NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Denise Sabo
199 Brickyard Rd Farmington, CT 06032
860-209-4690
denise@northeastsitesolutions.com

May 25, 2017

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

RE: Notice of Exempt Modification
41 Padanaram Road, Danbury CT 06811
Latitude: 41.41890000
Longitude: -73.46180000
T-Mobile Site#: CT11896A_L1900

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing 80-foot wood pole located at 41 Padanaram Road, Danbury CT 06811. T-Mobile currently maintains six (6) antennas at the 79-foot level of the existing 80-foot tower. The tower is owned by Crown Castle. The property is owned by Robert J Kaufman. T-Mobile now intends to replace three (3) existing antenna with three (3) new 1900/2100 MHz antenna. The new antennas would be installed at the 79-foot and level of the tower.

Planned Modifications:

Remove:
NONE

Remove and Replace:
(3) AIR21 Antenna **(Remove) –** (3) AIR32DB B66Aa B2a Antenna **(Replace)**

Install New:
(1) Hybrid Line

Existing to Remain:
(12) 1-5/8" Coax
(1) Hybrid line
(3) AIR21 Antenna
(3) TMA

This facility was approved by the CT Siting Council. Per the attached Petition No. 712 – Dated April 27, 2005. Approval for an 80-foot Centerline on the existing 80-foot pole. Please see attached.

NORTHEAST SITE SOLUTIONS

Turnkey Wireless Development

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 Mark D. Boughton, Mayor, as Elected Official for the City of Danbury and Sharon Calitro, Director of Zoning 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: 199 Brickyard Rd, Farmington, CT 06032
Email: denise@northeastsitesolutions.com

Attachments
cc: Mark D. Boughton – Mayor - as elected official
Sharon Calitro- Director of Zoning
Crown Castle - Tower owner
Robert J. Kaufman - Property owner

Exhibit A

Petition No. 712
Omnipoint (T-Mobile)
Danbury, Connecticut
Staff Report
April 27, 2005

T-Mobile seeks to replace an existing 60-foot tall wooden utility pole, on which whip antennas were formerly attached to dispatch concrete trucks, with an 80-foot tall wood laminate pole to which a platform with twelve antennas would be mounted. The antennas would be mounted with a center line of 80 feet; the tops of the antennas would reach 83 feet. The new pole would be designed to accommodate one additional carrier. At the time of its petition submittal, T-Mobile also notified all abutting property owners of its plans.

On April 26, 2005, Council member Ed Wilensky and staff analyst David Martin visited the site of the petition at 41 Pandanaram Road (Route 37) in Danbury. Stephen Humes, Jackie Slaga, Dan O'Connor, and Jeffrey York were present at the field review representing T-Mobile.

The existing pole is located near the top of a small ridge line that parallels Pandanaram Road. The lower portions of the ridge between the pole site and Pandanaram Road are occupied by a concrete plant (at street level) and several graded off levels that are used for the storage of various concrete products. A graveled access road switches back and forth up the side of the ridge to eventually reach the pole, which is in a small cleared area surrounded by mature deciduous trees that appear to be 65 to 70 feet high.

T-Mobile would install a 15-foot by 15-foot fence compound next to the proposed replacement pole to house its ground equipment which would consist of equipment cabinets on two concrete Pands. In its petition, T-Mobile states the compound would be enclosed by a six-foot high chain link fence topped with three strands of barbed wire. During the field review, T-Mobile representatives stated they would be amenable to installing an eight-foot fence without the barbed wire. Utilities would be brought underground to the compound from a utility pole to be placed somewhere lower on the ridge. Underground utilities would be preferable to overhead lines because of the truck traffic and the use of booms to pick up and move the concrete products.

From the pole site, the ridge continues to rise to the north and east. Although there is a residential area just over the crest of the ridge, no houses are visible from the base of the existing pole. Mr. Wilensky and David Martin drove the residential road nearest the ridge line and could not see the existing tower from this location.

To the south of the existing pole, the ridge falls steeply away to a condominium development. The condominium units nearest to the pole site face the side of the ridge and would not be able to see the replacement pole. Units closer to Pandanaram Road may have some views of the higher proposed tower. Mr. Wilensky and David Martin drove through the condominium development but could not see the existing tower.

To the west of the site, Danbury High School is visible on the side of an opposite ridge. There are a few residences also visible on the opposite ridge. However, existing vegetation and distance should make any visual presence of the proposed, higher tower minimal.

View of Existing Pole

View From Pole, Looking Toward Roof Of Nearest Condominiums

Closer View of Condominium Roof from Edge of Ridge

Looking West From Pole Site

Looking Northeast From Site, Existing Pole In Foreground

Exhibit B

PADANARAM RD

Location	PADANARAM RD	**Mblu**	H10/ / 140/ /
Acct#		**Owner**	KAUFMAN ROBERT J
Assessment	$1,725,900	**Appraisal**	$2,465,500
PID	10751	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$661,000	$1,804,500	$2,465,500
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$462,700	$1,263,200	$1,725,900

Owner of Record

Owner	KAUFMAN ROBERT J	**Sale Price**	$0
Co-Owner		**Book & Page**	0470/0094
Address	41 PADANARAM RD DANBURY, CT 06811	**Sale Date**	02/07/1969

Ownership History

Ownership History			
Owner	**Sale Price**	**Book & Page**	**Sale Date**
KAUFMAN ROBERT J	$0	0470/0094	02/07/1969

Building Information

Building 1 : Section 1

Year Built:	2006
Living Area:	23,280
Replacement Cost:	$957,958
Building Percent Good:	69
Replacement Cost Less Depreciation:	$661,000

Building Attributes

Field	Description
STYLE	Pre-Eng Mfg
MODEL	Ind/Comm
Grade	Average
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Air-no Duc
AC Type	None
Bldg Use	Commercial MDL-96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	2001
Heat/AC	NONE
Frame Type	FIREPRF STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	25
% Comn Wall	0

Building Photo

(http://images.vgsi.com/photos/DanburyCTPhotos//\00\02\39/88.jpg)

Building Layout

Building Sub-Areas (sq ft) Legend

Code	Description	Gross Area	Living Area
BAS	First Floor	23,280	23,280
UEP	Unfi. Enclosed Porch	492	0
UST	Unf. Storage	4,080	0
		27,852	23,280

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	200I
Description	Commercial MDL-96
Zone	CN20
Neighborhood	6500
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	9.68
Frontage	0
Depth	0
Assessed Value	$1,263,200
Appraised Value	$1,804,500

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
CEL	Cell Tower			1 UNITS	$0	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$661,000	$1,804,500	$2,465,500
2014	$661,000	$1,804,500	$2,465,500
2013	$661,000	$1,804,500	$2,465,500

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$462,700	$1,263,200	$1,725,900
2014	$462,700	$1,263,200	$1,725,900
2013	$462,700	$1,263,200	$1,725,900

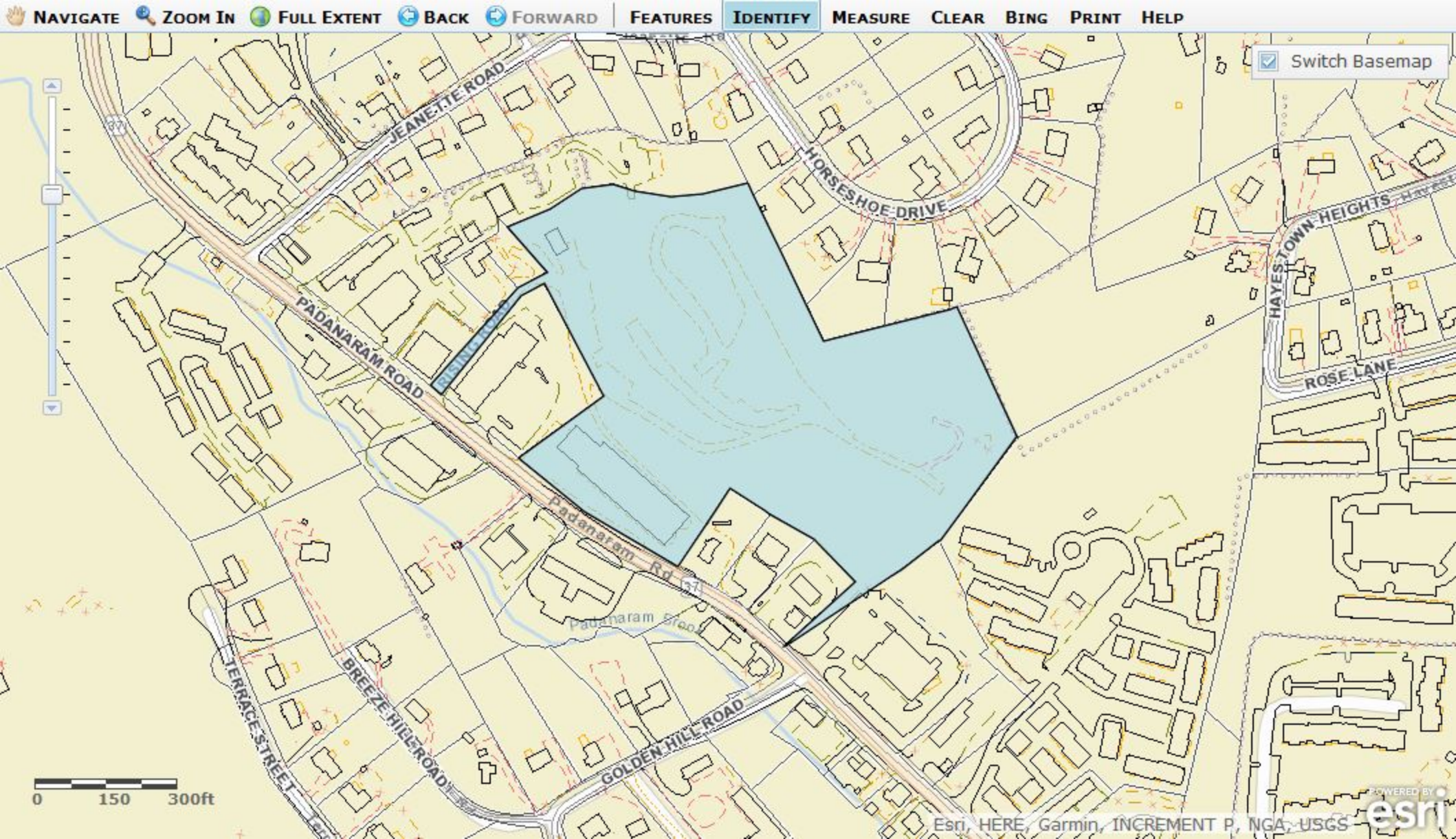

Navigate
Zoom In
Full Extent
Back
Forward
Features
Identify
Measure
Clear
Bing
Print
Help
Switch Basemap
JEANETTE ROAD
HORSESHOE DRIVE
HAYESTOWN HEIGHTS
ROSE LANE
PADANARAM ROAD
Padanaram Rd
Padanaram Brook
TERRACE STREET
BREEZE HILL ROAD
GOLDEN HILL ROAD
0
150
300ft
Esri, HERE, Garmin, INCREMENT P, NGA, USGS
esri

Exhibit C

ANTENNA UPGRADES
BY

T-Mobile

T-MOBILE NORTHEAST LLC

SITE NUMBER: CT11896A
SITE NAME: CT896/M&M CONCRETE POLE
SITE ADDRESS: 41 PADANARAM RD
DANBURY, CT 06811
(92DB CONFIGURATION)

PROJECT SCOPE:

T-MOBILE, A WIRELESS TELECOMMUNICATIONS PROVIDER PROPOSES TO UPGRADE THEIR EXISTING FACILITY AS FOLLOWS:

REPLACE (3) EXISTING ANTENNAS, ADD (1) HYBRID CABLE.

