

January 9, 2025

Melanie A. Bachman
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: **Notice of Intent to Allow Shared Use of the Existing SBA Telecommunications Site**
Location: 1210 Highland Avenue, Torrington, CT 06790
T-Mobile Site : CTNH391A
SBA Site : CT02303-A

Dear Ms. Bachman:

Please let the following serve as Evidence of Intent to allow T-Mobile's shared use of the existing SBA telecommunications site at **1210 Highland Avenue, Torrington, CT**.

SBA Properties, LLC ("Owner") and T-Mobile("Tenant") are entering into a Site Lease Agreement. Tenant will be provided ground space within the existing site compound for its base station equipment and space at the height of 232' for antennas and associated equipment.

Thank you,

Catherine Ware

Catherine Ware
Site Development Specialist
SBA COMMUNICATIONS CORPORATION
134 Flanders Road, Suite 125
Westboro, MA 01581

(917)868-8365 + C
CWare@sbsite.com



January 9, 2025

Melanie Bachman
Connecticut Siting Council Ten Franklin Square
New Britain, CT 06051

RE: Tower Share Application

1210 Highland Avenue, Torrington, CT 06790

Latitude: Lat.: 41.802500

Longitude: -73.164722

Site: SBA - CT02303-A / T-Mobile - CTNH391A

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of T-Mobile who plans to install antennas and related equipment to the tower site located at 1210 Highland Avenue, Torrington, CT.

T-Mobile proposes to install three (6) Panel antennas and six (6) RRUs, at the 232-foot level of the existing 241-foot guyed tower, one (3) Hybrid cables will also be installed. T-Mobile's equipment cabinets will be placed on a 10'x15' concrete pad in the leased area. Included are plans by Chappell Engineering dated 11/12/24, Exhibit 6. Also included is a structural analysis prepared by Tower Engineering Solutions dated 11/25/24, confirming that the existing tower is structurally capable of supporting the proposed equipment, attached as Exhibit 7. Also included is a mount analysis prepared by Tower Engineering Solutions dated 11/15/24 confirming that the mount is structurally capable of supporting the proposed equipment, attached as Exhibit 8. This facility was approved by the CT Siting Council on 7/18/1991. Please see attached Exhibit 5.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of T-Mobile's intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Mayor Elinore Carbone and to Jeremy Leifert - City Planner both from Torrington, CT. (SBA is the ground owner).

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the existing tower is 241 feet and T-Mobile's antennas will be located at a center line height of 232-feet.
2. The proposed modifications will not result in the increase of the site boundary as depicted on the attached site plan.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligible.



4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, the combined site operations will result in a total power density of 3.36% as evidenced by Exhibit 9.

Connecticut General Statutes 16-50aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, T-Mobile respectfully indicates that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing Guyed Tower has been deemed structurally capable of supporting T-Mobile's proposed loading. The structural analysis is included as Exhibit 7.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this support tower in Sterling. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit T-Mobile to obtain a building permit for the proposed installation.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of T-Mobile's equipment at the 232-foot level of the existing 241-foot tower would have an insignificant visual impact on the area around the tower. T-Mobile's ground equipment would be installed within the existing facility compound. T-Mobile's shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit 9, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. T-Mobile will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist T-Mobile with this tower sharing application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting T-Mobile's proposed loading.

T-Mobile is not aware of any public safety concerns relative to the proposed sharing of the existing Guyed tower. T-Mobile's intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Torrington.

Sincerely,

Catherine Ware

Catherine Ware

Site Development Specialist

SBA Communications Corporation

134 Flanders Road, Suite 125

Westborough, MA 01581

(917)868-8365+ T

Cware@sbsite.com



Attachments:

cc:

Elinore Carbone, Mayor of Torrington, CT
City Hall
140 Main Street, 2nd Floor
Torrington, CT 06790
860-489-2228

Jeremy Leifert , City Planner
City Hall - Planning Department
140 Main Street,
Torrington, CT 06790
860-489-2221

EXHIBIT LIST

Exhibit 1	Copy of Check	
Exhibit 2	Notification Receipts	
Exhibit 3	Property Card	
Exhibit 4	Property Map	
Exhibit 5	Original Zoning Approval	
Exhibit 6	Construction Drawings	Chappell Engineering 11/12/24
Exhibit 7	Structural Analysis	TES 11/25/24
Exhibit 8	Mount Analysis	TES 11/15/24
Exhibit 9	EME	Fox Hill Telecom –12/17/24

EXHIBIT 1

Copy of Check for filing fee.

EXHIBIT 2

FedEx Labels

ORIGIN ID:BBFA
JOHN MORRISON
SBA COMMUNICATIONS CORPORATION
134 FLANDERS
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

(508) 768-7960

SHIP DATE: 13JAN25
ACTWGT: 5.00 LB
CAD: 255382542/NET4535

BILL SENDER

TO **MELANIE BACHMAN**
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQ

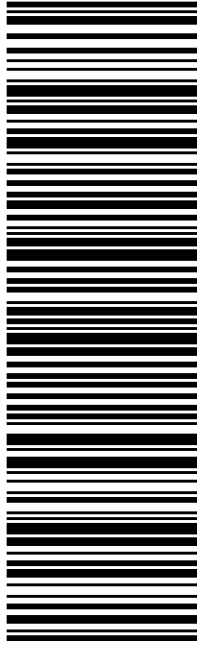
NEW BRITAIN CT 06051
(508) 768-7960
REF: 10-56-92009-6089
INV:
PO: DEPT:



TRK# 1 of 2
7714 0294 2095
0201
MASTER

EB BDLA
06051
CT-US BDL

TUE - 14 JAN 5:00P
STANDARD OVERNIGHT



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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

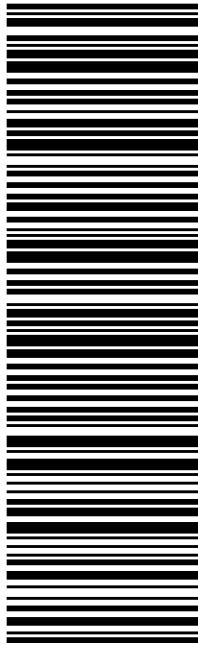
ORIGIN ID:BBFA (508) 768-7960
SHIP DATE: 13JAN25
JOHN MORRISON ACTWGT: 5.00 LB
SBA COMMUNICATIONS CORPORATION CAD: 255382542/NET4535
134 FLANDERS
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US
BILL SENDER

TO **MELANIE BACHMAN**
CONNECTICUT SITING COUNCIL
10 FRANKLIN SQ

NEW BRITAIN CT 06051
REF: 10-56-92009-6089
(508) 768-7960
INV:
PO: DEPT:



2 of 2
MPS# 7714 0294 2100
0263
Mstr# 7714 0294 2095
EB BDLA
TUE - 14 JAN 5:00P
STANDARD OVERNIGHT
0201
06051
CT-US BDL



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58CJ1/5046/C6C4

ORIGIN ID:BBFA
CATHERINE WARE
SBA COMMUNICATIONS CORPORATION
134 FLANDERS ROAD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

(917) 868-8365

SHIP DATE: 10JAN25
ACTWGT: 1.00 LB
CAD: 255382542/NET4535

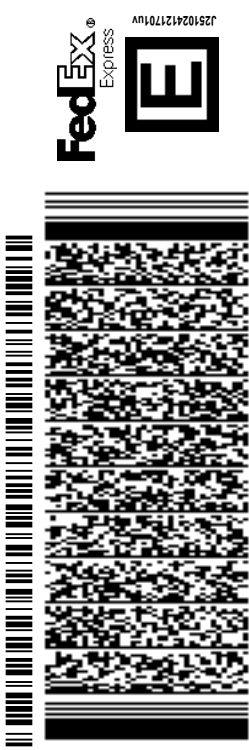
BILL SENDER

TO JEREMY LEIFERT
CITY PLANNER - TORRINGTON
TORRINGTON CITY HALL
PLANNING DEPARTMENT
140 MAIN STREET
TORRINGTON CT 06790

(860) 489-2221
REF: 10-56-92009-6089

PO: DEPT:

58CJ1/5046/C6C4



TRK# 7713 4464 1223

0201

TUE - 14 JAN 5:00P

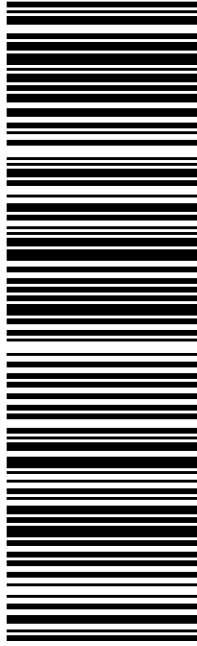
** 2DAY **

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06790

CT-US BDL

K7 HFDA



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ORIGIN ID:BBFA (917) 868-8365
CATHERINE WARE
SBA COMMUNICATIONS CORPORATION
134 FLANDERS ROAD
SUITE 125
WESTBOROUGH, MA 01581
UNITED STATES US

SHIP DATE: 10JAN25
ACTWGT: 1.00 LB
CAD: 255382542/NET4535

BILL SENDER

TO ELINORE CARBONE
MAYOR OF TORRINGTON
CITY HALL
140 MAIN STREET
2ND FLOOR
TORRINGTON CT 06790

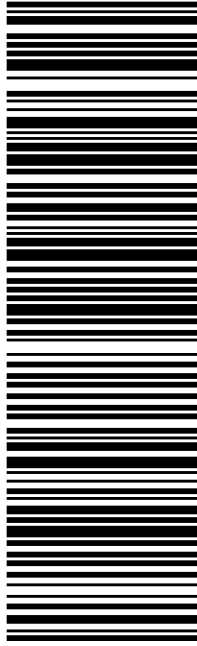
(860) 489-2228 REF: 10-56-92009-6089
INV: PO: DEPT:

58CJ1/5046/C6C4



TRK# 7713 3177 8370
0201
TUE - 14 JAN 5:00P
** 2DAY **
ASR
06790
CT-US BDL

K7 HFDA



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jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed
within strict time limits, see current FedEx Service Guide.

EXHIBIT 3

Property Card

NO OTHER BILL WILL BE SENT FOR FUTURE PAYMENTS

If payment is not made within one month of the due date, THE INSTALLMENT DUE will become delinquent and subject to the interest rate of 1 1/2% per month from the due date. Public acts 494 and 508.

The minimum interest charge is \$2.00

Make all checks Payable to:
R. Thomas Crovo, Tax Collector, LLC
 City of Torrington
 P.O. Box 839
 Torrington, CT 06790-0839

Tel.: 860-489-2209
 Fax: 860-489-2209
 (860) 489-2209

REAL ESTATE TAX BILL

COPY FOR YOUR RECORDS

LIST NUMBER	DISTRICT	CODE	ON GRAND LIST	TOTAL TAX DUE	FIRST PAYMENT DUE	SECOND PAYMENT DUE
4278-R-03			OCTOBER 1ST, 2003		7/01/2004	1/01/2005
MILL RATE	GROSS ASSESSMENT	EXEMPTION	NET ASSESSMENT	INTEREST LIEN TOTAL		
32.760	245,800		245,800	8,052.40	4,026.20	4,026.20

THIS IS THE ONLY TAX BILL YOU WILL RECEIVE FOR THIS PROPERTY.

No separate mailing will be sent for the January payment.

SBA PROPERTIES INC
 5900 BROKEN SOUND PKWY NW
 BOCA RATON, FL 33487

LOC- 1210 HIGHLAND AVE

VOLUME : 0725 PAGE : 0929

MAP/ LOT : 217/003/013/

2

CT 02303
 Prop
 101819

NO OTHER BILL WILL BE SENT FOR FUTURE PAYMENTS

If payment is not made within one month of the due date, THE INSTALLMENT DUE will become delinquent and subject to the interest rate of 1 1/2% per month from the date. Public Acts 494 and 508.

The minimum interest charge is \$2.00

Make all checks Payable to:

R. Thomas Crovo, Tax Collector, LLC
City of Torrington
P.O. Box 839
Torrington, CT 06790-0839
Tel: 860-489-2209
(860) 489-2209

REAL ESTATE TAX BILL

RETURN WITH 1ST PAYMENT

LIST NUMBER		DISTRICT CODE		ON GRAND LIST		TOTAL TAX DUE		FIRST PAYMENT DUE		SECOND PAYMENT DUE	
4278-R-03				OCTOBER 1ST, 2003				7/01/2004		1/01/2005	
MILL RATE		GROSS ASSESSMENT		EXEMPTION		NET ASSESSMENT					
32.760		245,800				245,800					
						8,052.40		4,026.20		4,026.20	
						INTEREST					
						LIEN					
						TOTAL					

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No separate mailing will be sent for the January payment.

SBA PROPERTIES INC
5900 BROKEN SOUND PKWY NW
BOCA RATON, FL 33487

CT02303
Prop

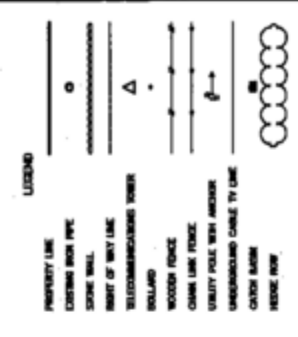
10/8/9

LOC- 1210 HIGHLAND AVE.
VOLUME : 0725 PAGE : 0929
MAP/ LOT : 217/003/013/ 2
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EXHIBIT 4

Property Map

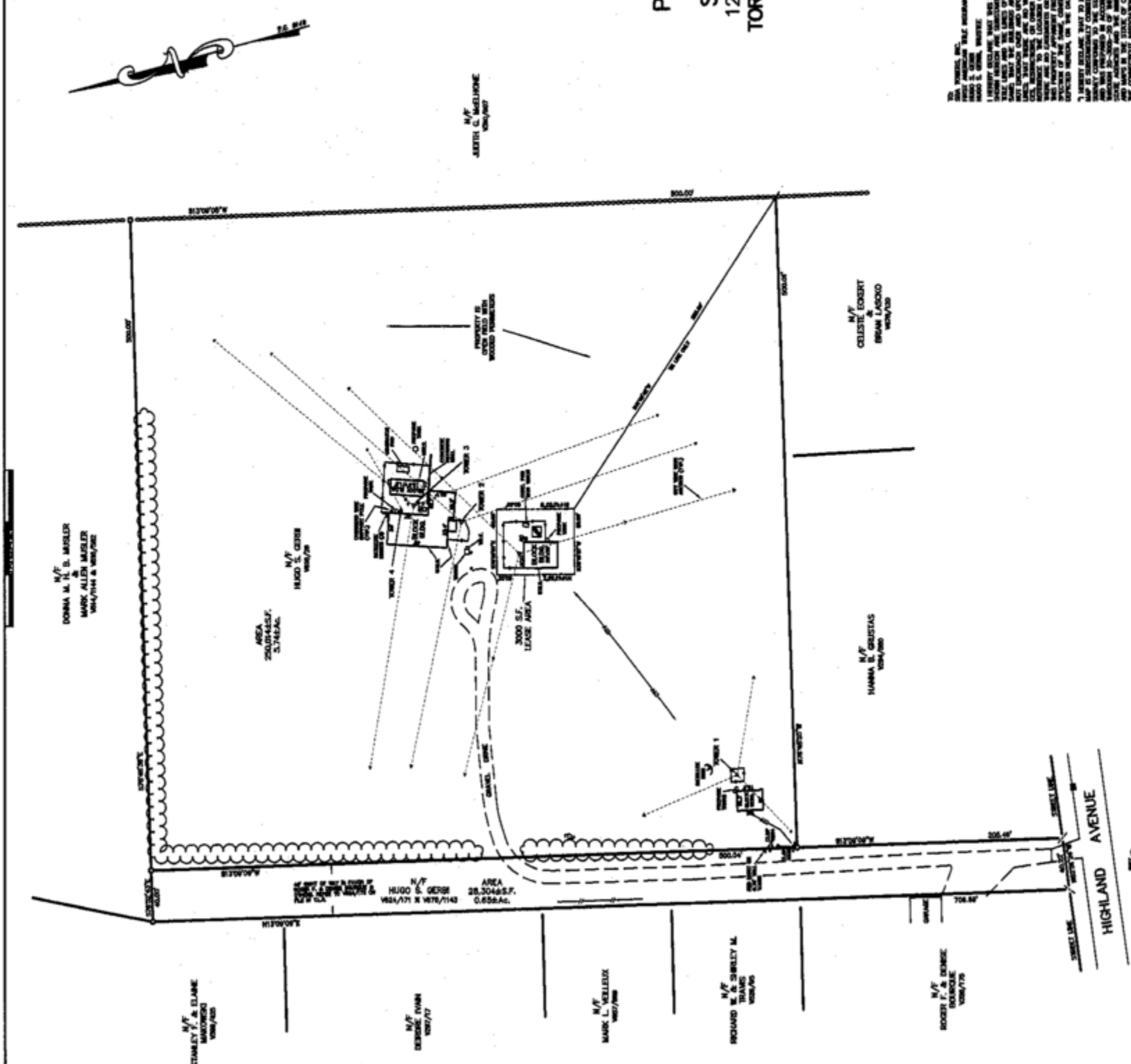
QT2303-A



PROPERTY SURVEY
PREPARED FOR
SBA TOWERS, INC.
1210 HIGHLAND AVENUE
TORRINGTON, CONNECTICUT

THE PROPERTY SURVEYOR ASSOCIATION OF CONNECTICUT (NSPS) is a non-profit organization established in 1964 to promote and protect the interests of the public in the practice of land surveying. The NSPS is a member of the National Society of Professional Surveyors (NSPS) and the National Board of Surveying and Mapping (NBSM).

DATE: 12-1-09		PROJECT: SBA TOWERS, INC.	
SCALE: 1"=400'		SHEET: 1 OF 1	
PREPARED BY: SBA TOWERS, INC.		CHECKED BY: SBA TOWERS, INC.	
DRAWN BY: SBA TOWERS, INC.		APPROVED BY: SBA TOWERS, INC.	



TOWER INFORMATION	TOWER 1	TOWER 2	TOWER 3	TOWER 4
LOCATION	47°00'00"N 72°00'00"E	47°00'00"N 72°00'00"E	47°00'00"N 72°00'00"E	47°00'00"N 72°00'00"E
HEIGHT	100.00	100.00	100.00	100.00
DIAMETER	10.00	10.00	10.00	10.00
WEIGHT	100.00	100.00	100.00	100.00

TITLE EXCEPTIONS	EXCEPTION NUMBER	DESCRIPTION
1	1	AS SHOWN ON TOWER
2	2	LEASE AREA, ON PAVEMENT LOCATED AT LATITUDE 47°00'00"N
3	3	AFFECTS EXISTING PAVEMENT
4	4	AFFECTS ALL OF FIRST FLOOR
5	5	AFFECTS ALL OF SECOND FLOOR

Field Notes
This survey was conducted on the 1st day of December, 2009, at the site of the SBA Towers, Inc. property located at 1210 Highland Avenue, Torrington, Connecticut. The survey was conducted by SBA Towers, Inc. and the results are shown on the attached map.

Surveyor's Statement
I, the undersigned, being a duly licensed and sworn Surveyor of the State of Connecticut, do hereby certify that the foregoing is a true and correct copy of the original survey as shown on the attached map.

NOTES
1. The survey was conducted on the 1st day of December, 2009, at the site of the SBA Towers, Inc. property located at 1210 Highland Avenue, Torrington, Connecticut. The survey was conducted by SBA Towers, Inc. and the results are shown on the attached map.

CONCLUSION
The survey was conducted on the 1st day of December, 2009, at the site of the SBA Towers, Inc. property located at 1210 Highland Avenue, Torrington, Connecticut. The survey was conducted by SBA Towers, Inc. and the results are shown on the attached map.

APPENDIX
The survey was conducted on the 1st day of December, 2009, at the site of the SBA Towers, Inc. property located at 1210 Highland Avenue, Torrington, Connecticut. The survey was conducted by SBA Towers, Inc. and the results are shown on the attached map.

EXHIBIT 5

Zoning Documents



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051
Phone: 827-7682

FILE
COPY

July 18, 1991

Peter J. McDonald
Vice President
Litchfield County Cellular, Inc.
777 East Main Street
Torrington, CT 06790

RE: Litchfield County Cellular, Inc., notice of intent to
modify an existing non-facility telecommunications tower
and associated equipment in the City of Torrington,
Connecticut.

Dear Mr. McDonald:

At a public meeting held on July 16, 1991, the Connecticut Siting Council (Council) ruled that this facility would not cause a significant change or alteration in the physical and environmental characteristics of the site for placement of six cellular telecommunication antennas at the 205 foot level of the existing non-facility telecommunications tower and acknowledged your notice of intent to modify this existing non-facility telecommunications tower and associated equipment located at 1210 Highland Avenue, Torrington, Connecticut, pursuant to Section 16-50j-73 of the Regulations of State Agencies (RSA).

The three or fewer microwave dishes that were to be placed on the non-facility telecommunications tower were not approved as an exempt modification by the Council because this equipment was considered speculative given that the microwave paths associated with the dishes have not yet been established. The Council would reconsider these microwave dishes if and when final design and need for this equipment has been determined.

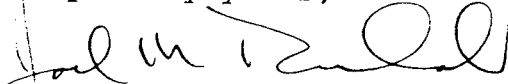
The proposed modifications are to be implemented as specified in your notice dated June 21, 1991. As proposed, the modifications are in compliance with the exception criteria specified in RSA 16-50j-72 as changes to an existing non-facility site that do not increase the tower height, extend

the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels or more, add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Section 22a-162 of the Connecticut General Statutes, and has received all municipal zoning approvals and building permits.

The Council is pleased to note that the shared use of an existing tower serves the Council's long-term goal of protecting the public interest by avoiding proliferation of additional tower structures.

Please notify the Council upon completion of construction.

Very truly yours,



Joel M. Rinebold
Executive Director

JMR/cp

cc: Timothy S. Hollister, Esq.
Andrew N. Davis, Esq.

5443E

EXHIBIT 6

Construction Drawings



HIGHLAND TORRINGTON SBA

1210 HIGHLAND AVENUE
TORRINGTON, CT 06790
LICHFIELD COUNTY

SITE NO.: CTNH391A

SITE TYPE: 240'± GUYED TOWER

RF DESIGN GUIDELINE: 67E5D998E 6160

APPROVALS

PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
SECTOR D:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

GENERAL NOTES

- 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 WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OWNPOINT REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BID OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- 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.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, 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 KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811



VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. TAKE EXIT 58 TOWARD I-90 WEST. KEEP LEFT AT FORK & FOLLOW SIGNS FOR I-90 WEST/SPRINGFIELD/ALBANY. MERGE ONTO I-90 WEST. TAKE EXIT 78 TOWARD I-84. CONTINUE ONTO I-84. TAKE EXIT 39 TOWARD FARMINGTON. CONTINUE ONTO STATE HWY 508. SLIGHT RIGHT ONTO CT-4 WEST. TURN RIGHT TO STAY ON CT-4 WEST. SLIGHT LEFT TO STAT ON CT-4 WEST. TURN LEFT TO STAY ON CT-4 WEST. TURN RIGHT ONTO BIRGE PARK ROAD. TURN LEFT ONTO EAST MAIN STREET. TURN LEFT ONTO WATER STREET. TURN LEFT ONTO CHURCH STREET. TURN LEFT ONTO HIGHLAND AVENUE. SITE IS LOCATED ON THE RIGHT HAND SIDE.

SHEET INDEX

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DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SCOPE OF WORK

- INSTALL:
- 6 ANTENNAS
 - 6 RADIOS
 - 1 6160 AC V1 EQUIPMENT CABINET
 - RAN EQUIPMENT (REFER TO SHEET RF-1)
 - 1 B160 CABINET
 - 1 200A PPC
 - 1 PURCELL CABINET
 - 1 SLACKBOX
 - 1 GPS ANTENNA
 - 1 COAX CABLE FOR GPS
 - 3 HYBRID CABLES
 - 3 HEAVY-DUTY V-FRAMES
 - 3 DUAL RADIO MOUNTS
 - 1 10'x15' CONCRETE PAD
 - 1 10'x8' ICE CANOPY
 - 1 GENERATOR
 - 1 AUTOMATIC TRANSFER SWITCH
 - 1 125A-2P BREAKER
 - 1 25A-1P BREAKER
 - 3 20A-1P BREAKERS

SITE NOTES

- THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
 - ADA COMPLIANCE NOT REQUIRED.
 - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
 - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
- NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
 - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
 - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
 - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

PROJECT SUMMARY

SITE NUMBER:	CTNH391A
SITE NAME:	HIGHLAND TORRINGTON SBA
SBA SITE NUMBER:	CT02303-A
SBA SITE NAME:	TORRINGTON 2 CT
SITE ADDRESS:	1210 HIGHLAND AVENUE TORRINGTON, CT 06790
PROPERTY OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	LITCHFIELD
ZONING DISTRICT:	R-60 COMMERCIAL
STRUCTURE TYPE:	GUYED TOWER
STRUCTURE HEIGHT:	240'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 41.802500° N41°48'09.00" LONGITUDE: -73.164722° W73°09'53.00"

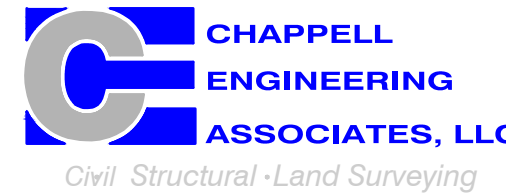
SPECIAL ZONING NOTE:
BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).



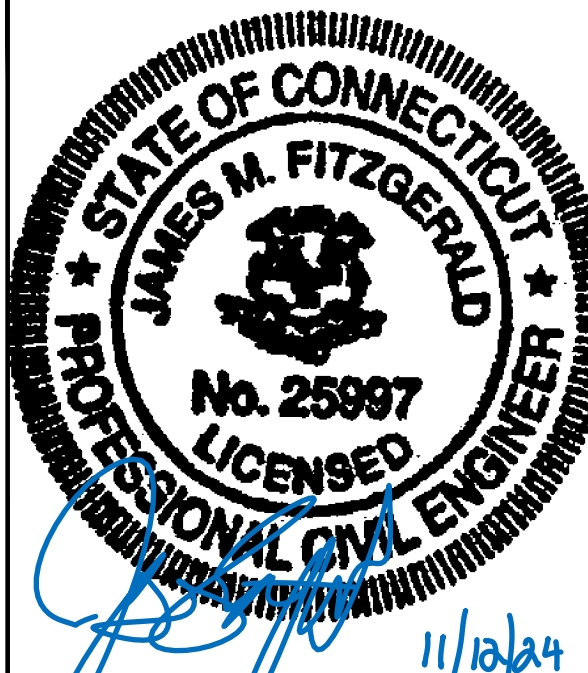
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720



R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
3	11/05/24	CONSTRUCTION REVISED	CNC
2	08/26/24	CONSTRUCTION REVISED	NWC
1	10/03/22	ISSUED FOR CONSTRUCTION	JRV
0	05/31/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNH391A

SITE ADDRESS:
1210 HIGHLAND AVENUE
TORRINGTON, CT 06790

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – T–MOBILE
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – T–MOBILE
OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
13. THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
14. SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
15. CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.
16. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
17. THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
18. IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
6. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
8. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
9. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
10. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER
OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ IN.
5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
7. CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
8. AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
9. EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
5. AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

1. HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.
2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
3. CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

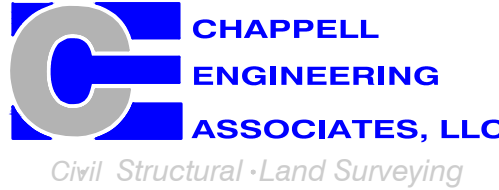
1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLEING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
5. EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
6. POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
13. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
14. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
17. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
20. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEC AND NEC.
24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
25. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
26. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
27. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
28. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
30. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.



