Transcend Wireless

10 Industrial Ave
Suite 3
Mahwah, NJ 07430

Phone: 201.684.0055
Fax: 201.684.0066

3/29/2016

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

Notice of Exempt Modification
166 Pawcatuck Ave., Pawcatuck, CT 06379
N 41.360489
W -71.854294

Dear Ms. Bachman:

T-Mobile currently maintains 6 antennas at the 117 foot level of the existing 119 foot monopole at 166 Pawcatuck Ave., Pawatuck, CT 06379. The tower is owned by Bay Communications II, LLC. The property is owned by Warren D. & Patricia L. Main. T-Mobile now intends to install three new antennas. These antennas would be installed at the 117 foot level of the tower. T-Mobile also intends to three new Remote Radio Units at the 117 foot level mounted behind the proposed antennas. The Structural Analysis is passing with a 47.3% structural usage ratio.

This facility was approved by the Town of Stonington in Docket No. 399 on 11/11/2010. This approval included the condition(s) that will be followed per the proposed modification. This modification complies with the aforementioned condition(s).

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies ~ 16- 50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. ~ 16-50j- 72(b)(2). In accordance with R.C.S.A. g 16-50j-73, a copy of this letter is being sent to Wayne Green, Building Official, for the Town of Stonington, as well as the property owner and the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided fox its R.C.S:A. ~ 16-50j-72(b)(2}.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels ox more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard,

5. The proposed modifications wall not cause a change or alteration in the physical ox environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. ~ 16-SOj-72(b}(2).

Sincerely,

Gregg Shappy
10 Industrial Ave., Suite 3
Mahwah, NJ 07430
201-927-0789
gshappy@transcendwireless.com

Attachments
cc: Wayne Greene – Building Official
Bay Communications II, LLC
Warren D. & Patricia L. Main

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CTNL813C

Amtrak_Stonington3
166 Pawcatuck Avenue
Pawcatuck, CT 06379

March 24, 2016

EBI Project Number: 6216001734

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	8.97 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

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March 24, 2016

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CTNL813C – Amtrak_Stonington3**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **166 Pawcatuck Avenue, Pawcatuck, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ 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 public 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 public 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.

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

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 done for the proposed T-Mobile Wireless antenna facility located at **166 Pawcatuck Avenue, Pawcatuck, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 GSM / UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel

2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

7) The antennas used in this modeling are the **Ericsson AIR21 (B4A/B2P & B2A/B4P)** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 (B4A/B2P & B2A/B4P)** have a maximum gain of **15.9 dBd** at their main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

8) The antenna mounting height centerlines of the proposed antennas are **115 & 117 feet** above ground level (AGL).

9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

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T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	117	Height (AGL):	117	Height (AGL):	117
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	Channel Count	2
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	1.36	Antenna B1 MPE%	1.36	Antenna C1 MPE%	1.36
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P	Make / Model:	Ericsson AIR21 B2A/B4P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	117	Height (AGL):	117	Height (AGL):	117
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120	Total TX Power(W):	120	Total TX Power(W):	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	1.36	Antenna B2 MPE%	1.36	Antenna C2 MPE%	1.36
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	115	Height (AGL):	115	Height (AGL):	115
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power(W):	30	Total TX Power(W):	30	Total TX Power(W):	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.56	Antenna B3 MPE%	0.56	Antenna C3 MPE%	0.56

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**3.29 %**
Verizon Wireless	5.68 %
Site Total MPE %:	**8.97 %**

T-Mobile Sector 1 Total:	3.29 %
T-Mobile Sector 2 Total:	3.29 %
T-Mobile Sector 3 Total:	3.29 %
Site Total:	8.97 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	2334.27	117	13.62	2100	1000	1.36 %
T-Mobile 1900 MHz (PCS) GSM/UMTS	2	1167.14	117	6.81	1900	1000	0.68 %
T-Mobile 2100 MHz (AWS) UMTS	2	1167.14	117	6.81	2100	1000	0.68 %
T-Mobile 700 MHz LTE	1	865.21	115	2.62	700	467	0.56 %
						Total:	3.29%

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Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector 1:	3.29 %
Sector 2:	3.29 %
Sector 3 :	3.29 %
T-Mobile Per Sector Maximum:	3.29 %
Site Total:	8.97 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **8.97%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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 values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Tower Analysis Report

March 15, 2016

Site Name	CTNL813C - Amtrak Stonington 3
Infinigy Job Number	428-000
Client	Transcend
Proposed Carrier	T-Mobile
Site Location	166 Pawcatuck Ave., Pawcatuck, CT 06379 41° 21' 37.76" N NAD83 71° 51' 15.46" W NAD83
Structure Type	119' Monopole
Structural Usage Ratio	**47.3%**
Overall Result	**Pass**

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The pole and foundation are therefore deemed adequate to support the existing and proposed loading as listed in this report.

Maxwell R. Becker, E.I.T.
Structural Engineer II

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Calculations…….. Appended

Introduction

Infinigy Engineering has been requested to perform a structural analysis on the existing 119' Sabre monopole. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The tower was analyzed using tnxTower version 6.1.3.1 tower analysis software.

Supporting Documentation

Original Design Drawings	Sabre Drawing # 36879-MM, dated November 15, 2010
Proposed Loading	Infinigy Engineering Job # 428-000, dated February 19, 2016

Analysis Code Requirements

Wind Speed	120 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 3/4" ice
TIA Revision	ANSI/TIA222-G
Adopted IBC	2003 IBC w/ 2005 CT Supplement & 2013 CT Amendment
Structure Class	2
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The pole and foundation are therefore deemed adequate to support the existing and proposed loading as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Maxwell Becker, E.I.T.
Structural Engineer II | Infinigy Engineering, PLLC
1033 Watervliet Shaker Road, Albany, NY 12205
(O) (518) 690-0790 | (M) (518) 221-4665
mbecker@infinigy.com | www.infinigy.com

Existing Loading

Rad Center (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
117.0	3	Ericsson AIR21 B4A/B2P	Sector Frames	(12) 1 5/8" (1) 1 5/8" Hybrid	T-Mobile
	3	Ericsson AIR21 B2A/B4P			
	3	Ericsson KRY 122 144			

To Be Removed Loading

Rad Center (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
No loading considered to be removed.					

Proposed Loading

Rad Center (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
115.0	3	Commscope LNX-6515DS-VTM	Sector Frames	--	T-Mobile
	3	Ericsson RRUS 11 B12			

Final Configuration

Rad Center (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
117.0	3	Ericsson AIR21 B4A/B2P	Sector Frames	(12) 1 5/8" (1) 1 5/8" Hybrid	T-Mobile
	3	Ericsson AIR21 B2A/B4P			
	3	Ericsson KRY 122 144			
115.0	3	Commscope LNX-6515DS-VTM			
	3	Ericsson RRUS 11 B12			

Structure Usages

Pole (L3)	31.7	Pass
Flange	47.3	Pass
Base Plate	30.2	Pass
RATING =	**47.3**	**Pass**

Foundation Reactions

Reaction Data	Design Reactions	Analysis Reactions	Result
Moment (kip-ft)	--	1205.6	--
Shear (kip)	--	16.3	--
Axial (kip)	--	34.4	--

*** Design reactions are multiplied by 1.35 per ANSI/TIA-222-G 15.5.1**

Tower base reactions are acceptable per rigorous structural analysis.

Deflection, Twist, and Sway

Antenna Elevation (ft)	Deflection (in)	Twist (°)	Sway (°)
115.0	3.621	0.000	0.268

*Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural deflection limit is 3% of structure height.
*Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural twist and sway limit is 4 degrees.
*Per ANSI/TIA-222-G Section 2.8.3 deflection, Twist, and sway values were calculated using a basic 3-second gust wind speed of 60 mph.
*It is the responsibility of the client to ensure their proposed and/or existing equipment will meet ANSI/TIA-222-G Annex D or other appropriate microwave signal degradation limits based on the provided values above.

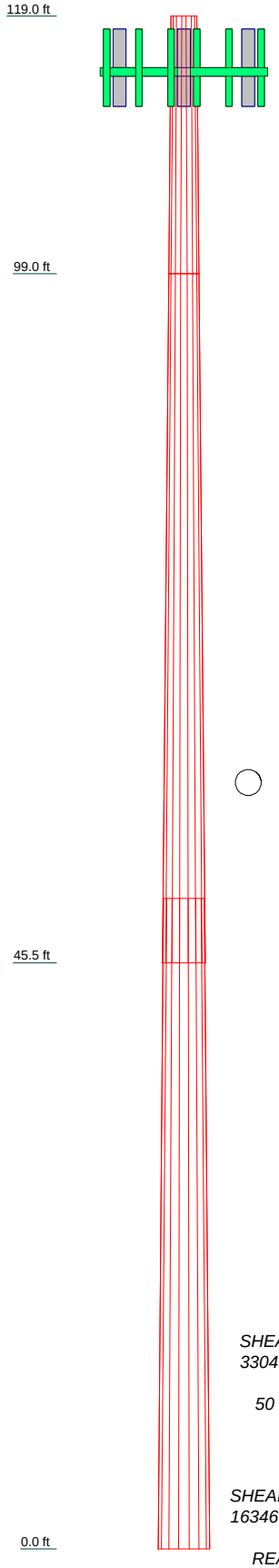
Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the tower structure only and does not reflect adequacy of any existing antenna mounts, mount connections, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements. Our evaluation also assumes that the existing structure was designed and manufactured to adequately support its design loading as specified by the manufacturer.

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	20.00	18	0.1875		23.0000	27.4000		1013.0
2	53.50	18	0.3125	5.00	27.4000	39.4200	A572-65	5976.4
3	50.50	18	0.3750		37.6716	48.8000		8766.5
								15756.0



ALL REACTIONS ARE FACTORED

AXIAL 34415 lb

SHEAR 3304 lb *MOMENT 235582 lb-ft*

50 mph WIND - 0.7500 in ICE

AXIAL 22774 lb

SHEAR 16346 lb *MOMENT 1205638 lb-ft*

REACTIONS - 120 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
LNX-6515DS-VTM (T-Mobile)	117	KRY 112 144/1 (T-Mobile)	115
LNX-6515DS-VTM (T-Mobile)	117	KRY 112 144/1 (T-Mobile)	115
LNX-6515DS-VTM (T-Mobile)	117	KRY 112 144/1 (T-Mobile)	115
RRUS 11 (Band 12) (T-Mobile)	117	Pipe T-Arm (T-Mobile)	115
RRUS 11 (Band 12) (T-Mobile)	117	Pipe T-Arm (T-Mobile)	115
RRUS 11 (Band 12) (T-Mobile)	117	Pipe T-Arm (T-Mobile)	115
AIR 21 B4A/B2P (T-Mobile)	115	AIR 21 B2A/B4P (T-Mobile)	115
AIR 21 B4A/B2P (T-Mobile)	115	AIR 21 B2A/B4P (T-Mobile)	115
AIR 21 B4A/B2P (T-Mobile)	115	AIR 21 B2A/B4P (T-Mobile)	115

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 120 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 31.7%

Infinigy Engineering
2255 Sewell Mill Road, Suite 130
Marietta, GA 30062
Phone: (678) 444-4463
FAX: (678)444-4472

Job: ***428-000***			
Project: ***CTNL813C - Amtrak Stonington 3***			
Client: Transcend	Drawn by: MBecker	App'd:	
Code: TIA-222-G	Date: 03/15/16	Scale: NTS	
Path: N:\T-Mobile\Transcend\CTNL813C\Structural\Structrual Calculations\CTNL813C.eri		Dwg No. E-1	

Tower Input Data

There is a pole section.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 120 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Treat Feedline Bundles As Cylinder
Consider Moments - Horizontals	Assume Legs Pinned	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Calculate Redundant Bracing Forces
Use Moment Magnification	√ Use Clear Spans For Wind Area	Ignore Redundant Members in FEA
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	√ SR Leg Bolts Resist Compression
√ Use Code Safety Factors - Guys	√ Retension Guys To Initial Tension	√ All Leg Panels Have Same Allowable
Escalate Ice	Bypass Mast Stability Checks	Offset Girt At Foundation
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Consider Feedline Torque
Use Special Wind Profile	√ Project Wind Area of Appurt.	√ Include Angle Block Shear Check
√ Include Bolts In Member Capacity	√ Autocalc Torque Arm Areas	Poles
Leg Bolts Are At Top Of Section	SR Members Have Cut Ends	Include Shear-Torsion Interaction
√ Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	Always Use Sub-Critical Flow
Use Diamond Inner Bracing (4 Sided)	√ Triangulate Diamond Inner Bracing	Use Top Mounted Sockets
Add IBC .6D+W Combination	Use TIA-222-G Tension Splice Capacity Exemption	

Tapered Pole Section Geometry

Section	*Elevation* *ft*	*Section Length* *ft*	*Splice Length* *ft*	*Number of Sides*	*Top Diameter* *in*	*Bottom Diameter* *in*	*Wall Thickness* *in*	*Bend Radius* *in*	*Pole Grade*
L1	119.00-99.00	20.00	0.00	18	23.0000	27.4000	0.1875	0.7500	A572-65 (65 ksi)
L2	99.00-45.50	53.50	5.00	18	27.4000	39.4200	0.3125	1.2500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	45.50-0.00	50.50		18	37.6716	48.8000	0.3750	1.5000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	23.3548	13.5763	892.6152	8.0984	11.6840	76.3964	1786.4050	6.7894	3.7180	19.829
	27.8227	16.1948	1515.1337	9.6604	13.9192	108.8521	3032.2611	8.0990	4.4924	23.959
L2	27.8227	26.8674	2490.5838	9.6161	13.9192	178.9315	4984.4449	13.4363	4.2724	13.672
	40.0281	38.7898	7495.0504	13.8832	20.0254	374.2779	14999.9629	19.3986	6.3879	20.441
L3	39.3716	44.3923	7801.6170	13.2403	19.1372	407.6678	15613.4996	22.2004	5.9702	15.921
	49.5528	57.6379	17075.9364	17.1909	24.7904	688.8125	34174.3418	28.8244	7.9288	21.143