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 BY PAUL J. FORD DATED MAY 12, 2017 FOR STRUCTURAL EVALUATION OF THE WOOD POLE AND CONDITIONS.

APPLICABLE STATE ADOPTION CODES:

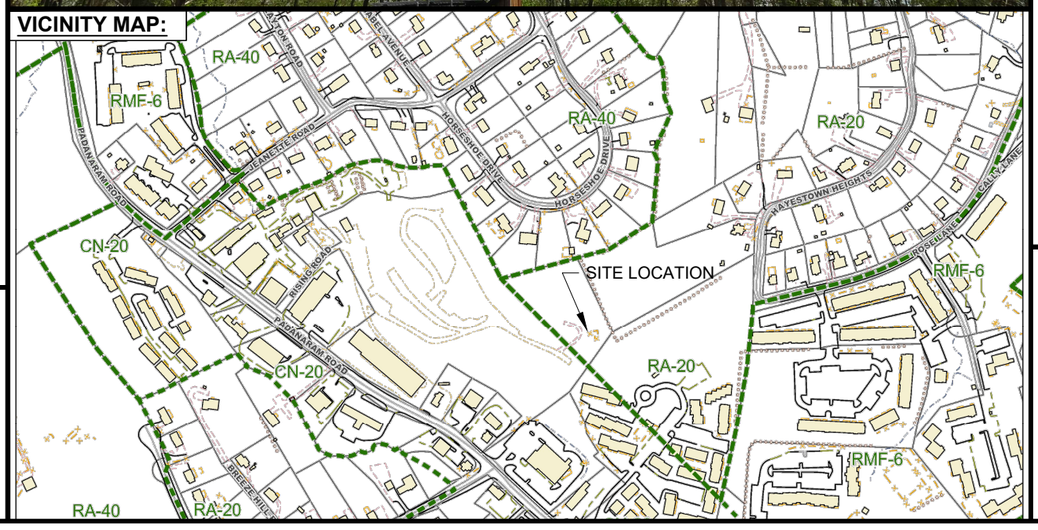
2016 CONNECTICUT STATE BUILDING CODE (CSBC).

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

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

SITE IMAGE:

VICINITY MAP:



PROJECT INFORMATION:

ADDRESS:	41 PADANARAM RD DANBURY, CT 06811
STRUCTURE TYPE:	WOOD POLE
ZONING DISTRICT:	RA-20
PARCEL ID:	H101400000
COORDINATES:	N 41.41890000 / W -73.46180000
ANTENNA HEIGHT:	79'

PROJECT TEAM:

APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 860-692-7100
LANDLORD:	KAUFMAN ROBERT J 41 PADANARAM RD DANBURY, CT 06811
TOWER OWNER:	CROWN CASTLE T3
PROJECT MANGER:	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

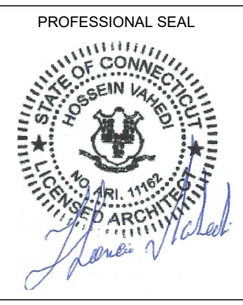
SHEET INDEX:

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

PROJECT MANGER
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	05/09/17
0	ISSUED FOR PERMITTING	05/18/17

SITE NUMBER: CT11896A
SITE NAME: CT896/M&M CONCRETE POLE
SITE ADDRESS: 41 PADANARAM RD
DANBURY, CT 06811

SHEET TITLE:
T-1: TITLE SHEET

NOTES AND DISCLAIMERS:

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.

4. 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.

5. 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.

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

7. 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

8. 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.

9. 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).

10. 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.

11. 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.

12. 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.

13. 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.

14. 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).

15. 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

16. 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 NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
860-692-7100

PROJECT MANGER
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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
A	PRELIMINARY	05/09/17
0	ISSUED FOR PERMITTING	05/18/17

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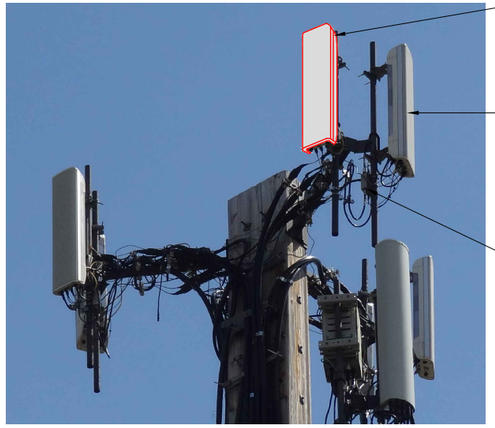
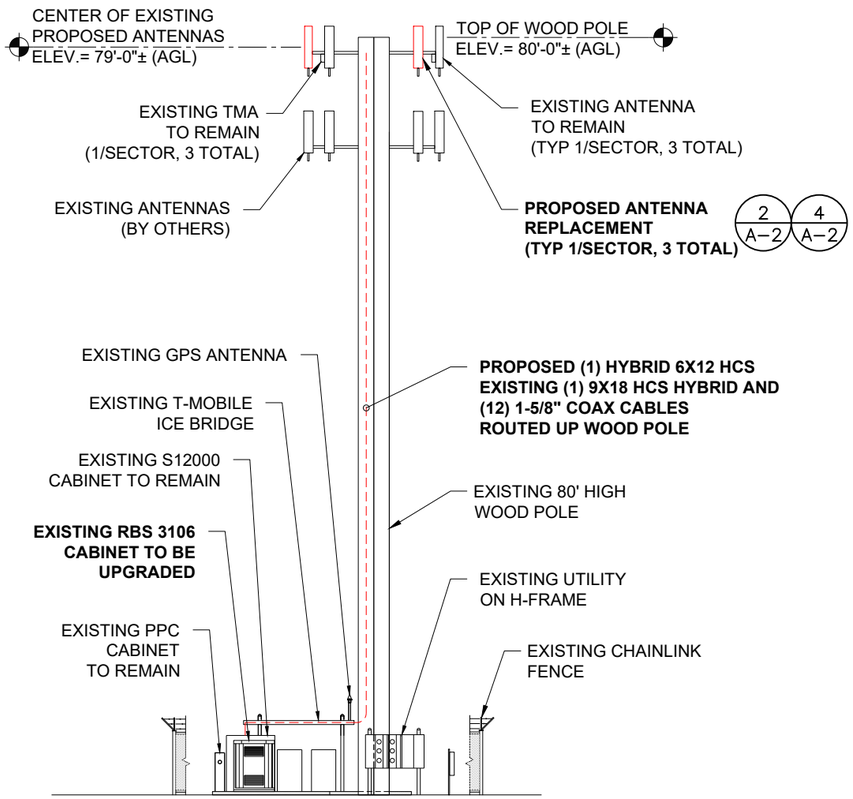
DANBURY, CT 06811

SHEET TITLE:
N-1: NOTES AND DISCLAIMERS

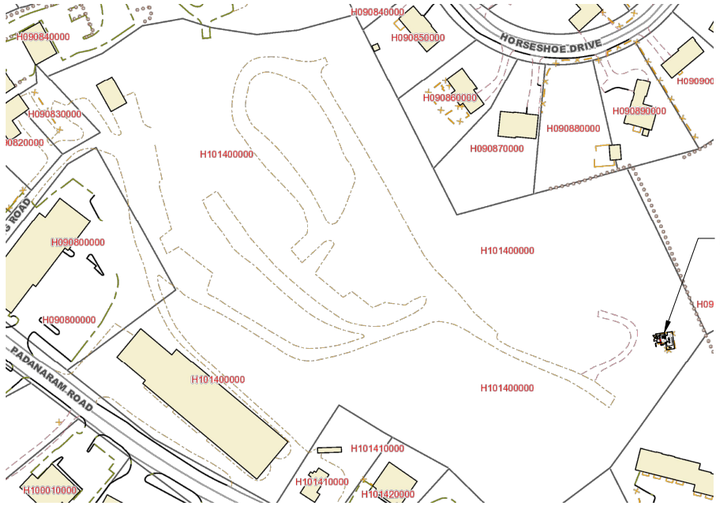
REFER TO STRUCTURAL ANALYSIS REPORT BY PAUL J. FORD DATED MAY 12, 2017 FOR STRUCTURAL EVALUATION OF THE WOOD POLE AND CONDITIONS.



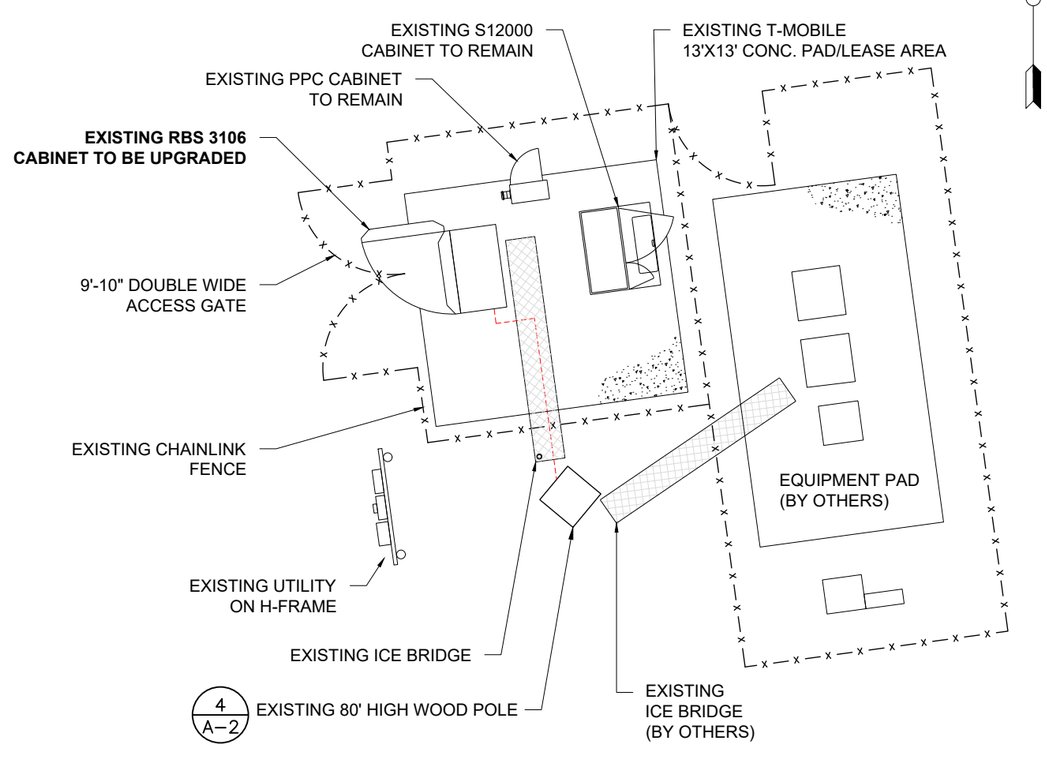
ELEVATION PHOTO DETAIL 2 A–1
SCALE: N.T.S



