

Foxboro, MA 02035
Tel (781) 831-1281
Fax (774) 215-5423

Melanie Bachman
Executive Director
Connecticut Siting Counsel
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – 100 Old Redding Road, Redding, CT**

Dear Ms. Bachman:

Please accept this letter as notification pursuant to R.C.S.A Section 16-50j-73, for construction that constitutes modification pursuant to R.C.S.A Section 16-50j-72(b) and 16-50j-73. In accordance with R.C.S.A Section 16-50j-73, a copy of this submission is being sent to the Town of Redding. A copy of this submission is also being sent to Robert Kaufman, the property owner on which the tower is located.

T-Mobile Northeast LLC's Proposed Wireless Modifications

T-Mobile as successor in interest to Omnipoint Communications achieved an initial approval from the Siting Council to install antennas as well as related ground equipment and currently maintains this equipment. The facility consists of a One-Hundred and Eighty-Seven foot high communications tower within a fenced in compound. T-Mobile now intends to modify the facility as shown on the enclosed plans prepared by Infinigy Engineering and annexed hereto in Exhibit 1. The modifications will consist of adding three (3) new antennas at the existing AGL of One-Hundred and Forty feet. A structural analysis has been completed for the site and attached as Exhibit 3,

T-Mobile's Proposed Wireless Modifications Constitutes An "Exempt Modification"

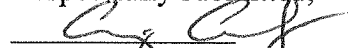
The proposed modification to the above mentioned Facility constitutes an exempt modification of an existing facility provided for in R.C.S.A Section 16-50j-72(b)(2) and Council regulations promulgated pursuant thereto.

- 1) The proposed modification will not result in an increase in the height of the existing tower.
- 2) The modifications will remain entirely within the limits of the leased area. The modifications therefor, will not require the extension of the boundary.

- 4) T-Mobile's proposed facility will not increase the cumulative radio frequency electromagnetic radiation power density at the Tower sites' boundary to or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. A cumulative General Power Density table for T-Mobile's proposed modified facility is included as Exhibit 2.
- 5) The facility has received all municipal zoning approvals and building permits. (Regs., Conn. State Agencies Section 16-50j-72))

For all the foregoing reasons, T-Mobile Northeast LLC respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A Section 16-50j-72(b)(2)

Respectfully submitted,


Craig Cody 781.834.1281

On behalf of American Tower Corporation
c/o Tower Resource Management, Inc.
16 Chestnut Street, Suite 421
Foxboro, MA 02035

cc: **Town of Redding**
Robert Kaufman

Exhibit 1

Site Plan



Power Density Report



Structural Analysis

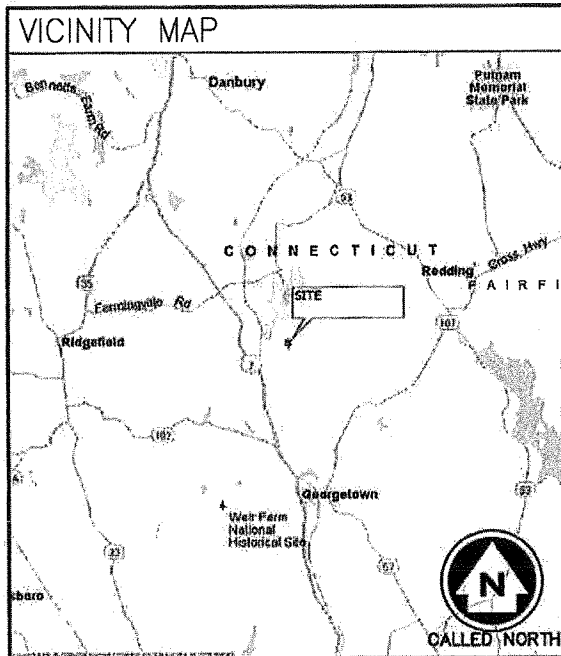


CTFF749A

ATC REDDING LATTICE TOWER

100 OLD REDDING ROAD
REDDING, CT 06896

(705A CONFIGURATION)



GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T-MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
14. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR EQUIPMENT AND CONTROL OF THE WORK THAT IS IN CONFLICT

SITE NUMBER:	CTFF749A
SITE NAME:	ATC REDDING
SITE ADDRESS:	100 OLD REDDING ROAD, REDDING, CT 06896
PROPERTY OWNER:	AMERICAN TOWER
PARCEL:	35//46 C/
CURRENT ZONING:	R2
JURISDICTION:	TOWN OF REDDING
ATC SITE NUMBER:	302522
LAT./LONG.:	N 41.2870944
CONSTRUCTION TYPE:	2B
USE GROUP:	N/A

PROJECT DESCRIPTION

<input type="checkbox"/> EXISTING MONOPOLE	<input checked="" type="checkbox"/> EXISTING LATTICE TOWER
<input checked="" type="checkbox"/> EXISTING LATTICE TOWER	<input checked="" type="checkbox"/> EXISTING TRANSMISSION TOWER
<input type="checkbox"/> EXISTING TRANSMISSION TOWER	<input type="checkbox"/> EXISTING WATER TANK
<input type="checkbox"/> EXISTING WATER TANK	<input type="checkbox"/> EXISTING BUILDING
<input type="checkbox"/> EXISTING BUILDING	<input type="checkbox"/> SITE SUPPORT
<input type="checkbox"/> EXISTING FLAGPOLE	<input type="checkbox"/> SITE SUPPORT
<input type="checkbox"/> EXISTING FORT WORTH	<input checked="" type="checkbox"/> GPS