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in
L1 119.00-99.00				1	1	1		
L2 99.00-45.50				1	1	1		
L3 45.50-0.00				1	1	1		

Monopole Base Plate Data

Base Plate Data	
Base plate is square	
Base plate is grouted	
Anchor bolt grade	A325X
Anchor bolt size	2.5000 in
Number of bolts	14
Embedment length	24.0000 in
f'_c	4 ksi
Grout space	0.0000 in
Base plate grade	A36
Base plate thickness	2.7500 in
Bolt circle diameter	56.0000 in
Outer diameter	61.0000 in
Inner diameter	35.0000 in
Base plate type	Plain Plate

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1 5/8 (T-Mobile)	C	No	Inside Pole	117.00 - 0.00	12	No Ice	0.00	1.04
						1/2" Ice	0.00	1.04

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1-5/8" Hybird (T-Mobile)	C	No	Inside Pole	117.00 - 0.00	1	1" Ice	0.00	1.04
						No Ice	0.00	1.00
						1/2" Ice	0.00	1.00
						1" Ice	0.00	1.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	119.00-99.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	242.64
L2	99.00-45.50	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	721.18
L3	45.50-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	613.34

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight lb
L1	119.00-99.00	A	1.690	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	242.64
L2	99.00-45.50	A	1.620	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	721.18
L3	45.50-0.00	A	1.441	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	613.34

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	119.00-99.00	0.0000	0.0000	0.0000	0.0000
L2	99.00-45.50	0.0000	0.0000	0.0000	0.0000
L3	45.50-0.00	0.0000	0.0000	0.0000	0.0000

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Pipe T-Arm	A	From Leg	3.00	0.0000	115.00	No Ice	9.70	3.30	250.00
(T-Mobile)			0.00			1/2" Ice	12.10	5.20	314.00
			0.00			1" Ice	14.50	7.10	378.00
Pipe T-Arm	B	From Leg	3.00	0.0000	115.00	No Ice	9.70	3.30	250.00
(T-Mobile)			0.00			1/2" Ice	12.10	5.20	314.00
			0.00			1" Ice	14.50	7.10	378.00
Pipe T-Arm	C	From Leg	3.00	0.0000	115.00	No Ice	9.70	3.30	250.00
(T-Mobile)			0.00			1/2" Ice	12.10	5.20	314.00
			0.00			1" Ice	14.50	7.10	378.00
AIR 21 B2A/B4P	A	From Leg	3.00	0.0000	115.00	No Ice	6.53	4.31	91.00
(T-Mobile)			0.00			1/2" Ice	6.98	4.72	132.68
			0.00			1" Ice	7.43	5.15	179.47
AIR 21 B2A/B4P	B	From Leg	3.00	0.0000	115.00	No Ice	6.53	4.31	91.00
(T-Mobile)			0.00			1/2" Ice	6.98	4.72	132.68
			0.00			1" Ice	7.43	5.15	179.47
AIR 21 B2A/B4P	C	From Leg	3.00	0.0000	115.00	No Ice	6.53	4.31	91.00
(T-Mobile)			0.00			1/2" Ice	6.98	4.72	132.68
			0.00			1" Ice	7.43	5.15	179.47
AIR 21 B4A/B2P	A	From Leg	3.00	0.0000	115.00	No Ice	6.53	4.31	91.00
(T-Mobile)			0.00			1/2" Ice	6.98	4.72	132.68
			0.00			1" Ice	7.43	5.15	179.47
AIR 21 B4A/B2P	B	From Leg	3.00	0.0000	115.00	No Ice	6.53	4.31	91.00
(T-Mobile)			0.00			1/2" Ice	6.98	4.72	132.68
			0.00			1" Ice	7.43	5.15	179.47
AIR 21 B4A/B2P	C	From Leg	3.00	0.0000	115.00	No Ice	6.53	4.31	91.00
(T-Mobile)			0.00			1/2" Ice	6.98	4.72	132.68
			0.00			1" Ice	7.43	5.15	179.47
KRY 112 144/1	A	From Leg	3.00	0.0000	115.00	No Ice	0.41	0.18	11.00
(T-Mobile)			0.00			1/2" Ice	0.50	0.25	14.04
			0.00			1" Ice	0.60	0.32	18.30
KRY 112 144/1	B	From Leg	3.00	0.0000	115.00	No Ice	0.41	0.18	11.00
(T-Mobile)			0.00			1/2" Ice	0.50	0.25	14.04
			0.00			1" Ice	0.60	0.32	18.30
KRY 112 144/1	C	From Leg	3.00	0.0000	115.00	No Ice	0.41	0.18	11.00
(T-Mobile)			0.00			1/2" Ice	0.50	0.25	14.04
			0.00			1" Ice	0.60	0.32	18.30
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LNX-6515DS-VTM	A	From Leg	3.00	0.0000	117.00	No Ice	11.45	7.70	50.30
(T-Mobile)			0.00			1/2" Ice	12.06	8.29	116.17
			0.00			1" Ice	12.69	8.89	189.71
LNX-6515DS-VTM	B	From Leg	3.00	0.0000	117.00	No Ice	11.45	7.70	50.30
(T-Mobile)			0.00			1/2" Ice	12.06	8.29	116.17
			0.00			1" Ice	12.69	8.89	189.71
LNX-6515DS-VTM	C	From Leg	3.00	0.0000	117.00	No Ice	11.45	7.70	50.30
(T-Mobile)			0.00			1/2" Ice	12.06	8.29	116.17
			0.00			1" Ice	12.69	8.89	189.71
RRUS 11 (Band 12)	A	From Leg	3.00	0.0000	117.00	No Ice	2.94	1.25	55.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(T-Mobile)			0.00			1/2" Ice	3.17	1.41	74.32
			0.00			1" Ice	3.41	1.59	96.56
RRUS 11 (Band 12)	B	From Leg	3.00	0.0000	117.00	No Ice	2.94	1.25	55.00
(T-Mobile)			0.00			1/2" Ice	3.17	1.41	74.32
			0.00			1" Ice	3.41	1.59	96.56
RRUS 11 (Band 12)	C	From Leg	3.00	0.0000	117.00	No Ice	2.94	1.25	55.00
(T-Mobile)			0.00			1/2" Ice	3.17	1.41	74.32
			0.00			1" Ice	3.41	1.59	96.56

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp

Comb. No.	Description
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
L1	119 - 99	Pole	Max Tension	27	0.00	0.00	-0.07
			Max. Compression	26	-7312.12	0.00	-0.00
			Max. Mx	8	-3286.68	-92337.56	-0.00
			Max. My	2	-3286.68	0.00	92337.56
			Max. Vy	8	6240.53	-92337.56	-0.00
			Max. Vx	2	-6240.53	0.00	92337.56
			Max. Torque	4			-0.00
L2	99 - 45.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17885.61	0.00	-0.00
			Max. Mx	8	-10467.34	-511610.86	-0.00
			Max. My	14	-10467.34	0.00	-511610.86
			Max. Vy	8	11166.89	-511610.86	-0.00
			Max. Vx	14	11166.89	0.00	-511610.86
			Max. Torque	4			-0.00
L3	45.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34415.50	0.00	0.00
			Max. Mx	8	-22766.72	-1205637.75	0.00
			Max. My	2	-22766.72	0.00	1205637.75
			Max. Vy	8	16355.94	-1205637.75	0.00
			Max. Vx	2	-16355.94	0.00	1205637.75
			Max. Torque	4			-0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	26	34415.50	0.00	0.00
	Max. H_x	21	17080.21	16346.33	0.00
	Max. H_z	2	22773.62	0.00	16346.33
	Max. M_x	2	1205637.75	0.00	16346.33
	Max. M_z	8	1205637.75	-16346.33	0.00
	Max. Torsion	24	0.00	8173.16	14156.34
	Min. Vert	7	17080.21	-14156.33	8173.16
	Min. H_x	8	22773.62	-16346.33	0.00

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
	Min. H_z	14	22773.62	0.00	-16346.33
	Min. M_x	14	-1205637.75	0.00	-16346.33
	Min. M_z	20	-1205637.75	16346.33	0.00
	Min. Torsion	4	-0.00	-8173.16	14156.34

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	18978.02	0.00	0.00	0.00	0.00	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	22773.62	0.00	-16346.33	-1205637.75	0.00	0.00
0.9 Dead+1.6 Wind 0 deg - No Ice	17080.21	0.00	-16346.33	-1201603.97	0.00	0.00
1.2 Dead+1.6 Wind 30 deg - No Ice	22773.62	8173.16	-14156.34	-1044112.92	-602818.87	0.00
0.9 Dead+1.6 Wind 30 deg - No Ice	17080.21	8173.16	-14156.33	-1040619.56	-600801.98	0.00
1.2 Dead+1.6 Wind 60 deg - No Ice	22773.62	14156.34	-8173.16	-602818.87	-1044112.92	-0.00
0.9 Dead+1.6 Wind 60 deg - No Ice	17080.21	14156.33	-8173.16	-600801.98	-1040619.56	-0.00
1.2 Dead+1.6 Wind 90 deg - No Ice	22773.62	16346.33	0.00	0.00	-1205637.75	0.00
0.9 Dead+1.6 Wind 90 deg - No Ice	17080.21	16346.33	0.00	0.00	-1201603.97	0.00
1.2 Dead+1.6 Wind 120 deg - No Ice	22773.62	14156.34	8173.16	602818.87	-1044112.92	0.00
0.9 Dead+1.6 Wind 120 deg - No Ice	17080.21	14156.33	8173.16	600801.98	-1040619.56	0.00
1.2 Dead+1.6 Wind 150 deg - No Ice	22773.62	8173.16	14156.34	1044112.92	-602818.87	-0.00
0.9 Dead+1.6 Wind 150 deg - No Ice	17080.21	8173.16	14156.33	1040619.56	-600801.98	-0.00
1.2 Dead+1.6 Wind 180 deg - No Ice	22773.62	0.00	16346.33	1205637.75	0.00	0.00
0.9 Dead+1.6 Wind 180 deg - No Ice	17080.21	0.00	16346.33	1201603.97	0.00	0.00
1.2 Dead+1.6 Wind 210 deg - No Ice	22773.62	-8173.16	14156.34	1044112.92	602818.87	0.00
0.9 Dead+1.6 Wind 210 deg - No Ice	17080.21	-8173.16	14156.33	1040619.56	600801.98	0.00
1.2 Dead+1.6 Wind 240 deg - No Ice	22773.62	-14156.34	8173.16	602818.87	1044112.92	-0.00
0.9 Dead+1.6 Wind 240 deg - No Ice	17080.21	-14156.33	8173.16	600801.98	1040619.56	-0.00
1.2 Dead+1.6 Wind 270 deg - No Ice	22773.62	-16346.33	0.00	0.00	1205637.75	0.00
0.9 Dead+1.6 Wind 270 deg - No Ice	17080.21	-16346.33	0.00	0.00	1201603.97	0.00
1.2 Dead+1.6 Wind 300 deg - No Ice	22773.62	-14156.34	-8173.16	-602818.87	1044112.92	0.00
0.9 Dead+1.6 Wind 300 deg - No Ice	17080.21	-14156.33	-8173.16	-600801.98	1040619.56	0.00
1.2 Dead+1.6 Wind 330 deg - No Ice	22773.62	-8173.16	-14156.34	-1044112.92	602818.87	-0.00

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	lb-ft	lb-ft	lb-ft
0.9 Dead+1.6 Wind 330 deg - No Ice	17080.21	-8173.16	-14156.33	-1040619.56	600801.98	-0.00
1.2 Dead+1.0 Ice+1.0 Temp	34415.50	0.00	0.00	0.00	0.00	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	34415.50	0.00	-3304.12	-235582.21	0.00	0.00
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	34415.50	1652.06	-2861.45	-204020.17	-117791.10	0.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	34415.50	2861.45	-1652.06	-117791.10	-204020.17	-0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	34415.50	3304.12	0.00	0.00	-235582.21	0.00
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	34415.50	2861.45	1652.06	117791.10	-204020.17	0.00
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	34415.50	1652.06	2861.45	204020.17	-117791.10	-0.00
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	34415.50	0.00	3304.12	235582.21	0.00	0.00
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	34415.50	-1652.06	2861.45	204020.17	117791.10	0.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	34415.50	-2861.45	1652.06	117791.10	204020.17	-0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	34415.50	-3304.12	0.00	0.00	235582.21	0.00
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	34415.50	-2861.45	-1652.06	-117791.10	204020.17	0.00
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	34415.50	-1652.06	-2861.45	-204020.17	117791.10	-0.00
Dead+Wind 0 deg - Service	18978.02	0.00	-2285.26	-168200.40	0.00	0.00
Dead+Wind 30 deg - Service	18978.02	1142.63	-1979.09	-145665.82	-84100.20	0.00
Dead+Wind 60 deg - Service	18978.02	1979.09	-1142.63	-84100.20	-145665.82	-0.00
Dead+Wind 90 deg - Service	18978.02	2285.26	0.00	0.00	-168200.40	0.00
Dead+Wind 120 deg - Service	18978.02	1979.09	1142.63	84100.20	-145665.82	0.00
Dead+Wind 150 deg - Service	18978.02	1142.63	1979.09	145665.82	-84100.20	-0.00
Dead+Wind 180 deg - Service	18978.02	0.00	2285.26	168200.40	0.00	0.00
Dead+Wind 210 deg - Service	18978.02	-1142.63	1979.09	145665.82	84100.20	0.00
Dead+Wind 240 deg - Service	18978.02	-1979.09	1142.63	84100.20	145665.82	-0.00
Dead+Wind 270 deg - Service	18978.02	-2285.26	0.00	0.00	168200.40	0.00
Dead+Wind 300 deg - Service	18978.02	-1979.09	-1142.63	-84100.20	145665.82	0.00
Dead+Wind 330 deg - Service	18978.02	-1142.63	-1979.09	-145665.82	84100.20	-0.00

