



Property Information

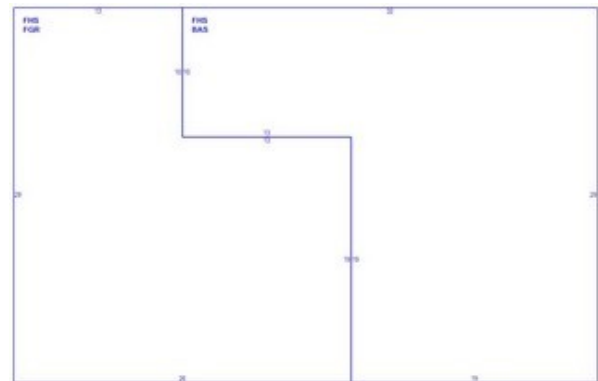
Property Location	27 MAYNARD RD
Owner	SALEM TELECOM LLC
Co-Owner	na
Mailing Address	226 LAMBTOWN RD LEDYARD CT 06339-0000
Land Use	101 Single Family
Land Class	R
Zoning Code	RA
Census Tract	7151

Neighborhood	1105
Acreage	2.29
Utilities	UNKNOWN
Lot Setting/Desc	UNKNOWN UNKNOWN
Book / Page	0140/0183
Additional Info	

Photo



Sketch



Primary Construction Details

Year Built	2004
Building Desc.	Single Family
Building Style	Cape Cod
Building Grade	C+
Stories	1.5
Occupancy	1.00
Exterior Walls	Vinyl Siding
Exterior Walls 2	NA
Roof Style	Gable Or Hip
Roof Cover	Asphalt Shingl
Interior Walls	Drywall/Sheet
Interior Walls 2	NA
Interior Floors 1	Quarry Tile
Interior Floors 2	Carpet

Heating Fuel	Gas
Heating Type	Forced Air
AC Type	Central
Bedrooms	02
Full Bathrooms	2
Half Bathrooms	1
Extra Fixtures	0
Total Rooms	4
Bath Style	Modern
Kitchen Style	Modern
Rec Rm Area	NA
Rec Rm Quality	NA
Bsmnt Gar	NA
Fireplaces	NA

(\*Industrial / Commercial Details)

Building Use	Residential
Building Condition	G
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA



# Town of Salem, CT

## Property Listing Report

Map Block Lot

17-007-050

Building # 1

PID 559

Account

587

### Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
<b>Buildings</b>	<b>119200</b>	<b>83400</b>
<b>Extras</b>	<b>1900</b>	<b>1300</b>
<b>Improvements</b>		
<b>Outbuildings</b>	<b>1100</b>	<b>800</b>
<b>Land</b>	<b>252500</b>	<b>176700</b>
<b>Total</b>	<b>374700</b>	<b>262200</b>

### Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
<b>First Floor</b>	<b>681</b>	<b>681</b>
<b>Attached Garage</b>	<b>624</b>	<b>0</b>
<b>Finished Half Story</b>	<b>1305</b>	<b>653</b>
<b>First Floor</b>	<b>681</b>	<b>681</b>
<b>Attached Garage</b>	<b>624</b>	<b>0</b>
<b>Finished Half Story</b>	<b>1305</b>	<b>653</b>
<b>Total Area</b>	<b>2610</b>	<b>1334</b>

### Outbuilding and Extra Features

Type	Description
<b>Shed Frame</b>	<b>117 S.F.</b>
<b>Generator</b>	<b>1 UNITS</b>
<b>Gas Fireplace/Vent free</b>	<b>1 UNITS</b>

### Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
<b>SALEM TELECOM LLC</b>	<b>0140/0183</b>	<b>2002-08-29</b>	<b>0</b>
<b>SPIEGEL JOHN M &amp; NANCY</b>	<b>0066/0240</b>	<b>1990-06-08</b>	<b>75000</b>

**SHEET INDEX**

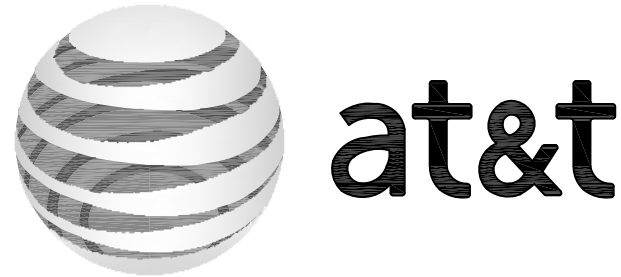
NO.	DESCRIPTION
T1	TITLE SHEET
C1	GENERAL NOTES
C2	OVERALL SITE PLAN
C2A	ENLARGED SITE PLAN
C3	ELEVATION VIEW
C4	ANTENNA ORIENTATION PLAN
C5	EQUIPMENT DETAILS
C5A	EQUIPMENT DETAILS
C6	PLUMBING DIAGRAM
C7	GROUNDING DETAILS
S1-S2	MODIFICATION DETAILS

**DRIVING DIRECTIONS**

FROM 550 COCHITUATE RD.:

GET ON I-90 WEST/MASSACHUSETTS TURNPIKE. HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/MASSACHUSETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. FOLLOW I-90 WEST/MASSACHUSETTS TURNPIKE AND I-395 SOUTH TO CT-82 WEST/SALEM TURNPIKE IN NORWICH. TAKE EXIT 11 FROM I-395 SOUTH. MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. TAKE EXIT 10 TOWARD MA-12 NORTH/AUBURN/WORCESTER. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-395 SOUTH/US-20 EAST/NORWICH CT AND MERGE ONTO I-395 SOUTH. TAKE EXIT 11 FOR CT-82 TOWARD DOWNTOWN/NORWICH/SALEM. CONTINUE ON CT-82 WEST. DRIVE TO MAYNARD ROAD IN SALEM. TURN RIGHT ONTO CT-82 WEST/SALEM TURNPIKE. AT THE TRAFFIC CIRCLE, TAKE 3RD EXIT ONTO CT-85 SOUTH. TURN LEFT ONTO HORSE POND ROAD. TURN RIGHT ONTO MAYNARD ROAD.

**LOCATION MAP**



**PROJECT**  
**LTE 2C/3C/4C/5C/RETROFIT**

**SITE NAME**  
**SALEM SOUTHEAST**

**CELL SITE ID**  
**CTL05736**  
**FA SITE NUMBER**  
**10071229**

**PAGE ID**  
**MRCTB041581/MRCTB041391/MRCTB041408**  
**MRCTB041805/MRCTB041642**

**SITE ADDRESS**  
**27 MAYNARD ROAD**  
**SALEM, CT 06420**

**STRUCTURE TYPE**  
**SELF SUPPORT**

**PROJECT TEAM**

  
**PROJECT MANAGER**

  
 1033 Watervliet Shaker Rd  
 Albany, NY 12205  
 Office # (518) 690-0790  
 Fax # (518) 690-0793  
**ENGINEER**

**SCOPE OF WORK (PER LTE RFDS, DATED 08/26/2019 V2.00):**

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

**TOWER**

- REMOVE (6) PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- REMOVE (3) RRUS-11 B12
- INSTALL (3) B14 4478
- INSTALL (3) 8843 B2/B66A
- INSTALL (3) 4449 B5/B12
- INSTALL (2) DC6 SQUID W/ (1) FIBER AND (4) DC CABLES

**GROUND**


- SWAP BB W/ 6630
- ADD XMU
- ADD 2ND 6630
- ADD IDLe CABLE

**PROJECT SUMMARY**

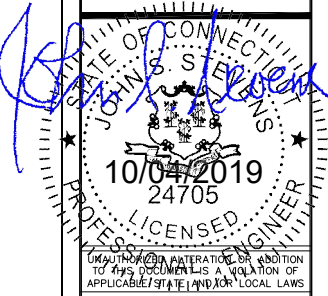
<b>SITE NAME:</b>	SALEM SOUTHEAST		
<b>CELL SITE ID:</b>	CTL05736		
<b>FA SITE #:</b>	10071229		
<b>SITE ADDRESS:</b>	27 MAYNARD ROAD SALEM, CT 06420		
<b>COUNTY:</b>	NEW LONDON		
<b>SITE COORDINATES:</b>			
<b>LATITUDE:</b>	41.4632919° N	(NAD 83)	
<b>LONGITUDE:</b>	72.2467989° W	(NAD 83)	
<b>RAD CENTER</b>	±72'	(AGL)	
<b>LANDLORD:</b>	SALEM TELCOM, LLC 226 LAMBTOWN ROAD LEDYARD, CT 06339		
<b>APPLICANT:</b>	AT&T MOBILITY 550 COCHITUATE RD. FRAMINGHAM, MA 01701		
<b>CLIENT REPRESENTATIVE:</b>	SMARTLINK, LLC 85 RANGEWAY RD., BUILDING 3, SUITE 102 NORTH BILLERICA, MA 01862		
<b>CONTACT:</b>	EDWARD WEISSMAN (917)528-1857		
<b>ENGINEER:</b>	INFINIGY 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205		
<b>CONTACT:</b>	ALEX WELLER (518) 690-0790		
<b>BUILDING CODE:</b>	2018 CT STATE BUILDING CODE 2015 INTERNATIONAL BUILDING CODE ANSI/TIA-222 G 2015 INTERNATIONAL PLUMBING CODE 2015 INTERNATIONAL MECHANICAL CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE 2017 NFPA 70		
<b>ELECTRICAL CODE:</b>	NATIONAL ELECTRICAL CODE (LATEST EDITION)		

  
**Know what's below.**  
**Call before you dig.**

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG TOLL FREE: 1-800-922-4455 OR www.cbyd.com  
 CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

  
 INFINIGY ENGINEERING, PLLC  
 1033 Watervliet Shaker Rd  
 Albany, NY 12205  
 Office # (518) 690-0790  
 Fax # (518) 690-0793






No.	Submittal / Revision	App'd	Date
1	ISSUED FOR PERMIT	ASW	10/04/19
0	ISSUED FOR REVIEW	BMM	09/16/19

Drawn: BMM Date: 09/16/19  
 Designed: ASW Date: 09/16/19  
 Checked: AD Date: 09/16/19

Project Number: 499-006

Project Title:  
**SALEM SOUTHEAST**  
  
CTL05736  
FA# 10071229  
27 MAYNARD ROAD  
SALEM, CT 06420

Prepared For:  


Drawing Scale:  
AS NOTED  
**CD**  
Date:  
10/04/19

Drawing Title:  
**TITLE PAGE**  
Drawing Number:  
**T1**

# GENERAL NOTES

## PART 1 – GENERAL REQUIREMENTS

- 1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
  - A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
  - B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
  - C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – “NEC”).
  - D. AND NFPA 101 (LIFE SAFETY CODE).
  - E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
  - F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).
- 1.2 DEFINITIONS:
  - A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
  - B. COMPANY: AT&T CORPORATION
  - C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND “A&E”. THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
  - D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
  - E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.
- 1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.
- 1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.
- 1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
  - A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY’S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY’S A&E VENDOR FOR PRODUCTION OF “AS-BUILT” DRAWINGS.
- 1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.
- 1.7 NOTICE TO PROCEED:
  - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY’S WRITTEN NOTICE TO PROCEED.
  - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

## PART 2 – EXECUTION

- 2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER’S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.
- 2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.
- 2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HERewith, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY’S TEST AGENCY.

- 2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER’S INSTRUCTIONS AND RECOMMENDATIONS.
  - A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.
- 2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.
- 2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

## PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
  - A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
  - B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
  - C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
  - D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
  - E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
  - F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR’S WAREHOUSE TO SITE.

## PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

- 4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.
- 4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED “BROOM CLEAN” AND CLEAR OF DEBRIS.
- 4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
  - A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
  - B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.
- 4.4 CONTRACTOR’S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR’S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.
- 4.5 CONDUCT TESTING AS REQUIRED HEREIN.

## PART 5 – TESTS AND INSPECTIONS

- 5.1 TESTS AND INSPECTIONS:
  - A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
  - B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY’S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
  - C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
  - D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
  - E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.

- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

## PART 6 – TRENCHING AND BACKFILLING

- 6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.
  - A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
  - B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.
  - C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR’S EXPENSE.
  - D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
  - E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.
  - F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.
  - G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

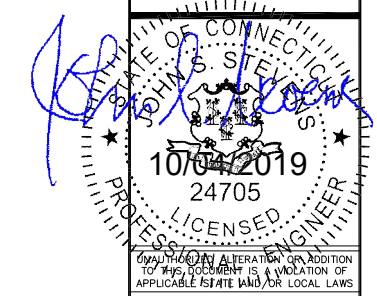
SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
	TRANSFORMER
	KILOWATT HOUR METER
	JUNCTION BOX
	PULL BOX TO NEC/TELCO STANDARDS
-----	UNDERGROUND UTILITIES
	EXOTHERMIC WELD CONNECTION
	MECHANICAL CONNECTION
	GROUND ROD
	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES
	REPRESENTS DETAIL NUMBER
	REF. DRAWING NUMBER

## ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

INFINIGY ENGINEERING, PLLC  
1033 WaterVest Shaker Rd  
Albany, NY 12205  
Office # (518) 690-0790  
Fax # (518) 690-0793

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Drawn:	BMM	Date:	09/16/19
Designed:	ASW	Date:	09/16/19
Checked:	AB	Date:	09/16/19
Project Number:			
499-006			
Project Title:			
SALEM SOUTHEAST			
CTL05736			
FA# 10071229			
27 MAYNARD ROAD SALEM, CT 06420			
Prepared For:			
smartlink			
Drawing Scale:		CD	
AS NOTED			
Date:		10/04/19	
Drawing Title:			
GENERAL NOTES			
Drawing Number:			
C1			



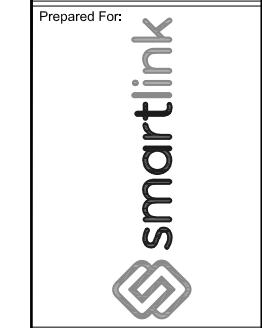
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 Checked: AD Date: 09/16/19

Project Number: 499-006

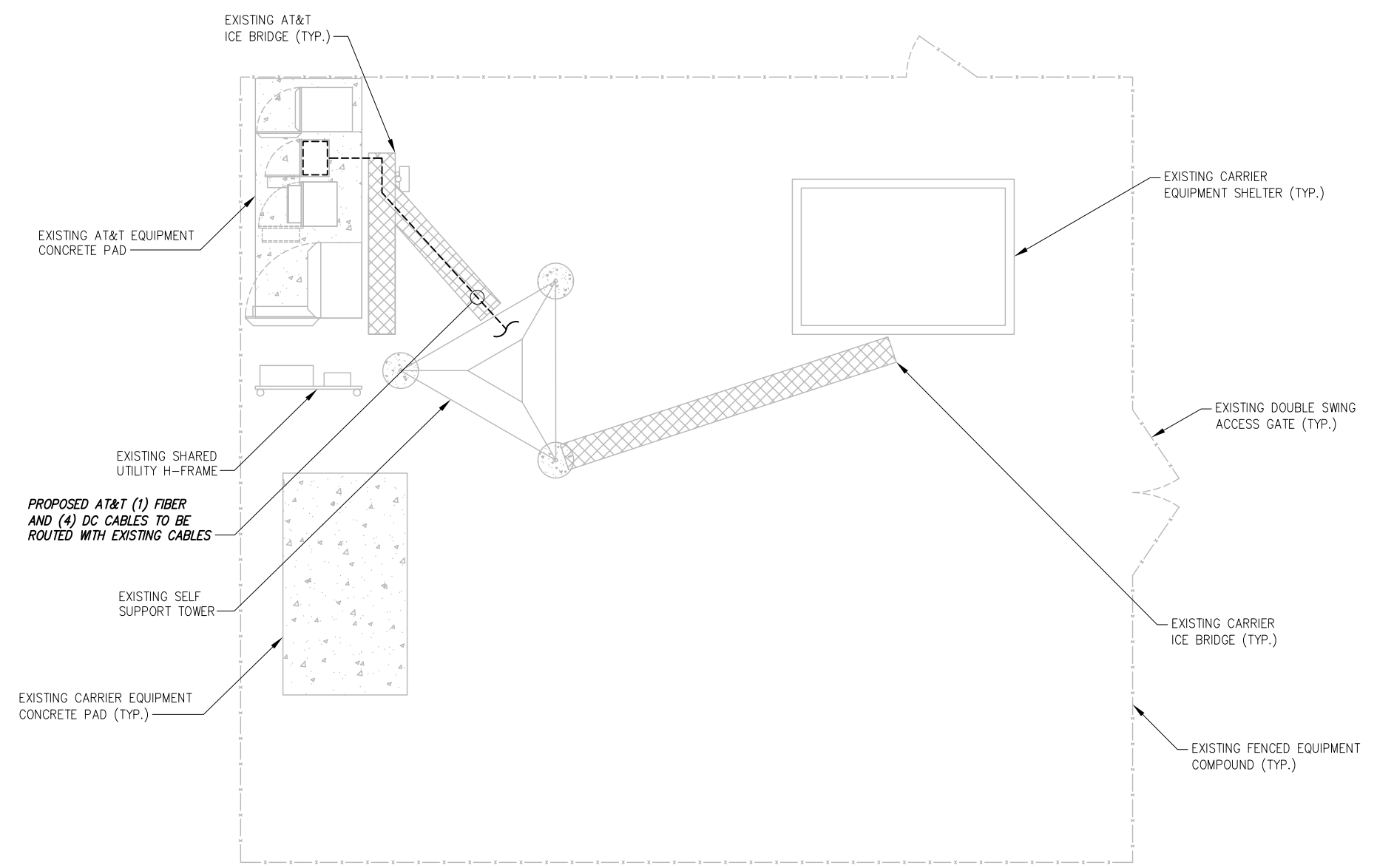
Project Title:  
**SALEM SOUTHEAST**  
 CTL05736  
 FA# 10071229  
 27 MAYNARD ROAD  
 SALEM, CT 06420



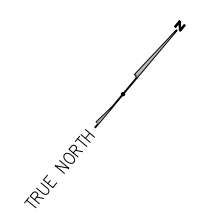
Drawing Scale: AS NOTED  
 Date: 10/04/19  
**CD**

Drawing Title:  
**OVERALL SITE PLAN**

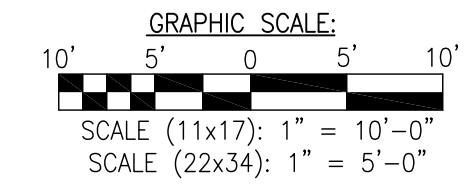
Drawing Number:  
**C2**

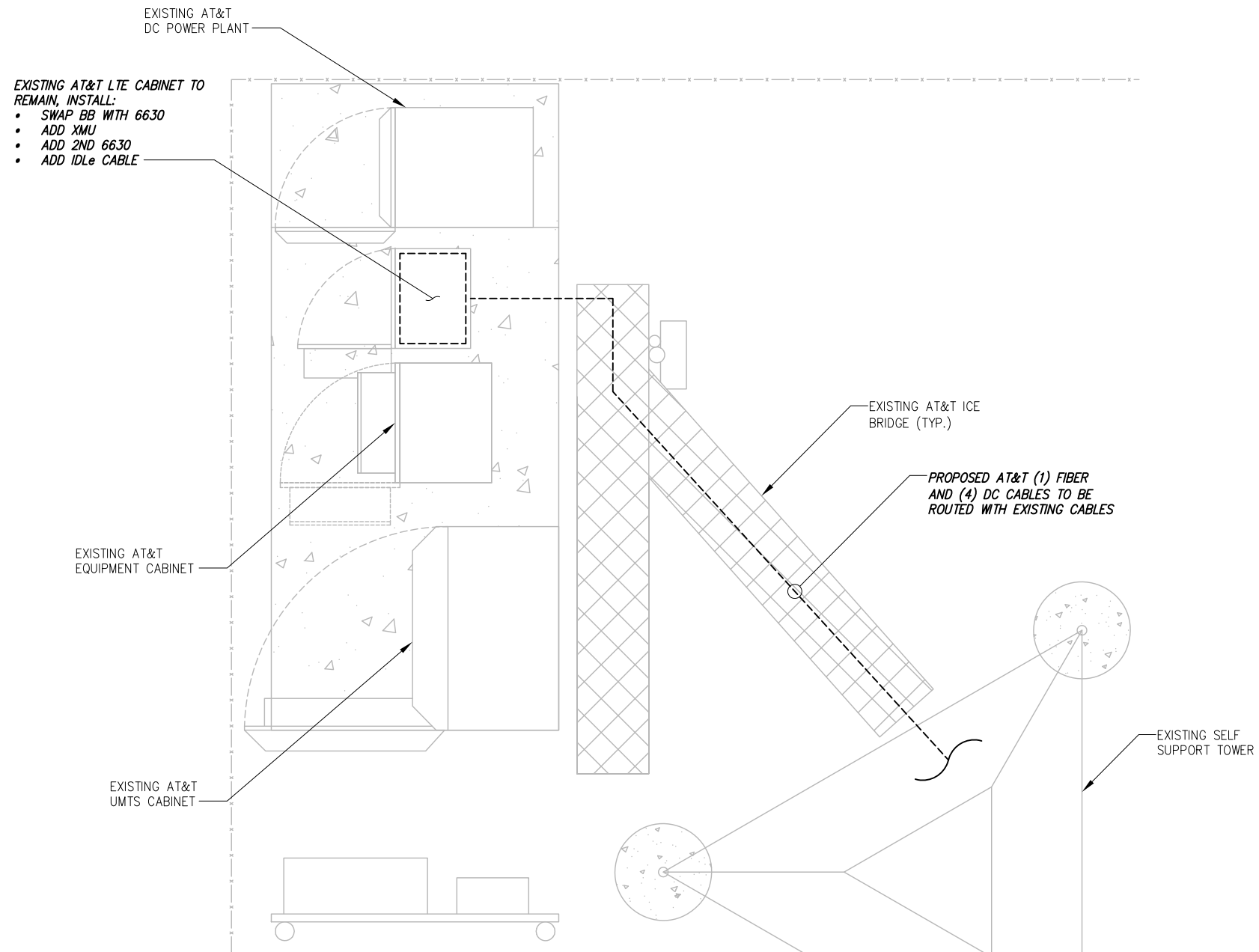


BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

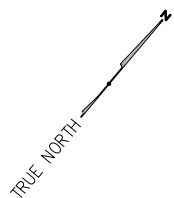


**1 SITE PLAN**  
 SCALE: AS NOTED

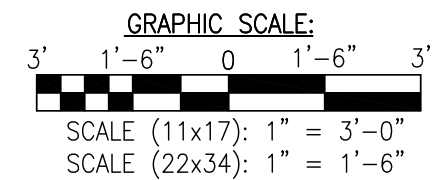




BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.



