

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

June 16, 2016

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

RE: Notice of Exempt Modification 287 Main Street, East Hartford CT 06118 Latitude: 41.74235 Longitude: -72.63365 T-Mobile Site#: CT11882H_L700

Dear Ms. Bachman:

T-Mobile currently maintains three (3) antennas at the 80-foot level of the existing 23-foot roof mounted flagpole at 287 Main Street, East Hartford CT 06118. The 83-foot AGL flagpole is owned by South Grammar Office Complex LLC. The property is owned by South Grammar Office Complex LLC. T-Mobile now intends to replace three (3) of its existing antennas with three (3) new 700 MHz antennas. The new antennas would be installed at the 80-foot level of the flagpole.

Planned Modifications:

Remove: NONE

Remove and Replace: (3) APX16DWV-16DWV-SE-A20 (REMOVE) - (3) Commscope DBXNH-6565B-A2M Antenna (**REPLACE**) (6)TWIN TMA (REMOVE) - (3)DUAL Diplex AWS TMA (**REPLACE**)

Install New: (3) RRUS 11 B12 & (6) Diplexers on new H-Frame at ground level (Mounted on existing steel platform)

Existing to Remain: (12) 1-5/8" Coax

This facility was approved by the CT Siting Council. Petition No.731 –T-Mobile would replace the existing flagpole tower with one that would be 23 feet all. The existing tower is 18" in diameter; The new tower would be 22" in diameter. T-Mobile's ground cabinets would be installed on concrete pad on the west side of the building behind an existing row of 12 to 18 foot tall arbor vitae.

54 Main Street Unit 3 | Sturbridge Ma 01566 | f: 413-521-0558 | www.northeastsitesolutions.com



T-Mobile has received a height variance from the East Hartford ZBA for the proposed, higher tower. The city's planning and zoning commission asked T-Mobile to seek the Siting Council's approval rather than granting its own site plan approval.

Visibility of the new tower should be limited to the immediate vicinity of the building and from Route 2. Because it will be a flagpole, it should represent a negligible visual intrusion on the surrounding area.

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.S.A. §16-SOj-73, a copy of this letter is being sent to Mayor Marcia A Leclerc, Elected Official for the City of East Hartford, 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: Marcia A. Leclerc- Mayor - as elected official South Grammar Office Complex LLC - as tower owner & property owner

Exhibit A

Connecticut Siting Council **Petition Staff Reports**

Petition No. 731 Omnipoint/T-Mobile East Hartford, Connecticut Staff Report August 24, 2005

T-Mobile seeks to replace an existing 15-foot tall rooftop flagpole/telecommunications tower with a 23-foot tall flagpole tower at the top of which it would install its antennas. Council member Dan Lynch and staff person David Martin met with Steve Humes and several other T-Mobile representatives to conduct a field review of the proposal on August 22, 2005. The owner of the building on which the flagpole tower is located was also present.

The building is an old grammar school that has been renovated into commercial office space near the intersection of Main Street and Brewer Street. Route 2 runs just south of the building, and Rentschler Field is not far to the northeast. The surrounding area is primarily commercial and industrial with modest single family residences to the east and south of the site.

The building has a widow's walk at the top of its roof. Cingular has antennas attached to the sides of the widow's walk railing, and AT&T has antennas mounted inside the existing 15-foot tall flagpole tower. T-Mobile would replace the existing flagpole tower with one that would be 23 feet all. The existing tower is 18" in diameter; the new tower would be 22" in diameter. T-Mobile's ground cabinets would be installed on concrete pad on the west side of the building behind an existing row of 12 to 18 foot tall arbor vitae.

T-Mobile has received a height variance from the East Hartford ZBA for the proposed, higher tower. The city's planning and zoning commission asked T-Mobile to seek the Siting Council's approval rather than granting its own site plan approval.

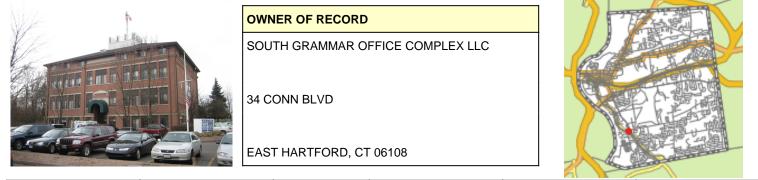
Visibility of the new tower should be limited to the immediate vicinity of the building and from Route 2. Because it will be a flagpole, it should represent a negligible visual intrusion on the surrounding area.

Content Last Modified on 8/25/2005 2:51:23 PM

Exhibit B

Town of East Hartford Property Summary Report

287 MAIN ST			
MAP LOT:	20-21A	CAMA PID:	8595
LOCATION:	287 MAIN ST		
OWNER NAME:	SOUTH GRAMMAR OFFICE	OUTH GRAMMAR OFFICE COMPLEX LLC	



LIVING AREA:	21480	ZONING:	B1	ACREAGE:	1.07

SALES HISTORY				
OWNER	BOOK / PAGE	SALE DATE	SALE PRICE	
SOUTH GRAMMAR OFFICE COMPLEX LLC	1536/ 196	30-Sep-1994	\$0.00	
DOWNEY E & WOLVERTON R & CYR L	940/ 174	08-Nov-1985	\$0.00	
DOWNEY E WOLVERTON R & CYR L	165/ 643	06-Jan-1983	\$210,000.00	

CURRENT PARCEL ASSESSMENT					
TOTAL:	\$972,150.00	IMPROVEMENTS:	\$896,730.00	LAND:	\$75,420.00

ASSESSING HISTORY			
FISCAL YEAR	TOTAL VALUE	IMPROVEMENT VALUE	LAND VALUE
2015	\$972,150.00	\$896,730.00	\$75,420.00
2014	\$972,153.00	\$896,733.00	\$75,420.00
2013	\$972,153.00	\$896,733.00	\$75,420.00
2012	\$972,153.00	\$896,733.00	\$75,420.00
2011	\$972,153.00	\$896,733.00	\$75,420.00

Town of East Hartford Property Summary Report

287 MAIN ST

MAP LOT:	20-21A	CAMA PID:	8595		
LOCATION:	287 MAIN ST				
OWNER NAME:	SOUTH GRAMMAR OFFICE COMPLEX LLC				

BUILDING #1

				Last a
YEAR BUILT	1915	EXT WALL 1	Brick	WHA
STYLE	Office	INT WALLS 1	Drywall	
MODEL	Comm/Ind	HEAT FUEL	Other	V
STORIES	4.0	ΗΕΑΤ ΤΥΡΕ	Hot Water	
OCCUPANCY	Office Building	AC TYPE	Central	
ROOF	Нір	BEDROOMS		
ROOF COVER	Asphalt	FULL BATHS	0	8
FLOOR COVER 1	Metal	HALF BATHS		
% BSMT	null	TOTAL ROOMS	0	
% FIN BSMT	null	% REC RM	null	
% SEMI FIN BSMT	null	% ATTIC FINISH	null	
BSMT GARAGE	null	FIREPLACES	null	



EXTRA FEATURES			
DESCRIPTION	CODE	UNITS	
Elevator Pass	ELV1	1 UNITS	
OUTBUILDINGS			
DESCRIPTION	CODE	UNITS	
Paving	PAV1	1x12600 (12600 SF)	



260 ft

East Hartford MapsOnline

Exhibit C

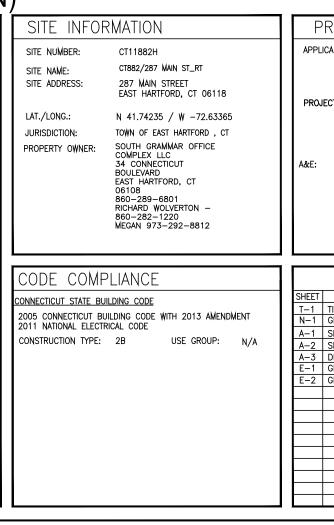
T-MObile T-MOBILE NORTHEAST LLC SITE #: CT11882H

SITE NAME: CT882/287 MAIN ST_RT

SITE ADDRESS: 287 MAIN STREET EAST HARTFORD, CT 06118

WIRELESS BROADBAND FACILITY CONSTRUCTION DRAWINGS (704BU CONFIGURATION)

