NORTHEAST
SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
860-209-4690
denise@northeastsitesolutions.com

October 18, 2018

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
23 Kelleher Court, Wethersfield CT 06109
Latitude: 41.715275
Longitude: -72.690275
T-Mobile Site#: CTHA014A_L700 4x2

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 151-foot level of the existing 179-foot monopole tower at 23 Kelleher Court, Wethersfield CT. The 179-foot tower and property are both owned by the Town of Wethersfield. T-Mobile now intends to replace six (6) of its existing antennas with three (3) new 1900/2100 MHz antenna and three (3) new 600/700 MHz antenna. The new antennas would be installed at the 151-foot level of the tower.

Planned Modifications:

Remove:
(3) Twin TMA

Remove and Replace:
(3) LNX6515 Antenna **(Remove)** - (3) APXVAARR24_43U-NA20 Antenna 600/700 MHz **(Replace)**
(3) AIR21B2P B4A **(Remove) –** AIR32 KRD901146-1 B66A_B2A **(Replace)**
(3)RRUS11 B12 **(Remove) -** (3) RRU 4449 B12/B71 **(Replace)**

Install New:
(2) Fiber Hybrid Line

Existing to Remain:
(12) 1-5/8" Coax
(2) Fiber Hybrid Line
(3) Twin TMA
(3)AIR21 B2A/B4P 1900/2100 MHz

Ground:
Install New:

(1) Delta 25KW DC Generator – 220 gallon double walled self-contained tank with fuel sensor.
Requires two (2) 20 minute run cycles annually.

(1) 5'x6' Concrete pad extension

This facility was approved by the Wethersfield ZBA–on April 17, 2002 Town of Wethersfield was approved to erect two (2) tower shelters and a tower in the side yard of 23 Kelleher CT. Please see attached minutes provided by the Town of Wethersfield Zoning Department.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Mayor Amy Morrin Bello, Elected Official and Peter Gillespie, Zoning Director for the Town of Wethersfield, as well as the property owner and the tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in 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 or 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 will not cause a change or alteration in the physical or 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. § 16-50j-72(b)(2).

Sincerely,

Denise Sabo
Mobile: 860-209-4690
Fax: 413-521-0558
Office: 4 Angela's Way Burlington, CT 06013
Email: denise@northeastsitesolutions.com

Attachments
cc: Amy Morrin Bello- Mayor -Wethersfield elected official
Peter Gillespie – Director of Planning and Zoning
Town of Wethersfield - as property and tower owner

Exhibit A

Town of Wethersfield
505 SILAS DEANE HIGHWAY
WETHERSFIELD, CONNECTICUT 06109

17 April 2002

Mr. Michael J. Turner
Town Engineer
Town of Wethersfield
505 Silas Deane Highway
Wethersfield, Connecticut 06109

Dear Mr. Turner:

Re: Application No. 5694-2002

At a meeting of the Zoning Board of Appeals held on Monday, April 15, 2002, it was unanimously voted that the application seeking variance to erect two equipment shelters and tower in the side yard at 23 Kelleher Court, east side, A-1 Residence Zone, **BE APPROVED AS SUBMITTED.**

A building permit must be obtained from, and all construction is done under the supervision of the Building Inspection Division, Town of Wethersfield.

The effective date of this permission is **April 19, 2002.** *This variance must be recorded with the Town Clerk, Town of Wethersfield immediately after the 15 days from the effective date of this permission. Please come to the Building Department first to pick up the form to be recorded in the Town Clerk's Office.*

Very truly yours,

TOWN OF WETHERSFIELD
ZONING BOARD OF APPEALS
MORRIS R. BOREA, CHAIRMAN

Nancy Azeredo

Nancy Azeredo, Duly Authorized for
Bruce T. Bockstael, Clerk

na
Enc.

Cc: Lee C. Erdmann, Town Manager

WETHERSFIELD ZONING BOARD OF APPEALS
PUBLIC HEARING **April 15, 2002**

The Wethersfield Zoning Board of Appeals held a public hearing on April 15, 2002 at 7:30 PM in the Town Hall, 505 Silas Deane Highway, Wethersfield, Connecticut.

PRESENT: Morris R. Borea, Chairman
Bruce T. Bockstael, Clerk
Frank A. Falvo, Jr.
Thomas J. Vaughan, Jr.
Cynthia Clancy, Alternate

ABSENT: J. Edward Brymer, Jr., Vice Chairman

Also Present: Brian O'Connor, Assistant Building & Zoning Official

Chairman Borea opened the meeting. Before the meeting started, the public was welcomed to speak regarding anything except specific cases in the past or on the night's agenda. There was no one present who wished to speak.

Mr. O'Connor requested that the agenda be taken out of order as the last applicant, (Application No. 5694-2002), has to be at the Town Council Meeting being held in the Council Chambers at the same time as this meeting. Commissioner Bockstael stated that at the end of the meeting the public would again be asked if they would like to speak regarding Application No. 5694-2002 in case there were any late arrivals.

Commissioner Bockstael read the legal notice into the record.

APPLICATION NO. 5694-2002. Town of Wethersfield seeking variance to erect two equipment shelters and tower in the side yard at 23 Kelleher Court, east side, A-1 Residence Zone. (Section 167-75)

Mike Turner, Town Engineer appeared before the Board of behalf of the Town of Wethersfield, seeking variance for the location of the two equipment shelters and antenna tower that they would like to locate at Fire House #3 at 23 Kelleher Court. He stated that this is one of three tower sites that the Town is pursuing as part of the new town wide radio system that they are constructing. Mr. Turner stated that this tower site would be the main tower site where most of the radio equipment would be located.

Mr. Turner stated that the regulations require that any tower be located in the rear yard. He stated that the upper portion of the site by the parking lot is around elevation 130 to 131, the site drops off in the rear to about elevation 102. Therefore the rear portion of the property would require an antenna tower to be built around 29 to 30 feet taller. He stated that this tower site needs to have a clear line of site to the Newington tower, around 30 to 40 feet above of the tree line. Therefore what they are proposing is that the construction of the tower be in the south west corner of the property, with the equipment shelter adjacent to the tower, generally around 10 feet from the tower.

Chairman Borea questioned how high the tower is going to be. Mr. Turner stated 190 feet. Chairman Borea verified that if it were to be put in the rear yard the tower would have to be around 220 feet. Mr. Turner stated that this was correct, adding that anything over 199 feet needs flashing lights, strobe lights, etc.

There were no further questions or comments from the Board.

There was no one in the audience who wished to speak in favor of this application.

The following audience member wished to speak in opposition to this application:

1. Mr. Robert Young, 20 Coppermill Road, Wethersfield, CT – Stated that he feels this location is a bad site and feels that it will bring down the property value of homes in this area, which will in turn bring down his property value. He stated that he also feels that not all the facts were presented to the public.

APPLICATION NO. 5689-2002. Jeannine Steucek seeking variance to erect a 24'X26' detached garage over the building line at 931 Prospect Street, north side, A-1 Residence Zone. (Section 167-114)

Jeannine Steucek, 931 Prospect Street, Wethersfield, CT, appeared before the Board seeking variance to erect a detached garage over the building line. She stated that she has never had a garage but would like a garage for the protection of her car.

April 15, 2002

APPLICATION NO. 5693-2002. Sebastian A. Panioto seeking variance to construct a single car garage and attached entry having less than the required side yard at 95 Mohawk Lane, north side, A Residence Zone. (Section 167-172)

Upon motion made by Commissioner Falvo, Jr., seconded by Chairman Borea and a poll of the Board it was unanimously voted that the above application **BE APPROVED** as submitted.

APPLICATION NO. 5694-2002. Town of Wethersfield seeking variance to erect two equipment shelters and tower in the side yard at 23 Kelleher Court, east side, A-1 Residence Zone. (Section 167-75)

Upon motion made Chairman Borea, seconded by Commissioner Falvo, Jr., and a poll of the Board it was unanimously voted that the above application **BE APPROVED** as submitted.

APPROVAL OF MINUTES

Tabled until next meeting.

ADJOURNMENT

The meeting was adjourned at 8:30PM.

Exhibit B

Property Location: 23 KELLEHER CT | MAP ID: 073/ 060/ / / | Bldg Name: | State Use: 901C

Vision ID: 10410 | Account # 073-060- | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 02/22/2014 17:26

CURRENT OWNER

WETHERSFIELD TOWN OF
FIREHOUSE #3
23 KELLEHER CT

WETHERSFIELD, CT 06109
Additional Owners:

TOPO.		UTILITIES		STRT./ROAD		LOCATION	
1	Level	1	All Public				

SUPPLEMENTAL DATA

Other ID:		SIDE	E1
LOT NO	7-18	SEQ NO	470400
CALLBACK		PENALTY	
CENSUS	4923	Notice 1 Val	
SECTION	1	DISBLD EX	
GIS ID: 073060		*ASSOC PID#*	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	BAAX	642,900	450,000
EXEMPT	BAAX	117,400	82,200
EXEMPT	BAAX	1,371,600	960,100
	Total	2,131,900	1,492,300

6159
WETHERSFIELD, CT

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
WETHERSFIELD TOWN OF	0169/0075	06/25/1956	U		0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2012	100	1,629,500	2010	BAAX	467,300	2008	BAAX	467,300
2012	100	84,700	2010	BAAX	84,700	2008	BAAX	84,700
			2010	BAAX	1,162,200	2008	BAAX	1,162,200
	Total:	1,714,200		Total:	1,714,200		Total:	1,714,200

This signature acknowledges a visit by a Data Collector or Assessor

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	642,900
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	1,371,600
Appraised Land Value (Bldg)	117,400
Special Land Value	0
Total Appraised Parcel Value	2,131,900
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	2,131,900

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD NAME	STREET INDEX NAME	TRACING	BATCH
0001/A				

NOTES

CELL TOWER + EQUIP ON SITE
2000 GAL DIESEL TANK
CELL TOWER VALUE= 5 SITES@ 3000/MONTH
5 X 3000 X 12= 180,000
LESS 25% EXP= 135,000/.11= 1,227,250

METRO PCS LEASE

FIREHOUSE 3

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
M-13-170	08/14/2013	HA	HVAC	21,165	10/07/2013	100	10/01/2013	REPL ONE ROOFTOP A
B-13-46	03/26/2013	CM	Commercial	20,000	05/01/2013	100	10/01/2013	LEASE AREA EXPANDI
B-10-152	08/12/2010	BP		15,000	05/11/2012	100	03/02/2012	Install 3 antnnas, 3 dishes
BP0097	05/11/2009	BP		5,000	10/05/2009	100		Add antenna's and cabine
BP-0093	04/29/2009	BP		15,000	10/05/2009	100		Install antennas and radi
EP-0320	11/25/2008	CM	Commercial	15,000	10/05/2009	100		100 amp service & shutof
EP07225	07/27/2007	EL	Electric	6,400		100		200 amp svce for T-Mobil

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
10/7/2013			CR	49	No Change After Inspe
5/1/2013			CR	49	No Change After Inspe
5/11/2012			CR	49	No Change After Inspe
10/5/2009			CR	49	No Change After Inspe
7/25/2008			JL	51	Field review

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Frontage	Depth	Units		Unit Price	I. Factor	S.A.		C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	Adj. Unit Price	Land Value
1	901C	Municipal MDL-94	A1				1.00	AC	118,800.00	1.00	F		1.00	010	0.90			106,920.00	106,900
1	901C	Municipal MDL-94	A1				1.30	AC	9,000.00	1.00	0		1.00	010	0.90			8,100.00	10,500

Total Card Land Units: 2.30 AC | Parcel Total Land Area: 2.3 AC | Total Land Value: 117,400

Property Location: 23 KELLEHER CT | **MAP ID:** 073/ 060/ / / | **Bldg Name:** | **State Use:** 901C

Vision ID: 10410 | **Account #** 073-060- | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 02/22/2014 17:26

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	59		Fire Station
Model	96		Ind/Comm
Grade	06		Good
Occupancy	1		
Exterior Wall 1	20		Brick
Exterior Wall 2			
Roof Structure	03		Gable/Hip
Roof Cover	03		Asphalt Shingl
Interior Wall 1	05		Drywall
Interior Wall 2	03		Plaster
Interior Floor 1	05		Vinyl/Asphalt
Interior Floor 2	03		Concr-Finished
Heating Fuel	03		Oil/Gas
Heating Type	05		Hot Water
AC Type	03		Central
Bldg Use	907		Fire-Vol
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	02		HEAT/AC SPLIT
Frame Type	03		MASONRY
Baths/Plumbing	02		AVERAGE
Ceiling/Wall	06		CEIL & WALLS
Rooms/Prtns	02		AVERAGE
Wall Height	12		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

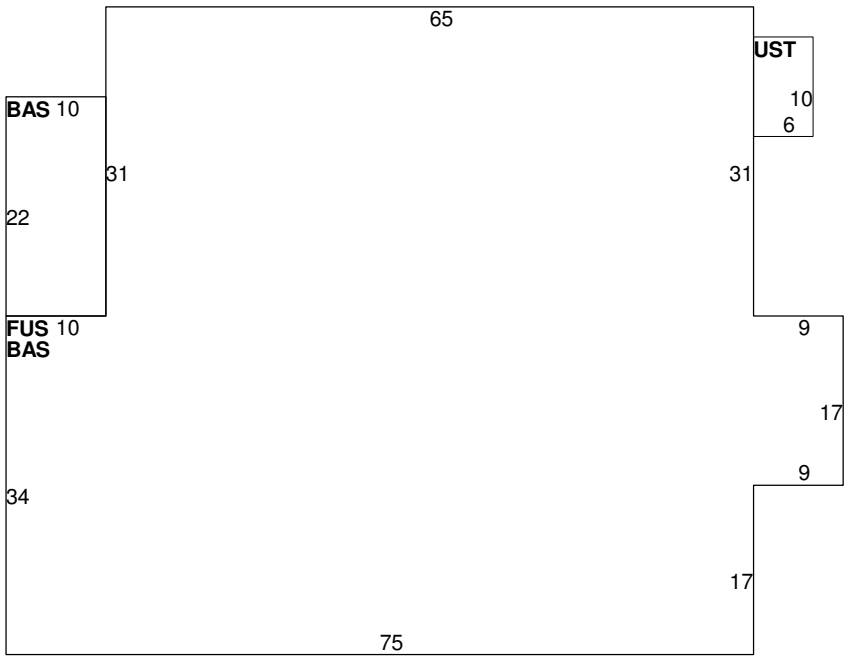
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
901C	Municipal MDL-94	100

COST/MARKET VALUATION

Adj. Base Rate:	85.19
AYB	1969
Dep Code	G
Remodel Rating	
Year Remodeled	
Dep %	22
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	
Condition	
% Complete	
Overall % Cond	78
Apprais Val	642,900
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

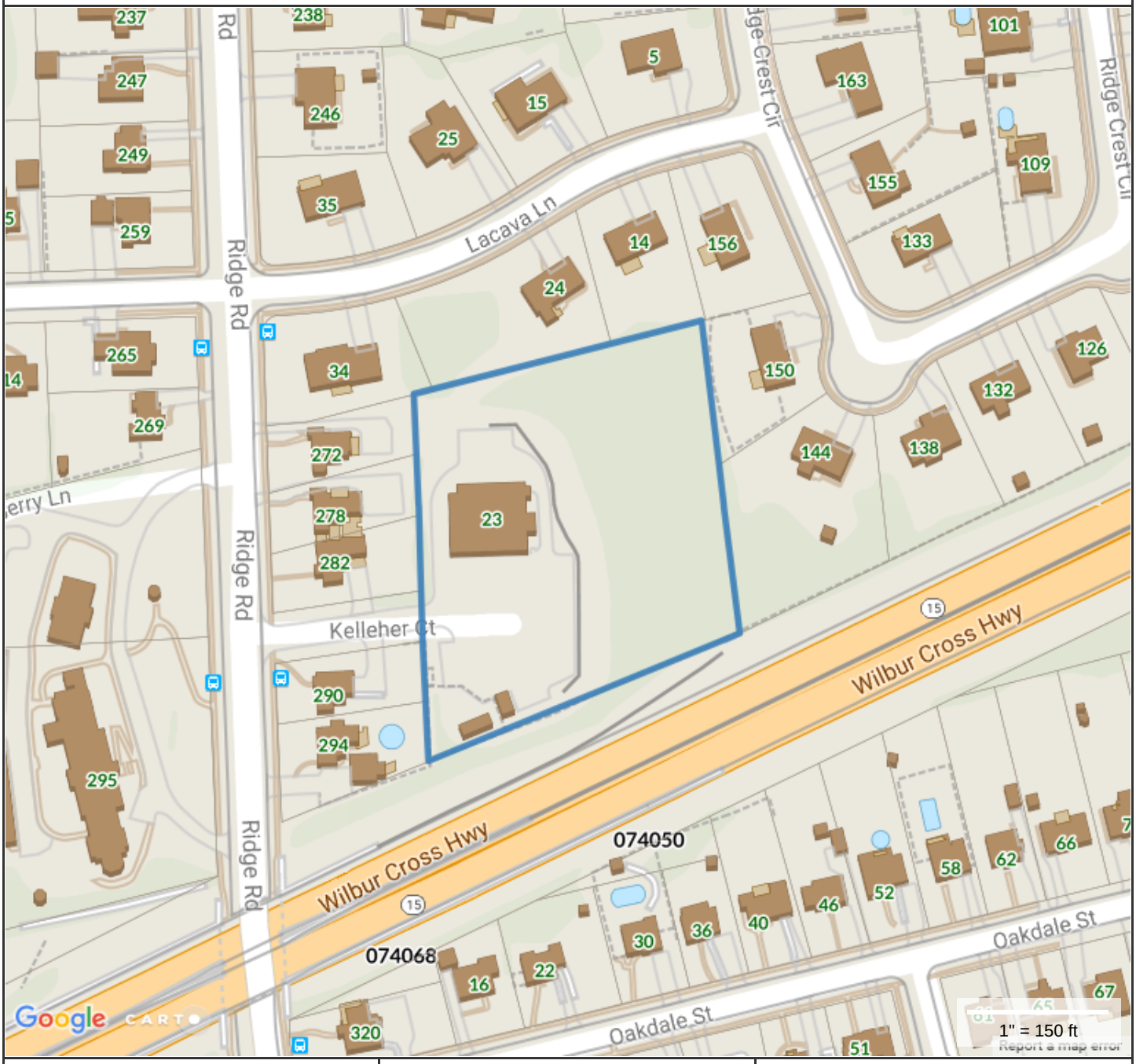


OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
PAV1	Asphalt Paving			L	3,600	1.60	1999			G	75	4,300
CB3	PreCastConCel			L	200	350.00	2008			A	50	35,000
CB3	PreCastConCel			L	240	350.00	2008			A	50	42,000
CB3	PreCastConCel			L	360	350.00	2008			A	50	63,000
	CELL SITES			L	5	245,450.00	2008					1,227,300

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	4,938	4,938			
FUS	Finished Upper Story	4,718	4,718			
UST	Unfinished Storage	0	60			
	Ttl. Gross Liv/Lease Area:	9,656	9,716			



Property Information

Property ID	073060
Location	23 KELLEHER CT
Owner	WETHERSFIELD TOWN OF

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of Wethersfield, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Parcels updated 11/14/17
Properties updated daily

Exhibit C

ANTENNA UPGRADES BY

T-Mobile

T-MOBILE NORTHEAST LLC

PROJECT: L700 4X2 & NHP18

SITE NUMBER: CTHA014A

SITE NAME: HA014/T OF WETHERSFIELD_MP

SITE ADDRESS: 23 KELLEHER COURT
WETHERSFIELD, CT 06109
(RF CONFIGURATION 67D92DB)

PROJECT SCOPE:

UPGRADE OF EXISTING WIRELESS FACILITY AS FOLLOWS:
REPLACE (6) EXISTING ANTENNAS,
REPLACE (3) EXISTING REMOTE RADIO UNITS AT ANTENNAS,
REMOVE (3) EXISTING TOWER MOUNTED AMPLIFIER (TMA).

INSTALL A NEW 25 KW DC DIESEL GENERATOR AND TANK.
NO SIGNIFICANT GRADING IS REQUIRED. ALL PROPOSED CONSTRUCTION WILL BE CONTAINED WITHIN THE LIMITS OF THE EXISTING FENCED COMPOUND AND TOWER SITE LEASE AREA.

PROJECT NOTES:

1. THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:
   HANDICAPPED ACCESS IS NOT REQUIRED.
   POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   NO OUTDOOR STORAGE OR ANY
   SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE 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 PLACES THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES, ORDINANCES AND SPECIFICATIONS.
4. REFER TO STRUCTURAL ANALYSIS REPORT TITLED " STRUCTURAL ANALYSIS REPORT - MONOPOLE " SITE ID: CTHA014A, DATED JUNE 25, 2018, PREPARED BY DESTEK.

APPLICABLE STATE ADOPTION CODES:

2016 CONNECTICUT STATE BUILDING CODE (CSBC).

ANSI/TIA-222-G-2005 STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

2014 NATIONAL ELECTRICAL CODE (NFPA 70) FOR POWER AND GROUNDING REQUIREMENTS.

APPROVALS:

FSA CM	DATE
RF ENGINEER	DATE
FOPS	DATE
T-MOBILE ENGINEERING AND DEVELOPMENT	DATE
	DATE
	DATE

SITE IMAGE:

VICINITY MAP:

PROJECT INFORMATION:

ADDRESS:	23 KELLEHER COURT WETHERSFIELD, CT 06109
STRUCTURE TYPE:	MONOPOLE TOWER
COORDINATES:	41.715275 N, -72.690275W
TOWER HEIGHT:	179'-0" AGL
TOP OF T-MOBILE ANTENNAS ELEV:	155'-0" AGL

PROJECT TEAM:

APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100
LANDLORD:	TOWN OF WETHERSFIELD 505 SILAS DEANE HIGHWAY WETHERSFIELD, CT 06109 PHONE: (860) 721-2801 FAX: (860) 721-2994
PROJECT MANAGER:	NORTHEAST SITE SOLUTIONS 420 MAIN STREET, BLDG 4 STURBRIDGE, MA 01566 SHELDON FREINCLE SHELDON@NORTHEASTSITE SOLUTIONS.COM 201-776-8521
CONSULTANTS:	FORESITE LLC 462 WALNUT ST NEWTON, MA 02460 SAEED MOSSAVAT SMOSSAVAT@FORESITELLC.COM 617-212-3123

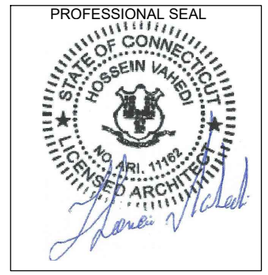
SHEET INDEX:

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
NSS NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL



REV	DESCRIPTION	DATE
A	PRELIMINARY	09/18/18
B	CHANGED TO DELTA GEN.	10/18/18
0	SIGNED AND SEALED	10/18/18

SITE NUMBER: CTHA014A
SITE NAME: HA014/T OF WETHERSFIELD_MP
SITE ADDRESS: 23 KELLEHER COURT
WETHERSFIELD, CT 06109

SHEET TITLE:
T-1: TITLE SHEET

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 HAS 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.

3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CLIENT'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.

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 CONSTRUCTION DOCUMENTS.

6. 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.

7. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS DURING CONSTRUCTION.

8. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE BASIC STATE BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJEC

9. THE CONTRACTOR SHALL NOTIFY THE CLIENT'S REPRESENTATIVE IN WRITING 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 CLIENT'S REPRESENTATIVE.

10. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:

A. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS BUILDING CODES" OR LATEST EDITION.

B. AWS: AMERICAN WELDING SOCIETY INC. AS PUBLISHED IN "STANDARD D1.1–08, STRUCTURAL WELDING CODE" OR LATEST EDITION.

C. AISC: AMERICAN INSTITUTE FOR STEEL CONSTRUCTION AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"; "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (LATEST EDITION).

11. BOLTING:

A. BOLTS SHALL BE CONFORMING TO ASTM A325 HIGH STRENGTH, HOT DIP GALVANIZED WITH ASTM A153 HEAVY HEX TYPE NUTS.

B. BOLTS SHALL BE 3/4"ø MINIMUM (UNLESS OTHERWISE NOTED)

C. ALL CONNECTIONS SHALL BE 2 BOLTS MINIMUM.

12. FABRICATION:

A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS STANDARDS AND CODES (LATEST EDITION).

B. ALL STRUCTURAL STEEL SHALL BE HOT–DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 (LATEST EDITION), UNLESS OTHERWISE NOTED.

13. ERECTION OF STEEL:

A. PROVIDE ALL ERECTION EQUIPMENT, BRACING, PLANKING, FIELD BOLTS, NUTS, WASHERS, DRIFT PINS, AND SIMILAR MATERIALS WHICH DO NOT FORM A PART OF THE COMPLETED CONSTRUCTION BUT ARE NECESSARY FOR ITS PROPER ERECTION.

B. ERECT AND ANCHOR ALL STRUCTURAL STEEL IN ACCORDANCE WITH AISC REFERENCE STANDARDS. ALL WORK SHALL BE ACCURATELY SET TO ESTABLISHED LINES AND ELEVATIONS AND RIGIDLY FASTENED IN PLACE WITH SUITABLE ATTACHMENTS TO THE CONSTRUCTION OF THE BUILDING.

C. TEMPORARY BRACING, GUYING AND SUPPORT SHALL BE PROVIDED TO KEEP THE STRUCTURE SAFE AND ALIGNED AT ALL TIMES DURING CONSTRUCTION, AND TO PREVENT DANGER TO PERSONS AND PROPERTY. CHECK ALL TEMPORARY LOADS AND STAY WITHIN SAFE CAPACITY OF ALL BUILDING COMPONENTS.

14. ANTENNA INSTALLATION:

A. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND CLIENT'S REPRESENTATIVE SPECIFICATIONS.

B. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

C. INSTALL COAXIAL / FIBER CABLES AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS.

15. ANTENNA AND COAXIAL / FIBER CABLE GROUNDING:

A. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH ANDREWS CONNECTOR/SPLICE WEATHERPROOFING KIT TYPE #221213 OR EQUAL.

B. ALL COAXIAL / FIBER CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL / FIBER CABLE (NOT WITHIN BENDS).

16. RELATED WORK, FURNISH THE FOLLOWING WORK AS SPECIFIED UNDER CONSTRUCTION DOCUMENTS, BUT COORDINATE WITH OTHER TRADES PRIOR TO BID:

A. FLASHING OF OPENING INTO OUTSIDE WALLS

B. SEALING AND CAULKING ALL OPENINGS

C. PAINTING

D. CUTTING AND PATCHING

17. REQUIREMENTS OF REGULATORY AGENCIES:

A. FURNISH U.L. LISTED EQUIPMENT WHERE SUCH LABEL IS AVAILABLE. INSTALL IN CONFORMANCE WITH U.L. STANDARDS WHERE APPLICABLE.

B. INSTALL ANTENNA, ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH DRAWINGS AND SPECIFICATION IN EFFECT AT PROJECT LOCATION AND RECOMMENDATIONS OF STATE AND LOCAL BUILDING CODES, AND SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:

C. TIA–EIA – 222 (LATEST EDITION). STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.

D. FAA – FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70/7460–IH, OBSTRUCTION MARKING AND LIGHTING.

E. FCC – FEDERAL COMMUNICATIONS COMMISSION RULES AND REGULATIONS FORM 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATION FOR ANTENNA STRUCTURES AND FORM 715A, HIGH INTENSITY OBSTRUCTION LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES.

