CENTERLINE COMMUNICATIONS

426 Kinds Park Dr. EXT Apt D
Liverpool, NY 13090
ahebel@clinellc.com
215.588.7035

July 16, 2020

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

Re: Notice of Exempt Modifications – AT&T Site CT1089
AT&T Telecommunications Facility @ 47 Turnpike Road Willington, CT

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains a wireless telecommunications facility on an existing +/- 170' monopole tower at the above referenced address, latitude 41.925538, longitude -72.252393. Said monopole tower is owned and managed by EIP Communications I, LLC.

AT&T desires to modify its existing telecommunications facility by replacing six (6) antennas, adding three (3) additional antennas, replacing six (6) remote radio units, adding three (3) additional remote radio units, adding two (2) surge arrestors, adding four (4) DC cables and adding (2) fiber cables as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Engineering last revised on June 10, 2020. The centerline height of the existing antennas is and will remain at 170 feet.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: Erika Wiecenski, First Selectman of the Town of Willington: Michael D'Amato Zoning Agent of the Town of Willington, and Michael Culpert of EIP Communications I, LLC as 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). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an 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 modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission's safety standard. *Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.*
5. The proposed modifications will not cause an ineligible change or alternation in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis dated June 30, 2020 and prepared by Paul J. Ford Company enclosed herewith.

For the foregoing reasons, AT&T 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).

Best Regards,

Allison Hebel
Site Acquisition Consultant – Agent for AT&T
Centerline Communications LLC
750 West Center St. Ste 301
West Bridgewater, MA 02379
215-588-7035
ahebel@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Mount Analysis
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Available Town of Cheshire Original Tower Approval Records
Exhibit 7 – Notice Deliver Confirmations

Cc:
Erika Wiecenski, First Selectman of the Town of Willington as elected official
Michael D'Amato, Zoning Agent, Town of Willington
EIP Communications I, LLC as Tower Owner

020927

Centerline Communications LLC

CONNECTICUT SITING COUNCIL

Check: 20927
Date: 7/14/2020
Vendor: 0

Invoice	P.O. Num.	Invoice Amt	Prior Balance	Retention	Discount	Amt. Paid
566387-030-1 CT1089		625.00	625.00	0.00	0.00	625.00
		625.00	625.00	0.00	0.00	625.00

020927

Centerline Communications LLC
750 W. Center Street
Suite 301
W. Bridgewater, MA 02379
(781) 713-4725

ROCKLAND TRUST COMPANY
MEDFIELD, MA 02052

53-447/113

20927

DATE	AMOUNT
7/14/2020	**********625.00

PAY TO THE ORDER OF: CONNECTICUT SITING COUNCIL

THE SUM OF SIX HUNDRED TWENTY FIVE DOLLARS AND NO CENTS **********

VOID AFTER 90 DAYS

AUTHORIZED SIGNATURE

Security features. Details on back

⑈020927⑈ ⑆011304478⑆ 2922009879⑈

Centerline Communications LLC

020927

CONNECTICUT SITING COUNCIL

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EXHIBIT 1

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:
- NEW AT&T ANTENNAS: HPA65R-BU6A @ POS. 2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: OPA65R-BU6A @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T ANTENNAS: DMP65R-BU6D @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: RRUS-32 B2 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 4449 B5/B12 (850/700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 8843 B2/B66A (1900) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T DC & FIBER SURGE ARRESTOR DC6-48-60-18-8C-EV (TOTAL OF 2) WITH (4) DC POWER & (2) FIBER RUN IN (2) 2" INNER DUCK.
- ROTATE EXISTING MOUNT TO MATCH LTE AZIMUTHS.
- PROPOSED MOUNT MODS (SEE S-1 SHEET).

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- ADD (1) IDLe.
- ADD (1) 6630 FOR 5G.
- ADD (1) XMU.
- INSTALL (1) DC 12.
- INSTALL (2) FIBER MANAGEMENT BOX.
- INSTALL (1) NEW NETSURE 7100 W/BATT 3 UP CONVERTERS.

ITEMS TO BE REMOVED:
- EXISTING AT&T ANTENNAS: AM-X-CD-16-65-00T-RET @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T ANTENNAS: 7770 @ POS. 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-11 B12 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T RRUS: RRUS-12 B2 (1900) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- EXISTING AT&T TMAS: LGP 21401 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING AT&T DIPLEXERS: LGP 21901 (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- EXISTING GALAXY +24 POWER PLANT W/ (2) CONVERTER SHELFS.

ITEMS TO REMAIN:
- (3) ANTENNAS, (6) TMA'S, (6) DIPLEXERS, (1) SURGE ARRESTOR, (12) COAX CABLES, (2) DC POWER & (1) FIBER.

PTN:	2051A0V8ME, 2051A0V7XN, 2051A0V7VN, 2051A0V8TB
SITE ADDRESS:	47 TURNPIKE ROAD WILLINGTON, CT 06279
LATITUDE:	41.925538° N, 41° 55' 31.94" N
LONGITUDE:	72.252393° W, 72° 15' 8.61" W
TYPE OF SITE:	MONOPOLE / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	170'-0"±
RAD CENTER:	169'-6"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SITE NUMBER: CT1089

SITE NAME: WILLINGTON TPKE RD

FA CODE: 10035378

PACE ID: MRCTB047122, MRCTB047113, MRCTB047082, MRCTB047093

PROJECT: BWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

DEPART ENTERPRISE DR TOWARD CAPITOL BLVD (0.4 MI), TURN LEFT ONTO CAPITOL BLVD (0.2 MI), TURN LEFT ONTO WEST ST (0.3 MI). TAKE RAMP LEFT FOR I-91 NORTH (9.7 MI), TAKE EXIT 29, MERGE ONTO CT-15 N/US-5 N TOWARD I-84 E, CONTINUE ONTO CT-15 N (.8 MILES). TAKE EXIT 71 FOR CT-320/RUBY RD, TURN LEFT ONTO CT-320 N/RUBY RD (.2 MILES) CONTINUE ONTO TURNPIKE RD, DESTINATION WILL BE ON LEFT.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT1089
SITE NAME: WILLINGTON TPKE RD

47 TURNPIKE ROAD
WILLINGTON, CT 06279
TOLLAND COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

STATE OF CONNECTICUT · DANIEL P. HAMM · No.24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET

BWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1089	T-1	2

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – CENTERLINE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. **APPLICABLE BUILDING CODES:**
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

    SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

    AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT1089
SITE NAME: WILLINGTON TPKE RD

47 TURNPIKE ROAD
WILLINGTON, CT 06279
TOLLAND COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES

BWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1089	GN-1	2

NOTE:

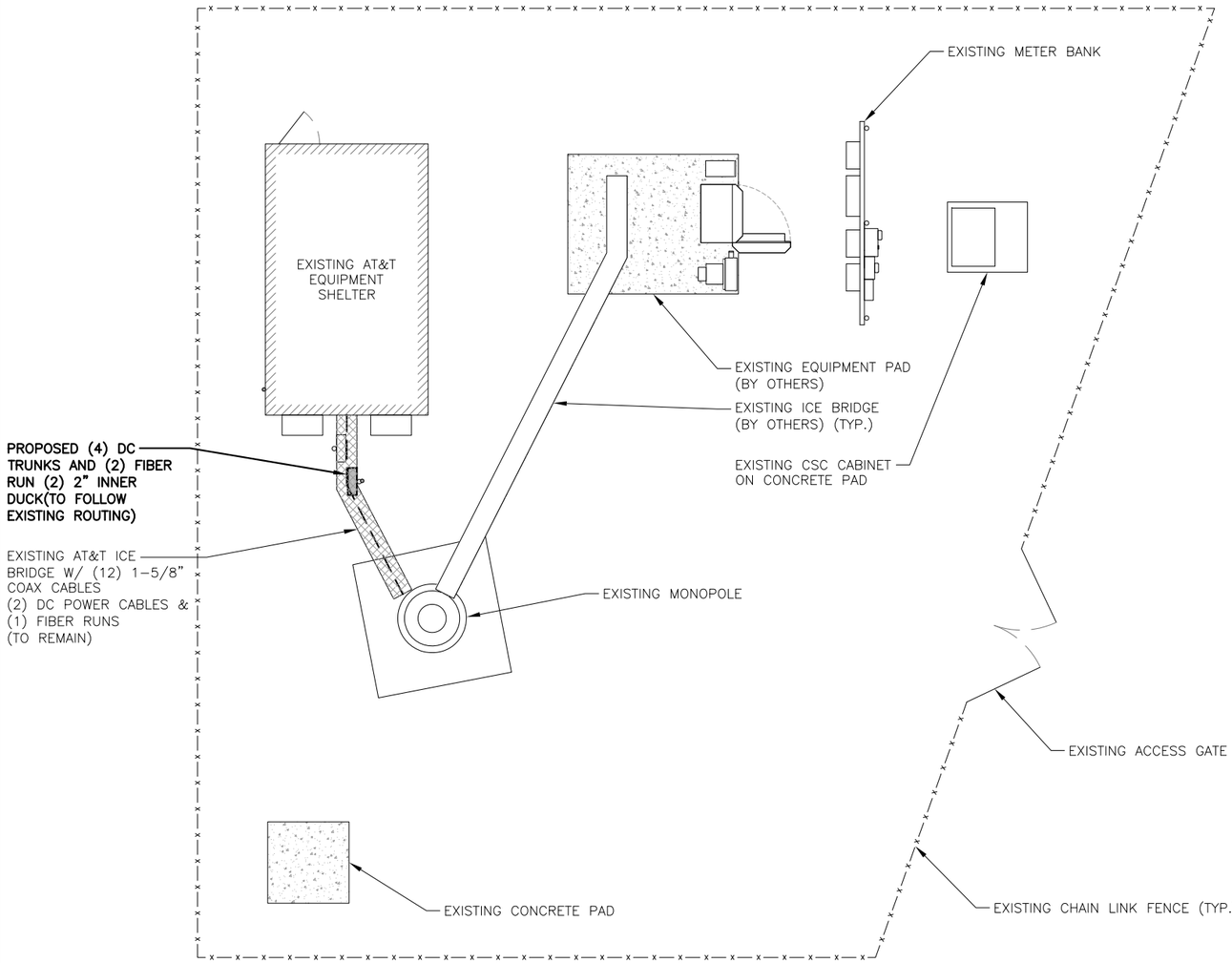
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