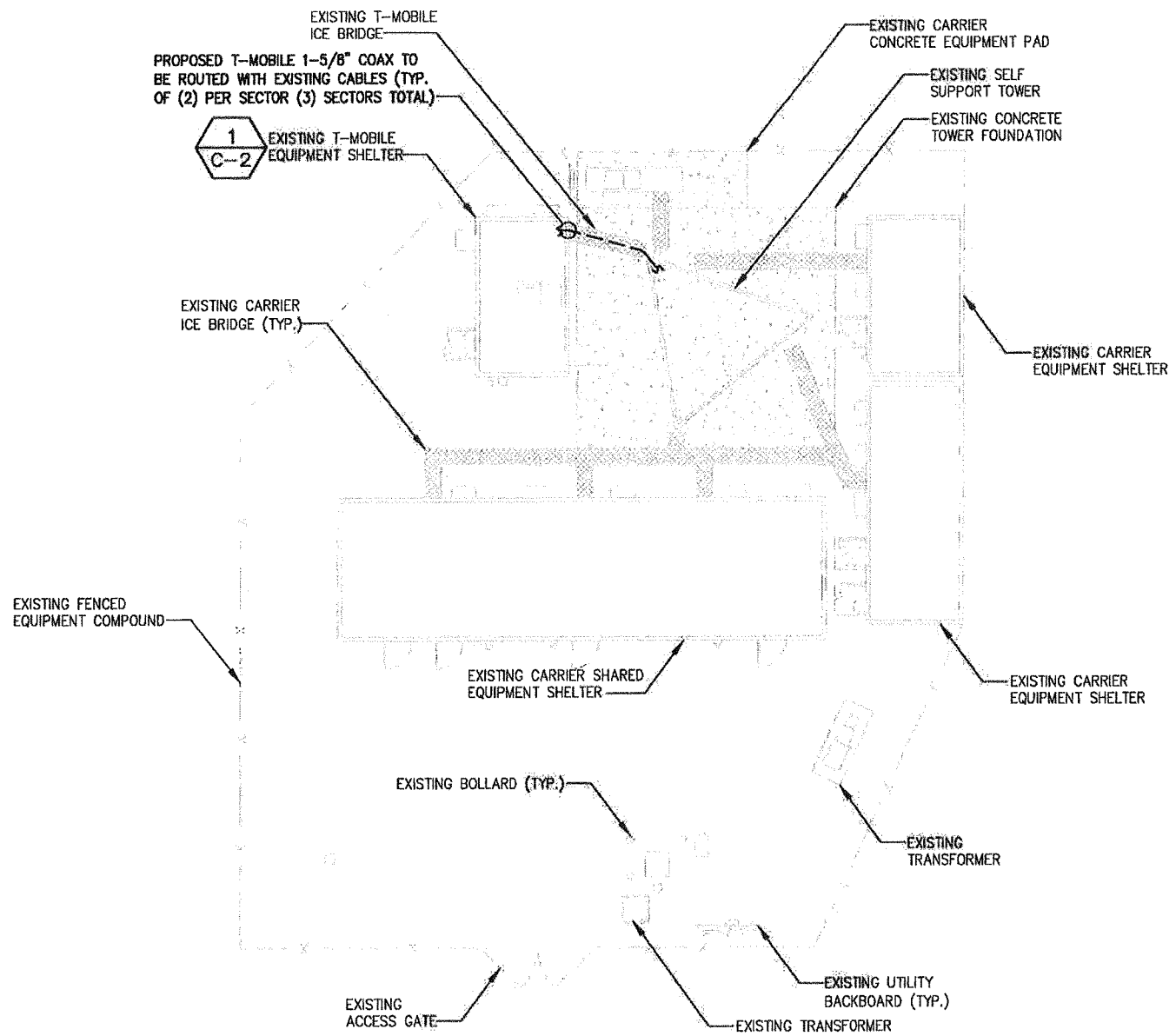
T-MOBILE NORTHEAST LLC PROPOSES UNMANNED WIRELESS BROADBAND FACILITY AT 100 OLD REDDING ROAD, REDDING, CT 06896. THE FACILITY WILL BE A LATTICE TOWER WITH 700 PANEL ANTENNAS & RRUS.