F. AISC – AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS (LATEST EDITION).

G. NEC – NATIONAL ELECTRICAL CODE – ON TOWER LIGHTING KITS.

H. UL – UNDERWRITER'S LABORATORIES APPROVED ELECTRICAL PRODUCTS.

I. IN ALL CASES, PART 77 OF THE FAA RULES AND PARTS 17 AND 22 OF THE FCC RULES ARE APPLICABLE AND IN THE EVENT OF CONFLICT, SUPERSEDE ANY OTHER STANDARDS OR SPECIFICATIONS.

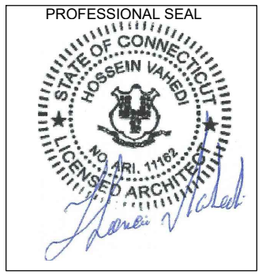
J. 2009 LIFE SAFETY CODE NFPA – 101.

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
NSS NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET
NEWTON, MA 02460
617-212-3123

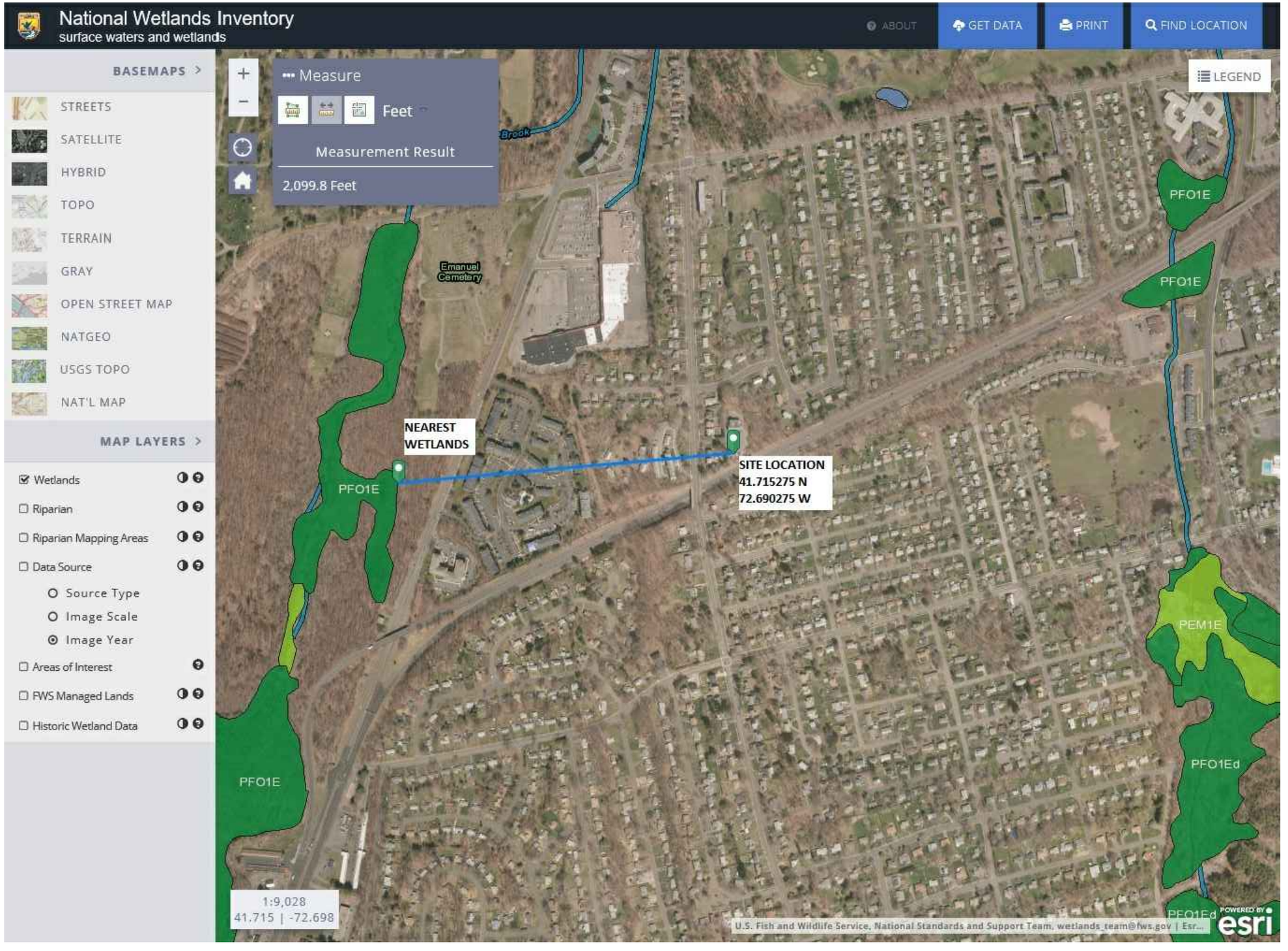
PROFESSIONAL SEAL



REV	DESCRIPTION	DATE
A	PRELIMINARY	09/18/18
B	CHANGED TO DELTA GEN.	10/18/18
0	SIGNED AND SEALED	10/18/18

SITE NUMBER: CTHA014A
SITE NAME: HA014/T OF WETHERSFIELD_MP
SITE ADDRESS: 23 KELLEHER COURT
WETHERSFIELD, CT 06109

SHEET TITLE:
N-1: NOTES AND DISCLAIMERS



WETLANDS LOCATION

SCALE: NTS

1
A-1

APPLICANT:

T-MOBILE NORTHEAST LLC

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PROFESSIONAL SEAL

STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11162
LICENSED ARCHITECT

REV	DESCRIPTION	DATE
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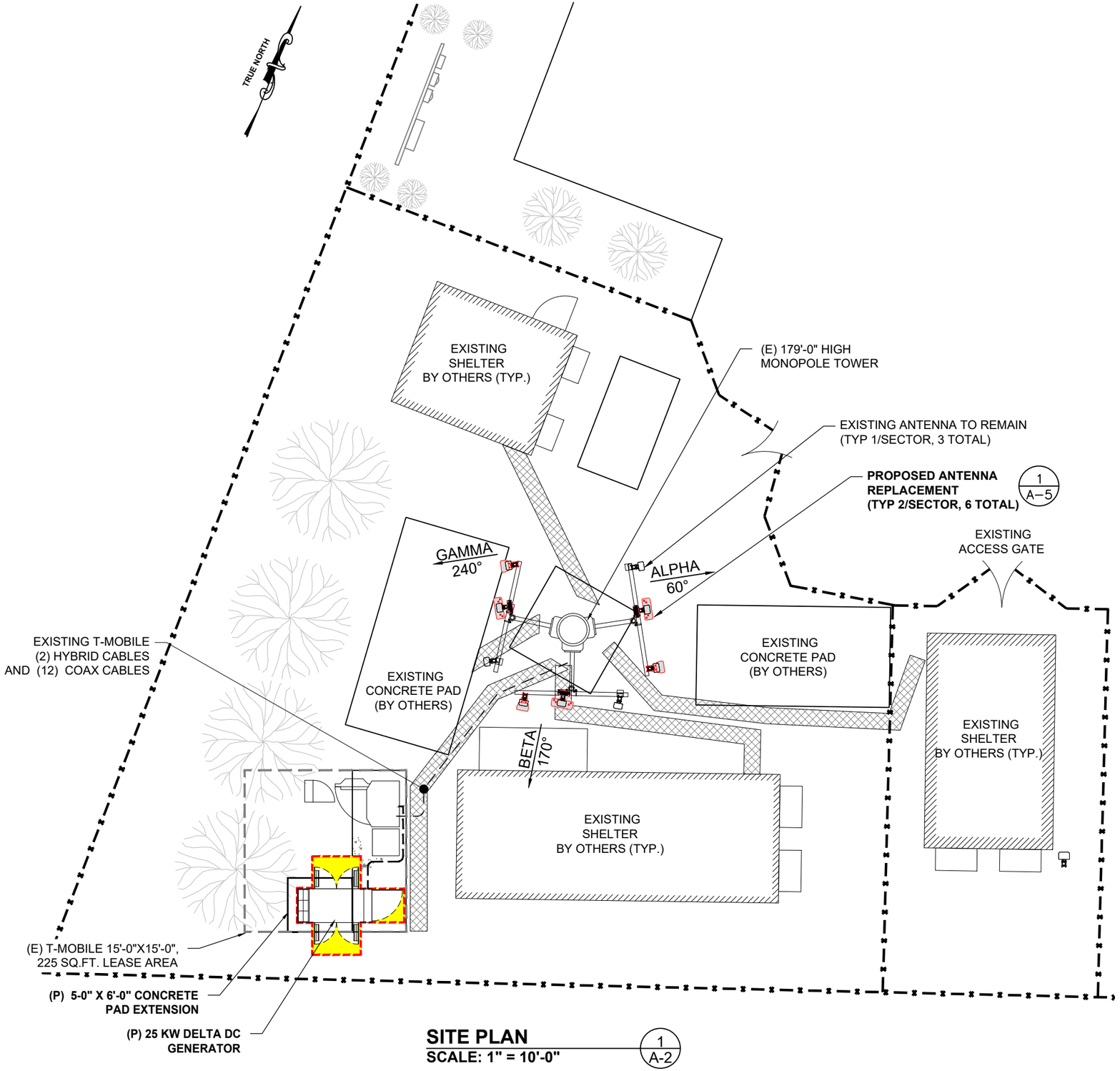
WETHERSFIELD, CT 06109

SHEET TITLE:
A-1: WETLANDS LOCATION



SITE PLAN
SCALE: 1" = 10'-0"

1 A-2

APPLICANT:

T-Mobile

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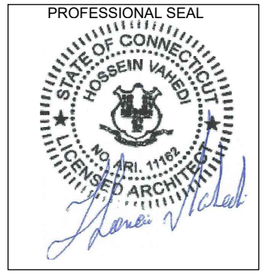

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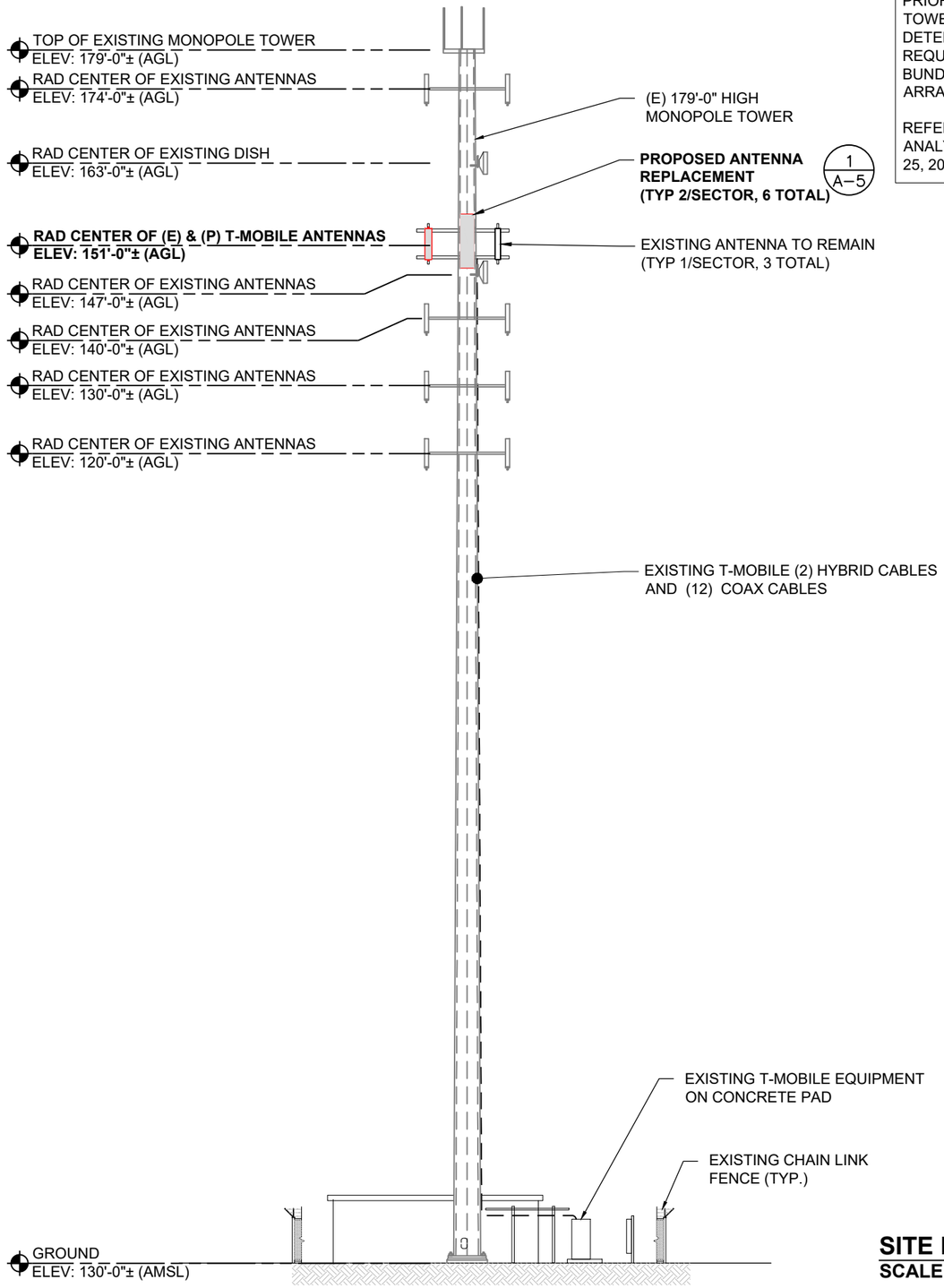
SHEET TITLE:
A-2: SITE PLAN



SITE ELEVATION

SCALE: 1/20"=1'-0"

1
A-3

STRUCTURAL NOTES:

PRIOR TO COMMENCING CONSTRUCTION, GC SHALL REFER TO TOWER STRUCTURAL ANALYSIS PROVIDED BY DESTEK TO DETERMINE IF THERE ARE ANY SUPPLEMENTAL OR SPECIAL REQUIREMENTS FOR TOWER TOP EQUIPMENT AND FOR CABLE BUNDLING, SHIELDING, MOUNTING OR RELOCATION ARRANGEMENTS.

REFER TO STRUCTURAL ANALYSIS REPORT TITLED "STRUCTURAL ANALYSIS REPORT - MONOPOLE " SITE ID: CTHA014A, DATED JUNE 25, 2018, PREPARED BY DESTEK.

APPLICANT:

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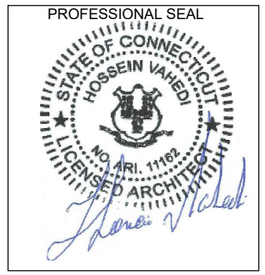

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SHEET TITLE:

A-3: ELEVATION

STRUCTURAL NOTES:
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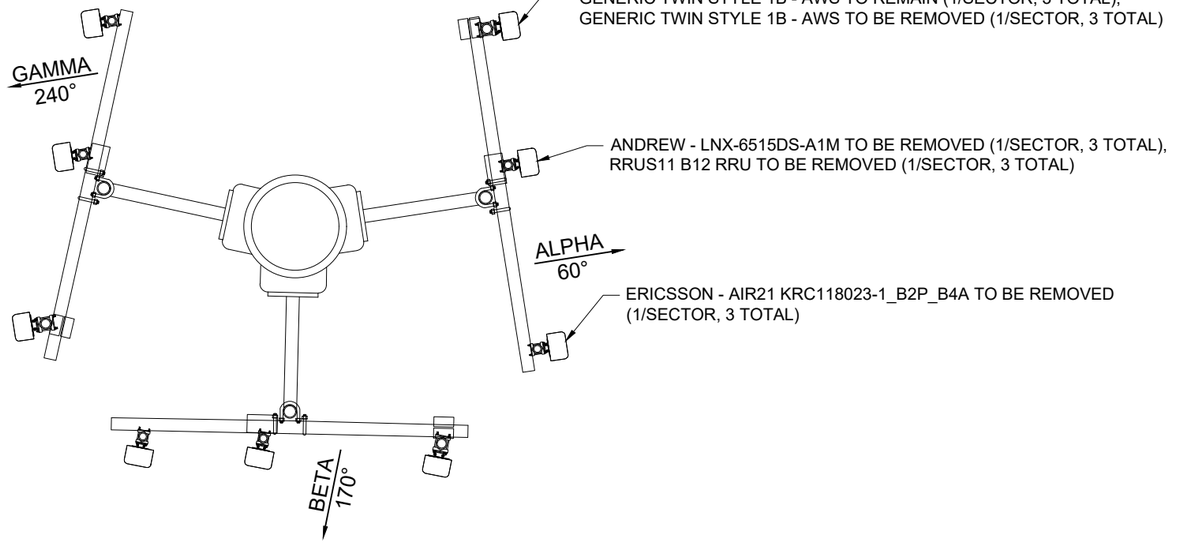
REFER TO STRUCTURAL ANALYSIS REPORT TITLED "STRUCTURAL ANALYSIS REPORT - MONOPOLE " SITE ID: CTHA014A, DATED JUNE 25, 2018, PREPARED BY DESTEK.

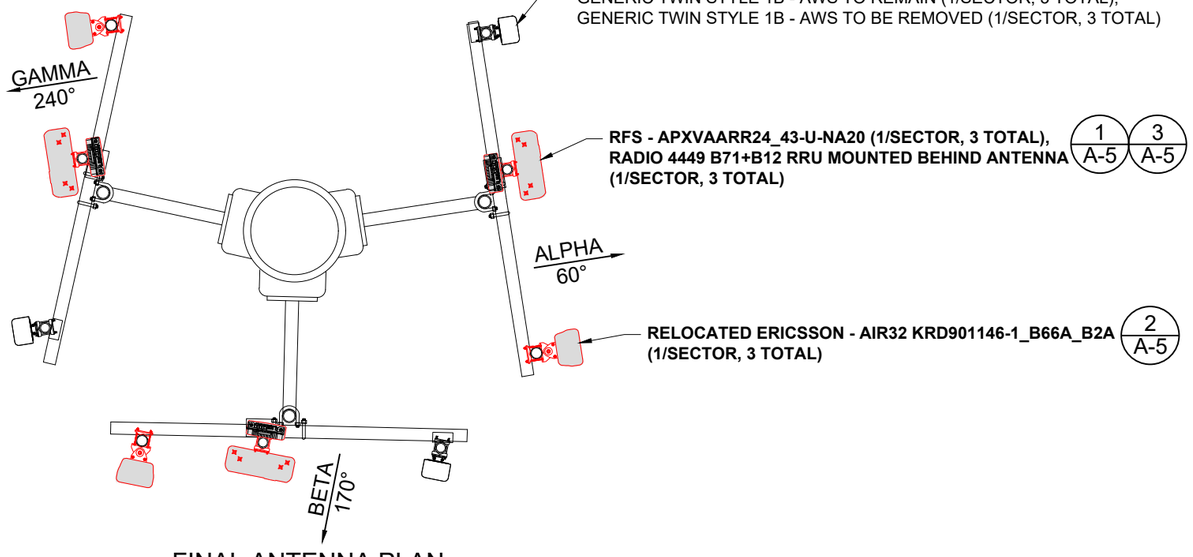


ERICSSON - AIR21 KRC118023-1_B2A_B4P (1/SECTOR, 3 TOTAL),
GENERIC TWIN STYLE 1B - AWS TO REMAIN (1/SECTOR, 3 TOTAL),
GENERIC TWIN STYLE 1B - AWS TO BE REMOVED (1/SECTOR, 3 TOTAL)

ANDREW - LNX-6515DS-A1M TO BE REMOVED (1/SECTOR, 3 TOTAL),
RRUS11 B12 RRU TO BE REMOVED (1/SECTOR, 3 TOTAL)

ERICSSON - AIR21 KRC118023-1_B2P_B4A TO BE REMOVED
(1/SECTOR, 3 TOTAL)

EXISTING ANTENNA PLAN



ERICSSON - AIR21 KRC118023-1_B2A_B4P (1/SECTOR, 3 TOTAL),
GENERIC TWIN STYLE 1B - AWS TO REMAIN (1/SECTOR, 3 TOTAL),
GENERIC TWIN STYLE 1B - AWS TO BE REMOVED (1/SECTOR, 3 TOTAL)

**RFS - APXVAARR24_43-U-NA20 (1/SECTOR, 3 TOTAL),
RADIO 4449 B71+B12 RRU MOUNTED BEHIND ANTENNA
(1/SECTOR, 3 TOTAL)** 1/A-5 3/A-5

**RELOCATED ERICSSON - AIR32 KRD901146-1_B66A_B2A
(1/SECTOR, 3 TOTAL)** 2/A-5

FINAL ANTENNA PLAN

ANTENNA PLAN 1/A-4
SCALE: NTS

APPLICANT:
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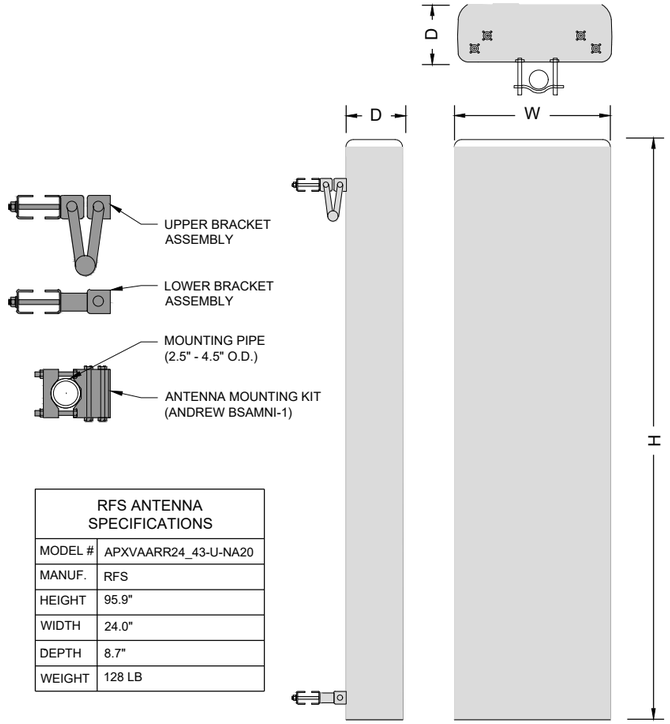
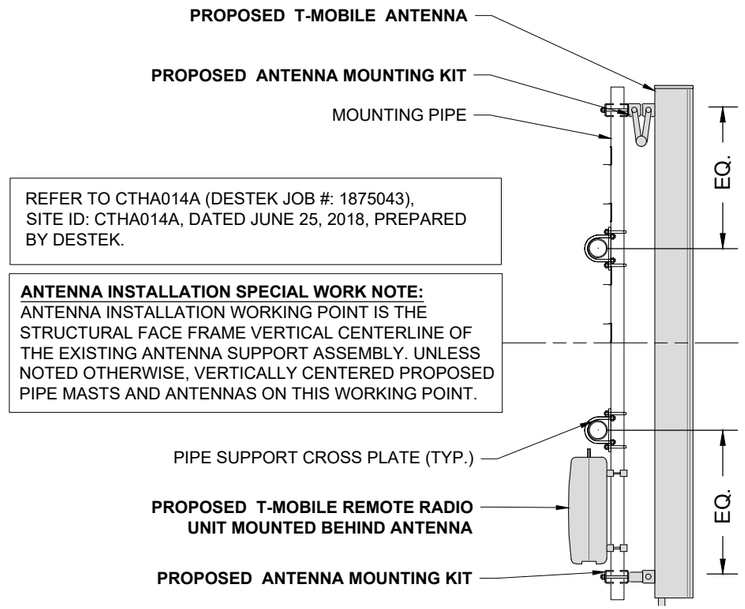
SHEET TITLE:
A-4: ANTENNA PLAN



RFS ANTENNA SPECIFICATIONS	
MODEL #	APXVAARR24_43-U-NA20
MANUF.	RFS
HEIGHT	95.9"
WIDTH	24.0"
DEPTH	8.7"
WEIGHT	128 LB

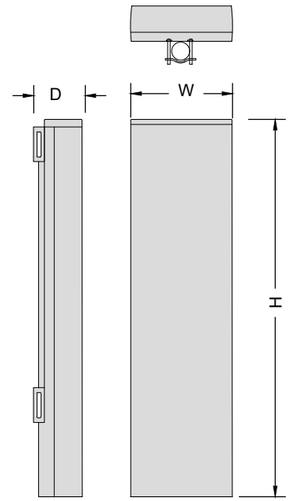
RFS ANTENNA
N.T.S
1 A-5



REFER TO CTHA014A (DESTEK JOB #: 1875043), SITE ID: CTHA014A, DATED JUNE 25, 2018, PREPARED BY DESTEK.

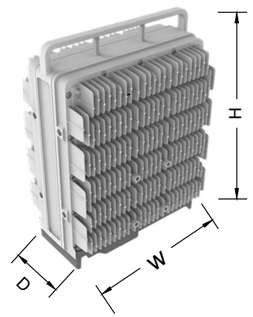
ANTENNA INSTALLATION SPECIAL WORK NOTE:
ANTENNA INSTALLATION WORKING POINT IS THE STRUCTURAL FACE FRAME VERTICAL CENTERLINE OF THE EXISTING ANTENNA SUPPORT ASSEMBLY. UNLESS NOTED OTHERWISE, VERTICALLY CENTERED PROPOSED PIPE MASTS AND ANTENNAS ON THIS WORKING POINT.