			/
VICINITY MAP	GENERAL NOTES		SITE INFORMATION
Not with the start of the s	 THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES. RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND 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. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE metroPCS 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. THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER WATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILLARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACTOR SHALL USIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILLARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MA	 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 REPAR 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 metroPCS REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOTIFY ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK. 15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB. 16. THE CONTRACTOR SHALL VERIFY ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK. 17. REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK. 17. REFER TO STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "STRUCTURAL ANALYSIS DOCUMENT ENTITLED, "T-MOBILE SITE ID CT11882H", DATED MAY 23, 2016. 	SITE NUMBER: CT11882F SITE NAME: CT882/287 SITE ADDRESS: 287 MAIN EAST HAR LAT./LONG.: N 41.7422 JURISDICTION: TOWN OF E PROPERTY OWNER: SOUTH GF PROPERTY OWNER: SOUTH GF BOULEVAR BOU



	F ■ Mobile T-MOBILE NORTHEAST, LLC 35 GRIFIN ROAD SOUTH BLOOMFIELD, CT 06002 OFFICE: (860) 692-7100 FAX:(860) 692-7159 Carpedian Carpedian S4 Jacqueline Road, Suite #7 Waithorn, WA 02452 Phone number: 617-852-3611 Fax Number : 781-742-2247 SUBMITTALS DATE DESCRIPTION 06/16/16 FNAL CD
PROJECT SUB-CONTRACTORS *PLICANT: T-MOBILE NORTHEAST, LLC. 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 (860) 692-7100 ROJECT MANAGER LISA LIN ALLEN NORTHEAST SITE SOLUTIONS 54 MAIN STREET STURBRIDGE, MA 01566 (508) 434-5237 E: ATLANTIS DESIGN GROUP INC. 54 JACQUELINE ROAD, SUITE #7 WALTHAM, MA 02452 (617)-852-3611	DEPT. DATE APP'D REVISIONS RFE H H CONSTR. H H STE H H CONSTR. H H STE H H DRAWN BY: FG CHECKED BY: KM Image: Construction of the second secon
SHEET INDEX ET DESCRIPTION 1 TITLE SHEET 1 GENERAL AND ELECTRICAL NOTES 1 SITE LAYOUT AND SITE PLAN 2 SITE ELEVATION 3 DETAILS 1 GROUNDING AND ONE LINE DIAGRAM 2 GROUNDING DETAILS	SITE NUMBER CT11882H SITE NAME CT882/287 MAIN ST_RT SITE ADDRESS 287 MAIN STREET EAST HARTFORD, CT 06118 SHEET TITLE TITLE SHEET SHEET NUMBER
	T-1

ELECTRICAL NOTES:

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

GENERAL REQUIREMENTS

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

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

SUBMITTAI S 1. AS-BUILT DRAWINGS:

- A. UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER "AS-BUILT" DRAWINGS.
- 2. SERVICE MANUALS A. UPON COMPLETION OF THE WORK, FULLY INSTRUCT metroPCS AS TO THE OPERATION AND MAINTENANCE OF ALL MATERIAL, FOUIPMENT AND SYSTEMS.
- B. PROVIDE 3 COMPLETE BOUND SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT.
- CUTTING AND PATCHING
- 1. PROVIDE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING REQUIRED TO COMPLETE THE WORK.
- 2. OBTAIN OWNER APPROVAL PRIOR TO CUTTING THROUGH FLOORS OR WALLS FOR PIPING OR CONDUIT.
- TESTS, INSPECTION AND APPROVAL
- I. BEFORE ENERGIZING ANY ELECTRICAL INSTALLATION, INSPECT EACH UNIT IN DETAIL. TIGHTEN ALL BOLTS AND CONNECTIONS (TORQUE-TIGHTEN WHERE REQUIRED) AND DETERMINE THAT ALL COMPONENTS ARE ALIGNED, AND THE EQUIPMENT IS IN SAFE, OPERATIONAL CONDITION. 2. PROVIDE THE COMPLETE ELECTRICAL SYSTEM FREE OF GROUND
- FAULTS AND SHORT CIRCUITS SUCH THAT THE SYSTEM WILL OPERATE SATISFACTORILY UNDER FULL LOAD CONDITIONS, WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.
- SPECIAL REQUIREMENTS
 - 1. DO NOT LEAVE ANY WORK INCOMPLETE NOR ANY HAZARDOUS SITUATIONS CREATED WHICH WILL AFFECT THE LIFE OR SAFETY OF THE PUBLIC AND/OR BUILDING OCCUPANTS. DO INTERFERE WITH OR CUTOFF ANY OF THE EXISTING SERVICES WITHOUT THE OWNER'S WRITTEN PERMISSION.
- 2 WHEN NECESSARY TO TEMPORARILY DISCONNECT ANY EXISTING DING UTILITIES AND SERVICE SYSTEMS, INCLUDING FEEDER OR BRANCH CIRCUITING SUPPLYING EXISTING FACILITIES. CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON.
 - SHUTDOWN NOTE: SCHEDULE AND NOTIFY OWNER 48 HOURS PRIOR TO SHUTDOWN, ALL SHUTDOWN WORK TO BE SCHEDULED AT A TIME CONVENIENT TO OWNER.
- GROUNDING
- 1. ROUTE ALL GROUNDING CONDUCTORS AS SHOWN ON
- CONDUIT/GROUNDING RISER. 2. ROUTE 500 KCMIL CU. THHN CONDUCTOR FROM THE MGB LOCATION TO BUILDING STEEL. VERIFY BUILDING STEEL IS EFFECTIVELY GROUNDED PER NEC TO THE MAIN SERVICE
- GROUNDING ELECTRODE CONDUCTOR (GEC). 3. MAKE ALL GROUND CONNECTIONS FROM MGB TO ELECTRICAL EQUIPMENT WITH 2 HOLE, CRIMP TYPE, BURNDY COMPRESSION TERMINATIONS. SIZED AS REQUIRED.
- 4. USE 1 HOLE, CRIMP TYPE, BURNDY COMPRESSIONS TERMINATIONS, SIZED AS REQUIRED, AT EQUIPMENT GROUND CONNECTIONS
- 5. HIRE AN INDEPENDENT LAB TO PERFORM THE SPECIFIED OHMS TESTING. PROVIDE 4 SETS OF THE CERTIFIED DOCUMENTS TO THE OWNER FOR VERIFICATION PRIOR TO THE PROJECT COMPLETION.
- RACEWAYS
- 1. ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
- A. EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE IN SCH 40 PVC
- B. EXTERIOR. ABOVE GROUND POWER CONDUITS TO BE
- GALVANIZED RIGID STEEL (RGS). C. ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO
- D. INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.
- E. ALL TELECOM CONDUITS AND PULL BOXES INSTALLED ON THIS PROJECT TO BE LABELED "metroPCS". OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.
- F. INTERIOR FEEDERS TO BE INSTALLED IN E.M.T. WITH STEEL COMPRESSION FITTINGS
- G. MINIMUM SIZE CONDUIT TO BE 3/4" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT TO BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
- I. CONDUIT TO BE RUN CONCEALED IN CEILINGS, FINISHED AREAS OR DRYWALL PARTITIONS, UNLESS OTHERWISE NOTED J. THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC, BEFORE INSTALLING ANY WORK, EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCES.
- K. ALL EXTERIOR MOUNTING HARDWARE TO BE GALVANIZED STELL COORDINATE WITH BUILDING ENGINEER PRIOR TO ATTACHING TO BUILDING STRUCTURE.