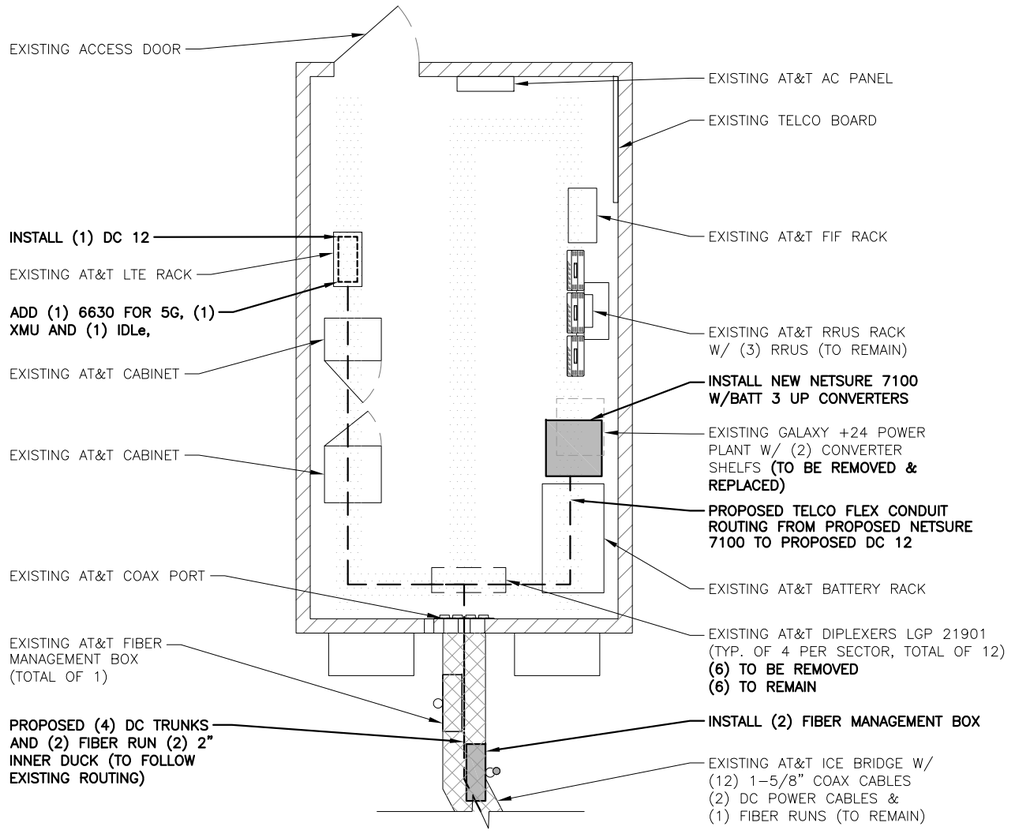
NOTE:

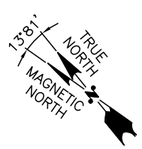
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 28, 2020

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

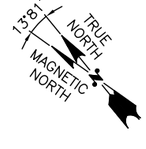






COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/4"=1'-0"
11x17 SCALE: 1/8"=1'-0"

0 2'-0" 4'-0" 8'-0" 12'-0"



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

0 1'-0" 2'-0" 4'-0" 6'-0"

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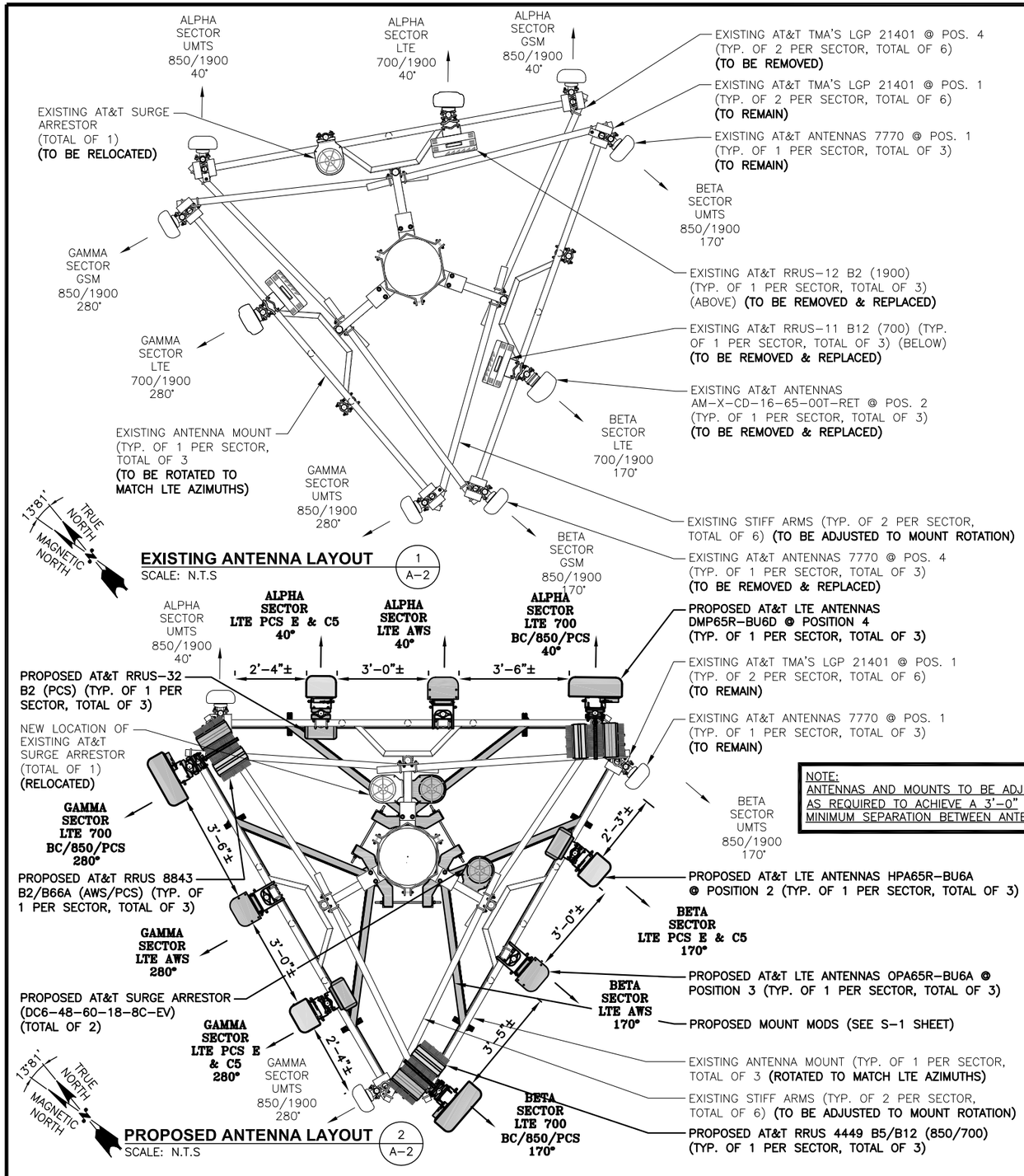
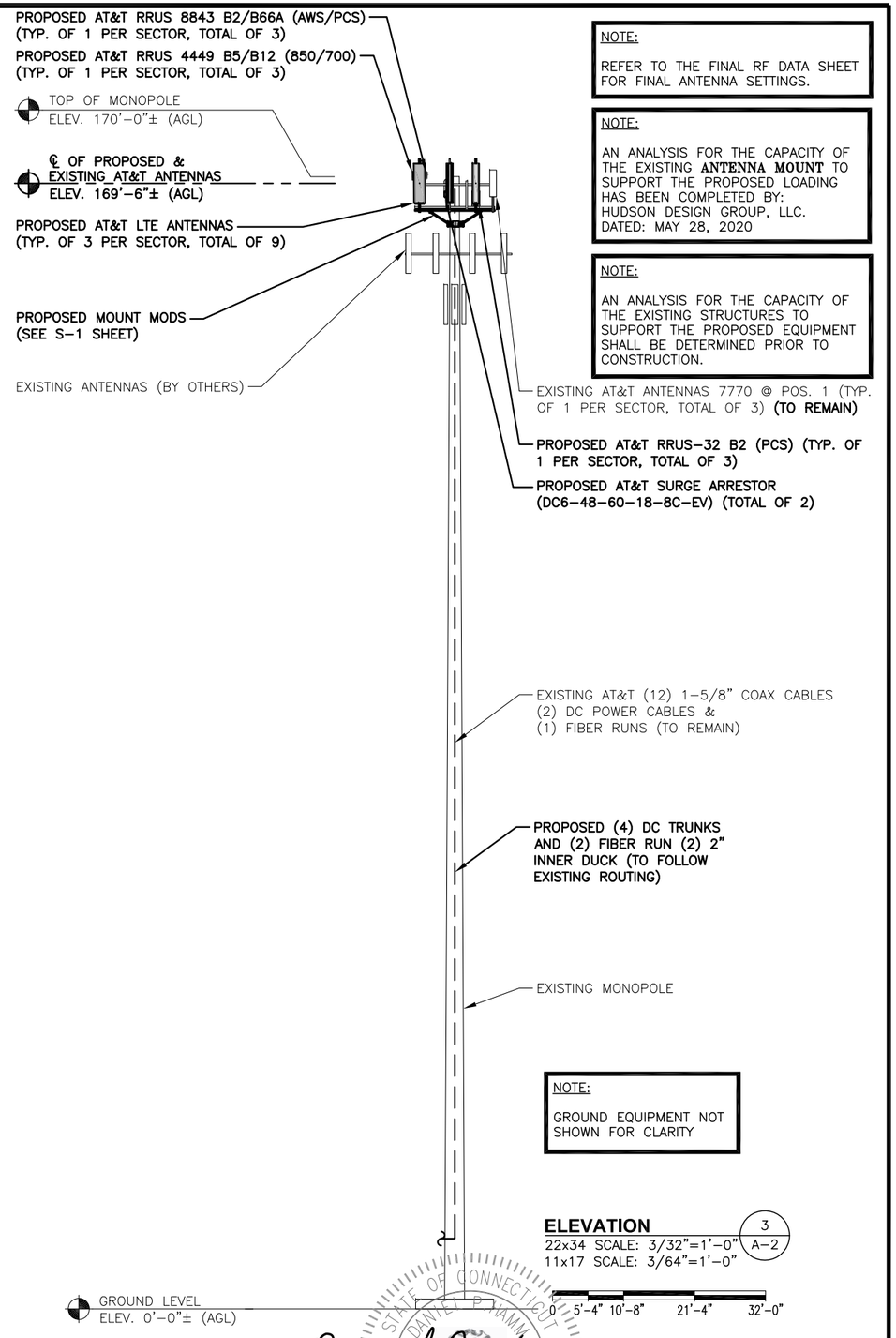
COMPOUND & EQUIPMENT PLANS
BWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1089	A-1	2





HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT1089
SITE NAME: WILLINGTON TPKE RD

47 TURNPIKE ROAD
WILLINGTON, CT 06279
TOLLAND COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUTS & ELEVATION

BWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1089	A-2	2

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS 850	7770	55X11X5	169'-6"±	40°	(2)(E) LGP 21401	–	–	(2)1-5/8 COAX	(E) (1) RAYCAP DC6-48-60-18-8F
A2	PROPOSED	LTE PCS E & C5	HPA65R-BU6A	71X11.7X7.6	169'-6"±	40°	–	(1)(P) RRUS-32 B2 (PCS)	27.2x12.1x7.0	(2)1-5/8 COAX	
A3	PROPOSED	LTE AWS	OPA65R-BU6A	71.1X11.7X8.4	169'-6"±	40°	–	–	–	–	
A4	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU6D	71.2X20.7X7.7	169'-6"±	40°	–	(1)(P) 4449 B5/B12 (850/700) (1)(P) 8843 B2/B66A (AWS/PCS)	17.9x13.2x10.4 14.9x13.2x10.9	(2)(E) DC (1)(E) FIBER	
B1	EXISTING	UMTS 850	7770	55X11X5	169'-6"±	170°	(2)(E) LGP 21401	–	–	(2)1-5/8 COAX	(P) (1) RAYCAP DC6-48-60-18-8C-EV
B2	PROPOSED	LTE PCS E & C5	HPA65R-BU6A	71X11.7X7.6	169'-6"±	170°	–	(1)(P) RRUS-32 B2 (PCS)	27.2x12.1x7.0	(2)1-5/8 COAX	
B3	PROPOSED	LTE AWS	OPA65R-BU6A	71.1X11.7X8.4	169'-6"±	170°	–	–	–	–	
B4	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU6D	71.2X20.7X7.7	169'-6"±	170°	–	(1)(P) 4449 B5/B12 (850/700) (1)(P) 8843 B2/B66A (AWS/PCS)	17.9x13.2x10.4 14.9x13.2x10.9	(2)(P) DC (1)(P) FIBER	
C1	EXISTING	UMTS 850	7770	55X11X5	169'-6"±	280°	(2)(E) LGP 21401	–	–	(2)1-5/8 COAX	(P) (1) RAYCAP DC6-48-60-18-8C-EV
C2	PROPOSED	LTE PCS E & C5	HPA65R-BU6A	71X11.7X7.6	169'-6"±	280°	–	(1)(P) RRUS-32 B2 (PCS)	27.2x12.1x7.0	(2)1-5/8 COAX	
C3	PROPOSED	LTE AWS	OPA65R-BU6A	71.1X11.7X8.4	169'-6"±	280°	–	–	–	–	
C4	PROPOSED	LTE 700 BC/850/PCS	DMP65R-BU6D	71.2X20.7X7.7	169'-6"±	280°	–	(1)(P) 4449 B5/B12 (850/700) (1)(P) 8843 B2/B66A (AWS/PCS)	17.9x13.2x10.4 14.9x13.2x10.9	(2)(P) DC (1)(P) FIBER	

FINAL ANTENNA SCHEDULE (1 / A-3)
SCALE: N.T.S

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: MAY 28, 2020

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

RRU CHART

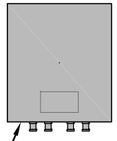
QUANTITY	MODEL	SIZE (L x W x D)
(3)(P)	RRUS-32 B2 (PCS)	27.2"x12.1"x7.0"
(3)(P)	4449 B5/B12 (850/700)	17.9"x13.2"x10.4"
(3)(P)	8843 (PCS/AWS)	14.9"x13.2"x10.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

PROPOSED NETSURE 7100 POWER PLANT W/BATTERY TO REPLACE EXISTING POWER PLANT

PROPOSED NETSURE 7100 POWER PLANT DETAIL (2 / A-3)
SCALE: N.T.S

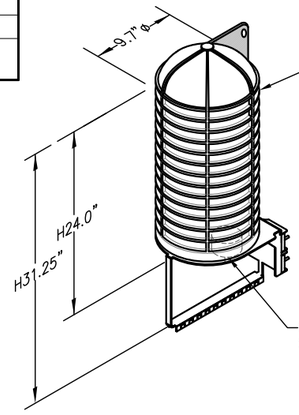
NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (3 / A-3)
SCALE: N.T.S