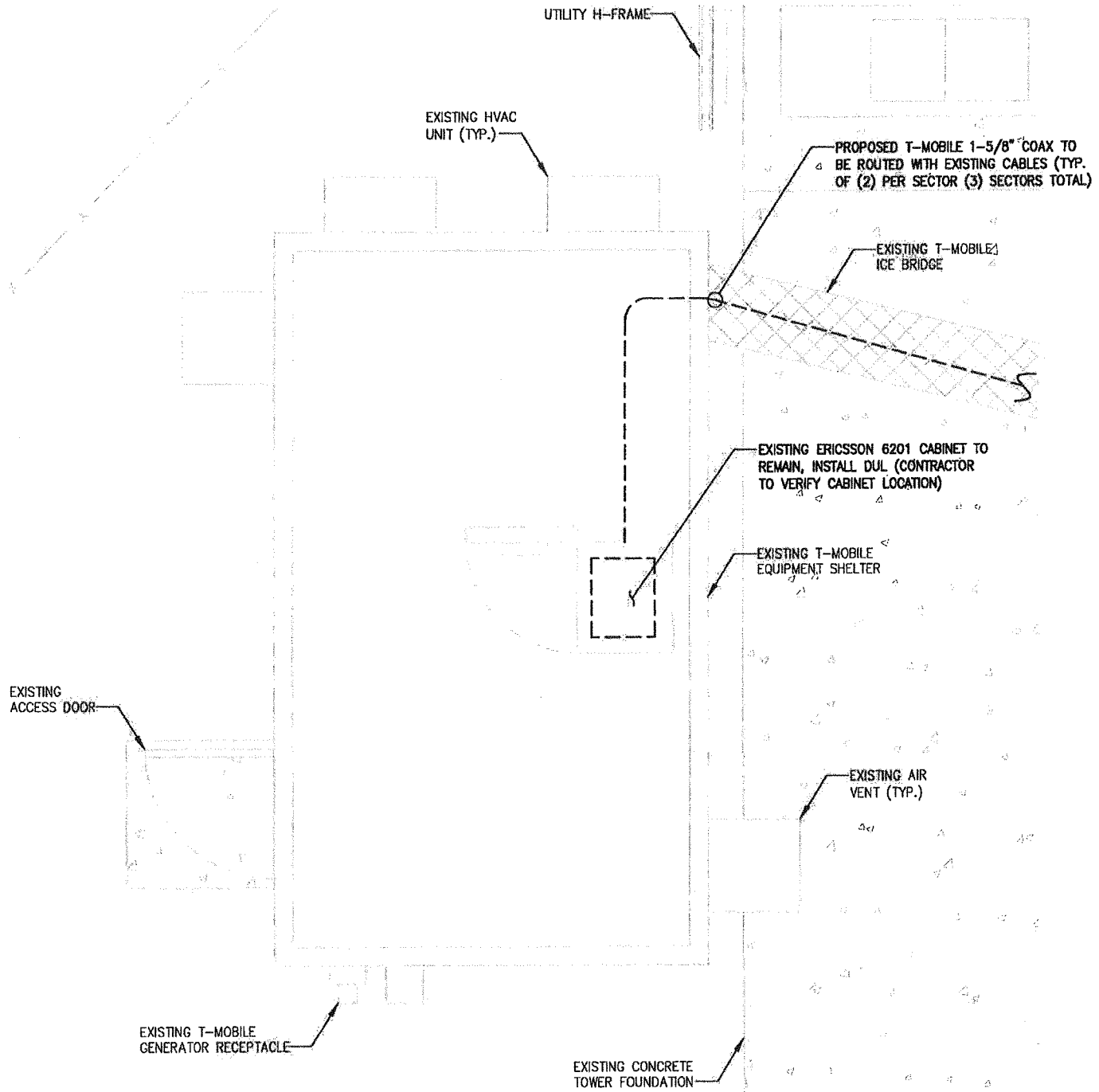
DO NOT SCALE DRAWINGS

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



CALL:
"CALL BEFORE YOU DIG"
WWW.CBYD.COM
CALL 800-485-5844





TOP OF EXISTING SELF SUPPORT TOWER = ±187' AGL

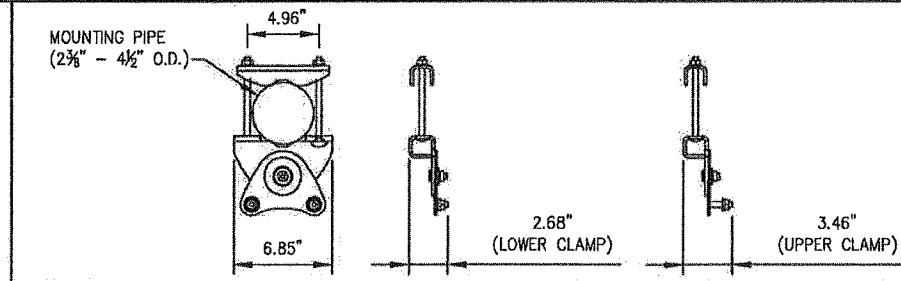
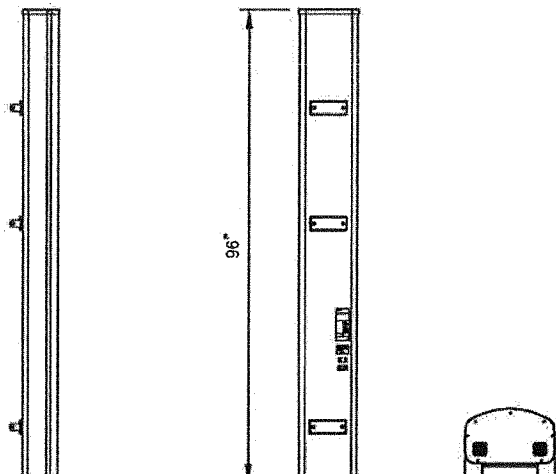
CENTERLINE OF PROPOSED/EXISTING T-MOBILE PANEL ANTENNAS = ±140' AGL



1 COMPOUND PLAN
SCALE: AS NOTED

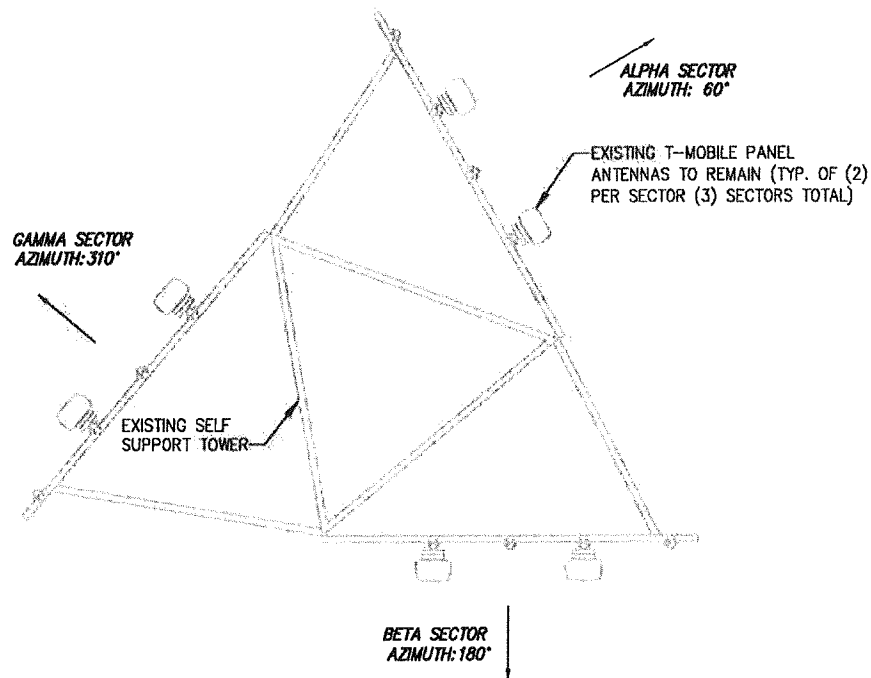
RF SYSTEM SCHEDULE (705A CONFIGURATION)

