QC Development
PO Box 916
Storrs, CT 06268
860-670-9068
Mark.Roberts@QCDevelopment.net

October 25, 2019

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT5317
1 Circular Avenue, Hamden, CT 06514
N 41.34689190
W 72.93409890

Dear Ms. Bachman:

AT&T currently maintains three (3) antennas at 39-feet above ground level (AGL) on the existing Rooftop Flagpole at 1 Circular Avenue, Hamden, CT. The property is owned by Seventeen Mile Real Estate LLC. AT&T now intends to swap the (3) existing Kathrein antennas for (3) Andrew NNH4-65B-R6 antennas. The existing 28" canister will be replaced with a new 42" canister to accommodate the new antennas, which will also be installed at the 39-foot level. AT&T also intends to remove (3) Ericsson RRUS-11 and (3) RRUS-12/A2 Remote Radio Units (RRU) and install (3) Ericsson 4449 B5/B12, (3) 4415 B25 and (3) 4414 B30 RRUs. The new RRUs will all be installed on the existing support frame at rooftop level.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 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 Honorable Curt B. Leng, Mayor of the Town of Hamden, and to the Hamden Planning and Zoning Department, as well as to the property 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.

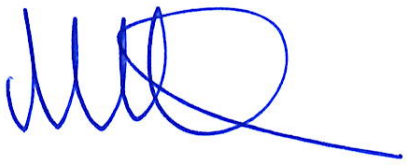
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, 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).

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,



Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Honorable Curt B. Leng - Elected Official
Daniel Kops, Jr. – Town Planner
Seventeen Mile Real Estate LLC - Property Owner

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							0%
AT&T UMTS	2	809	39	0.5343	850	0.5667	9.43%
AT&T UMTS	1	398	39	0.1314	1900	1.0000	1.31%
AT&T LTE	1	1476	39	0.4874	737	0.4913	9.92%
AT&T LTE	2	1067	39	0.7047	1900	1.0000	7.05%
AT&T LTE	1	2421	39	0.7995	1900	1.0000	7.99%
Site Total							35.71%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							0%
AT&T UMTS	1	809	39	0.2672	850	0.5667	4.71%
AT&T LTE	1	1476	39	0.4874	700	0.4667	10.44%
AT&T LTE	1	1000	39	0.3302	850	0.5667	5.83%
AT&T 5G	1	1000	39	0.3302	850	0.5667	5.83%
AT&T LTE	2	4842	39	3.1979	1900	1.0000	31.98%
AT&T LTE	1	1285	39	0.42443	2300	1.0000	4.24%
Site Total							63.04%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Note: Proposed Loading may also include corrections to certain Existing Loading values

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING ROOFTOP:
- NEW AT&T ANTENNAS: NNH4-65B-R6 (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: 4415 B25 (PCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW AT&T RRUS: 4415 B30 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- NEW 42"ø RADOME TO REPLACE EXISTING.
- NEW AT&T SQUARE SUPPRESSOR (DC6-48-60-18) (TOTAL OF 2) WITH (4) DC TRUNKS & (2) FIBER RUNS (TO FOLLOW EXISTING ROUTE).
- NEW AT&T FIBER BOX (TOTAL OF 2).

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- SWAP BASEBAND FOR (1) 6630.
- ADD (1) 6630 FOR 5G.
- ADD IDLe.
- ADD (2) OUTDOOR DC12.
- ADD ARGUS SHELF.
- ADD CONDUIT FOR TELCO WIRE FEED FOR THE DC12 TO PROPOSED ARGUS CONVERTER SHELF.
- ADD LOW BAND COMBINERS (TOTAL OF 6).

ITEMS TO BE REMOVED FROM LOCATION:
- EXISTING AT&T ANTENNAS (TYP. OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T RRUS-11 (TYP OF 1 PER SECTOR, TOTAL OF 3)
- EXISTING AT&T RRUS-12+A2 (TYP. OF 1 PER SECTOR, TOTAL OF 3)

SITE ADDRESS:	1 CIRCULAR AVENUE HAMDEN, CT 06514
LATITUDE:	41.346891° N, 41° 20' 48.81" N
LONGITUDE:	72.934098° W, 72° 56' 02.75" W
TYPE OF SITE:	ROOFTOP / OUTDOOR
STRUCTURE HEIGHT:	42'-6"±
RAD CENTER:	39'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
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A-2	PARTIAL ELEVATION	1
A-3	ANTENNA LAYOUTS	1
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G-1	GROUNDING DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1

SITE NUMBER: CT5317

SITE NAME: HAMDEN-WHITNEYVILLE

FA CODE: 10071066

PACE ID: MRCTB041382, MRCTB041659, MRCTB041734

PROJECT: LTE 3C_4C_RETRO 2019 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

MERRITT PARKWAY NORTH. GET OFF AT EXIT 60 IN HAMDEN. MAKE RIGHT AND CONTINUE HEADING SOUTH ON RTE 10 (DIXWELL AVE.) YOU WILL SEE A NEWALLIANCE BANK ON THE RIGHT AFTER MCDONALDS. ENTER INTO BANK PARKING LOT AND PARK TOWARDS THE FENCE FACING THE RADIO STATION BUILDING. WALK TOWARDS CIRCULAR AVE, WHICH SHOULD BE TO YOUR RIGHT AROUND FENCE AND TOWARDS SIDE ENTRANCE DOOR

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

SAI
12 INDUSTRIAL WAY
SALEM, NH 03079

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at&t
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: ET

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

AT&T

TITLE SHEET
LTE 3C_4C_RETRO 2019 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5317	T-1	1

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 – SAI
   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-G, 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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5317
SITE NAME: HAMDEN-WHITNEYVILLE

1 CIRCULAR AVENUE
HAMDEN, CT 06514
NEW HAVEN COUNTY

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

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

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

AT&T

GENERAL NOTES

LTE 3C_4C_RETRO 2019 UPGRADE

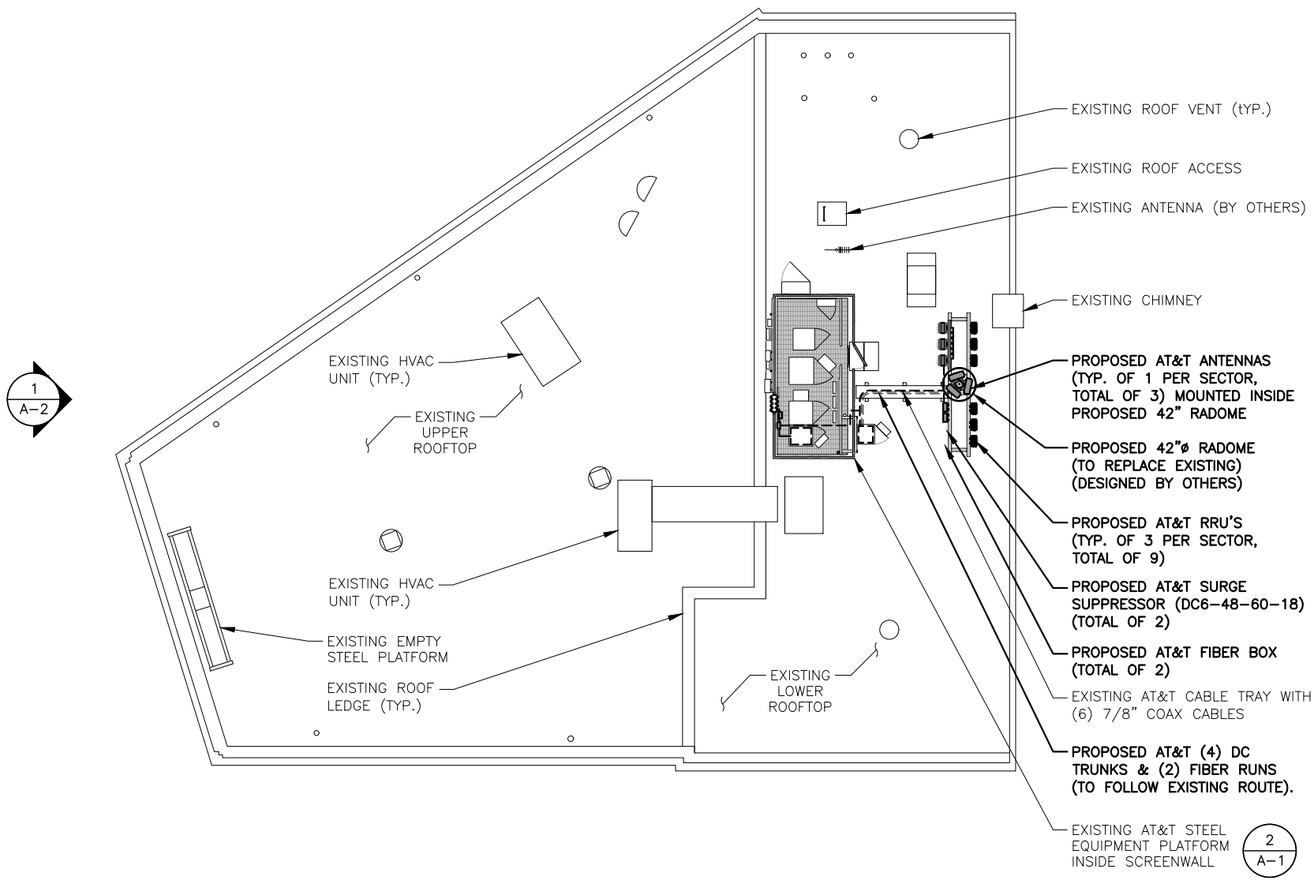
SITE NUMBER	DRAWING NUMBER	REV
CT5317	GN-1	1

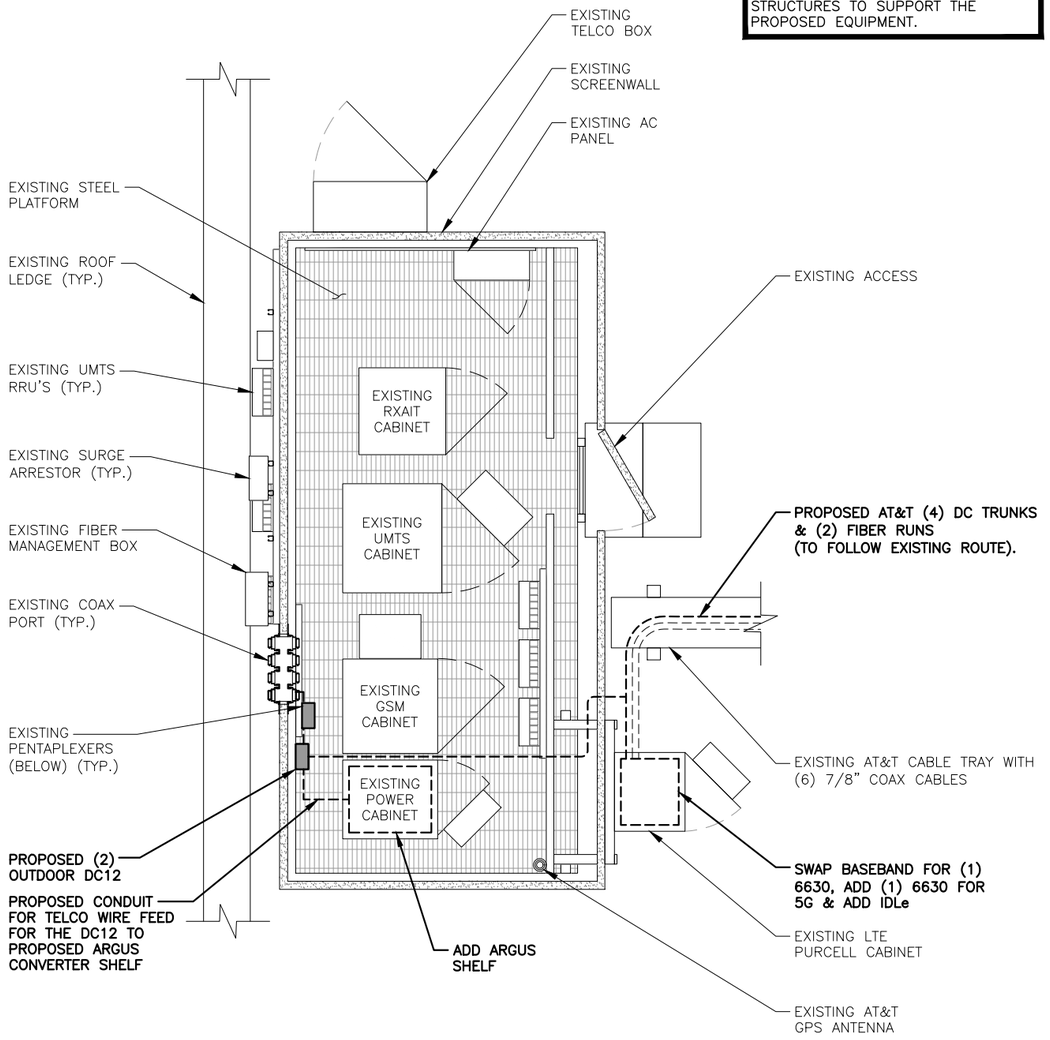
NOTE:

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

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: OCTOBER 15, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.





MAGNETIC NORTH 13°24' TRUE NORTH

ROOF PLAN (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-0"

MAGNETIC NORTH 13°24' TRUE NORTH

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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STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
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AT&T

ROOF & EQUIPMENT PLANS
LTE 3C_4C_RETRO 2019 UPGRADE

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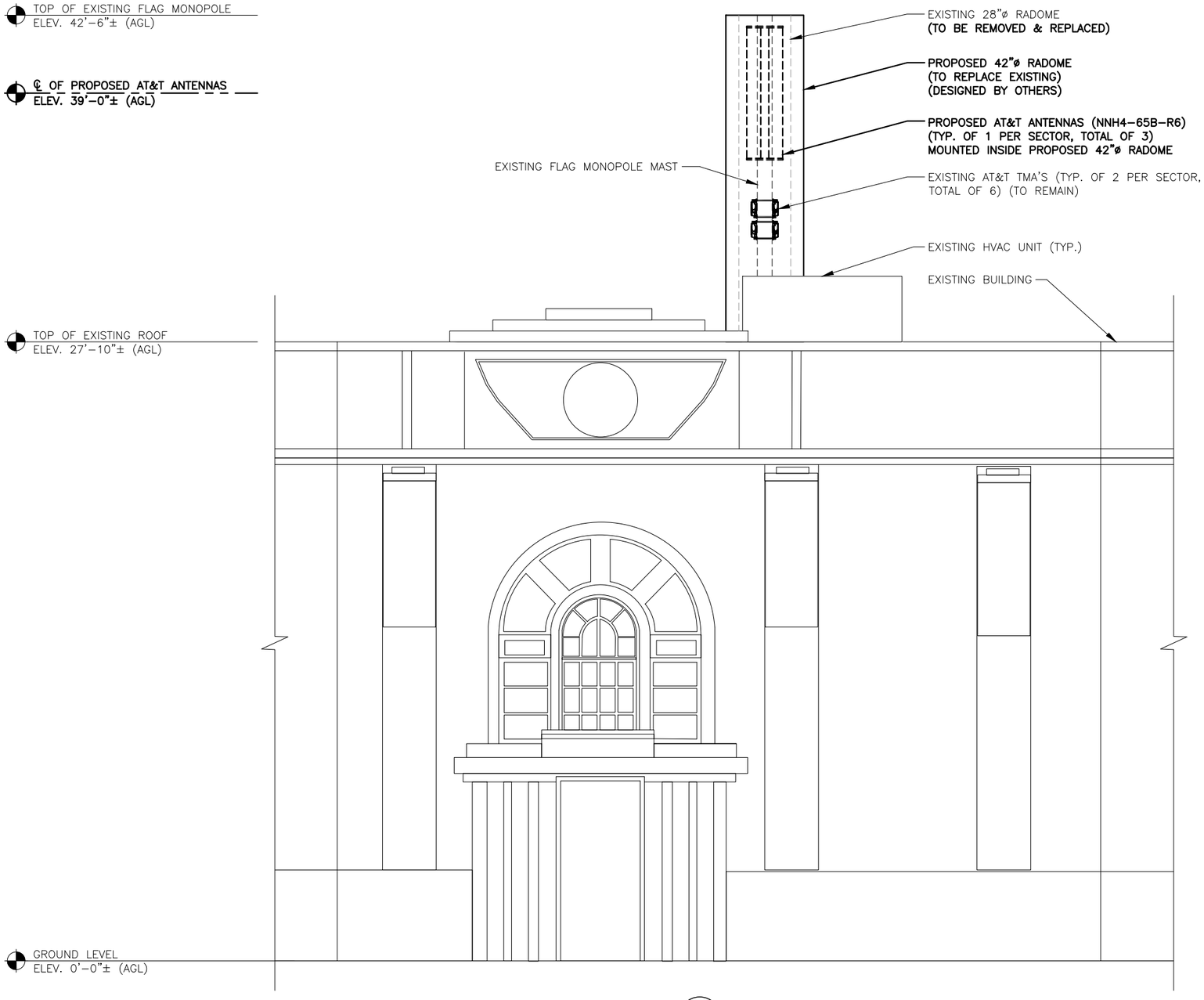