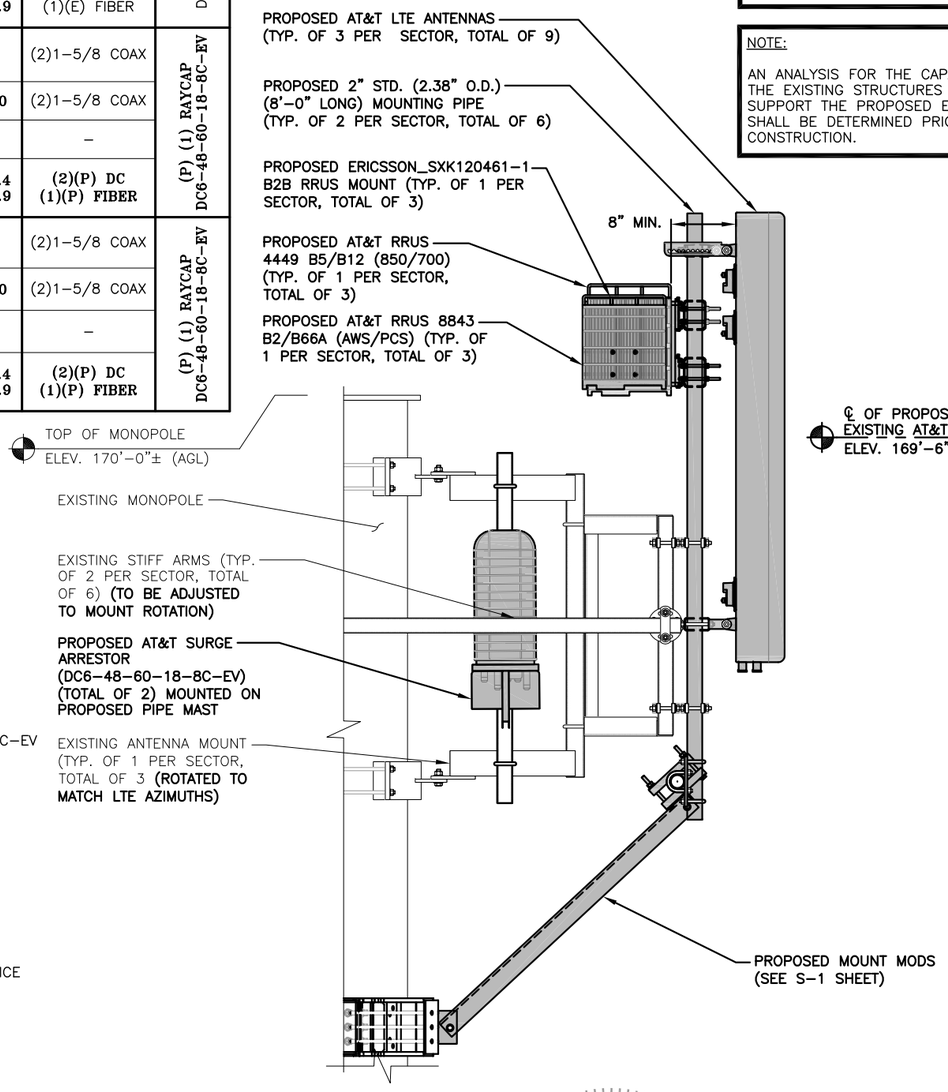


PROPOSED SURGE SUPPRESSOR MODEL NUMBERS: DC6-48-60-18-8C-EV DIMENSIONS: H24.0"x9.7"ø WITH BRACKET: H31.25"X9.7"ø

STRIKESORB 30-V1 SURGE PROTECTIVE DEVICE

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (4 / A-3)
SCALE: N.T.S



PROPOSED LTE ANTENNA & RRUS MOUNTING DETAIL (5 / A-3)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"

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STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS

SWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1089	A-3	2

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	ENGINEER OF RECORD APPROVED SHOP DRAWINGS [1]
REQUIRED	MATERIAL SPECIFICATIONS REPORT [2]
N/A	FABRICATOR NDE INSPECTION
REQUIRED	PACKING SLIPS [3]
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS [4]
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION [5]
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS [6]
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

STRUCTURAL NOTES

SWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
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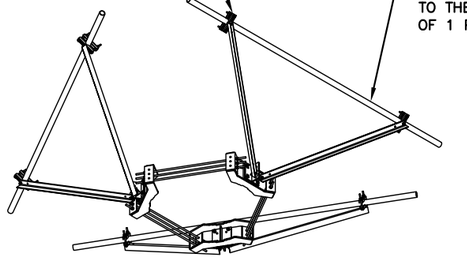

HANDRAIL REINFORCEMENT KIT DETAIL (3 / S-1)
SCALE: N.T.S

NOTE:

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NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

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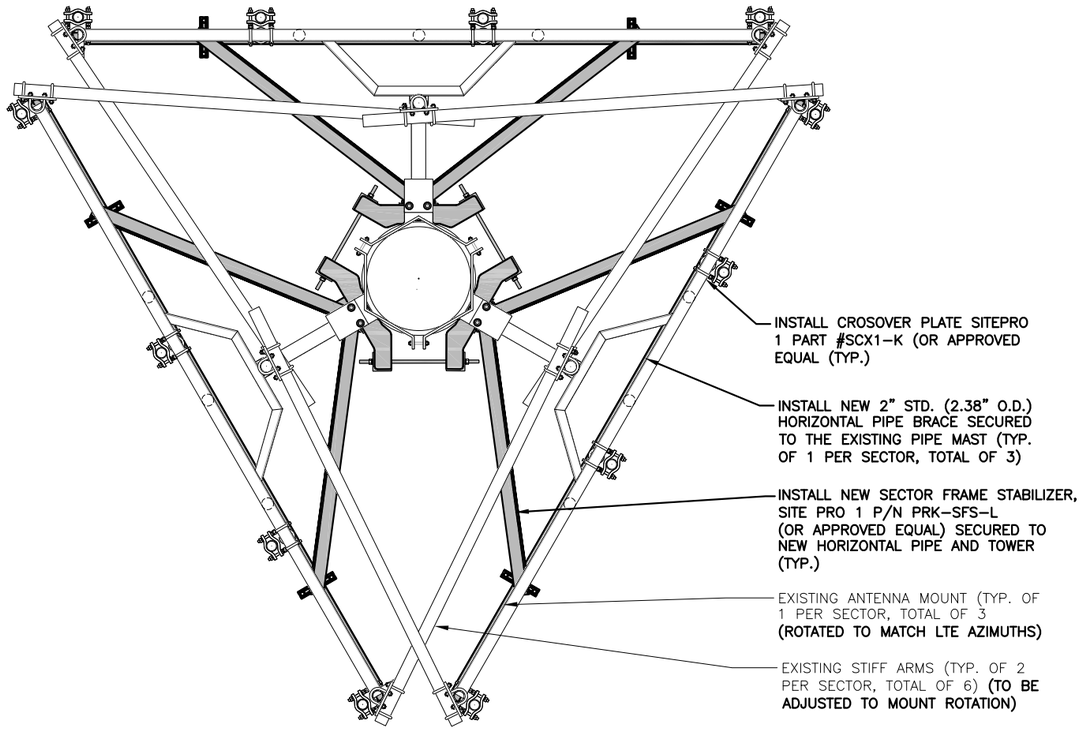
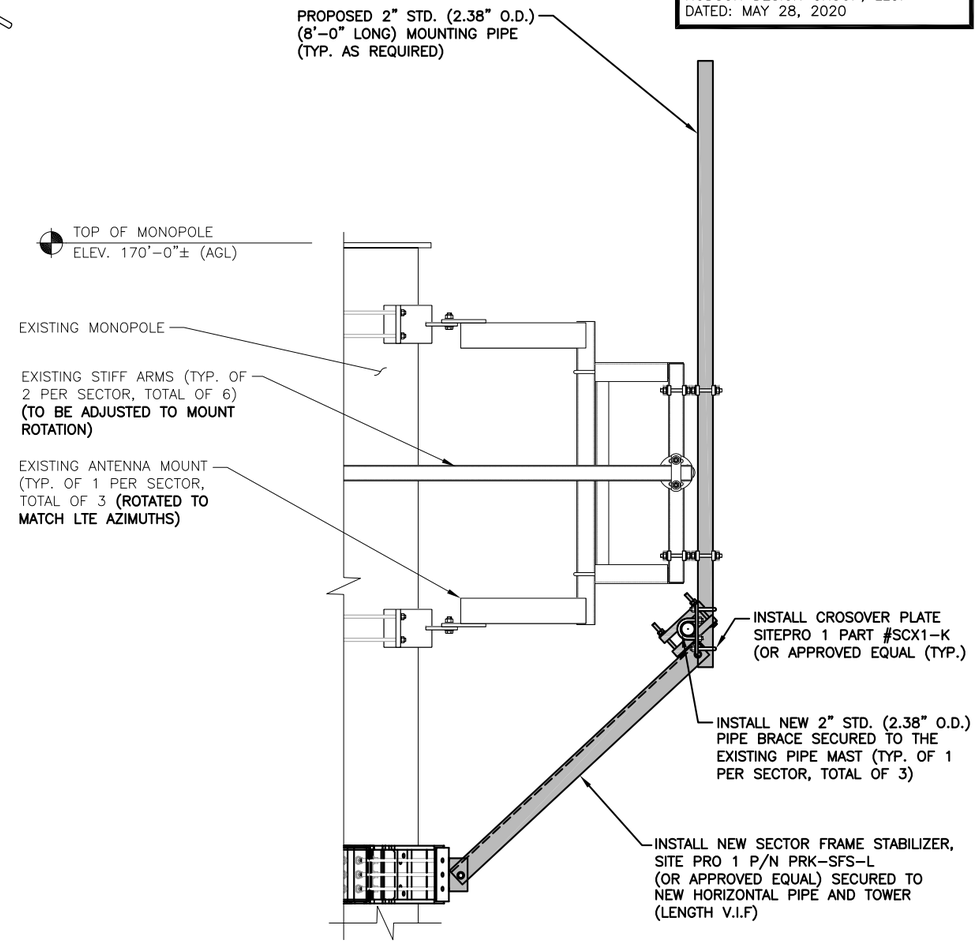
DATED: MAY 28, 2020



PROPOSED MOUNT MODIFICATION PLAN (1 / S-1)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

0 8" 1'-4" 2'-8" 4'-0"



PROPOSED MOUNT MODIFICATION ELEVATION (2 / S-1)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"