SECTOR	TECHNOLOGY	ANTENNA PORT	BAND	ANTENNA MODEL #	VENDOR	QTY (REMOVED)	QTY (NEW)	AZIMUTH	M-TILT	E-TILT	ANTENNA CENTERLINE	TMA MODEL #	VENDOR	RRU MODEL #	VENDOR	CABLE LENGTH	CABLE DIAMETER	CABLE TYPE	CABLE MODEL #	VENDOR
A	UMTS PCS	TBD	B2A	AIR21 B2A/B4P	ERICSSON	0	0	60°	0°	2'	140'-0"	--	--	--	--	(ANTENNA CONNECTED VIA EXISTING HYBRID)				
	LTE AWS	TBD	B4A	AIR21 B4A/B2P	ERICSSON	0	0	60°	0°	2'	140'-0"	--	--	--	--	(ANTENNA CONNECTED VIA EXISTING HYBRID)				
	LTE 700	TBD	B12P	LNx-6515DS-VTM	COMMSCOPE	0	1	60°	0°	2'	140'-0"	--	--	--	--	(P)±160'	1½"	COAX	EXISTING	N/A
B	UMTS PCS	TBD	B2A	AIR21 B2A/B4P	ERICSSON	0	0	180°	0°	2'	140'-0"	--	--	--	--	(ANTENNA CONNECTED VIA EXISTING HYBRID)				
	LTE AWS	TBD	B4A	AIR21 B4A/B2P	ERICSSON	0	0	180°	0°	2'	140'-0"	--	--	--	--	(ANTENNA CONNECTED VIA EXISTING HYBRID)				
	LTE 700	TBD	B12P	LNx-6515DS-VTM	COMMSCOPE	0	1	180°	0°	2'	140'-0"	--	--	--	--	(P)±160'	1½"	COAX	EXISTING	N/A
C	UMTS PCS	TBD	B2A	AIR21 B2A/B4P	ERICSSON	0	0	310°	0°	2'	140'-0"	--	--	--	--	(ANTENNA CONNECTED VIA EXISTING HYBRID)				
	LTE AWS	TBD	B4A	AIR21 B4A/B2P	ERICSSON	0	0	310°	0°	2'	140'-0"	--	--	--	--	(ANTENNA CONNECTED VIA EXISTING HYBRID)				
	LTE 700	TBD	B12P	LNx-6515DS-VTM	COMMSCOPE	0	1	310°	0°	2'	140'-0"	--	--	--	--	(P)±160'	1½"	COAX	EXISTING	N/A

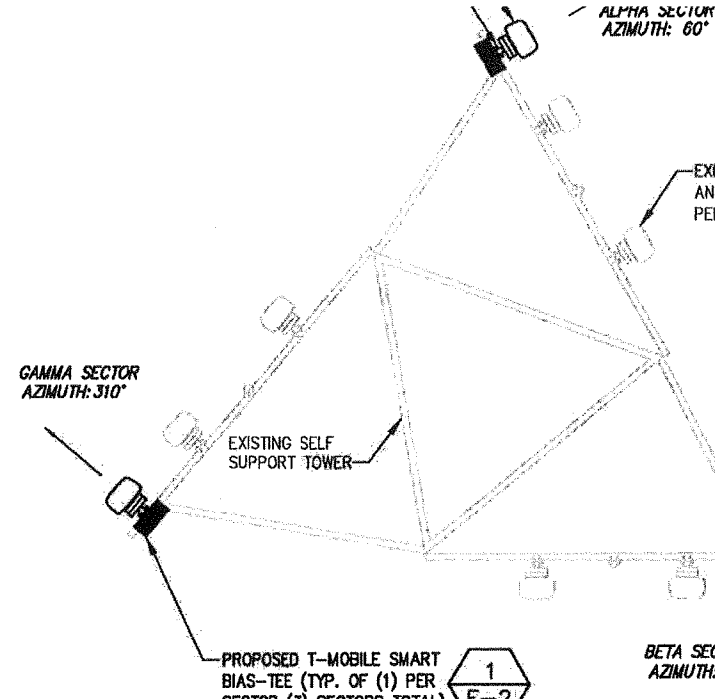


COMMSCOPE MODEL NO.:	LNx-6515DS-VTM
RADOME MATERIAL:	FIBERGLASS, UV RESISTANT
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96"x11.9"x7.1" (2438 x 301 x 181 mm)





1 EXISTING ORIENTATION PLAN
NOT TO SCALE



2 PROPOSED ORIENTATION PLAN
NOT TO SCALE

PROPOSED PIPE MOUNT
(CONTRACTOR TO VERIFY)

(E) FIBER AND POWER JUMPERS (6 PER SECTOR, 18 TOTAL)

(TYP) ⑤

(P) SMART BIAS-TEE (GROUND PER MANU. SP (1 PER SECTOR, 3 TOTAL))

(P) PIPE MOUNT (1 PER SECTOR, 3 TOTAL)

① (TYP)

(E) FIBER TRUNK CABLES ROUTED WITH (E) COAX TO ANTENNA SECTORS

(1) (E) HYBRID TRUNK CABLE

(E) T-MOBILE PPC

(E) 6201 EQUIPMENT CABINET

(P) COAX

① (TYP)
②

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

(E) GROUND RING

③ (TYP)

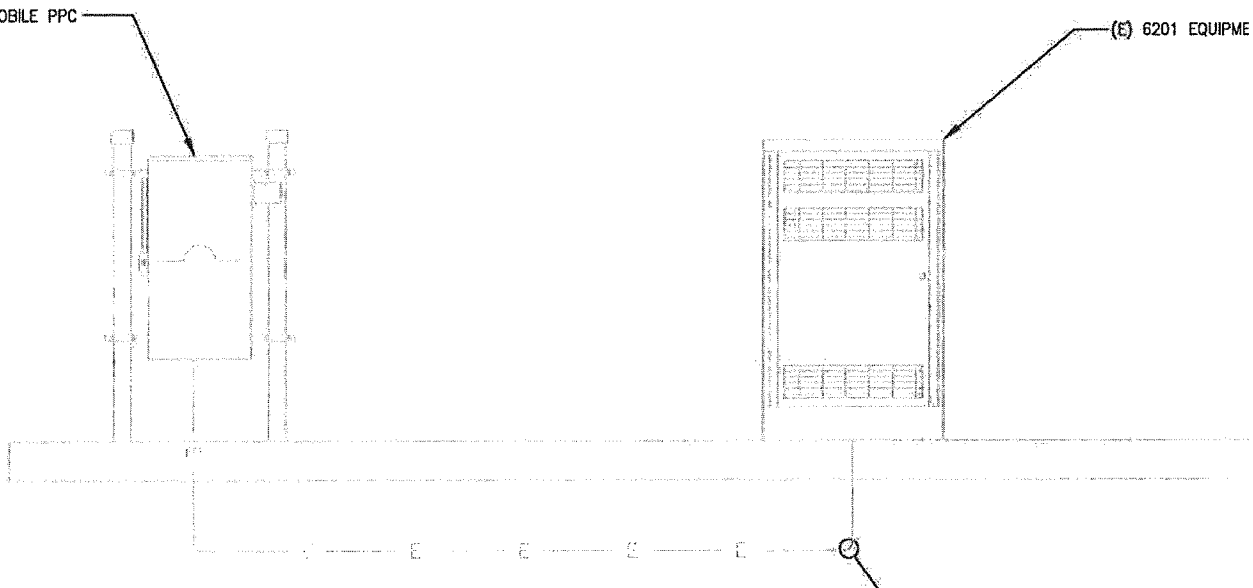
1 GROUNDING DIAGRAM
-- SCALE: NOT TO SCALE