PARTIAL ELEVATION (1 / A-2)
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"

0 1'-4" 2'-8" 5'-4" 8'-0"

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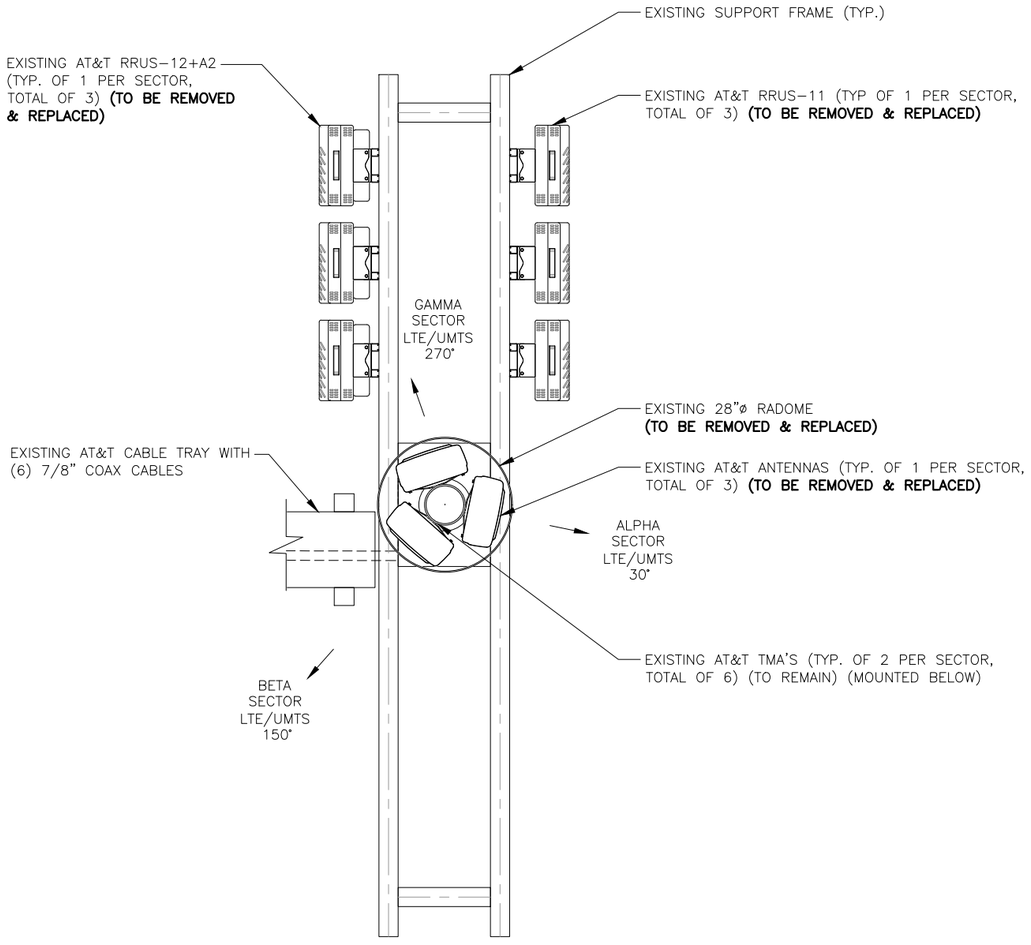
AT&T

PARTIAL ELEVATION
LTE 3C_4C_RETRO 2019 UPGRADE

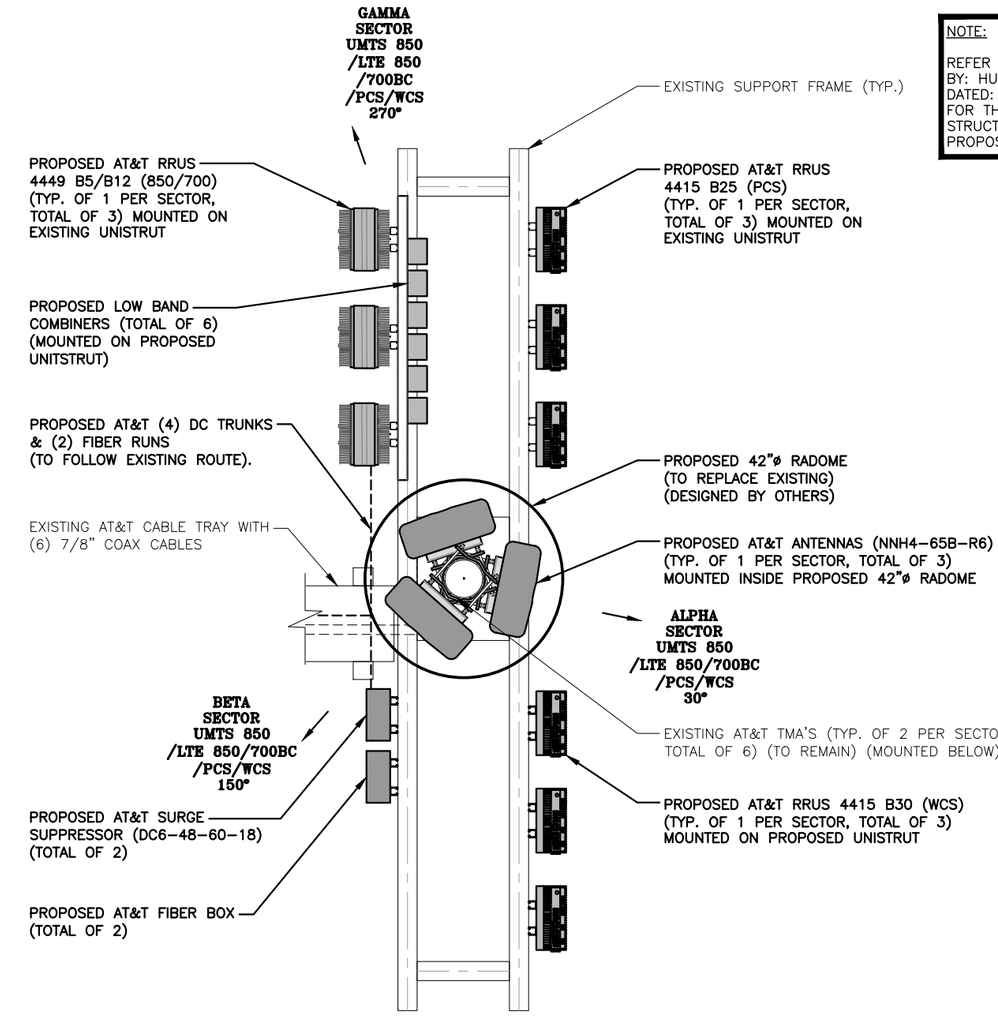
SITE NUMBER	DRAWING NUMBER	REV
CT5317	A-2	1

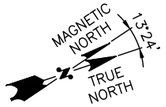


EXISTING ANTENNA LAYOUT (1 / A-3)

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

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





PROPOSED ANTENNA LAYOUT (2 / A-3)

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

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

NOTE:

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

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: OCTOBER 15, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

HUDSON Design Group LLC
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NORTH ANDOVER, MA 01845
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12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT5317
SITE NAME: HAMDEN-WHITNEYVILLE

1 CIRCULAR AVENUE
HAMDEN, CT 06514
NEW HAVEN COUNTY

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
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A	09/06/19	ISSUED FOR REVIEW	ET	AT	DPH

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

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

AT&T

ANTENNA LAYOUTS
LTE 3C_4C_RETRO 2019 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5317	A-3	1

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	PROPOSED	UMTS 850 /LTE 850 /700BC /PCS/WCS	NNH4-65B-R6	72x19.6x7.8	39'-0"±	30°	(2)(E) TMA2117F00V11 (P)(2) DBCT108F	(P)(1) 4449 B5/B12 (850/700) (P)(1) 4415 B25 (PCS) (P)(1) 4415 B30 (WCS)	14.9"x13.2"x10.4" 16.5"x13.4"x5.9" 16.5"x13.4"x5.9"	(2) 7/8" COAX (25'± LENGTH)	(E)(1) RAYCAP SURGE PROTECTOR
B1	PROPOSED	UMTS 850 /LTE 850 /700BC /PCS/WCS	NNH4-65B-R6	72x19.6x7.8	39'-0"±	150°	(2)(E) TMA2117F00V11 (P)(2) DBCT108F	(P)(1) 4449 B5/B12 (850/700) (P)(1) 4415 B25 (PCS) (P)(1) 4415 B30 (WCS)	14.9"x13.2"x10.4" 16.5"x13.4"x5.9" 16.5"x13.4"x5.9"	(2) 7/8" COAX (25'± LENGTH)	(P)(1) RAYCAP DC6-48-60-18
C1	PROPOSED	UMTS 850 /LTE 850 /700BC /PCS/WCS	NNH4-65B-R6	72x19.6x7.8	39'-0"±	270°	(2)(E) TMA2117F00V11 (P)(2) DBCT108F	(P)(1) 4449 B5/B12 (850/700) (P)(1) 4415 B25 (PCS) (P)(1) 4415 B30 (WCS)	14.9"x13.2"x10.4" 16.5"x13.4"x5.9" 16.5"x13.4"x5.9"	(2) 7/8" COAX (25'± LENGTH)	(P)(1) RAYCAP DC6-48-60-18

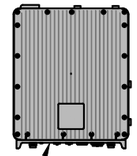
RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
P(3)	4449 (850/700)	14.9"x13.2"x10.4"
P(3)	4415 B25 (PCS)	16.5"x13.4"x5.9"
P(3)	4415 B30 (WCS)	16.5"x13.4"x5.9"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

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 (2 / A-4)
SCALE: N.T.S

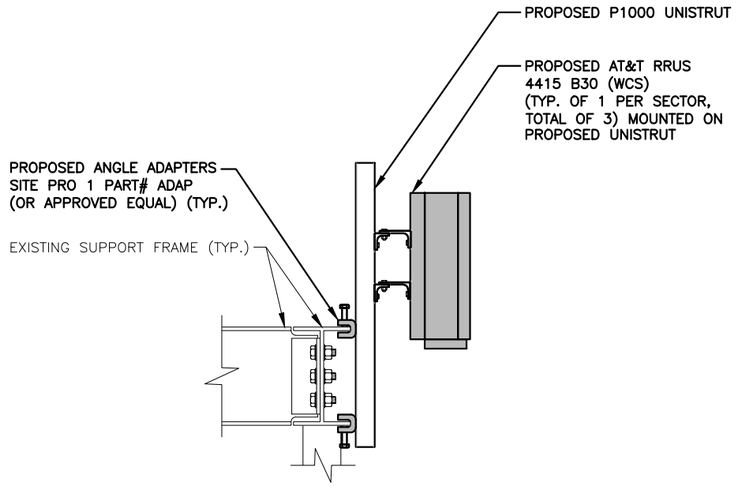
NOTE:

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

NOTE:

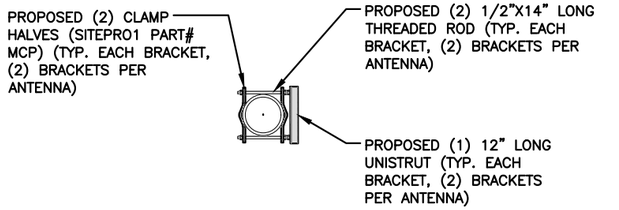
REFER TO STRUCTURAL ANALYSIS BY: HUDSON DESIGN GROUP, LLC, DATED: OCTOBER 15, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

FINAL ANTENNA SCHEDULE (1 / A-4)
SCALE: N.T.S

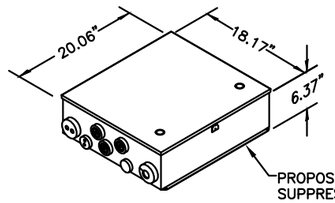


PROPOSED RRU MOUNTING DETAIL (3 / A-4)
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"

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



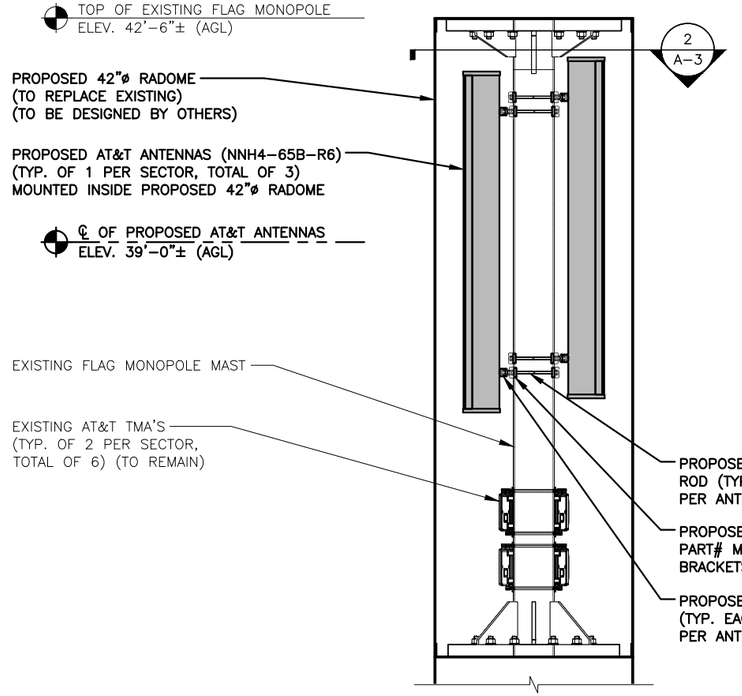
ANTENNA MOUNTING BRACKET DETAIL (5 / A-3)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED SURGE SUPPRESSOR MODEL NUMBER: DC6-48-60-18
DIMENSIONS: H20.06"xW18.17"xD6.37"

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



PROPOSED LTE ANTENNA MOUNTING DETAIL (6 / A-4)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

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

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

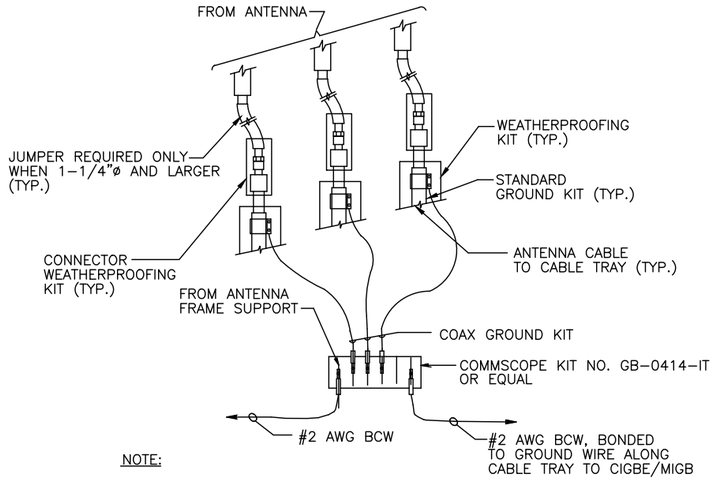
STATE OF CONNECTICUT DANIEL P. HAMM No.24178 LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS

LTE 3C_4C_RETRO 2019 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5317	A-4	1

