

Final Report of Special Inspections

Project: *Installation of antennas, associated mounts, & ground equipment*

Location: *Deer Run – 160 Deer Run Rd., Wilton, CT 06897*

Owner: *SBA Communications*

Owner's Address: *8051 Congress Avenue, Boca Raton, Florida 3348*

Architect of Record: *N/A*

Structural Engineer of Record: *William R. Heiden, III, P.E.*

To the best of my information, knowledge and belief, the Special Inspections required for this project, and itemized in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments: *N/A*

(Attach continuation sheets if required to complete the description of corrections.)

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Special Inspector

William R. Heiden, III, P.E.

(Type or print name)

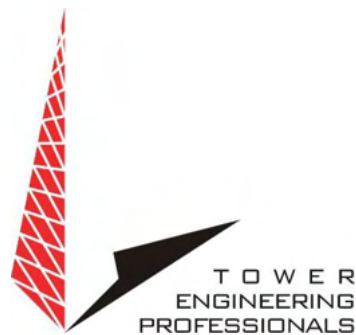

Signature

May, 17, 2024

Date



Tower Engineering Professionals
 326 Tryon Road
 Raleigh, NC 27603
 (919) 661-6351 (Office)
PMI@tepgroup.net



Date: **May 22, 2024**

Mr. Michael DiMonda
 Pyramid Network Services, LLC
 11 River Road
 Glenmont, NY, 12077
 (518) 366-5679
mdimonda@pyramidns.com

Subject: Modification Inspection Report

Pyramid Designation: **Site Number:** CT98078
Site Name: Wilton_Deer Run

Inspection Firm Designation: **TEP Project Number:** 274271.955996

Site Data: **160 Deer Run Road**
Wilton, Fairfield County, CT 06897
Latitude N 41° 14' 29.0", Longitude W 73° 28' 12.0"
130 Foot – Self Support Tower

Tower Engineering Professionals is pleased to submit this “**Modification Inspection Report**” (MI Report) to Pyramid Network Services, LLC for the modification/reinforcement to the subject structure. The purpose of this MI is to confirm that the modification installation configuration and workmanship are in accordance with the contract document(s) listed in Table 2. The MI is not a review of the adequacy or effectiveness of the modification/reinforcement solution.

Table 1 – General Information

	Company	Contact	Dates on Site
MI Vendor	Tower Engineering Professionals	Andrew T. Haldane, P.E., C.W.I.	N/A
MI Crew Lead	Tower Engineering Professionals	Tim Vicisko	5/13/2024
Assistant Inspector	Tower Engineering Professionals	Marco Chamba	5/13/2024
		<input checked="" type="checkbox"/> Independent	<input type="checkbox"/> EOR

Table 2 – Documents

Document(s)	Remarks	Source
Creator of Drawings: FDH Infrastructure Services Job #: PR-009191	EOR: Krystyn M. Perez, P.E. Date: 1/27/2023	PR-009159

Based on our inspection, Tower Engineering Professionals determines this project:

PASSING MI

The configuration, materials and/or workmanship of the modifications are installed in accordance with the Contract Documents.

- No deviations from the original design or MI checklist were discovered.
- The as-built conditions vary from the original design drawings. Changes were approved.

FAILING MI

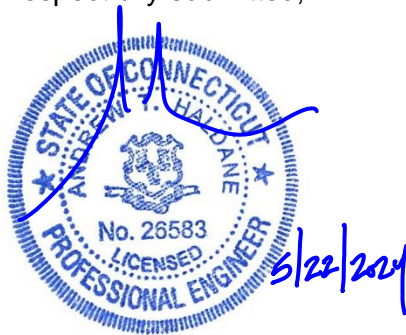
The configuration, materials and/or workmanship of the modifications are NOT installed in accordance with the Contract Documents. The rejection is based on non-conformance in the following area(s):

- Materials (see detail below)
- Workmanship (see detail below)
- Configuration (see detail below)

Table 3 – Modification Scope of Work

Item	Description	Reference
1	New tower extension installed from 120-ft to 130-ft.	S-5, S-6
2	New sub horizontals were installed at 102.5-ft.	S-2 – S-4

Respectfully submitted,



Andrew T. Haldane, P.E., C.W.I.


Tower Engineering Professionals, Inc.

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EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
	<p>Item 1</p> <p>Observation: A new tower extension was installed from 120-ft to 130-ft. This was completed in accordance with page S-5 and S-6 of the modification drawings provided by FDH dated, January 27, 2024 except as noted below.</p> <p>Note:</p> <ol style="list-style-type: none">1. Turn of the nut markings were not observed on the new flange bolts at 120-ft at the time of inspection. TEP was unable to determine that the bolts were tightened to proper specifications.2. The new flange plates at 120-ft are measured to be 8.55"Ø. Drawings specify a 8"Ø plate. The top flange plate overlaps the bottom flange plate.3. A new safety climb system was not installed on the tower as specified in the drawings.4. A beacon and lightning rod were not installed on top of the new extension as specified in the drawings.5. Additional washers were installed on all diagonal and horizontal bolts from 120-ft to 130-ft. Additional washers were installed on new flange bolts at 120-ft. These additional washers were not specified in the drawings. <p>This was approved by the EOR. See section 3.4 for Correspondence.</p> <p>Recommendation: No action required.</p>

EXECUTIVE SUMMARY

Photographs	Observations and Recommendations
 <p>The photographs show a close-up view of a metal tower structure with various cables and hardware. The top photo shows a wide view of the tower against a blue sky and green landscape. The middle photo shows a yellow measuring tape held against a horizontal metal beam, with the handwritten text 'A2' and '102.5' visible on the beam. The bottom photo shows a detailed view of the tower's structural members and cables.</p>	<p><u>Item 2</u></p> <p>Observation: New sub horizontals were installed at 102.5-ft. This was completed in accordance with page S-2 through S-4 of the modification drawings provided by FDH dated, January 27, 2024.</p> <p>Recommendation: No action required.</p>

PRE-CONSTRUCTION

1.1 MI CHECKLIST DRAWING

MODIFICATION INSPECTION NOTES:

GENERAL:

1. THE POST CONSTRUCTION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).
2. THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.
3. ALL MIs SHALL BE CONDUCTED BY A MI INSPECTOR THAT IS APPROVED TO PERFORM ELEVATED WORK FOR FDH INFRASTRUCTURE SERVICES.
4. TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR FDH INFRASTRUCTURE SERVICES POINT OF CONTACT (POC).
5. REFER TO STR-SOW-20001 : MODIFICATION INSPECTION CHECKLIST DEFINITIONS FOR FURTHER DETAILS AND REQUIREMENTS.

MI INSPECTOR:

1. THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:
 - REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
 - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
2. THE PCI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO FDH INFRASTRUCTURE SERVICES.

CORRECTION OF FAILING MIs:

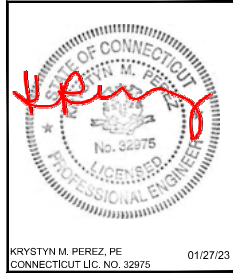
1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH FDH INFRASTRUCTURE SERVICES TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
 - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
 - OR, WITH FDH INFRASTRUCTURE SERVICES' APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

REQUIRED PHOTOS:

1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:
 - PRE-CONSTRUCTION GENERAL SITE CONDITION
 - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - WELD PREPARATION
 - BOLT INSTALLATION AND TORQUE
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
 - POST CONSTRUCTION PHOTOGRAPHS
 - FINAL INFIELD CONDITION
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

MI CHECKLIST	
INSPECTIONS AND TESTING REQUIRED	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
N/A	EOR APPROVED SHOP DRAWINGS
X	FABRICATION INSPECTION
X	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF MONOPOLE BASE PLATE
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMPRESSIVE STRENGTH AND SLUMP TESTS
N/A	POST INSTALLED ANCHOR ROD VERIFICATION
N/A	BASE PLATE GROUT VERIFICATION
X	CONTRACTOR'S CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
X	ON SITE COLD GALVANIZATIONS
N/A	GUY WIRE TENSION REPORT
X	GC AS BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
N/A	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
 N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT



DRAWN BY: JBD
 CHECKED BY: HAH
 ENG APP'VD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH INFRASTRUCTURE SERVICES, LLC IS PROHIBITED.

FDH PROJECT NUMBER:
PR-009191

SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
 WILTON, CT 06897**

SHEET TITLE
**MODIFICATION INSPECTION
 CHECKLIST**

SHEET NUMBER
N-1

1.2 EOR APPROVED SHOP DRAWINGS

Site Name: Wilton Deer Run CT98078
Site Number:
Site Address: 160 DEER RUN RD
 WILTON, CT 06897
Customer Name: CSB Communications
Date: 01/02/2024

REVISIONS RECORD

DATE	DESCRIPTION	NO.	BY
12/18/2023	For Approval	△A	AJ
12/22/2023	For Re Approval	△B	AJ
01/02/2024	For Re Approval	△C	AJ

NOTES:

NOTE:
 ALLFASTENERS DOES NOT GUARANTEE FIELD FITMENT FOR
 FABRICATED PARTS DUE TO ISSUES RESULTING FROM FIELD
 VERIFICATIONS OR PRE-EXISTING CONDITIONS.



959 LAKE ROAD MEDINA, OHIO 44256
 P (440) 232-6060 F (440) 232-6062
 ***.allfasteners.com

ASSEMBLY DRAWING REVIEW

- NO EXCEPTIONS
- EXCEPTIONS NOTED
- REVISE AND RESUBMIT

FDH INFRASTRUCTURE SERVICES, LLC

BY Hailey Hipp, PE

DATE 1/4/2024

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**FDH INFRASTRUCTURE
SERVICES, LLC**

BY Hailey Hipp, PE

DATE 1/4/2024

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FDH INFRASTRUCTURE SERVICES, LLC	
BY <u>Hailey Hipp, PE</u>	
DATE <u>1/4/2024</u>	

ASSEMBLY DRAWING REVIEW

- NO EXCEPTIONS
- EXCEPTIONS NOTED
- REVISE AND RESUBMIT

**FDH INFRASTRUCTURE
SERVICES, LLC**

BY Hailey Hipp, PE

DATE 1/4/2024

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the assembly drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Contractor is responsible for dimensions to be confirmed or correlated at the job site, information that pertains solely to the processes or means, methods, techniques, sequences, and procedures of construction, coordination of his or her work with that of all other trades, and for performing work in a safe and satisfactory manner.

ASSEMBLY DRAWING REVIEW	This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the assembly drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Contractor is responsible for dimensions to be confirmed or correlated at the job site, information that pertains solely to the processes or means, methods, techniques, sequences, and procedures of construction, coordination of his or her work with that of all other trades, and for performing work in a safe and satisfactory manner.
<input checked="" type="checkbox"/> NO EXCEPTIONS	
<input type="checkbox"/> EXCEPTIONS NOTED	
<input type="checkbox"/> REVISE AND RESUBMIT	
FDH INFRASTRUCTURE SERVICES, LLC	
BY <u>Hailey Hipp, PE</u>	
DATE <u>1/4/2024</u>	

1.3 FABRICATION INSPECTION



To: CSB Communications (Construction Services of Branford)
63-3 North Branford Road
Branford CT 06405-2848

Subject: PO: CS699

February 07, 2024

Please accept this letter as certification that our work on the Steel Package for Wilton - Deer Run was performed in accordance with industry standards and the contractor documents.

Please contact me if you have any questions.

Thank you,

Jim Wootten

Quality Assurance
Allfasteners USA LLC

CERTS@ALLFASTENERS.COM | WWW.ALLFASTENERS.COM

NEW YORK
Tel 800.577.3171
Fax 201.783.8840

CLEVELAND
Tel 888.859.6060
Fax 440.232.6062

LOS ANGELES
Tel 310.410.5007
Fax 866.553.7702

MINNEAPOLIS
Tel 855.330.2210
Fax 855.218.3781

DALLAS
Tel 888.859.6060
Fax 440.232.6062

NEBRASKA
Tel 855.330.2210
Fax 855.218.3781

1.4 FABRICATOR CERTIFIED WELD INSPECTION

WELDING PROCEDURE SPECIFICATION (WPS) Yes
PREQUALIFIED Yes _____ QUALIFIED BY TESTING _____
or PROCEDURE QUALIFICATION RECORDS (PQR) Yes

Company Name Allfasteners USA
 Welding Process(es) GMAW
 Supporting PQR No.(s) Fillet 1F, 2F

Identification # AF Pre Fillet ER70S-6 A36to A572-50 150PH
 Revision 1 Date 6-18-2020 By JW
 Authorized by Allfasteners USA Date 6-18-20
 Type Manual Semiautomatic
 Mechanized Automatic

JOINT DESIGN USED Tee, Corner, Lap Fig. 5.3

Type: Fillet
 Single Double Weld
 Backing: Yes No
 Backing Material: _____
 Root Opening 0in. Root Face Dimension n/a
 Groove Angle: 45 Radius (J U) n/a
 Back Gouging: Yes No Method n/a

POSITION
 Position of Groove: _____ Fillet: 1F,2F
 Vertical Progression: Up Down

BASE METALS

Material Spec. Group I to Group II
 Type or Grade A36 to A572-50
 Thickness: Groove 3/16 Fillet 3/16" to 1/2"
 Diameter (Pipe) 2.375 OD and up

ELECTRICAL CHARACTERISTICS

Transfer Mode (GMAW) Short-Circuiting
 Globular Spray
 Current: AC DCEP DCEN Pulsed
 Power Source: CC CV
 Other _____
 Tungsten Electrode (GTAW)
 Size: n/a
 Type: n/a

FILLER METALS

AWS Specification AWS A5.18
 AWS Classification AWS ER70S-6M

TECHNIQUE

Stringer or Weave Bead: Stringer
 Multi-pass or Single Pass (per side) Either
 Number of Electrodes 1
 Electrode Spacing Longitudinal n/a
 Lateral n/a
 Angle n/a
 Contact Tube to Work Distance 5/8 - 3/4"
 Peening no peening
 Interpass Cleaning: Wire brush as needed

SHIELDING

Flux None Gas Yes
 Composition 90 AR 10 CO2
 Electrode-Flux (Class) _____ Flow Rate 35 CFH
 Gas Cup Size 5/8

PREHEAT

Preheat Temp., Min. 150
 Interpass Temp., Min. 150 Max. 300

POSTWELD HEAT TREATMENT

Temp. none
 Time none

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type & Polarity	Amps or Wire Feed Speed			
1	GMA W	ER70S-6	.045	DCEP	315 - 385	23-25	23-37	3/16" Fillet
1	GMA W	ER70S-6	.045	DCEP	315 - 385	24-26	13-22	1/4" Fillet
1	GMA W	ER70S-6	.045	DCEP	315 - 385	24-26	24-26	5/16: Fillet D1.1 2020 Tee, Corner, Lap Fig. 5.3

WELDING PROCEDURE SPECIFICATION (WPS) Yes
PREQUALIFIED Yes _____ QUALIFIED BY TESTING _____
or PROCEDURE QUALIFICATION RECORDS (PQR) Yes

Company Name Allfasteners USA
 Welding Process(es) GMAW
 Supporting PQR No.(s) Fillet 1F, 2F

Identification # AF Pre Fillet ER70S-6 A572-50 to A572-50 32PH
 Revision 1 Date 9-9-2020 By JW
 Authorized by Allfasteners USA Date 9-9-2020
 Type Manual Semiautomatic
 Mechanized Automatic

JOINT DESIGN USED Tee, Corner, Lap Fig. 5.3

Type: Fillet
 Single Double Weld
 Backing: Yes No
 Backing Material: _____
 Root Opening 0in. Root Face Dimension n/a
 Groove Angle: 45 Radius (J U) n/a
 Back Gouging: Yes No Method n/a

POSITION
 Position of Groove: _____ Fillet: 1F,2F
 Vertical Progression: Up Down

BASE METALS

Material Spec. Group II to Group II
 Type or Grade A572-50 to A572-50
 Thickness: Groove 3/16 Fillet 3/16" to 1/2"
 Diameter (Pipe) 2.375 OD and up

ELECTRICAL CHARACTERISTICS

Transfer Mode (GMAW) Short-Circuiting
 Globular Spray
 Current: AC DCEP DCEN Pulsed
 Power Source: CC CV
 Other _____
 Tungsten Electrode (GTAW)
 Size: n/a
 Type: n/a

FILLER METALS

AWS Specification AWS A5.18
 AWS Classification AWS ER70S-6M

TECHNIQUE

Stringer or Weave Bead: Stringer
 Multi-pass or Single Pass (per side) Either
 Number of Electrodes 1
 Electrode Spacing Longitudinal n/a
 Lateral n/a
 Angle n/a
 Contact Tube to Work Distance 5/8 - 3/4"
 Peening no peening
 Interpass Cleaning: Wire brush as needed

SHIELDING

Flux None Gas Yes
 Composition 90 AR 10 CO2
 Electrode-Flux (Class) _____ Flow Rate 35 CFH
 Gas Cup Size 5/8

PREHEAT

Preheat Temp., Min. 32
 Interpass Temp., Min. 32 Max. 300

POSTWELD HEAT TREATMENT

Temp. none
 Time none

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type & Polarity	Amps or Wire Feed Speed			
1	GMA W	ER70S-6	.045	DCEP	315 - 385	23-25	23-37	3/16" Fillet
1	GMA W	ER70S-6	.045	DCEP	315 - 385	24-26	13-22	1/4" Fillet
1	GMA W	ER70S-6	.045	DCEP	315 - 385	24-26	24-26	5/16: Fillet D1.1 2020 Tee, Corner, Lap Fig. 5.3

WELDING PROCEDURE SPECIFICATION (WPS) Yes
PREQUALIFIED Yes _____ QUALIFIED BY TESTING _____
or PROCEDURE QUALIFICATION RECORDS (PQR) Yes

Company Name Allfasteners USA
 Welding Process(es) GMAW
 Supporting PQR No.(s) Fillet 1F, 2F

Identification # AF Pre Fillet ER70S-6 A572-50 to A572-150
 Revision 2 Date 6-18-2020 By JW
 Authorized by Allfasteners USA Date 6-18-20
 Type Manual Semiautomatic
 Mechanized Automatic

JOINT DESIGN USED Tee, Corner, Lap Fig. 5.3

Type: Fillet
 Single Double Weld
 Backing: Yes No
 Backing Material: _____
 Root Opening 0in. Root Face Dimension n/a
 Groove Angle: 45 Radius (J U) n/a
 Back Gouging: Yes No Method n/a

BASE METALS

Material Spec. Group II to Group II
 Type or Grade A572-50 to A572-50
 Thickness: Groove 3/16 Fillet 3/16" to 1/2"
 Diameter (Pipe) 2.375 OD and up

FILLER METALS

AWS Specification AWS A5.18
 AWS Classification AWS ER70S-6M

SHIELDING

Flux None Gas Yes
 Composition 90 AR 10 CO2
 Electrode-Flux (Class) _____ Flow Rate 35 CFH
 Gas Cup Size 5/8

PREHEAT

Preheat Temp., Min. 150
 Interpass Temp., Min. 150 Max. 300

POSITION

Position of Groove: _____ Fillet: 1F,2F
 Vertical Progression: Up Down

ELECTRICAL CHARACTERISTICS

Transfer Mode (GMAW) Short-Circuiting
 Globular Spray
 Current: AC DCEP DCEN Pulsed
 Power Source: CC CV
 Other _____
 Tungsten Electrode (GTAW)
 Size: n/a
 Type: n/a

TECHNIQUE

Stringer or Weave Bead: Stringer
 Multi-pass or Single Pass (per side) Either
 Number of Electrodes 1
 Electrode Spacing Longitudinal n/a
 Lateral n/a
 Angle n/a
 Contact Tube to Work Distance 5/8 - 3/4"
 Peening no peening
 Interpass Cleaning: Wire brush as needed

POSTWELD HEAT TREATMENT

Temp. none
 Time none

WELDING PROCEDURE

Pass or Weld Layer(s)	Process	Filler Metals		Current		Volts	Travel Speed	Joint Details
		Class	Diam.	Type & Polarity	Amps or Wire Feed Speed			
1	GMAW	ER70S-6	.045	DCEP	315 - 385	23-25	23-37	3/16" Fillet
1	GMAW	ER70S-6	.045	DCEP	315 - 385	24-26	13-22	1/4" Fillet
1	GMAW	ER70S-6	.045	DCEP	315 - 385	24-26	24-26	5/16: Fillet D1.1 2020 Tee, Corner, Lap Fig. 5.3



American Welding Society®

Certifies that Welding Inspector

James Wootten

*has complied with the requirements of AWS QC1,
Standard for AWS Certification of Welding Inspectors*

16014371

CERTIFICATE NUMBER

Jan/01/2025

EXPIRATION DATE



AWS PRESIDENT

AWS QUALIFICATION & CERTIFICATION
COMMITTEE CHAIR

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION RECORD

Name Derek Yoder I.D. No. _____ WPS Followed _____ *

Variables	Record of Actual Qualification Values	Qualification Range
Process Type	GMAW	GMAW
Electrode (single or multiple)	SINGLE	SINGLE
Current/Polarity	DC EP	
Position	2G	F & H
Weld Progression	NONE	NONE
Backing (YES or NO)	YES	WITH BACKING
Material Spec.	A572 Gr.50	
Base Metal Thickness – Plate Groove	1"	1/8" TO UNLIMITED
Plate Fillet	NONE	1/8" TO UNLIMITED
Thickness – Pipe Groove	NONE	1/8" TO UNLIMITED
Pipe Fillet	NONE	1/8" TO UNLIMITED
Diameter – Pipe Groove	NONE	24" & OVER
Pipe Fillet	NONE	1/8" TO UNLIMITED
Filler Metal - Spec. No.	A5.18	
AWS Class.	E70C-6M	
F-No.	F6	F6
Gas/Flux Type	95% AR/ 5% O2	WITH SHIELDING

VISUAL INSPECTION – Acceptable Yes No

Type	Result	Type	Result
SIDE BEND	PASSED		
SIDE BEND	PASSED		

Inspected By Marki Domchuk Test No.: 2009-11308

Laboratory: TOTAL QUALITY TESTING, INC. Date: 9-24-20

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of AWS D1.1 Structural Welding Code.

ALL FASTENERS

Manufacturer/Contractor: _____
 Authorized by: [Signature] Date: 9-24-20

Certificate
of
Tests and Qualifications
of
Welder / Welding Operator

TQT LABORATORIES, INC.
HAS PREPARED AND TESTED THE
SPECIMENS WELDED BY

JON HERMAN

WELDING PERFORMED UNDER THE SUPERVISION OF
ALL FASTENERS

IN ACCORDANCE WITH
AWS D1.1 STRUCTURAL STEEL WELDING CODE
GMAW, 1", A36, 2G GROOVE WELD TEST

Qualification Date 8-30-22

*Expiration Date INDEFINITE

Lab No. 2208-13123

*Per Code Requirements

Mark Demchak
Authorized Signature

MARK DEMCHAK
AWS QC1 CWI

TQT Laboratories, Inc.

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION RECORD

Name Jon Herman I.D. No. _____ WPS Followed _____ *

Variables	Record of Actual Qualification Values	Qualification Range
Process Type	GMAW	GMAW
Electrode (single or multiple)	SINGLE	SINGLE
Current/Polarity	DC EP	
Position	2G	F & H
Weld Progression	NONE	NONE
Backing (YES or NO)	YES	WITH BACKING
Material Spec.	A572-65	
Base Metal Thickness – Plate Groove	1"	1/8" TO UNLIMITED
Plate Fillet	NONE	1/8" TO UNLIMITED
Thickness – Pipe Groove	NONE	1/8" TO UNLIMITED
Pipe Fillet	NONE	1/8" TO UNLIMITED
Diameter – Pipe Groove	NONE	24" & OVER
Pipe Fillet	NONE	1/8" TO UNLIMITED
Filler Metal - Spec. No.	A5.18	
AWS Class.	ER70S-6	
F-No.	F6	F6
Gas/Flux Type	90% AR/ 10% CO2	WITH SHIELDING

VISUAL INSPECTION – Acceptable Yes No

Type	Result	Type	Result
SIDE BEND	PASSED		
SIDE BEND	PASSED		

Inspected By M. Demchak Test No.: 2208-13123
 Laboratory: TOTAL QUALITY TESTING, INC. Date: 8-30-22

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of AWS D1.1 Structural Welding Code.

ALL FASTENERS

Manufacturer/Contractor: _____
 Authorized by: _____ Date: _____

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION RECORD

Name Jon Herman I.D. No. _____ WPS Followed _____ *

Variables	Record of Actual Qualification Values	Qualification Range
Process Type	GMAW	GMAW
Electrode (single or multiple)	SINGLE	SINGLE
Current/Polarity	DC EP	
Position	2G	F & H
Weld Progression	NONE	NONE
Backing (YES or NO)	YES	WITH BACKING
Material Spec.	A572 Gr.50	
Base Metal Thickness – Plate Groove	1"	1/8" TO UNLIMITED
Plate Fillet	NONE	1/8" TO UNLIMITED
Thickness – Pipe Groove	NONE	1/8" TO UNLIMITED
Pipe Fillet	NONE	1/8" TO UNLIMITED
Diameter – Pipe Groove	NONE	24" & OVER
Pipe Fillet	NONE	1/8" TO UNLIMITED
Filler Metal - Spec. No.	A5.28	
AWS Class.	ER80S-Ni1	
F-No.	F6	F6
Gas/Flux Type	90% AR/ 10% CO2	WITH SHIELDING

VISUAL INSPECTION – Acceptable Yes No

Type	Result	Type	Result
SIDE BEND	PASSED		
SIDE BEND	PASSED		

Inspected By Mark Demchak Test No.: 2208-13123
 Laboratory: TOTAL QUALITY TESTING, INC. Date: 8-30-22

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of AWS D1.1 Structural Welding Code.

ALL FASTENERS

Manufacturer/Contractor: _____
 Authorized by: _____ Date: _____

Visual Examination (VT) Report Form

Row 1545

Report Supplied By:



Allfasteners' Address 959 Lake Road, Medina, OH 44256

Customer/Project: CSB Communication/Wilton Deer Run

Site No. CT98078

Date 01/22/24

Report No. 201550

Component Description Tower extension Legs, V-Brackets

Applicable Standard / Acceptance Criteria: AWS D1.1-2020

Comments / Notes:

1. Welding Documentation Check

A1. Application Welding Procedure Specification AF Pre Fillet ER70S-6 A36 to A572-50 150PH

A2. Application Welding Procedure Specification AF Pre Fillet ER70S-6 A572-50 to A572-50 150PH

A3. Application Welding Procedure Specification AF Pre Fillet ER70S-6 A572-50 to A572-50 32P

A4. Application Welding Procedure n/a

Specification

B. Applicable Welder Performance Qualification

Derek Yoder - GMAW, Jonathan Herman-GMAW

Steel Part #1

Rod 1-3/4"

Steel Part #2

1" Plate

Steel Part #3

3/8" Plate

Steel Part #4

3/16" Plate

Steel Part #5

1/2" Plate

2. Visual Examination: Pre-Welding



Weld Consumable Classification Used

ER70S-6 AWS A5.18

Prep of Base Material / Cleanliness

Acceptable

Joint Prep & Alignment as Tacked

Acceptable

Pre-Photo



Pre-Photo #2



Pre-Photo #3



During Weld Examination



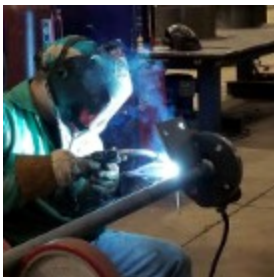
Welding proceeded within limits of procedure noted

Acceptable (see photo below)

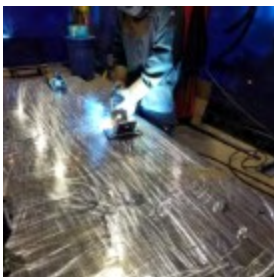
During Welding Photo #1



During Welding Photo #2



During Welding Photo #3



Visual Examination: Post-Welding



**Weld
Size/Profile/Appearance
Requirements
Conform**

AWS D1.1-2020: Clause 8, Table 8.1

Post Weld Photo



Post Weld Photo #2



Post Weld Photo #3



Inspector Signature

Jim Wooten

Qualification



NOTE

The pieces noted above were welded in conformance with AWS D1.1:2020.

1.5 MATERIAL TEST REPORT (MTR)



Certification Report

February 2024

CSB Communications

(Construction Services of Branford)

Wilton - Deer Run

PO: CS699

SO: 125277

CERTS@ALLFASTENERS.COM | WWW.ALLFASTENERS.COM

NEW YORK

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Fax 440.232.6062

NEBRASKA


Tel 855.330.2210
Fax 855.218.3781



P.O. Box 13948
 Roanoke, VA 24038-3934
 Office: (540) 342-1831
 (800) 753-3532
 Fax: (540) 342-9437
 www.roanokesteel.com

PRODUCT CERTIFICATION

MFG LOT NBR: **JP4596-384683**
 HEAT NUMBER: **JP4596**
 BILL OF LADING: **00637173**
 SALES ORDER/LINE: **279327 / 003**
 CERT ID / REV: **00427052 / 01**

CUSTOMER P.O. M05086303	CUSTOMER PART 00827	QUANTITY 10,336	BUNDLE(S) 1	TOTAL PIECES 81	GRADE A36/A529	SHIPMENT DATE 12/26/2023
PART NUMBER: BA00411400ZZ		DESCRIPTION: Angle 2 x 2 x 1/4 400" A36/A529				
Alt Certs						
ASTH A36/A36H-19 ASTH A36/A36H-19 CU BEARING ASTH A529/A529H-19 GR50 ASTH A572/A572H-21 GR50 Type 2 ASTH A709/A709H-21 GR36 ASTH A709/A709H-21 GR36 CU BEARING ASTH A709/A709H-21 GR50 Type 2 CSA G40.21- 13 GR44W CSA G40.21-13 GR50W AASHTO M270/M270H-20 GR36 AASHTO M270/M270H-20 GR36 CU BEARING ASHE SA 36/SA36H-19 (01JUL19) ASHE SA572/572H-17 GR50T2 (01JUL19)						
Chemical						
C	Mn	S	P	Si	Cu	V
0.14	0.91	0.032	0.011	0.21	0.11	0.09
Yield Tensile Elongation						
Sample-1	Yld-1 (KSI) 53.0	Yld-1 (MPa) 365	Ultimate-1 (KSI) 73.0	Ultimate-1 (MPa) 503	Elong ⁸ (%) 29	
Sample-2	Yld-2 (KSI) 56.0	Yld-2 (MPa) 386	Ultimate-2 (KSI) 74.0	Ultimate-2 (MPa) 510	Elong ⁸ (%) 29	
<p>Approved ABBQAMIII. Certificate No. QA-612381 and BML T224226. This Material was melted and manufactured in our plant located in Roanoke, VA, USA, by the use of electric furnace process to meet the "Ordinary" Grade. Manganese, Radium and other Alpha source materials in any form have not been used in the production of this material. No weld repairs have been performed. Any tensile values listed herein either in inch-pound units or SI units are to be regarded as separate as defined in the ASTM scope for this material. All samples tested are full size and in an "as-milled" condition. Unless otherwise specified, this material has been tested and meets the requirements of the inch-pound range.</p> <p>This is to certify the above to be true and accurate reports contained in the record of this company.</p>						
END OF CERTIFICATION			 <u>Metallurgist: Jacob Nott</u>			

SSAB

Test Certificate

1770 Bill Sharp Boulevard, Muscatine, IA 52761-9412, US

WARNING: This product can expose you to chemicals including nickel and nickel compounds, which are known to the State of California to cause cancer. For more information go to www.P85Warnings.ca.gov.

Form TC1: Revision 5: Date 22 Aug 2022

Customer P.O.No.: F 16112		Mill Order No. 41-710593-04		Shipping Manifest: MR493400	
Product Description: ASTM A572-50/M345(21)/A709-50/M345(21) LCVN 25 FT.LBS. @ -40F / A673-H				Ship Date: 08 Jun 23 Cert Date: 08 Jun 23	
Size: 0.250 X 96.00 X 480.0 (IN)				Cert No: 061232546 (Page 1 of 1)	

Tested Pieces:				Tensiles:					Charpy Impact Tests														
Heat Id	Piece Id	Tested Thickness	Tst Loc	YS (KSI)	UTS (KSI)	%RA	Elong %		Tst Dir	Hardness	Abs. Energy(FTLB)				% Shear				Tst Tmp	Tst Dir	Tst Siz (mm)	BDWTT Tmp %Shr	
							2in	8in			1	2	3	Avg	1	2	3	Avg					
B3E801	A18	0.183 (DISCRT)	L	65	75		31		T		39	41	43	41									
B3E801	A21	0.371 (DISCRT)	L								218	196	209	208									
B3E801	A22	0.468 (DISCRT)	L	55	69		38		T														

Chemical Analysis															ORGN
Heat Id	C	Mn	P	S	Si	Tot Al	Cu	Ni	Cr	Mo	Cb	V	Ti		USA
B3E801	.07	1.22	.008	.002	.04	.027	.33	.16	.07	.04	.003	.051	.001		

KILLED STEEL
 MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT.
 MTR EN 10204:2004 INSPECTION CERTIFICATE 3.1 COMPLIANT
 100% MELTED, POURED, AND ROLLED IN THE USA
 CHARPY FULL SIZE EQUIVALENT = ABSORBED ENERGY AVG X 10 / TEST SIZE IN MM
 NO WELD REPAIR HAS BEEN PERFORMED ON THIS MATERIAL.
 PRODUCTS SHIPPED:
 B3E801 A20 PCS: 4, LBS: 13068

P49039

**CVN
MATERIAL**

DOMESTIC MATERIAL

(P) Cust Part #:	WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION	Brian Wales PRINCIPAL METALLURGIST
------------------	--	---------------------------------------



CMC STEEL SOUTH CAROLINA
310 New State Road
Cayce SC 29033-3704

CERTIFIED MILL TEST REPORT
For additional copies call
800-637-3227

We hereby certify that the test results presented here are accurate and conform to the reported grade specification



Curtis G. Glenn.

Quality Assurance Manager

RT11108603

1SERIES-BPS®

HEAT NO.: 2101961 SECTION: FLAT 3/8x3 20'0" A36/52950 GRADE: ASTM A36-19/A529-19 GR 50 ROLL DATE: 03/11/2023 MELT DATE: 03/01/2023 Cert. No.: 85380212 / 101961D146		Delivery#: 85380212 BOL#: 75294129 CUST PO#: AK16858212 CUST P/N: 06506720 DLVRY LBS / HEAT: 24480.000 LB DLVRY PCS / HEAT: 320 EA
---	--	---

Characteristic	Value	Characteristic	Value	Characteristic	Value	
C	0.13%	Elongation Gage Lgth test 1	8IN	The Following is true of the material represented by this MTR: <i>*Material is fully killed and is Hot Rolled Steel</i> <i>*100% melted, rolled, and manufactured in the USA</i> <i>*EN10204:2004 3.1 compliant</i> <i>*Contains no weld repair</i> <i>*Contains no Mercury contamination</i> <i>*Manufactured in accordance with the latest version of the plant quality manual</i> <i>*Meets the "Buy America" requirements of 23 CFR635.410, 49 CFR 661</i> <i>*Warning: This product can expose you to chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov</i>		
Mn	0.66%	Yield to tensile ratio test1	0.72			
P	0.015%	Yield Strength test 2	54.0ksi			
S	0.024%	Tensile Strength test 2	74.9ksi			
Si	0.22%	Elongation test 2	27%			
Cu	0.45%	Elongation Gage Lgth test 2	8IN			
Cr	0.21%	Yield to tensile ratio test2	0.72			
Ni	0.14%	C+(Mn/6)	0.24%			
Mo	0.038%					
V	0.000%					
Cb	0.010%					
Sn	0.017%					
Al	0.000%					
B	0.0002%					
Ti	0.000%					
N	0.0057%					
Carbon Eq A529	0.37%					
Yield Strength test 1	54.1ksi					
Tensile Strength test 1	74.9ksi					
Elongation test 1	25%					

REMARKS : ALSO MEETS ASTM GRADE A36, A529 GR.50, **A572 GR.50**, A709 GR.36, A709 GR.50, A992, AASHTO GRADE M270 GR.36, M270 GR.50, CSA G40.21-04 GRADE 44 W,50W,ASME SA-36

NUCOR

Mill Certification
11/03/2022

MTR#:1178506-8
Lot #:360002986560
ONE NUCOR WAY
BOURBONNAIS, IL 60914 US
815 937-3131
Fax: 815 939-5599

Customer PO	AK16557127	Sales Order #	36041319 - 1.1
Product Group	Hot Roll - Merchant Bar Quality	Product #	3010710
Grade	Nucor Multigrade	Lot #	360002986560
Size	1.75"	Heat #	3600029865
BOL #	BOL-1275307	Load #	1178506
Description	Hot Roll - Merchant Bar Quality Round 1.75" (1 3/4") Nucor Multigrade 20' 0" [240"] 2001-6000 lbs	Customer Part #	06226000
Production Date	06/30/2022	Qty Shipped LBS	4912
Product Country Of Origin	United States	Qty Shipped EA	30
Original Item Description		Original Item Number	

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

Melt Country of Origin : United States

Melting Date: 06/10/2022

C (%)	Mn (%)	P (%)	S (%)	Si (%)	Ni (%)	Cr (%)	Mo (%)	Cu (%)	Ti (%)	V (%)	Sn (%)
0.18	0.81	0.016	0.035	0.186	0.20	0.16	0.05	0.31	0.001	0.034	0.010

ASTM A529 S78.2 CE (%) : 0.43

ASTM A992 5.4 CE (%) : 0.40

Tensile testing

	Yield (PSI)	Tensile (PSI)	Elongation in 8" (%)
(1)	54300	76000	30.0
(2)	54500	76100	27.5

Comments:

Nucor Multigrade meets the requirements of: ASTM A36/A36M-19, A529/529M-19 GR50, A572/572M-18 GR50, A709/709M-18 GR36 & GR50 No CVN, CSA G40.21-13 GR44W(300W) & GR50W(350W), AASHTO M270/M270M-20 GR36 & GR50, ASME SA36/SA36M-19. Meets reporting requirements of EN10204 SEC3.1.

All manufacturing processes of the steel materials in this product, including melting, have occurred within the United States. Products produced are weld free. Mercury, in any form, has not been used in the production or testing of this material.



Zachary Sprintz, Chief Metallurgist

NUCOR®
PLATE MILL GROUP

P.O.Box 279
Winton, NC 27986
(252) 356-3700

Mill Test Report Page 1

1505 River Rd
Cofield, NC 27922
(252) 356-3700

Issuing Date : 02/23/2023 B/L No. : 642792 Load No. : 661193 Our Order No. : 202739/10 Cust. Order No. :
 Vehicle No: ALY91753
 Specification: 1.0000" x 96.000" x 240.000"
 ASTM A572 Grade 50-21e1/A709 Grade 50-21 AASHTOM 270-2022
 50/SA572 Grade 50 (2017) .10 C Max

Marking :

Heat No	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al(tot)	V	Nb	Ti	N	B	Sn	Ceq	Pcm
3601059	0.07	1.43	0.009	0.004	0.18	0.19	0.09	0.07	0.01	0.028	0.003	0.041	0.002	0.0059	0.0003	0.009	0.35	0.17

Plate Serial No	Pieces	Tons	Dir.	Tensile Test			
				(psi) Yield	(psi) Tensile	Elong. % in 2"	Elong. % in 8"
3601059-01	6	19.60	T	61,300	69,700		27.2
			T	58,200	71,900		27.5
3601059-02	8	26.13	T	61,300	69,700		27.2
			T	58,200	71,900		27.5

Plate Serial No	Pieces	Tons	Dir.	Charpy Imacts																
				(ft-lbs) 1	(ft-lbs) 2	(ft-lbs) 3	(ft-lbs) Ave	Min	(in.) 1	(in.) 2	(in.) 3	(in.) Ave	Min	(%) 1	(%) 2	(%) 3	(%) Ave	Min	Temp (°F)	Size
3601059-01	6	19.60	H-L	236.2	251.5	252.3	246.7	25											-40	10mm
			H-L	279.6	234.7	248.0	254.1	25											-40	10mm
			H-L	267.8	286.5	274.9	276.4	25											-40	10mm
3601059-02	8	26.13	H-L	236.2	251.5	252.3	246.7	25											-40	10mm
			H-L	279.6	234.7	248.0	254.1	25											-40	10mm
			H-L	267.8	286.5	274.9	276.4	25											-40	10mm

Manufactured to fully killed fine grain practice by Electric Arc Furnace. Welding or weld repair was not performed on this material. Mercury has not been used in the direct manufacturing of this material. Produced as continuous cast discrete plate as-rolled, unless otherwise noted in Specification. For Mexico shipments: nhc-SalesMX@nucor.com
 Yield by 0.5EUL method unless otherwise specified. Ceq = C+(Mn/6)+((Cr+Mo+V)/5)+((Cu+Ni)/15)
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+S
 Melted and Manufactured in the USA. ISO 9001:2015 certified. PED 2014/68/EU, 97/23/EC 7/2 Annex 1, Para. 4.3 Compliant. API Q1-1851
 DIN 50049 3.1.B/EN 10204 3.1(2004) 3.1B(1993)/ DIN EN 10204 3.1(2005) compliant. ABS QA-3624366

We hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with the applicable specifications, including customer specifications.


C. L. Cooper, Metallurgist

2/23/2023 12:06:17 PM

NUCOR

Mill Certification
10/24/2023

MTR#:1511763-6
Lot #:310003592420
25 QUARRY RD
AUBURN, NY 13021 US
315 253 4561
Fax: 315 258 4300

Customer PO	AK17223932	Sales Order #	31032900 - 1.1
Product Group	Hot Roll - Merchant Bar Quality	Product #	3016860
Grade	Nucor Multigrade	Lot #	310003592420
Size	0.375" x 6"	Heat #	3100035924
BOL #	BOL-1559567	Load #	1511763
Description	Hot Roll - Merchant Bar Quality Flat 3/8" x 6" Nucor Multigrade 20' 0" [240"] 2001-6000 lbs	Customer Part #	06507520
Production Date	07/06/2023	Qty Shipped LBS	4900
Product Country Of Origin	United States	Qty Shipped EA	32
Original Item Description	Hot Roll - Merchant Bar Quality Flat 3/8" x 6" Nucor Multigrade 20' 0" [240"]	Original Item Number	1036473

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

Melt Country of Origin : United States Melting Date: 06/28/2023

C (%)	Mn (%)	P (%)	S (%)	Si (%)	Ni (%)	Cr (%)	Mo (%)	Cu (%)	Ti (%)	V (%)	Nb (%)
0.15	0.87	0.017	0.044	0.184	0.09	0.19	0.03	0.32	0.004	0.020	0.001

Sn (%)
0.011

ASTM A529 S78.2 CE (%) : 0.40

ASTM A992 5.4 CE (%) : 0.37

Tensile testing

	Yield (PSI)	Tensile (PSI)	Elongation in 8" (%)
(1)	51600	71400	28.8
(2)	52400	72000	28.8

Comments:

NUCOR MULTIGRADE MEETS THE LATEST REVISION OF: ASTM A36/A36M (2019), A529/529M GR50(345) (2019), A572/572M GR50(345) (2021), A709/709M GR36(250) & GR50(345) (2021), CSA G40.21 GR44W(300W) & GR50W, AASHTO M270/M270M GR36(270) & GR50(345), ASME SA36/SA36M. MEETS REPORTING REQUIREMENTS OF EN10204 SEC 3.1 / ISO10474 SEC 3.1 . PRODUCED TO A FULLY KILLED, FINE GRAIN PRACTICE.

ALL MANUFACTURING PROCESS OF THE STEEL MATERIALS IN THIS PRODUCT, INCLUDING MELTING, HAVE OCCURRED WITHIN THE UNITED STATES. ALL PRODUCTS PRODUCED ARE WELD FREE. MERCURY NOT INTENTIONALLY ADDED AT ANY POINT DURING THE MANUFACTURING OR TESTING OF THIS MATERIAL. Conforms to the requirements of 23 CFR 635.410 Buy America Requirements.



Kenny L. Oller, Division Metallurgist



CMC STEEL SOUTH CAROLINA
310 New State Road
Cayce SC 29033-3704

CERTIFIED MILL TEST REPORT
For additional copies call
800-637-3227

We hereby certify that the test results presented here are accurate and conform to the reported grade specification



Curtis G. Glenn.
Quality Assurance Manager

1SERIES-BPS®

HEAT NO.: 2102766 SECTION: FLAT 3/8x4 20'0" A36/52950 GRADE: ASTM A36-19/A529-19 GR 50 ROLL DATE: 04/20/2023 MELT DATE: 04/14/2023 Cert. No.: 85503685 / 102766D811			Delivery#: 85503685 BOL#: 75490559 CUST PO#: AK17075317 CUST P/N: 06507020 DLVRY LBS / HEAT: 4896.000 LB DLVRY PCS / HEAT: 48 EA
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Characteristic	Value	Characteristic	Value	Characteristic	Value
C	0.15%	Elongation Gage Lgth test 1	8IN		
Mn	0.68%	Yield to tensile ratio test1	0.73		
P	0.011%	Yield Strength test 2	54.5ksi		
S	0.029%	Tensile Strength test 2	73.3ksi		
Si	0.20%	Elongation test 2	29%		
Cu	0.36%	Elongation Gage Lgth test 2	8IN		
Cr	0.15%	Yield to tensile ratio test2	0.74		
Ni	0.10%	C+(Mn/6)	0.26%		
Mo	0.032%				
V	0.000%				
Cb	0.010%				
Sn	0.013%				
Al	0.002%				
B	0.0003%				
Ti	0.001%				
N	0.0141%				
Carbon Eq A529	0.37%				
Yield Strength test 1	53.6ksi				
Tensile Strength test 1	73.3ksi				
Elongation test 1	28%				

The Following is true of the material represented by this MTR:
 *Material is fully killed and is Hot Rolled Steel
 *100% melted, rolled, and manufactured in the USA
 *EN10204:2004 3.1 compliant
 *Contains no weld repair
 *Contains no Mercury contamination
 *Manufactured in accordance with the latest version of the plant quality manual
 *Meets the "Buy America" requirements of 23 CFR635.410, 49 CFR 661
 *Warning: This product can expose you to chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

REMARKS : ALSO MEETS ASTM GRADE A36, A529 GR.50, A572 GR.50, A709 GR.36, A709 GR.50, A992, AASHTO GRADE M270 GR.36, M270 GR.50, CSA G40.21-04 GRADE 44 W,50W,ASME SA-36

HT112268520

QUALITY CERTIFICATE # FAC-10 / 290923-01

DATE: 29/09/2023
 CUSTOMER: ALLFASTENERS USA LLC
 INVOICE: 20766
 YOUR ORDER NUMBER: PO P000039286
 OUR ORDER NUMBER: 19276 / 1 / 1
 TRAZABILITY NUMBER: 18128 /1

QUANTITY: 2,018

DESCRIPTION: BUTTON HEAD STEP BOLT, A-449 T-1, HOT DIP GALVANIZED.
 HEAD DIAMETER 2" HEAD HEIGHT 1/2"

SIZE: **5/8-11 X 8-1/4"**

NORMS OF MANUFACTURE:

- A - RAW MATERIAL STANDARD: ASTM A-449 T-1 O.K
- B - DIMENSIONAL STANDARD: YOUR DRAWING O.K
- C - COATING STANDARD: ASTM F2329 O.K

A. 1 SUPPLIER OF RAW MATERIAL: TERNIUM MEXICO.

CHEMICAL ANALYSIS, HEAT NUMBER: 2210360

ELEMENTS	C	Mn	p	S	SI	NI	CR	MO
	0.3800	0.740	0.005	0.010	0.210	0.040	0.230	0.009

A. 2 MECHANICAL PROPERTIES: Ref: FAC-12/

CORE HARDNESS: 26.5-28.25 HRC
 TENSILE STRENGTH: 133153-140469 PSI
 BOLTS MADE IN MEXICO
 VISUAL INSPECTION: O.K

. We certify that the test results and information of the process are correct and true as recorded in the company records.



Quality Assurance

CERTIFICADO bsi. FM6969so ISO 9001 :2015



**Certified Material Test Report to ISO16228 F3.1 (EN 10204-2004 3.1)
FOR ASME SA194/ ASTM A194-20 GRADE 2H HVY HEX NUTS**

FACTORY: NINGBO HAIXIN HARDWARE CO.,LTD.
 ADDRESS: XIJINGTANG,LUOTUO NINGBO ZHEJIANG 315205
CHINA

DATE: APR.11.2022
 COUNTRY OF ORIGIN: CHINA
 MFG LOT NUMBER: 5185260002
 PO NUMBER: MILL
 PART NO: 313150
 MANUFACTURER DATE: 2022/3/29

CUSTOMER:
 QNTY SHIPPED: 230.400MPCS
 SAMPLE SIZE : ACC. TO ASME B18 . 18 . 1 - 11
 SIZE & DESCRIPTION: 5/8-11+0.020"(HDG)
 FINISH:H.T.HOT DIP GAL PER ASTM A153-16/ASTM F2329-15

STEEL PROPERTIES: TEST FACILITY: S
 STEEL GRADE: SWRCH45K SIZE: 26mm HEAT NO: J12108132

CHEMISTRY COMPOSITION:

CHEMIST	C %	Mn %	P %	S %	Si %	Cr %	Ni %	Cu %	Mo %	OTHERS
SPE:	MIN	MAX	MAX	MAX	MAX					
	0.40	1.00	0.04	0.05	0.40					
TEST:	0.44	0.69	0.010	0.003	0.18					

DIMENSIONAL INSPECTIONS

SPECIFICATION: ASME /ANSI B18.2.2-2015

TEST FACILITY: M

CHARACTERISTICS	TEST METHOD	SPECIFIED	ACTUAL RESULT	ACC.	REJ.
*****	*****	*****	*****	*****	*****
APPEARANCE	ASTM F812-12		PASSED	100	0
WIDTH A/F	1.031"-1.062"		1.032"-1.039"	32	0
WIDTH A/C	1.175"-1.227"		1.177"-1.181"	32	0
THREAD	ASME B1.1-03	2B	PASSED	8	0
HEIGHT	0.587"-0.631"		0.602"-0.614"	32	0
MARK	2HZN LM		PASSED	100	0
HDG THICKNESS	ASTM A153-16/ASTM F2329-15 min:50um		55UM-67UM	20	0

MECHANICAL PROPERTIES:

SPECIFICATION:ASTM/ASME A194/SA194-20

TEST FACILITY: M

CHARACTERISTICS	TEST METHOD	SPECIFIED	ACTUAL RESULT	ACC.	REJ.
*****	*****	*****	*****	*****	*****
HARDNESS	ASTM E18-12	24-35HRC	HRC27-29	5	0
DECARBURIZATION	ASTM F2328		HV279-286-294	5	0
PROOF LOAD	ASTM F606-21	MIN39550LBF	39550LBF	5	0
HARDNESS AFTER 24H AT 540°C	ASTM A194 MIN 89 HRB		HRB 93-94	5	0

TEMPERING TEMPERATURE Min455°C

PASSED(520°C)

MACROETCH	TEST METHOD	SPECIFIED	ACTUAL RESULT	ACC.	REJ.
	ASTM E381-12	S1/R1/C1~S4/R4/C4	S2/R2/C2	5	0

PARTS ARE MANUFACTURED AND TESTED IN ACCORDANCE WITH ASTM/ASME A194/SA194-20

PARTS MEET ASME SECTION II PART A

ALL TESTS IN ACCORDANCE WITH THE METHODS PRESCRIBED SPECIFICATION. WE CERTIFY THAT THIS DATA IS A TRUE REPRESENTATION OF INFORMATION PROVIDED BY THE MATERIAL SUPPLIER AND OUR TESTING LABORATORY.

**All parts meet the requirements of FQA and records of compliance are on file.
 Maker's ISO# ISO9001-0068481**



CERTIFICATE OF INSPECTION

/ 1

CUSTOMER NAME :	REPORT NO :	JH22120805012
CUSTOMER'S ADDRESS :	REPORT DATE :	2022/12/21
	BOLT LOT NO :	B2281820G1
	BOLT MATERIAL :	10B33
ORDER NUMBER : UA1190	BOLT HEAT NO :	3NS47
	NUT LOTNO :	
	NUT MATERIAL :	
DESCRIPTION : ASTM F3125 GRADE A325 STRUCTURE BOLT TYPE 1, HD MARK A325&JH	WASHER LOT NO :	
SIZE : 5/8-11X1-3/4 NC	WASHER MATERIAL :	
	WASHER HEAT NO :	
SHIP QUANTITY : 3600		
BOLT MFR. : JINN HER ENTERPRISE CO.,LTD.		2022/09/22
NUT MFR. :		
WASHER MFR. :	WASHER MFR. DATE :	

SPECIFICATION : ASME B18.2.6-2019		INSPECTION : 2022/11/15			TEST FACILITY:M		
CHARACTERISTIC	TEST METHOD	STANDARD	UNIT	TEST VALUE	SAMPLE	ACC	REJ
WIDTH ACROSS CORNERS	JIS B1071:2010	29.85-31.16	mm	30.39-30.46	6	6	0
WIDTH ACROSS FLATS	JIS B1071:2010	26.19-26.97	mm	26.57-26.62	6	6	0
HEIGHT	JIS B1071:2010	9.61-10.23	mm	10.02-10.06	6	6	0
BODY DIA.	JIS B1071:2010	15.37-16.30	mm	15.90-15.93	6	6	0
BODY LENGTH	JIS B1071:2010	MIN 7.12	mm	7.85-7.91	15	15	0
GRIP LENGTH	JIS B1071:2010	MAX 12.70	mm	12.00-12.03	15	15	0
LENGTH	JIS B1071:2010	41.41-44.45	mm	43.40-43.48	15	15	0
THREAD	ASME B1.3-2007(R2017)	NONE	N/A	PASS	15	15	0

SPECIFICATION : ASTM F3125/F3125M-21		INSPECTION : 2022/10/01			TEST FACILITY:M		
CHARACTERISTIC	TEST METHOD	STANDARD	UNIT	TEST VALUE	SAMPLE	ACC	REJ
CORE HARDNESS	ASTM F3125/F3125M-21	25.0-34.0	HRC	30-31	6	6	0
TENSILE STRENGTH	ASTM F3125/F3125M-21	MIN 120.0	ksi	140-142	4	4	0
PROOF LOAD	ASTM F3125/F3125M-21	MIN 85.0	ksi	PASS	4	4	0

SPECIFICATION : ASTM F2329/F2329M-15		INSPECTION : 2022/11/15			TEST FACILITY:M		
CHARACTERISTIC	TEST METHOD	STANDARD	UNIT	TEST VALUE	SAMPLE	ACC	REJ
PRESENCE FINISH	ASTM F2329/F2329M-15	NONE	N/A	PASS	29	29	0
THICKNESS OF COATING	ASTM F2329/F2329M-15	MIN 50.0	um	57-64	15	15	0
ADHESION TEST	ASTM F2329/F2329M-15	NONE	N/A	PASS	4	4	0

SPECIFICATION : ASTM F788-20		INSPECTION : 2022/11/15			TEST FACILITY:M		
CHARACTERISTIC	TEST METHOD	STANDARD	UNIT	TEST VALUE	SAMPLE	ACC	REJ
GENERAL WORKMANSHIP \ MARKING	VISION	NONE	N/A	PASS	29	29	0

CHEMICAL ANALYSIS %											TEST FACILITY:S				
HEAT NO	C-x100	MN-x100	P-x1000	S-x1000	SI-x100	CU-x100	NI-x100	CR-x100	MO-x100	AL-x1000	B-x10000	V-x100			
3NS47	33	83	15	8	22					44	29				

* Heats of steel, having the elements listed inSTM F3125, intentionally added, were not used to produce the bolts.



BOLT MARKING

Remark : 1.Lab is accredited according to ISO/IEC17025 requirements. This certificate is valid with signature of Wen-Da Tsai.

- This test certificate is responsible for designated samples only. This test certificate only relates to the items listed and tested, it's not allowed to be partially used.
- The above composition is quoted from original mill certs which is not in the scope of Lab Accreditation.
- This test certificate in accordance with EN ISO 16228 F3.1 (EN 10204 type 3.1).Product meets the order requirement.
- Unless specified by the customer, the latest version of the testing specs was used.
- Quality System conforms to ISO 9001 requirements and certified by TUV .

LAB SUPERVISOR :



497118



UA1190



B2281820G1



CERTIFIED MATERIAL TEST REPORT

FOR ASTM A325 TYPE-1 HEAVY HEX STRUCTURAL BOLTS

FACTORY: IFI & Morgan Ltd.

REPORT DATE: 2022/3/20

CUSTOMER:

MFG LOT NUMBER:NJS-22HT0068-092

SAMPLE SIZE: ACC. TO ASTM F1470 - 2009

PO NUMBER:O-210840-A

SIZE: 5/8-11X2 1/2 HDG QNTY:6525 PCS

PART NO: MB3G06252500CSK

HEADMARKS: A325 & NY

MANU. DATE:2022/2/23

STEEL PROPERTIES:

STEEL GRADE:SWRCH35K

HEAT NUMBER:21B513510

CHEMISTRY SPEC:

C %	Mn%	P %	S %	Si %	Ni %	Cr %	Bo %
0.30-0.52	0.60min	0.040max	0.050max	0.15~0.30			
0.34	0.74	0.015	0.003	0.17	0.01	0.04	0.0005

TEST:

DIMENSIONAL INSPECTIONS

SPECIFICATION: ASME B18.2.6 - 2011

CHARACTERISTICS

SPECIFIED

ACTUAL RESULT

ACC.

REJ.

CHARACTERISTICS	SPECIFIED	ACTUAL RESULT	ACC.	REJ.
VISUAL	ASTM F788/788M-08	PASSED	100	0
THREAD	ASME B1.3	PASSED	8	0
WIDTH FLATS	1.031-1.062	1.049-1.055	8	0
WIDTH A/C	1.175-1.227	1.196-1.221	8	0
HEAD HEIGHT	0.378-0.403	0.382-0.395	8	0
BODY DIA.	0.605-0.642	0.614-0.636	8	0
THREAD LENGTH	1.25Min	1.257-1.264	8	0
LENGTH	2.380-2.500	2.394-2.490	8	0

MECHANICAL PROPERTIES: 1/2" thru 1"

SPECIFICATION: ASTM F3125/F3125M-18 TYPE 1

CHARACTERISTICS

TEST METHOD

SPECIFIED

ACTUAL RESULT

ACC.

REJ.