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	lb	lb	lb	lb	lb	lb	
1	0.00	-18978.02	0.00	0.00	18978.02	0.00	0.000%
2	0.00	-22773.62	-16346.33	0.00	22773.62	16346.33	0.000%
3	0.00	-17080.21	-16346.33	0.00	17080.21	16346.33	0.000%
4	8173.16	-22773.62	-14156.33	-8173.16	22773.62	14156.34	0.000%
5	8173.16	-17080.21	-14156.33	-8173.16	17080.21	14156.33	0.000%
6	14156.33	-22773.62	-8173.16	-14156.34	22773.62	8173.16	0.000%
7	14156.33	-17080.21	-8173.16	-14156.33	17080.21	8173.16	0.000%
8	16346.33	-22773.62	0.00	-16346.33	22773.62	0.00	0.000%
9	16346.33	-17080.21	0.00	-16346.33	17080.21	0.00	0.000%
10	14156.33	-22773.62	8173.16	-14156.34	22773.62	-8173.16	0.000%
11	14156.33	-17080.21	8173.16	-14156.33	17080.21	-8173.16	0.000%
12	8173.16	-22773.62	14156.33	-8173.16	22773.62	-14156.34	0.000%
13	8173.16	-17080.21	14156.33	-8173.16	17080.21	-14156.33	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
14	0.00	-22773.62	16346.33	0.00	22773.62	-16346.33	0.000%
15	0.00	-17080.21	16346.33	0.00	17080.21	-16346.33	0.000%
16	-8173.16	-22773.62	14156.33	8173.16	22773.62	-14156.34	0.000%
17	-8173.16	-17080.21	14156.33	8173.16	17080.21	-14156.33	0.000%
18	-14156.33	-22773.62	8173.16	14156.34	22773.62	-8173.16	0.000%
19	-14156.33	-17080.21	8173.16	14156.33	17080.21	-8173.16	0.000%
20	-16346.33	-22773.62	0.00	16346.33	22773.62	0.00	0.000%
21	-16346.33	-17080.21	0.00	16346.33	17080.21	0.00	0.000%
22	-14156.33	-22773.62	-8173.16	14156.34	22773.62	8173.16	0.000%
23	-14156.33	-17080.21	-8173.16	14156.33	17080.21	8173.16	0.000%
24	-8173.16	-22773.62	-14156.33	8173.16	22773.62	14156.34	0.000%
25	-8173.16	-17080.21	-14156.33	8173.16	17080.21	14156.33	0.000%
26	0.00	-34415.50	0.00	0.00	34415.50	0.00	0.000%
27	0.00	-34415.50	-3304.11	0.00	34415.50	3304.12	0.000%
28	1652.06	-34415.50	-2861.45	-1652.06	34415.50	2861.45	0.000%
29	2861.45	-34415.50	-1652.06	-2861.45	34415.50	1652.06	0.000%
30	3304.11	-34415.50	0.00	-3304.12	34415.50	0.00	0.000%
31	2861.45	-34415.50	1652.06	-2861.45	34415.50	-1652.06	0.000%
32	1652.06	-34415.50	2861.45	-1652.06	34415.50	-2861.45	0.000%
33	0.00	-34415.50	3304.11	0.00	34415.50	-3304.12	0.000%
34	-1652.06	-34415.50	2861.45	1652.06	34415.50	-2861.45	0.000%
35	-2861.45	-34415.50	1652.06	2861.45	34415.50	-1652.06	0.000%
36	-3304.11	-34415.50	0.00	3304.12	34415.50	0.00	0.000%
37	-2861.45	-34415.50	-1652.06	2861.45	34415.50	1652.06	0.000%
38	-1652.06	-34415.50	-2861.45	1652.06	34415.50	2861.45	0.000%
39	0.00	-18978.02	-2285.26	0.00	18978.02	2285.26	0.000%
40	1142.63	-18978.02	-1979.09	-1142.63	18978.02	1979.09	0.000%
41	1979.09	-18978.02	-1142.63	-1979.09	18978.02	1142.63	0.000%
42	2285.26	-18978.02	0.00	-2285.26	18978.02	0.00	0.000%
43	1979.09	-18978.02	1142.63	-1979.09	18978.02	-1142.63	0.000%
44	1142.63	-18978.02	1979.09	-1142.63	18978.02	-1979.09	0.000%
45	0.00	-18978.02	2285.26	0.00	18978.02	-2285.26	0.000%
46	-1142.63	-18978.02	1979.09	1142.63	18978.02	-1979.09	0.000%
47	-1979.09	-18978.02	1142.63	1979.09	18978.02	-1142.63	0.000%
48	-2285.26	-18978.02	0.00	2285.26	18978.02	0.00	0.000%
49	-1979.09	-18978.02	-1142.63	1979.09	18978.02	1142.63	0.000%
50	-1142.63	-18978.02	-1979.09	1142.63	18978.02	1979.09	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000001
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00047938
5	Yes	4	0.00000001	0.00030056
6	Yes	4	0.00000001	0.00047938
7	Yes	4	0.00000001	0.00030056
8	Yes	4	0.00000001	0.00000001
9	Yes	4	0.00000001	0.00000001
10	Yes	4	0.00000001	0.00047938
11	Yes	4	0.00000001	0.00030056
12	Yes	4	0.00000001	0.00047938
13	Yes	4	0.00000001	0.00030056
14	Yes	4	0.00000001	0.00000001

15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00047938
17	Yes	4	0.00000001	0.00030056
18	Yes	4	0.00000001	0.00047938
19	Yes	4	0.00000001	0.00030056
20	Yes	4	0.00000001	0.00000001
21	Yes	4	0.00000001	0.00000001
22	Yes	4	0.00000001	0.00047938
23	Yes	4	0.00000001	0.00030056
24	Yes	4	0.00000001	0.00047938
25	Yes	4	0.00000001	0.00030056
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00021406
28	Yes	4	0.00000001	0.00022199
29	Yes	4	0.00000001	0.00022199
30	Yes	4	0.00000001	0.00021406
31	Yes	4	0.00000001	0.00022199
32	Yes	4	0.00000001	0.00022199
33	Yes	4	0.00000001	0.00021406
34	Yes	4	0.00000001	0.00022199
35	Yes	4	0.00000001	0.00022199
36	Yes	4	0.00000001	0.00021406
37	Yes	4	0.00000001	0.00022199
38	Yes	4	0.00000001	0.00022199
39	Yes	4	0.00000001	0.00000001
40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	119 - 99	3.848	42	0.2719	0.0000
L2	99 - 45.5	2.737	42	0.2493	0.0000
L3	50.5 - 0	0.739	42	0.1326	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
117.00	LNX-6515DS-VTM	42	3.734	0.2700	0.0000	127734
115.00	Pipe T-Arm	42	3.621	0.2682	0.0000	127734

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	119 - 99	27.589	8	1.9500	0.0000
L2	99 - 45.5	19.625	8	1.7880	0.0000
L3	50.5 - 0	5.298	8	0.9506	0.0000

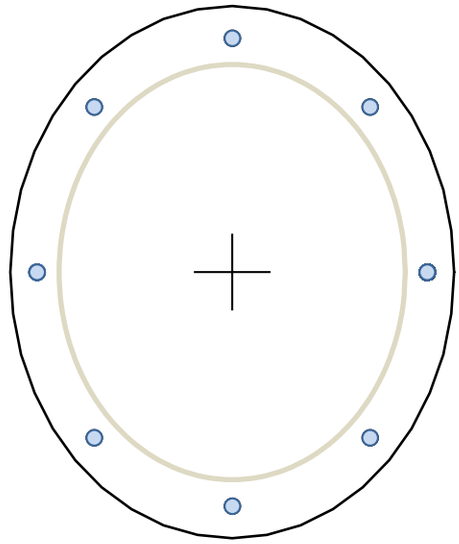
Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
117.00	LNX-6515DS-VTM	8	26.775	1.9366	0.0000	17856
115.00	Pipe T-Arm	8	25.962	1.9230	0.0000	17856

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
L1	119 - 99	Pole	TP27.4x23x0.1875	1	-3286.68	167438.00	17.4	Pass
L2	99 - 45.5	Pole	TP39.42x27.4x0.3125	2	-10467.30	758934.00	26.1	Pass
L3	45.5 - 0	Pole	TP48.8x37.6716x0.375	3	-22766.70	1834060.00	31.7	Pass
							Summary	
						Pole (L3)	31.7	Pass
						Base Plate	30.2	Pass
						RATING =	**31.7**	**Pass**

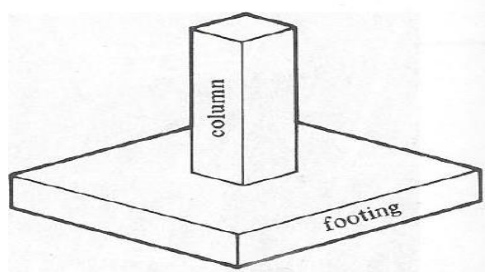
Date:	3/15/2016
Customer:	Transcend
Engineer:	MRB
Job #:	428-000
Baseplate/Flange:	Flange
Plate Shape:	Circle



Loading Data		
TIA Code Revision:	Rev-G	
Axial:	7.3	kips
Moment:	93.3	k-ft
Plate Data		
Pole Base Diameter:	27.4	in
Pole Base Shape:	Round	
Pole thickness:	0.1875	in
Base Weld Size:	0.1875	in
Plate Diameter:	35.125	in
Plate Thickness:	1	in
Plate Steel Grade:	A36	ksi
Bolt Data		
Bolt Diameter:	1	in
Bolt Hole Diameter:	1.125	in
Bolt Quantity:	8	
Bolt Grade:	A325	psi
Bolt Circle:	30.87	in
Bolt Spacing:	6	in
Stiffener Data		
Stiffener Quantity:		
Stiffener Height:		in
Stiffener Width:		in
Stiffener Thickness:		in
Stifferner Steel Grade:		
Vertical Weld Size:		in
Horizontal Weld Size:		in
Stiffener Notch width:		in

Plate Ratio:	47.32
Bolt Ratio:	39.91
Vertical Weld Ratio:	-
Horizontal Weld Ratio:	-
Stiffener Ratio:	-

Date:	3/15/2016
Site Name:	CTNL813C
Client:	Tanscend
Infinigy Job #:	428-000
Analysis/Design:	Analysis
Column Shape:	Circle
Footing Shape:	Square
Tower Type:	Monopole



Infinigy Engineering PLLC
Pad + Pier Calculations
ACI 318-11

Loading Data		
TIA Code Revision:	ANSI/TIA-222-G	
Uplift:	0	kips
Axial:	22.8	kips
Shear:	16.3	kips
Moment:	1205.6	k-ft

Soil Data		
Soil Type:	Sand	
Water Table Depth:	10	ft
Soil Dry Unit Weight:	110	pcf
ø Angle:	30	deg
Cohesion:	0	psf
Ultimate Skin Friction:	500	psf
Friction Coefficient:	0.3	
Ultimate Bearing Pressure:	6000	psf

Column Data		
Concrete Strength:	4000	psi
Column Diameter:	7	ft
Column Total Length:	4.5	ft
Column Height above ground:	1	ft
Vertical Rebar Strength:	60000	psi
Vertical Rebar Size:	#8	(#10) max.
Vertical Rebar Quantity:	36	(4) min.
Tie Rebar Strength:	60000	psi
Tie Rebar Size:	#4	(#3) max.
Tie Rebar Spacing:	12	in
Rebar Clear Distance:	3	in

Footing Data		
Concrete Strength:	4000	psi
Footing Length:	23	ft
Footing Width:	23	ft
Footing Thickness:	2	ft
Horizontal Rebar Strength:	60000	psi
Horizontal Rebar Size:	#8	
Horizontal Rebar Quantity:	28	
Rebar Clear Distance:	3	in
Dowel Strength:		psi
Dowel Size:		(#11) max.
Dowel Development Length:		in
Dowel Quantity:		

Concrete Strength Check		
Footing One-Way Shear Ratio:	19.67	%
Footing Two-Way Shear Ratio:	1.48	%
Footing Moment Ratio:	28.9	%

Soil Stability Check		
ϕs Bearing:	0.75	
ϕs Uplift:	0.75	
Uplift Ratio:	0.00	%
Bearing Ratio:	46.71	%
Sliding Ratio:	15.47	%
Overturning Ratio:	32.28	%

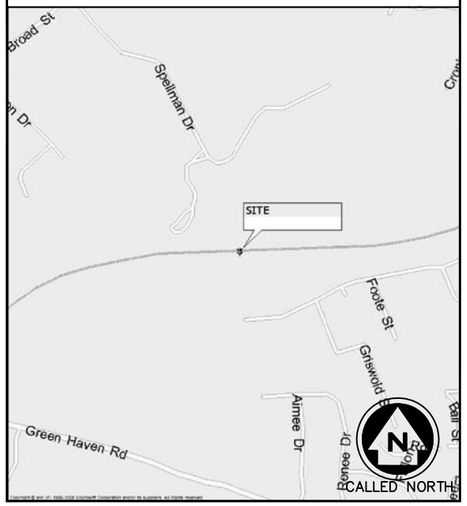
T-MOBILE NORTHEAST LLC

CTNL813C
AMTRAK_STONINGTON3

166 PAWCATUCK AVE
PAWCATUCK, CT 06379

(702CU CONFIGURATION)

VICINITY MAP



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL:

"CALL BEFORE YOU DIG"
WWW.CBYD.COM
CALL 811, OR 1-800-922-4455

CALL THREE WORKING DAYS PRIOR TO DIGGING

SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC	– RED	SEWER	– GREEN
GAS/OIL	– YELLOW	SURVEY	– PINK
TEL/CATV	– ORANGE	PROPOSED EXCAVATION	– WHITE
WATER	– BLUE	RECLAIMED WATER	– PURPLE

GENERAL NOTES

1. 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.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT 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.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T–MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS 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.
6. 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.
7. 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.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. 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 CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. 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.
12. 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 PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
14. THE CONTRACTOR SHALL NOTIFY THE T–MOBILE 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 T–MOBILE REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
16. THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.