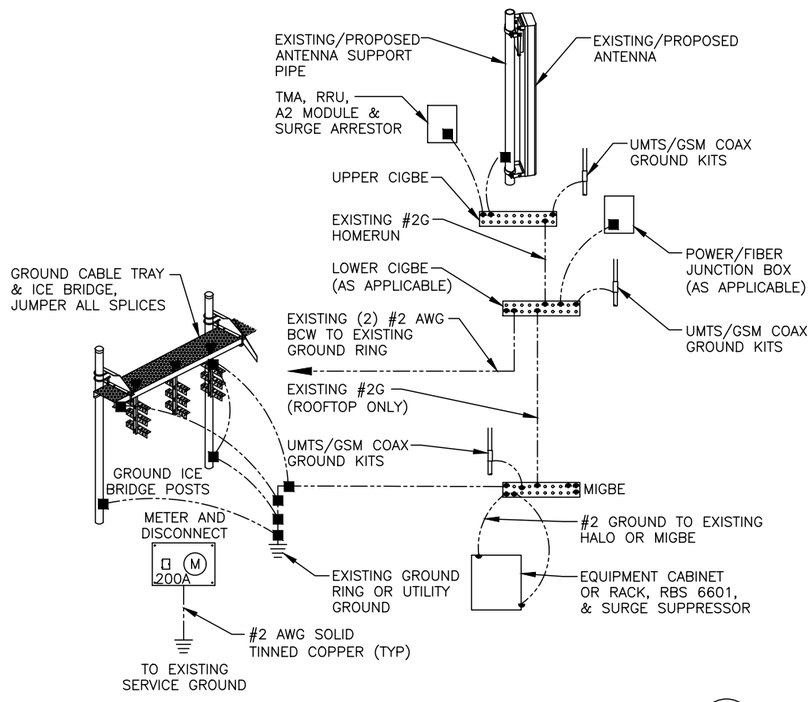


NOTE:

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

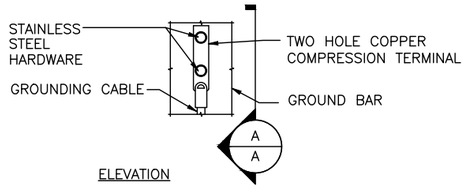
GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1 / G-1)

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

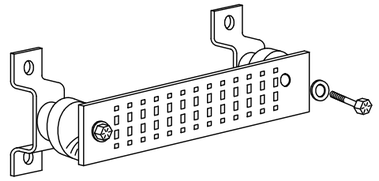
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

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 (4 / G-1)

SCALE: N.T.S

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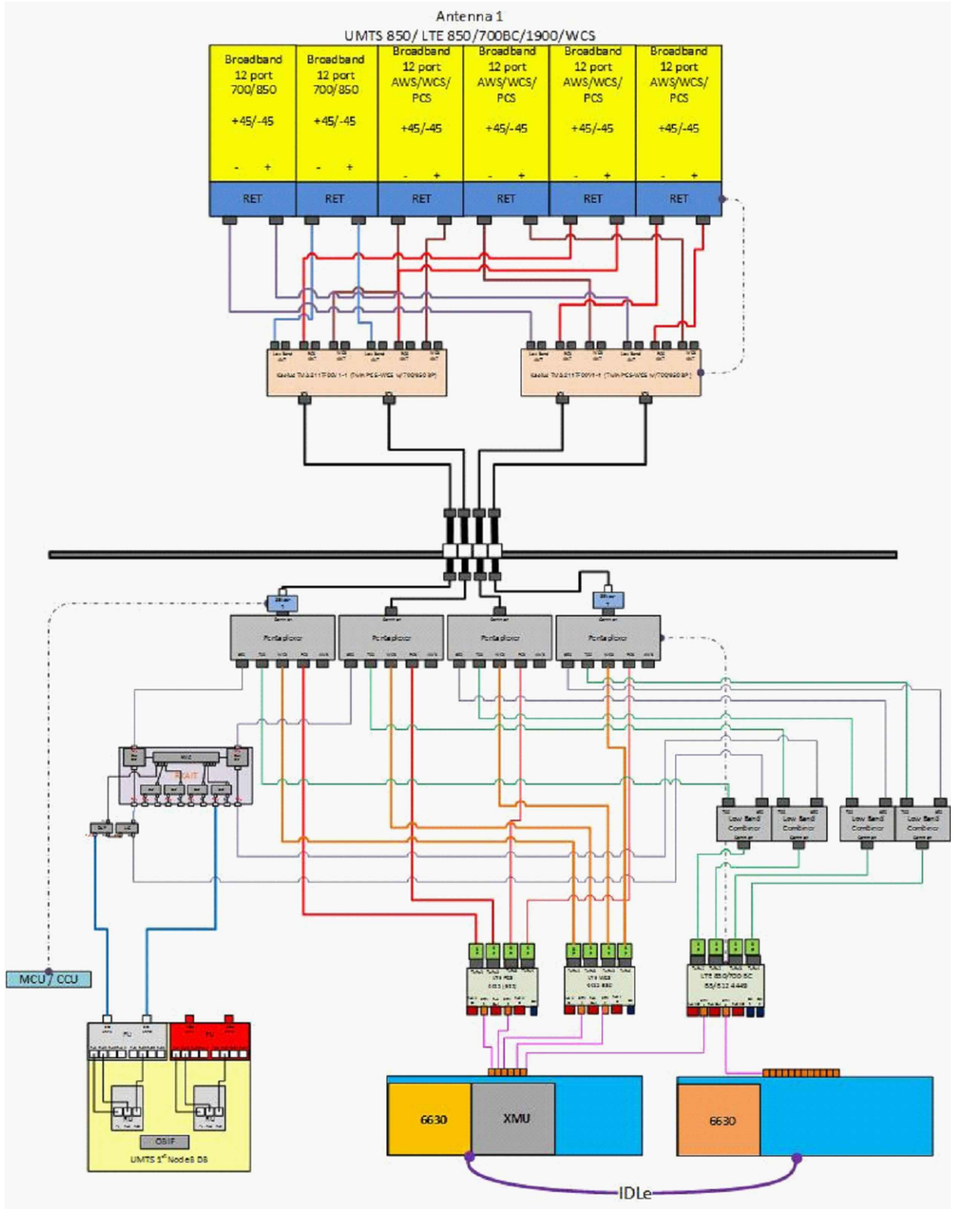
STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS
LTE 3C_4C_RETRO 2019 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5317	G-1	1



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.

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

AT&T

RF PLUMBING DIAGRAM
LTE 3C_4C_RETRO 2019 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CT5317	RF–1	1

STRUCTURAL ANALYSIS REPORT

For

CT5317 (LTE 3C-4C-RETRO)

HAMDEN-WHITNEYVILLE

1 Circular Avenue
Hamden, CT 06514

Antennas Mounted within FRP Enclosure on Steel Frame on Rooftop

Prepared for:

SAI at&t

Dated: October 15, 2019

Prepared by:

HDG HUDSON Design Group LLC

45 Beechwood Drive
North Andover, MA 01845
(P) 978.557.5553 (F) 978.336.5586
www.hudsondesigngroupllc.com

HUDSON Design Group LLC

SCOPE OF WORK:

Hudson Design Group LLC (HDG) has been authorized by AT&T to conduct a structural evaluation of the structure supporting the proposed equipment located in the areas depicted in the latest HDG construction drawings.

This report represents this office's findings, conclusions and recommendations pertaining to the support of AT&T's proposed antennas listed below.

This office conducted an on-site visual survey of the above site on September 9, 2019. Attendees included Jon Schallack (HDG – Field Technician).

The following documents were used for our reference:

- Previous HDG Structural Analysis Report prepared by Destek Engineering dated March 31, 2017.

CONCLUSION SUMMARY:

Based on our evaluation, we have determined that the existing structure **IS CAPABLE** of supporting the proposed equipment loading.

	Member	Stress Ratio	Pass/Fail
Roof (Beam 1)	W16x31	93%	**PASS**

Based on our evaluation, we have determined that the existing connections **ARE CAPABLE** of supporting the proposed equipment loading.

	Member	Stress Ratio	Pass/Fail
Steel Frame Connection	3/4" A325 Bolt	7%	**PASS**

Based on our evaluation, we have determined that the existing mounts **ARE CAPABLE** of supporting the proposed equipment loading.

	Member	Controlling Load Case	Stress Ratio	Pass/Fail
Steel Frame	1	LC7	85%	**PASS**

HDG did not perform a condition assessment of the entire roof but did perform an inspection of the existing roof members and structural bearing walls below the area where the equipment is proposed to be located.

*Reference documents attached.

HUDSON Design Group LLC

APPURTENANCE CONFIGURATION:

Appurtenances	Dimensions	Weight	**Elevation	Mount
(6) TMA2117F00V1-1 TMA's	11.9"x9.9"x4.7"	26 lbs	39'	FRP Enclosure
(1) DC6 Surge Arrestor	20.1"x18.2"x6.4"	44 lbs	39'	Unistrut
(3) NNH4-65B-R6 Antennas	72.0"x19.6"x7.8"	82 lbs	39'	FRP Enclosure
(3) 4449 B5/B12 RRH's	14.9"x13.2"x10.4"	73 lbs	39'	Unistrut
(3) 4415 B25 RRH's	16.5"x13.4"x5.9"	46 lbs	39'	Unistrut
(3) 4415 B30 RRH's	16.5"x13.4"x5.9"	46 lbs	39'	Unistrut
(6) DBCT108F1V92-1 Diplexers	10.7"x6.8"x7.2"	29 lbs	39'	Unistrut
(2) DC6 Surge Arrestor	20.1"x18.2"x6.4"	44 lbs	39'	Unistrut

** Proposed equipment shown in bold.*
*** Elevation to antenna centerline.*

DESIGN CRITERIA:

International Building Code (IBC) 2015 with 2018 Connecticut State Building Code Amendments, and ASCE 7-10 (Minimum Design Loads for Buildings and Other Structures).		
Wind		
Reference Wind Speed:	125 mph	(2018 CSBC Appendix N)
Exposure Category:	B	(ASCE 7-10 Chapter 26)
Risk Category:	II	(ASCE 7-10 Table 1.5-1)
Snow		
Ground Snow, P_g:	30	(2018 CSBC Appendix N)
Importance Factor (I_s):	1.0	(ASCE 7-10 Table 1.5-2)
Exposure Factor (C_e):	1.0	(Partially Exposed, Table 7-2)
Thermal Factor (C_t):	1.0	(ASCE 7-10 Table 7-3)
Flat Roof Snow Load:	21 psf	(ASCE 7-10 Equation 7.3-1)
Min. Flat Roof Snow Load:	30 psf	
EIA/TIA-222-H Structural Standards for Steel Antenna Towers and Antenna Supporting Structures		
Wind		
City/Town:	Hamden	
County:	New Haven	
Wind Load:	125 mph	(TIA-222-H Figure B-2)
Ice		
Design Ice Thickness (t_i):	1.0 in	(TIA-222-H Figure B-9)
Structure Class:	II	(TIA-222-H Table 2-1)
Importance Factor (I_i):	1.0	(TIA-222-H Table 2-3)
Factored Thickness of Radial Ice (t_{iz}):	1.02 in	(TIA-222-H Sec. 2.6.10)

EXISTING ROOF CONSTRUCTION:

The existing roof construction consists of a roofing membrane over rigid insulation over plywood sheathing over wood joists supported by steel beams and columns.

The existing roof structure was not accessible during the inspection. If field conditions differ from what is assumed in this report, then the engineer of record is to be notified immediately.

ANTENNA/TMA SUPPORT RECOMMENDATIONS:

The new antennas and TMA's are proposed to be mounted within a new FRP enclosure on a new pipe masts installed on the existing steel frame secured to the existing roof framing.

RRH/SURGE ARRESTOR SUPPORT RECOMMENDATIONS:

The new RRH's and surge arrestors are proposed to be mounted on new Unistrut components secured to the existing steel frame secured to the existing roof framing.

Limitations and Assumptions:

1. Reference the latest HDG construction drawings for all the equipment locations and details.
2. All detail requirements will be designed and furnished in the construction drawings.
3. 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.
4. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
5. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer requirements.
6. If field conditions differ from what is assumed in this report, then the engineer of record is to be notified as soon as possible.

HUDSON
Design Group LLC

FIELD PHOTOS:

Photo 1: Sample photo illustrating the existing FRP enclosure to be removed.

Photo 2: Sample photo illustrating the existing RRH's.

FIELD PHOTOS (CONT.):

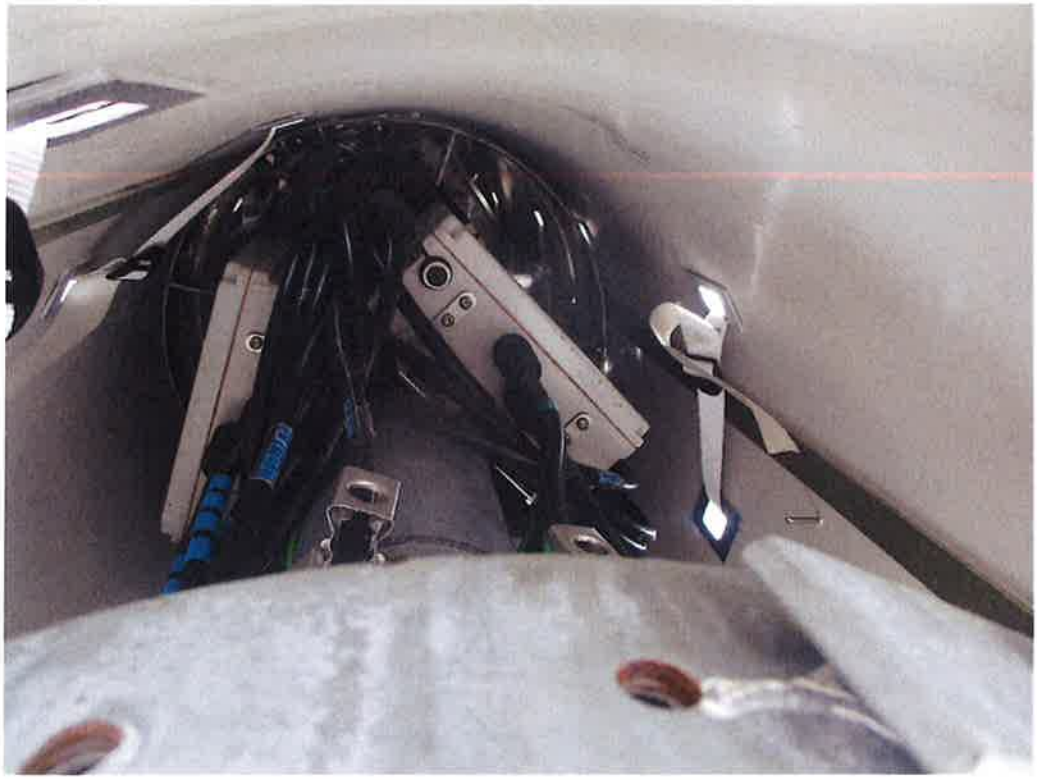

Photo 3: Sample photo illustrating the existing antennas and TMA's.

Photo 4: Sample photo illustrating the existing equipment cabinets.

HUDSON
Design Group LLC

Antenna Mount Calculations

Date: 10/15/2019
Project Name: HAMDEN-WHITNEYVILLE
Project No.: CT5317
Designed By: JN **Checked By:** MSC

HUDSON Design Group LLC

Wind Analysis → Antenna Enclosure

Reference Codes:

-2018 Connecticut State Building Code Amendments

-International Building Code 2015 (IBC 2015)

-Minimum Design Loads for Buildings and Other Structures (ASCE 7-10)

Structure Classification		II		(ASCE 7-10 Table 1.5-1)
Basic Wind Speed, V		125	mph	(CT Building Code Appendix N)
Importance Factor, I		1		(ASCE 7-10 Table 1.5-2)
Exposure Category		B		(ASCE 7-10 Section 26.7)
Height Above Ground Level, z		39	ft	(Center of Enclosure)
Exposure Coefficient, K_z		0.75		(ASCE 7-10 Table 29-3.1)
Wind Directionality Coef., K_d		0.95		(ASCE 7-10 Table 26.6-1)
Topographic Factor, K_{zt}		1.00		(ASCE 7-10 Section 26.8.2)
Velocity Pressure, q_z	$= 0.00256K_zK_{zt}K_dV^2$			(ASCE 7-10 Equation 29.3-1)
	= **28.65** psf			
Gust Factor, G		0.85		(ASCE 7-10 Section 26.9)
Enclosure Shape:		Round		
Net Force Coeficient, C_f		0.55		(ASCE 7-10 Figure 29.5-1)
Projected Area Normal to Wind, A_f		51	ft^2	(14.7 ft x 3.5 ft W)
Wind Force, F	$= q_zGC_fA_f$			(ASCE 7-10 Equation 29.5-2)
	= **691.75** lbs			

Date: 10/15/2019
Project Name: HAMDEN-WHITNEYVILLE
Project No.: CT5317
Designed By: JN **Checked By:** MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

$K_z = 2.01 (z/z_g)^{2/\alpha}$

z=	39	(ft)
z_g=	1200	(ft)
α=	7.0	

K_z= 0.755

Kzmin ≤ Kz ≤ 2.01

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K_t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$K_{zt} = [1+(K_c K_t/K_h)]^2$

$K_h = e^{(f*z/H)}$

K_{zt}= #DIV/0!

