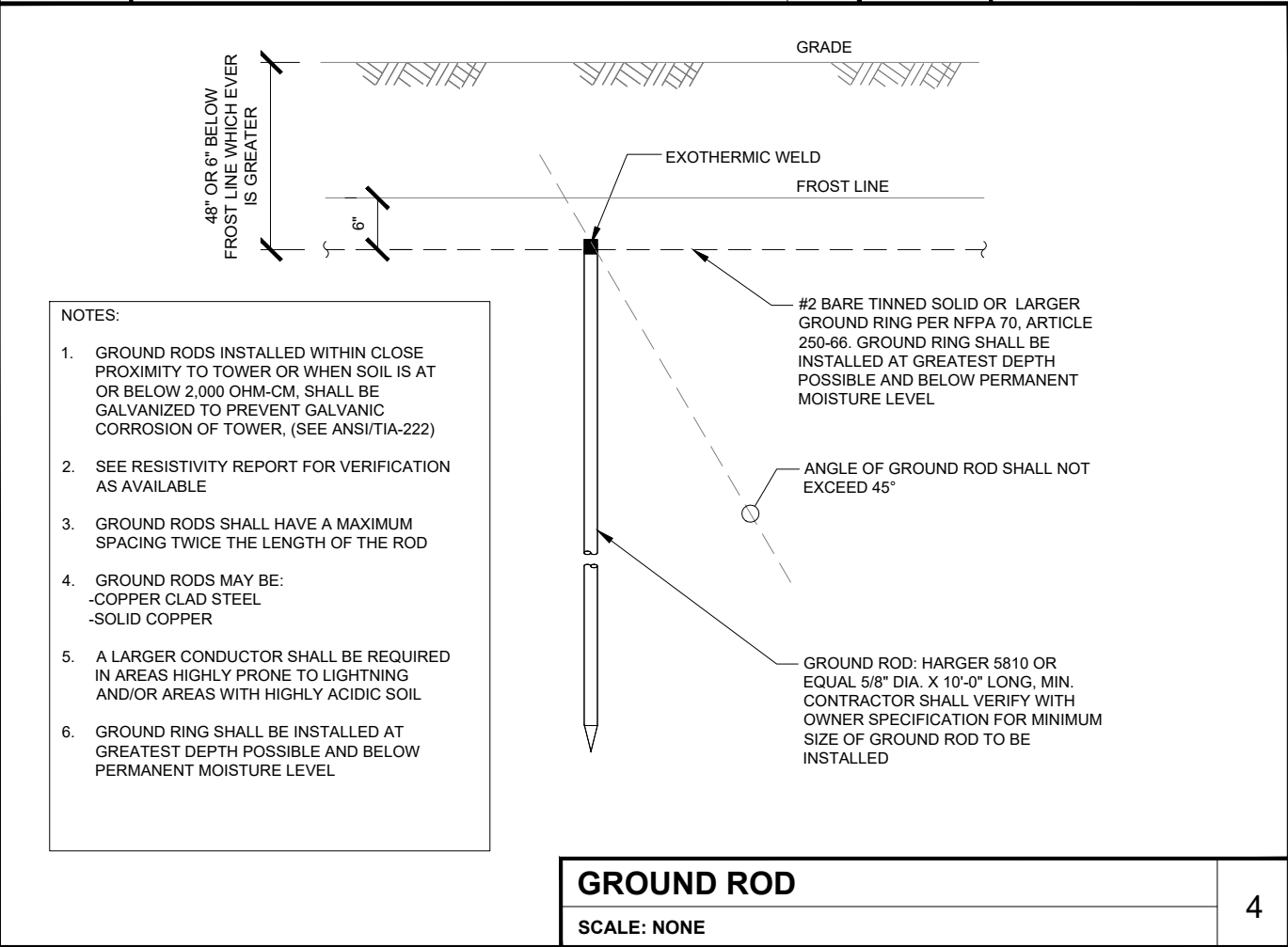


<b>ANTENNA GROUND DETAIL</b>	2
SCALE: NONE	



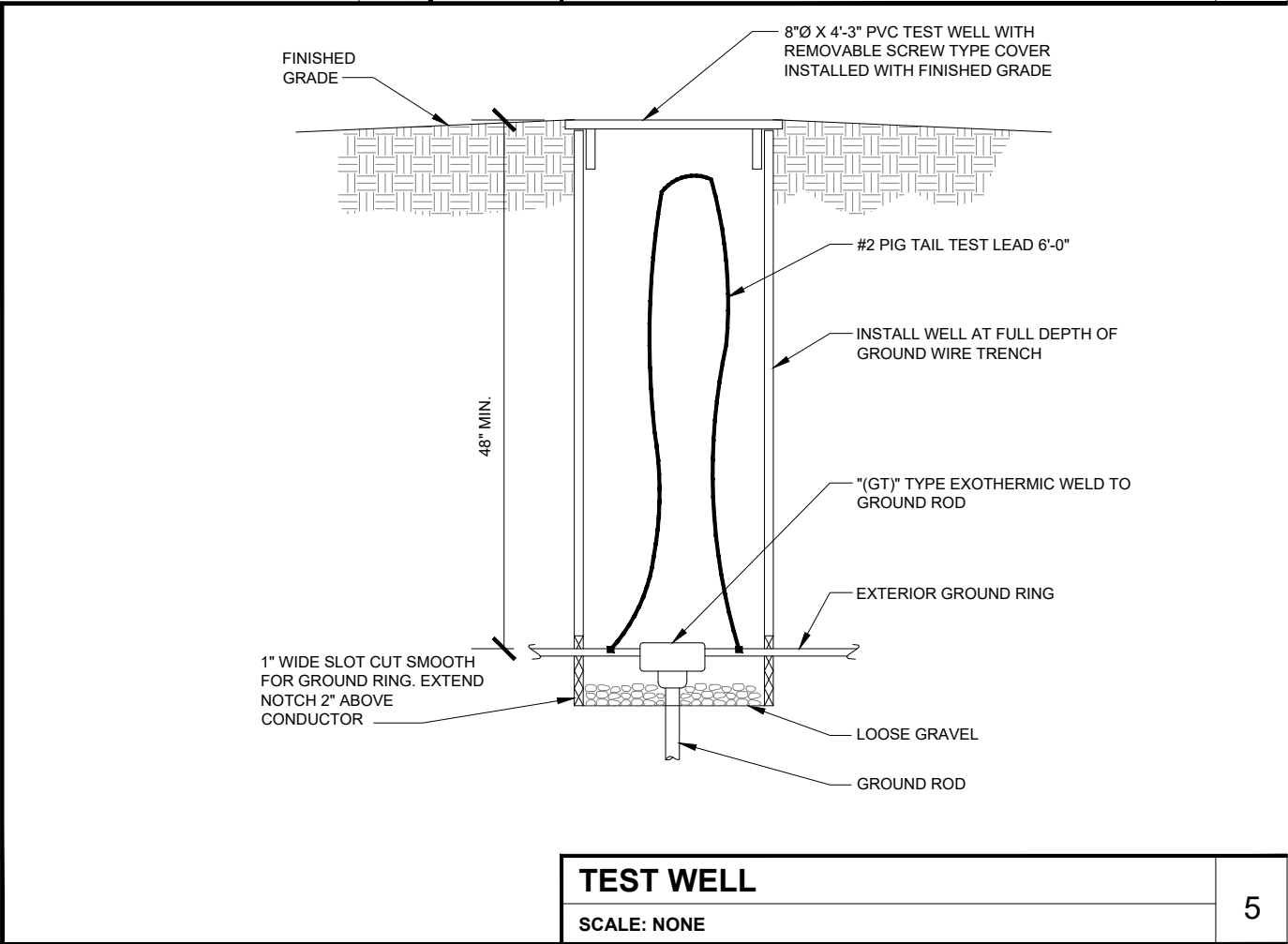
NOTE:  
DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

<b>CABLE GROUND</b>	3
SCALE: NONE	



- NOTES:
- GROUND RODS INSTALLED WITHIN CLOSE PROXIMITY TO TOWER OR WHEN SOIL IS AT OR BELOW 2,000 OHM-CM, SHALL BE GALVANIZED TO PREVENT GALVANIC CORROSION OF TOWER, (SEE ANSI/TIA-222)
  - SEE RESISTIVITY REPORT FOR VERIFICATION AS AVAILABLE
  - GROUND RODS SHALL HAVE A MAXIMUM SPACING TWICE THE LENGTH OF THE ROD
  - GROUND RODS MAY BE:  
-COPPER CLAD STEEL  
-SOLID COPPER
  - A LARGER CONDUCTOR SHALL BE REQUIRED IN AREAS HIGHLY PRONE TO LIGHTNING AND/OR AREAS WITH HIGHLY ACIDIC SOIL
  - GROUND RING SHALL BE INSTALLED AT GREATEST DEPTH POSSIBLE AND BELOW PERMANENT MOISTURE LEVEL