**2** ENLARGED EQUIPMENT PLAN  
SCALE: AS NOTED



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1033 Watervliet Shaker Rd  
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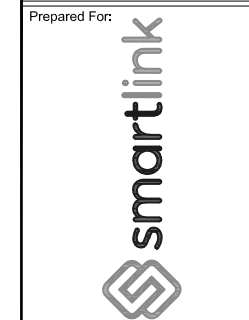
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Project Number: 499-006

Project Title:  
**SALEM SOUTHEAST**  
CTL05736  
FA# 10071229  
27 MAYNARD ROAD  
SALEM, CT 06420



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Date: 10/04/19  
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Drawing Title:  
**ENLARGED SITE PLAN**

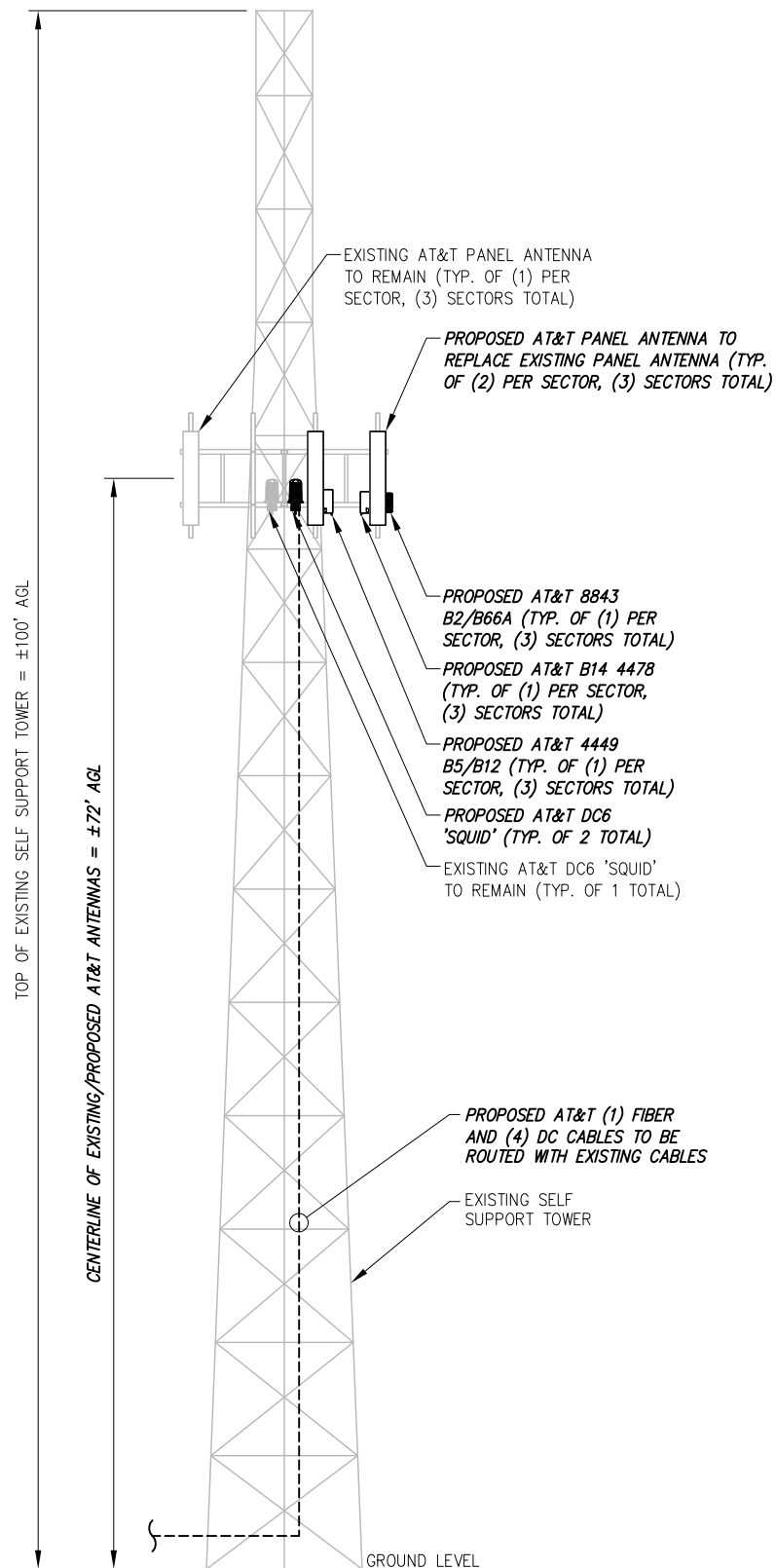
Drawing Number:  
**C2A**

**NOTE:**

- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE TOWER, SEE 'STRUCTURAL ANALYSIS REPORT' COMPLETED BY INFINIGY, DATED 09/06/19.
- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE 'POST MOD MOUNT ANALYSIS REPORT' COMPLETED BY INFINIGY, DATED 09/17/19. SEE SHEET S2 FOR MODIFICATION DETAILS

**NOTE:**

- 3' MINIMUM SEPARATION BETWEEN ALL LTE ANTENNAS
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS



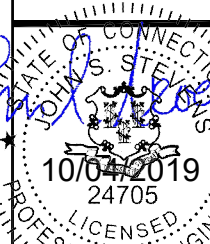
1 ELEVATION VIEW  
NOT TO SCALE

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 08/26/2019 V2.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/DIPLXER	RRUS	AZIMUTH	ANTENNA HEIGHT	CABLE FEEDER		RAYCAP UNIT
								TYPE	LENGTH	
ALPHA	A-1	(P) LTE 700/1900	CCI DMP65R-BU4DA	--	(1) (P) B14 4478 (1) (P) 8843 B2B/B66A	60°	±72'	(1) (E) FIBER CABLE (2) (E) DC CABLES	--	(1) (E) DC6 'SQUID' (2) (P) DC6 'SQUID'
	A-2	(P) LTE 700/850/AWS/5G 850	CCI DMP65R-BU4DA	--	(1) (P) 4449 B5/B12	60°	±72'	SEE A-1 FOR CABLE INFORMATION	--	
	A-3	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	±100'	
	A-4	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	70°	±72'	(2) (E) 1-5/8" COAX CABLES	±100'	
BETA	B-1	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	140°	±72'	(2) (E) 1-5/8" COAX CABLES	±100'	
	B-2	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	±100'	
	B-3	(P) LTE 700/1900	CCI DMP65R-BU8DA	--	(1) (P) B14 4478 (1) (P) 8843 B2B/B66A	190°	±72'	(1) (P) FIBER CABLE (4) (P) DC CABLES	--	
	B-4	(P) LTE 700/850/AWS/5G 850	CCI DMP65R-BU8DA	--	(1) (P) 4449 B5/B12	190°	±72'	SEE A-1 FOR CABLE INFORMATION	--	
GAMMA	G-1	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	300°	±72'	(2) (E) 1-5/8" COAX CABLES	±100'	
	G-2	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	±100'	
	G-3	(P) LTE 700/1900	CCI DMP65R-BU6DA	--	(1) (P) B14 4478 (1) (P) 8843 B2B/B66A	310°	±72'	SEE A-1 FOR CABLE INFORMATION	--	
	G-4	(P) LTE 700/850/AWS/5G 850	CCI DMP65R-BU6DA	--	(1) (P) 4449 B5/B12	310°	±72'	SEE A-1 FOR CABLE INFORMATION	--	

2 AT&T ANTENNA SCHEDULE  
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INFINIGY ENGINEERING, PLLC  
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Project Number: 499-006

Project Title:

SALEM SOUTHEAST  
CTL05736  
FA# 10071229  
27 MAYNARD ROAD  
SALEM, CT 06420

Prepared For:



Drawing Scale: AS NOTED  
Date: 10/04/19

CD

Drawing Title

ELEVATION VIEW

Drawing Number

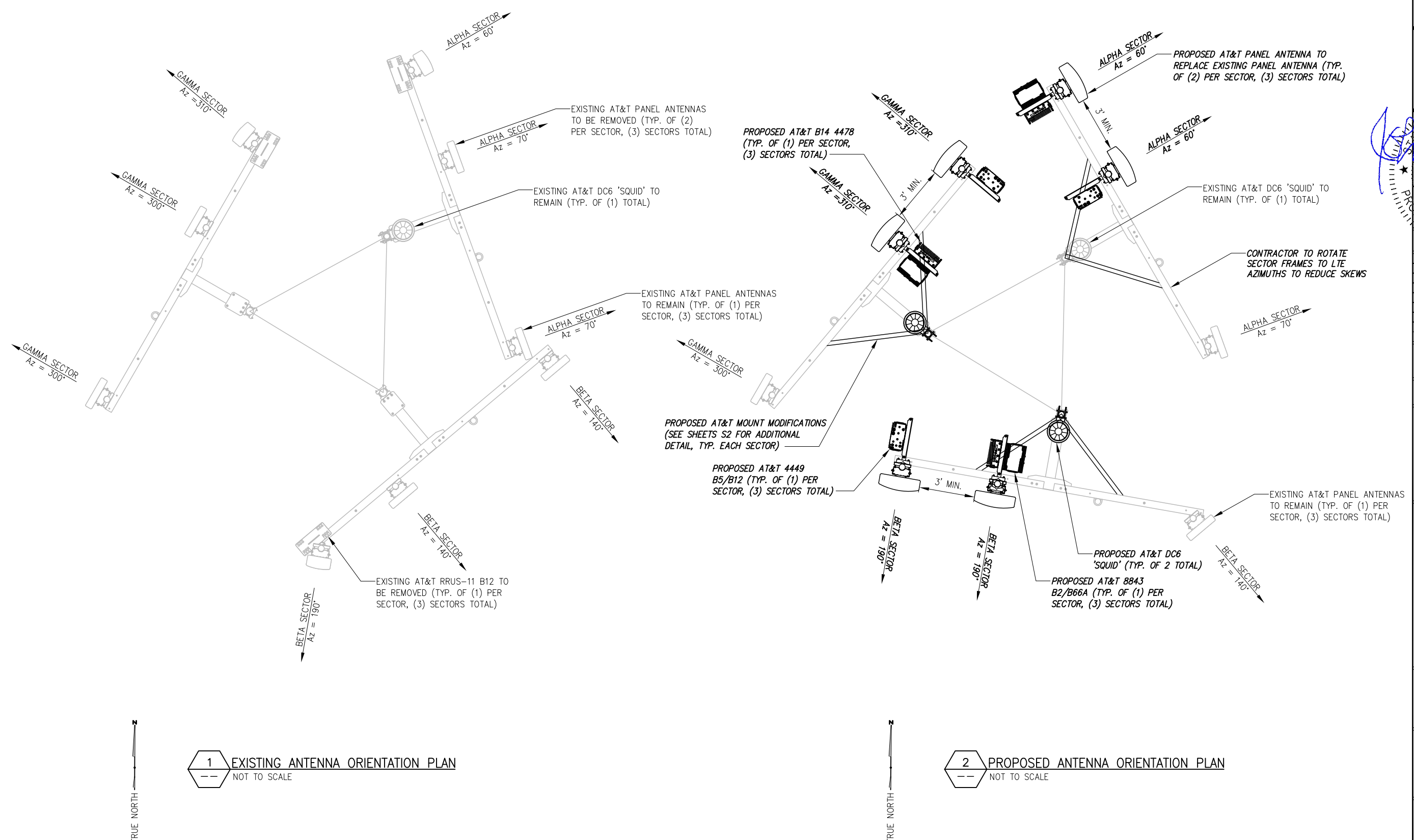
C3

**NOTE:**

- 3' MINIMUM SEPARATION BETWEEN ALL LTE ANTENNAS
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS

**NOTE:**

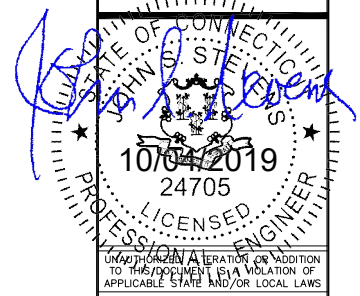
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- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE 'POST MOD MOUNT ANALYSIS REPORT' COMPLETED BY INFINIGY, DATED 09/17/19. SEE SHEET S2 FOR MODIFICATION DETAILS



1 EXISTING ANTENNA ORIENTATION PLAN  
NOT TO SCALE

2 PROPOSED ANTENNA ORIENTATION PLAN  
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INFINIGY ENGINEERING, PLLC  
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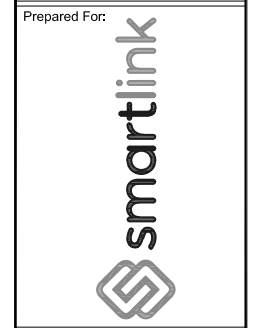


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CTL05736  
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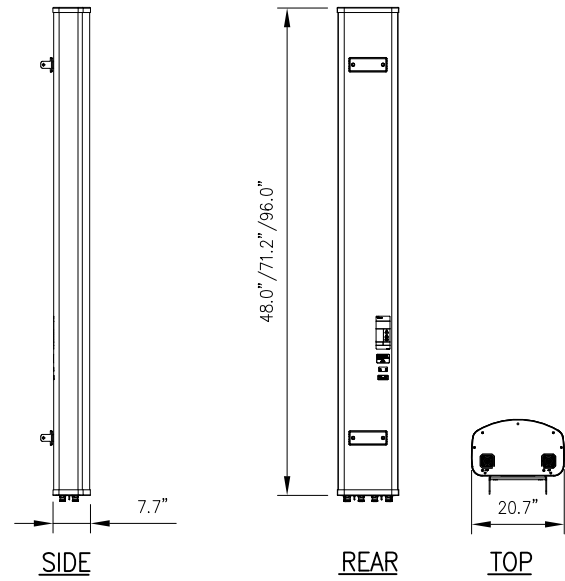


Drawing Scale: AS NOTED  
Date: 10/04/19  
**CD**

Drawing Title:  
**ANTENNA ORIENTATION PLAN**

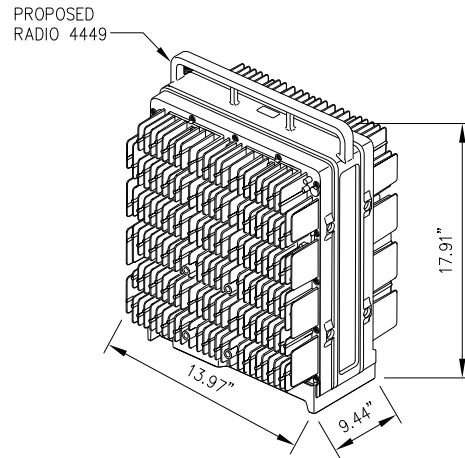
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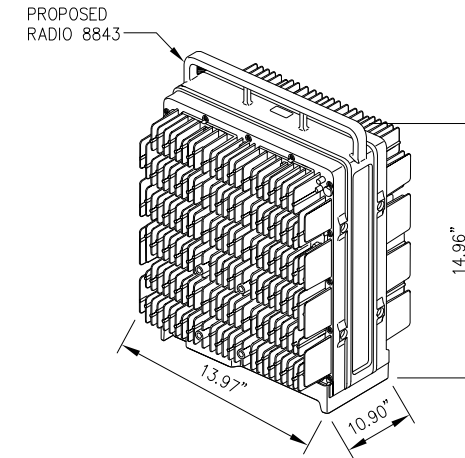
<b>CCI MODEL NO.:</b>	<b>DMP65R-BU4DA/DMP65R-BU6DA/DMP65R-BU8DA</b>
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	48.0"x20.7"x7.7"/71.2"x20.7"x7.7"/96.0"x20.7"x7.7"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	67.9 LBS/79.4 LBS/95.7 LBS
CONNECTOR:	7-16 DIN FEMALE

**1 ANTENNA DETAIL**  
NOT TO SCALE



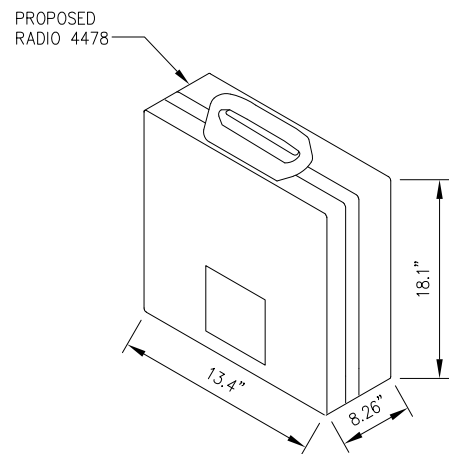
<b>RADIO 4449 SPECIFICATIONS</b>
• HxWxD, (INCHES) : 17.91"x13.97"x9.44"
• WEIGHT (LBS) : 70.54
• COLOR : GRAY

**2 ERICSSON RADIO 4449 DETAIL**  
NOT TO SCALE



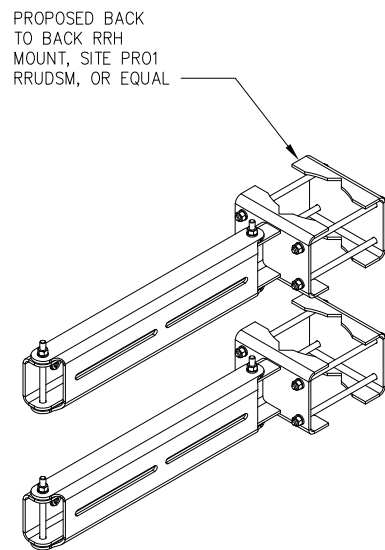
<b>RADIO 8843 SPECIFICATIONS</b>
• HxWxD, (INCHES) : 14.96"x13.97"x10.90"
• WEIGHT (LBS) : 71.87
• COLOR : GRAY

**4 ERICSSON RADIO 8843 DETAIL**  
NOT TO SCALE

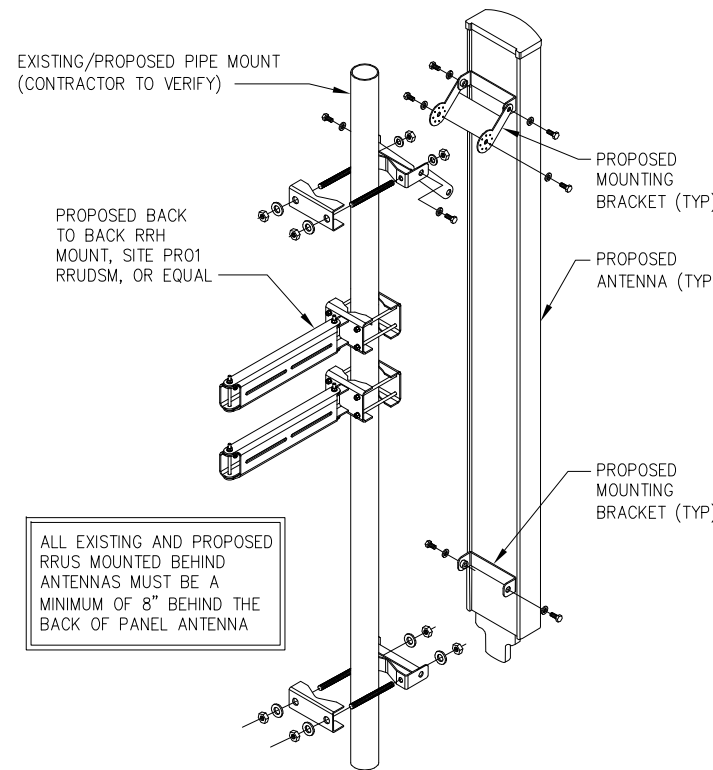


<b>RADIO 4478-B14 SPECIFICATIONS</b>
• HxWxD, (INCHES) : 18.1"x13.4"x8.26"
• WEIGHT (LBS) : 59.5
• COLOR : GRAY
• MOUNTING BRACKET: SXK1250244/1

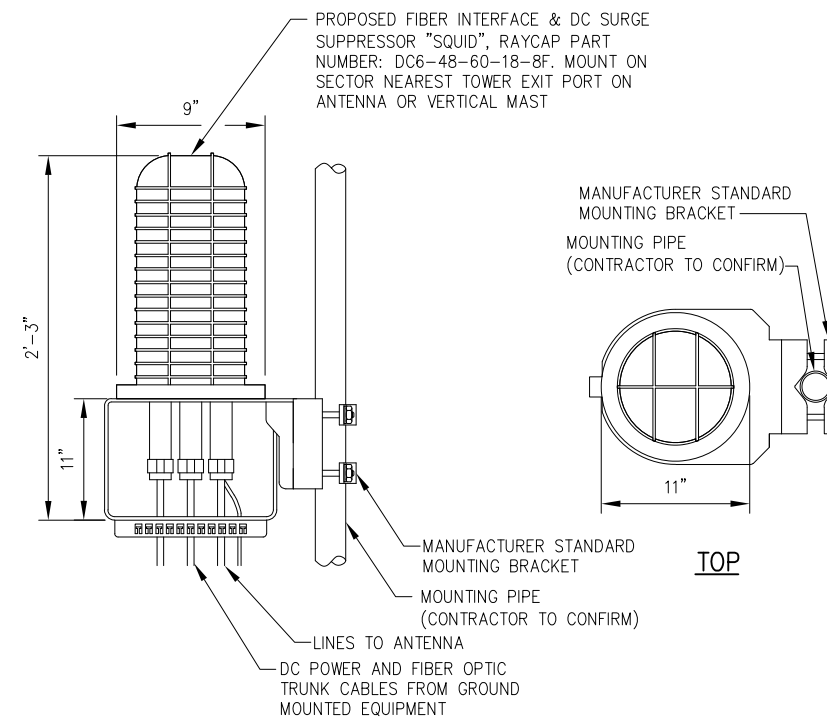
**4 ERICSSON RADIO 4478-B14 DETAIL**  
NOT TO SCALE



**5 BACK TO BACK PIPE MOUNT DETAIL**  
NOT TO SCALE

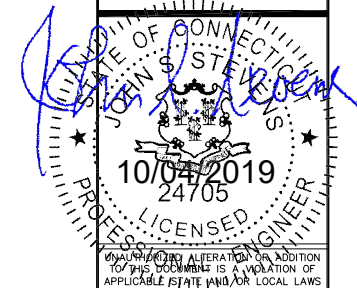


**6 ANTENNA MOUNTING DETAIL**  
NOT TO SCALE



**7 SQUID DETAIL**  
NOT TO SCALE

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Project Title:

SALEM SOUTHEAST

CTL05736  
FA# 10071229  
27 MAYNARD ROAD  
SALEM, CT 06420

Prepared For:



Drawing Scale: AS NOTED  
Date: 10/04/19

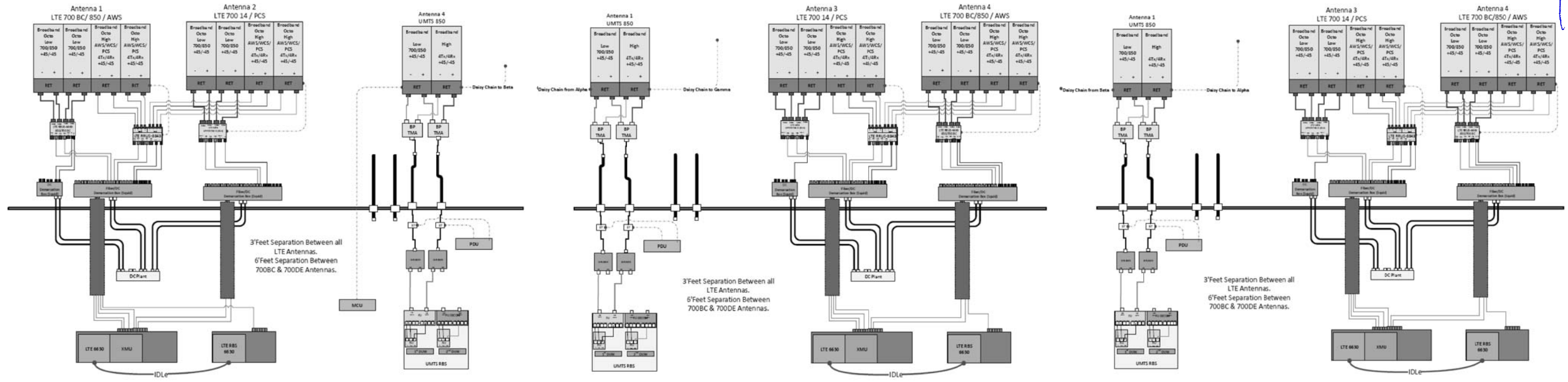
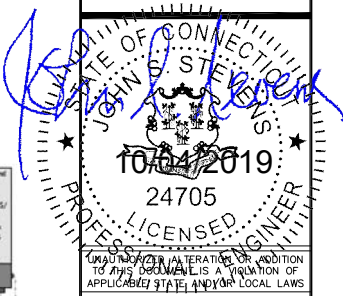
**CD**

Drawing Title:

**EQUIPMENT DETAILS**

Drawing Number:

**C5**



ALPHA/BETA/GAMMA SECTOR

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)  
 NOT TO SCALE

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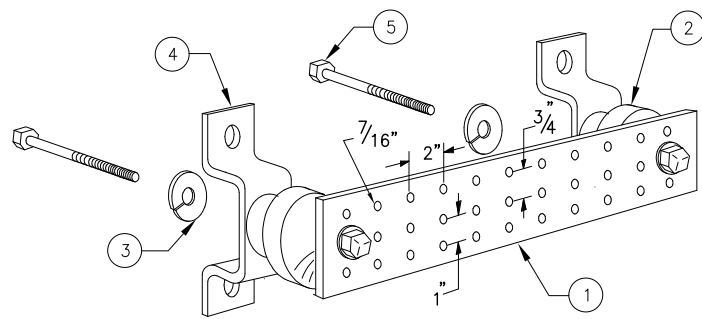


Drawing Scale: AS NOTED  
 Date: 10/04/19  
**CD**

Drawing Title: **PLUMBING DIAGRAM**

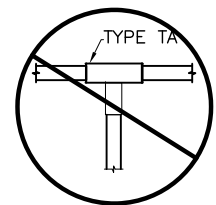
Drawing Number: **C6**

\*BASED ON LTE RFDS, DATED 08/26/2019, V2.00

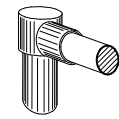


**LEGEND**

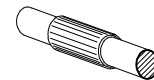
- 1 - SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
- 2 - INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
- 3 - 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
- 4 - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
- 5 - 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
- 6 - GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
- 7 - GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
- 8 - GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
- 9 - HARDWARE DIAMETER SHALL BE MINIMUM 3/8"