K_h=	#DIV/0!	
K_c=		(from Table 2-4)
K_t=		(from Table 2-5)
f=		(from Table 2-5)
z=	39	
z_s=	70	(Mean elevation of base of structure above sea level)
H=	0	(Ht. of the crest above surrounding terrain)
K_{zt}=	1.00	(from 2.6.6.2.1)
K_e=	1.00	(from 2.6.8)

(If Category 1 then K_{zt} =1.0)

Category= **1**

2.6.10 Design Ice Thickness

Max Ice Thickness =	t_i =	1.00 in
Importance Factor =	I=	1.0 (from Table 2-3)
	K_{iz} =	1.02 (from Sec. 2.6.10)

$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$

t_{iz} = **1.02** in

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2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

G_h = 1.0 Latticed Structures > 600 ft

G_h = 0.85 Latticed Structures 450 ft or less

G_h = 0.85 + 0.15 [h/150 - 3.0] h= ht. of structure

h=	27.83	G_h=	0.85

2.6.9.2 Guyed Masts G_h= 0.85

2.6.9.3 Pole Structures G_h= 1.1

2.6.9 Appurtenances G_h= 1.0

2.6.9.4 Structures Supported on Other Structures

(Cantilivered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

G_h=	1.35	**Gh=**	**1.00**

2.6.11.2 Design Wind Force on Appurtenances

$$F = q_z * G_h * (EPA)_A$$

$$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$$

		K_z=	0.755	(from 2.6.5.2)
		K_{zt}=	1.0	(from 2.6.6.2.1)
		K_s=	1.0	(from 2.6.7)
q_z=	**28.62**	K_e=	1.00	(from 2.6.8)
$q_{z\,(ice)}$=	**4.58**	K_d=	0.95	(from Table 2-2)
$q_{z\,(30)}$=	**1.65**	V_{max}=	125	mph (Ultimate Wind Speed)
		$V_{max\,(ice)}$=	50	mph
		V_{30}=	30	mph

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

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Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		1.2 - 2.8(r_s) ≥ 0.85	1.4 - 4.0(r_s) ≥ 0.90	2.0 - 6.0(r_s) ≥ 1.25
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	$4.14/(C^{0.485})$	$3.66/(C^{0.415})$	$46.8/(C^{1.0})$
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
(Aspect ratio is independent of the spacing between support points of a linear appurtenance,

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.02 in** **Angle = 0 (deg)** **Equivalent Angle = 180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)
4449 B5/B12 RRH	14.9	13.2	10.4	1.37	1.13	1.20	**47**	**10**
4449 B5/B12 RRH (Side)	14.9	10.4	13.2	1.08	1.43	1.20	**37**	**8**
4415 B25 RRH	16.5	13.4	5.9	1.54	1.23	1.20	**53**	**11**
4415 B25 RRH (Side)	16.5	5.9	13.4	0.68	2.80	1.21	**23**	**6**
4415 B30 RRH	16.5	13.4	5.9	1.54	1.23	1.20	**53**	**11**
4415 B30 RRH (Side)	16.5	5.9	13.4	0.68	2.80	1.21	**23**	**6**
DC6 Surge Arrestor	20.1	18.2	6.4	2.54	1.10	1.20	**87**	**17**
DC6 Surge Arrestor (Side)	20.1	6.4	18.2	0.89	3.14	1.23	**31**	**7**

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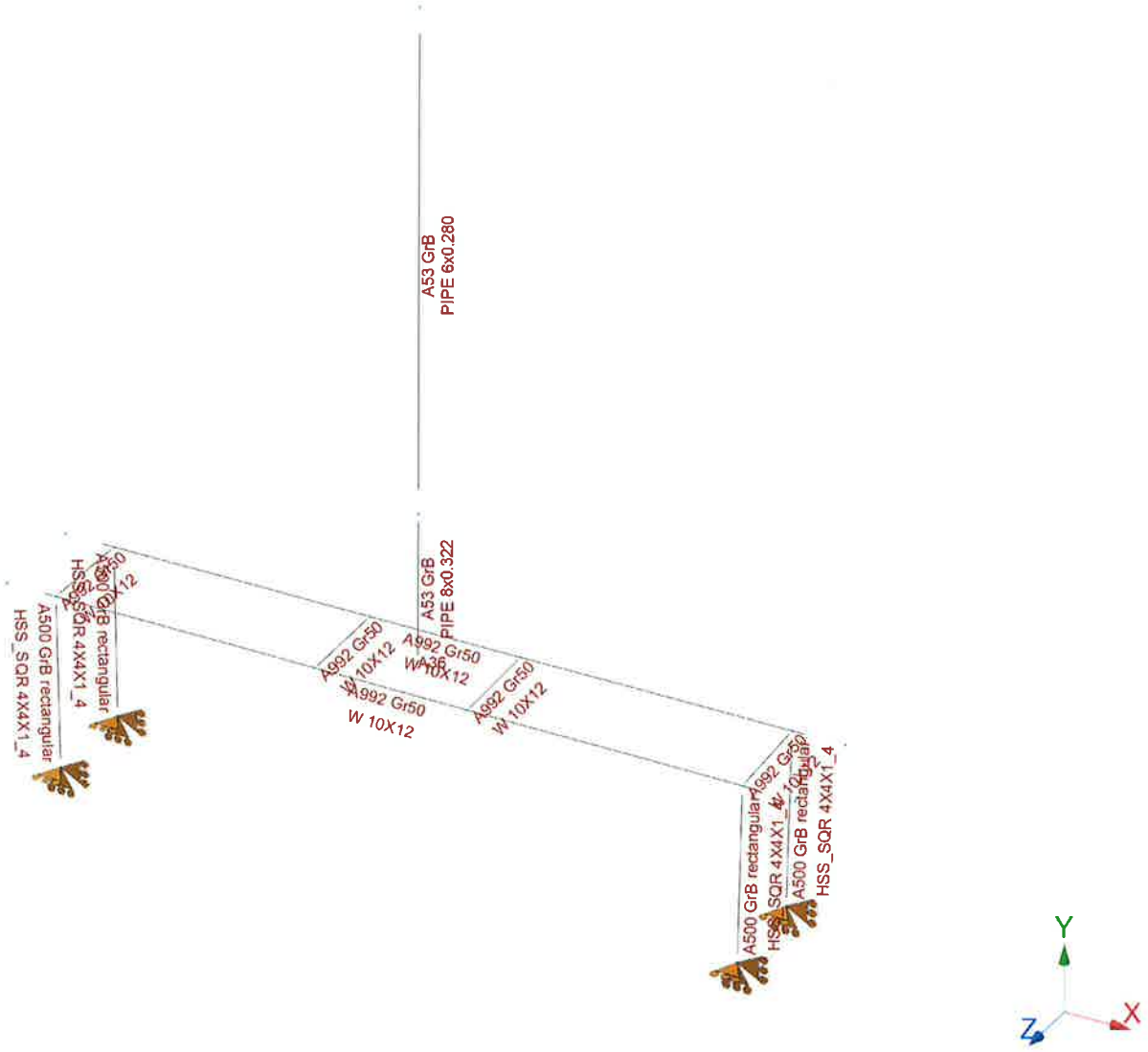

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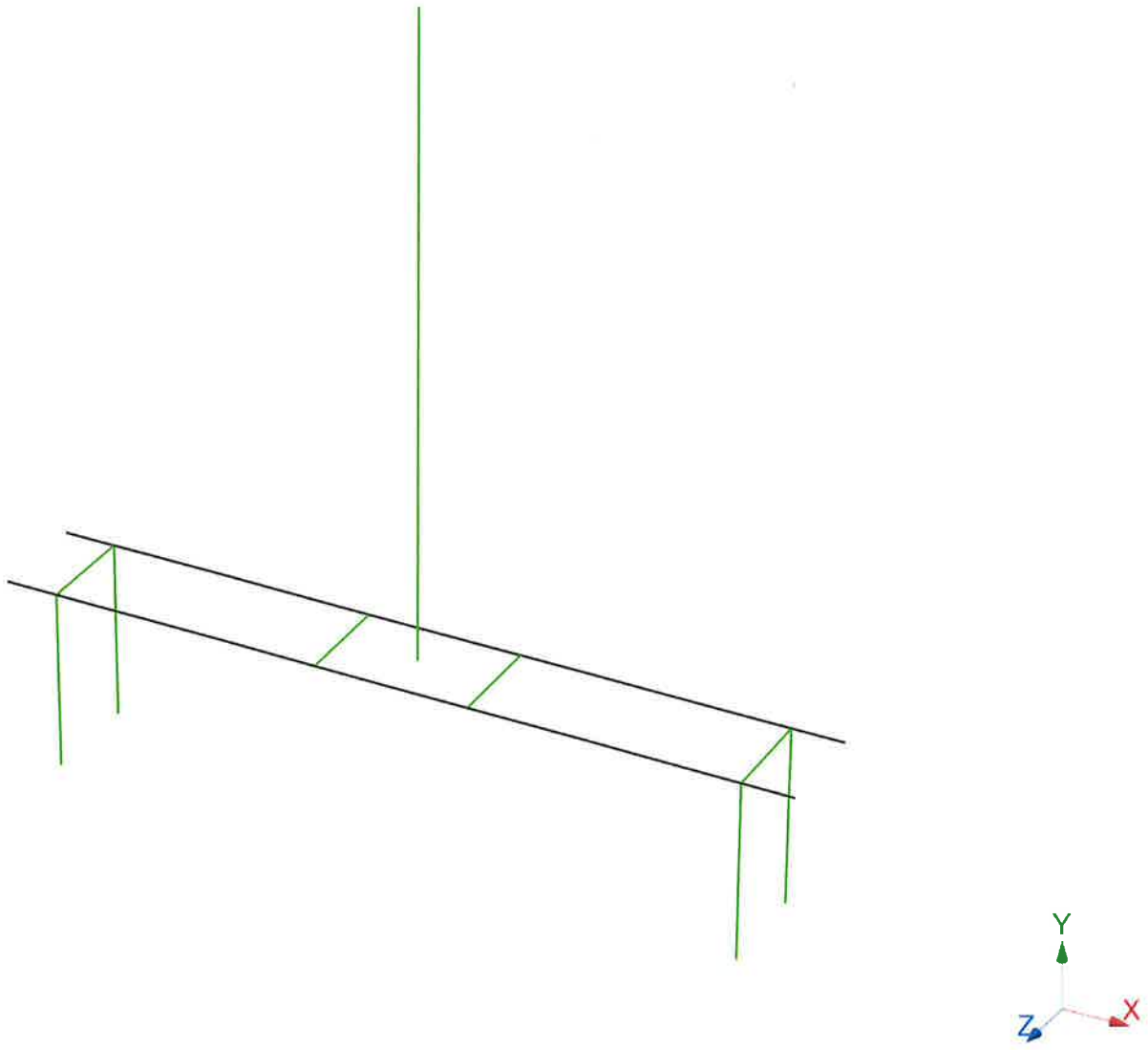

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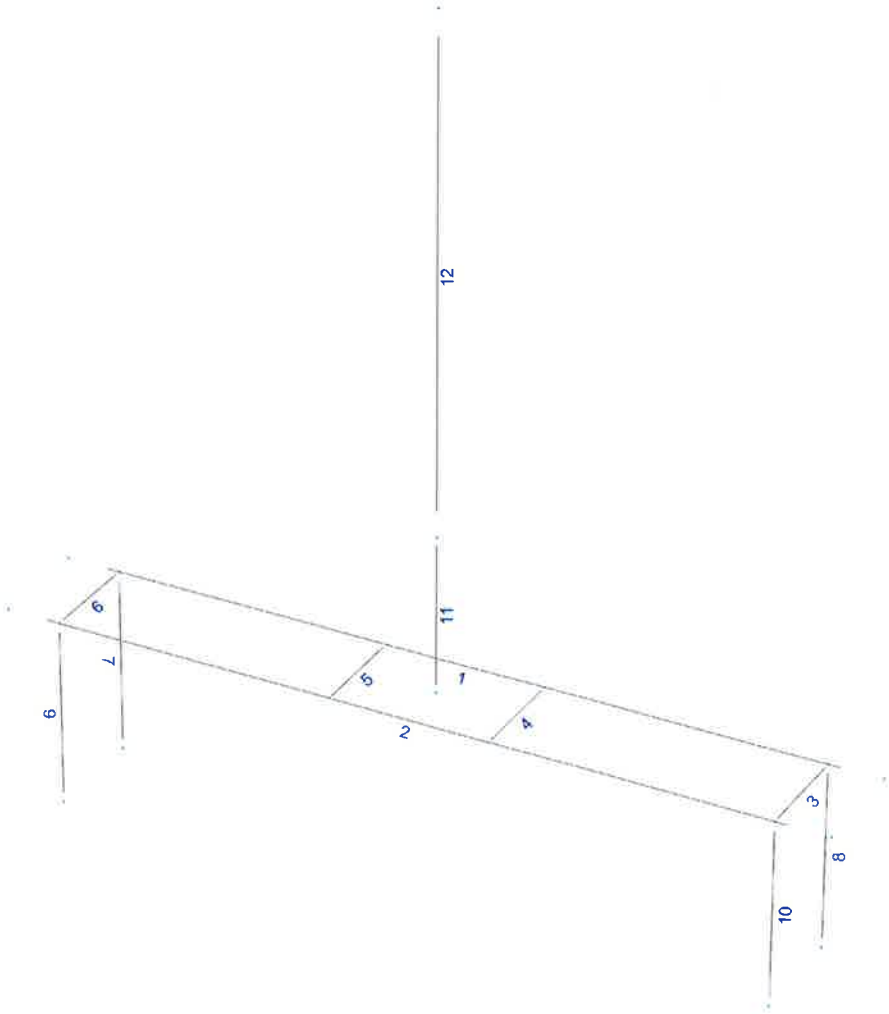

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Load data

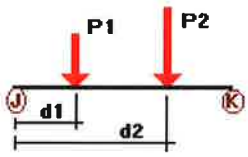
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
WL1	Wind Load Side 1	No	WIND
WL2	Wind Load Side 2	No	WIND
WL3	Wind Load Side 3	No	WIND
WL4	Wind Load Side 4	No	WIND

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	1	y	-0.046	2.00	No
		y	-0.046	3.50	No
		y	-0.046	5.00	No
		y	-0.073	10.50	No
		y	-0.073	12.00	No
		y	-0.073	13.50	No
	2	y	-0.046	2.00	No
		y	-0.046	3.50	No
		y	-0.046	5.00	No
		y	-0.044	9.75	No
		y	-0.044	11.50	No
		y	-0.044	13.25	No
		y	-0.044	15.00	No
	12	y	-0.123	0.50	No
		y	-0.123	5.50	No
		y	-0.156	7.25	No
		y	-0.174	8.50	No
WL1	1	z	-0.053	2.00	No
		z	-0.053	3.50	No
		z	-0.053	5.00	No
		z	-0.047	10.50	No
		z	-0.047	12.00	No
		z	-0.047	13.50	No