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MOUNT MODIFICATION DESIGN
BWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
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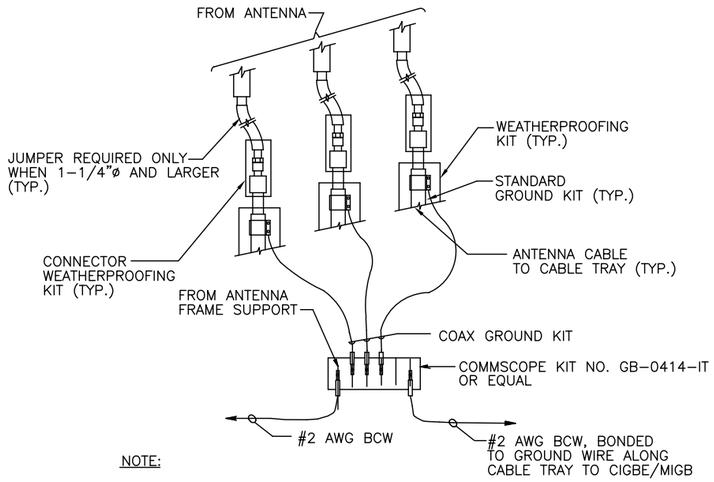
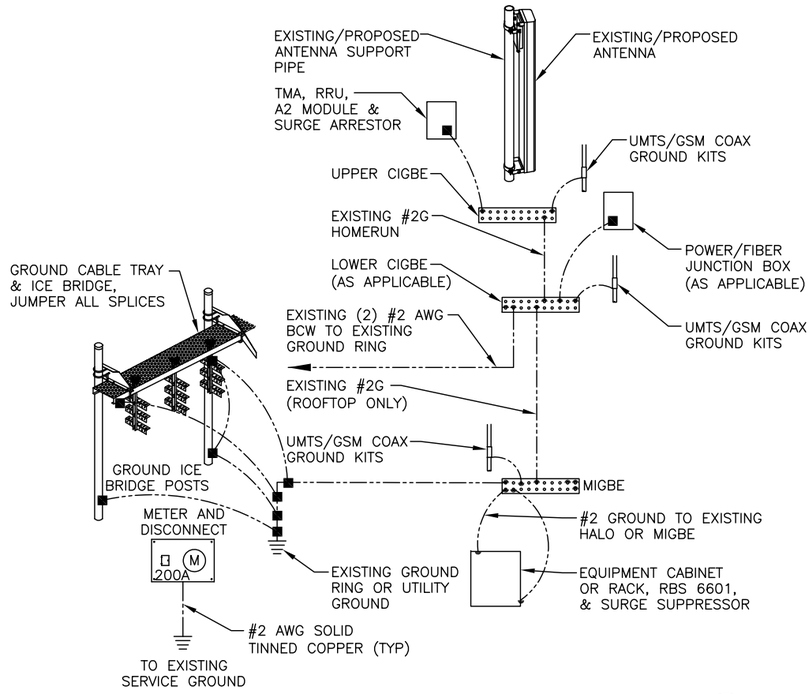


NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

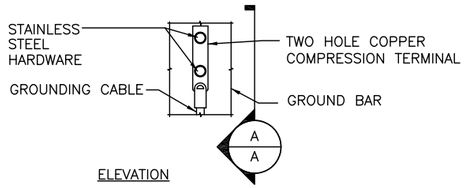
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

SCALE: N.T.S



GROUNDING RISER DIAGRAM (2 / G-1)

SCALE: N.T.S



NOTES:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL (3 / G-1)

SCALE: N.T.S

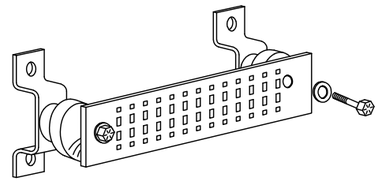
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
+24V POWER SUPPLY RETURN BAR (#2 AWG)
-48V POWER SUPPLY RETURN BAR (#2 AWG)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2 AWG)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
BUILDING STEEL (IF AVAILABLE) (#2 AWG)



GROUND BAR - DETAIL (AS REQUIRED) (4 / G-1)

SCALE: N.T.S

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT1089
SITE NAME: WILLINGTON TPKE RD

47 TURNPIKE ROAD
WILLINGTON, CT 06279
TOLLAND COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	06/24/20	ISSUED FOR CONSTRUCTION	TR	AT	DPH
1	06/10/20	ISSUED FOR REVIEW	TR	AT	DPH
A	05/12/20	ISSUED FOR REVIEW	TR	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

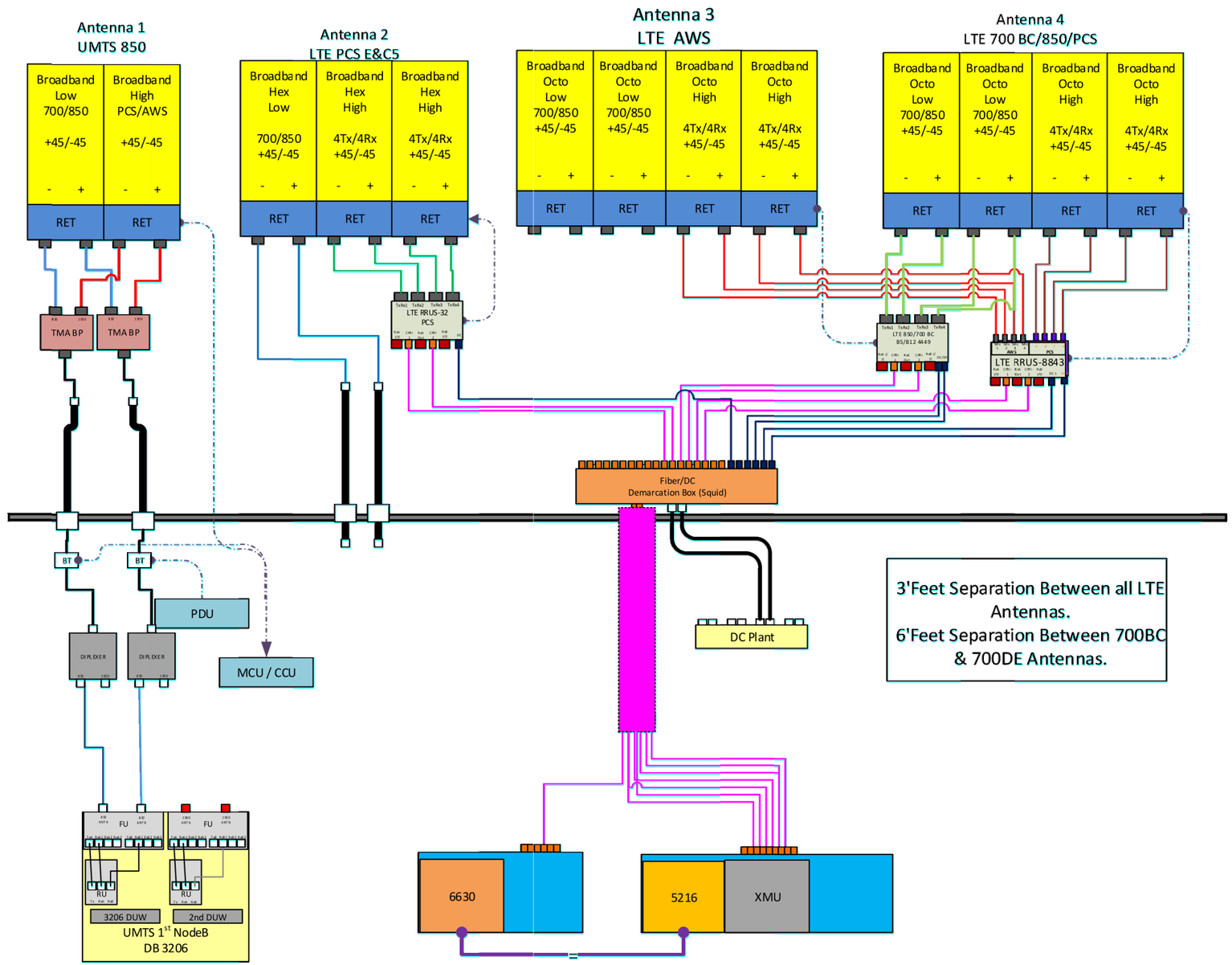
STATE OF CONNECTICUT — DANIEL P. HAMM — No. 24178 — LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS

BWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1089	G-1	2



RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT1089
SITE NAME: WILLINGTON TPKE RD

47 TURNPIKE ROAD
WILLINGTON, CT 06279
TOLLAND COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	06/24/20	ISSUED FOR CONSTRUCTION	TR	AT	DPH
1	06/10/20	ISSUED FOR REVIEW	TR	AT	DPH
A	05/12/20	ISSUED FOR REVIEW	TR	AT	DPH