RACEWAYS CONT'D

- L. PENETRATIONS OF WALLS, FLOORS AND ROOFS, FOR THE PASSAGE OF ELECTRICAL RACEWAYS, TO BE PROPERLY SEALED AFTER INSTALLATION OF RACEWAYS SO AS TO MAINTAIN THE STRUCTURAL OR WATERPROOF INTEGRITY OF THE WALL, FLOOR OR ROOF SYSTEM TO BE PENETRATED. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED WALLS, CEILINGS OR SMOKE TIGHT CORRIDOR PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR CEILING.
- M. PROVIDE ALL CONDUIT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.
- N. CONDUIT TO BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-0", OR AS REQUIRED BY NEC, IN HORIZONTAL AND
- VERTICAL DIRECTIONS. 0. 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 ANDARD STEEL COVER PLATES
- P. WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

WIRES AND CABLES

- 1. CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIER AND VENDOR FOR EXACT EQUIPMENT OVER-CURRENT PROTECTION VOLTAGE, WIRE SIZE AND PLUG CONFIGURATION, IF APPLICABLE, PRIOR TO BID.
- 2. ALL EQUIPMENT/DEVICES TO BE PROVIDED WITH INSULATED GROUND CONDUCTOR.
- 3. ALL WIRE AND CABLE TO BE 600VOLT, COPPER, WITH THWN/ THHN INSULATION. EXCEPT AS NOTED.
- 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.
- 6. WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND IS NOT TO BE RE-PULLED.
- 7. HOME RUNS AND BRANCH CIRCUIT WIRING FOR 20A, 120V CIRCUITS: IFNGTH (FT.) HOME RUN WIRE SIZE
- NO. 12 51 TO 100 NO 10 NO. 8
- TO 150 8. VOLTAGE DROP IS NOT TO EXCEED 3%
- 9. MAKE ALL CONNECTIONS WITH UL APPROVED, SOLDERLESS, PRESSURE TYPE INSULATED CONNECTORS: SCOTCHLOK OR AND PPROVED EQUAL.
- WIRING DEVICES
- 1. ALL RECEPTACLES INSTALLED IN THIS PROJECT TO BE GROLINDING TYPE WITH GROLINDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION. DISCONNECT SWITCHES AND FUSES
- 1. DISCONNECT SWITCHES TO BE VOLTAGE-RATED TO SUIT THE CHARACTERISTICS OF THE SYSTEM FROM WHICH THEY ARE
- 2. PROVIDE HEAVY-DUTY, METAL-ENCLOSED, EXTERNALLY-OPERATED DISCONNECT SWITCHES, FUSED OR UNFUSED, OF SUCH TYP AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT
- THE LOAD FOR WHICH THEY ARE INTENDED 3. PROVIDE NEMA 1 DISCONNECT SWITCHES FOR INTERIOR
- INSTALLATION, NEMA 3R FOR EXTERIOR INSTALLATION.
- DISCONNECT SWITCHES TO BE MANUFACTURED BY: GENERAL ELECTRIC COMPANY
- B. SQUARE-D PROVIDE RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE. INSTALLATION
- 1. INSTALL DISCONNECT SWITCHES WHERE INDICATED ON
- DRAWINGS. 2. INSTALL FUSES IN FUSIBLE DISCONNECT SWITCHES. FUSES
- MUST MATCH IN TYPE AND RATING. 3. FUSES TO BE MOUNTED SO THAT THE LABELS SHOWING THEIR RATINGS CAN BE READ WITHOUT REQUIRING FUSE REMOVAL.
- 4. FURNISH AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS: A. THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF
- 60A, USED FOR INITIAL FUSING. B. TEN PERCENT SPARES FOR EACH TYPE AND SIZE. UP TO
- AND INCLUDING 60A, USED FOR INITIAL FUSING. IN NO CASE WILL LESS THAN THREE FUSES OF ONE PARTICULAR TYPE AND SIZE BE FURNISHED.

GENERAL NOTES:

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

CONFLICTS

GOVERNING THE WORK.

OF CONTRACTOR LICENSES AND BONDS.

CONTRACTS AND WARRANTIES

ADDITIONAL DETAILS.

STORAGE

CLEANUF

2 EXTERIOR

INTERIOF

SHOP DRAWINGS

APPROVAL

OWNER

SHEFTS.

PRODUCTS AND SUBSTITUTIONS

FORFIGN MATTER

AD JACENT SURFACES.

ADJACENT SURFACES.

FINISHED SURFACES.

SERVICE AGREEMENT FOR MCSA.

RELATED DOCUMENTS AND COORDINATION

CHANGE ORDER PROCEDURE:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK, NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS 2. THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT B

ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY

FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.

ATTER OR THING CONCERNING SUCH BIDDER MIGHT HAVE

3. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF

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 OF

THE REQUIREMENTS OF THE CONTRACT DOCUMENTS

1. CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT

1. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION

AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRUCT THE

FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL

1. THE CONTRACTORS SHALL, AT ALL TIMES, KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH

COMPLETION OF THE WORK. THEY SHALL REMOVE ALL RUBBISH

FROM AND ABOUT THE BUILDING AREA. INCLUDING ALL THEIR

TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND SHALL

A VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL

B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM

A. VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL

B. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM

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

1. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND

TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR

2. ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND

CORRECTED BY CONTRACTOR PRIOR TO SUBMITTAL TO THE

1. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN

INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS AND COMPLETE DOCUMENTATION SHOWING

COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS. 2. SUBMIT ALL NECESSARY PRODUCT DATA AND CUT SHEETS

WHICH PROPERLY INDICATE AND DESCRIBE THE ITEMS

EACH REQUEST, IDENTIFY THE PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION.

PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR

SHALL, IF DEEMED NECESSARY BY THE OWNER, SUBMIT ACTUAL SAMPLES TO THE OWNER FOR APPROVAL IN LIEU OF CUT

ARCHITECTURAL SYMBOLS

STORAGE

38

DETAIL REFERENCE KEY

- DRAWING DETAIL NUMBER-

EXISTING N.I.C.

LSHEET NUMBER OF DETAIL-

(3)-

- REFER TO

RE: 2/A-3

CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION

TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER FROM WALLS, FLOOR, AND CEILING,

REMOVE PAINT DROPPINGS, SPOTS, STAINS, AND DIRT FROM

C. IF NECESSARY, TO ACHIEVE A UNIFORM DEGREE OF

TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER

CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.

RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

CAUSED BY THEIR EMPLOYEES AT WORK AND AT THE

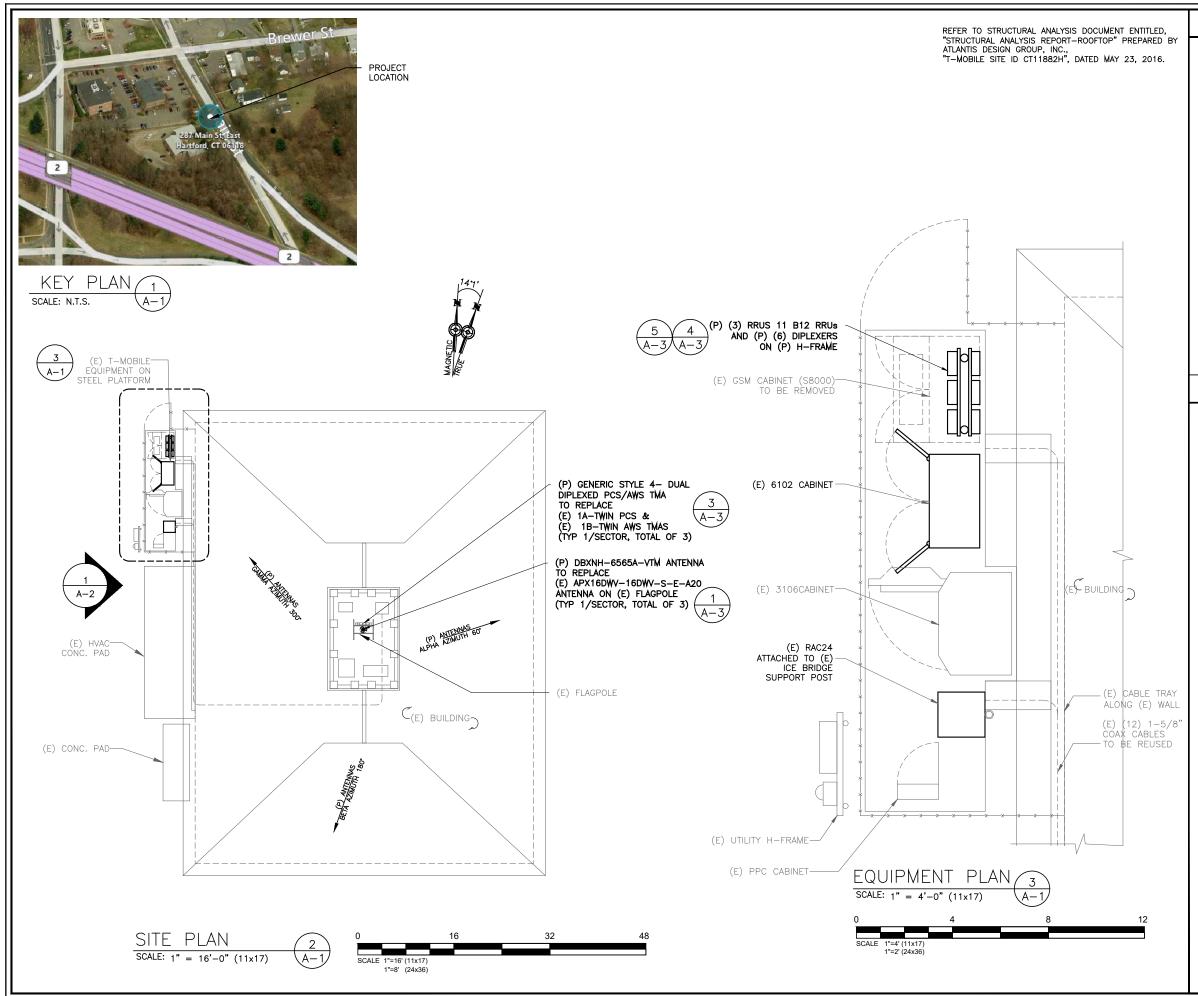
LEAVE THEIR WORK CLEAN AND READY TO USE.