	2	z	-0.053	2.00	No
		z	-0.053	3.50	No
		z	-0.053	5.00	No
		z	-0.087	9.75	No
		z	-0.087	11.50	No
		z	-0.087	13.25	No
		z	-0.087	15.00	No
	11	z	-0.13	3.00	No
	12	z	-0.13	0.00	No
		z	-0.432	6.335	No
WL2	1	x	-0.023	2.00	No
		x	-0.023	3.50	No
		x	-0.023	5.00	No
		x	-0.037	10.50	No
		x	-0.037	12.00	No
		x	-0.037	13.50	No
	2	x	-0.023	2.00	No
		x	-0.023	3.50	No
		x	-0.023	5.00	No
		x	-0.031	9.75	No
		x	-0.031	11.50	No
		x	-0.031	13.25	No
		x	-0.031	15.00	No
	11	x	-0.13	3.00	No
	12	x	-0.13	0.00	No
		x	-0.432	6.335	No
WL3	1	z	0.053	2.00	No
		z	0.053	3.50	No
		z	0.053	5.00	No
		z	0.047	10.50	No
		z	0.047	12.00	No
		z	0.047	13.50	No
	2	z	0.053	2.00	No
		z	0.053	3.50	No
		z	0.053	5.00	No
		z	0.087	9.75	No
		z	0.087	11.50	No
		z	0.087	13.25	No
		z	0.087	15.00	No
	11	z	0.13	3.00	No
	12	z	0.13	0.00	No
		z	0.432	6.335	No
WL4	1	x	0.023	2.00	No
		x	0.023	3.50	No
		x	0.023	5.00	No
		x	0.037	10.50	No
		x	0.037	12.00	No
		x	0.037	13.50	No
	2	x	0.023	2.00	No
		x	0.023	3.50	No
		x	0.023	5.00	No
		x	0.031	9.75	No
		x	0.031	11.50	No
		x	0.031	13.25	No
		x	0.031	15.00	No
	11	x	0.13	3.00	No
	12	x	0.13	0.00	No
		x	0.432	6.335	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
WL1	Wind Load Side 1	No	0.00	0.00	0.00
WL2	Wind Load Side 2	No	0.00	0.00	0.00
WL3	Wind Load Side 3	No	0.00	0.00	0.00
WL4	Wind Load Side 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
WL1	0.00	0.00	0.00
WL2	0.00	0.00	0.00
WL3	0.00	0.00	0.00
WL4	0.00	0.00	0.00

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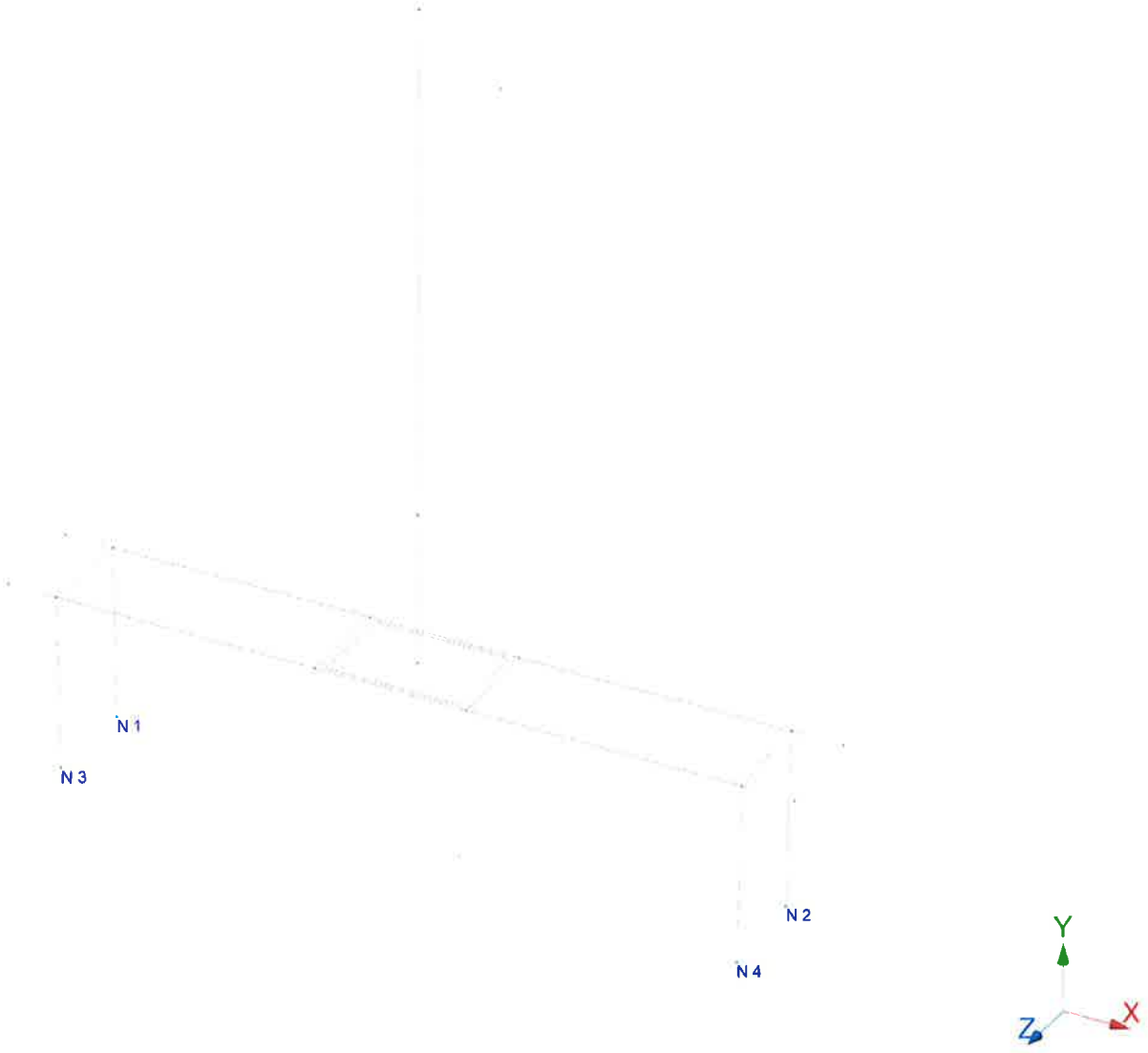
Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.4DL
LC2=1.2DL
LC3=1.2DL+0.5WL1
LC4=1.2DL+0.5WL2
LC5=1.2DL+0.5WL3
LC6=1.2DL+0.5WL4
LC7=1.2DL+WL1
LC8=1.2DL+WL2
LC9=1.2DL+WL3
LC10=1.2DL+WL4
LC11=0.9DL+WL1
LC12=0.9DL+WL2
LC13=0.9DL+WL3
LC14=0.9DL+WL4
LC15=0.9DL

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	**7**	LC7 at 0.00%	**0.37**	**OK**	
		8	LC7 at 0.00%	0.29	OK	
		9	LC9 at 0.00%	0.36	OK	
		10	LC9 at 0.00%	0.29	OK	
	PIPE 6x0.280	**12**	LC7 at 100.00%	**0.10**	**OK**	
	PIPE 8x0.322	**11**	LC7 at 100.00%	**0.08**	**OK**	
	W 10X12	**1**	LC7 at 39.58%	**0.85**	**With warnings**	
		2	LC9 at 39.58%	0.85	With warnings	
		3	LC11 at 0.00%	0.00	OK	
		4	LC10 at 50.00%	0.12	OK	
		5	LC8 at 50.00%	0.12	OK	
		6	LC1 at 0.00%	0.00	OK	


N 1
N 3
N 2
N 4
Y
X
Z

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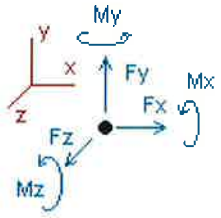
Analysis result

Reactions



Direction of positive forces and moments

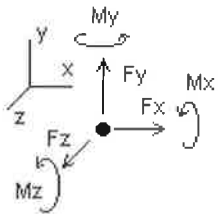
Node	Forces [Kip] FX	FY	FZ	Moments [Kip*ft] MX	MY	MZ
Condition **LC1=1.4DL**						
1	0.32480	0.79739	-0.00001	0.00000	0.00000	0.00000
2	-0.32493	0.86714	0.00001	0.00000	0.00000	0.00000
3	0.30636	0.77774	-0.00001	0.00000	0.00000	0.00000
4	-0.30623	0.82658	0.00001	0.00000	0.00000	0.00000
SUM	0.00000	3.26885	0.00000	0.00000	0.00000	0.00000
Condition **LC2=1.2DL**						
1	0.27840	0.68348	-0.00001	0.00000	0.00000	0.00000
2	-0.27851	0.74326	0.00001	0.00000	0.00000	0.00000
3	0.26259	0.66664	-0.00001	0.00000	0.00000	0.00000
4	-0.26248	0.70850	0.00001	0.00000	0.00000	0.00000
SUM	0.00000	2.80187	0.00000	0.00000	0.00000	0.00000
Condition **LC3=1.2DL+0.5WL1**						
1	0.99597	1.92235	0.18688	0.00000	0.00000	0.00000
2	-0.78823	1.85897	0.18786	0.00000	0.00000	0.00000
3	-0.45502	-0.57224	0.18688	0.00000	0.00000	0.00000
4	0.24729	-0.40721	0.18786	0.00000	0.00000	0.00000
SUM	0.00000	2.80187	0.74948	0.00000	0.00000	0.00000
Condition **LC4=1.2DL+0.5WL2**						
1	0.40984	0.83164	-0.00001	0.00000	0.00000	0.00000
2	-0.14688	0.59510	0.00000	0.00000	0.00000	0.00000
3	0.39718	0.81641	0.00000	0.00000	0.00000	0.00000
4	-0.12763	0.55873	0.00001	0.00000	0.00000	0.00000
SUM	0.53250	2.80187	0.00000	0.00000	0.00000	0.00000

Condition **LC5=1.2DL+0.5WL3**						
1	-0.43915	-0.55539	-0.18690	0.00000	0.00000	0.00000
2	0.23123	-0.37247	-0.18785	0.00000	0.00000	0.00000
3	0.98018	1.90550	-0.18690	0.00000	0.00000	0.00000
4	-0.77227	1.82423	-0.18784	0.00000	0.00000	0.00000
SUM	0.00000	2.80187	-0.74948	0.00000	0.00000	0.00000
Condition **LC6=1.2DL+0.5WL4**						
1	0.14696	0.53531	-0.00002	0.00000	0.00000	0.00000
2	-0.41015	0.89142	0.00001	0.00000	0.00000	0.00000
3	0.12801	0.51686	-0.00001	0.00000	0.00000	0.00000
4	-0.39732	0.85827	0.00002	0.00000	0.00000	0.00000
SUM	-0.53250	2.80187	0.00000	0.00000	0.00000	0.00000
Condition **LC7=1.2DL+WL1**						
1	1.71353	3.16122	0.37377	0.00000	0.00000	0.00000
2	-1.29795	2.97469	0.37571	0.00000	0.00000	0.00000
3	-1.17263	-1.81111	0.37377	0.00000	0.00000	0.00000
4	0.75705	-1.52293	0.37571	0.00000	0.00000	0.00000
SUM	0.00000	2.80187	1.49896	0.00000	0.00000	0.00000
Condition **LC8=1.2DL+WL2**						
1	0.54128	0.97980	0.00000	0.00000	0.00000	0.00000
2	-0.01525	0.44693	-0.00001	0.00000	0.00000	0.00000
3	0.53176	0.96619	0.00000	0.00000	0.00000	0.00000
4	0.00721	0.40895	0.00000	0.00000	0.00000	0.00000
SUM	1.06500	2.80187	0.00000	0.00000	0.00000	0.00000
Condition **LC9=1.2DL+WL3**						
1	-1.15669	-1.79425	-0.37379	0.00000	0.00000	0.00000
2	0.74098	-1.48820	-0.37570	0.00000	0.00000	0.00000
3	1.69777	3.14437	-0.37379	0.00000	0.00000	0.00000
4	-1.28206	2.93996	-0.37569	0.00000	0.00000	0.00000
SUM	0.00000	2.80187	-1.49897	0.00000	0.00000	0.00000
Condition **LC10=1.2DL+WL4**						
1	0.01552	0.38715	-0.00002	0.00000	0.00000	0.00000
2	-0.54178	1.03959	0.00002	0.00000	0.00000	0.00000
3	-0.00657	0.36709	-0.00002	0.00000	0.00000	0.00000
4	-0.53217	1.00805	0.00002	0.00000	0.00000	0.00000
SUM	-1.06500	2.80187	0.00000	0.00000	0.00000	0.00000
Condition **LC11=0.9DL+WL1**						
1	1.64393	2.99036	0.37377	0.00000	0.00000	0.00000
2	-1.22832	2.78887	0.37571	0.00000	0.00000	0.00000
3	-1.23828	-1.97777	0.37377	0.00000	0.00000	0.00000
4	0.82267	-1.70005	0.37571	0.00000	0.00000	0.00000
SUM	0.00000	2.10141	1.49896	0.00000	0.00000	0.00000

Condition **LC12=0.9DL+WL2**						
1	0.47168	0.80893	0.00000	0.00000	0.00000	0.00000
2	0.05438	0.26112	-0.00001	0.00000	0.00000	0.00000
3	0.46611	0.79953	0.00001	0.00000	0.00000	0.00000
4	0.07283	0.23183	0.00000	0.00000	0.00000	0.00000
SUM	1.06500	2.10141	0.00000	0.00000	0.00000	0.00000
Condition **LC13=0.9DL+WL3**						
1	-1.22629	-1.96512	-0.37379	0.00000	0.00000	0.00000
2	0.81060	-1.67402	-0.37570	0.00000	0.00000	0.00000
3	1.63212	2.97771	-0.37379	0.00000	0.00000	0.00000
4	-1.21644	2.76284	-0.37570	0.00000	0.00000	0.00000
SUM	0.00000	2.10141	-1.49897	0.00000	0.00000	0.00000
Condition **LC14=0.9DL+WL4**						
1	-0.05408	0.21628	-0.00002	0.00000	0.00000	0.00000
2	-0.47215	0.85377	0.00002	0.00000	0.00000	0.00000
3	-0.07222	0.20043	-0.00001	0.00000	0.00000	0.00000
4	-0.46655	0.83092	0.00002	0.00000	0.00000	0.00000
SUM	-1.06500	2.10141	0.00000	0.00000	0.00000	0.00000
Condition **LC15=0.9DL**						
1	0.20880	0.51261	-0.00001	0.00000	0.00000	0.00000
2	-0.20888	0.55745	0.00000	0.00000	0.00000	0.00000
3	0.19694	0.49998	0.00000	0.00000	0.00000	0.00000
4	-0.19686	0.53137	0.00001	0.00000	0.00000	0.00000
SUM	0.00000	2.10141	0.00000	0.00000	0.00000	0.00000

Envelope for nodal reactions

Note.- **Ic** is the controlling load condition



Direction of positive forces and moments

Envelope of nodal reactions for :

LC1=1.4DL
LC2=1.2DL
LC3=1.2DL+0.5WL1
LC4=1.2DL+0.5WL2
LC5=1.2DL+0.5WL3
LC6=1.2DL+0.5WL4
LC7=1.2DL+WL1
LC8=1.2DL+WL2
LC9=1.2DL+WL3
LC10=1.2DL+WL4
LC11=0.9DL+WL1

LC12=0.9DL+WL2
LC13=0.9DL+WL3
LC14=0.9DL+WL4
LC15=0.9DL

Node		Forces						Moments					
		Fx [Kip]	**lc**	**Fy** [Kip]	**lc**	**Fz** [Kip]	**lc**	**Mx** [Kip*ft]	**lc**	**My** [Kip*ft]	**lc**	**Mz** [Kip*ft]	**lc**
1	Max	1.714	LC7	3.161	LC7	0.374	LC11	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-1.226	LC13	-1.965	LC13	-0.374	LC9	0.00000	LC1	0.00000	LC1	0.00000	LC1
2	Max	0.811	LC13	2.975	LC7	0.376	LC7	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-1.298	LC7	-1.674	LC13	-0.376	LC13	0.00000	LC1	0.00000	LC1	0.00000	LC1
3	Max	1.698	LC9	3.144	LC9	0.374	LC11	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-1.238	LC11	-1.978	LC11	-0.374	LC9	0.00000	LC1	0.00000	LC1	0.00000	LC1
4	Max	0.823	LC11	2.940	LC9	0.376	LC7	0.00000	LC1	0.00000	LC1	0.00000	LC1
	Min	-1.282	LC9	-1.700	LC11	-0.376	LC13	0.00000	LC1	0.00000	LC1	0.00000	LC1

Date: 10/15/2019
Project Name: HAMDEN-WHITNEYVILLE
Project No.: CT5317
Designed By: JN **Checked By:** MSC

HUDSON Design Group LLC

CHECK CONNECTION CAPACITY (Worst Case)

Reference: AISC Steel Construction Manual 14th Edition (ASD)

Bolt Type = A325 3/4" Threaded Rod

Allowable Tensile Load =

F_{Tall} = 19880 lbs.

Allowable Shear Load =

F_{Vall}= 11928 lbs.