ELEVATION 1 A–1
SCALE 3/4"=1'-0"



SITE PLAN 4 A–1
SCALE 1"=200'



EQUIPMENT LAYOUT PLAN 3 A–1
SCALE 1-1/2"=1'-0"

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

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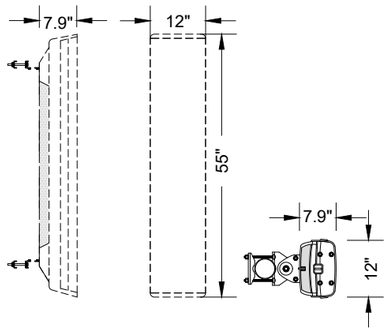
DANBURY, CT 06811

SHEET TITLE:
A-1: PLANS AND ELEVATION

REMOVE:
(3) ANTENNAS

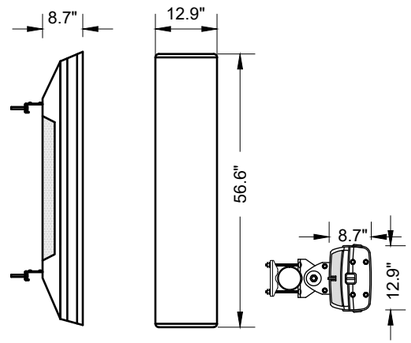
MANUFACTURER: ERICSSON
MODEL AIR-21 KRC118046-1_B4A_B2P
FOOTPRINT: 55"HX12"WX7.9"D
WEIGHT: 83 LBS
FREQUENCY BAND: 1700-2100 MHZ



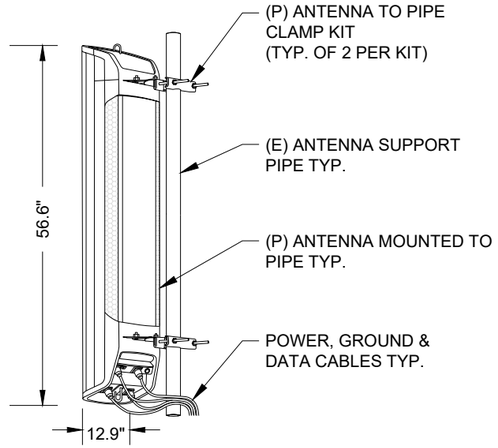
ANTENNA TO BE REMOVED (1 / A-2)
SCALE: N.T.S

ADD:
(3) ANTENNAS

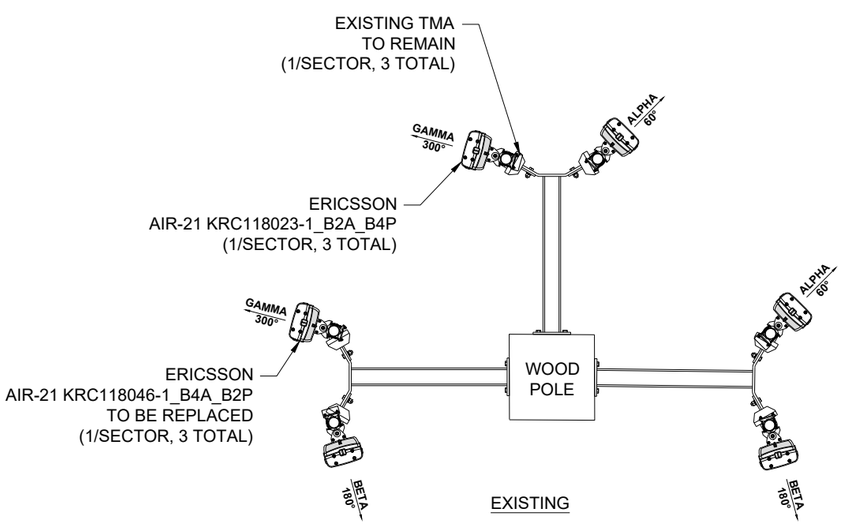
MANUFACTURER: ERICSSON
MODEL AIR32 KRD901146-1_B66A_B2A
FOOTPRINT: 56.6"HX12.9"WX8.7"D
WEIGHT: 132.2 LBS
FREQUENCY BAND: 1710-2155MHZ
ANTENNA TYPE: DUAL BAND
WIND LOADING LATERAL: 300N
WIND LOADING REAR: 660N
WIND LOADING MAXIMUM: 640N

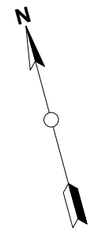


ANTENNA TO BE ADDED (2 / A-2)
SCALE: N.T.S

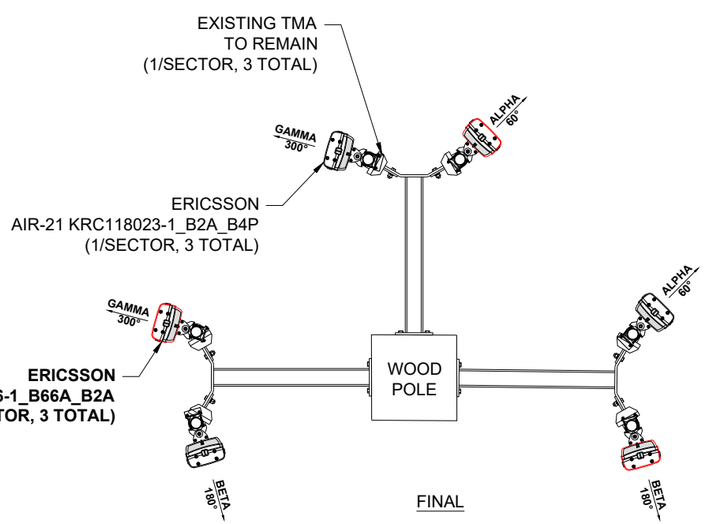


ANTENNA MOUNT DETAILS (3 / A-2)
SCALE: N.T.S





2 / A-2



ANTENNA PLAN (4 / A-2)
N.T.S

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

PROJECT MANGER
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

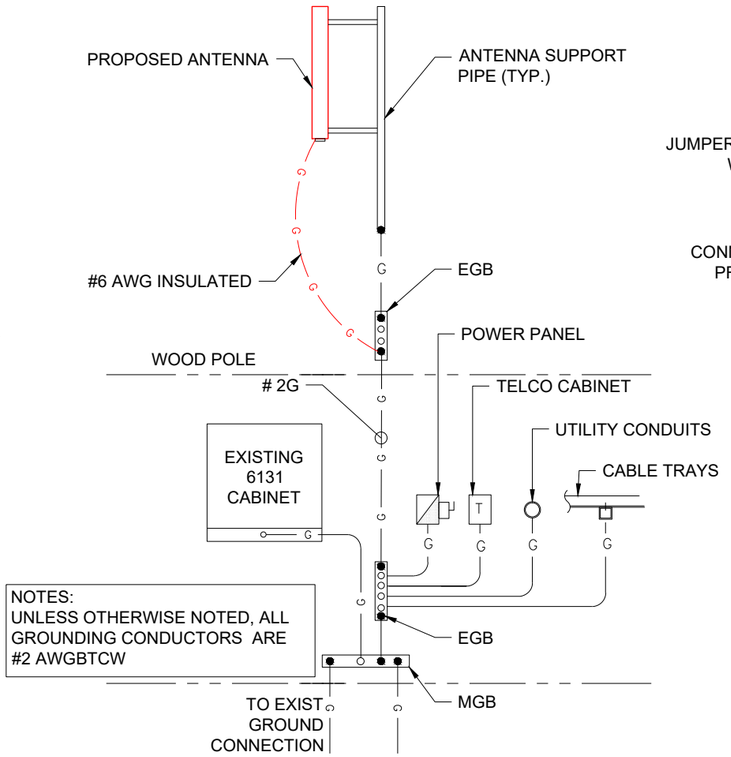
REV	DESCRIPTION	DATE
A	PRELIMINARY	05/09/17
0	ISSUED FOR PERMITTING	05/18/17

SITE NUMBER: CT11896A
SITE NAME: CT896/M&M CONCRETE POLE
SITE ADDRESS: 41 PADANARAM RD
DANBURY, CT 06811

SHEET TITLE:
A-2: PLANS AND ELEVATIONS

ELECTRICAL & GROUNDING NOTES

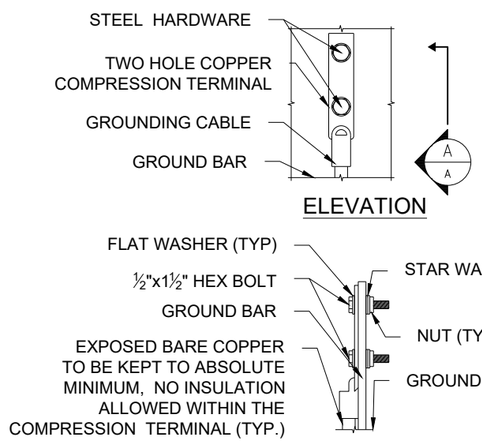
1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PRODUCED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED 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

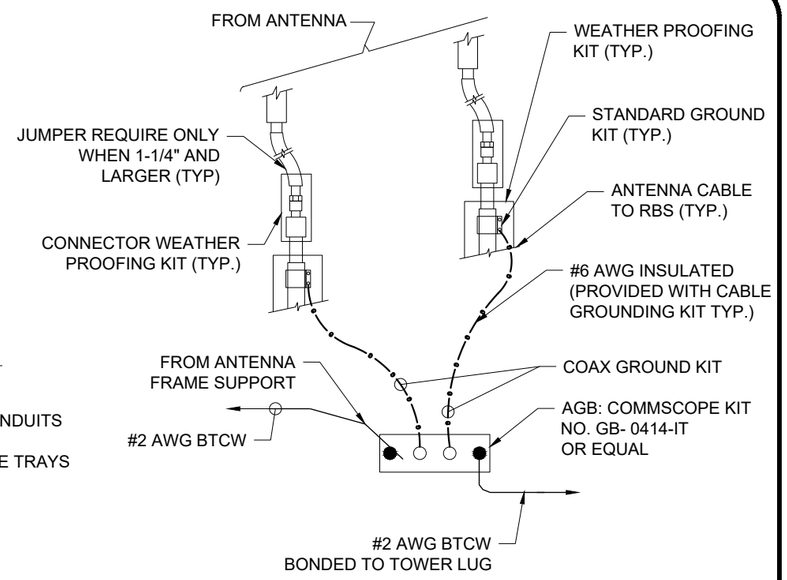


NOTES:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

TYPICAL GROUND BAR CONNECTIOS DETAIL

3 E-1

SCALE: N.T.S



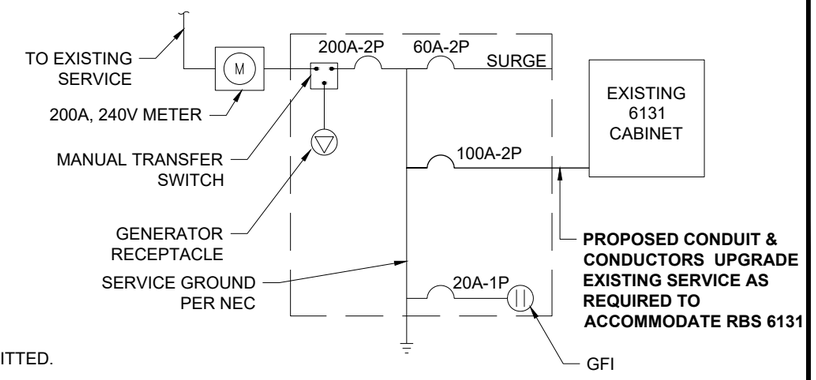
NOTES:
INSTALL CABLE GROUND KIT ABOVE HORIZONTAL BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO AGB/EGB