ANTENNA MOUNTING DETAIL
N.T.S
4 A-5

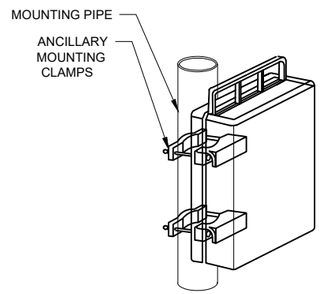


RFS ANTENNA SPECIFICATIONS	
MODEL #	AIR32 KDR901146-1 B66A_B2A
MANUF.	ERICSSON
HEIGHT	58.1"
WIDTH	15.7"
DEPTH	9.4"
WEIGHT	180 LB

ERICSSON ANTENNA
N.T.S
2 A-5



REMOTE RADIO UNIT SPECIFICATIONS	
MODEL #	RADIO 4449 B71+B12
MANUF.	ERICSSON
HEIGHT	14.9"
WIDTH	13.2"
DEPTH	10.4"
WEIGHT	74 LB



REMOTE RADIO UNIT MOUNTING DETAIL

RADIO 4449 B71+B12 REMOTE RADIO UNIT
N.T.S
3 A-5

APPLICANT:
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
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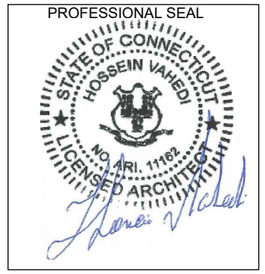
PROJECT MANAGER
NSS NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL



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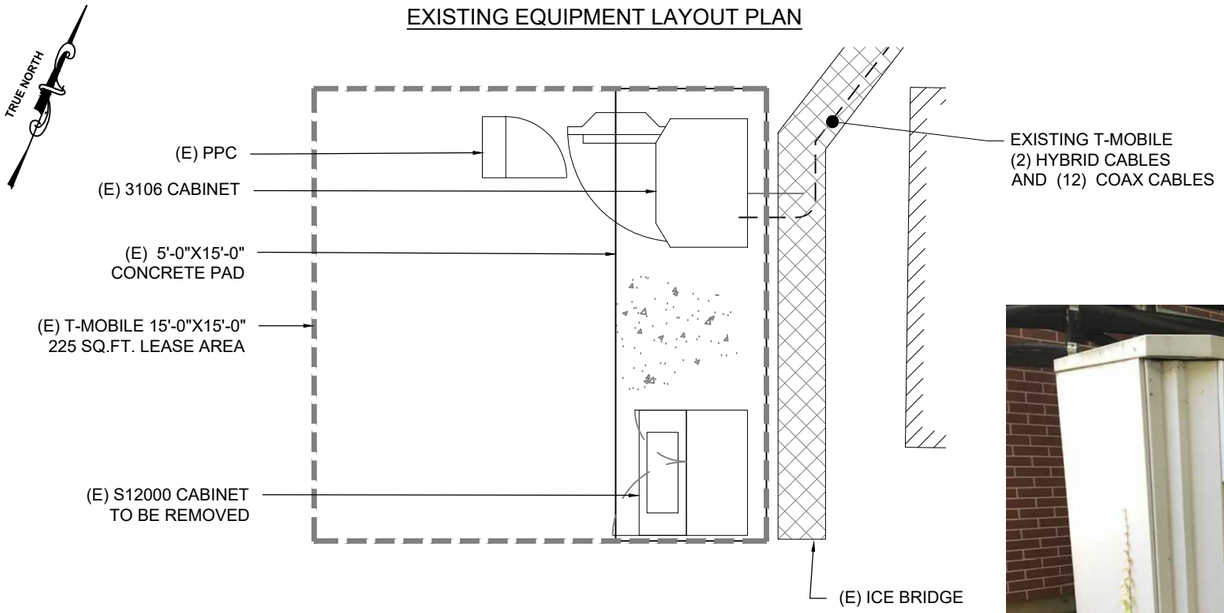
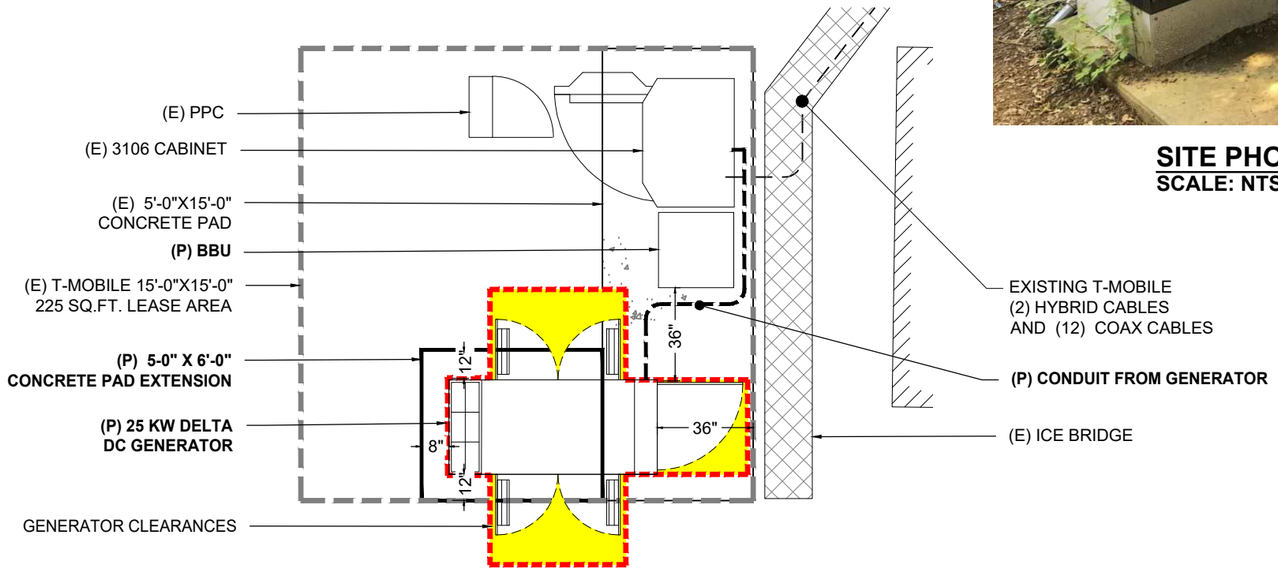
WETHERSFIELD, CT 06109

SHEET TITLE:
A-5: ANTENNA DETAILS

EXISTING EQUIPMENT LAYOUT PLAN



PROPOSED EQUIPMENT LAYOUT PLAN



GENERATOR LAYOUT

SCALE: 1" = 5'-0"

1 / A-6

SITE PHOTO DETAIL

SCALE: NTS

2 / A-6

APPLICANT:

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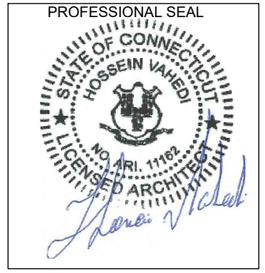
PROFESSIONAL SEAL



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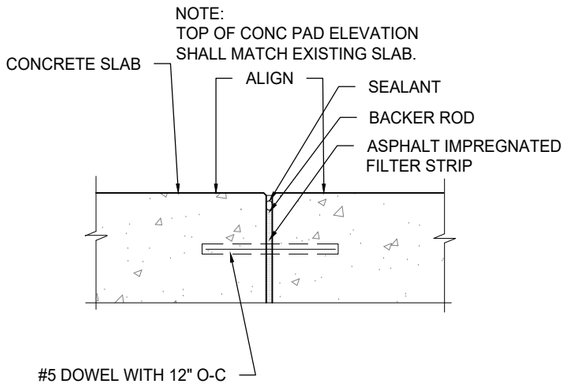
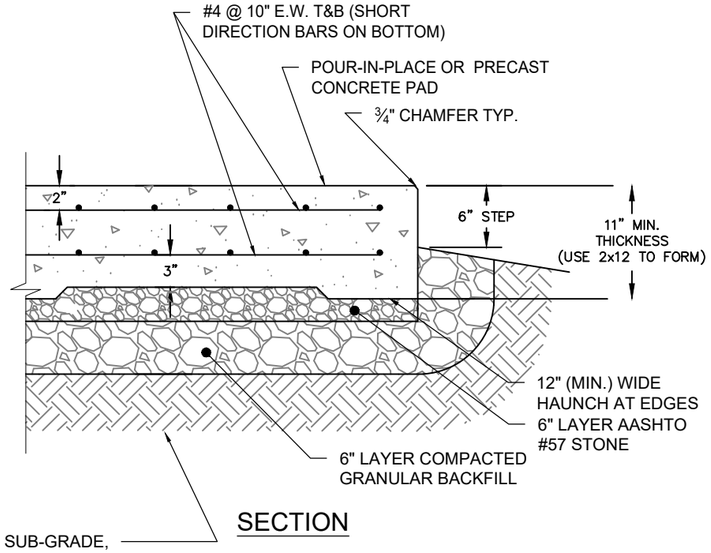
SHEET TITLE:

A-6: EQUIPMENT LAYOUT PLAN



ISOLATION JOINT



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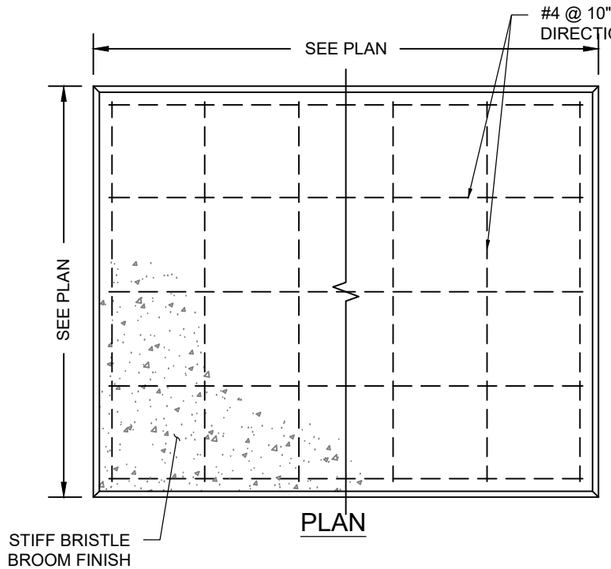

PLAN

NOTES:

1. BEARING STRATA MEDIUM TO DENSE INSET GRANULAR MATERIAL OR COMPACTED FILL. 95% COMPACTION.
2. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. NO DELETERIOUS MATERIALS OR ORGANICS TO BE USED.
3. CONCRETE FORM WORK SHALL BE CONSTRUCTED USING MINIMUM 2"X8" NOMINAL SIZE LUMBER. STRIP AND REMOVE UPON COMPLETION.
4. CONCRETE SHALL HAVE 4000PSI 28-DAY COMPRESSIVE STRENGTH WITH 5(±1)% AIR ENTRAINMENT, 4(±1)"SLUMP AND BRISTLE BROOM FINISH.

CONCRETE PAD DETAILS

SCALE: N.T.S.

1
A-7

APPLICANT:
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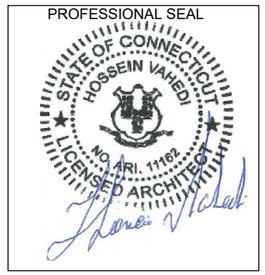
PROFESSIONAL SEAL



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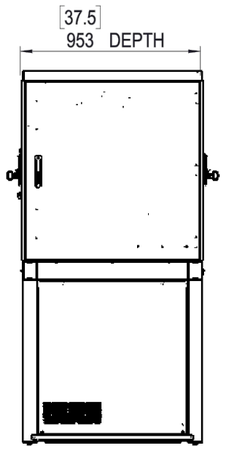
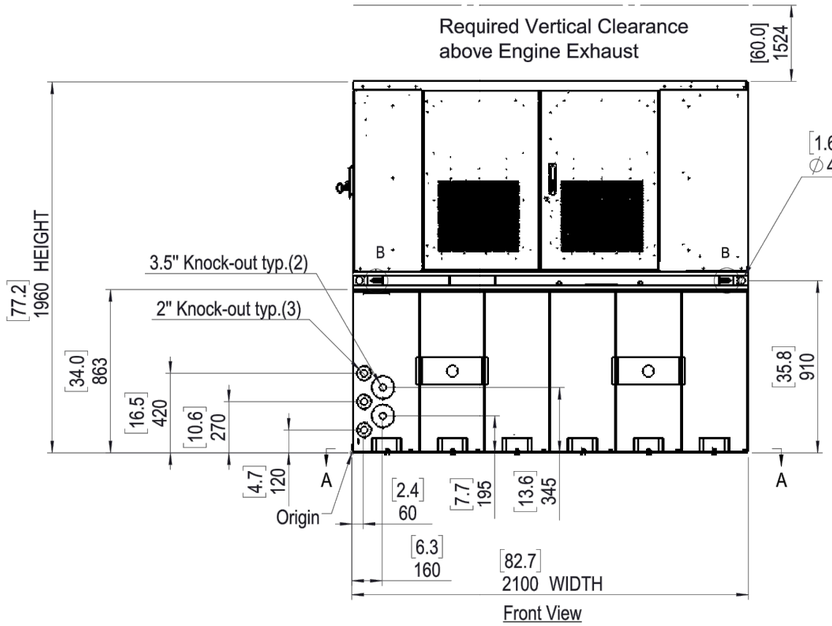
SHEET TITLE:
A-7: CONC PAD DETAILS

DELTA 25 KW DC GENERATOR

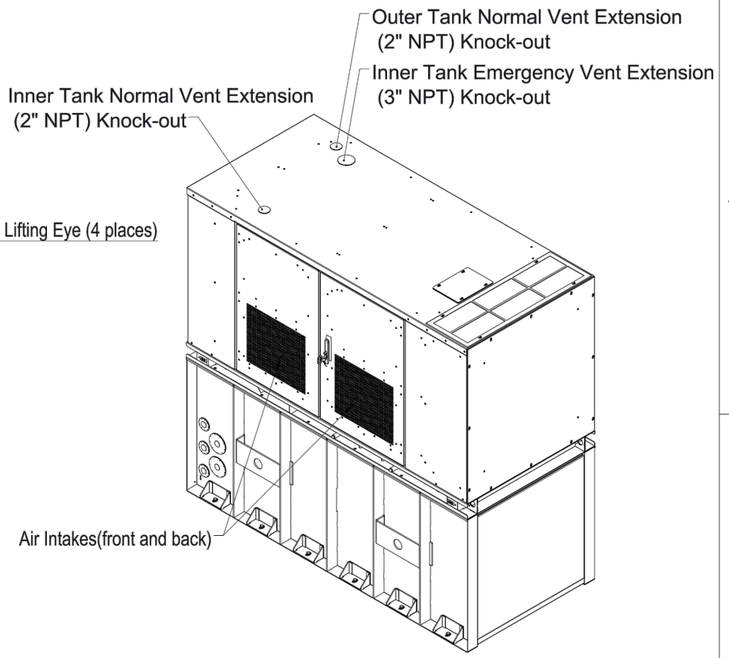
GENERATOR SPECIFICATIONS
MANUF.: POWERGEN 25000 (25 KW DC)
HEIGHT: 77.2"
WIDTH: 82.7"
DEPTH: 37.5"
WEIGHT: 3,220 LBS

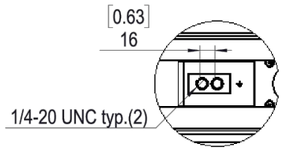


Left (PDU) Side View

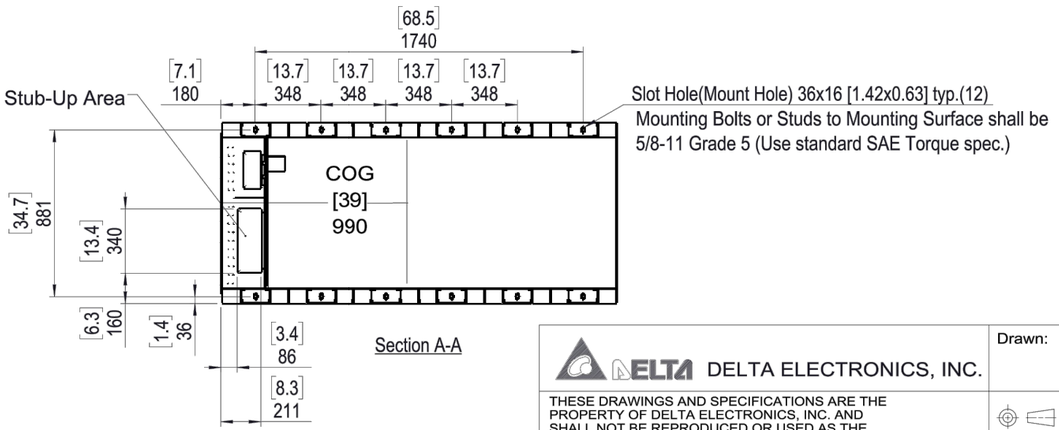


Front View





Chassis Ground Detail "B" (4 places)



Section A-A

WEIGHT:1460kg [3216lbs]

DELTA ELECTRONICS, INC.	Drawn: 2018/6/15 Api.Huang	Design: 2018/6/15 Jane Liu	
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF DELTA ELECTRONICS, INC. AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SELL OF APPARATUSES OR DEVICES WITHOUT PERMISSION.	THIRD ANGLE PROJECTION	Description: Diesel DC Generator	
DIMENSIONAL TOLERANCES ( ) V ( ) HOLES : ±0.05 ANGLES : ±0.5° ( ) <30 ±0.25 >30~100 ±0.35 >100~300 ±0.5 ABOVE 300 ±0.6 DECIMALS X ±0.3 X.X ±0.2 X.XX±0.1 UP~100 ±0.2 100~150 ±0.25 150~200 ±0.3 200~250 ±0.35 250~300 ±0.4 300~350 ±0.45 350~400 ±0.5 UP~600 ±1.5 600~900 ±2.4 900~OVER ±3.1	A3 SIZE	Part No. ESOG480-CCA02	REV. 00
SCALE 1:30 UNIT mm [in.] USED ON ESOG480-CCA02		SHEET 1 OF 5 ISSUE DATE: 2018/06/22	

V:\CAD Vault_PLM Database\Generator & Oil Tank\ESOG288-CCAxx (TMO 15kw)\ESOGxxx-CCAxx (ESOG480-CCA02)
V:\CAD Vault_Drawings\PD\ESOG480-CCA02-PD00

FRAME NAME:DF-MEA3H-1R01.SLDDRT

GENERATOR DIAGRAM
SCALE: N.T.S.

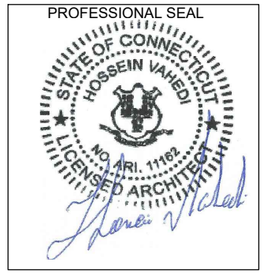
1 / A-8

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
NSS NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL

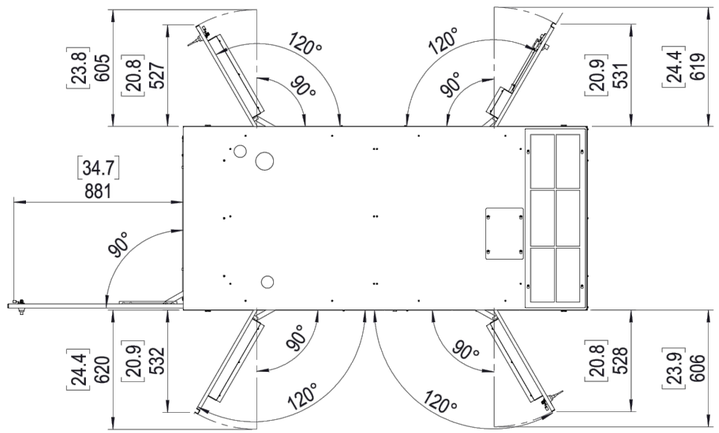


REV	DESCRIPTION	DATE
A	PRELIMINARY	09/18/18
B	CHANGED TO DELTA GEN.	10/18/18
0	SIGNED AND SEALED	10/18/18

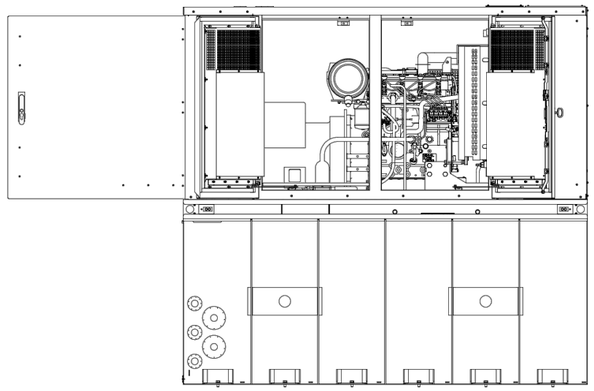
SITE NUMBER: CTHA014A
SITE NAME: HA014/T OF WETHERSFIELD_MP
SITE ADDRESS: 23 KELLEHER COURT
WETHERSFIELD, CT 06109

SHEET TITLE:
A-8: GENERATOR DETAILS

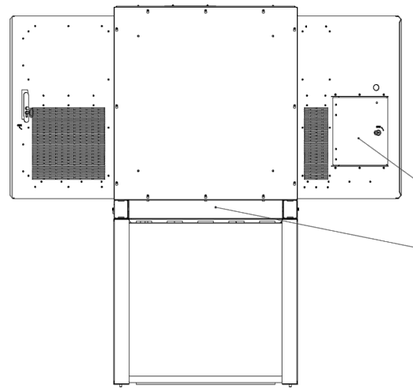
Recommended 914.4[36.0] Minimum Perimeter Clearance



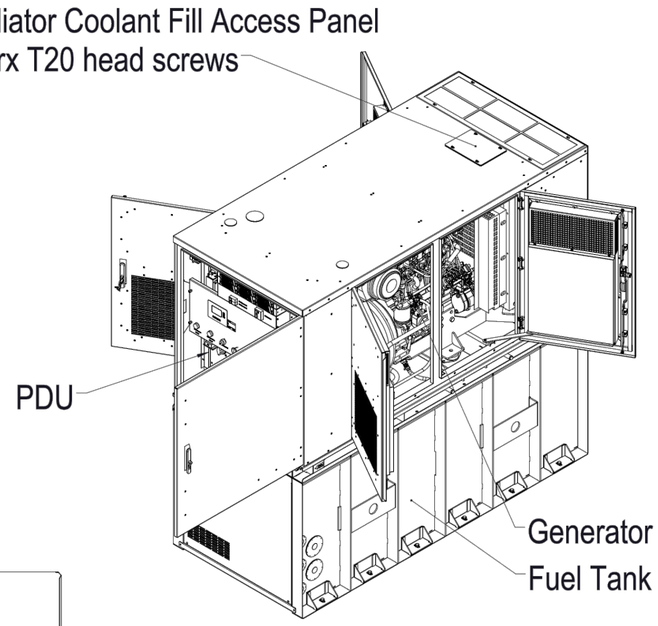
Top View



Front View



Right(Exhaust) Side View



DELTA ELECTRONICS, INC.		Drawn: 2018/6/15 Api.Huang	Design: 2018/6/15 Jane Liu	
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DIMENSIONAL TOLERANCES HOLES : ±0.05 ANGLES : ±0.5°		A3 SIZE	Part No. ESOG480-CCA02	REV. 00
SCALE 1:30	UNIT mm [in.] USED ON ESOG480-CCA02		SHEET 2 OF 5	ISSUE DATE: 2018/06/22

V:\CAD Vault_PLM Database\Generator & Oil Tank\ESOG288-CCAxx (TMO 15kw)\ESOGxxx-CCAxx (ESOG480-CCA02 Open)
V:\CAD Vault_Drawings\PD\ESOG480-CCA02-PD00

FRAME NAME:DF-MEA3H-1R01.SLDDRT

GENERATOR DETAILS
SCALE: N.T.S.

1
A-9

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
NSS NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL
STATE OF CONNECTICUT
HOSSEIN VAHEDI
NO. ARI. 11162.
LICENSED ARCHITECT

REV	DESCRIPTION	DATE
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0	SIGNED AND SEALED	10/18/18

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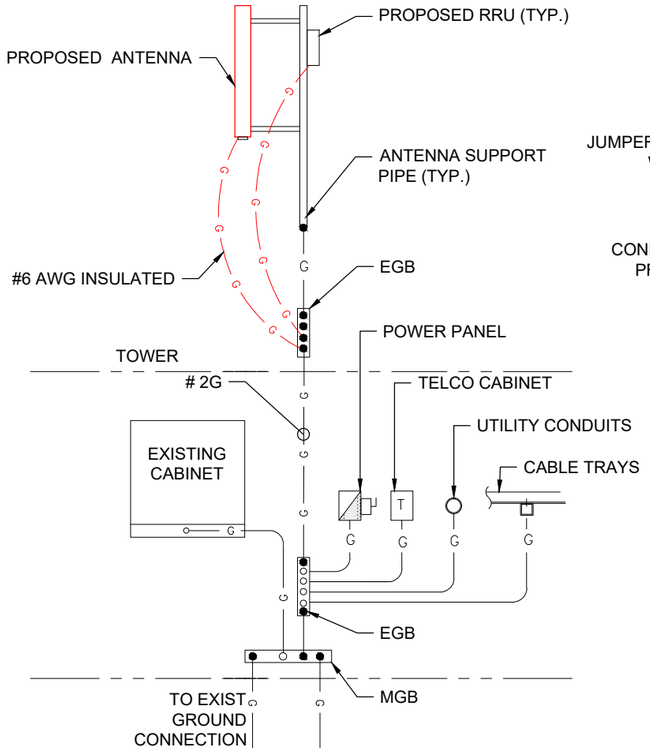
SITE NAME: HA014/T OF WETHERSFIELD_MP
SITE ADDRESS: 23 KELLEHER COURT
WETHERSFIELD, CT 06109

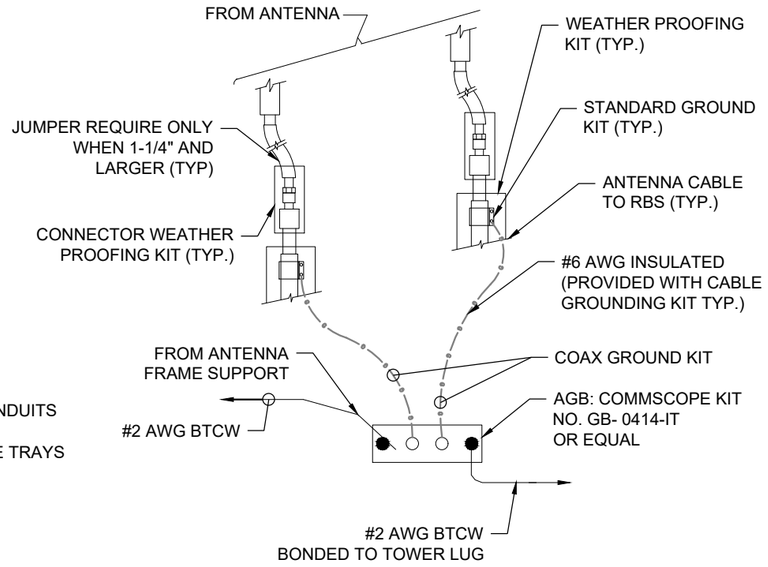
SHEET TITLE:
A-9: GENERATOR DETAILS

ELECTRICAL & GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PRODUCED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. 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) ND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLING BETWEEN ELECTRICAL ROOM AND PROPOSED CELL SITE ARE PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROPOSED CELL SITE TELECOM CABINET AND RBS CABINET AS INDICATED ON DRAWING A -1. PROVIDE FULL LENGTH PULL ROPE INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NAME 3R ENCLOSURE.
11. GROUNDING SHALL COMPLY WITH NEC ART. 250.
12. GROUNDING COAX CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURES COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
13. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSTALLATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE GROUND.
14. ALL GROUND CONNECTION TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
15. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AS RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY BOND ANY METER OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
16. CONNECTIONS TO MGB SHALL BE ARRANGED IN THREE MAIN GROUPS: SURGE PROCEDURES (COAXIAL CABLE GROUND KITS, TELCO AND POWER PANEL GROUND); (GROUNDING ELECTRODE RING OR BUILDING STEEL); NON-SURGING OBJECTS (EGB GROUND IN RBS UNIT).
17. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
18. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTION.
19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.
20 BOND ANTENNA EGB'S AND MGB TO WATER MAIN.
21. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
22. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
23. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.