CHARACTERISTICS	TEST METHOD	SPECIFIED	ACTUAL RESULT	ACC.	REJ.
CORE HARDNESS:	ASTM F606-2010a	25-34 HRC	29-30	8	0
WEDGE TENSILE:	ASTM F606-2010a	MIN 120000 PSI	138125-141078	4	0
PROOF LOAD	ASTM F606-2010a	MIN 85000 PSI	86263	4	0
YIELD STRENGTH	ASTM F606-2010a	MIN 92000 PSI	92106-93088	4	0
DECARBURIZATION	SAE J121-99		PASSED	1	0

CHARACTERISTICS

TEST METHOD

SPECIFIED

ACTUAL RESULT

ACC.

REJ.

CHARACTERISTICS	TEST METHOD	SPECIFIED	ACTUAL RESULT	ACC.	REJ.
HOT DIP GALVANIZED	ASTM F2329-07	MIN 0.0017" IN	0.0017-0.0018 IN	5	0

ALL TESTS IN ACCORDANCE WITH THE METHODS PRESCRIBED IN THE APPLICABLE ASTM SPECIFICATION. WE CERTIFY THAT THIS DATA IS A TRUE REPRESENTATION OF INFORMATION PROVIDED BY THE MATERIAL SUPPLIER AND OUR TESTING LABORATORY. All parts meet the requirements of FQA and records of compliance are on file.

Maker's ISO 9001:2015 SGS Certificate # HK04/0105

检验专用章
Mike Chen
QUANTITY CONTROL



(SIGNATURE OF Q.A. LAB MGR.)
(NAME OF MANUFACTURER)

Lot No.:	7148/7228-15062301	Part No.	2STBG58214A325
Inv. No.:	E57148/7228/7160	Size:	5/8-11 x 2-1/4"
Quantity:	4,096 Pcs	Description:	Structural Hex Bolt, ASTM A325 T-1, H.D.G.
Country of origin:			

1. Chemical Composition (%) **Material: SWRCH35K**

Heat No.	Dia (mm)	C	Si	Mn	P	S	Cr	Ni	Cu
7110136726	16	0.34	0.2	0.72	0.014	0.013	0.02	0.008	0.02

2. Dimension

Inspection Item	Standards in (mm)	Measured Value (mm)	Result
Body Diameter (E)	0.605-0.642" (15.37-16.31mm)	15.92-15.96	OK
Width Across Flats (F)	1.031-1.062" (26.19-26.97mm)	26.82-26.90	OK
Width Across Corners (G)	1.175-1.227" (29.85-31.17mm)	30.95-31.06	OK
Head Thickness (H)	0.378-0.403" (9.60-10.24mm)	10.18-10.22	OK
Thread Length (Lt)	1.25" (31.75mm) Nom	33.10-33.48	OK
Total Length (L)	2-1/4"-0.12" (57.15-3.05mm)	55.22-55.32	OK
Go Ring Gauge	5/8"-11 UNC	GO	OK
No Go Ring Gauge		NO GO	OK
Thread Major Diameter (D)	0.6113-0.6234" (15.53-15.83mm)	15.76-15.80	OK
Head Mark			OK
Surface Treatment	ASTM F2329 H.D.G.	ASTM F2329 H.D.G.	OK
Coating Thickness (um)	≥53 microns	55-59 microns	OK

3. Mechanical Properties

Test Item	Standard	Measured Value	Result
Hardness (HRC)	25-34	26-30	OK
Tensile Strength (Ksi)	120 min	128-135	OK
Proof Load (kis)	85 min	OK	OK

CERTIFICATE OF INSPECTION

COUNTRY OF ORIGIN: CHINA

Purchaser: _____	Date: 2022-7-8
P.O.NO: _____	ISO NO: 15/20Q5542R41
INV NO: 222ZL097L	Expire: 21-Mar-23
Manufacturer: ZHEJIANG GUORUI CO.,LTD.	
Address: No.283 Chengxi North Road,Wuyuan Town,Haiyan Zhejiang,P.R.China	
Commodity: F436 HARD ROUND STRUCTURAL FLAT WASHER WITH MFG'S I.D.&F436 ON FACE	
Size: 5/8	CUSTOMER PART NO.: 357068
Lot NO.: 222L059-82	MANUFACTURING DATE: 2022.3.12
Ship quantity: 43.200 MPCs	HEAT NO.: 20412757
Finish: HDG	MATERIAL: 45# CARBON STEEL

PLATING SPEC. PER ASTM F2329/F2329M-15

DIMENSIONAL INSPECTION ACCORDING TO ASTM F436/F436M-18a

INSPECTION ITEM	SAMPLE SIZE	SPECIFIED	ACTUAL RESULT	ACCEPT	REJECT	TEST FACILITY
Appearance	46	ASTM F436/F436M-18a	OK	46	0	M
Marking	46	F436 AND JLX	OK	46	0	M
OUTSIDE DIA	8	1.345-1.281	1.287 -1.296	8	0	M
INSIDE DIA	8	0.720-0.688	0.694-0.705	8	0	M
Thickness	8	0.177-0.122	0.136-0.137	8	0	M
PLATING THICKNESS (ANY INDIVIDUAL SPECIMEN)	4	0.0015 MIN	0.0017-0.0022	4	0	M
PLATING THICKNESS (AVERAGE OF SPECIMENS TESTED)	4	0.0017 MIN	0.0019-0.0021	4	0	M

CHEMICAL COMPOSITION ACCORDING TO ASTM F436/F436M-18a TYPE 1

TEST FACILITY : S

CHEMICAL ELEMENT (%)	C	Mn	P	S	Si	Cr	Mo	Ni	Al	Ti	V
SPECIFIED			0.040 MAX	0.050 MAX							
TEST RESULT	0.44	0.59	0.018	0.004	0.23						

MECHANICAL PROPERTIES ACCORDING TO ASTM F436/F436M-18a

TEST ITEM	SAMPLE SIZE	SPECIFIED	ACTUAL RESULT	ACCEPT	REJECT	TEST FACILITY
HARDNESS (HRC)	8	26-45	31-36	8	0	M

WE CERTIFY THAT THIS DATA IS A TRUE REPRESENTATION OF INFORMATION PROVIDED BY THE MATERIAL SUPPLIER AND OUR TESTING LABORATORY

THE REPORT IS ISSUED ACCORDING TO ISO16228 F3.1(EN10204 3.1).

SIGNATURE: GAO GUANGC
HENG TITLE: QC MANAGER



QUALITY TEST CERTIFICATE OF SPRING LOCK WASHER

Standard: ASME B 18. 21. 1-2009 Contract No.: _____
 Order No.: PO U97343 Invoice No.: 22SHD184

Chemical Composition (%)	C	Si	Mn	P	S	Cr	Ni	Cu
	0.64	0.22	0.55	0.019	0.007	0.04	0.01	0.02
Material Type.	65#	Heat No.		V131003737		TEST FACILITY:S		
Specification	REGULAR HELICAL LOCK WASHER 5/8" HDG							
Quantity	243 M				COUNTRY OF ORIGIN:CHINA			
Lot No.	22050547							
Part No.	350005							
Testing Item	Ac/n	Norm(mm)	Result(mm)	Reject	Norm	Result	Reject	
Inside Diameter	2/100	16.15-16.68	16.16-16.39	0				
Outside Diameter	1/32	Max28.05	Max27.0	0				
Width	1/32	Min5.26	Min5.18	0				
Thickness	1/32	4.06-4.51	4.07-4.11	0				
Height								
Section								
Surface Defects	2/100	None	None	0				
Hardness	0/8	HRC38-46	HRC38.4-40	0				
Springing								
Toughness	0/8	Qualified	Qualified	0				
Zinc Coating	0/8	Min53um	Min58.3um	0				
TEST FACILITY:M								

Zinc Coating Standard of: **ASTM F2329M-2015.**
 The spring lock washers are conformed with the standard
 General:
 of **ASME B 18.21.1-2009. QUALIFIED.**

THE REPORT IS ISSUED ACCORDING TO ISO16228 F3.1(EN10204 3.1)



CERTIFIED MATERIAL TEST REPORT

FOR ASTM A325 TYPE-1 HEAVY HEX STRUCTURAL BOLTS

FACTORY: IFI & Morgan Ltd.
ADDRESS: NO.12 Plant 1, Haisheng Road
Wuyuan Town, Haiyan,Zhejiang,China Zip Code: 314300
CUSTOMER:

REPORT DATE:2023/5/19
MFG LOT NUMBER:CLE-23HT0191-054
PO NUMBER:O-212505

SAMPLE SIZE: ACC. TO ASTM F1470 - 2009
SIZE: 1/2-13x2 HDG QNTY:11610 PCS
HEADMARKS: A325 & NY

PART NO: MB3G05002000CSK
MANU. DATE:2023/5/4

STEEL PROPERTIES:

STEEL GRADE:SWRCH35K

HEAT NUMBER:J290002928

CHEMISTRY SPEC:

Table with 8 columns: C %, Mn%, P %, S %, Si %, Ni %, Cr %, Bo %. Values range from 0.30-0.52 to 0.04.

TEST:

DIMENSIONAL INSPECTIONS

SPECIFICATION: ASME B18.2.6 - 2011

CHARACTERISTICS

SPECIFIED

ACTUAL RESULT

ACC.

REJ.

Table with 5 columns: CHARACTERISTICS, SPECIFIED, ACTUAL RESULT, ACC., REJ. Rows include VISUAL, THREAD, WIDTH FLATS, etc.

MECHANICAL PROPERTIES: 1/2"thru1"

SPECIFICATION: ASTM F3125/F3125M-18 TYPE 1

CHARACTERISTICS

TEST METHOD

SPECIFIED

ACTUAL RESULT

ACC.

REJ.

Table with 5 columns: CHARACTERISTICS, TEST METHOD, SPECIFIED, ACTUAL RESULT, ACC., REJ. Rows include CORE HARDNESS, WEDGE TENSILE, etc.

CHARACTERISTICS

TEST METHOD

SPECIFIED

ACTUAL RESULT

ACC.

REJ.

Table with 5 columns: CHARACTERISTICS, TEST METHOD, SPECIFIED, ACTUAL RESULT, ACC., REJ. Row: HOT DIP GALVANIZED

ALL TESTS IN ACCORDANCE WITH THE METHODS PRESCRIBED IN THE APPLICABLE ASTM SPECIFICATION. WE CERTIFY THAT THIS DATA IS A TRUE REPRESENTATION OF INFORMATION PROVIDED BY THE MATERIAL SUPPLIER AND OUR TESTING LABORATORY.

All parts meet the requirements of FQA and records of compliance are on file.

Maker's ISO 9001:2015 SGS Certificate # HK04/0105



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Fax 855.218.3781

CERTIFICATE OF INSPECTION

Date: 2023/8/18
 P.O.NO: O-212787 INV NO: JLX20230412-2-3
 Manufacturer: WUHU QIJUN PRECISION FASTENER CO.,LTD
 Address: NO. 19, Tuanjie road west, Xinwu Green packaging industrial park, Huaqiao town, Wuhu county, Wuhu, Anhui province, China
 Commodity: Hardened Washer F436 HDG CUSTOMER PART NO.: DHWGA05000
 Size: 1/2 MANUFACTURING DATE: 2023/6/8
 Lot NO.: JLX2023052409GA HEAT NO.: 30412756
 Lot quantity: 36.000 MPCS 18 CTN MATERIAL: 45# CARBON STEEL
 Finish: HDG ASTM F2329

DIMENSIONAL INSPECTION ACCORDING TO ASTM F436

TEST DATE: 2023-08-10 SAMPLED BY: LUO WANGCHEN TITLE: QC Manager SAMPLING DATE: 2023-08-10

INSPECTION ITEM	SAMPLE SIZE	SPECIFIED	ACTUAL RESULT	ACCEPT	REJECT
Appearance	100	ASTM F436	OK	100	0
Marking	100	F436&JLX	OK	100	0
Outside Dia	8	1.031-1.095	1.043-1.047	8	0
Inside Dia	8	0.531-0.563	0.551-0.555	8	0
Thickness	8	0.097-0.177	0.106-0.114	8	0

CHEMICAL COMPOSITION ACCORDING TO : ASTM F436

TEST DATE: 2023-08-10 SAMPLED BY: LUO WANGCHEN TITLE: QC Manager SAMPLING DATE: 2023-08-10

CHEMICAL ELEMENT (%)	C	Mn	P	S	Si	Cr	Mo	Ni	Al	Ti	V
SPECIFIED			0.040 MAX	0.050 MAX							
TEST RESULT	0.46	0.66	0.020	0.007	0.29						

MECHANICAL PROPERTIES ACCORDING TO ASTM F436

TEST DATE: 2023-08-10 SAMPLED BY: LUO WANGCHEN TITLE: QC Manager SAMPLING DATE: 2023-08-10

TEST ITEM	SAMPLE SIZE	SPECIFIED	ACTUAL RESULT	ACCEPT	REJECT
HARDNESS (HRC)	8	26-45	30-35	8	0

WE CERTIFY THAT THIS DATA IS A TRUE REPRESENTATION OF INFORMATION PROVIDED BY THE MATERIAL SUPPLIER AND OUR TESTING LABORATORY

SIGNATURE: LUO WANGCHEN TITLE: QC Manager



QUALITY TEST CERTIFICATE OF SPRING LOCK WASHER

Standard: ASME B 18.21.1-2009 Contract No.: _____
 Order No.: P0 U94707 Invoice No.: 22SHD128

Chemical Composition (%)	C	Si	Mn	P	S	Cr	Ni	Cu
	0.65	0.2	0.54	0.011	0.006	0.04	0.03	0.06
Material Type.	65#	Heat No.		E190006099		TEST FACILITY:S		
Specification	REGULAR HELICAL LOCK WASHER 1/2" HDG							
Quantity	504 M			COUNTRY OF ORIGIN:CHINA				
Lot No.	22020254							
Part No.	350004							
Testing Item	Ac/n	Norm(mm)	Result(mm)	Reject	Norm	Result	Reject	
Inside Diameter	2/100	13.05-13.41	13.05-13.41	0				
Outside Diameter	1/32	Max22.77	Max22.63	0				
Width	1/32	Min4.43	Min4.46	0				
Thickness	1/32	3.27-3.63	3.39-3.48	0				
Height								
Section								
Surface Defects	2/100	None	None	0				
Hardness	0/8	HRC38-46	HRC38.3-40	0				
Springing								
Toughness	0/8	Qualified	Qualified	0				
Zinc Coating	0/8	Min53um	Min59.1um	0				
TEST FACILITY:M								
Zinc Coating Standard of:		ASTM F2329M-2015.						
General:		The spring lock washers are conformed with the standard						
		of ASME B 18.21.1-2009. QUALIFIED.						
THE REPORT IS ISSUED ACCORDING TO ISO16228 F3.1(EN10204 3.1)								

Inspector: Shiweiqing

Quality Inspection

Date: 2022.05.18

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品名 Product: ASTMA194-2017a-2H Heavy Hex Nuts 规格 Size: 1/2-13+0.018 表面处理 Finish: HDG ASTM F2329-15 货号 PATR No: A2HHG0500C	数量 Quantity: 50.40mpcs 标记 Marker: SHS 2HZN 检验标准 Inspection Standard: ASTM A194-2017a 尺寸标准 Dimensional Specification: ASME B18.2.2-2015 批号 Lot No: N2022030501HH
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一、钢材性质 STEEL PROPERTIES:

材质 Material: SWRCH45K 热处理批号 Heat No: 721110678 规格 Steel Size: ϕ 20mm

ELEMENT (成份)	C%	Mn%	P%	S%	Si%	Cr%	Ni%
TEST Facility :S	0.45	0.61	0.022	0.003	0.21		

二、项目检测 Inspections Item:

检测项目 Item	标准值 Specified(in)	实测值 Actual Result	判定 Judgment
TEST Facility :M Appearance	Passed	Passed	OK
TEST Facility :M Across Flat(in)	0.850-0.875	0.859-0.867	OK
TEST Facility :M Across Corner(in)	1.969-1.010	1.974-1.994	OK
TEST Facility :M Thickness(in)	0.464-0.504	0.475-0.487	OK
TEST Facility :M Thread	2B GO	OK	OK
	2B NOGO	OK	OK
TEST Facility :M Hardness	24-35	30-33	OK
TEST Facility :M Proof Load	175KSI	175KSI	OK
TEST Facility :M Hardness After 24H AT 540°C	MIN 89	94-97	OK
TEST Facility :M Tempering Temperature	Min 455	530-545	OK
TEST Facility :M Macro Etch Test	S1/R1/C1-S4/R4/C4	S2/R2/C2	OK
TEST Facility :M Plating thickness	Min 50 μ m	60-75 μ m	OK

品保主管 Signature: HU SHAO QING

MFG ISO9001 CERTIFICATE NO: 04308Q12140R0M



INSPECTION CERTIFICATE (According to EN10204 Type 3.1)



Certificate No. : KPF VINA QC-20211004 - 20016
 P/O No. : O - 209411
 Part No. : MB3G08753500CSK
 Date Issued : 2021/10/04
 Date Shipped : 2021/11/11
 Date Tested : 2021/10/04
 Date Manufactured : 2021/10/03
 Specifications : ASTM F3125:2015

Description : STR H/H B A325 TY1 HDG
 Grade : A325
 Size : 7/8 - 9UNC 3 1/2
 Marking : A325 ,KPF LOGO
 Surface Condition : HDG
 Lot No. : V2M26826 - 00
 Q'ty Shipped : 2,000 PCS

1. Chemical Composition (%)

Heat No.	C	Si	Mn	P	S	Cr	Mo	Ni	B	Cu	Ti	V	Al	Ceq
Spec.	Min.	30	10	60					5					
	Max.	52	30	40	50				30					
D22101955XX		31	23	85	12	17			16		61			

2. Macroetch Meet

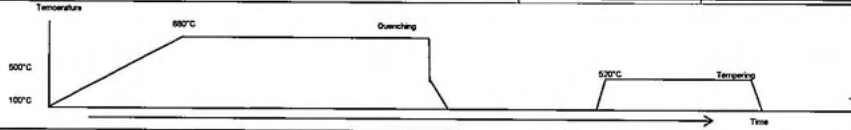
Division	Surface Condition	Random Condition	Center Segregation	Spec. of Test Method
Spec.				
Results				
Tested By				

3. Mechanical Properties

Division	Hardness		Yield Strength	Tensile Strength	Elongation	Reduction of Area	Proof Load		Wedge Tensile	Coating Thickness	Coefficient Of Friction	Lap	Baking Treatment		Thread go Ring Gauge before HDG	Charpy Test		Salt Spray	Complete Decarburization the thread	Non-Decarburized thread zone
	Surface	core					Load	Elongation					Temperature	Time		Impact Strength	Temp.			
Unit	n = 3						n = 3		n = 3			n = 1								
	Min.	HRC					lbf	µm	lbf	µm									mm	mm
Spec.	Min.	25					39,250	-12.5	55,450	40									mm	mm
	Max.	34						+12.5											0.015	1/2 H
Results	1	31					39,436	+1.0	63,293	67		Pass		Pass					Pass	Pass
	2	31					39,417	+1.0	62,771	65										
	3	31					39,436	+1.0	63,032	69										
	4																			
	5																			
	6																			
	7																			
	8																			
	9																			
	10																			
	11																			
	12																			
	Avg.		31					39,430		63,032	67									
Tested By	Mai Van Linh						Vu Chi Pha	Vu Chi Pha	Nguyen Van Dong	Vu Chi Pha		Mai Van Linh		Mai Van Linh					Mai Van Linh	
Spec. of Test Method	ASTM F606						ASTM F606	ASTM F606	ASTM F606	ISO 10684										ASTM F2328

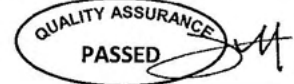
4. Heat Treatment

Quenching	Min.Temp	Max.Temp	Working Temp.	Holding Temp.
			880°C	
Tempering	Min.Temp	Working Temp.	Holding Temp.	
	425°C	520°C		



Reference :
 • Tempering Temperature : 520°C
 • Complete Decarburization the thread of Test Method: Hardness vickers Method.
 • Non - Decarburized thread zone of Test Method: Microscope Method

This is to certify that the above results are true and correct in every details.



Lee Chaegyu
 Chief of Quality Control Dept.

Mã hiệu (Code)	F.23 - QC.PP.01	Ngày ban hành (Date Issued)	1-May-12	Ngày sửa đổi (Date Modify)	-
Lần ban hành (Times issued)	1	Số trang (Page No)	00	Số lần sửa đổi (Rev)	00

본 문서의 소유권은 출원그림에 있으므로 유출시 징계 및 법적 처벌을 받을 수 있습니다.

QUALITY CERTIFICATE

INV. NO.:	SF292	QUANTITY:	10800
P.O. NO.:	O-212436	TEST DATE:	2023/3/8
S/C NO.:		ON BOARD:	2023/8/8
PART NO.:		SIZE:	7/8
LOT NO.:	HJ412467688	DESCRIPTION:	Hardened Washer F436 HDG
PRODUCTION DATE:			

Size:

Material and Mechanical properties:ANSI / ASME B18.18-2011

1.Chemical Composition Of Material (%)										
STEEL GRADE/ HEAT NO:	DIA.(mm)	C	Si	Mn	P	S	Cr	Ni	Cu	
1045 STEEL/20011212		0.48	0.2	0.38	0.022	0.019	-	-	-	

2.Dimension										
-------------	--	--	--	--	--	--	--	--	--	--

INSPECTION ITEM	SPECIFICATION		RESULT	
	MIN.	MAX.	1	2
Inside Dia (mm)	23.830	24.640	24.130	24.230
Outside Dia (mm)	43.640	45.230	44.070	44.170
Thickness (mm)	3.460	4.480	3.560	3.700
HARDNESS	38	45	39	42
Coating Thickness (um)	50	-	60	68
Hydrogn Embrittlement Test	48hrs	OK		
APPEARANCE	VISUAL	OK		
Manufacturer name	H.J TECH INDUSTRY LIMITED			

INSPECTED BY ANDY

CERTIFIED BY





QUALITY TEST CERTIFICATE OF SPRING LOCK WASHER

Standard: ASME B 18.21.1-2009 Contract No.: _____
 Order No.: PO U86041 Invoice No.: 21SHD250

Chemical Composition (%)	C	Si	Mn	P	S	Cr	Ni	Cu
	0.63	0.22	0.54	0.015	0.009	0.03	0.01	0.02
Material Type.	65#	Heat No.	V032011747		TEST FACILITY:S			
Specification	REGULAR HELICAL LOCK WASHER 7/8" HDG							
Quantity	6.75 M				COUNTRY OF ORIGIN:CHINA			
Lot No.	21060423							
Part No.	350007							
Testing Item	Ac/n	Norm(mm)	Result(mm)	Reject	Norm	Result	Reject	
Inside Diameter	2/100	22.50-23.11	22.95-23.11	0				
Outside Diameter	1/32	Max37.86	Max37.41	0				
Width	1/32	Min6.86	Min6.97	0				
Thickness	1/32	5.66-6.36	5.83-6.02	0				
Height								
Section								
Surface Defects	2/100	None	None	0				
Hardness	0/8	HRC38-46	HRC38-39.2	0				
Springing								
Toughness	0/8	Qualified	Qualified	0				
Zinc Coating	0/8	Min53um	Min59.6um	0				
TEST FACILITY:M								
Zinc Coating Standard of:		ASTM F1941-2015 F2329.						
General:		The spring lock washers are conformed with the standard						
		of ASME B 18.21.1-2009. QUALIFIED.						
THE REPORT IS ISSUED ACCORDING TO ISO16228 F3.1(EN10204 3.1)								

Inspector: Shiweiqing

Quality Inspection

Date: 2021.08.23

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The report is issued according to EN 10204:2004 3.1 and ISO 16228 F3.1

Country of Origin: China

日期 Report Date: 2021.08.02
 发票号码 INV NO: SF21135

品名 Product: ASTMA194-2017a-2H Heavy Hex Nuts 规格 Size: 7/8-9+0.022 表面处理 Finish: HDG ASTM F2329-15	数量 Quantity: 5.400mpcs 标记 Marker: SHS 2HZN 检验标准 Inspection Standard: ASTM A194-2017a 尺寸标准 Dimensional Specification: ASME B18.2.2-2015 批号 Lot No: N2021062803HH
--	---

一、钢材性质 STEEL PROPERTIES:

材质 Material: SWRCH45K 热处理批号 Heat No: G090208552 规格 Steel Size: ϕ 34mm

ELEMENT (成份)	C%	Mn%	P%	S%	Si%	Cr%	Ni%
TEST Facility :S	0.44	0.63	0.012	0.004	0.21		

二、项目检测 Inspections Item:

检测项目 Item	标准值 Specified(in)	实测值 Actual Result	判定 Judgment
TEST Facility :M Appearance	Passed	Passed	OK
TEST Facility :M Across Flat(in)	1.394-1.438	1.401-1.415	OK
TEST Facility :M Across Corner(in)	1.589-1.660	1.602-1.618	OK
TEST Facility :M Thickness(in)	0.833-0.885	0.842-0.868	OK
TEST Facility :M Thread	2B GO	OK	OK
	2B NOGO	OK	OK
TEST Facility :M Hardness	24-35	30-33	OK
TEST Facility :M Proof Load	175KSI	175KSI	OK
TEST Facility :M Hardness After 24H AT 540°C	MIN 89	94-97	OK
TEST Facility :M Tempering Temperature	Min 455	530-545	OK
TEST Facility :M Macro Etch Test	S1/R1/C1-S4/R4/C4	S2/R2/C2	OK
TEST Facility :M Plating thickness	Min 50 μ m	60-75 μ m	OK

品保主管 Signature: HU SHAO QING



Product Certificate of Conformance

AF Lot #:	P44834	
Raw Lot #:	100021829620	
Part #	Description	Fastener Type
6UBG-RU6	1/2-13 x 3-1/4 U-Bolt Low Carbon Galvanized with 1-7/8 Between the Legs and 2~ Thread	Round U-Bolt
Fastener Specification		Coating Specification
ASTM A307		Galvanized

We certify this is an accurate representation of information provided by our raw material suppliers and testing laboratory. These fasteners were manufactured, sampled, tested, and inspected according to the specifications listed. This certificate applies to the product list above. Alterations to the product by our customer or a third party void this certification. Additional documentation is kept on file by Allfasteners USA LLC.

1.8 PACKING SLIPS

Packing Slip



From:

888.859.6060
Medina Fabrication
959 Lake Road
Medina OH 44256
UNITED STATES

Shipment: **196702**

From Warehouse: 10

Bill To: 7432

CSB Communications (Construction
Services of Branford)
63-3 North Branford Road
Branford CT 06405-2848
UNITED STATES

Ship To: (0)

CSB Communications (Construction Services of
Branford)
63-3 North Branford Road
Branford CT 06405-2848
UNITED STATES

Ordered By: Adrien Paradis

Delivery Contact: Adrien Paradis (203) 488-0712

Reference: Wilton - Deer Run

Special Instructions:

Packing Slip



Pickup Date	Order Number	Cust PO	Ship Via	Carrier	Weight	Packages
2/12/2024	S000125277	CS699	AFT		3000.00	1

CO Num	Line / Release	Item	U/M	Qty Ordered	Qty Backordered	Qty Shipped	Package ID	Picklist Id
S000125277	1-0	14S125277	EA	1.000	0.000	1.000	1	183551

INCLUDES:

14S125277-SH1 (102.5') 6 SUB HORIZONTAL
 14S125277-SH1 6 L2X2X1/4 1'-11 5/8" A572-50

14S125277-CP1 (130'-0") 3 CAP PLATE
 14S125277-CP1 3 PL1/4"X8" 0'-8" A572-50

14S125277-DB1 (125'-130') 6 DIAGONAL BRACE
 14S125277-DB1 6 L2X2X1/4 6'-5 13/16" A572-50

14S125277-DB2 (120'-125') 6 DIAGONAL BRACE
 14S125277-DB2 6 L2X2X1/4 6'-8 5/8" A572-50

14S125277-SP1 (102.5') 3 STITCH PLATE
 14S125277-SP1 3 PL3/8"X3" 1'-11" A572-50

14S125277-SP2 6 STITCH PLATE
 14S125277-SP2 6 PL3/8"X3" 0'-3" A572-50

14S125277-TG1 (130'-0") 3 TOP GIRT
 14S125277-TG1 3 L2X2X1/4 4'-9 1/4" A572-50

14S125277-TE1 (120'-0"-130'-0") 1 TOWER EXTENSION
 14S125277-TE1 1 ROD1 3/4" 9'-11 1/4" A572-50
 14S125277-p1 1 PL1"X8 1/2" 0'-8 1/2" A572-50
 14S125277-p3 6 PL3/8"X6" 0'-6 1/2" A572-50
 14S125277-p7 1 PL1"X8" 0'-8" A572-50
 14S125277-p14 8 PL3/16"X1 1/2" 0'-3 5/16" A36

14S125277-TE2 (120'-0"-130'-0") 2 TOWER EXTENSION
 14S125277-TE2 2 ROD1 3/4" 9'-11 1/4" A572-50
 14S125277-p1 2 PL1"X8 1/2" 0'-8 1/2" A572-50
 14S125277-p3 12 PL3/8"X6" 0'-6 1/2" A572-50
 14S125277-p7 2 PL1"X8" 0'-8" A572-50

14S125277-VB1 (102.5') 3 V BRACKET ASSEMBLY
 14S125277-VB1 3 PL1/2"X5" 0'-10" A572-50
 14S125277-p10 6 PL3/8"X4" 0'-4 7/8" A572-50

Packing Slip



Pickup Date	Order Number	Cust PO	Ship Via	Carrier	Weight	Packages
2/12/2024	S000125277	CS699	AFT		3000.00	1

CO Num	Line / Release	Item	U/M	Qty Ordered	Qty Backordered	Qty Shipped	Package ID	Picklist Id
S000125277	2-0	2S125277	EA	1.000	0.000	1.000	1	183551

- Quantity Material Description
- 9 2SBG58814A449 5/8-11x8-1/4 Step Bolt A449 Galv 2-1/4Th
 - 91 2HHNG5811G2H 5/8-11 Heavy Hex Nut A194 Gr 2H Galv
 - 53 2STBG58134A325 5/8-11x1-3/4 Struc. Hex Bolt A325 Galv
 - 13 2STBG58212A325 5/8-11x2-1/2 Struc. Hex Bolt A325 Galv
 - 7 2STBG58214A325 5/8-11x2-1/4 Struc. Hex Bolt A325 Galv
 - 73 2WRWG058 5/8 Struc. Flat Washer F436 Galv
 - 73 2MSLG58 5/8 Medium Split Lock Washer Galv
 - 3 2STBG12200A325 1/2-13x2 Struc. Hex Bolt A325 Galv
 - 15 2WRWG012 1/2 Struc. Flat Washer F436 Galv
 - 15 2MSLG12 1/2 Medium Split Lock Washer Galv
 - 15 2HHNG1213G2H 1/2-13 Heavy Hex Nut A194 Gr 2H Galv
 - 13 2STBG78312A325 7/8-9x3-1/2 Struc. Hex Bolt A325 Galv
 - 13 2WRWG078 7/8 Struc. Flat Washer F436 Galv
 - 13 2MSLG78 7/8 Medium Split Lock Washer Galv
 - 13 2HHNG7809G2H 7/8-9 Heavy Hex Nut A194 Grade 2H Galvan
 - 6 6UBG-RU6 1/2-13x3-1/4x1-7/8 U-Bolt Galv

QC

ALL ITEMS MUST BE CHECKED UPON ARRIVAL. ANY DAMAGE OR SHORTAGES MUST BE NOTED ON DELIVERY RECEIPT. ANY DISCREPANCIES MUST BE REPORTED TO ALLFASTENERS WITHIN 72 HOURS.

CONSTRUCTION

2.1 CONSTRUCTION INSPECTIONS
(SEE EXECUTIVE SUMMARY)

2.6 CONTRACTOR'S CERTIFIED WELD INSPECTION

(WAIVED BY EOR, SEE 3.4)

2.8 ON SITE COLD GALVANIZING VERIFICATION

(WAIVED BY EOR, SEE 3.4)

2.10 GC AS-BUILT DOCUMENTS

MODIFICATION INSPECTION NOTES:

GENERAL:

1. THE POST CONSTRUCTION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).
2. THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.
3. ALL MIs SHALL BE CONDUCTED BY A MI INSPECTOR THAT IS APPROVED TO PERFORM ELEVATED WORK FOR FDH INFRASTRUCTURE SERVICES.
4. TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR FDH INFRASTRUCTURE SERVICES POINT OF CONTACT (POC).
5. REFER TO STR-SOW-20001 : MODIFICATION INSPECTION CHECKLIST DEFINITIONS FOR FURTHER DETAILS AND REQUIREMENTS.

MI INSPECTOR:

1. THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:
 - REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
 - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
2. THE PCI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO FDH INFRASTRUCTURE SERVICES.

CORRECTION OF FAILING MIs:

1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH FDH INFRASTRUCTURE SERVICES TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
 - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
 - OR, WITH FDH INFRASTRUCTURE SERVICES' APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

REQUIRED PHOTOS:

1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:
 - PRE-CONSTRUCTION GENERAL SITE CONDITION
 - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - WELD PREPARATION
 - BOLT INSTALLATION AND TORQUE
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
 - POST CONSTRUCTION PHOTOGRAPHS
 - FINAL INFIELD CONDITION
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

AS BUILT

As Bld 5/20/2024

MI CHECKLIST	
INSPECTIONS AND TESTING REQUIRED	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
N/A	EOR APPROVED SHOP DRAWINGS
X	FABRICATION INSPECTION
X	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF MONOPOLE BASE PLATE
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMPRESSIVE STRENGTH AND SLUMP TESTS
N/A	POST INSTALLED ANCHOR ROD VERIFICATION
N/A	BASE PLATE GROUT VERIFICATION
X	CONTRACTOR'S CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
X	ON SITE COLD GALVANIZATIONS
N/A	GUY WIRE TENSION REPORT
X	GC AS BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
N/A	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

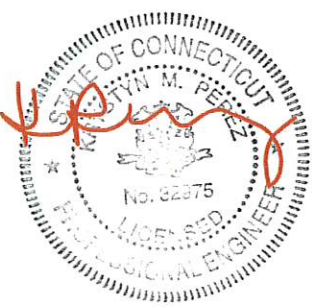
NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
 N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT

PREPARED BY:



FDH INFRASTRUCTURE SERVICES, LLC
 5521 MERRIDEN DRIVE RALEIGH, NC 27616
 PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

KRYSTYN M. PEREZ, PE
 CONNECTICUT LIC. NO. 32975
 01/27/23

DRAWN BY: JBD
 CHECKED BY: HAH
 ENG APPVD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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FDH PROJECT NUMBER:
PR-009191

SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
 WILTON, CT 06897**

SHEET TITLE
 MODIFICATION INSPECTION
 CHECKLIST

SHEET NUMBER
N-1

GENERAL NOTES:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL PERMITS NECESSARY TO COMPLETE THE PROJECT AND ABIDE BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO FDH INFRASTRUCTURE SERVICES FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
- INCORRECTLY FABRICATED, DAMAGED, OTHERWISE MISFITTING, OR NON-CONFORMING MATERIALS AND CONDITIONS SHALL BE REPORTED TO FDH INFRASTRUCTURE SERVICES PRIOR TO ANY REMEDIAL OR CORRECTIVE ACTION. ALL ACTIONS SHALL REQUIRE FDH INFRASTRUCTURE SERVICES APPROVAL.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AFTER THE COMPLETION OF THE PROJECT.
- CONTRACTOR SHALL PROMPTLY REMOVE ANY & ALL DEBRIS FROM SITE AND RESTORE AS BEST AS POSSIBLE TO PRECONSTRUCTION CONDITION.
- ALL CONSTRUCTION MEANS AND METHODS: INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSII/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSII/ASSE A10.48 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH THE ANSII/TIA-322 (LATEST EDITION).
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED OR ALTERED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
- ANY WORK PERFORMED WITHOUT A PREFABRICATION MAPPING IS DONE AT THE RISK OF THE GC AND/OR FABRICATOR.

CONTRACTOR QUALIFICATION NOTES:

- ALL INSTALLATIONS SHALL BE PERFORMED BY A TOWER CONTRACTOR WITH A MINIMUM 5 YEARS EXPERIENCE IN TOWER ERECTION AND RETROFIT AND WITH WORKING KNOWLEDGE OF THE ANSII/TIA-222-H "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS AND SMALL WIND TURBINE SUPPORT STRUCTURES".
- CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. SHOULD THE CONTRACTOR REQUIRE DIRECT CONSULTATION, FDH INFRASTRUCTURE SERVICES IS WILLING TO OFFER SERVICES BASED UPON AN AGREED FEE FOR THE WORK REQUIRED.
- ALL SUBMITTAL INFORMATION MUST BE SENT TO FDH INFRASTRUCTURE SERVICES AT 6521 MERIDIEN DRIVE, RALEIGH, NC 27616, TEL. (919) 755-1012, FAX. (919) 755-1031, E-MAIL STRUCTURAL@FDH-IS.COM. ANY VARIATION OF THESE SPECIFICATIONS OR DRAWINGS WITHOUT CONSENT FROM FDH INFRASTRUCTURE SERVICES WILL VOID ANY RESPONSIBILITY OR LIABILITY FOR DAMAGE (MATERIAL OR PHYSICAL) TOWARDS FDH INFRASTRUCTURE SERVICES.
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE ANSII/ASSE A10.48 AND ANSII/TIA-322 STANDARDS.

JOB SITE SAFETY & NOTES:

- NEITHER THE PROFESSIONAL ACTIVITIES OF FDH INFRASTRUCTURE SERVICES NOR THE PRESENCE OF FDH INFRASTRUCTURE SERVICES OR EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND OR SUBCONTRACTORS AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE GENERAL CONTRACTOR AND OR SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY, AND WARRANTS THAT THIS INTENT IS EVIDENT BY ACCEPTING THIS WORK.

STEEL:

- ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE AND ASTM SPECIFICATIONS.
- ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED WELDS WITH WELDING ELECTRODES NOTED IN THE STEEL GRADE SCHEDULE OR SPECIFIED HIGH STRENGTH BOLTS TO BE ASTM A325N, THREAD INCLUDED WITH SHEAR PLANE (UNLESS NOTED OTHERWISE).
- ALL BOLTED CONNECTIONS TO BE INSTALLED TO A SNUG-TIGHTENED CONDITION IN ACCORDANCE WITH AISC 13 PART 16.2, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", SECTION 8.1, UNLESS OTHERWISE SPECIFIED. WHEN "X" TYPE BOLTS ARE USED, CONTRACTOR MAY BE REQUIRED TO STACK ADDITIONAL WASHERS TO OBTAIN PROPER SNUG TIGHT INSTALLATION. ALL NUTS SHALL BE HEAVY HEX UNLESS NOTED OTHERWISE.
- ALL STEEL, AFTER FABRICATION, SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123, UNLESS NOTED OTHERWISE. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH MULTIPLE COATS OF ZRC COLD GALVANIZING COMPOUND ACHIEVING A MINIMUM OF 4 MILS DRY FILM PER ASTM A 780.
- A490 OR 354-GR. BD BOLTS SHALL NOT BE HOT DIPPED GALVANIZED, MECHANICALLY OR ELECTROPLATED.
- ALL A490 OR 354-GR. BD BOLTS SHALL BE COATED WITH A ZINC/ALUMINUM COATING (MAGNI 565 OR APPROVED EQUAL) PER ASTM F2833, BY THE BOLT MANUFACTURER.
- CONTRACTOR TO PROVIDE FULL DOCUMENTATION ON A490 OR 354-GR. BOLTS PRIOR TO INSTALLATION.
- ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED. CONTRACTOR IS REQUIRED TO PROVIDE FDH INFRASTRUCTURE SERVICES WITH A PASSING CERTIFIED WELDING INSPECTION FOR ALL WELDS.
- STRUCTURAL STEEL MAY NOT BE TORCH CUT FOR FABRICATION. ALL STEEL FABRICATION MUST FOLLOW AISC STANDARDS.

MISC. NOTES:

- ALL MODIFICATIONS ARE ASSUMED TO BE MADE ON AN EMPTY TOWER. CONTRACTOR IS RESPONSIBLE TO MAKE PROVISIONS TO SUPPORT OR WORK AROUND EXISTING ANTENNAS AND TRANSMISSION LINES. MODIFICATIONS MUST BE CONTINUOUS THROUGH ALL AREAS SHOWN.
- CONTRACTOR FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

FABRICATION NOTES:

- ALL DIMENSIONS ARE PRELIMINARY UNTIL FIELD VERIFIED BY CONTRACTOR. ANY CHANGES MUST BE APPROVED BY ENGINEER OF RECORD IN WRITING PRIOR TO FABRICATION AND INSTALLATION.
- NEW STEEL MEMBERS MUST HAVE SINGLE DRILLED HOLES. SLOTTED AND DOUBLE DRILLED HOLES ARE NOT ACCEPTABLE MEANS OF FABRICATION.

SUBSTITUTES AND/OR EQUALS:

- IF CONTRACTOR WISHES TO FURNISH OR USE A SUBSTITUTE ITEM OF MATERIAL OR EQUIPMENT, CONTRACTOR SHALL FIRST MAKE WRITTEN APPLICATION TO ENGINEER OF RECORD FOR ACCEPTANCE THEREOF, CERTIFYING THAT THE PROPOSED SUBSTITUTE WILL PERFORM ADEQUATELY THE FUNCTIONS AND ACHIEVE THE RESULTS CALLED FOR BY THE GENERAL DESIGN, BE SIMILAR IN SUBSTANCE TO THAT SPECIFIED AND SUITED TO THE SAME USE AS THAT SPECIFIED. ALL VARIATIONS OF THE PROPOSED SUBSTITUTE FROM THAT SPECIFIED WILL BE IDENTIFIED IN THE APPLICATION AND AVAILABLE MAINTENANCE, REPAIR AND REPLACEMENT SERVICE WILL BE INDICATED. THE APPLICATION WILL ALSO CONTAIN AN ITEMIZED ESTIMATE OF ALL COSTS OR CREDITS THAT WILL RESULT DIRECTLY OR INDIRECTLY FROM ACCEPTANCE OF SUCH SUBSTITUTE INCLUDING COSTS OF REDESIGN AND CLAIMS OF OTHER CONTRACTORS AFFECTED BY THE RESULTING CHANGE, ALL OF WHICH WILL BE CONSIDERED BY ENGINEER OF RECORD IN EVALUATION OF THE PROPOSED SUBSTITUTE. ENGINEER OF RECORD MAY REQUIRE CONTRACTOR TO FURNISH ADDITIONAL DATA ABOUT THE PROPOSED SUBSTITUTE.

COLD GALVANIZATION/SURFACE PREPARATION NOTES:

- CONTRACTOR TO USE ZINGA OR ZRC COLD GALVANIZATION COMPOUNDS OR APPROVED EQUIVALENT.
- PREPARE RUSTED/CORRODED SURFACE FOR TREATMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR TO APPLY (2) COATS OF COLD GALVANIZATION COMPOUND PER MANUFACTURER'S RECOMMENDATION. DRYING AND CURING TIMES MUST BE UTILIZED PER MANUFACTURER'S RECOMMENDATION.
- APPLY ALL COATINGS BY BRUSH IN CALM WIND CONDITIONS. THE USE OF AEROSOL IS NOT PERMITTED.
- IF THE TOWER IS PAINTED, BRUSH PAINT ALL TREATED AREAS TO MATCH TOWER AFTER COLD GALVANIZATION COMPOUND IS ALLOWED TO CURE.

SURFACE PREPARATION:

- PREPARE SURFACE TO BE WELDED BY REMOVING PAINT OR GALVANIZATION TO BARE METAL USING POWER WIRE BRUSHING IN ACCORDANCE WITH SSPC-SP11, (STEEL STRUCTURES PAINTING COUNCIL). FOLLOWING POWER WIRE BRUSHING CONTRACTOR SHALL POLISH METAL SURFACE WITH HIGH SPEED GRINDER WITH 400+ GRIT SANDPAPER.
- AFTER NEW STEEL INSTALLATION CONTRACTOR TO BRUSH PAINT (2) COATS OF ZRC OR ZINGA COLD GALVANIZATION COMPOUND PER MANUFACTURER'S SPECIFICATIONS.

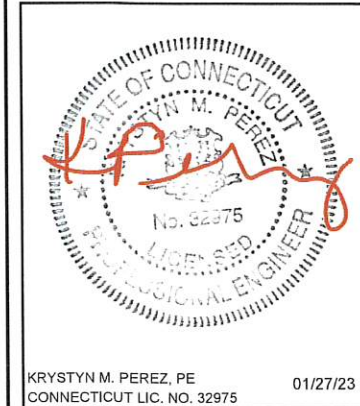
WELDING NOTES:

- ALL WELDING TO THE EXISTING TOWER SHALL BE PERFORMED BY CERTIFIED WELDERS UTILIZING PROCEDURES QUALIFIED IN ACCORDANCE WITH AWS D1.1 AND AWS C5.4.
- CONTRACTOR SHALL COMPLY WITH AWS D1.1 FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". CONTRACTOR SHALL SUBMIT CERTIFICATION OF WELDERS TO THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORK.
- CONTRACTOR RESPONSIBLE FOR TEMPORARY HEAT SHIELDING AS REQUIRED DURING WELDING.
- CONTRACTOR RESPONSIBLE FOR VIEWING EXISTING TOWER FOR LOOSE AND FLAMMABLE MATERIAL PRIOR TO WELDING FLAT PLATE.
- ALL WELDS TO BE VISUALLY INSPECTED BY A CERTIFIED WELD INSPECTOR PER AWS D1.1.

AS BUILT

KMP @ 5/20/2024

STEEL GRADE SCHEDULE				
SCOPE	SHAPE	GRADE	YIELD STRENGTH (F _y)	ULTIMATE STRENGTH (F _u)
ALL	ANGLE	A572-50	50 KSI	65 KSI
ALL	SOLID ROD	A572-50	50 KSI	65 KSI
FLANGE PLATE	PLATE	A572-50	50 KSI	65 KSI
ALL	WELD ELECTRODE	E-70XX	-	70 KSI



KRYSTYN M. PEREZ, PE 01/27/23
CONNECTICUT LIC. NO. 32975

DRAWN BY: JBD
CHECKED BY: HAH
ENG APPVD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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FDH PROJECT NUMBER:
PR-009191

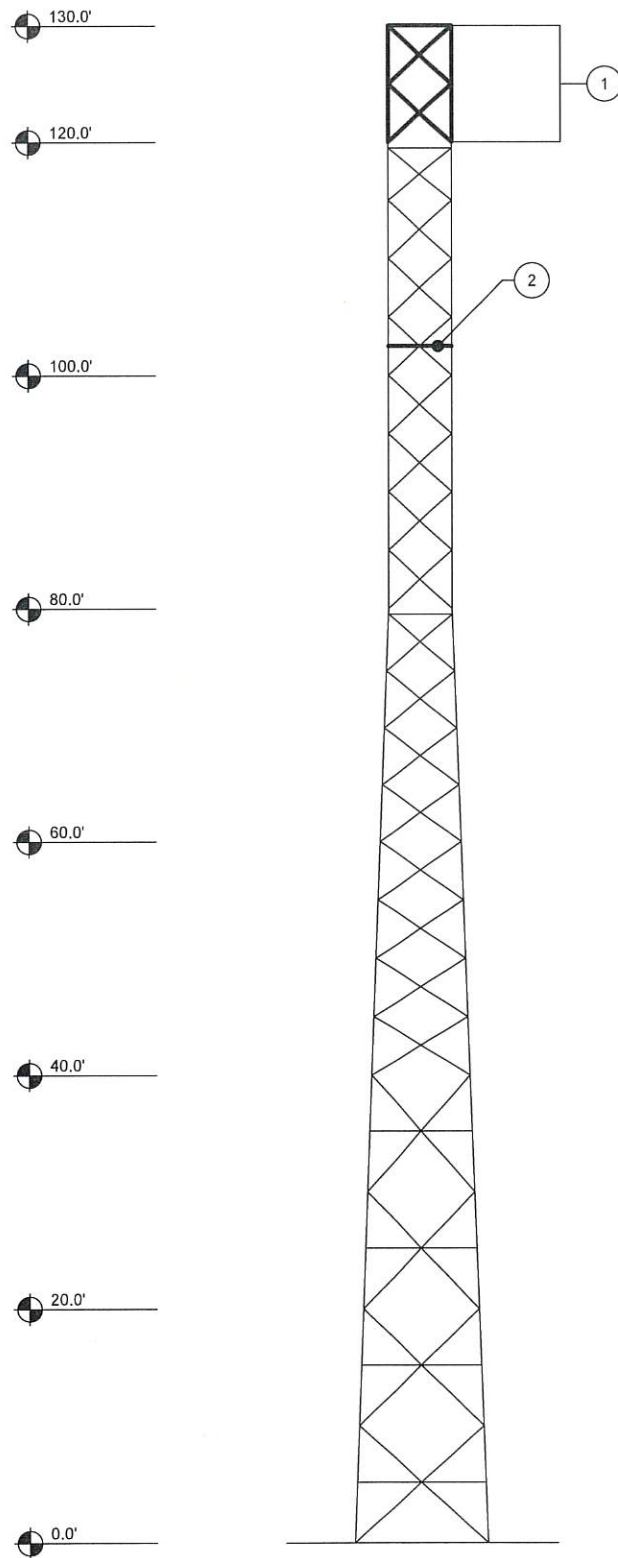
SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
WILTON, CT 06897**

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
N-2



TOWER ELEVATION
SCALE: NTS

TOWER MODIFICATION SCHEDULE				
NO.	TYPE OF MODIFICATION	BTM. ELEV.	TOP ELEV.	SHEET
1	INSTALLATION OF NEW TOWER EXTENSION	120.0'±	130.0'±	S-5 TO S-6
2	INSTALLATION OF NEW SUBHORIZONTALS	-	102.5'±	S-2 TO S-4

- APPURTENANCES MAY INTERFERE WITH PROPOSED MODIFICATIONS.
- ALL MODIFICATIONS TO BE INSTALLED CONTINUOUSLY THROUGH EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT NOT TO BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION.
- ANTENNA & COAX GRAPHICS NOT SHOWN FOR CLARITY. SEE STRUCTURAL ANALYSIS REPORT FOR EXISTING ANTENNA LOADING & COAX CONFIGURATION.
- PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTHS AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.

AS BUILT
APR 20/2024

PREPARED BY:

FDH INFRASTRUCTURE SERVICES, LLC
ENGINEERING INNOVATION
FDH INFRASTRUCTURE SERVICES, LLC
8531 MERIDEN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

PYRAMID
Network Services, LLC

KRYSTYN M. PEREZ, PE
CONNECTICUT LIC. NO. 32975
01/27/23

DRAWN BY: JBD
CHECKED BY: HAH
ENG APP'VD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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FDH PROJECT NUMBER:
PR-009191

SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
WILTON, CT 06897**

SHEET TITLE
MODIFICATION SCHEDULE

SHEET NUMBER
S-1

SUBHORIZONTAL INSTALLATION SCHEDULE							
SUBHORIZONTAL BRACE ELEV.	FACE WIDTH ¹	V-BRACKET ASSEMBLY (VB-#)	SUBHORIZONTAL (SH-#)	STITCH PLATE (SP-#)	BOLT SIZE ²	STITCH BOLT SIZE ²	BOLT GRADE
102.5±	5' - 6"	(3) VB-1	(6) SH-1	(3) SP-1	(18) 5/8"Ø	(3) 1/2"Ø	A325N

1. FACE WIDTH MEASURED FROM CENTER OF LEG TO CENTER OF LEG. FIELD VERIFY FACE WIDTH PRIOR TO FABRICATION. CONFIRM WITH ENGINEER OF RECORD.
2. ALL BOLTS SHALL INCLUDE NUTS AND LOCK WASHERS.

PREPARED BY:



FDH INFRASTRUCTURE SERVICES
ENGINEERING INNOVATION
FDH INFRASTRUCTURE SERVICES, LLC
4521 MERIDEN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1931

PREPARED FOR:



Pyramid Network Services, LLC



KRYSTYN M. PEREZ, PE 01/27/23
CONNECTICUT LIC. NO. 32975

DRAWN BY: JBD
CHECKED BY: HAH
ENG APP'VD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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FDH PROJECT NUMBER:
PR-009191

SITE NAME:
WILTON_DEER RUN

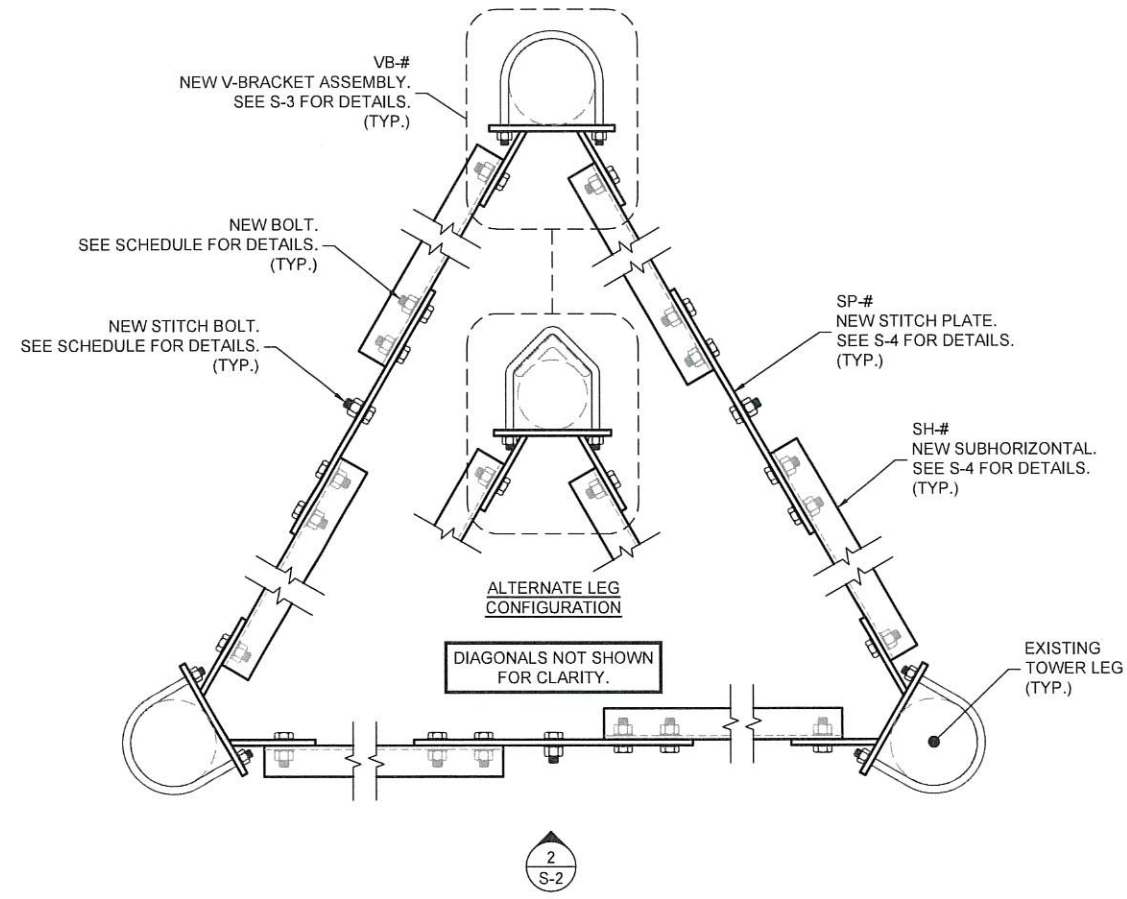
SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
WILTON, CT 06897**

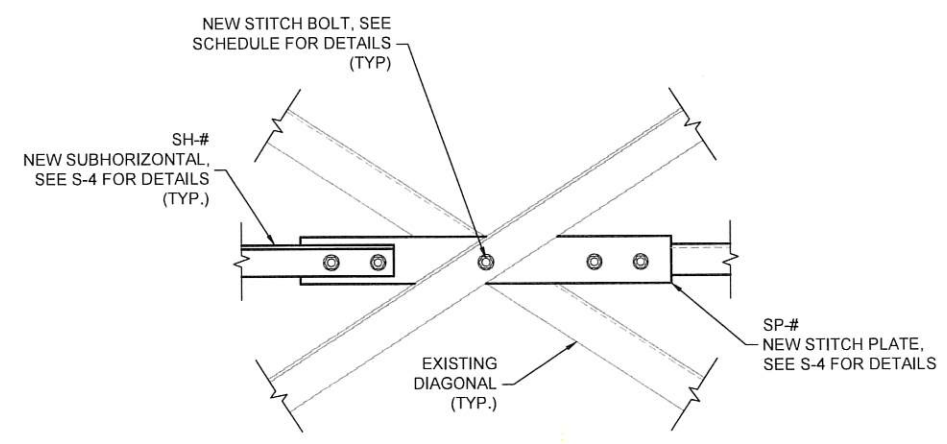
SHEET TITLE
SUBHORIZONTAL
INSTALLATION
DETAILS

SHEET NUMBER
S-2

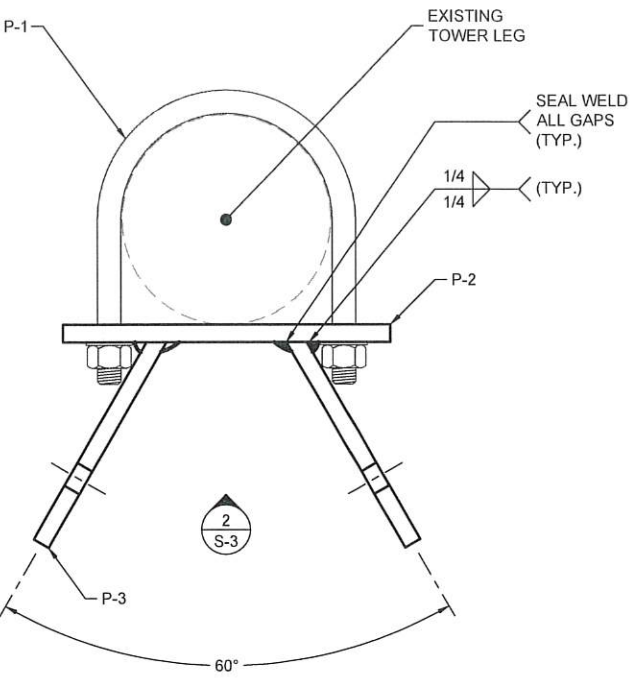
AS BUILT
As Bld 5/20/2024



1
S-2
DETAIL
SCALE: NTS

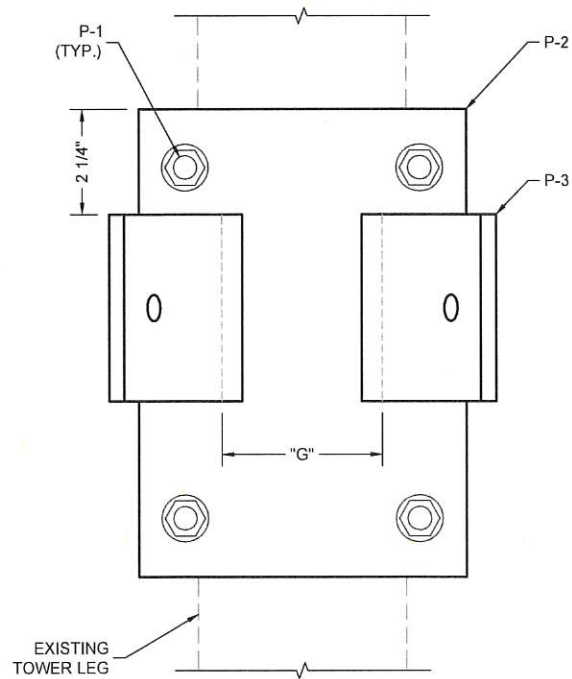


2
S-2
DETAIL
SCALE: NTS



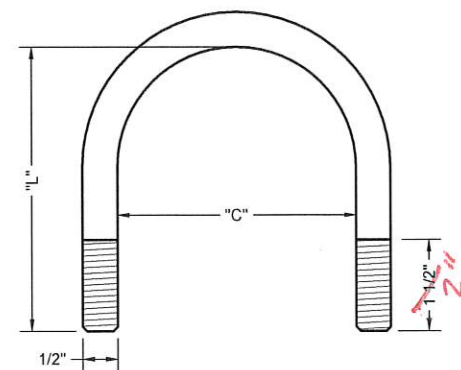
V-BRACKET ASSEMBLY
PLAN VIEW

1
S-3
DETAIL
SCALE: NTS



V-BRACKET ASSEMBLY
ELEVATION VIEW

2
S-3
DETAIL
SCALE: NTS



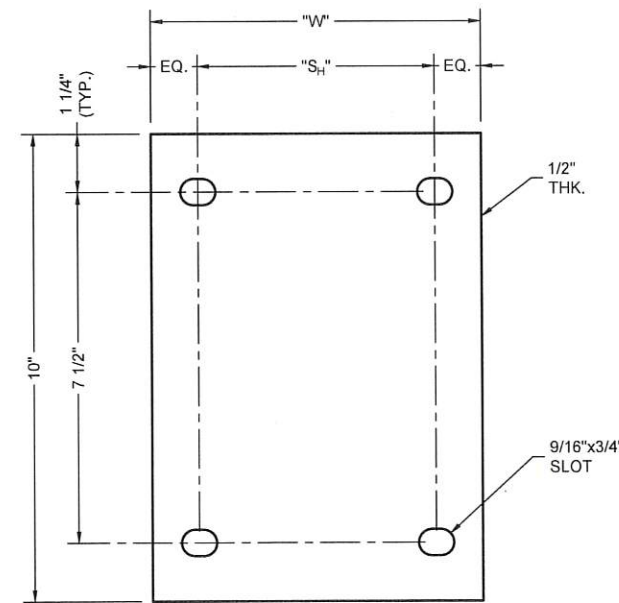
V-BRACKET U-BOLT
ELEVATION VIEW

P-1
S-3
DETAIL
SCALE: NTS

V-BRACKET FABRICATION SCHEDULE						
PART NO.	QTY. ¹	U-BOLT (P-1) DIMENSIONS ²		BACKING PLATE (P-2) DIMENSIONS		GUSSET SPACING "G"
		LENGTH "L"	INSIDE WIDTH "C"	WIDTH "W"	HORIZ. HOLE SPACING "S _H "	
VB-1	3	3 1/4" 3 1/2"	1 7/8"	5"	2 3/8"	2 1/16"

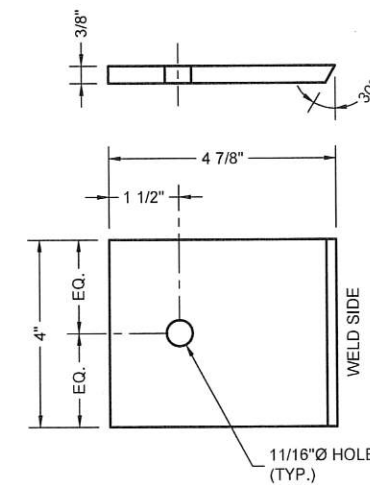
- EACH ASSEMBLY TO CONSIST OF (2) U-BOLTS, (1) BACKING PLATE, AND (2) GUSSET PLATES, U.N.O.
- U-BOLTS SHALL INCLUDE NUTS AND LOCK WASHERS.