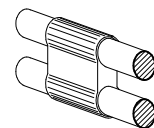
NOT PERMITTED



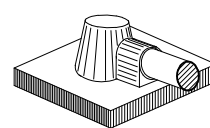
TYPE GR



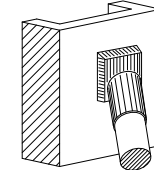
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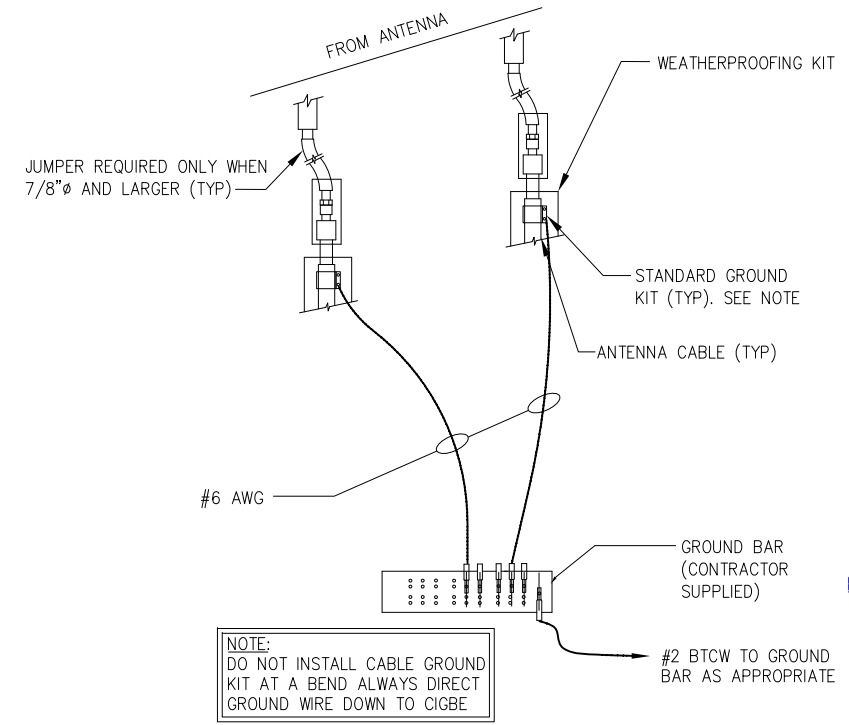
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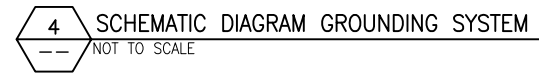
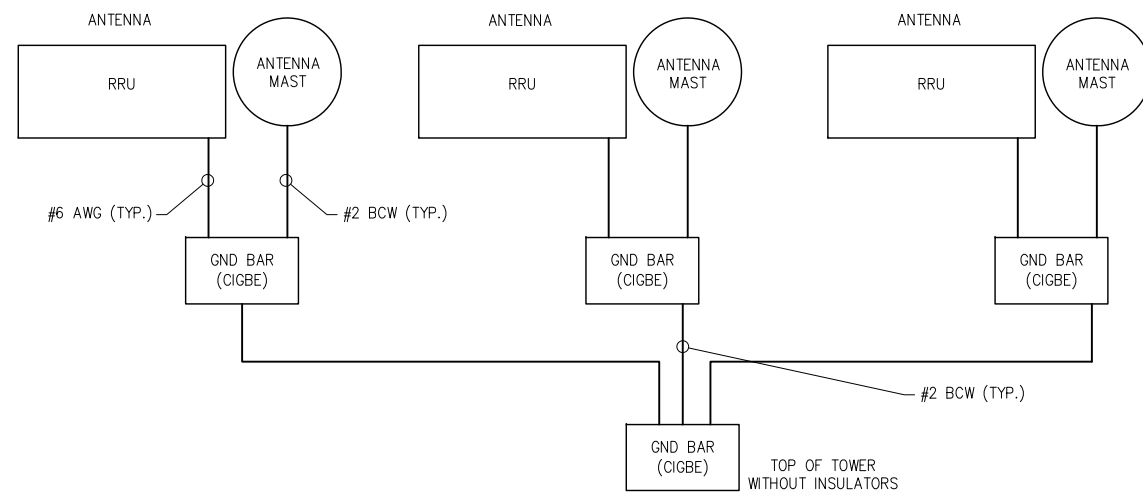
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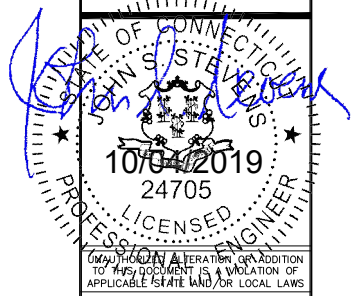
TYPE VS



NOTE:  
DO NOT INSTALL CABLE GROUND KIT AT A BEND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

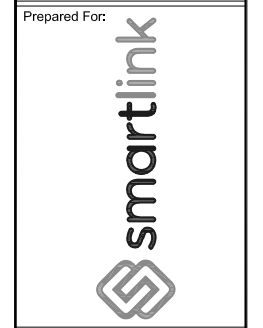


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SALEM, CT 06420



Drawing Scale:  
AS NOTED  
Date:  
10/04/19

**CD**

Drawing Title  
**GROUNDING DETAILS**

Drawing Number  
**C7**

**GENERAL NOTES:**

1. THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE LATEST VERSION OF APPLICABLE LOCAL/STATE/COUNTY/CITY BUILDING CODES, AS WELL AS ANSI/TIA-222 STANDARD, AWWA-D100 STANDARD, NDS, NEC, MSJC, AND/OR THE LATEST VERSION OF THE INTERNATIONAL BUILDING CODE, UNLESS NOTED OTHERWISE IN THE CORRESPONDING STRUCTURAL REPORT.
2. ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
3. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN SIMILAR CONSTRUCTION.
4. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. IF OBSTRUCTIONS ARE FOUND, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD PRIOR TO CONTINUING WORK.
5. ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND/OR CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE DURING CONSTRUCTION. TIA-1019-A-2011 IS AN APPROPRIATE REFERENCE FOR THOSE DESIGNS MEETING TIA STANDARDS. THE ENGINEER OF RECORD MAY PROVIDE FORMAL RIGGING PLANS AT THE REQUEST AND EXPENSE OF THE CONTRACTOR.

7. INSTALLATION SHALL NOT INTERFERE NOR DENY ADEQUATE ACCESS TO OR FROM ANY EXISTING OR PROPOSED OPERATIONAL AND SAFETY EQUIPMENT.
8. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

**STEEL CONSTRUCTION NOTES:**

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
2. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES, AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVALITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS' RECOMMENDATIONS.
3. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
4. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
5. ALL STEEL MEMBERS AND CONNECTIONS SHALL MEET THE FOLLOWING GRADES:
  - ANGLES, CHANNELS, PLATES AND BARS TO BE A36. Fy=36 KSI, U.N.O.
  - W SHAPES TO BE A992. Fy=50 KSI, U.N.O.
  - RECTANGULAR HSS TO BE A500, GRADE B. Fy=46 KSI, U.N.O.
  - ROUND HSS TO BE A500, GRADE B. Fy=42 KSI, U.N.O.
  - STEEL PIPE TO BE A53, GRADE B. Fy=35 KSI, U.N.O.
  - BOLTS TO BE A325-X. Fu=120 KSI, U.N.O.
  - U-BOLTS AND LAG SCREWS TO BE A307 GR A. Fu=60 KSI, U.N.O.
6. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES, U.N.O.
7. ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION.
8. ALL HILTI ANCHORS TO BE CARBON STEEL, U.N.O.
  - MECHANICAL ANCHORS: KWIK BOLT-TZ, U.N.O.
  - CMU BLOCK ANCHORS: ADHESIVE - HY120, U.N.O.
  - CONCRETE ANCHORS: ADHESIVE - HY150, U.N.O.
  - CONCRETE REBAR: ADHESIVE - RE500, U.N.O.
9. ALL STUDS TO BE NELSON CAPACITOR DISCHARGE 1/4"-20 LOW CARBON STEEL COPPER-FLASH AT 55 KSI ULT/50 KSI YIELD, U.N.O.
10. BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
11. MINIMUM EDGE DISTANCES SHALL CONFORM TO AISC TABLE J3.4.
12. REMOVAL/REPLACEMENT OF STRUCTURAL MEMBERS SHALL BE DONE ONE MEMBER AT A TIME. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STRUCTURAL INTEGRITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.

**CONCRETE CONSTRUCTION NOTES:**

1. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR IS NOT PERMITTED.
2. EXISTING CONCRETE SURFACES THAT ARE TO BE IN CONTACT WITH NEW PROPOSED CONCRETE SHOULD BE WIRE BRUSHED CLEAN AND TREATED WITH APPROPRIATE MECHANICAL SCRATCH COAT AND REPAIR MATERIALS OR APPROPRIATE CHEMICAL METHODS SUCH AS THE APPLICATION OF A BONDING AGENT, EX. SAKRETE OR EQUIVALENT, TO ENSURE A QUALITY BOND BETWEEN EXISTING AND PROPOSED CONCRETE SURFACES.

**FIBER REINFORCED POLYMER (FRP) NOTES:**

1. FRP PLATES, SHAPES, BOLTS AND NUTS (STUD/NUT ASSEMBLIES) SHALL CONFORM TO ASTM D638, 695, 790. PLATES AND SHAPES TO BE FY = 5.35 KSI LW (SAFETY FACTOR OF 8), .945 KSI CW (SAFETY FACTOR OF 8) MIN.
2. IF FIELD FABRICATION IS REQUIRED, ALL CUT EDGES AND DRILLED HOLES TO BE SEALED USING VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
3. ALL FASTENERS TO BE 1/2" DIA FRP THREADED ROD WITH FIBER REINFORCED THERMOPLASTIC NUT, SPACED AT 12 INCHES ON CENTER MAXIMUM, U.N.O., FOR PANELS AND AS DESIGNED FOR STRUCTURAL MEMBERS.
4. THE COLOR AND SURFACE PATTERN OF EXPOSED FRP PANELS SHALL MATCH THE EXTERIOR OF THE EXISTING BUILDING, U.N.O.
5. STUD/NUT ASSEMBLIES SHOULD BE LUBRICATED FOR INSTALLATION
6. ENSURE BEARING SURFACES OF THE NUTS ARE PARALLEL TO THE SURFACES BEING FASTENED.
7. TORQUE BOLTS ACCORDING TO THE FOLLOWING TABLE:

INSTALLATION TORQUE TABLE		
SIZE	ULTIMATE TORQUE STRENGTH	RECOMMENDED MAXIMUM INSTALLATION TORQUE
3/8-16 UNC	8 FT-LBS	4 FT-LBS
1/2-13 UNC	18 FT-LBS	8 FT-LBS
5/8-11 UNC	35 FT-LBS	16 FT-LBS
3/4-10 UNC	50 FT-LBS	24 FT-LBS
1-8 UNC	110 FT-LBS	50 FT-LBS

8. WHEN TIGHTENING FRP STUD/NUT ASSEMBLIES, WRENCHES MUST MAKE FULL CONTACT WITH ALL NUT EDGES. A STANDARD SIX POINT SOCKET IS RECOMMENDED.
9. STUD/NUT ASSEMBLIES SHOULD BE BONDED BY APPLYING BONDING AGENT TO ENTIRE NUT AND EXPOSED STUD.
10. ALL FRP MATERIALS TO BE PROVIDED BY FIBERGRATE COMPOSITE STRUCTURES, DALLAS TX, OR APPROVED EQUAL.
11. ALL FRP SHAPES TO BE DYNAFORM PULTRUDED STRUCTURAL SHAPES.
12. ALL FRP PLATES TO BE FIBERPLATE MOLDED FRP PLATE.
13. ALL FRP PANELS TO BE FIBERPLATE CLADDING PANEL.
14. EACH FRP PANEL TO BE IDENTIFIED WITH LARR#25536 AND FIBERGRATE COMPOSITE STRUCTURAL LABEL.
15. FRP MATERIAL TO BE CLASSIFIED AS CC1 OR BETTER, AND HAVE MAXIMUM FLAME SPREAD OF 50.
16. ALL DESIGN AND CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH LOS ANGELES RESEARCH REPORT RR25536, DATED FEBRUARY 1, 2016.
17. SPECIAL INSPECTIONS MUST BE PROVIDED FOR ALL FRP INSTALLMENTS. SEE SPECIAL INSPECTION SECTION, THIS SHEET.

RATIO OF EDGE DISTANCE TO FRP FASTENER DIAMETER		
	RANGE	RECOMMENDED
EDGE DISTANCE - CL* BOLT TO END	2.0-4.0	3.0
EDGE DISTANCE - CL* BOLT TO SIDE	1.5-3.5	2.5
BOLT PITCH - CL* TO CL*	4.0-5.0	5.0

**WOOD CONSTRUCTION NOTES:**

1. ALL EXISTING WOOD SHAPES ARE ASSUMED TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN.
2. ALL PROPOSED WOOD SHAPES ARE TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN. U.N.O.
3. ALL EXISTING AND PROPOSED GLUED LAMINATED TIMBERS ARE TO BE 24F-1.8C DOUGLAS FIR BALANCED WITH A REFERENCE DESIGN BENDING VALUE OF 2400 PSI MIN. U.N.O.

**MASONRY CONSTRUCTION NOTES:**

1. ALL BRICK TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
  - FOR INTERIOR/ABOVE GRADE APPLICATIONS TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 100 PSI SHALL BE USED. FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 133 PSI.
  - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
2. ALL CMU TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
  - FOR INTERIOR/ABOVE GRADE APPLICATIONS, TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 64 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 158 PSI FOR FULLY GROUTED BLOCKS.
  - FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 84 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 163 PSI FOR FULLY GROUTED BLOCKS.
  - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.

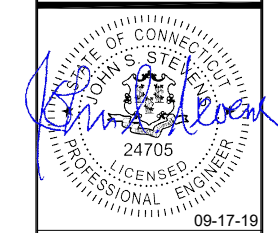
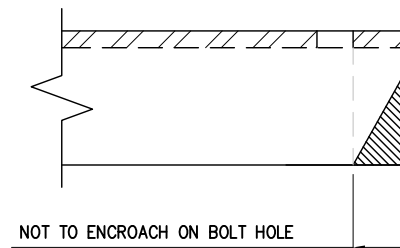
**TOWER PLUMB & TENSION NOTES:**

1. PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED IN THESE DRAWINGS.
2. RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.
3. PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS FOR LATTICED STRUCTURES.
4. THE TWIST BETWEEN ANY TWO ELEVATIONS THROUGHOUT THE HEIGHT OF A LATTICE STRUCTURE SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE LATTICE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.

**SPECIAL INSPECTIONS NOTES:**

1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER AND APPROVED BY THE JURISDICTION, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH THE THE GOVERNING BUILDING CODE, APPLICABLE SECTION(S) AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
  - a. STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELDS ONLY).
  - b. HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 AND/OR A490 BOLTS) TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD.
  - c. MECHANICAL AND EPOXIED ANCHORAGES.
  - d. FIBER REINFORCED POLYMER.
    - THE SPECIAL INSPECTOR MUST VERIFY THAT THE FRP MATERIAL SPECIFIED ON THE APPROVED DESIGN DOCUMENTS IS BEING INSTALLED.
    - THE SPECIAL INSPECTOR MUST VERIFY THAT ALL CUT EDGES AND DRILLED HOLES ARE PROPERLY SEALED USING A VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
    - THE SPECIAL INSPECTOR MUST VERIFY THAT THE STRUCTURE IS BUILT IN ACCORDANCE WITH THE APPROVED DESIGN DOCUMENTS.
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM WORK WITHOUT THE SPECIAL INSPECTIONS.

**MAXIMUM ALLOWABLE ANGLE CLIP**



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0	ISSUED FOR REVIEW	WJD	09/19/19
No.	Submital / Revision	App'd	Date
		WJD	09/19/19
		TM	09/13/19
		BDA	09/19/19

Project Number: 1106-A0001-B

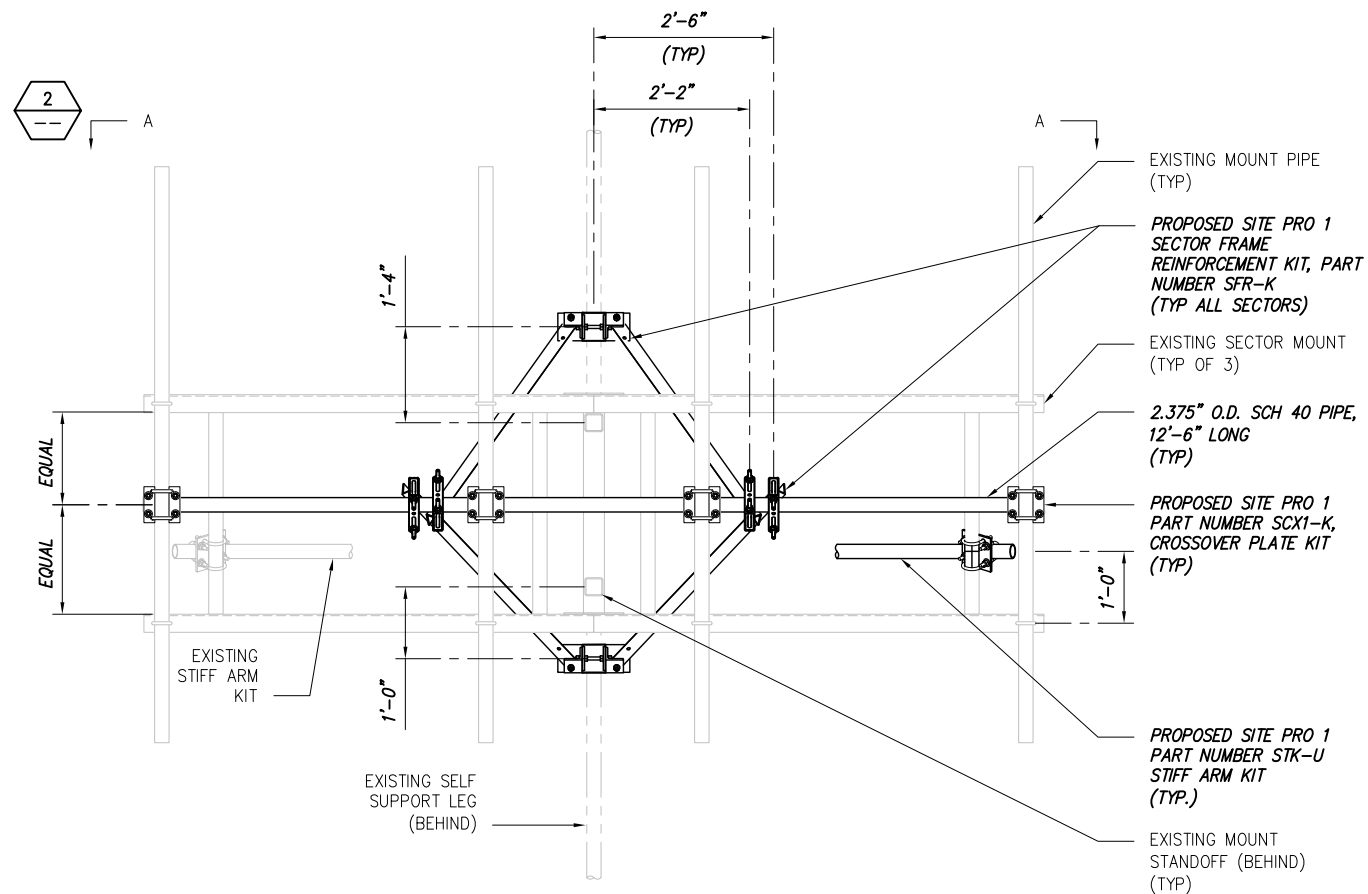
Project Title:  
**SALEM SOUTHEAST**  
CT05736  
FA# 10071229  
27 MAYNARD ROAD  
SALEM, CT 06420



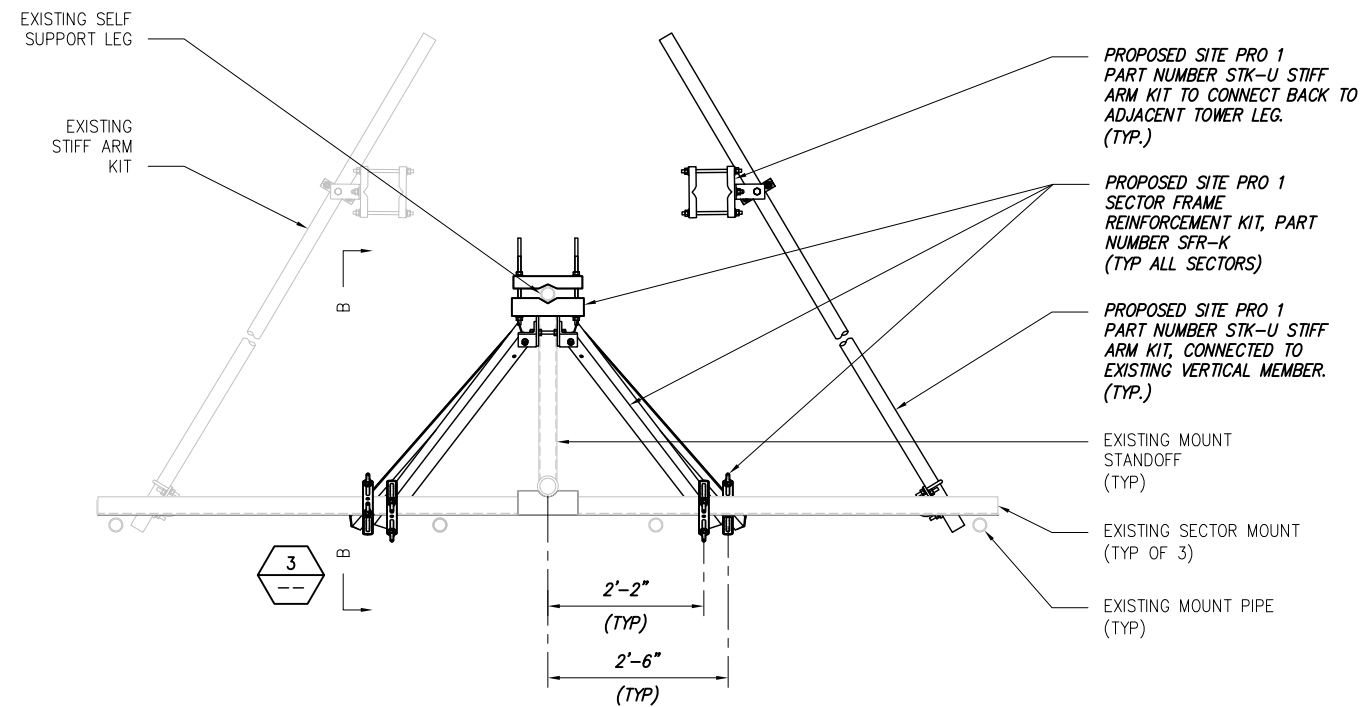
Drawing Scale:	AS NOTED	0
Date:	09/19/19	

Drawing Title  
**GENERAL NOTES**

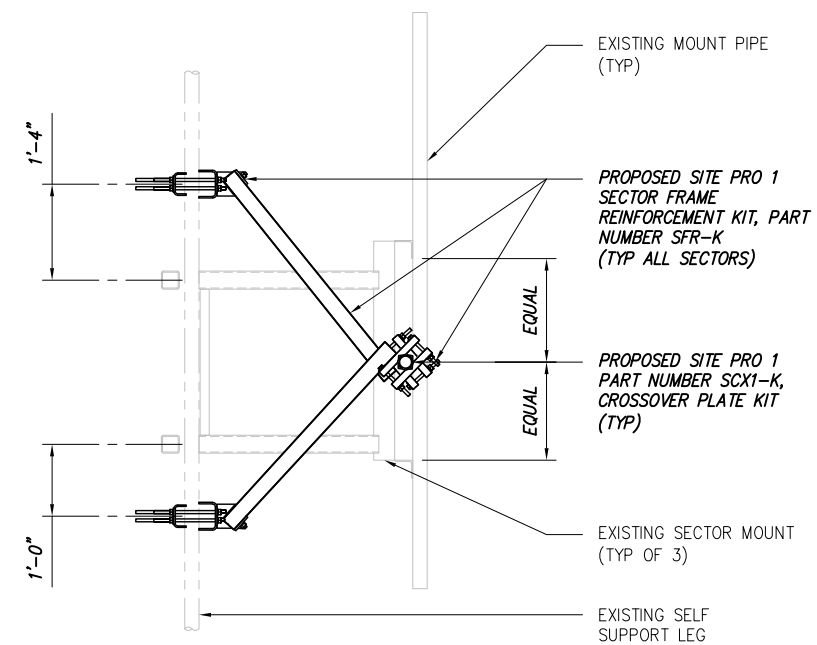
Drawing Number  
**S1**



**1 ELEVATION VIEW**  
SCALE: NOT TO SCALE



**2 SECTION A-A - PLAN**  
SCALE: NOT TO SCALE



**3 SECTION B-B - ELEVATION**  
SCALE: NOT TO SCALE

**NOTES:**

1. VARIOUS EXISTING CONDITIONS AND PROPOSED MODIFICATIONS NOT SHOWN FOR CLARITY.
2. ALL SITE PRO 1 PARTS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
3. MODIFICATIONS SHOWN ARE FOR (1) SECTOR MOUNT. (3) TOTAL MOUNTS REQUIRE MODIFICATION.
4. CONTRACTOR TO FIELD VERIFY LENGTH OF KICKER ANGLES FOR SFR-K KIT AND CUT AND DRILL KICKERS ON SITE IF NECESSARY.