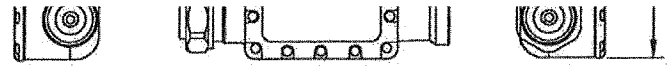
CONDUIT SCHEDULE

① (E) POWER CONDUIT

(E) T-MOBILE PPC

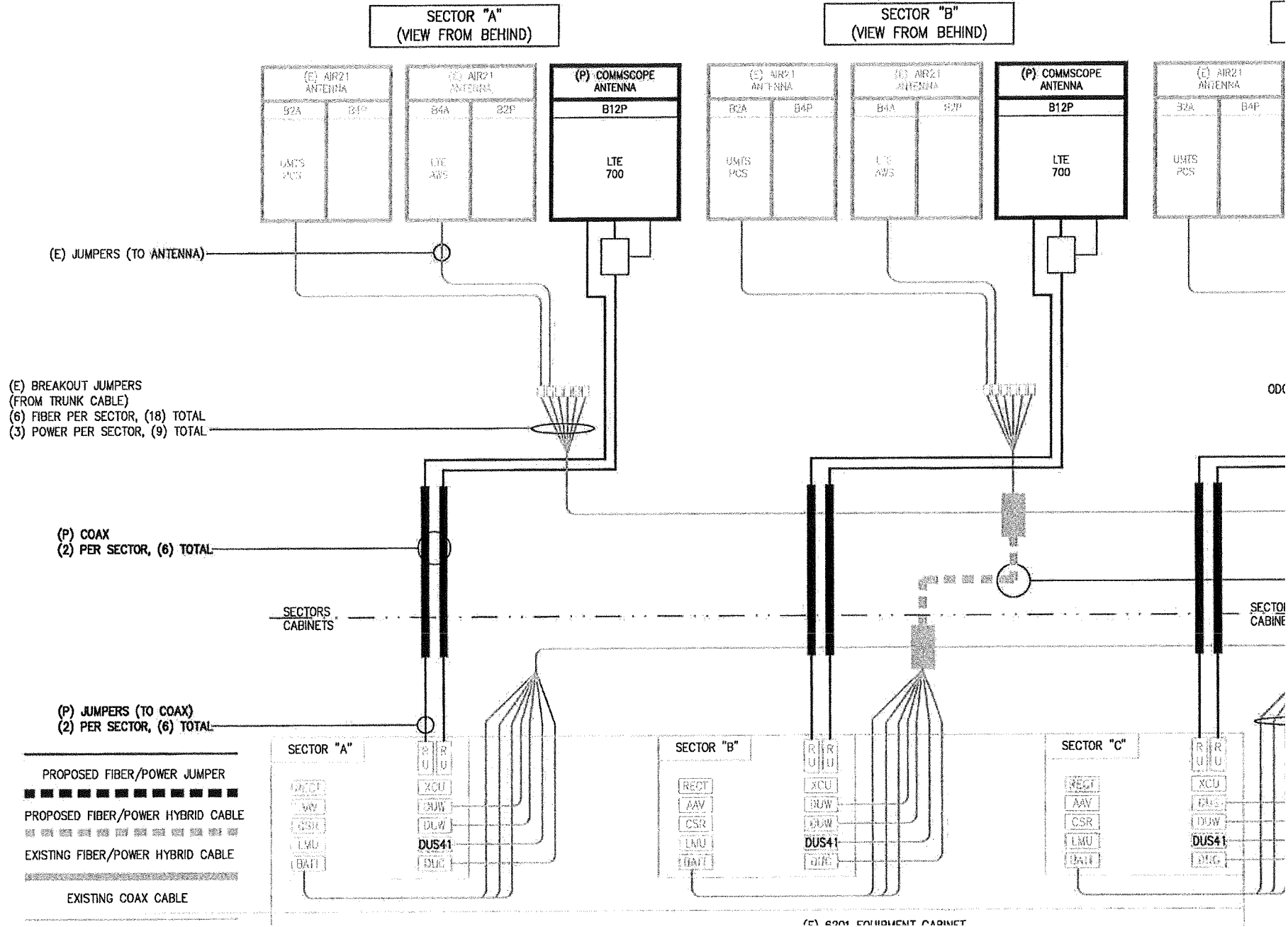
(E) 6201 EQUIPME





KATHREIN SCALA SMART BIAS TEE
WEIGHT: 3.3 LBS

1 SMART BIAS-TEE DETAIL
NOT TO SCALE



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

GENERAL REQUIREMENTS

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

GUARANTEE

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

SUBMITTALS

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

CUTTING AND PATCHING

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

TESTS, INSPECTION AND APPROVAL

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

SPECIAL REQUIREMENTS

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

GROUNDING

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

RACEWAYS

- ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
 - EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE IN SCH 40 PVC.
 - EXTERIOR, ABOVE GROUND POWER CONDUITS TO BE GALVANIZED, RIGID STEEL (RGS).
 - ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO BE EMT.
 - INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.
 - ALL TELECOM CONDUITS AND PULL BOXES INSTALLED ON THIS PROJECT TO BE LABELED "T-MOBILE". OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.
 - INTERIOR FEEDERS TO BE INSTALLED IN E.M.T. WITH STEEL COMPRESSION FITTINGS.
 - MINIMUM SIZE CONDUIT TO BE ½" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT TO BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
 - CONDUIT TO BE RUN CONCEALED IN CEILINGS, FINISHED AREAS OR DRYWALL PARTITIONS, UNLESS OTHERWISE NOTED.
 - THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS

- PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR CEILING.
- M. PROVIDE ALL CONDUIT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.
- N. CONDUIT TO BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-0", OR AS REQUIRED BY NEC, IN HORIZONTAL AND VERTICAL DIRECTIONS.
- O. PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR ALL JUNCTION BOXES AND/OR OUTLET BOXES NOT USED IN EXPOSED AREAS. PROVIDE ALL OTHER UNUSED BOXES WITH STANDARD STEEL COVER PLATES.
- P. WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

WIRES AND CABLES

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

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

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

WIRING DEVICES

- ALL RECEPTACLES INSTALLED IN THIS PROJECT TO BE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION.
- DISCONNECT SWITCHES AND FUSES
 - DISCONNECT SWITCHES TO BE VOLTAGE-RATED TO SUIT THE CHARACTERISTICS OF THE SYSTEM FROM WHICH THEY ARE SUPPLIED.
 - PROVIDE HEAVY-DUTY, METAL-ENCLOSED, EXTERNALLY-OPERATED DISCONNECT SWITCHES, FUSED OR UNFUSED, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED.
 - PROVIDE NEMA 1 DISCONNECT SWITCHES FOR INTERIOR INSTALLATION, NEMA 3R FOR EXTERIOR INSTALLATION.
 - DISCONNECT SWITCHES TO BE MANUFACTURED BY:
 - GENERAL ELECTRIC COMPANY
 - SQUARE-D
 - BURNDY RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE.