AS BUILT
As of 5/20/2024



V-BRACKET BACKING PLATE
ELEVATION VIEW

P-2
S-3
DETAIL
SCALE: NTS



V-BRACKET GUSSET PLATE
ELEVATION VIEW

P-3
S-3
DETAIL
SCALE: NTS

PREPARED BY:

FDH INFRASTRUCTURE SERVICES
ENGINEERING INNOVATION
FDH INFRASTRUCTURE SERVICES, LLC
4521 MERIDEN DRIVE, RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

PYRAMID Network Services, LLC

KRYSSTYN M. PEREZ, PE
CONNECTICUT LIC. NO. 32975
01/27/23

DRAWN BY: JBD
CHECKED BY: HAH
ENG APPV'D: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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FDH PROJECT NUMBER:
PR-009191

SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
WILTON, CT 06897**

SHEET TITLE
**V-BRACKET
FABRICATION
DETAILS**

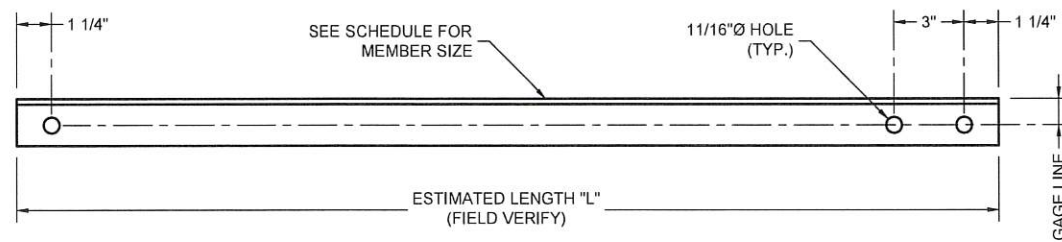
SHEET NUMBER
S-3

SUBHORIZONTAL FABRICATION SCHEDULE				
PART NO.	QTY.	SUBHORIZONTAL SIZE	ESTIMATED LENGTH "L" ¹	GAGE LINE ²
SH-1	6	L2x2x1/4	2'-8" 1'-11 5/8"	1 1/8"

- ESTIMATED VALUES INCLUDE ADDITIONAL LENGTH TO ALLOW FOR PROPER FIT-UP. CONTRACTOR TO FIELD VERIFY ACTUAL LENGTH PRIOR TO FABRICATION.
- DISTANCE FROM HEEL OF ANGLE TO CENTER OF BOLT HOLE.

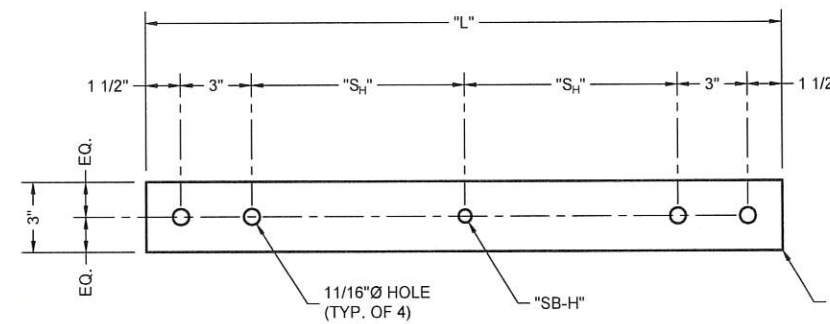
STITCH PLATE FABRICATION SCHEDULE					
PART NO.	QTY.	LENGTH "L"	PLATE THICKNESS "T"	HORIZ. HOLE SPACING "S _H "	STITCH BOLT HOLE DIAMETER "SB-H"
SP-1	3	23"	3/8"	7"	9/16"

AS BUILT
As per 5/20/2024



SUBHORIZONTAL (SH-#)
ELEVATION VIEW

1
S-4
DETAIL
SCALE: NTS



STITCH PLATE (SP-#)
ELEVATION VIEW

2
S-4
DETAIL
SCALE: NTS

PREPARED BY:

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 4521 MERIDEN DRIVE, RALEIGH, NC 27616
 PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

KRYSTYN M. PEREZ, PE
CONNECTICUT LIC. NO. 32975 01/27/23

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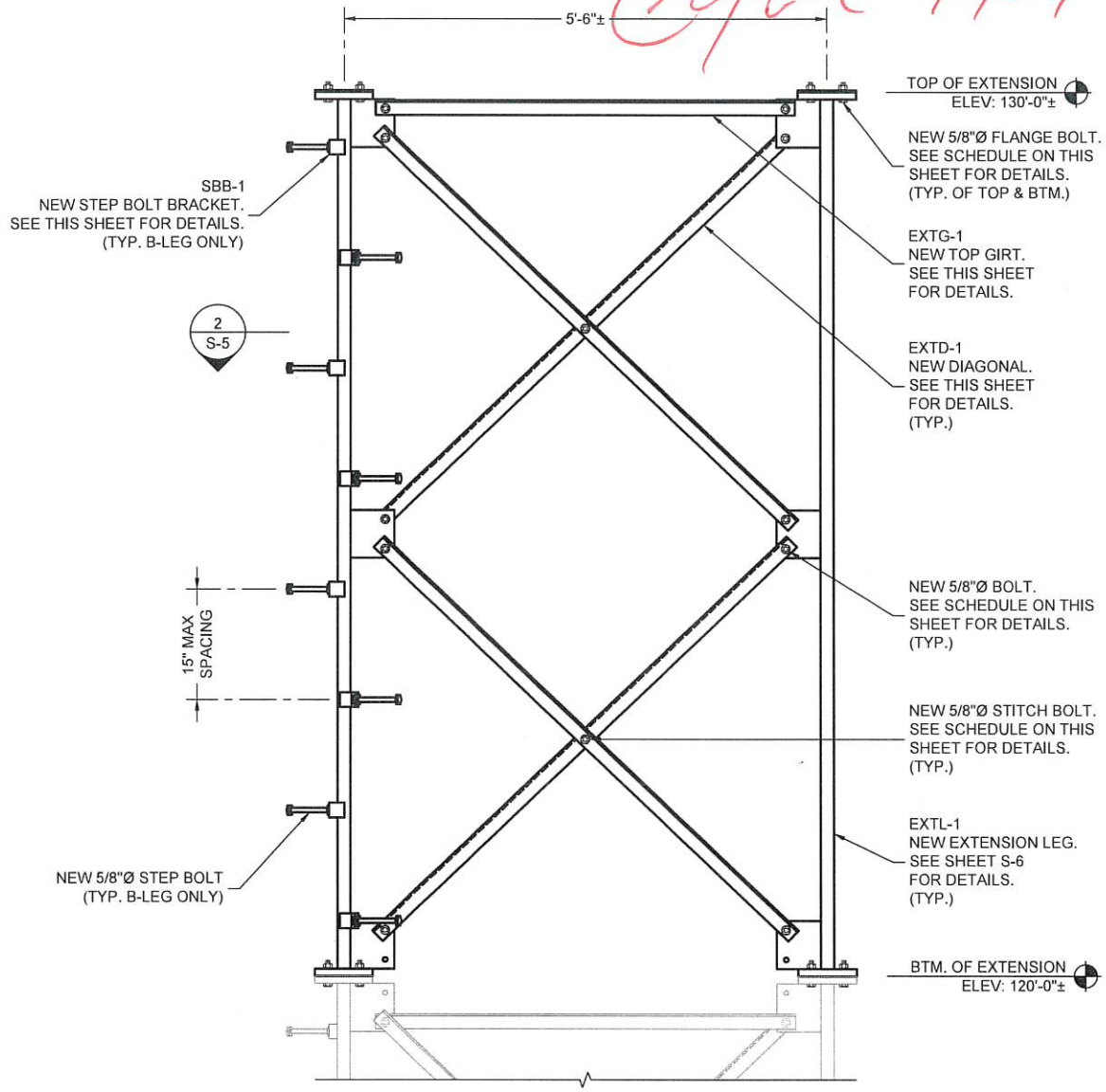
SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
WILTON, CT 06897**

SHEET TITLE
SUBHORIZONTAL FABRICATION DETAILS

SHEET NUMBER
S-4

AS BUILT
As Bld 5/20/2024



TOWER EXTENSION INSTALLATION
ELEVATION VIEW

1
S-5

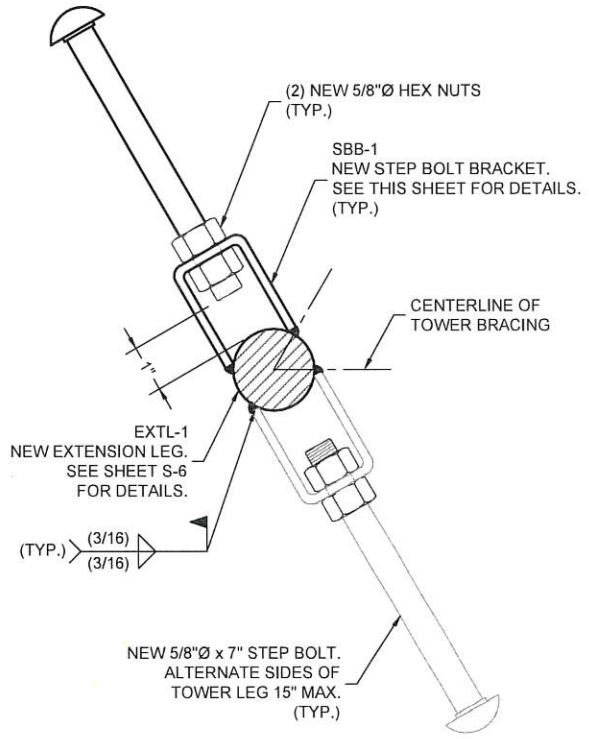
ELEVATION
SCALE: NTS

- CONTRACTOR TO REINSTALL BEACON & LIGHTING ROD ON NEW EXTENSION.
- BOTTOM BAY OF DIAGONALS TO BE FIELD INSTALLED AFTER EXTENSION IS SET IN PLACE TO AVOID INSTALLATION ISSUES.
- CONTRACTOR TO REPLACE SAFETY CLIMB CABLE. ONE CONTINUOUS CABLE IS REQUIRED FROM TOP OF EXTENSION TO BASE OF TOWER. SEE MATERIAL LIST FOR DETAILS. *STEP BOLT ANCHORS*
- CONTRACTOR TO EXTEND EXISTING CLIMBING LADDER TO BE FLUSH WITH TOP OF NEW EXTENSION.
- CONTRACTOR TO FIELD VERIFY FIT-UP OF THE NEW EXTENSION TO THE EXISTING TOWER PRIOR TO FABRICATION.

TOWER EXTENSION MATERIAL LIST

PART #	QUANTITY	DESCRIPTION
EXTG-1	3	TOP GIRT
EXTD-1	12	DIAGONAL
EXTL-1	3	EXTENSION LEG
-	24	5/8"Ø A325N BOLT W/ NUT & LOCK WASHERS
-	6	5/8"Ø A325N STITCH BOLT W/ NUT & LOCK WASHERS
-	24	5/8"Ø A325N FLANGE BOLT W/ NUT & LOCK WASHERS
-	1	3/8" EHS x 125' (SAFETY CLIMB CABLE)
-	1	SAFETY CLIMB SYSTEM TUF-TAG (PART NO. TTCSCS) OR EQUIV.
SBB-1	8 ¹	STEP BOLT BRACKET
-	8 ¹	5/8"Ø x 7" STEP BOLT
-	16 ¹	5/8"Ø HEX NUT

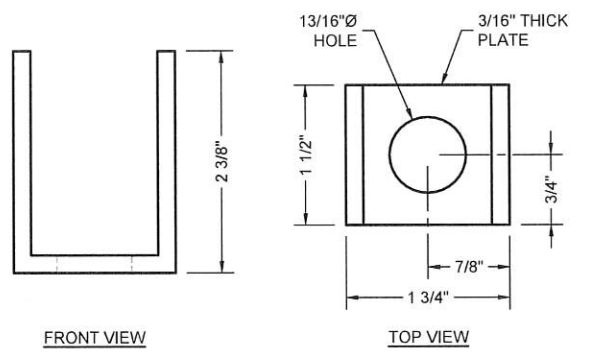
1. MATERIAL QUANTITIES SHOWN FOR (1) LEG; ONLY B-LEG REQUIRES STEP BOLTS.



STEP BOLT BRACKET INSTALLATION
SECTION VIEW

2
S-5

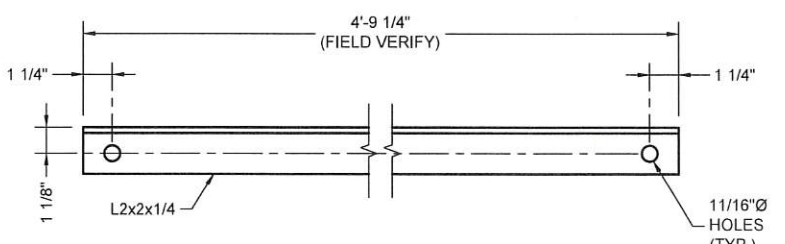
DETAIL
SCALE: NTS



STEP BOLT BRACKET

SBB-1
S-5

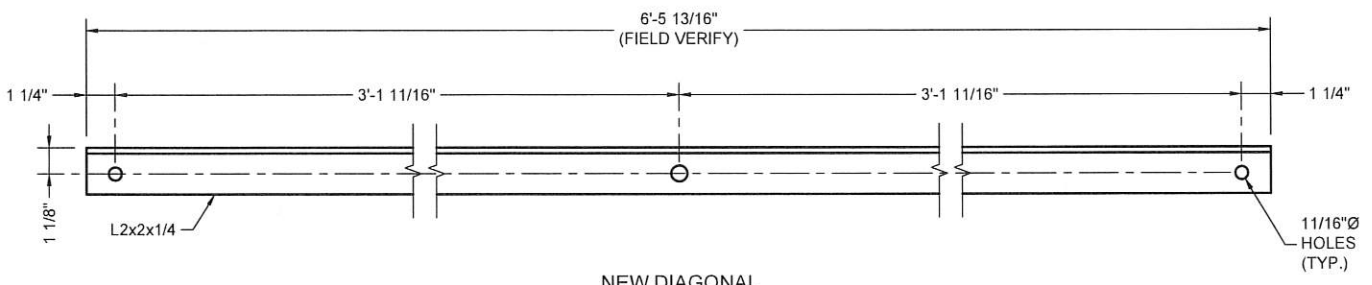
DETAIL
SCALE: NTS



NEW TOP GIRT
FRONT VIEW

EXTG-1
S-5

DETAIL
SCALE: NTS



NEW DIAGONAL
FRONT VIEW

EXTD-1
S-5

DETAIL
SCALE: NTS

PREPARED BY:

FDH INFRASTRUCTURE SERVICES
 ENGINEERING INNOVATION
 FDH INFRASTRUCTURE SERVICES, LLC
 4521 MERIDEN DRIVE RALEIGH, NC 27616
 PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

PYRAMID Network Services, LLC

KRISTYN M. PEREZ, PE 01/27/23
 CONNECTICUT LIC. NO. 32975

DRAWN BY: JBD
 CHECKED BY: HAH
 ENG APPVD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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PR-009191

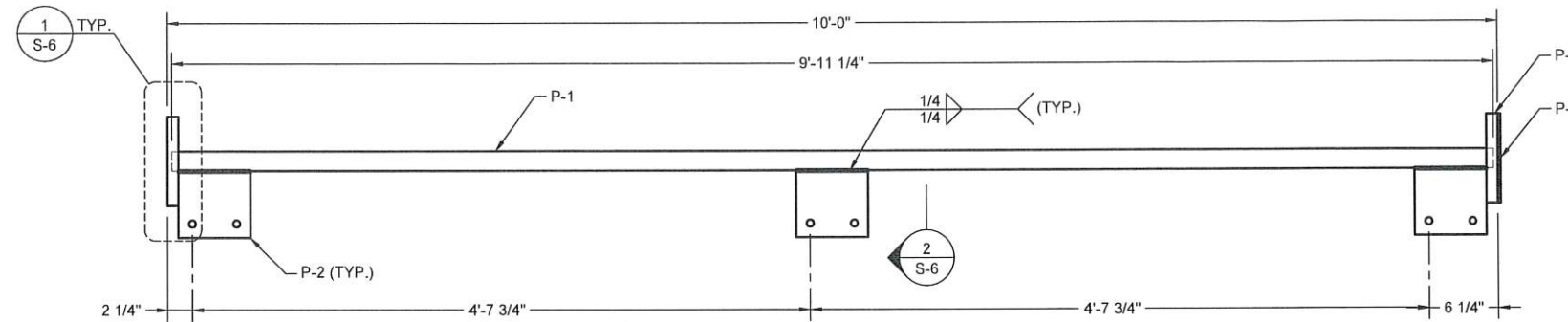
SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
 WILTON, CT 06897**

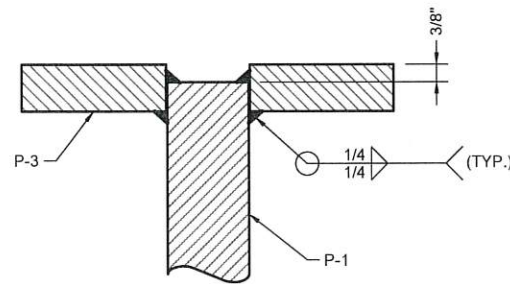
SHEET TITLE
**TOWER EXTENSION
 INSTALLATION DETAILS I**

SHEET NUMBER
S-5



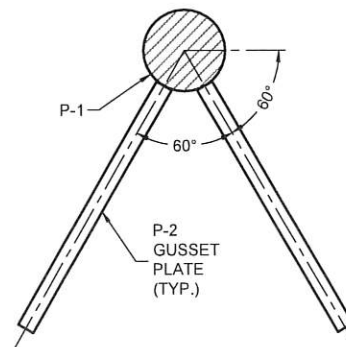
EXTENSION LEG FRONT VIEW

EXTL-1
S-6
SCALE: 3/4" = 1'-0"



FLANGE WELD DETAIL SECTION VIEW

1
S-6
SCALE: NTS



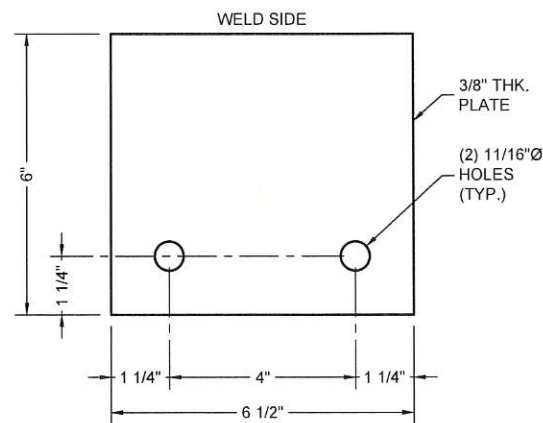
EXTENSION LEG SECTION VIEW

2
S-6
SCALE: NTS

AS BUILT
As of 5/29/2024

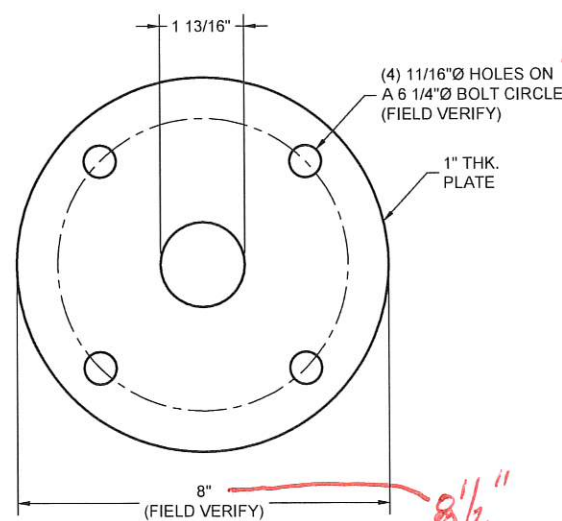
MATERIAL LIST (EXTL-1) ¹		
PART #	QUANTITY	DESCRIPTION
P-1	1	SR 1.75" (9'-11 1/4" LONG)
P-2	2	FLANGE PLATE
P-3	3	GUSSET PLATE
P-4	1	CAP PLATE

1. MATERIAL QUANTITIES SHOWN FOR (1) EXTENSION LEG.
(3) EXTENSION LEGS REQUIRED.



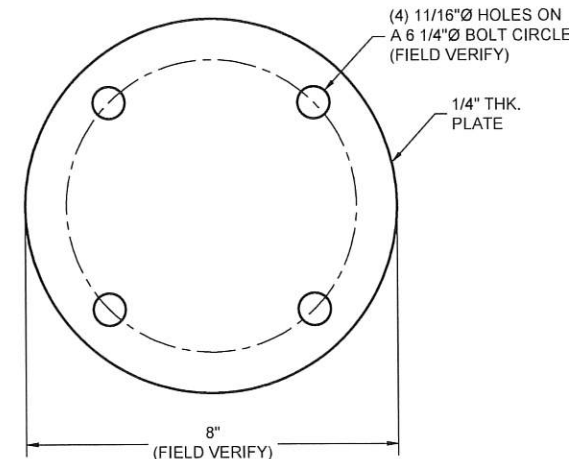
GUSSET PLATE PLAN VIEW

P-2
S-6
SCALE: 3" = 1'-0"



FLANGE PLATE PLAN VIEW

P-3
S-6
SCALE: 3" = 1'-0"



CAP PLATE PLAN VIEW

P-4
S-6
SCALE: 3" = 1'-0"

15/16" BOTTOM FLANGES ONLY

8 1/2" BOTTOM FLANGES ONLY

PREPARED BY:

 ENGINEERING INNOVATION
 FDH INFRASTRUCTURE SERVICES, LLC
 5521 MERIDEN DRIVE RALEIGH, NC 27619
 PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

 Network Services, LLC

STATE OF CONNECTICUT

 KRISTYN M. PEREZ, PE
 CONNECTICUT LIC. NO. 32975
 01/27/23

DRAWN BY: JBD
 CHECKED BY: HAH
 ENG APP'VD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
 WILTON, CT 06897**

SHEET TITLE
**TOWER EXTENSION
 INSTALLATION DETAILS II**

SHEET NUMBER
S-6

POST-CONSTRUCTION

3.1 MI INSPECTOR REDLINE OR RECORD DRAWINGS

MODIFICATION INSPECTION NOTES:

GENERAL:

1. THE POST CONSTRUCTION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).
2. THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.
3. ALL MIs SHALL BE CONDUCTED BY A MI INSPECTOR THAT IS APPROVED TO PERFORM ELEVATED WORK FOR FDH INFRASTRUCTURE SERVICES.
4. TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR FDH INFRASTRUCTURE SERVICES POINT OF CONTACT (POC).
5. REFER TO STR-SOW-20001 : MODIFICATION INSPECTION CHECKLIST DEFINITIONS FOR FURTHER DETAILS AND REQUIREMENTS.

MI INSPECTOR:

1. THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:
 - REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
 - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
2. THE PCI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO FDH INFRASTRUCTURE SERVICES.

CORRECTION OF FAILING MIs:

1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI ("FAILED MI"), THE GC SHALL WORK WITH FDH INFRASTRUCTURE SERVICES TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
 - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MI.
 - OR, WITH FDH INFRASTRUCTURE SERVICES' APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

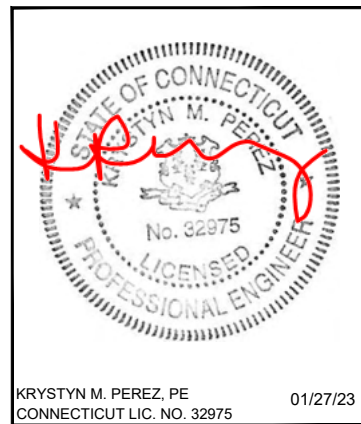
REQUIRED PHOTOS:

1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:
 - PRE-CONSTRUCTION GENERAL SITE CONDITION
 - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - WELD PREPARATION
 - BOLT INSTALLATION AND TORQUE
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
 - POST CONSTRUCTION PHOTOGRAPHS
 - FINAL INFIELD CONDITION
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

MI CHECKLIST	
INSPECTIONS AND TESTING REQUIRED	REPORT ITEM
PRE-CONSTRUCTION	
X	MI CHECKLIST DRAWING
N/A	EOR APPROVED SHOP DRAWINGS
X	FABRICATION INSPECTION
X	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF MONOPOLE BASE PLATE
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMPRESSIVE STRENGTH AND SLUMP TESTS
N/A	POST INSTALLED ANCHOR ROD VERIFICATION
N/A	BASE PLATE GROUT VERIFICATION
X	CONTRACTOR'S CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
X	ON SITE COLD GALVANIZATIONS
N/A	GUY WIRE TENSION REPORT
X	GC AS BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)
N/A	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT

Passing Inspection
Wednesday, May 22, 2024
Timothy Vicisko



DRAWN BY: JBD
CHECKED BY: HAH
ENG APP'VD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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PR-009191

SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
WILTON, CT 06897**

SHEET TITLE
**MODIFICATION INSPECTION
CHECKLIST**

SHEET NUMBER
N-1

GENERAL NOTES:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL PERMITS NECESSARY TO COMPLETE THE PROJECT AND ABIDE BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO FDH INFRASTRUCTURE SERVICES FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
- INCORRECTLY FABRICATED, DAMAGED, OTHERWISE MISFITTING, OR NON-CONFORMING MATERIALS AND CONDITIONS SHALL BE REPORTED TO FDH INFRASTRUCTURE SERVICES PRIOR TO ANY REMEDIAL OR CORRECTIVE ACTION. ALL ACTIONS SHALL REQUIRE FDH INFRASTRUCTURE SERVICES APPROVAL.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AFTER THE COMPLETION OF THE PROJECT.
- CONTRACTOR SHALL PROMPTLY REMOVE ANY & ALL DEBRIS FROM SITE AND RESTORE AS BEST AS POSSIBLE TO PRECONSTRUCTION CONDITION.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH THE ANSI/TIA-322 (LATEST EDITION).
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED OR ALTERED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
- ANY WORK PERFORMED WITHOUT A PREFABRICATION MAPPING IS DONE AT THE RISK OF THE GC AND/OR FABRICATOR.

CONTRACTOR QUALIFICATION NOTES:

- ALL INSTALLATIONS SHALL BE PERFORMED BY A TOWER CONTRACTOR WITH A MINIMUM 5 YEARS EXPERIENCE IN TOWER ERECTION AND RETROFIT AND WITH WORKING KNOWLEDGE OF THE ANSI/TIA-222-H "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS AND SMALL WIND TURBINE SUPPORT STRUCTURES".
- CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS. SHOULD THE CONTRACTOR REQUIRE DIRECT CONSULTATION, FDH INFRASTRUCTURE SERVICES IS WILLING TO OFFER SERVICES BASED UPON AN AGREED FEE FOR THE WORK REQUIRED.
- ALL SUBMITTAL INFORMATION MUST BE SENT TO FDH INFRASTRUCTURE SERVICES AT 6521 MERIDIEN DRIVE, RALEIGH, NC 27616, TEL. (919) 755-1012, FAX. (919) 755-1031, E-MAIL STRUCTURAL@FDH-IS.COM. ANY VARIATION OF THESE SPECIFICATIONS OR DRAWINGS WITHOUT CONSENT FROM FDH INFRASTRUCTURE SERVICES WILL VOID ANY RESPONSIBILITY OR LIABILITY FOR DAMAGE (MATERIAL OR PHYSICAL) TOWARDS FDH INFRASTRUCTURE SERVICES.
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE ANSI/ASSE A10.48 AND ANSI/TIA-322 STANDARDS.

JOB SITE SAFETY & NOTES:

- NEITHER THE PROFESSIONAL ACTIVITIES OF FDH INFRASTRUCTURE SERVICES NOR THE PRESENCE OF FDH INFRASTRUCTURE SERVICES OR EMPLOYEES AND SUB-CONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND OR SUBCONTRACTORS AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE GENERAL CONTRACTOR AND OR SUBCONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY, AND WARRANTS THAT THIS INTENT IS EVIDENT BY ACCEPTING THIS WORK.

STEEL:

- ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE AND ASTM SPECIFICATIONS.
- ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED WELDS WITH WELDING ELECTRODES NOTED IN THE STEEL GRADE SCHEDULE OR SPECIFIED HIGH STRENGTH BOLTS TO BE ASTM A325N, THREAD INCLUDED WITH SHEAR PLANE (UNLESS NOTED OTHERWISE).
- ALL BOLTED CONNECTIONS TO BE INSTALLED TO A SNUG-TIGHTENED CONDITION IN ACCORDANCE WITH AISC 13 PART 16.2, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", SECTION 8.1, UNLESS OTHERWISE SPECIFIED. WHEN "X" TYPE BOLTS ARE USED, CONTRACTOR MAY BE REQUIRED TO STACK ADDITIONAL WASHERS TO OBTAIN PROPER SNUG TIGHT INSTALLATION. ALL NUTS SHALL BE HEAVY HEX UNLESS NOTED OTHERWISE.
- ALL STEEL, AFTER FABRICATION, SHALL BE HOT DIPPED GALVANIZED PER ASTM A-123, UNLESS NOTED OTHERWISE. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH MULTIPLE COATS OF ZRC COLD GALVANIZING COMPOUND ACHIEVING A MINIMUM OF 4 MILS DRY FILM PER ASTM A 780.
- A490 OR 354-GR. BD BOLTS SHALL NOT BE HOT DIPPED GALVANIZED, MECHANICALLY OR ELECTROPLATED.
- ALL A490 OR 354-GR. BD BOLTS SHALL BE COATED WITH A ZINC/ALUMINUM COATING (MAGNI 565 OR APPROVED EQUAL) PER ASTM F2833, BY THE BOLT MANUFACTURER.
- CONTRACTOR TO PROVIDE FULL DOCUMENTATION ON A490 OR 354-GR. BOLTS PRIOR TO INSTALLATION.
- ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED. CONTRACTOR IS REQUIRED TO PROVIDE FDH INFRASTRUCTURE SERVICES WITH A PASSING CERTIFIED WELDING INSPECTION FOR ALL WELDS.
- STRUCTURAL STEEL MAY NOT BE TORCH CUT FOR FABRICATION. ALL STEEL FABRICATION MUST FOLLOW AISC STANDARDS.

MISC. NOTES:

- ALL MODIFICATIONS ARE ASSUMED TO BE MADE ON AN EMPTY TOWER. CONTRACTOR IS RESPONSIBLE TO MAKE PROVISIONS TO SUPPORT OR WORK AROUND EXISTING ANTENNAS AND TRANSMISSION LINES. MODIFICATIONS MUST BE CONTINUOUS THROUGH ALL AREAS SHOWN.
- CONTRACTOR FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

FABRICATION NOTES:

- ALL DIMENSIONS ARE PRELIMINARY UNTIL FIELD VERIFIED BY CONTRACTOR. ANY CHANGES MUST BE APPROVED BY ENGINEER OF RECORD IN WRITING PRIOR TO FABRICATION AND INSTALLATION.
- NEW STEEL MEMBERS MUST HAVE SINGLE DRILLED HOLES. SLOTTED AND DOUBLE DRILLED HOLES ARE NOT ACCEPTABLE MEANS OF FABRICATION.

SUBSTITUTES AND/OR EQUALS:

- IF CONTRACTOR WISHES TO FURNISH OR USE A SUBSTITUTE ITEM OF MATERIAL OR EQUIPMENT, CONTRACTOR SHALL FIRST MAKE WRITTEN APPLICATION TO ENGINEER OF RECORD FOR ACCEPTANCE THEREOF, CERTIFYING THAT THE PROPOSED SUBSTITUTE WILL PERFORM ADEQUATELY THE FUNCTIONS AND ACHIEVE THE RESULTS CALLED FOR BY THE GENERAL DESIGN, BE SIMILAR IN SUBSTANCE TO THAT SPECIFIED AND SUITED TO THE SAME USE AS THAT SPECIFIED. ALL VARIATIONS OF THE PROPOSED SUBSTITUTE FROM THAT SPECIFIED WILL BE IDENTIFIED IN THE APPLICATION AND AVAILABLE MAINTENANCE, REPAIR AND REPLACEMENT SERVICE WILL BE INDICATED. THE APPLICATION WILL ALSO CONTAIN AN ITEMIZED ESTIMATE OF ALL COSTS OR CREDITS THAT WILL RESULT DIRECTLY OR INDIRECTLY FROM ACCEPTANCE OF SUCH SUBSTITUTE INCLUDING COSTS OF REDESIGN AND CLAIMS OF OTHER CONTRACTORS AFFECTED BY THE RESULTING CHANGE, ALL OF WHICH WILL BE CONSIDERED BY ENGINEER OF RECORD IN EVALUATION OF THE PROPOSED SUBSTITUTE. ENGINEER OF RECORD MAY REQUIRE CONTRACTOR TO FURNISH ADDITIONAL DATA ABOUT THE PROPOSED SUBSTITUTE.

COLD GALVANIZATION/SURFACE PREPARATION NOTES:

- CONTRACTOR TO USE ZINGA OR ZRC COLD GALVANIZATION COMPOUNDS OR APPROVED EQUIVALENT.
- PREPARE RUSTED/CORRODED SURFACE FOR TREATMENT ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR TO APPLY (2) COATS OF COLD GALVANIZATION COMPOUND PER MANUFACTURER'S RECOMMENDATION. DRYING AND CURING TIMES MUST BE UTILIZED PER MANUFACTURER'S RECOMMENDATION.
- APPLY ALL COATINGS BY BRUSH IN CALM WIND CONDITIONS. THE USE OF AEROSOL IS NOT PERMITTED.
- IF THE TOWER IS PAINTED, BRUSH PAINT ALL TREATED AREAS TO MATCH TOWER AFTER COLD GALVANIZATION COMPOUND IS ALLOWED TO CURE.

SURFACE PREPARATION:

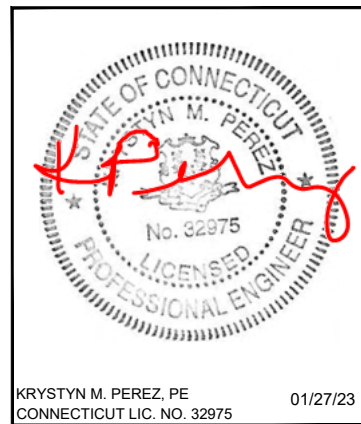
- PREPARE SURFACE TO BE WELDED BY REMOVING PAINT OR GALVANIZATION TO BARE METAL USING POWER WIRE BRUSHING IN ACCORDANCE WITH SSPC-SP11, (STEEL STRUCTURES PAINTING COUNCIL). FOLLOWING POWER WIRE BRUSHING CONTRACTOR SHALL POLISH METAL SURFACE WITH HIGH SPEED GRINDER WITH 400+ GRIT SANDPAPER.
- AFTER NEW STEEL INSTALLATION CONTRACTOR TO BRUSH PAINT (2) COATS OF ZRC OR ZINGA COLD GALVANIZATION COMPOUND PER MANUFACTURER'S SPECIFICATIONS.

WELDING NOTES:

- ALL WELDING TO THE EXISTING TOWER SHALL BE PERFORMED BY CERTIFIED WELDERS UTILIZING PROCEDURES QUALIFIED IN ACCORDANCE WITH AWS D1.1 AND AWS C5.4.
- CONTRACTOR SHALL COMPLY WITH AWS D1.1 FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". CONTRACTOR SHALL SUBMIT CERTIFICATION OF WELDERS TO THE ENGINEER PRIOR TO COMMENCEMENT OF THE WORK.
- CONTRACTOR RESPONSIBLE FOR TEMPORARY HEAT SHIELDING AS REQUIRED DURING WELDING.
- CONTRACTOR RESPONSIBLE FOR VIEWING EXISTING TOWER FOR LOOSE AND FLAMMABLE MATERIAL PRIOR TO WELDING FLAT PLATE.
- ALL WELDS TO BE VISUALLY INSPECTED BY A CERTIFIED WELD INSPECTOR PER AWS D1.1.

**Passing Inspection
Wednesday, May 22, 2024
Timothy Vicisko**

STEEL GRADE SCHEDULE				
SCOPE	SHAPE	GRADE	YIELD STRENGTH (F _y)	ULTIMATE STRENGTH (F _u)
ALL	ANGLE	A572-50	50 KSI	65 KSI
ALL	SOLID ROD	A572-50	50 KSI	65 KSI
FLANGE PLATE	PLATE	A572-50	50 KSI	65 KSI
ALL	WELD ELECTRODE	E-70XX	-	70 KSI



DRAWN BY: JBD
 CHECKED BY: HAH
 ENG APP'VD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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FDH PROJECT NUMBER:
PR-009191

SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

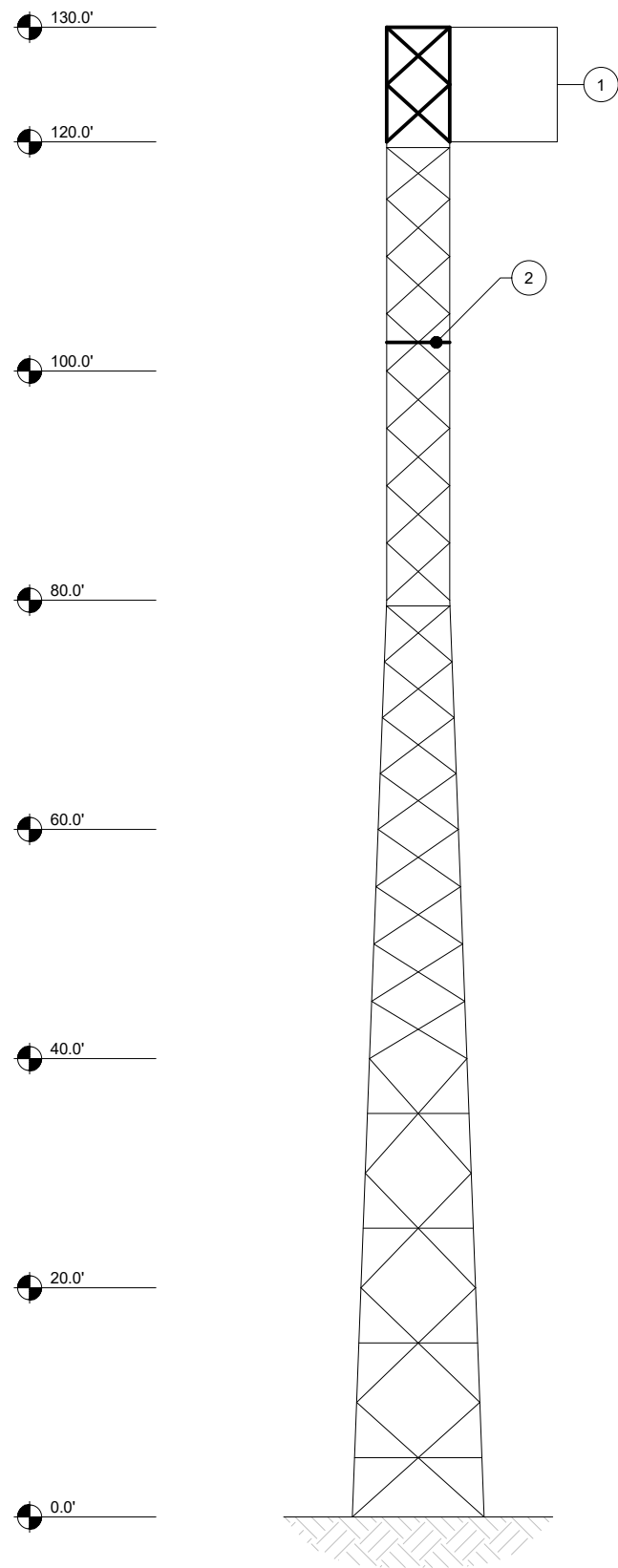
SITE ADDRESS:
**160 DEER RUN RD
WILTON, CT 06897**

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

N-2



TOWER ELEVATION
SCALE: NTS

TOWER MODIFICATION SCHEDULE				
NO.	TYPE OF MODIFICATION	BTM. ELEV.	TOP ELEV.	SHEET
1	INSTALLATION OF NEW TOWER EXTENSION	120.0'±	130.0'±	S-5 TO S-6
2	INSTALLATION OF NEW SUBHORIZONTALS	-	102.5'±	S-2 TO S-4

- APPURTENANCES MAY INTERFERE WITH PROPOSED MODIFICATIONS.
- ALL MODIFICATIONS TO BE INSTALLED CONTINUOUSLY THROUGH EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT NOT TO BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION.
- ANTENNA & COAX GRAPHICS NOT SHOWN FOR CLARITY. SEE STRUCTURAL ANALYSIS REPORT FOR EXISTING ANTENNA LOADING & COAX CONFIGURATION.
- PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTHS AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.

Passing Inspection
Wednesday, May 22, 2024
Timothy Vicisko

PREPARED BY:

FDH INFRASTRUCTURE SERVICES
ENGINEERING INNOVATION
FDH INFRASTRUCTURE SERVICES, LLC
6521 MERIDIAN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

PYRAMID
Network Services, LLC

KRYSTYN M. PEREZ, PE
CONNECTICUT LIC. NO. 32975
01/27/23

DRAWN BY: JBD
CHECKED BY: HAH
ENG APPV'D: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
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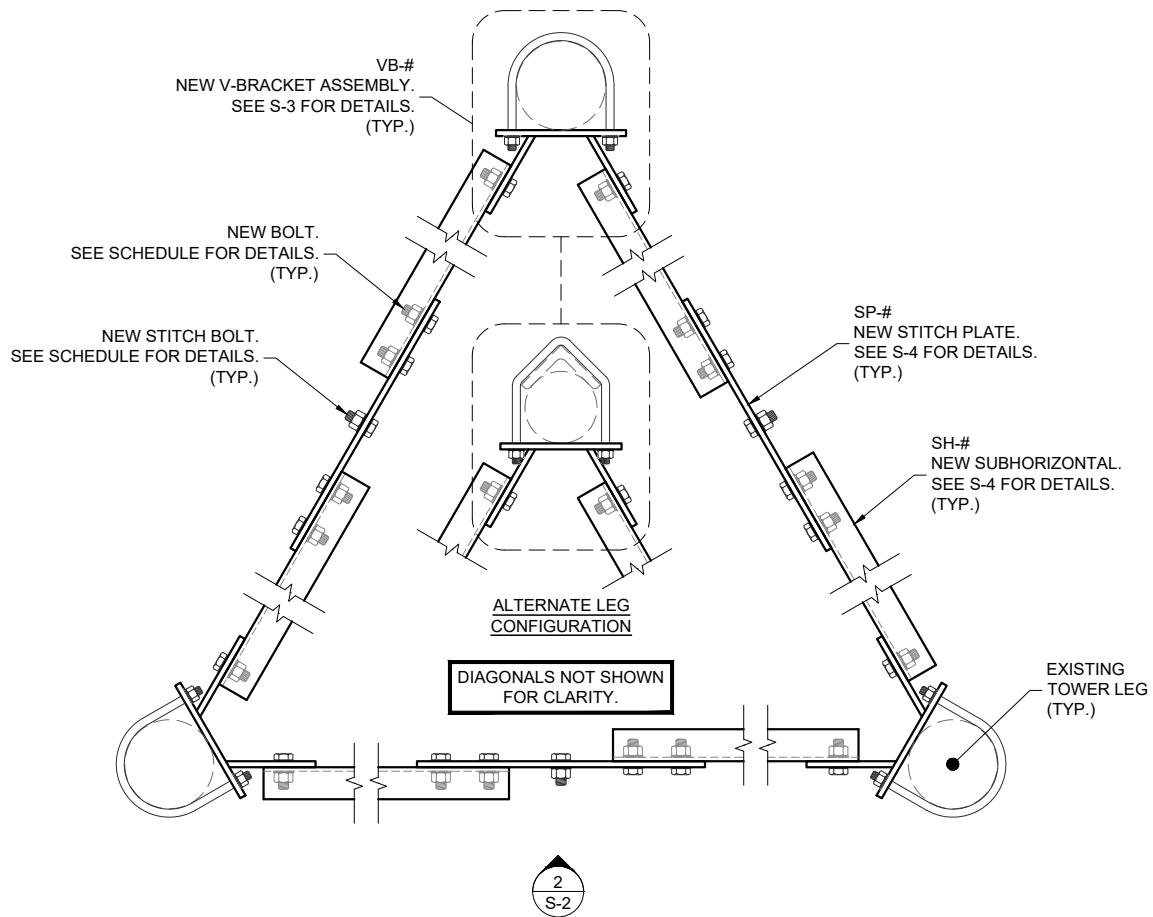
SHEET TITLE
MODIFICATION SCHEDULE

SHEET NUMBER
S-1

SUBHORIZONTAL INSTALLATION SCHEDULE							
SUBHORIZONTAL BRACE ELEV.	FACE WIDTH ¹	V-BRACKET ASSEMBLY (VB-#)	SUBHORIZONTAL (SH-#)	STITCH PLATE (SP-#)	BOLT SIZE ²	STITCH BOLT SIZE ²	BOLT GRADE
102.5±	5' - 6"	(3) VB-1	(6) SH-1	(3) SP-1	(18) 5/8"Ø	(3) 1/2"Ø	A325N

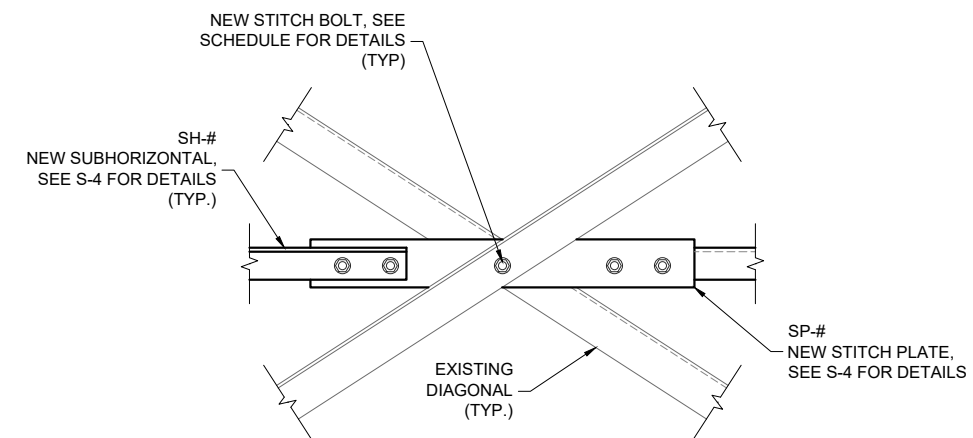
1. FACE WIDTH MEASURED FROM CENTER OF LEG TO CENTER OF LEG. FIELD VERIFY FACE WIDTH PRIOR TO FABRICATION. CONFIRM WITH ENGINEER OF RECORD.
2. ALL BOLTS SHALL INCLUDE NUTS AND LOCK WASHERS.

Passing Inspection
Wednesday, May 22, 2024
Timothy Vicisko



SUBHORIZONTAL LAYOUT PLAN VIEW

1
S-2
DETAIL
SCALE: NTS



STITCH PLATE INSTALLATION ELEVATION VIEW

2
S-2
DETAIL
SCALE: NTS

PREPARED BY:

ENGINEERING INNOVATION
 FDH INFRASTRUCTURE SERVICES, LLC
 6521 MERIDIAN DRIVE RALEIGH, NC 27616
 PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

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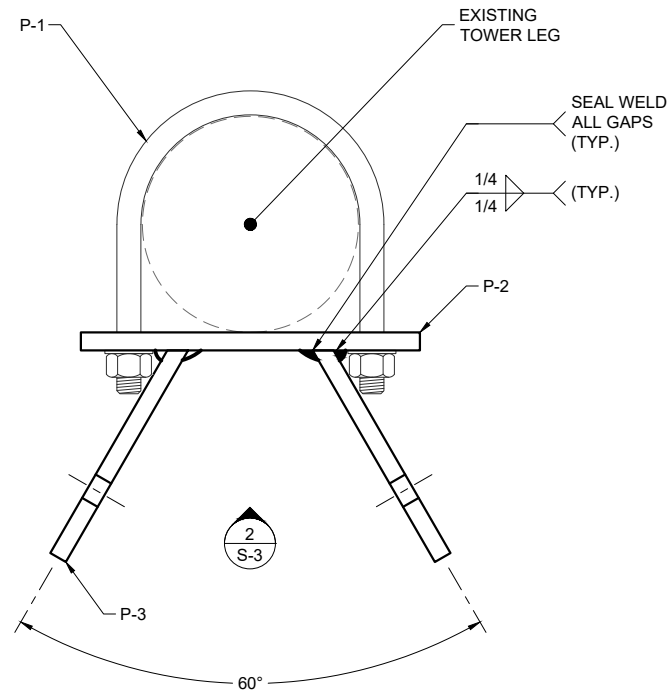
SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
 WILTON, CT 06897**

SHEET TITLE
 SUBHORIZONTAL
 INSTALLATION
 DETAILS

SHEET NUMBER
S-2



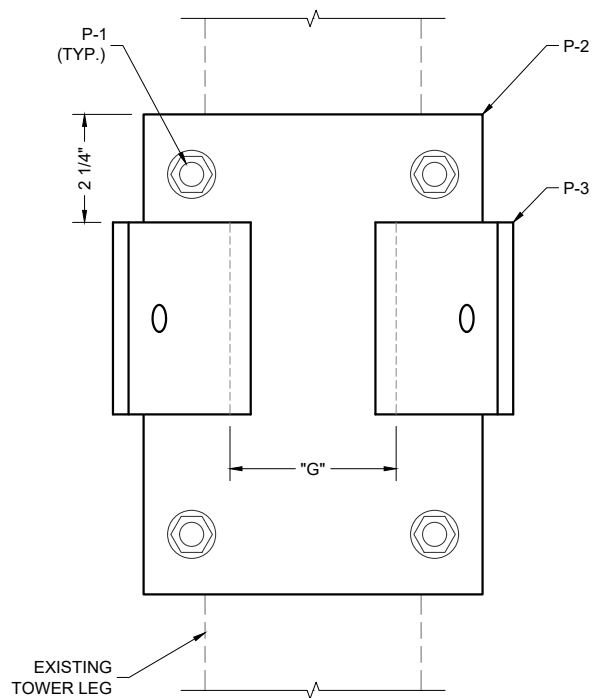
V-BRACKET ASSEMBLY
PLAN VIEW

1
S-3
DETAIL
SCALE: NTS

V-BRACKET FABRICATION SCHEDULE						
PART NO.	QTY. ¹	U-BOLT (P-1) DIMENSIONS ²		BACKING PLATE (P-2) DIMENSIONS		GUSSET SPACING "G"
		LENGTH "L"	INSIDE WIDTH "C"	WIDTH "W"	HORIZ. HOLE SPACING "S _H "	
VB-1	3	3 1/2"	1 7/8"	5"	2 3/8"	2 1/16"

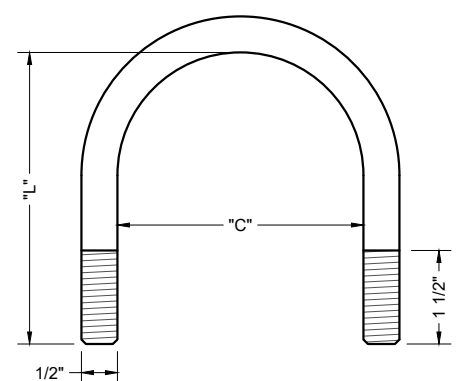
- EACH ASSEMBLY TO CONSIST OF (2) U-BOLTS, (1) BACKING PLATE, AND (2) GUSSET PLATES, U.N.O.
- U-BOLTS SHALL INCLUDE NUTS AND LOCK WASHERS.

Passing Inspection
Wednesday, May 22, 2024
Timothy Vicisko



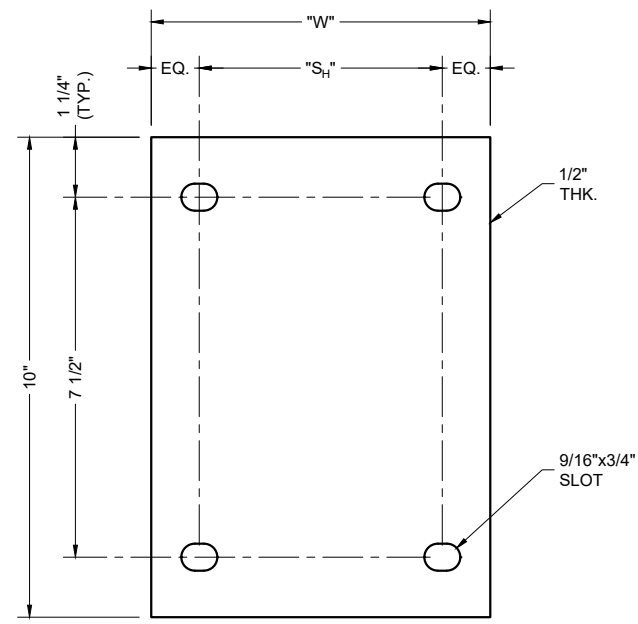
V-BRACKET ASSEMBLY
ELEVATION VIEW

2
S-3
DETAIL
SCALE: NTS



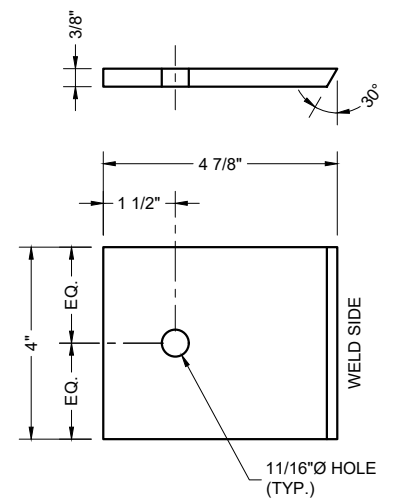
V-BRACKET U-BOLT
ELEVATION VIEW

P-1
S-3
DETAIL
SCALE: NTS



V-BRACKET BACKING PLATE
ELEVATION VIEW

P-2
S-3
DETAIL
SCALE: NTS



V-BRACKET GUSSET PLATE
ELEVATION VIEW

P-3
S-3
DETAIL
SCALE: NTS

PREPARED BY:

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ENGINEERING INNOVATION
FDH INFRASTRUCTURE SERVICES, LLC
6521 MERIDIAN DRIVE RALEIGH, NC 27616
PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:

PYRAMID
Network Services, LLC

KRISTYNN M. PEREZ, PE
CONNECTICUT LIC. NO. 32975
01/27/23

DRAWN BY: JBD
CHECKED BY: HAH
ENG APP'V'D: KMP

SUBMITTALS		
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SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
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SITE ADDRESS:
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WILTON, CT 06897**

SHEET TITLE
V-BRACKET FABRICATION DETAILS

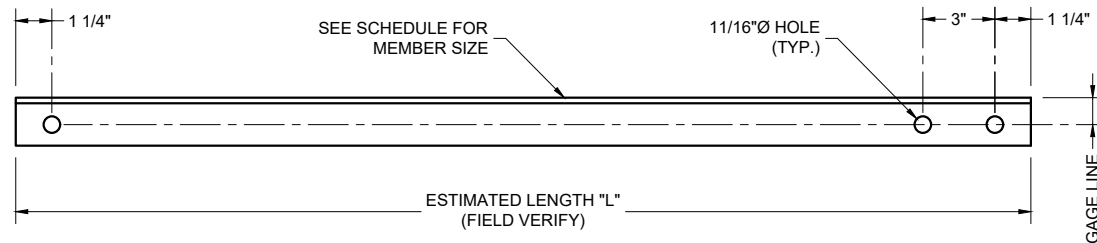
SHEET NUMBER
S-3

SUBHORIZONTAL FABRICATION SCHEDULE				
PART NO.	QTY.	SUBHORIZONTAL SIZE	ESTIMATED LENGTH "L" ¹	GAGE LINE ²
SH-1	6	L2x2x1/4	2' - 8"	1 1/8"

- ESTIMATED VALUES INCLUDE ADDITIONAL LENGTH TO ALLOW FOR PROPER FIT-UP. CONTRACTOR TO FIELD VERIFY ACTUAL LENGTH PRIOR TO FABRICATION.
- DISTANCE FROM HEEL OF ANGLE TO CENTER OF BOLT HOLE.