2. SEE MASTER CONTRACTION SERVICES AGREEMENT FOR

DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED. OR

OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO

STATE AND FED NOT BE LIMITED	LL BE IN ACCORDANCE WIT ERAL REGULATIONS. THESE TO THE APPLICABLE CODE NG BODY. SEE "CODE COM	SHALL INCLUDE, BUT ES SET FORTH BY THE	T - Mobile-			
ADMINISTRATION 1. BEFORE THE C WILL ASSIGN A						
PROJECT. THIS SCHEDULE FOR THE OWNER PR	PROJECT MANAGER WILL DE THE PROJECT WHICH WILL IOR TO THE COMMENCEMEN	EVELOP A MASTER BE SUBMITTED TO IT OF ANY WORK.	FAA.(000) 092-7139			
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SCHEDULE AN O	Mencing construction, to DN—site Meeting with All , but not liMited to, th ractor, land owner rep	MAJOR PARTIES. THIS E OWNER, PROJECT	SUBMITTALS			
SUBCONTRACTEL 4. CONTRACTOR S	HALL BE EQUIPPED WITH S	OME MEANS OF	DATE DESCRIPTION REVISION 06/27/16 ISSUED FOR REVIEW A 06/16/16 FINAL CD 0			
BEEPER. THIS E OWNER, NOR W 5. DURING CONSTI	QUIPMENT WILL NOT BE SU ILL WIRELESS SERVICE BE RUCTION, CONTRACTOR MUS SUBCONTRACTORS WEAR	JPPLIED BY THE ARRANGED. ST ENSURE THAT				
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7. COMPLETE INVE EQUIPMENT IS F 8. NOTIFY THE OW	NTORY OF CONSTRUCTION REQUIRED PRIOR TO START INER/PROJECT MANAGER IN	OF CONSTRUCTION. WRITING NO LESS				
ERECTIONS, AND		EMENTS.	DEPT. DATE APP'D REVISIONS RFE RF MAN.			
MAINTAIN, FOR INSURANCE, AS COMMENCE WITH	IT THEIR OWN EXPENSE, SH THE DURATION OF THE PRO REQUIRED AND LISTED, AN 1 THEIR WORK UNTIL THEY	DJECT, ALL D SHALL NOT HAVE PRESENTED AN	ZONING OPS OPS CONSTR. STE AC. STE AC.			
TO THE OWNER. REQUIRED INSU 2. THE OWNER SH	iall be named as an add	greement for Nitional insured on all policies.	PROJECT NO: CT11882H DRAWN BY: FG CHECKED BY: KM			
3. CONTRACTOR M	UST PROVIDE PROOF OF IN ADJ AGL	ISURANCE. BREVIATIONS ADJUSTABLE ABOVE GROUND LINE				
	& APPROX Ø	110	SEIN VAN CO			
	BTS CAB CLG CONC	BASE TRANSMISSION STATION CABINET CEILING CONCRETE	COSEIN VAL COLLEGE			
	CONT DIA OR Ø DWG	CONTINUOUS DIAMETER DRAWING	TO NO ARI ANS			
	EA ELEC ELEV EQ	EACH ELECTRICAL ELEVATION EQUAL	PROFESSIONAL SEAL			
	EQUIP EGB (E)	EQUIPMENT EQUIPMENT GROUND BAR EXISTING	THIS DOCUMENT IS THE CREATION,			
	EXT FF GA GALV	EXTERIOR FINISHED FLOOR GAUGE GALVANIZED	DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED.			
	GC GRND LG	GENERÁL CONTRACTOR GROUND LONG MAXIMUM	SITE NUMBER			
	MAX MECH MW MFR	MECHANICAL MICROWAVE DISH MANUFACTURER	CT11882H site name ct882/287 Main st_rt			
	MGB MIN MTL (N)	MASTER GROUND BAR MINIMUM METAL NEW	SITE ADDRESS 287 MAIN STREET			
BOLS	ŇIĆ NTS OC	NOT IN CONTRACT NOT TO SCALE ON CENTER	EAST HARTFORD, CT 06118			
	OPP (P) PCS PPC	OPPOSITE PROPOSED PERSONAL COMMUNICATION SYSTEM POWER PROTECTION CABINET	SHEET TITLE GENERAL			
KEY	SF SHT SIM SS	SQUARE FOOT SHEET SIMILAR STAINLESS STEEL	AND ELECTRICAL NOTES			
	STL TOC TOM	STEEL TOP OF CONCRETE TOP OF MASONRY	SHEET NUMBER			
$\overline{4}$	TYP VIF UON WWF	Typical Verify in Field Unless otherwise Noted Welded Wire Fabric	N-1			
_/	₩/	WITH				



GENERAL SITE NOTES

1. SITE INFORMATION WAS OBTAINED FROM A FIELD INVESTIGATION PERFORMED BY ATLANTIS DESIGN GROUP, INC. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.

2. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.

3. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.

4. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.

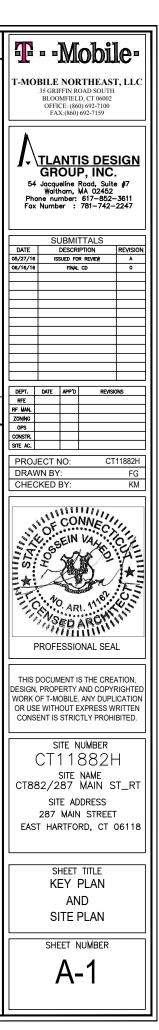
5. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.