INSTALLATION

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

GENERAL NOTES:

INTENT

- THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH.
- THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
- THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE

- OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
- THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING SUCH BIDDER MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
 - NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK.

CONTRACTS AND WARRANTIES

- CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAY OF CONTRACTOR LICENSES AND BONDS.
- SEE MASTER CONTRACTOR SERVICES AGREEMENT FOR ADDITIONAL DETAILS.

STORAGE

- ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRL FLOW OF OTHER WORK. ANY STORAGE METHOD MUST ME RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

CLEANUP

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

CHANGE ORDER PROCEDURE:

- REFER TO SECTION 17 OF SIGNED MCSA: SEE PROFESSK SERVICE AGREEMENT FOR MCSA.

RELATED DOCUMENTS AND COORDINATION

- GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWING INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORD TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS

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

PRODUCTS AND SUBSTITUTIONS

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

ARCHITECT



DETAIL DC



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

T-Mobile Existing Facility

Site ID: CT11641A

CT641/ SSite Waterford_MP
85 Miner Lane
Waterford, CT 06385

October 30, 2015

EBI Project Number: 6215005467

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	6.46 %

October 30, 2015

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

Emissions Analysis for Site: **CT11641A – CT641/ SSite Waterford_MP**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **85 Miner Lane, Waterford, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the 700 MHz Band is approximately $467 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS and AWS bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report 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 **85 Miner Lane, Waterford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

- 1) 2 GSM / UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel
- 2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

- 6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **Ericsson AIR21 B4A/B2P & B2A/B4P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B4A/B2P & B2A/B4P** have a maximum gain of **15.9 dBd** at their main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antenna mounting height centerline of the proposed antennas is **130 feet** above ground level (AGL).
- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector	A	Sector	B	Sector	C
Antenna #	1	Antenna #	1	Antenna #	1
Make / Model	Ericsson AIR21 B4A/B2P	Make / Model	Ericsson AIR21 B4A/B2P	Make / Model	Ericsson AIR21 B4A/B2P
Gain	15.9 dBd	Gain	15.9 dBd	Gain	15.9 dBd
Height (AGL)	130	Height (AGL)	130	Height (AGL)	130
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels	2
Total TX Power	120	Total TX Power	120	# AWS Channels	120
ERP (W)	4,668.54	ERP (W)	4,668.54	ERP (W)	4,668.54
Antenna A1 MPE%	1.09	Antenna B1 MPE%	1.09	Antenna C1 MPE%	1.09
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)	130	Height (AGL)	130	Height (AGL)	130
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	120	Total TX Power	120	Total TX Power	120
ERP (W)	4,668.54	ERP (W)	4,668.54	ERP (W)	4,668.54
Antenna A2 MPE%	1.09	Antenna B2 MPE%	1.09	Antenna C2 MPE%	1.09
Antenna #	3	Antenna #	3	Antenna #	3
Make / Model	Commscope LNX-6515DS-VTM	Make / Model	Commscope LNX-6515DS-VTM	Make / Model	Commscope LNX-6515DS-VTM
Gain	14.6 dBd	Gain	14.6 dBd	Gain	14.6 dBd
Height (AGL)	130	Height (AGL)	130	Height (AGL)	130
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power	30	Total TX Power	30	Total TX Power	30
ERP (W)	865.21	ERP (W)	865.21	ERP (W)	865.21
Antenna A3 MPE%	0.43	Antenna B3 MPE%	0.43	Antenna C3 MPE%	0.43

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	2.62 %
AT&T	1.71 %
Clearwire	0.11 %
Town of Waterford	0.04 %
USA Mobility	0.02 %
Springwich Paging	0.23 %
Cingular Yagi	0.27 %
Verizon Wireless	1.46 %
Site Total MPE %:	6.46 %

T-Mobile Sector 1 Total:	2.62 %
T-Mobile Sector 2 Total:	2.62 %
T-Mobile Sector 3 Total:	2.62 %
Site Total:	6.46 %

T-Mobile_per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (µW/cm²)	Frequency (MHz)	Allowable MPE (µW/cm²)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	2334.27	130	10.92	2100	1000	1.09 %
T-Mobile 1900 MHz (PCS) GSM/UMTS	2	1167.14	129	5.46	1900	1000	0.55 %
T-Mobile 2100 MHz (AWS) UMTS	2	1167.14	129	5.46	2100	1000	0.55 %
T-Mobile 700 MHz LTE	1	865.21	129	2.02	700	467	0.43 %
						Total:	2.62%

Summary

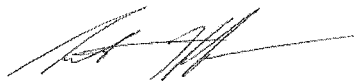
All calculations performed for this analysis yielded results that were **within** the allowable limits for general public exposure to RF Emissions.

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

T-Mobile Sector	Power Density Value (%)
Sector 1:	2.62 %
Sector 2:	2.62 %
Sector 3 :	2.62 %
T-Mobile Per Sector Maximum:	2.62 %
Site Total:	6.46 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.46%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803



AMERICAN TOWER®
CORPORATION

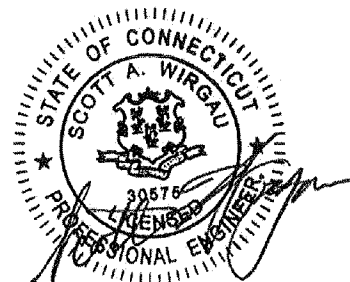
Structural Analysis Report

Structure : 180 ft Self Supported Tower
ATC Site Name : Redding, CT
ATC Site Number : 302522
Engineering Number : 63916621
Proposed Carrier : Metro PCS
Carrier Site Name : N/A
Carrier Site Number : CTFF749A
Site Location : Old Redding Road
West Redding, CT 06896-2702
41.287083,-73.438200
County : Fairfield
Date : October 21, 2015
Max Usage : 93%
Result : Pass

Reviewed by:
Scott Wirgau, PE
Structural Team Leader

Prepared By:
Zachary A. Medoff

Zachary A. Medoff



Oct 26 2015 4:44 PM

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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft self supported tower to reflect the change in loading by Metro PCS.