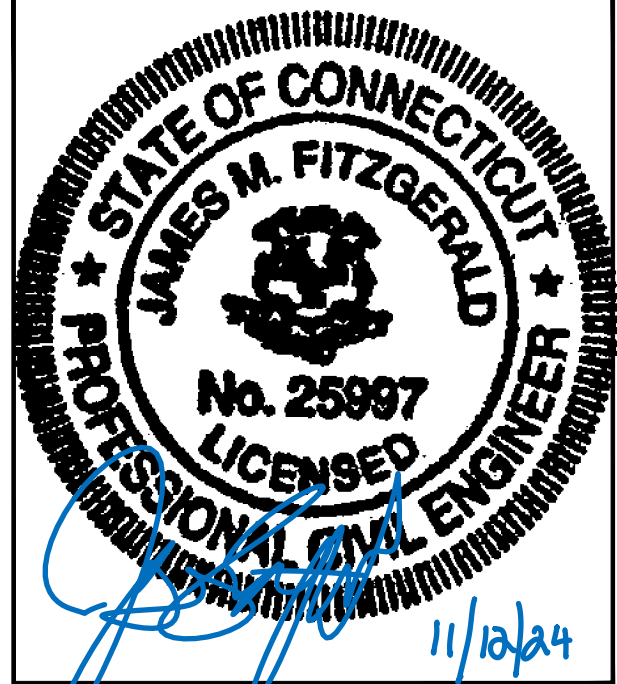
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SITE NUMBER:
CTNH391A

SITE ADDRESS:
1210 HIGHLAND AVENUE
TORRINGTON, CT 06790

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1

PROP. T-MOBILE HEAVY DUTY V-FRAMES MOUNTED TO EXIST. GUYED TOWER (SITE PRO 1 P/N: VFA12-HD) (TOTAL OF 3)

ALL SECTORS
PROP. T-MOBILE ERICSSON RADIO 4480 B71+B85 MOUNTED TO PROP. HEAVY-DUTY V-FRAME ON EXIST. GUYED TOWER BEHIND PROP. ANTENNAS (1 PER SECTOR, TOTAL OF 3)

ALL SECTORS
PROP. T-MOBILE ERICSSON RADIO 4480 B25+B66 MOUNTED TO PROP. HEAVY-DUTY V-FRAME ON EXIST. GUYED TOWER BEHIND PROP. ANTENNAS (1 PER SECTOR, TOTAL OF 3)

ALL SECTORS
PROP. T-MOBILE RFS APXVLL19P_43-C-A20 ANTENNAS MOUNTED TO PROP. HEAVY-DUTY V-FRAME ON EXIST. GUYED TOWER (1 PER SECTOR, TOTAL OF 3)

TOP OF EXIST. GUYED TOWER
EL. = 240'± AGL

TOP OF PROP. T-MOBILE (3) ANTENNAS
EL. = 239'± AGL

EX. PROP. T-MOBILE (6) ANTENNAS
EL. = 235'± AGL

ALL SECTORS
PROP. T-MOBILE AMPHENOL APXVAALL24M-U-J20 ANTENNAS MOUNTED TO PROP. HEAVY-DUTY V-FRAME ON EXIST. GUYED TOWER (1 PER SECTOR, TOTAL OF 3)

EX. EXIST. DIPOLE ANTENNA (BY OTHERS)
EL. = 221'± AGL

EX. EXIST. OMNI ANTENNA (BY OTHERS)
EL. = 140'± AGL

EX. EXIST. DISH ANTENNA (BY OTHERS)
EL. = 107'± AGL

EX. EXIST. DISH ANTENNA (BY OTHERS)
EL. = 100'± AGL

EX. EXIST. DISH ANTENNA (BY OTHERS)
EL. = 90'± AGL

EX. EXIST. YAGI ANTENNA (BY OTHERS)
EL. = 105'± AGL

NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

SEE FEEDLINE SCHEDULE
A & B ON SHEET RF-1

EXIST. 240'± GUYED TOWER

GROUND LEVEL
EL. = 0' AGL

TOWER ELEVATION

SCALE: 1" = 10'-0"



1
A-2



EXISTING TOWER PHOTO

SCALE: N.T.S.

2
A-2

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

RAD CENTER NOTE:
T-MOBILE ANTENNA AND MOUNT RAD CENTER SHOWN IN ELEVATION ARE ACCORDING TO STRUCTURAL ANALYSIS DONE BY OTHERS AND MAY DIFFER FROM RAD CENTER ON RFDS PROVIDED BY T-MOBILE.

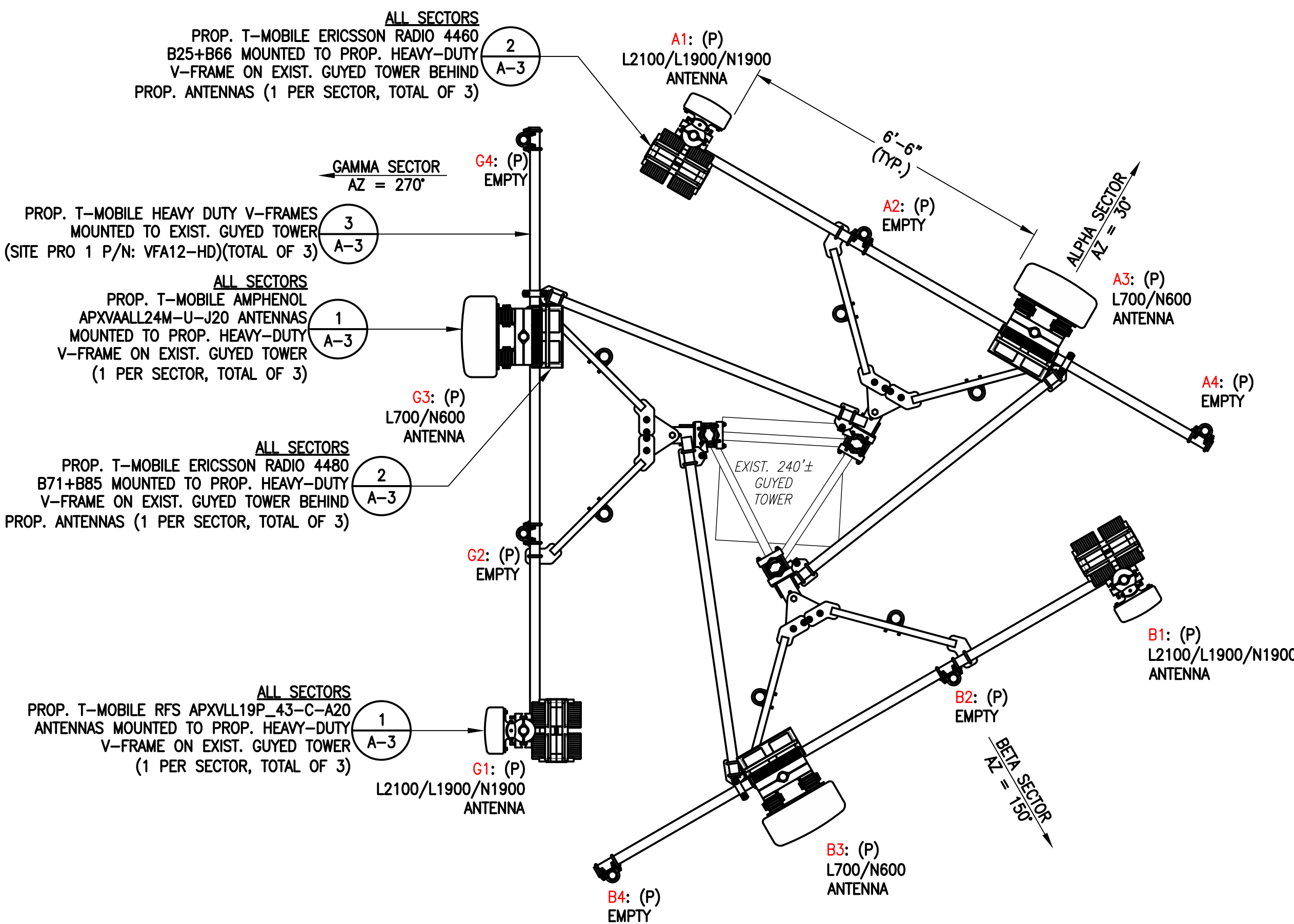
SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

ANTENNA STATUS LEGEND:

EMPTY - EMPTY PIPE

(E) - EXISTING
(P) - INSTALL
(F) - FUTURE

NOTE:
VERIFY PROPOSED AZIMUTHS
WITH RF ENGINEER PRIOR
TO INSTALLATION.



PROPOSED ANTENNA PLAN

SCALE: N.T.S.

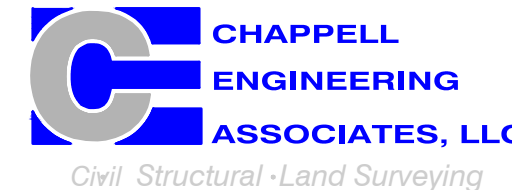
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A-2

T-Mobile

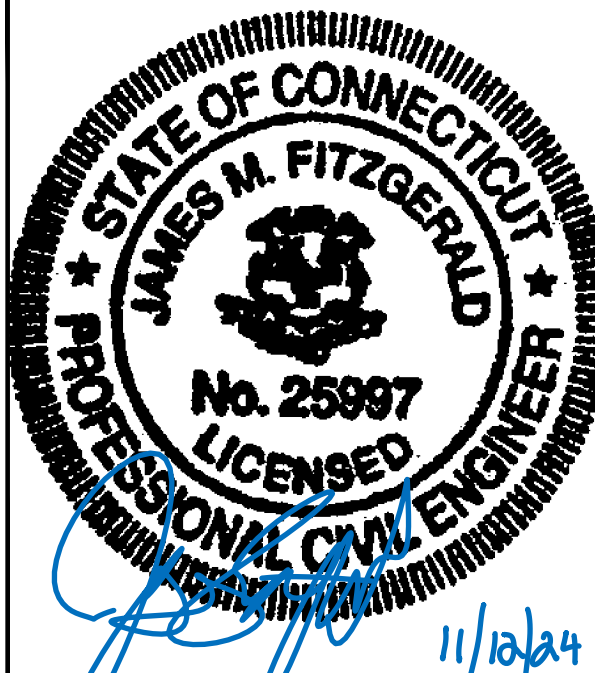
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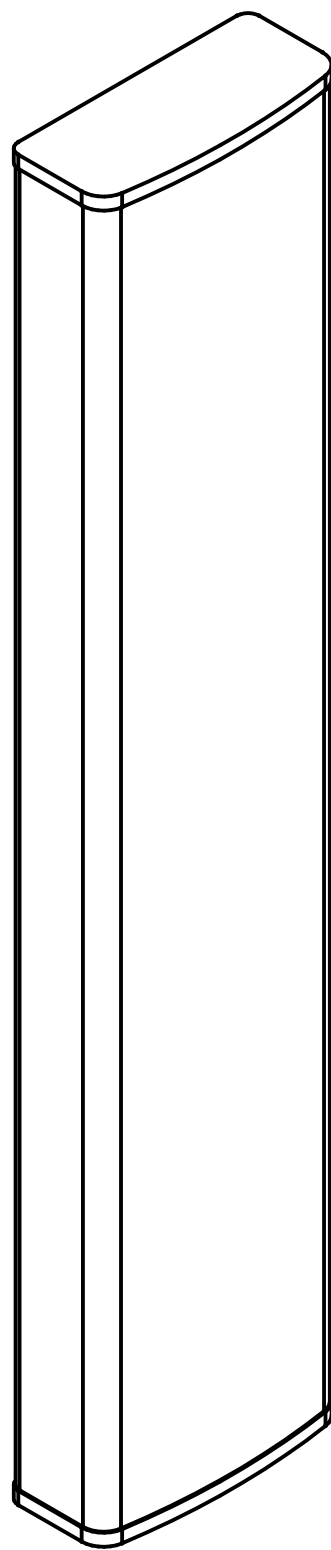
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SHEET TITLE

TOWER ELEVATION,
ANTENNA PLAN &
PHOTO

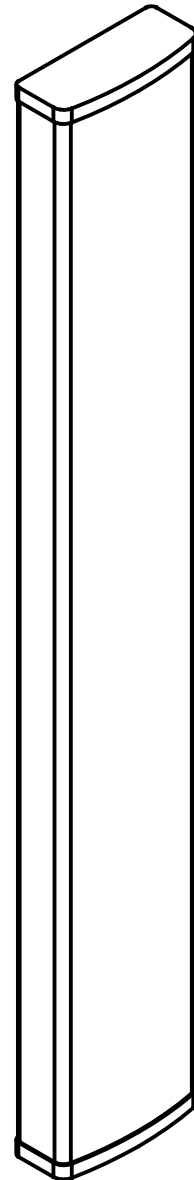
SHEET NUMBER

A-2



AMPHENOL APXVAALL24M-U-J20 ANTENNA

DIMENSIONS: 95.7"H x 19.7"W x 8.5"D
WEIGHT: 73.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA



RFS APXVLL19P 43-C-A20 ANTENNA

DIMENSIONS: 75.8"H x 11.3"W x 4.6"D
WEIGHT: 49.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA

ANTENNA DETAILS

SCALE: N.T.S.

1
A-3



ERICSSON RADIO 4460 B25+B66

DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3



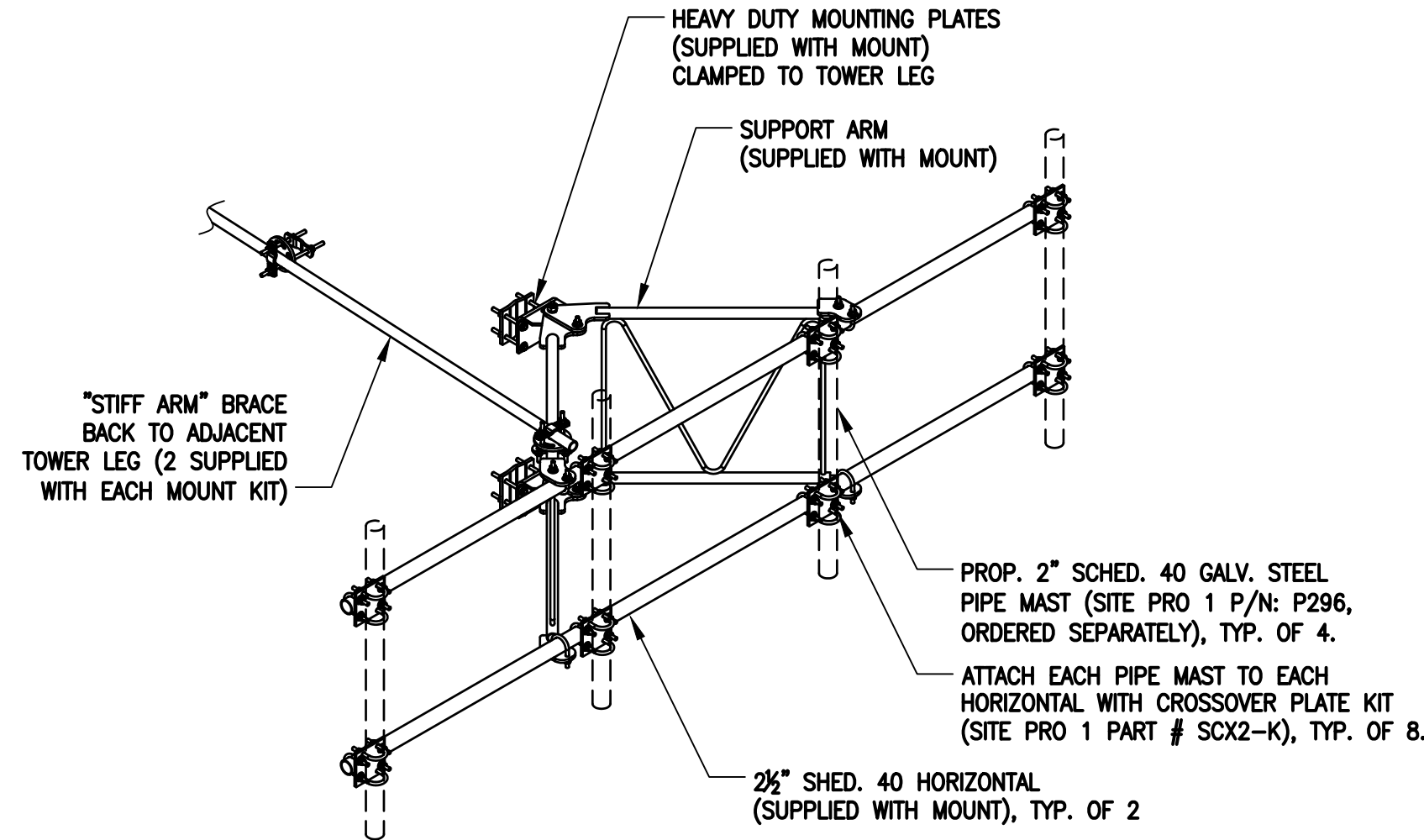
ERICSSON RADIO 4480 B71+B85

DIMENSIONS: 19.2"H x 15.1"W x 7.5"D
WEIGHT: 92.6 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAILS

SCALE: N.T.S.

2
A-3



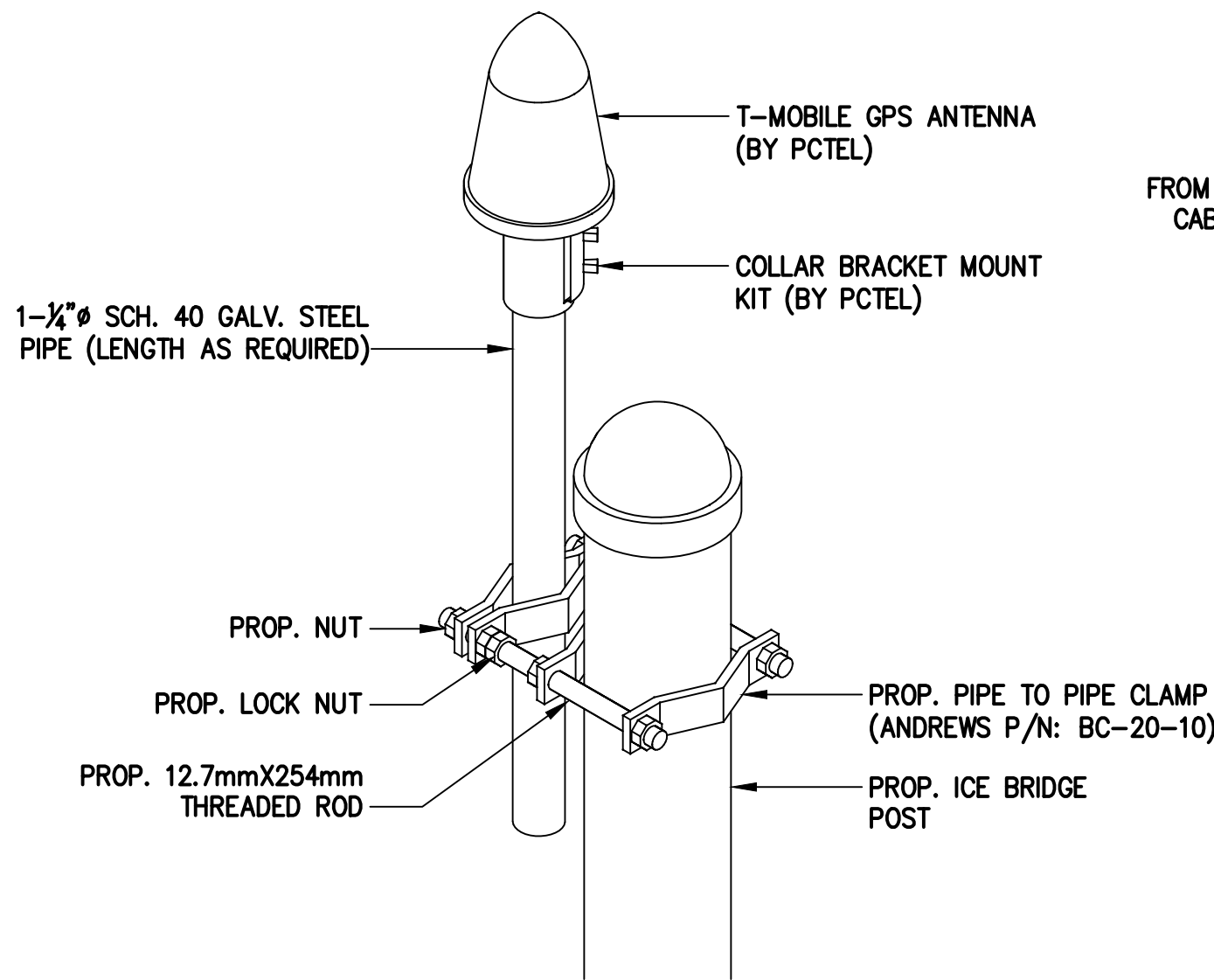
SITE-PRO 1 12'-6" HEAVY-DUTY V-FRAME

PART NUMBER: VFA12-HD
(TOTAL OF 3 REQUIRED)

TYPICAL SITE PRO 1, 12'-6" HEAVY DUTY V-FRAME ASSEMBLY

SCALE: N.T.S.

3
A-3

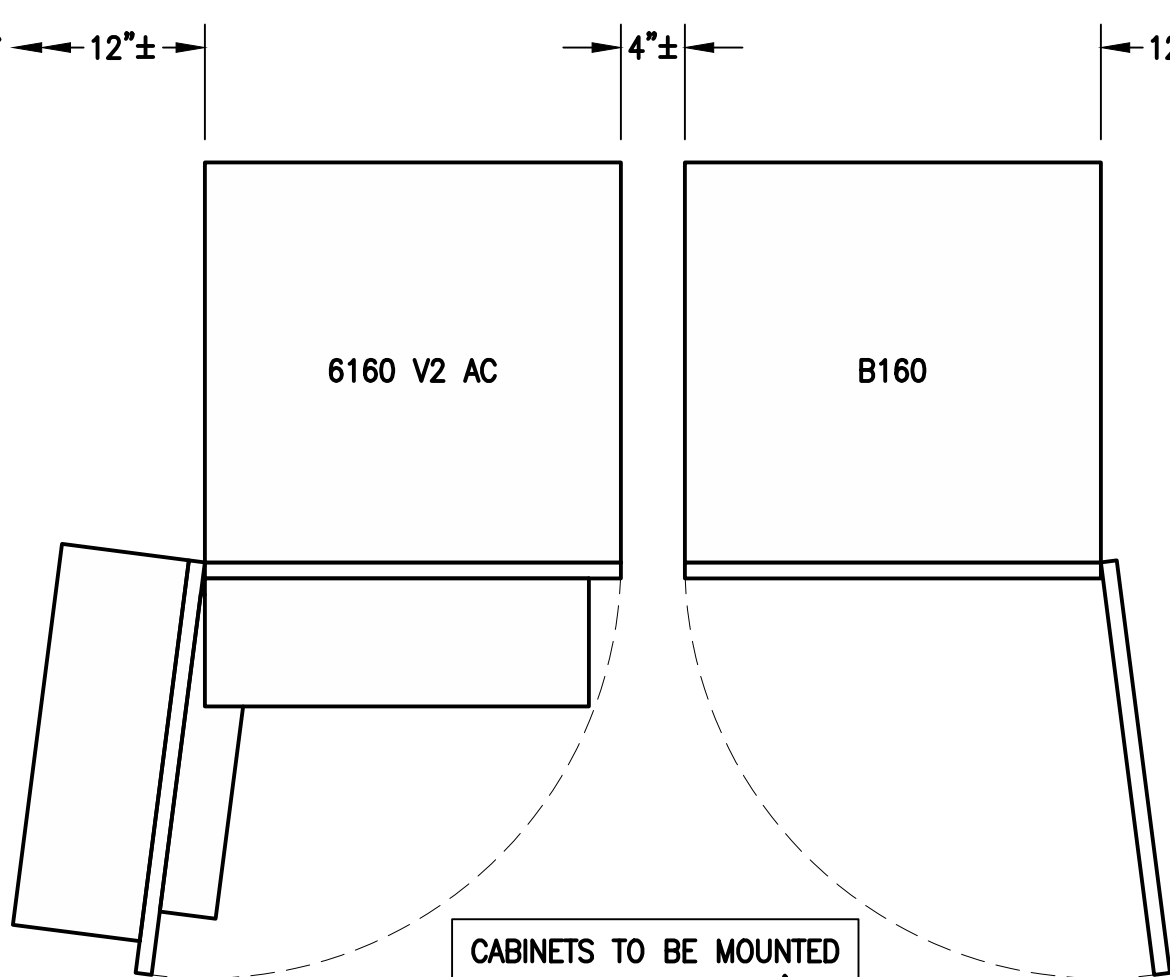


NOTE:
THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1"-1 1/4" DIAMETER GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.

GPS ANTENNA MOUNTING DETAIL

SCALE: N.T.S.

4
A-3



ERICSSON 6160 V2 AC SITE SUPPORT CABINET

DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

ERICSSON B160 BATTERY CABINET

DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
WEIGHT: 1771.0 lbs
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL

SCALE: N.T.S.

5
A-3



PURCELL SITE SUPPORT CABINET RAC24

DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
QUANTITY: TOTAL OF 1



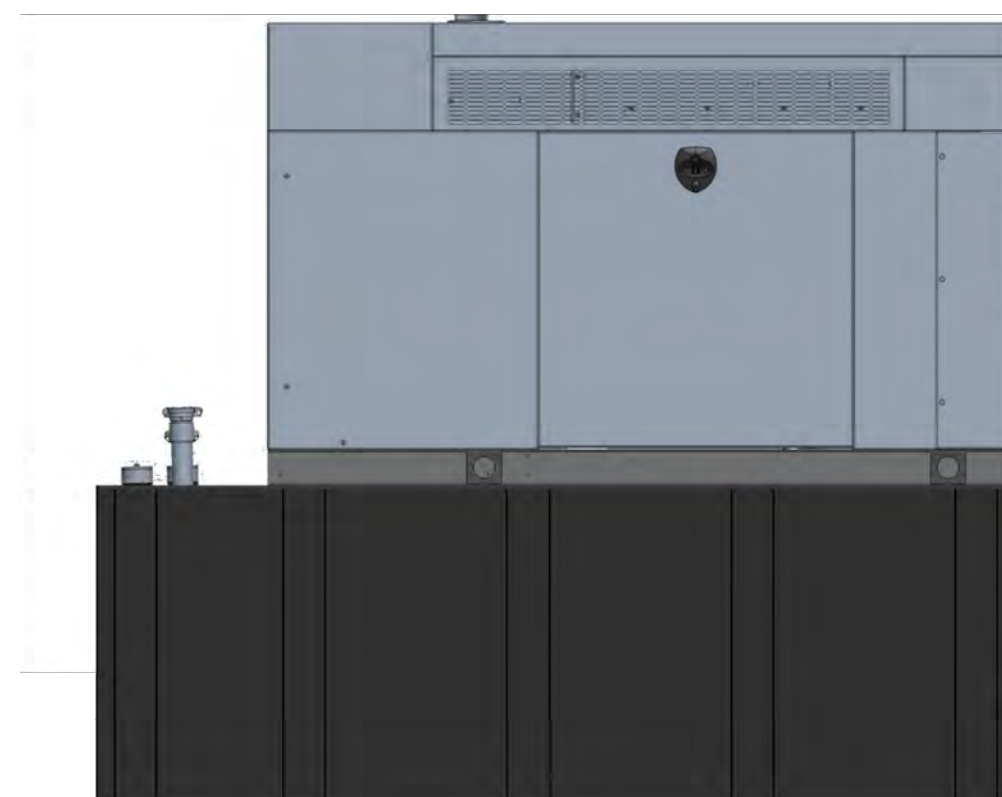
SLACKBOX - HOFFMAN 32FH91 NEMA 3R ENCLOSURE

DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

SSC DETAILS

SCALE: N.T.S.