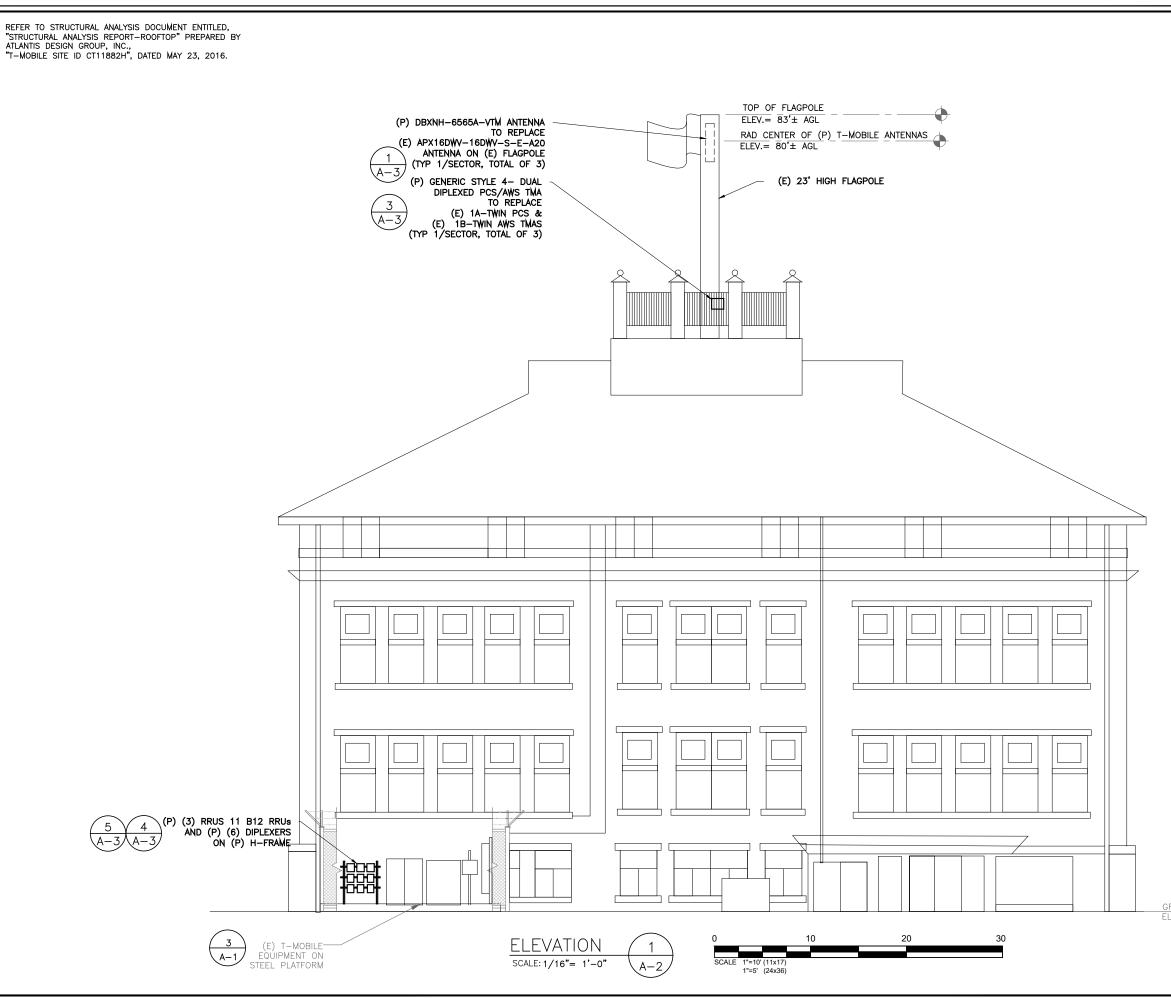
6. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT CALL_BEFORE_YOU_DIG_ THREE WORKING DAYS PRIOR TO COMMENCING WORK.

7. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

<u>SITE LEGEND</u>

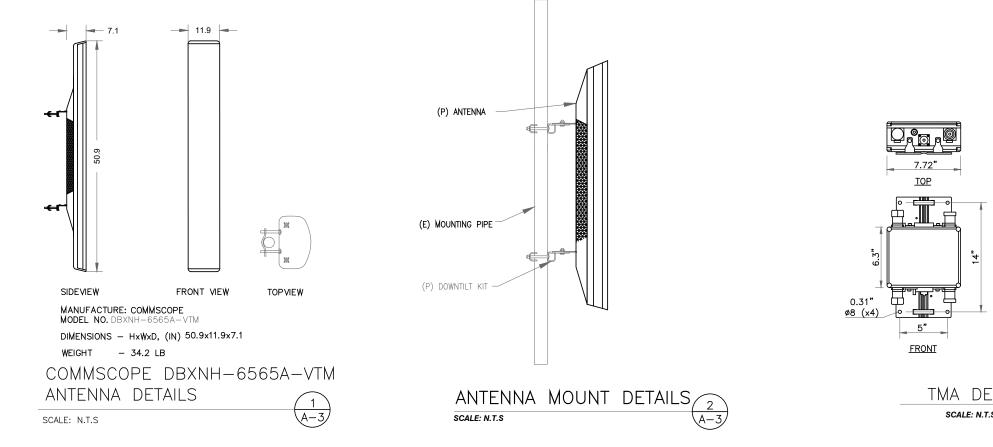
	SITE PROPERTY LINE
	STREET OR ROAD
- x x x -	CHAIN LINK FENCE
	OPAQUE WOODEN FENCE
_	BOARD ON BOARD FENCE
	DECIDUOUS TREES/SHRUBS
	EVERGREEN TREES/SHRUBS
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	TREE LINE
×	UTILITY POLE
(E)	EXISTING
(N)	NEW
(P)	PROPOSED
(F)	FUTURE
÷	PROP. LTE ANTENNA
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•	EX. UMTS ANTENNA

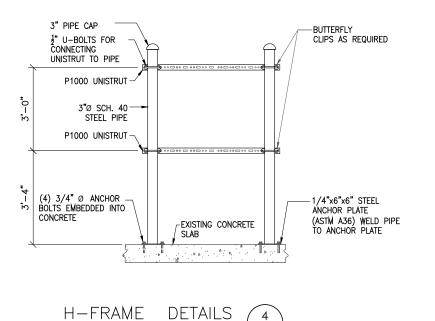




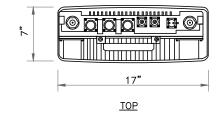
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	TLANTIS GROUP, Jacqueline Ro Waltham, MA	od, Suite 02452	9 <b>#</b> 7
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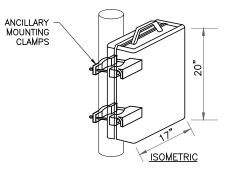
GROUND LEVEL



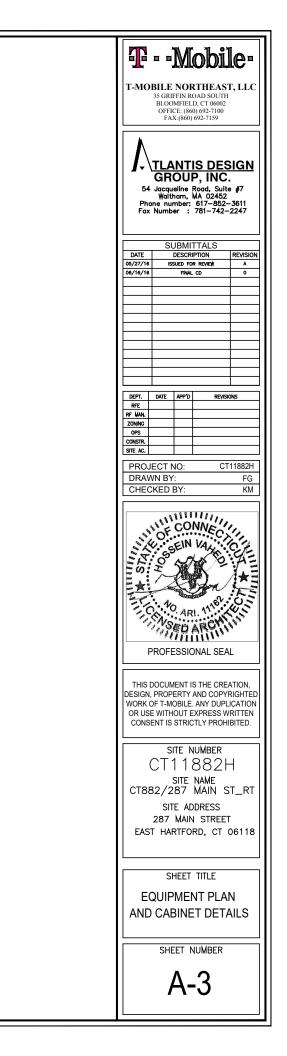


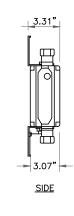
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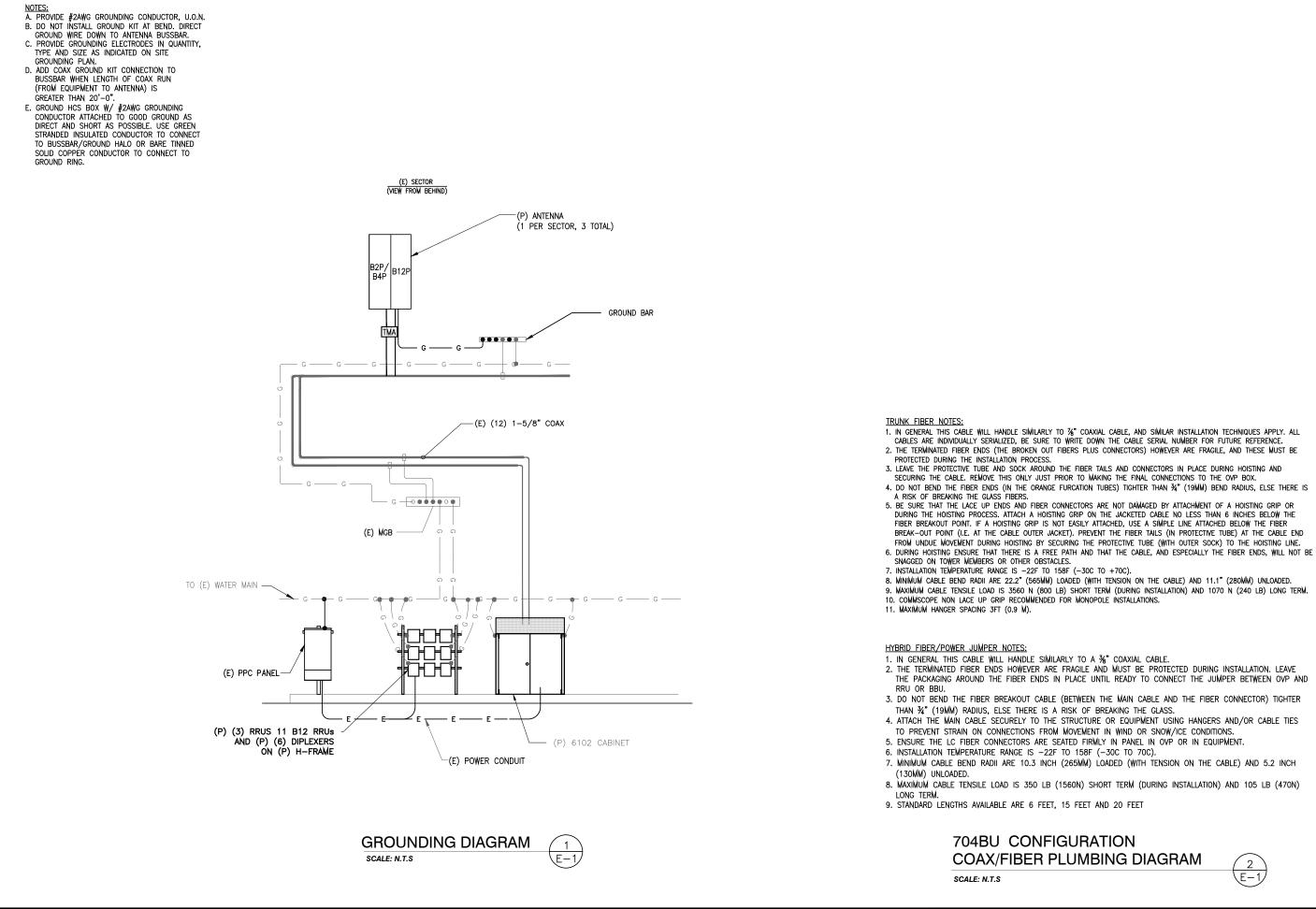