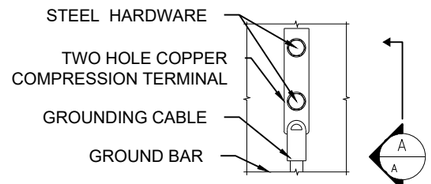


GROUNDING RISER DIAGRAM (1 / E-1)
SCALE: N.T.S

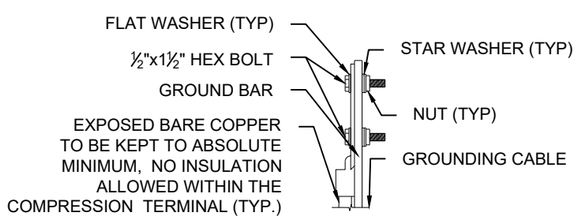


NOTES:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB

TOWER TOP CABLE GROUNDING DETAIL (2 / E-1)
SCALE: N.T.S



ELEVATION



SECTION A-A

NOTES:
1. "DOUBLING UP" OR "STACKING " OF CONNECTIONS IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

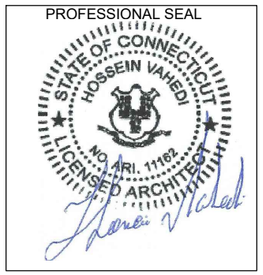
TYPICAL GROUND BAR CONNECTIONS DETAIL (3 / E-1)
SCALE: N.T.S

APPLICANT:
T-Mobile
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
NSS NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
420 MAIN STREET, BLDG 4
STURBRIDGE, MA 01566
203-275-6669

CONSULTANT:
FORESITE LLC
Architects . Engineers . Surveyors
462 WALNUT STREET
NEWTON, MA 02460
617-212-3123

PROFESSIONAL SEAL



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0	SIGNED AND SEALED	10/18/18

SITE NUMBER: CTHA014A
SITE NAME: HA014/T OF WETHERSFIELD_MP
SITE ADDRESS: 23 KELLEHER COURT
WETHERSFIELD, CT 06109

SHEET TITLE:
E-1: GROUNDING AND ELECTRICAL DETAILS

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES INCLUDING LATEST EDITIONS OF:
   - NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
   - UL - UNDERWRITERS LABORATORIES
   - NEC - 2014 NATIONAL ELECTRICAL CODE NEMA - NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
   - OSHA - OCCUPATIONAL SAFETY AND HEALTH ACT
   - IBC - 2009 INTERNATIONAL BUILDING CODE
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PRODUCED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. 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) ND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. RIGID STEEL CONDUITS SHALL BE GROUNDED AT BOTH ENDS.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THIN INSULATION.
8. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NAME 3R ENCLOSURE.
9. GROUNDING SHALL COMPLY WITH NEC ART. 250.
10. GROUNDING COAX CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURES COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
11. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSTALLATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE GROUND.
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17. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.
18. BOND ANY METAL OBJECTS WITHIN 7 FEET OF PROPOSED EQUIPMENT OR CABINET TO MASTER GROUND BAR.
19. VERIFY PROPOSED SERVICE UPGRADE WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION.
20. EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND-EXCAVATE TO REQUIRED SUB-GRADE DEPTH, SUFFICIENT TEST HOLES OR AS DIRECTED / REQUIRED BY CONSTRUCTION MANAGER. ALL PROPOSED UNDERGROUND UTILITY TRENCHES SHALL BE HAND-EXCAVATE AS REQUIRED. GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED SPECIAL TEMPORARY PROTECTION OF, PHYSICAL DAMAGE TO, OR REPAIR OF EXISTING UNDERGROUND CONDUIT INCLUDING RESTORATION OF SERVICE.

GROUNDING NOTES:

1. GROUNDING SHALL COMPLY WITH NEC ART. 250 AND MANUFACTURER'S RECOMMENDATIONS. TIE INTO THE EXISTING GROUNDING SYSTEM.

2. CONTRACTOR SHALL INSTALL GROUND RODS ON ALL UNDERGROUND GROUNDING RUNS LONGER THAN 10'. GROUND RODS WILL BE INSTALLED ON 20' CENTERS MAXIMUM.

3. ALL DOWN CONDUCTORS MUST GO DOWN PER NFPA 780.

4. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.

5. CONTRACTOR MY USE EXISTING CONDUITS AND CONDUCTORS PROVIDED THEY ARE IN GOOD CONDITION AND ARE SUFFICIENTLY RATED.

CONSTRUCTION NOTES:

(HAND-DUG UTILITY TRENCH EXCAVATION REQUIRED):

EXISTING UNDERGROUND UTILITY LOCATIONS ARE UNKNOWN. GENERAL CONTRACTOR SHALL HAND-EXCAVATE TO REQUIRED SUB-GRADE DEPTH, SUFFICIENT TEST HOLES.
ALL PROPOSED UNDERGROUND UTILITY TRENCHES SHALL BE HAND-EXCAVATE AS REQUIRED.

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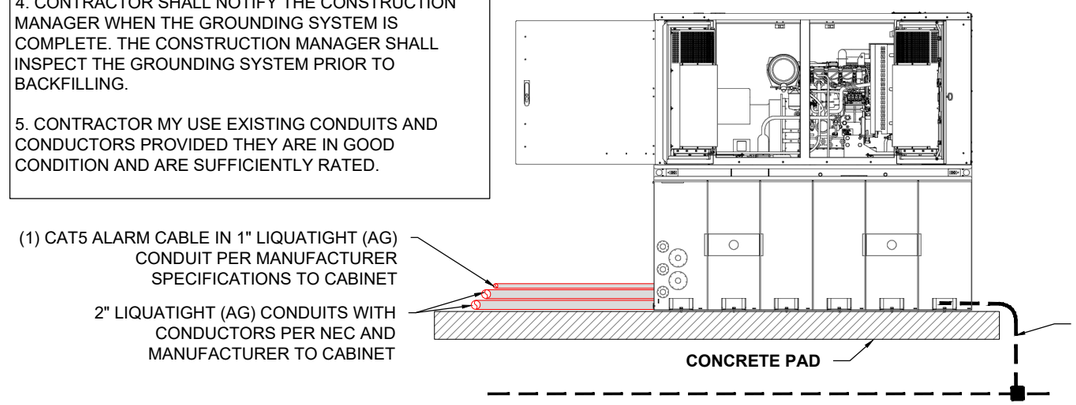


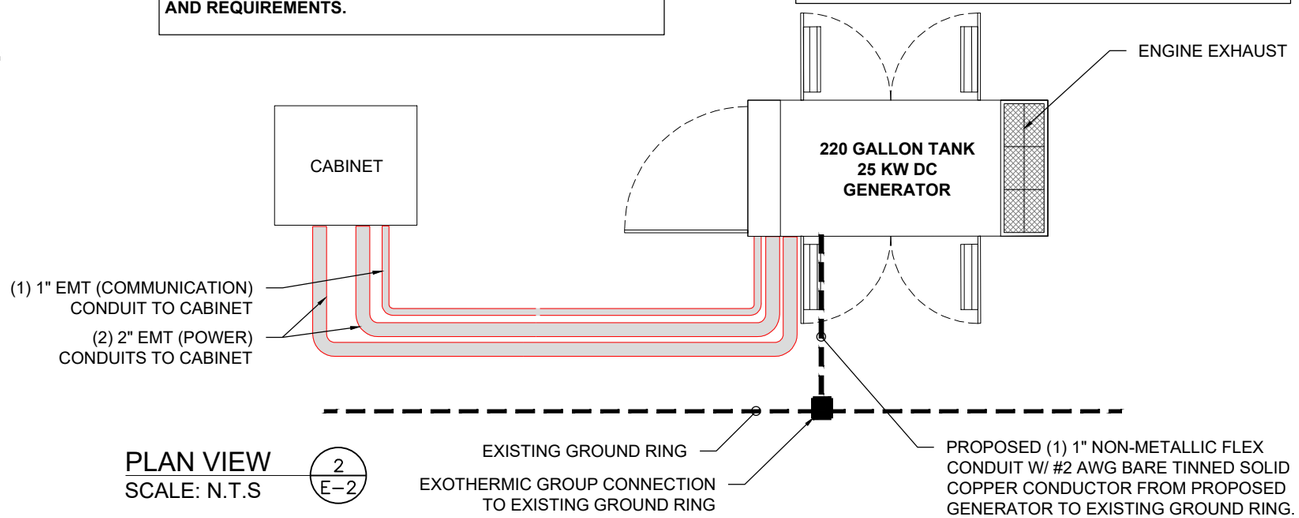
GROUNDING AND ELECTRIC RISER DIAGRAM (1 / E–2)
SCALE: N.T.S

NOTES:

DIAGRAM AS SHOWN, IS A GENERIC ROUTING SCHEMATIC BASED ON AVAILABLE INFORMATION AND MAY NOT REPRESENT ACTUAL FIELD CONDITIONS. CONTRACTOR SHOULD INSTALL THE GENERATOR, EQUIPMENT AND CONNECTIONS BASED ON VERIFIED ELECTRICAL AUDITS AND PER MANUFACTURER'S INSTALLATION GUIDES AS WELL AS ALL APPLICABLE LOCAL AND NATIONAL CODES AND REQUIREMENTS.

NOTES:

G.C. TO VERIFY THAT THE EXISTING AND PROPOSED CONDUITS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSED SCOPE IN ACCORDANCE WITH NEC AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORK AS REQUIRED.



PLAN VIEW (2 / E–2)
SCALE: N.T.S

APPLICANT:
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANAGER
NSS NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development
420 MAIN STREET, BLDG 4
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203-275-6669

CONSULTANT:
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Architects . Engineers . Surveyors
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PROFESSIONAL SEAL
STATE OF CONNECTICUT · HOSSEIN VAHEDI · NO. ARI. 11162 · LICENSED ARCHITECT

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0	SIGNED AND SEALED	10/18/18

SITE NUMBER: CTHA014A
SITE NAME: HA014/T OF WETHERSFIELD_MP
SITE ADDRESS: 23 KELLEHER COURT
WETHERSFIELD, CT 06109

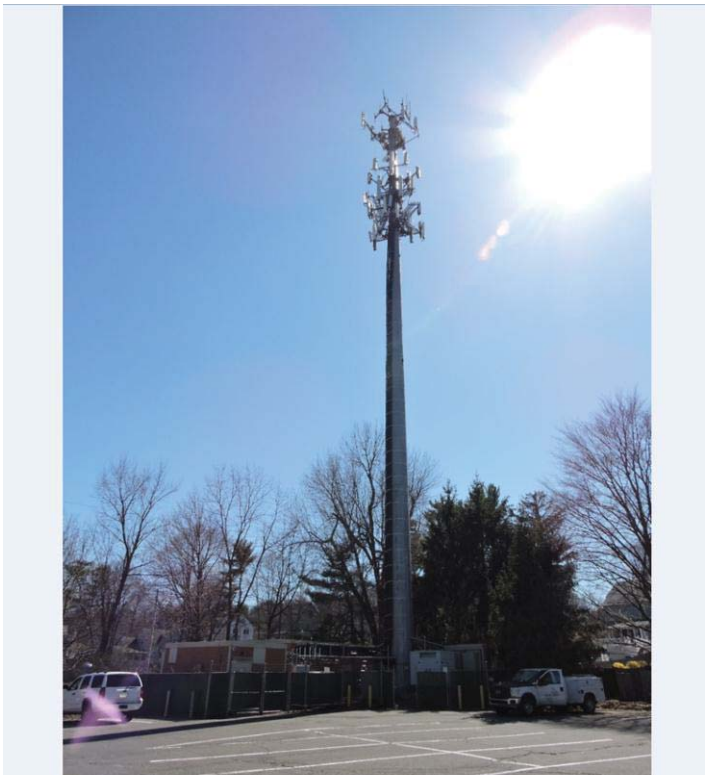
SHEET TITLE:
E-2: GROUNDING AND ELECTRICAL DETAILS

Exhibit D

STRUCTURAL ANALYSIS REPORT
MONOPOLE

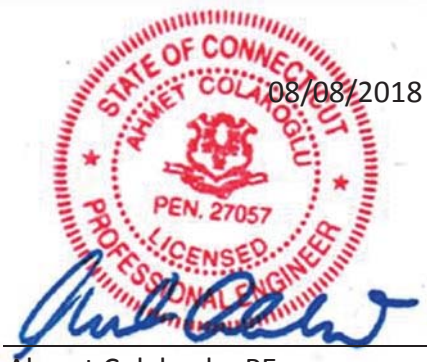
Prepared For:

T-Mobile Northeast, LLC
35 Griffin Road South
Bloomfield, CT 06002



Structure Rating	
Monopole:	**Pass (72.7%)**
Anchor rods:	**Pass (77.4%)**
Base Plate:	**Pass (78.5%)**
Foundation:	**Pass (73.5%)**

Sincerely,
Destek Engineering, LLC
License No: PEC0001429



08/08/2018

Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

Site ID: CTHA014A
Site Name: HA014/TofWethersfield_MP
23 Kelleher Court,
Wethersfield, CT 06109

Destek Job No: 1875043 August 08, 2018

CONTENTS

DESTEK ENGINEERING, LLC
1281 Kennestone Circle, Suite 100, Marietta, GA 30066 -Tel: (770) 693-0835

1.0 SUBJECT AND REFERENCES

The purpose of this analysis is to evaluate the structural capacity of the existing 179 feet tall monopole tower, located at 23 Kelleher Court, Wetherfield, CT 06109 for the additions and alterations proposed by T-Mobile.

The structural analysis of the site is based on the following documents provided to Destek Engineering, LLC (Destek):

- Structural Analysis Report prepared by Destek Engineering, LLC, dated 11/29/2016.
- Construction Drawings prepared by Clough Harbour & Associates LLP, dated 08/01/2006
- RFDS prepared by T-Mobile, dated 05/08/2018.
- Site Audit pictures, dated 04/23/2018.

1.1 STRUCTURE

The structure is a 179'-0" (18) sided monopole, which is attached to the foundation with anchor bolts and a base plate. Please refer to the software output in Appendix A, for tower geometry, member sizes, and other details.

ELEVATION (FEET)	SECTION LENGTH (FEET)	LAP SPLICE (FT)	SHAFT THICKNESS (IN)	TOP DIAMETER (IN)	BOTTOM DIAMETER (IN)	YIELD STRENGTH (KSI)
179.00-141.25	37.75	4.33	0.250	23.100	33.249	65
141.25-92.58	53.00	5.92	0.375	31.585	45.834	65
92.58-45.50	53.00	7.50	0.375	43.492	57.742	65
45.50-0.0	53.00	-	0.375	54.976	69.225	65

*Does not include description of existing monopole modifications.

2.0 EXISTING AND PROPOSED APPURTENANCES

This analysis was based on the following existing and proposed appurtenances:

Existing Configuration of T-MOBILE Appurtenances:

RAD CENTER (FT)	ANTENNA & TMA	COAX	MOUNT
151	(3) AIR21 KRC118023-1_B2A_B4P (3) LNX-6515DS-A1M (3) AIR21 KRC118023-1_B2P_B4A (3) RRUS11_B12 (6) Generic Twin Style 1B-AWS TMA	(12) 1-5/8'' + (2) 9x18 Hybrid Cables	(3) Sector Mounts

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Proposed and Final Configuration of T-MOBILE Appurtenances:

RAD CENTER (FT)	ANTENNA & TMA	COAX	MOUNT
151	(3) APXVAARR24_43-U-NA20 (3)) AIR32 KRD901146-1_B66A_B2A (3) AIR21 KRC118023-1_B2A_B4P (3) Radio 4449 B12/B71 (3) Generic Twin Style 1B-AWS TMA	(12) 1-5/8'' + (2) 9x18 + (2) 6x12 Hybrid Cables	(3) Sector Mounts

Existing and Remaining Appurtenances by Others:

Rad. Center (ft)	Antenna & TMA	Mount	Feedlines
188	(1) 10' Omni	(1) Pipe Mount	(1) 1-1/4"
186	(2) 6' Omni	(2) Pipe Mounts	(2) 7/8"
185	(2) 4' Omni 4' Dipole	(3) Pipe Mounts	(4) 1-5/8"
181	Distribution Box	-	(2) 1/2"
174	(2) APXVSPP18-C w/Mount Pipe ET-X-TU-42-15 w/Mount Pipe (3) APXV9TM14 w/Mount Pipe (3) RRH 8X20-25	(3) Sector Mounts	(4) 1-1/4"
170	(3) RRH 800 (3) RRH 1900	Ring Mount	-
159	2' Dish	Pipe Mount	1/4"
142	(3) RRUS-11 (3) RRUS-32 B2	Ring Mount	(12) 1-5/8" (2) DC Cable (1) Fiber Cable
140	(3) 7770.00 w/Mount Pipe (2) SBNHH-1D65A w/Mount Pipe (2) HPA-65R-BUU-H8 w/Mount Pipe (2) TPA-65R-LCUUUU-H8 w/Mount Pipe (6) LGP21401 TMAs (3) RRUS-32 (2) DC 6 (12) TPX-070821	(3) Sector Mounts	
130	(3) BXA-171063-12CF w/Mount Pipe (3) BXA-70063-4CF w/Mount Pipe (3) BXA-70063-6CF w/Mount Pipe (3) MGD3-900 w/Mount Pipe (3) RRH2X40 AWS RXXDC-3315-PF-48	Platform	(18) 1-5/8" (1) 1/4"
126	2' Dish	Pipe Mount	1/4"

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3.0 CODES AND LOADING

The tower was analyzed per *TIA/EIA-222-G* as referenced by the *2016 Connecticut State Building Code* with all of the adopted Addendums and Supplements. The following wind loading was used in compliance with the standard for Hartford, CT:

- Basic wind speed 97 mph without ice (W_o)
- Basic wind speed 50 mph with 1" escalating ice (W_i)
- Exposure Category C
- Topographic Category 1
- Structure Class II

The following load combinations were used with wind blowing at 0°, 30°, 45°, 60°, and 90° measured from a line normal to the face of the monopole tower.

- 1.2 D + 1.6 W_0
- 0.9 D + 1.6 W_0
- 1.2 D + 1.0 D_i + 1.0 W_i

D: Dead Load of structure and appurtenances
W_0: Wind Load, without ice
W_i: Wind Load, with ice
D_i: Weight of Ice

4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

The analysis is based on the information provided to Destek and is assumed to be current and correct. Unless otherwise noted, the structure and the foundation system are assumed to be in good condition, free of defects and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Destek will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance.

The analysis results presented in this report are only applicable for the previously mentioned existing and proposed additions and alterations. Any deviation of the proposed equipment and placement, etc., will require Destek to generate an additional structural analysis.

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5.0 ANALYSIS AND ASSUMPTIONS

The tower was analyzed by utilizing tnxTower, a non-linear, three-dimensional, finite element-analysis software package, a product of Tower Numerics, Inc. Software output for this analysis is provided in Appendix A of this report.

This analysis assumes that the modifications detailed in the Structural Modification Drawings prepared by Hudson Design Group, dated 08/23/2016, have been installed.

6.0 RESULTS AND CONCLUSION

The structural modifications detailed in the Structural Modification Drawings prepared by Hudson Design Group, dated 8/23/2016, have been incorporated into our analysis. After analyzing the upgraded structure, Destek has deemed the modifications to be **ineffective** due to the inadequate thickness of the reinforcement plates. The added wind area of the reinforcement has been considered in this analysis.

Based on a structural analysis per ANSI/TIA-222-G, the existing monopole tower **has adequate** structural capacity for the proposed changes by T-Mobile. For the aforementioned load combinations and as a maximum, the monopole shaft between the elevation 0' and 45.5' is stressed to **72.7%** of capacity. The anchor rods and base plate are stressed to **77.4%** and **78.5%** of capacity. The existing foundation is found to have **adequate** capacity to support the proposed installation by T-Mobile. As a maximum, the foundation is stressed to **73.5%** of its structural capacity.

Therefore, the proposed additions and alterations by T-Mobile **can** be implemented as intended with the conditions outlined in this report.

Should you have any questions about this report, please contact us at (770) 693-0835.

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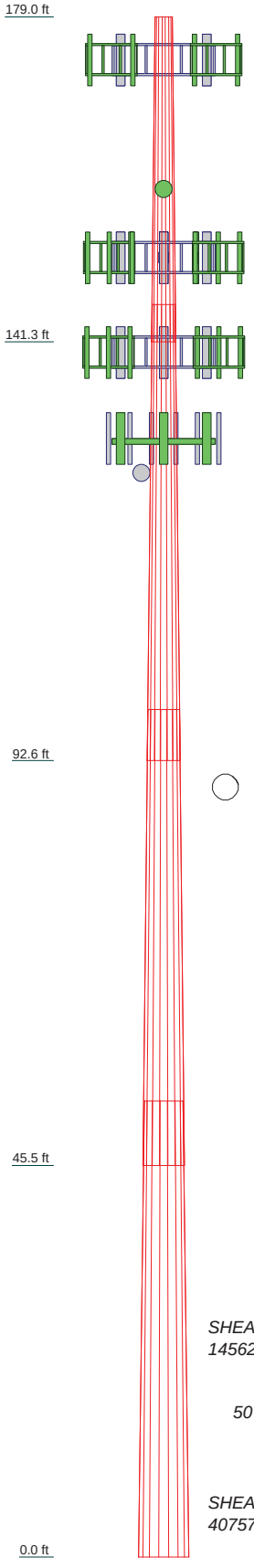
APPENDIX A
CALCULATIONS &
COAX LAYOUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	37.75	18	0.2500	4.33	23.1000	33.2490	A572-65	2846.3
2	53.00	18	0.3750	5.92	31.5849	45.8340		8228.8
3	53.00	18	0.3750	7.50	43.4924	57.7420		10784.9
4	53.00	18	0.3750		54.9755	69.2250		13249.9
								35110.0



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(3) 6' x 2" Mount Pipe	181	RRUS-11	142
(3) 6' x 2" Mount Pipe	181	RRUS-11	142
(3) 6' x 2" Mount Pipe	181	RRUS 32 B2	142
Omni 4"x6'	181	RRUS 32 B2	142
Omni 2"x6'	181	RRUS 32 B2	142
Distribution Box	181	(2) SBNHH-1D65A w/ Mount Pipe	140
Omni 3"x4'	181	7770.00 w/ Mount Pipe	140
Omni 3"x10'	181	7770.00 w/ Mount Pipe	140
Distribution Box	181	TPA-65R-LCUUUU-H8 w/ Mount Pipe	140
Omni 3" x 4'	181	RRUS 32	140
4' Dipole	181	RRUS 32	140
TA 702-3	181	RRUS 32	140
ET-X-TU-42-15-37-18-iR-ST w/ Mount Pipe	174	TPA-65R-LCUUUU-H8 w/ Mount Pipe	140
		CCI HPA-65R-BUU-H8 with pipe	140
APXVSPP18-C w/ Mount Pipe	174	CCI HPA-65R-BUU-H8 with pipe	140
APXVSPP18-C w/ Mount Pipe	174	(2) LGP21401	140
APXV9TM14 w/ Mount Pipe	174	(2) LGP21401	140
APXV9TM14 w/ Mount Pipe	174	(2) LGP21401	140
APXV9TM14 w/ Mount Pipe	174	(2) LGP21901	140
TA 602-3	174	(2) LGP21901	140
RRH8x20-25	174	(2) LGP21901	140
RRH8x20-25	174	LGP12104	140
RRH8x20-25	174	(4) TPX-070821	140
RRH800MHz	170	(4) TPX-070821	140
RRH800MHz	170	(4) TPX-070821	140
RRH800MHz	170	DC6-48-60-18-8F (Round)	140
RRH1900MHz	170	DC6-48-60-18-8F (Round)	140
RRH1900MHz	170	TA 602-3	140
RRH1900MHz	170	7770.00 w/ Mount Pipe	140
Ring Mount	170	BXA-70080-4CF-EDIN w/ Mount Pipe	130
HP2-102	159	BXA-70080-6CF-EDIN w/ Mount Pipe	130
AIR 21 B4A/B2P w/ Mount Pipe	151	Rymsa MGD3-900	130
AIR 21 B4A/B2P w/ Mount Pipe	151	RRH2x40-AWS	130
Gen TMA	151	BXA-171063-12CF-EDIN w/ Mount Pipe	130
Gen TMA	151		
Gen TMA	151	BXA-70080-4CF-EDIN w/ Mount Pipe	130
AIR -32 B2A/B66AA w/ Mount Pipe	151	BXA-70080-6CF-EDIN w/ Mount Pipe	130
AIR -32 B2A/B66AA w/ Mount Pipe	151	Rymsa MGD3-900	130
AIR -32 B2A/B66AA w/ Mount Pipe	151	RRH2x40-AWS	130
APXVAARR24_43-U-NA20 w/ Mount Pipe	151	BXA-171063-12CF-EDIN w/ Mount Pipe	130
APXVAARR24_43-U-NA20 w/ Mount Pipe	151	BXA-70080-4CF-EDIN w/ Mount Pipe	130
		BXA-70080-6CF-EDIN w/ Mount Pipe	130
APXVAARR24_43-U-NA20 w/ Mount Pipe	151	Rymsa MGD3-900	130
		RRH2x40-AWS	130
RADIO 4449 B12/B71	151	RxxDC-3315-PF-48	130
RADIO 4449 B12/B71	151	Pirod 13' Low Profit Platfrom	130
RADIO 4449 B12/B71	151	BXA-171063-12CF-EDIN w/ Mount Pipe	130
TA 602-3	151		
AIR 21 B4A/B2P w/ Mount Pipe	151	HP2-102	126
RRUS-11	142		

MATERIAL STRENGTH

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

ALL REACTION ARE FACTORE

AXIAL 129061 lb

SHEAR 14562 lb

TORQUE 0 kip-ft
50 mph WIND - 1.000

AXIAL 60424 lb

SHEAR 40757 lb

MOMENT 4875 kip-ft

TORQUE 2 kip-ft
REACTIONS - 97 mph WIND

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
2. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 72.7%

Destek Engineering, LLC.
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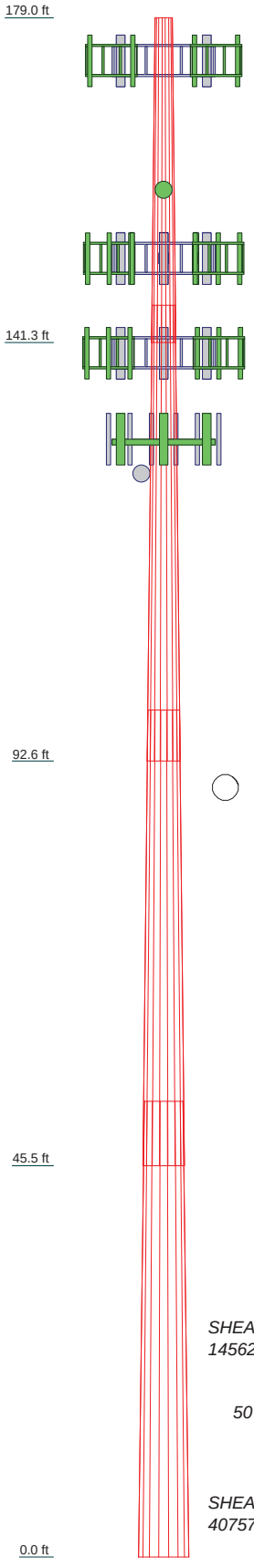
Marietta, GA 30066
Phone: (770) 693-0835
FAX:

Job: **CTHA014A**			
Project: **1875043**			
Client: ForeSite	Drawn by:	App'd:	
Code: TIA-222-G	Date: 08/08/18	Scale: NTS	
Path: Z:\Projects\2018\75 - ForeSite LLC\1875043 - CTHA014A\TNX\CTHA014A.eri		Dwg No. E-1	

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (lb)
1	37.75	18	0.2500	4.33	23.1000	33.2490	A572-65	2846.3
2	53.00	18	0.3750	5.92	31.5849	45.8340		8228.8
3	53.00	18	0.3750	7.50	43.4924	57.7420		10784.9
4	53.00	18	0.3750		54.9755	69.2250		13249.9
								35110.0