6
A-3



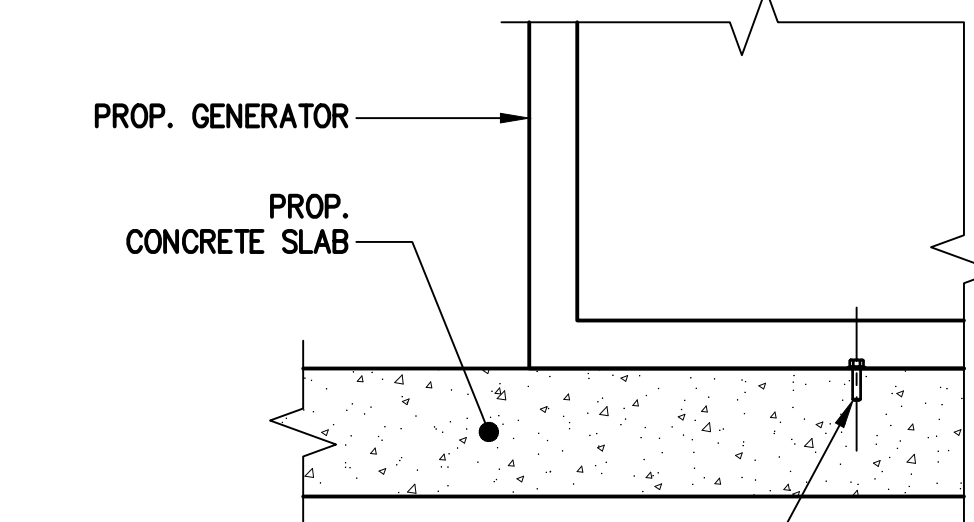
GENERAC RD048 48kW AC DIESEL GENERATOR

DIMENSIONS: 103.4"L x 35.0"W x 90.0"H
WEIGHT: 2,954 lbs
QUANTITY: TOTAL OF 1

GENERATOR DETAIL

SCALE: N.T.S.

7
A-3



NOTE:
CONTRACTOR TO VERIFY 3" MIN. FROM EDGE OF CONCRETE TO NEW MOUNTING BOLT.

GENERATOR MOUNTING DETAIL

SCALE: N.T.S.

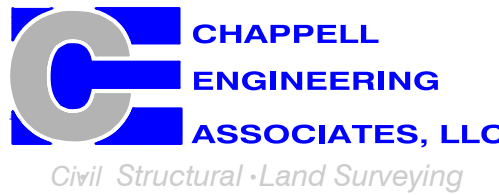
8
A-3

T-Mobile

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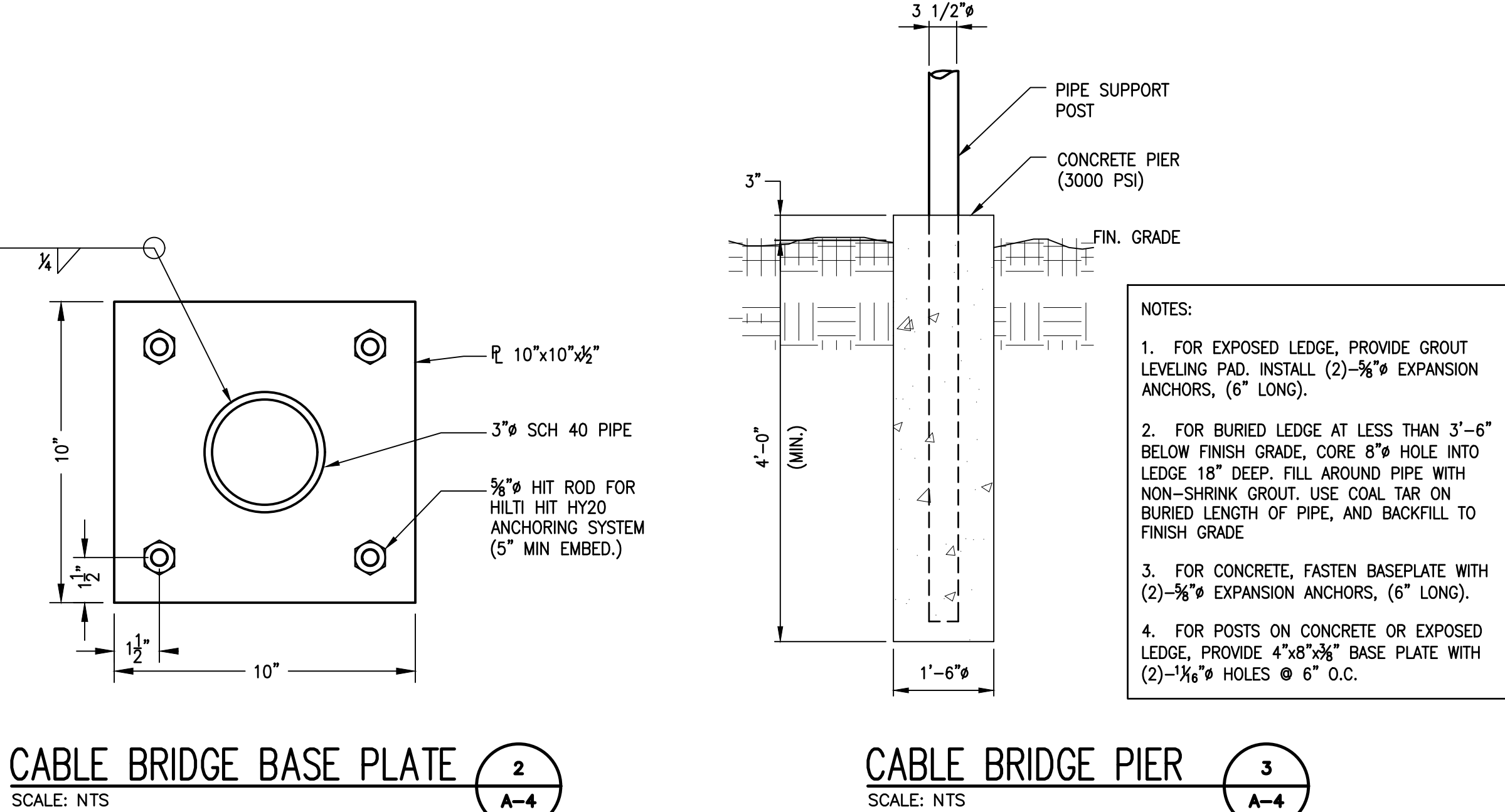
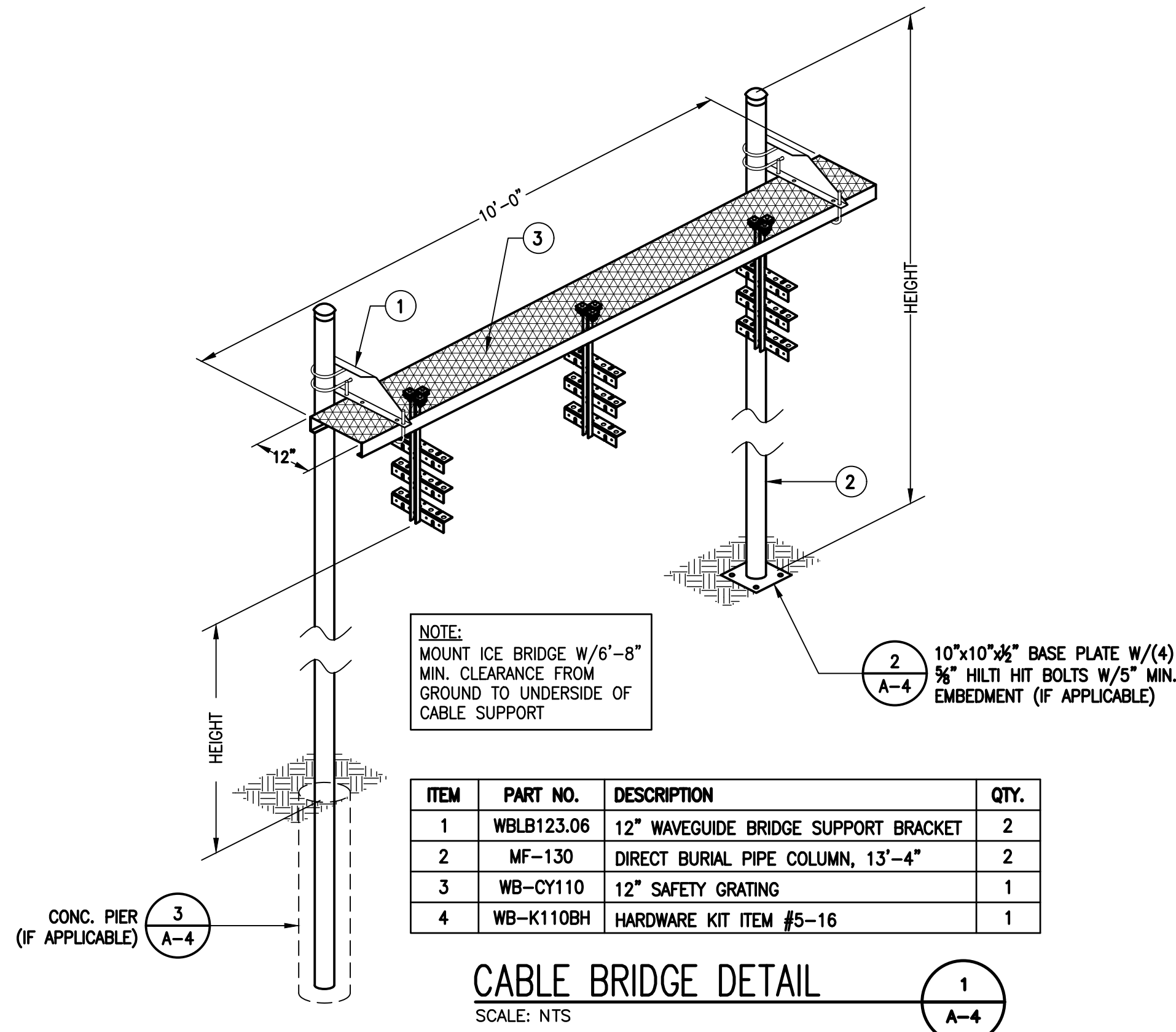
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SHEET TITLE

SITE DETAILS
1 OF 2

SHEET NUMBER

A-3



EMERSON CAC-A75201090 PPC
DIMENSIONS: 24.0"H x 15.7"W x 20.0"D
QUANTITY: TOTAL OF 1

PPC DETAIL
SCALE: N.T.S.

CONCRETE GENERAL NOTES

- ALL CONCRETE WORK SHALL CONFORM TO ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND TO THE PROJECT SPECIFICATIONS.
- ALL CONCRETE IS TO BE NORMAL DENSITY CONCRETE WITH A MAXIMUM SLUMP OF 4 INCHES. MAXIMUM AGGREGATE SIZE $\frac{3}{4}$ INCH. NO ADDITIONAL WATER SHALL BE ADDED TO THE CONCRETE AT THE JOB SITE.
- PROVIDE AIR ENTRAINMENT OF 4 TO 6 PERCENT IN ALL EXPOSED CONCRETE WORK WITH AIR-ENTRAINING ADMIXTURE COMPLYING WITH ASTM C 260. AT TROWEL-FINISHED FLOORS, DO NOT EXCEED AIR-ENTRAINMENT CONTENT OF 3 PERCENT.
- NO HOLES OR SLEEVES SHALL BE MADE THROUGH CONCRETE WORK OTHER THAN THOSE INDICATED ON THE STRUCTURAL DRAWINGS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
- ALL FORMWORK OFFSET TOLERANCES (PER ACI 117) TO BE CLASS A.
- FLOOR SLAB TOLERANCES TO ASTM E1155; SPECIFIED OVERALL MINIMUM VALUE OF FLATNESS F F=25 WITH LOCAL MINIMUM F F=17, AND MINIMUM VALUE OF LEVELNESS F F=20 WITH LOCAL MINIMUM F F=17 AND F F WITHIN 72 HOURS OF SLAB CONSTRUCTION.
- CABINETS ON SLAB (IF APPLICABLE). ALLOWABLE CAPACITY OF CONCRETE USED IN DESIGN MIN. 4000 PSI.

FOUNDATION NOTES:

1. DESIGN INFORMATION AND GENERAL REQUIREMENTS

1.1. CODES

- DESIGN CONFORMS TO INTERNATIONAL BUILDING CODE 2012.
- AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-08.

2. EARTHWORK

2.1. FOUNDATIONS

- FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON (UNDISTURBED RESIDUAL SOILS/COMPACTED STRUCTURAL FILL), CAPABLE OF SAFELY SUPPORTING A NET ALLOWABLE BEARING PRESSURE OF 2000 PSF. IF FOUNDATION CONDITIONS PROVE UNACCEPTABLE AT ELEVATIONS SHOWN, EXCAVATION SHALL BE CARRIED DEEPER AND SHALL BE BACKFILLED WITH LEAN CONCRETE TO PLAN FOOTING BOTTOM, OR REDESIGN OF FOUNDATIONS WILL BE REQUIRED AT THE DIRECTION OF THE ENGINEER.
- DESIGN, FURNISH AND INSTALL ALL TEMPORARY SHEETING, SHORING AND DRAINAGE NECESSARY TO MAINTAIN THE EXCAVATION AND PROTECT SURROUNDING STRUCTURES AND UTILITIES.
- THOROUGHLY COMPACT ALL BOTTOM OF FOOTINGS PRIOR TO PLACING ANY CONCRETE.

3. CONCRETE

3.1 FORMWORK

- CONCRETE CONSTRUCTION SHALL CONFORM TO "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS," (ACI 301-89).
- FORMWORK SHALL CONFORM TO ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS."

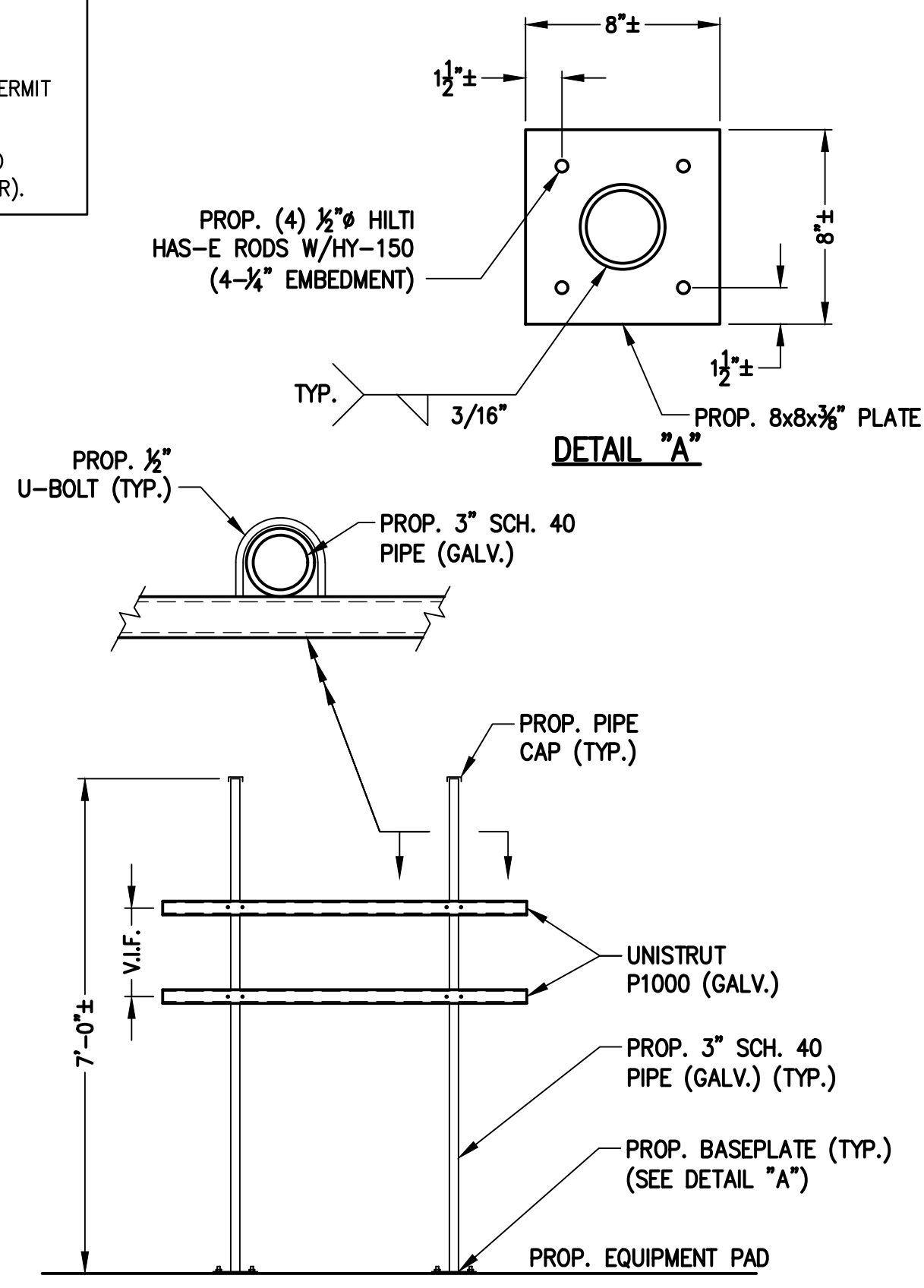
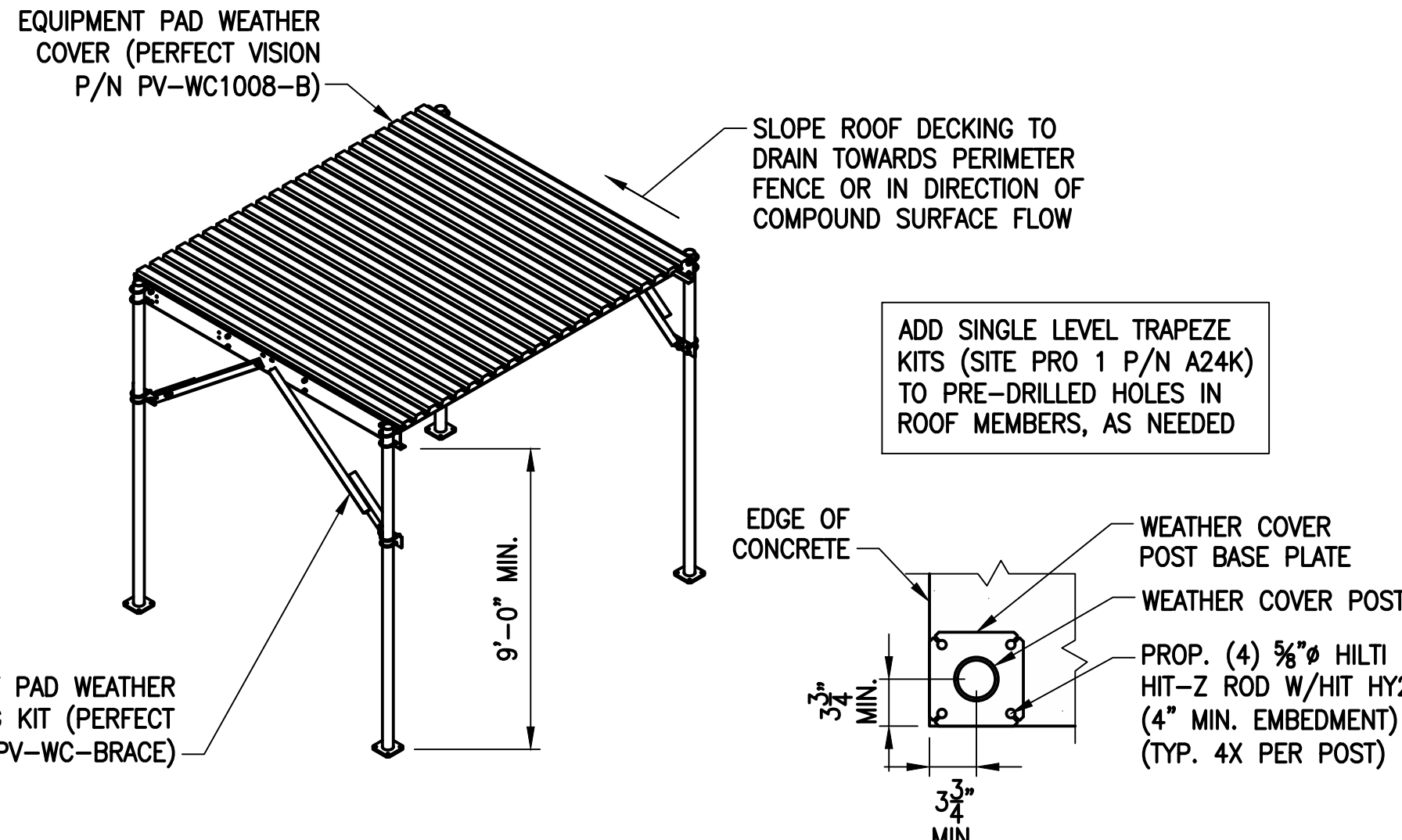
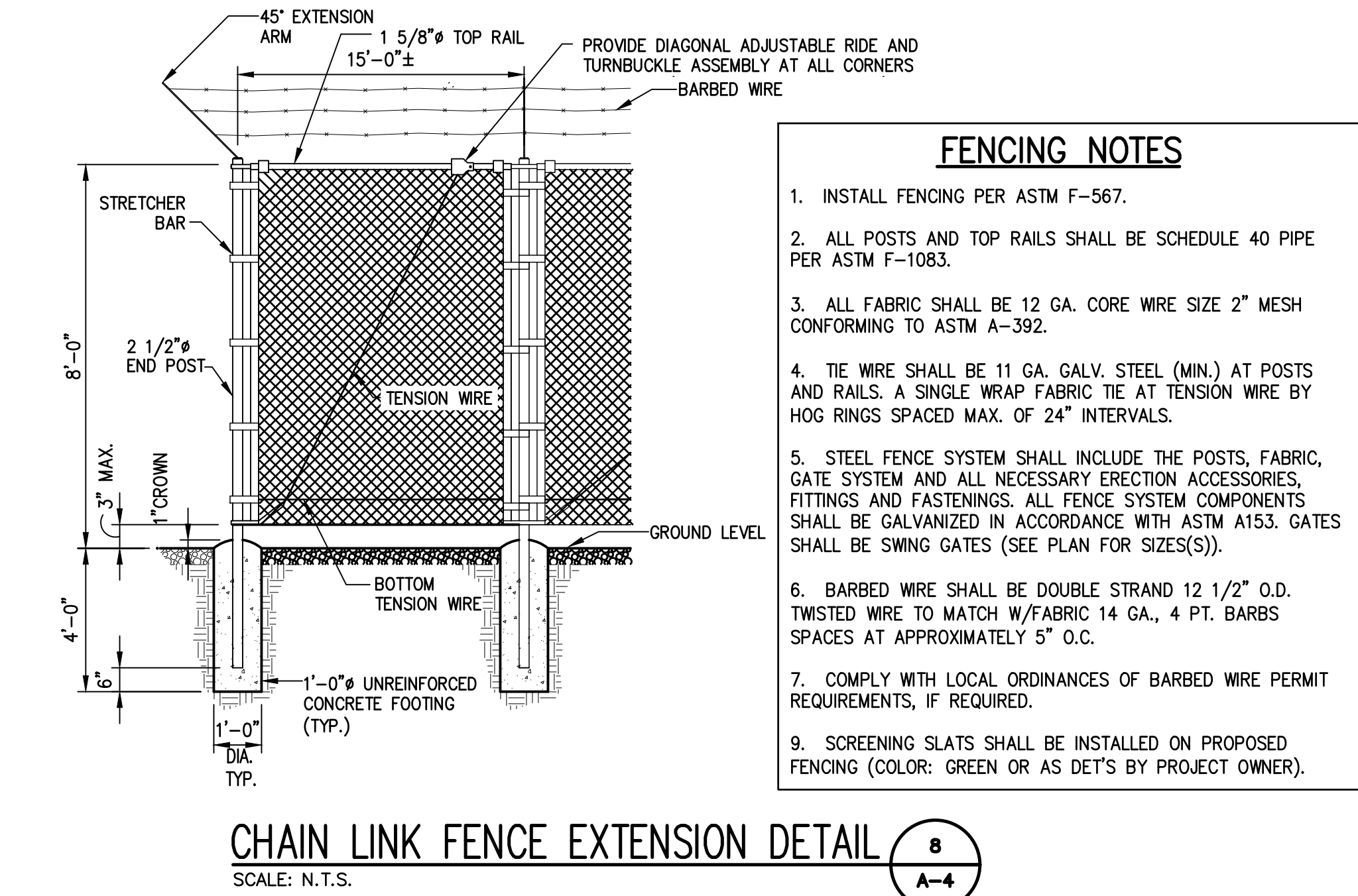
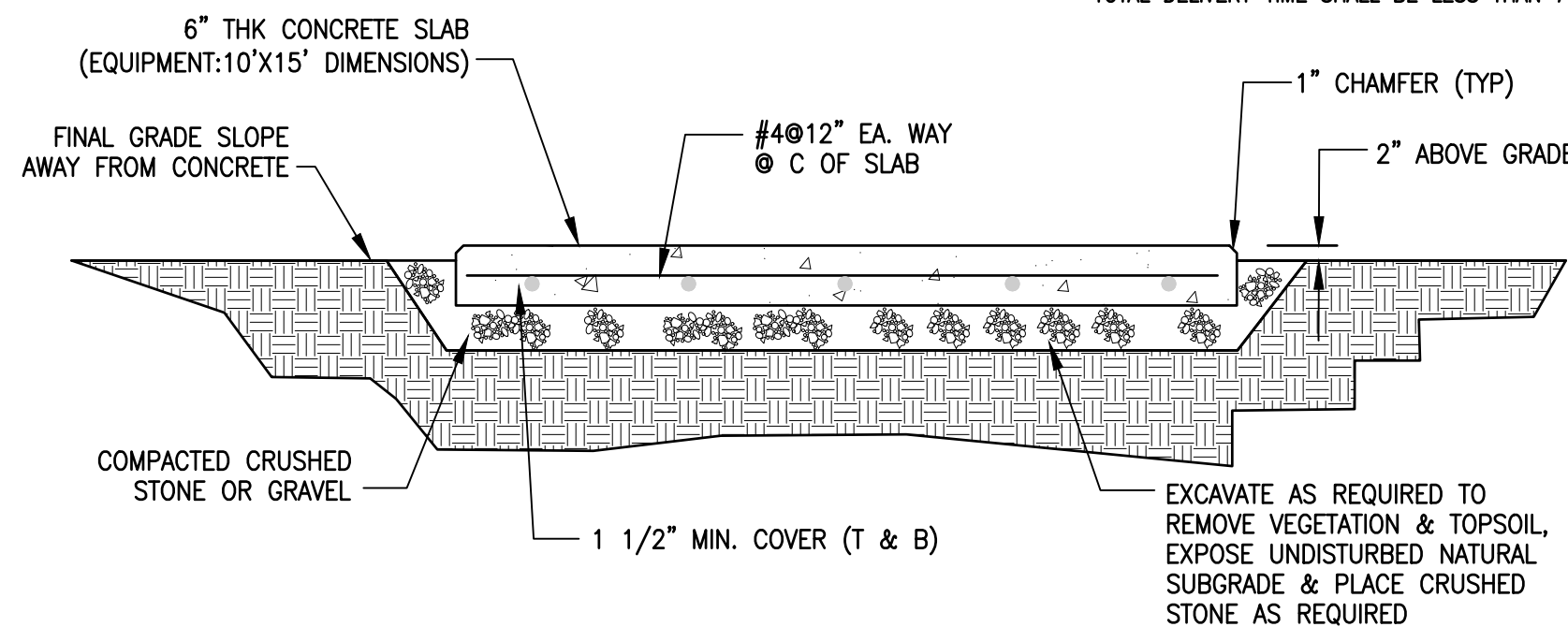
3.2 REINFORCEMENT

- REINFORCING STEEL ASTM A615, GRADE 60. WELDED WIRE ASTM A185 (FLAT SHEET). LAPS 40 BAR DIAMETERS UNLESS NOTED. BARS SHALL BE SECURELY HELD IN ACCURATE POSITION BY SUITABLE ACCESSORIES, TIE BARS, SUPPORT BARS, ETC. HOOK LENGTHS SHALL BE 12 BAR DIAMETERS.
- CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:
FOOTINGS & SLABS CAST AGAINST GROUND 3"
CONCRETE TO BE IN CONTACT WITH GROUND 2"
AT BARS #5 OR LESS 1-1/2"
CONCRETE NOT TO BE EXPOSED TO GROUND 1-1/2"
OR WEATHER BEAMS, GIRDERS & COLUMNS 1-1/2"
SLABS & WALLS 3/4"

3.3 CAST-IN-PLACE-CONCRETE

- MINIMUM 28 DAY CYLINDER STRENGTH AND MAXIMUM SLUMP, PRIOR TO ADDITION OF SUPER PLASTICIZERS, AS FOLLOWS:

	F'C (PSI)	SLUMP
CLASS I FOOTINGS	4000	3"
CLASS II FOOTINGS	4000	3"
CLASS III INTERIOR ELEVATED SLABS & WALLS	4000	4"
CLASS V OTHER WORK	4000	4"
CLASS VI LEAN CONCRETE FOR OVER EXCAVATION OF FOUNDATIONS	2000	N/A
- MIX DESIGN TO BE IN ACCORDANCE WITH ACI 318, CHAPTER 5. NO CALCIUM CHLORIDE OR ADMIXTURE CONTAINING CHLORIDES SHALL BE USED IN ANY CONCRETE.
- COARSE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33 SIZE #57. COARSE AGGREGATE FOR LIGHT WEIGHT CONCRETE SHALL CONFORM TO ASTM C330 GRADED 3/4" TO 1/4".
- COLD WEATHER PLACEMENT SHALL COMPLY WITH ACI 306.1.
- HOT WEATHER PLACEMENT SHALL COMPLY WITH ACI 305 R.
- CHAMFER ALL EXPOSED EDGES 3/4".
- THE MAXIMUM TEMPERATURE OF ALL CONCRETE AT DELIVERY TO THE SITE SHALL BE 85F. TOTAL DELIVERY TIME SHALL BE LESS THAN 75 MINUTES.