No. of Supports = 1
No. of Bolts / Support = 4

Node	Wind Load	Gravity Loads	Tension Design	Shear Design	Tension/Shear Ratio	PASS/FAIL
N1	1714	1965	2.16%	4.12%	6.27%	PASS
N2	1298	1674	1.63%	3.51%	5.14%	PASS
N3	1698	1978	2.14%	4.15%	6.28%	PASS
N4	1282	1700	1.61%	3.56%	5.18%	PASS

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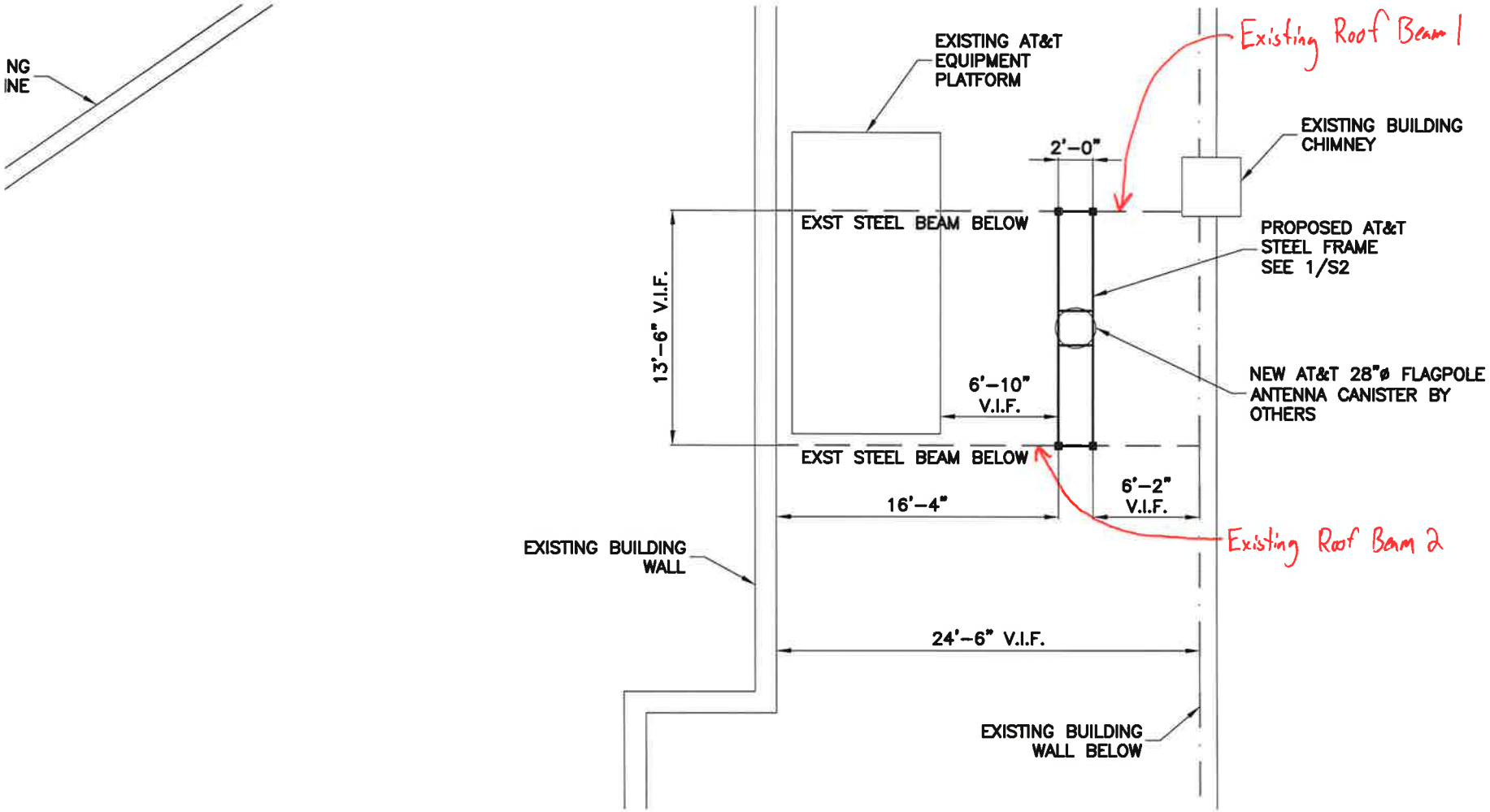
Roof Framing Calculations


NG
INE
EXISTING AT&T
EQUIPMENT
PLATFORM
Existing Roof Beam 1
EXISTING BUILDING
CHIMNEY
2'-0"
EXST STEEL BEAM BELOW
PROPOSED AT&T
STEEL FRAME
SEE 1/S2
13'-6" V.I.F.
6'-10"
V.I.F.
NEW AT&T 28"ø FLAGPOLE
ANTENNA CANISTER BY
OTHERS
EXST STEEL BEAM BELOW
6'-2"
V.I.F.
16'-4"
Existing Roof Beam 2
EXISTING BUILDING
WALL
24'-6" V.I.F.
EXISTING BUILDING
WALL BELOW

Project: CT5317 (LTE 3C-4C-RETRO)

Location: Existing Roof Beam 1
Multi-Loaded Multi-Span Beam
[2015 International Building Code(AISC 14th Ed ASD)]
A36 W16x31 x 24.5 FT
Section Adequate By: 8.5%
Controlling Factor: Moment

StruCalc 9.0

StruCalc Version 10.0.1.6 10/15/2019 11:36:27 AM

DEFLECTIONS	Center	
Live Load	0.30	IN L/974
Dead Load	0.58	in
Total Load	0.88	IN L/332

Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240

REACTIONS	A		B	
Live Load	4961	lb	4961	lb
Dead Load	7354	lb	8184	lb
Total Load	12315	lb	13145	lb
Bearing Length	0.84	in	0.84	in

BEAM DATA	Center	
Span Length	24.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	24.5	ft

STEEL PROPERTIES
W16x31 - A36

Properties:

Yield Stress:	Fy =	36	ksi
Modulus of Elasticity:	E =	29000	ksi
Depth:	d =	15.9	in
Web Thickness:	tw =	0.28	in
Flange Width:	bf =	5.53	in
Flange Thickness:	tf =	0.44	in
Distance to Web Toe of Fillet:	k =	0.84	in
Moment of Inertia About X-X Axis:	Ix =	375	in4
Section Modulus About X-X Axis:	Sx =	47.2	in3
Plastic Section Modulus About X-X Axis:	Zx =	54	in3

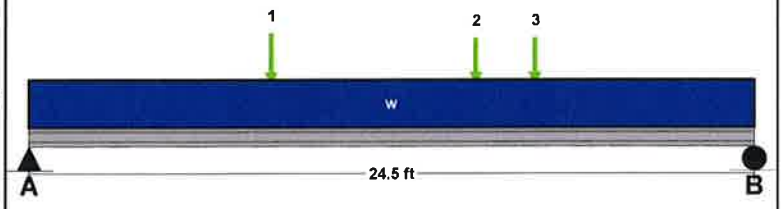
Design Properties per AISC 14th Edition Steel Manual:

Flange Buckling Ratio:	FBR =	6.28	
Allowable Flange Buckling Ratio:	AFBR =	10.79	
Web Buckling Ratio:	WBR =	51.69	
Allowable Web Buckling Ratio:	AWBR =	106.72	
Controlling Unbraced Length:	Lb =	0	ft
Limiting Unbraced Length - for lateral-torsional buckling:	Lp =	4.87	ft
Nominal Flexural Strength w/ safety factor:	Mn =	97006	ft-lb
Controlling Equation:	F2-1		
Web height to thickness ratio:	h/tw =	51.69	
Limiting height to thickness ratio for eqn. G2-2:	h/tw-limit =	63.58	
Cv Factor:	Cv =	1	
Controlling Equation:	G2-2		
Nominal Shear Strength w/ safety factor:	Vn =	62964	lb

Controlling Moment: 89397 ft-lb
13.72 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -13145 lb
24.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s

Comparisons with required sections:	Req'd	Provided
Moment of Inertia (deflection):	270.91 in4	375 in4
Moment:	89397 ft-lb	97006 ft-lb
Shear:	-13145 lb	62964 lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	405	plf
Uniform Dead Load	203	plf
Beam Self Weight	31	plf
Total Uniform Load	639	plf

POINT LOADS - CENTER SPAN			
Load Number	One	Two	Three
Live Load	0 lb	0 lb	0 lb
Dead Load	3500 lb	3144 lb	3161 lb
Location	8.17 ft	15.13 ft	17.13 ft

Project: CT5317 (LTE 3C-4C-RETRO)

Location: Existing Roof Beam 2
Multi-Loaded Multi-Span Beam
[2015 International Building Code(AISC 14th Ed ASD)]
A36 W16x31 x 24.5 FT
Section Adequate By: 10.8%
Controlling Factor: Moment

StruCalc 9.0

StruCalc Version 10.0.1.6 10/15/2019 11:36:36 AM

DEFLECTIONS	Center	
Live Load	0.30	IN L/974
Dead Load	0.57	in
Total Load	0.87	IN L/338

Live Load Deflection Criteria: L/360 Total Load Deflection Criteria: L/240

REACTIONS	A		B	
Live Load	4961	lb	4961	lb
Dead Load	7220	lb	7928	lb
Total Load	12181	lb	12889	lb
Bearing Length	0.84	in	0.84	in

BEAM DATA	Center	
Span Length	24.5	ft
Unbraced Length-Top	0	ft
Unbraced Length-Bottom	24.5	ft

STEEL PROPERTIES
W16x31 - A36

Properties:

Yield Stress:	Fy =	36	ksi
Modulus of Elasticity:	E =	29000	ksi
Depth:	d =	15.9	in
Web Thickness:	tw =	0.28	in
Flange Width:	bf =	5.53	in
Flange Thickness:	tf =	0.44	in
Distance to Web Toe of Fillet:	k =	0.84	in
Moment of Inertia About X-X Axis:	Ix =	375	in4
Section Modulus About X-X Axis:	Sx =	47.2	in3
Plastic Section Modulus About X-X Axis:	Zx =	54	in3

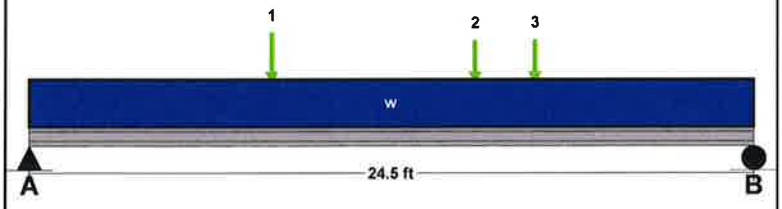
Design Properties per AISC 14th Edition Steel Manual:

Flange Buckling Ratio:	FBR =	6.28	
Allowable Flange Buckling Ratio:	AFBR =	10.79	
Web Buckling Ratio:	WBR =	51.69	
Allowable Web Buckling Ratio:	AWBR =	106.72	
Controlling Unbraced Length:	Lb =	0	ft
Limiting Unbraced Length - for lateral-torsional buckling:	Lp =	4.87	ft
Nominal Flexural Strength w/ safety factor:	Mn =	97006	ft-lb
Controlling Equation:	F2-1		
Web height to thickness ratio:	h/tw =	51.69	
Limiting height to thickness ratio for eqn. G2-2:	h/tw-limit =	63.58	
Cv Factor:	Cv =	1	
Controlling Equation:	G2-2		
Nominal Shear Strength w/ safety factor:	Vn =	62964	lb

Controlling Moment: 87560 ft-lb
13.47 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s) 2
Controlling Shear: -12889 lb
24.0 Ft from left support of span 2 (Center Span)
Created by combining all dead loads and live loads on span(s

Comparisons with required sections:	Req'd	Provided
Moment of Inertia (deflection):	265.9 in4	375 in4
Moment:	87560 ft-lb	97006 ft-lb
Shear:	-12889 lb	62964 lb

LOADING DIAGRAM



UNIFORM LOADS	Center	
Uniform Live Load	405	plf
Uniform Dead Load	203	plf
Beam Self Weight	31	plf
Total Uniform Load	639	plf

POINT LOADS - CENTER SPAN			
Load Number	One	Two	Three
Live Load	0 lb	0 lb	0 lb
Dead Load	3500 lb	2940 lb	2975 lb
Location	8.17 ft	15.13 ft	17.13 ft

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Reference Documents

CALCULATION SHEET

DESTEK ENGINEERING

CHECK ROOF STRUCTURE UNDER PLATFORM

Load Combinations (reference ASCE 7-10)

1) DL
2) DL + LLr
3) DL+ SL

Roof Dead Load

For Roof:

Roof Planks - 3 psf
Roofing - 2 psf
Mech & Miscl - 5 psf

Roof Dead Load: $DL_R := 10psf$

Ceiling Dead Load

For Dropped Ceiling:

Ceiling Drywall - 4 psf
Framing - 1 psf

Ceiling Dead Load: $DL_C := 5.0psf$

Equipment Platform Dead Load

Total Weight:
includes equipment & platform

$$P_{platform} := \frac{14000lbf}{4} = 3500\,lbf$$

Roof Live Load

Per ASCE7-10: $LL_r := 20psf$ — ASCE 7-10 Table 4-1

Snow Load

Ground Snow Loads: $p_g := 30psf$ — ASCE 7-10: Figure 7-1

Thermal factor: $C_t := 1.0$ — ASCE 7-10: Table 7-3

Exposure Factor: $C_e := 0.9$ — ASCE 7-10: Table 7-2
Upper Level, Fully exposed

Importance factor: $I_s := 1.0$ — ASCE 7-10: Table 1.5-1
Risk Category II
Table 7-4

Flat Roof Snow Loads: $P_f := 0.7 \cdot C_e \cdot C_t \cdot I_s \cdot p_g$ — ASCE 7-10: Eq 7-1

$P_f = 18.9 \cdot psf$

Rain on Snow Surcharge: $P_f := P_f + 0psf$ — ASCE 7-10: Section 7.10

$P_f = 18.9 \cdot psf$

Minimum Roof Snow Load: $P_{f\_min} := 20 \cdot I_s \cdot psf = 20 \cdot psf$ — ASCE 7-10: Section 7.3

$P_f := \max(P_f, P_{f\_min})$

$P_f = 20 \cdot psf$

CALCULATION SHEET

DESTEK ENGINEERING

Loads on Roof Beam

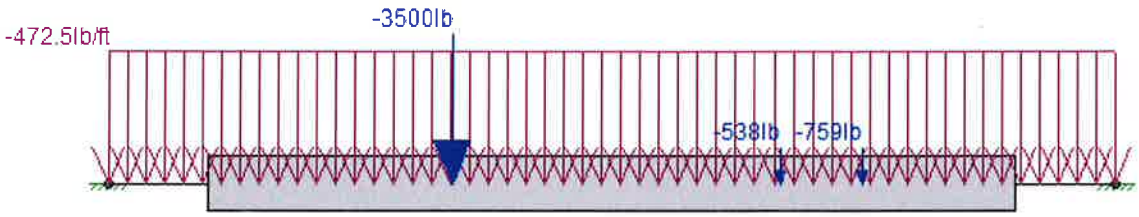
Beam Tributary Width: $W_{Trib} := 13ft + 6in$

Beam Dead Load: $w_{DLr} := (DL_R + DL_C) \cdot W_{Trib} = 202.5 \cdot plf$

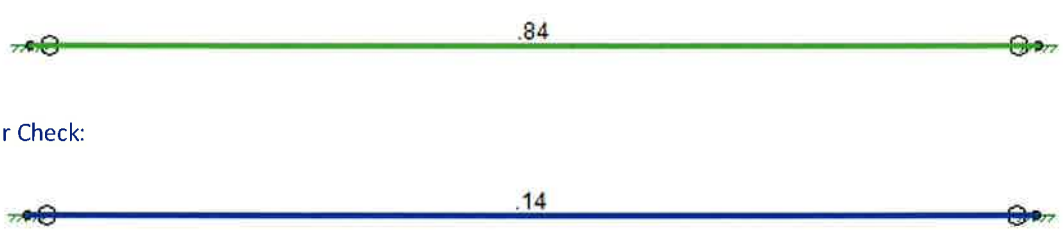
Beam Live Load: $w_{LL} := LL_r \cdot W_{Trib} = 270 \cdot plf$

Beam Snow Load: $w_{SL} := P_f \cdot W_{Trib} = 270 \cdot plf$

Load Configuration: (shown for DL+SL+Platform+Flagpole Frame)



Bending Check:



Shear Check:

Beam: ***M1***

Shape: **W16X31**
Material: **A36 Gr.36**
Length: **294 in**
I Joint: **N1**
J Joint: **N2**
LC 3: DL + Addition + SL
Code Check: **0.844 (bending)**
Report Based On 97 Sections

AISC 14th(360-10): ASD Code Check
Direct Analysis Method

Max Bending Check	0.844	Max Shear Check	0.141 (y)	
Location	128.625 in	Location	0 in	
Equation	H1-1b	Max Defl Ratio	L/412	
Bending Flange	Compact	Compression Flange	Non-Slender	Qs=1
Bending Web	Compact	Compression Web	Slender	Qa=1

			y-y	z-z
Fy	36 ksi			
Pnc/om	85171.073 lb	Lb	147 in	147 in
Pnt/om	196814.371 lb	KL/r	126.137	22.937
Mny/om	12.629 k-ft			
Mnz/om	68.219 k-ft			
Vny/om	62964 lb	L Comp Flange	147 in	
Vnz/om	62942.659 lb	Warp Length	NC	
Cb	1	L-torque	294 in	
		Tau_b	1	

1.0 DESIGN INFORMATION AND GENERAL REQUIREMENTS

1.0 GENERAL
ALL DIMENSIONS ARE APPROXIMATE, CONTRACTOR SHOULD VERIFY ALL DIMENSIONS BEFORE FABRICATION OF STEEL AND COMMENCEMENT OF WORK.