ALL REACTIONS ARE FACTORED

AXIAL
129061 lb

SHEAR
14562 lb

MOMENT
1728 kip-ft

TORQUE 0 kip-ft
50 mph WIND - 1.0000 in ICE

AXIAL
60424 lb

SHEAR
40757 lb

MOMENT
4875 kip-ft

TORQUE 2 kip-ft
REACTIONS - 97 mph WIND

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
2. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 72.7%

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Job: ***CTHA014A***			
Project: ***1875043***			
Client: ForeSite	Drawn by:	App'd:	
Code: TIA-222-G	Date: 08/08/18	Scale: NTS	
Path: Z:\Projects\2018\75 - ForeSite LLC\1875043 - CTHA014A\TNX\CTHA014A.eri		Dwg No. E-1	

Tower Input Data

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

Basic wind speed of 97 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 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		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-G Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric				Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

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	179.00-141.25	37.75	4.33	18	23.1000	33.2490	0.2500	1.0000	A572-65 (65 ksi)
L2	141.25-92.58	53.00	5.92	18	31.5849	45.8340	0.3750	1.5000	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	92.58-45.50	53.00	7.50	18	43.4924	57.7420	0.3750	1.5000	A572-65 (65 ksi)
L4	45.50-0.00	53.00		18	54.9755	69.2250	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	23.4178	18.1315	1196.0325	8.1118	11.7348	101.9219	2393.6388	9.0675	3.6256	14.502
	33.7234	26.1847	3602.3567	11.7146	16.8905	213.2772	7209.4536	13.0948	5.4118	21.647
L2	33.1964	37.1476	4571.4330	11.0795	16.0451	284.9110	9148.8811	18.5773	4.8989	13.064
	46.4832	54.1076	14126.5228	16.1379	23.2837	606.7137	28271.6336	27.0589	7.4068	19.751
L3	45.7217	51.3205	12054.0604	15.3067	22.0941	545.5773	24123.9819	25.6651	6.9947	18.652
	58.5749	68.2811	28389.7820	20.3653	29.3329	967.8466	56816.9200	34.1470	9.5026	25.34
L4	57.8133	64.9883	24477.4753	19.3832	27.9276	876.4625	48987.1587	32.5003	9.0157	24.042
	70.2351	81.9487	49078.0698	24.4417	35.1663	1395.5995	98220.7178	40.9821	11.5236	30.73

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	Double Angle Stitch Bolt Spacing Redundants in
L1 179.00-141.25				1	1	1			
L2 141.25-92.58				1	1	1			
L3 92.58-45.50				1	1	1			
L4 45.50-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
AVA6-50(1-1/4)	B	Surface Ar (CaAa)	6.00 - 174.00	1	1	0.000 0.000	1.5600		0.46
AL7-50(1-5/8")	C	Surface Ar (CaAa)	6.00 - 151.00	6	6	-0.100 -0.100	1.9600		0.52
AVA6-50(1-1/4)	C	Surface Af (CaAa)	6.00 - 151.00	2	2	-0.125 -0.125	1.5600	4.9009	0.46
HB114-13U6-S12F18(1-1/4")	C	Surface Af (CaAa)	6.00 - 151.00	2	2	-0.123 -0.123	1.5400	4.8381	1.51
AL7-50(1-5/8")	C	Surface Ar (CaAa)	6.00 - 130.00	6	6	0.100 0.300	1.9600		0.52
ATCB-B01(1/4")	C	Surface Ar (CaAa)	6.00 - 130.00	1	1	0.313 0.313	0.3150		0.07
*****									
Step Pegs (Surface Ar)	C	Surface Ar (CaAa)	6.00 - 179.00	1	1	0.000 0.000	0.8000		2.72
****									
8x0.5	A	Surface Af	30.00 - 0.00	1	1	0.000	8.0000	17.0000	13.61

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
		(CaAa)				0.000			
8x0.5	B	Surface Af	30.00 - 0.00	1	1	0.000	8.0000	17.0000	13.61
		(CaAa)				0.000			
8x0.5	C	Surface Af	30.00 - 0.00	1	1	0.000	8.0000	17.0000	13.61
		(CaAa)				0.000			

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
AL7-50(1-5/8")	B	No	Inside Pole	6.00 - 179.00	4	No Ice	0.00	0.52
						1/2" Ice	0.00	0.52
						1" Ice	0.00	0.52
AVA6-50(1-1/4)	B	No	Inside Pole	6.00 - 179.00	1	No Ice	0.00	0.46
						1/2" Ice	0.00	0.46
						1" Ice	0.00	0.46
AL5-50(7/8")	B	No	Inside Pole	6.00 - 179.00	2	No Ice	0.00	0.26
						1/2" Ice	0.00	0.26
						1" Ice	0.00	0.26
HJ4-50(1/2")	B	No	Inside Pole	6.00 - 179.00	2	No Ice	0.00	0.25
						1/2" Ice	0.00	0.25
						1" Ice	0.00	0.25
****								
AVA6-50(1-1/4)	B	No	Inside Pole	6.00 - 174.00	3	No Ice	0.00	0.46
						1/2" Ice	0.00	0.46
						1" Ice	0.00	0.46
****								
ATCB-B01(1/4")	B	No	Inside Pole	6.00 - 159.00	1	No Ice	0.00	0.07
						1/2" Ice	0.00	0.07
						1" Ice	0.00	0.07
****								
AL7-50(1-5/8")	C	No	Inside Pole	6.00 - 151.00	6	No Ice	0.00	0.52
						1/2" Ice	0.00	0.52
						1" Ice	0.00	0.52
*****								
AL7-50(1-5/8")	A	No	Inside Pole	6.00 - 140.00	12	No Ice	0.00	0.52
						1/2" Ice	0.00	0.52
						1" Ice	0.00	0.52
FB-L98-002-XXX(3/8")	A	No	Inside Pole	6.00 - 140.00	1	No Ice	0.00	0.06
						1/2" Ice	0.00	0.06
						1" Ice	0.00	0.06
WR-VG122ST-BRDA(7/16")	A	No	Inside Pole	6.00 - 140.00	2	No Ice	0.00	0.25
						1/2" Ice	0.00	0.25
						1" Ice	0.00	0.25
****								
AL7-50(1-5/8")	C	No	Inside Pole	6.00 - 130.00	12	No Ice	0.00	0.52
						1/2" Ice	0.00	0.52
						1" Ice	0.00	0.52
***								
ATCB-B01(1/4")	B	No	Inside Pole	6.00 - 126.00	1	No Ice	0.00	0.07
						1/2" Ice	0.00	0.07
						1" Ice	0.00	0.07

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	179.00-141.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	5.109	0.000	195.98
		C	0.000	0.000	24.561	0.000	201.93
L2	141.25-92.58	A	0.000	0.000	0.000	0.000	322.67
		B	0.000	0.000	7.593	0.000	268.97
		C	0.000	0.000	156.607	0.000	980.90
L3	92.58-45.50	A	0.000	0.000	0.000	0.000	320.36
		B	0.000	0.000	7.344	0.000	261.29
		C	0.000	0.000	164.631	0.000	1051.53
L4	45.50-0.00	A	0.000	0.000	40.000	0.000	677.08
		B	0.000	0.000	46.162	0.000	627.52
		C	0.000	0.000	178.125	0.000	1290.53

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	179.00-141.25	A	2.341	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	20.441	0.000	561.30
		C		0.000	0.000	40.730	0.000	1149.22
L2	141.25-92.58	A	2.268	0.000	0.000	0.000	0.000	322.67
		B		0.000	0.000	30.377	0.000	811.88
		C		0.000	0.000	222.305	0.000	5926.24
L3	92.58-45.50	A	2.152	0.000	0.000	0.000	0.000	320.36
		B		0.000	0.000	28.696	0.000	760.52
		C		0.000	0.000	239.746	0.000	6044.11
L4	45.50-0.00	A	1.929	0.000	0.000	52.909	0.000	1308.23
		B		0.000	0.000	76.068	0.000	1644.04
		C		0.000	0.000	249.930	0.000	5825.35

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	179.00-141.25	2.1421	3.9114	1.5894	2.2296
L2	141.25-92.58	1.7775	10.9480	0.0999	6.3723
L3	92.58-45.50	1.5668	13.0387	-0.2995	7.9607
L4	45.50-0.00	1.1511	9.5266	-0.2594	6.7172

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	7	AVA6-50(1-1/4)	141.25 - 174.00	1.0000	1.0000
L1	12	AL7-50(1-5/8")	141.25 - 151.00	1.0000	1.0000
L1	13	AVA6-50(1-1/4)	141.25 - 151.00	1.0000	1.0000
L1	14	HB114-13U6-S12F18(1-1/4")	141.25 - 151.00	1.0000	1.0000
L1	28	Step Pegs (Surface Ar)	141.25 - 179.00	1.0000	1.0000
L1	23	AL7-50(1-5/8")	141.25 - 130.00	1.0000	1.0000
L1	24	ATCB-B01(1/4")	141.25 - 130.00	1.0000	1.0000
L2	7	AVA6-50(1-1/4)	92.58 - 141.25	1.0000	1.0000
L2	12	AL7-50(1-5/8")	92.58 - 141.25	1.0000	1.0000
L2	13	AVA6-50(1-1/4)	92.58 - 141.25	1.0000	1.0000
L2	14	HB114-13U6-S12F18(1-1/4")	92.58 - 141.25	1.0000	1.0000
L2	23	AL7-50(1-5/8")	92.58 - 130.00	1.0000	1.0000
L2	24	ATCB-B01(1/4")	92.58 - 130.00	1.0000	1.0000
L2	28	Step Pegs (Surface Ar)	92.58 - 141.25	1.0000	1.0000
L3	7	AVA6-50(1-1/4)	45.50 - 92.58	1.0000	1.0000
L3	12	AL7-50(1-5/8")	45.50 - 92.58	1.0000	1.0000
L3	13	AVA6-50(1-1/4)	45.50 - 92.58	1.0000	1.0000
L3	14	HB114-13U6-S12F18(1-1/4")	45.50 - 92.58	1.0000	1.0000
L3	23	AL7-50(1-5/8")	45.50 - 92.58	1.0000	1.0000
L3	24	ATCB-B01(1/4")	45.50 - 92.58	1.0000	1.0000
L3	28	Step Pegs (Surface Ar)	45.50 - 92.58	1.0000	1.0000
L3	30	8x0.5	45.50 - 30.00	1.0000	1.0000
L3	31	8x0.5	45.50 - 30.00	1.0000	1.0000
L3	32	8x0.5	45.50 - 30.00	1.0000	1.0000

Discrete Tower Loads

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
(3) 6' x 2" Mount Pipe	A	From Face	2.00 0.00 0.00	0.0000	181.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	22.00 32.83 47.71
(3) 6' x 2" Mount Pipe	B	From Face	2.00 0.00 0.00	0.0000	181.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	22.00 32.83 47.71
(3) 6' x 2" Mount Pipe	C	From Face	2.00 0.00 0.00	0.0000	181.00	No Ice 1/2" Ice 1" Ice	1.43 1.92 2.29	1.43 1.92 2.29	22.00 32.83 47.71
Omni 4"x6'	A	From Face	2.00 0.00 5.00	0.0000	181.00	No Ice 1/2" Ice 1" Ice	2.09 2.46 2.83	2.09 2.46 2.83	20.00 37.13 54.26
Omni 2"x6'	A	From Face	2.00 0.00	0.0000	181.00	No Ice 1/2" Ice	1.20 1.80	1.20 1.80	25.00 34.39

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
			5.00			1" Ice	2.40	2.40	43.78
Distribution Box	A	From Face	2.00	0.0000	181.00	No Ice	2.33	1.36	10.00
			0.00			1/2" Ice	2.55	1.54	26.33
			0.00			1" Ice	2.77	1.50	42.66
Omni 3"x4'	B	From Face	2.00	0.0000	181.00	No Ice	1.00	1.00	15.00
			0.00			1/2" Ice	1.25	1.25	23.96
			4.00			1" Ice	1.50	5.06	32.92
Omni 3"x10'	B	From Face	2.00	0.0000	181.00	No Ice	3.00	3.00	20.00
			0.00			1/2" Ice	4.03	4.03	41.79
			7.00			1" Ice	5.06	1.72	63.58
Distribution Box	B	From Face	2.00	0.0000	181.00	No Ice	2.33	1.36	10.00
			0.00			1/2" Ice	2.55	1.54	26.33
			0.00			1" Ice	2.77	1.50	42.66
Omni 3" x 4'	C	From Face	2.00	0.0000	181.00	No Ice	1.00	1.00	15.00
			0.00			1/2" Ice	1.25	1.25	23.96
			4.00			1" Ice	1.50	2.18	32.92
4' Dipole	C	From Face	2.00	0.0000	181.00	No Ice	1.64	1.64	15.00
			0.00			1/2" Ice	1.91	1.91	32.13
			2.00			1" Ice	2.18	2.18	49.26
TA 702-3	A	None		0.0000	181.00	No Ice	5.64	5.64	339.00
						1/2" Ice	6.55	6.55	429.00
						1" Ice	7.46	7.46	519.00
****									
ET-X-TU-42-15-37-18-iR-ST w/ Mount Pipe	A	From Face	3.00	0.0000	174.00	No Ice	8.68	4.50	68.25
			0.00			1/2" Ice	9.18	5.17	127.30
			0.00			1" Ice	9.68	5.84	192.77
APXVSPP18-C w/ Mount Pipe	B	From Face	3.00	0.0000	174.00	No Ice	8.26	6.95	82.55
			0.00			1/2" Ice	8.82	8.13	150.56
			0.00			1" Ice	9.35	9.02	226.53
APXVSPP18-C w/ Mount Pipe	C	From Face	3.00	0.0000	174.00	No Ice	8.26	6.95	82.55
			0.00			1/2" Ice	8.82	8.13	150.56
			0.00			1" Ice	9.35	9.02	226.53
APXV9TM14 w/ Mount Pipe	A	From Face	3.00	0.0000	174.00	No Ice	7.21	5.03	91.90
			0.00			1/2" Ice	7.77	5.89	147.31
			0.00			1" Ice	8.33	6.75	202.72
APXV9TM14 w/ Mount Pipe	B	From Face	3.00	0.0000	174.00	No Ice	7.21	5.03	91.90
			0.00			1/2" Ice	7.77	5.89	147.31
			0.00			1" Ice	8.33	6.75	202.72
APXV9TM14 w/ Mount Pipe	C	From Face	3.00	0.0000	174.00	No Ice	7.21	5.03	91.90
			0.00			1/2" Ice	7.77	5.89	147.31
			0.00			1" Ice	8.33	6.75	202.72
TA 602-3	C	None		0.0000	174.00	No Ice	11.59	11.59	774.00
						1/2" Ice	15.44	15.44	990.00
						1" Ice	19.29	19.29	1206.00
***									
RRH1900MHz	A	From Face	1.50	0.0000	170.00	No Ice	2.60	3.72	59.13
			0.00			1/2" Ice	2.84	4.10	97.16
			0.00			1" Ice	3.09	4.50	139.81
RRH1900MHz	B	From Face	1.50	0.0000	170.00	No Ice	2.60	3.72	59.13
			0.00			1/2" Ice	2.84	4.10	97.16
			0.00			1" Ice	3.09	4.50	139.81
RRH1900MHz	C	From Face	1.50	0.0000	170.00	No Ice	2.60	3.72	59.13
			0.00			1/2" Ice	2.84	4.10	97.16
			0.00			1" Ice	3.09	4.50	139.81
RRH800MHz	A	From Face	1.50	0.0000	170.00	No Ice	2.24	2.41	49.43
			0.00			1/2" Ice	2.49	2.75	78.53
			0.00			1" Ice	2.74	3.11	111.69

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
RRH800MHz	B	From Face	1.50	0.0000	170.00	No Ice	2.24	2.41	49.43
			0.00			1/2" Ice	2.49	2.75	78.53
			0.00			1" Ice	2.74	3.11	111.69
RRH800MHz	C	From Face	1.50	0.0000	170.00	No Ice	2.24	2.41	49.43
			0.00			1/2" Ice	2.49	2.75	78.53
			0.00			1" Ice	2.74	3.11	111.69
RRH8x20-25	A	From Face	1.50	0.0000	174.00	No Ice	4.72	1.70	70.00
			0.00			1/2" Ice	5.01	1.92	97.14
			0.00			1" Ice	5.30	2.14	124.28
RRH8x20-25	B	From Face	1.50	0.0000	174.00	No Ice	4.72	1.70	70.00
			0.00			1/2" Ice	5.01	1.92	97.14
			0.00			1" Ice	5.30	2.14	124.28
RRH8x20-25	C	From Face	1.50	0.0000	174.00	No Ice	4.72	1.70	70.00
			0.00			1/2" Ice	5.01	1.92	97.14
			0.00			1" Ice	5.30	2.14	124.28
Ring Mount	C	None		0.0000	170.00	No Ice	1.40	1.40	90.00
						1/2" Ice	2.40	2.40	130.00
						1" Ice	3.40	3.40	170.00
151ft T Mobile									
AIR 21 B4A/B2P w/ Mount Pipe	A	From Face	3.00	0.0000	151.00	No Ice	6.16	5.55	103.38
			0.00			1/2" Ice	6.60	6.30	159.18
			1.00			1" Ice	7.03	7.00	221.63
AIR 21 B4A/B2P w/ Mount Pipe	B	From Face	3.00	0.0000	151.00	No Ice	6.16	5.55	103.38
			0.00			1/2" Ice	6.60	6.30	159.18
			1.00			1" Ice	7.03	7.00	221.63
AIR 21 B4A/B2P w/ Mount Pipe	C	From Face	3.00	0.0000	151.00	No Ice	6.16	5.55	103.38
			0.00			1/2" Ice	6.60	6.30	159.18
			1.00			1" Ice	7.03	7.00	221.63
Gen TMA	A	From Face	2.00	0.0000	151.00	No Ice	0.68	0.45	13.20
			0.00			1/2" Ice	0.80	0.56	18.38
			0.00			1" Ice	0.92	0.67	23.56
Gen TMA	B	From Face	2.00	0.0000	151.00	No Ice	0.68	0.45	13.20
			0.00			1/2" Ice	0.80	0.56	18.38
			0.00			1" Ice	0.92	0.67	23.56
Gen TMA	C	From Face	2.00	0.0000	151.00	No Ice	0.68	0.45	13.20
			0.00			1/2" Ice	0.80	0.56	18.38
			0.00			1" Ice	0.92	0.67	23.56
AIR -32 B2A/B66AA w/ Mount Pipe	A	From Leg	3.00	0.0000	151.00	No Ice	6.75	6.07	153.07
			0.00			1/2" Ice	7.20	6.87	214.04
			0.00			1" Ice	7.65	7.58	281.89
AIR -32 B2A/B66AA w/ Mount Pipe	B	From Leg	3.00	0.0000	151.00	No Ice	6.75	6.07	153.07
			0.00			1/2" Ice	7.20	6.87	214.04
			0.00			1" Ice	7.65	7.58	281.89
AIR -32 B2A/B66AA w/ Mount Pipe	C	From Leg	3.00	0.0000	151.00	No Ice	6.75	6.07	153.07
			0.00			1/2" Ice	7.20	6.87	214.04
			0.00			1" Ice	7.65	7.58	281.89
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	3.00	0.0000	151.00	No Ice	20.48	11.02	160.82
			0.00			1/2" Ice	21.23	12.55	297.10
			0.00			1" Ice	21.99	14.10	444.18
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	3.00	0.0000	151.00	No Ice	20.48	11.02	160.82
			0.00			1/2" Ice	21.23	12.55	297.10
			0.00			1" Ice	21.99	14.10	444.18
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	3.00	0.0000	151.00	No Ice	20.48	11.02	160.82
			0.00			1/2" Ice	21.23	12.55	297.10
			0.00			1" Ice	21.99	14.10	444.18
RADIO 4449 B12/B71	A	From Leg	3.00	0.0000	151.00	No Ice	1.65	1.30	75.00
			0.00			1/2" Ice	1.81	1.44	92.20

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
			0.00			1" Ice	1.98	1.60	112.11
RADIO 4449 B12/B71	B	From Leg	3.00	0.0000	151.00	No Ice	1.65	1.30	75.00
			0.00			1/2" Ice	1.81	1.44	92.20
			0.00			1" Ice	1.98	1.60	112.11
RADIO 4449 B12/B71	C	From Leg	3.00	0.0000	151.00	No Ice	1.65	1.30	75.00
			0.00			1/2" Ice	1.81	1.44	92.20
			0.00			1" Ice	1.98	1.60	112.11
TA 602-3	C	None		0.0000	151.00	No Ice	11.59	11.59	774.00
						1/2" Ice	15.44	15.44	990.00
						1" Ice	19.29	19.29	1206.00
****									
7770.00 w/ Mount Pipe	A	From Face	3.00	0.0000	140.00	No Ice	5.75	4.25	55.38
			0.00			1/2" Ice	6.18	5.01	102.81
			0.00			1" Ice	6.61	5.71	156.64
7770.00 w/ Mount Pipe	B	From Face	3.00	0.0000	140.00	No Ice	5.75	4.25	55.38
			0.00			1/2" Ice	6.18	5.01	102.81
			0.00			1" Ice	6.61	5.71	156.64
7770.00 w/ Mount Pipe	C	From Face	3.00	0.0000	140.00	No Ice	5.75	4.25	55.38
			0.00			1/2" Ice	6.18	5.01	102.81
			0.00			1" Ice	6.61	5.71	156.64
TPA-65R-LCUUUU-H8 w/ Mount Pipe	A	From Face	3.00	0.0000	140.00	No Ice	13.54	10.96	114.45
			0.00			1/2" Ice	14.24	12.49	217.61
			0.00			1" Ice	14.95	14.04	330.97
TPA-65R-LCUUUU-H8 w/ Mount Pipe	B	From Face	3.00	0.0000	140.00	No Ice	13.54	10.96	114.45
			0.00			1/2" Ice	14.24	12.49	217.61
			0.00			1" Ice	14.95	14.04	330.97
CCI HPA-65R-BUU-H8 with pipe	A	From Face	3.00	0.0000	140.00	No Ice	13.28	9.65	122.85
			0.00			1/2" Ice	14.00	11.15	220.33
			0.00			1" Ice	14.73	12.68	327.71
CCI HPA-65R-BUU-H8 with pipe	B	From Face	3.00	0.0000	140.00	No Ice	13.28	9.65	122.85
			0.00			1/2" Ice	14.00	11.15	220.33
			0.00			1" Ice	14.73	12.68	327.71
(2) SBNHH-1D65A w/ Mount Pipe	C	From Face	3.00	0.0000	140.00	No Ice	5.95	5.19	61.30
			0.00			1/2" Ice	6.39	5.96	114.32
			0.00			1" Ice	6.82	6.66	173.89
RRUS-11	A	From Face	1.00	0.0000	142.00	No Ice	2.78	1.19	47.62
			0.00			1/2" Ice	2.99	1.33	68.42
			0.00			1" Ice	3.21	1.49	92.25
RRUS-11	B	From Face	1.00	0.0000	142.00	No Ice	2.78	1.19	47.62
			0.00			1/2" Ice	2.99	1.33	68.42
			0.00			1" Ice	3.21	1.49	92.25
RRUS-11	C	From Face	1.00	0.0000	142.00	No Ice	2.78	1.19	47.62
			0.00			1/2" Ice	2.99	1.33	68.42
			0.00			1" Ice	3.21	1.49	92.25
RRUS 32	A	From Face	1.00	0.0000	140.00	No Ice	2.86	1.78	55.12
			0.00			1/2" Ice	3.08	1.97	77.39
			0.00			1" Ice	3.32	2.17	102.93
RRUS 32	B	From Face	1.00	0.0000	140.00	No Ice	2.86	1.78	55.12
			0.00			1/2" Ice	3.08	1.97	77.39
			0.00			1" Ice	3.32	2.17	102.93
RRUS 32	C	From Face	1.00	0.0000	140.00	No Ice	2.86	1.78	55.12
			0.00			1/2" Ice	3.08	1.97	77.39
			0.00			1" Ice	3.32	2.17	102.93
RRUS 32 B2	A	From Face	1.00	0.0000	142.00	No Ice	2.73	1.67	52.90
			0.00			1/2" Ice	2.95	1.86	73.96
			0.00			1" Ice	3.18	2.05	98.21
RRUS 32 B2	B	From Face	1.00	0.0000	142.00	No Ice	2.73	1.67	52.90

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00				1/2" Ice	2.95	1.86	73.96
			0.00				1" Ice	3.18	2.05	98.21
RRUS 32 B2	C	From Face	1.00		0.0000	142.00	No Ice	2.73	1.67	52.90
			0.00				1/2" Ice	2.95	1.86	73.96
			0.00				1" Ice	3.18	2.05	98.21
(2) LGP21401	A	From Face	2.00		0.0000	140.00	No Ice	1.10	0.21	14.10
			0.00				1/2" Ice	1.24	0.27	21.26
			0.00				1" Ice	1.38	0.35	30.32
(2) LGP21401	B	From Face	2.00		0.0000	140.00	No Ice	1.10	0.21	14.10
			0.00				1/2" Ice	1.24	0.27	21.26
			0.00				1" Ice	1.38	0.35	30.32
(2) LGP21401	C	From Face	2.00		0.0000	140.00	No Ice	1.10	0.21	14.10
			0.00				1/2" Ice	1.24	0.27	21.26
			0.00				1" Ice	1.38	0.35	30.32
(2) LGP21901	A	From Face	2.00		0.0000	140.00	No Ice	0.23	0.16	5.50
			0.00				1/2" Ice	0.29	0.21	7.92
			0.00				1" Ice	0.36	0.28	11.41
(2) LGP21901	B	From Face	2.00		0.0000	140.00	No Ice	0.23	0.16	5.50
			0.00				1/2" Ice	0.29	0.21	7.92
			0.00				1" Ice	0.36	0.28	11.41
(2) LGP21901	C	From Face	2.00		0.0000	140.00	No Ice	0.23	0.16	5.50
			0.00				1/2" Ice	0.29	0.21	7.92
			0.00				1" Ice	0.36	0.28	11.41
LGP12104	A	From Face	2.00		0.0000	140.00	No Ice	0.44	0.02	1.80
			0.00				1/2" Ice	0.57	0.05	5.00
			0.00				1" Ice	0.70	0.08	9.88
(4) TPX-070821	A	From Face	2.00		0.0000	140.00	No Ice	0.47	0.10	10.00
			0.00				1/2" Ice	0.56	0.15	13.45
			0.00				1" Ice	0.65	0.20	18.22
(4) TPX-070821	B	From Face	2.00		0.0000	140.00	No Ice	0.47	0.10	10.00
			0.00				1/2" Ice	0.56	0.15	13.45
			0.00				1" Ice	0.65	0.20	18.22
(4) TPX-070821	C	From Face	2.00		0.0000	140.00	No Ice	0.47	0.10	10.00
			0.00				1/2" Ice	0.56	0.15	13.45
			0.00				1" Ice	0.65	0.20	18.22
DC6-48-60-18-8F (Round)	A	From Face	1.00		0.0000	140.00	No Ice	0.79	0.79	18.90
			0.00				1/2" Ice	1.27	1.27	34.02
			0.00				1" Ice	1.45	1.45	51.47
DC6-48-60-18-8F (Round)	A	From Face	1.00		0.0000	140.00	No Ice	0.79	0.79	18.90
			0.00				1/2" Ice	1.27	1.27	34.02
			0.00				1" Ice	1.45	1.45	51.47
TA 602-3	C	None			0.0000	140.00	No Ice	11.59	11.59	774.00
							1/2" Ice	15.44	15.44	990.00
							1" Ice	19.29	19.29	1206.00
****										
***										
BXA-171063-12CF-EDIN w/ Mount Pipe	A	From Face	3.00		0.0000	130.00	No Ice	5.04	5.30	38.50
			0.00				1/2" Ice	5.59	6.47	84.59
			0.00				1" Ice	6.11	7.36	138.12
BXA-70080-4CF-EDIN w/ Mount Pipe	A	From Face	3.00		0.0000	130.00	No Ice	5.41	3.70	28.25
			0.00				1/2" Ice	5.86	4.32	70.71
			0.00				1" Ice	6.31	4.94	113.17
BXA-70080-6CF-EDIN w/ Mount Pipe	A	From Face	3.00		0.0000	130.00	No Ice	7.99	5.82	42.55
			0.00				1/2" Ice	8.64	6.99	103.53
			0.00				1" Ice	9.29	8.16	164.51
Rymsa MGD3-900	A	From Face	3.00		0.0000	130.00	No Ice	5.37	3.60	22.00
			0.00				1/2" Ice	5.83	4.04	51.69