TOWER TOP CABLE GROUNDING DETAIL

2 E-1

SCALE: N.T.S

NOTES:
G.C TO VERIFY THAT THE EXISTING CONDUCTS AND WIRE SIZES ARE ADEQUATE FOR THE PROPOSED LOADING AND INCLUDE ELECTRICAL UPGRADES IN THE SCOPE OF WORKS AS REQUIRED



ONE LINE POWER DIAGRAM

4 E-1

SCALE: N.T.S

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

PROJECT MANGER
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	05/09/17
0	ISSUED FOR PERMITTING	05/18/17

SITE NUMBER: CT11896A
SITE NAME: CT896/M&M CONCRETE POLE
SITE ADDRESS: 41 PADANARAM RD
DANBURY, CT 06811

SHEET TITLE:
E-1: GROUNDING AND ELECTRICAL DETAILS

Exhibit D

PAUL J. FORD & COMPANY

Date: **May 12, 2017**

Andrew Bazinet
Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
585.370.4766

Paul J Ford and Company
250 E. Broad Street, Suite 600
Columbus, OH 43215
614.221.6679
rferrante@pjfweb.com

Subject: **Structural Analysis Report**

Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CT11896A
	Carrier Site Name:	CT896/M&M Concrete Pole
Crown Castle Designation:	**Crown Castle BU Number:**	823531
	Crown Castle Site Name:	CT896/M&M Concrete Pole
	Crown Castle JDE Job Number:	437877
	Crown Castle Work Order Number:	1400383
	Crown Castle Application Number:	390336 Rev. 2
Engineering Firm Designation:	**Paul J Ford and Company Project Number:**	37517-1990.001.7805
Site Data:	**41 Padanaram Rd, Danbury, Fairfield County, CT** **Latitude *41° 25' 8.1"*, Longitude *-73° 27' 43"*** **80 Foot - Monopole Tower**	

Dear Andrew Bazinet,

Paul J Ford and Company is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 1032881, in accordance with application 390336, revision 2.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Existing + Proposed Equipment — **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code, the ANSI/TIA-222-G-2-2009 Standard, the ASCE/SEI 7-10, and the 2012 National Design Specification for Wood Construction based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind of 93 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Risk Category II and Exposure Category B with Topographic Factor, Kzt of 1.0 were used in this analysis.

We at *Paul J Ford and Company* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:

Ryan Ferrante, EI
Structural Designer

STATE OF CONNECTICUT
No. 30301
LICENSED
PROFESSIONAL ENGINEER

5-12-17

tnxTower Report - version 7.0.5.1

Date: **May 12, 2017**

Andrew Bazinet
Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
585.370.4766

Paul J Ford and Company
250 E. Broad Street, Suite 600
Columbus, OH 43215
614.221.6679
rferrante@pjfweb.com

Subject: **Structural Analysis Report**

Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CT11896A
	Carrier Site Name:	CT896/M&M Concrete Pole
Crown Castle Designation:	**Crown Castle BU Number:**	823531
	Crown Castle Site Name:	CT896/M&M Concrete Pole
	Crown Castle JDE Job Number:	437877
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	Crown Castle Application Number:	390336 Rev. 2
Engineering Firm Designation:	**Paul J Ford and Company Project Number:**	37517-1990.001.7805
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We at *Paul J Ford and Company* appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:

Ryan Ferrante, EI
Structural Designer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 80 ft Monopole tower designed by LAMINATED WOOD SYSTEMS, INC. in September of 2005. The tower was originally designed for a wind speed of 90 mph.

2) ANALYSIS CRITERIA

This analysis has been performed in accordance with the 2016 Connecticut State Building Code, the ANSI/TIA-222-G-2-2009 Standard, the ASCE/SEI 7-10, and the 2012 National Design Specification for Wood Construction based upon an ultimate 3-second gust wind speed of 120 mph converted to a nominal 3-second gust wind of 93 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Risk Category II and Exposure Category B with Topographic Factor, Kzt of 1.0 were used in this analysis.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
78.0	79.0	3	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe	1	1-1/2	-

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
78.0	80.0	3	ericsson	KRY 112 144/1	13	1-5/8	1
	78.0	1	tower mounts	Side Arm Mount [SO 702-3]			
	79.0	3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe			
		3	ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe	-	-	2
70.0	70.0	3	alcatel lucent	1900MHz RRH	3	1-1/4	1
		3	alcatel lucent	800MHZ RRH			
		1	powerwave technologies	P40-16-XLPP-RR-A w/ Mount Pipe			
		2	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe			
		1	tower mounts	Side Arm Mount [SO 702-3]			

Notes:
1) Existing Equipment
2) Equipment To Be Removed

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
GEOTECHNICAL REPORTS	FDH, 15BKTB1600, 6/9/2015	3529191	CCISITES
TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Laminated Wood Systems, TMOB-0018.06A1, 9/20/2005	3914350	CCISITES
TOWER MANUFACTURER DRAWINGS	Laminated Wood Systems, TMOB-0018.06A1, 9/20/2005	3529192	CCISITES

3.1) Analysis Method

The wooden monopole was analyzed in Microsoft Excel based on the codes and standards referenced on the cover page of this report.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J Ford and Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Description		% Capacity	Pass / Fail
L1	80 - 0	Pole	Laminated Wood Pole		86.7	Pass
					Summary	
				Pole (L1)	86.7	Pass
				Rating =	86.7	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Base Foundation Structural	0	92.0	Pass
1	Base Foundation Soil Interaction	0	71.2	Pass

Structure Rating (max from all components) =	92.0%

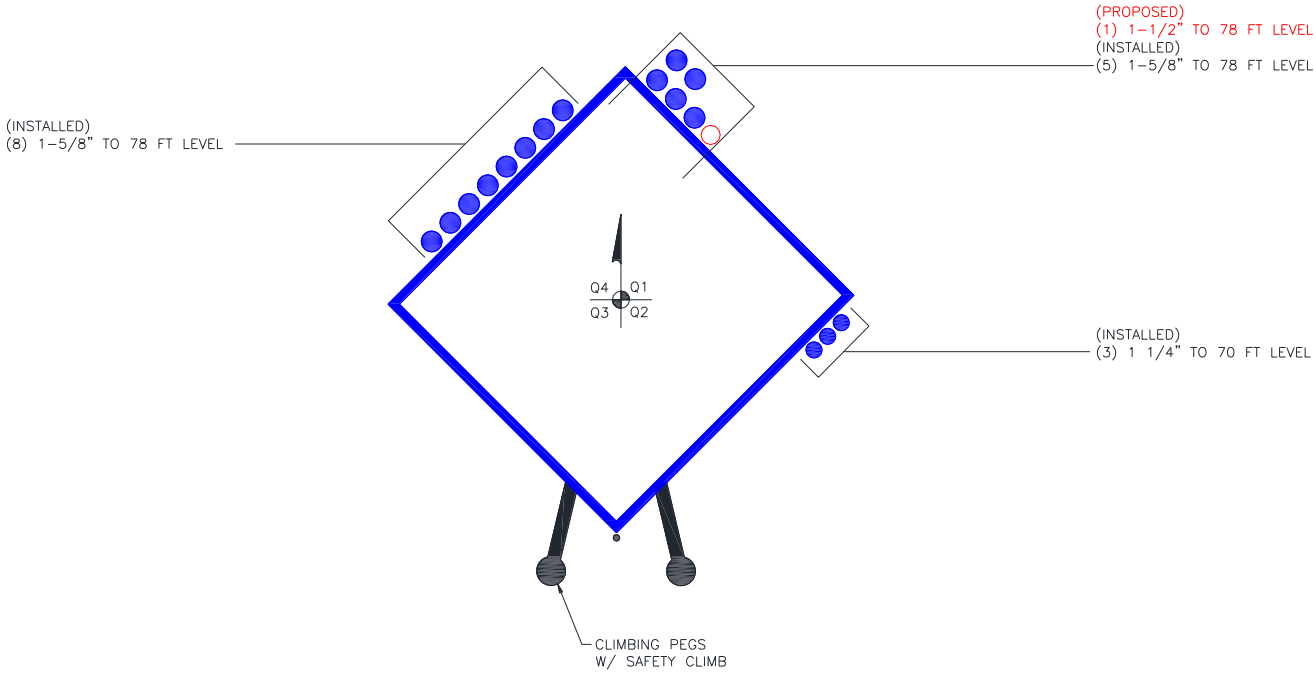
Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

The monopole and its foundation have sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A

BASE LEVEL DRAWING



APPENDIX B

MONOPOLE HAND CALCULATIONS

PAUL J. FORD & COMPANY
250 E Broad St, Ste 600 • Columbus, OH 43215
Phone 614.221.6679 www.pauljford.com

Job #:	37517-1990.001.7805
Client #:	823531
Engineer:	RMF
Date:	5/12/2017

Version v0.6 Effective 5/11/2015

CODE: 2012 NDS (LRFD)

SQUARE WOOD POLE ANALYSIS

ASCE 7-10 --- 2012 NDS (LRFD)

SITE INPUTS

Basic Wind Speed	93	mph
Exposure Category	B	
Importance Category	II	
Importance Factor	1	
Kzt =	1	
Kd =	0.95	
G =	1.1	

MAXIMUM CAPACITIES

Pole Shaft	100%
Foundation	100%

INSTALLED SHAFT REINFORCING

Plate Thickness		in
Plate Width		in
Btm Effective El.		ft
Top Effective El.		ft
Bolt Spacing		in
Grade		ksi
Modulus of Elasticity		psi
Design Stress		ksi

POLE GEOMETRY/PROPERTIES (Longitudinal Section)

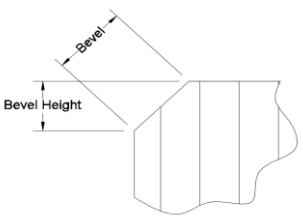
Total Pole Length	93.5	ft
Embedment Depth	13.5	ft
Top Width	12	in
Btm Width	27.5	in (Embedded End)
Top Depth	26.25	in
Btm Depth	26.25	in (Embedded End)
Raceway Width	0	in
Raceway Depth	0	in

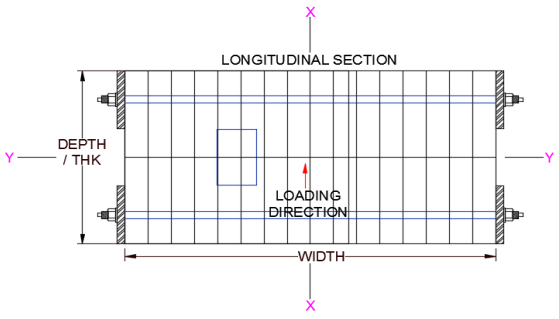
*Raceway is assumed to be centered based on the Top Dimensions