PROJECT SUMMARY

SITE NUMBER:	CTNL813C
SITE NAME:	AMTRAK_STONINGTON3
SITE ADDRESS:	166 PAWCATUCK AVE PAWCATUCK, CT 06379
PROPERTY OWNER:	WARREN D. & PATRICIA L. MAIN 166 PAWCATUCK AVE PAWCATUCK, CT 06379
PARCEL:	MAP: 26, BLOCK: 2, LOT: 1
ZONING:	RR 80
JURISDICTION:	TBD
LAT./LONG.:	N 41.360489° / W –71.854294°
CONSTRUCTION TYPE:	L700 UPGRADE
APPLICANT:	T–MOBILE NORTHEAST LLC 103 MONARCH DRIVE LIVERPOOL, NY 13088
PROJECT MANAGER:	TRANSCEND WIRELESS 10 INDUSTRIAL AVE, SUITE 3 MAHWAH, NJ 07430
CONTACT:	JAMIE MARCHINI (973) 885–0660
ARCHITECT/ENGINEER:	INFINIGY ENGINEERING 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205
CONTACT:	ALEX WELLER 518–690–0790

PROJECT DESCRIPTION

- ☒ EXISTING MONOPOLE
- ☐ EXISTING GUYED TOWER
- ☐ EXISTING TRANSMISSION TOWER
- ☐ EXISTING BILLBOARD
- ☐ EXISTING ROOFTOP
- ☐ EXISTING FLAGPOLE
- ☐ EXISTING FORT WORTH
- ☒ EXISTING CABINET(S)
- ☐ EXISTING RBS 6201
- ☒ EXISTING RBS 3106
- ☐ EXISTING S8000
- ☐ SITE SUPPORT KIT
- ☐ SITE SUPPORT CABINET
- ☒ GPS
- ☒ OUTDOOR
- ☐ INDOOR
- ☒ EXISTING CONCRETE PAD
- ☐ EXISTING STEEL PLATFORM
- ☒ EXISTING PPC
- ☐ PANELBOARD

T–MOBILE NORTHEAST LLC PROPOSES THE MODIFICATION OF AN UNMANNED WIRELESS BROADBAND FACILITY. ADDITION OF PROPOSED LTE PANEL ANTENNAS AND RRU'S. REUSE, GPS, FIBER CABLE, COAX CABLES AND EXISTING EQUIPMENT CABINET.

SHEET INDEX

SHEET	DESCRIPTION	REVISION
T–1	TITLE SHEET	A
C–1	SITE PLAN	A
C–2	COMPOUND PLAN & ELEVATION	A
C–3	ANTENNA DETAIL & RF SCHEDULE	A
C–4	EQUIPMENT SPECIFICATIONS	A
E–1	GROUNDING AND POWER DIAGRAMS	A
E–2	COAX/FIBER PLUMBING DIAGRAM	A
N–1	GENERAL AND ELECTRICAL NOTES	A

T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

INFINIGY
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
2/19/16	FOR REVIEW	A

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	428-000
DRAWN BY:	JLM
CHECKED BY:	ASW

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER:
CTNL813C

SITE NAME:
AMTRAK_STONINGTON3

166 PAWCATUCK AVE
PAWCATUCK, CT 06379

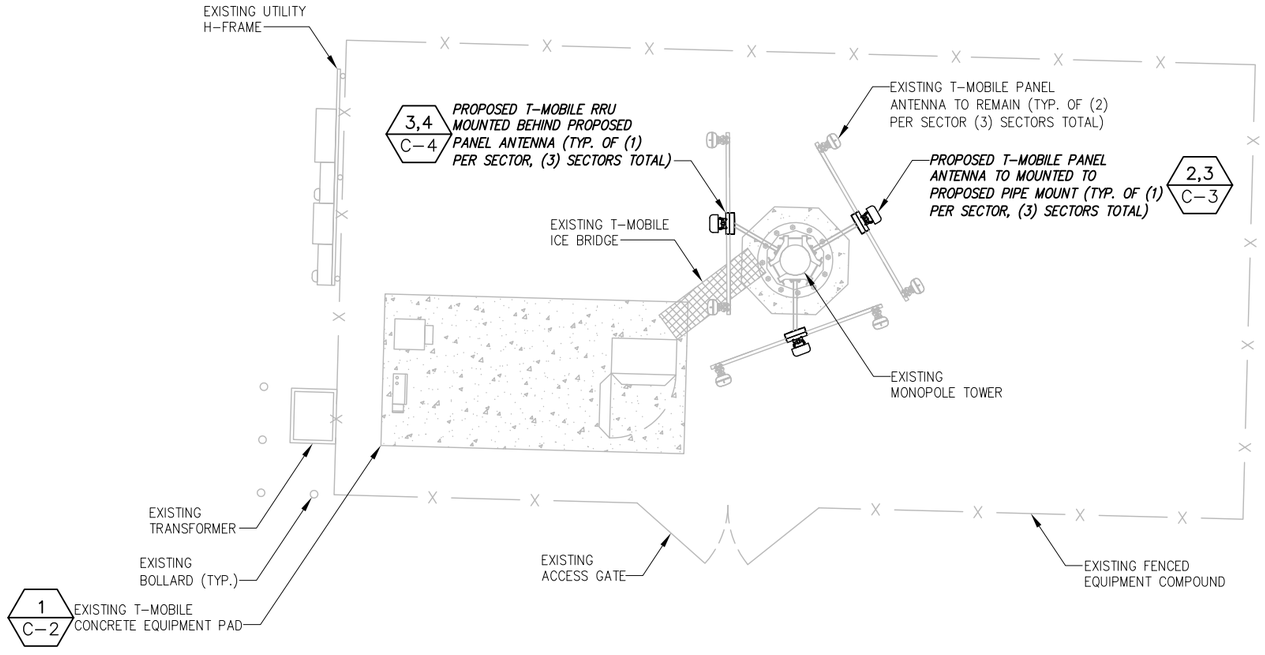
SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

SHEET 1 OF 8 SHEETS



CALLED NORTH

1 — SITE PLAN
SCALE: AS NOTED

GENERAL SITE NOTES:

1. A COMPLETE BOUNDARY SURVEY OF THE HOST PARCEL HAS NOT BEEN PERFORMED BY INFINIGY. BOUNDARY INFORMATION IF SHOWN WAS OBTAINED FROM INFORMATION PROVIDED BY OTHERS. PROPERTY IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
2. BASEMAPPING INFORMATION BASED ON PROVIDED INFORMATION.
3. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.
4. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.
5. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.
6. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.
7. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
8. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT MISS UTILITY AT LEAST 48 HOURS PRIOR TO COMMENCING WORK.
9. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

SITE LEGEND

————	SITE PROPERTY LINE
————	STREET OR ROAD
— x — x —	CHAIN LINK FENCE
—▫—▫—	OPAQUE WOODEN FENCE
	TREES/SHRUBS
	TREE LINE
⊠	UTILITY POLE
(E)	EXISTING
(N)	NEW
(P)	PROPOSED
(F)	FUTURE

GRAPHIC SCALE

10' 5' 0 5' 10'

SCALE (11x17): 1" = 10'-0"
SCALE (22x34): 1" = 5'-0"

T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

INFINIGY
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
2/19/16	FOR REVIEW	A

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	428-000
DRAWN BY:	JLM
CHECKED BY:	ASW

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER:
CTNL813C

SITE NAME:
AMTRAK_STONINGTON3

166 PAWCATUCK AVE
PAWCATUCK, CT 06379

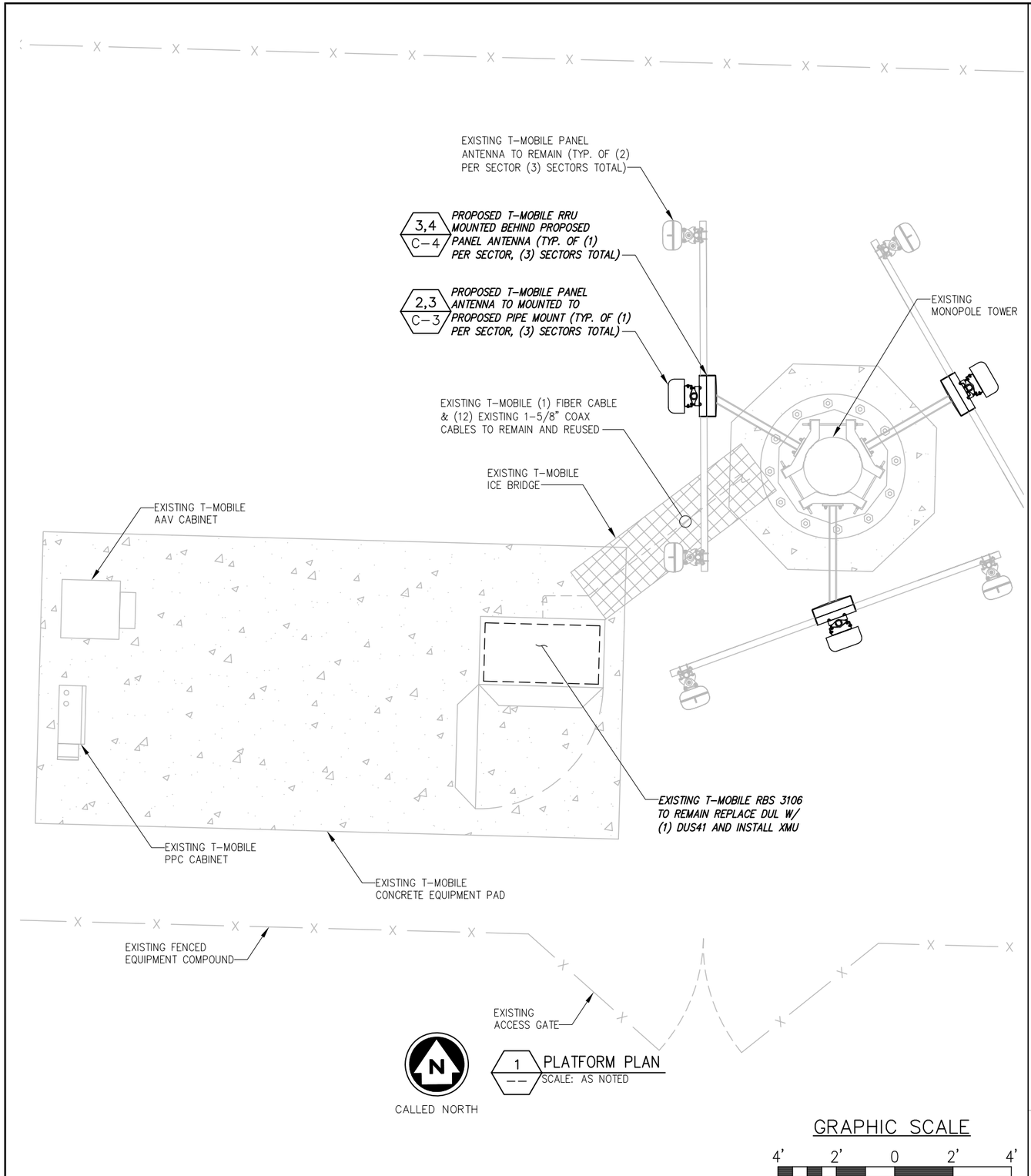
SHEET TITLE

SITE PLAN

SHEET NUMBER

C-1

SHEET 2 OF **8** SHEETS

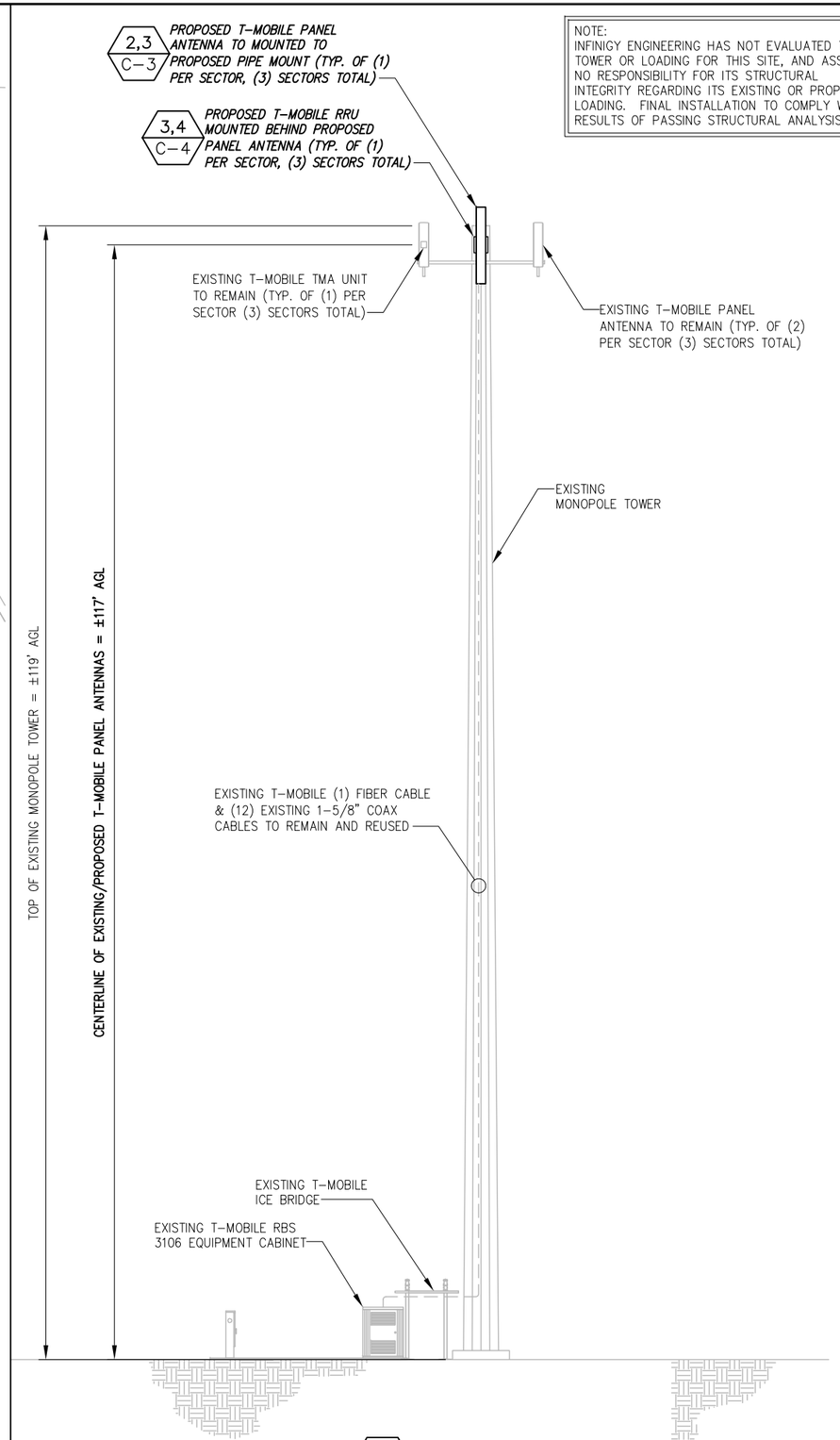


1 PLATFORM PLAN
SCALE: AS NOTED

GRAPHIC SCALE

4' 2' 0 2' 4'

SCALE (11x17): 1" = 4'-0"
SCALE (22x34): 1" = 2'-0"



2 BUILDING ELEVATION
NOT TO SCALE

NOTE:
INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER OR LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSIS.