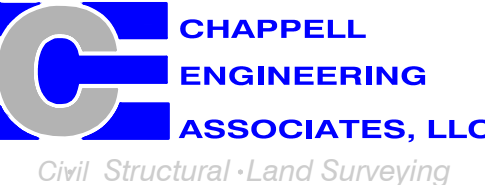


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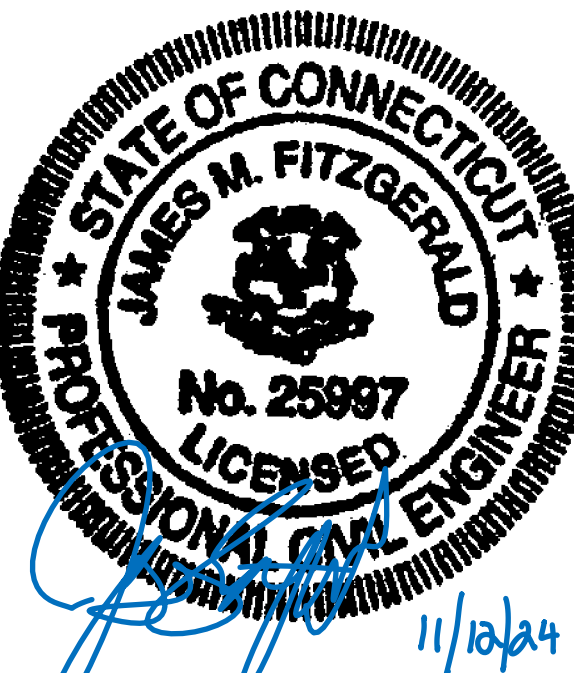
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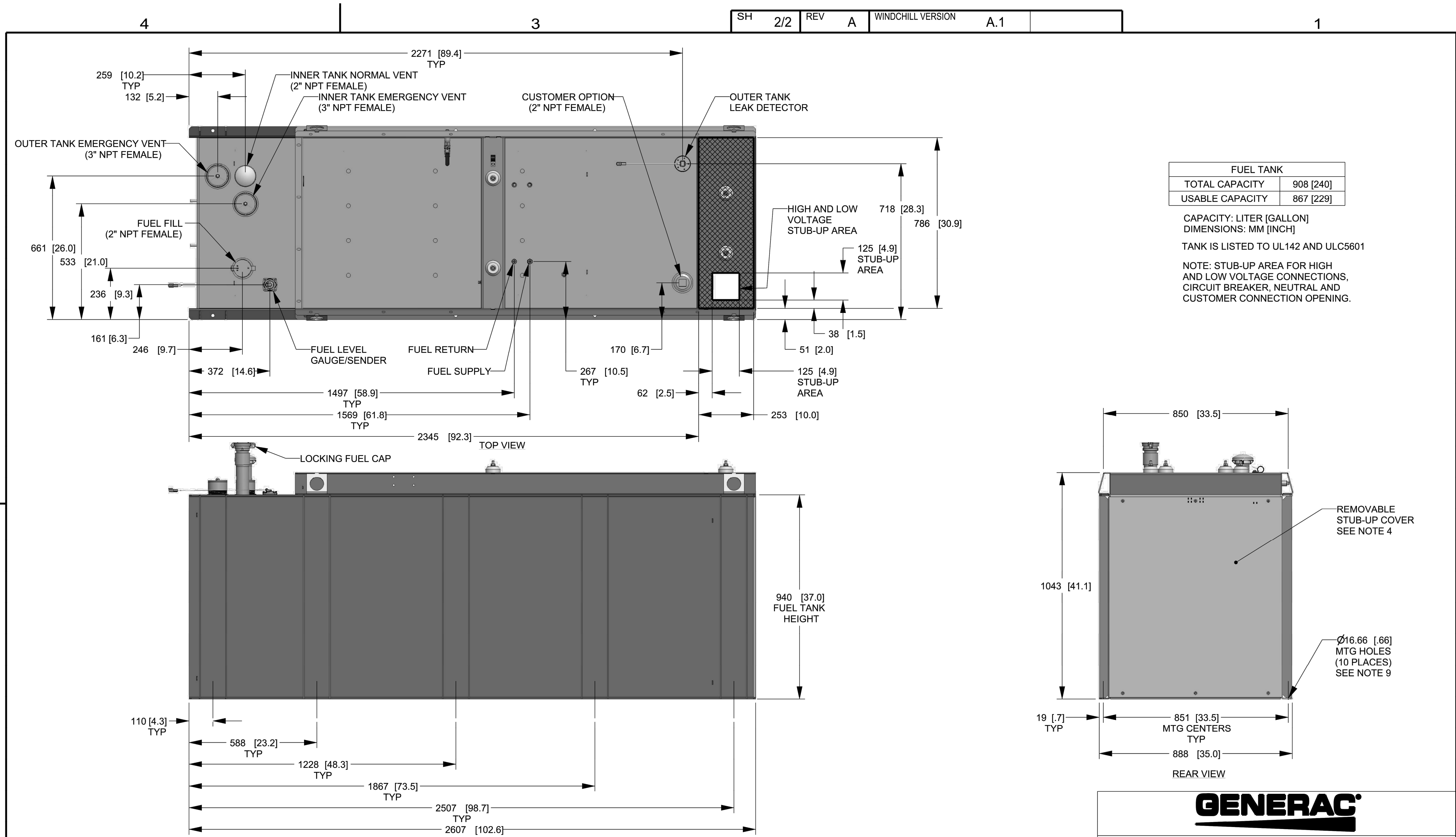
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SHEET TITLE

SITE DETAILS
2 OF 2

SHEET NUMBER

A-4



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INSTALLATION DRAWING

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GENERAC

TITLE
INSTALL D3.4L G16
48KW Y06 EXT

ISSUE DATE: 8/8/18

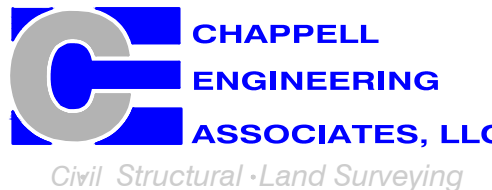
SIZE B	CAGE NO N/A	DWG NO 10000041950	REV A
SCALE 0.060	WT-KG	SEE ABOVE	SHEET 2 of 2



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SHEET TITLE

GENERATOR
SPECIFICATIONS 2

SHEET NUMBER

A-6


RAD CENTER NOTE:
T-MOBILE ANTENNA RAD CENTER SHOWN IN ABOVE SCHEDULE IS
ACCORDING TO RFDS PROVIDED BY T-MOBILE AND MIGHT DIFFER
FROM ACTUAL ANTENNA RAD CENTER ON STRUCTURAL ANALYSIS.

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	A1 RFS APXVLL19P_43-C-A20	235'± AGL	30°	-	-	L2100/L1900/N1900	ERICSSON RADIO 4460 B25+B66	PROP. (3) 2" (6x24) HCS FIBER CABLES (80m±)
	A2 EMPTY PIPE	-	-	-	-	-	-	
	A3 AMPHENOL APXVAALL24M-U-J20	235'± AGL	30°	-	-	L700/N600	ERICSSON RADIO 4480 B71+B85	
	A4 EMPTY PIPE	-	-	-	-	-	-	
	BETA	B1 RFS APXVLL19P_43-C-A20	235'± AGL	150°	-	-	L2100/L1900/N1900	
B2 EMPTY PIPE	-	-	-	-	-	-		
B3 AMPHENOL APXVAALL24M-U-J20	235'± AGL	150°	-	-	L700/N600	ERICSSON RADIO 4480 B71+B85		
B4 EMPTY PIPE	-	-	-	-	-	-		
GAMMA	C1 RFS APXVLL19P_43-C-A20	235'± AGL	270°	-	-	L2100/L1900/N1900	ERICSSON RADIO 4460 B25+B66	
	C2 EMPTY PIPE	-	270°	-	-	-	-	
	C3 AMPHENOL APXVAALL24M-U-J20	235'± AGL	270°	-	-	L700/N600	ERICSSON RADIO 4480 B71+B85	
	C4 EMPTY PIPE	-	-	-	-	-	-	
	CABLE NOTE: SEE FEEDLINE SCHEDULE A & B BELOW.							


NOTE: RFDS REV1 - 10/21/24

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	<div>EXISTING TO REMAIN: NONE</div> <div>EXISTING TO BE REMOVED: NONE</div>	ROUTED PER STRUCTURAL ANALYSIS
B	<div>PROPOSED:</div> <div>(3) 2" (6x24) HCS FIBER CABLES (80m±)</div> <div>(1) ½" COAX CABLE FOR GPS ANTENNA</div>	
<div>NOTE:</div> <div>EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.</div>		


RAN EQUIPMENT		
CABINET	EXISTING	PROPOSED
PROP. ERICSSON 6160 V2 AC EQUIPMENT CABINET	N/A	(1) RP 6651 (1) CSR IXRe V2 (GEN2)
NOTE: RAN EQUIPMENT IS BASED ON RFDS REV1 DATED 10/21/2024.		




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APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
3	11/05/24	CONSTRUCTION REVISED	CMC
2	09/26/24	CONSTRUCTION REVISED	NWC
1	10/03/22	ISSUED FOR CONSTRUCTION	JRV
0	05/31/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNH391A

SITE ADDRESS:
1210 HIGHLAND AVENUE
TORRINGTON, CT 06790

SHEET TITLE

RF DATA

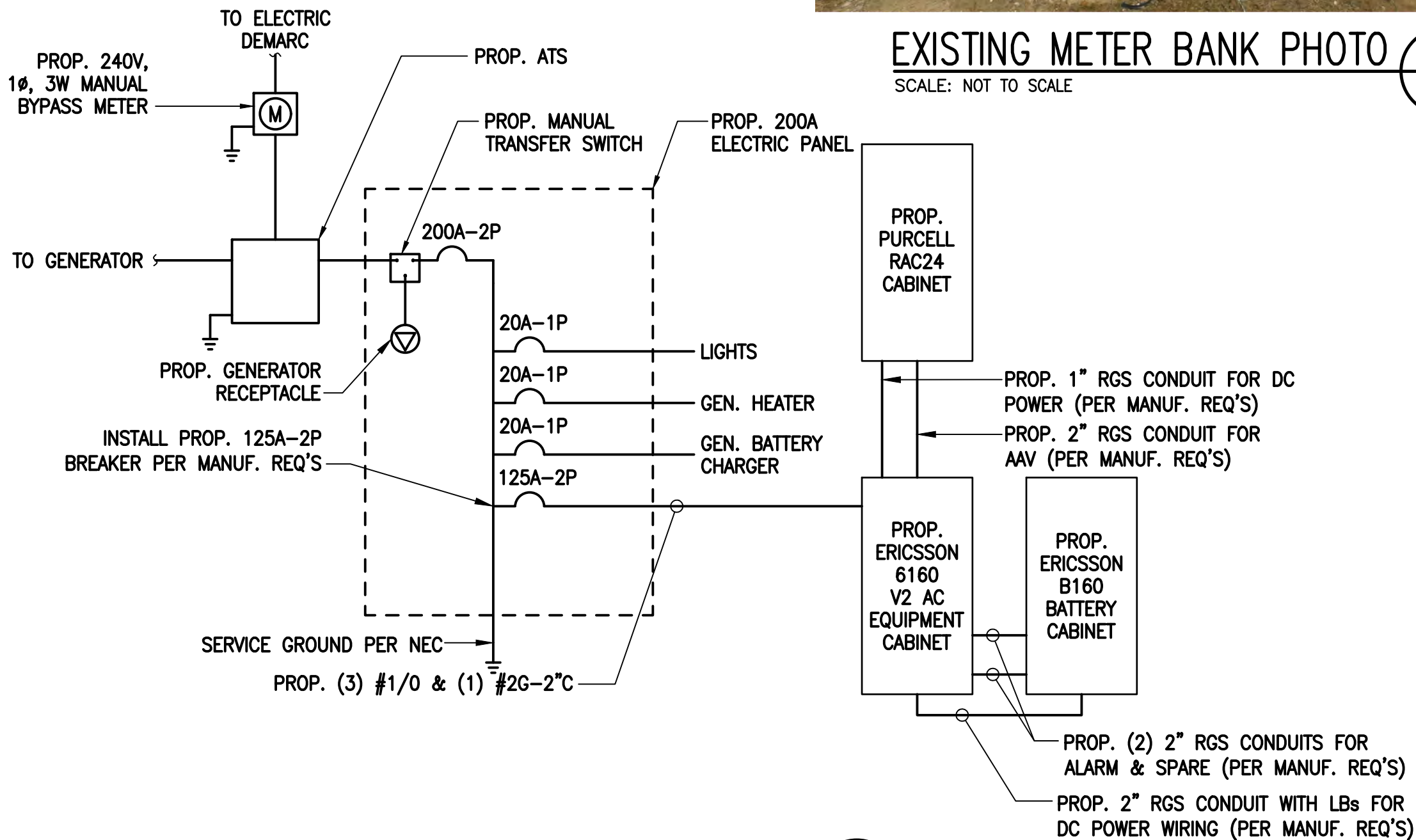
SHEET NUMBER

RF-1

1815.496

NOTES TO CONTRACTOR:

- CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE ENGINEER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS REQUIRED WITH LOCAL AUTHORITY.
- UTILITY SERVICES SHOWN ARE PROPOSED, THE ELECTRIC CONTRACTOR SHALL COORDINATE EXACT TELEPHONE AND ELECTRIC SERVICE CONNECTION POINTS, ROUTING AND ASSOCIATED REQUIREMENTS WITH LOCAL UTILITY COMPANIES & SPRINT CONSTRUCTION MANAGER.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING AS REQUIRED FOR THE WORK.
- LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
- THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
- PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
- ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
- ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
- ALL WIRE SHALL BE TYPE THWN, SOLID, ANNEALED COPPER UP TO SIZE #10 AWG (#8 AND LARGER SHALL BE CONCENTRIC STRANDED) 75 DEGREE C, (167 DEGREES F), 98% CONDUCTIVITY, MINIMUM #12.
- ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY, OR APPROVED EQUAL.
- ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
- CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
- ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN NOT HAND WRITTEN.
- INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES, AND ALL DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.
- THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS, DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
- ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL LOCATIONS FED FROM (NO EXCEPTIONS.)
- PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.
- NOTE: ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY NOT BE CORRECT AS SHOWN ON THESE DRAWINGS). LOCATION OF OUTLETS, BOXES, ETC. AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.
- ALL UNDERGROUND CONDUIT ROUTING SHALL BE COORDINATED IN FIELD BETWEEN SPRINT WIE, CONTRACTOR, AND RESPECTIVE UTILITY COMPANIES.
- ALL CONDUITS ROUTED BELOW GRADE SHALL TRANSITION TO RIGID GALVANIZED ELBOWS WITH RIGID GALVANIZED STEEL CONDUIT ABOVE GRADE.
- CONTRACTOR SHALL PROVIDE ALL DIRECT BURIED CONDUITS WITH 6" WIDE, 6 MIL THICK ALUMINIZED PLASTIC WARNING TAPE IDENTIFYING CONTENTS. TAPE COLORS SHALL BE ORANGE FOR TELEPHONE AND RED FOR ELECTRIC.
- ELECTRICAL CONTRACTOR SHALL PROVIDE A SECTION OF SEALTITE CONDUIT FOR TELCO CONNECTION TO THE PRIMARY RADIO CABINET. COORDINATE EXACT CONNECTION TYPE WITH LUCENT.
- ELECTRICAL CONTRACTOR SHALL PROVIDE A SECTION OF SEALTITE CONDUIT FOR POWER CONNECTION TO THE PRIMARY RADIO CABINET. THE CONTRACTOR SHALL PROVIDE AN ADDITIONAL 6'-0" COIL OF WIRE AT THE END OF THE SEALTITE.
- GROUND IN ACCORD W/LOCAL CODE & SHEET E-2.
- PROVIDE (2) 4" GALVANIZED RIGID STEEL CONDUIT RISER WITH 1/4" NYLON DRAG LINE INCLUDING 90° GRC SWEEP AT POLE (UP TO 20'-0" AFG), SECURE TO POLE PER UTILITY COMPANY REQUIREMENTS. PRIMARY CABLES BY UTILITY COMPANY.



ONE LINE DIAGRAM

SCALE: NOT TO SCALE

ELECTRICAL SPECIFICATIONS

SECTION 16010 - GENERAL PROVISIONS

- REQUIREMENTS: FURNISH ALL LABOR, MATERIALS, SERVICE, EQUIPMENT, AND APPLIANCES REQUIRED TO COMPLETE THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND CONTRACT DRAWINGS.
- REQUIREMENTS OF REGULATORY AGENCIES AND STANDARDS: INSTALLATION, MATERIAL, EQUIPMENT AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRICAL CODE (NEC) - APPLICABLE STATE ELECTRIC CODES, THE NATIONAL ELECTRICAL SAFETY CODE (NESC), AND THE TERMS AND THE CONDITIONS OF THE AUTHORITIES HAVING LAWFUL JURISDICTION PERTAINING TO THE WORK REQUIRED. ALL MODIFICATIONS REQUIRED BY THESE CODES, RULES, REGULATIONS, AND AUTHORITIES SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL CHARGE TO THE OWNER.
- UNDERWRITER'S LABORATORIES (UL): ALL MATERIALS, APPLIANCES, EQUIPMENT, OR OR DEVICES SHALL CONFORM TO THE APPLICABLE STANDARDS OF UNDERWRITER'S LABORATORIES, INC. THE LABEL OF, OR LISTING BY, UL, IS REQUIRED.

SECTION 16110 - RACEWAYS, BOXES AND FITTINGS

- CONDUIT FITTINGS, CONNECTORS AND COUPLINGS, EMT COUPLINGS AND CONNECTORS EITHER STEEL OR MALLEABLE IRON ONLY. "CONCRETE TIGHT" OR "RAIN TIGHT" AND EITHER THE GLAND AND RING COMPRESSION TYPE OR STAINLESS STEEL MULTIPLE POINT LOCKING TYPE. CONNECTORS TO HAVE INSULATED THROATS. EMT FITTINGS USING SET SCREWS OR INDENTATIONS AS A MEANS OF ATTACHMENT ARE NOT PERMITTED.
- BUSHINGS: INSULATED TYPE, DESIGNED TO PREVENT ABRASION OF WIRES WITHOUT IMPAIRING THE CONTINUITY OF THE CONDUIT GROUNDING SYSTEM, FOR RIGID STEEL CONDUIT, IMC AND RIGID ALUMINUM CONDUIT.
- CONDUIT INSTALLATIONS: CONDUIT SYSTEMS, EMT, OR RIGID NON-METALLIC CONDUIT UNLESS NOTED. INSTALL CONCEALED CONDUIT AND EMT IN AS DIRECT LINES AS POSSIBLE. INSTALL EXPOSED CONDUITS AND EMT PARALLEL TO OR AT RIGHT ANGLES TO THE LINES OF THE BUILDING. RIGHT ANGLE BENDS IN EXPOSED CONDUIT AND EMT RUNS SHALL BE MADE WITH STANDARD ELBOWS, SCREW JOINTED CONDUIT FITTINGS OR CONDUIT BENT TO RADIUS NO LESS THAN THOSE OF STANDARD ELBOWS.
- CONDUIT SUPPORTS: PROVIDE SUPPORTS FOR HORIZONTAL CONDUITS AND EMT NOT MORE THAN 8 FEET APART WITH NOT LESS THAN TWO SUPPORTS FOR EACH 10 FOOT STRAIGHT LENGTH AND ONE SUPPORT NEAR EACH ELBOW OR BEND INCLUDING RUNS ABOVE SUSPENDED CEILINGS AND WITHIN 3 FEET OF ALL JUNCTION BOXES, SWITCHES, FITTINGS, ETC. INSTALL ONE HOLE PIPE STRAPS ON CONDUITS 1 INCH OR SMALLER INSTALL INDIVIDUAL PIPE HANGERS FOR CONDUITS LARGER THAN 1 INCH. SPRING STEEL FASTENERS WITH HANGER RODS MAY BE USED IN DRY LOCATIONS IN LIEU OF PIPE STRAPS.

SECTION 16120 - CONDUCTORS

- WIRES AND CABLES (600 VOLTS): CONFORM TO THE APPLICABLE UL AND ICEA STANDARDS FOR THE USE INTENDED. USE COPPER CONDUCTORS WITH 600 VOLTS INSULATION UNLESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS. USE STRANDED CONDUCTORS FOR NO. 8 OR LARGER WHERE ELSEWHERE SPECIFIED OR NOTED OTHERWISE ON THE DRAWINGS. USE OF ALUMINUM CONDUCTORS WILL NOT BE PERMITTED. INSULATION SHALL BE TYPE THHN/THWN, 75°C, FOR ALL CONDUCTORS, UNLESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS.
- COLOR CODING, PHASE, NEUTRAL, AND GROUND CONDUCTORS COLOR-CODED IN ACCORDANCE WITH NEC: CONNECT ALL CONDUCTORS OF THE SAME COLOR TO THE SAME PHASE CONDUCTOR, COLOR CODING SHALL BE BLACK, RED, BLUE, WHITE (120/208) OR BROWN ORANGE, YELLOW, GRAY (277/480) WITH GREEN FOR ALL GROUND CONDUCTORS.
- CONNECTORS AND LUGS: FOR COPPER CONDUCTORS NO. 6 AND SMALLER: 3M SCOTCH-LOK OR T & B STA-KON COMPRESSION OR INDENT TYPE CONNECTORS WITH INTEGRAL OR SEPARATE INSULATING CAPS. FOR COPPER CONDUCTORS LARGER THAN NO. 6 SOLDERLESS, INDENT, HEX SCREW OR BOLT TYPE PRESSURE CONNECTORS, PROPERLY TAPED OR INSULATED.
- SPLICES: (480 VOLTS AND UNDER): CONDUCTOR LENGTHS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION WITHOUT SPLICES UNLESS APPROVED BY THE BUILDING INSPECTOR.

SECTION 16220 - CIRCUIT BREAKERS

- PROVIDE MOLDED CASE, BOLT-ON, THERMAL MAGNETIC TRIP, SINGLE, TWO OR THREE POLE BRANCH CIRCUIT BREAKERS AS SHOWN ON DRAWINGS. MULTIPLE POLE BREAKERS SHALL BE SINGLE HANDLE, COMMON TRIP. AIC RATINGS TO MATCH EXISTING OR AS REQUIRED FOR AVAILABLE FAULT CURRENTS.