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
			0.00			1" Ice	6.29	4.48	81.38
RRH2x40-AWS	A	From Face	2.00	0.0000	130.00	No Ice	2.16	1.42	44.00
			0.00			1/2" Ice	2.36	1.59	61.40
			0.00			1" Ice	2.57	1.77	81.69
BXA-171063-12CF-EDIN w/ Mount Pipe	B	From Face	3.00	0.0000	130.00	No Ice	5.04	5.30	38.50
			0.00			1/2" Ice	5.59	6.47	84.59
			0.00			1" Ice	6.11	7.36	138.12
BXA-70080-4CF-EDIN w/ Mount Pipe	B	From Face	3.00	0.0000	130.00	No Ice	5.41	3.70	28.25
			0.00			1/2" Ice	5.86	4.32	70.71
			0.00			1" Ice	6.31	4.94	113.17
BXA-70080-6CF-EDIN w/ Mount Pipe	B	From Face	3.00	0.0000	130.00	No Ice	7.99	5.82	42.55
			0.00			1/2" Ice	8.64	6.99	103.53
			0.00			1" Ice	9.29	8.16	164.51
Rymsa MGD3-900	B	From Face	3.00	0.0000	130.00	No Ice	5.37	3.60	22.00
			0.00			1/2" Ice	5.83	4.04	51.69
			0.00			1" Ice	6.29	4.48	81.38
RRH2x40-AWS	B	From Face	2.00	0.0000	130.00	No Ice	2.16	1.42	44.00
			0.00			1/2" Ice	2.36	1.59	61.40
			0.00			1" Ice	2.57	1.77	81.69
BXA-171063-12CF-EDIN w/ Mount Pipe	C	From Face	3.00	0.0000	130.00	No Ice	5.04	5.30	38.50
			0.00			1/2" Ice	5.59	6.47	84.59
			0.00			1" Ice	6.11	7.36	138.12
BXA-70080-4CF-EDIN w/ Mount Pipe	C	From Face	3.00	0.0000	130.00	No Ice	5.41	3.70	28.25
			0.00			1/2" Ice	5.86	4.32	70.71
			0.00			1" Ice	6.31	4.94	113.17
BXA-70080-6CF-EDIN w/ Mount Pipe	C	From Face	3.00	0.0000	130.00	No Ice	7.99	5.82	42.55
			0.00			1/2" Ice	8.64	6.99	103.53
			0.00			1" Ice	9.29	8.16	164.51
Rymsa MGD3-900	C	From Face	3.00	0.0000	130.00	No Ice	5.37	3.60	22.00
			0.00			1/2" Ice	5.83	4.04	51.69
			0.00			1" Ice	6.29	4.48	81.38
RRH2x40-AWS	C	From Face	2.00	0.0000	130.00	No Ice	2.16	1.42	44.00
			0.00			1/2" Ice	2.36	1.59	61.40
			0.00			1" Ice	2.57	1.77	81.69
RxxDC-3315-PF-48	C	From Face	2.00	0.0000	130.00	No Ice	3.49	2.19	21.40
			0.00			1/2" Ice	3.73	2.39	50.67
			0.00			1" Ice	3.98	2.61	83.51
Pirod 13' Low Profit Platfrom	C	None		0.0000	130.00	No Ice	15.70	15.70	1300.00
						1/2" Ice	20.10	20.10	1765.00
						1" Ice	24.50	24.50	2230.00

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
HP2-102	C	Paraboloid w/Shroud (HP)	From Face	1.50	0.0000		159.00	2.00	No Ice	3.14	25.00
				0.00					1/2" Ice	3.41	42.49
				0.00					1" Ice	3.68	59.98

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
HP2-102	A	Paraboloid w/Shroud (HP)	From Face	1.50 0.00 0.00	0.0000		126.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	25.00 42.49 59.98

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
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

Comb. No.	Description
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 kip-ft	Minor Axis Moment kip-ft
L1	179 - 141.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-25837.94	-1.01	-1.38
			Max. Mx	8	-8278.02	-258.59	-2.17
			Max. My	2	-8287.66	1.62	255.81
			Max. Vy	8	13936.57	-258.59	-2.17
			Max. Vx	2	-13921.97	1.62	255.81
			Max. Torque	12			0.52
L2	141.25 - 92.58	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64854.09	-1.81	-7.25
			Max. Mx	8	-23530.77	-1401.16	-8.72
			Max. My	2	-23556.49	6.66	1388.02
			Max. Vy	8	29116.16	-1401.16	-8.72
			Max. Vx	2	-28865.87	6.66	1388.02
			Max. Torque	23			-1.91
L3	92.58 - 45.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-91349.45	-3.48	-18.55
			Max. Mx	8	-38121.65	-2857.15	-17.32
			Max. My	14	-38136.91	-16.28	-2831.24
			Max. Vy	8	34841.43	-2857.15	-17.32
			Max. Vx	2	-34592.84	12.68	2831.04
			Max. Torque	21			-1.66
L4	45.5 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-129061.42	-5.25	-31.30
			Max. Mx	8	-60400.21	-4869.63	-27.30
			Max. My	14	-60400.57	-25.80	-4830.45
			Max. Vy	8	40770.83	-4869.63	-27.30
			Max. Vx	2	-40530.86	19.55	4828.55
			Max. Torque	21			-1.65

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Pole	Max. Vert	30	129061.42	-14561.62	-36.38
	Max. H_x	20	60424.43	40693.06	100.30
	Max. H_z	2	60424.43	131.47	40495.27
	Max. M_x	2	4828.55	131.47	40495.27
	Max. M_z	8	4869.63	-40734.93	-151.71
	Max. Torsion	9	1.65	-40734.92	-151.71
	Min. Vert	17	45318.32	20257.71	-34988.49
	Min. H_x	8	60424.43	-40734.93	-151.71
	Min. H_z	14	60424.43	-171.49	-40461.30
	Min. M_x	14	-4830.45	-171.49	-40461.30
	Min. M_z	20	-4863.16	40693.06	100.30
	Min. Torsion	21	-1.65	40693.05	100.30

Tower Mast Reaction Summary

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	kip-ft	kip-ft	kip-ft
Dead Only	50353.69	0.00	0.00	3.17	-0.43	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	60424.43	-131.47	-40495.27	-4828.55	19.55	0.10
0.9 Dead+1.6 Wind 0 deg - No Ice	45318.32	-131.47	-40495.26	-4790.00	19.51	0.10
1.2 Dead+1.6 Wind 30 deg - No Ice	60424.43	20236.22	-35051.68	-4177.99	-2415.00	-0.88
0.9 Dead+1.6 Wind 30 deg - No Ice	45318.32	20236.22	-35051.68	-4144.77	-2395.11	-0.89
1.2 Dead+1.6 Wind 60 deg - No Ice	60424.43	35213.12	-20159.33	-2400.17	-4206.42	-1.45
0.9 Dead+1.6 Wind 60 deg - No Ice	45318.32	35213.12	-20159.33	-2381.50	-4171.86	-1.46
1.2 Dead+1.6 Wind 90 deg - No Ice	60424.43	40734.93	151.71	27.30	-4869.63	-1.65
0.9 Dead+1.6 Wind 90 deg - No Ice	45318.32	40734.92	151.71	26.09	-4829.63	-1.65
1.2 Dead+1.6 Wind 120 deg - No Ice	60424.43	35305.50	20362.16	2438.08	-4221.79	-1.56
0.9 Dead+1.6 Wind 120 deg - No Ice	45318.32	35305.50	20362.16	2417.15	-4187.09	-1.56
1.2 Dead+1.6 Wind 150 deg - No Ice	60424.43	20458.00	35107.35	4194.45	-2448.61	-1.03
0.9 Dead+1.6 Wind 150 deg - No Ice	45318.32	20458.00	35107.35	4159.15	-2428.42	-1.04
1.2 Dead+1.6 Wind 180 deg - No Ice	60424.43	171.49	40461.30	4830.45	-25.80	-0.17
0.9 Dead+1.6 Wind 180 deg - No Ice	45318.32	171.49	40461.29	4789.97	-25.44	-0.16
1.2 Dead+1.6 Wind 210 deg - No Ice	60424.43	-20257.71	34988.49	4176.06	2416.38	0.88
0.9 Dead+1.6 Wind 210 deg - No Ice	45318.32	-20257.71	34988.49	4140.93	2396.74	0.88
1.2 Dead+1.6 Wind 240 deg - No Ice	60424.43	-35197.33	20147.90	2405.09	4203.74	1.46
0.9 Dead+1.6 Wind 240 deg - No Ice	45318.32	-35197.33	20147.90	2384.44	4169.46	1.46
1.2 Dead+1.6 Wind 270 deg - No Ice	60424.43	-40693.06	-100.30	-11.43	4863.16	1.65
0.9 Dead+1.6 Wind 270 deg - No Ice	45318.32	-40693.05	-100.30	-12.30	4823.47	1.65
1.2 Dead+1.6 Wind 300 deg - No Ice	60424.43	-35257.28	-20382.85	-2434.37	4214.07	1.62
0.9 Dead+1.6 Wind 300 deg - No Ice	45318.32	-35257.28	-20382.85	-2415.40	4179.68	1.62
1.2 Dead+1.6 Wind 330 deg - No Ice	60424.43	-20436.32	-35122.30	-4190.12	2445.12	1.04
0.9 Dead+1.6 Wind 330 deg - No Ice	45318.32	-20436.32	-35122.30	-4156.78	2425.21	1.04
1.2 Dead+1.0 Ice+1.0 Temp	129061.42	0.00	0.02	31.30	-5.25	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	129061.42	-31.67	-12612.99	-1531.47	-0.23	0.05
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	129061.42	6289.29	-10918.36	-1321.25	-784.34	-0.23
1.2 Dead+1.0 Wind 60 deg+1.0	129061.42	10932.31	-6285.07	-746.95	-1360.62	-0.41

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	lb	lb	lb	kip-ft	kip-ft	kip-ft
Ice+1.0 Temp 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	129061.42	14561.62	36.38	37.33	-1727.47	-0.48
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	129061.42	10954.96	6334.10	817.45	-1364.53	-0.46
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	129061.42	6342.75	10932.43	1386.40	-792.78	-0.31
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	129061.42	40.93	12605.07	1592.91	-11.58	-0.06
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	129061.42	-6294.25	10903.68	1381.76	774.36	0.23
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	129061.42	-10928.68	6282.37	809.14	1349.67	0.41
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	129061.42	-14551.93	-24.42	27.58	1715.59	0.47
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	129061.42	-10943.78	-6338.95	-755.55	1352.35	0.47
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	129061.42	-6337.75	-10935.95	-1324.37	781.64	0.31
Dead+Wind 0 deg - Service	50353.69	-28.13	-8664.40	-1025.89	3.84	0.02
Dead+Wind 30 deg - Service	50353.69	4329.76	-7499.69	-887.34	-514.63	-0.19
Dead+Wind 60 deg - Service	50353.69	7534.23	-4313.31	-508.74	-896.14	-0.31
Dead+Wind 90 deg - Service	50353.69	8715.68	32.46	8.23	-1037.39	-0.35
Dead+Wind 120 deg - Service	50353.69	7554.00	4356.71	521.64	-899.42	-0.34
Dead+Wind 150 deg - Service	50353.69	4377.21	7511.60	895.69	-521.79	-0.22
Dead+Wind 180 deg - Service	50353.69	36.69	8657.13	1031.13	-5.82	-0.04
Dead+Wind 210 deg - Service	50353.69	-4334.36	7486.17	891.76	514.27	0.19
Dead+Wind 240 deg - Service	50353.69	-7530.85	4310.86	514.61	894.92	0.31
Dead+Wind 270 deg - Service	50353.69	-8706.72	-21.46	-0.02	1035.36	0.36
Dead+Wind 300 deg - Service	50353.69	-7543.68	-4361.13	-516.02	897.13	0.35
Dead+Wind 330 deg - Service	50353.69	-4372.57	-7514.80	-889.93	520.40	0.22

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	% Error
1	0.00	-50353.69	0.00	0.00	50353.69	0.00	0.000%
2	-131.47	-60424.43	-40495.26	131.47	60424.43	40495.27	0.000%
3	-131.47	-45318.32	-40495.26	131.47	45318.32	40495.26	0.000%
4	20236.22	-60424.43	-35051.68	-20236.22	60424.43	35051.68	0.000%
5	20236.22	-45318.32	-35051.68	-20236.22	45318.32	35051.68	0.000%
6	35213.12	-60424.43	-20159.33	-35213.12	60424.43	20159.33	0.000%
7	35213.12	-45318.32	-20159.33	-35213.12	45318.32	20159.33	0.000%
8	40734.92	-60424.43	151.71	-40734.93	60424.43	-151.71	0.000%
9	40734.92	-45318.32	151.71	-40734.92	45318.32	-151.71	0.000%
10	35305.50	-60424.43	20362.16	-35305.50	60424.43	-20362.16	0.000%
11	35305.50	-45318.32	20362.16	-35305.50	45318.32	-20362.16	0.000%
12	20458.00	-60424.43	35107.35	-20458.00	60424.43	-35107.35	0.000%
13	20458.00	-45318.32	35107.35	-20458.00	45318.32	-35107.35	0.000%
14	171.49	-60424.43	40461.29	-171.49	60424.43	-40461.30	0.000%
15	171.49	-45318.32	40461.29	-171.49	45318.32	-40461.29	0.000%
16	-20257.71	-60424.43	34988.49	20257.71	60424.43	-34988.49	0.000%
17	-20257.71	-45318.32	34988.49	20257.71	45318.32	-34988.49	0.000%
18	-35197.33	-60424.43	20147.90	35197.33	60424.43	-20147.90	0.000%
19	-35197.33	-45318.32	20147.90	35197.33	45318.32	-20147.90	0.000%
20	-40693.05	-60424.43	-100.30	40693.06	60424.43	100.30	0.000%
21	-40693.05	-45318.32	-100.30	40693.05	45318.32	100.30	0.000%

Load Comb.	Sum of Applied Forces PX lb	PY lb	PZ lb	Sum of Reactions PX lb	PY lb	PZ lb	% Error
22	-35257.28	-60424.43	-20382.85	35257.28	60424.43	20382.85	0.000%
23	-35257.28	-45318.32	-20382.85	35257.28	45318.32	20382.85	0.000%
24	-20436.32	-60424.43	-35122.30	20436.32	60424.43	35122.30	0.000%
25	-20436.32	-45318.32	-35122.30	20436.32	45318.32	35122.30	0.000%
26	0.00	-129061.42	0.00	-0.00	129061.42	-0.02	0.000%
27	-31.67	-129061.42	-12612.87	31.67	129061.42	12612.99	0.000%
28	6289.23	-129061.42	-10918.25	-6289.29	129061.42	10918.36	0.000%
29	10932.20	-129061.42	-6285.01	-10932.31	129061.42	6285.07	0.000%
30	14561.48	-129061.42	36.38	-14561.62	129061.42	-36.38	0.000%
31	10954.84	-129061.42	6334.04	-10954.96	129061.42	-6334.10	0.000%
32	6342.69	-129061.42	10932.31	-6342.75	129061.42	-10932.43	0.000%
33	40.93	-129061.42	12604.94	-40.93	129061.42	-12605.07	0.000%
34	-6294.18	-129061.42	10903.56	6294.25	129061.42	-10903.68	0.000%
35	-10928.57	-129061.42	6282.30	10928.68	129061.42	-6282.37	0.000%
36	-14551.79	-129061.42	-24.43	14551.93	129061.42	24.42	0.000%
37	-10943.67	-129061.42	-6338.89	10943.78	129061.42	6338.95	0.000%
38	-6337.69	-129061.42	-10935.84	6337.75	129061.42	10935.95	0.000%
39	-28.13	-50353.69	-8664.40	28.13	50353.69	8664.40	0.000%
40	4329.76	-50353.69	-7499.69	-4329.76	50353.69	7499.69	0.000%
41	7534.23	-50353.69	-4313.31	-7534.23	50353.69	4313.31	0.000%
42	8715.68	-50353.69	32.46	-8715.68	50353.69	-32.46	0.000%
43	7553.99	-50353.69	4356.71	-7554.00	50353.69	-4356.71	0.000%
44	4377.21	-50353.69	7511.60	-4377.21	50353.69	-7511.60	0.000%
45	36.69	-50353.69	8657.13	-36.69	50353.69	-8657.13	0.000%
46	-4334.36	-50353.69	7486.17	4334.36	50353.69	-7486.17	0.000%
47	-7530.85	-50353.69	4310.86	7530.85	50353.69	-4310.86	0.000%
48	-8706.72	-50353.69	-21.46	8706.72	50353.69	21.46	0.000%
49	-7543.68	-50353.69	-4361.13	7543.68	50353.69	4361.13	0.000%
50	-4372.57	-50353.69	-7514.80	4372.57	50353.69	7514.80	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	0.00013255
3	Yes	4	0.00000001	0.00006279
4	Yes	5	0.00000001	0.00030433
5	Yes	5	0.00000001	0.00013604
6	Yes	5	0.00000001	0.00031464
7	Yes	5	0.00000001	0.00014093
8	Yes	4	0.00000001	0.00025460
9	Yes	4	0.00000001	0.00015667
10	Yes	5	0.00000001	0.00030819
11	Yes	5	0.00000001	0.00013712
12	Yes	5	0.00000001	0.00031856
13	Yes	5	0.00000001	0.00014234
14	Yes	4	0.00000001	0.00021737
15	Yes	4	0.00000001	0.00012537
16	Yes	5	0.00000001	0.00031055
17	Yes	5	0.00000001	0.00013906
18	Yes	5	0.00000001	0.00030285
19	Yes	5	0.00000001	0.00013512
20	Yes	4	0.00000001	0.00041565
21	Yes	4	0.00000001	0.00026197
22	Yes	5	0.00000001	0.00032160

23	Yes	5	0.00000001	0.00014380
24	Yes	5	0.00000001	0.00030817
25	Yes	5	0.00000001	0.00013741
26	Yes	4	0.00000001	0.00006030
27	Yes	5	0.00000001	0.00032775
28	Yes	5	0.00000001	0.00041859
29	Yes	5	0.00000001	0.00042098
30	Yes	5	0.00000001	0.00035857
31	Yes	5	0.00000001	0.00043903
32	Yes	5	0.00000001	0.00044060
33	Yes	5	0.00000001	0.00033970
34	Yes	5	0.00000001	0.00043207
35	Yes	5	0.00000001	0.00043170
36	Yes	5	0.00000001	0.00035567
37	Yes	5	0.00000001	0.00042163
38	Yes	5	0.00000001	0.00041808
39	Yes	4	0.00000001	0.00002188
40	Yes	4	0.00000001	0.00010535
41	Yes	4	0.00000001	0.00011691
42	Yes	4	0.00000001	0.00002747
43	Yes	4	0.00000001	0.00010614
44	Yes	4	0.00000001	0.00011836
45	Yes	4	0.00000001	0.00002240
46	Yes	4	0.00000001	0.00011310
47	Yes	4	0.00000001	0.00010409
48	Yes	4	0.00000001	0.00002867
49	Yes	4	0.00000001	0.00012111
50	Yes	4	0.00000001	0.00010601

Maximum Tower Deflections - Service Wind

Section No.	*Elevation*	*Horz. Deflection*	*Gov. Load Comb.*	*Tilt*	*Twist*
	ft	*in*		°	°
L1	179 - 141.25	20.402	43	0.9567	0.0017
L2	145.58 - 92.58	13.920	43	0.8697	0.0012
L3	98.5 - 45.5	6.417	43	0.6194	0.0005
L4	53 - 0	1.858	43	0.3209	0.0002

Critical Deflections and Radius of Curvature - Service Wind

Elevation	*Appurtenance*	*Gov. Load Comb.*	*Deflection*	*Tilt*	*Twist*	*Radius of Curvature*
ft			*in*	°	°	*ft*
181.00	(3) 6' x 2" Mount Pipe	43	20.402	0.9567	0.0017	87377
174.00	ET-X-TU-42-15-37-18-iR-ST w/ Mount Pipe	43	19.408	0.9463	0.0016	87377
170.00	RRH1900MHz	43	18.614	0.9377	0.0016	48543
159.00	HP2-102	43	16.457	0.9114	0.0014	21844
151.00	AIR 21 B4A/B2P w/ Mount Pipe	43	14.929	0.8882	0.0013	15602
142.00	RRUS-11	43	13.268	0.8560	0.0011	12709
140.00	7770.00 w/ Mount Pipe	43	12.909	0.8478	0.0011	12507
130.00	BXA-171063-12CF-EDIN w/ Mount Pipe	43	11.174	0.8021	0.0010	11608
126.00	HP2-102	43	10.508	0.7818	0.0009	11283

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	179 - 141.25	95.685	10	4.4918	0.0078
L2	145.58 - 92.58	65.297	10	4.0841	0.0055
L3	98.5 - 45.5	30.105	10	2.9079	0.0023
L4	53 - 0	8.714	10	1.5058	0.0008

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
181.00	(3) 6' x 2" Mount Pipe	10	95.685	4.4918	0.0078	18869
174.00	ET-X-TU-42-15-37-18-iR-ST w/ Mount Pipe	10	91.022	4.4430	0.0075	18869
170.00	RRH1900MHz	10	87.302	4.4028	0.0072	10482
159.00	HP2-102	10	77.193	4.2798	0.0064	4715
151.00	AIR 21 B4A/B2P w/ Mount Pipe	10	70.026	4.1710	0.0059	3366
142.00	RRUS-11	10	62.241	4.0197	0.0053	2739
140.00	7770.00 w/ Mount Pipe	10	60.558	3.9814	0.0052	2695
130.00	BXA-171063-12CF-EDIN w/ Mount Pipe	10	52.418	3.7667	0.0046	2497
126.00	HP2-102	10	49.296	3.6711	0.0043	2425

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
L1	179 - 141.25 (1)	TP33.249x23.1x0.25	37.75	0.00	0.0	25.2610	-8273.95	1748390.00	0.005
L2	141.25 - 92.58 (2)	TP45.834x31.5849x0.375	53.00	0.00	0.0	52.2132	-23527.80	3714610.00	0.006
L3	92.58 - 45.5 (3)	TP57.742x43.4924x0.375	53.00	0.00	0.0	65.8810	-38119.90	4311140.00	0.009
L4	45.5 - 0 (4)	TP69.225x54.9755x0.375	53.00	0.00	0.0	81.9487	-60400.20	4812990.00	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	179 - 141.25 (1)	TP33.249x23.1x0.25	259.42	1144.56	0.227	0.00	1144.56	0.000
L2	141.25 - 92.58 (2)	TP45.834x31.5849x0.375	1403.00	3348.51	0.419	0.00	3348.51	0.000
L3	92.58 - 45.5 (3)	TP57.742x43.4924x0.375	2860.71	4912.18	0.582	0.00	4912.18	0.000
L4	45.5 - 0 (4)	TP69.225x54.9755x0.375	4875.22	6830.50	0.714	0.00	6830.50	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u lb	ϕV_n lb	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	179 - 141.25 (1)	TP33.249x23.1x0.25	13976.00	874196.00	0.016	0.17	2294.63	0.000
L2	141.25 - 92.58 (2)	TP45.834x31.5849x0.375	29139.60	1857310.00	0.016	1.56	6713.85	0.000
L3	92.58 - 45.5 (3)	TP57.742x43.4924x0.375	34864.10	2155570.00	0.016	1.56	9846.42	0.000
L4	45.5 - 0 (4)	TP69.225x54.9755x0.375	40792.50	2406490.00	0.017	1.56	13689.00	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	179 - 141.25 (1)	0.005	0.227	0.000	0.016	0.000	0.232	1.000	4.8.2
L2	141.25 - 92.58 (2)	0.006	0.419	0.000	0.016	0.000	0.426	1.000	4.8.2
L3	92.58 - 45.5 (3)	0.009	0.582	0.000	0.016	0.000	0.591	1.000	4.8.2
L4	45.5 - 0 (4)	0.013	0.714	0.000	0.017	0.000	0.727	1.000	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
L1	179 - 141.25	Pole	TP33.249x23.1x0.25	1	-8273.95	1748390.00	23.2	Pass
L2	141.25 - 92.58	Pole	TP45.834x31.5849x0.375	2	-23527.80	3714610.00	42.6	Pass
L3	92.58 - 45.5	Pole	TP57.742x43.4924x0.375	3	-38119.90	4311140.00	59.1	Pass
L4	45.5 - 0	Pole	TP69.225x54.9755x0.375	4	-60400.20	4812990.00	72.7	Pass
							Summary	
						Pole (L4)	72.7	Pass
						RATING =	**72.7**	**Pass**

Square, Stiffened / Unstiffened Base Plate, Any Rod Material - Rev. F /G

Assumptions: 1) Rod groups at corners. Total # rods divisible by 4. Maximum total # of rods = 48 (12 per Corner).
2) Rod Spacing = Straight Center-to-Center distance between any (2) adjacent rods (same corner)
3) Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#:
Site #: *CTHA014A*
App #:

Anchor Rod Data		
Eta Factor, η	0.5	TIA G (Fig. 4-4)
Qty:	16	
Diam:	2.25	in
Rod Material:	A615-J	
Yield, Fy:	75	ksi
Strength, Fu:	100	ksi
Bolt Circle:	76	in
Anchor Spacing:	6	in

Plate Data		
W=Side:	82	in
Thick:	2.25	in
Grade:	60	ksi
Clip Distance:	16	in

Stiffener Data (Welding at both sides)		
Configuration:	Unstiffened	
Weld Type:		**
Groove Depth:		in **
Groove Angle:		degrees
Fillet H. Weld:		<-- Disregard
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data		
Diam:	69.225	in
Thick:	0.375	in
Grade:	65	ksi
# of Sides:	18	"0" IF Round

Base Reactions		
TIA Revision:	G	
Factored Moment, Mu:	4875	ft-kips
Factored Axial, Pu:	60.42	kips
Factored Shear, Vu:	40.76	kips

Anchor Rod Results

TIA G --> Max Rod (Cu+ Vu/η):	201.3	Kips
Axial Design Strength, Φ*Fu*Anet:	260.0	Kips
Anchor Rod Stress Ratio:	77.4%	**Pass**

Base Plate Results Flexural Check

Base Plate Stress:	42.4	ksi
PL Design Bending Strength, Φ*Fy:	54.0	ksi
Base Plate Stress Ratio:	78.5%	**Pass**