1.1 CODES
a. 2016 CONNECTICUT STATE BUILDING CODE
b. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE/SEI 7-10, AMERICAN SOCIETY OF CIVIL ENGINEERS
c. STEEL CONSTRUCTION MANUAL, 14TH EDITION, AMERICAN INSTITUTE OF STEEL CONSTRUCTION

1.2 LOADS AND DESIGN CRITERIA
a. WIND LOADING: V: 125 MPH (ULTIMATE) / 97 MPH (NOMINAL), EXPOSURE B, OCCUPANCY CATEGORY II
b. EQUIPMENT AS LISTED IN CONSTRUCTION DRAWINGS PREPARED BY COM-EX CONSULTANTS, DATED 01/25/2017, AND STRUCTURAL ANALYSIS REPORT PREPARED BY DESTEX ENGINEERING, LLC, DATED 03/31/2017.

1.3 NOTES
a. PRIOR TO PURCHASE OR FABRICATION OF MATERIAL, THE CONTRACTOR SHALL PERFORM AN INSPECTION VERIFYING MEMBER AND BOLT SIZES. SHOULD THE CONTRACTOR DISCOVER ANY DAMAGED OR MISSING MEMBERS OR THE MEMBER OR BOLT SIZES DO NOT MATCH THOSE LISTED, DESTEX SHALL BE NOTIFIED IMMEDIATELY.
b. CONTRACTOR TO REPLACE ALL BOLTS REMOVED WITH NEW BOLTS OF SAME TYPE, UNLESS NOTED OTHERWISE.

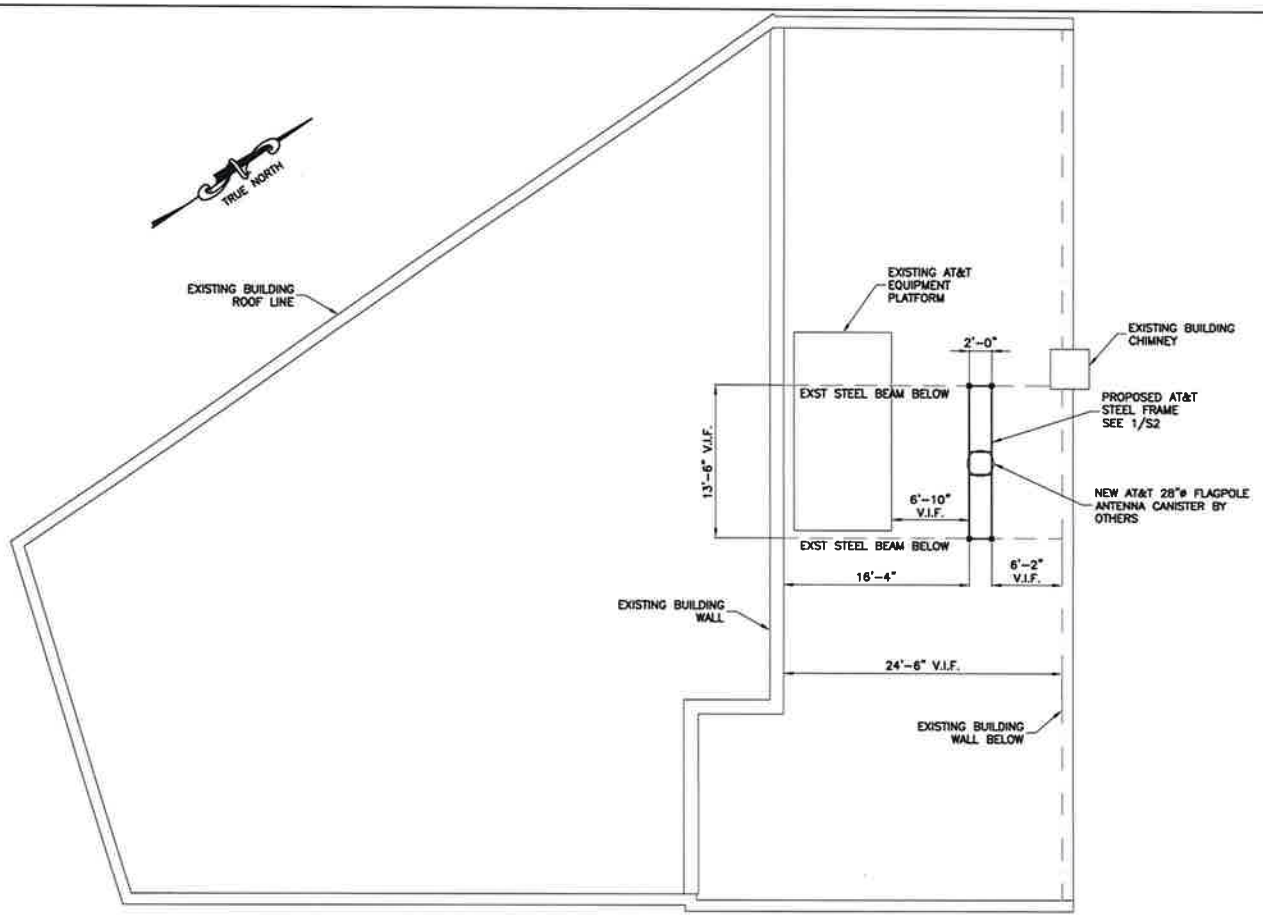
2.0 STRUCTURAL STEEL

2.1 MATERIALS
a. STRUCTURAL STEEL . . . . . ASTM A992
MISC ANGLE & PLATE . . . . ASTM A36
PIPE . . . . . ASTM A53 GR. B
RODS . . . . . ASTM A572-50 (MINIMUM)
HSS. . . . . ASTM A500, GR. B, Fy=46 KSI
b. BOLTS . . . . . ASTM A325 U.N.O.
c. WELDING ELECTRODES . . . . . AWS A5.1 (E70XX)
d. STEEL CONSTRUCTION SHALL CONFORM TO "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ANSI/AISC 360-10"
e. WELDING SHALL CONFORM TO AWS D1.1/D1.3/D1.7 AS APPLICABLE.
f. THE FABRICATOR SHALL FURNISH CHECKED SHOP AND ERECTION DRAWINGS TO THE ENGINEER, AND OBTAIN APPROVAL PRIOR TO FABRICATING ANY STRUCTURAL STEEL. SHOP DRAWINGS SHALL CONFORM TO "DETAILING FOR STEEL CONSTRUCTION, 2ND EDITION"
g. POOR MATCHING OF HOLES SHALL BE CORRECTED BY DRILLING TO THE NEXT LARGER SIZE. WELDING FOR REDRILLING WILL NOT BE PERMITTED.

2.2 CONNECTIONS
a. SHOP CONNECTIONS MAY BE BOLTED OR WELDED
b. CONNECTIONS WHERE THE BEAM SHEAR (V) IS NOT NOTED ON THE DRAWINGS, SIMPLE SHEAR CONNECTIONS SHALL BE DESIGNED TO DEVELOP 1/2 OF THE MAXIMUM TOTAL UNIFORM LOAD CAPACITY OF THE BEAM.
c. FIELD CONNECTIONS SHALL BE MADE WITH A325 BOLTS AND HARDENED WASHERS EXCEPT AS INDICATED ON THE DESIGN DRAWINGS
d. CONNECTIONS NOT SHOWN ON DRAWINGS SHALL BE DESIGNED BY THE STEEL FABRICATOR. CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH AISC "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" AND "AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
e. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT PRIOR WRITTEN APPROVAL OF ENGINEER.
f. BOLT HOLES SHALL BE CUT, DRILLED OR PUNCHED AT RIGHT ANGLES TO THE SURFACE OF THE METAL AND SHALL NOT BE MADE OR ENLARGED BY BURNING. HOLES SHALL BE CLEAN CUT WITHOUT TORN OR RAGGED EDGES. OUTSIDE BURRS RESULTING FROM DRILLING OR REAMING OPERATION SHALL BE REMOVED WITH A TOOL MAKING A 1/16 INCH BEVEL. BOLT HOLES SHALL BE 1/16 INCH OVERSIZE.

2.3 FINISHES
a. STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION PER ASTM A123
b. BOLTS AND NUTS SHALL BE HOT DIP GALVANIZED PER ASTM A153.
c. ALL SURFACES DAMAGED BY FIELD WELDING OR CUTTING SHALL BE PAINTED WITH COLD GALVANIZING COMPOUND TWICE. THE PAINT SHOULD BE AT LEAST 93% PURE ZINC. RUST-OLEUM PROFESSIONAL. (MODEL# 7585838) OR SIMILAR.

2.4 WELDING
a. CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS FOR FIRE PREVENTION DURING WELDING, SUCH AS; INSTALLING 3000 (NFPA 701) FIRE BLANKET AROUND COAX. MORE SPLATTER AND SPARKS SHOULD BE ANTICIPATED WHILE WELDING ON GALVANIZED SURFACE. COAX IS FLAMMABLE AND SHALL CATCH FIRE IF NOT PROTECTED. WATER SHALL BE ON SITE OF ADEQUATE AMOUNT AND AVAILABLE AT SHORT NOTICE AT ALL TIMES DURING WELDING ACTIVITY. CONTRACTOR SHOULD BE ABLE TO TRANSPORT THE WATER TO THE HEIGHT WELDING BEING PERFORMED.
b. WELDING ON GALVANIZED SURFACE SHOULD BE DONE WITH EXTREME CAUTION. IF THE WELD MATERIAL IS CONTAMINATED WITH ZINC, IT DOES NOT PROVIDE A STRUCTURAL WELD. GROUND GALVANIZING BEFORE WELDING.
c. WELDING CERTIFICATE MUST BE PROVIDED PRIOR TO WELDING. ALL WELDING SHALL BE PERFORMED BY AWS QUALIFIED WELDER WHO HAS EXPERIENCE WITH GALVANIZED SURFACES.



1 / S1 **SITE PLAN**
N.T.S.

3.0 WOOD NOTES

3.1 GENERAL
a. CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND BRACING FOR ALL STRUCTURAL ELEMENTS DURING CONSTRUCTION.
b. LUMBER IN CONTACT WITH CONCRETE AND OR MASONRY SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPB LP-2.
c. EXTERIOR LUMBER SHALL BE A MINIMUM OF 8" ABOVE FINISHED GRADE.
d. INTERIOR LUMBER SHALL BE A MINIMUM OF 18" ABOVE FINISHED CRAWL SPACE GRADE.
e. ALL TREATED LUMBER AND PLYWOOD SHALL COMPLY WITH THE REQUIREMENTS OF "AWPA U1-05- USE CATEGORY SYSTEM: USER SPECIFICATION FOR TREATED WOOD" FOR WOOD TREATMENTS DETERMINED BY USE CATEGORIES, EXPECTED SERVICE CONDITIONS, AND SPECIFIC APPLICATIONS.
f. SAWN LUMBER SHALL BE PROVIDED IN ACCORDANCE WITH THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, BY THE AMERICAN FOREST & PAPER ASSOCIATION. FINGER JOINTED LUMBER IN ACCORDANCE WITH THE AMERICAN SOFTWOOD LUMBER STANDARD PS 20 AND THE SOUTHERN PINE INSPECTION BUREAU (SPIB) "GLUED LUMBER PROCEDURES FOR SOUTHERN PINE" MAY BE USED FOR "STUD USE ONLY" OR "VERTICAL USE ONLY" IN DRY USE CONDITIONS. FINGER JOINTED LUMBER SHALL BE JOINED WITH A HEAT RESISTANT ADHESIVE (HRA) IN ACCORDANCE WITH THE AMERICAN LUMBER STANDARD COMMITTEE. IT IS IMPORTANT TO KEEP FINGER JOINTED STUDS DRY AND PROTECTED FROM WET WEATHER AND EXCESSIVE MOISTURE WHILE IN STORAGE AND DURING CONSTRUCTION. THE MOISTURE CONTENT OF FINGER JOINTED LUMBER STUDS SHALL BE 19% OR LESS AT THE TIME OF PERMANENT ENCLOSURE. FINGER JOINTED STUDS SHALL BE LATERALLY BRACED BY WALL SHEATHING OR PROPERLY ANCHORED HORIZONTAL BRIDGING AT THE MID-HEIGHT OF THE WALL STUDS PRIOR TO THE APPLICATION OF DEAD AND/OR LIVE LOADS.
g. HOLES IN JOISTS, RAFTERS, STUDS AND PLATES NOT EXCEEDING 1/5 THE DEPTH/WIDTH OF THE MEMBER AND NOT CLOSER THAN 3 TIMES THE DEPTH/WIDTH OF THE MEMBER FROM THE END ARE PERMITTED AT THE MID-DEPTH/WIDTH OF THE MEMBER.
h. FASTEN SHEATHING WITH 8D NAILS @ 6" O/C (6" MAXIMUM) AT PANEL EDGES AND @ 12" O/C AT INTERMEDIATE SUPPORTS. (V = 260LBS./FT @ 6" O/C, V = 380LBS./FT @ 4" O/C, V = 490LBS./FT @ 3" O/C)

03/31/2017
STATE OF CONNECTICUT
AHMET COLAKOGLU
PEN. 27057
LICENSED PROFESSIONAL ENGINEER

Ahmet Colakoglu, PE
CT License No: 27057

DESTEK ENGINEERING
DESTEK ENGINEERING, LLC
1381 KENNESTONE CIRCLE
SUITE 100
MARIETTA, GA 30066
TEL NO: 770-693-0635
ADMIN@DESTEKENGINEERING.COM
LICENSE NO: PEO001429

PREPARED FOR:
COM-EX Consultants
115 Route 46 - Suite E39
Mountain Lakes, NJ 07046