Supporting Documents

Tower Drawings	Rohn Drawing #C951762, dated December 26, 1995
Foundation Drawing	Rohn Drawing #A953313-1, dated January 12, 1996
Geotechnical Report	Soil Testing Job #591, december 26, 1995

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	100 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Spectral Response:	$S_s = 0.22, S_1 = 0.07$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier	
Mount	RAD						
180.0	179.0	3	Powerwave P65-16-XLH-RR	Sector Frames	(12) 1 1/4" Coax (2) 0.74" 8 AWG 7 (1) 0.28" RG6	AT&T Mobility	
		6	Ericsson RRUS 11 (Band 12)				
		1	Raycap DC6-48-60-18-8F				
		3	Powerwave TT19-08BP111-001				
		6	Powerwave LGP21401				
		6	Powerwave 7770.00				
172.0	172.0	1	RFS DB-T1-6Z-8AB-OZ	Sector Frames	(12) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon	
		12	Swedcom SWCP 2x7014				
		3	Alcatel-Lucent RRH2x40-AWS				
		6	RFS FD9R6004/1C-3L				
164.0	164.0	12	Decibel DB844H90E-XY	Sector Frames	(12) 1 5/8" Coax	Sprint Nextel	
154.0	157.0	3	Alcatel-Lucent TD-RRH8x20-25 w/ S.S.	Sector Frames	(4) 1 1/4" Hybriflex		
		3	RFS APXV9TM14-ALU-I20				
		3	Alcatel-Lucent 800MHz RRH				
		3	Alcatel-Lucent 1900MHz 4x45 RRH				
		3	RFS APXVSP18-C-A20				
142.0	148.0	4	Scala OGT9-840	Side Arms	(4) 1 5/8" Coax (2) 3/8" Coax	CT State Police	
	142.0	2	TX RX 422-86A-99575-18R1	Standoff	(1) 1/2" Coax		
141.0	142.0	1	Morad VHF 156-Deluxe	Standoff	(1) 1/2" Coax		Metro PCS
140.0	140.0	2	24" x 24" Junction Box	Sector Frames	(13) 1 5/8" Coax (2) 3/8" Coax (1) 1 5/8" Hybriflex		
		3	Ericsson AIR 21, 1.3M, B2A B4P				
		3	Ericsson AIR 21, 1.3M, B4A B2P				
136.0	136.0	-	-	Empty Side Arm	-	--	
135.0	135.0	1	24" x 24" Ice Shield	Leg	-	CT State Police	
134.0	134.0	1	24" x 24" Ice Shield	Leg	-		
131.0	137.0	2	Andrew DB810K-XT	Side Arms	(2) 1 5/8" Coax		
129.0	129.0	1	RFS PA6-65AC w/ Radome	Leg	(1) EW63		
128.0	128.0	1	RFS PA6-65AC w/ Radome	Leg	(1) EW63		
127.0	133.0	2	Sinclair SE419-SF3P4LDF	Side Arms	(2) 1 5/8" Coax (1) 3/8" Coax (1) WE65		
	127.0	1	Bird 432-83H-01-T				
126.0	-	-	-	Empty Side Arm	(1) EW52		
119.5	119.5	-	-	Empty Side Arm	-		--
118.0	115.0	2	Decibel DB586	Side Arms	(2) 7/8" Coax		CT State Police
115.5	115.5	-	-	Empty Side Arm	-	--	
107.0	115.0	1	Sinclair SD210D	Side Arms	(2) 7/8" Coax	CT State Police	
90.0	91.5	2	PCTEL GPS-TMG-HR-26N	Standoff	(2) 1/2" Coax	Sprint Nextel	
84.0	-	-	-	-	(1) 7/8" Coax	CT State Police	
83.0	93.8	1	Andrew DB264-A	Standoff	-		
82.0	90.0	1	12' Omni	Standoff	(1) 7/8" Coax	CT DMV	
30.0	30.0	1	2" x 4" GPS	Leg	(1) 1/2" Coax	Verizon	

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
140.0	140.0	3	Ericsson AIR 21, 1.3M, B4A B2P	-	(6) 1 5/8" Coax	Metro PCS

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
140.0	140.0	3	Andrew LNX-6515DS-VTM	Sector Frames	-	Metro PCS
		3	Kathrein Smart Bias Tee			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	93%	Pass
Diagonals	89%	Pass
Horizontals	32%	Pass
Anchor Bolts	55%	Pass
Leg Bolts	68%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Ft-Kips)	7,076.9	68%
Total Axial (Kips)	57.3	23%
Total Shear (Kips)	67.7	34%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
140.0	Kathrein Scala Smart Bias Tee	Metro PCS	0.234	0.043	0.221
	Andrew LNX-6515DS-VTM				
129.0	RFS PA6-65AC w/ Radome	CT State Police	0.102	0.024	0.171

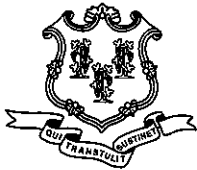
All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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E-Mail: siting.council@ct.gov

www.ct.gov/csc

November 11, 2015

Craig Cody
Tower Resource Management, Inc.
16 Chestnut Street
Suite 421
Foxboro, MA 02035

RE: **EM-T-MOBILE-117-151104** - T-Mobile notice of intent to modify an existing telecommunications facility located at 100 Old Redding Road, Redding, Connecticut.

Dear Mr. Cody:

The Connecticut Siting Council (Council) received a notice of intent to modify the above-referenced facility on November 4, 2015.

According to Section 16-50j-73 of the Regulations of Connecticut State Agencies, "...the owner or operator of any tower and associated equipment claiming such tower and associated equipment is exempt pursuant to section 16-50j-72 of the Regulations of Connecticut State Agencies shall give the Council, the property owner of record, if the property owner of record is different from the owner or operator of the tower and associated equipment, and the chief elected official of the municipality in which the facility is to be located, notice in writing prior to construction."