STITCH PLATE FABRICATION SCHEDULE					
PART NO.	QTY.	LENGTH "L"	PLATE THICKNESS "T"	HORIZ. HOLE SPACING "S _H "	STITCH BOLT HOLE DIAMETER "SB-H"
SP-1	3	23"	3/8"	7"	9/16"

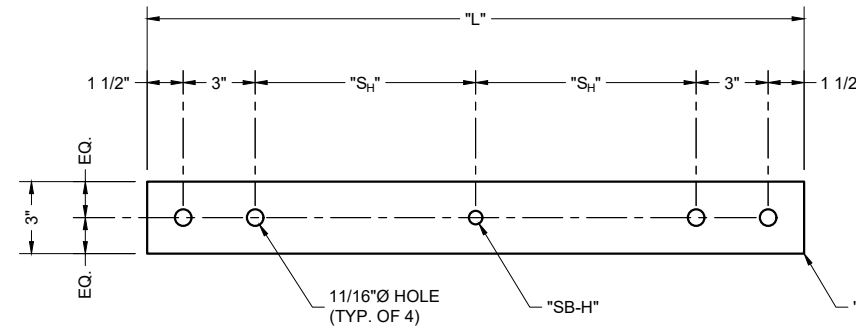
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 Wednesday, May 22, 2024
 Timothy Vicisko



SUBHORIZONTAL (SH-#)
ELEVATION VIEW

1
S-4

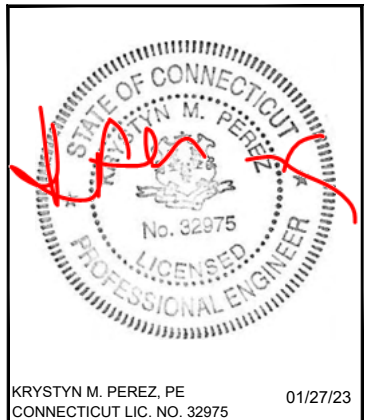
DETAIL
SCALE: NTS



STITCH PLATE (SP-#)
ELEVATION VIEW

2
S-4

DETAIL
SCALE: NTS



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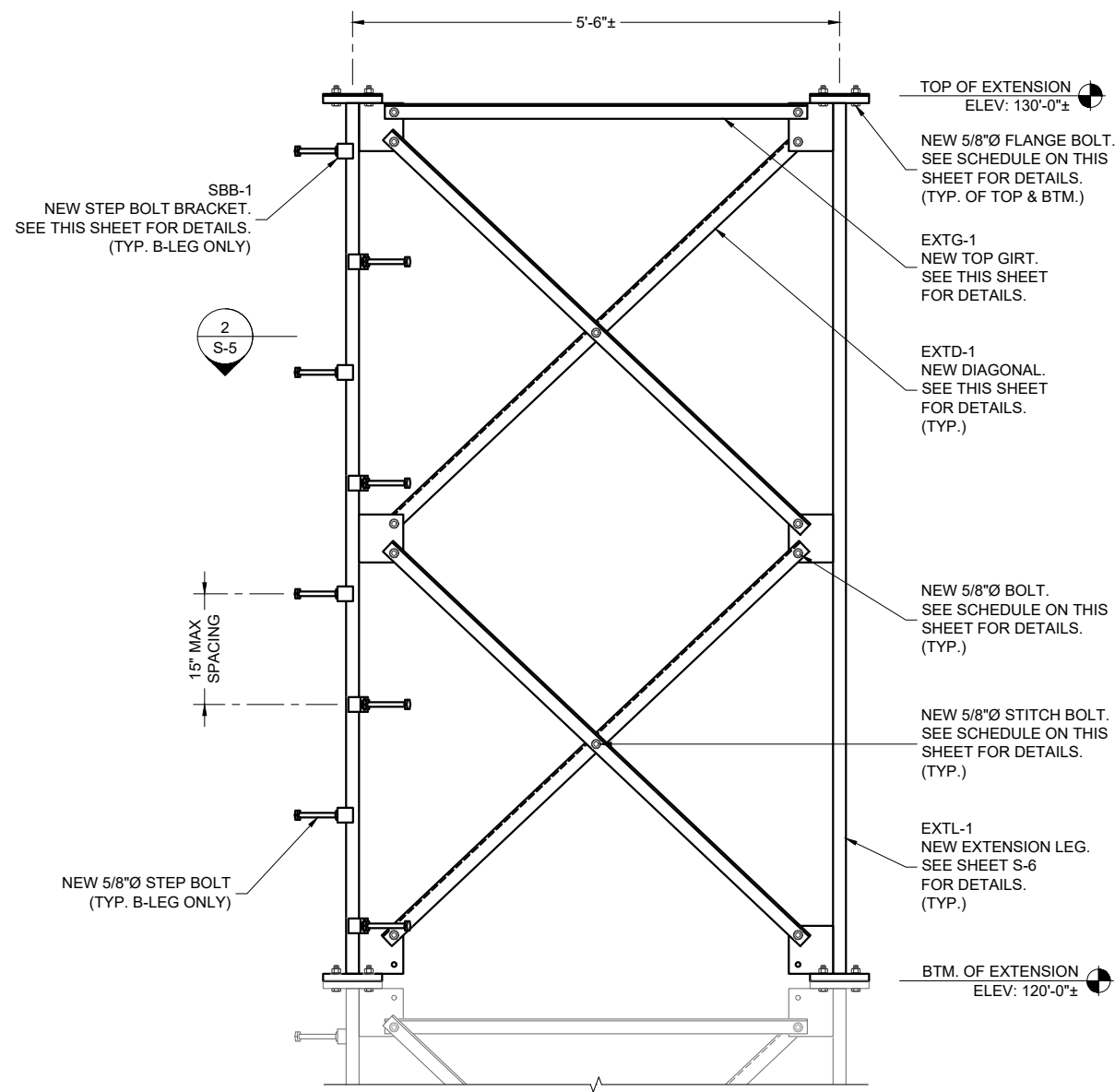
SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
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SITE ADDRESS:
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WILTON, CT 06897**

SHEET TITLE
SUBHORIZONTAL
FABRICATION
DETAILS

SHEET NUMBER
S-4



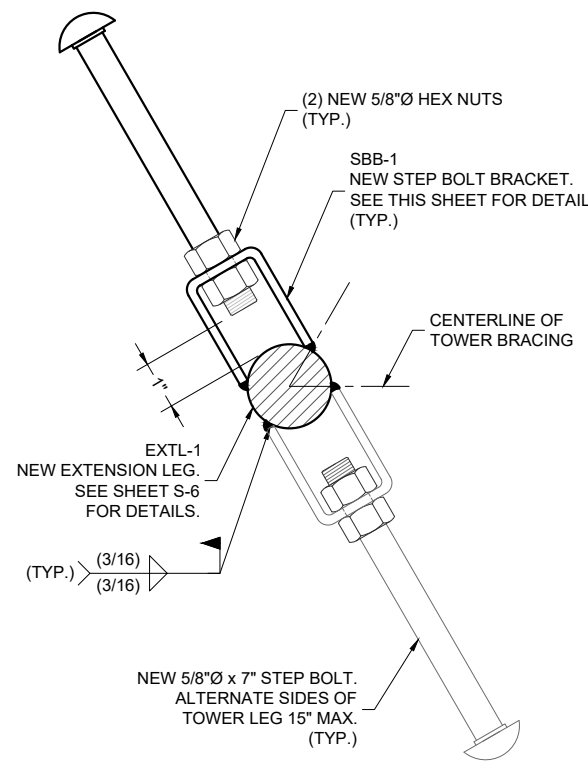
TOWER EXTENSION INSTALLATION
ELEVATION VIEW

1
S-5
ELEVATION
SCALE: NTS

- CONTRACTOR TO REINSTALL BEACON & LIGHTING ROD ON NEW EXTENSION.
- BOTTOM BAY OF DIAGONALS TO BE FIELD INSTALLED AFTER EXTENSION IS SET IN PLACE TO AVOID INSTALLATION ISSUES.
- CONTRACTOR TO REPLACE SAFETY CLIMB CABLE. ONE CONTINUOUS CABLE IS REQUIRED FROM TOP OF EXTENSION TO BASE OF TOWER. SEE MATERIAL LIST FOR DETAILS.
- CONTRACTOR TO EXTEND EXISTING CLIMBING LADDER TO BE FLUSH WITH TOP OF NEW EXTENSION.
- CONTRACTOR TO FIELD VERIFY FIT-UP OF THE NEW EXTENSION TO THE EXISTING TOWER PRIOR TO FABRICATION.

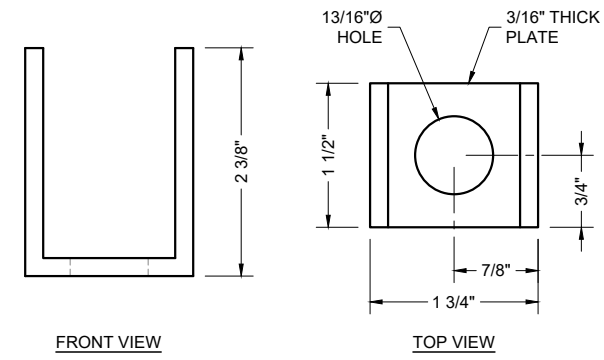
TOWER EXTENSION MATERIAL LIST		
PART #	QUANTITY	DESCRIPTION
EXTG-1	3	TOP GIRT
EXTD-1	12	DIAGONAL
EXTL-1	3	EXTENSION LEG
-	24	5/8"Ø A325N BOLT W/ NUT & LOCK WASHERS
-	6	5/8"Ø A325N STITCH BOLT W/ NUT & LOCK WASHERS
-	24	5/8"Ø A325N FLANGE BOLT W/ NUT & LOCK WASHERS
-	1	3/8" EHS x 125' (SAFETY CLIMB CABLE)
-	1	SAFETY CLIMB SYSTEM TUF-TAG (PART NO. TTCSCS) OR EQUIV.
SBB-1	8 ¹	STEP BOLT BRACKET
-	8 ¹	5/8"Ø x 7" STEP BOLT
-	16 ¹	5/8"Ø HEX NUT

1. MATERIAL QUANTITIES SHOWN FOR (1) LEG; ONLY B-LEG REQUIRES STEP BOLTS.



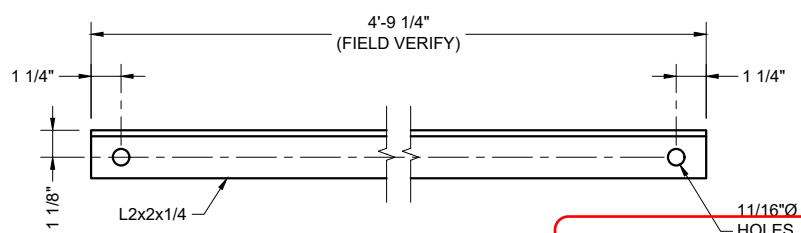
STEP BOLT BRACKET INSTALLATION
SECTION VIEW

2
S-5
DETAIL
SCALE: NTS



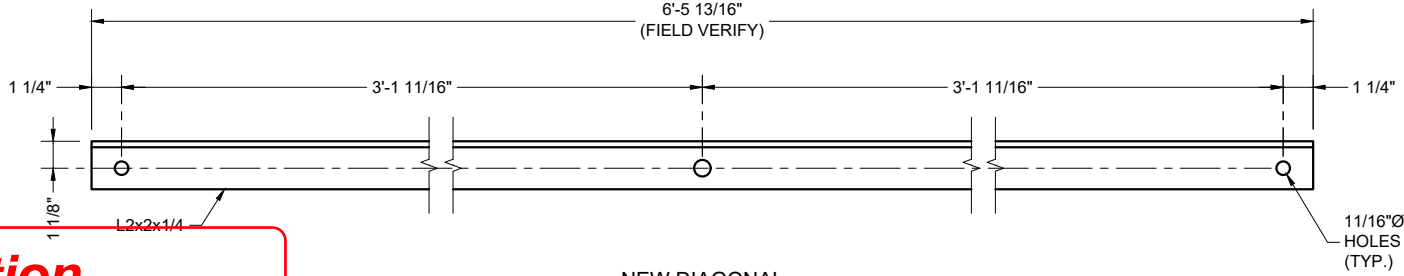
STEP BOLT BRACKET

SBB-1
S-5
DETAIL
SCALE: NTS



NEW TOP GIRT
FRONT VIEW

EXTG-1
S-5
DETAIL
SCALE: NTS



NEW DIAGONAL
FRONT VIEW

EXTD-1
S-5
DETAIL
SCALE: NTS

**Passing Inspection
Wednesday, May 22, 2024
Timothy Vicisko**

PREPARED BY:

FDH INFRASTRUCTURE SERVICES

ENGINEERING INNOVATION

FDH INFRASTRUCTURE SERVICES, LLC
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PHONE: 919-755-1012 FAX: 919-755-1031

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01/27/23

DRAWN BY: JBD
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ENG APP'VD: KMP

SUBMITTALS		
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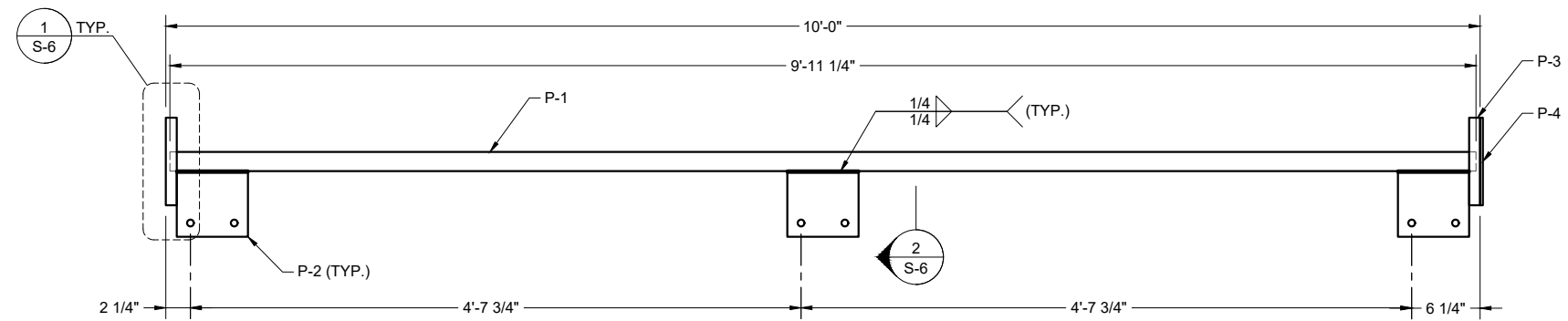
SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
WILTON, CT 06897**

SHEET TITLE
**TOWER EXTENSION
INSTALLATION DETAILS I**

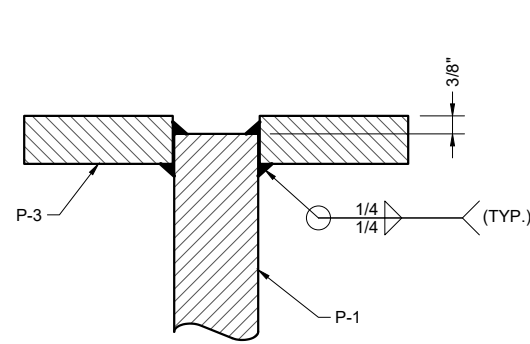
SHEET NUMBER
S-5

Passing Inspection
Wednesday, May 22, 2024
Timothy Vicisko



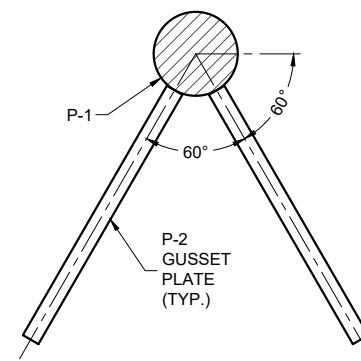
EXTENSION LEG
FRONT VIEW

EXTL-1
S-6
DETAIL
SCALE: 3/4" = 1'-0"



FLANGE WELD DETAIL
SECTION VIEW

1
S-6
DETAIL
SCALE: NTS

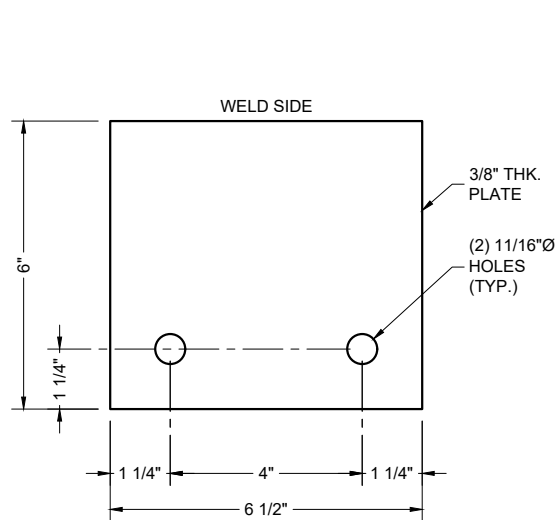


EXTENSION LEG
SECTION VIEW

2
S-6
DETAIL
SCALE: NTS

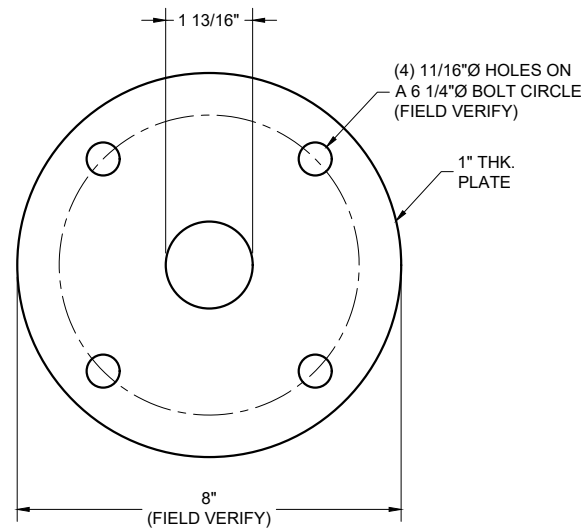
MATERIAL LIST (EXTL-1) ¹		
PART #	QUANTITY	DESCRIPTION
P-1	1	SR 1.75" (9'-11 1/4" LONG)
P-2	2	FLANGE PLATE
P-3	3	GUSSET PLATE
P-4	1	CAP PLATE

1. MATERIAL QUANTITIES SHOWN FOR (1) EXTENSION LEG.
(3) EXTENSION LEGS REQUIRED.



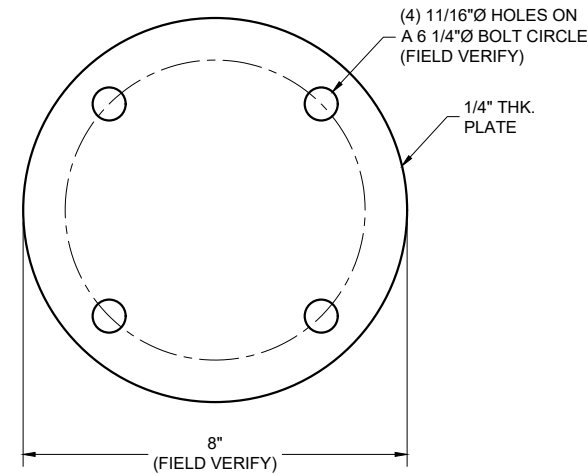
GUSSET PLATE
PLAN VIEW

P-2
S-6
DETAIL
SCALE: 3" = 1'-0"



FLANGE PLATE
PLAN VIEW

P-3
S-6
DETAIL
SCALE: 3" = 1'-0"



CAP PLATE
PLAN VIEW

P-4
S-6
DETAIL
SCALE: 3" = 1'-0"

PREPARED BY:
FDH INFRASTRUCTURE SERVICES
 ENGINEERING INNOVATION
 FDH INFRASTRUCTURE SERVICES, LLC
 6521 MERIDIAN DRIVE RALEIGH, NC 27616
 PHONE: 919-755-1012 FAX: 919-755-1031

PREPARED FOR:
PYRAMID Network Services, LLC

KRISTYNN M. PEREZ, PE
 CONNECTICUT LIC. NO. 32975
 01/27/23

DRAWN BY: JBD
 CHECKED BY: HAH
 ENG APP'VD: KMP

SUBMITTALS		
DATE	DESCRIPTION	REV
01/27/23	CONSTRUCTION	0

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FDH PROJECT NUMBER:
PR-009191

SITE NAME:
WILTON_DEER RUN

SITE NUMBER:
CT98078

SITE ADDRESS:
**160 DEER RUN RD
 WILTON, CT 06897**

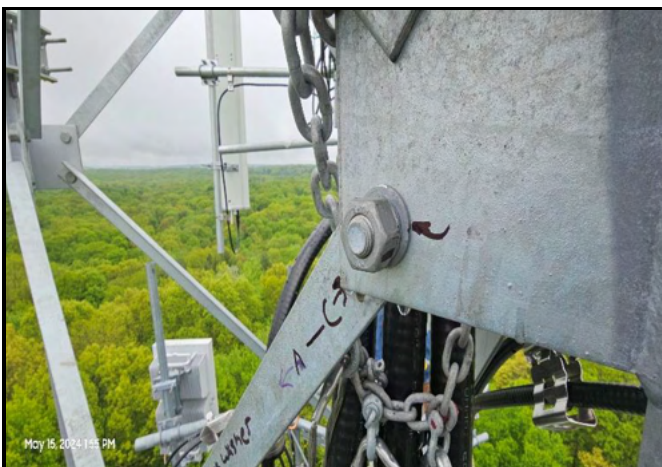
SHEET TITLE
 TOWER EXTENSION
 INSTALLATION DETAILS II

SHEET NUMBER
S-6

3.3 PHOTOGRAPHS



CONTRACTOR PHOTOGRAPHS



3.4 CORRESPONDENCE

Timothy Vicisko

From: Blake Wilson <Blake.Wilson@fdh-is.com> on behalf of Blake Wilson
Sent: Friday, May 17, 2024 2:01 PM
To: 'Dimonda, Michael'; Scott Hartman
Cc: Will Heiden; Frank Wehr; Eric Fine; tvicisko@tepgroup.net
Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

This Message Is From an External Sender

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Hi Michael,

These are approved.

Thank you,

Blake A. Wilson, PE
Research Engineer 4

FDH Infrastructure Services, LLC

Phone: (618) 746-5592

Email: Blake.Wilson@fdh-is.com

Website: www.fdh-is.com

From: Dimonda, Michael <mdimonda@pyramidns.com>
Sent: Friday, May 17, 2024 12:57 PM
To: Blake Wilson <Blake.Wilson@fdh-is.com>; Scott Hartman <shartman@m1comm.com>
Cc: Will Heiden <wheiden@m1comm.com>; Frank Wehr <fwehr@m1comm.com>; Eric Fine <efine@csofb.com>; tvicisko@tepgroup.net
Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

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Blake

As per our call . We are good on 1&8 .

For item number 7 we did not have a rod or a lighting system, nor was one required as per the FAA (see attached FAA determination letter).

For item number 6 the Safety climb was not changed out and instead, we installed tuff tug clips (see attached photo)

Please approve items 6& 7 ..

Thank you,

Michael DiMonda

Project Manager

Phone: 518 366 5679

mdimonda@pyramidns.com



11 River Rd, Glenmont, NY 12077

From: Blake Wilson <Blake.Wilson@fdh-is.com>

Sent: Friday, May 17, 2024 1:29 PM

To: Dimonda, Michael <mdimonda@pyramidns.com>; Scott Hartman <shartman@m1comm.com>

Cc: Will Heiden <wheiden@m1comm.com>; Frank Wehr <fwehr@m1comm.com>; Eric Fine <efine@csofb.com>;
tvicisko@tepgroup.net

Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

Scott,

From a structural perspective items 1 and 8 are approved.

For item 6, our drawings specified that the existing safety climb system to be replaced for one that will be continuous to the top of the new extension. TIA-222-H requires structures over 10 ft in height to have a safety climb system.

For item 7, these are common equipment that most towers have as existing, and we generally include a note to relocate these to the top to function as they should. It may not be necessary to install a beacon or lightning rod. It would be best to consult FCC/FAA standards for the requirements for a beacon and consult an electrical engineer to verify if additional lightning protection is required.

If you have any questions, please let me know.

Thank you,

Blake A. Wilson, PE

Research Engineer 4

FDH Infrastructure Services, LLC

Phone: (618) 746-5592

Email: Blake.Wilson@fdh-is.com

Website: www.fdh-is.com

From: Dimonda, Michael <mdimonda@pyramidns.com>

Sent: Friday, May 17, 2024, 10:42 AM

To: Scott Hartman <shartman@m1comm.com>

Cc: Will Heiden <wheiden@m1comm.com>; Frank Wehr <fwehr@m1comm.com>; Eric Fine <efine@csofb.com>;
tvicisko@tepgroup.net; Hailey Hipp <Hailey.Hipp@fdh-is.com>; Blake Wilson <Blake.Wilson@fdh-is.com>

Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

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Hi All

Adding Blake Wilson to respond FDH .

Blake , please see below and attached . Please approve items 1,6,7,8.

Thank you,

Michael DiMonda

Project Manager

Phone: 518 366 5679

mdimonda@pyramidns.com



11 River Rd, Glenmont, NY 12077

From: Dimonda, Michael

Sent: Thursday, May 16, 2024 4:37 PM

To: Scott Hartman <shartman@m1comm.com>

Cc: Will Heiden <wheiden@m1comm.com>; Frank Wehr <fwehr@m1comm.com>; Eric Fine <efine@csofb.com>;
tvicisko@tepgroup.net; Hailey Hipp <Hailey.Hipp@fdh-is.com>

Subject: Wilton_Deer Run - Modification inspection Punch list items & corrections .

Hi Scott

Please see attached Inspection Summary , approved shops & Mod CD .

As discussed, I have all parties involved on this email . My Sub (CSB), FDH (Mod CD) , TEP (Mod inspector) & M1 (EOR) . Based on the attached list that was created by TEP , I have created a response to each issue . All parties should review and approve so we can complete the SSI and close out the site. As you review , Please let me know if there are any questions or concerns

[mod inspection](#)

Here is my response to the report based upon the number.

1. **Turn of nut markings not observed** - This would be correct because on N-2 under Steel note #3 it states that all connections are to be snug-tightened which is not the same as Turn-of the Nut. So, no marks would be present.
2. **Missing lock washer on diagonal at 122.5** – Corrected please see photos
3. **Loose bolts observed** - Corrected please see photos
4. **Missing 5/8" bolt in top cap** - Corrected please see photos
5. **New bottom flange is 8.55" instead of 8"** - This is correct as the drawings called for 11/16" flange holes for a 5/8" bolt but the existing top flange had 7/8" bolts which requires a 15/16" hole, so if we would have kept the 8" diameter here the edge distance in the new flange would have been incorrect. (This was documented in the shop drawings and approved by MOD EOR) (Please see attached approved shops)
6. **Safety climb not installed** - PNS did not have a new safety climb in our scope (not sure how it was placed on the CD's) crew did install Tuf-Tug step bolts anchors. please see correction photos
7. **A beacon and lightning rod not installed** - This is because on S-5 first bullet point top center of page it states " Contractor to reinstall beacon & lightning rod on new section. This is another typo . The site never had a rod or a light and PNS was not asked to install, nor can we install as per the CSC .
8. **Additional washers** - flats were provided by the manufacture & it looks like the washer had to be installed to keep the thread out of the sheer plane.

As stated above , Please reach out with any questions or concerns.

Thank you,

Michael DiMonda

Project Manager

Phone: 518 366 5679

mdimonda@pyramidns.com



11 River Rd, Glenmont, NY 12077

From: Scott Hartman <shartman@m1comm.com>

Sent: Tuesday, May 14, 2024 1:37 PM

To: Dimonda, Michael <mdimonda@pyramidns.com>

Cc: Will Heiden <wheiden@m1comm.com>; Frank Wehr <fwehr@m1comm.com>

Subject: FW: Wilton_Deer Run - Modification inspection report - quote

Timothy Vicisko

From: Blake Wilson <Blake.Wilson@fdh-is.com> on behalf of Blake Wilson
Sent: Wednesday, May 22, 2024 9:35 AM
To: 'Dimonda, Michael'; Timothy Vicisko; Scott Hartman
Cc: Will Heiden; Frank Wehr; Eric Fine
Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

This Message Is From an External Sender

This message came from outside your organization.

Michael,

Waiving of these items are approved.

If you have any questions, please let me know.

Thank you,

Blake A. Wilson, PE
Research Engineer 4

FDH Infrastructure Services, LLC

Phone: (618) 746-5592

Email: Blake.Wilson@fdh-is.com

Website: www.fdh-is.com

From: Dimonda, Michael <mdimonda@pyramidns.com>
Sent: Tuesday, May 21, 2024 4:45 PM
To: Timothy Vicisko <tvicisko@tepgroup.net>; Blake Wilson <Blake.Wilson@fdh-is.com>; Scott Hartman <shartman@m1comm.com>
Cc: Will Heiden <wheiden@m1comm.com>; Frank Wehr <fwehr@m1comm.com>; Eric Fine <efine@csofb.com>
Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

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Blake

No welding or cold galvanizing was required on site . All fab was completed at the All-fasteners shop .

Thank you,

Michael DiMonda

Project Manager

Phone: 518 366 5679

mdimonda@pyramidns.com



11 River Rd, Glenmont, NY 12077

From: Timothy Vicisko <tvicisko@tepgroup.net>

Sent: Tuesday, May 21, 2024 4:26 PM

To: Dimonda, Michael <mdimonda@pyramidns.com>; Blake Wilson <Blake.Wilson@fdh-is.com>; Scott Hartman <shartman@m1comm.com>

Cc: Will Heiden <wheiden@m1comm.com>; Frank Wehr <fwehr@m1comm.com>; Eric Fine <efine@csofb.com>

Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

Mike,

Anything on the following closeouts that are marked required in the checklist:

- Contractor's CWI
- On Site Cold Galvanizing

If these documents are not applicable, we will need approval from the EOR to waive them. The contractor CWI should be easy to waive since there was no field welding for this site. For the on site cold galv, a photo of the can of paint galv next to the site sign will suffice.

Blake,

Are we good to waive the Contractor CWI for this site?

Thanks,
Tim

Tim Vicisko

Division Manager – NJ Inspections|Tower Engineering Professionals, Inc. (www.tepgroup.net)

502 Centennial Ave, Cranford, NJ 07016|Office: (919) 661-6351|Fax: (919) 661-6350|Mobile: (732) 770-2100

From: Dimonda, Michael <mdimonda@pyramidns.com>

Sent: Tuesday, May 21, 2024 12:55 PM

To: Timothy Vicisko <tvicisko@tepgroup.net>; Blake Wilson <Blake.Wilson@fdh-is.com>; Scott Hartman <shartman@m1comm.com>

Cc: Will Heiden <wheiden@m1comm.com>; Frank Wehr <fwehr@m1comm.com>; Eric Fine <efine@csofb.com>

Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

Tim

May 28, 2024

Mr. Michael DiMonda
Pyramid Network Services
11 River Road
Glenmont, NY 12077
(518) 366-5679



Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351

Subject: Post Construction Inspection Report

Site Number: CT98078
Site Name: Wilton_Deer Run

Engineering Firm Designation: TEP Project Number: 274271.955996

Site Data: 160 Deer Run Road, Wilton, Fairfield County, CT 06897
Latitude 41° 14' 28.94", Longitude -73° 28' 11.60"
118 Foot – Self-Supporting Tower

Dear Mr. Michael DiMonda,

Tower Engineering Professionals, Inc. (TEP) is pleased to submit this **“Post Construction Inspection Report”** (PCI Report) to Pyramid Network Services for the equipment upgrades to the subject structure. The purpose of this PCI report is to confirm that the proposed upgrades were installed in conformance with the approved construction drawings by Tower Engineering Professionals, dated July 10, 2023 (Appendix A) and the workmanship conforms with industry standards.

All observations were performed after the construction was complete. TEP was not present during the construction phase. The onsite PCI was performed on May 13, 2024, by Tim Vicisko and Marco Chamba of TEP.

We at TEP appreciate the opportunity to provide our professional services to you and Pyramid Network Services. If you have any questions or need further assistance on this or any other projects, please give us a call.

Sincerely,






Andrew T. Haldane, PE, CWI, GC
Tower Engineering Professionals, Inc.

EXECUTIVE SUMMARY

PROPOSED LOADING SUMMARY				
Alpha Sector				
Antenna Position	Antenna (Qty.) Make/Model	RRU (Qty.) Make/Model	Surge Protector (Qty.) Make/Model	Coax
-	(1) Unknown 3"Øx12' Omni	-	-	(1) FH 7/8
Beta Sector				
B1	(1) RFI BPA7496-180-14	(1) TXRX 432F-83W-01-T	-	(3) FH 1-5/8 (1) FH 1/2
B2	(1) RFI BPA7496-180-14			
B3	(1) RFI BPA7496-180-14			
Gamma Sector				
-	(1) Commscope VHLP3-11W	-	-	(1) EW90
-	(1) Unknown 3"Øx12' Omni	-	-	(1) FH 7/8

INSTALLED LOADING SUMMARY				
Alpha Sector				
Antenna Position	Antenna (Qty.) Make/Model	RRU (Qty.) Make/Model	Surge Protector (Qty.) Make/Model	Coax
-	-	-	-	-
Beta Sector				
B1	(1) RFI BPA7496-180-14	(1) TXRX 432F-83W-01-T	-	(3) FH 1-5/8 (1) FH 1/2
B2	(1) RFI BPA7496-180-14			
B3	(1) RFI BPA7496-180-14			
Gamma Sector				
-	(1) Commscope VHLP3-11W	-	-	(1) EW90
-	(1) Unknown 3"Øx12' Omni	-	-	(2) FH 7/8

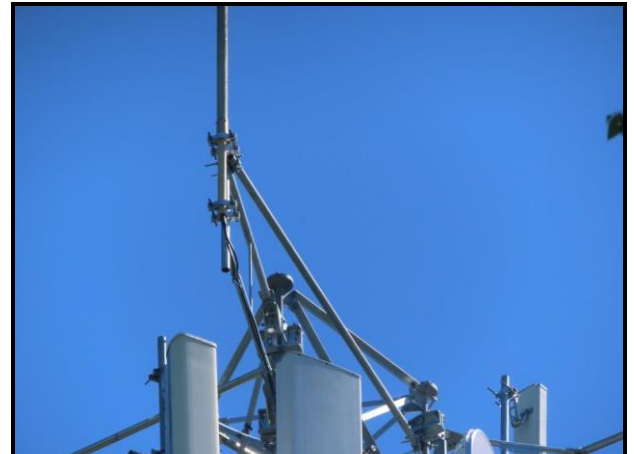
EXECUTIVE SUMMARY

Photograph	Observations and Recommendations
	<p>Item 1:</p> <p>Observation: Proposed upgrades were installed properly and the workmanship is in accordance with Construction Drawings by Mission 1 Communications dated 12-20-2023 and industry standards except as noted.</p> <p>Notes:</p> <ol style="list-style-type: none">1. The omni antenna on the new standoff mount on A-leg was not installed.
	<p>Recommendation: This was approved by the EOR, see Appendix B. No action required.</p>
	

EXECUTIVE SUMMARY



Signage



View of Sector



Beta Position 1



Beta Position 1 Tag



Beta Position 2



Beta Position 2 Tag



Dish



Dish Tag



Radio



Radio Tag



Omni



Omni Tag

APPENDIX A
CONSTRUCTION DRAWINGS

PROJECT DESCRIPTION
 INSTALLATION OF ANTENNAS, COAXIAL CABLE, AND ASSOCIATED MOUNTS ON AN EXISTING 118' SELF SUPPORT TOWER WITH NEW EXTENSION TO 130'.
 UTILIZING EXISTING UNMANNED BUILDING ON CONCRETE FOUNDATION WITH EQUIPMENT ROOM UPGRADES.
 NEW ELECTRIC SERVICE TO EQUIPMENT BUILDING. NO WATER SUPPLY OR SEWAGE TO/FROM THE SITE.
 REMOVAL OF EXISTING GENERATOR AND INSTALLATION OF NEW 50KW GENERATOR ON NEW CONCRETE PAD.

SITE NAME:
 DEER RUN
SITE ADDRESS:
 160 DEER RUN RD
 WILTON, CT 06897
SITE COORDINATES
 APPROX. LATITUDE - N 41° 14' 28.94"
 APPROX. LONGITUDE - W 73° 28' 11.60"

SITE INFORMATION

LANDLORD
 SBA
 SITE - CT98078
APPLICANT
 TOWN OF WILTON
 240 DANBURY ROAD
 WILTON, CT 06897
 PH: (203) 834-6206
CONTACT
 MOTOROLA SOLUTIONS
 STEFANITA VASILESCU
 PH: (914) 281-0867
PROJECT MANAGER
 PYRAMID NETWORK SERVICES, LLC
 MICHAEL DIMONDA
 PH: (518) 366-5679
 EMAIL: MDIMONDA@PYRAMIDNS.COM
ARCHITECTURAL AND ENGINEERING
 MISSION 1 COMMUNICATIONS
 SCOTT HARTMAN
 6202 CONSTITUTION DRIVE, SUITE C
 FORT WAYNE, IN 46804
 PH: (260) 436-3922
 EMAIL: SHARTMAN@M1COMM.COM

CONSULTANT TEAM

TOWN OF WILTON REPRESENTATIVE :	RECEIVED :
	ACCEPTED :
MOTOROLA :	RECEIVED :
	ACCEPTED :
PROPERTY OWNER:	RECEIVED :
	ACCEPTED :
RECEIVED AND ACCEPTED	



DIRECTIONS TO SITE



DEER RUN

160 DEER RUN RD
 WILTON, CT 06897
 FAIRFIELD COUNTY



DRAWING INDEX

- T-1 PROJECT INFORMATION, LOCATION MAPS, AND DRAWING INDEX
- GN-1 GENERAL NOTES
- GN-2 GENERAL NOTES
- GN-3 ABBREVIATIONS AND SYMBOLS
- C-1 SITE LOCATION PLAN
- C-2 OVERALL SITE PLAN
- C-2.1 ENLARGED SITE PLAN
- C-3 EXISTING TOWER ELEVATION AND ANTENNA LOADING INFORMATION
- C-3.1 PROPOSED TOWER ELEVATION AND ANTENNA LOADING INFORMATION
- C-4 ANTENNA MOUNTING DETAILS AND NOTES
- C-4.1 MICROWAVE MOUNTING DETAILS
- C-4.2 ANTENNA MOUNT DETAILS
- C-4.3 ANTENNA MOUNT DETAILS
- C-5 RF TRANSMIT PLUMBING DIAGRAM
- C-5.1 RF RECEIVE PLUMBING DIAGRAM
- C-6 SITE CIVIL DETAILS
- A-1 EQUIPMENT ROOM DEMO PLAN
- A-2 EQUIPMENT ROOM PROPOSED PLAN
- A-3 EQUIPMENT RACKS DIAGRAM
- A-3.1 EQUIPMENT RACKS DIAGRAM
- A-4 REFLECTED CEILING PLAN
- A-5 TYPICAL MOUNTING FOR LADDER RACK
- A-6 WALL SECTIONS AND DETAILS
- E-1 SITE UTILITY PLAN
- E-1.1 EQUIPMENT ROOM UTILITY PLAN
- E-2 EXTERIOR ELECTRICAL DETAILS
- E-3 ONE LINE DIAGRAM
- E-3.1 NEW PANEL SCHEDULE
- E-3.2 EXISTING PANEL SCHEDULES
- E-4 ALARM BLOCKS
- E-5 GENERATOR STUB-UP
- G-1 GROUNDING PLAN
- G-2 EQUIPMENT ROOM GROUNDING PLAN & DETAILS
- G-3 GROUNDING DETAILS
- G-4 GROUNDING DETAILS & NOTES
- M-1 PROPANE DETAILS



December 20, 2023



NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



PROJECT INFORMATION, LOCATION MAPS, AND DRAWING INDEX	T-1
DEER RUN 160 DEER RUN RD WILTON, CT 06897	

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 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

GENERAL REQUIREMENTS

1. GENERAL

1.1. SUMMARY OF WORK

A. THE WORK MAY CONSIST OF, BUT NOT BE LIMITED TO, THE INSTALLATION OF EQUIPMENT CABINET, ANTENNAS, AND LINES, FUEL TANKS, GROUNDING, ELECTRICAL WORK, ETC., ASSOCIATED WITH THE MOTOROLA EQUIPMENT AS INDICATED ON DRAWINGS AND AS SPECIFIED HEREIN. CONTRACTOR SHALL SUPPLY ALL PERMANENT MATERIALS/EQUIPMENT REQUIRED AND ALL LABOR, EQUIPMENT, TOOLS, UTILITIES, MINOR HARDWARE/MATERIALS, TRANSPORTATION AND FACILITIES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF SERVICES AND INSTALL WORK, WHETHER TEMPORARY OR PERMANENT. CONTRACTOR SHALL BE OBLIGATED TO PERFORM ALL THE WORK OUTLINED IN THESE DRAWINGS IN ACCORDANCE WITH THE CONTRACT AGREEMENT, FEDERAL REGULATIONS, STATE REQUIREMENTS, LOCAL CODES, COMMERCIAL/INDUSTRY STANDARDS, DETAILED SCOPE OF WORK AND THE DOCUMENTS IDENTIFIED BELOW. IN CASE OF A CONFLICT BETWEEN THE ABOVE LISTED DOCUMENTS REGARDING STANDARDS OF WORK, THE MORE STRINGENT CRITERIA SHALL APPLY. ANY ADDITIONAL COSTS OR DELAYS RESULTING FROM CORRECTION OF THE WORK TO COMPLY WITH THE ABOVE REQUIREMENT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

1.2. SITE VISIT

CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE ITSELF WITH THE SCOPE OF WORK REQUIRED PER THE DRAWINGS AND ALL LOCAL CONDITIONS AND LAWS AND REGULATIONS THAT MAY IN ANY MANNER AFFECT THE PRICE, PROGRESS AND PERFORMANCE OF WORK, INCLUDING ANY COSTS ASSOCIATED WITH IT. THE CONTRACTOR SHALL ALSO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND NOTIFY THE MOTOROLA REPRESENTATIVE OF ANY DISCREPANCIES OR INTERFERENCES WHICH AFFECT THE WORK OF THIS CONTRACT.

1.3. STANDARDS AND CODES

THE FOLLOWING DOCUMENTS (LATEST REVISION) WHERE APPLICABLE SHALL BE CONSIDERED TO BE SPECIFICATION AND ARE INCORPORATED HEREIN BY REFERENCE. WHERE PROVISIONS OF THE CODES AND STANDARDS ARE IN CONFLICT WITH THE BUILDING CODE IN FORCE FOR THIS PROJECT, THE BUILDING CODE SHALL GOVERN.

A. AMERICAN CONCRETE INSTITUTE:

- ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
- ACI 305 "HOT WEATHER CONCRETING".
- ACI 306 "COLD WEATHER CONCRETING".
- ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- ACI 614 "RECOMMENDED PRACTICE FOR MEASURING, MIXING AND PLACING CONCRETE".
- ACI 311 "RECOMMENDED PRACTICE FOR CONCRETE INSPECTION".
- ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
- ACI 613 "RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR CONCRETE".

B. AMERICAN NATIONAL STANDARDS INSTITUTE:

- ANSI Z359 REQUIREMENTS FOR PERSONAL FALL ARREST SYSTEMS, SUBSYSTEMS AND COMPONENTS
- ANSI Z87.1 OCCUPATIONAL AND EDUCATIONAL EYE AND FACE PROTECTION
- ANSI Z89.1 PROTECTIVE HEADWEAR FOR INDUSTRIAL WORKERS -REQUIREMENTS
- ANSI/IEEE C95.1 SAFETY LEVELS WITH RESPECT TO HUMAN EXPOSURE TO RADIO FREQUENCY ENERGY
- ANSI/TIA/EIA STANDARD 222: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.

C. AMERICAN INSTITUTE OF STEEL CONSTRUCTION:

- AISC MANUAL OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION: LATEST EDITION

D. AMERICAN SOCIETY FOR TESTING AND MATERIALS:

- ASTM A615 - "SPECIFICATION FOR DEFORMED AND PLAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT".
- ASTM C94-80 - "SPECIFICATION FOR READY-MIX CONCRETE.
- ASTM C39-77 - "SPECIFICATION FOR TEST FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMEN".
- ASTM 33 - "SPECIFICATION FOR CONCRETE AGGREGATES".
- ASTM C150 - "SPECIFICATION FOR PORTLAND CEMENT".
- ASTM C172 - "SAMPLING FRESH CONCRETE".
- ASTM C143 - "SLUMP OF PORTLAND CEMENT CONCRETE".
- ASTM D698-91 - "TEST METHOD FOR LABORATORY COMPACTION CHARACTERISTICS OF SOIL USING STANDARD EFFORT".
- ASTM D1556-84 - "DENSITY OF SOIL IN PLACE BY THE SAND-CONE METHOD".
- ASTM D1557 - "TEST FOR MOISTURE-UNIT WEIGHT RELATIONS OF SOILS AND SOIL-AGGREGATE MIXTURES USING 10-LB. HAMMER AND 18-IN. DROP". (PROCEDURE C)
- ASTM D2487 - "STANDARD CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES (UNIFIED SOIL CLASSIFICATION SYSTEM)
- ASTM D2922 - "DENSITY OF SOIL AND SOIL AGGREGATE IN PLACE BY NUCLEAR METHODS SHALLOW DEPTH".
- ASTM D2940 - "STANDARD SPECIFICATION FOR GRADED AGGREGATE MATERIAL FOR BASES OR SUB-BASES FOR HIGHWAYS OR AIRPORTS"

E. AMERICAN WELDING SOCIETY:

- AWS D12.1 - "RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL. METAL INSERTS AND CONNECTIONS IN REINFORCED CONCRETE CONSTRUCTION".

F. CONCRETE REINFORCING STEEL INSTITUTE:

- "MANUAL OF STANDARD PRACTICE"

G. FEDERAL AVIATION ADMINISTRATION:

- DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR, AC 70/7460-1L: OBSTRUCTION MARKING AND LIGHTING.
- DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR, 150-5345-43, FAA/DOD SPECIFICATION L-856: HIGH INTENSITY OBSTRUCTION LIGHTING SYSTEMS.

H. FEDERAL COMMUNICATIONS COMMISSION:

- FEDERAL COMMUNICATIONS COMMISSION - RULES AND REGULATIONS PART 17, CONSTRUCTION, MARKING, AND LIGHTING OF ANTENNA STRUCTURES.

I. STRUCTURAL STEEL PAINTING COUNCIL:

- SSPC-SP-1-63: SPECIFICATION FOR PAINTING STEEL STRUCTURES.

J. MOTOROLA R56 STANDARDS AND GUIDELINES FOR COMMUNICATIONS SITES (REV 2017).

K. MOTOROLA'S CIVIL WORKS BID SPECIFICATIONS

L. NATIONAL FIRE PROTECTION ASSOCIATION:

- NFPA 1 - FIRE PREVENTION CODE
- NFPA 54 - NATURAL GAS FUEL CODE
- NFPA 58 - LP GAS CODE
- NFPA 70 - NATIONAL ELECTRICAL CODE
- NFPA 101 - LIFE SAFETY CODE
- NFPA 110 - EMERGENCY/STANDBY POWER SYSTEMS
- NFPA 111 - STANDARD ON STORED ELECTRICAL ENERGY, EMERGENCY AND STANDBY POWER SYSTEMS
- NFPA 780 - STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS

M. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

- OSHA 1926
- OSHA DIRECTIVES CPL 2-1.29 - INTERIM INSPECTION PROCEDURES DURING COMMUNICATION TOWER CONSTRUCTION ACTIVITIES.

N. CONNECTICUT STATE BUILDING AND ELECTRICAL CODE, OR AHJ CODES.

1.4. NOTICE TO PROCEED

WHEN THE SITE IS READY FOR INSTALLATION, MOTOROLA SHALL ISSUE A NOTICE TO PROCEED TO THE CONTRACTOR. UPON RECEIPT OF THE NOTICE TO PROCEED, THE CONTRACTOR SHALL SUBMIT TO MOTOROLA A SCHEDULE REFLECTING THE WORK PLAN. THE CONTRACTOR SHALL ADVISE THE MOTOROLA REPRESENTATIVE IMMEDIATELY OF ANY SCHEDULE CHANGES. THE CONTRACTOR SHALL ADJUST HIS WORK, AS REQUIRED, TO COORDINATE WITH THE MOTOROLA INSTALLATION TEAM IF THE SCHEDULES OVERLAP.

1.5. MOTOROLA REPRESENTATIVE

MOTOROLA SHALL DESIGNATE A REPRESENTATIVE. THIS PERSON IS THE ONLY CONTACT POINT AUTHORIZED TO MAKE ANY CHANGES TO THE CONTRACT PROVISIONS OR THE PLANS AND SPECIFICATIONS. ANY CHANGES MADE BY THE CONTRACTOR ARE AT THE CONTRACTOR'S RESPONSIBILITY AND RISK.

1.6. CONTRACTORS FIELD REPRESENTATIVE

CONTRACTOR SHALL ASSIGN A FIELD REPRESENTATIVE WHO IS FAMILIAR WITH THESE SPECIFICATIONS AND WILL REPRESENT THE CONTRACTOR AND HAVE THE AUTHORITY TO ACT FOR THE CONTRACTOR AND SUPERVISE ALL CONSTRUCTION ACTIVITIES. THE REPRESENTATIVE SHALL BE AVAILABLE WHEN CONSTRUCTION ACTIVITIES BEGIN. THE FIELD REPRESENTATIVE SHALL BE THE PRIMARY POINT OF CONTACT FOR MOTOROLA DURING THE CONSTRUCTION PHASE OF THE WORK.

1.7. PROJECT MEETINGS

THE CONTRACTOR SHALL CONDUCT THE INITIAL (PRE-CONSTRUCTION) MEETING (INCLUDING ALL SUB-CONTRACTORS) WITH THE MOTOROLA REPRESENTATIVE WITHIN TWO WEEKS AFTER AWARD OF THE CONTRACT. SUBSEQUENTLY, THE CONTRACTOR SHALL PROVIDE PROGRESS SCHEDULE UPDATES TO MOTOROLA ON A WEEKLY BASIS.

1.8. MATERIALS

CONTRACTOR SHALL FURNISH AND INSTALL MATERIALS PER MOTOROLA SCOPE OF WORK AS REQUIRED FOR COMPLETE SYSTEMS INCLUDING: ALL PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICALLY INDICATED OR NOT. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED, AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO MOTOROLA'S ACCEPTANCE.

MATERIALS AND WORKMANSHIP SHALL BE THE BEST OF THEIR RESPECTIVE KINDS (AS DEFINED BY INDUSTRY STANDARDS), FREE OF DEFECTS AND ALL MATERIALS SHALL BE NEW AND UNUSED IN ALL CASES, UNLESS OTHERWISE SPECIFIED. WHERE THE NAME OF A CONCERN OR MANUFACTURER IS MENTIONED ON DRAWINGS OR IN SPECIFICATIONS IN REFERENCE TO A REQUIRED SERVICE OR PRODUCT, AND NO QUALIFICATIONS OR SPECIFICATION OF SUCH IS INCLUDED, THEN THE MATERIAL SPECIFICATIONS, DETAILS OF MANUFACTURE, FINISH, ETC., SHALL BE IN ACCORDANCE WITH MANUFACTURER'S STANDARD PRACTICE, DIRECTION OR SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

1.9. VERIFICATION OF EXISTING CONDITIONS

BEFORE STARTING ANY OPERATION, THE CONTRACTOR SHALL EXAMINE EXISTING WORK, OR WORK PERFORMED BY OTHERS, TO WHICH ITS WORK IS TO ADJOIN OR BE APPLIED AND SHALL REPORT TO MOTOROLA REPRESENTATIVE ANY CONDITIONS THAT WILL PREVENT SATISFACTORY ACCOMPLISHMENT OF HIS WORK. PRIOR TO COMMENCING ANY EXCAVATION OR GRADING, THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF ALL SURVEY DATA AS INDICATED IN THE PLANS AND SPECIFICATIONS AND/OR AS PROVIDED BY MOTOROLA. SHOULD THE CONTRACTOR DISCOVER ANY INACCURACIES, ERRORS, OR OMISSIONS IN THE SURVEY DATA, HE SHALL IMMEDIATELY NOTIFY THE MOTOROLA REPRESENTATIVE IN ORDER THAT PROPER ADJUSTMENTS CAN BE ANTICIPATED AND ORDERED. FAILURE TO NOTIFY THE MOTOROLA REPRESENTATIVE OF DEFICIENCIES, ERRORS OR FAULTS PRIOR TO COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE THEREOF AND WAIVER OF ANY CLAIMS OF UNSUITABILITY, ERRORS, OMISSIONS OR INACCURACIES.

THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR PRESERVING ALL ESTABLISHED SURVEY CONTROL POINTS. IF THE CONTRACTOR OR ANY OF HIS SUB-CONTRACTORS MOVE OR DESTROY ANY SURVEY CONTROL POINTS, THE COST INCURRED BY THE LAND OWNER OR MOTOROLA TO RE-ESTABLISH THEM WILL BE BORNE BY THE CONTRACTOR.

Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
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1.10. PERMITS

THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. THE CONTRACTOR SHALL MEET ALL OF THE REGULATORY REQUIREMENTS OF THE JURISDICTION GOVERNING CONSTRUCTION.

1.11. SITE INSPECTION

THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR ARRANGING WITH MOTOROLA FOR AN INSPECTION PRIOR TO COVERING UP ALL WORK THAT WILL BE COVERED IN FINISHED CONDITION. IT IS THE SITE GENERAL CONTRACTOR'S RESPONSIBILITY TO MANAGE THE SEQUENCE OF WORK AND REQUEST THE INSPECTIONS IN A TIMELY MANNER. THE SITE GENERAL CONTRACTOR SHALL NOT REQUEST AN INSPECTION UNLESS ALL OF THE RELATED WORK HAS BEEN COMPLETED. WORK SHALL NOT PROCEED TO THE NEXT STEP UNTIL THE PREVIOUS STEP HAS BEEN INSPECTED AND APPROVED BY THE LOCAL INSPECTORS AND THE MOTOROLA REPRESENTATIVE. THE PRESENCE OF THE OWNER OR MOTOROLA REPRESENTATIVE ON THE JOB SITE IN NO WAY RELIEVES THE SITE GENERAL CONTRACTOR OF THE ASSOCIATED RESPONSIBILITIES OF THE JOB. ANY WORK WHICH DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE CORRECTED OR REMOVED SOLELY AT THE SITE GENERAL CONTRACTOR'S EXPENSE.

THE FOLLOWING INFORMATION IS INCLUDED AS A GUIDE TO THE CONTRACTOR TO ASSIST IN DETERMINING THE TYPE AND FREQUENCY OF INSPECTIONS. THE LISTED INSPECTIONS REPRESENT THOSE REQUIRED FOR SMALL OR SIMPLE PROJECTS. LARGE OR COMPLEX PROJECTS MAY REQUIRE ADDITIONAL INSPECTIONS DEPENDING ON THE SEQUENCE OF WORK.

- FOUNDATION EXCAVATIONS AND REBAR: TO BE MADE AFTER TRENCHES ARE EXCAVATED AND FORMS ERECTED, REINFORCEMENT PLACED, COMPACTION TESTED, SOIL TREATED, VAPOR BARRIER PLACED, AND ESSENTIALLY READY FOR CONCRETE PLACEMENT.
- GROUNDING: TO BE MADE AFTER THE BELOW GROUND CADWELD CONNECTIONS HAVE BEEN COMPLETED, PRIOR TO COVERING UP THE TRENCHES.
- ELECTRICAL WORK WITHIN WALLS: TO BE MADE AFTER THE ROOF, FRAMING, FIRE BLOCKING AND BRACING IS IN PLACE PRIOR TO THE INSTALLATION OF INSULATION OR WALL/CEILING MEMBRANES.

AS A GENERAL RULE, THE CONTRACTOR SHALL PROVIDE ADVANCE NOTICE TO MOTOROLA FOR INSPECTION OF ALL WORK PRIOR TO CONCEALMENT. THE CONTRACTOR HAS RESPONSIBILITIES RELATIVE TO ALL TYPES OF INSPECTIONS AND IS RESPONSIBLE FOR CONTACTING ALL OF THE INSPECTING ENTITIES TO DETERMINE HIS RESPONSIBILITIES. ALL OF THESE INSPECTING ENTITIES HAVE UNIQUE AND SEPARATE RESPONSIBILITIES. ONE INSPECTION FROM AN ENTITY WILL NOT SUBSTITUTE FOR AN INSPECTION FROM ANOTHER ENTITY.