NUM	DATE	DESCRIPTION:
A	03/31/17	ISSUED FOR CONSTRUCTION

CT5317 - FA CODE:10071066

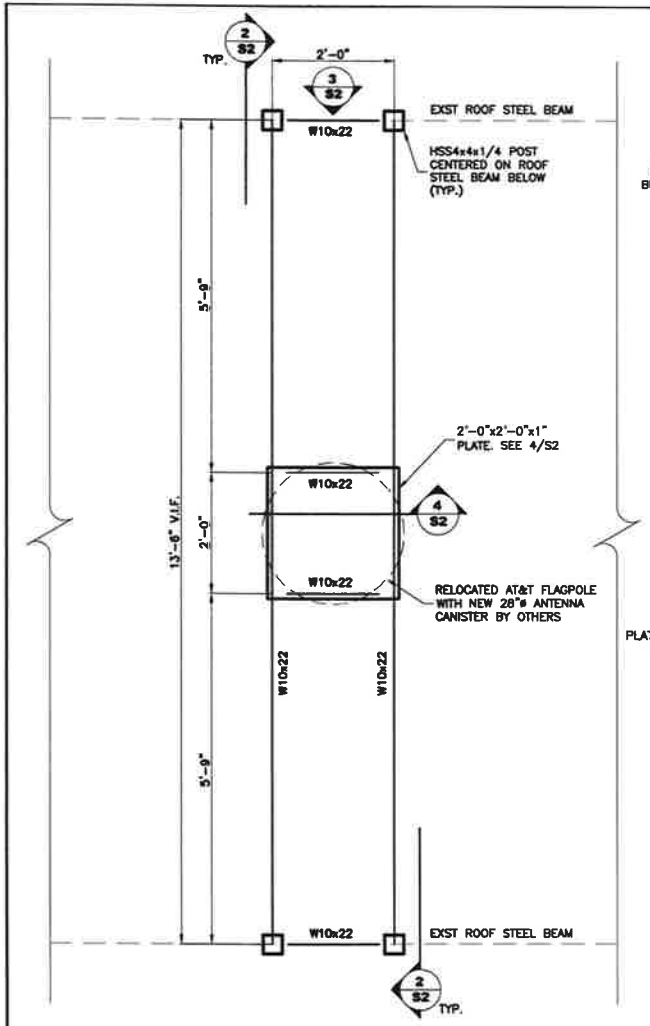
ADDRESS:
1 CIRCULAR AVENUE,
HAMDEN, CT 06514

DESIGNED: SA
DRAWN: SA
CHECKED: AC

JOB #: 1729003

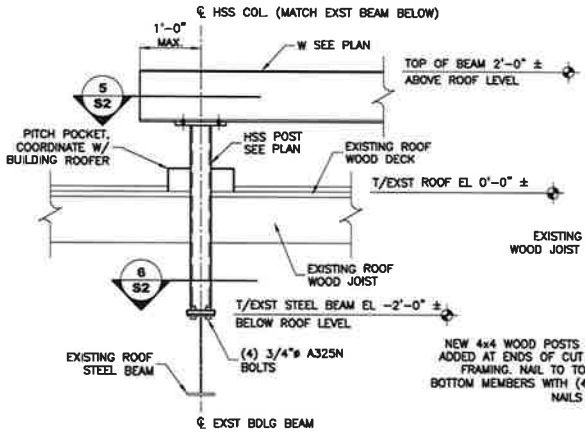
S1
SITE PLAN & NOTES

DRAWINGS PLOTTED TO SCALE ON 11x17 SHEETS



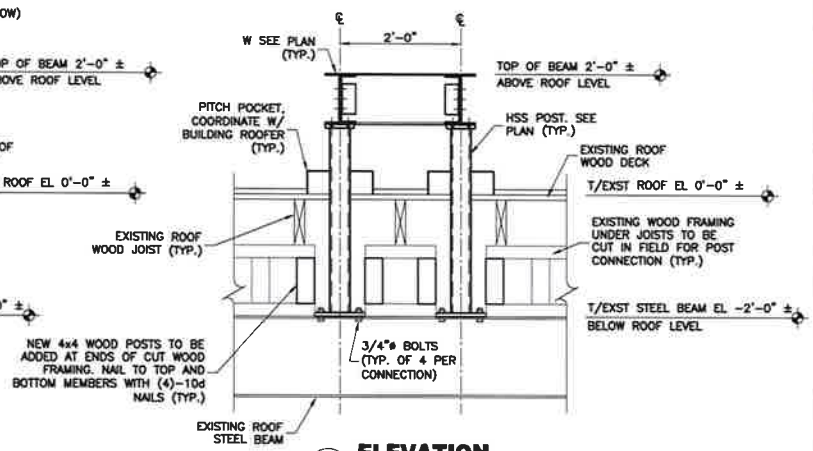
1 S2 PLATFORM FRAMING PLAN

1/2" = 1'-0" T/STL = 2'-0" ABOVE ROOF LEVEL



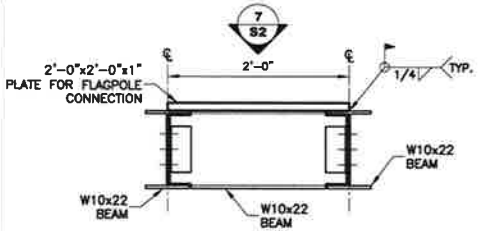
2 S2 POST CONNECTION DETAIL

1/2" = 1'-0"



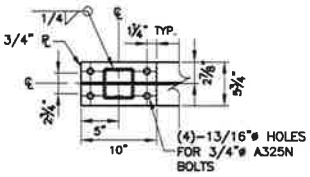
3 S2 ELEVATION

1/2" = 1'-0"



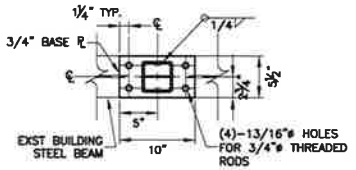
4 S2 SECTION

3/4" = 1'-0"



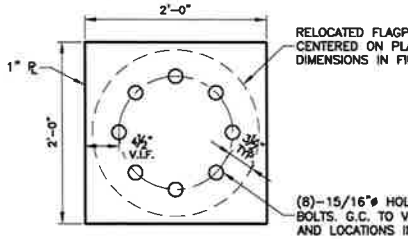
5 S2 SECTION

3/4" = 1'-0"



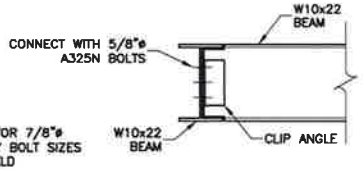
6 S2 SECTION

3/4" = 1'-0"



7 S2 FLAGPOLE CONNECTOR PLATE

3/4" = 1'-0"



8 S2 TYPICAL BEAM CONNECTION

3/4" = 1'-0"

STATE OF CONNECTICUT
AHMET COLAKOGLU
PEN. 27057
LICENSED PROFESSIONAL ENGINEER
03/31/2017

Ahmet Colakoglu, PE
CT License No: 27057

DESTEK ENGINEERING
DESTEK ENGINEERING, LLC
1391 HENDERSTOWN CIRCLE SUITE 100
MARIETTA, GA 30066
TEL NO: 770-853-0635
ADMIN@DESTEKENGINEERING.COM
LICENSE NO. PEC001439

PREPARED FOR:
COM-EX Consultants
115 Route 46 - Suite E39
Mountain Lakes, NJ 07046

NUM	DATE	DESCRIPTION:
A	03/31/17	ISSUED FOR CONSTRUCTION

CT5317 – FA CODE:10071066

ADDRESS:
1 CIRCULAR AVENUE,
HAMDEN, CT 06514

DESIGNED: SA
DRAWN: SA
CHECKED: AC

JOB #: 1729003

S2 PLATFORM FRAMING

DRAWINGS PLOTTED TO SCALE ON 11x17 SHEETS

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

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 21, 2017

Daniel M. Laub, Esq.,
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

RE: **PETITION NO. 1300** - New Cingular Wireless PCS, LLC (AT&T) petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed replacement and relocation of an existing rooftop telecommunications facility installed at the front of the building with a new rooftop telecommunications facility to be installed at the rear of the building located at 1 Circular Avenue, Hamden, Connecticut.

Dear Attorney Laub:

At a public meeting held on July 20, 2017, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need with the following conditions:

1. AT&T shall implement the RF safety recommendations as identified in Section 5.2 of SiteSafe report dated March 8, 2017;

2. AT&T shall install the steel frame in accordance with Section 6.0 of the Structural Analysis Report prepared by Com EX Consultants, LLC and stamped by Ahmet Colakoglu, P.E. on March 31, 2017;

3. Approval of any minor project changes be delegated to Council staff;

4. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

5. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the Town of Hamden.

6. Unless otherwise approved by the Council, the existing rooftop flagpole tower shall be removed within 180 days of the installation of the new flagpole tower;

7. If the facility ceases to provide wireless services for a period of one year, the petitioner shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The petitioner may submit a written request for an extension of the 90 day period no later than 60 days prior to expiration of the 90 day period;

8. The Council shall be notified in writing within 45 days of when the existing flagpole tower is removed and the new flagpole tower is operational unless a written request for an extension is submitted to the Council within that timeframe;

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

10. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;

11. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and

12. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition dated April 24, 2017, and additional information received on May 30, and June 16, 2017.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,

Robert Stein UHAB

Robert Stein
Chairman

RS/MP/bm

Enclosure: Staff Report dated July 20, 2017

c: The Honorable Curt B. Leng, Mayor, Town of Hamden
Dan Kops, Town Planner, Town of Hamden
Christopher Fisher, Cuddy & Feder
Martin McCarthy, Building/Property Owner

1 CIRCULAR AVE

Location	1 CIRCULAR AVE	**Mblu**	2225/ 603/ / /
Acct#		**Owner**	SEVENTEEN MILE REAL ESTATE LLC
Assessment	$443,310	**Appraisal**	$633,300
PID	20331	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$431,100	$202,200	$633,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$301,770	$141,540	$443,310

Owner of Record

Owner	SEVENTEEN MILE REAL ESTATE LLC	**Sale Price**	$850,500
Co-Owner		**Certificate**	
Address	69 HARRY ST CONSHOHOCKEN, PA 19428	**Book & Page**	4615/ 247
		Sale Date	06/25/2019
		Instrument	00

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SEVENTEEN MILE REAL ESTATE LLC	$850,500		4615/ 247	00	06/25/2019
MARTIN MCCARTHY (MARTIN-MCCARTHY)	$0		825/ 30	00	07/13/1987

Building Information

Building 1 : Section 1

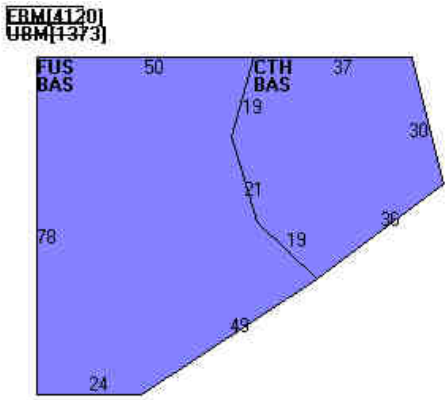
Year Built: 1926
Living Area: 9,344
Building Percent Good: 25

Building Attributes	
Field	**Description**
STYLE	Office Bldg
MODEL	Comm/Ind
Grade	B
Stories:	2
Occupancy	1
Exterior Wall 1	Stone
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Rolled Compos
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Hot Water
AC Type	Central
Bldg Use	OFFICE BLD M94
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3400
Heat/AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths/Plumbing	AVERAGE
Ceiling/Wall	SUS-CEIL & WL
Rooms/Prtns	AVERAGE
Wall Height	10
% Comn Wall	0

Building Photo

(http://images.vgsi.com/photos/HamdenCTPhotos//\00\04\43/68.JPG)

Building Layout



(http://images.vgsi.com/photos/HamdenCTPhotos//Sketches/20331_20331.jpg)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	5,574	5,574
FUS	Upper Story, Finished	3,770	3,770
CTH	Cathedral Ceiling	1,804	0
FBM	Basement, Finished	4,120	0
UBM	Basement, Unfinished	1,373	0
		16,641	9,344

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	3400
Description	OFFICE BLD M94
Zone	T5
Neighborhood	R
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.34
Frontage	0
Depth	0
Assessed Value	$141,540
Appraised Value	$202,200

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	PAVING-ASPHALT			7500 S.F.	$5,100	1
CELL	CELL SITE			1 UNITS	$150,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$431,100	$202,200	$633,300
2017	$431,100	$202,200	$633,300
2016	$481,100	$202,200	$683,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$301,770	$141,540	$443,310
2017	$301,770	$141,540	$443,310
2016	$336,770	$141,540	$478,310

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Town of Hamden

Geographic Information System (GIS)

Date Printed: 10/23/2019

MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of Hamden and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 150 feet

0 150 Feet

N W E S

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

9405 5036 9930 0148 5562 77 0073 5000 0031 9428

usps.com
$7.35
US POSTAGE
Flat Rate Env

P

10/26/2019 Mailed from 06268 062S0000001311

PRIORITY MAIL 2-DAY™

Expected Delivery Date: 10/28/19

MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

0004

Carrier -- Leave if No Response

C006

SHIP TO:
SEVENTEEN MILE REAL ESTATE LLC
69 HARRY ST
CONSHOHOCKEN PA 19428-2071

USPS TRACKING #

9405 5036 9930 0148 5562 77

Electronic Rate Approved #038555749

Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0148 5562 77

Trans. #:	475606997
Print Date:	10/25/2019
Ship Date:	10/26/2019
Expected Delivery Date:	10/28/2019

Priority Mail® Postage:	**$7.35**
Total:	**$7.35**

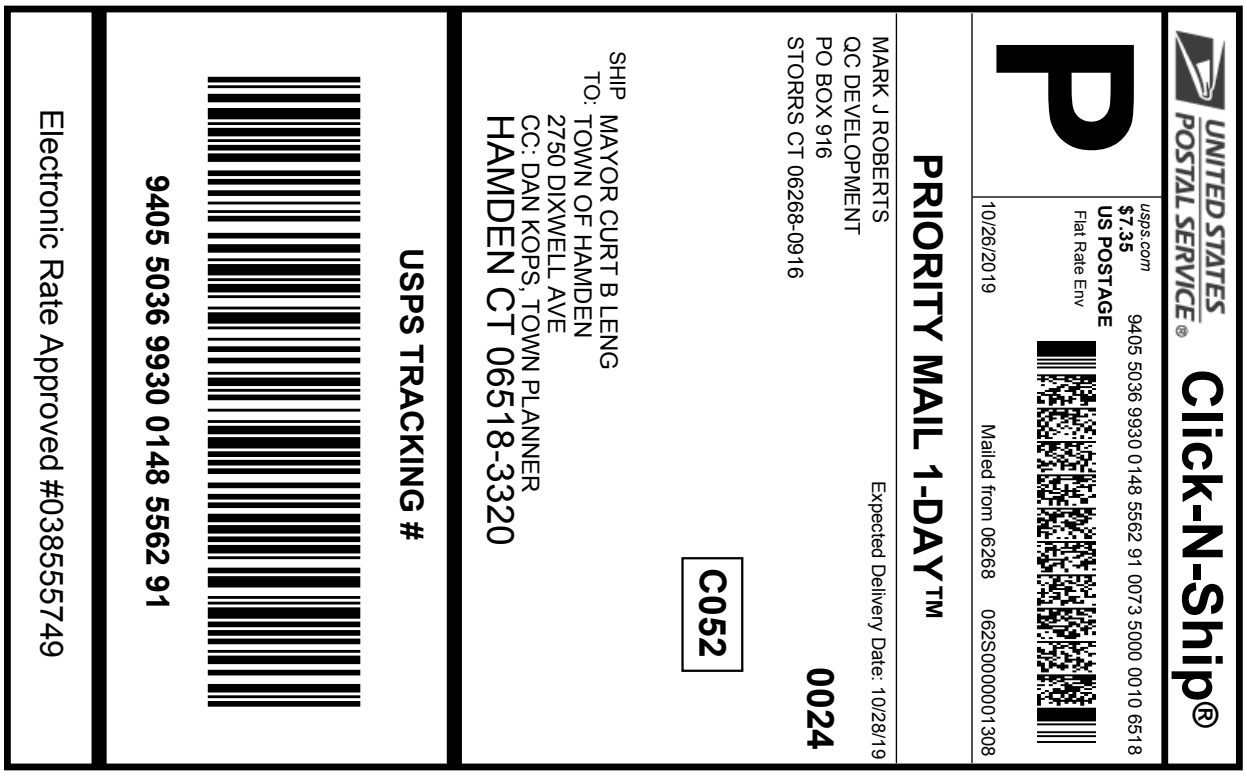
From: MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: SEVENTEEN MILE REAL ESTATE LLC
69 HARRY ST
CONSHOHOCKEN PA 19428-2071

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

UNITED STATES POSTAL SERVICE®

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



Cut on dotted line.

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2. **Place your label so it does not wrap around the edge of the package.**
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5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0148 5562 91

Trans. #:	475606997
Print Date:	10/25/2019
Ship Date:	10/26/2019
Expected Delivery Date:	10/28/2019

Priority Mail® Postage:	**$7.35**
Total:	**$7.35**

From: MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: MAYOR CURT B LENG
TOWN OF HAMDEN
2750 DIXWELL AVE
CC: DAN KOPS, TOWN PLANNER
HAMDEN CT 06518-3320

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

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Check the status of your shipment on the USPS Tracking® page at usps.com