Council staff has identified the following discrepancy:

- The chief elected official of the municipality in which the facility is located must be a recipient of the exempt modification notice. Currently, only the Town of Redding is mentioned.

Therefore, the notice of intent to modify an existing telecommunications facility is incomplete at this time. This notice of incompleteness shall have the effect of tolling the Federal Communications Commission (FCC) 60-day timeframe in accordance with Paragraph 217 of the FCC Wireless Infrastructure Report and Order issued on October 21, 2014 (FCC 14-153).

The Council recommends that T-Mobile provide information to clarify or fulfill the deficiency noted above.

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Very truly yours,

Melanie Bachman
Acting Executive Director

MAB/CH

c: The Honorable Julia Pemberton, Town of Redding
Amiee Pardee, M.A., Zoning Enforcement Officer, Town of Redding





CRAIG CODY

16 Chestnut Street, Suite 420
Foxboro, MA 02035
Tel (781) 831-1281
Fax (774) 215-5423

Melanie Bachman
Executive Director
Connecticut Siting Counsel
10 Franklin Square
New Britain, CT 06051

Re: **Notice of Exempt Modification – 100 Old Redding Road, Redding, CT**

Dear Ms. Bachman:

Please accept this letter as notification pursuant to R.C.S.A Section 16-50j-73, for construction that constitutes modification pursuant to R.C.S.A Section 16-50j-72(b) and 16-50j-73. In accordance with R.C.S.A Section 16-50j-73, a copy of this submission is being sent to the Town of Redding. A copy of this submission is also being sent to Robert Kaufman, the property owner on which the tower is located.

T-Mobile Northeast LLC's Proposed Wireless Modifications

T-Mobile as successor in interest to Omnipoint Communications achieved an initial approval from the Siting Council to install antennas as well as related ground equipment and currently maintains this equipment. The facility consists of a One-Hundred and Eighty-Seven foot high communications tower within a fenced in compound. T-Mobile now intends to modify the facility as shown on the enclosed plans prepared by Infinigy Engineering and annexed hereto in Exhibit 1. The modifications will consist of adding three (3) new antennas at the existing AGL of One-Hundred and Forty feet. A structural analysis has been completed for the site and attached as Exhibit 3,

T-Mobile's Proposed Wireless Modifications Constitutes An "Exempt Modification"


The proposed modification to the above mentioned Facility constitutes an exempt modification of an existing facility provided for in R.C.S.A Section 16-50j-72(b)(2) and Council regulations promulgated pursuant thereto.

- 1) The proposed modification will not result in an increase in the height of the existing tower.
- 2) The modifications will remain entirely within the limits of the leased area. The modifications therefor, will not require the extension of the boundary.

- 3) The proposed modification does not increase the noise levels at the boundary by six(6) decibels or more under normal conditions.
- 4) T-Mobile's proposed facility will not increase the cumulative radio frequency electromagnetic radiation power density at the Tower sites' boundary to or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. A cumulative General Power Density table for T-Mobile's proposed modified facility is included as Exhibit 2.
- 5) The facility has received all municipal zoning approvals and building permits. (Regs., Conn. State Agencies Section 16-50j-72))

For all the foregoing reasons, T-Mobile Northeast LLC respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A Section 16-50j-72(b)(2)

Respectfully submitted,


Craig Cody 781.831.1281

On behalf of American Tower Corporation
c/o Tower Resource Management, Inc.
16 Chestnut Street, Suite 420
Foxboro, MA 02035

cc: **Julia Pemberton Chief Elected Official Town of Redding**
American Tower Corporation
Robert Kaufman

Exhibit 1

Site Plan

Exhibit 2

Power Density Report

Exhibit 3

Structural Analysis

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

T-Mobile Existing Facility

Site ID: CTF749A

ATC Redding Lattice Tower
100 Old Redding Road
Redding, CT 06896

October 27, 2015

EBI Project Number: 6215005394

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	6.20 %

October 27, 2015

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

Emissions Analysis for Site: **CTFF749A – ATC Redding Lattice Tower**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **100 Old Redding Road, Redding, CT**, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the 700 MHz Band is approximately 467 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS and AWS bands is 1000 $\mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report 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 **100 Old Redding Road, Redding, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

- 1) 2 GSM / UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel
- 2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

- 6) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **Ericsson AIR21 (B4A/B2P & B2A/B4P)** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 (B4A/B2P & B2A/B4P)** have a maximum gain of **15.9 dBd** at their main lobe. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antenna mounting height centerline of the proposed antennas is **140 feet** above ground level (AGL).
- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)	Frequency Bands	2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE%	0.93	Antenna B1 MPE%	0.93	Antenna C1 MPE%	0.93
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
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:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A2 MPE%	0.93	Antenna B2 MPE%	0.93	Antenna C2 MPE%	0.93
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power:	30	Total TX Power:	30	Total TX Power:	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A3 MPE%	0.37	Antenna B3 MPE%	0.37	Antenna C3 MPE%	0.37

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	2.24 %
AT&T	0.38 %
Verizon Wireless	1.61 %
MetroPCS	0.70 %
Sprint	0.51 %
Nextel	0.23 %
State Police	0.00 %
DMV	0.00 %
CMED	0.00 %
FBI	0.53 %
Site Total MPE %:	6.20 %

T-Mobile Sector 1 Total:	2.24 %
T-Mobile Sector 2 Total:	2.24 %
T-Mobile Sector 3 Total:	2.24 %
Site Total:	6.20 %

T-Mobile_per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	2334.27	140	9.35	2100	1000	0.93 %
T-Mobile 1900 MHz (PCS) GSM/UMTS	2	1167.14	140	4.67	1900	1000	0.47 %
T-Mobile 2100 MHz (AWS) UMTS	2	1167.14	140	4.67	2100	1000	0.47 %
T-Mobile 700 MHz LTE	1	865.21	140	1.73	700	467	0.37 %
						Total:	2.24%

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector 1:	2.24 %
Sector 2:	2.24 %
Sector 3 :	2.24 %
T-Mobile Per Sector Maximum:	2.24 %
Site Total:	6.20 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **6.20%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



Scott Heffernan
RF Engineering Director

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