1.12. SAFETY

THE CONTRACTOR, HIS EMPLOYEES, ANY SUB-CONTRACTORS, VENDORS, THEIR RESPECTIVE EMPLOYEES AND CONTRACTOR'S VISITORS SHALL COMPLY WITH ALL SAFETY STANDARDS, ACCIDENT PREVENTION REGULATIONS AND ENVIRONMENTAL REGULATIONS PROMULGATED BY FEDERAL, STATE, OR LOCAL AUTHORITIES HAVING JURISDICTION AND SHALL AT ALL TIMES CONDUCT ALL OPERATIONS UNDER THE CONTRACT IN A MANNER TO AVOID THE RISK OF BODILY HARM TO ANY PERSONS AND THE RISK OF DAMAGE TO ANY PROPERTY, EQUIPMENT OR MATERIAL. SUCH PARTIES SHALL ALSO COMPLY WITH ANY SAFETY PROGRAMS AND/OR RULES PROMULGATED BY OWNER AND/OR MOTOROLA.

1.13. ELECTRO MAGNETIC EMISSIONS

THE CONTRACTOR SHALL ACKNOWLEDGE ALL OR PORTIONS OF THE WORK MAY INVOLVE POSSIBLE EXPOSURE OF CONTRACTOR, SUB-CONTRACTORS, AND THEIR RESPECTIVE EMPLOYEES, AGENTS, INVITEES, LICENSEES AND OTHER VISITORS TO THE JOBSITE AND/OR MOTOROLA PREMISES TO ELECTRO-MAGNETIC ENERGY ("EME") WHILE PERFORMING WORK UNDER THIS CONTRACT, ESPECIALLY IF WORK IS PERFORMED ON EXISTING ANTENNA TOWERS WHERE ANTENNAS ARE LOCATED. THE CONTRACTOR REPRESENTS THAT CONTRACTOR, SUBCONTRACTORS, AND ALL OF THEIR RESPECTIVE EMPLOYEES, AGENTS, INVITEES, LICENSEES, AND OTHER AUTHORIZED REPRESENTATIVES WHO ARE PERFORMING SERVICES UNDER THIS AGREEMENT WILL COMPLY WITH ALL ANSI AND ANY OTHER APPLICABLE EME STANDARDS, RULES OR REGULATIONS, INCLUDING, BUT NOT LIMITED TO THOSE RULES OR REGULATIONS IMPOSED OR SUGGESTED BY MOTOROLA, IF ANY.

THE CONTRACTOR SHALL ADHERE TO ALL OSHA RULES, REGULATIONS AND ADOPTED POLICIES. ALL CONTRACTOR PERSONNEL SHALL HAVE UNDERGONE ELECTROMAGNETIC ENERGY (EME) TRAINING FOR PERSONNEL WORKING IN THE VICINITY OF ACTIVE ANTENNAS. AS SUCH IT IS RECOMMENDED THAT RF MONITORS BE USED BY THE TOWER PERSONNEL TO MONITOR EXPOSURE LEVELS. IF EME LEVELS AT THE SITE EXCEED THE MAXIMUM PERMISSIBLE EXPOSURE LIMITS, THE CONTRACTOR SHALL COORDINATE WITH THE INDIVIDUALS RESPONSIBLE FOR USE OF THE TRANSMITTER TO MAKE SURE THAT THE EQUIPMENT IS DEACTIVATED BEFORE WORK CAN BE RESUMED, WITHOUT CAUSING A SERIOUS DISRUPTION OF THE SERVICE.

1.14. SITE CLEANUP

THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE AT ALL TIMES DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, VEGETATION, AND RUBBISH, AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. WHENEVER THE WORK-SITE IS LEFT UNATTENDED, THE CONTRACTOR SHALL BLOCK THE OPENING WITH WARNING TAPE TO DISCOURAGE TRESPASSING. THE PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE AT THE CONCLUSION OF SITE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LANDSCAPE GRADING AND SEEDING OF THE DISTURBED SOIL. THE CONTRACTOR SHALL USE LOCAL GRASS SEED TO STABILIZE SOIL AND SHALL COVER DISTURBED AREAS WITH HAY MULCH TO REDUCE RUNOFF OF SEDIMENT TO DOWNSTREAM AREAS. THE CONTRACTOR SHALL RESTORE THE SITE TO ITS ORIGINAL CONDITION. ALL SLOPES AND DISTURBED AREAS NOT RECEIVING AGGREGATE SURFACING ARE TO BE PREPARED AND BROADCAST SEEDING AND FERTILIZED FOR EROSION PROTECTION. SEEDING FOR AREAS DISTURBED SHALL BE ESTABLISHED SEASONALLY AS REQUIRED BY LOCAL CODES.

THE CONTRACTOR SHALL EXERCISE ALL CARE TO AVOID DAMAGE OR INTERRUPTION OF EXISTING UNDERGROUND OR OVERHEAD ELECTRIC SERVICES, UNDERGROUND GROUNDING AND FUEL LINES, EQUIPMENT AND BUILDINGS ON THE SITE, PLUS OFF SITE SERVICES, BURIED OR OVERHEAD, SURROUNDING THE EXISTING OR EXPANDED COMPOUND. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND MOTOROLA AT NO ADDITIONAL COST TO THE PROPERTY OWNER OR MOTOROLA. BURNING WILL NOT BE PERMITTED.

1.15. FACILITY STARTUP & COMMISSIONING

THE CONTRACTOR AND/OR SUB-CONTRACTORS SHALL DEMONSTRATE TO MOTOROLA THAT ALL SYSTEMS AND SUB-SYSTEMS INSTALLED UNDER THIS CONTRACT, OPERATE PROPERLY PRIOR TO THE FINAL ACCEPTANCE INSPECTION AND PROVIDE THE OPERATIONS AND MAINTENANCE MANUALS AT THIS TIME.

1.16. SHOP DRAWINGS/AS-BUILT DRAWINGS

THE MODIFICATIONS TO THE DRAWINGS AFTER CONSTRUCTION START SHALL RECEIVE ENGINEERING AND MOTOROLA APPROVAL PRIOR TO ANY CHANGES BEING MADE. THE ENGINEER OF RECORD SHALL MAKE THE REQUIRED CHANGE AND WILL SUBMIT CHANGES TO MOTOROLA AND ANY JURISDICTION HAVING AUTHORITY.

THE CONTRACTOR SHALL KEEP UP-TO-DATE MARKED-UP PRINTS OF THE PROJECT DRAWINGS. UPON COMPLETION OF WORK AT THE SITE, THE CONTRACTOR SHALL REVIEW THE COMPLETED AS-BUILT DRAWINGS, AND ASCERTAIN THAT ALL DATA FURNISHED ON THE DRAWINGS IS ACCURATE AND TRULY REPRESENTS THE WORK IS ACTUALLY INSTALLED. MARKINGS INDICATING CHANGES TO THE DRAWINGS SHALL BE RED OR GREEN AND CLEARLY VISIBLE. TWO (2) SETS OF "AS-BUILT" DRAWINGS SHALL BE FURNISHED TO THE MOTOROLA REPRESENTATIVE WITHIN 5 DAYS OF THE COMPLETION OF THE PROJECT. THESE DRAWINGS SHALL ALSO SHOW THE FOLLOWING:

- MODIFICATIONS TO SITE LAYOUT.
- GROUNDING SYSTEM LAYOUT.
- UNDERGROUND FUEL LINE RUN.
- UNDERGROUND TELCO CABLE RUN.
- UNDERGROUND ELECTRICAL RUN.

WHERE THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE SITE EQUIPMENT ROOM, ISOLATION TRANSFORMER, GENERATOR, ETC. THAT REQUIRES PERIODIC MAINTENANCE, THE CONTRACTOR SHALL INCLUDE ALL OPERATION AND MAINTENANCE MANUALS AND ALL AS-BUILT DRAWINGS WHICH FULLY DESCRIBE THE ACTUAL INSTALLED EQUIPMENT.

1.17. TEST PROCEDURES AND RESULTS

CONTRACTOR WILL CONTRACT WITH A THIRD PARTY "INDEPENDENT" TESTING FIRM TO PERFORM & SUBMIT THE RESULTS OF ALL TESTS REQUIRED BY THE PROJECT SPECIFICATIONS AND DRAWINGS THAT FALL WITHIN THE SCOPE OF WORK. THESE RESULTS SHALL BE SUBMITTED TO THE DESIGNATED MOTOROLA REPRESENTATIVE. IN GENERAL, THE "INDEPENDENT" TESTING FIRM SHALL SUBMIT THE FOLLOWING TEST RESULTS:

- MIX DESIGN/CONCRETE COMPRESSION TEST FOR ALL CONCRETE WORK.
- FREQUENCY DOMAIN REFLECTOMETER (FDR) WITH PRECISION LOAD / SWEEP TEST FOR ANTENNA AND TRANSMISSION LINE INSTALLATION WORK. ALL SWEEP AND TEST MUST BE WITHIN THE GUIDELINES OUTLINED IN MOTOROLA MOP.
- FUEL LINE LEAKAGE TEST FOR FUEL TANK AND PIPING INSTALLATION WORK.
- SLUMP TEST FOR CONCRETE WORK.
- GROUNDING RESISTANCE TEST FOR GROUNDING WORK.
- STRUCTURAL STEEL FABRICATION DRAWINGS.
- STRUCTURAL (TOWER) STEEL MATERIALS, FINISH, ASSEMBLY, AND PROPER ASSEMBLY AND INSTALLATION OF ANTENNAS AND TRANSMISSION LINES. ("THIRD PARTY CLIMB" AND REPORT INCLUDING PHOTO DOCUMENTATION)
- ANY OTHER TEST THAT MAY BE REQUIRED.

1.18. CONTRACT CLOSEOUT - IN ACCORDANCE WITH MOTOROLA'S SUBCONTRACT AGREEMENT TERMS AND CONDITIONS.

THE MOTOROLA REPRESENTATIVE WILL PROVIDE A CERTIFICATE OF COMPLETION AND APPROVE FINAL PAYMENT WHEN ALL PUNCH-LIST ITEMS HAVE BEEN CORRECTED, RECORD DRAWINGS SUBMITTED, AND ALL SYSTEMS ARE ACCEPTABLE. THE CONTRACTOR MUST ALSO RECEIVE A CERTIFICATE OF COMPLETION FROM THE MUNICIPALITY. AFTER FINAL PAYMENT, CONTRACTOR WILL SIGN A RELEASE OF LIEN.

1.19. WARRANTY

ALL WORK PERFORMED BY THE CONTRACTOR IN COMPLETING THE SCOPE IDENTIFIED ON THE DRAWINGS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF EIGHTEEN MONTHS FROM THE DATE OF FINAL COMPLETION OF THE PROJECT. THIS GUARANTEE SHALL COVER ALL MATERIALS, EQUIPMENT OR WORKMANSHIP WHICH IN THE OPINION OF MOTOROLA IS RENDERED DEFECTIVE OR INFERIOR OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT DURING THE GUARANTEE PERIOD. IF, WITHIN THE GUARANTEE PERIOD, REPAIRS OR CHANGES ARE REQUIRED TO CORRECT THE GUARANTEE WORK, THEN UPON RECEIPT OF NOTICE, THE CONTRACTOR SHALL PROMPTLY AND WITHOUT EXPENSE TO MOTOROLA OR THE OWNER, PROCEED TO:

- PLACE IN SATISFACTORY CONDITION ALL OF SUCH GUARANTEED WORK AND CORRECT ALL DEFECTS THEREIN.
- MAKE GOOD ALL DAMAGES TO THE STRUCTURE OR SITE OR EQUIPMENT OR CONTENTS THEREOF, WHICH, IN THE OPINION OF THE MOTOROLA REPRESENTATIVE, IS THE RESULT OF THE USE OF MATERIALS, EQUIPMENT, OR WORKMANSHIP WHICH ARE INFERIOR, DEFECTIVE, OR NOT IN ACCORDANCE WITH THE TERMS OF THE CONTRACT.
- MAKE GOOD ANY WORK, MATERIALS OR EQUIPMENT AND ADJACENT STRUCTURES DISTURBED IN FULFILLING THE GUARANTEE.

1.20. RELATED DOCUMENTS

CONTRACTOR SHALL BECOME FAMILIAR WITH THE INFORMATION AND REQUIREMENTS CONTAINED IN THE FOLLOWING DOCUMENTS RELATED TO THE PROJECT:

- A. TOWER AND TOWER FOUNDATION DRAWINGS BY THE MANUFACTURER.
- B. R-56 STANDARDS AND GUIDELINES FOR COMMUNICATIONS SITES BY MOTOROLA.
- C. ALL OTHER PERTINENT DOCUMENTS.



December 20, 2023

NO.	DATE	DESCRIPTION	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
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REVISIONS					



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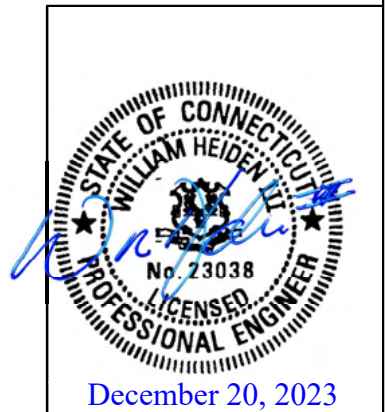
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Abbreviations and Symbols

A/C	AIR CONDITIONING	N	NORTH
ADJ	ADJUSTABLE	N/A	NOT APPLICABLE
AFF	ABOVE FINISH FLOOR	NIC	NOT IN CONTRACT
APPROX	APPROXIMATELY	NTS	NOT TO SCALE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS		
AWG	AMERICAN WIRE GAUGE	O/C,O.C.	ON CENTER
		OD	OUTSIDE DIAMETER
		OPG	OPENING
		OPP	OPPOSITE
BLDG	BUILDING		
BLK	BLOCK		
BMR	BASE MOBILE RADIO	PLYWD	PLYWOOD
B/S	BUILDING STANDARD	PR	PAIR
		PROJ	PROJECT
		PROP	PROPERTY
		PT	PRESSURE TREATED
CLG	CEILING		
CLR	CLEAR		
CND,C	CONDUIT		
CONC	CONCRETE	R	RADIUS
CONST	CONSTRUCTION	REQ'D	REQUIRED
CONT	CONTINUOUS	RM	ROOM
		RO	ROUGH OPENING
DBL	DOUBLE		
DIA,Ø	DIAMETER	S	SOUTH
DIAG	DIAGONAL	SHT	SHEET
DIM	DIMENSION	SIM	SIMILAR
DN	DOWN	SPEC	SPECIFICATION
DTL,DETL	DETAIL	SQ	SQUARE
DWG	DRAWING	SS	STAINLESS STEEL
		STL	STEEL
E	EAST	STRUCT	STRUCTURAL
EA	EACH	SUSP	SUSPENDED
EL,ELEV	ELEVATION	SV	SHEET VINYL
ELECT	ELECTRICAL		
EQ	EQUAL	THRU	THROUGH
EQUIP	EQUIPMENT	TNND	TINNED
EW	EACH WAY	TOC	TOP OF CONCRETE
EXIST	EXISTING	TOM	TOP OF MASONRY
EXT	EXTERIOR	TYP	TYPICAL
FIN	FINISH	UBC	UNIFORM BUILDING
FLUOR	FLUORESCENT		CODE
FLR	FLOOR	UNO	UNLESS NOTED
FT	FOOT		OTHERWISE
GA	GAUGE	VERT	VERTICAL
GALV	GALVANIZE(D)	VIF	VERIFY IN FIELD
GC	GENERAL CONTRACTOR	VT	VINYL TILE
GRND	GROUND		
GWB	GYPSTUM WALL BOARD	W	WEST
GYP BD	GYPSTUM BOARD	W/	WITH
		WIN	WINDOW
		W/O	WITHOUT
		WP	WATERPROOF
HARD'WD	HARDWOOD		
HORIZ	HORIZONTAL		
HR	HOUR		
HT	HEIGHT		
HVAC	HEATING, VENTING & AIR CONDITIONING		
ID	INSIDE DIA.	∠	ANGLE
IN	INCH	∅	AND
INFO	INFORMATION	CL	CENTER LINE
INSUL	INSULATION	PL	PROPERTY LINE
INT	INTERIOR	AT	AT
		#	NUMBER
LB(S)	POUND(S)		
MAX	MAXIMUM		
MECH	MECHANICAL		
MET,MTL	METAL		
MFR	MANUFACTURER		
MGR	MANAGER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		

Symbols

	REVISION		DETAIL REFERENCE
	KEY NOTE		ELEVATION REFERENCE
	ROOM NUMBER		SECTION REFERENCE
	KEYED NOTE		



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ABBREVIATIONS AND SYMBOLS		GN-3
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- GENERAL NOTES:**
1. PROPERTY OFFSETS ARE APPROXIMATE. FINAL LOCATION OF COMPOUND TO BE DEVELOPED FROM TOWER ☺
 2. THE LOCATION, SIZE & TYPE OF MATERIAL OF EXISTING UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES, INCLUDING THE SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS & SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION & ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES & THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH MAINS & SERVICES SHALL BE RESTORED TO SERVICE AT ONCE & PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.
 3. ALL PROPOSED CONSTRUCTION ACTIVITIES & MODIFICATIONS SHALL COMPLY WITH MOTOROLA R-56 STANDARDS, REV 2017.
 4. ANY DISCREPANCIES BETWEEN THIS DRAWING PACKAGE AND EXISTING FIELD CONDITIONS MUST BE REPORTED TO THE ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

① Site Location Plan

NORTH

1 inch = 100ft.

811
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December 20, 2023

NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



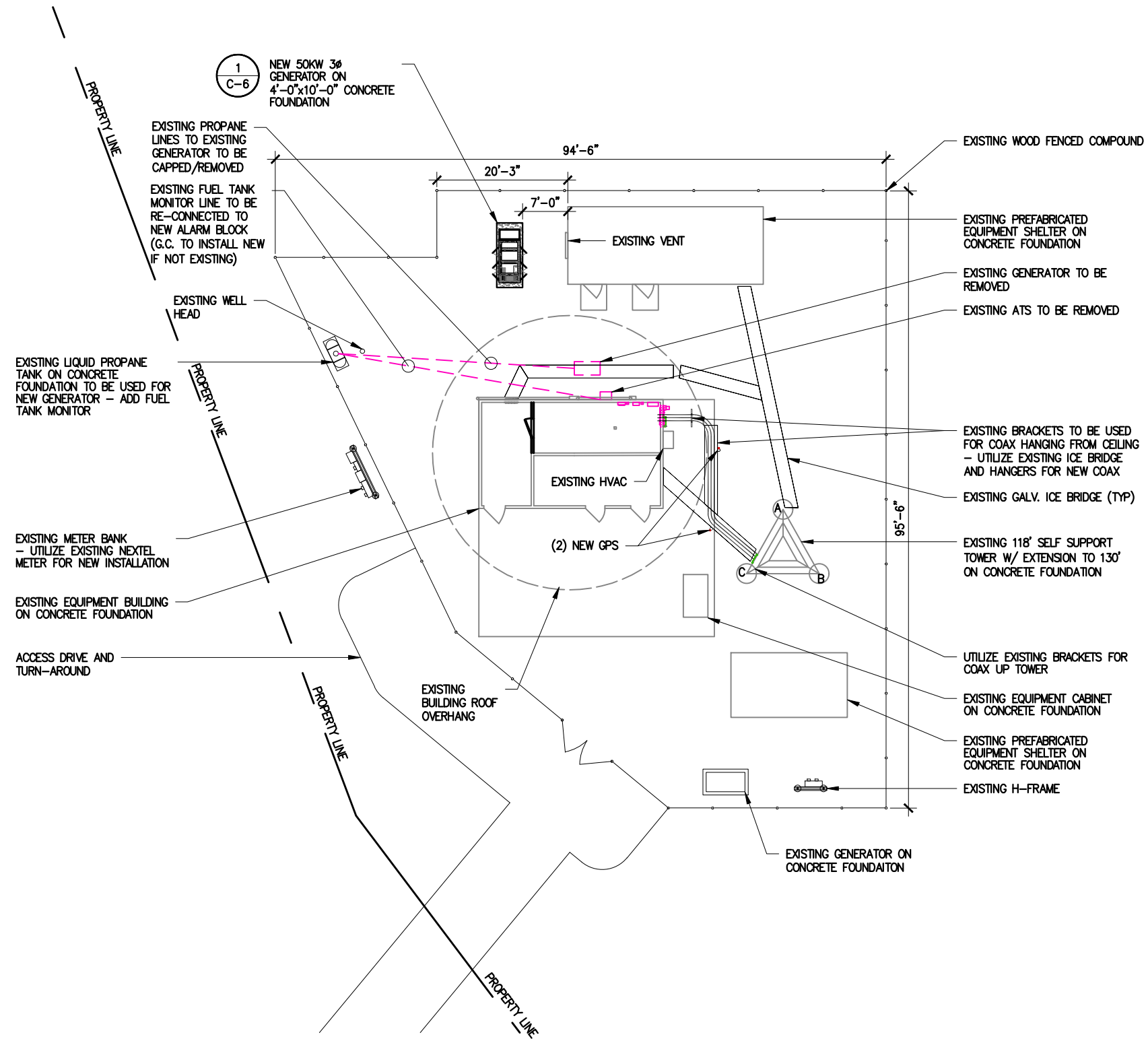
SITE LOCATION PLAN

DEER RUN
160 DEER RUN RD
WILTON, CT 06897

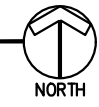
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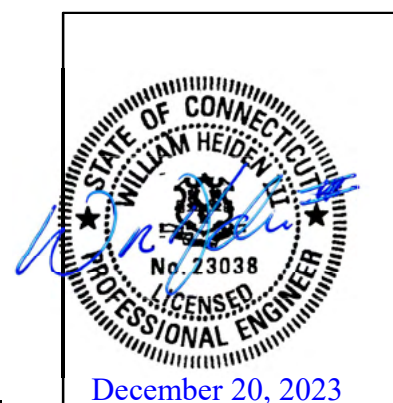
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1 Overall Site Plan



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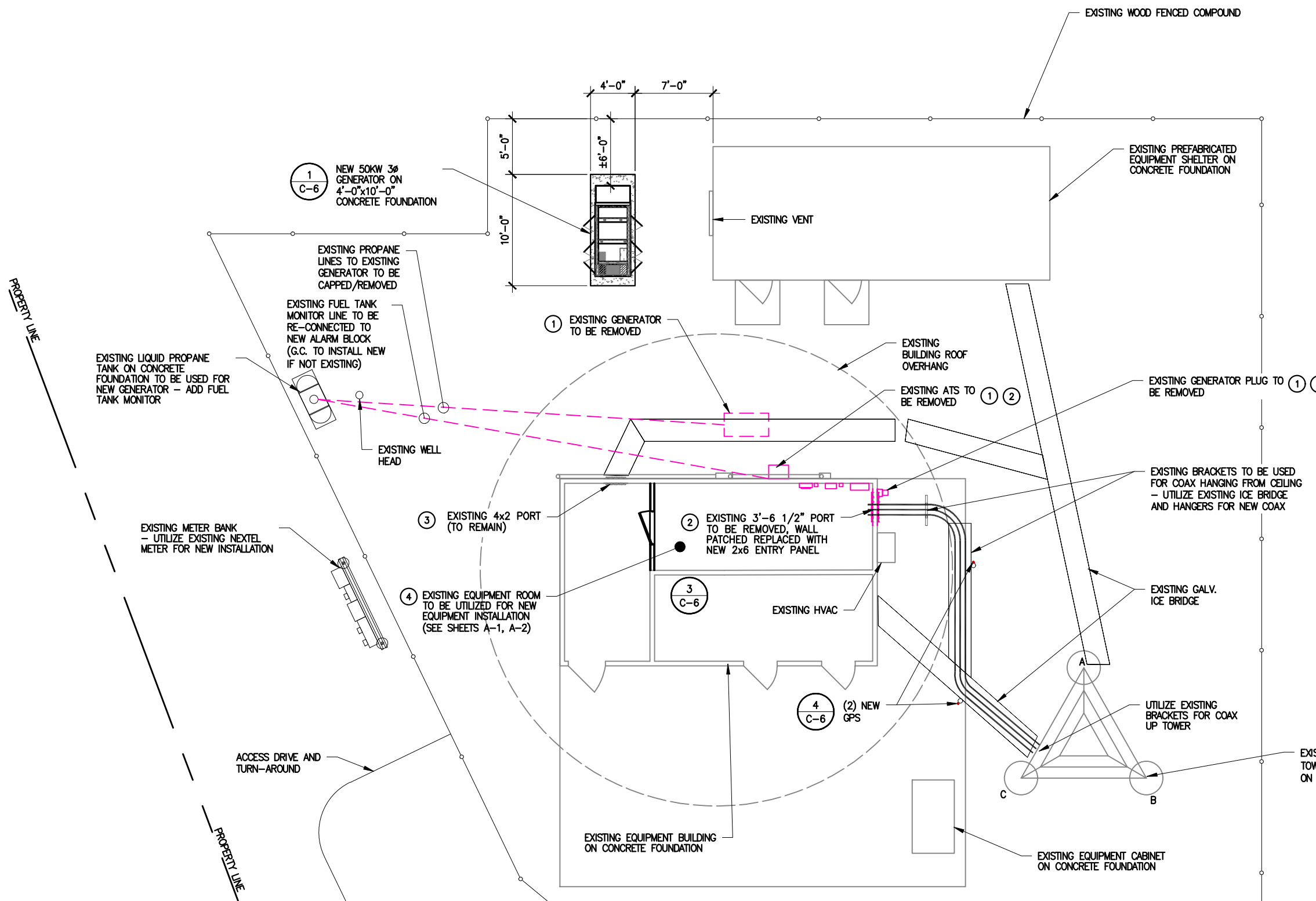
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OVERALL SITE PLAN
 DEER RUN
 160 DEER RUN RD
 WILTON, CT 06897

C-2

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- DEMOLITION NOTES:**
- 1 ELECTRICAL WORK WITHIN EXISTING ROOM TO ACCOMMODATE NEW EQUIPMENT ROOM BUILDOUT. WORK TO INCLUDE DEMO OF INTERIOR ELECTRIC, REMOVE ALL OLD EQUIPMENT, PROVIDED TEMP FEED OF OLD EQUIPMENT FROM METER, TRANSPORT AND PROPERLY DISPOSE OF OLD HALON SYSTEM, PROVIDE COORDINATED CLEANUP OF OLD TELEPHONE LINES AND BACK EXTERIOR WALL AND RELOCATION OF SMART CARD TO EXTERIOR WITH NORCOM.
 - 2 PATCH ALL EXTERIOR HOLES FROM REMOVED EQUIPMENT, CONDUITS, & ENTRY PANELS. PAINT TO MATCH BUILDING EXTERIOR. PROVIDE NEW DOOR CLOSER FOR EXTERIOR ENTRY DOOR.
 - 3 G.C. TO CAP AND SEAL ALL UNUSED PORTS. ENSURE HATCH PORT IS WEATHER SEALED AROUND EXISTING PORTS AND FRAME.
 - 4 MOLD REMEDIATION SERVICES FOR CREATION OF NEW EQUIPMENT ROOM. WORK TO INCLUDE SETTING UP FLOOR PROTECTION AND PROVIDING PPE, REMOVING DRYWALL AND INSULATION FROM THE CEILING, CLEANING AND APPLYING ANTIMICROBIAL TO THE UNDERSIDE OF THE SUBFLOOR / ROOF, REMOVING ALL DEBRIS.

REFER TO GN-1 AND GN-2 FOR GENERAL DEMOLITION NOTES

SITE NOTE:
G.C. TO RESEED ALL DISTURBED AREAS WITH NATIVE GRASSES AFTER COMPLETION OF CONSTRUCTION.

1 Enlarged Site Plan

NORTH

1 inch = 10ft.

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December 20, 2023

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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



ENLARGED SITE PLAN

DEER RUN
160 DEER RUN RD
WILTON, CT 06897

C-2.1

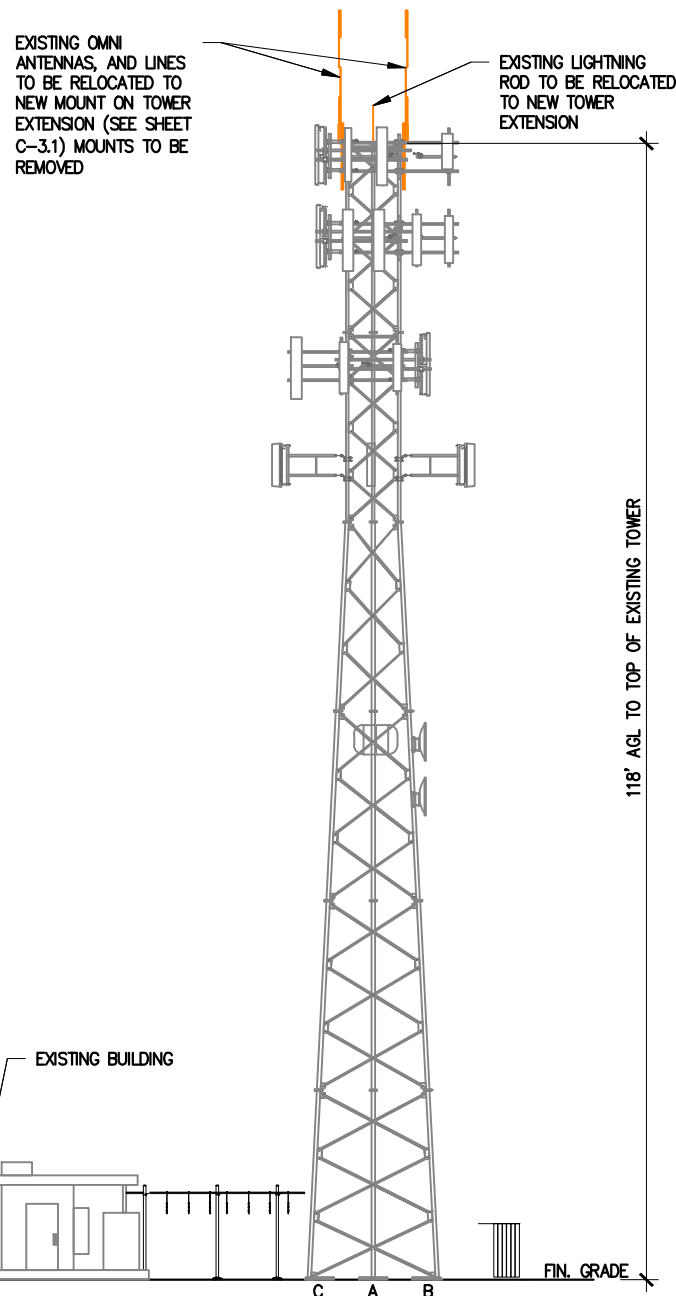
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Existing Loading:

Antenna Elevation (ft)	Description	Feed Lines	Carrier	Mount Elevation (ft)	Mount Type
126.5	(2) 3" Ø x 12'Omni ¹	(2) 7/8" ¹	-	122.0	(3) 2.4" Ø x 7' Pipe Mounts ²
118.0	(3) Ericsson AIR6449 B41 (3) Ericsson AIR32 KRD901146-1_B66A_B2A (Octo) (3) RFS APXVAALL24-43-U-NA20 (3) Commscope SDX1926Q-43 (E14F05P86) (3) Ericsson KRY 112 71 (3) Ericsson Radio 4449 B71+B85 (3) Ericsson Radio 4415 B25	(7) 1-5/8" (6) Fiber	T-Mobile	118.0	(3) Sector Mounts [Sitepro1 P/N: VFA12-HD]
110.0	(3) Powerwave 7770 (3) Kathrein 800-10965 (3) Powerwave P65-16-XLH-RR (3) CCI OPA65R-BU6DA (6) Powerwave LGP 21401 (3) Powerwave TT19-08BP111-001 (3) Ericsson RRUS-11 (3) Ericsson RRUS 4478 B5 (3) Ericsson RRUS 4415 B25 (3) Ericsson RRUS 4478 B14 (2) Raycap DC6-48-60-18-8F	(12) 1-5/8" (4) 3/4" DC (2) 3/8" Fiber (2) 3/8" Alarm Cables (1) 3" Flex	AT&T	110.0	(3) 12' Sector Mounts [Sabre P/N: C10857001C]
98.0	(3) Amphenol BXA-80090-8CF-EDIN-X (6) JMA MX06FRO660-03 (3) Samsung MT6407-77A (3) Samsung RF4440d-13A (3) Samsung RF4439d-25A (2) Raycap RRFDC-3315-PF-48	(6) 1-5/8" (2) Hybrid	Verizon	96.5	(3) 10'x2' T-Frames
86.0	(3) 60"x12"x4.5" Panels ³	(9) 1-5/8" ³ (2) 1-1/2" ³	Sprint	86.0	(3) 2.7' Stand-Offs ³
57.0	(1) Scala PR-850	(1) 7/8"		57.0	Direct
51.0	(1) Scala PR-850	(2) 7/8"		55.0	(1) 1.9'x9.8' Pipe Mount

- EXISTING OMNI ANTENNA AND FEEDLINES TO BE RELOCATED ON THE PROPOSED TOWER EXTENSION ON NEW MOUNTS (SEE SHEET E-3.1)
- EXISTING MOUNTS NEED TO BE REMOVED PRIOR TO THE INSTALLATION OF THE PROPOSED LOADING.
- EXISTING ANTENNA, FEEDLINES AND MOUNTS NEED TO BE REMOVED PRIOR TO THE INSTALLATION OF PROPOSED LOADING.

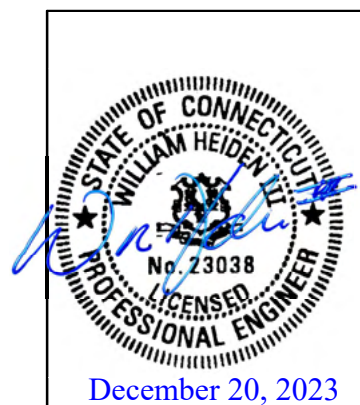


EXISTING NEXTEL LINES ANTENNAS AND MOUNTS TO BE REMOVED SEE LINE 3 BELOW (SEE STRUCTURAL ANALYSIS REPORT)

GENERAL NOTES:

- SEE STRUCTURAL ANALYSIS W/ MODIFICATION DESIGN BY FDH INFRASTRUCTURE SERVICES, LLC PROJECT NUMBER PR-009191 DATED JANUARY 27, 2023.
- ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP & BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION & NEAR ENTRY PORT ON THE SHELTER).
- THE CONTRACTOR SHALL CONDUCT A FREQUENCY DOMAIN REFLECTOMETER (FDR) WITH PRECISION LOAD / SWEEP TEST FOR ANTENNA AND TRANSMISSION LINE INSTALLATION WORK. ALL SWEEP AND TEST MUST BE WITHIN THE GUIDELINES OUTLINED IN MOTOROLA MOP.
- DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE SHELTER.
- ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA, JUST BEFORE ENTERING THE EQUIPMENT ROOM AS WELL AS INSIDE THE EQUIPMENT ROOM, BEFORE CONNECTING TO THE SURGE SUPPRESSORS. SEE EQUIPMENT & COAXIAL CABLE SCHEDULE FOR COLOR CODING SCHEME.

1 Proposed Tower Elevation
NOT TO SCALE



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F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



EXISTING TOWER ELEVATION AND ANTENNA LOADING INFORMATION
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

C-3

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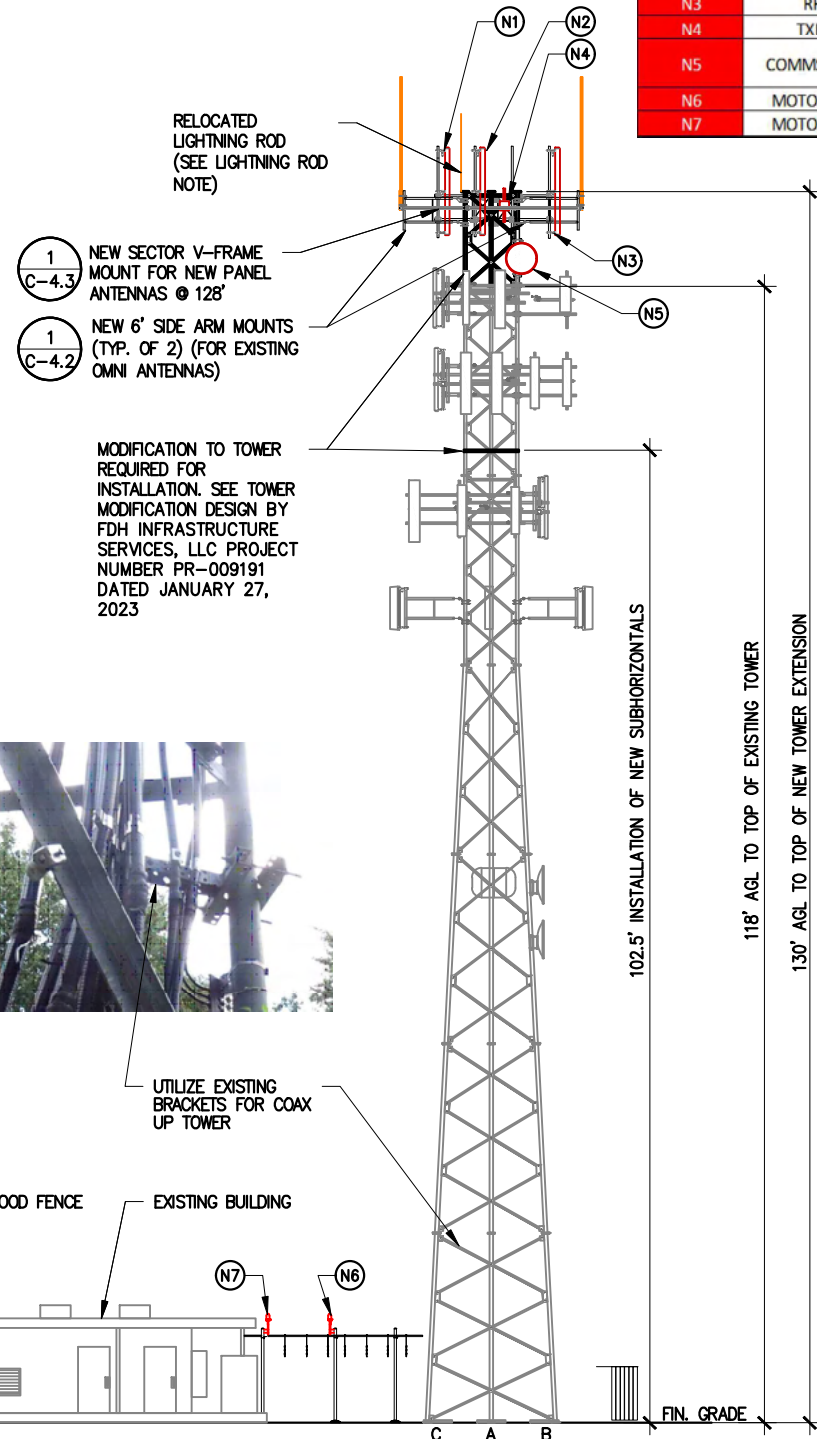
DEER RUN - 118' SELF SUPPORT TOWER EXTENDED TO 130'
 LAT: 41° 14' 28.94" APPROX.
 LON: - 73° 28' 11.60" APPROX.

Antenna/Appurtenance Location Chart

E = EXISTING
 N = NEW
 F = FUTURE

ANTENNAS NOT TO EXCEED FAA DETERMINATION. FAA ANALYSIS BY OTHERS

PROPOSED ANTENNA INFORMATION													FEEDLINE INFORMATION				COLOR CODE					
ANTENNA ID	MANUFACTURER	MODEL	TYPE	LENGTH	BOTTOM ELEV	RAD CENTER	TOP ELEV.	AZIMUTH	LEG	TILT	DEST.	MOUNT*	QTY.	TYPE	MANUFACTURER	MODEL	SIZE	QTY.	BAND 1	BAND 2	BAND 3	BAND 4
N1	RFI	BPA7496-180-14	TX	9.3'	125.4'	130.0'	134.6'	90°	B	-	-	12.5' SECTOR FRAME	1	COAX	EUPEN	EC7-50A	1-5/8"	1	RED			
N2	RFI	BPA7496-180-14	RX	9.3'	125.4'	130.0'	134.6'	90°	B	-	-			COAX	EUPEN	EC7-50A	1-5/8"	1	GREEN			
N3	RFI	BPA7496-180-14	RX	9.3'	125.4'	130.0'	134.6'	90°	B	-	-			COAX	EUPEN	EC7-50A	1-5/8"	1	GREEN	WHITE		
N4	TXRX	442-035484	TTA	1.0'	129.5'	130.0'	130.5'	-	B	-	-			COAX	EUPEN	EC4-50	1/2"	1	GREEN	WHITE	WHITE	
N5	COMMSCOPE	VHLP3-11W	MW	3.0'	121.5'	123.0'	124.5'	158.44°	B	-0.51°	WILTON TOWER 31	-	1	WAVEGUIDE	COMMSCOPE	EW90	-	1	BLUE			
N6	MOTOROLA	PMUG1017B	GPS	1.0'		ICE BRIDGE			-	-	-	-	1	CABLE	MOTOROLA	12 CONDUCTOR CABLE		1	ORANGE			
N7	MOTOROLA	PMUG1017B	GPS	1.0'		ICE BRIDGE			-	-	-	-	1	CABLE	MOTOROLA	12 CONDUCTOR CABLE		1	ORANGE	WHITE		



* MOUNT PER STRUCTURAL ANALYSIS (SEE GENERAL NOTE 1)

Proposed Carrier Final Loading:

Antenna Elevation (ft)	Description	Feed Lines	Carrier	Mount Elevation (ft)	Mount Type
130.0	(3) RFI BPA7496-180-14 (1) TXRX 432F-83W-01-T	(3) 1-5/8" (1) 1/2"	Town of Wilton	128.0	(1) 12.5' Sector Frame [Site Pro 1 P/N: VFA12-SD-S]
	(2) 3' x 12' Omni	(2) 7/8"	-		(2) 6' Side Arm [Site Pro 1 P/N: PGAG]
123.0	(1) Commscope VHLP3-11W	(1) EW90	Town of Wilton	123.0	(1) Pipe Mount

* MOUNT PER STRUCTURAL ANALYSIS (SEE GENERAL NOTE 1)

LIGHTNING ROD NOTE:
 RELOCATED LIGHTNING ROD TO BE ABOVE PROPOSED PANEL ANTENNAS

GENERAL NOTES:

- SEE STRUCTURAL ANALYSIS W/ MODIFICATION DESIGN BY FDH INFRASTRUCTURE SERVICES, LLC PROJECT NUMBER PR-009191 DATED JANUARY 27, 2023.
- ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS SHALL BE GROUNDED NEAR THE TOP & BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION & NEAR ENTRY PORT ON THE SHELTER).
- THE CONTRACTOR SHALL CONDUCT A FREQUENCY DOMAIN REFLECTOMETER (FDR) WITH PRECISION LOAD / SWEEP TEST FOR ANTENNA AND TRANSMISSION LINE INSTALLATION WORK. ALL SWEEP AND TEST MUST BE WITHIN THE GUIDELINES OUTLINED IN MOTOROLA MOP.
- DRIP LOOPS SHALL BE INCORPORATED IN CABLE RUNS TO PREVENT WATER FROM TRICKLING DOWN THE LINES INTO THE SHELTER.
- ALL TRANSMISSION LINES SHALL BE MARKED WITH APPROPRIATE COLOR TAPE BANDS (ONE INCH WIDE COLOR TAPE) FOR IDENTIFICATION NEAR THE ANTENNA, JUST BEFORE ENTERING THE EQUIPMENT ROOM AS WELL AS INSIDE THE EQUIPMENT ROOM, BEFORE CONNECTING TO THE SURGE SUPPRESSORS. SEE EQUIPMENT & COAXIAL CABLE SCHEDULE FOR COLOR CODING SCHEME.



December 20, 2023

1 Proposed Tower Elevation
 NOT TO SCALE

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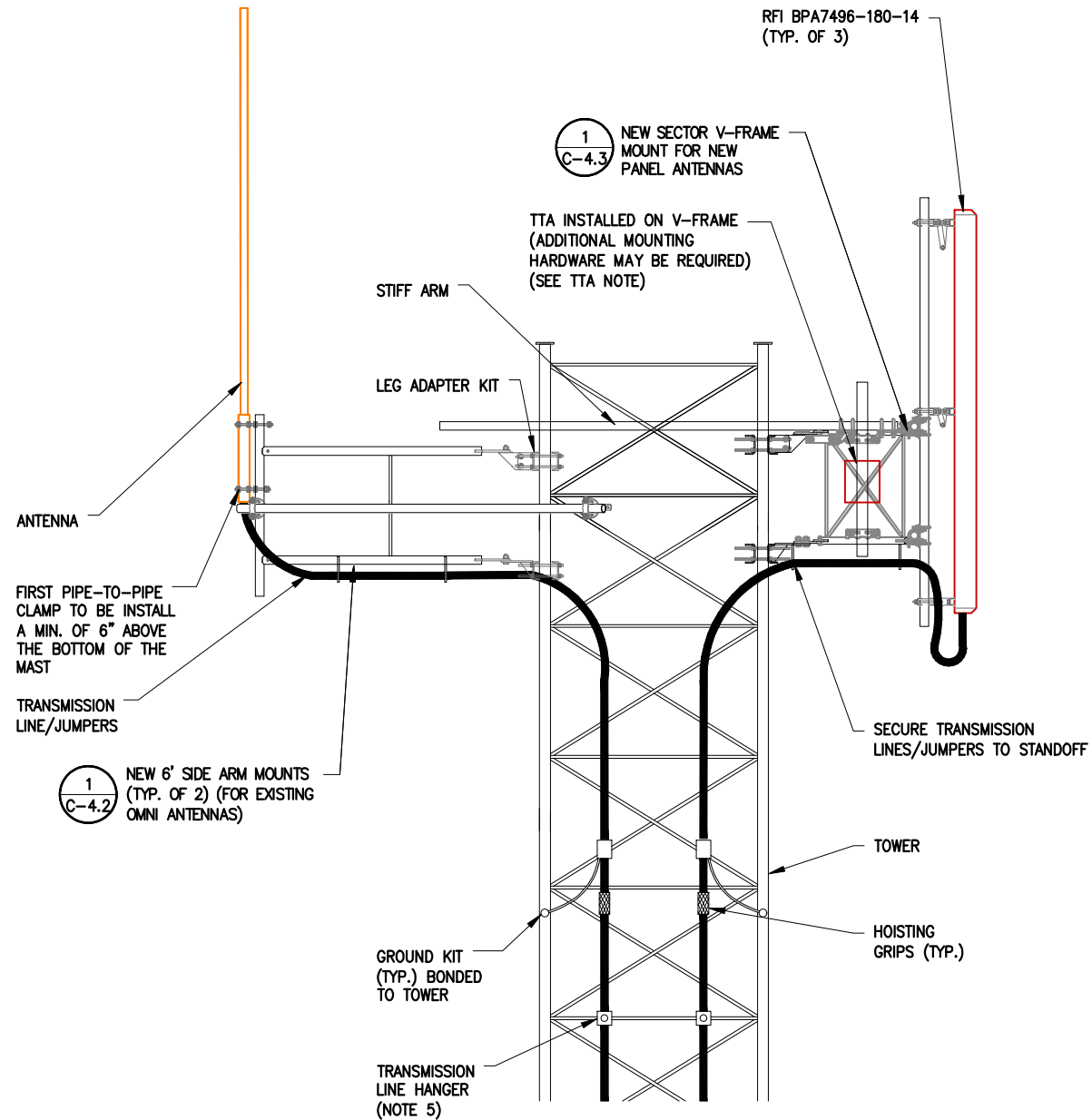


PROPOSED TOWER ELEVATION AND ANTENNA LOADING INFORMATION

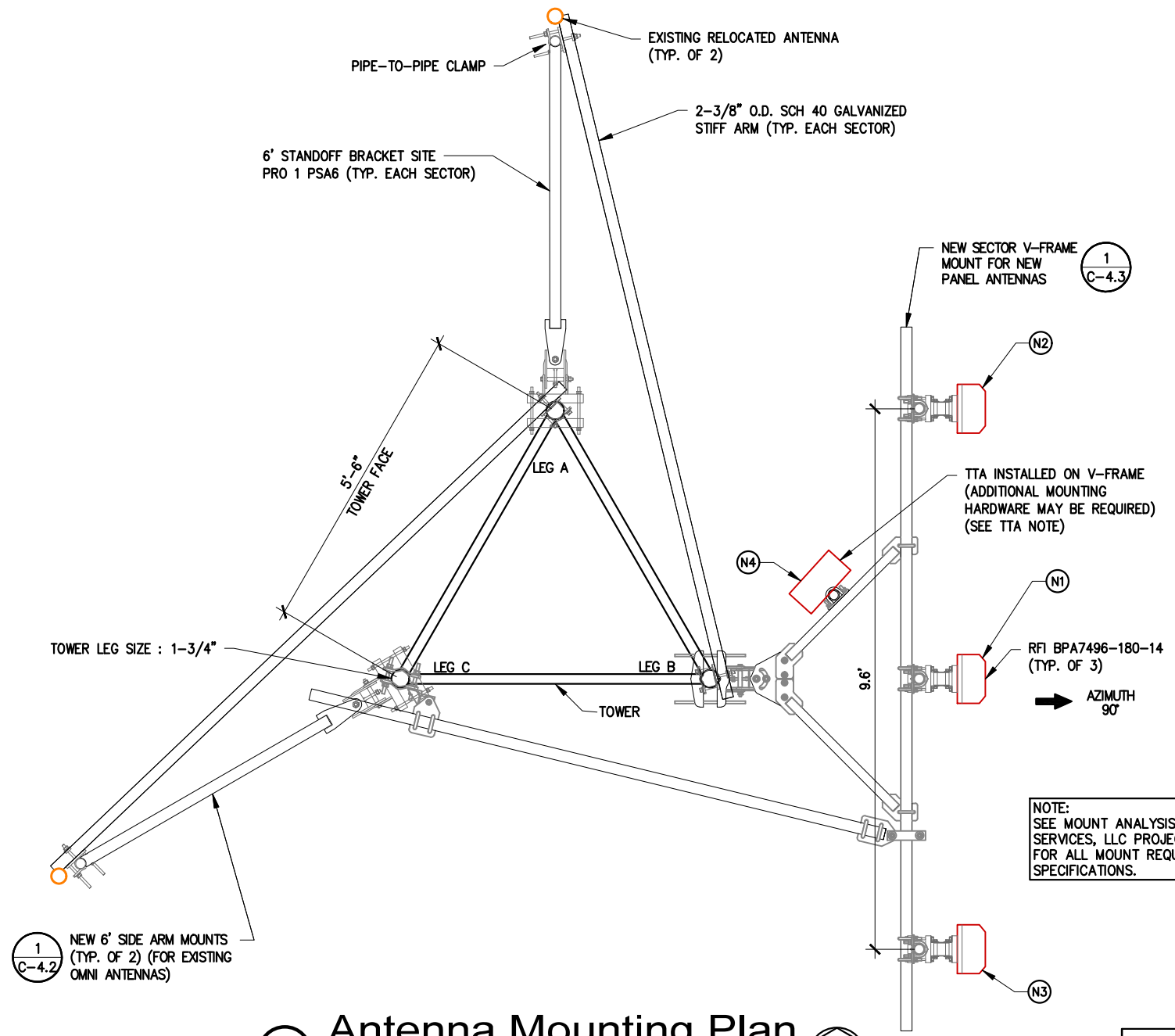
DEER RUN
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 WILTON, CT 06897

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1 Antenna Mount Elevation
NOT TO SCALE



2 Antenna Mounting Plan
NOT TO SCALE

TTA NOTE:
TTA MUST BE INSTALLED WITHIN TOLERANCES OF THE MANUFACTURER'S SPECIFICATION. ADDITIONAL MATERIAL MAY BE REQUIRED TO DO THIS. CONTRACTOR MUST VERIFY ALL INSTALLATIONS MEET MOTOROLA AND MANUFACTURER'S SPECIFICATIONS.

NOTE:
SEE MOUNT ANALYSIS BY FDH INFRASTRUCTURE SERVICES, LLC PROJECT NUMBER PR-009159 FOR ALL MOUNT REQUIREMENTS AND SPECIFICATIONS.

NOTES:

1. ANTENNAS, CONNECTORS, JUMPERS, TRANSMISSION LINES, TO BE FURNISHED BY MOTOROLA, AND INSTALLED BY CONTRACTOR.
2. CONTRACTOR TO USE STRAIN RELIEF EVERY 200 FEET (MIN.) FOR TRANSMISSION LINES. TO BE INSTALLED BEFORE INSTALLATION OF TRANSMISSION LINES.
3. CONTRACTOR TO WATERPROOF ALL EXTERNAL CONNECTIONS.
4. CONTRACTOR TO INSTALL GALVANIZED OR STAINLESS STEEL MOUNTING HARDWARE.
5. CONTRACTOR TO ATTACH CABLES TO TOWER EVERY 3 FOOT (MAX.)
6. CONTRACTOR SHALL PERFORM A SWEEP TEST ON TRANSMISSION AND TEST LINES PRIOR TO INSTALLATION. IMMEDIATELY NOTIFY MOTOROLA OF ANY LINE DEFICIENCIES.
7. ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS WILL BE GROUNDED NEAR THE TOP & BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION & NEAR ENTRY PORT ON THE EQUIPMENT ROOM). TRANSMISSION LINE GROUND KITS WILL BE INSTALLED EVERY 75 FEET.
8. VERIFY IN FIELD OR REVIEW THE TOWER STRUCTURAL ANALYSIS FOR MEMBER SIZE PRIOR TO ORDERING ANTENNA MOUNTS.
9. CONTRACTOR SHALL VERIFY THE RF CONFIGURATION & STRUCTURAL ANALYSIS BEFORE INSTALLATION.