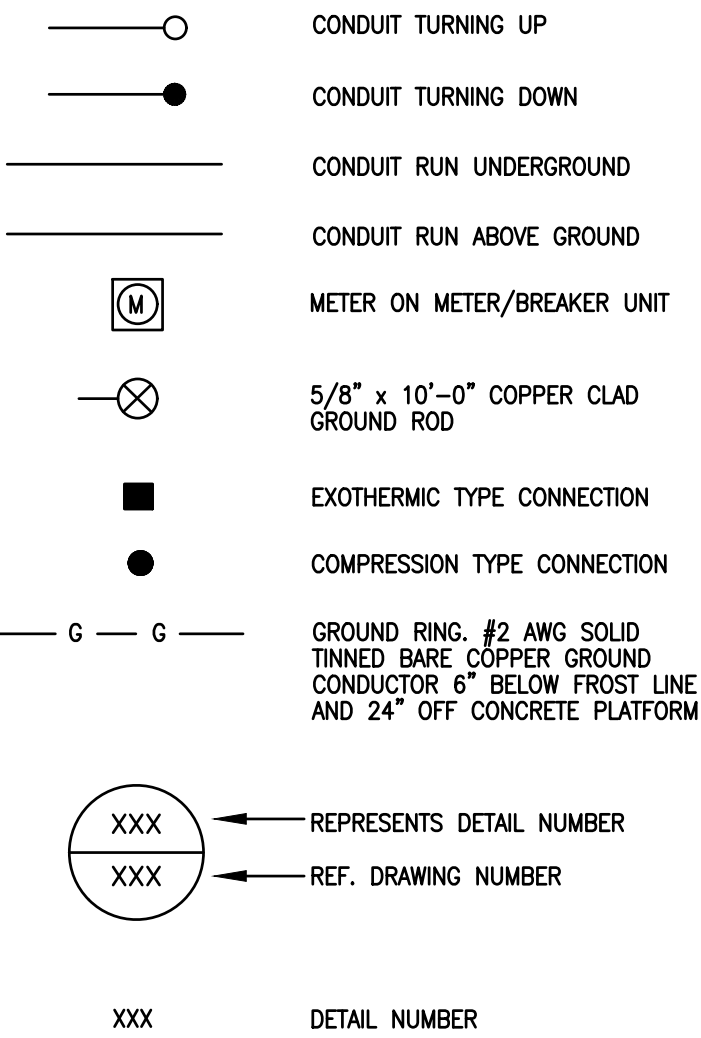


EXISTING METER BANK PHOTO

SCALE: NOT TO SCALE

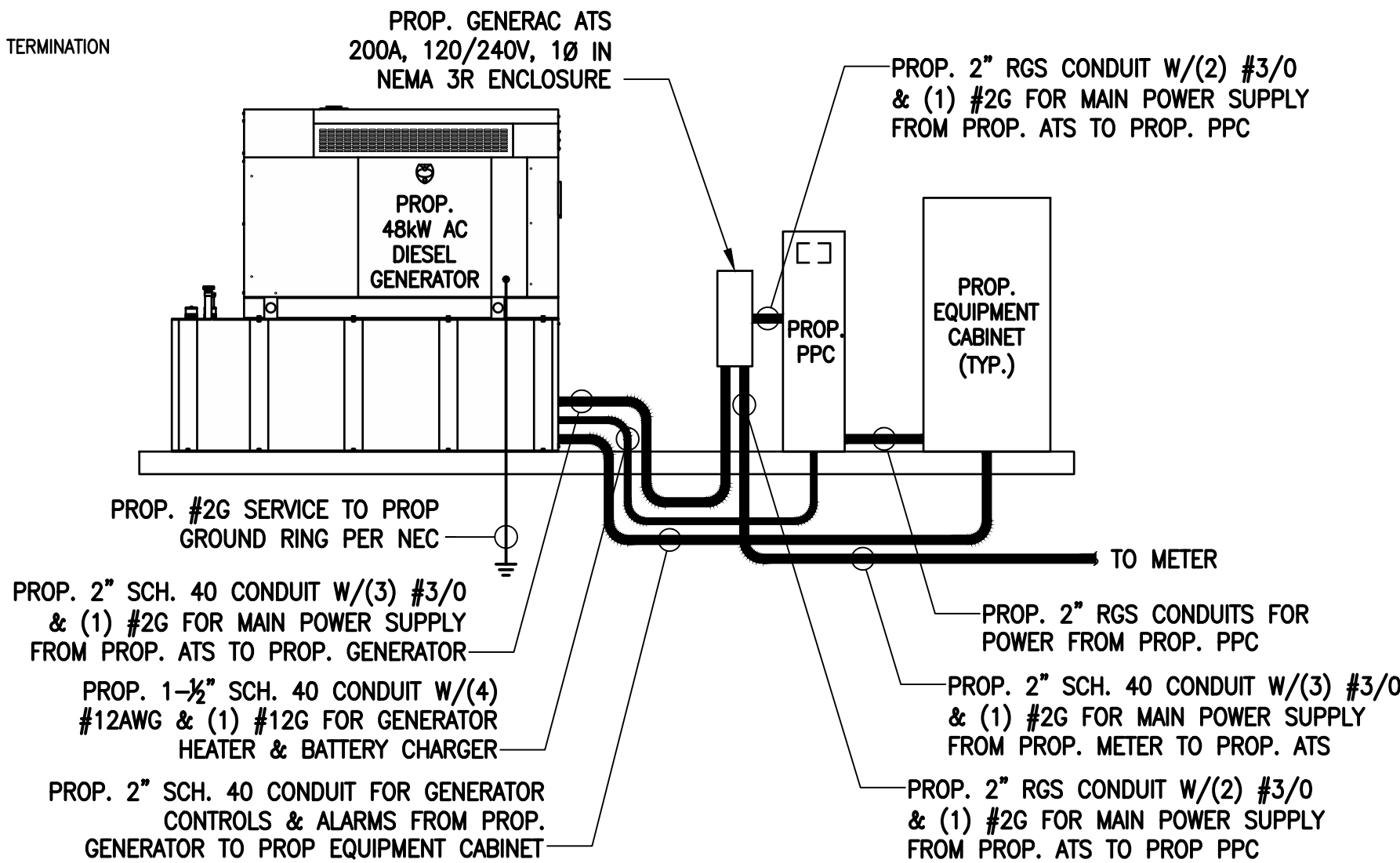
ELECTRICAL LEGEND

SYMBOLS



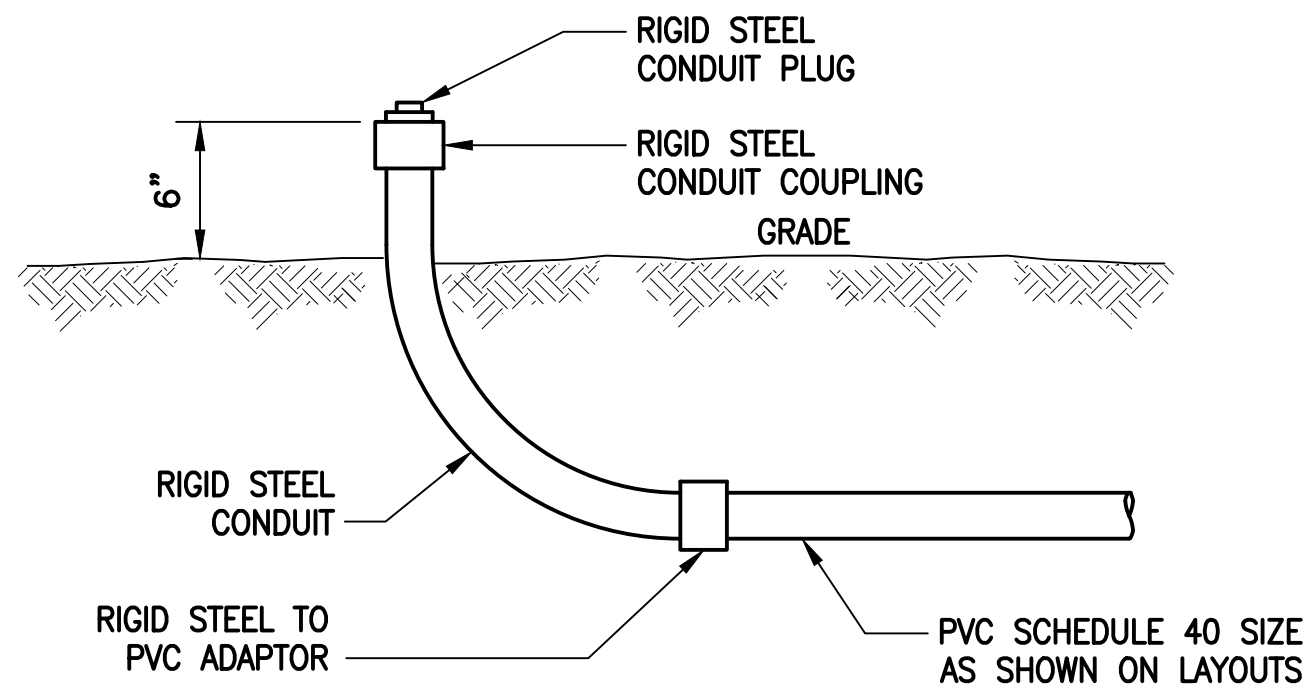
ABBREVIATIONS

ACCA	ANTENNA CABLE COVER ASSEMBLY
AGB	COPPER ANTENNA GROUND BAR
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BTS	BASE TRANSMISSION SYSTEM
CIBGE	COAX ISOLATED GROUND BAR EXTERNAL
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GR	GROWTH
IGR	INTERIOR GROUND RING (HALO)
LAGB	LOWER ANTENNA COPPER GROUND BAR
MIGB	MASTER ISOLATED GROUND BAR
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
PRC	PRIMARY RADIO CABINET
RGS	RIGID GALVANIZED STEEL
RWY	RACEWAY
TYP	TYPICAL
SSLP	SPRINT SPECTRUM LIMITED PARTNERSHIP
UAGB	UPPER ANTENNA COPPER GROUND BAR
EXIST.	EXISTING
PROP.	PROPOSED



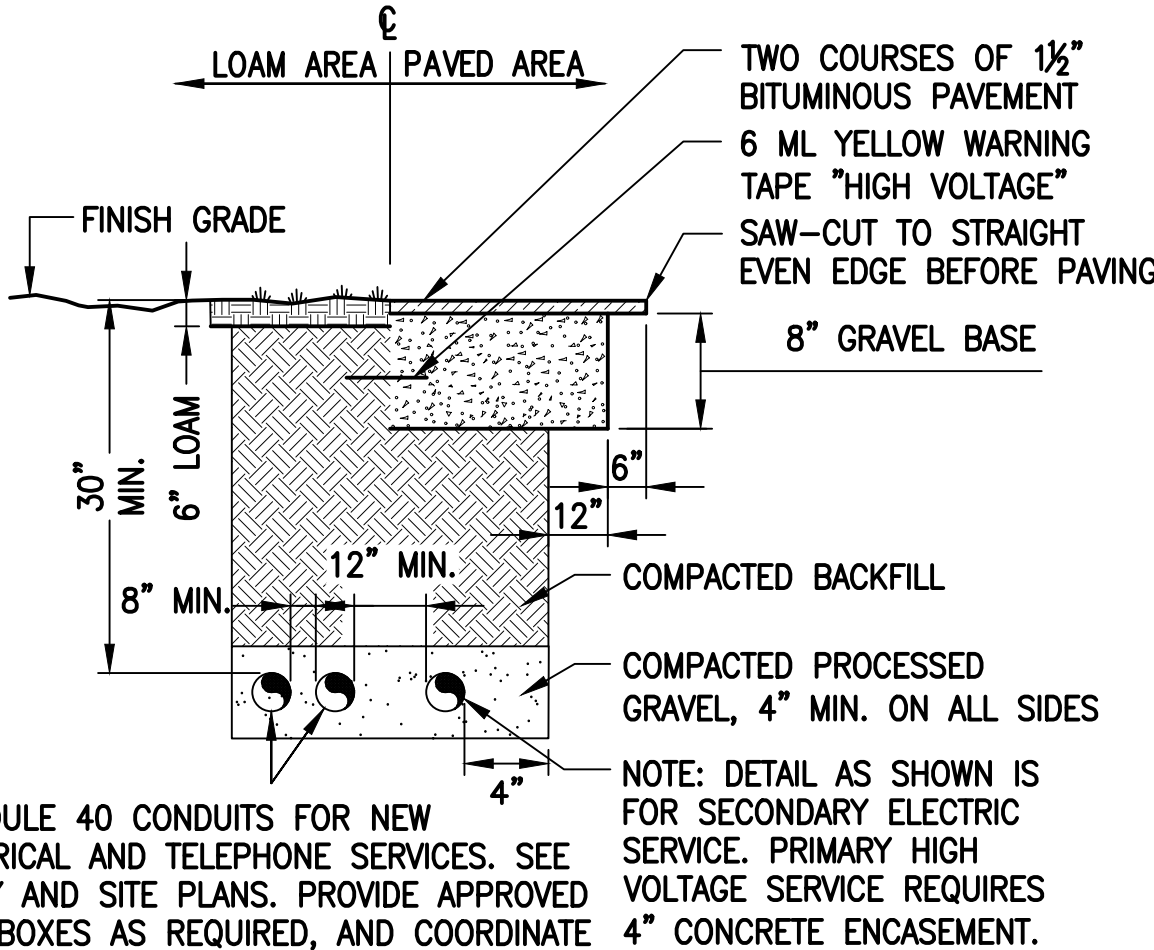
GENERATOR ONE-LINE POWER DIAGRAM

SCALE: NOT TO SCALE



TYPICAL CONDUIT STUB-UP DETAIL

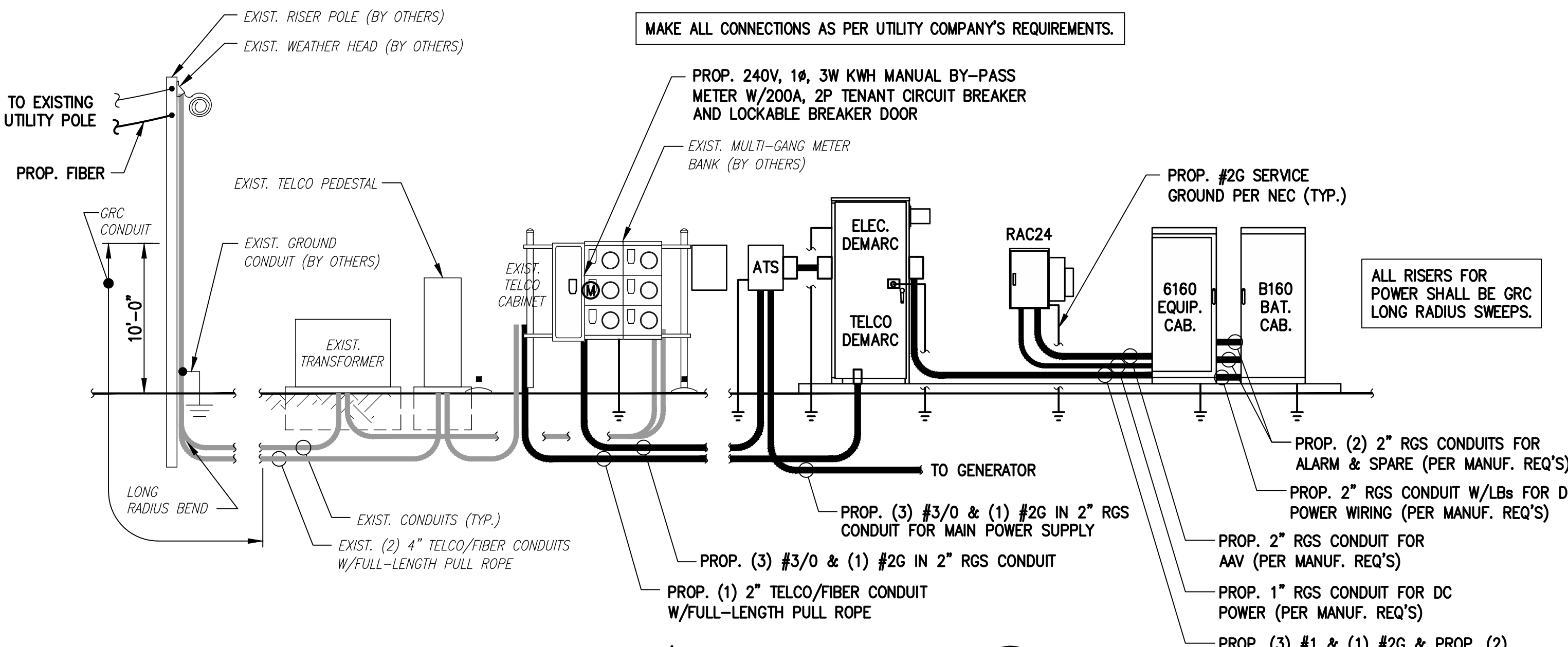
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SCHEDULE 40 CONDUITS FOR NEW ELECTRICAL AND TELEPHONE SERVICES. SEE UTILITY AND SITE PLANS. PROVIDE APPROVED PULL BOXES AS REQUIRED, AND COORDINATE INSTALLATION W/ALL UTILITY COMPANIES FOR INTERFACING AT TERMINATION POINTS. PROVIDE FULL LENGTH PULL ROPES (TYP.).

BURIED CONDUIT DETAIL

SCALE: NOT TO SCALE



POWER/TELCO RISER DIAGRAM

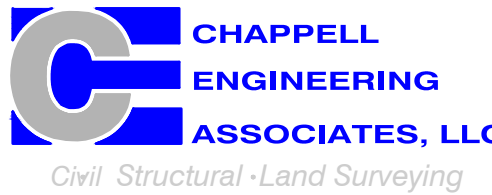
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T-Mobile

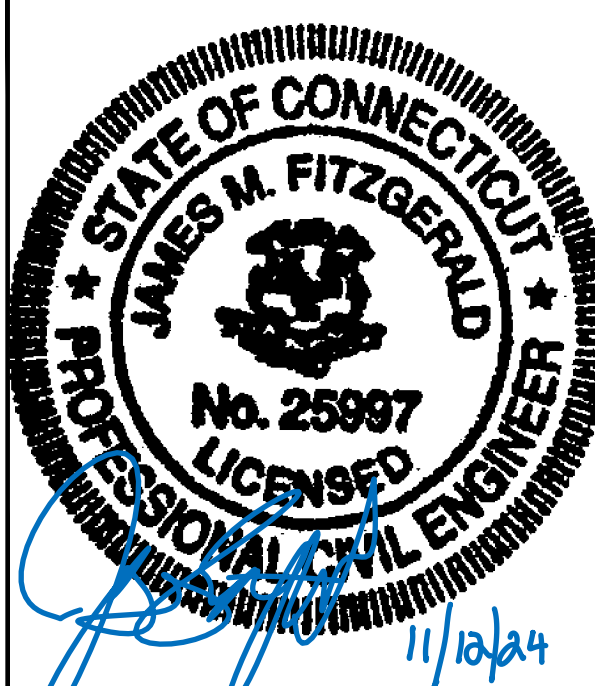
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TORRINGTON, CT 06790

SHEET TITLE

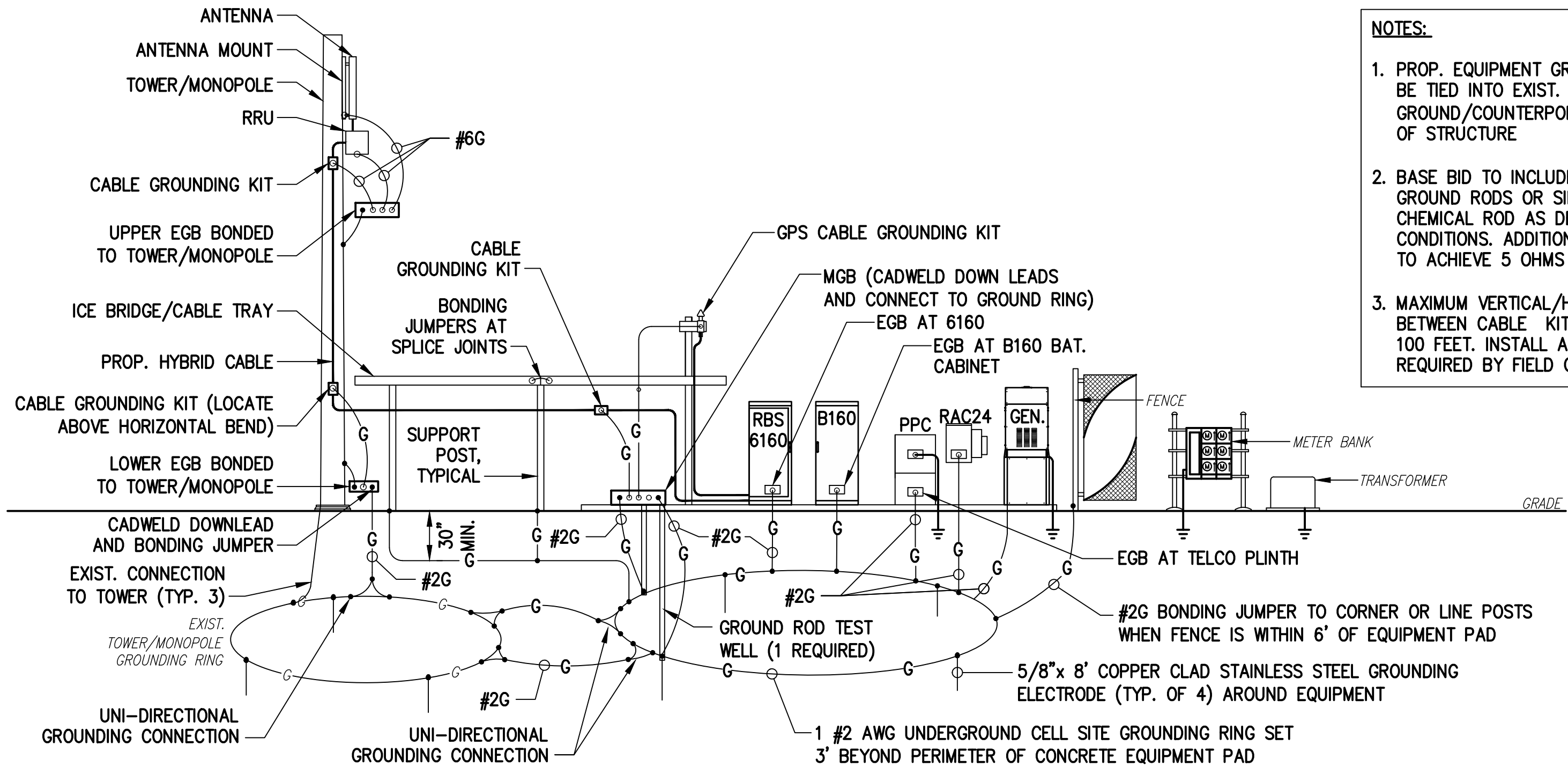
SITE ELECTRIC &
GROUNDING DETAILS
1 OF 2

SHEET NUMBER

E-1

PROTECTIVE GROUNDING SYSTEMS GENERAL NOTES

- GROUNDING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250—GROUNDING AND BONDING.
- GROUNDING SHALL BE IN ACCORDANCE WITH SPRINT SSEO DOCUMENTS 3.018.02.004 "BONDING, GROUNDING AND TRANSIENT PROTECTION FOR CELL SITES" AND 3.018.10.002 "SITE RESISTANCE TO EARTH TESTING".
- PROVIDE GROUND CONNECTIONS FOR ALL METALLIC STRUCTURES, ENCLOSURES, RACEWAYS AND OTHER CONDUCTIVE ITEMS ASSOCIATED WITH THE INSTALLATION OF CARRIER'S EQUIPMENT.
- GROUND CONNECTIONS: CLEAN SURFACES THOROUGHLY BEFORE APPLYING GROUND LUGS OR CLAMPS. IF SURFACE IS COATED, REMOVE THE COATING, APPLY A NON-CORROSIVE APPROVED COMPOUND TO CLEAN SURFACE AND INSTALL LUGS OR CLAMPS. WHERE GALVANIZING IS REMOVED FROM METAL, IT SHALL BE PAINTED OR TOUCHED UP WITH "GALVAMOX" OR EQUAL.
- ALL GROUNDING WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
- ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
- ALL GROUND WIRES SHALL BE #2 SOLID TINNED BCW UNLESS NOTED OTHERWISE.
- PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE.
- GROUND ANTENNA BASES, FRAMES, CABLE RACKS, AND OTHER METALLIC COMPONENTS WITH #2 INSULATED TINNED STRANDED COPPER GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
- EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MGB) WITH #2 SOLID TINNED BCW EQUIPMENT CABINETS WILL HAVE (2) CONNECTIONS.
- GROUND HYBRIFLEX SHIELD AT TOP, BOTTOM AND AT TRANSITION TO HYBRIFLEX JUMPER CABLES AT EQUIPMENT CABINET ENTRANCE USING MANUFACTURER'S GUIDELINES. WHEN HYBRIFLEX CABLE EXCEEDS 200', GROUND AT INTERVALS NOT EXCEEDING 100'.
- THE CONTRACTOR SHALL VERIFY THAT THE EXISTING GROUND BARS HAVE ENOUGH SPACE/HOLES FOR ADDITIONAL TWO HOLE LUGS.
- EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL OTHERWISE. THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH AN ANTI-OXIDANT (THOMAS BETTS KOPR-SHILD) BEFORE MAKING THE CRIMP CONNECTIONS THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S RECOMMENDED TORQUES ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS.
- AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, AND FRAMES OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING, CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE LUGS WITH STAINLESS STEEL SELF-TAPPING SCREWS.
- THE MASTER GROUND BAR (MGB) SHALL BE MADE OF BARE 1/4"x2" COPPER (FOR OUTDOOR APPLICATIONS IT SHALL BE TINNED COPPER) AND LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MGB SHALL ELECTRICAL INSULATE THE MGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
- ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
- ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH SPRINT CONSTRUCTION MANAGER.
- FOR NEW OR REPAIRED GROUNDING EQUIPMENT. REFER TO SPRINT GROUNDING STANDARDS AND FOLLOWING (SUPPLEMENTS):
-ANTI-THEFT UPDATE TO SPRINT GROUNDING DATED 08-24-12
-SPRINT ENGINEERING LETTER EL-0504 DATED 04-20-12



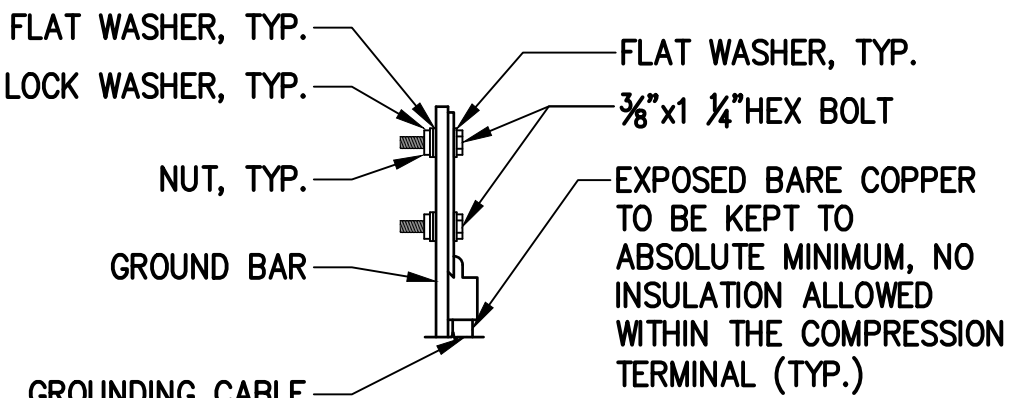
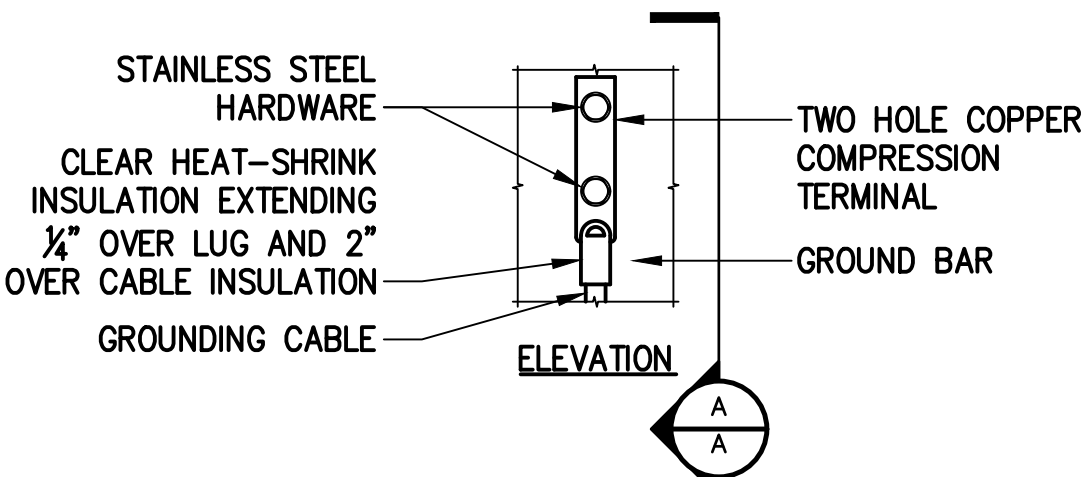
NOTES:

- PROP. EQUIPMENT GROUNDING SYSTEM TO BE TIED INTO EXIST. GROUND/COUNTERPOISE SYSTEM AT BASE OF STRUCTURE
- BASE BID TO INCLUDE INSTALLATION OF (4) GROUND RODS OR SINGLE XIT HORIZONTAL CHEMICAL ROD AS DETERMINED BY CONDITIONS. ADDITIONAL RODS AS REQUIRED TO ACHIEVE 5 OHMS RESISTANCE.
- MAXIMUM VERTICAL/HORIZONTAL DISTANCE BETWEEN CABLE KITS SHALL NOT EXCEED 100 FEET. INSTALL ADDITIONAL KITS AS REQUIRED BY FIELD CONDITIONS.