T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

INFINIGY
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
2/19/16	FOR REVIEW	A

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	428-000
DRAWN BY:	JLM
CHECKED BY:	ASW

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER:
CTNL813C

SITE NAME:
AMTRAK_STONINGTON3

166 PAWCATUCK AVE
PAWCATUCK, CT 06379

SHEET TITLE

COMPOUND PLAN & ELEVATION

SHEET NUMBER

C-2

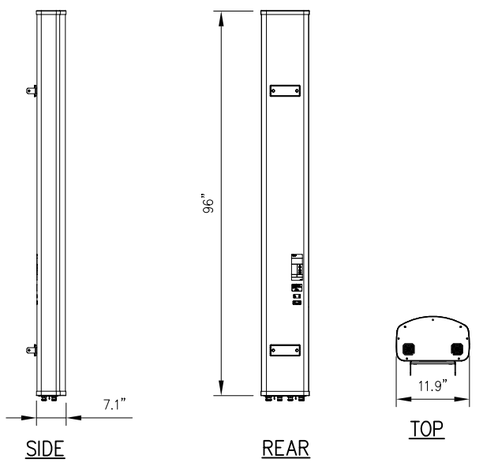
RF SYSTEM SCHEDULE (702Cu CONFIGURATION)

SECTOR	TECHNOLOGY	ANTENNA PORT	BAND	ANTENNA MODEL #	VENDOR	QTY (REMOVED)	QTY (NEW)	AZIMUTH	M-TILT	E-TILT	ANTENNA CENTERLINE	TMA MODEL #	VENDOR	RRU MODEL #	VENDOR	CABLE QUANTITY	CABLE LENGTH	CABLE DIAMETER	CABLE TYPE	CABLE MODEL #	VENDOR	CABLE TAGGING	COLOR CODING	JUMPER TYPE	JUMPER TAGGING	COLOR CODING
A	LTE AWS	OPTICAL #1	B4A	AIR21 B4A/B2P	ERICSSON	0	0	60°	0°	2°	117'-0"	–	–	–	–	(ANTENNA CONNECTED VIA EXISTING HYBRID CABLE.)								FIBER	–	–
	LTE 700	**TBD**	**B12P**	**LNX-6515DS-VTM**	**COMMSCOPE**	**0**	**1**	**60°**	**0°**	**2°**	**117'-0"**	–	–	(PROPOSED) RRUS 11 B12	*ERICSSON*	(ANTENNA CONNECTED VIA EXISTING HYBRID CABLE.)								FIBER	LTE 700 FIBER	–
	GSM	OPTICAL #1	B2A	AIR21 B2A/B4P	ERICSSON	0	0	60°	0°	2°	117'-0"	–	–	–	–	*(2) EXISTING*	±140'	1-5/8"	*COAX*	*EXISTING*	*N/A*	UMTS AWS A1	–	*COAX*	–	–
	UMTS	OPTICAL #2																							–	–
	UMTS AWS	RF #1	B4P						0°	2°		(EXISTING) dd B4	*EXISTING*	–	–	*(2) EXISTING*	±140'	1-5/8"	*COAX*	*EXISTING*	*N/A*	UMTS AWS A2	–	*COAX*	–	–
		RF #2																							–	–
B	LTE AWS	OPTICAL #1	B4A	AIR21 B4A/B2P	ERICSSON	0	0	160°	0°	2°	117'-0"	–	–	–	–	(ANTENNA CONNECTED VIA EXISTING HYBRID CABLE.)								FIBER	–	–
	LTE 700	**TBD**	**B12P**	**LNX-6515DS-VTM**	**COMMSCOPE**	**0**	**1**	**160°**	**0°**	**2°**	**117'-0"**	–	–	(PROPOSED) RRUS 11 B12	*ERICSSON*	(ANTENNA CONNECTED VIA EXISTING HYBRID CABLE.)								FIBER	LTE 700 FIBER	–
	GSM	OPTICAL #1	B2A	AIR21 B2A/B4P	ERICSSON	0	0	160°	0°	2°	117'-0"	–	–	–	–	*(2) EXISTING*	±140'	1-5/8"	*COAX*	*EXISTING*	*N/A*	UMTS AWS A1	–	*COAX*	–	–
	UMTS	OPTICAL #2																							–	–
	UMTS AWS	RF #1	B4P						0°	2°		(EXISTING) dd B4	*EXISTING*	–	–	*(2) EXISTING*	±140'	1-5/8"	*COAX*	*EXISTING*	*N/A*	UMTS AWS A2	–	*COAX*	–	–
		RF #2																							–	–
C	LTE AWS	OPTICAL #1	B4A	AIR21 B4A/B2P	ERICSSON	0	0	270°	0°	2°	117'-0"	–	–	–	–	(ANTENNA CONNECTED VIA EXISTING HYBRID CABLE.)								FIBER	–	–
	LTE 700	**TBD**	**B12P**	**LNX-6515DS-VTM**	**COMMSCOPE**	**0**	**1**	**270°**	**0°**	**2°**	**117'-0"**	–	–	(PROPOSED) RRUS 11 B12	*ERICSSON*	(ANTENNA CONNECTED VIA EXISTING HYBRID CABLE.)								FIBER	LTE 700 FIBER	–
	GSM	OPTICAL #1	B2A	AIR21 B2A/B4P	ERICSSON	0	0	270°	0°	2°	117'-0"	–	–	–	–	*(2) EXISTING*	±140'	1-5/8"	*COAX*	*EXISTING*	*N/A*	UMTS AWS A1	–	*COAX*	–	–
	UMTS	OPTICAL #2																							–	–
	UMTS AWS	RF #1	B4P						0°	2°		(EXISTING) dd B4	*EXISTING*	–	–	*(2) EXISTING*	±140'	1-5/8"	*COAX*	*EXISTING*	*N/A*	UMTS AWS A2	–	*COAX*	–	–
		RF #2																							–	–

1 RF SCHEDULE
NOT TO SCALE

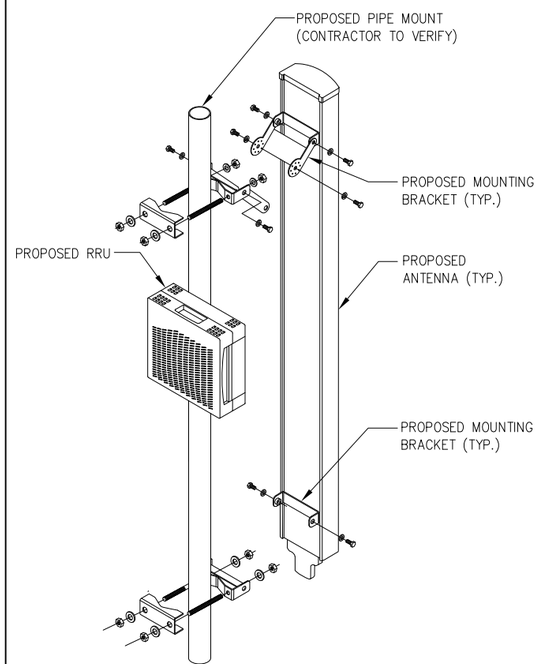
KEY

EXISTING	R – RED – GSM
PROPOSED	G – GREEN – UMTS 1900
FIBER CONNECTION	B – BLUE – UMTS AWS
	Y – YELLOW – LTE
	O – ORANGE – FIBER CABLE

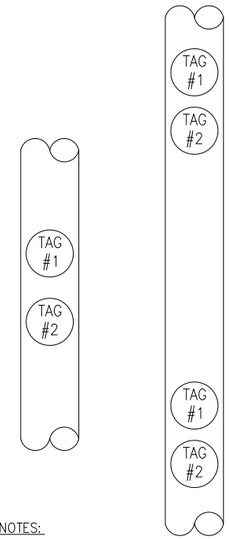


COMMSCOPE MODEL NO.:	LNX-6515DS-VTM
RADOME MATERIAL:	FIBERGLASS, UV RESISTANT
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96"x11.9"x7.1" (2438 x 301 x 181 mm)
WEIGHT, W/	
PRE-MOUNTED BRACKETS:	43.7 LBS (19.8 kg)
CONNECTOR:	7-16 DIN FEMALE

2 ANTENNA DETAIL
NOT TO SCALE



3 MOUNTING DETAIL
NOT TO SCALE



METALLIC TAG NOTES:

1. TWO METALLIC TAGS SHALL BE ATTACHED AT EACH END OF EVERY CABLE LONGER THAN (3) THREE FEET.
2. CABLES LESS THAN (3) THREE FEET WILL HAVE TWO METALLIC TAGS ATTACHED AT THE CENTER OF THE CABLE.
3. TAGS WILL BE FASTENED WITH STAINLESS STEEL ZIP TIES APPROPRIATE FOR CABLE DIAMETER.
4. STANDARDIZED METALLIC TAG KITS WILL BE ASSEMBLED WITH TAGS ALREADY ENGRAVED TO ACCOMODATE ALL CONFIGURATIONS.

4 METALLIC TAG DETAIL
NOT TO SCALE

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RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	428-000
DRAWN BY:	JLM
CHECKED BY:	ASW