09-17-19

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS.

No.	Submission / Revision	App'd	Date
0	ISSUED FOR REVIEW	WJD	09/19/19

Drawn: WJD Date: 09/19/19  
Designed: TM Date: 09/13/19  
Checked: BDA Date: 09/19/19

Project Number: 1106-A0001-B

Project Title: SALEM SOUTHEAST  
CT05736  
FA# 10071229  
27 MAYNARD ROAD  
SALEM, CT 06420

Prepared For: smartlink

Drawing Scale: AS NOTED  
Date: 09/19/19  
0

Drawing Title: **MOUNT MODIFICATION DETAILS**

Drawing Number: **S2**

## Structural Analysis Report

September 6, 2019

Site Number	CTL05736
AT&T FA Number	10071229
AT&T PACE Number	MRCTB041581/ MRCTB041391/ MRCTB041408/ MRCTB041805/ MRCTB041642
AT&T PTN Number	2051A0Q9KW, 2051A0Q8SW, 2051A0QAJF, 2051A0Q8WV, 2051A0Q7VP
Infinigy Job Number	1106-A0001-B
Client	Smartlink
Proposed Carrier	AT&T
Site Location	27 Maynard Road, Salem, CT 6420 41.4632919 N NAD83 72.2467989 W NAD83
Structure Type	100 ft. Self Supported Tower
Structural Usage Ratio	<b>47.2%</b>
Overall Result	<b>Pass</b>

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The tower and foundations are therefore deemed adequate to support the existing and proposed loading as listed in this report.



Morteza Ashouri, E.I.T.  
Structural Engineer II

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Calculations.....	Appended

## **Introduction**

Infinigy Engineering has been requested to perform a structural analysis on the existing 100' Self Supported Tower. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The tower was analyzed using tnxTower version 8.0.3.2 tower analysis software.

## **Supporting Documentation**

<b>Previous Analysis</b>	MEI Project ID #CT01453S-09V0, dated January 16, 2009
<b>Construction Drawings</b>	AT&T Site #CT5736, dated November 21, 2012
<b>Site Photos</b>	Provided by Infinigy, dated June 25, 2019
<b>RFDS</b>	RFDS ID #3149437, dated May 24, 2019

## **Analysis Code Requirements**

Wind Speed	131 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1.275" ice
TIA Revision	ANSI/TIA-222-H
Adopted IBC	2015 IBC
Risk Category	II
Exposure Category	C
Topographic Category	1
Spectral Response	$S_s = 0.169$ g, $S_1 = 0.060$ g
Calculated Crest Height	0 ft
Site Class	D – Stiff Soil
HMSL	558 ft.

## **Conclusion**

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The tower and foundations are therefore deemed adequate to support the existing and proposed loading as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Morteza Ashouri  
 Structural Engineer II | INFINIGY  
 1517 Old Apex Rd, Cary, NC 27513  
 (O) (518) 690-0790 | (M) (919) 448-4344  
[mashouri@infinigy.com](mailto:mashouri@infinigy.com) | [www.infinigy.com](http://www.infinigy.com)



**Existing and Reserved Loading**

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax & Lines	Carrier
100.0	1	Lightning Rod	-	-	-
	1	15' Dipole Whip Antenna	Leg	(1) 7/8"	
	1	10' Whip Antenna	Leg	(1) 7/8"	
	1	8' Omni-X Antenna	Face Mount	(1) 7/8"	
	1	8' Omni-X Antenna		(1) 7/8"	
98.5	-	-	Empty Face Mount	-	
82.5	1	8' Omni-X Antenna	Face Mount	(1) 7/8"	
72.0	6	POWERWAVE 7770	Sector Frames	(12) 7/8"	AT&T
	3	KMW AM-X-CD-14-65-00T-RET			
	3	Ericsson RRUS-11 B12			
	1	Raycap DC6-48-60-18-8F			
	6	POWERWAVE TME-LGP21401			

**To Be Removed Loading**

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax & Lines	Carrier
72.0	3	POWERWAVE 7770	-	-	AT&T
	3	KMW AM-X-CD-14-65-00T-RET			
	3	Ericsson RRUS-11 B12			

**Proposed Loading**

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax & Lines	Carrier
72.0	2	CCI ANTENNAS DMP65R-BU4DA	-	-	AT&T
	2	CCI ANTENNAS DMP65R-BU6DA			
	2	CCI ANTENNAS DMP65R-BU8DA			
	2	Raycap DC6-48-60-18-8F			
	3	ERICSSON RADIO 8843 B2/B66A			
	3	ERICSSON RADIO 4449 B5/B12			
	3	ERICSSON RRUS 4478 B14			

**Final Configuration**

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax & Lines	Carrier
100.0	1	Lightning Rod	-	-	-
	1	15' Dipole Whip Antenna	Leg	(1) 7/8"	
	1	10' Whip Antenna	Leg	(1) 7/8"	
	1	8' Omni-X Antenna	Face Mount	(1) 7/8"	
	1	8' Omni-X Antenna		(1) 7/8"	
98.5	-	-	Empty Face Mount	-	
82.5	1	8' Omni-X Antenna	Face Mount	(1) 7/8"	
72.0	2	CCI ANTENNAS DMP65R-BU4DA	Sector Frames	(12) 7/8"	AT&T
	2	CCI ANTENNAS DMP65R-BU6DA			
	2	CCI ANTENNAS DMP65R-BU8DA			
	3	POWERWAVE 7770			
	3	ERICSSON RADIO 8843 B2/B66A			
	3	ERICSSON RADIO 4449 B5/B12			
	3	ERICSSON RRUS 4478 B14			
	6	POWERWAVE TME-LGP21401			
	3	RAYCAP DC6-48-60-18-8F			

**Structure Usages**

Leg (T5)	33.8	Pass
Diagonal (T2)	47.2	Pass
Top Girt (T2)	4.7	Pass
Bolt Checks	47.2	Pass
<b>RATING =</b>	<b>47.2</b>	<b>Pass</b>

**Foundation Reactions**

Reaction Data	Analysis Reactions
Moment (kip-ft)	789.0
Axial (kip)	18.2
Shear (kip)	14.1

The existing foundation was found to be sufficient through analysis based on geotechnical and foundation information.

**Deflection, Twist, and Sway**

Antenna Elevation (ft)	Deflection (in)	Twist (°)	Sway (°)
72.0	0.320	0.0063	0.0327

\*Per ANSI/TIA-222-H Section 2.8.2 maximum serviceability structural deflection limit is 3% of structure height.

\*Per ANSI/TIA-222-H Section 2.8.2 maximum serviceability structural twist and sway limit is 4 degrees.

\*Per ANSI/TIA-222-H Section 2.8.3 deflection, Twist, and sway values were calculated using a basic 3-second gust wind speed of 60 mph.

\*It is the responsibility of the client to ensure their proposed and/or existing equipment will meet ANSI/TIA-222-H Annex D or other appropriate microwave signal degradation limits based on the provided values above.

**Assumptions and Limitations**

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of “like new” and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure’s condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the tower structure only and does not reflect adequacy of any existing antenna mounts, mount connections, or cable mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.

### DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	100	(2) DMP65R-BU8DA	72
15' Dipole	100	B2/B66A 8843	72
10' Dipole	100	B2/B66A 8843	72
8' Omni	100	B2/B66A 8843	72
8' Omni	100	B5/B12 4449	72
Empty Face Mount	98.5	B5/B12 4449	72
Face Mount (for 8' Omnis)	98.5	B5/B12 4449	72
8' Omni	82.5	RRUS 4478 B14	72
Face Mount (for 8' Omnis)	82.5	RRUS 4478 B14	72
Angle Sector Frame	72	RRUS 4478 B14	72
Angle Sector Frame	72	(2) LGP21401	72
Angle Sector Frame	72	(2) LGP21401	72
7770.00 w/ Mount Pipe	72	(2) LGP21401	72
7770.00 w/ Mount Pipe	72	DC6-48-60-18-8F	72
7770.00 w/ Mount Pipe	72	DC6-48-60-18-8F	72
(2) DMP65R-BU4DA	72	DC6-48-60-18-8F	72
(2) DMP65R-BU6DA	72		

### MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

### TOWER DESIGN NOTES

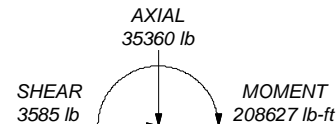
1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 131 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.27 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 47.2%

ALL REACTIONS  
ARE FACTORED

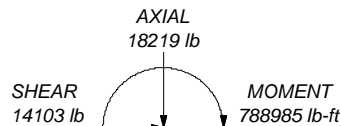
MAX. CORNER REACTIONS AT BASE:

DOWN: 97173 lb  
SHEAR: 8290 lb

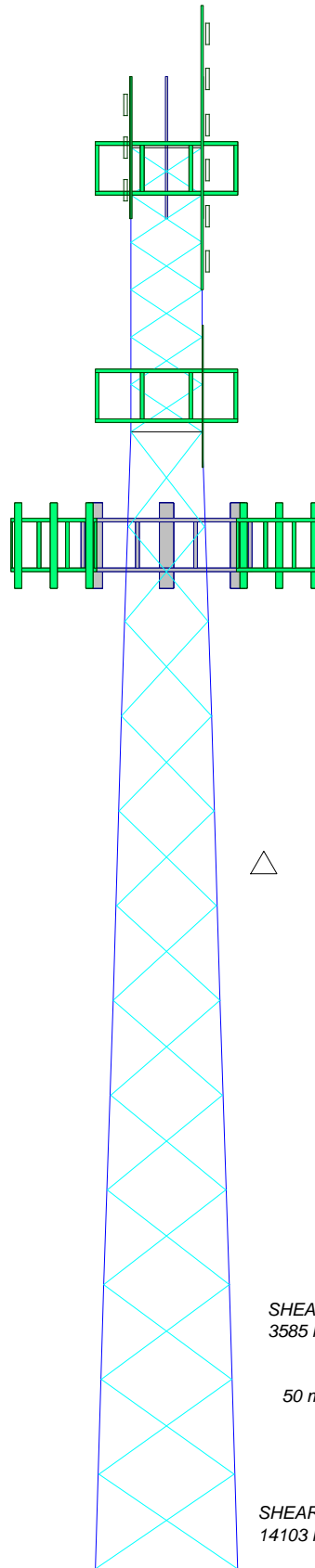
UPLIFT: -83404 lb  
SHEAR: 7442 lb



TORQUE 736 lb-ft  
50 mph WIND - 1.2750 in ICE



TORQUE 3225 lb-ft  
REACTIONS - 131 mph WIND



Section	T1	T2	T3	T4	T5
Legs	SR 2 1/4	SR 3	SR 3 1/4	SR 3 1/2	SR 3 3/4
Leg Grade			A572-50		
Diagonals	SR 1	L2x2x3/16	L2x2x1/4	L2x2x1/4	L2 1/2x2 1/2x3/16
Diagonal Grade			A36	N.A.	
Top Girts	SR 1	L2x2x3/16			
Face Width (ft)	5	6.25	7.5	8.75	10
# Panels @ (ft)	6 @ 3.33333	12 @ 6.66667	12 @ 6.66667	12 @ 6.66667	12 @ 6.66667
Weight (lb) 10999.8	1430.0	1862.8	2242.2	2566.6	2892.1

**Infinigy Engineering PLLC**  
1517 Old Apex Rd  
Cary, NC 27513  
Phone: (518) 690 0790  
FAX:

Job: **SALEM SOUTH EAST**

Project: **Structural Analysis**

Client: **Smartlink**

Drawn by: **mashouri**

App'd:

Code: **TIA-222-H**

Date: **09/09/19**

Scale: **NTS**

Path:

C:\Users\mashouri\Desktop\week ending 09-07-2019\Mounts\CTL05736 -10071229\Tower\CTL05736.ed

Dwg No. **E-1**

<b>tnxTower</b>  <b>Infinigy Engineering PLLC</b> 1517 Old Apex Rd Cary, NC 27513 Phone: (518) 690 0790 FAX:	<b>Job</b> SALEM SOUTH EAST	<b>Page</b> 1 of 27
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	<b>Client</b> Smartlink	<b>Designed by</b> mashouri

## Tower Input Data

The main tower is a 3x free standing tower with an overall height of 100.00 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 5.00 ft at the top and 10.00 ft at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in New London County, Connecticut.

Tower base elevation above sea level: 558.00 ft.

Basic wind speed of 131 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height 0.00 ft.

Nominal ice thickness of 1.2750 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

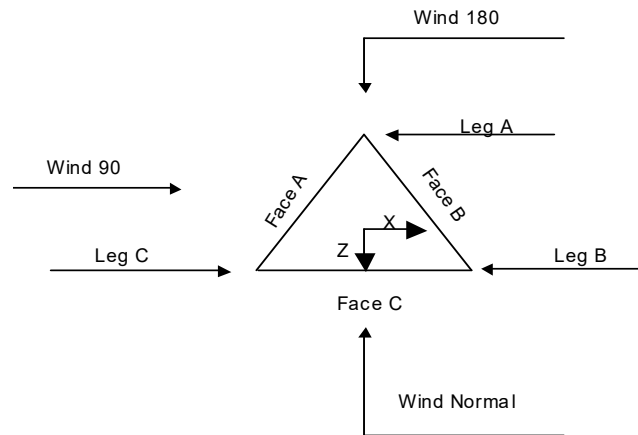
Stress ratio used in tower member design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

## Options

- |  |   |   |
|--|---|---|
| <ul style="list-style-type: none"> <li>Consider Moments - Legs</li> <li>Consider Moments - Horizontals</li> <li>Consider Moments - Diagonals</li> <li>Use Moment Magnification</li> <li>√ Use Code Stress Ratios</li> <li>√ Use Code Safety Factors - Guys</li> <li>Escalate Ice</li> <li>Always Use Max Kz</li> <li>Use Special Wind Profile</li> <li>√ Include Bolts In Member Capacity</li> <li>√ Leg Bolts Are At Top Of Section</li> <li>√ Secondary Horizontal Braces Leg</li> <li>Use Diamond Inner Bracing (4 Sided)</li> <li>SR Members Have Cut Ends</li> <li>SR Members Are Concentric</li> </ul> | <ul style="list-style-type: none"> <li>Distribute Leg Loads As Uniform</li> <li>Assume Legs Pinned</li> <li>√ Assume Rigid Index Plate</li> <li>√ Use Clear Spans For Wind Area</li> <li>√ Use Clear Spans For KL/r</li> <li>√ Retension Guys To Initial Tension</li> <li>Bypass Mast Stability Checks</li> <li>√ Use Azimuth Dish Coefficients</li> <li>√ Project Wind Area of Appurt.</li> <li>√ Autocalc Torque Arm Areas</li> <li>Add IBC .6D+W Combination</li> <li>√ Sort Capacity Reports By Component</li> <li>√ Triangulate Diamond Inner Bracing</li> <li>Treat Feed Line Bundles As Cylinder</li> <li>Ignore KL/ry For 60 Deg. Angle Legs</li> </ul> | <ul style="list-style-type: none"> <li>Use ASCE 10 X-Brace Ly Rules</li> <li>√ Calculate Redundant Bracing Forces</li> <li>Ignore Redundant Members in FEA</li> <li>SR Leg Bolts Resist Compression</li> <li>√ All Leg Panels Have Same Allowable</li> <li>Offset Girt At Foundation</li> <li>√ Consider Feed Line Torque</li> <li>√ Include Angle Block Shear Check</li> <li>Use TIA-222-H Bracing Resist. Exemption</li> <li>Use TIA-222-H Tension Splice Exemption</li> <li style="text-align: center;">Poles</li> <li>Include Shear-Torsion Interaction</li> <li>Always Use Sub-Critical Flow</li> <li>Use Top Mounted Sockets</li> <li>Pole Without Linear Attachments</li> <li>Pole With Shroud Or No Appurtenances</li> <li>Outside and Inside Corner Radii Are Known</li> </ul> |
|--|---|---|

<b>tnxTower</b>  <b>Infinigy Engineering PLLC</b> 1517 Old Apex Rd Cary, NC 27513 Phone: (518) 690 0790 FAX:	<b>Job</b> SALEM SOUTH EAST	<b>Page</b> 2 of 27
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**Triangular Tower**

**Tower Section Geometry**

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	100.00-80.00			5.00	1	20.00
T2	80.00-60.00			5.00	1	20.00
T3	60.00-40.00			6.25	1	20.00
T4	40.00-20.00			7.50	1	20.00
T5	20.00-0.00			8.75	1	20.00

**Tower Section Geometry (cont'd)**

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	100.00-80.00	3.33	X Brace	No	No	0.0000	0.0000
T2	80.00-60.00	6.67	X Brace	No	No	0.0000	0.0000
T3	60.00-40.00	6.67	X Brace	No	No	0.0000	0.0000
T4	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T5	20.00-0.00	6.67	X Brace	No	No	0.0000	0.0000

**Tower Section Geometry (cont'd)**

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Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 100.00-80.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1	A36 (36 ksi)
T2 80.00-60.00	Solid Round	3	A572-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T3 60.00-40.00	Solid Round	3 1/4	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T4 40.00-20.00	Solid Round	3 1/2	A572-50 (50 ksi)	Single Angle	L2x2x1/4	A36 (36 ksi)
T5 20.00-0.00	Solid Round	3 3/4	A572-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/16	A36 (36 ksi)

### Tower Section Geometry (cont'd)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 100.00-80.00	Solid Round	1	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T2 80.00-60.00	Single Angle	L2x2x3/16	A36 (36 ksi)	Flat Bar		A36 (36 ksi)

### Tower Section Geometry (cont'd)

Tower Elevation ft	Gusset Area (per face) ft <sup>2</sup>	Gusset Thickness in	Gusset Grade	Adjust. Factor A <sub>f</sub>	Adjust. Factor A <sub>r</sub>	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T2 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T3 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T4 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000
T5 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000	36.0000

### Tower Section Geometry (cont'd)

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors <sup>1</sup>						
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X	X	X	X	X	X	X
				Y	Y	Y	Y	Y	Y	Y

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Tower Elevation	Calc K Single Angles	Calc K Solid Rounds	K Factors <sup>1</sup>								
			Legs	X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace	
				X Y	X Y	X Y	X Y	X Y	X Y	X Y	
T1 100.00-80.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T2 80.00-60.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T3 60.00-40.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T4 40.00-20.00	Yes	Yes	1	1	1	1	1	1	1	1	1
T5 20.00-0.00	Yes	Yes	1	1	1	1	1	1	1	1	1

<sup>1</sup>Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

### Tower Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

### Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg Bolt Size in	No.	Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
				Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 100.00-80.00	Flange	0.7500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
T2 80.00-60.00	Flange	1.0000	6	0.6250	1	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0
T3 60.00-40.00	Flange	1.0000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
T4 40.00-20.00	Flange	1.0000	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
T5 20.00-0.00	Flange	1.1250	6	0.6250	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0



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**Feed Line/Linear Appurtenances - Entered As Round Or Flat**

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
***													p?Z
7/8" COAX	C	No	No	Ar (CaAa)	100.00 - 0.00	0.0000	-0.4	1	1	0.8750	0.8750		0.00
7/8" COAX	A	No	No	Ar (CaAa)	100.00 - 0.00	0.0000	-0.35	1	1	0.8750	0.8750		0.00
7/8" COAX	A	No	No	Ar (CaAa)	100.00 - 0.00	0.0000	-0.3	1	1	0.8750	0.8750		0.00
7/8" COAX	A	No	No	Ar (CaAa)	100.00 - 0.00	0.0000	-0.25	1	1	0.8750	0.8750		0.00
7/8" COAX	A	No	No	Ar (CaAa)	100.00 - 0.00	0.0000	-0.2	1	1	0.8750	0.8750		0.00
***													p?Z
7/8" COAX	A	No	No	Ar (CaAa)	82.50 - 0.00	0.0000	-0.15	1	1	0.8750	0.8750		0.00
***													p?Z
7/8	B	No	No	Ar (CaAa)	72.00 - 0.00	0.0000	0.1	12	6	1.1100	1.1100		0.54
***													p?Z

**Feed Line/Linear Appurtenances - Entered As Area**

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C <sub>AA</sub> ft <sup>2</sup> /ft	Weight plf
***								

**Feed Line/Linear Appurtenances Section Areas**

Tower Section	Tower Elevation ft	Face	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>AA</sub> In Face ft <sup>2</sup>	C <sub>AA</sub> Out Face ft <sup>2</sup>	Weight lb
T1	100.00-80.00	A	0.000	0.000	7.219	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	1.750	0.000	0.00
T2	80.00-60.00	A	0.000	0.000	8.750	0.000	0.00
		B	0.000	0.000	15.984	0.000	77.76
		C	0.000	0.000	1.750	0.000	0.00
T3	60.00-40.00	A	0.000	0.000	8.750	0.000	0.00
		B	0.000	0.000	26.640	0.000	129.60
		C	0.000	0.000	1.750	0.000	0.00
T4	40.00-20.00	A	0.000	0.000	8.750	0.000	0.00
		B	0.000	0.000	26.640	0.000	129.60
		C	0.000	0.000	1.750	0.000	0.00
T5	20.00-0.00	A	0.000	0.000	8.750	0.000	0.00
		B	0.000	0.000	26.640	0.000	129.60
		C	0.000	0.000	1.750	0.000	0.00

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**Feed Line/Linear Appurtenances Section Areas - With Ice**

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> In Face ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> Out Face ft <sup>2</sup>	Weight lb
T1	100.00-80.00	A	1.410	0.000	0.000	30.476	0.000	324.57
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	7.388	0.000	78.68
T2	80.00-60.00	A	1.375	0.000	0.000	36.242	0.000	377.78
		B		0.000	0.000	24.221	0.000	433.04
		C		0.000	0.000	7.248	0.000	75.56
T3	60.00-40.00	A	1.329	0.000	0.000	35.332	0.000	357.90
		B		0.000	0.000	40.072	0.000	708.06
		C		0.000	0.000	7.066	0.000	71.58
T4	40.00-20.00	A	1.263	0.000	0.000	34.008	0.000	329.86
		B		0.000	0.000	39.642	0.000	688.36
		C		0.000	0.000	6.802	0.000	65.97
T5	20.00-0.00	A	1.132	0.000	0.000	31.380	0.000	277.38
		B		0.000	0.000	38.790	0.000	649.89
		C		0.000	0.000	6.276	0.000	55.48

**Feed Line Center of Pressure**

Section	Elevation ft	CP <sub>X</sub> in	CP <sub>Z</sub> in	CP <sub>X</sub> Ice in	CP <sub>Z</sub> Ice in
T1	100.00-80.00	-2.8005	1.5063	-4.2363	2.2785
T2	80.00-60.00	0.1221	0.0243	-2.8216	1.3493
T3	60.00-40.00	1.5295	-0.4673	-1.9381	1.1013
T4	40.00-20.00	1.6452	-0.4799	-2.0581	1.2089
T5	20.00-0.00	1.5804	-0.4524	-1.8938	1.1753