Straight Thru FDN?	Yes	
Beveled Edge Dim.	0	in
Beveled Height Dim.	0.000	in

POLE INFORMATION

Species	Southern Yellow Pine	
F_{bx}	2400	psi
F_{by}	1750	psi
F_c	1650	psi
F_v	260	psi
E	1700000	psi
E_{min_Trans}	880000	psi
E_{min_Long}	780000	psi
Density	34.32	pcf





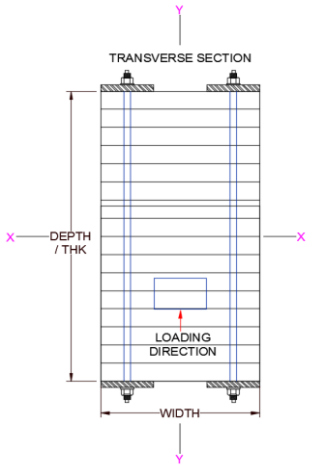


TABLE 1 - DISCRETE LOADS

	Database	Description	Classification	Qty.	Height	CaAa (F) No Ice (ft^2)	CaAa (S) No Ice (ft^2)	Weight No Ice (k)
1	tower mounts (cci)	Side Arm Mount [SO 702-3]	Existing-C	1	78.0	3.22	3.22	0.08
2	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	Existing-C	1	79.0	6.33	5.64	0.11
3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	Existing-C	1	79.0	6.33	5.64	0.11
4	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	Existing-C	1	79.0	6.33	5.64	0.11
5	ericsson	KRY 112 144/1	Existing-C	1	80.0	0.35	0.18	0.01
6	ericsson	KRY 112 144/1	Existing-C	1	80.0	0.35	0.18	0.01
7	ericsson	KRY 112 144/1	Existing-C	1	80.0	0.35	0.18	0.01
8	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe	Proposed	1	79.0	6.75	6.07	0.15
9	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe	Proposed	1	79.0	6.75	6.07	0.15
10	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe	Proposed	1	79.0	6.75	6.07	0.15
11		***						
12	powerwave technologies	P40-16-XLPP-RR-A w/ Mount Pipe	Existing-C	1	70.0	8.24	4.83	0.07
13	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe	Existing-C	1	70.0	8.26	6.95	0.08
14	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe	Existing-C	1	70.0	8.26	6.95	0.08
15	alcatel lucent	1900MHz RRH	Existing-C	1	70.0	2.49	3.26	0.04
16	alcatel lucent	1900MHz RRH	Existing-C	1	70.0	2.49	3.26	0.04
17	alcatel lucent	1900MHz RRH	Existing-C	1	70.0	2.49	3.26	0.04
18	alcatel lucent	800MHZ RRH	Existing-C	1	70.0	2.13	1.77	0.05
19	alcatel lucent	800MHZ RRH	Existing-C	1	70.0	2.13	1.77	0.05
20	alcatel lucent	800MHZ RRH	Existing-C	1	70.0	2.13	1.77	0.05
21	tower mounts (cci)	Side Arm Mount [SO 702-3]	Existing-C	1	70.0	3.22	3.22	0.08
22	pole mounts	2.375" OD x 5' Mount Pipe	<unassigned>	1	70.0	1.19	1.19	0.02
23	pole mounts	2.375" OD x 5' Mount Pipe	<unassigned>	1	70.0	1.19	1.19	0.02
24	pole mounts	2.375" OD x 5' Mount Pipe	<unassigned>	1	70.0	1.19	1.19	0.02

TABLE 2 - FEED LINES

	Database	Description	Classification	Qty.	Starting Height	Ending Height	CaAa No Ice (ft^2)	Weight No Ice (plf)
1	andrew	LDF7-50A(1-5/8")	Existing-C	12	0.0	78.00	0.20	0.82
2	huber and suhner	MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	Existing-C	1	0.0	78.00	0.16	1.07
3	huber and suhner	MLC Hybrid 6Power/12Fiber(1-1/2)	Proposed	1	0.0	78.00	0.15	0.98
4	rfs celwave	HB114-1-08U4-M6J(1 1/4")	Existing-C	3	0.0	70.00	0.15	1.30

TABLE 3 - DISHES

Database	Description	Classification	Qty.	Height	Dish Diameter	CaAa No Ice (ft^2)	Weight No Ice (k)

TABLE 4 - MONOPOLE

Direction	Pole Length (ft)	Embed Depth (ft)	Cf Factor	Centroid Height (ft)	CfAe (sqft)	GL Width	GL Depth	GL S (in^3)
Transverse	93.5	13.5	2.00	40.00	350.00	26.25	27.50	3308.59
Longitudinal	93.5	13.5	2.00	34.77	263.33	27.50	26.25	3158.20

TABLE 5 - LOADING SUMMARY (1.2D + 1.6W)

	Pole	Discrete Loads	Feedlines	Dishes	PΔ	Total
Trans. Moment (k-ft)	246.38	123.25	21.05	0.00	5%	656.35
Trans. Shear (kip)	6.16	1.65	0.54	0.00		13.36
Long. Moment (k-ft)	154.80	123.25	15.03	0.00	5%	492.38
Long. Shear (kip)	4.45	1.65	0.40	0.00		10.41
Axial (kip)	11.55	1.53	1.20	0.00		17.14

*PΔ only applies to the Moment (default value = 5%)

ADJUSTED DESIGN STRESSES

Flexure

	Trans.	Long.
C_d	1	1
C_m	0.800	0.800
C_t	1	1
$\min(C_v, C_L)$	0.673	1
C_{fu}	1	1
C_c	1	1
C_i	1	1
K_f	2.540	2.540
Φ_b	0.850	0.850
λ	1	1

Shear

C_d	1
C_m	0.875
C_t	1
C_{vr}	0.720
K_f	2.540
Φ_v	0.750
λ	1

Compression

C_d	1
C_m	0.730
C_t	1
C_p	0.049
K_f	2.540
Φ_c	0.900
λ	1

Adjusted Design Stresses

$F'_{b\_trans.}$ =	2790.8	psi
$F'_{b\_long.}$ =	3022.6	psi
F'v =	312.0	psi
F'c =	133.7	psi

RESULTS SUMMARY

		Applied Stress (ksi)	Design Stress (ksi)	Capacity	
Longitudinal Direction	Bending	2.02	3.02	67.0%	Wood (-4.5 ft)
	Shear	0.02	0.31	5.9%	
Transverse Direction	Bending	2.57	2.79	92.0%	Wood (-4.5 ft)
	Shear	0.01	0.31	4.6%	
Compression		0.02	0.13	17.8%	

Overall Monopole Capacity =	92.0%	Passing

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Engineer:	RMF
Date:	5/12/2017

TRANSVERSE DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.000 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.194 in/ft	Effective Elevations:	0	to	0

	%		fa	Fa
Steel	0.0%	#N/A	#N/A	#N/A
Wood	92.0%	-4.5 ft	2.57	2.79

Applied Transverse Moment =	656.35 kip*ft
Moment per 0.5 ft =	4.10 kip*ft
Design Steel Stress =	0.00 ksi
Design Wood Stress =	2.79 ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Thk (in)	Width (in)	Area (in^2)							
80.00				0.00	0.00	2.79			0.0%	
79.50				49.23	0.08	2.79			2.8%	
79.00				98.45	0.15	2.79			5.4%	
78.50				147.68	0.22	2.79			8.0%	
78.00				196.91	0.29	2.79			10.5%	
77.50				246.13	0.36	2.79			12.9%	
77.00				295.36	0.43	2.79			15.3%	
76.50				344.58	0.49	2.79			17.6%	
76.00				393.81	0.55	2.79			19.8%	
75.50				443.04	0.61	2.79			21.9%	
75.00				492.26	0.67	2.79			24.0%	
74.50				541.49	0.73	2.79			26.0%	
74.00				590.72	0.78	2.79			27.9%	
73.50				639.94	0.83	2.79			29.8%	
73.00				689.17	0.88	2.79			31.6%	
72.50				738.39	0.93	2.79			33.4%	
72.00				787.62	0.98	2.79			35.1%	
71.50				836.85	1.03	2.79			36.8%	
71.00				886.07	1.07	2.79			38.4%	
70.50				935.30	1.12	2.79			40.0%	
70.00				984.53	1.16	2.79			41.5%	
69.50				1033.75	1.20	2.79			43.0%	
69.00				1082.98	1.24	2.79			44.4%	
68.50				1132.21	1.28	2.79			45.8%	
68.00				1181.43	1.32	2.79			47.2%	
67.50				1230.66	1.35	2.79			48.5%	
67.00				1279.88	1.39	2.79			49.7%	
66.50				1329.11	1.42	2.79			51.0%	
66.00				1378.34	1.46	2.79			52.2%	
65.50				1427.56	1.49	2.79			53.3%	
65.00				1476.79	1.52	2.79			54.4%	
64.50				1526.02	1.55	2.79			55.5%	
64.00				1575.24	1.58	2.79			56.6%	
63.50				1624.47	1.61	2.79			57.6%	
63.00				1673.69	1.64	2.79			58.6%	

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TRANSVERSE DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.000 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.194 in/ft	Effective Elevations:	0	to	0

	%		fa	Fa
Steel	0.0%	#N/A	#N/A	#N/A
Wood	92.0%	-4.5 ft	2.57	2.79

Applied Transverse Moment =	656.35 kip*ft
Moment per 0.5 ft =	4.10 kip*ft
Design Steel Stress =	0.00 ksi
Design Wood Stress =	2.79 ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Thk (in)	Width (in)	Area (in^2)							
62.50				1722.92	1.66	2.79			59.6%	
62.00				1772.15	1.69	2.79			60.5%	
61.50				1821.37	1.71	2.79			61.4%	
61.00				1870.60	1.74	2.79			62.3%	
60.50				1919.83	1.76	2.79			63.2%	
60.00				1969.05	1.79	2.79			64.0%	
59.50				2018.28	1.81	2.79			64.8%	
59.00				2067.50	1.83	2.79			65.6%	
58.50				2116.73	1.85	2.79			66.3%	
58.00				2165.96	1.87	2.79			67.1%	
57.50				2215.18	1.89	2.79			67.8%	
57.00				2264.41	1.91	2.79			68.5%	
56.50				2313.64	1.93	2.79			69.2%	
56.00				2362.86	1.95	2.79			69.8%	
55.50				2412.09	1.97	2.79			70.4%	
55.00				2461.32	1.98	2.79			71.1%	
54.50				2510.54	2.00	2.79			71.6%	
54.00				2559.77	2.02	2.79			72.2%	
53.50				2608.99	2.03	2.79			72.8%	
53.00				2658.22	2.05	2.79			73.3%	
52.50				2707.45	2.06	2.79			73.8%	
52.00				2756.67	2.08	2.79			74.4%	
51.50				2805.90	2.09	2.79			74.9%	
51.00				2855.13	2.10	2.79			75.3%	
50.50				2904.35	2.12	2.79			75.8%	
50.00				2953.58	2.13	2.79			76.2%	
49.50				3002.80	2.14	2.79			76.7%	
49.00				3052.03	2.15	2.79			77.1%	
48.50				3101.26	2.16	2.79			77.5%	
48.00				3150.48	2.17	2.79			77.9%	
47.50				3199.71	2.18	2.79			78.3%	
47.00				3248.94	2.19	2.79			78.6%	
46.50				3298.16	2.20	2.79			79.0%	
46.00				3347.39	2.21	2.79			79.4%	
45.50				3396.62	2.22	2.79			79.7%	