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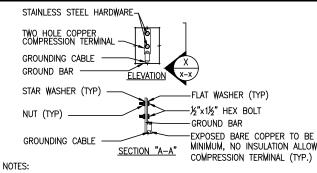
20 FEET		

THE PACKAGING AROUND THE FIBER ENDS IN PLACE UNTIL READY TO CONNECT THE JUMPER BETWEEN OVP AND

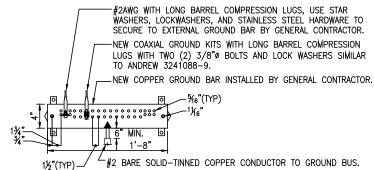
9. MAXIMUM CABLE TENSILE LOAD IS 3560 N (800 LB) SHORT TERM (DURING INSTALLATION) AND 1070 N (240 LB) LONG TERM.

BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER TAILS (IN PROTECTIVE TUBE) AT THE CABLE END FROM UNDUE MOVEMENT DURING HOISTING BY SECURING THE PROTECTIVE TUBE (WITH OUTER SOCK) TO THE HOISTING LINE.

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т-мо			RTHEAS	F, LLC			
	BLOC OFFI	MFIEL CE: (86	OAD SOUTH D, CT 06002 0) 692-7100 692-7159				
54 Ph Fa	CFFICE: (860) 692-7100 FAX:(860) 692-7159 TLANTIS DESIGN GROUP, INC. 54 Jacqueline Road, Suite #7 Wattharn, WA 02452 Phone number: 617–852–3611 Fax Number : 781–742–2247						
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THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED.							
SITE NUMBER CT11882H SITE NAME CT882/287 MAIN ST_RT SITE ADDRESS 287 MAIN STREET EAST HARTFORD, CT 06118							
SHEET TITLE							
GROUNDING AND ONE LINE DIAGRAM							
	SHE	EET N	NUMBER				
E-1							

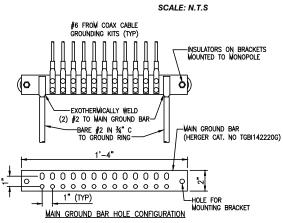


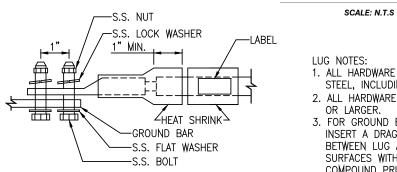
1. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.



- NOTES:
- 1. ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
- 2. FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
- 3. ALL HOLES ARE COUNTERSUNK 1/6".

#### **TYPICAL GROUND BAR CONNECTIONS DETAIL**





SCALE: N.T.S



TYPE-KC TO FLAT SURFACE

**BURNDY GROUNDING DETAILS** 

SCALE: N.T.S

TYPE-KC TO PIPE

 $\mathcal{A}$ 

TYPE-BD18G92

000

TYPE-YAC3L-2TC38

1

E-2/

3

E-2/

TYPE-YGIBS

### CADWELD GROUNDING CONNECTION PRODUCTS

CONNECTOR

D. BEAM CLAMP

SCALE: N.T.S TERMINATION TYPES: A. MECHANICAL COMPRESSION LUG INNED B. DOUBLE BARRELL COMPRESSION * C. EXOTHERMIC TERMINATION 200 200 200 \$

SOLID #2 TINNED COPPER B OR C B OR C C A, C, OR D С #6 GROUND LEAD B OR C A A, C, OR D #2/0 STRANDED GRNDG Α A, C, OR D ELECTRODE CONDUCTOR MASTER GROUND BAR С Α A STRUCTURAL OR TOWER STEEL A, C, OR D A, C, OR D A, C, OR D GROUND RING C 17 777 С

**GROUNDING TERMINATION MATRIX** \E−2, SCALE: N.T.S

-EXPOSED BARE COPPER TO BE KEPT TO ABSOLUTE MINIMUM, NO INSULATION ALLOWED WITHIN THE



**GROUND BAR DETAIL** 5

1. ALL HARDWARE IS 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS. 2. ALL HARDWARE SHALL BE S.S. 3/4" ø

3. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH ANTI-OXIDIZATION COMPOUND PRIOR TO MATING.

**GROUND BAR DETAIL** 6 E-2

	⁴ 0 Fr 71 JF	1			
1 L	Mobi	le•			
т-мо	BILE NORTHEAS				
	BLOOMFIELD, CT 06002 OFFICE: (860) 692-7100 FAX:(860) 692-7159				
	TLANTIS DES				
<b>4</b> • •	GROUP, INC				
Pho	Jacqueline Road, Suit Waltham, MA 02452 ne number: 617–852 Number : 781–742-	-3611 -2247			
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SITE ADDRESS 287 MAIN STREET					
EAS	T HARTFORD, CT	06118			
	SHEET TITLE				
GR	OUNDING DET	AILS			
	SHEET NUMBER				
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		]			

# Exhibit D

### STRUCTURAL ANALYSIS REPORT ROOFTOP



### Prepared For: • **T** • • **Mobile** • **35 Griffin Road South**

Bloomfield, CT 06002



Site ID: CT11882H Site Name: CT882/287 Main ST_RT 287 Main Street East Hartford, CT 06108

May 23, 2016

Submitted By: Atlantis Design Group, Inc. 54 Jacqueline Road, Suite #7 Waltham, Massachusetts 02452 Phone: 617-852-3611





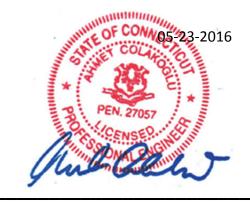
Bloomfield, CT 06002

### **RESULT: PASS**

Site ID: CT11882H Site Name: CT882/287 Main ST_RT 287 Main Street East Hartford, CT 06108

Prepared By:

Destek Engineering, LLC Professional Engineering Corporation License # PEC 001429



Ahmet Colakoglu, P.E. Connecticut Professional Engineer License No: 27057

Destek Job No: 1664066

May 23, 2016

### **CONTENTS**

- 1.0 SUBJECT AND REFERENCES
- 1.1 STRUCTURE
- 2.0 EXISTING AND PROPOSED APPURTENANCES
- 3.0 CODES AND LOADING
- 4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES
- 5.0 ANALYSIS AND ASSUMPTIONS
- 6.0 RESULTS AND CONCLUSION

### APPENDIX

A – CALCULATIONS

### 1.0 SUBJECT AND REFERENCES

The purpose of this analysis is to evaluate the structural capacity of the wireless telecommunication installation on the existing building located at 287 Main Street, East Hartford, CT 06108 for additions and alterations proposed by T-Mobile.