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER:
CTNL813C

SITE NAME:
AMTRAK_STONINGTON3

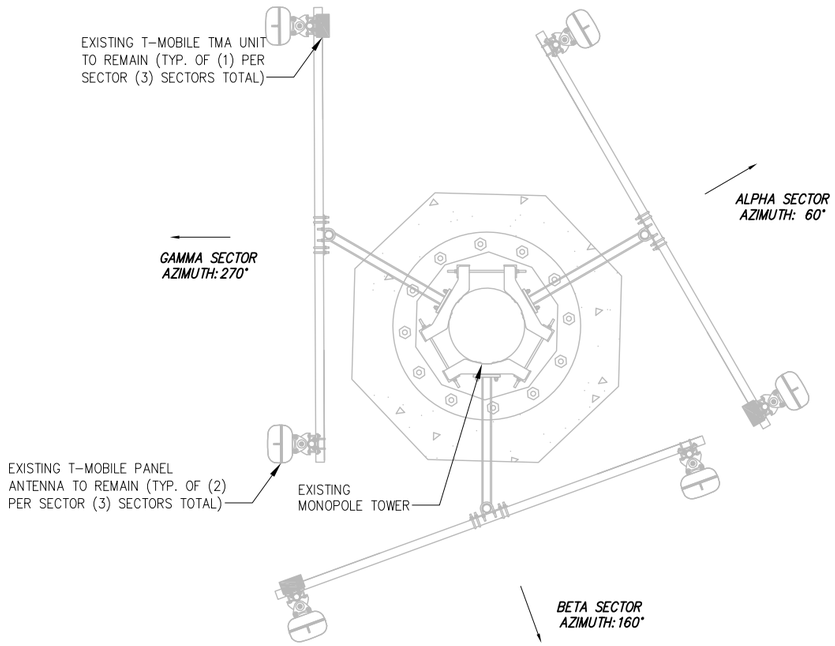
166 PAWCATUCK AVE
PAWCATUCK, CT 06379

SHEET TITLE

ANTENNA DETAIL & RF SCHEDULE

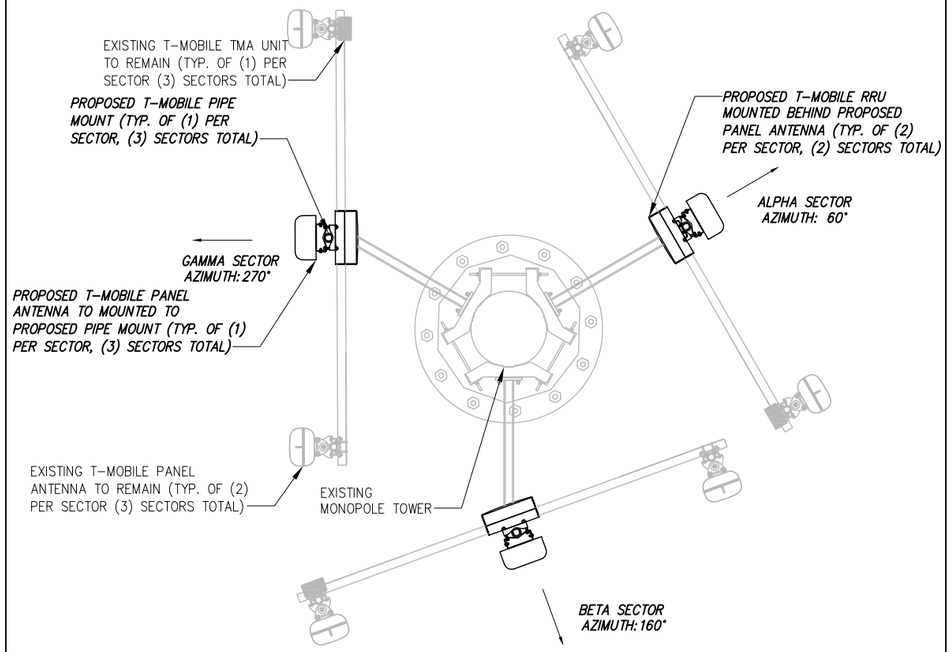
SHEET NUMBER

C-3



CALLED NORTH

1 EXISTING ANTENNA ORIENTATION PLAN
NOT TO SCALE



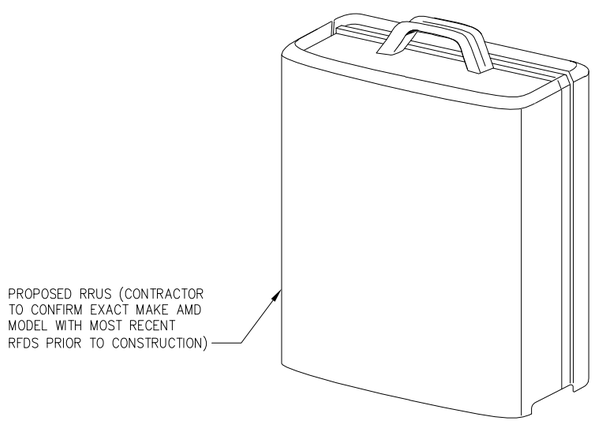
CALLED NORTH

2 PROPOSED ANTENNA ORIENTATION PLAN
NOT TO SCALE

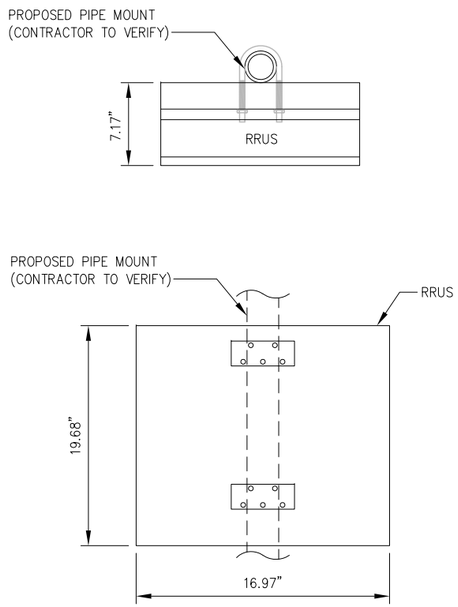
STRUCTURAL NOTES:

1. SPECIFICATIONS / CODES:
   - CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE ACI CODE.
   - STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, 9th EDITION.
   - WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1–92 "STRUCTURAL WELDING" CODE–STEEL.
   - REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI), "MANUAL OF STANDARD PRACTICE."
2. MATERIALS:
   - CONCRETE: fc' – 3000psi. (MIN. U.N.O.)
   - REINFORCING STEEL: ASTM A615, GRADE 60.
   - WIRE MESH: ASTM A185.
   - STRUCTURAL STEEL: ASTM A36.
   - ELECTRODES FOR WELDING: E 70xx.
   - GALVANIZING: ASTM A153 (BOLTS) OR ASTM A123 (SHAPES, PLATES).
   - EXPANSION BOLTS: HILTI KWIK BOLT II, STAINLESS STEEL, 3/4"ø x 43/4" EMBEDMENT OR AN APPROVED EQUAL.

ERICSSON MODEL #:	RRUS11
COLOR:	GRAY
DIMENSIONS, HxWxD:	19.7"x17"x7.2" (500 x 431 x 182 mm)
WEIGHT:	50.71 LBS (23 kg)



3 RRUS11 DETAIL
NOT TO SCALE



4 RRUS MOUNTING DETAIL
NOT TO SCALE

5 DETAIL NOT USED
NOT TO SCALE

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ZONING			
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SITE AC.			

PROJECT NO:	428-000
DRAWN BY:	JLM
CHECKED BY:	ASW

PROFESSIONAL SEAL

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CTNL813C

SITE NAME:
AMTRAK_STONINGTON3

166 PAWCATUCK AVE
PAWCATUCK, CT 06379

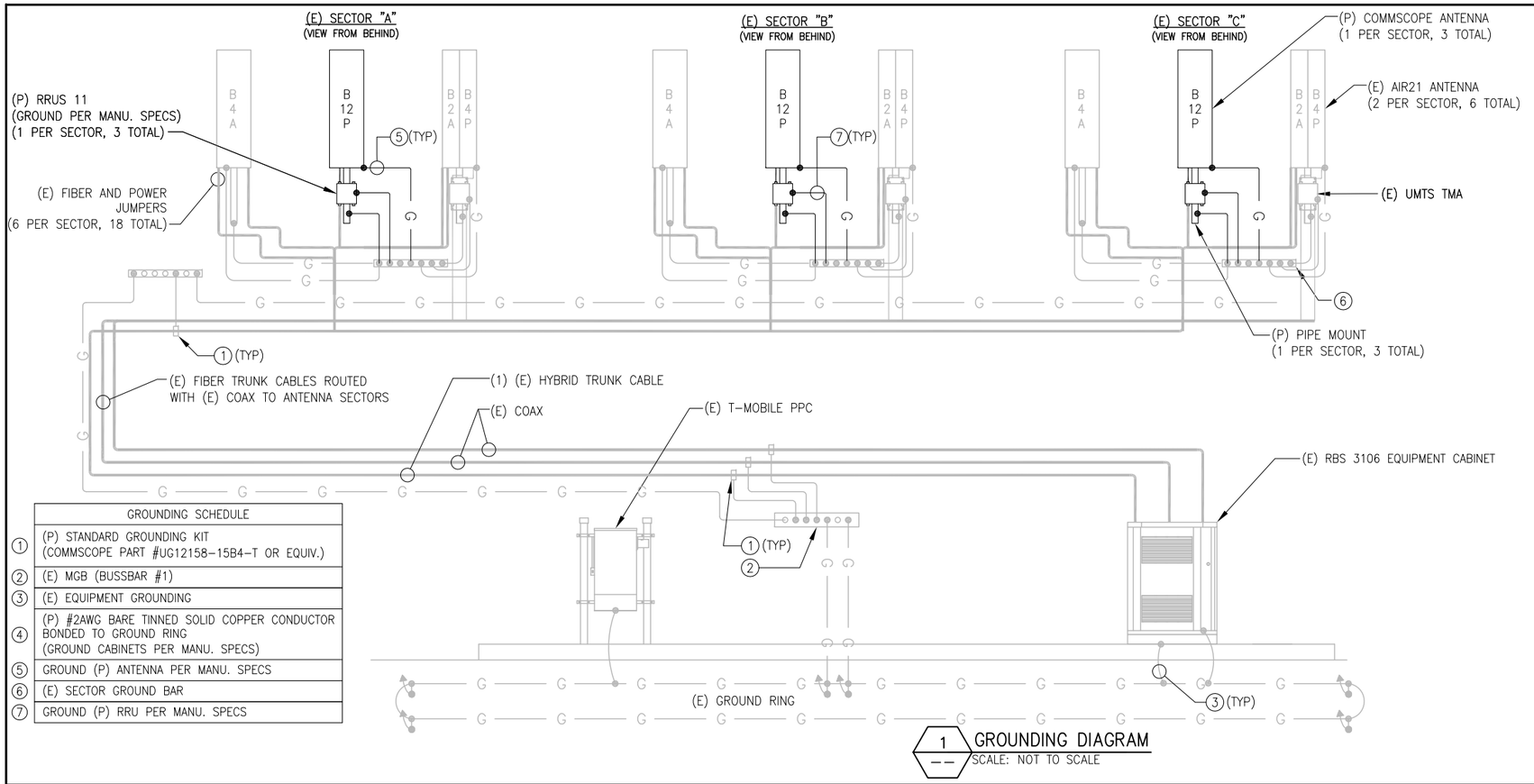
SHEET TITLE

EQUIPMENT SPECIFICATIONS

SHEET NUMBER

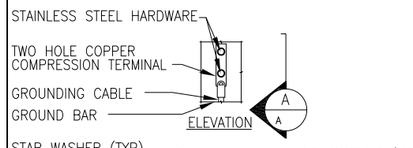
C-4

SHEET 5 OF **8** SHEETS

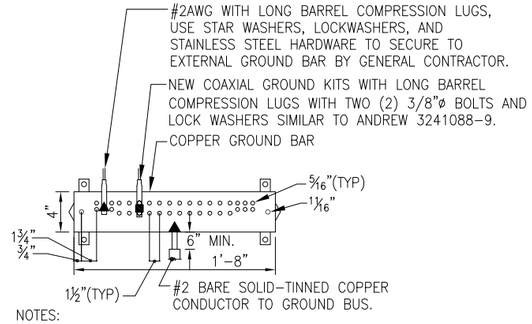


GROUNDING SCHEDULE	
1	(P) STANDARD GROUNDING KIT (COMMSCOPE PART #UG12158-15B4-T OR EQUIV.)
2	(E) MGB (BUSSBAR #1)
3	(E) EQUIPMENT GROUNDING
4	(P) #2AWG BARE TINNED SOLID COPPER CONDUCTOR BONDED TO GROUND RING (GROUND CABINETS PER MANU. SPECS)
5	GROUND (P) ANTENNA PER MANU. SPECS
6	(E) SECTOR GROUND BAR
7	GROUND (P) RRU PER MANU. SPECS

1 GROUNDING DIAGRAM
SCALE: NOT TO SCALE



NOTES:
1. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

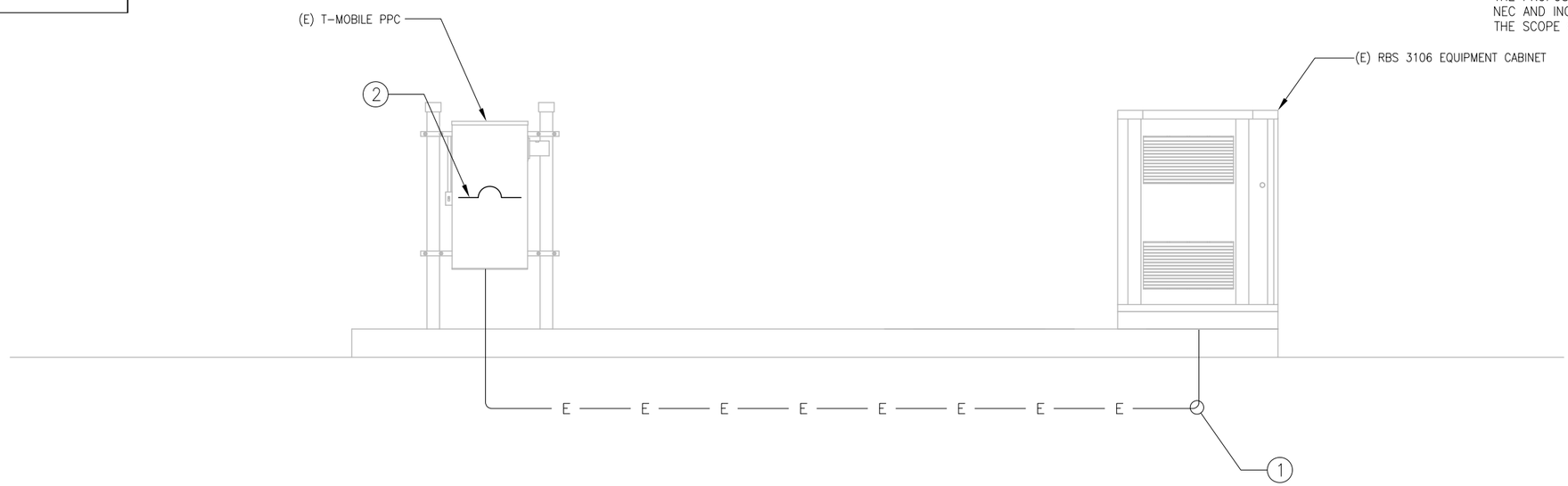


NOTES:
1. ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. ALL HOLES ARE COUNTERSUNK 1/16".

2 GROUND BAR CONNECTION DETAILS
SCALE: NOT TO SCALE

CONDUIT SCHEDULE	
1	(P) WIRE AND CONDUIT UPGRADE FOR POWER
2	(P) BREAKER UPGRADE

CONTRACTOR NOTE:
CONTRACTOR TO VERIFY THAT THE EXISTING CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSE LOADING IN ACCORDANCE WITH NEC AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORK AS REQUIRED.



NOTE:
INFINIGY HAS NOT CONDUCTED AN ELECTRICAL LOAD STUDY FOR THIS SITE. CONTRACTOR IS TO VERIFY EXISTING ELECTRICAL LOADING PRIOR TO CONSTRUCTION TO ENSURE EXISTING INCOMING SERVICE CAPACITY. ALL ELECTRICAL INSTALLATION IS TO COMPLY WITH NEC, ADOPTED VERSION.