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Date:	5/12/2017

TRANSVERSE DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.000 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.194 in/ft	Effective Elevations:	0	to	0

	%		fa	Fa
Steel	0.0%	#N/A	#N/A	#N/A
Wood	92.0%	-4.5 ft	2.57	2.79

Applied Transverse Moment =	656.35	kip*ft
Moment per 0.5 ft =	4.10	kip*ft
Design Steel Stress =	0.00	ksi
Design Wood Stress =	2.79	ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Thk (in)	Width (in)	Area (in^2)							
45.00				3445.84	2.23	2.79			80.0%	
44.50				3495.07	2.24	2.79			80.3%	
44.00				3544.29	2.25	2.79			80.6%	
43.50				3593.52	2.26	2.79			80.9%	
43.00				3642.75	2.27	2.79			81.2%	
42.50				3691.97	2.27	2.79			81.5%	
42.00				3741.20	2.28	2.79			81.7%	
41.50				3790.43	2.29	2.79			82.0%	
41.00				3839.65	2.29	2.79			82.2%	
40.50				3888.88	2.30	2.79			82.5%	
40.00				3938.10	2.31	2.79			82.7%	
39.50				3987.33	2.31	2.79			82.9%	
39.00				4036.56	2.32	2.79			83.1%	
38.50				4085.78	2.33	2.79			83.3%	
38.00				4135.01	2.33	2.79			83.5%	
37.50				4184.24	2.34	2.79			83.7%	
37.00				4233.46	2.34	2.79			83.9%	
36.50				4282.69	2.35	2.79			84.1%	
36.00				4331.91	2.35	2.79			84.2%	
35.50				4381.14	2.35	2.79			84.4%	
35.00				4430.37	2.36	2.79			84.5%	
34.50				4479.59	2.36	2.79			84.7%	
34.00				4528.82	2.37	2.79			84.8%	
33.50				4578.05	2.37	2.79			84.9%	
33.00				4627.27	2.37	2.79			85.1%	
32.50				4676.50	2.38	2.79			85.2%	
32.00				4725.73	2.38	2.79			85.3%	
31.50				4774.95	2.38	2.79			85.4%	
31.00				4824.18	2.39	2.79			85.5%	
30.50				4873.40	2.39	2.79			85.6%	
30.00				4922.63	2.39	2.79			85.7%	
29.50				4971.86	2.39	2.79			85.8%	
29.00				5021.08	2.40	2.79			85.9%	
28.50				5070.31	2.40	2.79			86.0%	
28.00				5119.54	2.40	2.79			86.0%	

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TRANSVERSE DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.000 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.194 in/ft	Effective Elevations:	0	to	0

	%		fa	Fa
Steel	0.0%	#N/A	#N/A	#N/A
Wood	92.0%	-4.5 ft	2.57	2.79

Applied Transverse Moment =	656.35 kip*ft
Moment per 0.5 ft =	4.10 kip*ft
Design Steel Stress =	0.00 ksi
Design Wood Stress =	2.79 ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Thk (in)	Width (in)	Area (in^2)							
27.50				5168.76	2.40	2.79			86.1%	
27.00				5217.99	2.41	2.79			86.2%	
26.50				5267.21	2.41	2.79			86.2%	
26.00				5316.44	2.41	2.79			86.3%	
25.50				5365.67	2.41	2.79			86.3%	
25.00				5414.89	2.41	2.79			86.4%	
24.50				5464.12	2.41	2.79			86.4%	
24.00				5513.35	2.41	2.79			86.5%	
23.50				5562.57	2.41	2.79			86.5%	
23.00				5611.80	2.42	2.79			86.6%	
22.50				5661.03	2.42	2.79			86.6%	
22.00				5710.25	2.42	2.79			86.6%	
21.50				5759.48	2.42	2.79			86.6%	
21.00				5808.70	2.42	2.79			86.7%	
20.50				5857.93	2.42	2.79			86.7%	
20.00				5907.16	2.42	2.79			86.7%	
19.50				5956.38	2.42	2.79			86.7%	
19.00				6005.61	2.42	2.79			86.7%	
18.50				6054.84	2.42	2.79			86.7%	
18.00				6104.06	2.42	2.79			86.7%	
17.50				6153.29	2.42	2.79			86.7%	
17.00				6202.51	2.42	2.79			86.7%	
16.50				6251.74	2.42	2.79			86.7%	
16.00				6300.97	2.42	2.79			86.7%	
15.50				6350.19	2.42	2.79			86.7%	
15.00				6399.42	2.42	2.79			86.7%	
14.50				6448.65	2.42	2.79			86.6%	
14.00				6497.87	2.42	2.79			86.6%	
13.50				6547.10	2.42	2.79			86.6%	
13.00				6596.32	2.42	2.79			86.6%	
12.50				6645.55	2.42	2.79			86.5%	
12.00				6694.78	2.41	2.79			86.5%	
11.50				6744.00	2.41	2.79			86.5%	
11.00				6793.23	2.41	2.79			86.4%	
10.50				6842.46	2.41	2.79			86.4%	

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TRANSVERSE DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.000 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.194 in/ft	Effective Elevations:	0	to	0

	%		fa	Fa
Steel	0.0%	#N/A	#N/A	#N/A
Wood	92.0%	-4.5 ft	2.57	2.79

Applied Transverse Moment =	656.35 kip*ft
Moment per 0.5 ft =	4.10 kip*ft
Design Steel Stress =	0.00 ksi
Design Wood Stress =	2.79 ksi

Elevation	S.R. Plate Sizes Thk (in)	Width (in)	Area (in^2)	Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
10.00				6891.68	2.41	2.79			86.4%	
9.50				6940.91	2.41	2.79			86.3%	
9.00				6990.14	2.41	2.79			86.3%	
8.50				7039.36	2.41	2.79			86.3%	
8.00				7088.59	2.41	2.79			86.2%	
7.50				7137.81	2.40	2.79			86.2%	
7.00				7187.04	2.40	2.79			86.1%	
6.50				7236.27	2.40	2.79			86.1%	
6.00				7285.49	2.40	2.79			86.0%	
5.50				7334.72	2.40	2.79			86.0%	
5.00				7383.95	2.40	2.79			85.9%	
4.50				7433.17	2.40	2.79			85.9%	
4.00				7482.40	2.39	2.79			85.8%	
3.50				7531.62	2.39	2.79			85.7%	
3.00				7580.85	2.39	2.79			85.7%	
2.50				7630.08	2.39	2.79			85.6%	
2.00				7679.30	2.39	2.79			85.6%	
1.50				7728.53	2.39	2.79			85.5%	
1.00				7777.76	2.38	2.79			85.4%	
0.50				7826.98	2.38	2.79			85.4%	
0.00				7876.21	2.38	2.79			85.3%	
-0.50				0.00	0.00	2.79				
-1.00				0.00	0.00	2.79				
-1.50				0.00	0.00	2.79				
-2.00				0.00	0.00	2.79				
-2.50				0.00	0.00	2.79				
-3.00				0.00	0.00	2.79				
-3.50				0.00	0.00	2.79				
-4.00				0.00	0.00	2.79				
-4.50				8497.20	2.57	2.79			92.0%	
-5.00				0.00	0.00	2.79				
-5.50				0.00	0.00	2.79				
-6.00				0.00	0.00	2.79				
-6.50				0.00	0.00	2.79				
-7.00				0.00	0.00	2.79				

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LONGITUDINAL DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.194 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.000 in/ft	Effective Elevations:	0	to	0

	%		fa (ksi)	Fa (ksi)
Steel	0.0%	#N/A	#N/A	#N/A
Wood	67.0%	-4.5 ft	2.02	3.02

Applied Transverse Moment =	492.38	kip*ft
Moment per 0.5 ft =	3.08	kip*ft
Design Steel Stress =	0.00	ksi
Design Wood Stress =	3.02	ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Width (in)	Thk (in)	Area (in^2)							
80.00				0.00	0.00	3.02			0.0%	
79.50				36.93	0.03	3.02			0.9%	
79.00				73.86	0.05	3.02			1.7%	
78.50				110.79	0.08	3.02			2.6%	
78.00				147.71	0.10	3.02			3.4%	
77.50				184.64	0.13	3.02			4.3%	
77.00				221.57	0.15	3.02			5.1%	
76.50				258.50	0.18	3.02			5.9%	
76.00				295.43	0.20	3.02			6.7%	
75.50				332.36	0.22	3.02			7.4%	
75.00				369.28	0.25	3.02			8.2%	
74.50				406.21	0.27	3.02			9.0%	
74.00				443.14	0.29	3.02			9.7%	
73.50				480.07	0.32	3.02			10.4%	
73.00				517.00	0.34	3.02			11.2%	
72.50				553.93	0.36	3.02			11.9%	
72.00				590.86	0.38	3.02			12.6%	
71.50				627.78	0.40	3.02			13.3%	
71.00				664.71	0.42	3.02			13.9%	
70.50				701.64	0.44	3.02			14.6%	
70.00				738.57	0.46	3.02			15.3%	
69.50				775.50	0.48	3.02			15.9%	
69.00				812.43	0.50	3.02			16.6%	
68.50				849.36	0.52	3.02			17.2%	
68.00				886.28	0.54	3.02			17.8%	
67.50				923.21	0.56	3.02			18.4%	
67.00				960.14	0.58	3.02			19.1%	
66.50				997.07	0.59	3.02			19.7%	
66.00				1034.00	0.61	3.02			20.2%	
65.50				1070.93	0.63	3.02			20.8%	
65.00				1107.85	0.65	3.02			21.4%	
64.50				1144.78	0.66	3.02			22.0%	
64.00				1181.71	0.68	3.02			22.5%	

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Job #:	37517-1990.001.7805
Client #:	823531
Engineer:	RMF
Date:	5/12/2017

LONGITUDINAL DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.194 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.000 in/ft	Effective Elevations:	0	to	0