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

- RFDS provided by T-Mobile, dated 04/20/2016.
- Structural Evaluation Letter prepared by URS Corporation, dated 04/28/2009.
- Construction drawing by HPC Development, LLC, dated 01/27/2009.

### 1.1 <u>STRUCTURE</u>

This subject structure is a (4) story building. Currently, T-Mobile has (3) antennas concealed inside a 23 foot tall flag pole constructed from RF friendly concealment cylinders supported by wood members. The RAD center of the antennas is 80 feet AGL. Please refer to the calculations in Appendix A for additional details.

### 2.0 EXISTING AND PROPOSED APPURTENANCES

### **Existing Configuration of T-Mobile Appurtenances:**

RAD Center (ft.)	Appurtenances	Mount	
80	(3) APX16DWV-16DWV-S-E-A20 (6) TMAs	Inside flagpole	

### Proposed and Final Configuration of T-Mobile Appurtenances:

RAD Center (ft.)	Appurtenances	Mount	
80	(3) DBXNH6565A-A2M (3) TMAs	Inside flagpole	

### 3.0 CODES AND LOADING

The analysis is in accordance with the following codes and loading as adopted in Connecticut:

- 2005 State Building Code with all of the adopted Addendums and Supplements.
- *Minimum Design Loads for Buildings and Other Structures SEI/ASCE 7-02,* American Society of Civil Engineers
- Specifications for Structural Steel Buildings Allowable Stress ANSI/AISC 335-89s1, American National Standards Institute/American Institute for Steel Construction
- Building Classification: II
- Basic Wind Speed: 95 mph
- Exposure: B

### 4.0 STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

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

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

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

### 5.0 ANALYSIS AND ASSUMPTIONS

The structure is considered to have adequate strength for the proposed loading if the existing structural members that will be used to support the proposed equipment are structurally adequate per the applicable Code criteria or if the additions or alterations to the existing structure do not increase the force in any structural element by more than 5%, in accordance with the applicable referenced Code.

This analysis was performed by utilizing Risa 3-D, a commercially available structural engineering software package by Risa Technologies, as applicable.

### 6.0 **RESULTS AND CONCLUSION**

**Flagpole:** The existing flagpole is considered to have **adequate** structural capacity for the proposed changes by T-Mobile. The proposed antennas will be enclosed within the RF friendly concealment cylinders, similar to the existing antennas to be removed. Therefore, the proposed antennas do not increase the wind forces on the flagpole and the previous analysis is this valid.

**Building Roof:** The building is found to have **adequate** structural capacity for the proposed changes by T-Mobile. Under controlling load combinations and as a maximum, the wooden truss members are stressed to **93.5%** of their structural capacity.

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

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

### APPENDIX A CALCULATIONS

### **CALCULATION SHEET**



#### **PURPOSE**

The purpose of these calculations is to determine whether the building located at 287 Main Street, East Hartford, CT 06108, has adequate structural capacity for proposed changes by T-Mobile.

All calculations in accordance with 2005 Connecticut Building Code, with 2009 supplement.

### Wind Load

reference Connecticut Building Code 2005 With 2009 Amendment section - Appendix R

Input:	Location:	East Hartford, CT	ASCE 7 Reference
	Classification:	П	table 1-1 pg 4
	Equipment height:	z := 80 ft	
	Exposure category:	Exp := "B"	section 6.5.6.2 pg. 28
	z _g :=   1200 if Exp = "B" = 900 if Exp = "C" 700 if Exp = "D"	$\alpha := \begin{bmatrix} 7.0 & \text{if I} \\ 9.5 & \text{if I} \\ 11.5 & \text{if} \end{bmatrix}$	Exp = "B" = 7 Exp = "C" Exp = "D"
	Velocity pressure exposure coefficient:	$K_z := 2.01 \cdot \left(\frac{z}{z_g}\right)^{\alpha} = 0.927$	table 6-3 pg 75
	Topographic factor:	K _{zt} := 1.0	section 6.5.7.2 pg. 30
	Wind directional factor:	K _d := 0.85	table 6-4 pg. 76
	Basic wind speed:	V := 95 mph	figure 6-1C pg. 40
	Importance factor:	I := 1.00	table 6-1 pg 73
	Gust response factor:	G := 0.85	section 6.5.84
Velocity Pressure:	$q_z := 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot V^2 \cdot I$	$q_z = 18.21 \cdot psf$	equation (6-15)
Force Coefficients:	$C_{F_{flat}} := \begin{pmatrix} 1 & 1.3 \\ 7 & 1.4 \\ 25 & 2 \end{pmatrix}$	$C_{F_round} := \begin{pmatrix} 1 & 0.7 \\ 7 & 0.8 \\ 25 & 1.2 \end{pmatrix}$	Figure (6-19), Pg 69
Prepared By:		1 of 4	Job #:166406

Client: Atlantis Design Group Site ID: C11882H



Loads on Flagpole		
$C_f := 1.1$		
Width := 1.83ft		
$F_{P2.0} := q_Z \cdot G \cdot C_f \cdot Width = 31.12$	56·plf	
Loads on Flag		
G := 1.14		
$C_h := 1.24$		
$Width_{Flag} := 10ft$		
$Length_{Flag} := 15ft$		
$Area_{Flag} := Width_{Flag} \cdot Length_{I}$	$_{\rm Flag} = 150  {\rm ft}^2$	
$F_{Flag} := 0.0014 \cdot (V)^2 \cdot \sqrt{\frac{Area_F}{ft^2}}$	$\frac{\overline{\operatorname{Flag}}}{2} \cdot \operatorname{C_h} \cdot \operatorname{G} \cdot \operatorname{lbf} = 218.75 \operatorname{lbf}$	
Loads on Existing Antennas (DBX	<u> (NH6565A-A2M):</u>	
Dimensions : $H := 55.9 in W :$	:= 13.3in D $:= 3.15$ in W _{ant1} $:= 40.7$ lbf	
ALL ANTENNAS ARE WITHIN RF FF THEREFORE SHIELDED	RIENDLY CONCEALMENT CYLINDERS	
Front:		
Area := $H \cdot W = 5.163 \text{ ft}^2$		
$C_{f} := linterp\left(C_{F_{flat}} \stackrel{\langle 0 \rangle}{\longrightarrow}, C_{F_{flat}} \stackrel{\langle 0 \rangle}{\longrightarrow}\right)$	$\left(\frac{1}{W}, \frac{H}{W}\right) = 1.353$	Figure (6-19), Pg 69
$F_{ant1_front} := 0q_z \cdot G \cdot C_f \cdot Area =$	0·lbf	Equation (6-15)
<u>Side:</u>		
Area := $H \cdot D = 1.223 \text{ ft}^2$		
$C_{f} := linterp\left(C_{F_{flat}} \stackrel{\langle 0 \rangle}{\longrightarrow}, C_{F_{flat}} \stackrel{\langle 0 \rangle}{\longrightarrow}\right)$	$\left(\frac{1}{D}, \frac{H}{D}\right) = 1.758$	Figure (6-19), Pg 69
$F_{ant1_side} := 0q_z \cdot G \cdot C_f \cdot Area = 0$	0·lbf	Equation (6-15)
Prepared By:	2 of 4	Job #:1664066