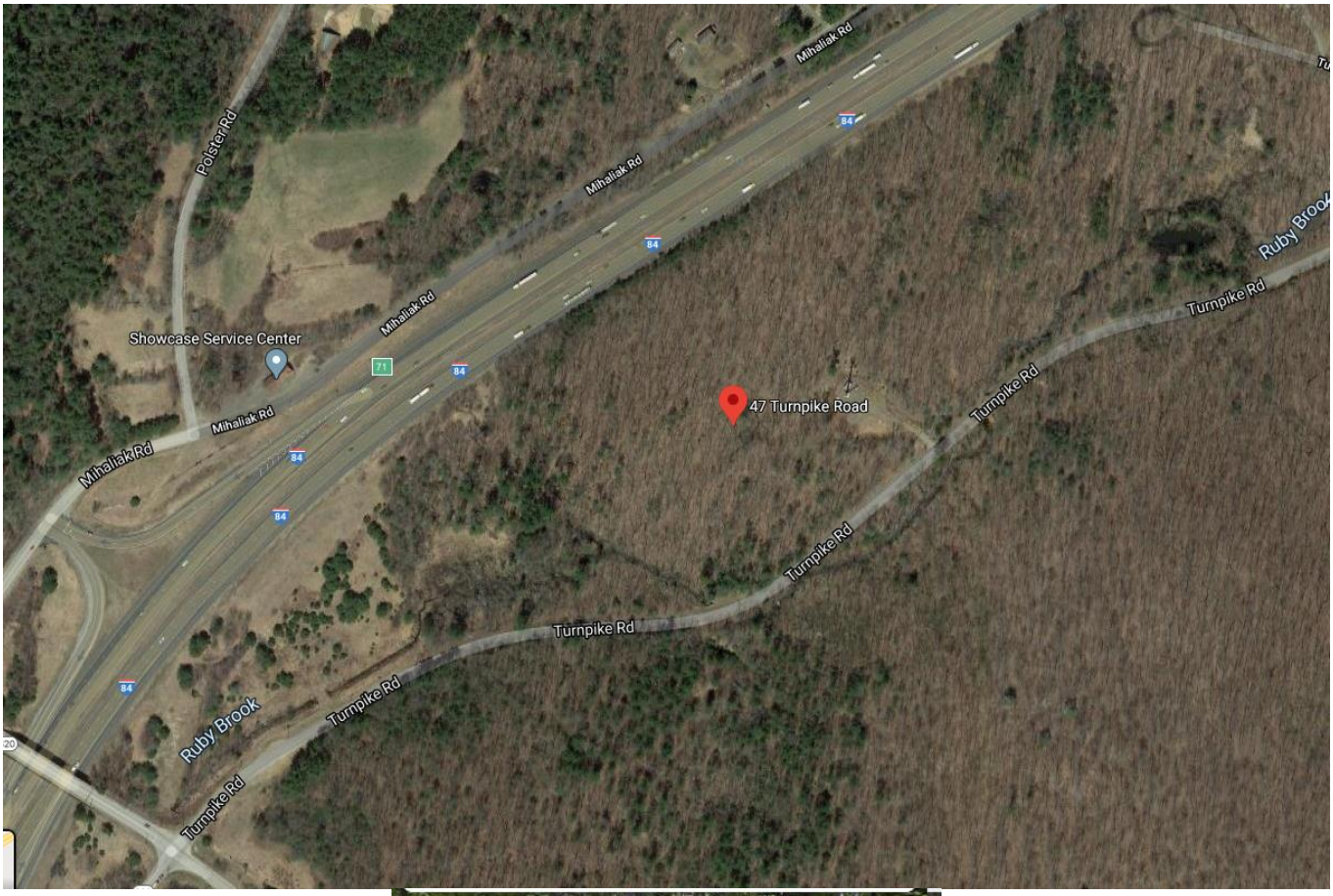
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: TR

AT&T

RF PLUMBING DIAGRAM
BWE, LTE 3C, RETRO, 5G NR 2021 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT1089	RF–1	2

EXHIBIT 2


Mihaliak Rd
Polster Rd
Mihaliak Rd
84
Showcase Service Center
71
Mihaliak Rd
Mihaliak Rd
84
47 Turnpike Road
Turnpike Rd
Turnpike Rd
84
Turnpike Rd
Turnpike Rd
Ruby Brook
Turnpike Rd
Turnpike Rd
Ruby Brook

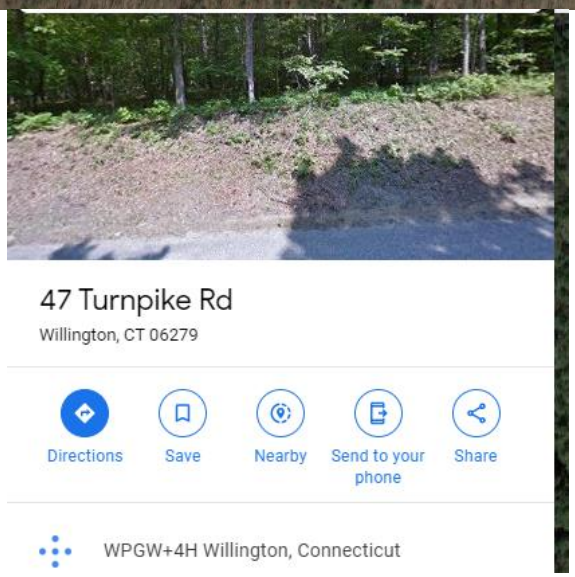

47 Turnpike Rd
Willington, CT 06279
Directions
Save
Nearby
Send to your phone
Share
WPGW+4H Willington, Connecticut

EXHIBIT 3

PAUL J. FORD & COMPANY

Report Date: June 30, 2020

Client: Everest Infrastructure Partners
1435 Bedford Avenue
Pittsburgh, PA 15219
Attn: Thomas Rigg
(603) 498-7462
tom.rigg@everestinfrastructure.com

Structure: Existing 170-ft Monopole
Site Name: Willington
Site Reference #: CT1089
Site Address: 47 Turnpike Road
City, County, State: Willington, Tolland County, CT
Latitude, Longitude: 41.9255°, -72.2524°

PJF Project: A13320-0004.001.7805

Paul J. Ford and Company is pleased to submit this "**Structural Analysis Report**" to determine the tower stress level.

Analysis Criteria:
This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code and Appendix N. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Proposed Appurtenance Loads:
The structure was analyzed with the addition of the proposed appurtenance loads shown in Table 1 combined with the existing loads shown in Table 2 of this report.

Summary of Analysis Results:
Existing Structure: Pass – 63.8%
Existing Foundation: Pass – 72.8%

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

Respectfully Submitted by:
Paul J. Ford and Company

Nathan C. Miller

Nathan C. Miller, E.I.
Structural Designer
nmiller@pauljford.com

STATE OF CONNECTICUT
JOSEPH PACHICARAH JACOBS
No. PEN 22731
LICENSED
PROFESSIONAL ENGINEER
06.30.2020

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 170 ft Monopole tower designed by Nudd in February of 2004.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-G
Risk Category:	II
Ultimate/Nominal Wind Speed:	125/97 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
170.0	170.0	3	cci antennas	DMP65R-BU6D w/ Mount Pipe	2 4	3/8 3/4	---
		3	cci antennas	HPA65R-BU6A w/ Mount Pipe			
		3	cci antennas	OPA65R-BU6A w/ Mount Pipe			
		3	ericsson	RRUS 32 B2			
		3	ericsson	RRUS 4449 B5/B12			
		3	ericsson	RRUS 8843 B2/B66A			
		2	raycap	DC6-48-60-18-8C			

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
170.0	170.0	3	pole mounts	12' T-Arm Mounts	1 2 12	3/8 3/4 1-5/8	1
		3	powerwave technologies	7770 w/ Mount Pipe			
		6	powerwave technologies	LGP21401			
		1	raycap	DC6-48-60-18-8F			
		1	andrew	SBNH-1D6565C w/ Mount Pipe	---	---	2
		3	ericsson	RRUS 11			
		3	ericsson	RRUS 12			
		2	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe			
		3	powerwave technologies	7770 w/ Mount Pipe			
		6	powerwave technologies	LGP21401			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
159.0	159.0	3	commscope	LNX-6515DS-VTM w/ Mount Pipe	12	1-5/8	1
		3	ems wireless	RR90-17-02DP w/ Mount Pipe			
		3	ericsson	KRY 112 71			
		3	kathrein	Smart Bias Tee			
		1	pole mounts	12' Low Profile Platform			

Notes:
1) Existing Equipment
2) Equipment to be Removed. Not considered in this analysis.

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Structural Analysis	Nudd, 11/13/2016	116-23148	Everest Infrastructure Partners

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) All coaxial cables are assumed to run internal to the monopole shaft.
4) The manufacturer drawings are not available at the time of this analysis. Therefore, we have assumed the pole geometry, steel yield strength(s), and foundation information from the referenced structural analysis.
5) The foundation drawings are not available at the time of this analysis. Therefore, we have assumed that the rock anchors are in a circular pattern within the foundation.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	170 - 160	Pole	TP26.25x22x0.25	1	-3.74	1517.64	9.5	Pass
L2	160 - 130	Pole	TP32.56x26.25x0.25	2	-8.26	1731.25	36.5	Pass
L3	130 - 84.5	Pole	TP41.63x31.1135x0.3125	3	-16.63	2748.35	50.8	Pass
L4	84.5 - 40	Pole	TP50.38x39.8482x0.375	4	-28.52	3981.26	52.8	Pass
L5	40 - 0	Pole	TP58x48.2609x0.375	5	-44.03	4410.79	63.8	Pass
							Summary	
						Pole (L5)	63.8	Pass
						RATING =	63.8	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	36.0	Pass
1	Base Plate	0	52.6	Pass
1	Base Foundation Structural Steel	0	72.8	Pass
1	Base Foundation Soil Interaction	0	65.6	Pass

Structure Rating (max from all components) =	72.8%

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

4.1) Recommendations

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

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING STRUCTURES BY PAUL J. FORD AND COMPANY

1) Paul J. Ford and Company has not made a field inspection to verify the monopole dimensions or the antenna/coax loading. If the existing conditions are not as represented on these sketches, we should be contacted immediately to reevaluate any conclusions stated in this report.