PL Ref. Data	
Yield Line (in):	40.35
Max PL Length:	46.74

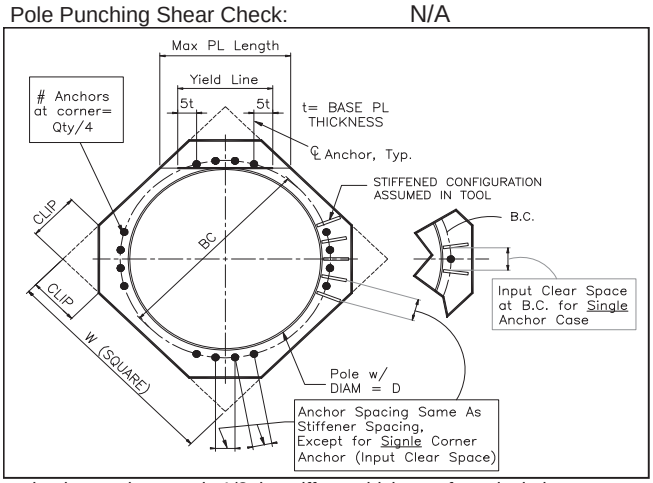
N/A - Unstiffened

Stiffener Results

Horizontal Weld :	N/A
Vertical Weld:	N/A
Plate Flex+Shear, fb/Fb+(fv/Fv)^2:	N/A
Plate Tension+Shear, ft/Ft+(fv/Fv)^2:	N/A
Plate Comp. (AISC Bracket):	N/A

Pole Results

Pole Punching Shear Check: N/A



** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

Pier and Pad Foundation

BU # :	
Site #:	CTHA014A
App. Number:	

TIA-222 Revision:	
Tower Type:	

Block Foundation?: ☐

Superstructure Analysis Reactions

Compression, P_{comp}:	60.42	kips
Base Shear, Vu_comp:	40.76	kips
Moment, M_u:	4875	ft-kips
Tower Height, **H**:	179	ft
BP Dist. Above Fdn, bp_{dist}:	3	in

Pier Properties

Pier Shape:	Circular	
Pier Diameter, **dpier**:	8.5	ft
Ext. Above Grade, **E**:	0.50	ft
Pier Rebar Size, **Sc**:	9	
Pier Rebar Quantity, **mc**:	41	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	14	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	6.5	ft
Pad Width, **W**:	30.0	ft
Pad Thickness, **T**:	2.5	ft
Pad Rebar Size, **Sp**:	9	
Pad Rebar Quantity, **mp**:	33	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60000	psi
Concrete Compressive Strength, **F'c**:	3000	psi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties

Total Soil Unit Weight, γ:	100	pcf
Ultimate Net Bearing, Qnet:	6.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	30	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.4	
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	n/a	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating	Check
Lateral (Sliding) (kips)	268.47	40.76	**15.2%**	**Pass**
Bearing Pressure (ksf)	4.99	2.52	**50.5%**	**Pass**
*Overturning (kip*ft)*	9500.66	6980.19	**73.5%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	8136.99	5058.42	**62.2%**	**Pass**
*Pier Flexure (Tension) (kip*ft)*	0.00	0.00	**0.0%**	**Pass**
Pier Compression (kip)	27087.80	98.72	**0.4%**	**Pass**
*Pad Flexure (kip*ft)*	3598.09	1725.12	**47.9%**	**Pass**
Pad Shear - 1-way (kips)	748.54	242.15	**32.4%**	**Pass**
Pad Shear - 2-way (ksi)	0.16	0.05	**32.9%**	**Pass**

Soil Rating:	**73.5%**
Structural Rating:	**62.2%**

Exhibit E

June 25, 2018

To: T-Mobile Northeast, LLC
35 Griffin Road South
Bloomfield, CT 06002

Subject: Mount Assessment – CTHA014 (Destek Job #: 1875043)

Per your request, Destek Engineering, LLC (Destek) has performed a structural assessment of the antenna mounting system which supports the T-Mobile Equipment at the referenced site. We have evaluated the subject mount for the additions and alterations specified in the RFDS, which is referenced in Table 1. This assessment is based on the documents and information listed in Table 1 and is in accordance with the mount loading and evaluation criteria stated in Table 2.

Based on our experience with similar mount structures and with respect to the changes in applied loads, Destek opines that the mount **WILL BE ADEQUATE**.

This assessment is only valid for the loading scenario described herein. Variations between this document and actual field conditions will void this assessment. It is assumed that all structural members and connections of the subject mount are in good condition and the mount has been properly designed, constructed and assembled. Discrepancies between this document and field conditions should be immediately brought to our attention. It is assumed that the tower and other components of the site have been analyzed and qualified by others.

We at *Destek Engineering, LLC* appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other project, please do not hesitate to contact us.

Sincerely,
Destek Engineering, LLC
License No: PEC00001429

06-25-2018

Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

DESTEK ENGINEERING, LLC
1281 Kennestone Circle, Suite 100, Marietta, GA 30066 - Tel: (770) 693-0835

References and Loading

Table 1: Documents and Information Provided

DOCUMENT	PREPARED BY	DATE
Structural Analysis Report	Destek Engineering, LLC	11/29/2016
RFDS	T-Mobile	05/08/2018
Site Photos	ForeSite LLC	04/23/2018

Table 2: Mount Loading and Evaluation Criteria

LOCATION	Wethersfield, Hartford County, CT
BUILDING CODE AND TOWER STANDARD	2016 Connecticut State Building Code and TIA-222-G
RAD CENTER	151 ft
STRUCTURE TYPE	Monopole
EXPOSURE CATEGORY	C
WIND LOADING	125 mph ultimate basic wind (97 mph nominal wind speed)
ICE LOADING	1.00 inch ice with 50 mph basic wind. Ice is considered to increase in thickness with height
CLASS	II
TOPOGRAPHIC CATEGORY	1

Table 2.1 –Existing Appurtenance Configuration

QTY	MODEL
3	AIR21 KRC118023-1 B2A B4P – Antennas
3	AIR21 KRC118023-1 B4A B2P – Antennas
3	LNX-6515DS-A1M – Antennas
6	Generic Twin Style 1B AWS - TMAs
3	RRUS 11 B12

Table 2.2 – Proposed and Final Appurtenance Configuration

QTY	MODEL
3	AIR21 KRC118023-1 B2A B4P – Antennas
3	APXVAARR24-43-U-NA20 – Antennas
3	AIR32 KRD901146-1 B66A B2A – Antennas
3	Generic Twin Style 1B AWS - TMAs
3	Radio 4449 B71 + B12 – RRUs

DESTEK ENGINEERING, LLC
1281 Kennestone Circle, Suite 100, Marietta, GA 30066 - Tel: (770) 693-0835

Mount Photos

DESTEK ENGINEERING, LLC
1281 Kennestone Circle, Suite 100, Marietta, GA 30066 - Tel: (770) 693-0835

Exhibit F

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CTHA014A

HA014/Town of Wethersfield_MP
23 Kelleher Court
Wethersfield, CT 06109

July 23, 2018

EBI Project Number: 6218005203

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	15.71 %

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

EBI Consulting
environmental | engineering | due diligence

July 23, 2018

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

Emissions Analysis for Site: **CTHA014A – HA014/Town of Wethersfield_MP**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **23 Kelleher Court, Wethersfield, 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 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.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz Band are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$ respectively. The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (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 **23 Kelleher Court, Wethersfield, 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 for directional panel antennas, 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 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 (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

4) 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

5) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These channels have a transmit power of 30 Watts.

6) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These channels have a transmit power of 30 Watts.

7) 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.

8) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

9) The antennas used in this modeling are the **Ericsson AIR32 B66A/B2A** & **Ericsson AIR21 B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **RFS APXVAARR24_43-U-NA20** for 600 MHz and 700 MHz channels. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

10) The antenna mounting height centerline of the proposed antennas is **151 feet** above ground level (AGL).

11) 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.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	Ericsson AIR32 B66A/B2A	Make / Model:	Ericsson AIR32 B66A/B2A	Make / Model:	Ericsson AIR32 B66A/B2A
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	151	Height (AGL):	151	Height (AGL):	151
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):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	9,337.08	ERP (W):	9,337.08	ERP (W):	9,337.08
Antenna A1 MPE%	**1.60**	Antenna B1 MPE%	**1.60**	Antenna C1 MPE%	**1.60**
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):	151	Height (AGL):	151	Height (AGL):	151
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%	**0.80**	Antenna B2 MPE%	**0.80**	Antenna C2 MPE%	**0.80**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Gain:	12.95 / 13.35 dBd	Gain:	12.95 / 13.35 dBd	Gain:	12.95 / 13.35 dBd
Height (AGL):	151	Height (AGL):	151	Height (AGL):	151
Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz	Frequency Bands	600 MHz / 700 MHz
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):	2,481.08	ERP (W):	2,481.08	ERP (W):	2,481.08
Antenna A3 MPE%	**0.98**	Antenna B3 MPE%	**0.98**	Antenna C3 MPE%	**0.98**

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**3.38 %**
Town of Wethersfield	0.17%
Clearwire	0.07%
AT&T	3.79%
Verizon Wireless	5.38%
Sprint	1.27%
Nextel	1.65%
Site Total MPE %:	**15.71 %**

T-Mobile Sector A Total:	3.38 %
T-Mobile Sector B Total:	3.38 %
T-Mobile Sector C Total:	3.38 %
Site Total:	15.71 %

T-Mobile Max Power Values (Per Sector)

T-Mobile _Max Power Values (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 AWS - 2100 MHz LTE	2	2,334.27	151	7.98	AWS - 2100 MHz	1000	0.80%
T-Mobile PCS - 1900 MHz LTE	2	2,334.27	151	7.98	PCS - 1900 MHz	1000	0.80%
T-Mobile PCS - 1900 MHz GSM	2	1,167.14	151	3.99	PCS - 1900 MHz	1000	0.40%
T-Mobile AWS - 2100 MHz UMTS	2	1,167.14	151	3.99	AWS - 2100 MHz	1000	0.40%
T-Mobile 600 MHz LTE	2	591.73	151	2.02	600 MHz	400	0.50%
T-Mobile 700 MHz LTE	2	648.82	151	2.22	700 MHz	467	0.48%
						Total:	**3.38%**

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 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:	3.38 %
Sector B:	3.38 %
Sector C:	3.38 %
T-Mobile Maximum MPE % (Per Sector):	3.38 %
Site Total:	15.71 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **15.71%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

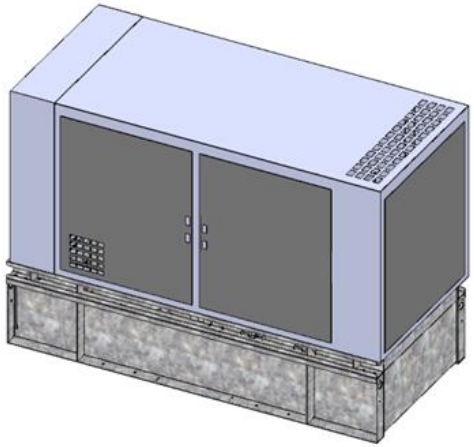
FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100%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

Exhibit G

T-Mobile DC Diesel Generators
15kW and 25kW

Contents

Features



- Intelligent and Friendly Monitoring by Remote Control (via SNMP)
- Longer Service Interval: >500hrs
- Low Acoustic Noise: <75dBA @ 7 meters
  - Optional Upgrades: <65dBA @ 7 meters
- Longer Backup Time:

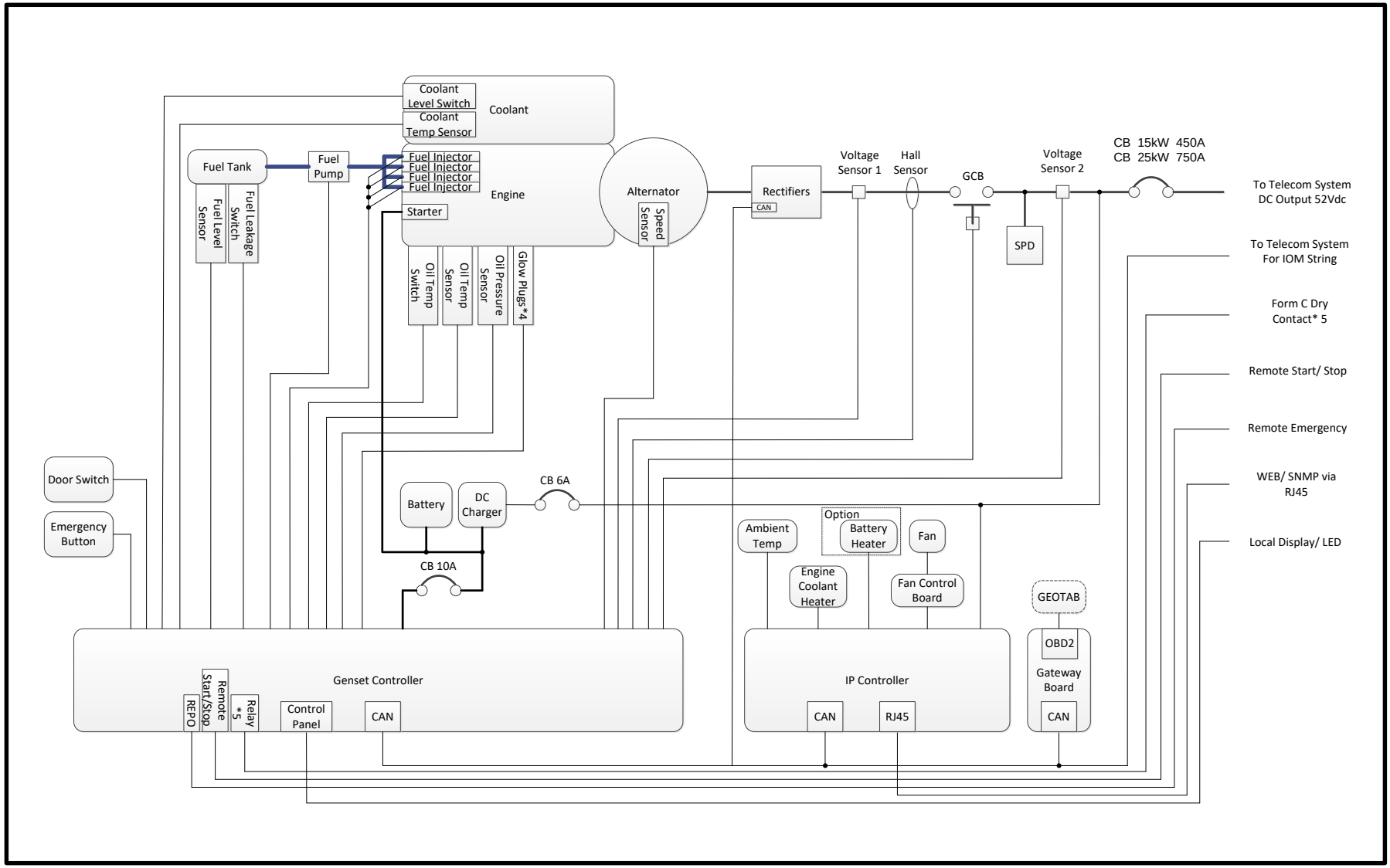
	Tank	15kW @ 75% Load	25kW @ 75% Load
Standard	130 gallon	94 hours	72 hours
Upgraded	220 gallon	155 hours	120 hours

- Output Ripple < 250mV
- Battery Management – Temperature compensation,
  Life management,
  Precise Battery Current Limitation
- Corrosion Resistant
- Rodent Resistant

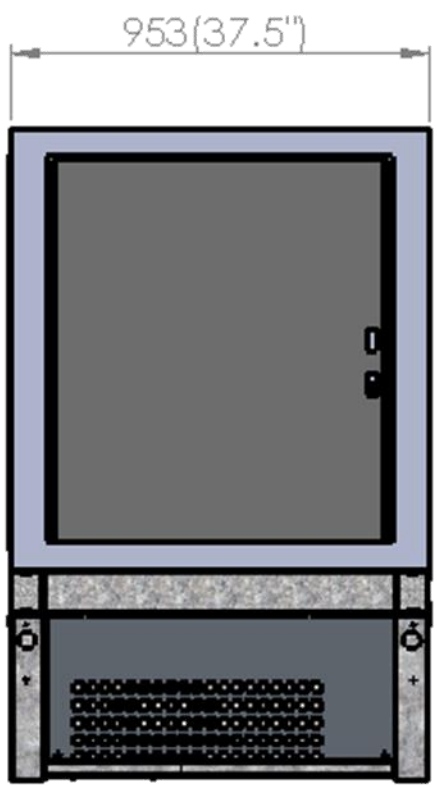
General Specification

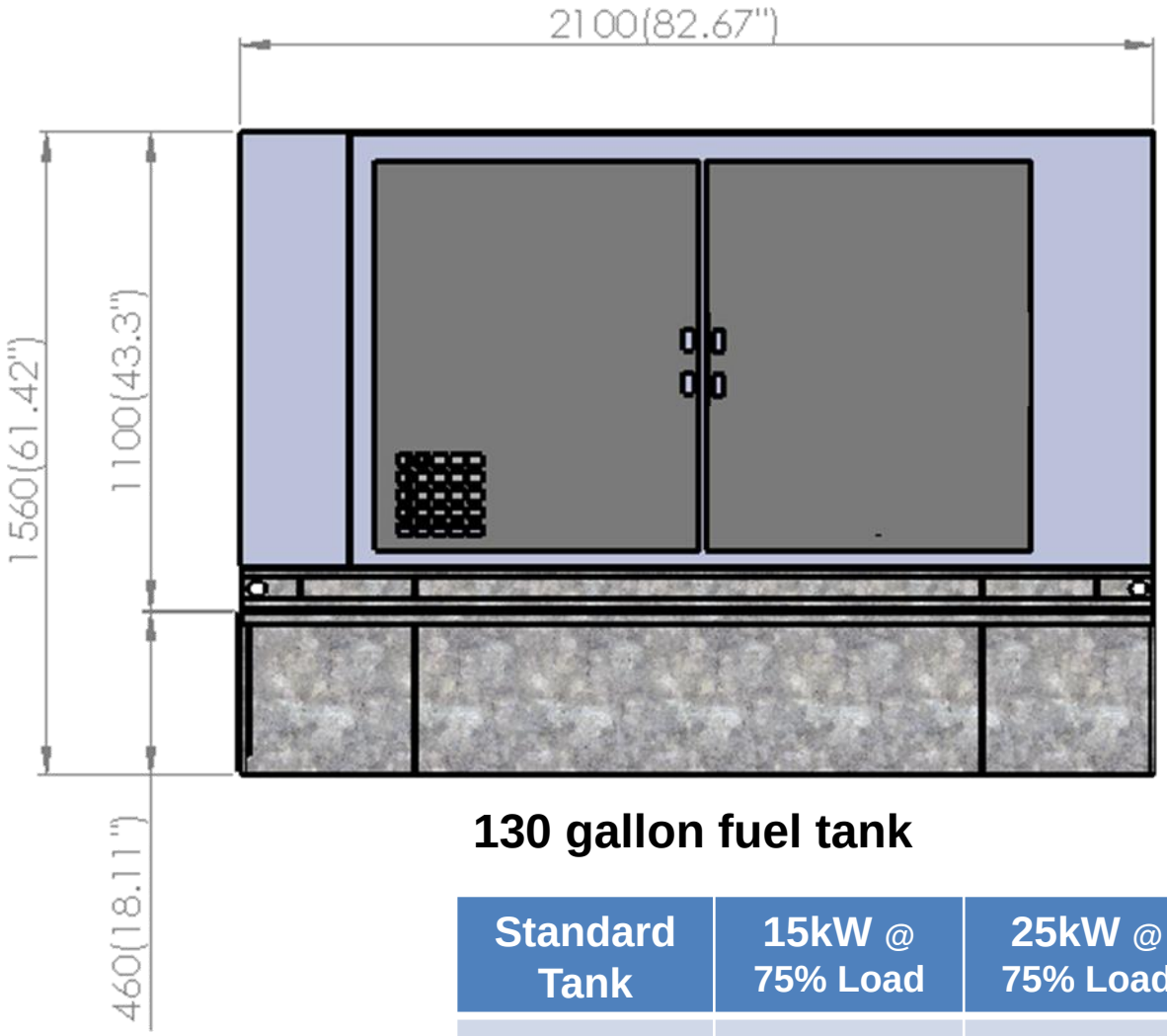
Model	15kW DC	25kW DC
DC Output	52Vdc at 100% load	
Engine Model	Perkins Tier 4 Interim	
Engine Speed	1800rpm	
Weight (estimated)	1120kg (2470lb)	1320kg (2910lb)
Operating Temperature	-25℃ to +45℃	
Safety	UL2200 / UL142	

Block Diagram



130 Gallon Tank Dimensions
15kW or 25kW DC Genset

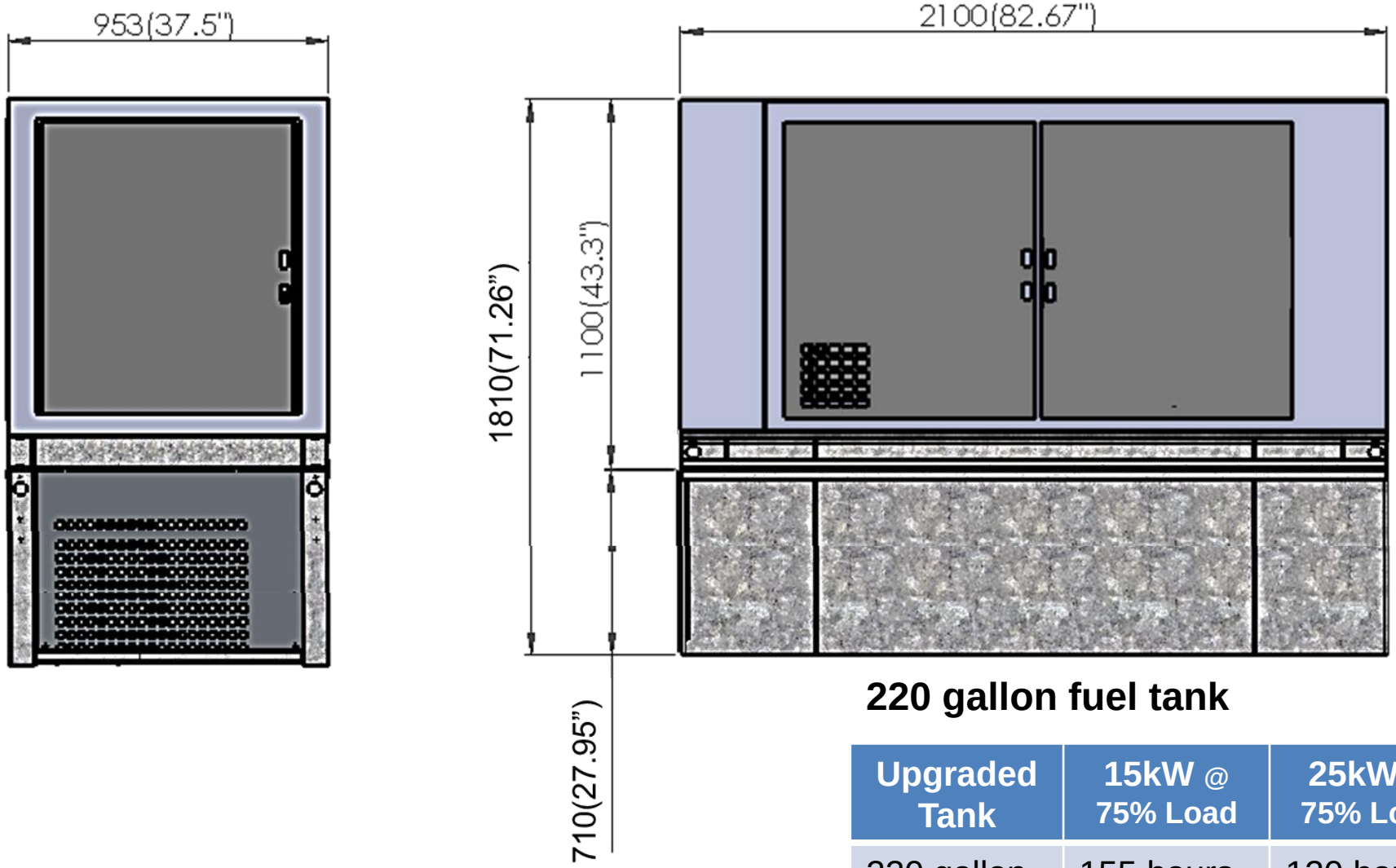




130 gallon fuel tank

Standard Tank	15kW @ 75% Load	25kW @ 75% Load
130 gallon	94 hours	72 hours

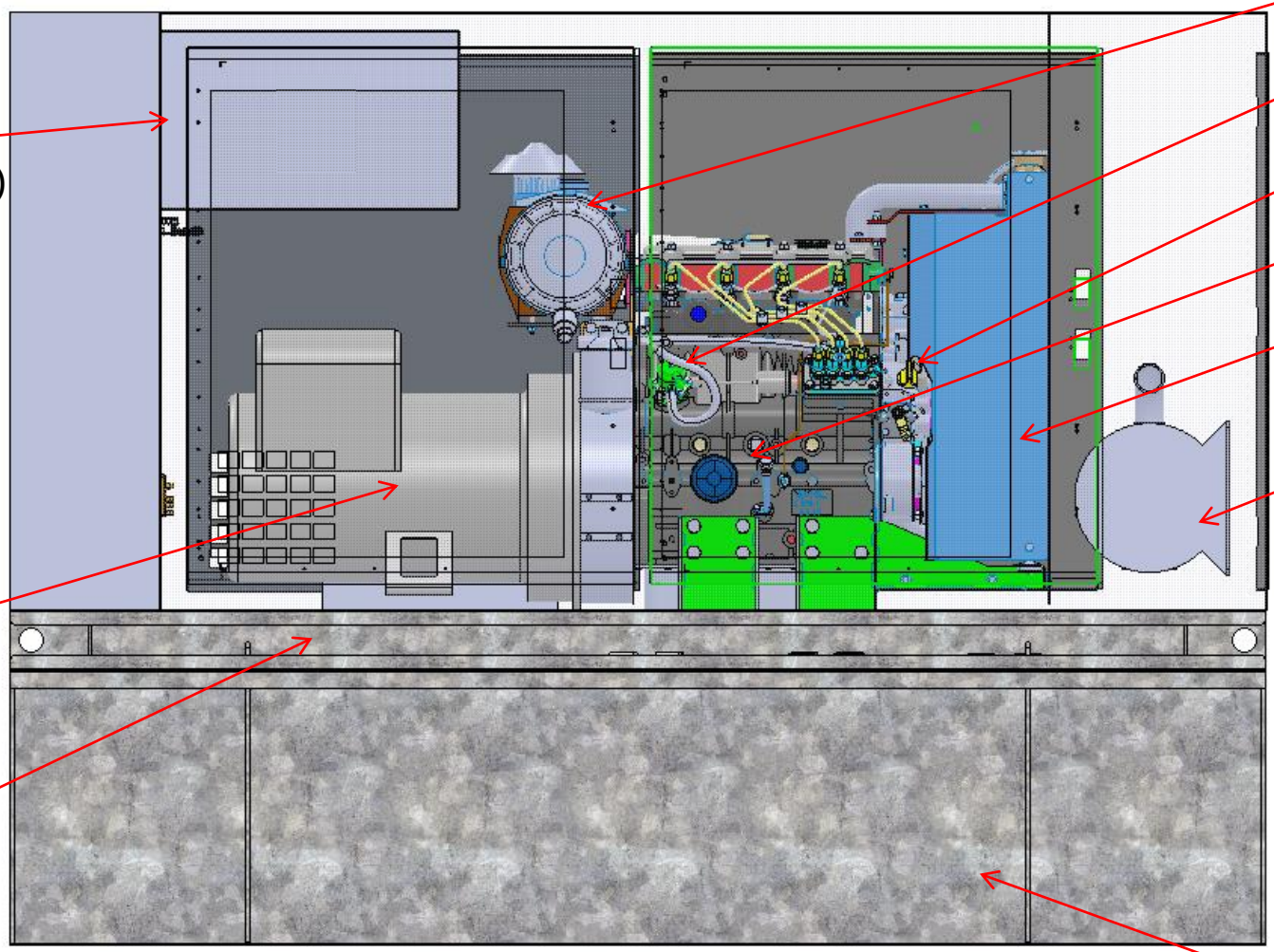
220 Gallon Tank Dimensions
15kW or 25kW DC Genset