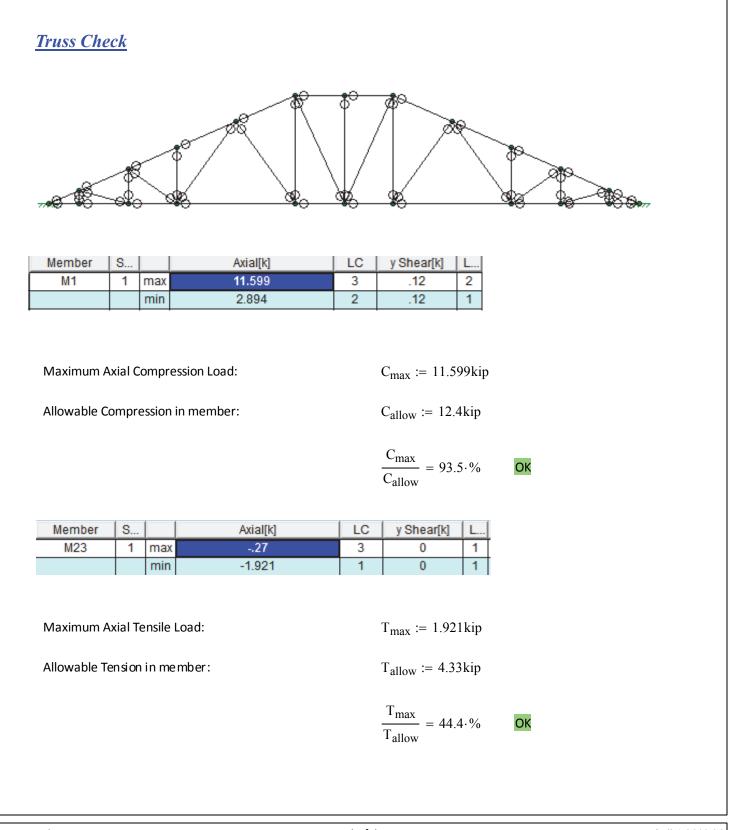
### **CALCULATION SHEET**



Loads on Proposed Antennas (DBXNH6565A-A21 Dimensions : H := 63.3 in W := 16.1 in D :=		
Dimensions . n .= 05.5 iii w .= 10.1 iii D .=	$w_{ant2} = 60.0101$	
ALL ANTENNAS ARE WITHIN RF FRIENDLY CONCEA THEREFORE SHIELDED	ALMENT CYLINDERS	
Front:		
Area := $H \cdot W = 7.077 \text{ ft}^2$		
$C_{f} := linterp\left(C_{F_{flat}}^{\langle 0 \rangle}, C_{F_{flat}}^{\langle 1 \rangle}, \frac{H}{W}\right) = 1.349$	) Fig	ure (6-19), Pg 69
$F_{ant2_front} := 0q_z \cdot G \cdot C_f \cdot Area = 0 \cdot lbf$	Equ	uation (6-15)
<u>Side:</u>		
Area := $H \cdot D = 5.099 \text{ ft}^2$		
$C_{f} := linterp\left(C_{F_{flat}}^{\langle 0 \rangle}, C_{F_{flat}}^{\langle 1 \rangle}, \frac{H}{D}\right) = 1.374$	Fig	ure (6-19), Pg 69
$F_{ant2_side} := 0q_z \cdot G \cdot C_f \cdot Area = 0 \cdot lbf$	Equ	uation (6-15)
<u>Dead Load</u>		
Maximum Vertical Load from URS Analysis:	$P_y := 2 \cdot 1.65 kip$	
Previous Antenna Weight:	$W_{ant_existing} := 3 \cdot W_{ant1} + 3 \cdot 20lbf = 18$	2.1 lbf
Weight of the Pole:	$W_{Pole} := P_y - W_{ant_existing} = 3.118 \cdot kip$	
Weight of the Proposed Antennas:	$W_{ant_proposed} := 3 \cdot W_{ant2} + 15 \cdot 20lbf = 4$	480 lbf
Increase := $\frac{W_{ant_proposed}}{W_{Pole}} = 15.395 \cdot \%$		
$P_{proposed} := W_{Pole} + W_{ant_proposed} = 3.598 \cdot kip$		
pared By: tek Engineering, LLC	3 of 4	Job #:166 Date: 5/23/2016 5:26

Client: Atlantis Design Group Site ID: C11882H





# Exhibit E



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

**T-Mobile Existing Facility** 

Site ID: CT11882H

CT882/287 Main St_RT 287 Main Street East Hartford, CT 06118

June 14, 2016

### EBI Project Number: 6216002747

Site Compliance Summary		
Compliance Status:	COMPLIANT	
Site total MPE% of FCC general public	9.69 %	
allowable limit:	9.09 /0	



June 14, 2016

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

Emissions Analysis for Site: CT11882H - CT882/287 Main St_RT

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **287 Main Street, East Hartford, 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 ( $\mu$ W/cm2). The number of  $\mu$ W/cm² 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.

<u>General population/uncontrolled exposure</u> 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/cm²). The general population exposure limit for the 700 MHz Band is approximately 467  $\mu$ W/cm², and the general population exposure limit for the PCS and AWS bands is 1000  $\mu$ W/cm². 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.



<u>Occupational/controlled exposure</u> 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 this 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 **287 Main Street**, **East Hartford**, **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 (AWS Band 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.



- 6) Since the radios are ground mounted there are additional cabling losses accounted for. For each RF path the following losses were calculated. 0.89 dB of additional cable loss for all 700 MHz Channels, 1.64 dB of additional cable loss for all 1900 MHz channels and 1.69 dB of additional cable loss for all 2100 MHz channels. This is based on manufacturers Specifications for 159 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 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.
- 9) The antennas used in this modeling are the Andrew DBXNH-6565A-VTM for 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The Andrew DBXNH-6565A-VTM has a maximum gain of 11.3 dBd at its main lobe at 700 MHz, 15.5 dBd at its main lobe at 1900 MHz and 15.0 dBd at 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.

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



#### **T-Mobile Site Inventory and Power Data**

Sector:	А	Sector:	В	Sector:	С
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Andrew DBXNH-	Make / Model:	Andrew DBXNH-	Make / Model:	Andrew DBXNH-
IVIAKC / IVIOUCI.	6565A-VTM	wake / woder:	6565A-VTM	Wiake / Wiodel.	6565A-VTM
Gain:	11.3 dBd / 15.5 dBd	Gain:	11.3 dBd / 15.5 dBd	Gain:	11.3 dBd / 15.5 dBd
Gaiii.	/ 15 dBd	Gaili.	/ 15 dBd	Gain.	/ 15 dBd
Height (AGL):	80	Height (AGL):	80	Height (AGL):	80
	700 MHz /		700 MHz /		700 MHz /
Frequency Bands	1900 MHz(PCS) /	Frequency Bands	1900 MHz(PCS) /	Frequency Bands	1900 MHz(PCS) /
	2100 MHz (AWS)		2100 MHz (AWS)		2100 MHz (AWS)
Channel Count	9	Channel Count	9	Channel Count	9
Total TX Power(W):	330	Total TX Power(W):	330	Total TX Power(W):	330
ERP (W):	10,589.06	ERP (W):	10,589.06	ERP (W):	10,589.06
Antenna A1 MPE%	5.03	Antenna B1 MPE%	5.03	Antenna C1 MPE%	5.03
(···)·	/	().	/		/

Site Composite MPE%				
Carrier	MPE%			
T-Mobile (Per Sector Max)	5.03 %			
AT&T	3.66 %			
MetroPCS	1.00 %			
Site Total MPE %:	9.69 %			

T-Mobile Sector 1 Total:	5.03 %
T-Mobile Sector 2 Total:	5.03 %
T-Mobile Sector 3 Total:	5.03 %
Site Total:	9.69 %

T-Mobile _Max per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (µW/cm ² )	Frequency (MHz)	Allowable MPE (µW/cm²)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	1285.73	80	16.88	2100	1000	1.69 %
T-Mobile 1900 MHz (PCS) GSM	2	729.66	80	9.58	1900	1000	0.96 %
T-Mobile 1900 MHz (PCS) UMTS	2	729.66	80	9.58	1900	1000	0.96 %
T-Mobile 2100 MHz (AWS) UMTS	2	729.66	80	9.58	2100	1000	0.96 %
T-Mobile 700 MHz LTE	1	329.70	80	2.16	700	467	0.46 %
					Total:	5.03 %	



### 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:	5.03 %
Sector 2:	5.03 %
Sector 3:	5.03 %
T-Mobile Per Sector	5.03 %
Maximum:	
Site Total:	9.69 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **9.69%** 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.

### **Proposed Safety Plan**

The proposed site involves a stealth flagpole transmitting over a rooftop. This subject structure is a (4) story building. Currently, T-Mobile has (3) antennas concealed inside a 23-foot flag pole constructed from RF friendly concealment cylinders supported by wood members. The RAD center of the antennas is 80 feet AGL. For purposes of T-Mobile signage policy, the roof top is considered to be the nearest walking/working surface and equivalent to ground level. As per the T-Mobile signage policy, the following signage is recommended.



NOTICE ()) Main and the second seco	Blue "Notice" Sign	Post at access point to site (next to roof top compound access gate)
Construction     C	Yellow "Guidelines" Sign	Post adjacent to the NOTICE sign at the access point

No further RF mitigation measures are required.