2) No allowance was made for any damaged, missing, or rusted material. The analysis of this monopole assumes that no physical deterioration has occurred in any of the structural components of the monopole and that all the structural members have the same load carrying capacity as the day the monopole was erected.

3) It is not possible to have all the detailed information to perform a thorough analysis of every structural sub-component of an existing monopole. The structural analysis provided by Paul J. Ford and Company verifies the adequacy of the main structural members of the monopole. Paul J. Ford and Company provides a limited scope of service in that we cannot verify the adequacy of every weld, plate, connection detail, etc.

EXHIBIT 4

May 28, 2020

Centerline Communications
750 West Center Street, Suite #301
West Bridgewater, MA 02379

RE:		
	Site Number:	CT1089 (BWE, LTE 3C, RETRO, 5G NR)
	FA Number:	10035378
	PACE Number:	MRCTB047122
	PT Number:	2051A0V8ME
	Site Name:	WILLINGTON TPKE RD
	Site Address:	47 Turnpike Road Willington, CT 06279

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by Centerline Communications to perform a mount analysis on the existing AT&T antenna/RRH mounts to determine their capability of supporting the following additional loading:

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)
- **(3) HPA65R-BU6A Antennas (71.1"x11.7"x7.6" – Wt. = 42 lbs. /each)**
- **(3) OPA65R-BU6BA Antennas (71.1"x11.7"x8.4" – Wt. = 58 lbs. /each)**
- **(3) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 80 lbs. /each)**
- **(3) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)**
- **(3) B5/B12 4449 RRH's (17.9"x13.2"x9.5" – Wt. = 71 lbs. /each)**
- **(3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(2) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on April 07, 2020.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 125 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.5 in. An escalated ice thickness of 1.77 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with ring mount. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mounts **ARE NOT CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Install new 2" std. (2.38" O.D.) pipe brace secured to the existing pipe masts (typ. of 1 per sector, total of 3).**
- **Install new sector frame stabilizer, SitePro1 P/N PRK-SFS-L (or approved equal) secured to new horizontal pipe and tower (total of 1).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (BWE, LTE 3C, RETRO, 5G NR) Mount Rating	1	LC31	139%	**FAIL**
Modified (BWE, LTE 3C, RETRO, 5G NR) Mount Rating	2	LC14	97%	**PASS**

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Vice President

Daniel P. Hamm, PE
Principal

EXHIBIT 5

Radio Frequency Emissions Analysis Report

AT&T

Site Name: **Willington TPKE RD**

47 Turnpike Road
Wilmington, CT 06279

June 4, 2020

Site Compliance Summary	
Compliance Status:	**Compliant**
AT&T total MPE% of FCC general population allowable limit:	**0.02793%**
Site total MPE% of FCC general population allowable limit:	**0.08054%**

750 West Center St. Suite 301 | West Bridgewater, MA 02379

June 4, 2020

AT&T Mobility – New England
Attn: John Benedetto, RF Manager

Emissions Analysis for Site: **Willington TPKE RD**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility to be located on a **monopole** near **47 Turnpike Road, Wilmington CT 06279** for the purpose of determining whether the emissions from the proposed facility are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 700 MHz (LTE) bands is 467 $\mu W/cm^2$; for the 850 MHz (UMTS), 850 MHz (LTE), and 850 MHz (5G) bands is 567 $\mu W/cm^2$; and for the 1900 MHz (LTE) and 2100 MHz (LTE) bands is 1000 $\mu W/cm^2$.

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, 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

Centerline Communications, LLC has performed theoretical modeling using Waterford Consultants' RoofMaster™ 2015 Version 19.12.13.19 which uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations the power decreases inversely with the square of the distance. This modeling technique is accurate with low antenna centerlines, such as rooftops, where persons can get close to the antennas and pass through fields in close proximity.

The modeling is based on worst-case assumptions for the number of antennas and transmitter power. No losses were included in the power calculations unless they were specifically provided for the project.

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

RRH #	Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
1	UMTS	850	2	20
2	LTE	1900	4	40
3	LTE	1900	4	40
3	LTE	2100	4	40
4	LTE	700	1	40
4	LTE	850	1	40
4	5G	850	2	40

Table 1: Channel Data Table

The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz (LTE), 850 MHz (UMTS), 850 MHz (LTE), 850 MHz (5G), 1900 MHz (LTE), and 2100 MHz (LTE) frequency bands. This is based on information from the carrier with regard to anticipated antenna selection.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	169.5
A	2	CCI HPA65R-BU6A	169.5
A	3	CCI OPA65R-BU6B	169.5
A	4	CCI DMP65R-BU6D	169.5
A	4	CCI DMP65R-BU6D	169.5
A	4	CCI DMP65R-BU6D	169.5
A	4	CCI DMP65R-BU6D	169.5
B	5	Powerwave 7770	169.5
B	6	CCI HPA65R-BU6A	169.5
B	7	CCI OPA65R-BU6B	169.5
B	8	CCI DMP65R-BU6D	169.5
B	8	CCI DMP65R-BU6D	169.5
B	8	CCI DMP65R-BU6D	169.5
B	8	CCI DMP65R-BU6D	169.5
C	9	Powerwave 7770	169.5
C	10	CCI HPA65R-BU6A	169.5
C	11	CCI OPA65R-BU6B	169.5
C	12	CCI DMP65R-BU6D	169.5
C	12	CCI DMP65R-BU6D	169.5
C	12	CCI DMP65R-BU6D	169.5
C	12	CCI DMP65R-BU6D	169.5

Table 2: Antenna Data

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

RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Antenna Height (ft)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850	11.35	169.50	2	40	545.83	0.001126399
Antenna A2	CCI HPA65R-BU6A	1900	15.85	169.50	4	160	6153.47	0.004413884
Antenna A3	CCI OPA65R-BU6B	2100	15.85	169.50	4	160	6153.47	0.007007311
Antenna A4	CCI DMP65R-BU6D	700	11.75	169.50	1	40	598.49	0.002849540
Antenna A4	CCI DMP65R-BU6D	850	11.45	169.50	1	40	558.55	0.002561239
Antenna A4	CCI DMP65R-BU6D	850	11.45	169.50	2	80	1117.09	0.005117895
Antenna A4	CCI DMP65R-BU6D	1900	14.95	169.50	4	160	5001.73	0.004827075
Antenna B1	Powerwave 7770	850	11.35	169.50	2	40	545.83	0.000002751
Antenna B2	CCI HPA65R-BU6A	1900	15.35	169.50	4	160	5484.28	0.000000875
Antenna B3	CCI OPA65R-BU6B	2100	15.85	169.50	4	160	6153.47	0.000000808
Antenna B4	CCI DMP65R-BU6D	700	11.75	169.50	1	40	598.49	0.000000982
Antenna B4	CCI DMP65R-BU6D	850	11.45	169.50	1	40	558.55	0.000002430
Antenna B4	CCI DMP65R-BU6D	850	11.45	169.50	2	80	1117.09	0.000004856
Antenna B4	CCI DMP65R-BU6D	1900	14.35	169.50	4	160	4356.32	0.000004848
Antenna C1	Powerwave 7770	850	11.35	169.50	2	40	545.83	0.000005130
Antenna C2	CCI HPA65R-BU6A	1900	15.85	169.50	4	160	6153.47	0.000001582
Antenna C3	CCI OPA65R-BU6B	2100	15.85	169.50	4	160	6153.47	0.000000429
Antenna C4	CCI DMP65R-BU6D	700	11.75	169.50	1	40	598.49	0.000001971
Antenna C4	CCI DMP65R-BU6D	850	11.45	169.50	1	40	558.55	0.000000495
Antenna C4	CCI DMP65R-BU6D	850	11.45	169.50	2	80	1117.09	0.000000989
Antenna C4	CCI DMP65R-BU6D	1900	14.95	169.50	4	160	5001.73	0.000001484
	AT&T Contribution MPE%							**0.027933 %**

Table 3: AT&T Antenna Inventory & Power Levels

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s).