GROUNDING RISER DIAGRAM

SCALE: NOT TO SCALE

2
E-2



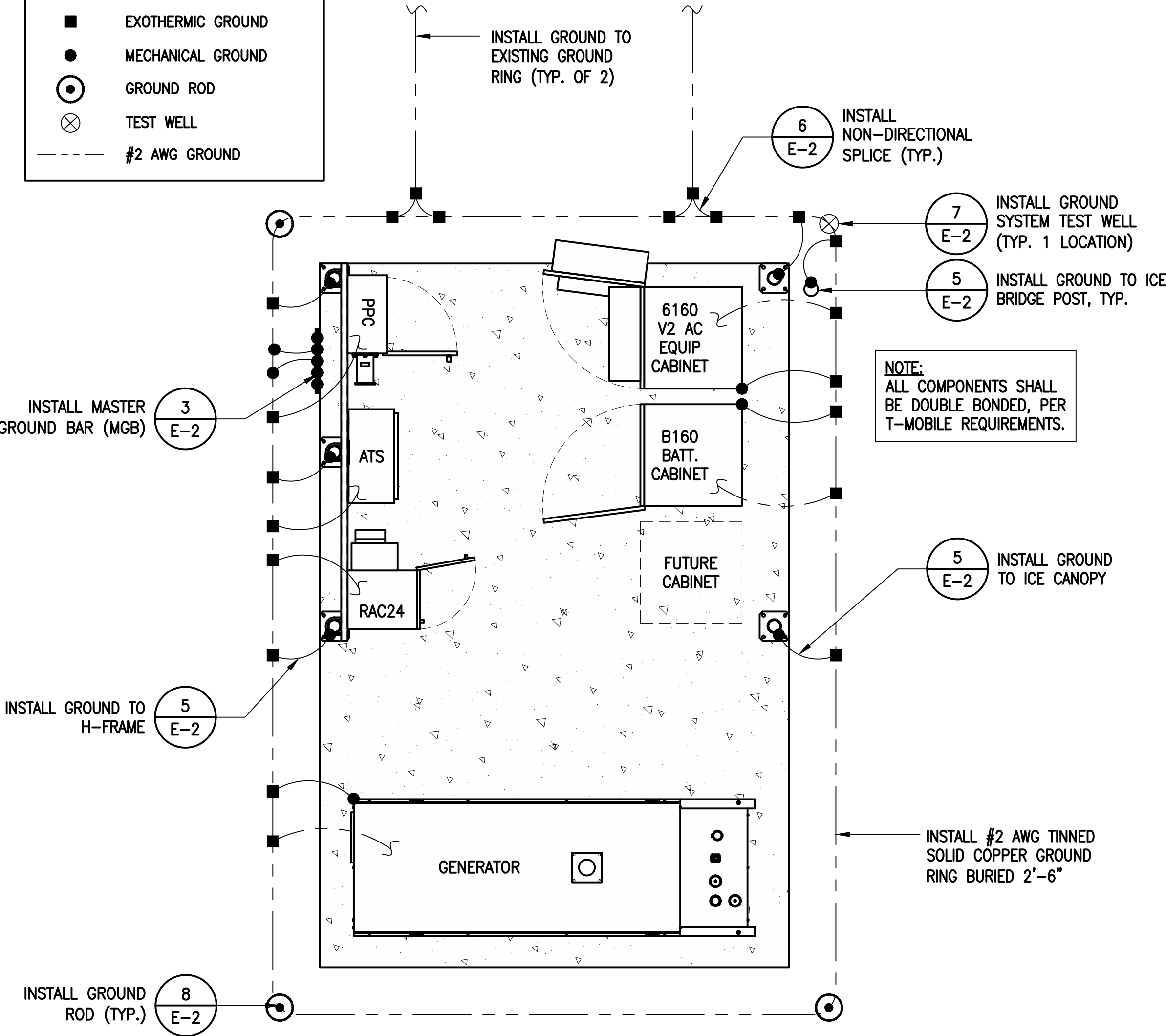
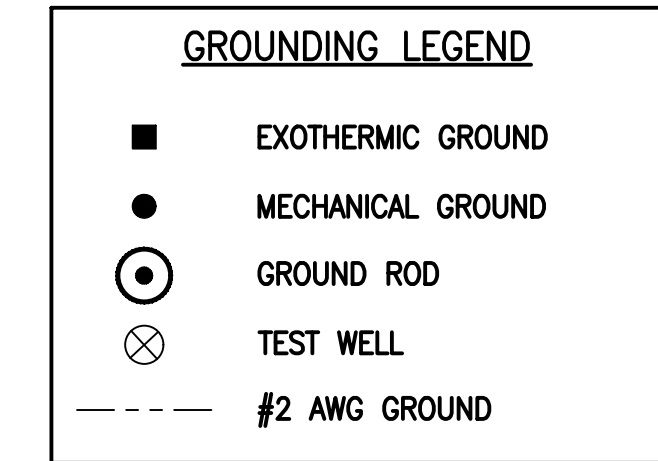
NOTE:

- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
- OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
- CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: NOT TO SCALE

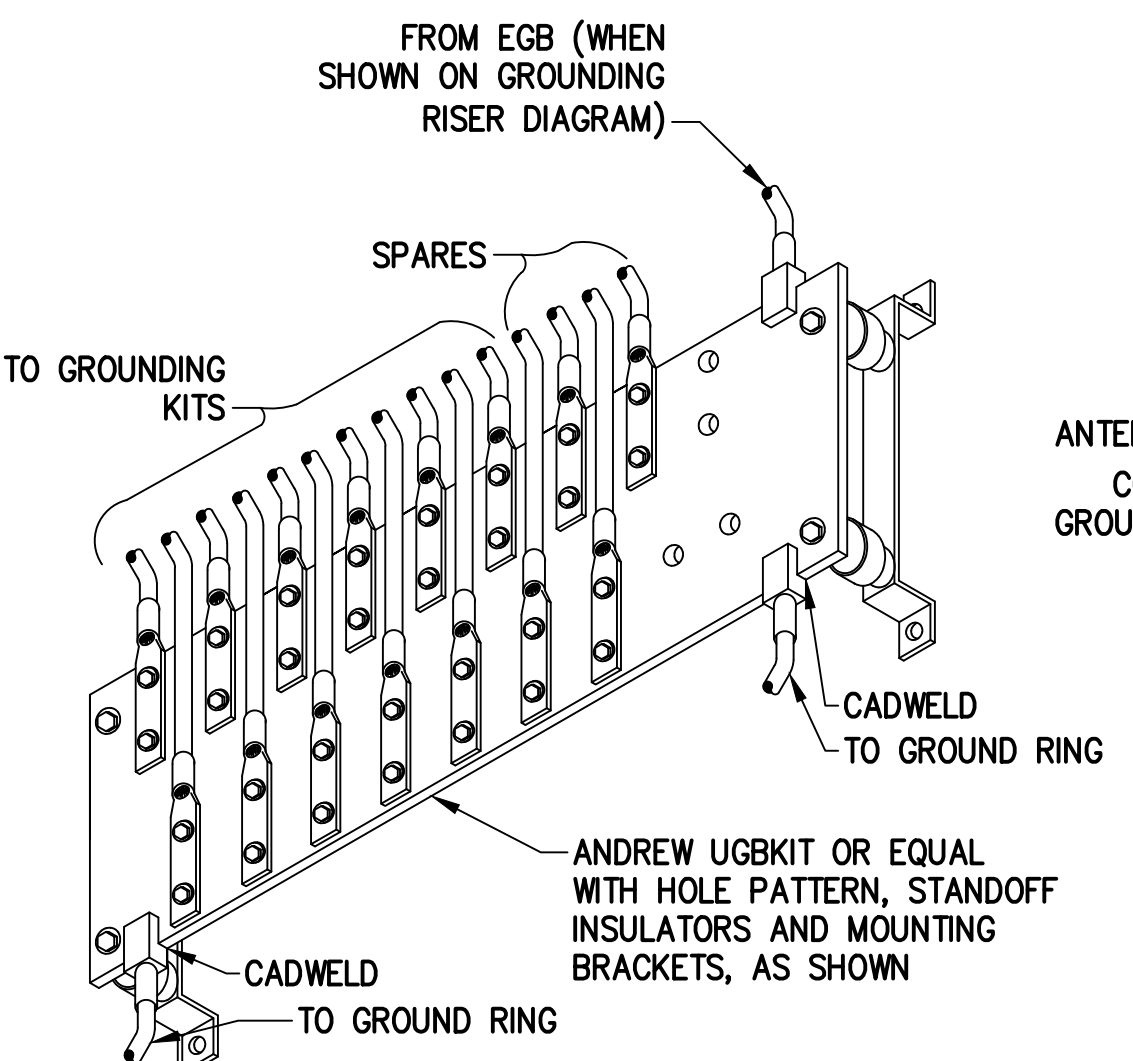
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E-2



GROUNDING PLAN

SCALE: N.T.S.

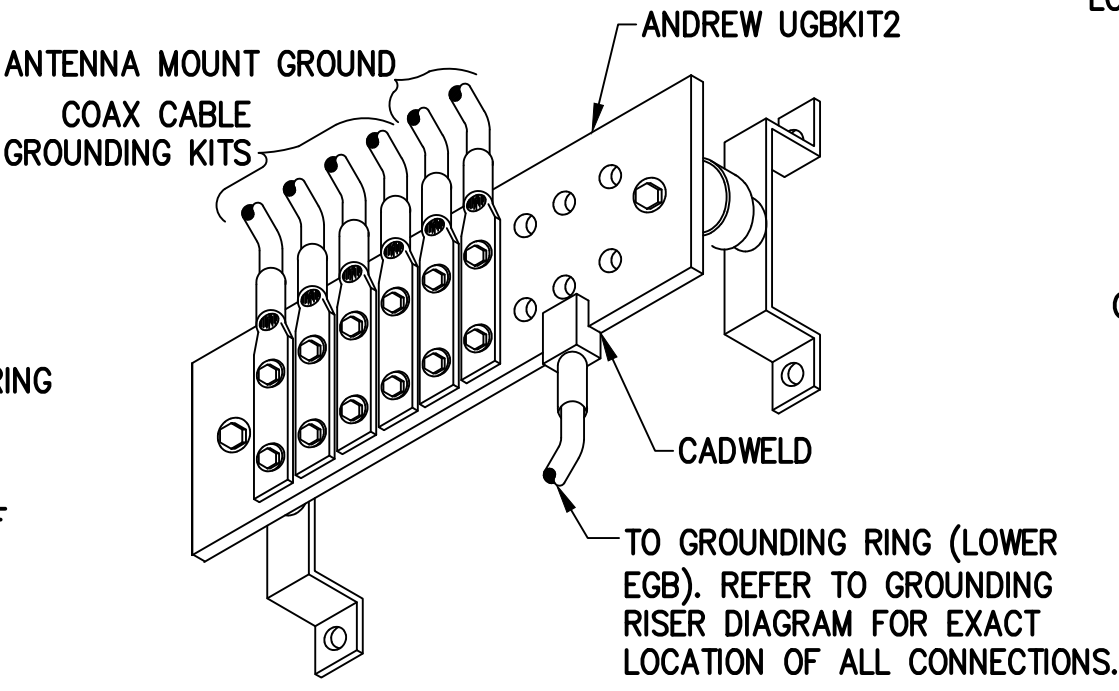
1
E-2



MASTER GROUND BAR (MGB)

SCALE: NOT TO SCALE

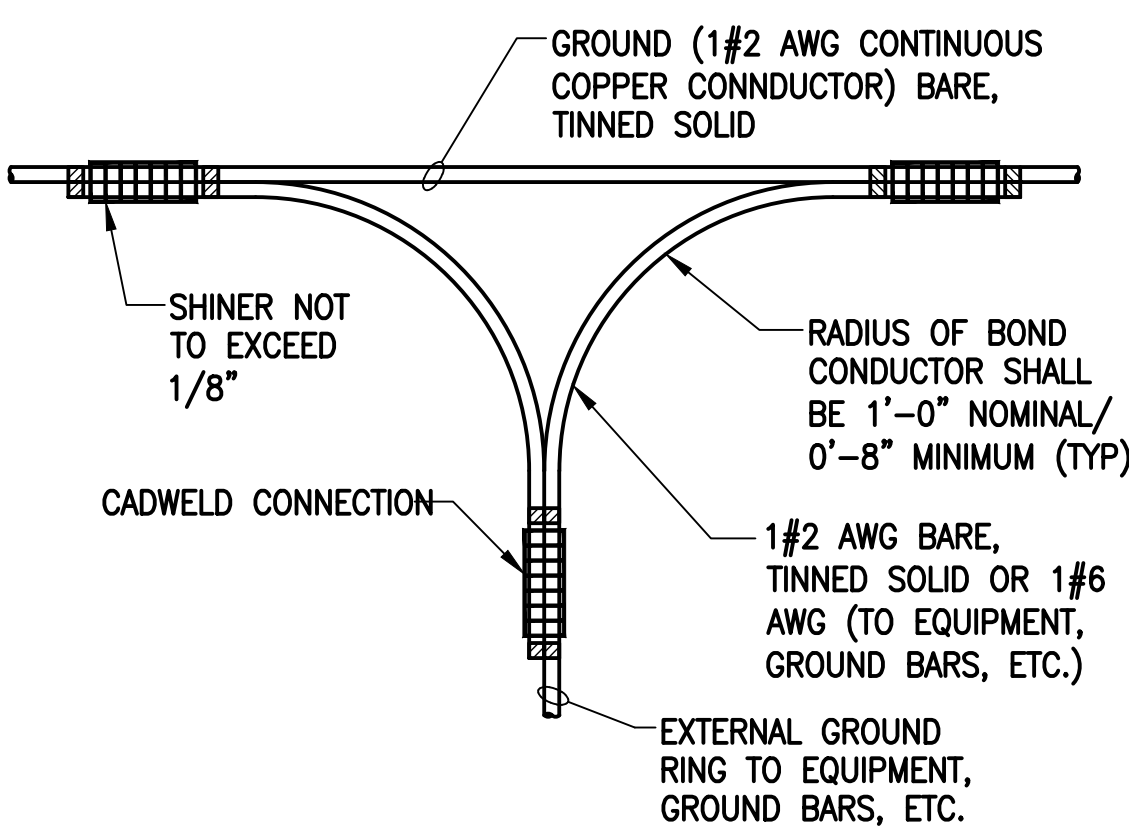
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E-2



GROUND BAR (EGB)

SCALE: NOT TO SCALE

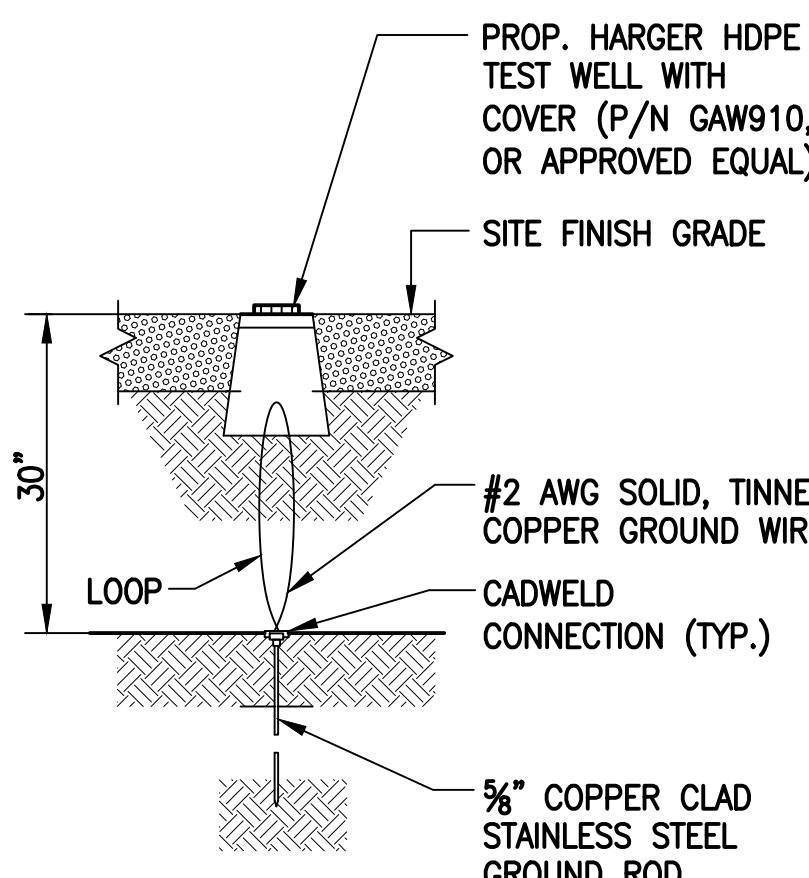
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E-2



NON-DIRECTIONAL SPLICE

SCALE: NOT TO SCALE

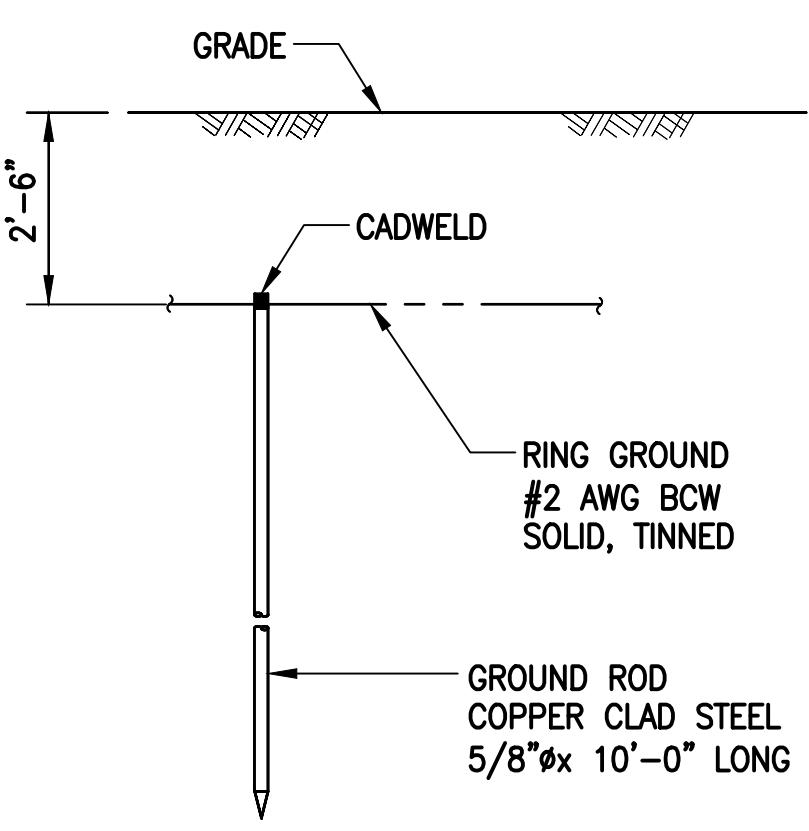
6
E-2



GROUND ROD TEST WELL DETAIL

SCALE: NOT TO SCALE

7
E-2



GROUND ROD

SCALE: NOT TO SCALE

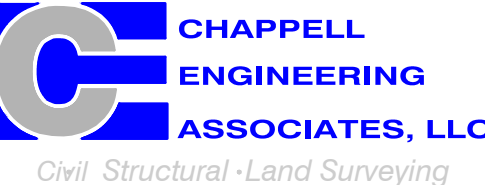
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E-2



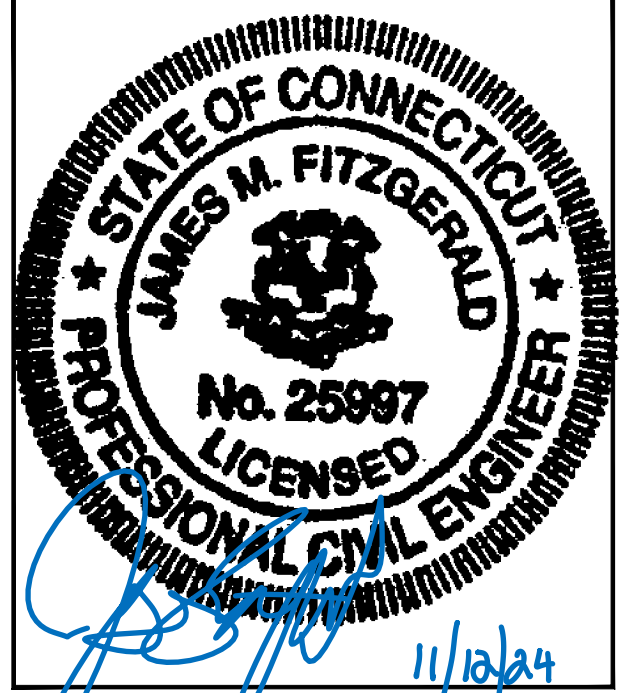
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
(508) 251-0720



R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
3	11/05/24	CONSTRUCTION REVISED	CMC
2	09/26/24	CONSTRUCTION REVISED	NWC
1	10/03/22	ISSUED FOR CONSTRUCTION	JRV
0	05/31/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CTNH391A

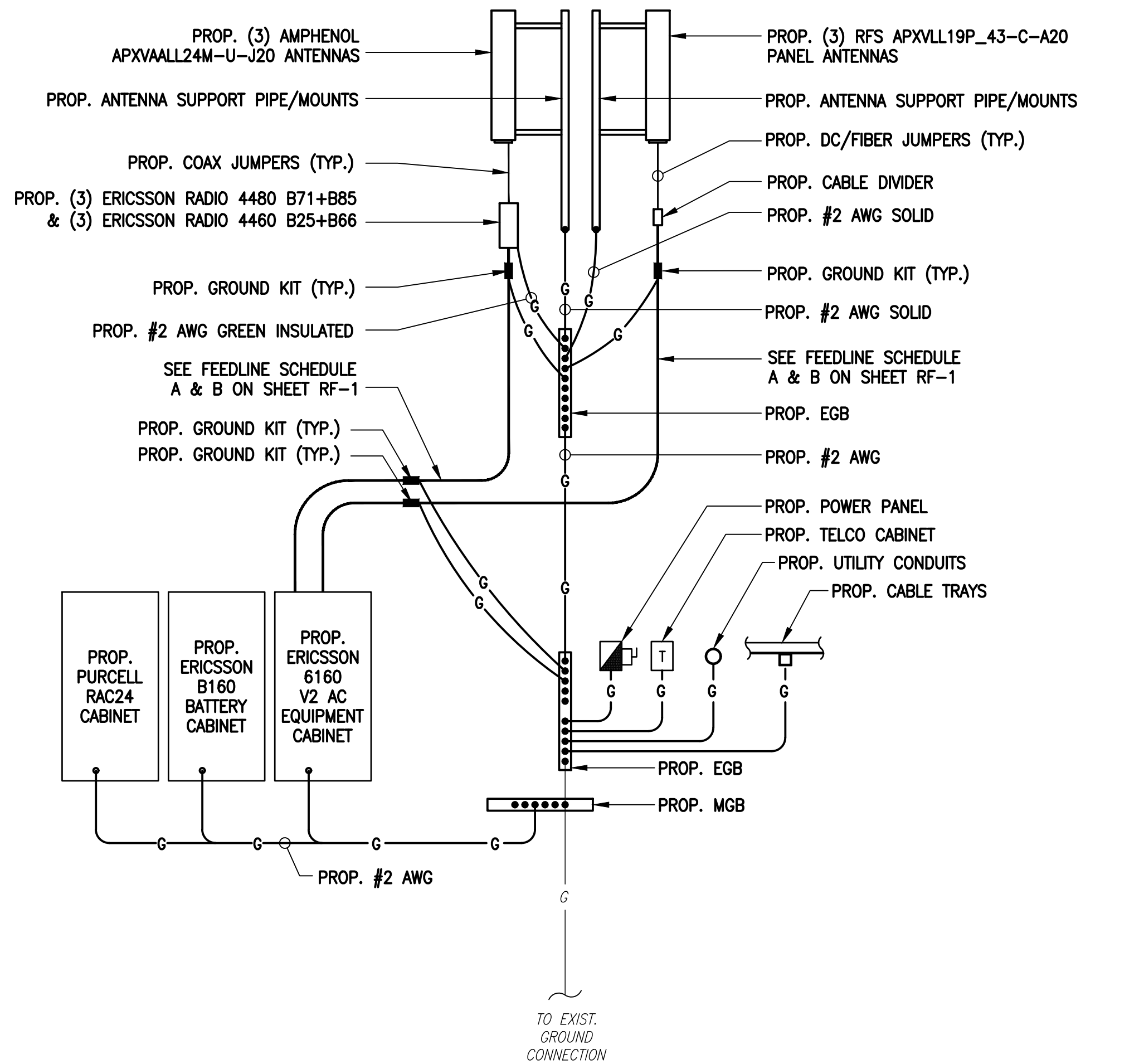
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1210 HIGHLAND AVENUE
TORRINGTON, CT 06790

SHEET TITLE

SITE ELECTRIC &
GROUNDING DETAILS
2 OF 2

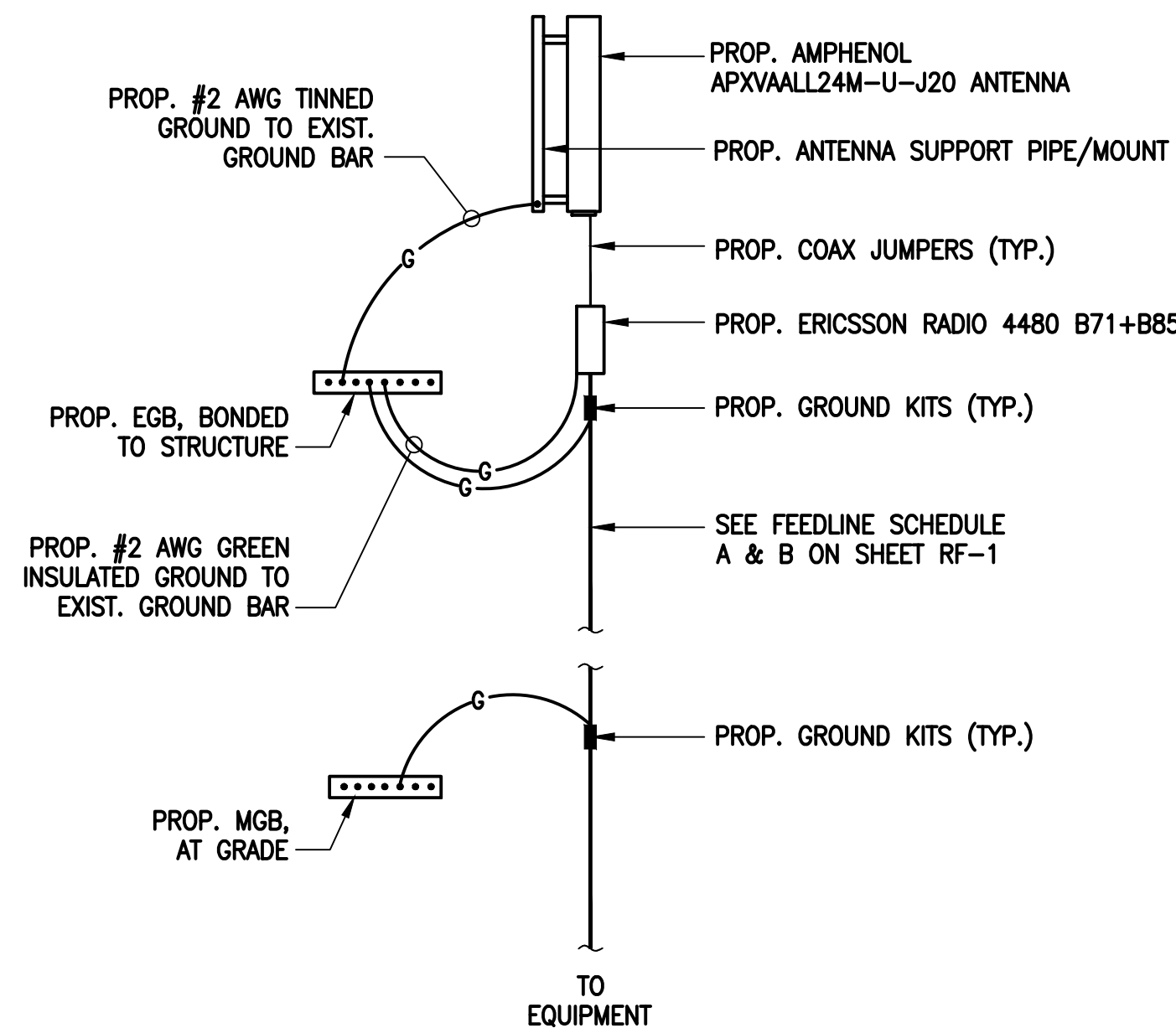
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E-2