**Shielding Factor Ka**

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K <sub>a</sub> No Ice	K <sub>a</sub> Ice
T1	2	7/8" COAX	80.00 - 100.00	0.6000	0.6000
T1	3	7/8" COAX	80.00 - 100.00	0.6000	0.6000
T1	4	7/8" COAX	80.00 - 100.00	0.6000	0.6000
T1	5	7/8" COAX	80.00 - 100.00	0.6000	0.6000
T1	6	7/8" COAX	80.00 - 100.00	0.6000	0.6000
T1	8	7/8" COAX	80.00 - 82.50	0.6000	0.6000
T2	2	7/8" COAX	60.00 - 80.00	0.6000	0.6000
T2	3	7/8" COAX	60.00 - 80.00	0.6000	0.6000
T2	4	7/8" COAX	60.00 - 80.00	0.6000	0.6000
T2	5	7/8" COAX	60.00 - 80.00	0.6000	0.6000
T2	6	7/8" COAX	60.00 - 80.00	0.6000	0.6000
T2	8	7/8" COAX	60.00 - 80.00	0.6000	0.6000
T2	10	7/8	60.00 - 72.00	0.6000	0.6000
T3	2	7/8" COAX	40.00 - 60.00	0.6000	0.6000
T3	3	7/8" COAX	40.00 - 60.00	0.6000	0.6000
T3	4	7/8" COAX	40.00 - 60.00	0.6000	0.6000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	$K_a$ No Ice	$K_a$ Ice
T3	5	7/8" COAX	40.00 - 60.00	0.6000	0.6000
T3	6	7/8" COAX	40.00 - 60.00	0.6000	0.6000
T3	8	7/8" COAX	40.00 - 60.00	0.6000	0.6000
T3	10	7/8	40.00 - 60.00	0.6000	0.6000
T4	2	7/8" COAX	20.00 - 40.00	0.6000	0.6000
T4	3	7/8" COAX	20.00 - 40.00	0.6000	0.6000
T4	4	7/8" COAX	20.00 - 40.00	0.6000	0.6000
T4	5	7/8" COAX	20.00 - 40.00	0.6000	0.6000
T4	6	7/8" COAX	20.00 - 40.00	0.6000	0.6000
T4	8	7/8" COAX	20.00 - 40.00	0.6000	0.6000
T4	10	7/8	20.00 - 40.00	0.6000	0.6000
T5	2	7/8" COAX	0.00 - 20.00	0.6000	0.6000
T5	3	7/8" COAX	0.00 - 20.00	0.6000	0.6000
T5	4	7/8" COAX	0.00 - 20.00	0.6000	0.6000
T5	5	7/8" COAX	0.00 - 20.00	0.6000	0.6000
T5	6	7/8" COAX	0.00 - 20.00	0.6000	0.6000
T5	8	7/8" COAX	0.00 - 20.00	0.6000	0.6000
T5	10	7/8	0.00 - 20.00	0.6000	0.6000

### Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	$C_A A_A$ Front ft <sup>2</sup>	$C_A A_A$ Side ft <sup>2</sup>	Weight lb
*** Lightning Rod	A	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 1.00 1/2" Ice 2.02 1" Ice 3.05 2" Ice 5.15	1.00 2.02 3.05 5.15	1.00 10.26 25.89 76.85
*** 15' Dipole	B	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 4.50 1/2" Ice 6.03 1" Ice 7.58 2" Ice 10.73	4.50 6.03 7.58 10.73	15.00 47.48 89.58 203.25
10' Dipole	C	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 3.00 1/2" Ice 4.03 1" Ice 5.03 2" Ice 6.26	3.00 4.03 5.03 6.26	30.00 51.79 80.14 157.16
8' Omni	B	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 2.40 1/2" Ice 3.19 1" Ice 3.67 2" Ice 4.68	2.40 3.19 3.67 4.68	25.00 42.51 65.37 127.73
8' Omni	C	From Leg	0.00 0.00 0.00	0.0000	100.00	No Ice 2.40 1/2" Ice 3.19 1" Ice 3.67 2" Ice 4.68	2.40 3.19 3.67 4.68	25.00 42.51 65.37 127.73
*** Empty Face Mount	C	None		0.0000	98.50	No Ice 14.40 1/2" Ice 19.50 1" Ice 24.60 2" Ice 34.80	7.20 10.50 13.80 20.40	300.00 415.00 530.00 760.00

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	CAAA Front ft <sup>2</sup>	CAAA Side ft <sup>2</sup>	Weight lb
Face Mount (for 8' Omnis)	C	None		0.0000	98.50	No Ice 14.40 1/2" Ice 19.50 1" Ice 24.60 2" Ice 34.80	7.20 10.50 13.80 20.40	300.00 415.00 530.00 760.00
***								
8' Omni	B	From Leg	0.00 0.00 0.00	0.0000	82.50	No Ice 2.40 1/2" Ice 3.19 1" Ice 3.67 2" Ice 4.68	2.40 3.19 3.67 4.68	25.00 42.51 65.37 127.73
Face Mount (for 8' Omnis)	C	None		0.0000	82.50	No Ice 14.40 1/2" Ice 19.50 1" Ice 24.60 2" Ice 34.80	7.20 10.50 13.80 20.40	300.00 415.00 530.00 760.00
***								
Angle Sector Frame	A	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 17.90 1/2" Ice 22.20 1" Ice 26.50 2" Ice 35.10	8.95 13.00 17.05 25.15	400.00 510.00 620.00 840.00
Angle Sector Frame	B	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 17.90 1/2" Ice 22.20 1" Ice 26.50 2" Ice 35.10	8.95 13.00 17.05 25.15	400.00 510.00 620.00 840.00
Angle Sector Frame	C	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 17.90 1/2" Ice 22.20 1" Ice 26.50 2" Ice 35.10	8.95 13.00 17.05 25.15	400.00 510.00 620.00 840.00
7770.00 w/ Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 6.32 1/2" Ice 7.03 1" Ice 7.69 2" Ice 8.86	4.83 6.00 7.03 8.75	64.20 117.93 178.54 324.39
7770.00 w/ Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 6.32 1/2" Ice 7.03 1" Ice 7.69 2" Ice 8.86	4.83 6.00 7.03 8.75	64.20 117.93 178.54 324.39
7770.00 w/ Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 6.32 1/2" Ice 7.03 1" Ice 7.69 2" Ice 8.86	4.83 6.00 7.03 8.75	64.20 117.93 178.54 324.39
(2) DMP65R-BU4DA	A	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 8.28 1/2" Ice 8.67 1" Ice 9.06 2" Ice 9.87	3.51 3.81 4.12 4.76	67.90 119.75 176.75 306.96
(2) DMP65R-BU6DA	B	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 12.71 1/2" Ice 13.21 1" Ice 13.71 2" Ice 14.74	5.62 6.07 6.53 7.47	79.40 153.36 233.96 415.90
(2) DMP65R-BU8DA	C	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 17.87 1/2" Ice 18.50 1" Ice 19.14 2" Ice 20.44	8.12 8.72 9.32 10.54	95.70 193.28 299.13 536.36
B2/B66A 8843	A	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 1.98 1/2" Ice 2.16 1" Ice 2.34 2" Ice 2.73	1.70 1.86 2.04 2.41	75.00 95.54 119.02 175.61
B2/B66A 8843	B	From Face	4.00 0.00 0.00	0.0000	72.00	No Ice 1.98 1/2" Ice 2.16 1" Ice 2.34	1.70 1.86 2.04	75.00 95.54 119.02

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	CAAA Front	CAAA Side	Weight	
			Horz	Lateral Vert						
			ft	ft	°	ft	ft <sup>2</sup>	ft <sup>2</sup>	lb	
B2/B66A 8843	C	From Face	4.00	0.0000	72.00	2" Ice	2.73	2.41	175.61	
			0.00	No Ice		1.98	1.70	75.00		
			0.00	1/2" Ice		2.16	1.86	95.54		
			0.00	1" Ice		2.34	2.04	119.02		
B5/B12 4449	A	From Face	4.00	0.0000	72.00	2" Ice	2.73	2.41	175.61	
			0.00	No Ice		1.98	1.41	70.00		
			0.00	1/2" Ice		2.16	1.57	88.55		
			0.00	1" Ice		2.34	1.73	109.93		
B5/B12 4449	B	From Face	4.00	0.0000	72.00	2" Ice	2.73	2.08	161.94	
			0.00	No Ice		1.98	1.41	70.00		
			0.00	1/2" Ice		2.16	1.57	88.55		
			0.00	1" Ice		2.34	1.73	109.93		
B5/B12 4449	C	From Face	4.00	0.0000	72.00	2" Ice	2.73	2.08	161.94	
			0.00	No Ice		1.98	1.41	70.00		
			0.00	1/2" Ice		2.16	1.57	88.55		
			0.00	1" Ice		2.34	1.73	109.93		
RRUS 4478 B14	A	From Face	4.00	0.0000	72.00	2" Ice	2.73	2.08	161.94	
			0.00	No Ice		2.02	1.25	59.40		
			0.00	1/2" Ice		2.20	1.40	77.01		
			0.00	1" Ice		2.39	1.55	97.40		
RRUS 4478 B14	B	From Face	4.00	0.0000	72.00	2" Ice	2.78	1.89	147.26	
			0.00	No Ice		2.02	1.25	59.40		
			0.00	1/2" Ice		2.20	1.40	77.01		
			0.00	1" Ice		2.39	1.55	97.40		
RRUS 4478 B14	C	From Face	4.00	0.0000	72.00	2" Ice	2.78	1.89	147.26	
			0.00	No Ice		2.02	1.25	59.40		
			0.00	1/2" Ice		2.20	1.40	77.01		
			0.00	1" Ice		2.39	1.55	97.40		
(2) LGP21401	A	From Face	4.00	0.0000	72.00	2" Ice	2.78	1.89	147.26	
			0.00	No Ice		0.82	0.35	17.50		
			0.00	1/2" Ice		0.94	0.44	23.31		
			0.00	1" Ice		1.06	0.54	30.86		
(2) LGP21401	B	From Face	4.00	0.0000	72.00	2" Ice	1.34	0.76	51.92	
			0.00	No Ice		0.82	0.35	17.50		
			0.00	1/2" Ice		0.94	0.44	23.31		
			0.00	1" Ice		1.06	0.54	30.86		
(2) LGP21401	C	From Face	4.00	0.0000	72.00	2" Ice	1.34	0.76	51.92	
			0.00	No Ice		0.82	0.35	17.50		
			0.00	1/2" Ice		0.94	0.44	23.31		
			0.00	1" Ice		1.06	0.54	30.86		
DC6-48-60-18-8F	A	From Face	4.00	0.0000	72.00	2" Ice	1.34	0.76	51.92	
			0.00	No Ice		2.90	2.90	32.80		
			0.00	1/2" Ice		3.13	3.13	60.76		
			0.00	1" Ice		3.37	3.37	92.36		
DC6-48-60-18-8F	B	From Face	4.00	0.0000	72.00	2" Ice	3.86	3.86	167.29	
			0.00	No Ice		2.90	2.90	32.80		
			0.00	1/2" Ice		3.13	3.13	60.76		
			0.00	1" Ice		3.37	3.37	92.36		
DC6-48-60-18-8F	C	From Face	4.00	0.0000	72.00	2" Ice	3.86	3.86	167.29	
			0.00	No Ice		2.90	2.90	32.80		
			0.00	1/2" Ice		3.13	3.13	60.76		
			0.00	1" Ice		3.37	3.37	92.36		
						2" Ice	3.86	3.86	167.29	
							No Ice	2.90	2.90	32.80
							1/2" Ice	3.13	3.13	60.76
							1" Ice	3.37	3.37	92.36

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**Tower Pressures - No Ice**

$G_H = 0.850$

Section Elevation ft	z ft	$K_Z$	$q_z$ psf	$A_G$ ft <sup>2</sup>	F a c e	$A_F$ ft <sup>2</sup>	$A_R$ ft <sup>2</sup>	$A_{leg}$ ft <sup>2</sup>	Leg %	$C_A A_A$ In Face ft <sup>2</sup>	$C_A A_A$ Out Face ft <sup>2</sup>
T1 100.00-80.00	90.00	1.238	45	103.750	A	0.000	13.685	7.500	54.80	7.219	0.000
					B	0.000	13.685		54.80	0.000	0.000
					C	0.000	13.685		54.80	1.750	0.000
T2 80.00-60.00	70.00	1.174	43	117.502	A	9.158	10.007	10.007	52.21	8.750	0.000
					B	9.158	10.007		52.21	15.984	0.000
					C	9.158	10.007		52.21	1.750	0.000
T3 60.00-40.00	50.00	1.094	40	142.919	A	9.207	10.840	10.840	54.07	8.750	0.000
					B	9.207	10.840		54.07	26.640	0.000
					C	9.207	10.840		54.07	1.750	0.000
T4 40.00-20.00	30.00	0.982	36	168.336	A	10.140	11.674	11.674	53.52	8.750	0.000
					B	10.140	11.674		53.52	26.640	0.000
					C	10.140	11.674		53.52	1.750	0.000
T5 20.00-0.00	10.00	0.85	31	193.753	A	13.908	12.508	12.508	47.35	8.750	0.000
					B	13.908	12.508		47.35	26.640	0.000
					C	13.908	12.508		47.35	1.750	0.000

**Tower Pressure - With Ice**

$G_H = 0.850$

Section Elevation ft	z ft	$K_Z$	$q_z$ psf	$t_z$ in	$A_G$ ft <sup>2</sup>	F a c e	$A_F$ ft <sup>2</sup>	$A_R$ ft <sup>2</sup>	$A_{leg}$ ft <sup>2</sup>	Leg %	$C_A A_A$ In Face ft <sup>2</sup>	$C_A A_A$ Out Face ft <sup>2</sup>
T1 100.00-80.00	90.00	1.238	7	1.4096	108.449	A	0.000	40.518	16.897	41.70	30.476	0.000
						B	0.000	40.518		41.70	0.000	0.000
						C	0.000	40.518		41.70	7.388	0.000
T2 80.00-60.00	70.00	1.174	6	1.3746	122.087	A	9.158	31.764	19.176	46.86	36.242	0.000
						B	9.158	31.764		46.86	24.221	0.000
						C	9.158	31.764		46.86	7.248	0.000
T3 60.00-40.00	50.00	1.094	6	1.3291	147.352	A	9.207	31.944	19.707	47.89	35.332	0.000
						B	9.207	31.944		47.89	40.072	0.000
						C	9.207	31.944		47.89	7.066	0.000
T4 40.00-20.00	30.00	0.982	5	1.2629	172.548	A	10.140	32.905	20.099	46.69	34.008	0.000
						B	10.140	32.905		46.69	39.642	0.000
						C	10.140	32.905		46.69	6.802	0.000
T5 20.00-0.00	10.00	0.85	5	1.1315	197.527	A	13.908	32.646	20.056	43.08	31.380	0.000
						B	13.908	32.646		43.08	38.790	0.000
						C	13.908	32.646		43.08	6.276	0.000

**Tower Pressure - Service**

$G_H = 0.850$

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Section Elevation ft	z ft	K <sub>Z</sub>	q <sub>z</sub> psf	A <sub>G</sub> ft <sup>2</sup>	F <sub>a</sub> c e	A <sub>F</sub> ft <sup>2</sup>	A <sub>R</sub> ft <sup>2</sup>	A <sub>leg</sub> ft <sup>2</sup>	Leg %	C <sub>AA</sub> In Face ft <sup>2</sup>	C <sub>AA</sub> Out Face ft <sup>2</sup>
T1 100.00-80.00	90.00	1.238	10	103.750	A	0.000	13.685	7.500	54.80	7.219	0.000
					B	0.000	13.685		54.80	0.000	0.000
					C	0.000	13.685		54.80	1.750	0.000
T2 80.00-60.00	70.00	1.174	9	117.502	A	9.158	10.007	10.007	52.21	8.750	0.000
					B	9.158	10.007		52.21	15.984	0.000
					C	9.158	10.007		52.21	1.750	0.000
T3 60.00-40.00	50.00	1.094	8	142.919	A	9.207	10.840	10.840	54.07	8.750	0.000
					B	9.207	10.840		54.07	26.640	0.000
					C	9.207	10.840		54.07	1.750	0.000
T4 40.00-20.00	30.00	0.982	8	168.336	A	10.140	11.674	11.674	53.52	8.750	0.000
					B	10.140	11.674		53.52	26.640	0.000
					C	10.140	11.674		53.52	1.750	0.000
T5 20.00-0.00	10.00	0.85	7	193.753	A	13.908	12.508	12.508	47.35	8.750	0.000
					B	13.908	12.508		47.35	26.640	0.000
					C	13.908	12.508		47.35	1.750	0.000

### Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F <sub>a</sub> c e	e	C <sub>F</sub>	q <sub>z</sub> psf	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub> ft <sup>2</sup>	F lb	w plf	Ctrl. Face
T1 100.00-80.00	0.00	1430.03	A	0.132	2.839	45	1	1	7.745	1053.91	52.70	C
			B	0.132	2.839		1	1	7.745			
			C	0.132	2.839		1	1	7.745			
T2 80.00-60.00	77.76	1862.81	A	0.163	2.724	43	1	1	14.851	2057.73	102.89	B
			B	0.163	2.724		1	1	14.851			
			C	0.163	2.724		1	1	14.851			
T3 60.00-40.00	129.60	2245.24	A	0.14	2.808	40	1	1	15.350	2224.45	111.22	B
			B	0.14	2.808		1	1	15.350			
			C	0.14	2.808		1	1	15.350			
T4 40.00-20.00	129.60	2569.59	A	0.13	2.848	36	1	1	16.745	2138.00	106.90	B
			B	0.13	2.848		1	1	16.745			
			C	0.13	2.848		1	1	16.745			
T5 20.00-0.00	129.60	2892.11	A	0.136	2.822	31	1	1	20.992	2155.70	107.78	B
			B	0.136	2.822		1	1	20.992			
			C	0.136	2.822		1	1	20.992			
Sum Weight:	466.56	10999.78						OTM	435812.95 lb-ft	9629.80		

### Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F <sub>a</sub> c e	e	C <sub>F</sub>	q <sub>z</sub> psf	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub> ft <sup>2</sup>	F lb	w plf	Ctrl. Face
T1 100.00-80.00	0.00	1430.03	A	0.132	2.839	45	0.8	1	7.745	1053.91	52.70	C
			B	0.132	2.839		0.8	1	7.745			
			C	0.132	2.839		0.8	1	7.745			
T2 80.00-60.00	77.76	1862.81	A	0.163	2.724	43	0.8	1	13.020	1875.53	93.78	C
			B	0.163	2.724		0.8	1	13.020			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	q <sub>z</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	lb	lb				psf			ft <sup>2</sup>	lb	plf	
T3 60.00-40.00	129.60	2245.24	C	0.163	2.724	40	0.8	1	13.020	2048.55	102.43	C
			A	0.14	2.808		0.8	1	13.508			
			B	0.14	2.808		0.8	1	13.508			
			C	0.14	2.808		0.8	1	13.508			
T4 40.00-20.00	129.60	2569.59	A	0.13	2.848	36	0.8	1	14.717	1961.53	98.08	C
			B	0.13	2.848		0.8	1	14.717			
			C	0.13	2.848		0.8	1	14.717			
T5 20.00-0.00	129.60	2892.11	A	0.136	2.822	31	0.8	1	18.210	1948.11	97.41	C
			B	0.136	2.822		0.8	1	18.210			
			C	0.136	2.822		0.8	1	18.210			
Sum Weight:	466.56	10999.78						OTM	406893.62	8887.63		

### Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	q <sub>z</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	lb	lb				psf			ft <sup>2</sup>	lb	plf	
T1 100.00-80.00	0.00	1430.03	A	0.132	2.839	45	0.85	1	7.745	1053.91	52.70	C
			B	0.132	2.839		0.85	1	7.745			
			C	0.132	2.839		0.85	1	7.745			
T2 80.00-60.00	77.76	1862.81	A	0.163	2.724	43	0.85	1	13.478	1899.19	94.96	C
			B	0.163	2.724		0.85	1	13.478			
			C	0.163	2.724		0.85	1	13.478			
T3 60.00-40.00	129.60	2245.24	A	0.14	2.808	40	0.85	1	13.969	2058.53	102.93	C
			B	0.14	2.808		0.85	1	13.969			
			C	0.14	2.808		0.85	1	13.969			
T4 40.00-20.00	129.60	2569.59	A	0.13	2.848	36	0.85	1	15.224	1975.13	98.76	C
			B	0.13	2.848		0.85	1	15.224			
			C	0.13	2.848		0.85	1	15.224			
T5 20.00-0.00	129.60	2892.11	A	0.136	2.822	31	0.85	1	18.905	1973.60	98.68	C
			B	0.136	2.822		0.85	1	18.905			
			C	0.136	2.822		0.85	1	18.905			
Sum Weight:	466.56	10999.78						OTM	409711.80	8960.36		

### Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	q <sub>z</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	lb	lb				psf			ft <sup>2</sup>	lb	plf	
T1 100.00-80.00	403.26	2768.08	A	0.374	2.119	7	1	1	25.333	428.50	21.42	C
			B	0.374	2.119		1	1	25.333			
			C	0.374	2.119		1	1	25.333			
T2 80.00-60.00	886.38	3518.58	A	0.335	2.207	6	1	1	28.555	545.69	27.28	B
			B	0.335	2.207		1	1	28.555			
			C	0.335	2.207		1	1	28.555			



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Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C <sub>F</sub>	q <sub>z</sub> psf	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub> ft <sup>2</sup>	F lb	w plf	Ctrl. Face
T3 60.00-40.00	1137.54	3855.82	A	0.279	2.353	6	1	1	28.142	564.78	28.24	B
			B	0.279	2.353		1	1	28.142			
			C	0.279	2.353		1	1	28.142			
T4 40.00-20.00	1084.20	4205.36	A	0.249	2.439	5	1	1	29.385	526.40	26.32	B
			B	0.249	2.439		1	1	29.385			
			C	0.249	2.439		1	1	29.385			
T5 20.00-0.00	982.74	4633.47	A	0.236	2.481	5	1	1	32.897	485.03	24.25	B
			B	0.236	2.481		1	1	32.897			
			C	0.236	2.481		1	1	32.897			
Sum Weight:	4494.13	18981.31						OTM	125644.24 lb-ft	2550.40		

### Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C <sub>F</sub>	q <sub>z</sub> psf	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub> ft <sup>2</sup>	F lb	w plf	Ctrl. Face
T1 100.00-80.00	403.26	2768.08	A	0.374	2.119	7	0.8	1	25.333	428.50	21.42	C
			B	0.374	2.119		0.8	1	25.333			
			C	0.374	2.119		0.8	1	25.333			
T2 80.00-60.00	886.38	3518.58	A	0.335	2.207	6	0.8	1	26.723	524.18	26.21	C
			B	0.335	2.207		0.8	1	26.723			
			C	0.335	2.207		0.8	1	26.723			
T3 60.00-40.00	1137.54	3855.82	A	0.279	2.353	6	0.8	1	26.301	543.31	27.17	C
			B	0.279	2.353		0.8	1	26.301			
			C	0.279	2.353		0.8	1	26.301			
T4 40.00-20.00	1084.20	4205.36	A	0.249	2.439	5	0.8	1	27.357	504.38	25.22	C
			B	0.249	2.439		0.8	1	27.357			
			C	0.249	2.439		0.8	1	27.357			
T5 20.00-0.00	982.74	4633.47	A	0.236	2.481	5	0.8	1	30.115	458.45	22.92	C
			B	0.236	2.481		0.8	1	30.115			
			C	0.236	2.481		0.8	1	30.115			
Sum Weight:	4494.13	18981.31						OTM	122139.10 lb-ft	2458.82		

### Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C <sub>F</sub>	q <sub>z</sub> psf	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub> ft <sup>2</sup>	F lb	w plf	Ctrl. Face
T1 100.00-80.00	403.26	2768.08	A	0.374	2.119	7	0.85	1	25.333	428.50	21.42	C
			B	0.374	2.119		0.85	1	25.333			
			C	0.374	2.119		0.85	1	25.333			
T2 80.00-60.00	886.38	3518.58	A	0.335	2.207	6	0.85	1	27.181	518.93	25.95	C
			B	0.335	2.207		0.85	1	27.181			
			C	0.335	2.207		0.85	1	27.181			
T3	1137.54	3855.82	A	0.279	2.353	6	0.85	1	26.761	532.17	26.61	C

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Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C <sub>F</sub>	q <sub>z</sub> psf	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub> ft <sup>2</sup>	F lb	w plf	Ctrl. Face
60.00-40.00			B	0.279	2.353		0.85	1	26.761			
			C	0.279	2.353		0.85	1	26.761			
T4 40.00-20.00	1084.20	4205.36	A	0.249	2.439	5	0.85	1	27.864	495.06	24.75	C
			B	0.249	2.439		0.85	1	27.864			
			C	0.249	2.439		0.85	1	27.864			
T5 20.00-0.00	982.74	4633.47	A	0.236	2.481	5	0.85	1	30.810	452.27	22.61	C
			B	0.236	2.481		0.85	1	30.810			
			C	0.236	2.481		0.85	1	30.810			
Sum Weight:	4494.13	18981.31						OTM	120873.10 lb-ft	2426.93		

### Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C <sub>F</sub>	q <sub>z</sub> psf	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub> ft <sup>2</sup>	F lb	w plf	Ctrl. Face
T1 100.00-80.00	0.00	1430.03	A	0.132	2.839	10	1	1	7.745	221.09	11.05	C
			B	0.132	2.839		1	1	7.745			
			C	0.132	2.839		1	1	7.745			
T2 80.00-60.00	77.76	1862.81	A	0.163	2.724	9	1	1	14.851	431.67	21.58	B
			B	0.163	2.724		1	1	14.851			
			C	0.163	2.724		1	1	14.851			
T3 60.00-40.00	129.60	2245.24	A	0.14	2.808	8	1	1	15.350	466.64	23.33	B
			B	0.14	2.808		1	1	15.350			
			C	0.14	2.808		1	1	15.350			
T4 40.00-20.00	129.60	2569.59	A	0.13	2.848	8	1	1	16.745	448.51	22.43	B
			B	0.13	2.848		1	1	16.745			
			C	0.13	2.848		1	1	16.745			
T5 20.00-0.00	129.60	2892.11	A	0.136	2.822	7	1	1	20.992	452.22	22.61	B
			B	0.136	2.822		1	1	20.992			
			C	0.136	2.822		1	1	20.992			
Sum Weight:	466.56	10999.78						OTM	91423.96 lb-ft	2020.12		

### Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight lb	Self Weight lb	F a c e	e	C <sub>F</sub>	q <sub>z</sub> psf	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub> ft <sup>2</sup>	F lb	w plf	Ctrl. Face
T1 100.00-80.00	0.00	1430.03	A	0.132	2.839	10	0.8	1	7.745	221.09	11.05	C
			B	0.132	2.839		0.8	1	7.745			
			C	0.132	2.839		0.8	1	7.745			
T2 80.00-60.00	77.76	1862.81	A	0.163	2.724	9	0.8	1	13.020	393.45	19.67	C
			B	0.163	2.724		0.8	1	13.020			
			C	0.163	2.724		0.8	1	13.020			
T3 60.00-40.00	129.60	2245.24	A	0.14	2.808	8	0.8	1	13.508	429.74	21.49	C
			B	0.14	2.808		0.8	1	13.508			

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Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	q <sub>z</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	lb	lb				psf			ft <sup>2</sup>	lb	plf	
T4 40.00-20.00	129.60	2569.59	C	0.14	2.808	8	0.8	1	13.508	411.49	20.57	C
			A	0.13	2.848		0.8	1	14.717			
			B	0.13	2.848		0.8	1	14.717			
			C	0.13	2.848		0.8	1	14.717			
T5 20.00-0.00	129.60	2892.11	A	0.136	2.822	7	0.8	1	18.210	408.67	20.43	C
			B	0.136	2.822		0.8	1	18.210			
			C	0.136	2.822		0.8	1	18.210			
Sum Weight:	466.56	10999.78						OTM	85357.32			

### Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	q <sub>z</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	lb	lb				psf			ft <sup>2</sup>	lb	plf	
T1 100.00-80.00	0.00	1430.03	A	0.132	2.839	10	0.85	1	7.745	221.09	11.05	C
			B	0.132	2.839		0.85	1	7.745			
			C	0.132	2.839		0.85	1	7.745			
T2 80.00-60.00	77.76	1862.81	A	0.163	2.724	9	0.85	1	13.478	398.41	19.92	C
			B	0.163	2.724		0.85	1	13.478			
			C	0.163	2.724		0.85	1	13.478			
T3 60.00-40.00	129.60	2245.24	A	0.14	2.808	8	0.85	1	13.969	431.84	21.59	C
			B	0.14	2.808		0.85	1	13.969			
			C	0.14	2.808		0.85	1	13.969			
T4 40.00-20.00	129.60	2569.59	A	0.13	2.848	8	0.85	1	15.224	414.34	20.72	C
			B	0.13	2.848		0.85	1	15.224			
			C	0.13	2.848		0.85	1	15.224			
T5 20.00-0.00	129.60	2892.11	A	0.136	2.822	7	0.85	1	18.905	414.02	20.70	C
			B	0.136	2.822		0.85	1	18.905			
			C	0.136	2.822		0.85	1	18.905			
Sum Weight:	466.56	10999.78						OTM	85948.52	1879.69		

### Force Totals

Load Case	Vertical Forces	Sum of Forces X	Sum of Forces Z	Sum of Overturning Moments, M <sub>x</sub>	Sum of Overturning Moments, M <sub>z</sub>	Sum of Torques
	lb	lb	lb	lb-ft	lb-ft	lb-ft
Leg Weight	8172.76					
Bracing Weight	2827.02					
Total Member Self-Weight	10999.78					
Total Weight	15182.54			175.61	-1277.11	
Wind 0 deg - No Ice		44.29	-13325.75	-760966.58	-4465.99	1216.53
Wind 30 deg - No Ice		6714.89	-11731.88	-667274.30	-382416.26	3222.62
Wind 60 deg - No Ice		11523.26	-6762.61	-385608.78	-655799.98	2644.78
Wind 90 deg - No Ice		13353.06	-44.29	-3013.27	-758032.11	1209.69
Wind 120 deg - No Ice		11372.64	6624.52	377985.05	-648364.72	770.51

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Load Case	Vertical Forces lb	Sum of Forces X lb	Sum of Forces Z lb	Sum of Overturning Moments, M <sub>x</sub> lb-ft	Sum of Overturning Moments, M <sub>z</sub> lb-ft	Sum of Torques lb-ft
Wind 150 deg - No Ice		6074.09	10710.56	626230.65	-354834.72	620.20
Wind 180 deg - No Ice		-44.29	12583.58	732398.46	1911.76	-1216.53
Wind 210 deg - No Ice		-6714.89	11731.88	667625.52	379862.03	-3222.62
Wind 240 deg - No Ice		-12165.99	7133.70	400419.67	678290.63	-2644.78
Wind 270 deg - No Ice		-13353.06	44.29	3364.48	755477.88	-1209.69
Wind 300 deg - No Ice		-10729.91	-6253.44	-363174.17	620765.62	-770.51
Wind 330 deg - No Ice		-6074.09	-10710.56	-625879.43	352280.50	-620.20
Member Ice	7981.53					
Total Weight Ice	32323.72			2260.85	-3626.66	
Wind 0 deg - Ice		6.16	-3433.62	-201336.75	-4070.26	-367.53
Wind 30 deg - Ice		1730.57	-3012.09	-175715.54	-105771.66	171.96
Wind 60 deg - Ice		3018.88	-1758.54	-101382.98	-181199.77	443.91
Wind 90 deg - Ice		3450.46	-6.16	1817.24	-207148.31	524.76
Wind 120 deg - Ice		2949.70	1711.48	103675.47	-178225.89	686.46
Wind 150 deg - Ice		1637.72	2863.60	174227.81	-101789.88	736.38
Wind 180 deg - Ice		-6.16	3342.05	202353.31	-3183.05	367.53
Wind 210 deg - Ice		-1730.57	3012.09	180237.23	98518.34	-171.96
Wind 240 deg - Ice		-3098.19	1804.32	107657.25	176981.99	-443.91
Wind 270 deg - Ice		-3450.46	6.16	2704.45	199894.99	-524.76
Wind 300 deg - Ice		-2870.39	-1665.69	-97401.21	167937.03	-686.46
Wind 330 deg - Ice		-1637.72	-2863.60	-169706.12	94536.57	-736.38
Total Weight	15182.54			175.61	-1277.11	
Wind 0 deg - Service		9.29	-2795.45	-159254.14	-805.26	255.20
Wind 30 deg - Service		1408.64	-2461.09	-139599.56	-80090.90	676.03
Wind 60 deg - Service		2417.33	-1418.65	-80512.34	-137440.79	554.82
Wind 90 deg - Service		2801.18	-9.29	-252.22	-158886.84	253.77
Wind 120 deg - Service		2385.73	1389.68	79672.84	-135881.03	161.64
Wind 150 deg - Service		1274.21	2246.84	131749.30	-74304.90	130.10
Wind 180 deg - Service		-9.29	2639.76	154020.97	532.66	-255.20
Wind 210 deg - Service		-1408.64	2461.09	140433.03	79818.30	-676.03
Wind 240 deg - Service		-2552.16	1496.49	84379.13	142422.05	-554.82
Wind 270 deg - Service		-2801.18	9.29	1085.69	158614.24	-253.77
Wind 300 deg - Service		-2250.90	-1311.83	-75806.05	130354.57	-161.64
Wind 330 deg - Service		-1274.21	-2246.84	-130915.83	74032.30	-130.10

## Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice

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Comb. No.	Description
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

### Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft
T1	100 - 80	Leg	Max Tension	15	5548.24	-2.68	-69.54
			Max. Compression	10	-7078.22	40.45	21.68
			Max. Mx	8	-330.82	165.25	-0.69
			Max. My	14	-499.15	3.61	165.87
			Max. Vy	20	239.76	-0.00	-0.00
			Max. Vx	14	-227.76	-0.00	0.00
		Diagonal	Max Tension	20	1015.78	0.00	0.00
			Max. Compression	8	-1031.45	0.00	0.00
			Max. Mx	35	273.23	-7.18	-0.04
			Max. My	8	-706.90	-2.90	0.19
			Max. Vy	36	11.59	-7.18	-0.03
			Max. Vx	22	-0.06	0.00	0.00
		Top Girt	Max Tension	11	33.62	0.00	0.00
			Max. Compression	22	-50.69	0.00	0.00
			Max. Mx	26	-21.72	22.99	0.00
			Max. My	16	-9.94	0.00	-0.00
Max. Vy	26		-18.39	0.00	0.00		
Max. Vx	16		0.00	0.00	0.00		
T2	80 - 60	Leg	Max Tension	7	19152.35	-283.86	-17.58
			Max. Compression	18	-24135.16	27.56	1.77

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment lb-ft	Minor Axis Moment lb-ft	
T3	60 - 40	Diagonal	Max. Mx	14	12005.28	728.61	12.99	
			Max. My	4	-1276.72	-30.23	815.70	
			Max. Vy	14	-959.27	-540.22	12.99	
			Max. Vx	16	982.60	-15.35	483.82	
			Max Tension	20	3222.63	0.00	0.00	
			Max. Compression	8	-3233.81	0.00	0.00	
			Max. Mx	33	595.57	19.12	-1.99	
			Max. My	8	-2866.35	2.40	-4.57	
			Max. Vy	33	19.71	19.12	-1.99	
			Max. Vx	8	1.20	0.00	0.00	
			Max Tension	14	324.46	0.00	0.00	
			Max. Compression	3	-305.50	0.00	0.00	
		Top Girt	Max. Mx	26	27.78	-31.18	0.00	
			Max. My	32	26.68	0.00	0.56	
			Max. Vy	26	-24.94	0.00	0.00	
			Max. Vx	32	-0.45	0.00	0.00	
			Max Tension	7	40556.24	-82.51	-4.38	
			Max. Compression	18	-47781.69	98.49	4.03	
		Diagonal	Max. Mx	33	4694.76	-118.00	-0.83	
			Max. My	16	-3490.55	-4.04	108.84	
			Max. Vy	14	54.77	-98.81	4.40	
			Max. Vx	4	65.49	-4.90	-108.79	
			Max Tension	20	3207.26	0.00	0.00	
			Max. Compression	20	-3239.93	0.00	0.00	
Max. Mx	33		557.28	25.42	-2.26			
Max. My	31		77.10	20.45	-2.57			
Max. Vy	33		24.49	23.62	-2.42			
Max. Vx	31		-1.00	0.00	0.00			
T4	40 - 20		Leg	Max Tension	7	60884.86	-111.45	-4.00
				Max. Compression	18	-70905.88	89.23	2.14
		Max. Mx		35	-27000.93	323.26	-0.31	
		Max. My		4	-4642.56	-14.33	-161.04	
		Max. Vy		37	-90.93	-239.49	1.37	
		Max. Vx		4	56.06	-14.33	-161.04	
		Diagonal	Max Tension	20	3342.59	0.00	0.00	
			Max. Compression	20	-3365.31	0.00	0.00	
			Max. Mx	29	458.95	37.34	2.71	
			Max. My	32	-673.81	32.60	-3.04	
			Max. Vy	29	28.91	37.34	2.71	
			Max. Vx	32	-1.06	0.00	0.00	
T5	20 - 0	Leg	Max Tension	7	80229.20	-132.87	-2.65	
			Max. Compression	18	-93402.66	0.00	-0.01	
			Max. Mx	35	-31664.39	481.96	-0.80	
			Max. My	4	-5453.11	-21.00	-272.01	
			Max. Vy	37	-148.63	-478.95	0.86	
			Max. Vx	4	-84.44	-21.00	-272.01	
		Diagonal	Max Tension	20	3533.92	0.00	0.00	
			Max. Compression	20	-3612.36	0.00	0.00	
			Max. Mx	29	124.92	54.12	-3.07	
			Max. My	6	-3096.23	8.39	-4.01	
			Max. Vy	29	33.48	54.12	-3.07	
			Max. Vx	37	-1.19	0.00	0.00	

## Maximum Reactions

<b>tnxTower</b>  <b>Infinigy Engineering PLLC</b> 1517 Old Apex Rd Cary, NC 27513 Phone: (518) 690 0790 FAX:	<b>Job</b>	SALEM SOUTH EAST	<b>Page</b>	19 of 27
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Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	97172.66	7250.66	-4018.99
	Max. H <sub>x</sub>	18	97172.66	7250.66	-4018.99
	Max. H <sub>z</sub>	5	-72311.96	-5374.82	3644.25
	Min. Vert	7	-83404.23	-6516.76	3593.29
	Min. H <sub>x</sub>	7	-83404.23	-6516.76	3593.29
Leg B	Min. H <sub>z</sub>	18	97172.66	7250.66	-4018.99
	Max. Vert	10	92928.94	-6754.18	-3854.10
	Max. H <sub>x</sub>	23	-78625.19	6010.18	3421.86
	Max. H <sub>z</sub>	23	-78625.19	6010.18	3421.86
	Min. Vert	23	-78625.19	6010.18	3421.86
Leg A	Min. H <sub>x</sub>	10	92928.94	-6754.18	-3854.10
	Min. H <sub>z</sub>	10	92928.94	-6754.18	-3854.10
	Max. Vert	2	94109.04	68.03	7870.78
	Max. H <sub>x</sub>	20	5679.13	1214.05	245.12
	Max. H <sub>z</sub>	2	94109.04	68.03	7870.78
	Min. Vert	15	-80137.37	-66.32	-7015.09
	Min. H <sub>x</sub>	9	4904.79	-1210.86	227.06
Min. H <sub>z</sub>	15	-80137.37	-66.32	-7015.09	

### Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear <sub>x</sub> lb	Shear <sub>z</sub> lb	Overturning Moment, M <sub>x</sub> lb-ft	Overturning Moment, M <sub>z</sub> lb-ft	Torque lb-ft
Dead Only	15182.54	0.00	0.00	175.59	-1277.11	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	18219.05	44.29	-13325.40	-762414.34	-4731.58	1218.79
0.9 Dead+1.0 Wind 0 deg - No Ice	13664.29	44.29	-13325.50	-762096.12	-4345.65	1218.20
1.2 Dead+1.0 Wind 30 deg - No Ice	18219.05	6714.68	-11731.57	-668534.44	-383415.41	3225.32
0.9 Dead+1.0 Wind 30 deg - No Ice	13664.29	6714.73	-11731.65	-668262.62	-382845.58	3224.86
1.2 Dead+1.0 Wind 60 deg - No Ice	18219.05	11523.19	-6762.58	-386332.54	-657351.60	2646.90
0.9 Dead+1.0 Wind 60 deg - No Ice	13664.29	11523.00	-6762.46	-386184.49	-656626.23	2646.37
1.2 Dead+1.0 Wind 90 deg - No Ice	18219.05	13352.70	-44.26	-2979.86	-759759.22	1210.90
0.9 Dead+1.0 Wind 90 deg - No Ice	13664.29	13352.79	-44.26	-3031.33	-759006.76	1210.44
1.2 Dead+1.0 Wind 120 deg - No Ice	18219.05	11372.35	6624.35	378758.66	-649882.84	770.12
0.9 Dead+1.0 Wind 120 deg - No Ice	13664.29	11372.43	6624.39	378521.24	-649183.03	770.19
1.2 Dead+1.0 Wind 150 deg - No Ice	18219.05	6073.94	10710.25	627496.15	-355787.86	618.48
0.9 Dead+1.0 Wind 150 deg - No Ice	13664.29	6073.98	10710.32	627134.78	-355229.61	619.02
1.2 Dead+1.0 Wind 180 deg - No Ice	18219.05	-44.29	12583.51	733893.66	1659.14	-1218.83
0.9 Dead+1.0 Wind 180 deg - No Ice	13664.29	-44.29	12583.29	733455.35	2041.79	-1218.26
1.2 Dead+1.0 Wind 210 deg - No Ice	18219.05	-6714.73	11731.55	668959.09	380343.13	-3225.15
0.9 Dead+1.0 Wind 210 deg - No Ice	13664.29	-6714.77	11731.63	668580.89	380541.99	-3224.69

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Load Combination	Vertical lb	Shear <sub>x</sub> lb	Shear <sub>z</sub> lb	Overturning Moment, M <sub>x</sub> lb-ft	Overturning Moment, M <sub>z</sub> lb-ft	Torque lb-ft
1.2 Dead+1.0 Wind 240 deg - No Ice	18219.05	-12165.69	7133.52	401232.90	679344.47	-2646.71
0.9 Dead+1.0 Wind 240 deg - No Ice	13664.29	-12165.77	7133.57	400985.89	679400.08	-2646.17
1.2 Dead+1.0 Wind 270 deg - No Ice	18219.05	-13352.70	44.31	3411.13	756688.80	-1210.75
0.9 Dead+1.0 Wind 270 deg - No Ice	13664.29	-13352.79	44.31	3356.33	756704.97	-1210.29
1.2 Dead+1.0 Wind 300 deg - No Ice	18219.05	-10729.85	-6253.40	-363860.46	621746.74	-770.26
0.9 Dead+1.0 Wind 300 deg - No Ice	13664.29	-10729.67	-6253.29	-363722.63	621804.21	-770.33
1.2 Dead+1.0 Wind 330 deg - No Ice	18219.05	-6073.90	-10710.27	-627073.56	352715.74	-618.78
0.9 Dead+1.0 Wind 330 deg - No Ice	13664.29	-6073.94	-10710.35	-626818.56	352926.06	-619.32
1.2 Dead+1.0 Ice+1.0 Temp	35360.23	-0.00	-0.00	2297.23	-3883.76	0.02
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	35360.23	6.16	-3433.59	-202059.63	-4338.47	-365.66
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	35360.23	1730.54	-3012.06	-176344.56	-106429.64	174.35
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	35360.23	3018.85	-1758.52	-101727.50	-182144.80	445.88
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	35360.23	3450.42	-6.16	1865.96	-208193.37	526.47
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	35360.23	2949.66	1711.46	104111.65	-179155.95	686.91
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	35360.23	1637.70	2863.57	174939.33	-102435.69	735.92
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	35360.23	-6.16	3342.01	203172.17	-3449.62	366.04
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	35360.23	-1730.55	3012.06	180967.15	98640.21	-174.34
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	35360.23	-3098.16	1804.30	108104.77	177393.83	-445.96
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	35360.23	-3450.42	6.16	2756.92	200403.84	-526.48
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	35360.23	-2870.36	-1665.67	-97732.83	168327.79	-686.84
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	35360.23	-1637.70	-2863.57	-170316.65	94646.20	-735.91
Dead+Wind 0 deg - Service	15182.54	9.29	-2795.39	-159756.91	-1949.19	255.56
Dead+Wind 30 deg - Service	15182.54	1408.60	-2461.04	-140056.12	-81361.36	676.29
Dead+Wind 60 deg - Service	15182.54	2417.27	-1418.61	-80879.70	-138800.96	555.18
Dead+Wind 90 deg - Service	15182.54	2801.12	-9.29	-495.73	-160276.37	254.09
Dead+Wind 120 deg - Service	15182.54	2385.68	1389.65	79562.73	-137246.55	161.54
Dead+Wind 150 deg - Service	15182.54	1274.18	2246.79	131717.52	-75562.44	129.68
Dead+Wind 180 deg - Service	15182.54	-9.29	2639.70	154025.33	-609.42	-255.86
Dead+Wind 210 deg - Service	15182.54	-1408.61	2461.03	140412.71	78796.83	-676.28
Dead+Wind 240 deg - Service	15182.54	-2552.10	1496.46	84276.13	141511.78	-555.12
Dead+Wind 270 deg - Service	15182.54	-2801.12	9.29	844.48	157718.78	-254.10
Dead+Wind 300 deg - Service	15182.54	-2250.85	-1311.80	-76167.28	129419.54	-161.63
Dead+Wind 330 deg - Service	15182.54	-1274.18	-2246.79	-131362.24	73008.71	-129.69

## Solution Summary



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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
1	-0.00	-15182.54	-0.00	-0.00	15182.54	-0.00	0.000%
2	44.29	-18219.05	-13325.75	-44.29	18219.05	13325.40	0.002%
3	44.29	-13664.29	-13325.75	-44.29	13664.29	13325.50	0.001%
4	6714.89	-18219.05	-11731.88	-6714.68	18219.05	11731.57	0.002%
5	6714.89	-13664.29	-11731.88	-6714.73	13664.29	11731.65	0.001%
6	11523.26	-18219.05	-6762.61	-11523.19	18219.05	6762.58	0.000%
7	11523.26	-13664.29	-6762.61	-11523.00	13664.29	6762.46	0.002%
8	13353.06	-18219.05	-44.29	-13352.70	18219.05	44.26	0.002%
9	13353.06	-13664.29	-44.29	-13352.79	13664.29	44.26	0.001%
10	11372.64	-18219.05	6624.52	-11372.35	18219.05	-6624.35	0.002%
11	11372.64	-13664.29	6624.52	-11372.43	13664.29	-6624.39	0.001%
12	6074.09	-18219.05	10710.57	-6073.94	18219.05	-10710.25	0.002%
13	6074.09	-13664.29	10710.57	-6073.98	13664.29	-10710.32	0.001%
14	-44.29	-18219.05	12583.58	44.29	18219.05	-12583.51	0.000%
15	-44.29	-13664.29	12583.58	44.29	13664.29	-12583.29	0.002%
16	-6714.89	-18219.05	11731.88	6714.73	18219.05	-11731.55	0.002%
17	-6714.89	-13664.29	11731.88	6714.77	13664.29	-11731.63	0.001%
18	-12165.99	-18219.05	7133.70	12165.69	18219.05	-7133.52	0.002%
19	-12165.99	-13664.29	7133.70	12165.77	13664.29	-7133.57	0.001%
20	-13353.06	-18219.05	44.29	13352.70	18219.05	-44.31	0.002%
21	-13353.06	-13664.29	44.29	13352.79	13664.29	-44.31	0.001%
22	-10729.91	-18219.05	-6253.44	10729.85	18219.05	6253.40	0.000%
23	-10729.91	-13664.29	-6253.44	10729.67	13664.29	6253.29	0.002%
24	-6074.09	-18219.05	-10710.56	6073.90	18219.05	10710.27	0.002%
25	-6074.09	-13664.29	-10710.56	6073.94	13664.29	10710.35	0.001%
26	0.00	-35360.23	-0.00	0.00	35360.23	0.00	0.000%
27	6.16	-35360.23	-3433.62	-6.16	35360.23	3433.59	0.000%
28	1730.57	-35360.23	-3012.09	-1730.54	35360.23	3012.06	0.000%
29	3018.88	-35360.23	-1758.54	-3018.85	35360.23	1758.52	0.000%
30	3450.46	-35360.23	-6.16	-3450.42	35360.23	6.16	0.000%
31	2949.70	-35360.23	1711.48	-2949.66	35360.23	-1711.46	0.000%
32	1637.72	-35360.23	2863.60	-1637.70	35360.23	-2863.57	0.000%
33	-6.16	-35360.23	3342.05	6.16	35360.23	-3342.01	0.000%
34	-1730.57	-35360.23	3012.09	1730.55	35360.23	-3012.06	0.000%
35	-3098.19	-35360.23	1804.32	3098.16	35360.23	-1804.30	0.000%
36	-3450.46	-35360.23	6.16	3450.42	35360.23	-6.16	0.000%
37	-2870.39	-35360.23	-1665.69	2870.36	35360.23	1665.67	0.000%
38	-1637.72	-35360.23	-2863.60	1637.70	35360.23	2863.57	0.000%
39	9.29	-15182.54	-2795.45	-9.29	15182.54	2795.39	0.000%
40	1408.64	-15182.54	-2461.09	-1408.60	15182.54	2461.04	0.000%
41	2417.33	-15182.54	-1418.65	-2417.27	15182.54	1418.61	0.000%
42	2801.18	-15182.54	-9.29	-2801.12	15182.54	9.29	0.000%
43	2385.73	-15182.54	1389.68	-2385.68	15182.54	-1389.65	0.000%
44	1274.21	-15182.54	2246.84	-1274.18	15182.54	-2246.79	0.000%
45	-9.29	-15182.54	2639.76	9.29	15182.54	-2639.70	0.000%
46	-1408.64	-15182.54	2461.09	1408.61	15182.54	-2461.03	0.000%
47	-2552.16	-15182.54	1496.49	2552.10	15182.54	-1496.46	0.000%
48	-2801.18	-15182.54	9.29	2801.12	15182.54	-9.29	0.000%
49	-2250.90	-15182.54	-1311.83	2250.85	15182.54	1311.80	0.000%
50	-1274.21	-15182.54	-2246.84	1274.18	15182.54	2246.79	0.000%

### Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001

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2	Yes	7	0.00000001	0.00013538
3	Yes	7	0.00000001	0.00009897
4	Yes	7	0.00000001	0.00014616
5	Yes	7	0.00000001	0.00010985
6	Yes	8	0.00000001	0.00003937
7	Yes	7	0.00000001	0.00011997
8	Yes	7	0.00000001	0.00014638
9	Yes	7	0.00000001	0.00011013
10	Yes	7	0.00000001	0.00013554
11	Yes	7	0.00000001	0.00009915
12	Yes	7	0.00000001	0.00014697
13	Yes	7	0.00000001	0.00011058
14	Yes	8	0.00000001	0.00003944
15	Yes	7	0.00000001	0.00012015
16	Yes	7	0.00000001	0.00014655
17	Yes	7	0.00000001	0.00011022
18	Yes	7	0.00000001	0.00013492
19	Yes	7	0.00000001	0.00009858
20	Yes	7	0.00000001	0.00014610
21	Yes	7	0.00000001	0.00010984
22	Yes	8	0.00000001	0.00003936
23	Yes	7	0.00000001	0.00011988
24	Yes	7	0.00000001	0.00014629
25	Yes	7	0.00000001	0.00010992
26	Yes	6	0.00000001	0.00000001
27	Yes	8	0.00000001	0.00005886
28	Yes	8	0.00000001	0.00006008
29	Yes	8	0.00000001	0.00006103
30	Yes	8	0.00000001	0.00006059
31	Yes	8	0.00000001	0.00005996
32	Yes	8	0.00000001	0.00006066
33	Yes	8	0.00000001	0.00006134
34	Yes	8	0.00000001	0.00006083
35	Yes	8	0.00000001	0.00005977
36	Yes	8	0.00000001	0.00005979
37	Yes	8	0.00000001	0.00005975
38	Yes	8	0.00000001	0.00005886
39	Yes	7	0.00000001	0.00011034
40	Yes	7	0.00000001	0.00011188
41	Yes	7	0.00000001	0.00011418
42	Yes	7	0.00000001	0.00011171
43	Yes	7	0.00000001	0.00011035
44	Yes	7	0.00000001	0.00011162
45	Yes	7	0.00000001	0.00011406
46	Yes	7	0.00000001	0.00011208
47	Yes	7	0.00000001	0.00011056
48	Yes	7	0.00000001	0.00011146
49	Yes	7	0.00000001	0.00011331
50	Yes	7	0.00000001	0.00011111

### Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	100 - 80	0.533	47	0.0362	0.0080
T2	80 - 60	0.381	47	0.0340	0.0072
T3	60 - 40	0.235	47	0.0295	0.0049
T4	40 - 20	0.116	47	0.0209	0.0032
T5	20 - 0	0.037	47	0.0106	0.0016

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
-------------	-----------------	------------------------	-----------------	-----------	------------

### Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	Lightning Rod	47	0.533	0.0362	0.0080	Inf
98.50	Empty Face Mount	47	0.521	0.0361	0.0080	Inf
82.50	8' Omni	47	0.400	0.0344	0.0074	Inf
72.00	Angle Sector Frame	47	0.320	0.0327	0.0063	349487

### Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	100 - 80	2.548	18	0.1729	0.0383
T2	80 - 60	1.822	18	0.1629	0.0345
T3	60 - 40	1.122	18	0.1415	0.0233
T4	40 - 20	0.555	18	0.1001	0.0152
T5	20 - 0	0.175	18	0.0509	0.0075

### Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	Lightning Rod	18	2.548	0.1729	0.0383	Inf
98.50	Empty Face Mount	18	2.494	0.1723	0.0381	Inf
82.50	8' Omni	18	1.913	0.1645	0.0354	631428
72.00	Angle Sector Frame	18	1.534	0.1564	0.0301	75494

### Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load Allowable	Allowable Ratio	Criteria
T1	100	Leg	A325N	0.7500	4	77.29	30101.40	0.003	✓	1 Bolt Tension
T2	80	Leg	A325N	1.0000	6	1233.35	54517.00	0.023	✓	1 Bolt Tension
		Diagonal	A325N	0.6250	1	3222.63	6830.86	0.472	✓	1 Member Block Shear
		Top Girt	A325N	0.6250	1	324.46	6830.86	0.047	✓	1 Member Block

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load Allowable	Allowable Ratio	Criteria
T3	60	Leg	A325N	1.0000	6	4405.49	54517.00	0.081 ✓	1	Shear Bolt Tension
		Diagonal	A325N	0.6250	1	3207.26	9107.81	0.352 ✓	1	Member Block Shear
T4	40	Leg	A325N	1.0000	6	7910.22	54517.00	0.145 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	3342.59	9107.81	0.367 ✓	1	Member Block Shear
T5	20	Leg	A36	1.1250	6	11235.90	33202.40	0.338 ✓	1	Bolt Tension
		Diagonal	A325N	0.6250	1	3533.92	7830.00	0.451 ✓	1	Member Bearing

### Compression Checks

### Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> lb	φP <sub>n</sub> lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	2 1/4	20.00	3.33	71.1 K=1.00	3.9761	-7078.22	123621.00	0.057 <sup>1</sup> ✓
T2	80 - 60	3	20.01	6.67	106.7 K=1.00	7.0686	-24135.20	138286.00	0.175 <sup>1</sup> ✓
T3	60 - 40	3 1/4	20.01	6.67	98.5 K=1.00	8.2958	-47781.70	183578.00	0.260 <sup>1</sup> ✓
T4	40 - 20	3 1/2	20.01	6.67	91.5 K=1.00	9.6211	-70905.90	234775.00	0.302 <sup>1</sup> ✓
T5	20 - 0	3 3/4	20.01	6.67	85.4 K=1.00	11.0447	-93402.70	291632.00	0.320 <sup>1</sup> ✓

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> lb	φP <sub>n</sub> lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	1	6.01	2.89	124.9 K=0.90	0.7854	-1031.45	11188.80	0.092 <sup>1</sup> ✓
T2	80 - 60	L2x2x3/16	9.00	4.35	132.4 K=1.00	0.7150	-3233.81	11668.90	0.277 <sup>1</sup> ✓
T3	60 - 40	L2x2x1/4	9.88	4.78	146.6 K=1.00	0.9380	-3239.93	12484.20	0.260 <sup>1</sup> ✓
T4	40 - 20	L2x2x1/4	10.84	5.25	161.0 K=1.00	0.9380	-3365.31	10359.50	0.325 <sup>1</sup> ✓

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Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> lb	φP <sub>n</sub> lb	Ratio $\frac{P_u}{\phi P_n}$
T5	20 - 0	L2 1/2x2 1/2x3/16	11.85	5.74	139.2 K=1.00	0.9020	-3612.36	13331.30	0.271 <sup>1</sup> ✓ ✓

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> lb	φP <sub>n</sub> lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	1	5.00	4.81	161.7 K=0.70	0.7854	-50.69	6785.94	0.007 <sup>1</sup> ✓
T2	80 - 60	L2x2x3/16	5.00	4.57	139.3 K=1.00	0.7150	-305.50	10549.90	0.029 <sup>1</sup> ✓

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Tension Checks

### Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> lb	φP <sub>n</sub> lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	2 1/4	20.00	3.33	71.1	3.9761	5548.24	178924.00	0.031 <sup>1</sup> ✓
T2	80 - 60	3	20.01	6.67	106.7	7.0686	19152.30	318086.00	0.060 <sup>1</sup> ✓
T3	60 - 40	3 1/4	20.01	6.67	98.5	8.2958	40556.20	373310.00	0.109 <sup>1</sup> ✓
T4	40 - 20	3 1/2	20.01	6.67	91.5	9.6211	60884.90	432951.00	0.141 <sup>1</sup> ✓
T5	20 - 0	3 3/4	20.01	6.67	85.4	11.0447	80229.20	497010.00	0.161 <sup>1</sup> ✓

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Diagonal Design Data (Tension)

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Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> lb	φP <sub>n</sub> lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	1	6.01	2.89	138.8	0.7854	1015.78	25446.90	0.040 <sup>1</sup>
T2	80 - 60	L2x2x3/16	9.00	4.35	86.9	0.4308	3222.63	18739.00	0.172 <sup>1</sup> ✓
T3	60 - 40	L2x2x1/4	9.88	4.78	96.5	0.5629	3207.26	24485.10	0.131 <sup>1</sup> ✓
T4	40 - 20	L2x2x1/4	10.84	5.25	105.7	0.5629	3342.59	24485.10	0.137 <sup>1</sup> ✓
T5	20 - 0	L2 1/2x2 1/2x3/16	11.85	5.74	90.4	0.5710	3533.92	24839.90	0.142 <sup>1</sup> ✓

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	A in <sup>2</sup>	P <sub>u</sub> lb	φP <sub>n</sub> lb	Ratio $\frac{P_u}{\phi P_n}$
T1	100 - 80	1	5.00	4.81	231.0	0.7854	33.62	25446.90	0.001 <sup>1</sup>
T2	80 - 60	L2x2x3/16	5.00	4.57	93.6	0.4308	324.46	18739.00	0.017 <sup>1</sup> ✓

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

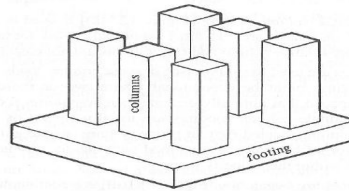
### Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	φP <sub>allow</sub> lb	% Capacity	Pass Fail
T1	100 - 80	Leg	2 1/4	2	-7078.22	123621.00	5.7	Pass
T2	80 - 60	Leg	3	43	-24135.20	138286.00	17.5	Pass
T3	60 - 40	Leg	3 1/4	67	-47781.70	183578.00	26.0	Pass
T4	40 - 20	Leg	3 1/2	88	-70905.90	234775.00	30.2	Pass
T5	20 - 0	Leg	3 3/4	109	-93402.70	291632.00	32.0	Pass
							33.8 (b)	
T1	100 - 80	Diagonal	1	8	-1031.45	11188.80	9.2	Pass
T2	80 - 60	Diagonal	L2x2x3/16	50	-3233.81	11668.90	27.7	Pass
							47.2 (b)	
T3	60 - 40	Diagonal	L2x2x1/4	70	-3239.93	12484.20	26.0	Pass
							35.2 (b)	
T4	40 - 20	Diagonal	L2x2x1/4	91	-3365.31	10359.50	32.5	Pass
							36.7 (b)	
T5	20 - 0	Diagonal	L2 1/2x2 1/2x3/16	112	-3612.36	13331.30	27.1	Pass
							45.1 (b)	
T1	100 - 80	Top Girt	1	6	-50.69	6785.94	0.7	Pass
T2	80 - 60	Top Girt	L2x2x3/16	46	-305.50	10549.90	2.9	Pass
							4.7 (b)	
							Summary	
						Leg (T5)	33.8	Pass

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<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Size</i>	<i>Critical Element</i>	<i>P lb</i>	$\phi P_{allow}$ <i>lb</i>	<i>% Capacity</i>	<i>Pass Fail</i>
						Diagonal (T2)	47.2	Pass
						Top Girt (T2)	4.7	Pass
						Bolt Checks	47.2	Pass
						<b>RATING =</b>	<b>47.2</b>	<b>Pass</b>

Date: 9/6/2019  
 Site Name: Salem South East  
 Client: Smartlink  
 Infinigy Job #: 1106-A0001-B  
 Analysis/Design: Analysis  
 Column Shape: Circle  
 Footing Shape: Square  
 Tower Type: Self Support



Infinigy Engineering PLLC  
 Mat Calculations  
 ACI 318-11

**Loading Data**

TIA Code Revision:	ANSI/TIA-222-G	
Uplift/Leg:	83.4	kips
Compression/Leg:	97.2	kips
Total Axial:	129.5	kips
Total Shear:	8.3	kips
Overturning Moment:	789	k-ft
Vertical Tower Eccentricity:	0	ft
Tower Face Width:	10	ft
Diagonal Shear Width:	1.00	ft
Diagonal Shear Arm:	1.00	ft

**Column Data**

Concrete Strength:	3000	psi
Column Diameter:	3	ft
Column Total Length:	4	ft
Column Height above ground:	0.5	ft
Vertical Rebar Strength:	60000	psi
Vertical Rebar Size:	(#10) max.	
Vertical Rebar Quantity:	(4) min.	
Tie Rebar Strength:	psi	
Tie Rebar Size:	(#3) max.	
Tie Rebar Spacing:	in	
Rebar Clear Distance:	in	

**Soil Data**

Soil Type:	Sand	
Water Table Depth:	20	ft
Soil Dry Unit Weight:	115	pcf
∅ Angle:	28	deg
Cohesion:	0	psf
Ultimate Skin Friction:	0	psf
Friction Coefficient:	0.35	
Ultimate Bearing Pressure:	5000	psf

**Footing Data**

Concrete Strength:	3000	psi
Footing Length:	21	ft
Footing Width:	21	ft
Footing Thickness:	2.5	ft
Horizontal Rebar Strength:	60000	psi
Horizontal Rebar Size:		
Horizontal Rebar Quantity:		
Rebar Clear Distance:	in	
Dowel Strength:	psi	
Dowel Size:	(#11) max.	
Dowel Development Length:	in	
Dowel Quantity:		

**Concrete Strength Check**

Footing One-Way Shear Ratio:	26.63	%
Footing Two-Way Shear Ratio:	8.16	%
Footing Moment Ratio:	#N/A	%
#N/A	#N/A	%
Column Shear Strength Ratio:	#N/A	%
Column Moment Ratio:	#N/A	%
#N/A	#N/A	%

**Soil Stability Check**

∅s Bearing:	0.75	
∅s Uplift:	0.75	
Uplift Ratio:	31.91	%
Bearing Ratio:	60.61	%
Sliding Ratio:	5.89	%
Toe Pressure Ratio:	0.03	%
Overturning Ratio:	22.46	%





## Non-Ionizing Radiation Report

Compiled For: Smartlink on behalf of AT&T

Site Name: Salem Southeast

Site FA: 10071229

Site USID: CTL05736

27 Maynard Road, Salem, CT 06420

Latitude: 41.46329 Longitude: -72.24679

Structure Type: Self Support

Report Date: September 20, 2019



Status: AT&T will be compliant with FCC rules on RF Exposure with the installation of recommended signage at the base of the tower.

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## 1. Executive Summary:

Smartlink on behalf of AT&T has contracted Infinigy Solutions, LLC to determine whether the site Salem Southeast located at 27 Maynard Road in Salem, CT Will Be Compliant with all Federal Communications Commission (FCC) rules and regulations for radio frequency (RF) exposure as indicated in **47CFR§1.1310**.

The report incorporates a theoretical RF field analysis in accordance with the FCC Rules and Regulations for all individuals classified as “Occupational or Controlled” and “General Public or Uncontrolled” .

This document and the conclusions herein are based on information provided by Smartlink on behalf of AT&T.

As a result of the analysis, **AT&T Will Be Compliant with FCC rules with the installation of recommended signage in section 4.**

AT&T, All Bands Cumulative Exposure %		
Uncontrolled / General Population	Exposure values at the site (mW/cm <sup>2</sup> )	0.0354
	% Exposure	4.71%
Controlled / Occupational	Exposure values at the site (mW/cm <sup>2</sup> )	0.0354
	% Exposure	0.98%

## 2. Site Summary:

Site Information	
Site Name: Salem Southeast	
Site Address: 27 Maynard Road, Salem, CT 06420	
Site Type: Self Support	
Compliance Status	Will Be Compliant
Mitigation Required	No
Signage Required	Yes
Barriers Required	No
Access Locked	No
Area Controlled or Uncontrolled	Uncontrolled

## 3. Site Compliance

This report also incorporates overview of the site information:

- Antenna Inventory Table
- Calculation Tables showing exposure for each carrier transmit frequency
- Total exposure for all carriers existing and proposed at ground level considering the centerline of all antennas and horizontal distance from the tower.
- Maximum Effective Radiated Power Assumed as Worst Case for Calculations used in this study
- Calculations based on flat ground around base of the structure

## 4. Site Compliance Recommendations

Infinigy recommends the following upon the installation of antennas at the site:

### **Base of tower**

Install a yellow caution sign

## 5. Antenna Inventory Table

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency	Rad Ctr (Ft)	Total ERP Power (Watts)
1a	Alpha	AT&T	CCI	DMP65R-BU4DA	700	72	790
1b	Alpha	AT&T	CCI	DMP65R-BU4DA	1900	72	3311
2a	Alpha	AT&T	CCI	DMP65R-BU4DA	700	72	790
2b	Alpha	AT&T	CCI	DMP65R-BU4DA	2100	72	3642
2c	Alpha	AT&T	CCI	DMP65R-BU4DA	850	72	835
2d	Alpha	AT&T	CCI	DMP65R-BU4DA	850	72	835
3	Alpha	AT&T	Powerwave	7770	850	72	1438
4	Beta	AT&T	Powerwave	7770	850	72	1438
5a	Beta	AT&T	CCI	DMP65R-BU8D	700	72	1373
5b	Beta	AT&T	CCI	DMP65R-BU8D	1900	72	4570
6a	Beta	AT&T	CCI	DMP65R-BU8D	700	72	1373
6b	Beta	AT&T	CCI	DMP65R-BU8D	2100	72	4912
6c	Beta	AT&T	CCI	DMP65R-BU8D	850	72	1666
6d	Beta	AT&T	CCI	DMP65R-BU8D	850	72	1666
7	Gamma	AT&T	Powerwave	7770	850	72	1438
8a	Gamma	AT&T	CCI	DMP65R-BU6DA	700	72	1066
8b	Gamma	AT&T	CCI	DMP65R-BU6DA	1900	72	3715
9a	Gamma	AT&T	CCI	DMP65R-BU6DA	700	72	1066
9b	Gamma	AT&T	CCI	DMP65R-BU6DA	2100	72	4801
9c	Gamma	AT&T	CCI	DMP65R-BU6DA	850	72	1207
9d	Gamma	AT&T	CCI	DMP65R-BU6DA	850	72	1207

## 6. RF Guidelines

To ensure safety of company workers, the following points need to be taken into consideration and implemented at wireless sites in accordance with the Carriers policies:

- a) **Worksite:** Any employee at the site should avoid working directly in front of the antenna or in areas predicted to exceed general population exposure limits by 100%. Workers should insist that the transmitters be switched off during the work period.
- b) **RF Safety Training and Awareness:** All employees working in areas exceeding the general population limits should have a basic awareness of RF safety measures. Videos, classroom lectures and online courses are all appropriate training methods on these topics.
- c) **Site Access:** Restricting access to transmitting antenna locations is one of the most important elements of RF safety. This can be done with:
  - Locked doors/gates/ladder access
  - Alarmed doors
  - Restrictive barriers
- d) **Three-foot Buffer:** There is an inverse relationship between the strength of the field and the distance from the antenna. The RF field diminishes with distance from the antenna. Workers should maintain a three-foot distance from the antennas.
- e) **Antennas:** Workers should always assume that the antenna is transmitting and should never stop right in front of the antenna. If someone must pass by an antenna, he/she should move quickly, thus reducing RF exposure.

## Attachment 1: AT&T Exposure Analysis

AT&T 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm <sup>2</sup> )	<b>0.5</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0053</b>
	% Exposure	<b>1.06%</b>
Controlled / Occupational	FCC's Exposure limits(mW/cm <sup>2</sup> )	<b>2.3</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0053</b>
	% Exposure	<b>0.23%</b>

AT&T 850 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm <sup>2</sup> )	<b>0.6</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0030</b>
	% Exposure	<b>0.51%</b>
Controlled / Occupational	FCC's Exposure limits(mW/cm <sup>2</sup> )	<b>2.8</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0030</b>
	% Exposure	<b>0.11%</b>

AT&T 800 MHz UMTS		
Uncontrolled / General Population	FCC's exposure limits (mW/cm <sup>2</sup> )	<b>0.6</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0035</b>
	% Exposure	<b>0.59%</b>
Controlled / Occupational	FCC's Exposure limits(mW/cm <sup>2</sup> )	<b>2.8</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0035</b>
	% Exposure	<b>0.13%</b>



AT&T 850 MHz 5G		
Uncontrolled / General Population	FCC's exposure limits (mW/cm <sup>2</sup> )	<b>0.6</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0030</b>
	% Exposure	<b>0.51%</b>
Controlled / Occupational	FCC's Exposure limits(mW/cm <sup>2</sup> )	<b>2.8</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0030</b>
	% Exposure	<b>0.11%</b>

AT&T 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm <sup>2</sup> )	<b>1.0</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0095</b>
	% Exposure	<b>0.95%</b>
Controlled / Occupational	FCC's Exposure limits(mW/cm <sup>2</sup> )	<b>5.0</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0095</b>
	% Exposure	<b>0.19%</b>

AT&T 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm <sup>2</sup> )	<b>1.0</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0109</b>
	% Exposure	<b>1.09%</b>
Controlled / Occupational	FCC's Exposure limits(mW/cm <sup>2</sup> )	<b>5.0</b>
	Exposure values at the site (mW/cm <sup>2</sup> )	<b>0.0109</b>
	% Exposure	<b>0.22%</b>

## 7. Appendix A: FCC Guidelines

### FCC Policies

The Federal Communications Commission (FCC) in 1996 implemented regulations and policies for analysis of RF propagation to evaluate RF emissions. All the analysis and results of this report are compared with FCC's (Federal Communications Commission) rules to determine whether a site is compliant for Occupational/Controlled or General Public/Uncontrolled exposure. All the analysis of RF propagation is done in terms of a percentage. The limits primarily indicate the power density and are generally expressed in terms of milliwatts per centimeter square, mW/cm<sup>2</sup>.

FCC guidelines incorporate two separate tiers of exposure limits that are dependent on the scenario/ situation in which that exposure takes place or the status of the individuals who are subjected to that exposure. The decision as to which tier is applied to a scenario is based on the following definitions:

#### Occupational / Controlled

These limits apply in situations when someone is exposed to RF energy through his/her occupation, is fully aware of the harmful effects of the RF exposure and has an ability to exercise control over this exposure. Occupational / controlled exposure limits also apply when exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. limits for Occupational/Controlled exposure can be found on Table 1 (A).

#### General Population / Uncontrolled

These limits apply to situations in which the general public may be exposed or in which persons who are exposed because of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure to RF. Therefore, members of the general public would always be considered under this category, for example, in the case of a telecommunications tower that exposes people in a nearby residential area. Exposure limits for General Population/Uncontrolled can be found on Table 1 (B).

**Table 1. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)**

**(A) Limits for Occupational/Controlled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

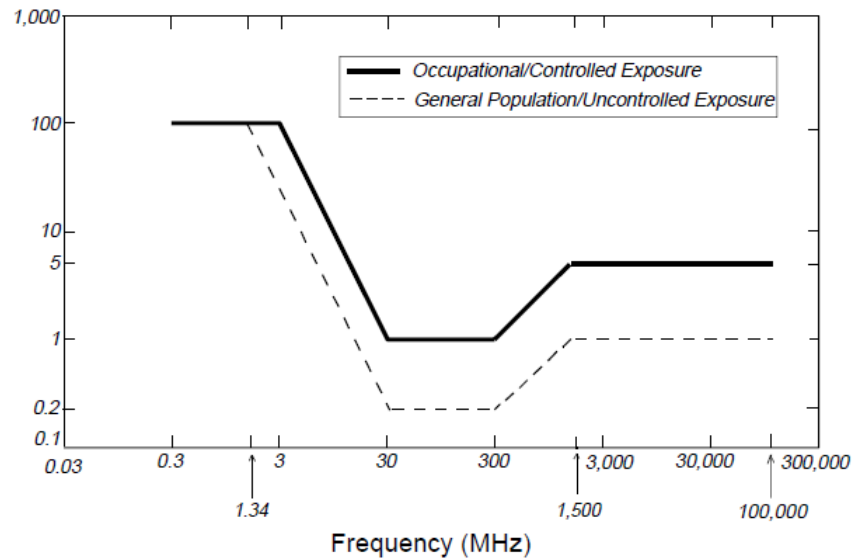
**(B) Limits for General Population/Uncontrolled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

**Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)**  
Plane-wave Equivalent Power Density



OSHA Statement:

The objective of the OSHA Act is to ensure the safety and health of the working men and women by enforcing certain standards. The act also assists and encourages the states in their efforts to ensure safe and healthy working conditions through means of research, information, education and training in the field of occupational safety and health and for other purposes.