Frequency Band	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (□W/cm^2)	Technology	Allowable MPE (□W/cm^2)	Calculated % MPE
850	2	272.9166	169.50	0.006382929	UMTS	567	0.001126399
1900	4	1538.367	169.50	0.044138840	LTE	1000	0.004413884
2100	4	1538.367	169.50	0.070073110	LTE	1000	0.007007311
700	1	598.4943	169.50	0.013297852	LTE	467	0.002849540
850	1	558.5473	169.50	0.014513686	LTE	567	0.002561239
850	2	558.5473	169.50	0.029001408	5G	567	0.005117895
1900	4	1250.432	169.50	0.048270748	LTE	1000	0.004827075
850	2	272.9166	169.50	0.000015588	UMTS	567	0.000002751
1900	4	1371.071	169.50	0.000008754	LTE	1000	0.000000875
2100	4	1538.367	169.50	0.000008079	LTE	1000	0.000000808
700	1	598.4943	169.50	0.000004581	LTE	467	0.000000982
850	1	558.5473	169.50	0.000013771	LTE	567	0.000002430
850	2	558.5473	169.50	0.000027517	5G	567	0.000004856
1900	4	1089.081	169.50	0.000048477	LTE	1000	0.000004848
850	2	272.9166	169.50	0.000029069	UMTS	567	0.000005130
1900	4	1538.367	169.50	0.000015817	LTE	1000	0.000001582
2100	4	1538.367	169.50	0.000004289	LTE	1000	0.000000429
700	1	598.4943	169.50	0.000009198	LTE	467	0.000001971
850	1	558.5473	169.50	0.000002803	LTE	567	0.000000495
850	2	558.5473	169.50	0.000005602	5G	567	0.000000989
1900	4	1250.432	169.50	0.000014841	LTE	1000	0.000001484
						AT&T	**0.027933%**

Table 6: AT&T Maximum Sector MPE Power Values

Summary

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

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

Site Total	Power Density Value (%)
AT&T Contribution:	0.027933%
Other Carrier Contribution:	0.05261%
Site Total:	**0.08054%**
Site Compliance Status:	**Compliant**

The anticipated composite MPE value for this site assuming all carriers present is **0.08054%** of the allowable FCC established general population limit sampled at the ground level.

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.

Erin Kavanaugh
RF EME Technical Writer
Centerline Communications, LLC
750 West Center St. Suite 301
West Bridgewater, MA 02379

EXHIBIT 6

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

April 10, 2017

Romina Kirchmaier
Smartlink
85 Rangeway Road
Building #3, Suite 102
North Billerica, MA 01862-2105

RE: **EM-AT&T-160-170317** - AT&T notice of intent to modify an existing telecommunications facility located at 47 Turnpike Road, Willington, Connecticut.

Dear Ms. Kirchmaier:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

1. Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;

2. Any material changes to this modification as proposed shall require the filing of a new notice with the Council;

3. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;

4. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by AT&T shall be removed within 60 days of the date the antenna ceased to function;

5. The validity of this action shall expire one year from the date of this letter; and

6. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated March 10, 2017. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site by any dimension, increase noise levels at the tower site boundary by six decibels or more, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standards adopted by the Federal Communications Commission pursuant to Section 704 of the Telecommunications Act of 1996 and by the state Department of Energy and Environmental Protection pursuant to Connecticut General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below state and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case

modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Melanie A. Bachman
Executive Director

MAB/RDM/bm

c: The Honorable Christina Beebe Mailhos, First Selectman, Town of Willington
Susan Yorgensen, Planning-Zoning/Wetlands Agent, Town of Willington
Cordless Data Transfer Inc., Tower Owner
William R. & Hazel M. Barber, Property Owners

EXHIBIT 7

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

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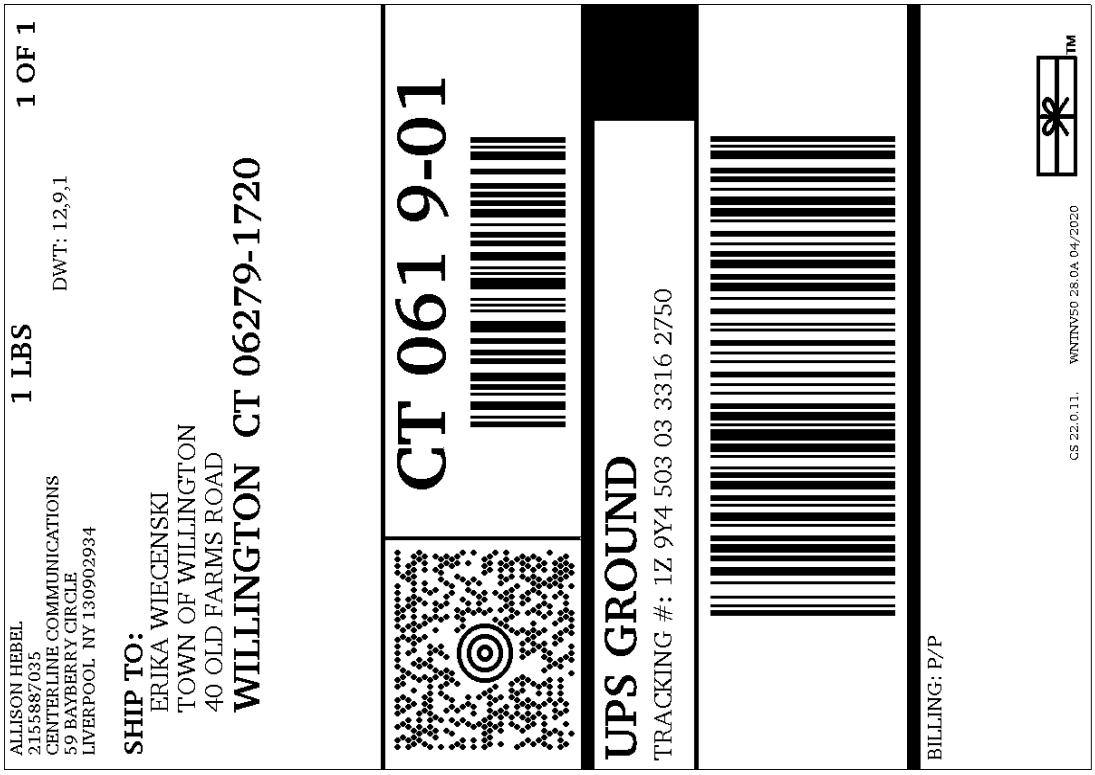
ADVANCE AUTO PART STORE 6538
8410 OSWEGO RD
LIVERPOOL ,NY 13090

UPS Access Point™
THE UPS STORE
8417 OSWEGO RD
BALDWINSVILLE ,NY 13027

UPS Access Point™
ADVANCE AUTO PART STORE 6324
3731 BREWERTON RD
SYRACUSE ,NY 13212

FOLD HERE



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   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
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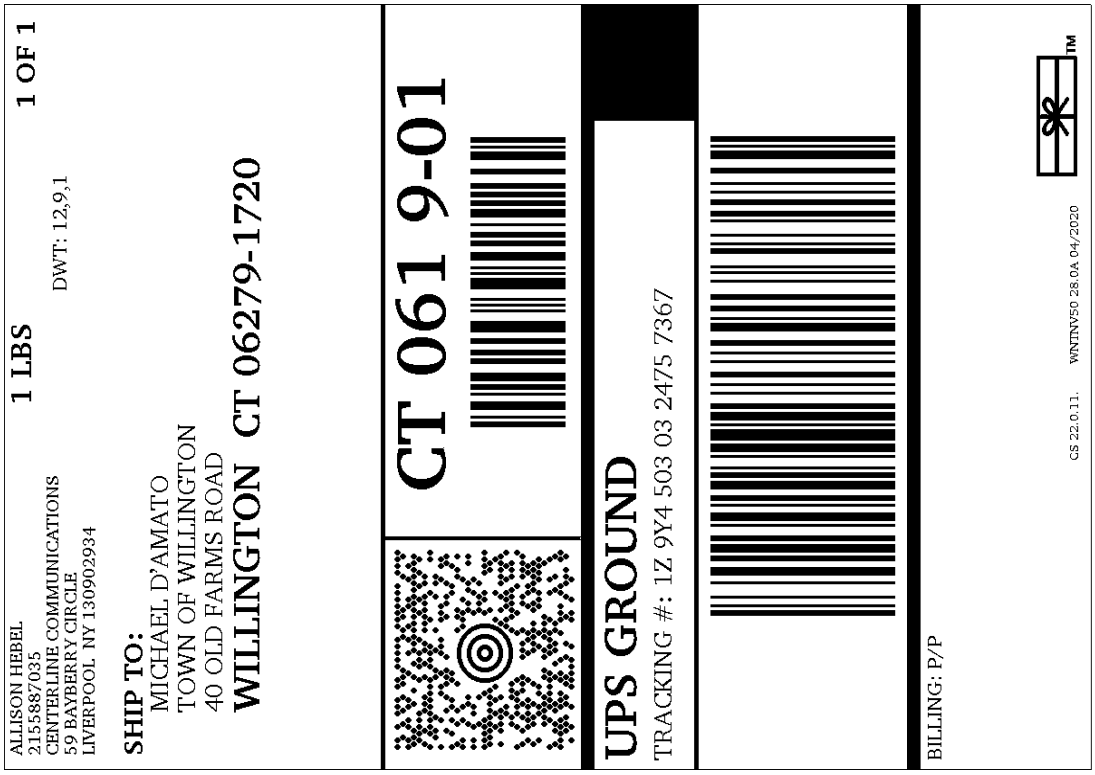

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