<b>GROUND ROD</b>	4
SCALE: NONE	



<b>TEST WELL</b>	5
SCALE: NONE	

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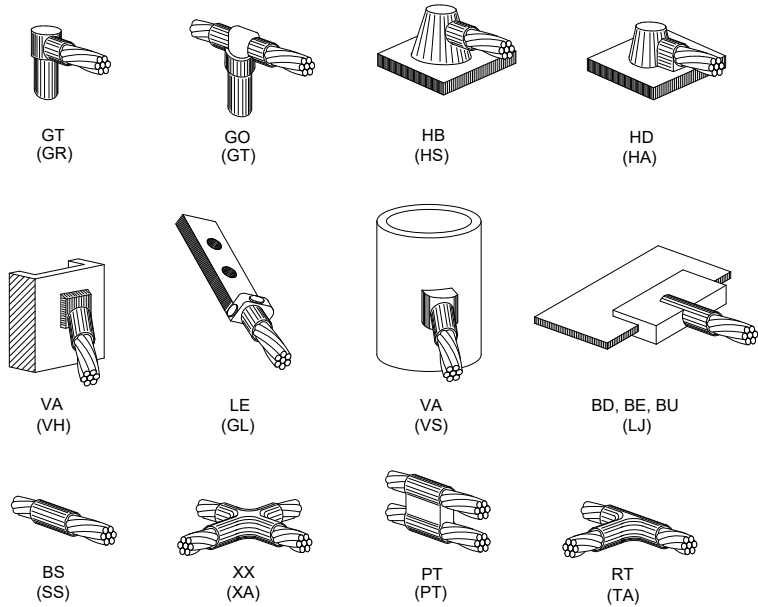
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G-3

GROUNDING DETAILS

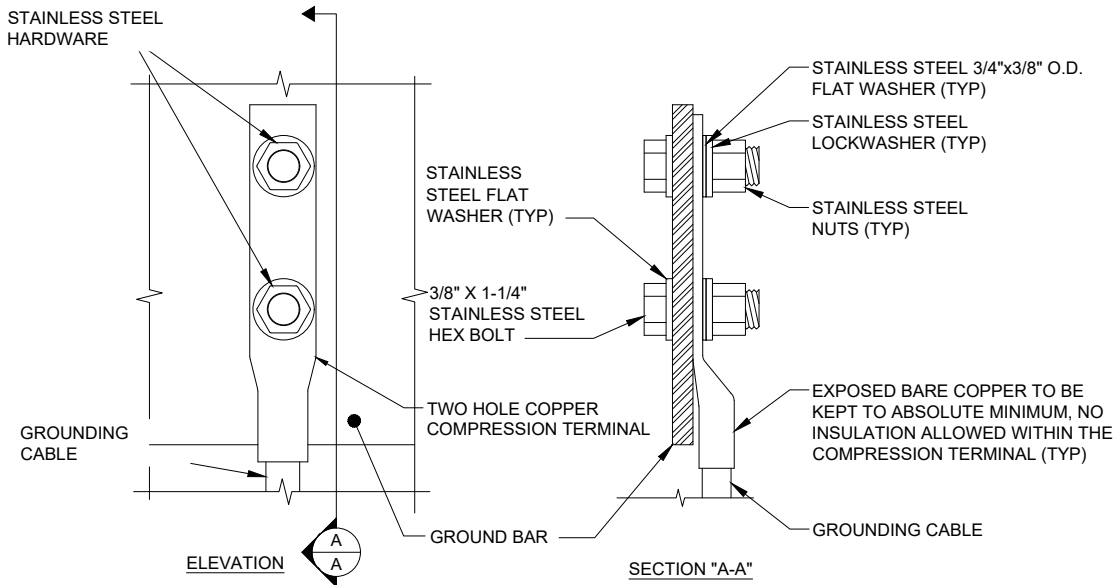


NOTE:  
THE FOLLOWING SYMBOLS  
SHOWN ARE HARGER  
ULTRAWELD EXOTHERMIC  
CONNECTIONS WITH PART  
NUMBERS BELOW. THESE  
CONNECTIONS MAY BE  
CROSS-REFERENCED WITH  
CADWELD CONNECTIONS  
WHICH ARE SHOWN IN  
PARENTHESIS.