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ANTENNA MOUNTING DETAILS AND NOTES

DEER RUN
160 DEER RUN RD
WILTON, CT 06897

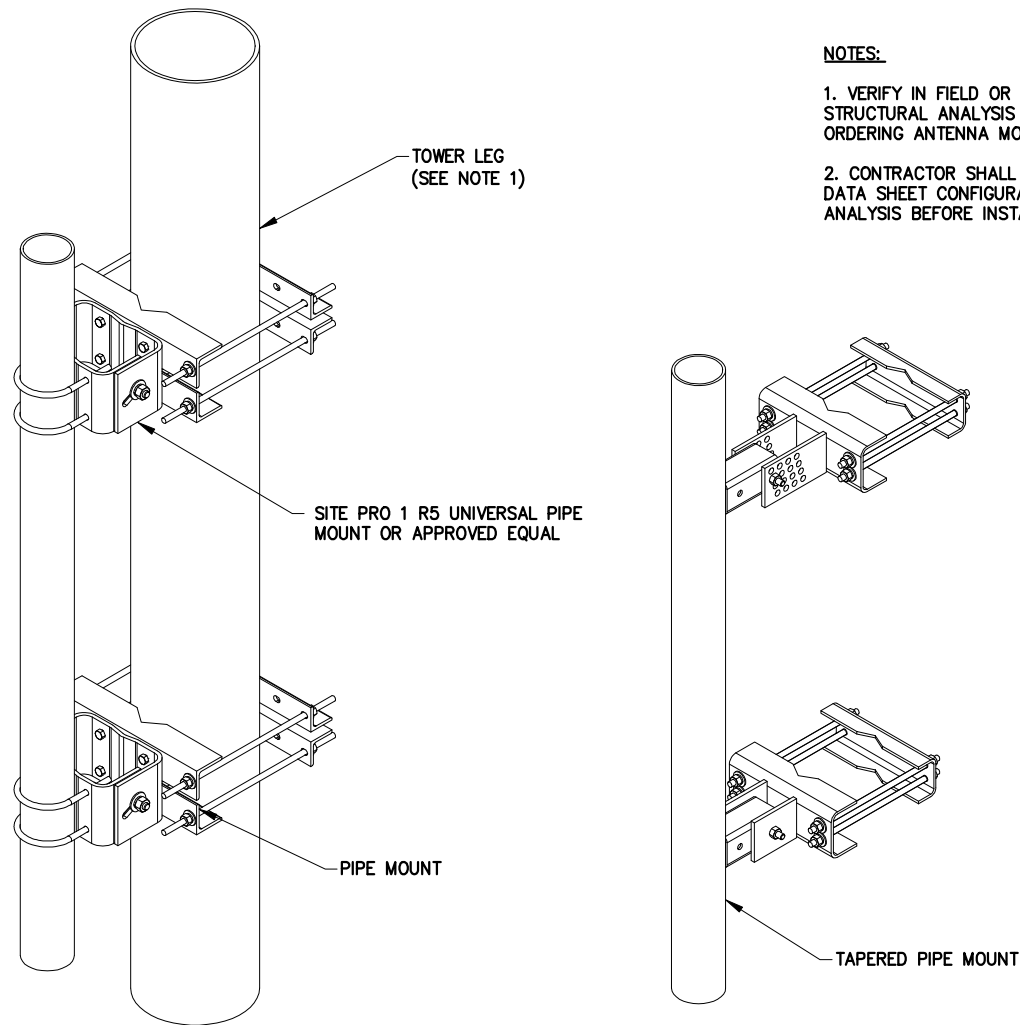
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December 20, 2023

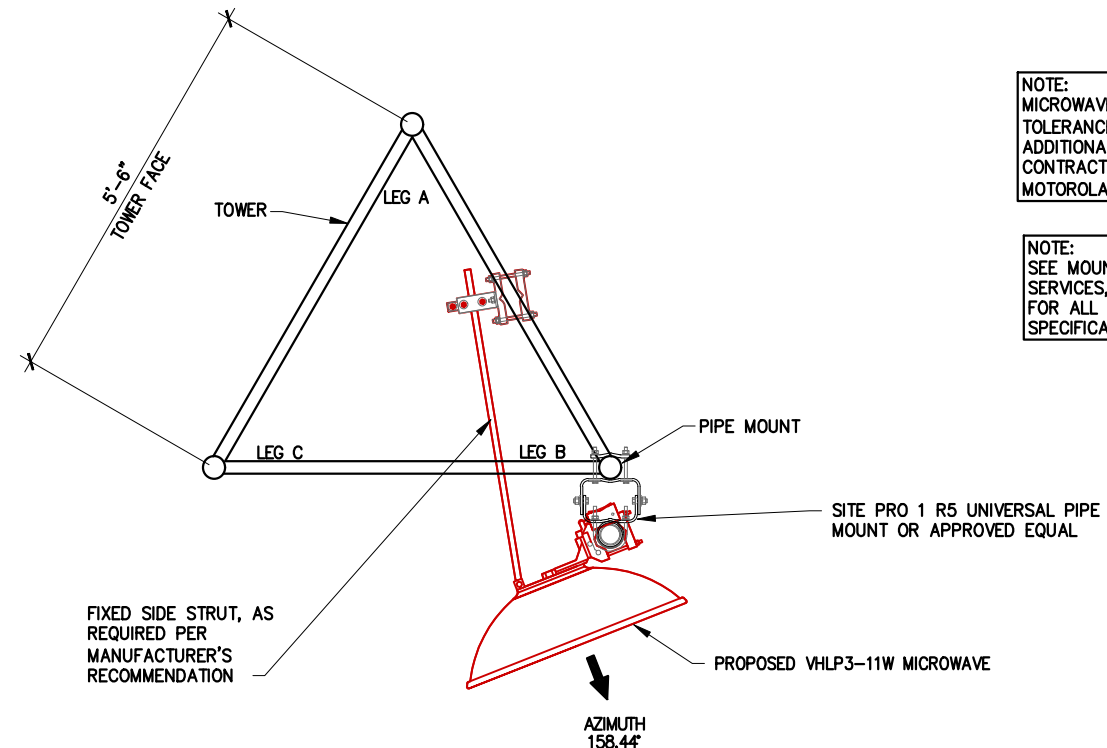
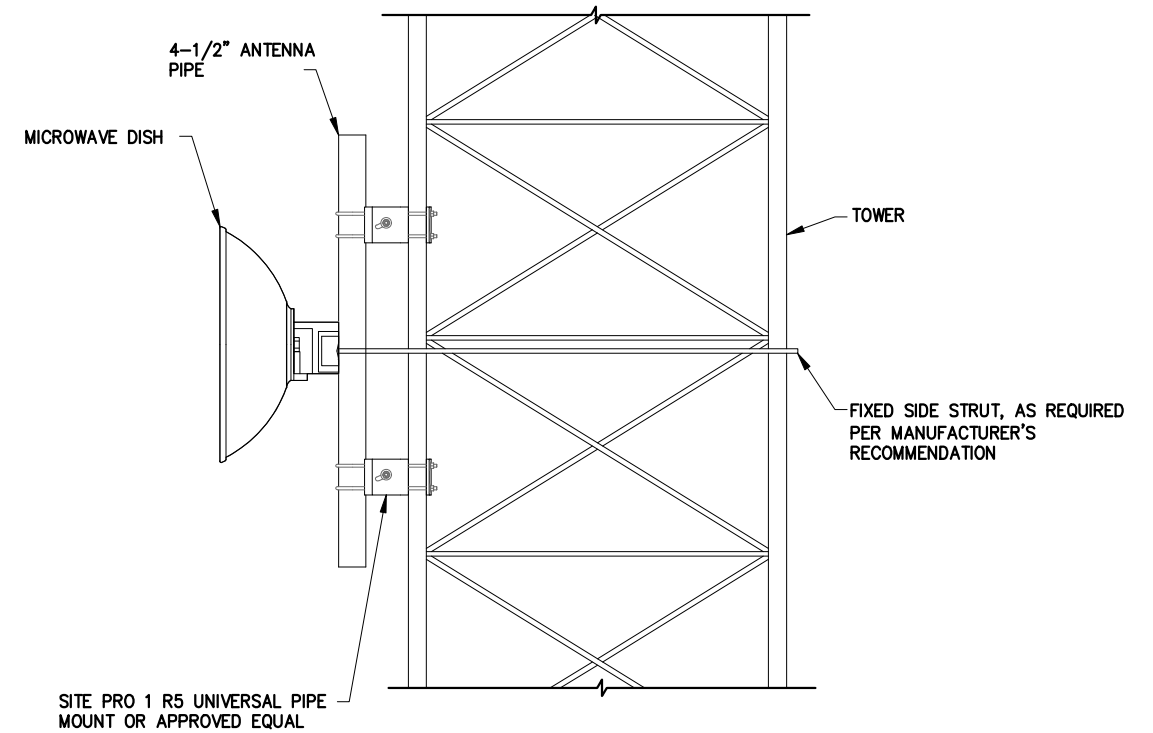
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NOTES:
 1. VERIFY IN FIELD OR REVIEW THE TOWER STRUCTURAL ANALYSIS FOR MEMBER SIZE PRIOR TO ORDERING ANTENNA MOUNTS.
 2. CONTRACTOR SHALL VERIFY THE MICROWAVE PATH DATA SHEET CONFIGURATION & STRUCTURAL ANALYSIS BEFORE INSTALLATION.

1 Microwave Dish Mounts
 NOT TO SCALE



NOTE: MICROWAVE TIEBACKS MUST BE INSTALLED WITHIN TOLERANCES OF THE MANUFACTURER'S SPECIFICATION. ADDITIONAL MATERIAL MAY BE REQUIRED TO DO THIS. CONTRACTOR MUST VERIFY ALL INSTALLATIONS MEET MOTOROLA AND MANUFACTURER'S SPECIFICATIONS.

NOTE: SEE MOUNT ANALYSIS BY FDH INFRASTRUCTURE SERVICES, LLC PROJECT NUMBER PR-009159 FOR ALL MOUNT REQUIREMENTS AND SPECIFICATIONS.

2 Microwave Dish Mounting
 NOT TO SCALE

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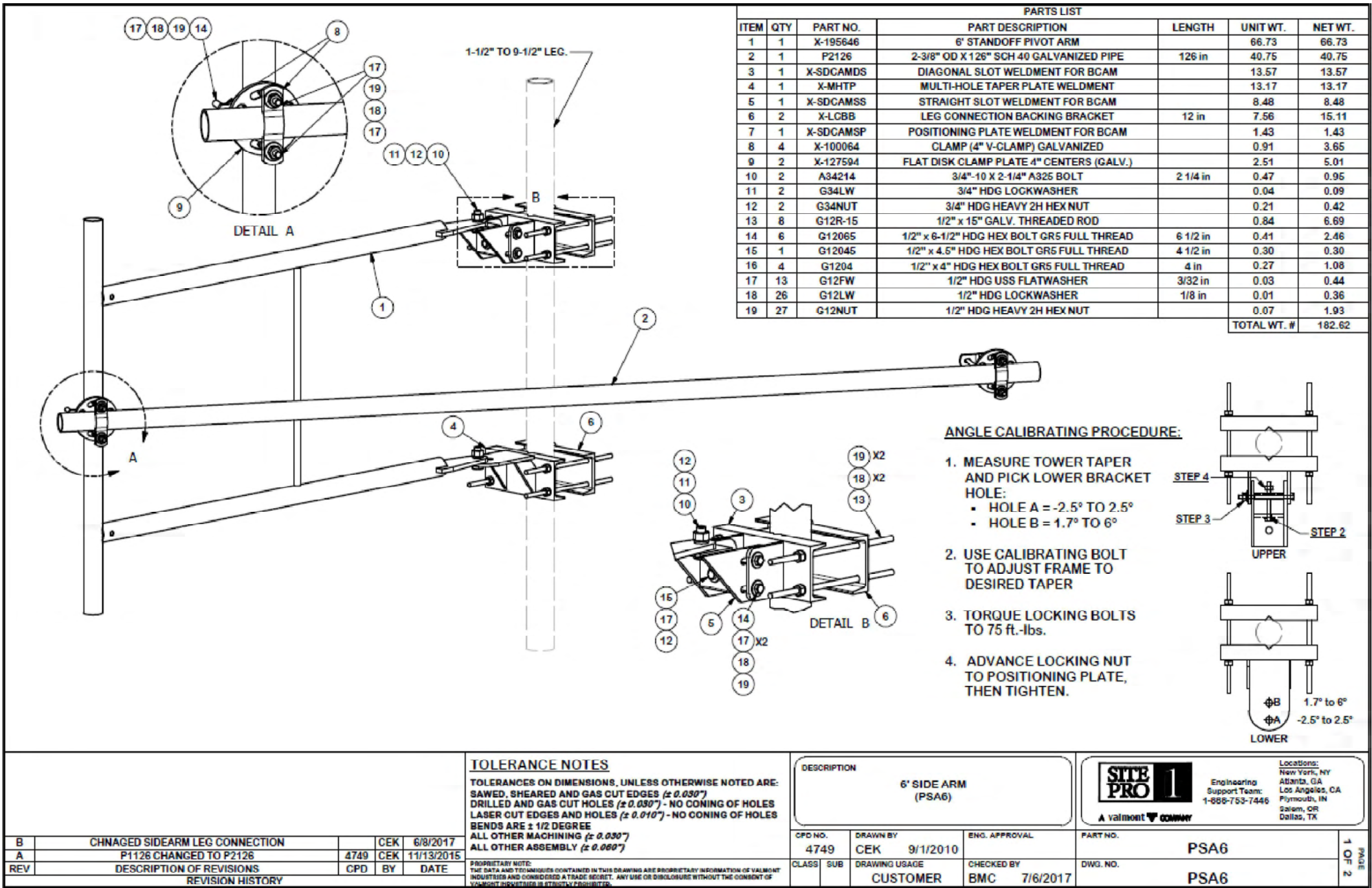
MICROWAVE MOUNTING DETAILS

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C-4.1

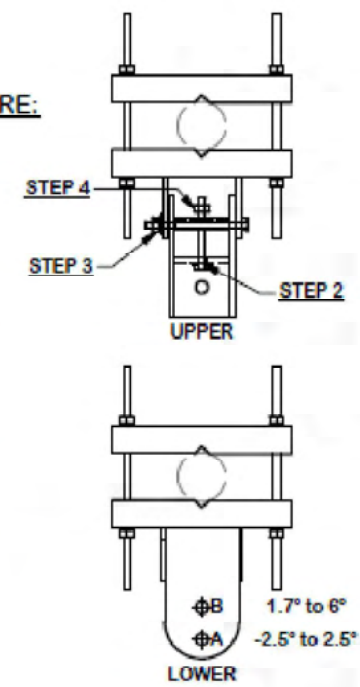
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ANGLE CALIBRATING PROCEDURE:

- MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
 - HOLE A = -2.5° TO 2.5°
 - HOLE B = 1.7° TO 6°
- USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
- TORQUE LOCKING BOLTS TO 75 ft.-lbs.
- ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.



NOTE:
SEE MOUNT ANALYSIS BY FDH
INFRASTRUCTURE SERVICES, LLC
PROJECT NUMBER PR-009159 FOR ALL
MOUNT REQUIREMENTS AND
SPECIFICATIONS.

SEE
MANUFACTURER
FOR ADDITIONAL
DOCUMENTATION
AND DETAILS

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$)
DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES
LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES
BENDS ARE $\pm 1/2$ DEGREE
ALL OTHER MACHINING ($\pm 0.030"$)
ALL OTHER ASSEMBLY ($\pm 0.060"$)

PROPRIETARY NOTE:
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DESCRIPTION		6' SIDE ARM (PSA6)	
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4749	CEK 9/1/2010		PSA6
CLASS	DRAWING USAGE	CHECKED BY	DWG. NO.
	CUSTOMER	BMC 7/6/2017	PSA6

SITE PRO 1
A valmont COMPANY

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

Engineering Support Team:
1-888-753-7446

1 OF 2 PAGE

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
B	CHANGED SIDEARM LEG CONNECTION		CEK	6/8/2017
A	P1126 CHANGED TO P2126	4749	CEK	11/13/2015

1 Antenna Mount Detail
NOT TO SCALE

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	

MISSION 1 COMMUNICATIONS
6202 Constitution Drive, Suite C
Fort Wayne, IN 46804

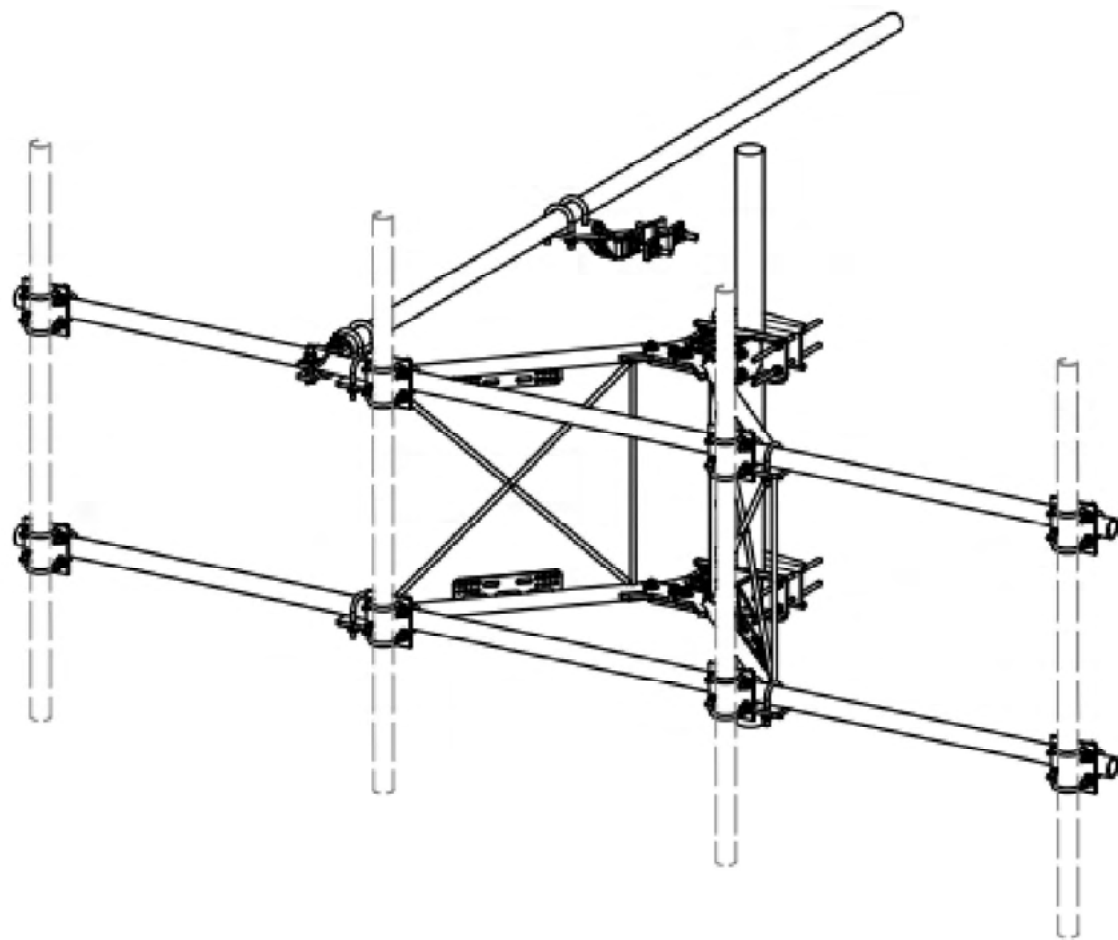
PYRAMID Network Services, LLC

MOTOROLA SOLUTIONS

TOWNSHIP OF WILTON CONNECTICUT

ANTENNA MOUNT DETAILS
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

C-4.2
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PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFASD	SUPPORT ARM FOR STANDARD DUTY V-FRAME ASSEMBLY		45.34	90.69
2	1	X-SDTFLB	DIAGONAL SLOT WELDMENT FOR BCAM SD		15.08	15.08
3	1	X-SDMHTP	MULTI-HOLE TAPER PLATE WELDMENT		16.63	16.63
4	2	X-SDPP	PIVOT PLATE	11 1/16 in	9.09	18.18
5	2	X-LCBP2	BENT BACKING PLATE	12 in	8.86	17.73
6	1	X-SDCAMSS	STRAIGHT SLOT WELDMENT FOR BCAM		8.48	8.48
7	2	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	11.74
8	1	X-SDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM		1.43	1.43
9	2	X-TBCA	TIE BACK CLIP ANGLE		2.01	4.01
10	8	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"	6 in	3.71	29.67
11	2	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	7.19
12	4	DCP	1/2" THICK, 5-3/4" CTR TO CENTER CLAMP HALF	8 1/8 in	2.36	9.45
13	2	P2150	2-3/8" O.D. X 150" SCH 40 GALVANIZED PIPE	150 in	45.77	91.54
14	1	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	40.75
15	4	A34214	3/4"-10 X 2-1/4" A325 BOLT	2 1/4 in	0.47	1.89
16	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
17	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
18	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
19	2	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	2.09
20	2	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	1.39
21	4	X-UB525B	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	4.00
22	4	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	1.78
23	2	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	0.54
24	10	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	0.70
25	16	G58LW	5/8" HDG LOCKWASHER		0.03	0.42
26	18	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.34
27	8	G12R-15	1/2" x 15" THREADED ROD (HDG.)		0.84	6.69
28	36	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" GALV. U-BOLT		0.66	23.86
29	2	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	0.82
30	1	G12045	1/2" x 4.5" HDG HEX BOLT GR5 FULL THREAD	4 1/2 in	0.30	0.30
31	8	G1202	1/2" x 2" HDG HEX BOLT GR5	2 in	0.18	1.41
32	85	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.90
33	98	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	1.36
34	99	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	7.09
					TOTAL WT. #	423.39

NOTE:
SEE MOUNT ANALYSIS BY FDH
INFRASTRUCTURE SERVICES, LLC
PROJECT NUMBER PR-009159 FOR ALL
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CPD NO. 81 CLASS SUB 02		DRAWN BY CEK 6/22/2017 DRAWING USAGE CUSTOMER		ENG. APPROVAL CHECKED BY BMC 7/13/2017		PART NO. VFA12-SD-S DWG. NO. VFA12-SD-S											
REVISION HISTORY <table border="1"> <thead> <tr> <th>REV</th> <th>DESCRIPTION OF REVISIONS</th> <th>CPD</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>UPDATED BCAM VERSION 1 TO BCAM VERSION 2</td> <td></td> <td>CEK</td> <td>8/17/2018</td> </tr> </tbody> </table>				REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE	A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	8/17/2018	PROPRIETARY NOTE: THE DATA AND TOLERANCES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.			
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE													
A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	8/17/2018													

SEE
MANUFACTURER
FOR ADDITIONAL
DOCUMENTATION
AND DETAILS

1 Antenna Mount Detail

NOT TO SCALE

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G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



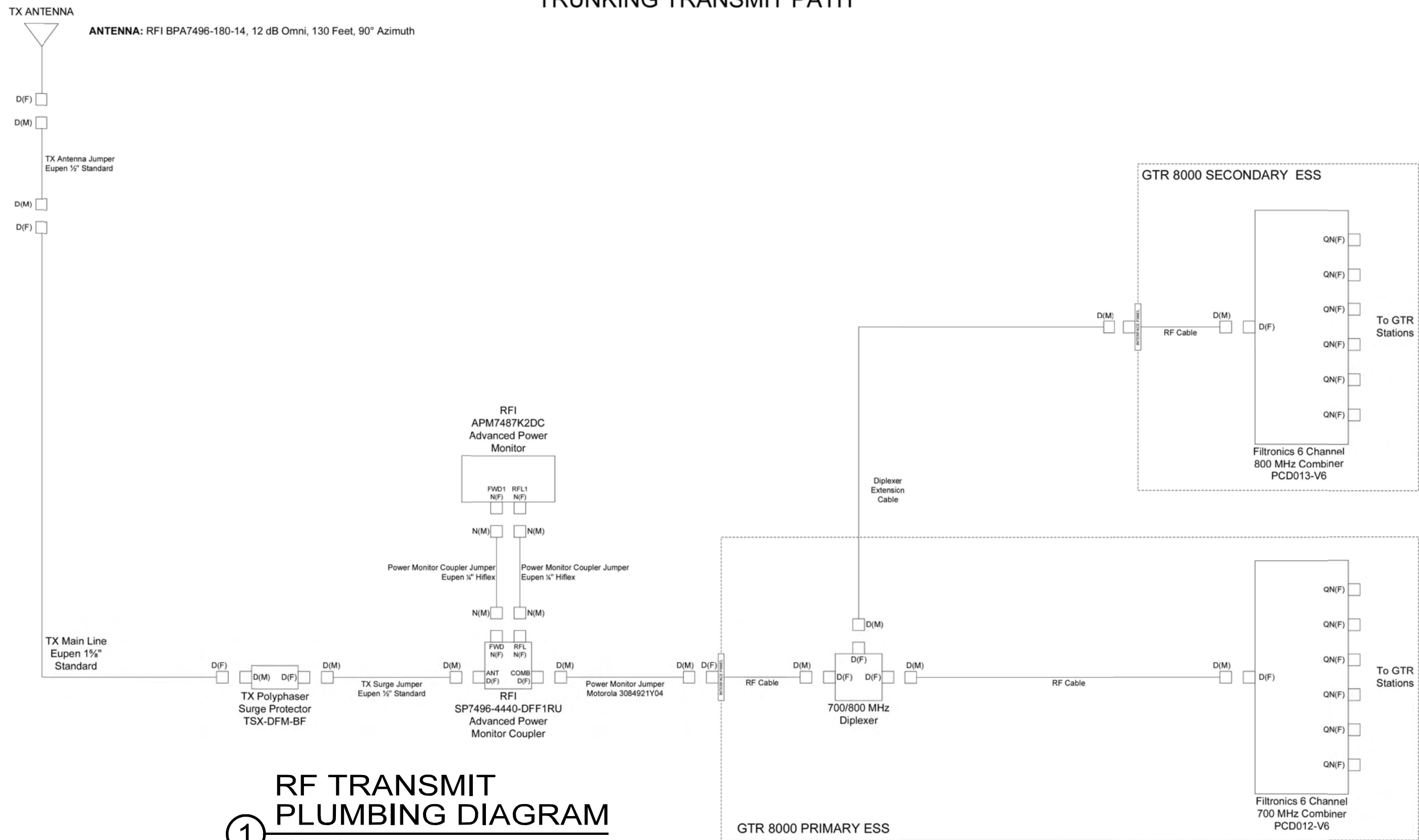
ANTENNA MOUNT DETAILS
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

C-4.3

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TOWN OF WILTON, CT DEER RUN – CLMRN G SUBSYSTEM

TRUNKING TRANSMIT PATH



1 RF TRANSMIT PLUMBING DIAGRAM
NOT TO SCALE

SEE MOTOROLA FOR LATEST RF DIAGRAM

11/27/2023

NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



RF TRANSMIT PLUMBING DIAGRAM		C-5
DEER RUN 160 DEER RUN RD WILTON, CT 06897		

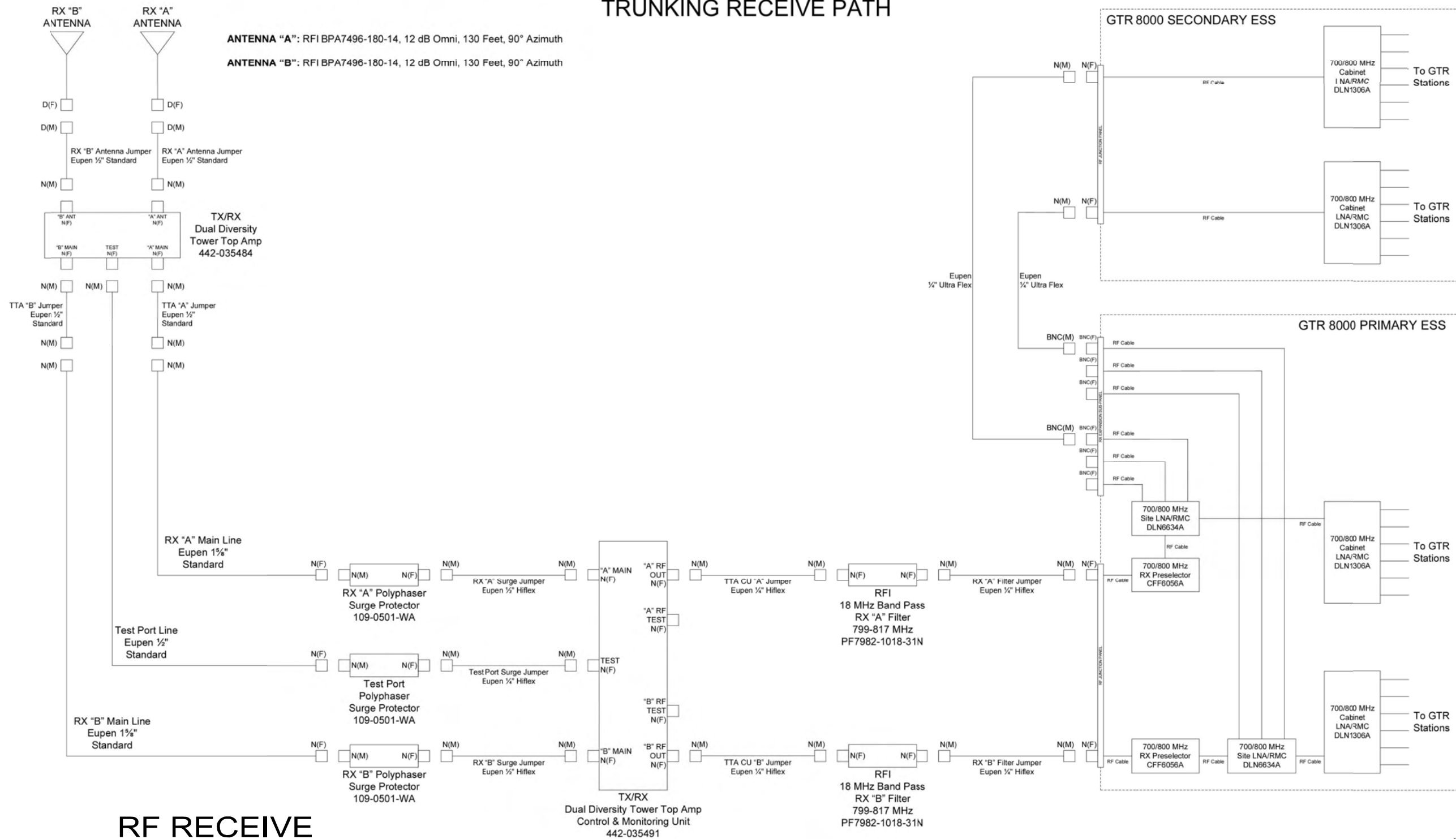
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1/4/2023

TOWN OF WILTON, CT DEER RUN – CLMRN G SUBSYSTEM

TRUNKING RECEIVE PATH



RF RECEIVE PLUMBING DIAGRAM
 1 NOT TO SCALE

SEE MOTOROLA FOR LATEST RF DIAGRAM

11/27/2023

NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



RF RECEIVE PLUMBING DIAGRAM

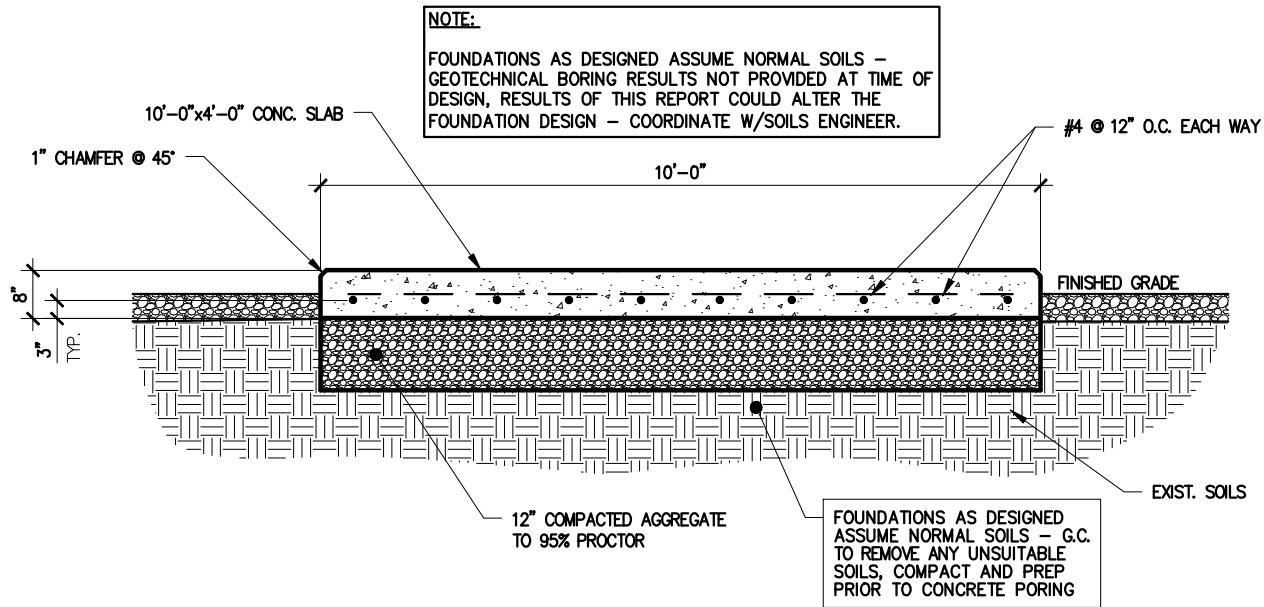
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

C-5.1

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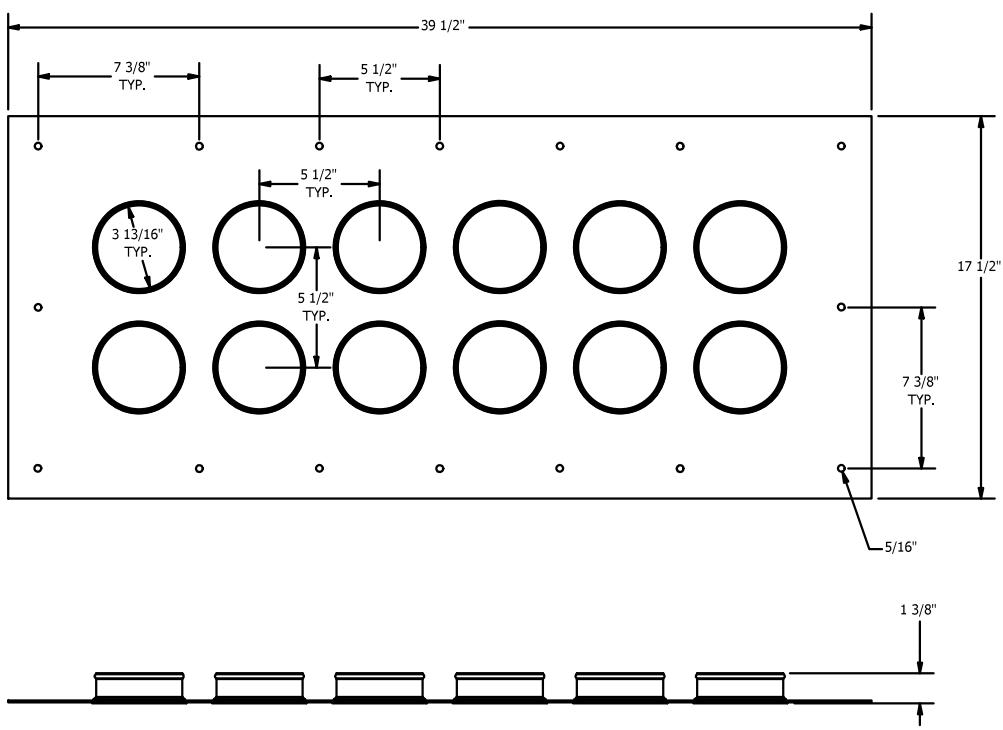
1/4/2023



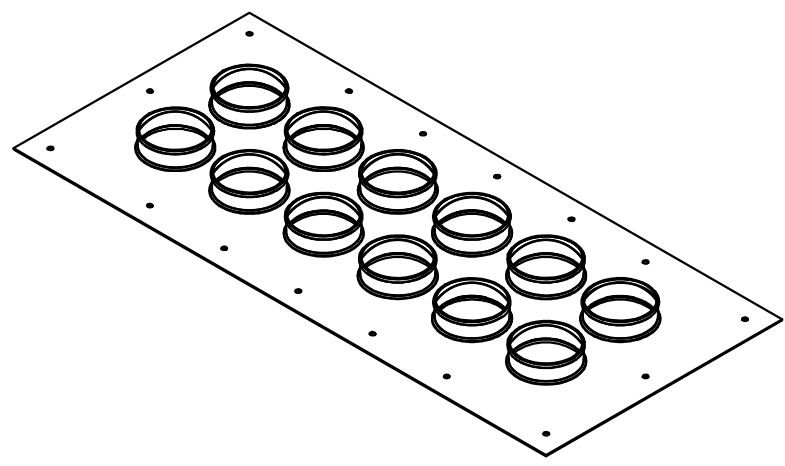
- NOTES:**
1. CONCRETE SHALL ATTAIN A MINIMUM ULTIMATE COMPRESSION STRENGTH OF 4000 PSI WITHIN 28 DAYS.
 2. ALL REBAR TO HAVE A MINIMUM OF 3" CONCRETE COVER.
 3. MINIMUM SOIL BEARING 3000 PSF.

NOTE:
SEE GENERAC INSTALLATION MANUALS FOR GENERATOR BOLT DOWN REQUIREMENTS.

1 Generator Slab Detail
SCALE: 3/8" = 1'-0"

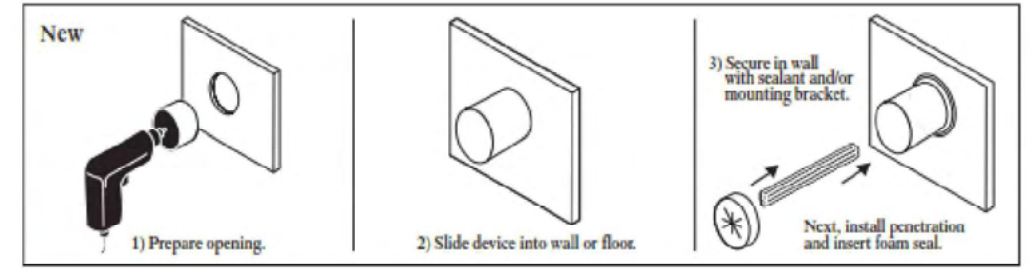
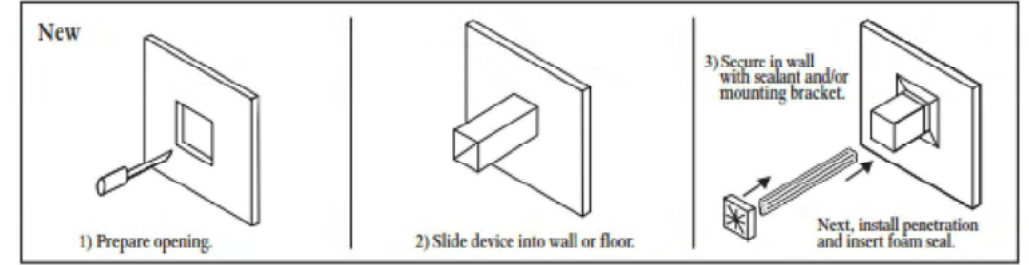


PARTS LIST					
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	NET WT.
1	1	E1336	2X6 4" ENTRY PANEL		16.26



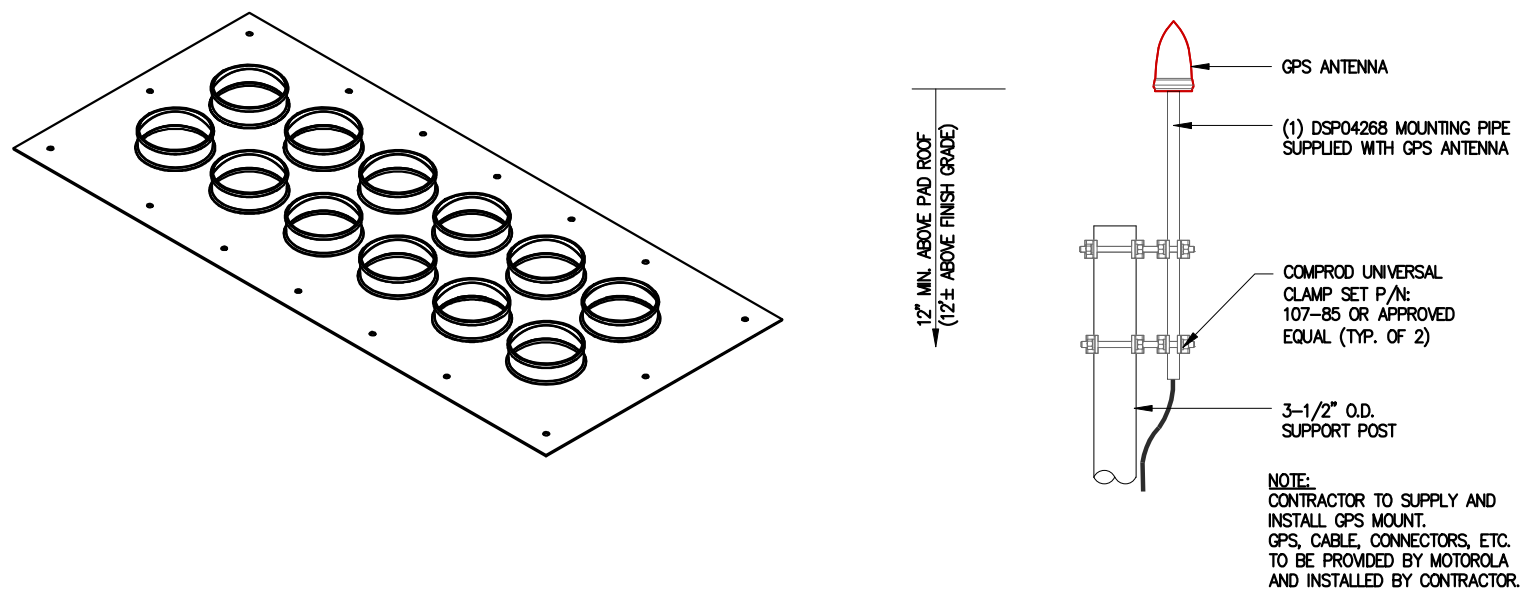
E1336 2X6 4" ENTRY PANEL

3 Entry Panel Detail
NOT TO SCALE



2 Fire Barrier Pass Through Device
NOT TO SCALE

G.C. TO ADD FIRESTOP SEALANT TO ALL PENETRATIONS. FIRESTOP TO BE 3M FIRE BARRIER PASS-THROUGH DEVICE MODEL #98-0400-5539-8 (OR APPROVED EQUAL).



4 GPS Antenna Mounting Detail
SCALE: 3/4" = 1'-0"



December 20, 2023

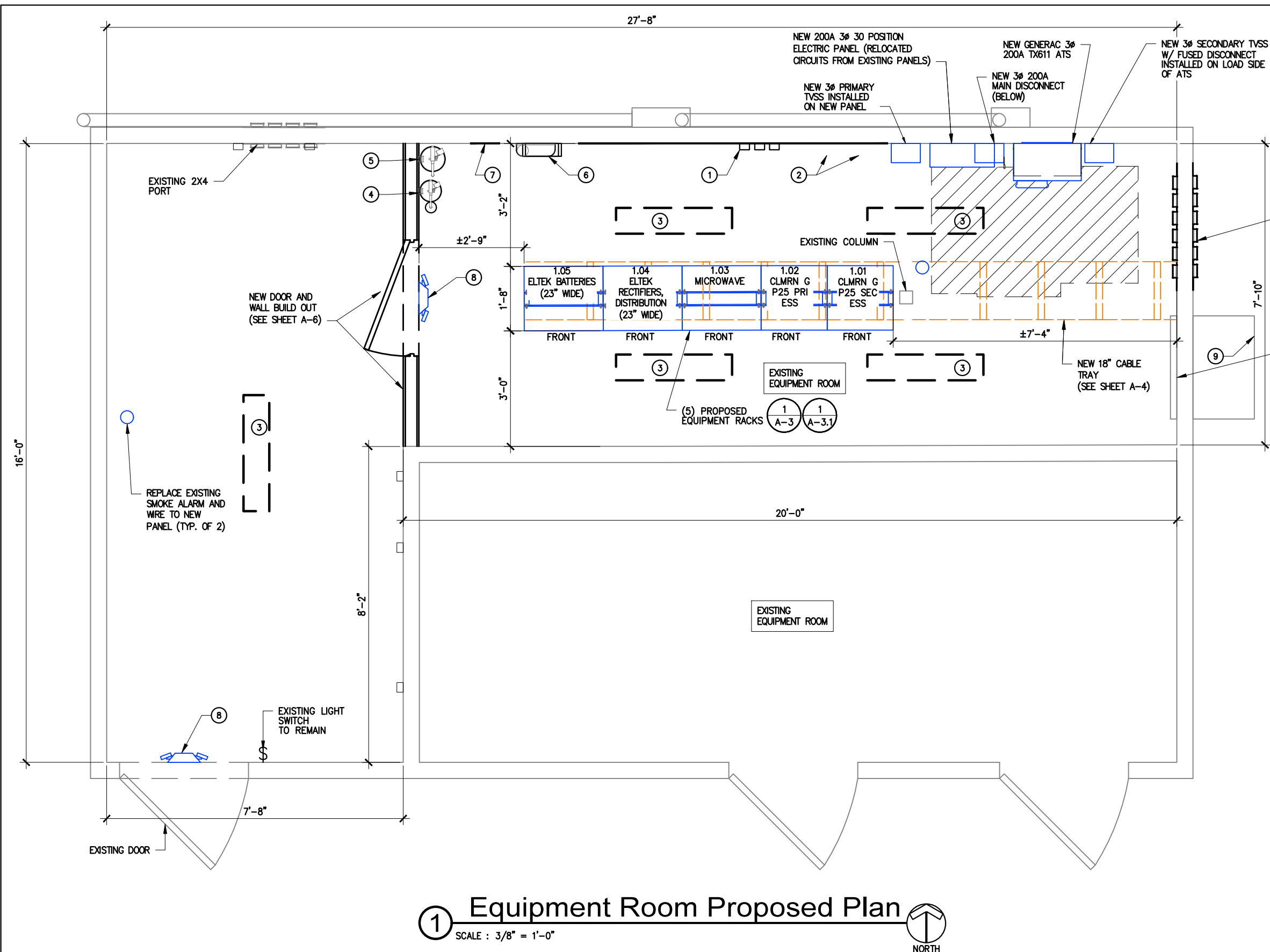
NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



SITE CIVIL DETAILS
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

C-6

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- PLAN NOTES:**
- NEW 4'x8' TELCO BACKBOARD WITH ALARM BLOCK; SUPPLY AND INSTALL SENSORS FOR ALARMING (HI/LO TEMP, DOOR INTRUSION, FIRE, SMOKE, GEN, ATS, ETC.), PUNCH BLOCK AND WIRING OF CONTACT CLOSURES TO ALARM BLOCK
 - EXISTING THERMOSTAT AND HI / LO SENSORS TO BE RELOCATED BACK ON WALL AFTER INSTALLATION OF FRP PANELS ON WALLS
 - NEW 36" SHIELDED 2 BULB FLUORESCENT LIGHT FIXTURE (TYP. OF 5)
 - NEW 10lb CO2 FIRE EXTINGUISHER
 - NEW 20lb ABC FIRE EXTINGUISHER
 - NEW EYE WASH STATION AND FIRST AID KIT
 - NEW NO SMOKING SIGN
 - NEW EXIT SIGN W/ EME LIGHTS
 - G.C. TO FURNISH LABOR TO HAVE HVAC TECHNICIAN PERFORM INSPECTION AND NORMAL PREVENTATIVE MAINTENANCE ON EXISTING HVAC UNITS

- CONSTRUCTION NOTES:**
- ELECTRICAL WORK WITHIN EXISTING ROOM TO ACCOMMODATE NEW EQUIPMENT ROOM BUILDOUT. WORK TO INCLUDE DEMO OF INTERIOR ELECTRIC, REMOVE ALL OLD EQUIPMENT, PROVIDED TEMP FEED OF OLD EQUIPMENT FROM METER, TRANSPORT AND PROPERLY DISPOSE OF OLD HALON SYSTEM, PROVIDE COORDINATED CLEANUP OF OLD TELEPHONE LINES AND BACK EXTERIOR WALL AND RELOCATION OF SMART CARD TO EXTERIOR WITH NORCOM.
 - MOLD REMEDIATION SERVICES FOR CREATION OF NEW EQUIPMENT ROOM. WORK TO INCLUDE SETTING UP FLOOR PROTECTION AND PROVIDING PPE, REMOVING DRYWALL AND INSULATION FROM THE CEILING, CLEANING AND APPLYING ANTIMICROBIAL TO THE UNDERSIDE OF THE SUBFLOOR / ROOF, REMOVING ALL DEBRIS.
 - SANDING AND PAINTING OF EXISTING CONCRETE FLOOR AFTER ALL CONSTRUCTION OF ROOM BUILDOUT IS COMPLETE.
 - RODENT CLEANUP SERVICES TO INCLUDE HEPA VACUUM OF WORK AREA AFTER DEMO, CLEANING OF CONCRETE FLOOR AND SURFACES AND APPLYING ANTIMICROBIAL.
 - G.C. TO INSTALL NEW OUTLETS AROUND EQUIPMENT ROOM; REPLACE WITH LIKE IN OLD LOCATIONS; VERIFYING TO MEET N.E.C., STATE AND LOCAL CODE REQUIREMENTS. WIRE OUTLETS TO NEW PP1 PANEL. (SEE SHEET E-1.1)

Color Legend

- EXISTING EQUIPMENT
- EXISTING CABLE LADDER
- PROPOSED DC EQUIPMENT
- PROPOSED RF EQUIPMENT
- PROPOSED CABLE LADDER
- TEMPORARY EQUIPMENT
- EQUIPMENT TO BE REMOVED



1 Equipment Room Proposed Plan

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

NORTH

NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



EQUIPMENT ROOM PROPOSED PLAN

DEER RUN
160 DEER RUN RD
WILTON, CT 06897

A-2

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Site: Wilton Deer Run-129

Rack #: 1.01
G SEC ESS, RFDS, TTA
 CABLE TRAY
 90"

1.02
G PRI ESS, RFDS, SDM
 CABLE TRAY
 90"

1.03
uWAVE
 CABLE TRAY
 90"

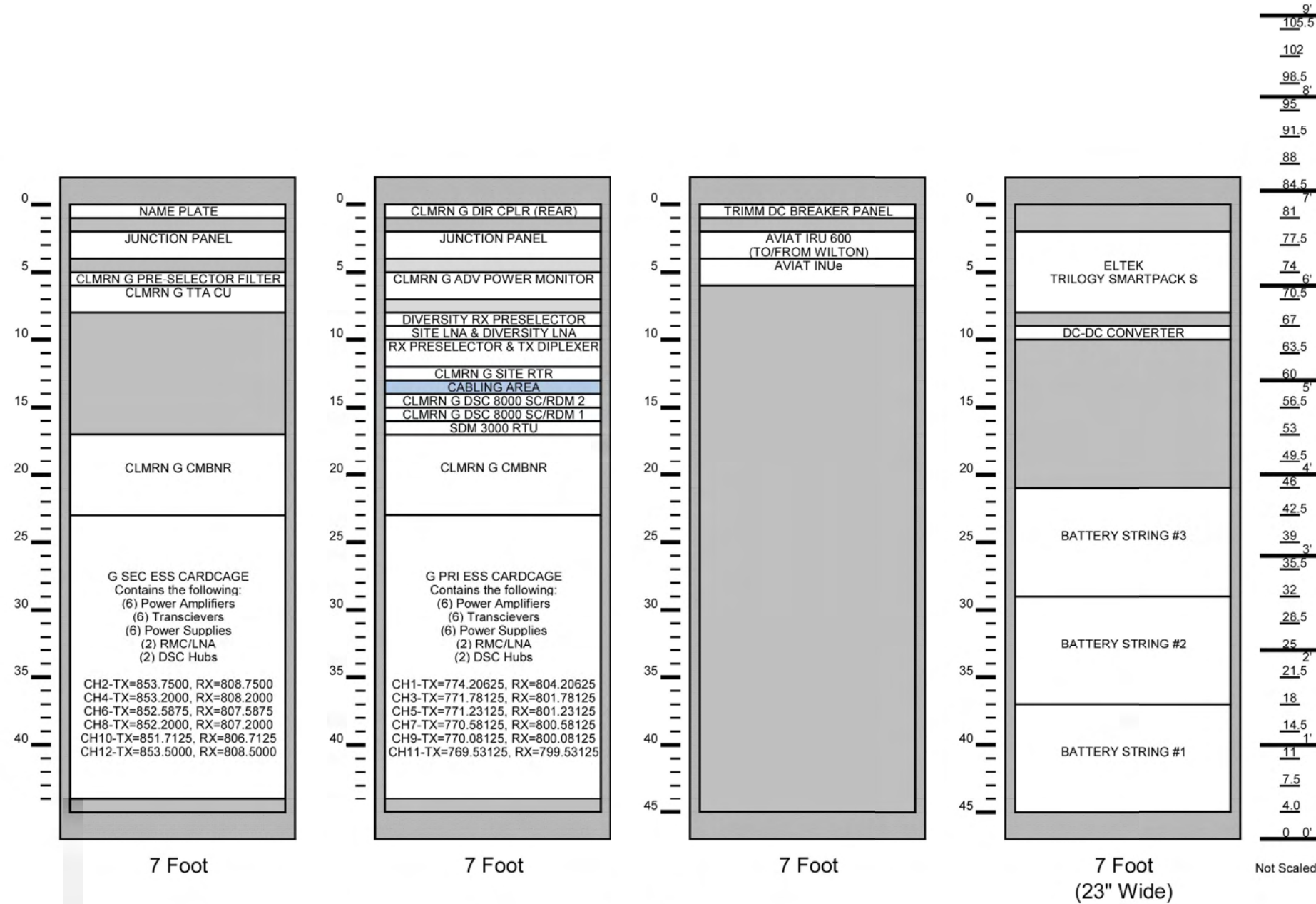
1.04
RECTIFIER, CONVERTER, BATTERIES
 CABLE TRAY
 90"

RU

RU

RU

RU



SEE MOTOROLA
 FOR LATEST RACK
 DIAGRAM

Page 1 of 2
1 Equipment Racks Diagram
 NOT TO SCALE

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



EQUIPMENT RACKS DIAGRAM
 DEER RUN
 160 DEER RUN RD
 WILTON, CT 06897

A-3

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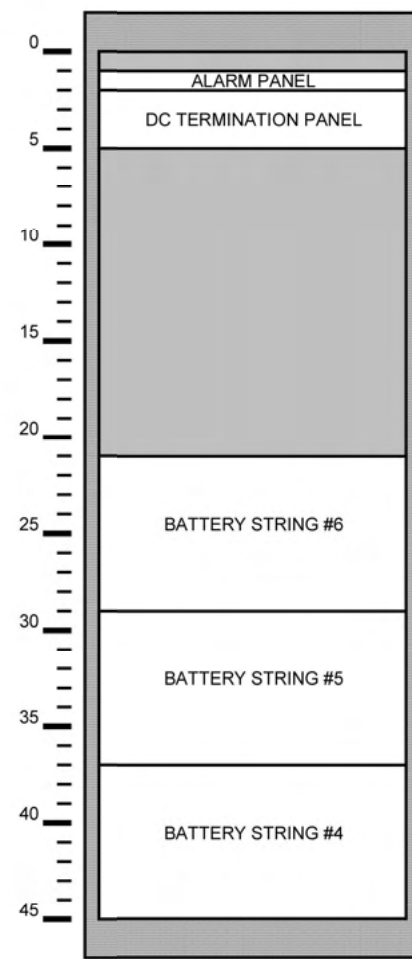
Site: Wilton Deer Run-129

Rack #: 1.05

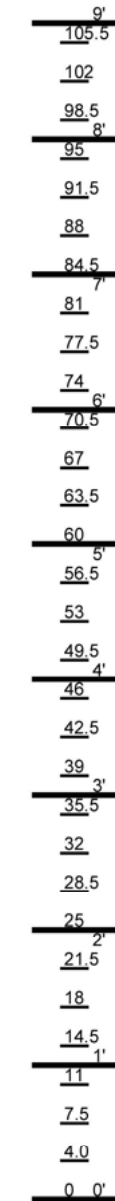
BATTERIES
CABLE TRAY

90"

RU



7 Foot
(23" Wide)



Not Scaled

1 Equipment Racks Diagram
NOT TO SCALE

SEE MOTOROLA
FOR LATEST RACK
DIAGRAM

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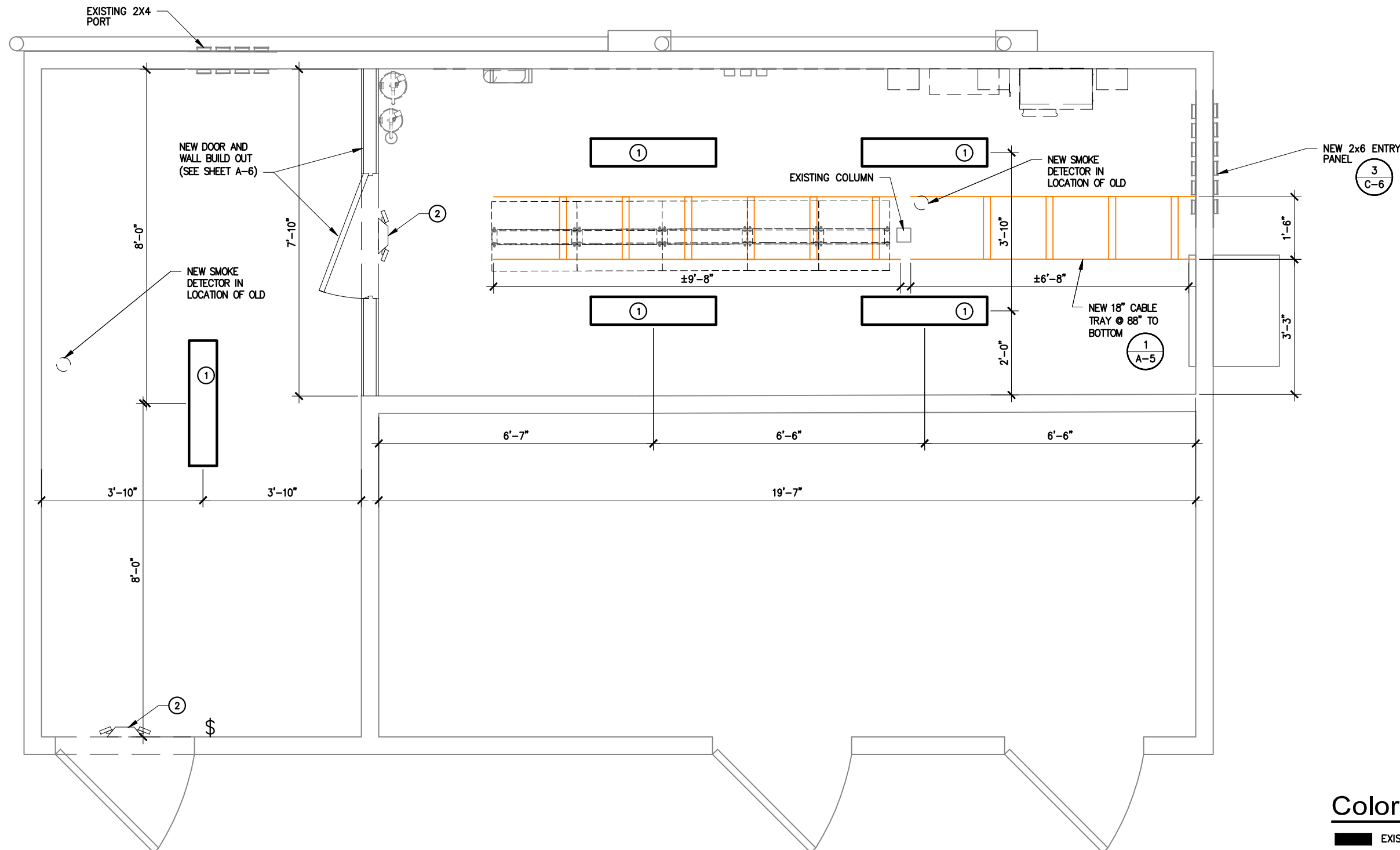
EQUIPMENT RACKS DIAGRAM
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

A-3.1

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PLAN NOTES:

- ① NEW 36" SHIELDED 2 BULB FLUORESCENT LIGHT FIXTURE (TYP. OF 5)
- ② NEW EXIT SIGN W/ EME LIGHTS (ABOVE NEW DOOR)



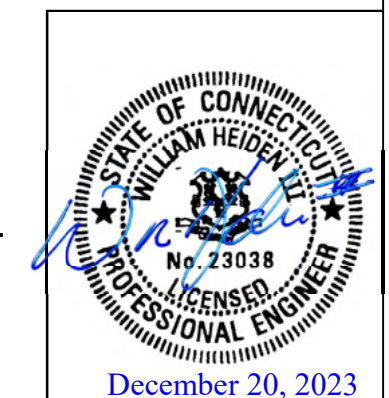
CONSTRUCTION NOTES:

1. ELECTRICAL WORK WITHIN EXISTING ROOM TO ACCOMMODATE NEW EQUIPMENT ROOM BUILDOUT. WORK TO INCLUDE DEMO OF INTERIOR ELECTRIC, REMOVE ALL OLD EQUIPMENT, PROVIDED TEMP FEED OF OLD EQUIPMENT FROM METER, TRANSPORT AND PROPERLY DISPOSE OF OLD HALON SYSTEM, PROVIDE COORDINATED CLEANUP OF OLD TELEPHONE LINES AND BACK EXTERIOR WALL AND RELOCATION OF SMART CARD TO EXTERIOR WITH NORCOM.
2. MOLD REMEDIATION SERVICES FOR CREATION OF NEW EQUIPMENT ROOM. WORK TO INCLUDE SETTING UP FLOOR PROTECTION AND PROVIDING PPE, REMOVING DRYWALL AND INSULATION FROM THE CEILING, CLEANING AND APPLYING ANTIMICROBIAL TO THE UNDERSIDE OF THE SUBFLOOR / ROOF, REMOVING ALL DEBRIS.
3. SANDING AND PAINTING OF EXISTING CONCRETE FLOOR AFTER ALL CONSTRUCTION OF ROOM BUILDOUT IS COMPLETE.
4. RODENT CLEANUP SERVICES TO INCLUDE HEPA VACUUM OF WORK AREA AFTER DEMO, CLEANING OF CONCRETE FLOOR AND SURFACES AND APPLYING ANTIMICROBIAL.
5. G.C. TO INSTALL NEW OUTLETS AROUND EQUIPMENT ROOM; REPLACE WITH LIKE IN OLD LOCATIONS; VERIFYING TO MEET N.E.C., STATE AND LOCAL CODE REQUIREMENTS. WIRE OUTLETS TO NEW PP1 PANEL. (SEE SHEET E-1.1)