	%		fa (ksi)	Fa (ksi)
Steel	0.0%	#N/A	#N/A	#N/A
Wood	67.0%	-4.5 ft	2.02	3.02

Applied Transverse Moment =	492.38	kip*ft
Moment per 0.5 ft =	3.08	kip*ft
Design Steel Stress =	0.00	ksi
Design Wood Stress =	3.02	ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Width (in)	Thk (in)	Area (in^2)							
63.50				1218.64	0.70	3.02			23.1%	
63.00				1255.57	0.71	3.02			23.7%	
62.50				1292.50	0.73	3.02			24.2%	
62.00				1329.43	0.75	3.02			24.7%	
61.50				1366.35	0.76	3.02			25.3%	
61.00				1403.28	0.78	3.02			25.8%	
60.50				1440.21	0.79	3.02			26.3%	
60.00				1477.14	0.81	3.02			26.8%	
59.50				1514.07	0.83	3.02			27.3%	
59.00				1551.00	0.84	3.02			27.8%	
58.50				1587.93	0.86	3.02			28.3%	
58.00				1624.85	0.87	3.02			28.8%	
57.50				1661.78	0.88	3.02			29.3%	
57.00				1698.71	0.90	3.02			29.7%	
56.50				1735.64	0.91	3.02			30.2%	
56.00				1772.57	0.93	3.02			30.7%	
55.50				1809.50	0.94	3.02			31.1%	
55.00				1846.42	0.95	3.02			31.6%	
54.50				1883.35	0.97	3.02			32.0%	
54.00				1920.28	0.98	3.02			32.5%	
53.50				1957.21	0.99	3.02			32.9%	
53.00				1994.14	1.01	3.02			33.3%	
52.50				2031.07	1.02	3.02			33.8%	
52.00				2068.00	1.03	3.02			34.2%	
51.50				2104.92	1.05	3.02			34.6%	
51.00				2141.85	1.06	3.02			35.0%	
50.50				2178.78	1.07	3.02			35.4%	
50.00				2215.71	1.08	3.02			35.8%	
49.50				2252.64	1.10	3.02			36.2%	
49.00				2289.57	1.11	3.02			36.6%	
48.50				2326.50	1.12	3.02			37.0%	
48.00				2363.42	1.13	3.02			37.4%	
47.50				2400.35	1.14	3.02			37.8%	

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Client #:	823531
Engineer:	RMF
Date:	5/12/2017

LONGITUDINAL DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.194 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.000 in/ft	Effective Elevations:	0	to	0

	%		fa (ksi)	Fa (ksi)
Steel	0.0%	#N/A	#N/A	#N/A
Wood	67.0%	-4.5 ft	2.02	3.02

Applied Transverse Moment =	492.38	kip*ft
Moment per 0.5 ft =	3.08	kip*ft
Design Steel Stress =	0.00	ksi
Design Wood Stress =	3.02	ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Width (in)	Thk (in)	Area (in^2)							
47.00				2437.28	1.15	3.02			38.2%	
46.50				2474.21	1.17	3.02			38.5%	
46.00				2511.14	1.18	3.02			38.9%	
45.50				2548.07	1.19	3.02			39.3%	
45.00				2584.99	1.20	3.02			39.7%	
44.50				2621.92	1.21	3.02			40.0%	
44.00				2658.85	1.22	3.02			40.4%	
43.50				2695.78	1.23	3.02			40.7%	
43.00				2732.71	1.24	3.02			41.1%	
42.50				2769.64	1.25	3.02			41.4%	
42.00				2806.57	1.26	3.02			41.8%	
41.50				2843.49	1.27	3.02			42.1%	
41.00				2880.42	1.28	3.02			42.4%	
40.50				2917.35	1.29	3.02			42.8%	
40.00				2954.28	1.30	3.02			43.1%	
39.50				2991.21	1.31	3.02			43.4%	
39.00				3028.14	1.32	3.02			43.7%	
38.50				3065.06	1.33	3.02			44.1%	
38.00				3101.99	1.34	3.02			44.4%	
37.50				3138.92	1.35	3.02			44.7%	
37.00				3175.85	1.36	3.02			45.0%	
36.50				3212.78	1.37	3.02			45.3%	
36.00				3249.71	1.38	3.02			45.6%	
35.50				3286.64	1.39	3.02			45.9%	
35.00				3323.56	1.40	3.02			46.2%	
34.50				3360.49	1.41	3.02			46.5%	
34.00				3397.42	1.41	3.02			46.8%	
33.50				3434.35	1.42	3.02			47.1%	
33.00				3471.28	1.43	3.02			47.4%	
32.50				3508.21	1.44	3.02			47.7%	
32.00				3545.14	1.45	3.02			47.9%	
31.50				3582.06	1.46	3.02			48.2%	
31.00				3618.99	1.47	3.02			48.5%	

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Engineer:	RMF
Date:	5/12/2017

LONGITUDINAL DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.194 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.000 in/ft	Effective Elevations:	0	to	0

	%		fa (ksi)	Fa (ksi)
Steel	0.0%	#N/A	#N/A	#N/A
Wood	67.0%	-4.5 ft	2.02	3.02

Applied Transverse Moment =	492.38	kip*ft
Moment per 0.5 ft =	3.08	kip*ft
Design Steel Stress =	0.00	ksi
Design Wood Stress =	3.02	ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Width (in)	Thk (in)	Area (in^2)							
30.50				3655.92	1.47	3.02			48.8%	
30.00				3692.85	1.48	3.02			49.1%	
29.50				3729.78	1.49	3.02			49.3%	
29.00				3766.71	1.50	3.02			49.6%	
28.50				3803.63	1.51	3.02			49.9%	
28.00				3840.56	1.51	3.02			50.1%	
27.50				3877.49	1.52	3.02			50.4%	
27.00				3914.42	1.53	3.02			50.6%	
26.50				3951.35	1.54	3.02			50.9%	
26.00				3988.28	1.55	3.02			51.1%	
25.50				4025.21	1.55	3.02			51.4%	
25.00				4062.13	1.56	3.02			51.7%	
24.50				4099.06	1.57	3.02			51.9%	
24.00				4135.99	1.58	3.02			52.1%	
23.50				4172.92	1.58	3.02			52.4%	
23.00				4209.85	1.59	3.02			52.6%	
22.50				4246.78	1.60	3.02			52.9%	
22.00				4283.71	1.61	3.02			53.1%	
21.50				4320.63	1.61	3.02			53.3%	
21.00				4357.56	1.62	3.02			53.6%	
20.50				4394.49	1.63	3.02			53.8%	
20.00				4431.42	1.63	3.02			54.0%	
19.50				4468.35	1.64	3.02			54.3%	
19.00				4505.28	1.65	3.02			54.5%	
18.50				4542.20	1.65	3.02			54.7%	
18.00				4579.13	1.66	3.02			54.9%	
17.50				4616.06	1.67	3.02			55.2%	
17.00				4652.99	1.67	3.02			55.4%	
16.50				4689.92	1.68	3.02			55.6%	
16.00				4726.85	1.69	3.02			55.8%	
15.50				4763.78	1.69	3.02			56.0%	
15.00				4800.70	1.70	3.02			56.2%	
14.50				4837.63	1.71	3.02			56.4%	

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Client #:	823531
Engineer:	RMF
Date:	5/12/2017

LONGITUDINAL DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.194 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.000 in/ft	Effective Elevations:	0	to	0

	%		fa (ksi)	Fa (ksi)
Steel	0.0%	#N/A	#N/A	#N/A
Wood	67.0%	-4.5 ft	2.02	3.02

Applied Transverse Moment =	492.38	kip*ft
Moment per 0.5 ft =	3.08	kip*ft
Design Steel Stress =	0.00	ksi
Design Wood Stress =	3.02	ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Width (in)	Thk (in)	Area (in^2)							
14.00				4874.56	1.71	3.02			56.7%	
13.50				4911.49	1.72	3.02			56.9%	
13.00				4948.42	1.72	3.02			57.1%	
12.50				4985.35	1.73	3.02			57.3%	
12.00				5022.28	1.74	3.02			57.5%	
11.50				5059.20	1.74	3.02			57.7%	
11.00				5096.13	1.75	3.02			57.9%	
10.50				5133.06	1.76	3.02			58.1%	
10.00				5169.99	1.76	3.02			58.3%	
9.50				5206.92	1.77	3.02			58.5%	
9.00				5243.85	1.77	3.02			58.7%	
8.50				5280.77	1.78	3.02			58.8%	
8.00				5317.70	1.78	3.02			59.0%	
7.50				5354.63	1.79	3.02			59.2%	
7.00				5391.56	1.80	3.02			59.4%	
6.50				5428.49	1.80	3.02			59.6%	
6.00				5465.42	1.81	3.02			59.8%	
5.50				5502.35	1.81	3.02			60.0%	
5.00				5539.27	1.82	3.02			60.1%	
4.50				5576.20	1.82	3.02			60.3%	
4.00				5613.13	1.83	3.02			60.5%	
3.50				5650.06	1.83	3.02			60.7%	
3.00				5686.99	1.84	3.02			60.9%	
2.50				5723.92	1.84	3.02			61.0%	
2.00				5760.84	1.85	3.02			61.2%	
1.50				5797.77	1.86	3.02			61.4%	
1.00				5834.70	1.86	3.02			61.6%	
0.50				5871.63	1.87	3.02			61.7%	
0.00				5908.56	1.87	3.02			61.9%	
-0.50				0.00	0.00	3.02				
-1.00				0.00	0.00	3.02				
-1.50				0.00	0.00	3.02				
-2.00				0.00	0.00	3.02				

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Engineer:	RMF
Date:	5/12/2017

LONGITUDINAL DIRECTION CHECKS

Increments	0.500 ft	Width Slope	0.194 in/ft	Shaft Reinforcing Plates:	0	x	0
E_{steel} / E_{wood}	0.000	Depth Slope	0.000 in/ft	Effective Elevations:	0	to	0

	%		fa (ksi)	Fa (ksi)
Steel	0.0%	#N/A	#N/A	#N/A
Wood	67.0%	-4.5 ft	2.02	3.02

Applied Transverse Moment =	492.38	kip*ft
Moment per 0.5 ft =	3.08	kip*ft
Design Steel Stress =	0.00	ksi
Design Wood Stress =	3.02	ksi

Elevation	S.R. Plate Sizes			Applied Moment (k-in)	Applied Wood Stress f_b (ksi)	Allowable Wood Stress F'_b (ksi)	Applied Steel Stress f_b (ksi)	Allowable Steel Stress F_b (ksi)	Wood Capacity	Steel Capacity
	Width (in)	Thk (in)	Area (in^2)							
-2.50				0.00	0.00	3.02				
-3.00				0.00	0.00	3.02				
-3.50				0.00	0.00	3.02				
-4.00				0.00	0.00	3.02				
-4.50				6392.88	2.02	3.02			67.0%	
-5.00				0.00	0.00	3.02				
-5.50				0.00	0.00	3.02				
-6.00				0.00	0.00	3.02				
-6.50				0.00	0.00	3.02				
-7.00				0.00	0.00	3.02				
-7.50				0.00	0.00	3.02				
-8.00				0.00	0.00	3.02				
-8.50				0.00	0.00	3.02				
-9.00				0.00	0.00	3.02				
-9.50				0.00	0.00	3.02				
-10.00				0.00	0.00	3.02				
-10.50				0.00	0.00	3.02				
-11.00				0.00	0.00	3.02				
-11.50				0.00	0.00	3.02				
-12.00				0.00	0.00	3.02				
-12.50				0.00	0.00	3.02				
-13.00				0.00	0.00	3.02				
-13.50				0.00	0.00	3.02				
-14.00				0.00	0.00	3.02				
-14.50				0.00	0.00	3.02				
-15.00				0.00	0.00	3.02				
-15.50				0.00	0.00	3.02				
-16.00				0.00	0.00	3.02				
-16.50				0.00	0.00	3.02				
-17.00				0.00	0.00	3.02				
-17.50				0.00	0.00	3.02				
-18.00				0.00	0.00	3.02				
-18.50				0.00	0.00	3.02				

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Job Number:	37517-1990.001_Trans	**Page:**	1
Site Number:	823531	**By:**	RMF
Site Name:	CT896/M&M Concrete Pole	**Date:**	5/12/2017