## EXOTHERMIC WELD TYPES

SCALE: NONE

1



1. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS
2. NO CRIMPING OF SOLID #2. USE EXOTHERMIC WELD ONLY

## GROUND BAR CONNECTION DETAIL

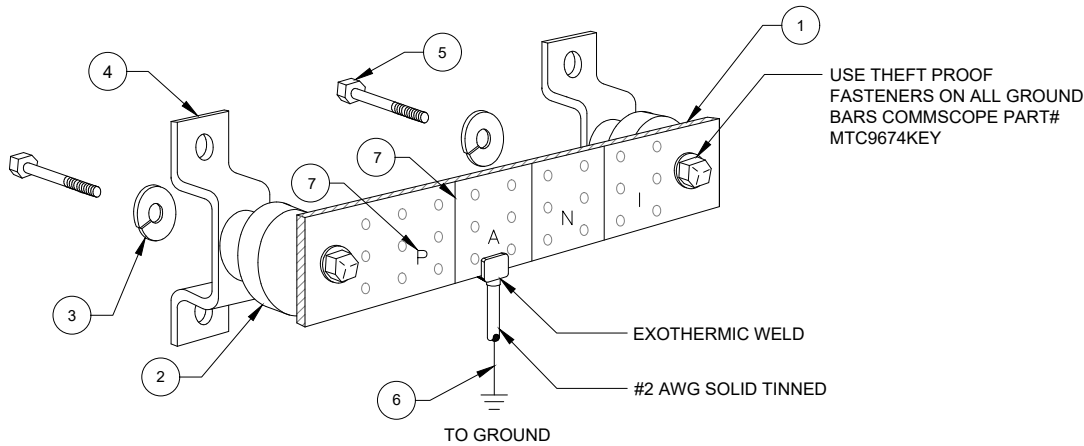
SCALE: NONE

2

## KEY NOTES:

1. 1/4" THK ELECTRICAL TINNED GROUND BAR HARGER OR APPROVED EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2. INSULATORS (UNLESS NOTED OTHERWISE)
3. 3/8" STAINLESS STEEL LOCKWASHERS
4. WALL MOUNTING BRACKET
5. 3/8" STAINLESS STEEL BNLF BOLTS
6. EXOTHERMICALLY WELD #2 AWG BARE TINNED SOLID COPPER CONDUCTOR TO GROUND BAR. ROUTE CONDUCTOR TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD
7. CONTRACTOR SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "N", "I") WITH 1" HIGH LETTERS

NOTES:  
-EXTERIOR GROUND BARS TO BE TIN PLATED  
-HARDWARE SHALL BE STAINLESS STEEL  
-CONTRACTOR SHALL GROUP INCOMING WIRES  
-CONTRACTOR TO APPLY 'KOPR-SHIELD' TO ALL CONNECTIONS



EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

### SECTION "P" - SURGE PRODUCERS

- COLLECTOR GROUND BAR
- GENERATOR FRAMEWORK (IF AVAILABLE)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND
- FIBER GROUND BAR
- EQUIPMENT ROOM COLLECTOR GROUND BAR
- HVAC
- RECTIFIER FRAMES

### SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING)
- METALLIC COLD WATER PIPE (IF AVAILABLE)
- BUILDING STEEL (IF AVAILABLE)
- AC POWER

### SECTION "N" - NON-ISOLATED GROUND ZONE EQUIPMENT

- MISCELLANEOUS NON-ISOLATED GROUND ZONE EQUIPMENT
- CABLE TRAY SYSTEM
- EQUIPMENT FRAMES
- BATTERY RACKS
- DC POWER

### SECTION "I" - ISOLATED GROUND ZONE

- ISOLATED EQUIPMENT FRAMES
- ISOLATED GROUND BAR - IGB

## GROUND BAR DETAIL

SCALE: NONE

3

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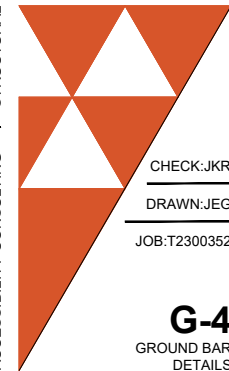


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G-4  
GROUND BAR  
DETAILS