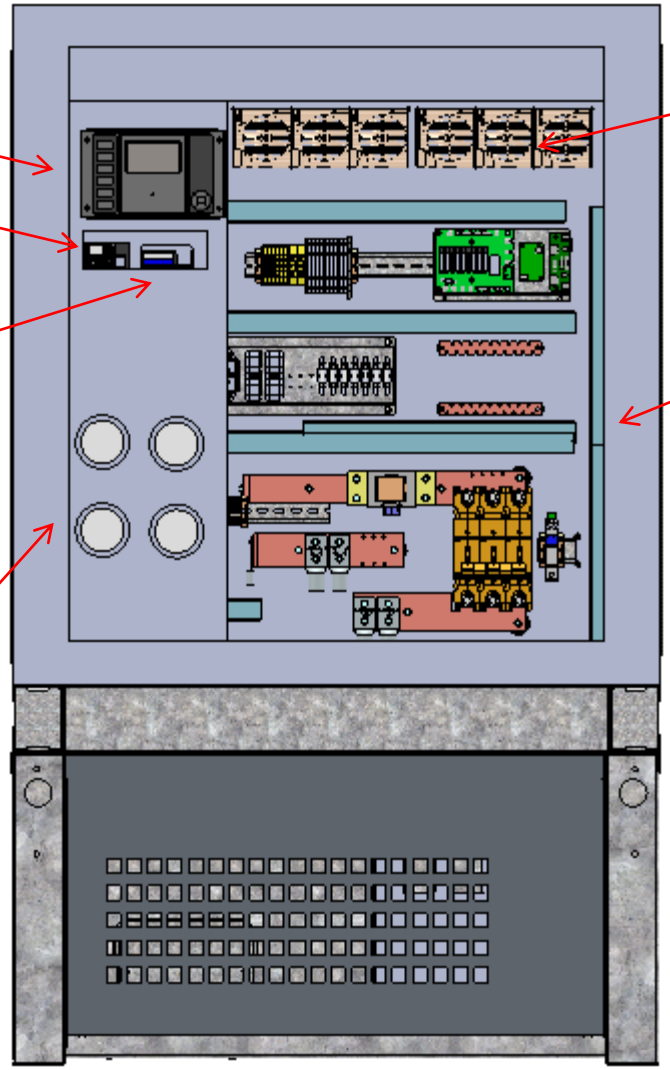
220 gallon fuel tank

Upgraded Tank	15kW @ 75% Load	25kW @ 75% Load
220 gallon	155 hours	120 hours

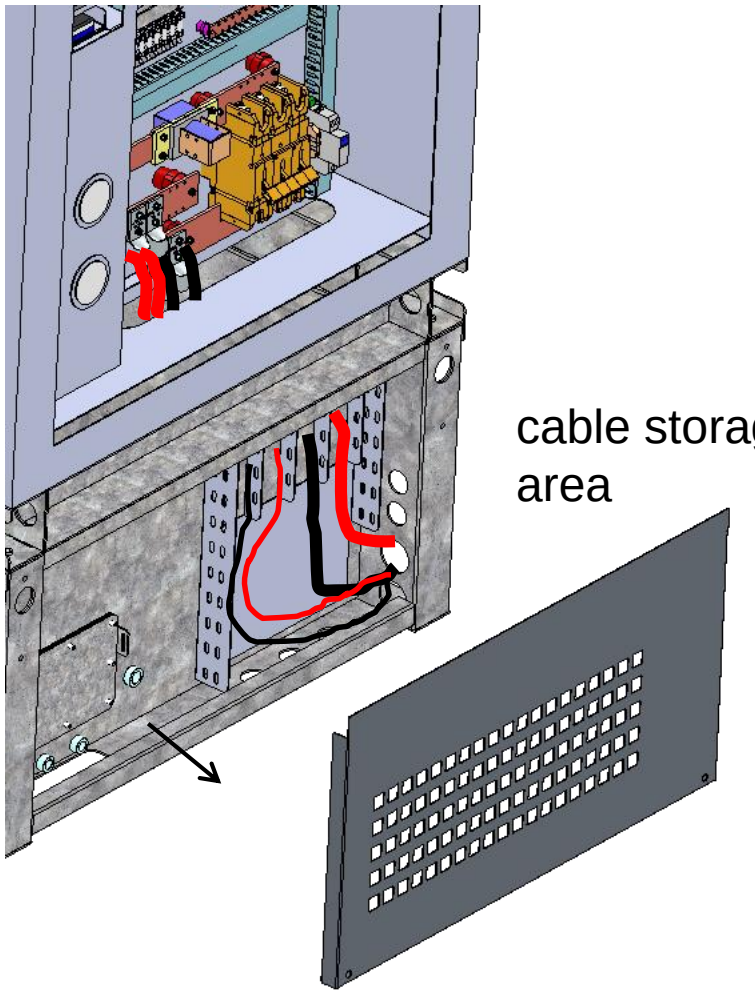
Generator Layout Front View



Left Side View

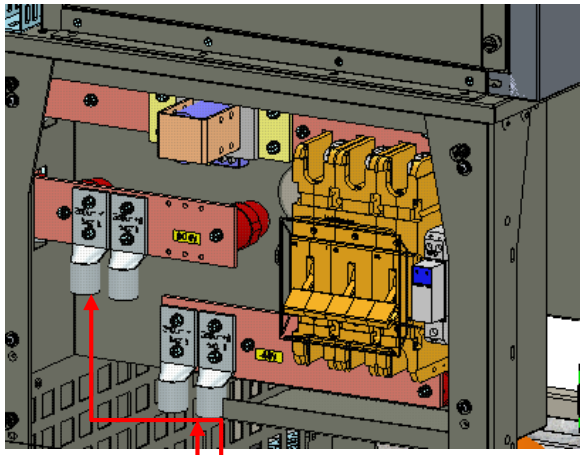


Cable Connections



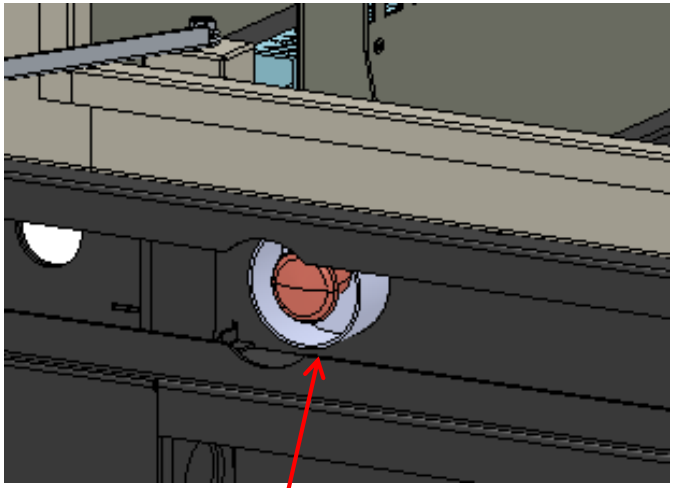
cable storage area

DC output busbar and breaker



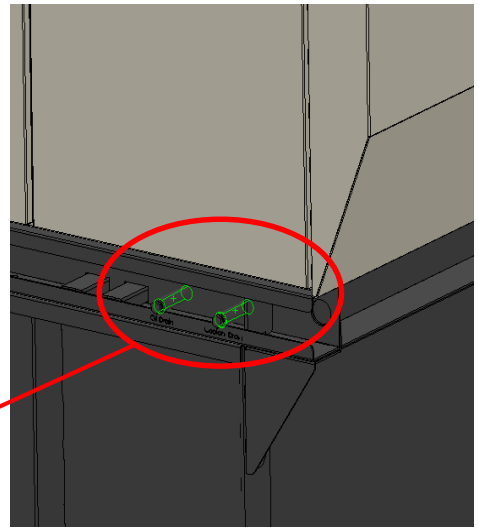
redundant landings for portable generator connection

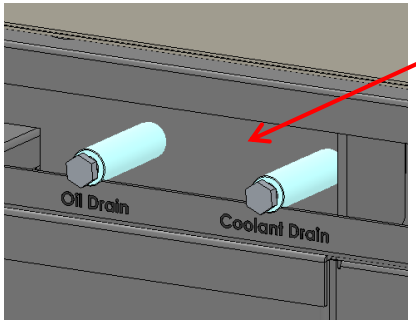
External Detail



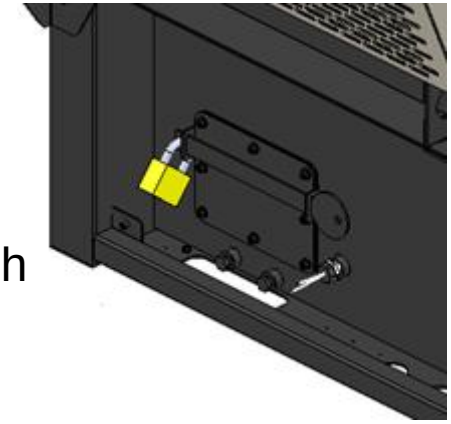
Front Bottom Left Side:
Emergency shutdown
switch externally mounted

Front Bottom Right Side:
External coolant, and
oil drains with plugs

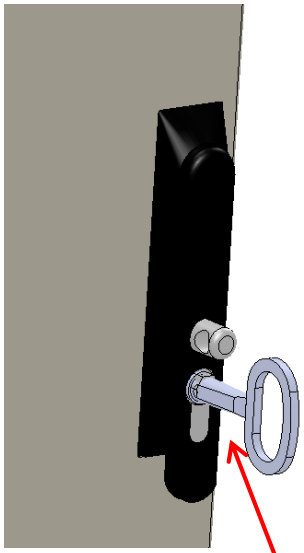




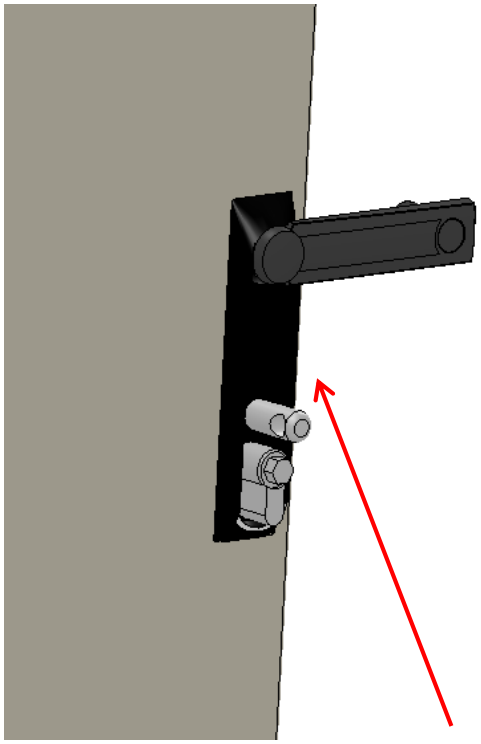
Right Side Panel:
Ball valve drain switch
inside with a padlock



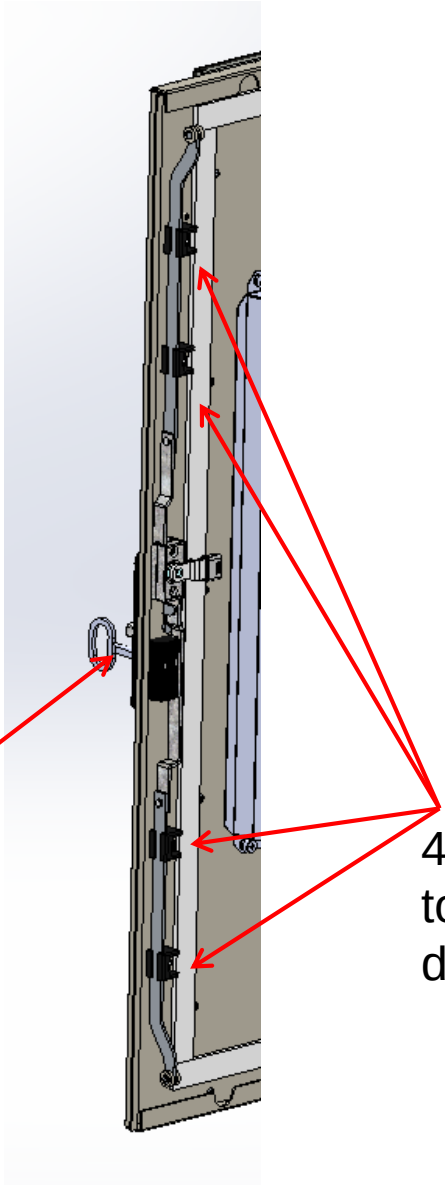
Higher Locking Method



twist key to release handle

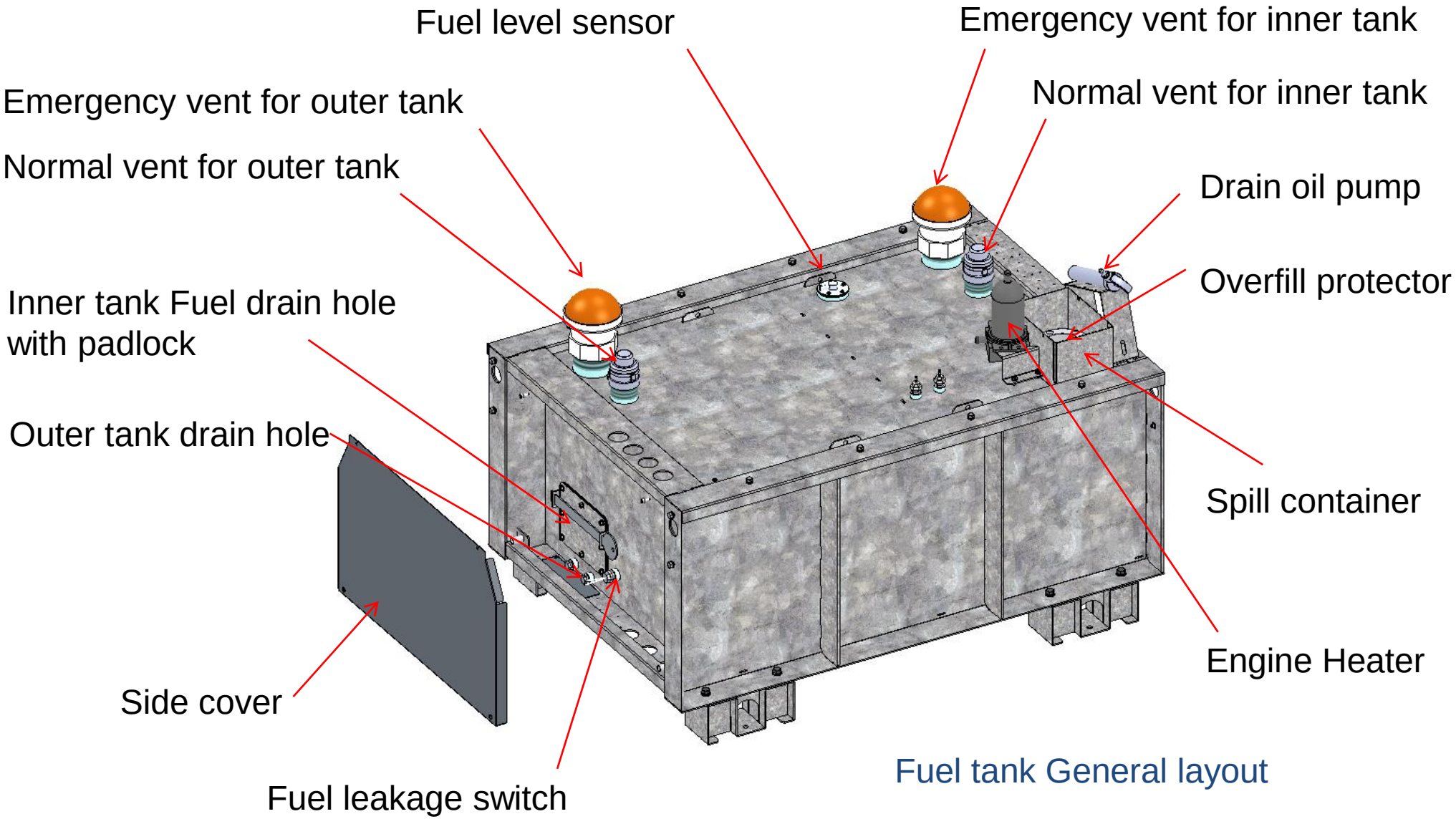


twist handle to release connecting bar



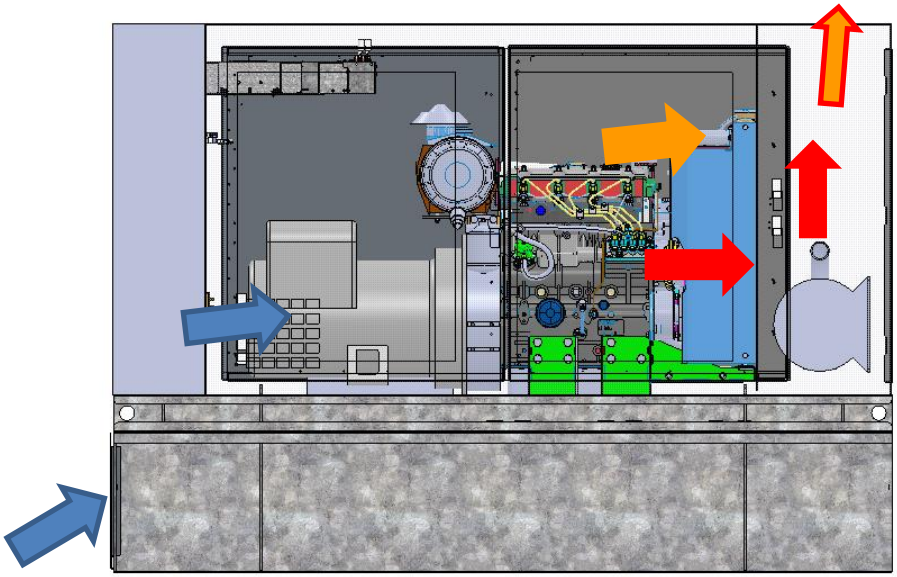
4 positions to lock the door

Fuel Tank Detail

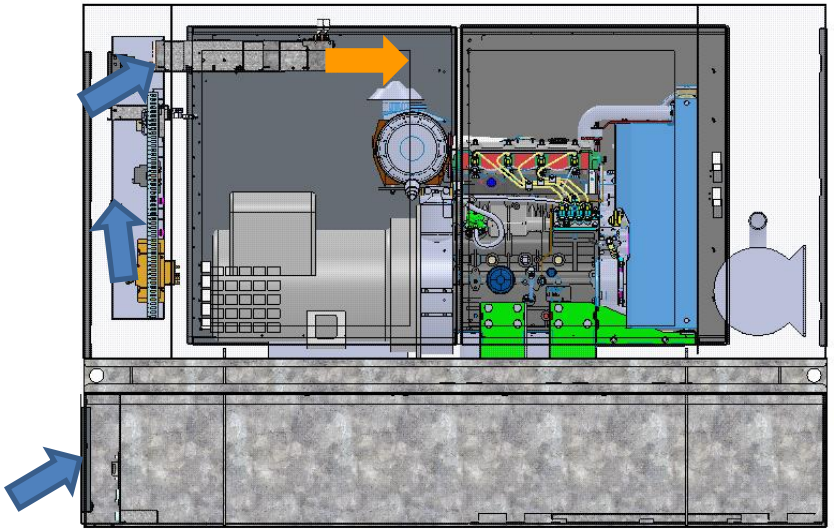


Fuel tank General layout

Air Flow



Front View
Air flow for engine



Front View
Air flow for Rectifier

- Cool air intake
- Warm air exhaust
- Hot air exhaust
- Mixed cooler exhaust air

Controllers

Generator controller provides local user interface

IP controller provides WEB and SNMP via RJ45

Local User Interface

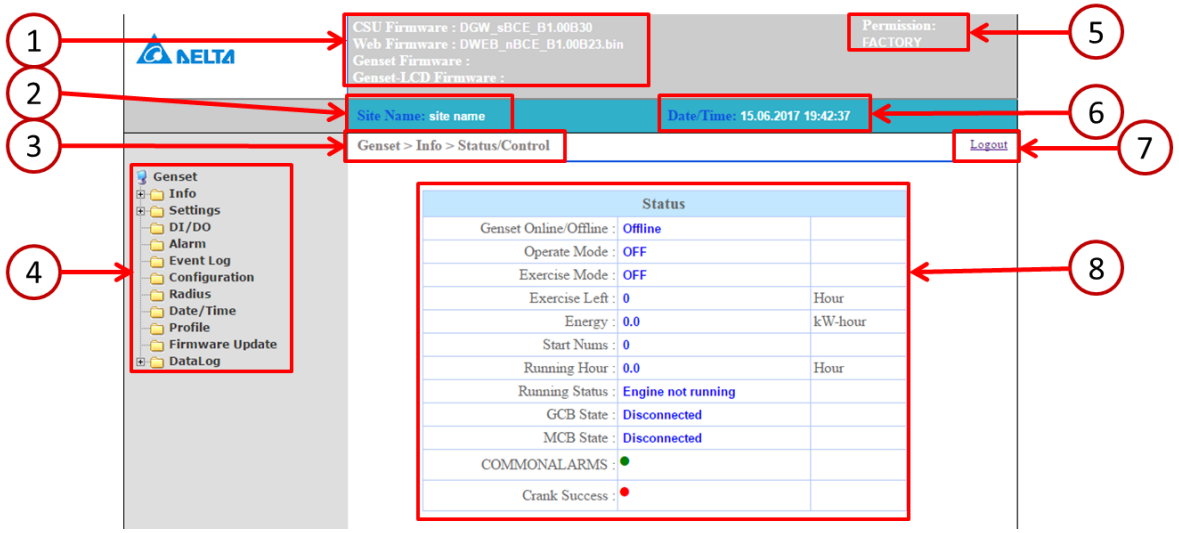
1. Controller LCD Display
2. Stop Button
3. Start Button
4. Manual Button ON/OFF DC Output Contactor

   LED Indication – Run and Output connected.
5. Alarm reset
6. Skip Buzzer Button
7. Menu Button
8. Up/Down and Left/Right Direct Button
9. Enter Button

Local User Interface Screen

1. Generator output power
2. Generator output voltage
3. Generator output current
4. Alternator output voltage
5. Operative mode
6. Running status
7. Counter
8. Speed

WEB Interface



1. Software version
2. Site name
3. Path
4. Function list
5. Permission
6. Date/ Time
7. Logout
8. Operation page

Smarter. Greener. Together.

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Exhibit H

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

9405 5036 9930 0312 0781 85 0067 0000 0010 6109

usps.com
$6.70
US POSTAGE
Flat Rate Env

10/22/2018 Mailed from 06002 062S0000001307

P

PRIORITY MAIL 1-DAY™

DEBORAH CHASE
T-MOBILE USA- NSS
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

Expected Delivery Date: 10/23/18
Ref#: HA014L74X2

0024

Carrier -- Leave if No Response

C027

SHIP TO: PETER GILLESPIE
DIR. PLANNING & ZONING
505 SILAS DEANE HWY
WETHERSFIELD CT 06109-2216

USPS TRACKING #

9405 5036 9930 0312 0781 85

Electronic Rate Approved #038555749

Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0312 0781 85

Trans. #:	446757642
Print Date:	10/19/2018
Ship Date:	10/22/2018
Expected Delivery Date:	10/23/2018

Priority Mail® Postage:	**$6.70**
Total	**$6.70**

From: DEBORAH CHASE
T-MOBILE USA- NSS
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

Ref#: HA014L74X2

To: PETER GILLESPIE
DIR. PLANNING & ZONING
505 SILAS DEANE HWY
WETHERSFIELD CT 06109-2216

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

UNITED STATES POSTAL SERVICE®

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

9405 5036 9930 0312 0781 78 0067 0000 0010 6109

usps.com
$6.70
US POSTAGE
Flat Rate Env

P

10/22/2018 Mailed from 06002 062S0000001307

PRIORITY MAIL 1-DAY™

DEBORAH CHASE
T-MOBILE USA- NSS
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

Expected Delivery Date: 10/23/18
Ref#: HA014L74X2

0024

Carrier -- Leave if No Response

C027

SHIP TO: AMY MORIN BELLO
MAYOR OF WETHERSFIELD CT
505 SILAS DEANE HWY
WETHERSFIELD CT 06109-2216

USPS TRACKING #

9405 5036 9930 0312 0781 78

Electronic Rate Approved #038555749

Cut on dotted line.

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3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0312 0781 78

Trans. #:	446757642
Print Date:	10/19/2018
Ship Date:	10/22/2018
Expected Delivery Date:	10/23/2018

Priority Mail® Postage:	**$6.70**
Total	**$6.70**

From: DEBORAH CHASE
T-MOBILE USA- NSS
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

Ref#: HA014L74X2

To: AMY MORIN BELLO
MAYOR OF WETHERSFIELD CT
505 SILAS DEANE HWY
WETHERSFIELD CT 06109-2216

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

UNITED STATES POSTAL SERVICE®

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

9405 5036 9930 0312 0781 92 0067 0000 0010 6109

usps.com
$6.70
US POSTAGE
Flat Rate Env

10/22/2018 Mailed from 06002 062S0000001307

P

PRIORITY MAIL 1-DAY™

Expected Delivery Date: 10/23/18

DEBORAH CHASE
T-MOBILE USA- NSS
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

0024

Carrier -- Leave if No Response

C027

SHIP TO: TOWN CLERK
TOWN OF WETHERSFIELD
505 SILAS DEANE HWY
WETHERSFIELD CT 06109-2216

USPS TRACKING #

9405 5036 9930 0312 0781 92

Electronic Rate Approved #038555749

Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0312 0781 92

Trans. #:	446757642
Print Date:	10/19/2018
Ship Date:	10/22/2018
Expected Delivery Date:	10/23/2018

Priority Mail® Postage:	**$6.70**
Total	**$6.70**

From: DEBORAH CHASE
T-MOBILE USA- NSS
35 GRIFFIN RD S
BLOOMFIELD CT 06002-1351

To: TOWN CLERK
TOWN OF WETHERSFIELD
505 SILAS DEANE HWY
WETHERSFIELD CT 06109-2216

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

UNITED STATES POSTAL SERVICE®

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com