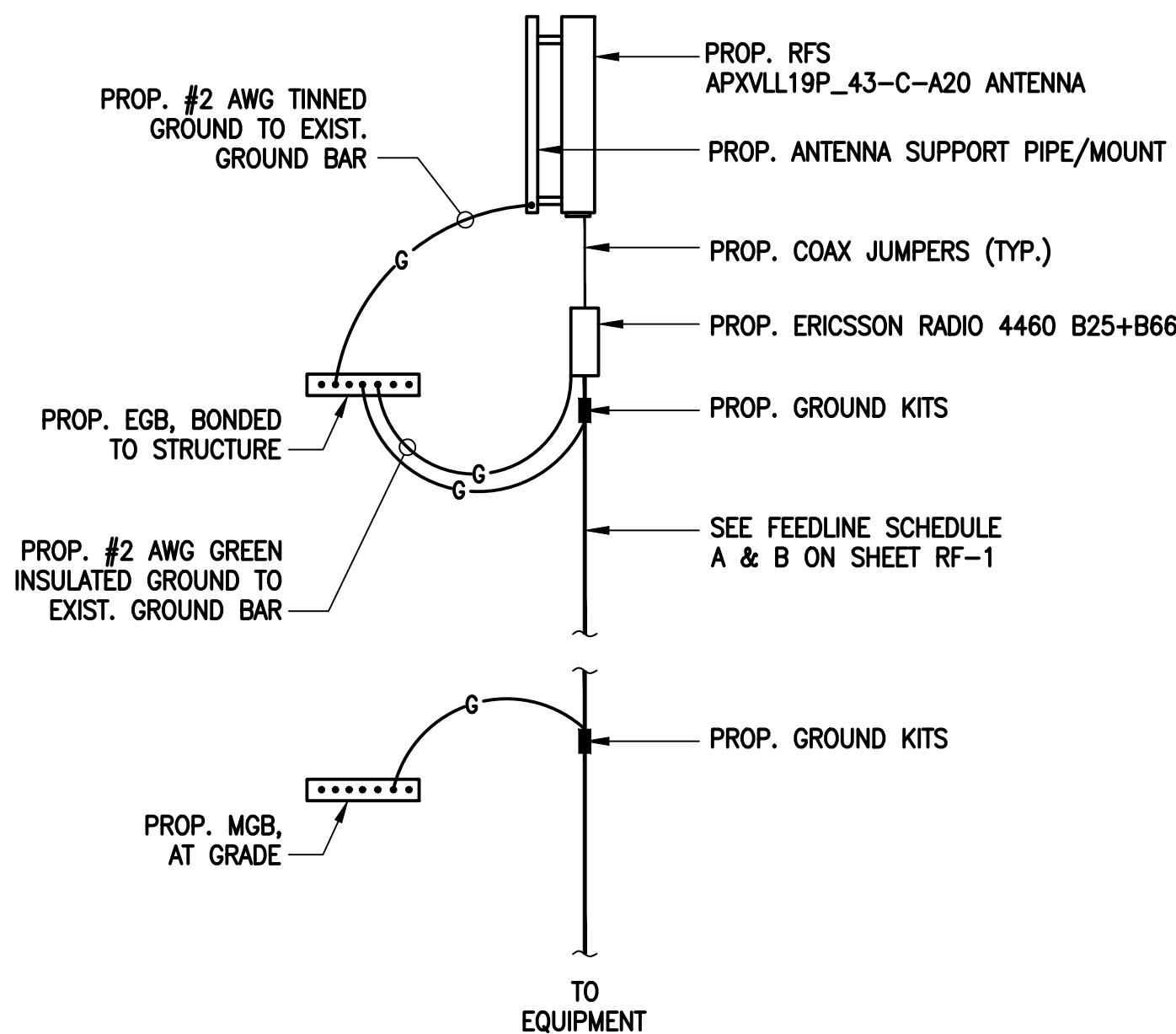


GROUNDING RISER DIAGRAM
SCALE: NOT TO SCALE

1
E-3



L700/N600 ANTENNA



L2100/L1900/N1900 ANTENNA

COAX CABLE CONNECTION
AND GROUNDING DETAIL
SCALE: NOT TO SCALE

2
E-3

ELECTRICAL AND GROUNDING NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH FULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH FULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 AWG SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN PROP. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

T-Mobile

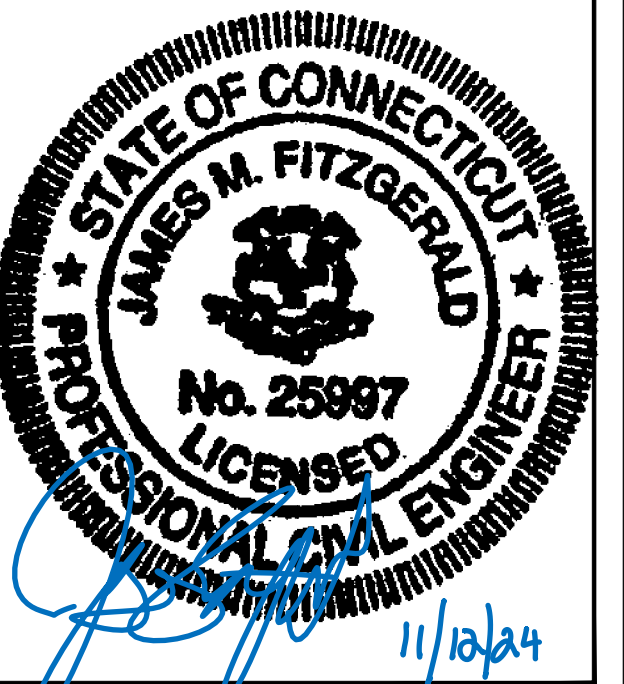
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



SBA COMMUNICATIONS CORP.
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MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com



CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS				
REV.	DATE	DESCRIPTION	BY	
3	11/05/24	CONSTRUCTION REVISED	CMC	
2	09/26/24	CONSTRUCTION REVISED	HWC	
1	10/03/22	ISSUED FOR CONSTRUCTION	JRV	
0	05/31/22	ISSUED FOR REVIEW	JRV	

SITE NUMBER:
CTNH391A

SITE ADDRESS:
1210 HIGHLAND AVENUE
TORRINGTON, CT 06790

SHEET TITLE

ANTENNA ELECTRIC &
GROUNDING DETAILS

SHEET NUMBER

E-3

EXHIBIT 7

Structural Analysis



TES

A **CONGRUEX**® COMPANY

Tower Engineering Solutions, LLC
1320 Greenway Drive, Suite 600, Irving, Texas 75038
Phone: (972) 483-0607, Fax: (972) 975-9615

Structural Analysis Report

<u>Structure Information</u>	Tower Type	Existing 240 ft PIROD Guyed Tower
<u>Customer Information</u>	Name	SBA Communications Corp
	Site Number	CT02303-A
	Site Name	Torrington 2 CT
<u>Carrier Information</u>	Name	T-Mobile
	Site ID / Name	CTNH391A / Highland Torrington SBA
	App #	263905, v1
<u>Site Information</u>	Address:	1210 Highland Ave Torrington, Connecticut 06790, Litchfield County
	Latitude:	41.802500°
	Longitude:	-73.164722°

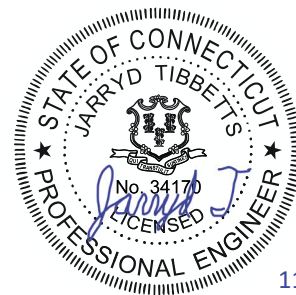
Analysis Result:

Max Structural Usage: **58.1% [Pass]**

Max Foundation Usage: **50% [Pass]**

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Ram Kodali



11/25/2024

Introduction

The purpose of this report is to summarize the analysis results on the 240 ft PIROD Guyed Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Document Type	Remarks
Tower Drawings	Pirot, Dwg # 201516-B, dated 7/24/1996
Foundation Drawing	Pirot, Dwg # 201516-B, dated 7/24/1996
Geotechnical Report	FDH, Project # 1208779EG1, dated 10/08/2012
Modification Drawings	N/A
Mount Analysis	

Analysis Criteria

The feasibility analysis was performed in accordance with the requirements and stipulations of the TIA-222-H. In accordance with this standard, the structure was analyzed using TESTowers, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Codes and Standards	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code	
Wind Parameters	Basic Wind Speed (Ultimate 3-sec. Gust), V_{ULT} :	115.0 mph
	Ice Wind Speed (3-sec. Gust):	50.0
	Design Ice Thickness:	1.00"
	Service Load Wind Speed:	60 mph + 0" Radial ice
	Exposure Category:	C
	Risk Category:	II
	Ground Elevation Factor (K_e):	0.956
Topographic Parameters	Method:	Method 1
	Feature Type:	Flat
	Crest Height (H):	0 ft
	Length of Feature (L):	0.0 ft
	Distance to crest (x):	0.0 ft
Seismic Parameters:	S_s	0.175 g
	S_1	0.054 g

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
5	221.5	1	DB224-B - Dipole*	(1) Side Arm	(1) 1 5/8"	USA Mobility
6	165.0	1	PD 201 - Omni	(1) Side Arm	(1) 7/8"	Campion Ambulance
7	140.0	1	DB589 - Omni*	(1) Side Arm	(1) 1 1/4"	Arch Wireless
8	107.0	1	2 ft Dish w/Radome - Dish*	Pipe	(1) 1/2"	Unknown
9	105.0	1	Yagi*	Leg	(1) 7/8"	
10	100.0	2	Maxrad MPRD2449 - Dish	Pipe	(2) 3/8"	Torrington Police
11	90.0	1	6 ft HP Dish - Dish*	Pipe	(1) EW52	Unknown

*Based on the last SA.

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	232.0	3	RFS APXVLL19P 43-C-A20 - Panel	SitePro1 (3) VFA12-HD	(3) 1.9" Fiber	T-Mobile
2		3	RFS APXVAALL24M-U-J20 - Panel			
3		3	Ericsson 4460 B25 + B66 - RRU			
4		3	Ericsson 4480 B71 + B85 - RRU			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Utilization %	Pass / Fail
Max Leg	58.1%	Pass
Max Diagonal	29.5%	Pass
Max Horizontal	16.3%	Pass
Max Cable	44.7%	Pass
Structure Rating – (Controlling Utilization of all Components)		58.1%

Foundations

	Base Reactions		Anchors	
Reactions (kips)	Axial	Shear	Uplift	Shear
Original Design Reactions	120.9	4.6	54.1	69.8
Analysis Reactions	102.9	1.1	25.9	32.0
Factored Reactions*	163.2	6.2	73.0	94.2
% of Design Reactions	63.1%	17.4%	35.4%	34.0%

* Per section 15.6.2 of the TIA-222-H standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

Anchor foundation drawing is not available for the analysis. Since the reactions calculated from the current analysis are less than those indicated on the original structural design drawing, the foundations are assumed to be adequate to resist the reactions from the current analysis.

Service Load Condition (Rigidity)

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.0624 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a comprehensive structural analysis.

Structure: CT02303-A-SBA

Site Name: Torrington 2 CT

Code: TIA-222-H

11/24/2024

Type: Guyed

Base Shape: Triangle

Basic WS: 115.00

Height: 240.00 (ft)

Base Width: 0.00

Basic Ice WS: 50.00

Base Elev: 0.00 (ft)

Top Width: 3.00

Operational WS: 60.00

Page: 1



Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1	SOL 1 3/4" SOLID	SOL 3/4" SOLID	PLT 4"X3/8"
2-15	SOL 1 3/4" SOLID	SOL 3/4" SOLID	SOL 3/4" SOLID
16-25	SOL 1 1/2" SOLID	SOL 3/4" SOLID	SOL 3/4" SOLID

Discrete Appurtenances

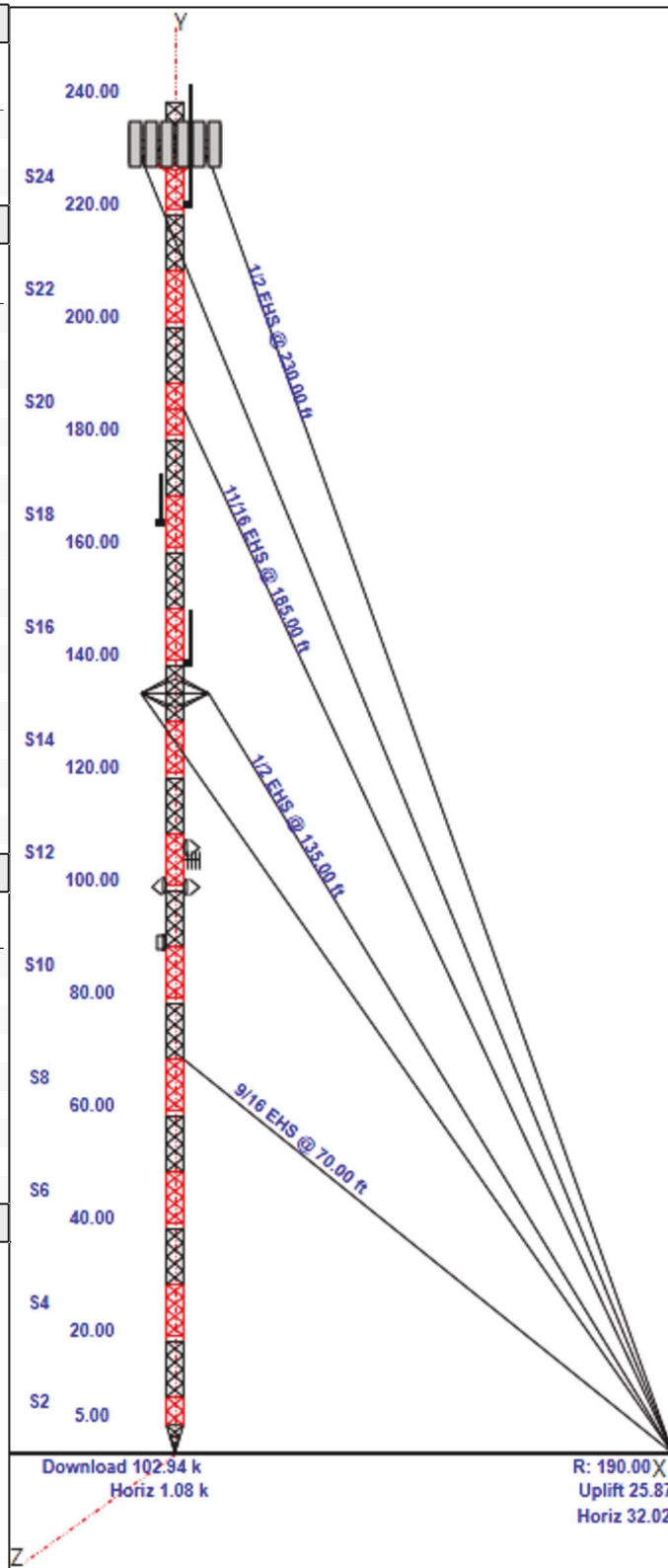
Attach Elev (ft)	Force Elev (ft)	Qty	Description
240.00	240.00	1	Beacon
232.00	232.00	3	APXVLL19P_43-C-A20
232.00	232.00	3	APXVAALL24M-U-J20
232.00	232.00	3	VFA12-HD
232.00	232.00	3	4460 B25 + B66
232.00	232.00	3	4480 B71 + B85
221.50	232.13	1	DB224-B
221.50	221.50	1	Side Arm
165.00	169.30	1	PD 201
165.00	165.00	1	Side Arm
140.00	144.58	1	DB589
140.00	140.00	1	Side Arm
107.00	107.00	1	2 ft Dish w/Radome
107.00	107.00	1	Pipe Mount
105.00	105.00	1	Yagi
100.00	100.00	2	Maxrad MPRD2449
100.00	100.00	2	Pipe Mount
90.00	90.00	1	6 ft HP Dish
90.00	90.00	1	Pipe Mount

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	240.00	1	Safety Cable
0.00	232.00	3	1.9" Fiber
0.00	221.50	1	1 5/8" Coax
0.00	165.00	1	7/8" Coax
0.00	140.00	1	1 1/4" Coax
0.00	107.00	1	1/2" Coax
0.00	105.00	1	7/8" Coax
0.00	100.00	2	3/8" Coax
0.00	90.00	1	EW52

Max Guy Wire

44.65% @ 230 ft - 1/2 EHS



Structure: CT02303-A-SBA

Site Name: Torrington 2 CT

Code: TIA-222-H

11/24/2024

Type: Guyed

Base Shape: Triangle

Basic WS: 115.00

Height: 240.00 (ft)

Base Width: 0.00

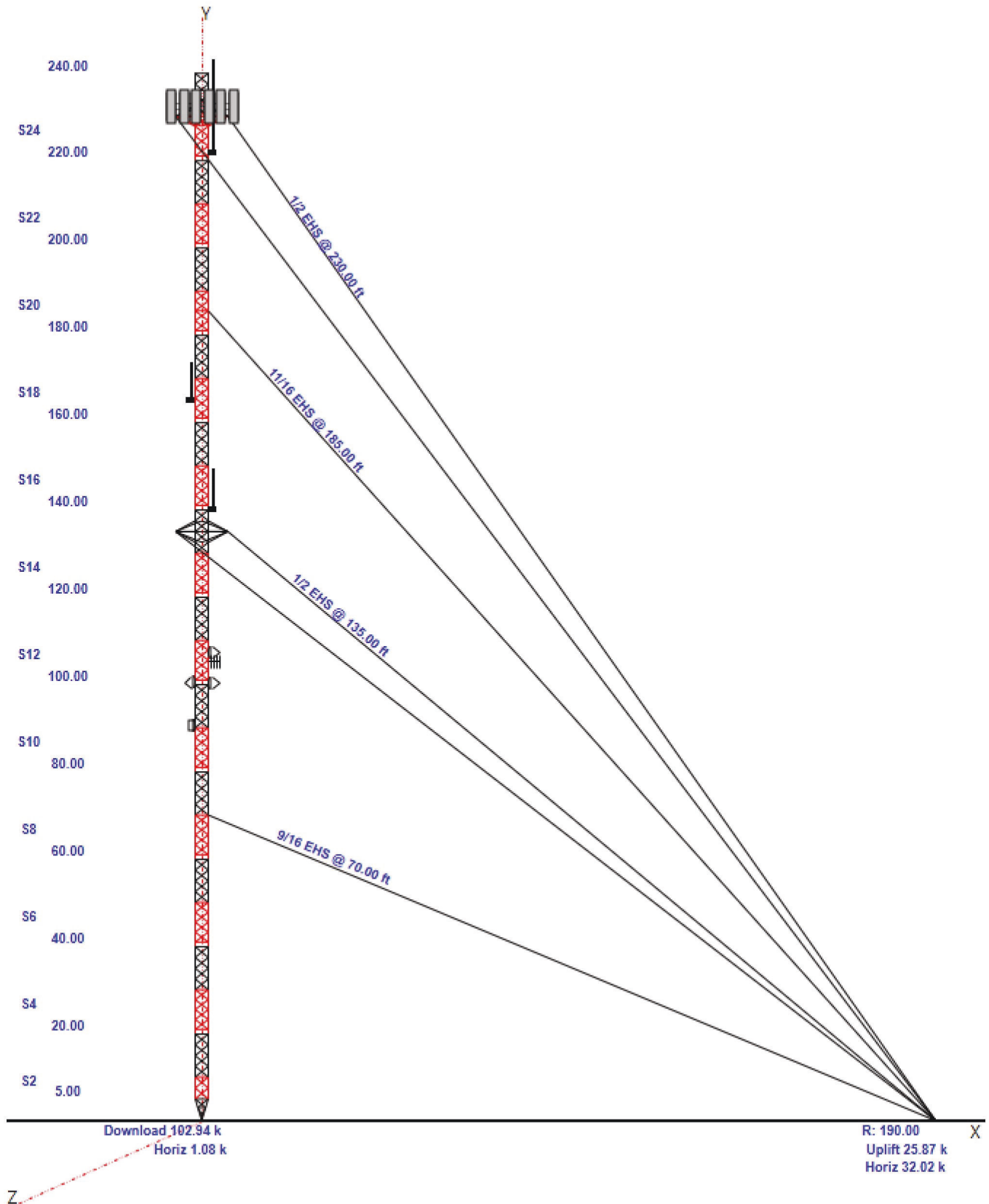
Basic Ice WS: 50.00

Base Elev: 0.00 (ft)

Top Width: 3.00

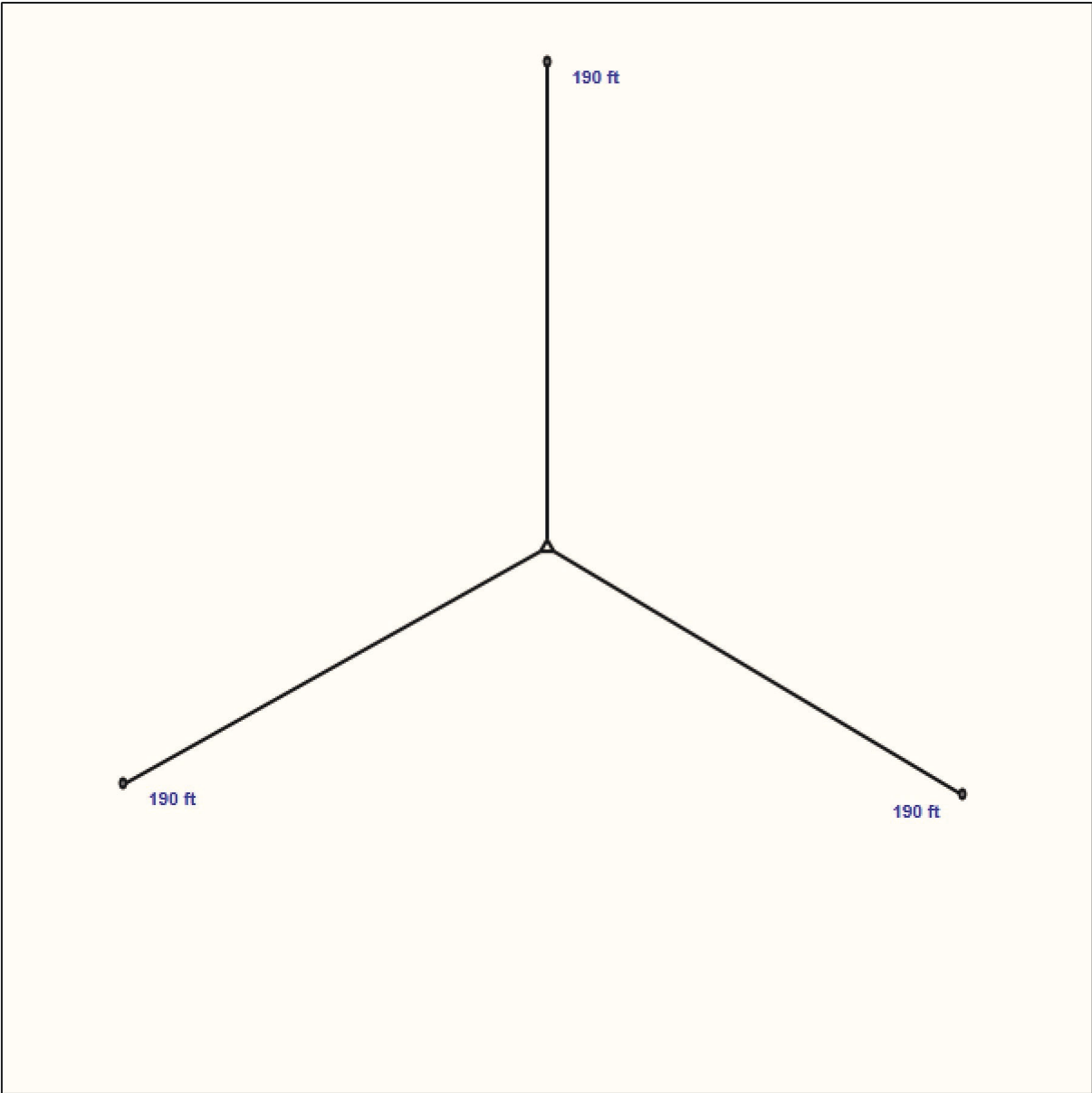
Operational WS: 60.00

Page: 2



Anchor Drops with Guy Radius - Structure: CT02303-A-SBA

Site Name:	Torrington 2 CT	Code:	EIA_H	11/24/2024
Type:	Guyed	Base Shape:	Triangle	Basic WS: 115.00
Height:	240.00 (ft)	Base Width:	0.00	Basic Ice WS: 50.00
Base Elev:	0.00 (ft)	Top Width:	3.00	Operational WS: 60.00



Structure: CT02303-A-SBA - Coax Line Placement

Type: Guyed
Site Name: Torrington 2 CT
Height: 240.00 (ft)

11/24/2024



Page: 4

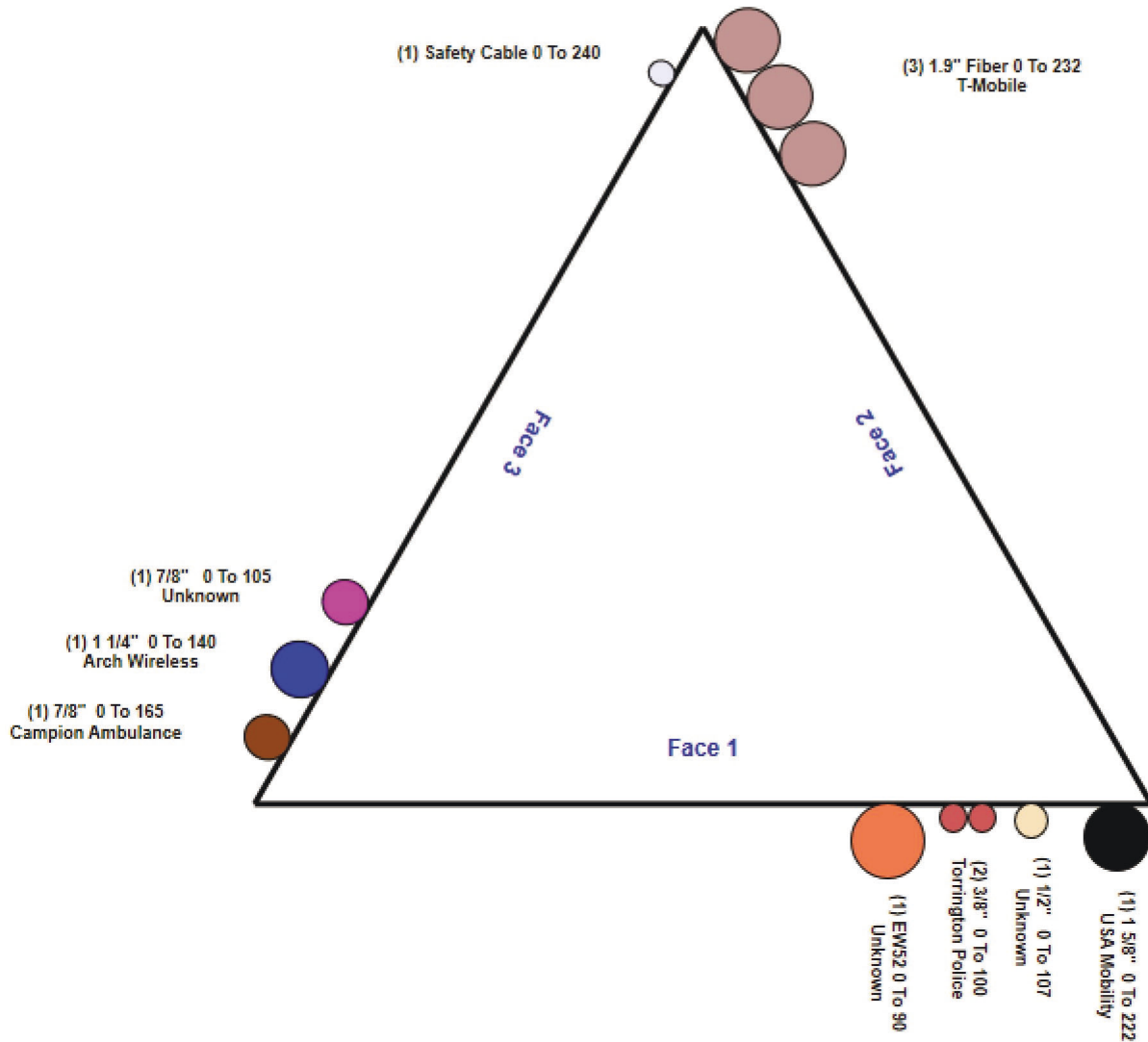


EXHIBIT 8

Mount Analysis



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Antenna Mount Analysis Report

Existing 240-Ft Guyed Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT02303-A-SBA

Customer Site Name: Torrington 2 CT

Carrier Name: T-Mobile (App#: 263905, V1)

Carrier Site ID / Name: CTNH391A / Highland Torrington SBA

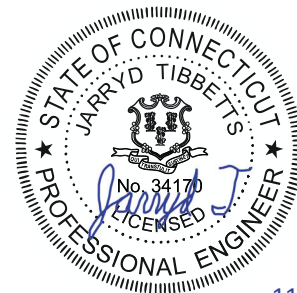
Site Location: 1210 Highland Ave

Torrington, Connecticut

Litchfield County

Latitude: 41.802500

Longitude: -73.164722



11/15/2024

Analysis Result:

Max Structural Usage: 41.80% [Pass]

Report Prepared By: Sarath Basamsetti

NOTE: The proposed mount (3) Sector Frames [Sitepro (3) VFA12-HD + (12) P296] was assumed to be installed properly to the existing tower per the manufacturer's instructions. Tower Engineering Solutions, LLC is not liable for any fit-up issues during installation.