3 POWER DIAGRAM
SCALE: NOT TO SCALE

T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
LIVERPOOL, NY 13088

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DRAWN BY:	JLM
CHECKED BY:	ASW

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER:
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AMTRAK_STONINGTON3

166 PAWCATUCK AVE
PAWCATUCK, CT 06379

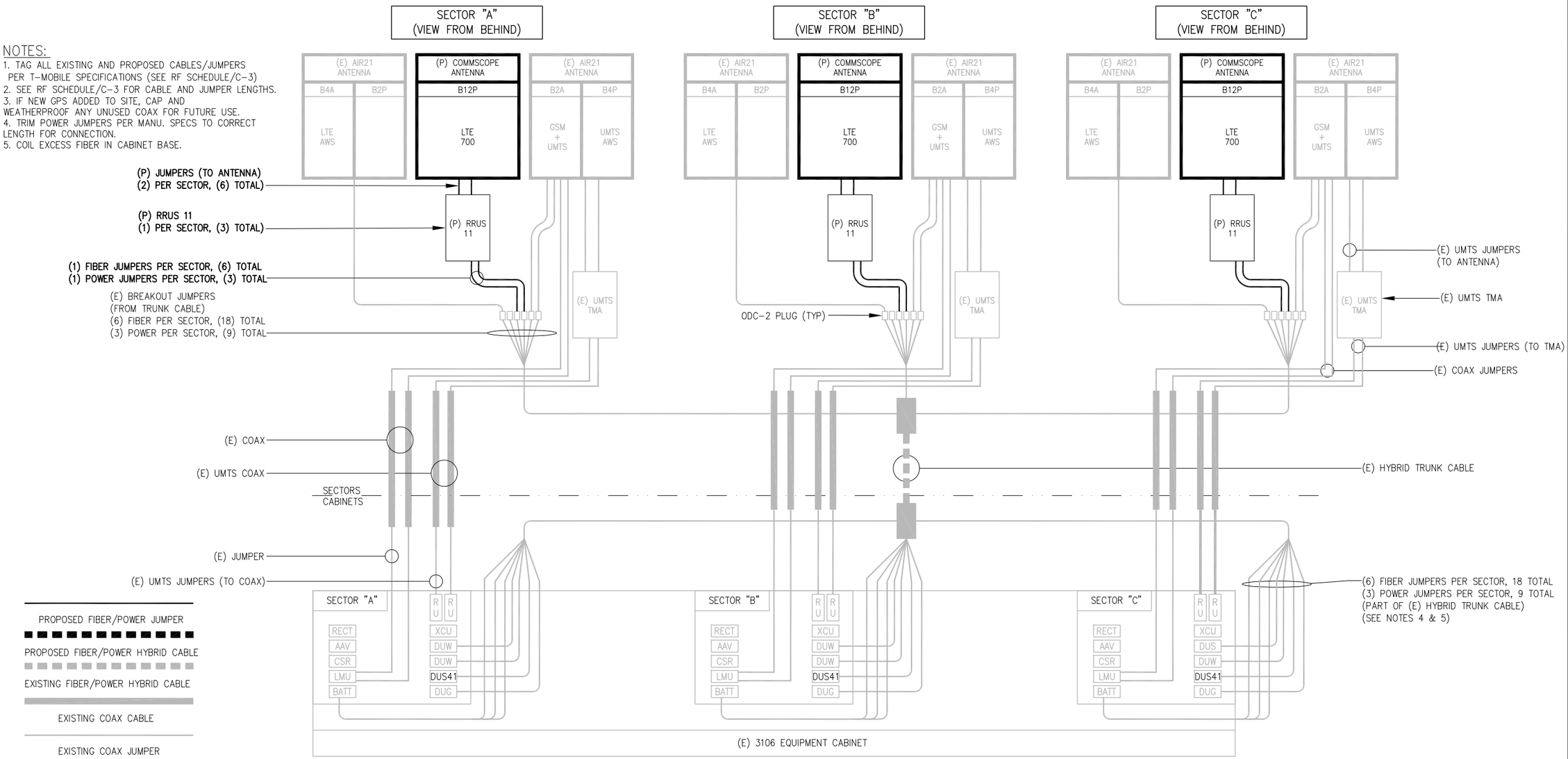
SHEET TITLE
GROUNDING & POWER DIAGRAMS

SHEET NUMBER
E-1

SHEET 6 OF **8** SHEETS

NOTES:

1. TAG ALL EXISTING AND PROPOSED CABLES/JUMPERS PER T-MOBILE SPECIFICATIONS (SEE RF SCHEDULE/C-3)
2. SEE RF SCHEDULE/C-3 FOR CABLE AND JUMPER LENGTHS.
3. IF NEW GPS ADDED TO SITE, CAP AND WEATHERPROOF ANY UNUSED COAX FOR FUTURE USE.
4. TRIM POWER JUMPERS PER MANU. SPECS TO CORRECT LENGTH FOR CONNECTION.
5. COIL EXCESS FIBER IN CABINET BASE.



1 — 702Cu CONFIGURATION COAX/FIBER PLUMBING DIAGRAM
NOT TO SCALE

T-MOBILE NORTHEAST LLC
103 MONARCH DRIVE
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CHECKED BY:	ASW

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166 PAWCATUCK AVE
PAWCATUCK, CT 06379

SHEET TITLE

COAX/FIBER PLUMBING DIAGRAM

SHEET NUMBER

E-2

SHEET 7 OF **8** SHEETS

ELECTRICAL NOTES:

WORK INCLUDED

1. INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PLANT SERVICES AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   A. PREPARE AND SUBMIT SHOP DRAWINGS, DIAGRAMS AND ILLUSTRATIONS.
   B. PROCURE ALL NECESSARY PERMITS AND APPROVALS AND PAY ALL REQUIRED FEES AND CHARGES IN CONNECTION WITH THE WORK OF THIS CONTRACT.
   C. SUBMIT AS-BUILT DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUALS.
   D. EXECUTE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING OF EXISTING OR NEWLY INSTALLED CONSTRUCTION REQUIRED FOR THE WORK OF THIS CONTRACT. FOR SLAB PENETRATIONS THROUGH POST TENSION SLABS, X-RAY EXACT AREA OF PENETRATION PRIOR TO PERFORMING WORK. COORDINATE ALL X-RAY WORK WITH BUILDING ENGINEER.
   E. PROVIDE HANGERS, SUPPORTS, FOUNDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED OR INSTALLED UNDER THE WORK OF HIS CONTRACT. PROVIDE COUNTER FLASHING, SLEEVES AND SEALS FOR FLOOR AND WALL PENETRATIONS.
   F. MAINTAIN ALL EXISTING ELECTRICAL SERVICES IN THE BUILDING AREAS NOT AFFECTED BY THE ALTERATION DURING THE PROGRESS OF THE WORK INCLUDING PROVIDING ALL TEMPORARY JUMPERS, CONDUITS, CAPS, PROTECTIVE DEVICES, CONNECTIONS AND EQUIPMENT REQUIRED. PROVIDE TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPOSES.
2. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATIONS. IF AN ITEM OF WORK IS INDICATED IN THE DRAWINGS, IT IS CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION WHETHER OR NOT SPECIFICALLY MENTIONED IN THE CONTRACT DOCUMENTS.

GENERAL REQUIREMENTS

1. PROVIDE ALL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND LOCAL AND STATE ELECTRICAL CODES.
2. THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING.
3. LOAD CALCULATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING. CONTRACTOR IS TO VERIFY ALL EXISTING RATINGS AND LOADS PRIOR TO PURCHASING OF SPECIFIED EQUIPMENT FOR COMPLIANCE TO NEC. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES AND REQUEST FURTHER DIRECTION BY ENGINEER.
4. EXISTING BUILDING EQUIPMENT IS NOTED ON THE DRAWINGS. NEW OR RELOCATED EQUIPMENT IS SHOWN WITH SOLID LINES. FUTURE EQUIPMENT (NOT IN THIS CONTRACT) IS DEPICTED WITH SHADED LINES. REQUEST CLARIFICATION OF DRAWINGS OR OF SPECIFICATIONS PRIOR TO PRICING OR INSTALLATION.
5. GENERAL
   A. AFTER CAREFULLY STUDYING THE DRAWINGS AND SPECIFICATIONS, AND BEFORE SUBMITTING THE PROPOSAL, MAKE A MANDATORY SITE VISIT TO ASCERTAIN CONDITIONS OF THE SITE, AND THE NATURE AND EXACT QUANTITY OF WORK TO BE PERFORMED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILURE TO NOTIFY THE OWNER, IN WRITING, OF ANY DISCREPANCIES THAT MAY HAVE BEEN NOTED BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS AND SPECIFICATIONS.
   B. VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.
6. QUALITY, WORKMANSHIP, MATERIALS AND SAFETY
   A. PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC MANUFACTURER BY THOSE REGULARLY ENGAGED IN THE PRODUCTION AND MANUFACTURE OF SPECIFIED MATERIALS AND EQUIPMENT. WHERE UL, OR OTHER AGENCY, HAS ESTABLISHED STANDARDS FOR MATERIALS, PROVIDE MATERIALS WHICH ARE LISTED AND LABELED ACCORDINGLY. THE COMMERCIALLY STANDARD ITEMS OF EQUIPMENT AND THE SPECIFIC NAMES MENTIONED HEREIN ARE INTENDED FOR THE PROPER FUNCTIONING OF THE WORK.
   B. WORK SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE REQUIRED FOR THE WORK. INSTALL MATERIALS AND EQUIPMENT TO PRESENT A NEAT APPEARANCE WHEN COMPLETED AND IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS OF THE MANUFACTURER AND IN ACCORDANCE WITH CONTRACT DOCUMENTS.
   C. PROVIDE LABOR, MATERIALS, APPARATUS AND APPLIANCES ESSENTIAL TO THE FUNCTIONING OF THE SYSTEMS DESCRIBED OR INDICATED HEREIN, OR WHICH MAY BE REASONABLY IMPLIED AS ESSENTIAL WHENEVER MENTIONED IN THE CONTRACT DOCUMENT OR NOT.
   D. MAKE WRITTEN REQUESTS FOR SUPPLEMENTARY INSTRUCTIONS TO ARCHITECT/ENGINEER IN CASE OF DOUBT AS TO WORK INTENDED OR IN EVENT OF NEED FOR EXPLANATION THEREOF.
   E. PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR SPECIFIED ARE MINIMUM STANDARD ACCEPTABLE. THE RIGHT TO JUDGE THE QUALITY OF EQUIPMENT THAT DEVIATES FROM THE CONTRACT DOCUMENT REMAINS SOLELY WITH ARCHITECT/ENGINEER. CONTRACT DOCUMENT OR NOT.

GUARANTEE

1. GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE YEAR FROM THE DATE OF ISSUANCE OF OCCUPANCY PERMIT. DURING THAT PERIOD, MAKE GOOD FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIALS OR WORKMANSHIP WITH NO ADDITIONAL COMPENSATION AND AS DIRECTED BY ARCHITECT.

CLEANING

1. REMOVE ALL CONSTRUCTION DEBRIS RESULTING FROM THE WORK.
2. CLEAN EQUIPMENT AND SYSTEMS FOLLOWING THE COMPLETION OF THE PROJECT TO THE SATISFACTION OF THE ENGINEER.

COORDINATION AND SUPERVISION

1. CAREFULLY LAY OUT ALL WORK IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES. WHERE SUCH WORK IS NECESSARY, HOWEVER, PATCH AND REPAIR THE WORK IN AN APPROVED MANNER BY SKILLED MECHANICS AT NO ADDITIONAL COST TO THE OWNER. RENDER FULL COOPERATION TO OTHER TRADES WHERE WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO WORK OF OTHER TRADES. ASSIST IN WORKING OUT SPACE CONDITIONS. IF WORK IS INSTALLED BEFORE COORDINATION WITH OTHER TRADES, OR CAUSES INTERFERENCE, MAKE CHANGES NECESSARY TO CORRECT CONDITIONS WITHOUT EXTRA CHARGE.

SUBMITTALS

1. AS-BUILT DRAWINGS:
   A. UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER "AS-BUILT" DRAWINGS.
2. SERVICE MANUALS:
   A. UPON COMPLETION OF THE WORK, FULLY INSTRUCT T-MOBILE AS TO THE OPERATION AND MAINTENANCE OF ALL MATERIAL, EQUIPMENT AND SYSTEMS.
   B. PROVIDE 3 COMPLETE BOUND SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT.

CUTTING AND PATCHING

1. PROVIDE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING REQUIRED TO COMPLETE THE WORK.
2. OBTAIN OWNER APPROVAL PRIOR TO CUTTING THROUGH FLOORS OR WALLS FOR PIPING OR CONDUIT.

TESTS, INSPECTION AND APPROVAL

1. BEFORE ENERGIZING ANY ELECTRICAL INSTALLATION, INSPECT EACH UNIT IN DETAIL. TIGHTEN ALL BOLTS AND CONNECTIONS (TORQUE-TIGHTEN WHERE REQUIRED) AND DETERMINE THAT ALL COMPONENTS ARE ALIGNED, AND THE EQUIPMENT IS IN SAFE, OPERATIONAL CONDITION.
2. PROVIDE THE COMPLETE ELECTRICAL SYSTEM FREE OF GROUND FAULTS AND SHORT CIRCUITS SUCH THAT THE SYSTEM WILL OPERATE SATISFACTORILY UNDER FULL LOAD CONDITIONS, WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.

SPECIAL REQUIREMENTS

1. DO NOT LEAVE ANY WORK INCOMPLETE NOR ANY HAZARDOUS SITUATIONS CREATED WHICH WILL AFFECT THE LIFE OR SAFETY OF THE PUBLIC AND/OR BUILDING OCCUPANTS. DO NOT INTERFERE WITH OR CUTOFF ANY OF THE EXISTING SERVICES WITHOUT THE OWNER'S WRITTEN PERMISSION.
2. WHEN NECESSARY TO TEMPORARILY DISCONNECT ANY EXISTING BUILDING UTILITIES AND SERVICE SYSTEMS, INCLUDING FEEDER OR BRANCH CIRCUITING SUPPLYING EXISTING FACILITIES, CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON. SHUTDOWN NOTE: SCHEDULE AND NOTIFY OWNER 48 HOURS PRIOR TO SHUTDOWN. ALL SHUTDOWN WORK TO BE SCHEDULED AT A TIME CONVENIENT TO OWNER.