① Reflective Ceiling Plan
 SCALE: 3/8" = 1'-0"
 NORTH

Color Legend

- EXISTING EQUIPMENT
- EXISTING CABLE LADDER
- PROPOSED DC EQUIPMENT
- PROPOSED RF EQUIPMENT
- PROPOSED CABLE LADDER
- TEMPORARY EQUIPMENT
- EQUIPMENT TO BE REMOVED



NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	

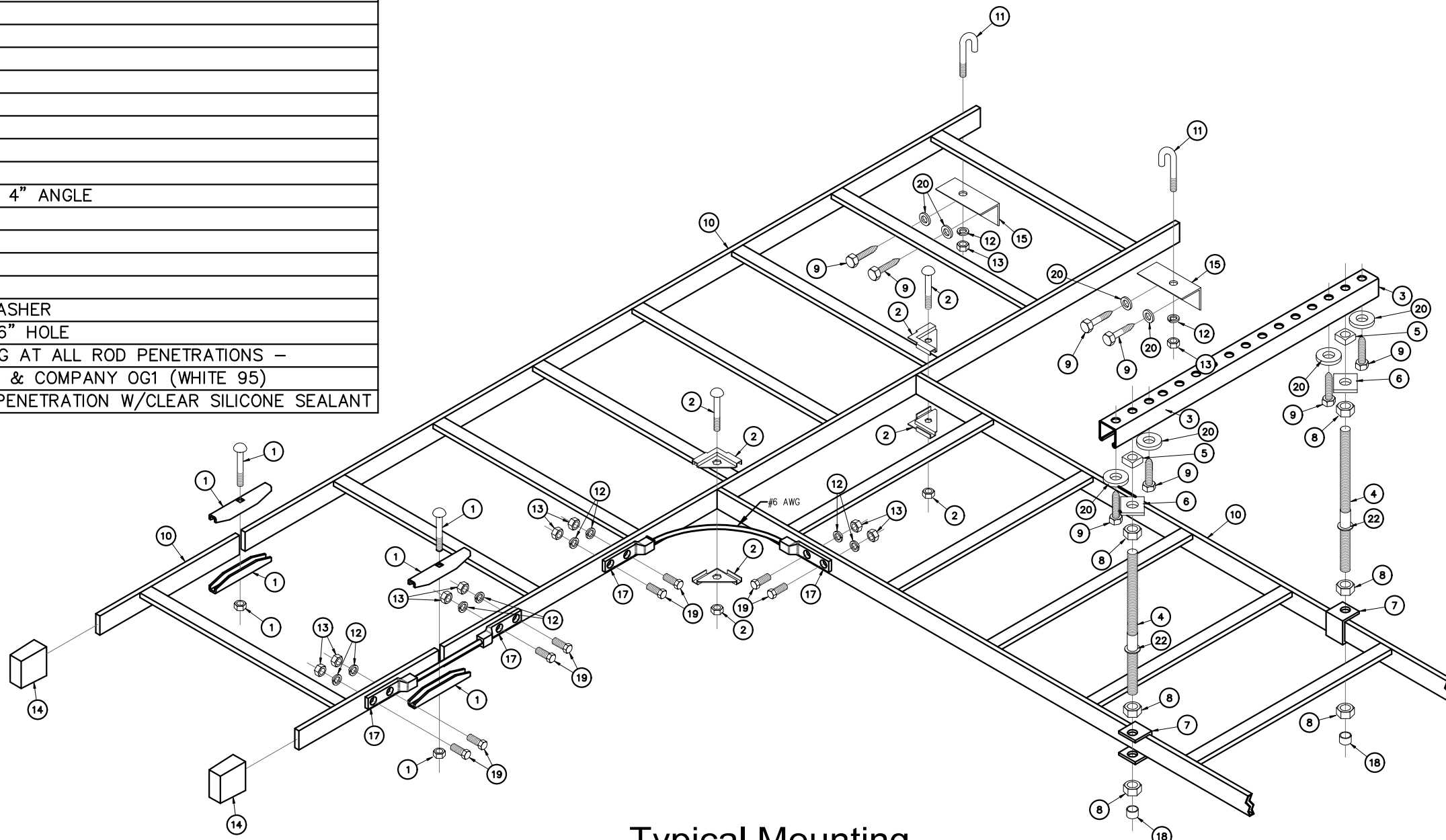


REFLECTED CEILING PLAN
 DEER RUN
 160 DEER RUN RD
 WILTON, CT 06897

A-4

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MATERIAL LIST	
NO	DESCRIPTION
1	SPLICE CLAMP BOLT NUT
2	CORNER CLAMP BOLT
3	KINDORF CHANNEL – FIELD VERIFY LENGTH
4	5/8" – 11 THREADED ROD
5	SQUARE NUT – 5/8"
6	SQUARE WASHER
7	BRACKET
8	NUT
9	TAP CON
10	18" SOLID BAR
11	J-BOLT
12	LOCK WASHER
13	NUT
14	END CAPS
15	1 3/4" x 1 3/4" x 1/8" x 4" ANGLE
16	NOT USED
17	2-HOLE LUG W/ #6 WIRE
18	PLASTIC PROTECTION CAP
19	1/4" X 1" BOLT
20	1/4" X 1" FENDER FLAT WASHER
21	BRACKET, WALL CLIP– 7/16" HOLE
22	WHITE GROMMETS IN CEILING AT ALL ROD PENETRATIONS – SIMILAR TO DOUG MOCKETT & COMPANY OG1 (WHITE 95) (800-523-1269) – SEAL PENETRATION W/CLEAR SILICONE SEALANT



1 Typical Mounting For Ladder Rack
SCALE: N.T.S.

STATE OF CONNECTICUT
WILLIAM HEIDEN, II
No. 23038
LICENSED PROFESSIONAL ENGINEER
December 20, 2023

NO.	DATE	REVISIONS	BY	CHK	APP'D
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E	07-10-23	PRELIM LEASE EXHIBIT – REVISED PER STRUCTURAL	RNV	SAH	



TYPICAL MOUNTING FOR LADDER RACK
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

A-5

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Room Finish Schedule

Room No.	Name	Floor	Base	Walls				Ceiling Type	Ceiling Height	Remarks
				N	E	S	W			
101	EQUIPMENT ROOM	PT-1	RB-1	FRP	FRP	FRP	FRP	FRP	TBD	

Door Finish Schedule

Door #	Size	Material	Door Elevation	Frame Elevation	Hardware Set	Rating	Notes
101A	3'-0" x 7'-0" x 1 3/4"	INS. HM	F	1	1	-	

Color Legend

WALLS	FRP	SMOOTH WHITE FRP
FLOOR	PT-1	ANTISTATIC EPOXY
BASE	RB-1	ARMSTRONG, 4" COVE BASE, #12 SHADOW GRAY
CEILINGS	FRP	SMOOTH WHITE FRP

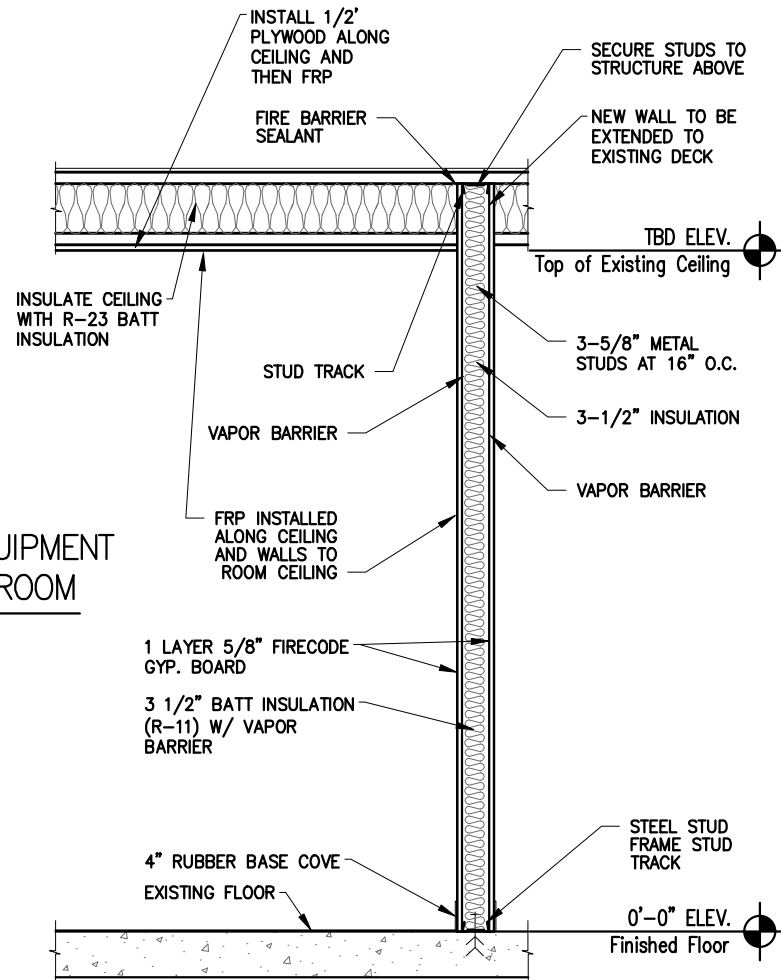
Hardware Schedule

HARDWARE: SET #1 1.5 PR HINGES, STOREROOM FUNCTION LOCKSET, DEADBOLT, PERIMETER DOOR SEALS, AUTOMATIC BOTTOM SWEEPS

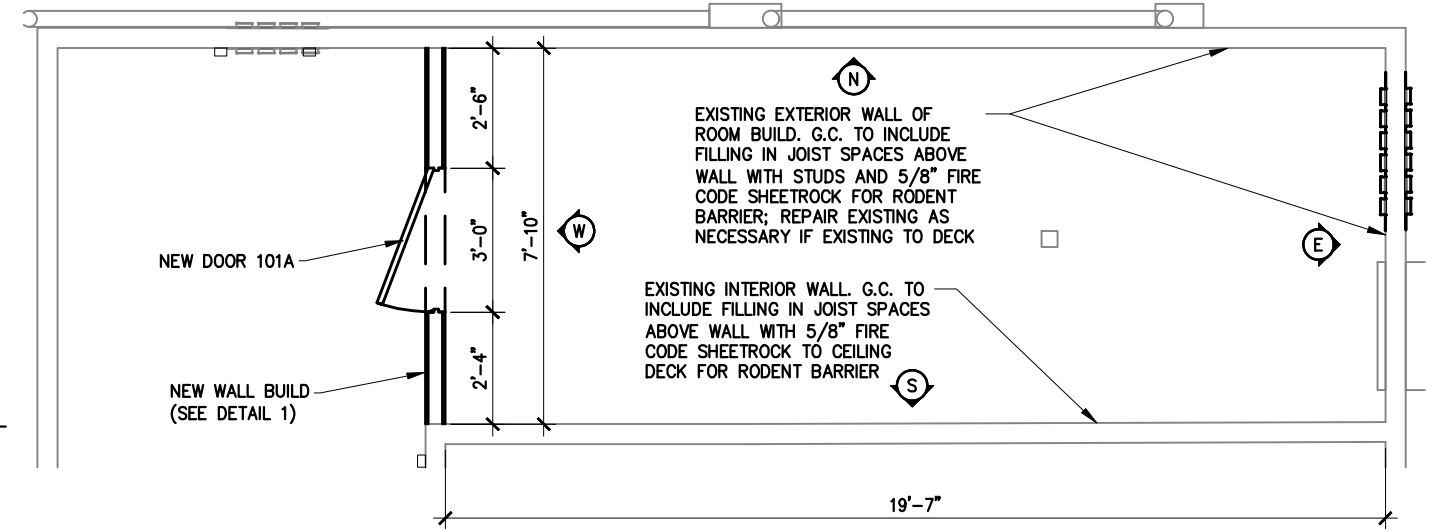
Finish Material Legend

FLOOR	BASE	WALLS	CEILING
CVT = Conductive Vinyl Tile EXT = Existing EXP = Exposed PT = Paint SVT = Solid Vinyl Tile VCT = Vinyl Composition Tile SDT = Static Dissipative Tile	EXT = Existing EXP = Exposed RB = Rubber	BL = Block BRK = Brick EXT = Existing EXP = Exposed PT = Paint FRP = Fiberglass Reinforced Plastic Panel	AT = Acoustical Tile (Vinyl Sided) EXT = Existing EXP = Exposed GYB = Gyp. Bd. PL = Plaster FRP = Fiberglass Reinforced Plastic Panel

EQUIPMENT ROOM DETAILS SHOWN BASED ON INITIAL SITE WALK. UPON SITE PLAN APPROVAL, SCOPE WILL BE DEFINED AND ALL DETAILS ASSOCIATED WITH THE DEVELOPMENT OF THIS EQUIPMENT ROOM WILL BE INCLUDED IN THE CONSTRUCTION DOCUMENTS.



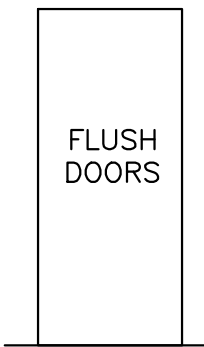
1 Wall Section
NOT TO SCALE



2 Wall Plan
SCALE: 1/4"=1'-0"

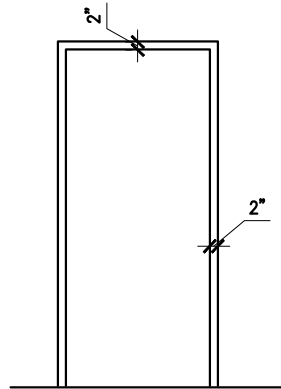
- CONSTRUCTION NOTES:**
- CARPENTRY SERVICES TO INCLUDE CONSTRUCTION OF AN 8' LONG WALL MADE OF STEEL STUDS AND 5/8 FIRE CODE SHEET ROCK BETWEEN WALLS FROM FLOOR TO CEILING, INSTALLATION OF A 3'X7' STEEL DOOR WITH KNOCKDOWN STEEL FRAME, KEYED LOCK, BALL BEARING HINGES AND DOOR SWEEP. FRAME OUT NEW EQUIPMENT ROOM TO INCLUDE FILLING IN JOIST SPACES ABOVE WALL WITH 5/8 FIRE CODE SHEETROCK FOR RODENT BARRIER, INSULATE CEILING WITH R-23 BATT INSULATION, PROVIDE AND INSTALL 1/2 PLYWOOD AND THEN FRP ON CEILING AND WALLS OF NEW EQUIPMENT ROOM AND FINISH OUT, CUT OPENING AND FRAME OUT NEW ENTRY PORT, PATCH ALL EXTERIOR HOLES AS DISCUSSED AND PAINT TO MATCH BUILDING EXTERIOR, AND PROVIDE NEW DOOR CLOSER FOR EXTERIOR ENTRY DOOR.
 - MOLD REMEDIATION SERVICES FOR CREATION OF NEW EQUIPMENT ROOM. WORK TO INCLUDE SETTING UP FLOOR PROTECTION AND PROVIDING PPE, REMOVING DRYWALL AND INSULATION FROM THE CEILING, CLEANING AND APPLYING ANTIMICROBIAL TO THE UNDERSIDE OF THE SUBFLOOR / ROOF, REMOVING ALL DEBRIS.
 - SANDING AND PAINTING OF EXISTING CONCRETE FLOOR AFTER ALL CONSTRUCTION OF ROOM BUILDOUT IS COMPLETE.
 - RODENT CLEANUP SERVICES TO INCLUDE HEPA VACUUM OF WORK AREA AFTER DEMO, CLEANING OF CONCRETE FLOOR AND SURFACES AND APPLYING ANTIMICROBIAL.
 - PATCH ALL EXTERIOR HOLES AS AND PAINT TO MATCH BUILDING EXTERIOR, AND PROVIDE NEW DOOR CLOSER FOR EXTERIOR ENTRY DOOR.

DOOR TYPES



TYPE 'F'

DOOR FRAMES



1

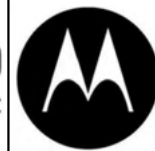
CONTRACTOR TO VERIFY ROUGH OPENINGS IN FIELD

CONTRACTOR TO SEAL AROUND PERIMETER OF DOOR USING EMSEAL AST HI-ACRYLIC SEALANT OR APPROVED EQUAL - PROVIDE DRIP CAP AS REQUIRED

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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



6202 Constitution Drive, Suite C
Fort Wayne, IN 46804



WALL SECTIONS AND DETAILS

DEER RUN
160 DEER RUN RD
WILTON, CT 06897

A-6



December 20, 2023

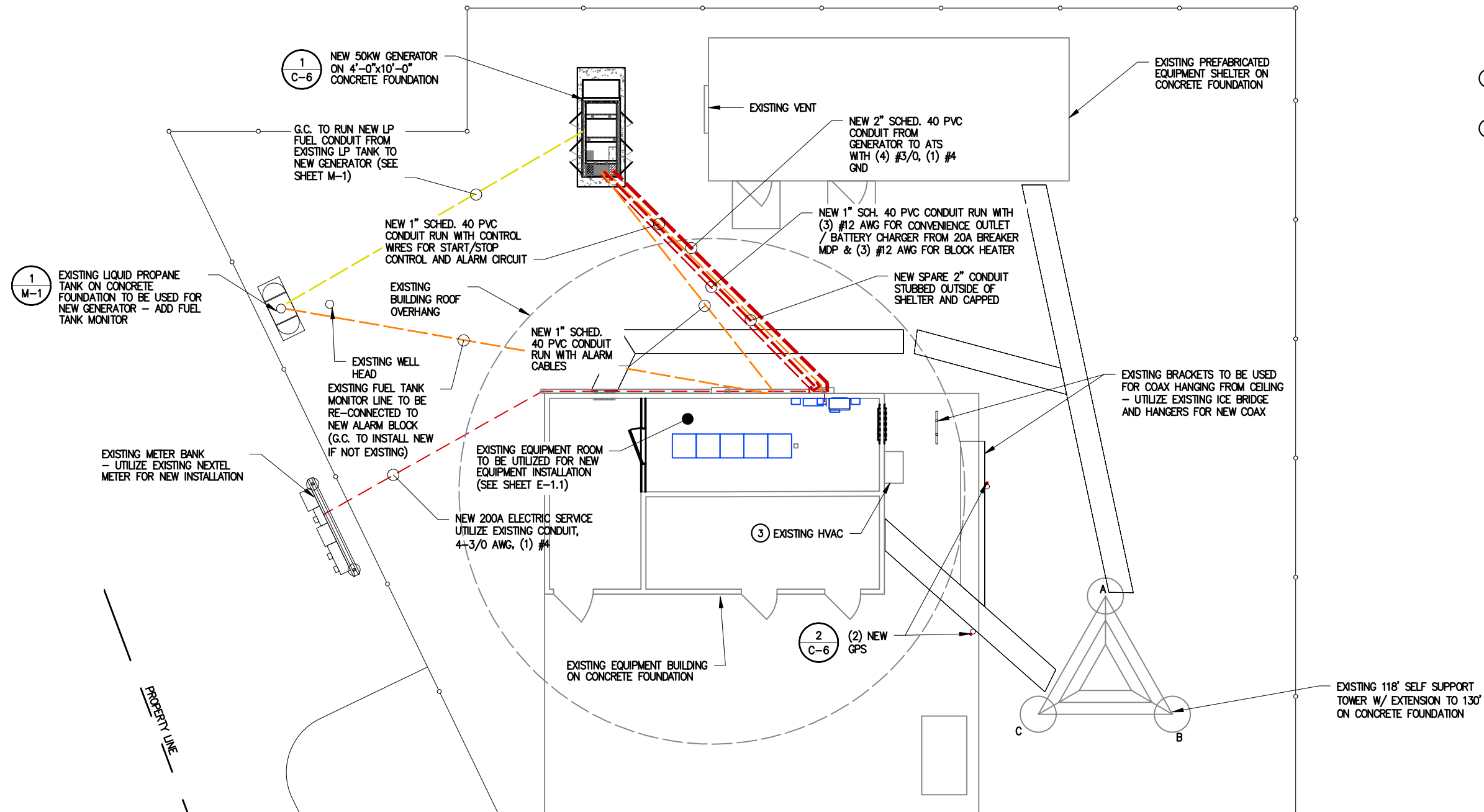
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CONSTRUCTION NOTES:

- ① ELECTRICAL WORK WITHIN EXISTING ROOM TO ACCOMMODATE NEW EQUIPMENT ROOM BUILDOUT. WORK TO INCLUDE DEMO OF INTERIOR ELECTRIC, REMOVE ALL OLD EQUIPMENT, PROVIDED TEMP FEED OF OLD EQUIPMENT FROM METER, TRANSPORT AND PROPERLY DISPOSE OF OLD HALON SYSTEM, PROVIDE COORDINATED CLEANUP OF OLD TELEPHONE LINES AND BACK EXTERIOR WALL AND RELOCATION OF SMART CARD TO EXTERIOR WITH NORCOM.
- ② PATCH ALL EXTERIOR HOLES AS AND PAINT TO MATCH BUILDING EXTERIOR, AND PROVIDE NEW DOOR CLOSER FOR EXTERIOR ENTRY DOOR.
- ③ FURNISH LABOR TO HAVE HVAC TECHNICIAN PERFORM INSPECTION AND NORMAL PREVENTATIVE MAINTENANCE ON EXISTING HVAC UNITS

NOTE:
SEE SHEET E-3 ONE LINE DIAGRAM FOR COMPLETE CONDUIT AND WIRE SIZING



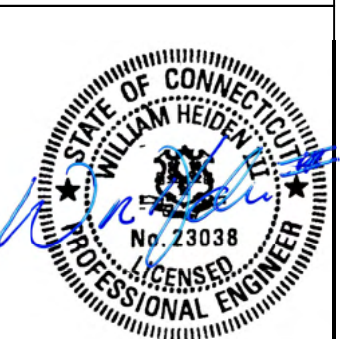
Utility Color Legend

- █ ELECTRIC
- █ GAS, OIL, STEAM
- █ COMMUNICATIONS
- █ POTABLE WATER
- █ RECLAIMED WATER
- █ SEWER/ DRAINAGE
- █ SURVEY MARKS

Site Utility Plan



1-800-922-4455
CALL TOLL FREE



December 20, 2023

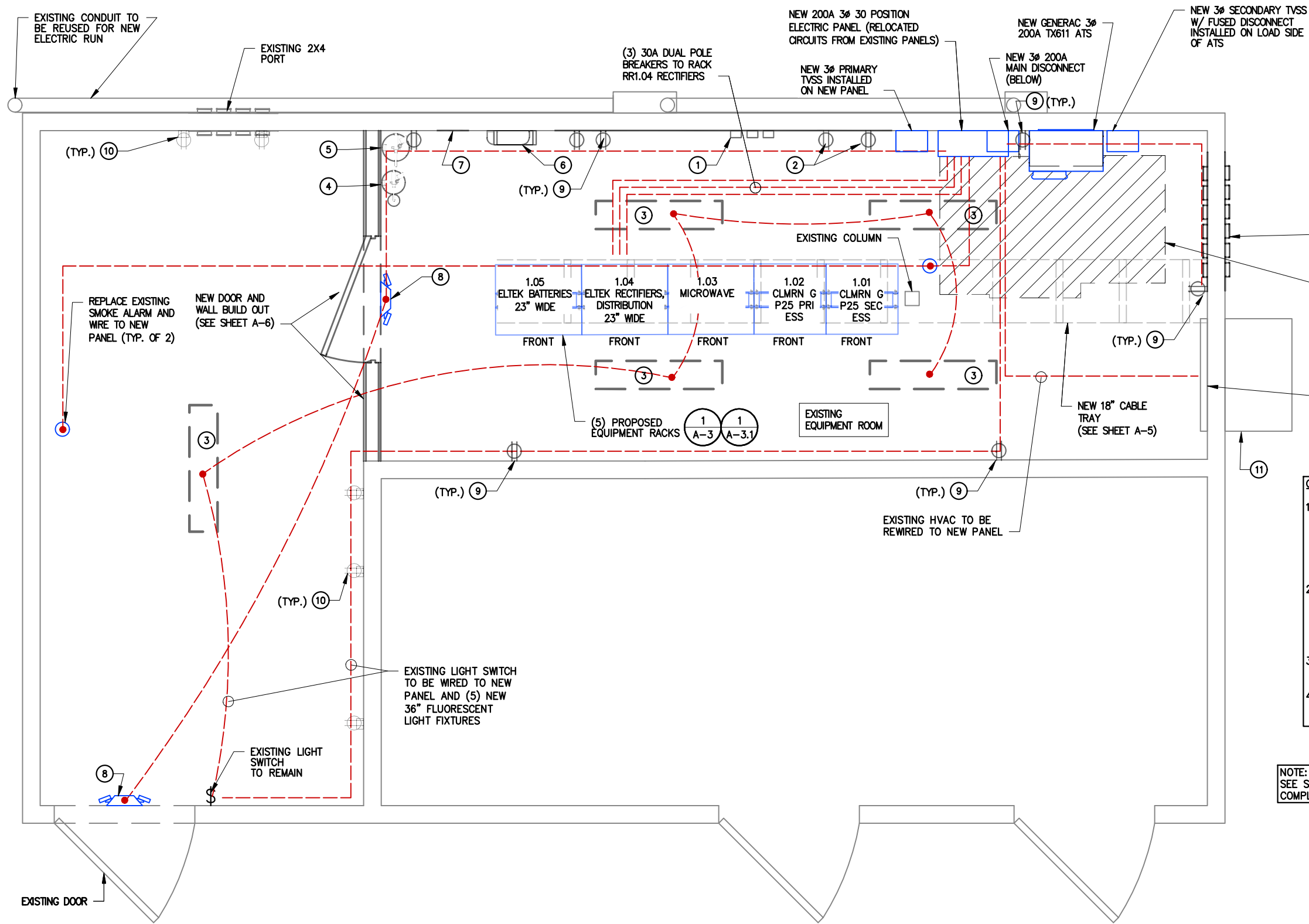
NO.	DATE	REVISIONS	BY	CHK	APP'D
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G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



SITE UTILITY PLAN
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

E-1

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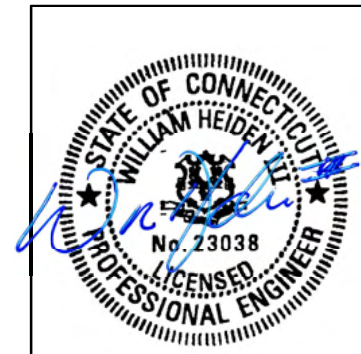
PLAN NOTES:

- ① NEW 4'x8' TELCO BACKBOARD WITH ALARM BLOCK; SUPPLY AND INSTALL SENSORS FOR ALARMING (HI/LO TEMP, DOOR INTRUSION, FIRE, SMOKE, GEN, ATS, ETC.), PUNCH BLOCK AND WIRING OF CONTACT CLOSURES TO ALARM BLOCK
- ② EXISTING THERMOSTAT AND HI / LO SENSORS TO BE RELOCATED BACK ON WALL AFTER INSTALLATION OF FRP PANELS ON WALLS
- ③ NEW 36" SHIELDED 2 BULB FLUORESCENT LIGHT FIXTURE (TYP. OF 5)
- ④ NEW 10lb CO2 FIRE EXTINGUISHER
- ⑤ NEW 20lb ABC FIRE EXTINGUISHER
- ⑥ NEW EYE WASH STATION AND FIRST AID KIT
- ⑦ NEW NO SMOKING SIGN
- ⑧ NEW EXIT SIGN W/ EME LIGHTS (ABOVE DOOR)
- ⑨ G.C. TO PROVIDE & INSTALL NEW OUTLETS AROUND EQUIPMENT ROOM. COMPLY WITH NEC & LOCAL CODE. WIRE OUTLETS TO NEW PPI PANEL.
- ⑩ G.C. TO RE-WIRE EXISTING OUTLETS IN ENTRY HALL AREA TO NEW PANEL. VERIFY WITH BUILDING OWNER / CONSTRUCTION MANAGER REQUIRED NUMBER OF CIRCUITS. COMPLY WITH NEC & LOCAL CODE.
- ⑪ G.C. TO FURNISH LABOR TO HAVE HVAC TECHNICIAN PERFORM INSPECTION AND NORMAL PREVENTATIVE MAINTENANCE ON EXISTING HVAC UNITS

CONSTRUCTION NOTES:

1. ELECTRICAL WORK WITHIN EXISTING ROOM TO ACCOMMODATE NEW EQUIPMENT ROOM BUILDOUT. WORK TO INCLUDE DEMO OF INTERIOR ELECTRIC, REMOVE ALL OLD EQUIPMENT, PROVIDED TEMP FEED OF OLD EQUIPMENT FROM METER, TRANSPORT AND PROPERLY DISPOSE OF OLD HALON SYSTEM, PROVIDE COORDINATED CLEANUP OF OLD TELEPHONE LINES AND BACK EXTERIOR WALL AND RELOCATION OF SMART CARD TO EXTERIOR WITH NORCOM.
2. MOLD REMEDIATION SERVICES FOR CREATION OF NEW EQUIPMENT ROOM. WORK TO INCLUDE SETTING UP FLOOR PROTECTION AND PROVIDING PPE, REMOVING DRYWALL AND INSULATION FROM THE CEILING, CLEANING AND APPLYING ANTIMICROBIAL TO THE UNDERSIDE OF THE SUBFLOOR / ROOF, REMOVING ALL DEBRIS.
3. SANDING AND PAINTING OF EXISTING CONCRETE FLOOR AFTER ALL CONSTRUCTION OF ROOM BUILDOUT IS COMPLETE.
4. RODENT CLEANUP SERVICES TO INCLUDE HEPA VACUUM OF WORK AREA AFTER DEMO, CLEANING OF CONCRETE FLOOR AND SURFACES AND APPLYING ANTIMICROBIAL.

NOTE:
SEE SHEET E-3 ONE LINE DIAGRAM FOR COMPLETE CONDUIT AND WIRE SIZING



December 20, 2023

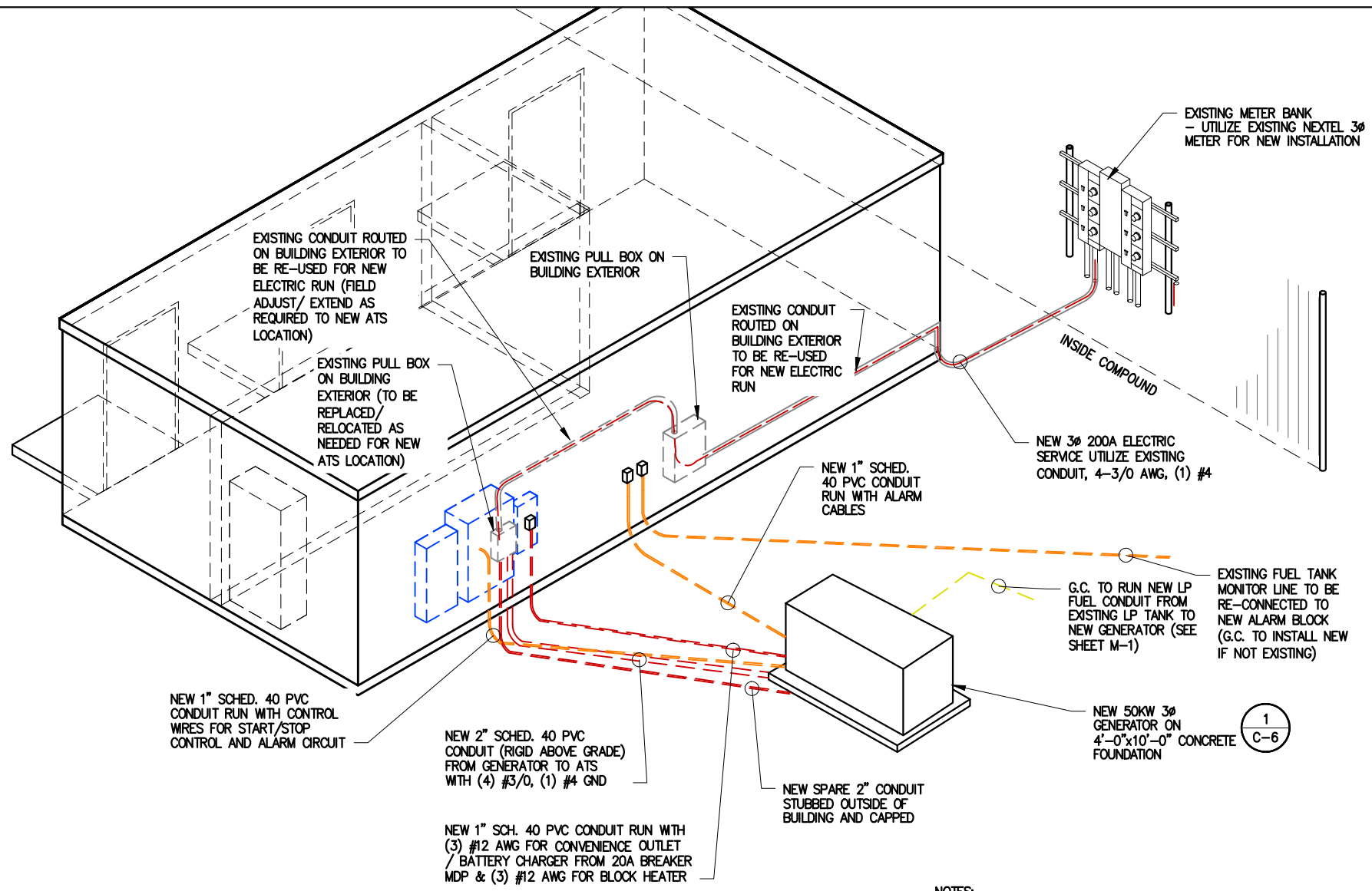
Equipment Room Utility Plan
SCALE : 3/8" = 1'-0"
NORTH

NO.	DATE	REVISIONS	BY	CHK	APP'D
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



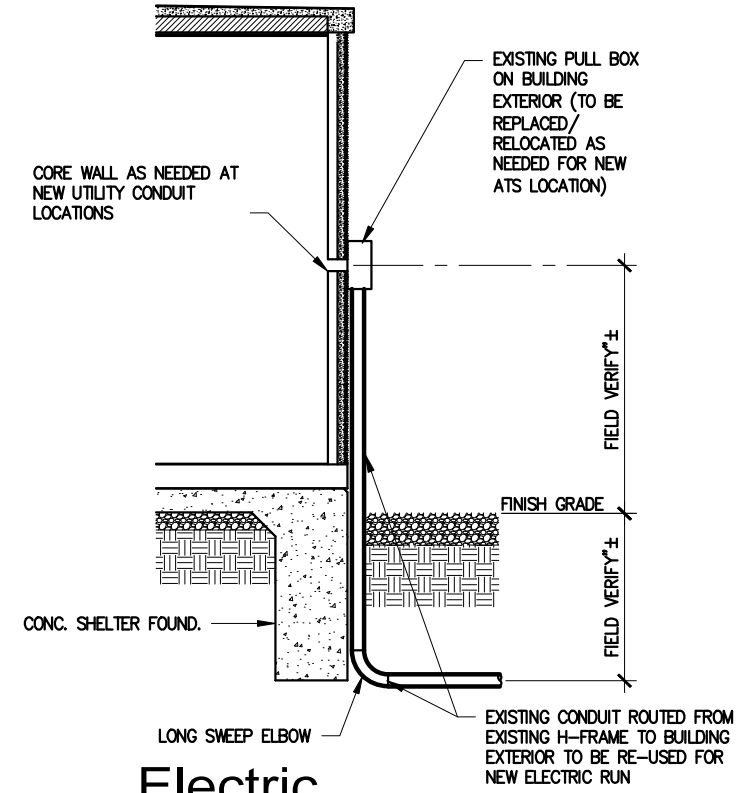
EQUIPMENT ROOM UTILITY PLAN
DEER RUN
160 DEER RUN RD
WILTON, CT 06897
E-1.1

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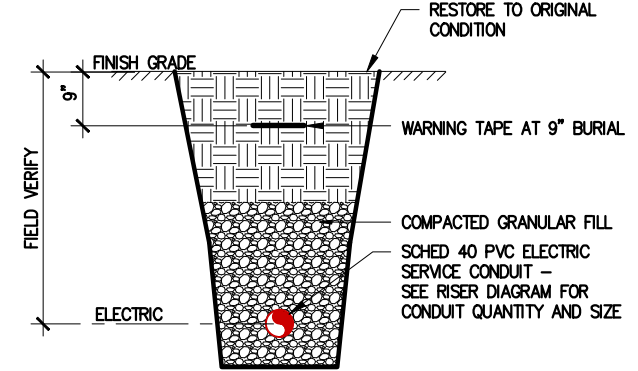


1 Utility Riser Diagram
NO SCALE

NOTES:
CONTRACTOR TO COORDINATE ALL INSPECTIONS.
ALL CONDUIT ELBOWS TO BE LONG SWEEP 90° ONLY.
NO SHARP BENDS.
CONTRACTOR SHALL SUPPLY DETECTABLE METALLIC FLAT "MULE" TAPE IN ALL UTILITY CONDUIT BETWEEN H-FRAME AND EQUIPMENT SHELTER



2 Electric Service Entrance
SCALE: 1/4" = 1'-0"



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

GENERAL NOTES:

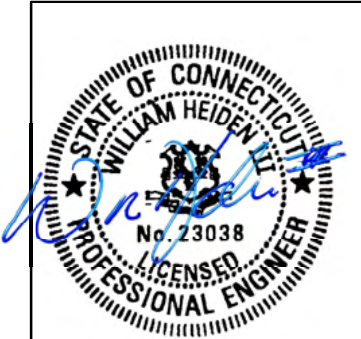
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70, THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTIONS AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATION WHICH VOID THE U.L. LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
- COORDINATE ELECTRIC SERVICE WITH LOCAL POWER UTILITY COMPANY. COORDINATE WITH UTILITY FOR METER TYPE AND CONNECTION.
- ALL CONDUIT SHALL BE SEALED WATERTIGHT UNTIL FINAL TERMINATION'S ARE MADE.
- PROVIDE PULL CORD IN ALL CONDUITS. SECURE AT EACH END.
- ADJUST DEPTH OF CONDUITS TO PASS ABOVE GROUNDING SYSTEM.
- PROVIDE 18 INCH (MIN.) RADIUS ELBOWS FOR ALL BENDS.
- PROVIDE PHENOLIC ENGRAVED NAMEPLATES AT THE SERVICE DISCONNECT NEUTRAL SHALL BE PULLED WHEN REQUIRED BY UPS MANUFACTURER LABELED; "SERVICE DISCONNECT" (PER NEC 230-70). PROVIDE ADDITIONAL NAMEPLATES NOTING TYPE AND LOCATION OF STANDBY POWER SOURCE.

SERVICE CONDUIT:

- PROVIDE PVC SCH 40 (OUTSIDE), PVC SCH 80 (OUTSIDE IN TRAFFIC AREAS) CONDUIT FOR ALL POWER & ALARM/CONTROL REQUIREMENTS - WIRING PROVIDED BY CONTRACTOR.
- COORDINATE LOCATION OF GENERATOR POWER AND CONTROL WITH GENERATOR EQUIPMENT INSTALLATION & SHELTER MANUFACTURER DRAWINGS.
- MOSCAD CONTROL PANEL FURNISHED BY SHELTER MANUFACTURER &: INSTALLED BY CONTRACTOR UNDER THIS CONTRACT. GENERATOR REMOTE RELAY PANEL PROVIDED & INSTALLED BY SHELTER MANUFACTURER.

Utility Color Legend

- ELECTRIC
- GAS, OIL, STEAM
- COMMUNICATIONS
- POTABLE WATER
- RECLAIMED WATER
- SEWER/ DRAINAGE
- SURVEY MARKS



December 20, 2023

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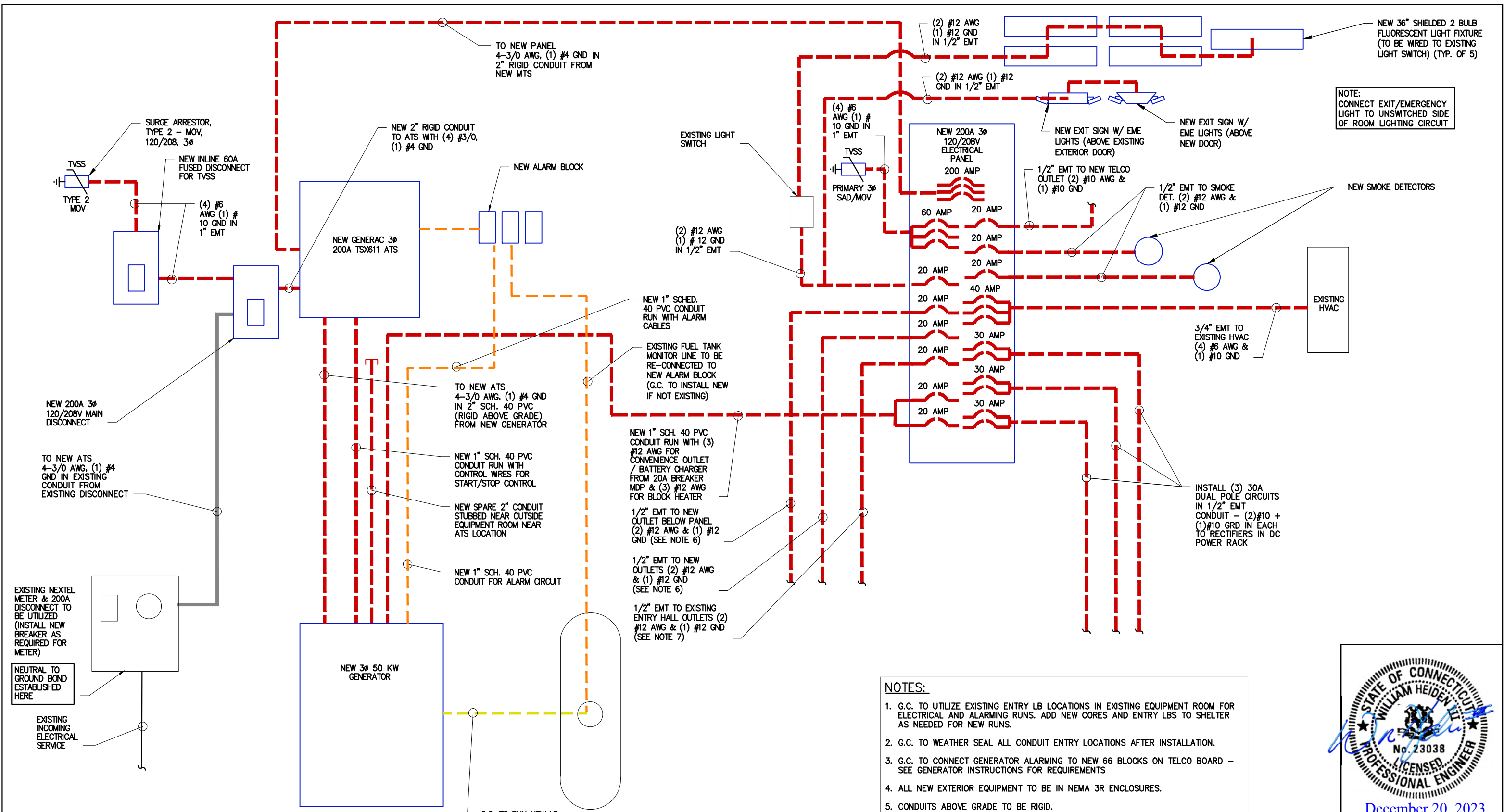
EXTERIOR ELECTRICAL DETAILS

DEER RUN
160 DEER RUN RD
WILTON, CT 06897

E-2

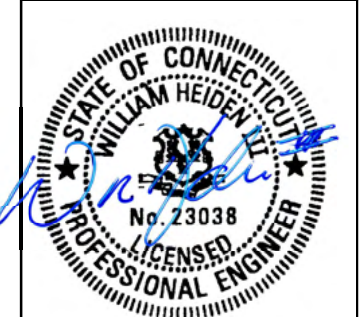
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NOTE:
CONNECT EXIT/EMERGENCY
LIGHT TO UNSWITCHED SIDE
OF ROOM LIGHTING CIRCUIT

- NOTES:**
- G.C. TO UTILIZE EXISTING ENTRY LB LOCATIONS IN EXISTING EQUIPMENT ROOM FOR ELECTRICAL AND ALARMING RUNS. ADD NEW CORES AND ENTRY LBS TO SHELTER AS NEEDED FOR NEW RUNS.
 - G.C. TO WEATHER SEAL ALL CONDUIT ENTRY LOCATIONS AFTER INSTALLATION.
 - G.C. TO CONNECT GENERATOR ALARMING TO NEW 66 BLOCKS ON TELCO BOARD - SEE GENERATOR INSTRUCTIONS FOR REQUIREMENTS
 - ALL NEW EXTERIOR EQUIPMENT TO BE IN NEMA 3R ENCLOSURES.
 - CONDUITS ABOVE GRADE TO BE RIGID.
 - G.C. TO PROVIDE & INSTALL NEW OUTLETS AROUND EQUIPMENT ROOM. COMPLY WITH NEC & LOCAL CODE. WIRE OUTLETS TO NEW PP1 PANEL
 - G.C. TO RE WIRE EXISTING OUTLETS TO NEW PANEL. VERIFY WITH BUILDING OWNER / CONSTRUCTION MANAGER REQUIRED NUMBER OF CIRCUITS & PLACEMENT. COMPLY WITH NEC & LOCAL CODE.



December 20, 2023

1 One-Line Diagram
NO SCALE

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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



ONE LINE DIAGRAM
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

E-3

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MOUNTING:		NEW PANEL										PP1			MAIN			200 AMP					
NEW CIRCUITS		120		208		VOLTS		3 PHASE		4 WIRE		Y			BUS								
LOCATION	VOLT AMPS			CO ND UIT	G A G	U R D	R K R	C K T	BUS			C K T	B R R	G R D	G U A	CO ND UIT	VOLT AMPS			LOCATION			
	φ A	φ B	φ C						A	B	C						φ A	φ B	φ C				
TVSS				1"	6	10	60	3				2									HVAC		
SMOKE				1/2"	12	12	20	7				4	40	10	8	1/2"						SMOKE	
NEW OUTLETS				1/2"	12	12	20	9				10	30	10	10	1/2"						RECTIFIER	
NEW OUTLET BELOW PANEL				1/2"	12	12	20	11				12											
EXISTING ENTRY HALL OUTLETS				1/2"	12	12	20	13				14	30	10	10	1/2"						RECTIFIER	
GEN BATT CHARGER/ BATT HEAT				1/2"	12	12	20	15				16											
GEN BLOCK HEAT				1/2"	12	12	20	17				18	30	10	10	1/2"						RECTIFIER	
LIGHTS				1/2"	12	12	20	19				20											
TELCO OUTLETS				1/2"	12	12	20	21				22											
								23				24											
								25				26											
								27				28											
								29				30											
VOLT - AMPS PER PHASE		φ A						φ B						φ C									
TOTAL VOLT - AMPS =								AMPS =						LCL =									
NOTES:																							
NOTE: ACTUAL ELECTRICAL LOADS TO BE DETERMINED PRIOR TO INSTALLATION TO ENSURE PROPER PANEL SIZING AND OVER-CURRENT PROTECTION																							
PROJECT: DEER RUN						DATE: December 5, 2023						BY: RNV						REV. 0					

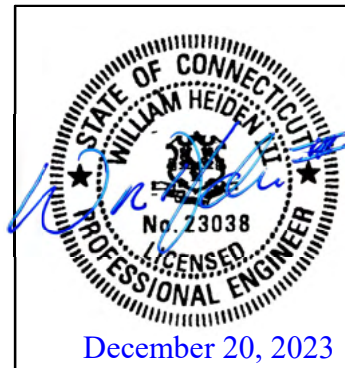
SEE OUTLET NOTES BELOW

CONSTRUCTION NOTES:
1. SEE CONSTRUCTION MANAGER FOR ELECTRICAL CIRCUITS TO BE TRANSFERRED OVER TO NEW ELECTRICAL PANEL

OUTLET NOTES:
1. G.C. TO PROVIDE & INSTALL NEW OUTLETS AROUND EQUIPMENT ROOM. COMPLY WITH NEC & LOCAL CODE. WIRE OUTLETS TO NEW PP1 PANEL
2. G.C. TO RE WIRE EXISTING OUTLETS TO NEW PANEL. VERIFY WITH BUILDING OWNER / CONSTRUCTION MANAGER REQUIRED NUMBER OF CIRCUITS & PLACEMENT. COMPLY WITH NEC & LOCAL CODE.

1 New Panel Schedule

NO SCALE



NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



NEW PANEL SCHEDULE
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

E-3.1
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MOUNTING:		EXISTING PANEL		SUB PANEL		MAIN		100 AMP												
NEW CIRCUITS		120	208 VOLTS	3	PHASE 4 WIRE	Y	BUS													
LOCATION	VOLT AMPS			COND	G	R	R	C	BUS	C	R	R	G	G	CO	VOLT AMPS			LOCATION	
	φA	φB	φC													UIT	A	B		C
MCLL								20	1			2								PAGENET
PAGENET								20	3			4								PAGENET
PAGENET								20	5			6								FLOOD LIGHT
MESSAGE CENTER								30	7			8								REPEATER AC
								20	9			10								ROOM LIGHTS
								15	11			12								LIGHT FIXTURE
HOT WATER								20	13			14								CONTROL RACK
								20	15			16								SKYTEL
WATER ROOM HEATER								15	17			18								PLUGMOLD
								20	19			20								WATER PUMP
								30	21			22								BLANK
								20	23			24								BLANK
								25	25			26								BLANK
								20	27			28								BLANK
								29	29			30								BLANK
BLANK								31	31			32								BLANK
VOLT - AMPS PER PHASE		φA			φB			φC												
TOTAL VOLT - AMPS =					AMPS =			LCL =												
NOTES:		NOTE: ACTUAL ELECTRICAL LOADS TO BE DETERMINED PRIOR TO INSTALLATION TO ENSURE PROPER PANEL SIZING AND OVER-CURRENT PROTECTION																		
PROJECT: DEER RUN		DATE: November 21, 2023		BY: RNV		REV. 0														

MOUNTING:		EXISTING PANEL		DISTRIBUTION		MAIN		100 AMP												
NEW CIRCUITS		120	208 VOLTS	3	PHASE 4 WIRE	Y	BUS													
LOCATION	VOLT AMPS			COND	G	R	R	C	BUS	C	R	R	G	G	CO	VOLT AMPS			LOCATION	
	φA	φB	φC													UIT	A	B		C
RECTIFIER								30	1			2								HVAC
RECTIFIER								30	3			4								JOSLYN
RECTIFIER								30	5			6								SMOKE
RECTIFIER								30	7			8								EMERG A/C
RECTIFIER								30	9			10								POWER FAIL RELAY
RECTIFIER								30	11			12								
RECTIFIER								30	13			14								
SMOKE								20	15			16								
METER								20	17			18								
MAIN								15	19			20								
								15	21			22								
								20	23			24								
								100	25			26								
								100	27			28								
								100	29			30								
VOLT - AMPS PER PHASE		φA			φB			φC												
TOTAL VOLT - AMPS =					AMPS =			LCL =												
NOTES:		NOTE: ACTUAL ELECTRICAL LOADS TO BE DETERMINED PRIOR TO INSTALLATION TO ENSURE PROPER PANEL SIZING AND OVER-CURRENT PROTECTION																		
PROJECT: DEER RUN		DATE: November 20, 2023		BY: RNV		REV. 0														

CONSTRUCTION NOTES:
 1. SEE CONSTRUCTION MANAGER FOR ELECTRICAL CIRCUITS TO BE TRANSFERRED OVER TO NEW ELECTRICAL PANEL

① Existing Panel Schedule
NO SCALE

② Existing Panel Schedule
NO SCALE

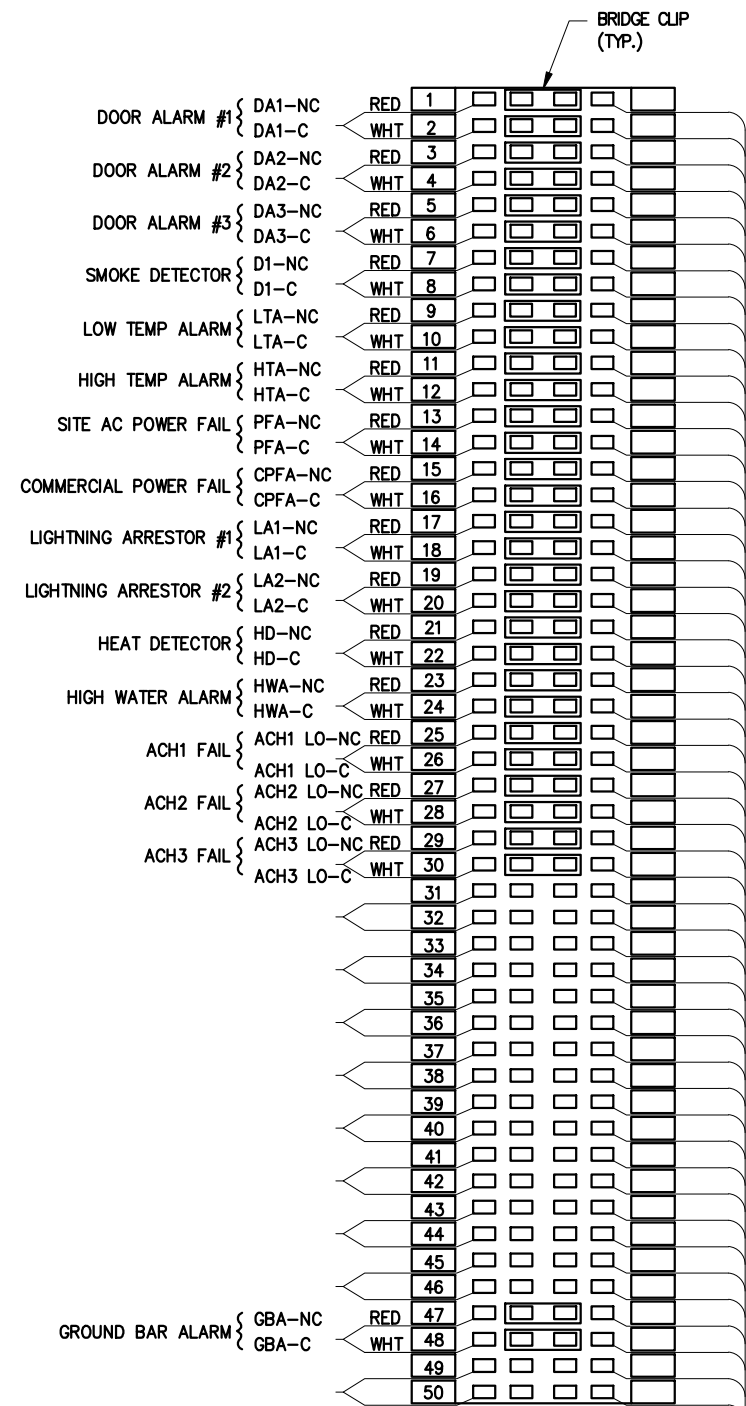


NO.	DATE	REVISIONS	BY	CHK	APP'D
O	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	

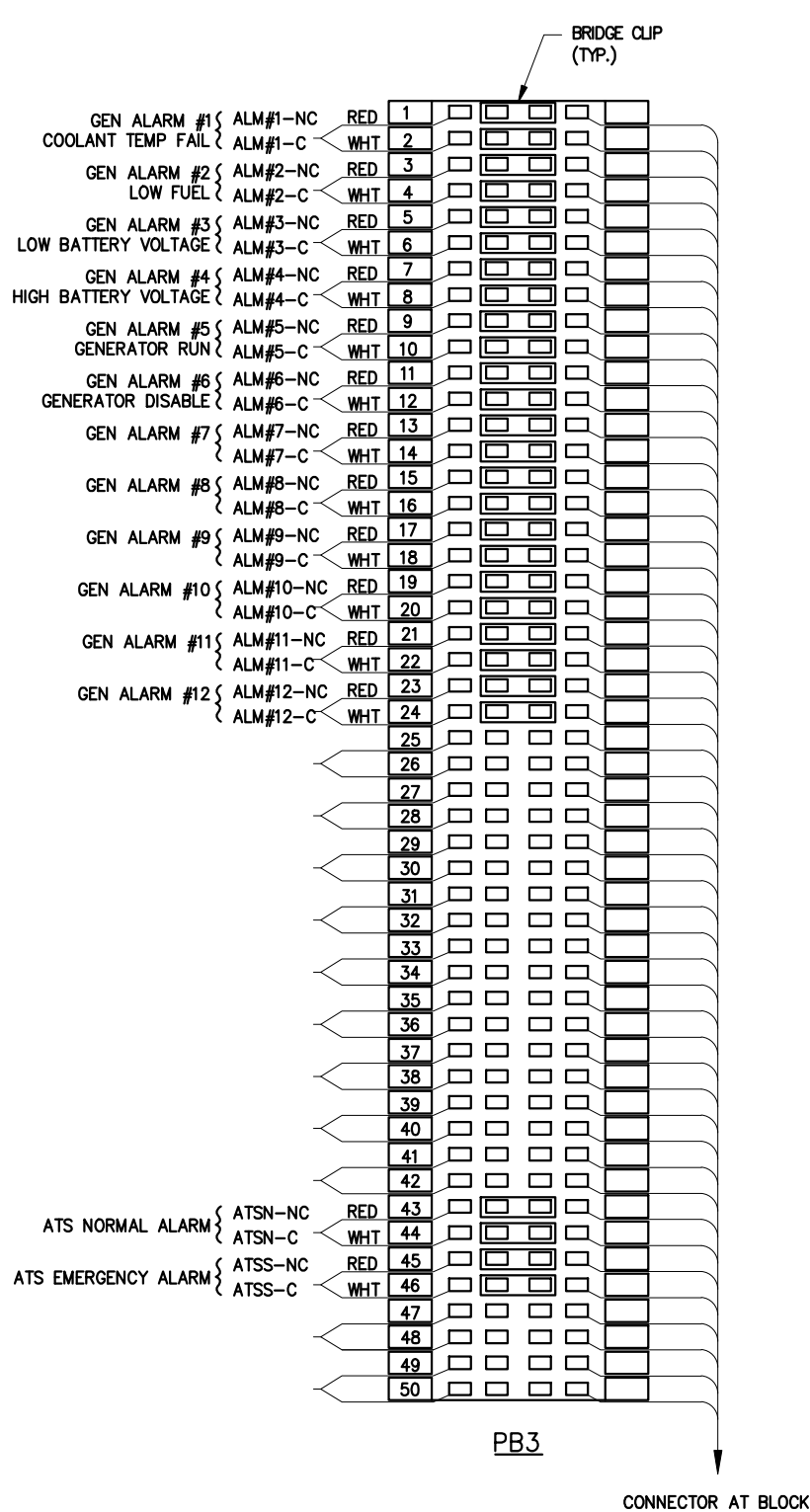


EXISTING PANEL SCHEDULES
 DEER RUN
 160 DEER RUN RD
 WILTON, CT 06897
 E-3.2

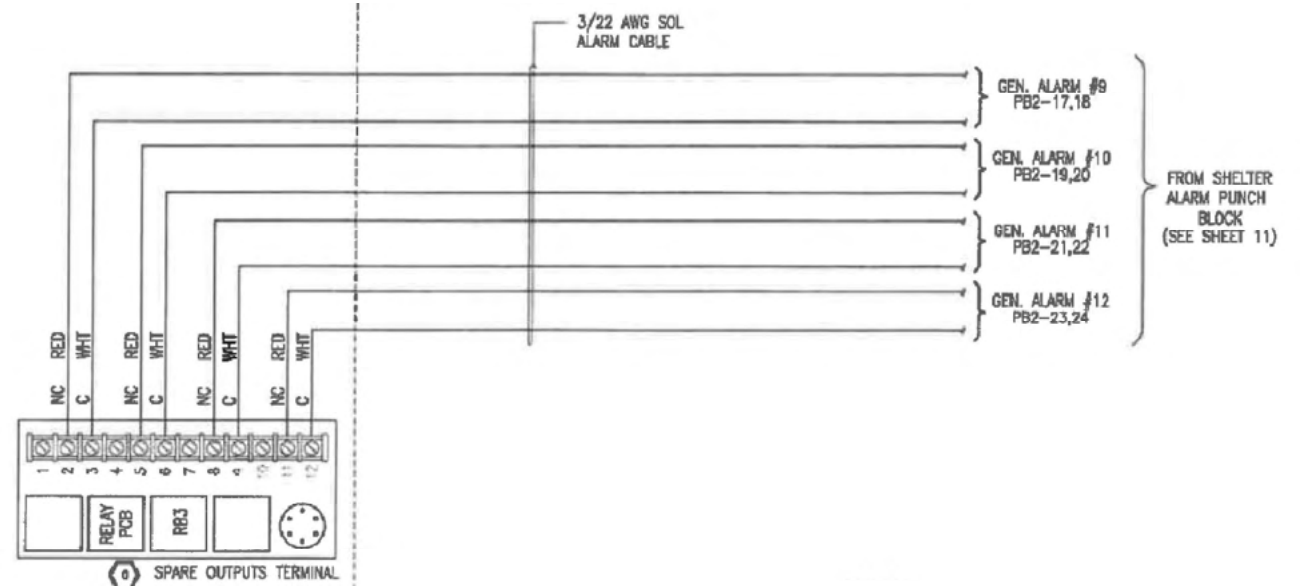
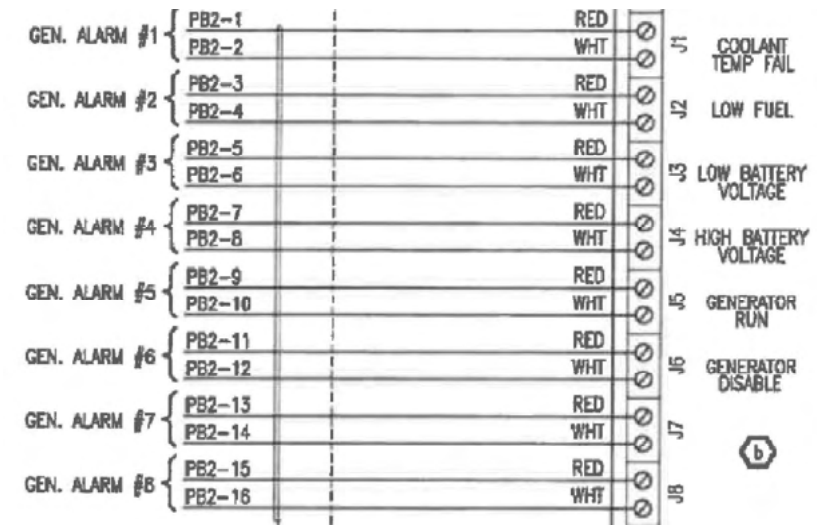
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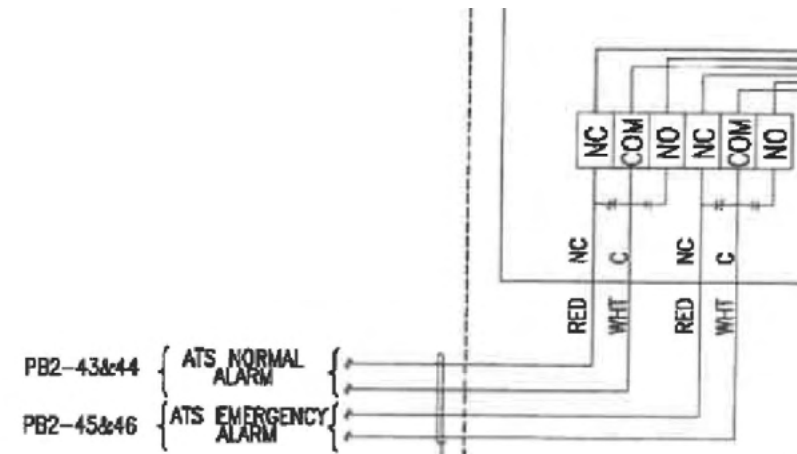
1 PB3 Alarm Block Detail
N.T.S.