DIRECT EMBED SOIL AND STEEL ANALYSIS - TIA-222-G

Factored Base Reactions from RISA

	Comp. (+)	Tension (-)	
Moment, Mu =	656.4		k-ft
Shear, Vu =	13.4		kips
Axial Load, Pu =	17.1		kips (from 1.2D + 1.6W)*
OTMu =	656.4	0.0	k-ft @ Ground

Safety Factors / Load Factors / Φ Factors

Tower Type =	Monopole DE
ACI Code =	ACI 318-08
Seismic Design Category =	D
Reference Standard =	TIA-222-G
Use 1.3 Load Factor?	No
Load Factor =	1.00

Direct Embed Concrete / Gravel Parameters

Diameter =	4.5	ft
Height Above Grade =	0	ft, Assumed 0 ft
Depth Below Grade =	13.5	ft
fc' =	2	ksi
εc =	0.003	in/in

	Safety Factor	Φ Factor
Soil Lateral Resistance =	2.00	0.75
Skin Friction =	2.00	0.75
End Bearing =	2.00	0.75
Concrete Wt. Resist Uplift =	1.25	

Load Combinations Checked per TIA-222-G

1. (0.75) Ult. Skin Friction + (0.75) Ult. End Bearing + (1.2) Effective Soil Wt. - (1.2) Buoyant Conc. Wt. ≥ Comp.
2. (0.75) Ult. Skin Friction + (0.9) Buoyant Conc. Wt. ≥ Uplift

Soil Parameters

Water Table Depth =	13.50	ft
Depth to Ignore Soil =	3.33	ft
Depth to Full Cohesion =	0	ft
Full Cohesion Starts at?*	Ground	

Above Full Cohesion Lateral Resistance = 4(Cohesion)(Dia)(H)
Below Full Cohesion Lateral Resistance = 8(Cohesion)(Dia)(H)

Maximum Capacity Ratios

Maximum Soil Ratio =	100.0%
Maximum Steel Ratio =	100.0%

*Note: The drilled pier foundation was analyzed using the methodology in the software 'PLS-Caisson' (Version 8.10, or newer, by Power Line Systems, Inc.). Per the methods in PLS-Caisson, the soil reactions of cohesive soils are calculated using 8CD independent of the depth of the soil layer. The depth of soil to be ignored at the top of the drilled pier is based the recommendations of the site specific geotechnical report. In the absence of any recommendations, the frost depth at the site or one half of the drilled pier diameter (whichever is greater) shall be ignored.

Backfill Condition = Conc. Exterior (Use Conc. Dia.)

Define Soil Layers

Note: Cohesion = Undrained Shear Strengh = Unconfined Compressive Strength / 2

Layer	Thickness ft	Unit Weight pcf	Cohesion psf	Friction Angle degrees	Soil Type	Ultimate End Bearing psf	Comp. Ult. Skin Friction psf	Tension Ult. Skin Friction psf	Depth ft
1	1.8	100		27	Sand				1.8
2	2.2	125		37	Sand				4
3	9.5	130		40	Sand	42200			13.5
4									
5									
6									
7									
8									
9									
10									
11									
12									

Soil Results: Overturning

Depth to COR =	10.08	ft, from Grade
Bending Moment, Mu =	791.08	k-ft, from COR
Resisting Moment, ΦMn =	1110.48	k-ft, from COR

MOMENT RATIO = 71.2% OK

Shear, Vu =	13.36	kips
Resisting Shear, ΦVn =	18.75	kips

SHEAR RATIO = 71.2% OK

Soil Results: Uplift

Uplift, Tu =	0.00	kips
Uplift Capacity, ΦTn =	28.99	kips

UPLIFT RATIO = 0.0% OK

*Soil Results: Compression**

Compression, Cu =	17.14	kips
Comp. Capacity, ΦCn =	496.98	kips

COMPRESSION RATIO = 3.4% OK

***Compression Ratio based on diameter used for overturning calculation.**

Pole Capacity Results:

Axial Load, Pu =	29.56	kips @ 4.34 ft Below Grade
Shear, Vu =	0.00	kips @ 4.34 ft Below Grade
Moment, Mu =	708.10	k-ft @ 4.34 ft Below Grade

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Job Number:	37517-1990.001_Long	**Page:**	1
Site Number:	823531	**By:**	RMF
Site Name:	CT896/M&M Concrete Pole	**Date:**	5/12/2017

DIRECT EMBED SOIL AND STEEL ANALYSIS - TIA-222-G

Factored Base Reactions from RISA

	Comp. (+)	Tension (-)	
Moment, Mu =	492.4		k-ft
Shear, Vu =	10.4		kips
Axial Load, Pu =	17.1		kips (from 1.2D + 1.6W)*
OTMu =	492.4	0.0	k-ft @ Ground

Safety Factors / Load Factors / Φ Factors

Tower Type =	Monopole DE
ACI Code =	ACI 318-08
Seismic Design Category =	D
Reference Standard =	TIA-222-G
Use 1.3 Load Factor?	No
Load Factor =	1.00

Direct Embed Concrete / Gravel Parameters

Diameter =	4.5	ft
Height Above Grade =	0	ft, Assumed 0 ft
Depth Below Grade =	13.5	ft
fc' =	2	ksi
εc =	0.003	in/in

	Safety Factor	Φ Factor
Soil Lateral Resistance =	2.00	0.75
Skin Friction =	2.00	0.75
End Bearing =	2.00	0.75
Concrete Wt. Resist Uplift =	1.25	

Load Combinations Checked per TIA-222-G

1. (0.75) Ult. Skin Friction + (0.75) Ult. End Bearing + (1.2) Effective Soil Wt. - (1.2) Buoyant Conc. Wt. ≥ Comp.
2. (0.75) Ult. Skin Friction + (0.9) Buoyant Conc. Wt. ≥ Uplift

Soil Parameters

Water Table Depth =	13.50	ft
Depth to Ignore Soil =	3.33	ft
Depth to Full Cohesion =	0	ft
Full Cohesion Starts at?*	Ground	

Above Full Cohesion Lateral Resistance = 4(Cohesion)(Dia)(H)
Below Full Cohesion Lateral Resistance = 8(Cohesion)(Dia)(H)

Maximum Capacity Ratios

Maximum Soil Ratio =	100.0%
Maximum Steel Ratio =	100.0%

Backfill Condition = Conc. Exterior (Use Conc. Dia.)

Note: The drilled pier foundation was analyzed using the methodology in the software 'PLS-Caisson' (Version 8.10, or newer, by Power Line Systems, Inc.). Per the methods in PLS-Caisson, the soil reactions of cohesive soils are calculated using 8CD independent of the depth of the soil layer. The depth of soil to be ignored at the top of the drilled pier is based the recommendations of the site specific geotechnical report. In the absence of any recommendations, the frost depth at the site or one half of the drilled pier diameter (whichever is greater) shall be ignored.

Define Soil Layers

Note: Cohesion = Undrained Shear Strengh = Unconfined Compressive Strength / 2

Layer	Thickness ft	Unit Weight pcf	Cohesion psf	Friction Angle degrees	Soil Type	Ultimate End Bearing psf	Comp. Ult. Skin Friction psf	Tension Ult. Skin Friction psf	Depth ft
1	1.8	100		27	Sand				1.8
2	2.2	125		37	Sand				4
3	9.5	130		40	Sand	42200			13.5
4									
5									
6									
7									
8									
9									
10									
11									
12									

Soil Results: Overturning

Depth to COR =	10.09	ft, from Grade
Bending Moment, Mu =	597.41	k-ft, from COR
Resisting Moment, ΦMn =	1110.58	k-ft, from COR

MOMENT RATIO = 53.8% OK

Shear, Vu =	10.41	kips
Resisting Shear, ΦVn =	19.35	kips

SHEAR RATIO = 53.8% OK

Soil Results: Uplift

Uplift, Tu =	0.00	kips
Uplift Capacity, ΦTn =	28.99	kips

UPLIFT RATIO = 0.0% OK

*Soil Results: Compression**

Compression, Cu =	17.14	kips
Comp. Capacity, ΦCn =	496.98	kips

COMPRESSION RATIO = 3.4% OK

***Compression Ratio based on diameter used for overturning calculation.**

Pole Capacity Results:

Axial Load, Pu =	30.02	kips @ 4.50 ft Below Grade
Shear, Vu =	1.76	kips @ 4.50 ft Below Grade
Moment, Mu =	532.74	k-ft @ 4.50 ft Below Grade

Exhibit E

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

T-Mobile Existing Facility

Site ID: CT11896A

CT896A/M&M Concrete Pole
41 Padanaram Road
Danbury, CT 06811

May 14, 2017

EBI Project Number: 6217002055

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	13.18 %

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EBI Consulting
environmental | engineering | due diligence

May 14, 2017

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

Emissions Analysis for Site: **CT11896A – CT896A/M&M Concrete Pole**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **41 Padanaram Road, Danbury, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the 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 **41 Padanaram Road, Danbury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

3) 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.

4) 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.

5) 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

6) Since the 2100 MHz UMTS radios are ground mounted there are additional cabling losses accounted for. For each ground mounted 2100 MHz UMTS RF path an additional 0.85 dB of additional cable loss was factored into the calculations used for this analysis. This is based on manufacturers Specifications for 138 feet of 1-5/8" coax cable on each path.

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 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. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR32 B66A/B2A** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Ericsson AIR21 B2A/B4P** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

10) The antenna mounting height centerline of the proposed antennas is **80 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 public 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):	80	Height (AGL):	80	Height (AGL):	80
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%	6.13	Antenna B1 MPE%	6.13	Antenna C1 MPE%	6.13
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):	80	Height (AGL):	80	Height (AGL):	80
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	6	Channel Count	6	Channel Count	6
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	6,587.88	ERP (W):	6,587.88	ERP (W):	6,587.88
Antenna A2 MPE%	4.33	Antenna B2 MPE%	4.33	Antenna C2 MPE%	4.33

Site Composite MPE%	
Carrier	**MPE%**
T-Mobile (Per Sector Max)	**10.45 %**
Sprint	2.43 %
Clearwire	0.30 %
Site Total MPE %:	**13.18 %**

T-Mobile Sector A Total:	10.45 %
T-Mobile Sector B Total:	10.45 %
T-Mobile Sector C Total:	10.45 %
Site Total:	13.18 %

T-Mobile _Max 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	80	30.65	AWS - 2100 MHz	1000	3.06%
T-Mobile PCS - 1900 MHz LTE	2	2,334.27	80	30.65	PCS - 1900 MHz	1000	3.06%
T-Mobile AWS - 2100 MHz UMTS	2	959.67	80	12.60	AWS - 2100 MHz	1000	1.26%
T-Mobile PCS - 1900 MHz UMTS	2	1,167.14	80	15.32	PCS - 1900 MHz	1000	1.53%
T-Mobile PCS - 1900 MHz GSM	2	1,167.14	80	15.32	PCS - 1900 MHz	1000	1.53%
						Total:	**10.45%**

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	10.45 %
Sector B:	10.45 %
Sector C:	10.45 %
T-Mobile Per Sector Maximum:	10.45 %
Site Total:	13.18 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **13.18%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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