GROUNDING

1. ROUTE ALL GROUNDING CONDUCTORS AS SHOWN ON CONDUIT/GROUNDING RISER.
2. ROUTE 500 KCMIL CU. THHN CONDUCTOR FROM THE MGB LOCATION TO BUILDING STEEL. VERIFY BUILDING STEEL IS EFFECTIVELY GROUNDED PER NEC TO THE MAIN SERVICE GROUNDING ELECTRODE CONDUCTOR (GEC).
3. MAKE ALL GROUND CONNECTIONS FROM MGB TO ELECTRICAL EQUIPMENT WITH 2 HOLE, CRIMP TYPE, BURNDY COMPRESSION TERMINATIONS, SIZED AS REQUIRED.
4. USE 1 HOLE, CRIMP TYPE, BURNDY COMPRESSIONS TERMINATIONS, SIZED AS REQUIRED, AT EQUIPMENT GROUND CONNECTIONS.
5. HIRE AN INDEPENDENT LAB TO PERFORM THE SPECIFIED OHMS TESTING. PROVIDE 4 SETS OF THE CERTIFIED DOCUMENTS TO THE OWNER FOR VERIFICATION PRIOR TO THE PROJECT COMPLETION.

RACEWAYS

1. ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
   A. EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE IN SCH 40 PVC.
   B. EXTERIOR, ABOVE GROUND POWER CONDUITS TO BE GALVANIZED RIGID STEEL (RGS).
   C. ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO BE EMT.
   D. INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.
   E. ALL TELECOM CONDUITS AND PULL BOXES INSTALLED ON THIS PROJECT TO BE LABELED "T-MOBILE". OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.
   F. INTERIOR FEEDERS TO BE INSTALLED IN E.M.T. WITH STEEL COMPRESSION FITTINGS.
   G. MINIMUM SIZE CONDUIT TO BE ¾" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
   H. FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT TO BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
   I. CONDUIT TO BE RUN CONCEALED IN CEILINGS, FINISHED AREAS OR DRYWALL PARTITIONS, UNLESS OTHERWISE NOTED.
   J. THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC. BEFORE INSTALLING ANY WORK, EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCES.
   K. ALL EXTERIOR MOUNTING HARDWARE TO BE GALVANIZED STEEL. COORDINATE WITH BUILDING ENGINEER PRIOR TO ATTACHING TO BUILDING STRUCTURE.

RACEWAYS CONT'D

   L. PENETRATIONS OF WALLS, FLOORS AND ROOFS, FOR THE PASSAGE OF ELECTRICAL RACEWAYS, TO BE PROPERLY SEALED AFTER INSTALLATION OF RACEWAYS SO AS TO MAINTAIN THE STRUCTURAL OR WATERPROOF INTEGRITY OF THE WALL, FLOOR OR ROOF SYSTEM TO BE PENETRATED. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED WALLS, CEILINGS OR SMOKE TIGHT CORRIDOR PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR CEILING.
   M. PROVIDE ALL CONDUIT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.
   N. CONDUIT TO BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-0", OR AS REQUIRED BY NEC, IN HORIZONTAL AND VERTICAL DIRECTIONS.
   O. PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR ALL JUNCTION BOXES AND/OR OUTLET BOXES NOT USED IN EXPOSED AREAS. PROVIDE ALL OTHER UNUSED BOXES WITH STANDARD STEEL COVER PLATES.
   P. WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

WIRES AND CABLES

1. CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIER AND VENDOR FOR EXACT EQUIPMENT OVER-CURRENT PROTECTION VOLTAGE, WIRE SIZE AND PLUG CONFIGURATION, IF APPLICABLE, PRIOR TO BID.
2. ALL EQUIPMENT/DEVICES TO BE PROVIDED WITH INSULATED GROUND CONDUCTOR.
3. ALL WIRE AND CABLE TO BE 600VOLT, COPPER, WITH THWN/THHN INSULATION, EXCEPT AS NOTED.
4. WIRE FOR POWER AND LIGHTING WILL NOT BE LESS THAN NO. 12AWG. ALL WIRE NO. 8 AND LARGER TO BE STRANDED.
5. CONTROL WIRING IS NOT TO BE LESS THAN NO. 14AWG, FLEXIBLE IN SINGLE CONDUCTORS OR MULTI-CONDUCTOR CABLES. CONTROL WIRING WILL CONSIST OF MULTI-CONDUCTOR CABLES WHEREVER POSSIBLE. CABLES TO BE PROVIDED WITH AN OVERALL FLAME-RETARDANT, EXTRUDED JACKET AND RATED FOR PLENUM USE. ALL CONTROL WIRE TO BE 600VOLT RATED.
6. WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND IS NOT TO BE RE-PULLED.
7. HOME RUNS AND BRANCH CIRCUIT WIRING FOR 20A, 120V CIRCUITS:

LENGTH (FT.)	HOME RUN WIRE SIZE
0 TO 50	NO. 12
51 TO 100	NO. 10
101 TO 150	NO. 8

8. VOLTAGE DROP IS NOT TO EXCEED 3%.
9. MAKE ALL CONNECTIONS WITH UL APPROVED, SOLDERLESS, PRESSURE TYPE INSULATED CONNECTORS: SCOTCHLOK OR AND APPROVED EQUAL.

WIRING DEVICES

1. ALL RECEPTACLES INSTALLED IN THIS PROJECT TO BE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION.

DISCONNECT SWITCHES AND FUSES

1. DISCONNECT SWITCHES TO BE VOLTAGE-RATED TO SUIT THE CHARACTERISTICS OF THE SYSTEM FROM WHICH THEY ARE SUPPLIED.
2. PROVIDE HEAVY-DUTY, METAL-ENCLOSED, EXTERNALLY-OPERATED DISCONNECT SWITCHES, FUSED OR UNFUSED, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED.
3. PROVIDE NEMA 1 DISCONNECT SWITCHES FOR INTERIOR INSTALLATION, NEMA 3R FOR EXTERIOR INSTALLATION.
4. DISCONNECT SWITCHES TO BE MANUFACTURED BY:
   A. GENERAL ELECTRIC COMPANY
   B. SQUARE-D
5. PROVIDE RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE.

INSTALLATION

1. INSTALL DISCONNECT SWITCHES WHERE INDICATED ON DRAWINGS.
2. INSTALL FUSES IN FUSIBLE DISCONNECT SWITCHES. FUSES MUST MATCH IN TYPE AND RATING.
3. FUSES TO BE MOUNTED SO THAT THE LABELS SHOWING THEIR RATINGS CAN BE READ WITHOUT REQUIRING FUSE REMOVAL.
4. FURNISH AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS:
   A. THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF 60A, USED FOR INITIAL FUSING.
   B. TEN PERCENT SPARES FOR EACH TYPE AND SIZE, UP TO AND INCLUDING 60A, USED FOR INITIAL FUSING. IN NO CASE WILL LESS THAN THREE FUSES OF ONE PARTICULAR TYPE AND SIZE BE FURNISHED.

GENERAL NOTES:

INTENT

1. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH
3. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
4. THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESIGNATE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.
5. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT ISSUING A CHANGE ORDER.

CONFLICTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
2. THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING SUCH BIDDER MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
3. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK.

CONTRACTS AND WARRANTIES

1. CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT OF CONTRACTOR LICENSES AND BONDS.
2. SEE MASTER CONTRACTION SERVICES AGREEMENT FOR ADDITIONAL DETAILS.

STORAGE

1. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

CLEANUP

1. THE CONTRACTORS SHALL, AT ALL TIMES, KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK AND AT THE COMPLETION OF THE WORK. THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING AREA, INCLUDING ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND SHALL LEAVE THEIR WORK CLEAN AND READY TO USE.
2. EXTERIOR
   A. VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.
   B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   C. IF NECESSARY, TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.
3. INTERIOR
   A. VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER FROM WALLS, FLOOR, AND CEILING.
   B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
   C. REMOVE PAINT DROPPINGS, SPOTS, STAINS, AND DIRT FROM FINISHED SURFACES.

CHANGE ORDER PROCEDURE:

1. REFER TO SECTION 17 OF SIGNED MCSA: SEE PROFESSIONAL SERVICE AGREEMENT FOR MCSA.

RELATED DOCUMENTS AND COORDINATION

1. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR APPROVAL.
2. ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND CORRECTED BY CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER.

PRODUCTS AND SUBSTITUTIONS

1. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN EACH REQUEST, IDENTIFY THE PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.
2. SUBMIT ALL NECESSARY PRODUCT DATA AND CUT SHEETS WHICH PROPERLY INDICATE AND DESCRIBE THE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE OWNER, SUBMIT ACTUAL SAMPLES TO THE OWNER FOR APPROVAL IN LIEU OF CUT SHEETS.

QUALITY ASSURANCE

1. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THESE SHALL INCLUDE, BUT NOT BE LIMITED TO THE APPLICABLE CODES SET FORTH BY THE LOCAL GOVERNING BODY. SEE "CODE COMPLIANCE" T-1.

ADMINISTRATION

1. BEFORE THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR WILL ASSIGN A PROJECT MANAGER WHO WILL ACT AS A SINGLE POINT OF CONTACT FOR ALL PERSONNEL INVOLVED IN THIS PROJECT. THIS PROJECT MANAGER WILL DEVELOP A MASTER SCHEDULE FOR THE PROJECT WHICH WILL BE SUBMITTED TO THE OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. SUBMIT A BAR TYPE PROGRESS CHART, NOT MORE THAN 3 DAYS AFTER THE DATE ESTABLISHED FOR COMMENCEMENT OF THE WORK ON THE SCHEDULE, INDICATING A TIME BAR FOR EACH MAJOR CATEGORY OR UNIT OF WORK TO BE PERFORMED AT THE SITE, PROPERLY SEQUENCED AND COORDINATED WITH OTHER ELEMENTS OF WORK AND SHOWING COMPLETION OF THE WORK SUFFICIENTLY IN ADVANCE OF THE DATE ESTABLISHED FOR SUBSTANTIAL COMPLETION OF THE WORK.
3. PRIOR TO COMMENCING CONSTRUCTION, THE OWNER SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS WOULD INCLUDE, BUT NOT LIMITED TO, THE OWNER, PROJECT MANAGER, CONTRACTOR, LAND OWNER REPRESENTATIVE, LOCAL TELEPHONE COMPANY, TOWER ERECTION FOREMAN (IF SUBCONTRACTED).
4. CONTRACTOR SHALL BE EQUIPPED WITH SOME MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A MOBILE PHONE OR A BEEPER. THIS EQUIPMENT WILL NOT BE SUPPLIED BY THE OWNER, NOR WILL WIRELESS SERVICE BE ARRANGED.
5. DURING CONSTRUCTION, CONTRACTOR MUST ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES. CONTRACTOR WILL COMPLY WITH ALL WPCS SAFETY REQUIREMENTS IN THEIR AGREEMENT.
6. PROVIDE WRITTEN DAILY UPDATES ON SITE PROGRESS TO THE OWNER.
7. COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION.
8. NOTIFY THE OWNER/PROJECT MANAGER IN WRITING NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, TOWER ERECTIONS, AND EQUIPMENT CABINET PLACEMENTS.

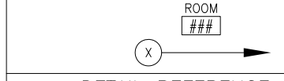
INSURANCE AND BONDS

1. CONTRACTOR, AT THEIR OWN EXPENSE, SHALL CARRY AND MAINTAIN, FOR THE DURATION OF THE PROJECT, ALL INSURANCE, AS REQUIRED AND LISTED, AND SHALL NOT COMMENCE WITH THEIR WORK UNTIL THEY HAVE PRESENTED AN ORIGINAL CERTIFICATE OF INSURANCE STATING ALL COVERAGES TO THE OWNER. REFER TO THE MASTER AGREEMENT FOR REQUIRED INSURANCE LIMITS.
2. THE OWNER SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES.
3. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE.

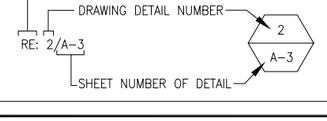
ABBREVIATIONS

ADJ	ADJUSTABLE
AGL	ABOVE GROUND LINE
&	AND
APPROX	APPROXIMATE
@	AT
BTS	BASE TRANSMISSION STATION
CAB	CABINET
CLG	CEILING
CONC	CONCRETE
CONT	CONTINUOUS
DIA OR ø	DIAMETER
DWG	DRAWING
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EQ	EQUAL
EQUIP	EQUIPMENT
EGB	EQUIPMENT GROUND BAR
(E)	EXISTING
EXT	EXTERIOR
FF	FINISHED FLOOR
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRND	GROUND
LG	LONG
MAX	MAXIMUM
MECH	MECHANICAL
MW	MICROWAVE DISH
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTL	METAL
(N)	NEW
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
(P)	PROPOSED
PCS	PERSONAL COMMUNICATION SYSTEM
PPC	POWER PROTECTION CABINET
SF	SQUARE FOOT
SHT	SHEET
SIM	SIMILAR
SS	STAINLESS STEEL
STL	STEEL
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TYP	TYPICAL
VIF	VERIFY IN FIELD
UON	UNLESS OTHERWISE NOTED
WWF	WELDED WIRE FABRIC
W/	WITH

ARCHITECTURAL SYMBOLS



DETAIL REFERENCE KEY



T-Mobile
T-MOBILE NORTHEAST LLC
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INFINIGY
1033 Watervliet Shaker Rd
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Office # (518) 690-0790
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SUBMITTALS

DATE	DESCRIPTION	REVISION
2/19/16	FOR REVIEW	A

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	428-000
DRAWN BY:	JLM
CHECKED BY:	ASW

PROFESSIONAL SEAL

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NUMBER:
CTNL813C

SITE NAME:
AMTRAK_STONINGTON3

166 PAWCATUCK AVE
PAWCATUCK, CT 06379

SHEET TITLE

GENERAL AND ELECTRICAL NOTES

SHEET NUMBER

N-1

SHEET 8 OF 8 SHEETS