2 Alarm Block Detail
N.T.S.



3 Generator Alarm Wiring
N.T.S.



4 ATS Alarm Wiring
N.T.S.

- NOTES:
- ALLOW NO MORE THAN A 2" LOOP AT THE END OF EACH PUNCHED DOWN WIRE.
 - INDIVIDUAL WIRES SHALL ENTER THE PUNCH TERMINAL FROM THE TOP SO THAT THE WIRE TAIL POINTS DOWN AFTER PUNCH DOWN
 - ALL ALARM CABLE TO BE 3/22 AWG SOL ALARM CABLE (BLK, RED, WHT)

SEE MANUFACTURER FOR ADDITIONAL DOCUMENTATION AND DETAILS

Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	
NO.	DATE	REVISIONS	BY	CHK	APP'D



ALARM BLOCKS		E-4
DEER RUN 160 DEER RUN RD WILTON, CT 06897		

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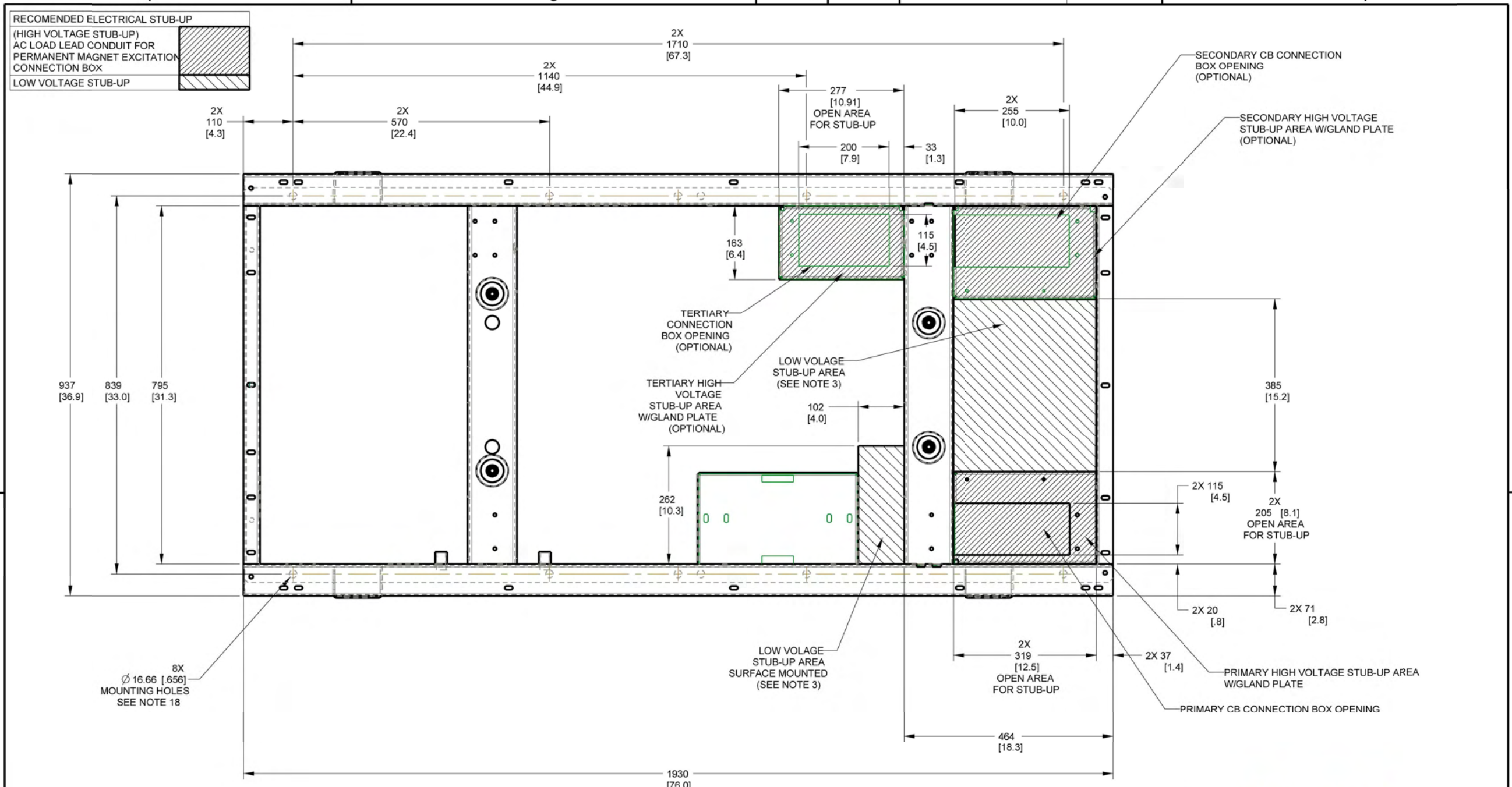
RECOMENDED ELECTRICAL STUB-UP
 (HIGH VOLTAGE STUB-UP)
 AC LOAD LEAD CONDUIT FOR
 PERMANENT MAGNET EXCITATION
 CONNECTION BOX
 LOW VOLTAGE STUB-UP

B

B

A

A



NOTE:
 SEE GENERAC INSTALLATION
 MANUALS FOR GENERATOR
 BOLT DOWN REQUIREMENTS.

SEE
 MANUFACTURER
 FOR ADDITIONAL
 DOCUMENTATION
 AND DETAILS

DRAWING CREATED FROM PRO/ENGINEER
 3D FILE. ECO MODIFICATION TO BE
 APPLIED TO SOLID MODEL ONLY.

DIMENSIONS ARE IN MILLIMETERS [INCHES]

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ELECTRONICALLY APPROVED
 INSIDE WINDCHILL



TITLE			
STUB-UP G4.5L 60Hz SG35, SG40, SG45, SG50			
ISSUE DATE:			
SIZE B	CAGE NO N/A	DWG NO A0000292914	REV E
SCALE 0.120	WT-KG	SHEET 2 of 3	

INSTALLATION DRAWING

4

3

2

1

NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	

6202 Constitution Drive, Suite C
 Fort Wayne, IN 46804

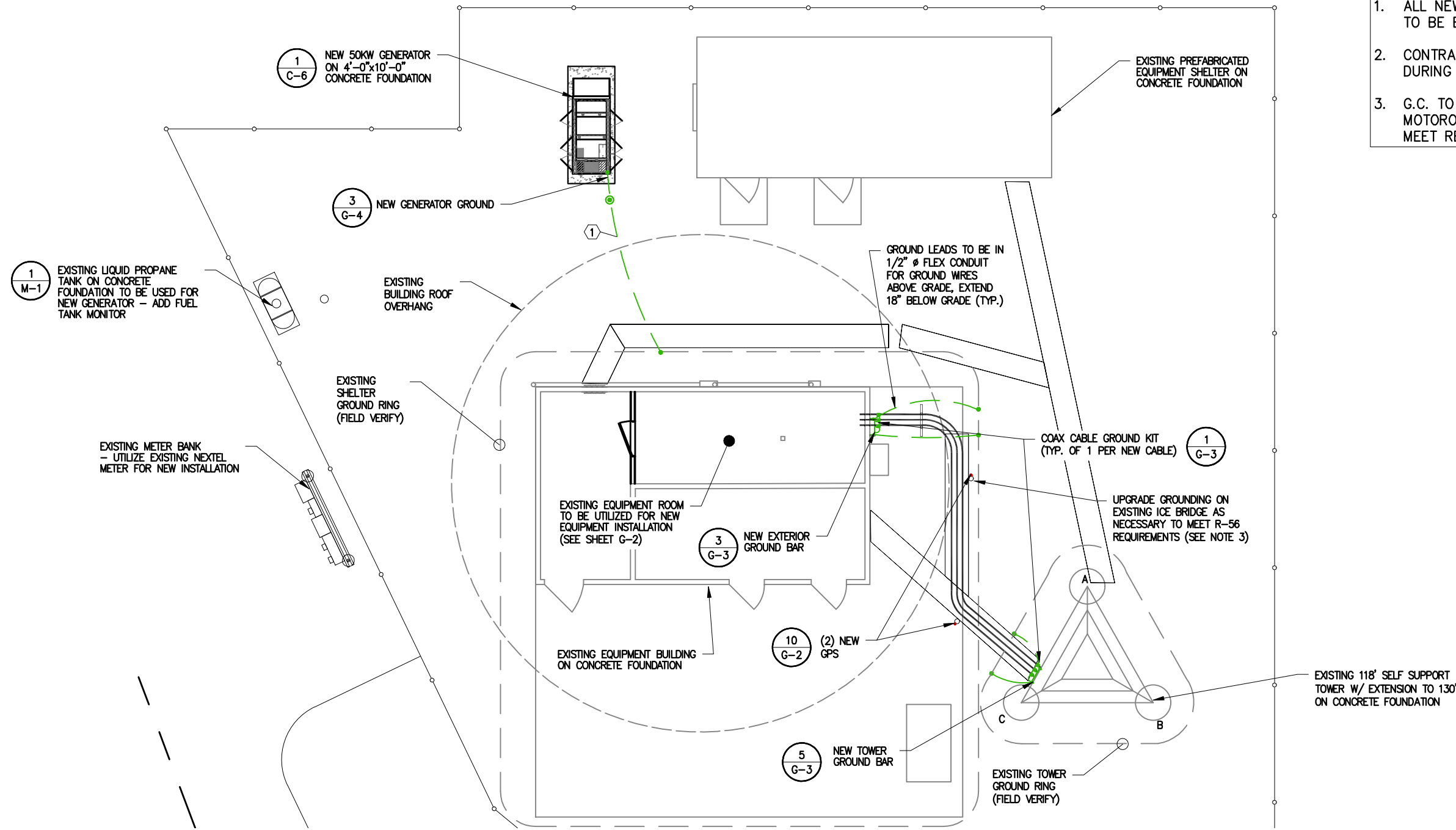
GENERATOR STUB-UP
 DEER RUN
 160 DEER RUN RD
 WILTON, CT 06897

E-5

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TYPICAL GROUNDING NOTES

1. ALL NEW METALLIC ITEMS WITHIN 6' OF THE GROUNDING SYSTEM TO BE BONDED TO GROUND RING.
2. CONTRACTOR TO REPAIR ANY EXISTING GROUNDING LEADS CUT DURING CONSTRUCTIONS.
3. G.C. TO VERIFY EXISTING ICE BRIDGE IS GROUND PER MOTOROLA R-56. ADD ADDITIONAL GROUNDING AS REQUIRED TO MEET REQUIREMENTS SPECIFIED IN MOTOROLA R-56 GUIDELINES.



Legend

- ① #2 SOLID BARE COPPER GROUND 42" BELOW GRADE
- ② CADWELD TO FENCE POST
- ③ BOND GATE LEAF TO GATE POST WITH A FLEXIBLE GATE JUMPER
- GROUND ROD
- ⊙ GROUND SYSTEM TEST WELL (HAND HOLE)
- CADWELD CONNECTION
- FENCE LINE

Grounding Plan



December 20, 2023



1-800-922-4455
CALL TOLL FREE

NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



MOTOROLA SOLUTIONS

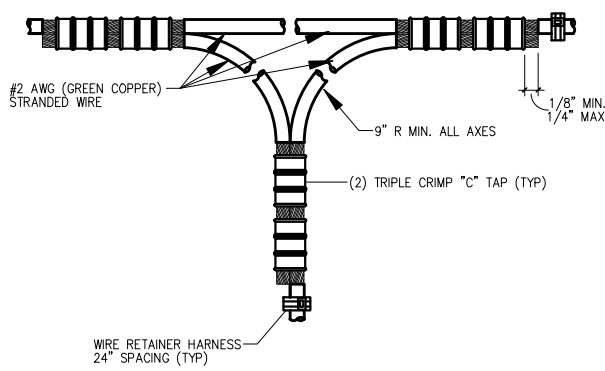


GROUNDING PLAN

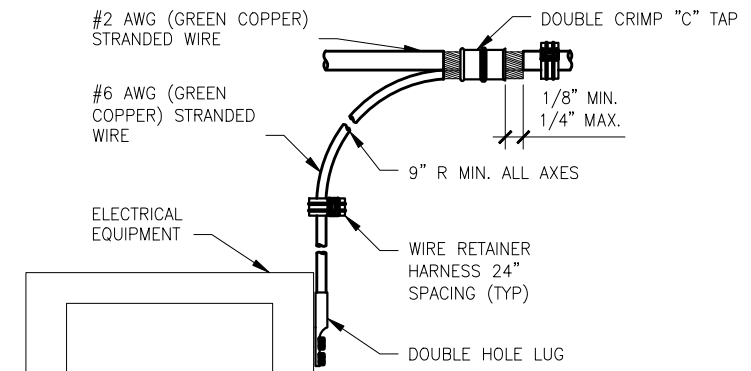
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

G-1

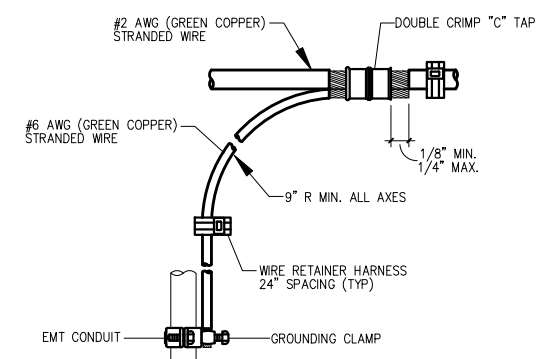
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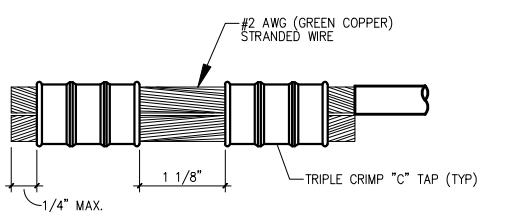
1 Grounding Detail
NO SCALE



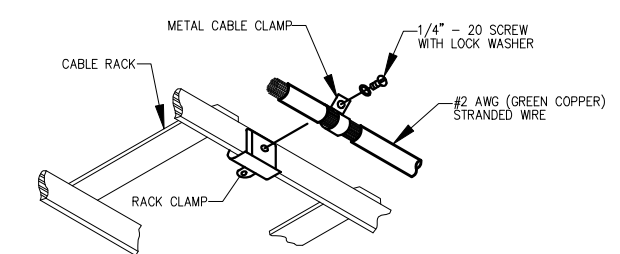
2 Grounding Detail
NOT TO SCALE



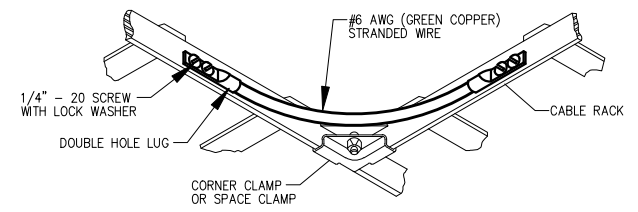
3 Grounding Detail
NO SCALE



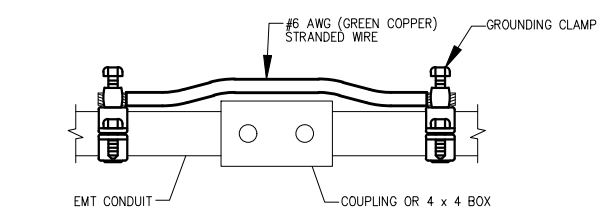
4 Grounding Detail
NO SCALE
#2 AWG STRANDED TO #2 AWG STRANDED (CLOSING HALO GROUND RING LOOP)



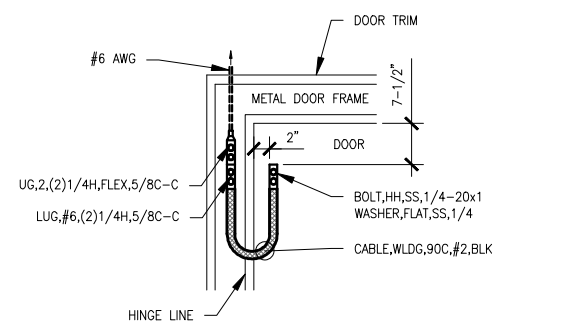
5 Grounding Detail
NO SCALE



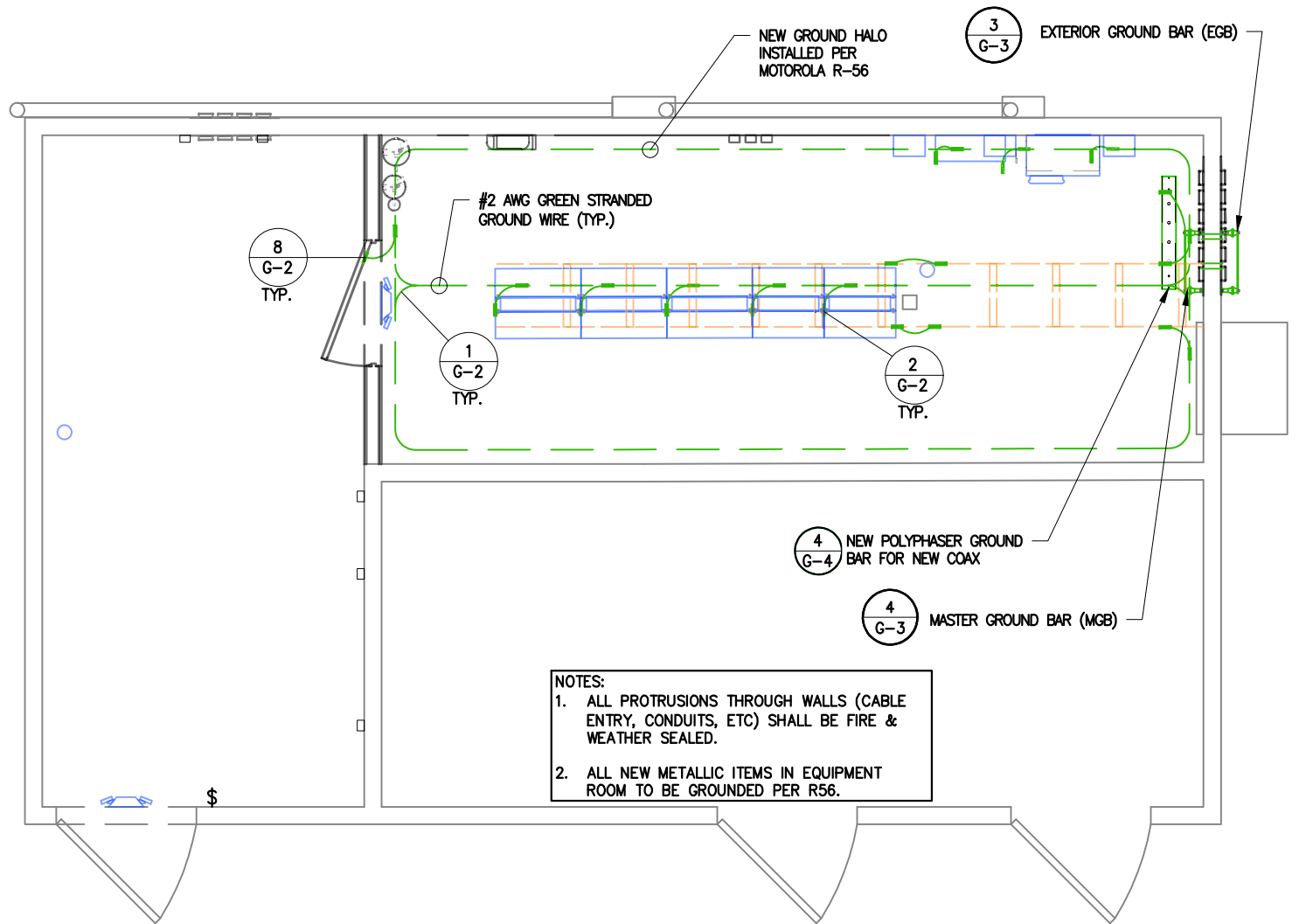
6 Grounding Detail
NO SCALE



7 Grounding Detail
NO SCALE

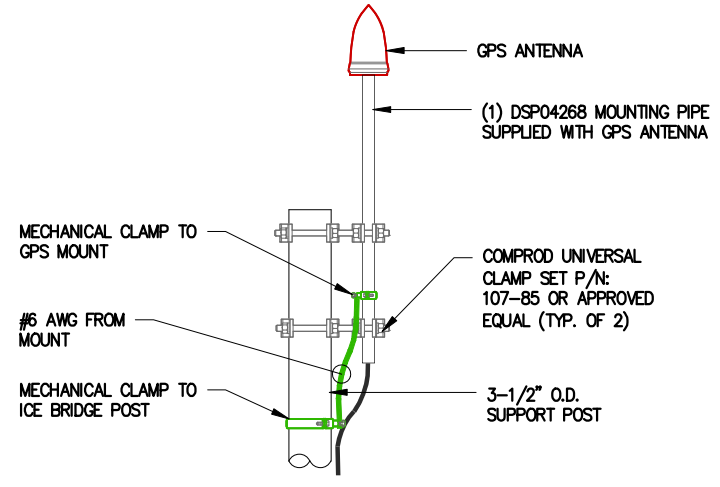


8 Grounding Detail
NO SCALE

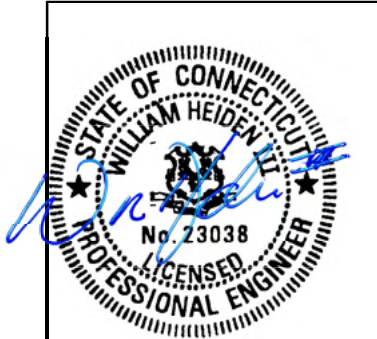


NOTES:
1. ALL PROTRUSIONS THROUGH WALLS (CABLE ENTRY, CONDUITS, ETC) SHALL BE FIRE & WEATHER SEALED.
2. ALL NEW METALLIC ITEMS IN EQUIPMENT ROOM TO BE GROUNDED PER R56.

9 Equipment Room Grounding Plan
SCALE: 1/4" = 1'-0"
NORTH



10 GPS Grounding Detail
SCALE: 3/4" = 1'-0"



December 20, 2023



1-800-922-4455
CALL TOLL FREE

NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	

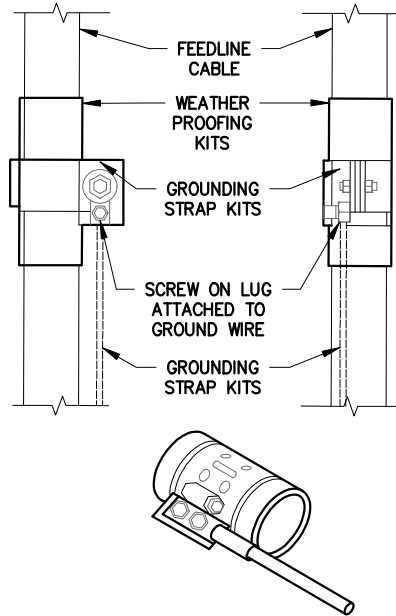


EQUIPMENT ROOM GROUNDING PLAN & DETAILS
DEER RUN
160 DEER RUN RD
WILTON, CT 06897

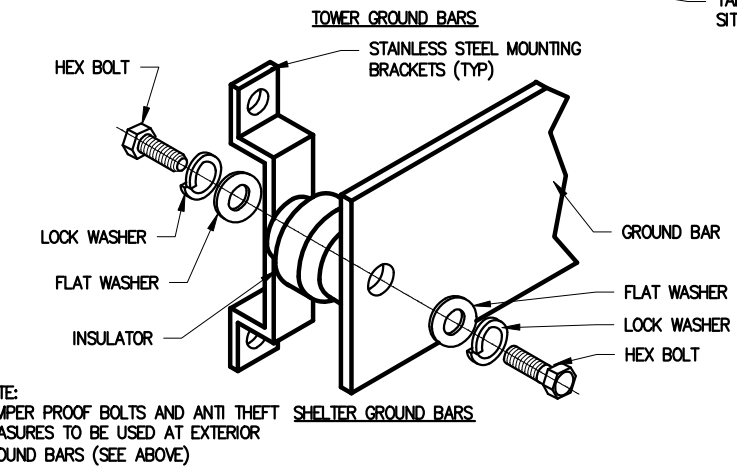
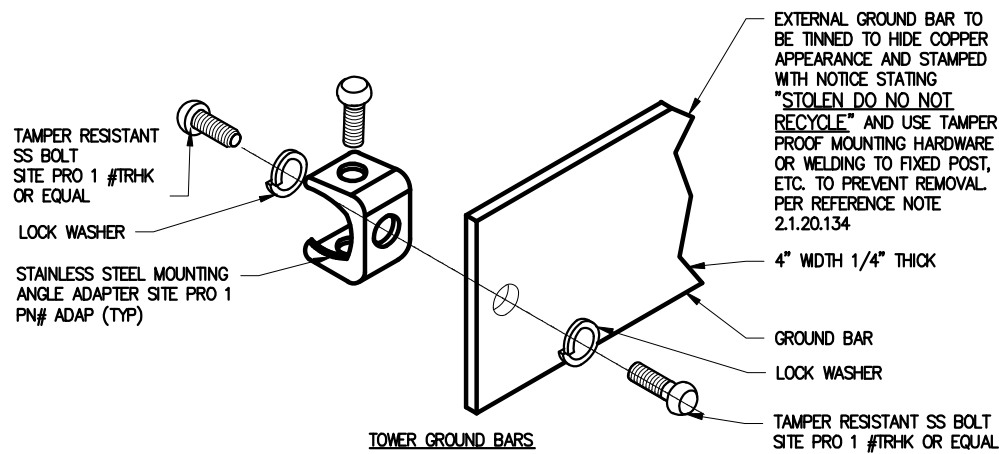
G-2

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- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR
 - THIS DETAIL IS TYPICAL FOR EACH COAX / HYBRID CABLE WHERE IT IS SPECIFIED TO BE GROUNDED
 - CABLE TO BE GROUNDED AT ANTENNA LEVEL AND PRIOR TO ENTERING SHELTER ENTRY PANEL
 - CABLE ALSO TO BE GROUNDED TO GROUND BAR AT TOWER BASE



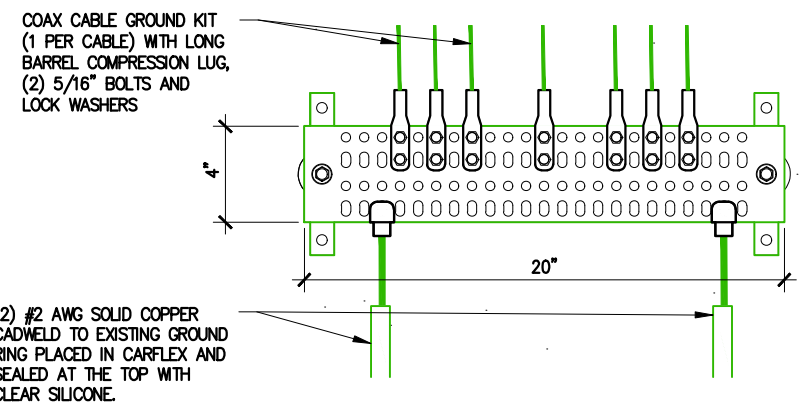
1 Coax Cable Ground Kit Detail
SCALE: N.T.S.



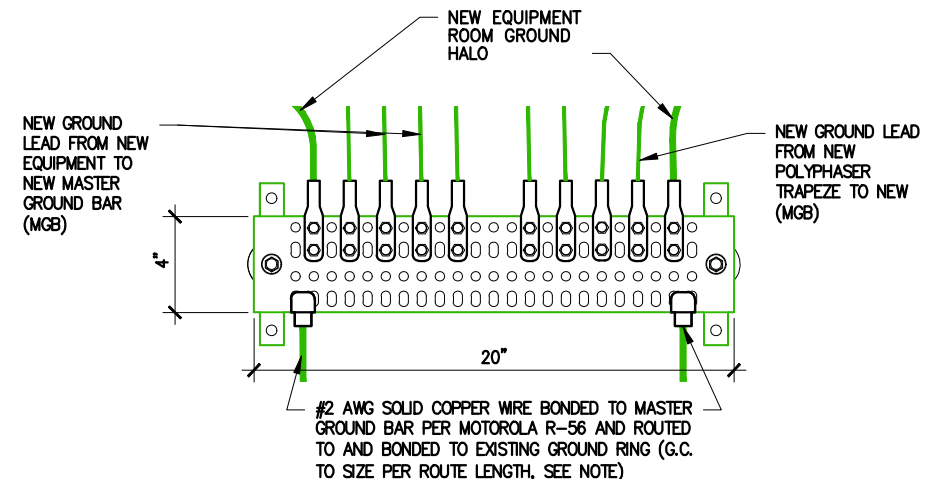
NOTE: TAMPER PROOF BOLTS AND ANTI THEFT MEASURES TO BE USED AT EXTERIOR GROUND BARS (SEE ABOVE)

2 Ground Bar Installation
SCALE: 3" = 1'-0"

- GROUNDING NOTES:**
- ALL NEW METALLIC ITEMS TO BE GROUNDED PER MOTOROLA R56 IN EQUIPMENT ROOM
 - G.C. TO GROUND NEW EQUIPMENT PER MOTOROLA R56 STANDARDS.
 - G.C. TO CADWELD GROUND LEADS TO NEW GROUND BAR AS PER MOTOROLA R-56. SEE FIGURE 4-41 ON SHEET 4-45 OF MOTOROLA R-56 REV 2017 (TYPICAL)
 - G.C. TO SIZE GROUND CONDUCTOR PER MOTOROLA R-56 GROUNDING DOWN CONDUCTOR SIZING CHART, SEE DETAIL 1/G-4

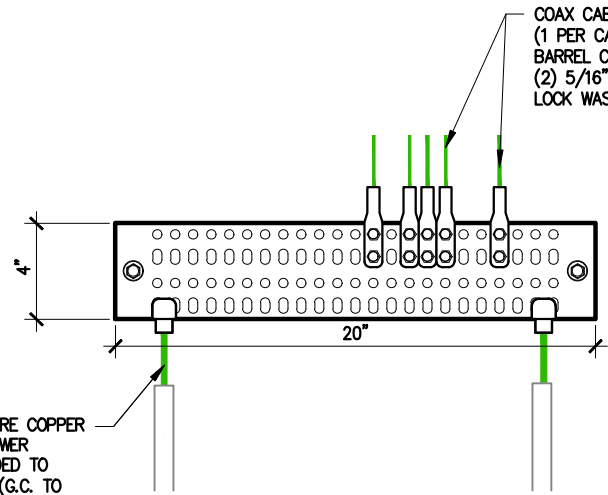


3 Exterior Ground Bar (EGB)
N.T.S.



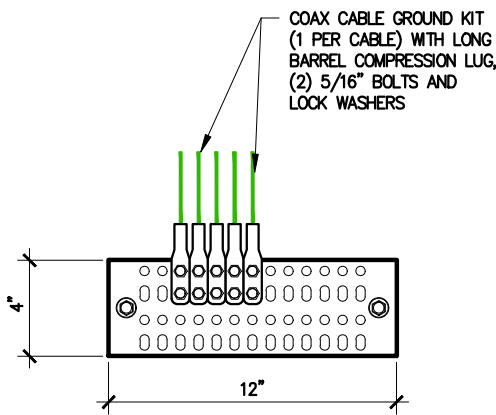
4 Master Ground Bar (MGB)
N.T.S.

- NOTES:**
- SIZE GROUND CONDUCTOR PER MOTOROLA R-56 GROUNDING DOWN CONDUCTOR SIZING CHART (SEE DETAIL 1/G-4)

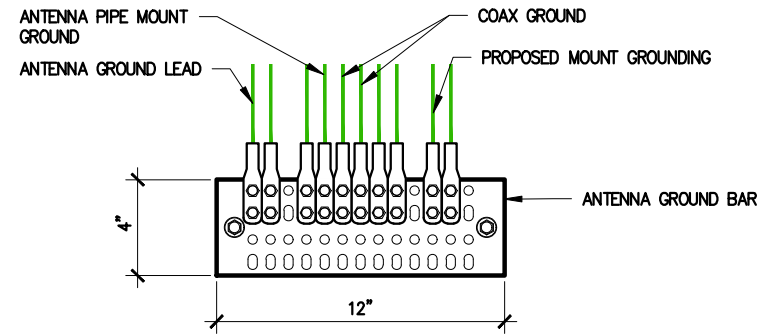


#2 AWG SOLID TINNED BARE COPPER WIRE CADWELDED TO TOWER GROUND BAR AND BONDED TO EXISTING GROUND RING (G.C. TO SIZE PER ROUTE LENGTH, SEE NOTE)

5 Tower Ground Bar (TGB)
N.T.S.



6 Mid Tower Ground Bar (mTGB)
SCALE: 1 1/2" = 1'-0"



7 Antenna Ground Bar (AGB)
SCALE: 1 1/2" = 1'-0"



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E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



GROUNDING DETAILS		G-3
DEER RUN 160 DEER RUN RD WILTON, CT 06897		

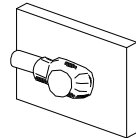
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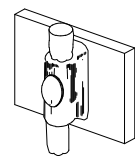
Table 4-5 GROUNDING DOWN-CONDUCTOR SIZING (FROM MIL-HDBK-419-A)

Conductor length in linear m (ft)	Conductor size in mm ² csa (AWG / MCM)
Less than 10 (Less than 33)	33.62 (2)
10.36 – 12.5 (34 – 41)	42.4 (1)
12.8 – 16 (42 – 53)	52 (1/0)
16.5 – 20 (54 – 66)	67.4 (2/0)
20.4 – 25.6 (67 – 84)	85 (3/0)
25.9 – 32 (85 – 105)	107 (4/0)
32.3 – 38.1 (106 – 125)	126.70 (250 MCM)
38.4 – 45.7 (126 – 150)	152 (300 MCM)
46 – 53.34 (151 – 175)	177 (350 MCM)
53 – 76.1 (176 – 250)	253.4 (500 MCM)
76.4 – 91.39 (251 – 300)	300 (600 MCM)
Greater than 91.39 (300)	380 (750 MCM)

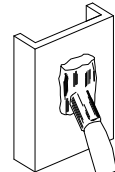
1 Grounding Size Chart



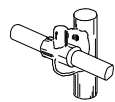
Type VN
HORIZONTAL CABLE TAP TO VERTICAL STEEL SURFACE OR THE SIDE OF HORIZONTAL PIPE



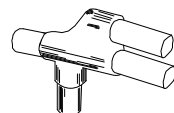
Type W
THROUGH VERTICAL CABLE TO VERTICAL STEEL SURFACE OR TO THE SIDE OF EITHER HORIZONTAL OR VERTICAL PIPE



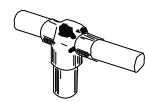
Type VS
CABLE TAP DOWN AT 45° TO VERTICAL STEEL SURFACE OR SIDE OF HORIZONTAL OR VERTICAL CABLE



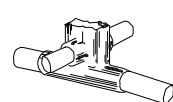
Type GY
THROUGH CABLE TO SIDE OF GROUND ROD



Type NC
THROUGH AND TAP CABLES TO GROUND ROD



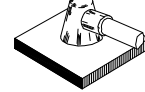
Type GT
THROUGH CABLE TO TOP OF GROUND ROD



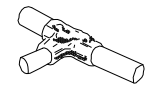
Type XB
CROSS OF HORIZONTAL CABLES, LAPPED AND NOT CUT



Type GR
CABLE TAP TO TOP OF GROUND ROD



Type HS
HORIZONTAL CABLE TAP TO HORIZONTAL STEEL SURFACE OR PIPE. CABLE OFF SURFACE



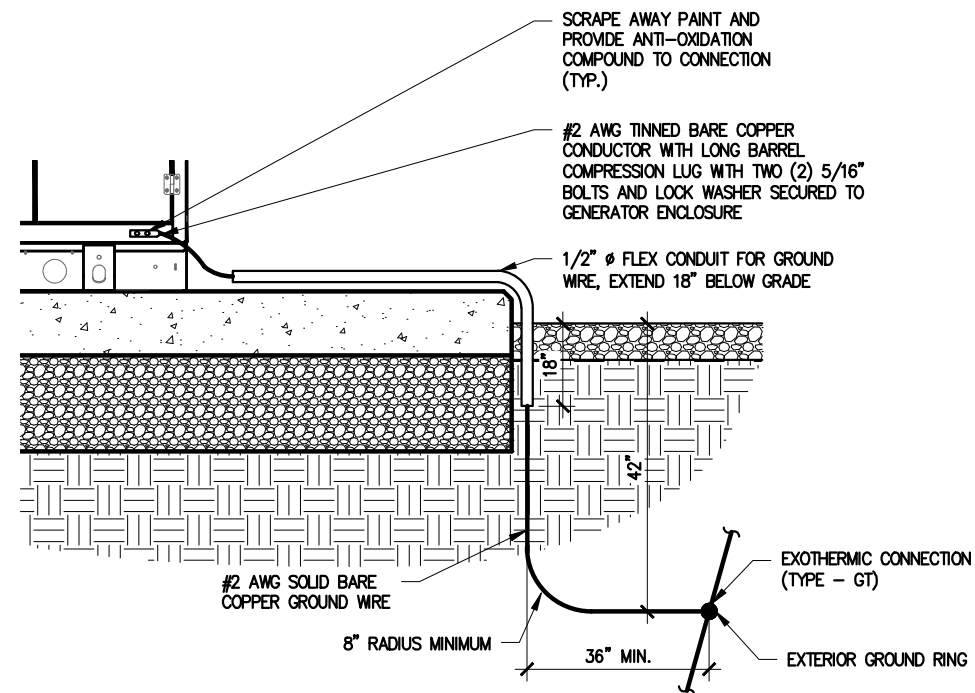
Type TA
TEE OF HORIZONTAL RUN AND TAP CABLES

2 Exothermic (Cadmium) Details

SCALE: N.T.S.

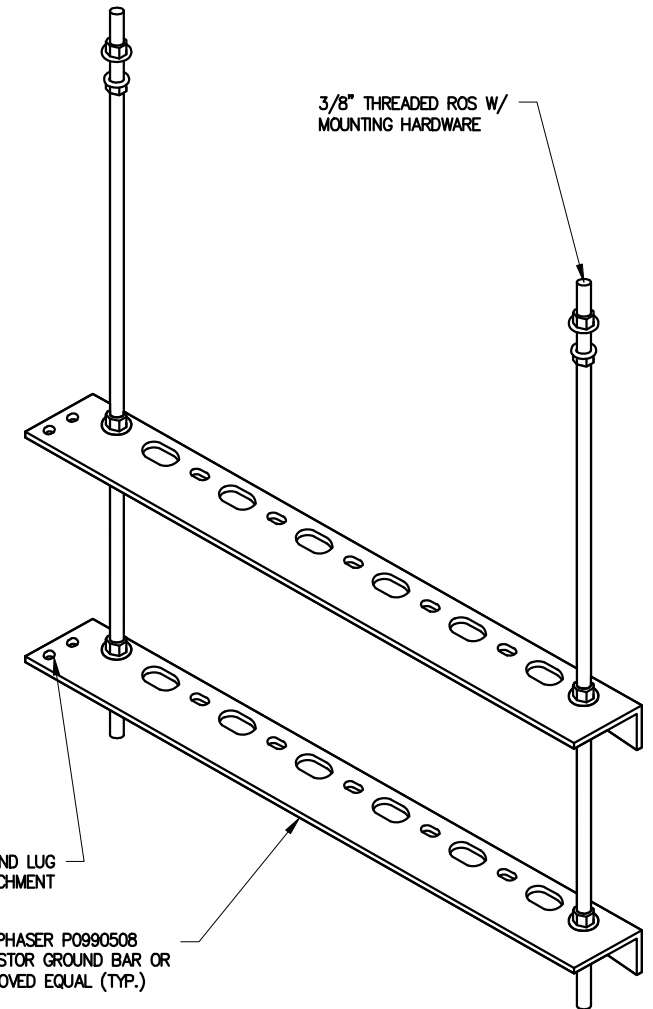
TYPICAL GROUNDING NOTES

- ALL GROUND CABLE IN CONCRETE OR THROUGH WALL SHALL BE IN 3/4" PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTOR SLEEVES.
- GROUND ALL EXPOSED METALLIC OBJECTS USING A TWO-HOLE NEMA DRILLED CONNECTOR SUCH AS THOMAS & BETTS #32207 OR APPROVED EQUAL
- ALL EXTERIOR GROUND CONDUCTORS SHALL BE SIZED PER CHART, TABLE 4-5 ON PAGE 4-42 OF R56 REV 2017 AND SOLID BARE TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. THE RADIUS OF ANY BEND SHALL NOT BE LESS THAN 8" AND THE INCLUSIVE ANGLE OF ANY BEND SHALL NOT EXCEED 90°. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARDS.
- ALL PROPOSED BELOW GROUND EXTERNAL CONNECTIONS SHALL BE EXOTHERMICALLY WELDED. ALL EXOTHERMIC WELDS TO BURIED GROUND RING SHALL BE THE PARALLEL-TYPE. EXCEPT FOR THE GROUND RODS WHICH ARE TEE-TYPE EXOTHERMIC WELDS. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING. USE SPRAY GALVANIZED SUCH AS HOLUB LECTROSOL #15-501.
- WHERE MECHANICAL CONNECTORS (TWO-HOLE OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF A CONDUCTIVE ANTI-OXIDE COMPOUND ON ALL CONNECTORS. PROVIDE LOCK WASHERS ON ALL MECHANICAL CONNECTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTORS, REPAINT TO MATCH EXISTING AFTER CONNECTION IS MADE TO MAINTAIN CORROSION RESISTANCE. ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE TYPES OF METALS BEING ATTACHED TO.
- ITS ASSUMED THAT THE EXISTING GROUNDING IS (10) OHMS OR LESS. ONCE CONSTRUCTION IS COMPLETED THE GENERAL CONTRACTOR IS TO PERFORM A CLAMP ON GROUND RESISTANCE TEST ON THE GROUND SYSTEM. DOCUMENTED RESULTS OF THE GROUND TEST TO BE SENT TO THE PYRAMID NETWORK SERVICES PROJECT MANAGER.
- ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL
- THE GROUND CONDUCTORS SHALL BE RUN STRAIGHT FOR MINIMUM INDUCTANCE AND VOLTAGE DROP. SINCE CABLE BENDS INCREASE INDUCTANCE, THE MINIMUM REQUIRED BENDING RADIUS IS 8 INCHES WHEN BENDS ARE UNAVOIDABLE.
- PAINT, ENAMEL, LACQUER AND OTHER ELECTRICALLY NON-CONDUCTIVE COATINGS SHALL BE REMOVED FROM THREADS AND SURFACE AREAS WHERE CONNECTIONS ARE MADE TO ENSURE GOOD ELECTRICAL CONTINUITY.
- CONNECTIONS BETWEEN DISSIMILAR METALS SHALL NOT BE MADE UNLESS THE CONDUCTORS ARE SEPARATED BY A SUITABLE MATERIAL. THAT IS A PART OF THE ATTACHMENT DEVICE LISTED AND APPROVED FOR USE WITH THE SPECIFIC DISSIMILAR METALS MAY BE USED FOR THE PURPOSE.
- ALL VERTICAL TRANSMISSION LINE RUNS FROM THE ANTENNAS WILL BE GROUNDING NEAR THE TOP & BOTTOM OF THE TOWER (BEFORE THE CABLE MAKES HORIZONTAL TRANSITION & NEAR ENTRY PORT ON THE SHELTER). TRANSMISSION LINE GROUND KITS WILL BE INSTALLED EVERY 75 FEET.



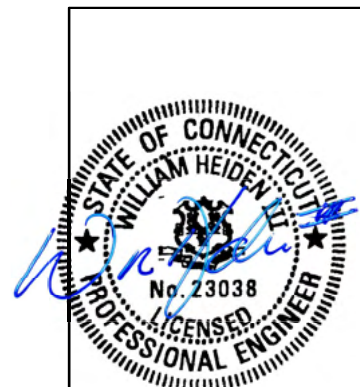
3 Generator Grounding Detail

SCALE: N.T.S.



4 Polyphaser Detail

N.T.S.



December 20, 2023

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
G	11-20-23	PRELIMINARY CDS	RNV	SAH	
F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



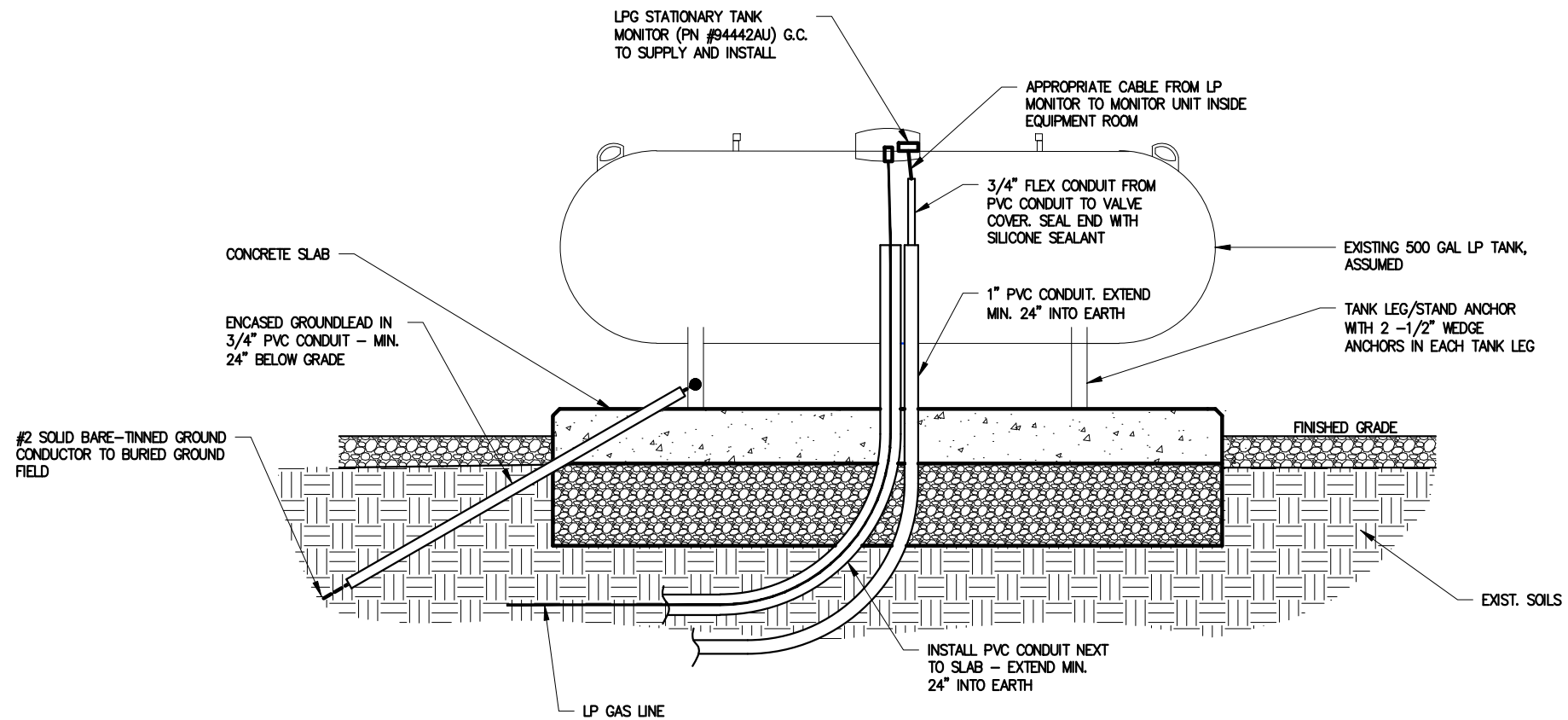
GROUNDING DETAILS & NOTES

DEER RUN
160 DEER RUN RD
WILTON, CT 06897

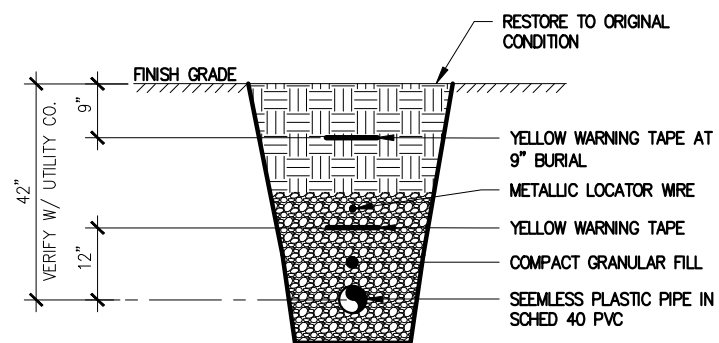
G-4

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1 LP Tank Detail
SCALE: 1/2" = 1'-0"



2 LP Gas Service from LP tank to Generator
SCALE: 3/8" = 1'-0"

STATE OF CONNECTICUT
WILLIAM HEIDEN II
No. 23038
LICENSED PROFESSIONAL ENGINEER
December 20, 2023

NO.	DATE	REVISIONS	BY	CHK	APP'D
Q	12-14-23	CONSTRUCTION DRAWINGS	RNV	SAH	
H	12-05-23	PRELIMINARY CDS - REVISED PER COMMENTS	NTA	SAH	
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F	10-02-23	PRELIM LEASE EXHIBIT - REVISED PER COMMENTS	RNV	SAH	
E	07-10-23	PRELIM LEASE EXHIBIT - REVISED PER STRUCTURAL	RNV	SAH	



PROPANE DETAILS

DEER RUN
160 DEER RUN RD
WILTON, CT 06897

M-1

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APPENDIX B
CORRESPONDENCE

Timothy Vicisko

From: Will Heiden <wheiden@m1comm.com> on behalf of Will Heiden
Sent: Friday, May 24, 2024 11:55 AM
To: Scott Hartman
Cc: Timothy Vicisko; Dimonda, Michael
Subject: Re: Wilton_Deer Run - Modification inspection Punch list items & corrections .

This Message Is From an External Sender

This message came from outside your organization.

Scott/Mike,

I don't see any issues with this.

Thanks,
Will

William R. Heiden III, P.E.
Structural Division Manager
C. (574) 527-3717



From: Scott Hartman <shartman@m1comm.com>
Sent: Thursday, May 23, 2024 5:01 PM
To: Will Heiden <wheiden@m1comm.com>
Cc: Timothy Vicisko <tvicisko@tepgroup.net>; Dimonda, Michael <mdimonda@pyramidns.com>
Subject: FW: Wilton_Deer Run - Modification inspection Punch list items & corrections .

Adding Will to the email. Will see below email trail for Q&A and verification request from Tim.

From: Timothy Vicisko <tvicisko@tepgroup.net>
Sent: Thursday, May 23, 2024 3:27 PM
To: Dimonda, Michael <mdimonda@pyramidns.com>
Cc: Scott Hartman <shartman@m1comm.com>
Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

Mike,

Sounds good, that makes sense.

Scott,

Just to confirm, since Mission 1 stamped the CD's, you and Will are all good with this right? Just need the approval from the sealing engineer since it is a discrepancy in the drawings.

Thanks,
Tim

Tim Vicisko

Division Manager – NJ Inspections|Tower Engineering Professionals, Inc. (www.tepgroup.net)

502 Centennial Ave, Cranford, NJ 07016|Office: (919) 661-6351|Fax: (919) 661-6350|Mobile: (732) 770-2100

From: Dimonda, Michael <mdimonda@pyramidns.com>

Sent: Thursday, May 23, 2024 3:21 PM

To: Timothy Vicisko <tvicisko@tepgroup.net>

Cc: Scott Hartman <shartman@m1comm.com>

Subject: Re: Wilton_Deer Run - Modification inspection Punch list items & corrections .

Tim

The Omni antennas were existing. During the initial due diligence for engineering & there was two.. somewhere along the line one of the antennas failed and the customer switched to a dual pole antenna. That's why both the TX & RX lines run to one antenna. so there is no approval needed as the second antenna had been removed prior to us starting work. FYI - once the new site (panel antennas) are operational, those mounts will be removed as well as the Omni antenna.

Thank You

Mike Dimonda

Pyramid network services

518 366 5679

On May 23, 2024, at 2:47 PM, Timothy Vicisko <tvicisko@tepgroup.net> wrote:

Mike,

Can you send over the approval for not installing the other Omni up on the new antenna standoff?
We discussed this on site and I remember you mentioning that it was approved.

Thanks,
Tim

Tim Vicisko

Division Manager – NJ Inspections|Tower Engineering Professionals, Inc. (www.tepgroup.net)

502 Centennial Ave, Cranford, NJ 07016|Office: (919) 661-6351|Fax: (919) 661-6350|Mobile: (732) 770-2100

From: Timothy Vicisko <tvicisko@tepgroup.net>

Sent: Thursday, May 23, 2024 2:28 PM

To: 'Scott Hartman' <shartman@m1comm.com>

Cc: 'Dimonda, Michael' <mdimonda@pyramidns.com>

Subject: RE: Wilton_Deer Run - Modification inspection Punch list items & corrections .

Scott,