Introduction

The purpose of this report is to summarize the analysis results on the (3) Sector Frames [Sitepro (3) VFA12-HD + (12) P296] at 232.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount from SBA Application: 263905, v1
Antenna Loading	SBA, Application #: 263905, v1 dated 11/8/2024
Modification Drawings	N/A

Analysis Criteria

Wind Speed Used in the Analysis: 115 mph (3-Sec. Gust) (Ultimate Wind Speed)

Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent

Service Load Wind Speed: 30 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-H/IBC-2021

Exposure Category: C

Risk Category: II

Topographic Category: 1

Crest Height (Ft): 0

Ground Elevation Factor: 0.956

The site is a Risk Category II structure per IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

(3) Sector Frames [Sitepro (3) VFA12-HD + (12) P296] at 232.00' elevation.

Final Antenna Configuration

3	RFS APXVLL19P_43-C-A20
3	RFS APXVAALL24M-U-J20
3	Ericsson 4460 B25 + B66
3	Ericsson 4480 B71 + B85

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the proposed mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 41.80%, which occurs in the connection check. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

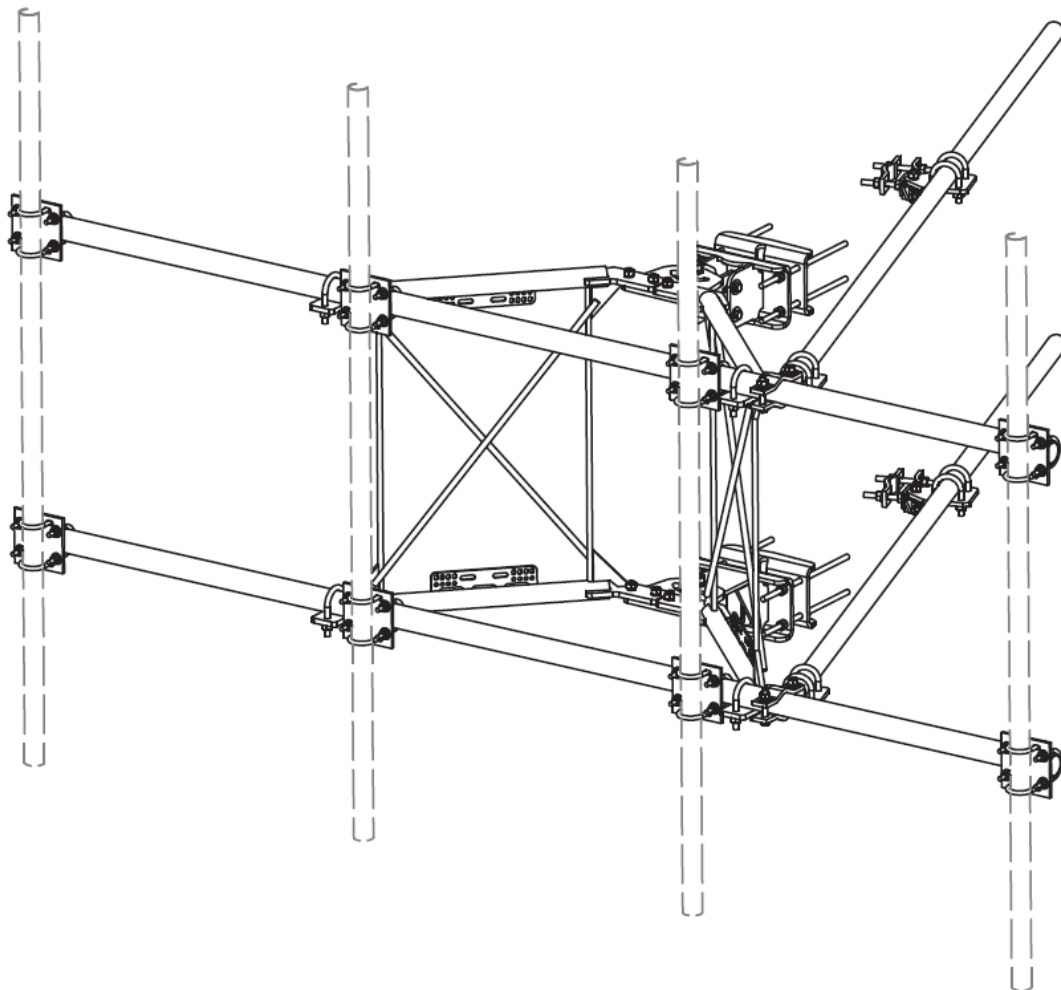
NOTE: The proposed mount (3) Sector Frames [Sitepro (3) VFA12-HD + (12) P296] was assumed to be installed properly to the existing tower per the manufacturer's instructions. Tower Engineering Solutions, LLC is not liable for any fit-up issues during installation.

Attachments

1. Mount Diagrams
2. Antenna Placement Diagram
3. Analysis Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.
2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.
4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.
6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.
7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.
8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.
9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.



Sitepro VFA12-HD

Structure: CT02303-A-SBA - Torrington 2 CT

Sector: A

11/15/2024

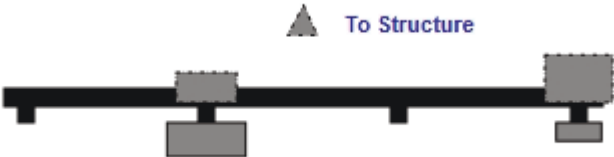
Structure Type: Guyed



Mount Elev: 232.00

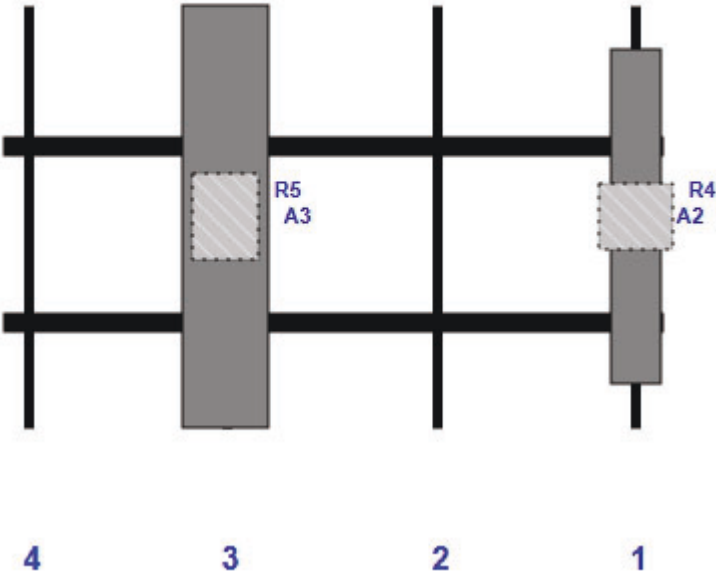
Page: 1

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	APXVLL19P_43-C-A20	75.80	11.30	144.00	1	a	Front	48.00			
R4	4460 B25 + B66	15.10	17.00	144.00	1	a	Behind	48.00			
A3	APXVAALL24M-U-J20	95.70	19.70	51.00	3	a	Front	48.00			
R5	4480 B71 + B85	19.20	15.10	51.00	3	a	Behind	48.00			

Structure: CT02303-A-SBA - Torrington 2 CT

Sector: B

11/15/2024

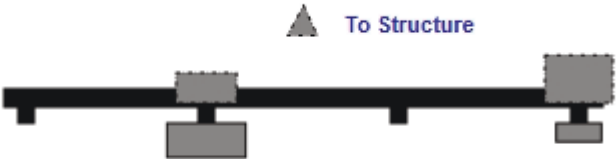


Structure Type: Guyed

Mount Elev: 232.00

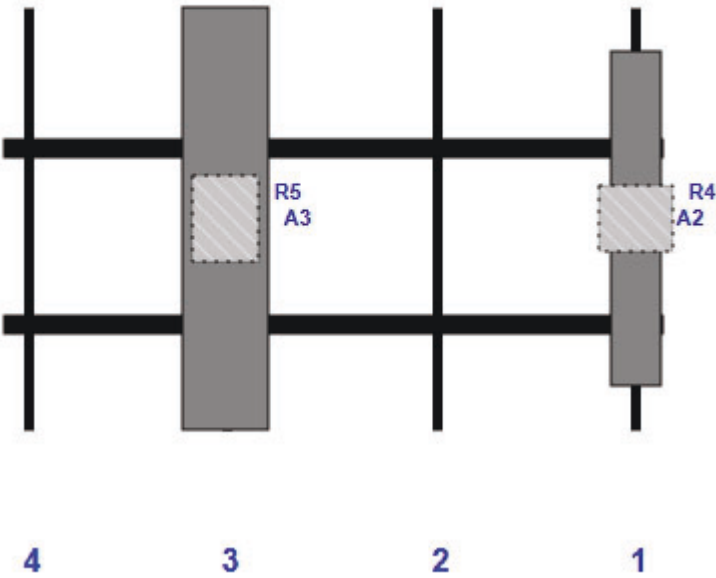
Page: 2

Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	APXVLL19P_43-C-A20	75.80	11.30	144.00	1	a	Front	48.00			
R4	4460 B25 + B66	15.10	17.00	144.00	1	a	Behind	48.00			
A3	APXVAALL24M-U-J20	95.70	19.70	51.00	3	a	Front	48.00			
R5	4480 B71 + B85	19.20	15.10	51.00	3	a	Behind	48.00			

Structure: CT02303-A-SBA - Torrington 2 CT

Sector: C

11/15/2024

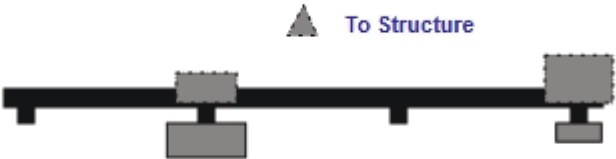


Structure Type: Guyed

Mount Elev: 232.00

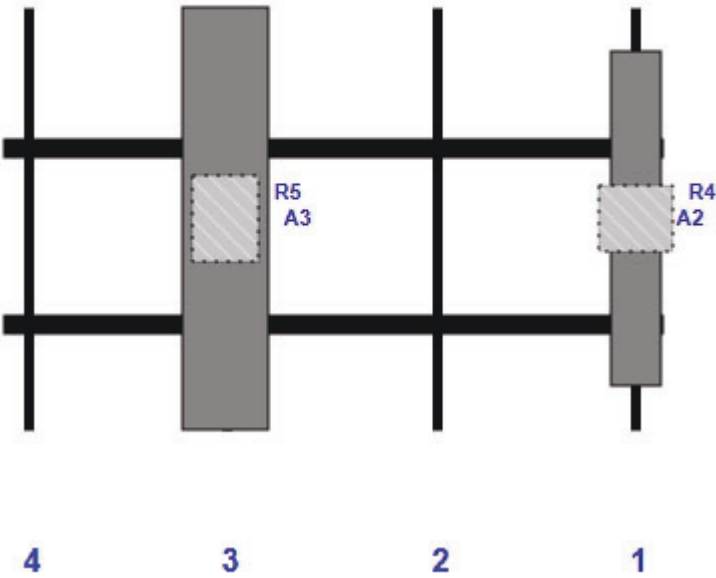
Page: 3

Plan View

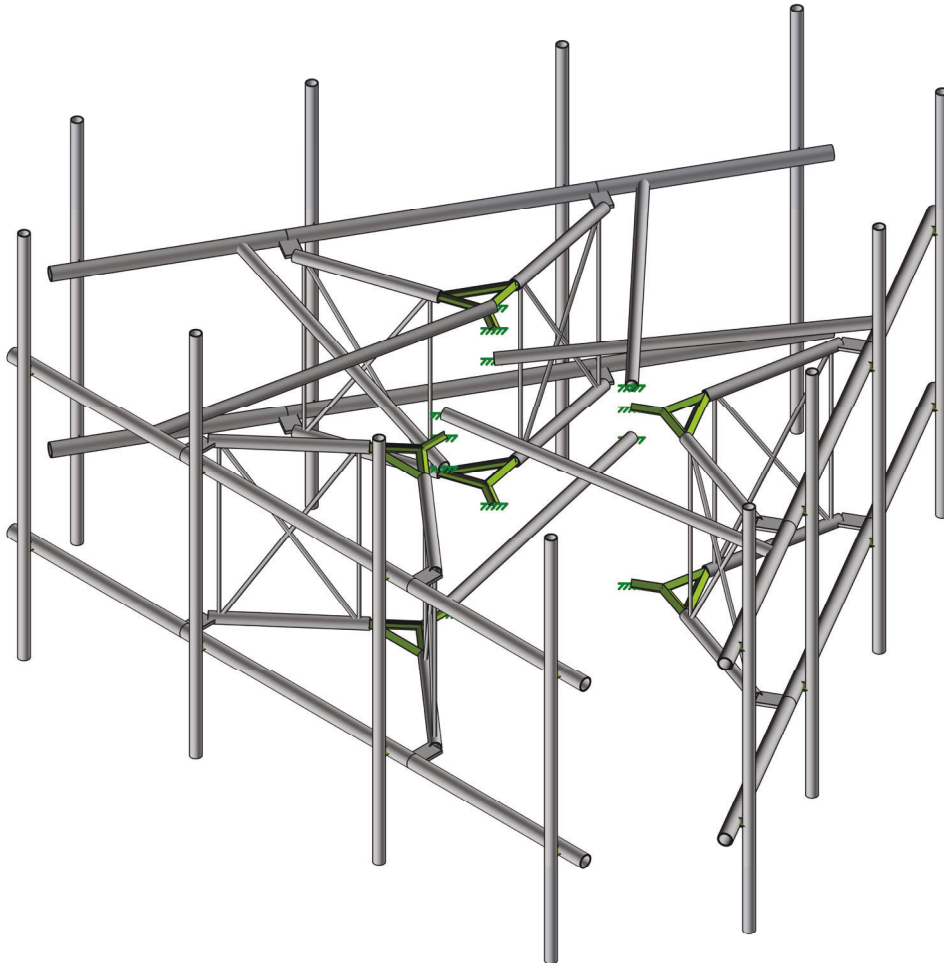
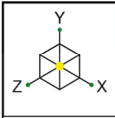


Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A2	APXVLL19P_43-C-A20	75.80	11.30	144.00	1	a	Front	48.00			
R4	4460 B25 + B66	15.10	17.00	144.00	1	a	Behind	48.00			
A3	APXVAALL24M-U-J20	95.70	19.70	51.00	3	a	Front	48.00			
R5	4480 B71 + B85	19.20	15.10	51.00	3	a	Behind	48.00			





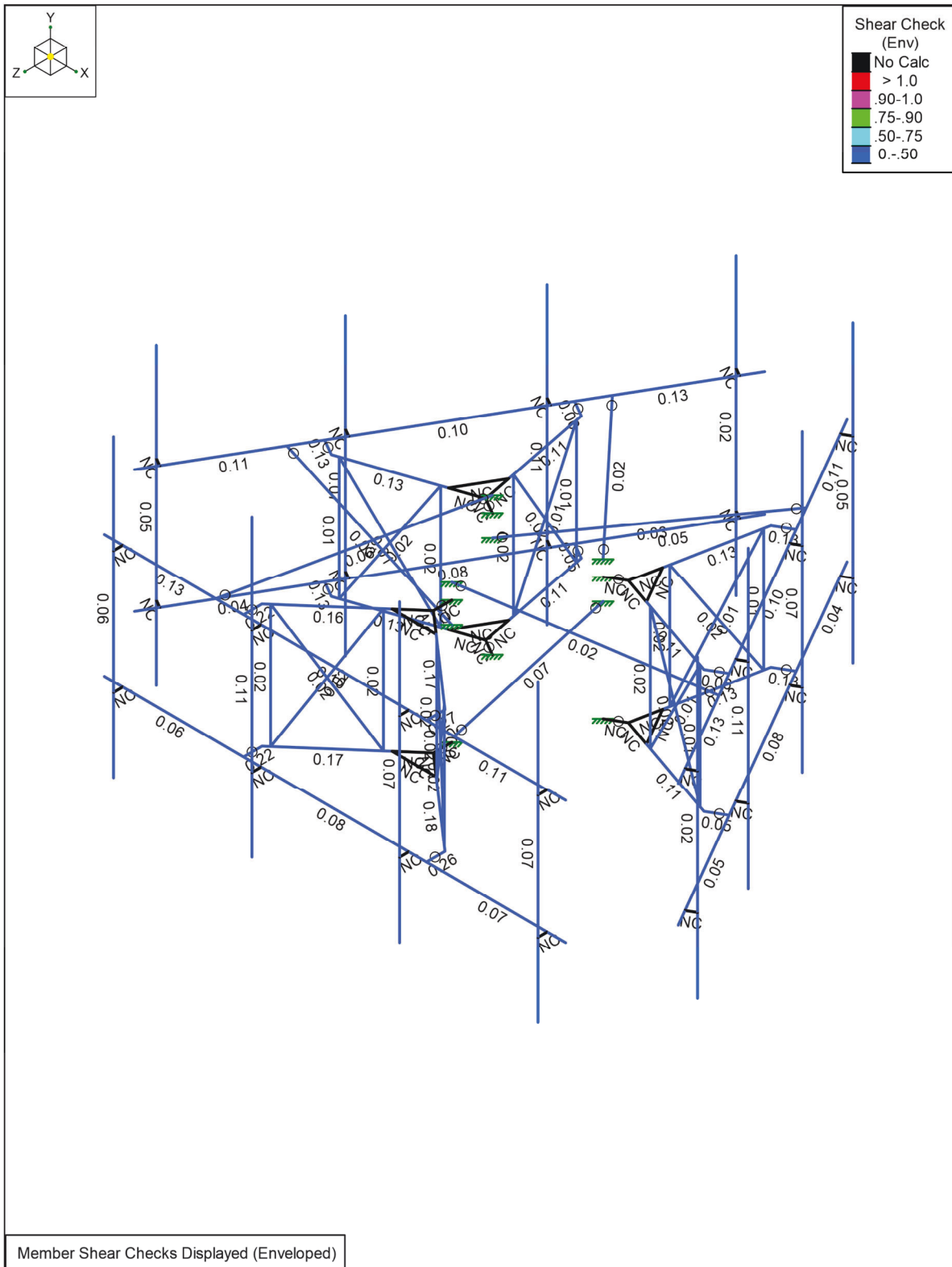


EXHIBIT 9

EME Report



FOX HILL TELECOM

Radio Frequency Emissions Analysis Report



Site ID: CTNH391A

Highland Torrington SBA
1210 Highland Avenue
Torrington, CT 06790

December 17, 2024

Fox Hill Telecom Project Number: 240281

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit at ground level:	3.36 %



December 17, 2024

T-MOBILE
Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 06009

Emissions Analysis for Site: **CTNH391A – Highland Torrington SBA**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **1210 Highland Avenue, Torrington, CT**, for the purpose of determining whether the emissions from the Proposed T-MOBILE Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

General population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz & 700 MHz bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report the percentage of MPE rather than power density.



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Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **1210 Highland Avenue, Torrington, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65 for far field modeling calculations.

In OET-65, plane wave power densities in the Far Field of an antenna are calculated by considering antenna gain and reflective waves that would contribute to exposure.

Since the radiation pattern of an antenna has developed in the **Far Field** region the power gain in specific directions needs to be considered in exposure predictions to yield an Effective Radiated Power (ERP) in each specific direction from the antenna. Also, since the vertical radiation pattern of the antenna is considered, the exposure calculations would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels. To determine a worst-case scenario at each point along the calculation radials, each point was calculated using the antenna gain value at each angle of incident and compared against the result using an isotropic radiator at the antenna height with the greater of the two used to yield the more pessimistic far field value for each point along the calculation radial.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential 1.6 times increase in power density in calculating far field power density values.

With these factors Considered, the worst case **Far Field prediction model** utilized in this analysis is determined by the following equation:

Equation 9 per FCC OET65 for Far Field Modeling

$$S = \frac{33.4 \text{ ERP}}{R^2}$$

S = Power Density (in $\mu\text{w}/\text{cm}^2$)

ERP = Effective Radiated Power from antenna (watts)

R = Distance from the antenna (meters)

Predicted far field power density values for all carriers identified in this report were calculated 6 feet above the ground level and are displayed as a percentage of the applicable FCC standards. All emissions values for other carriers were calculated using the same Far Field model outlined above, using industry standard radio configurations and frequency band selection based upon available licenses in this geographic area for emissions contribution estimates.



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For each T-Mobile sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	4	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	35
5G	1900 MHz (PCS)	4	40
LTE	2100 MHz (AWS)	4	60

Table 1: Channel Data Table



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The following T-Mobile antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAALL24M-U-J20	232
A	2	RFS APXVLL19P 43-C-A20	232
B	1	RFS APXVAALL24M-U-J20	232
B	2	RFS APXVLL19P 43-C-A20	232
C	1	RFS APXVAALL24M-U-J20	232
C	2	RFS APXVLL19P 43-C-A20	232

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed T-MOBILE configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAALL24M-U-J20	600 MHz / 700 MHz	13.65 / 14.25	6	200	4,772.12	0.34
Antenna A2	RFS APXVLL19P 43-C-A20	1900 MHz (PCS) / 2100 MHz (AWS)	16.05 / 16.75	12	540	23,437.14	0.38
Sector A Composite MPE%							0.72
Antenna B1	RFS APXVAALL24M-U-J20	600 MHz / 700 MHz	13.65 / 14.25	6	200	4,772.12	0.34
Antenna B2	RFS APXVLL19P 43-C-A20	1900 MHz (PCS) / 2100 MHz (AWS)	16.05 / 16.75	12	540	23,437.14	0.38
Sector B Composite MPE%							0.72
Antenna C1	RFS APXVAALL24M-U-J20	600 MHz / 700 MHz	13.65 / 14.25	6	200	4,772.12	0.34
Antenna C2	RFS APXVLL19P 43-C-A20	1900 MHz (PCS) / 2100 MHz (AWS)	16.05 / 16.75	12	540	23,437.14	0.38
Sector C Composite MPE%							0.72

Table 3: T-MOBILE Emissions Levels



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The Following table (*table 4*) shows all additional identified carriers on site and their emissions contribution estimates, along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three T-Mobile sectors have the same configuration yielding the same results for all three sectors. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite estimated MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value	0.72 %
USA Mobility (221.5 feet AGL)	0.49 %
Campion Ambulance (165 feet AGL)	0.60 %
Arch Wireless (140 feet AGL)	0.44 %
Unknown MW Dish (107 feet AGL)	0.10 %
Unknown Yagi Antenna (105 feet AGL)	0.81 %
Torrington Police (100 feet)	0.10 %
Unknown 6 foot Dish (90 feet AGL)	0.10 %
Site Total MPE %:	3.36 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	0.72 %
T-MOBILE Sector B Total:	0.72 %
T-MOBILE Sector C Total:	0.72 %
Site Total:	3.36 %

Table 5: Site MPE Summary



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Table 6 below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, all three T-Mobile sectors have the same configuration yielding the same results on all three sectors.

T-MOBILE _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	4	926.96	232	1.12	600 MHz	400	0.28%
T-Mobile 700 MHz LTE	2	532.15	232	0.28	700 MHz	467	0.06%
T-Mobile 1900 MHz (PCS) LTE	4	1,409.51	232	1.00	1900 MHz (PCS)	1000	0.10%
T-Mobile 1900 MHz (PCS) LTE / 5G NR	4	1,610.87	232	1.10	1900 MHz (PCS)	1000	0.11%
T-Mobile 2100 MHz (AWS) LTE	4	2,838.91	232	1.70	2100 MHz (AWS)	1000	0.17%
						Total:	0.72 %

Table 6: T-MOBILE Maximum Sector MPE Power Values



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the T-MOBILE facility as well as the site composite emissions estimates value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-MOBILE Sector	Power Density Value (%)
Sector A:	0.72 %
Sector B:	0.72 %
Sector C:	0.72 %
T-MOBILE Maximum Total (per sector):	0.72 %
Site Total:	3.36 %
Site Compliance Status:	COMPLIANT

The estimated composite MPE value for this site assuming all carriers present is **3.36 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon the far field calculations performed for all carriers identified in this report.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite estimated values calculated were well within the allowable 100% threshold standard per the federal government.

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