According to OSHA Act section 5, important duties to be considered are:

(a) Each employer

- 1) Shall furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious harm to his employees
- 2) Shall comply with occupational safety and health standards promulgated under this act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

## 8. Appendix B: Preparer Certification

I, Tim Harris, preparer of this report, certify that I am fully trained and aware of the rules and regulations of both the Federal Communications Commission and the Occupational Safety and Health Administration regarding Human Exposure to Radio Frequency Radiation. In addition, I have been trained in 1) RF safety and 2) RF modeling using RoofView modeling software.

I certify that the information contained in this report is true and correct to the best of my knowledge.

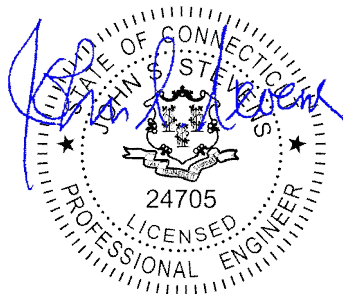
*Timothy A. Harris*

*9/20/2019*

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Signature

Date



10/03/2019



November 12, 2019

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

**Re: Notice of Exempt Modification – Antenna and RRU Add**  
**Property Address: 27 Maynard Road, CT 06420**  
**Applicant: AT&T Mobility, LLC**

Dear Ms. Bachman:

On behalf of AT&T, please accept this application 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).

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 72-feet on an existing 100-foot monopole. AT&T now intends to remove three (3) 4' Kathrein 7770 Panel Antennas, each currently installed in position [3], and swap these for three (3) 4' CCI TPA-65R-BU4AA-K Panel Antennas, each to be installed in position [3], all sectors. In addition, AT&T intends to add remove (3) RRUS-11 AT&T intends to install (3) B14 4478, (3) 8843 B2/B66A, (3) 4449 B5/B12. AT&T is also proposing to add (2) DC6 Squid w/ (1) Fiber and (4) DC Cables

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation 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., a copy of this letter is being sent to Vernon Vesey – Building Official, Town of Salem, CT at 270 Hartford Rd, CT 06420 and Kevin T. Lyden – First Selectman, Town of Salem, CT at 270 Hartford Rd, CT 06420. A copy of this letter is being sent to the property owner, Salem Telcom LLC, located at 226 Lambtown Road Leyard, CT 06339.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-CING-121-090120** - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 27 Maynard Hill Road, **Salem**, Connecticut.
- **EM-CING-121-121127** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 27 Maynard Road, **Salem**, Connecticut.
- **EM-T-MOBILE-121-190611** – T-Mobile notice of intent to modify an existing telecommunications facility located at 27 Maynard Road, **Salem**, Connecticut.
- **EM-T-MOBILE-121-190611** – T-Mobile notice of intent to modify an existing telecommunications facility located at 27 Maynard Road, **Salem**, Connecticut

The planned modifications to AT&T's 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 tower. AT&T's replacement antennas will be installed at the 72-foot level of the 100-foot self-support tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.
3. The proposed modifications will not increase the 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 (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

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

Sincerely,

Will Noel

CC w/enclosures:  
Vernon Vesey – Building Official J  
Kevin T. Lyden – First Selectman  
Salem Telcom LLC – Property Owners



# TOWN OF HAMDEN PERMIT TO BUILD

Date: November 18, 2019  
Permit #: 9139

**This Permit is granted to:**  
**For property located on:**  
**Type of Structure:**

SmartlinkLLC -David Barbagallo  
275 MT CARMEL AVE  
Antenna work

**Parcel ID:**  
**Estimated Project Cost** 50000.00

**Description of Work:**

- REMOVE (9) EXISTING ANTENNAS, (3) PER SECTOR
- INSTALL (6) NEW ANTENNAS, (2) PER SECTOR
- REMOVE (3) EXISITING RRUS, (1) PER SECTOR
- INSTALL (6) NEW RRUS, (2) PER SECTOR
- ADD (1) DCFIBER SQUID
- REPLACE EXISTING BBU WITH (1) 6630 FOR LTE
- 
- ADD 6630 FOR 5G WITH IDLe

This permit is subject to all existing Building and Zoning Laws of Hamden now in force, or that may hereafter be enacted, and in conformance with the details of the application.

**Please Call the Building Department to schedule inspections  
at 203-287-7160**

Robert Labulis  
Building Official

**THIS CARD MUST BE DISPLAYED IN A CONSPICUOUS PLACE, ON THE PREMISES,  
AND MUST NOT BE REMOVED UNTIL ALL WORK IN THE BUILDING HAS BEEN APPROVED.**

To learn more, scan this barcode or visit [hamdenct.viewpointcloud.com/#!/records/11772](http://hamdenct.viewpointcloud.com/#!/records/11772)





Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	CT1129	DATE:	04/30/2019	RF DESIGN ENG:	Mohammed Aijaz Rahman	RF PERF ENG:		RFDS PROGRAM TYPE:	2020 LTE Next Carrier
ISSUE:	Bronze Standard	Approved? (Y/N):	Yes	RF DESIGN PHONE:	8609979698	RF PERF PHONE:		RFDS TECHNOLOGY:	LTE
REVISION:	Final	RF MANAGER:	John Benedetto	RF DESIGN EMAIL:	mr673a@att.com	RF PERF EMAIL:		STATE/STATUS:	As Built/In Progress
INITIATIVE /PROJECT:	4TX4RX Software Retrofit[700 B-C], 4TX4RX Software Retrofit[1900 A3-A4 & E], 5G NR Upgrade[850 B(U)], LTE 5C[AWS J], LTE 6C[700 UPPER D]				RFDS VERSION:	4.00	RFDS ID:	3084504	
		Created By:	mr673a	Updated By:	om636a				
		Date Created:	4/30/2019 5:14:52 PM	Date Updated:	9/20/2019 12:20:50 PM				
		UMTS FREQUENCY:	850	ESTIMATED SQIN:	19,110				
		LTE FREQUENCY:	700, 850, 1900, AWS, WCS						
		5G FREQUENCY:	850						
		I-PLAN JOB # 1:	NER-RCTB-19-02961	IPLAN PRD GRP    SUB GRP #1:	Antenna Modifications    4TX4RX Software Retrofit				
		I-PLAN JOB # 2:	NER-RCTB-19-02962	IPLAN PRD GRP    SUB GRP #2:	Antenna Modifications    4TX4RX Software Retrofit				
		I-PLAN JOB # 3:	NER-RCTB-19-02910	IPLAN PRD GRP    SUB GRP #3:	Cell Site RF Modifications    5G NR Upgrade				
		I-PLAN JOB # 4:	NER-RCTB-19-02755	IPLAN PRD GRP    SUB GRP #4:	LTE Next Carrier    LTE 5C				
		I-PLAN JOB # 5:	NER-RCTB-19-02875	IPLAN PRD GRP    SUB GRP #5:	LTE Next Carrier    LTE 6C				
		I-PLAN JOB # 6:		IPLAN PRD GRP    SUB GRP #6:					
		I-PLAN JOB # 7:		IPLAN PRD GRP    SUB GRP #7:					
		I-PLAN JOB # 8:		IPLAN PRD GRP    SUB GRP #8:					

Section 2 - LOCATION INFORMATION

USID:	61151	FA LOCATION CODE:	10035253	LOCATION NAME:	MIDDLEBURY STRAITS TPKE	ORACLE PTN # 1:	2051A0PQY2	PACE JOB # 1:	MRCTB040858
REGION:	NORTHEAST	MARKET CLUSTER:	NEW ENGLAND	MARKET:	CONNECTICUT	ORACLE PTN # 2:	2051A0PROH	PACE JOB # 2:	MRCTB040676
ADDRESS:	1021 STRAITS TURNPIKE	CITY:	MIDDLEBURY	STATE:	CT	ORACLE PTN # 3:	2051A0PROF	PACE JOB # 3:	MRCTB040834
ZIP CODE:	06762	COUNTY:	NEW HAVEN	LONG (DEC. DEG.):	-73.0892489	ORACLE PTN # 4:	2051A0PQD4	PACE JOB # 4:	MRCTB040638
LATITUDE (D-M-S):	41d 32m8.772s	LONGITUDE (D-M-S):	-73d -5m-21.29604s	LAT (DEC. DEG.):	41.5357700	ORACLE PTN # 5:	2051A0PQPN	PACE JOB # 5:	MRCTB040525
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	1129 - MIDDLEBURY EXIT 17 RT. 84 WEST TO LIGHT. LEFT AT LIGHT RT. 63. THEN RIGHT AT SECOND ROAD. GARAGE IS GATE AT LEFT. SITE BEHIND TOWN GARAGE.. THREE GATES FIRST GATE HAS VERIZON LOCK COMBO# 4667. SECOND GATE HAS TOUCH PAD COMBO# 4667 OR 5000. COMBO 6664GSM SPANS-HCGS 739499UMTS SPANS-HCGS 743204 & HCGS 743205				ORACLE PTN # 6:		PACE JOB # 6:		
		ORACLE PTN # 7:		PACE JOB # 7:					
		ORACLE PTN # 8:		PACE JOB # 8:					
		BORDER CELL WITH CONTOUR COORD:		SEARCH RING NAME:					
		AM STUDY REQ'D (Y/N):	No	SEARCH_RING_ID:					
		FREQ COORD:		BTA:		MSA / RSA:			
				LAC(UMTS):	05998				
		RF DISTRICT:	TBD	RNC(UMTS):	BRPTCT04RNC002				
		RF ZONE:	TBD	MME POOL ID(LTE):	FF01				
		PARENT NAME(UMTS):	BRIDGEPORT CT RNC002						

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:		CGSA CALL SIGNS:
CGSA - MINOR FILING NEEDED (Yes/No):	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:		
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:				

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	Yes	GROUND ELEVATION (ft):		STRUCTURE TYPE:	SELF SUPPORT	MARKET LOCATION 700 Mhz Band:	
ADDITIONAL REGULATORY?:	Yes	HEIGHT OVERALL (ft):	0.00	FCC ASR NUMBER:	NR	MARKET LOCATION 850 Mhz Band:	
SUB-LEASE RIGHTS?:	Yes	STRUCTURE HEIGHT (ft):	0.00			MARKET LOCATION 1900 Mhz Band:	
LIGHTING TYPE:	NOT REQUIRED					MARKET LOCATION AWS Band:	
						MARKET LOCATION WCS Band:	
						MARKET LOCATION Future Band:	



## SECTION 6/7 - BBU INFORMATION - existing

	BBU 1	BBU 2	BBU 3	BBU 4	BBU 5				
BBU RBS ID:	250415	584183	210592	554286	367037				
TECHNOLOGY:	UMTS	UMTS	UMTS	LTE	LTE				
BBU NAME (CTS Common ID):	CTU1129	CTV0129	CTV1129	CTL00129R	CTL01129				
CELL ID / BCF:	CTV1129	CTV0129	CTV1129	CTL00129R	CTL01129				
BTA/TID:	318V	318W	318U	318L	318L				
4-9 DIGIT SITE ID:	1129	0129	1129	0129	1129				
COW OR TOY?:	No	No	No	No	No				
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED	SECTORIZED	SECTORIZED				
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL				
BTS LOCATION ID:	INTERNAL	INTERNAL	INTERNAL	INTERNAL	INTERNAL				
BASE STATION TYPE:	OVERLAY	BASE	BASE	OVERLAY	BASE				
EQUIPMENT NAME:	MIDDLEBURY - STRAITS TPKE - UMTS	MIDDLEBURY STRAITS TPKE	MIDDLEBURY STRAITS TPKE	MIDDLEBURY STRAITS TPKE	MIDDLEBURY STRAITS TPKE				
DISASTER PRIORITY:	0	0	0	3	3				
EQUIPMENT VENDOR:	ERICSSON	ERICSSON	ERICSSON	ERICSSON	ERICSSON				
EQUIPMENT TYPE (Model):	3206 INDOOR	6601 MAIN UNIT UMTS	3206 INDOOR	6601 INDOOR MU	6601 INDOOR MU				
BASEBAND CONFIGURATION:									
MARKET STATE CODE:									
NODE B NUMBER:	0	0	0	129	1129				

## SECTION 6/7 - BBU INFORMATION - final

	BBU 1	BBU 2	BBU 3	BBU 4					
BBU RBS ID:	210592	554286	367037	737475					
TECHNOLOGY:	UMTS	LTE	LTE	5G					
BBU NAME (CTS Common ID):	CTV1129	CTL00129R	CTL01129	CTCN000129R					
CELL ID / BCF:	CTV1129	CTL00129R	CTL01129	CTCN000129R					
BTA/TID:	318U	318L	318L	318L					
4-9 DIGIT SITE ID:	1129	50129	51129	14000129					
COW OR TOY?:	No	No	No	No					
CELL SITE TYPE:	SECTORIZED	SECTORIZED	SECTORIZED	SECTORIZED					
SITE TYPE:	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL	MACRO-CONVENTIONAL					
BTS LOCATION ID:	INTERNAL	INTERNAL	INTERNAL	INTERNAL					
BASE STATION TYPE:	BASE	OVERLAY	BASE	BASE					
EQUIPMENT NAME:	MIDDLEBURY STRAITS TPKE	MIDDLEBURY STRAITS TPKE	MIDDLEBURY STRAITS TPKE	MIDDLEBURY STRAITS TPKE					
DISASTER PRIORITY:	0	3	3	3					
EQUIPMENT VENDOR:	ERICSSON	ERICSSON	ERICSSON	ERICSSON					
EQUIPMENT TYPE (Model):	3206 INDOOR	6601 INDOOR MU	BASEBAND 6630 LTE	BASEBAND 6630 5G					
BASEBAND CONFIGURATION:			1x6601 / 2x6630 / 1xXMMU03 + IDLe						
MARKET STATE CODE:	CT	CT	CT	CTC					
NODE B NUMBER:	0	129	1129	129					









Section 15A - CURRENT TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	AM-X-CD-16-65-00T-RET		SBNHH-1D65A			
ANTENNA VENDOR	Powerwave	KMW		Andrew			
ANTENNA SIZE (H x W x D)	55X11X5	72X11.8X5.9		55X11.9X7.1			
ANTENNA WEIGHT	35	48.5		35.5			
AZIMUTH	143	23		23			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	191	191		191			
ANTENNA TIP HEIGHT	187	187		187			
MECHANICAL DOWNTILT	0	0		0			
FEEDER AMOUNT	2			Fiber+2 Coax			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020	Built-In				
SURGE ARRESTOR (QTY/MODEL)		1	DC/Fiber Squid	3	DC/Fiber Squid ( 1 ) + APTDC-BDFDM-DB ( 2 )		
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901		2	CCI Triplexer - TPX-070821		
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Powerwave 7070	LTE RRH		LTE RRH		
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Pwav LGP21401 Single 1900 w/ 850BP ( 850 )					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser / 1000860					
PDU FOR TMAS (QTY/MODEL)	1	Powerwave LGP 12104					
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	RRUS-11 B12 (REUSE ONLY)				
RRH - 850 band (QTY/MODEL)				1	RRUS-11 B5 (REUSE ONLY)		
RRH - 1900 band (QTY/MODEL)		1	RRUS-12 B2				
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)				1	RRUS-32 B30		
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)				2	Kathrein 782-10253BTS side & 782-10254 Antenna side		
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		61151.A.850.3G.222	CTV11291	CTV11291		UMTS 850	7770.00.850.06	13.5	143	6	None	RFS 1-5/8 ( 850 )	230					237.14			1	
ANTENNA POSITION 2	PORT 1		61151.A.700.4G.1	CTL01129_7A_1	CTL01129_7A_1		LTE 700	AM-X-CD-16-65-00T-RET_725MHz_10DT	15.6	23	10	Top	FIBER	0					1475.7065			3	
	PORT 3		61151.A.1900.4G.1	CTL01129_9A_1	CTL01129_9A_1		LTE 1900	AM-X-CD-16-65-00T-	17.5	23	10	Top	FIBER	0					2421.029			4	





Section 15B - CURRENT TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	AM-X-CD-16-65-00T-RET		SBNHH-1D65A			
ANTENNA VENDOR	Powerwave	KMW		Andrew			
ANTENNA SIZE (H x W x D)	55X11X5	72X11.8X5.9		55X11.9X7.1			
ANTENNA WEIGHT	35	48.5		35.5			
AZIMUTH	263	143		143			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	191	191		191			
ANTENNA TIP HEIGHT	187	187		187			
MECHANICAL DOWNTILT	0	0		0			
FEEDER AMOUNT	2			Fiber+2 Coax			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020	Built-in				
SURGE ARRESTOR (QTY/MODEL)				2	APTDC-BDFDM-DB		
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901		2	CCI Triplexer - TPX-070821		
DIPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH		LTE RRH		
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Pwav LGP21401 Single 1900 w/ 850BP ( 850 )					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser / 1000860					
PDU FOR TMA (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	RRUS-11 B12 (REUSE ONLY)				
RRH - 850 band (QTY/MODEL)				1	RRUS-11 B5 (REUSE ONLY)		
RRH - 1900 band (QTY/MODEL)		1	RRUS-12 B2				
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)				1	RRUS-32 B30		
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)				2	Kathrein 782-10253BTS side & 782-10254 Antenna side		
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		61151.B.850.3G.222	CTV11292	CTV11292		UMTS 850	7770.00.850.04	13.5	263	4	None	RFS 1-5/8 ( 850 )	230						237.14		9	
ANTENNA POSITION 2	PORT 1		61151.B.700.4G.222	CTL01129_7B_1	CTL01129_7B_1		LTE 700	AM-X-CD-16-65-00T-RET_725MHz_04DT	15.6	143	4	Top	FIBER	0						1475.7065		11	
	PORT 3		61151.B.1900.4G.222	CTL01129_9B_1	CTL01129_9B_1		LTE 1900	AM-X-CD-16-65-00T-RET_1910MHz_04DT	17.5	143	4	Top	FIBER	0						2421.029		12	

	PORT 4			CTL01129_9B_2	CTL01129_9B_2		LTE 1900	AM-X-CD-16-65-00T-RET_1910MHz_04DT	17.5	143	4	Top	FIBER	0						2421.029		12	
ANTENNA POSITION 4	PORT 1	61151.B.850.4G.222		CTL01129_8B_1	CTL01129_8B_1		LTE 850	SBNHH-1D65A_851MHz_04DT	12.9	143	4	Bottom	RFS 1-5/8 ( 850 )	230						1000		15	
	PORT 3	61151.B.WCS.4G.222		CTL01129_3B_1	CTL01129_3B_1		LTE WCS	SBNHH-1D65A_2355MHz_03DT	17.3	143	3	Top	FIBER	0						1285.2866		16	

Section 15C - CURRENT TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	P65-17-XLH-RR		SBNHH-1D65A			
ANTENNA VENDOR	Powerwave	Powerwave		Andrew			
ANTENNA SIZE (H x W x D)	55X11X5	96X12X6		55X11.9X7.1			
ANTENNA WEIGHT	35	70		35.5			
AZIMUTH	23	263		263			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	191	191		191			
ANTENNA TIP HEIGHT	187	187		187			
MECHANICAL DOWNTILT	0	0		0			
FEEDER AMOUNT	2			Fiber+2 Coax			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020	Built-in				
SURGE ARRESTOR (QTY/MODEL)				2	APTDC-BDFDM-DB		
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901		2	CCI Triplexer - TPX-070821		
DIPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH		LTE RRH		
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Pwav LGP21401 Single 1900 w/ 850BP ( 850 )					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser / 1000860					
PDU FOR TMA (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	RRUS-11 B12 (REUSE ONLY)				
RRH - 850 band (QTY/MODEL)				1	RRUS-11 B5 (REUSE ONLY)		
RRH - 1900 band (QTY/MODEL)		1	RRUS-12 B2				
RRH - AWS band (QTY/MODEL)							
RRH - WCS band (QTY/MODEL)				1	RRUS-32 B30		
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)				2	Kathrein 782-10253BTS side & 782-10254 Antenna side		
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1							
Local Market Note 2							
Local Market Note 3							

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1		61151.C.850.3G.222	CTV11293	CTV11293		UMTS 850	7770.00.850.04	13.5	23	4	None	RFS 1-5/8 ( 850 )	230						237.14		17	
ANTENNA POSITION 2	PORT 1		61151.C.700.4G.1	CTL01129_7C_1	CTL01129_7C_1		LTE 700	P65-17-XLH-RR_716MHz_02DT	16.39	263	2	Top	FIBER	0						1475.7065		19	
	PORT 3		61151.C.1900.4G.1	CTL01129_9C_1	CTL01129_9C_1		LTE 1900	P65-17-XLH-RR_1930MHz_02DT	17.5	263	2	Top	FIBER	0						2421.029		20	

	PORT 4			CTL01129_9C_2	CTL01129_9C_2		LTE 1900	P65-17-XLH-RR_1930MHz_02DT	17.5	263	2	Top	FIBER	0						2421.029		20	
ANTENNA POSITION 4	PORT 1	61151.C.850.4G.111		CTL01129_8C_1	CTL01129_8C_1		LTE 850	SBNHH-1D65A_851MHz_04DT	12.9	263	4	Bottom	RFS 1-5/8 ( 850 )	230						1000		23	
	PORT 3	61151.C.WCS.4G.111		CTL01129_3C_1	CTL01129_3C_1		LTE WCS	SBNHH-1D65A_2355MHz_03DT	17.3	263	3	Top	FIBER	0						1285.2866		24	

Section 16A - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		DMP65R-BU6DA	DMP65R-BU6DA				
ANTENNA VENDOR		CCI	CCI				
ANTENNA SIZE (H x W x D)		71.2X20.7X7.7	71.2X20.7X7.7				
ANTENNA WEIGHT		79.4	79.4				
AZIMUTH		23	23				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		191	191				
ANTENNA TIP HEIGHT		187	187				
MECHANICAL DOWNTILT		0	0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built-In	Built-In				
SURGE ARRESTOR (QTY/MODEL)			1	DC Only			
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		LTE RRH	LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	4449 B5/B12	1	4478 B14		
RRH - 850 band (QTY/MODEL)			RRH is shared with another band				
RRH - 1900 band (QTY/MODEL)				1	8843 B2/B66A		
RRH - AWS band (QTY/MODEL)			RRH is shared with another band				
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Antennae & Radio positions according to PD- Add/Replace LTE Antenna- Add/Replace LTE Radios- Add DC Only- Replace BB with 2x6630 + XMU + IDLe- Retain XMU- Baseband configuration as per PD / Section-7						
Local Market Note 2							
Local Market Note 3	1x6601 / 2x6630 / 1xXMU03 + IDLe (shared)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 2	PORT 1		61151.A.700.4G.1	CTL01129_7A_1	CTL01129_7A_1		LTE 700	DMP65R-BU6D_725MHz_10DT	12.7	23	10	Top	FIBER	0						1475.7065		3	
	PORT 2		61151.A.850.4G.1	CTL01129_8A_1	CTL01129_8A_1		LTE 850	DMP65R-BU6D_850MHz_06DT	13.2	23	6	Top	FIBER	0						1000		3	
	PORT 3		61151.A.AWS.4G.4	CTL00129_2A_2	CTL00129_2A_2		LTE AWS	DMP65R-BU6D_2130MHz_08DT	17.3	23	10	Top	FIBER	0						3837.0724		4	

	PORT 5		61151.A.850.5G.1	CTCN000129_N005A_1	CTCN000129_N005A_1	5G 850	DMP65R-BU6D_850MHz_06DT	13.2	23	6	Top	FIBER	0						1000		3	
ANTENNA POSITION 3	PORT 1		61151.A.700.4G.5	CTL01129_7A_3_F	CTL01129_7A_3_F	LTE 700	DMP65R-BU6D_770MHz_10DT	13.1	23	10	Top	FIBER	0						2951.413		5	
	PORT 3		61151.A.1900.4G.1	CTL00129_9A_1	CTL00129_9A_1	LTE 1900	DMP65R-BU6D_1930MHz_08DT	17.1	23	10	Top	FIBER	0						3664.3757		6	
	PORT 4		61151.A.1900.4G.4	CTL00129_9A_2	CTL00129_9A_2	LTE 1900	DMP65R-BU6D_1930MHz_08DT	17.1	23	10	Top	FIBER	0						3664.3757		6	

Section 16B - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		DMP65R-BU6DA	DMP65R-BU6DA				
ANTENNA VENDOR		CCI	CCI				
ANTENNA SIZE (H x W x D)		71.2X20.7X7.7	71.2X20.7X7.7				
ANTENNA WEIGHT		79.4	79.4				
AZIMUTH		143	143				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		191	191				
ANTENNA TIP HEIGHT		187	187				
MECHANICAL DOWNTILT		0	0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built-In	Built-In				
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		LTE RRH	LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	4449 B5/B12	1	4478 B14		
RRH - 850 band (QTY/MODEL)			RRH is shared with another band				
RRH - 1900 band (QTY/MODEL)				1	8843 B2/B66A		
RRH - AWS band (QTY/MODEL)			RRH is shared with another band				
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Antennae & Radio positions according to PD- Add/Replace LTE Antenna- Add/Replace LTE Radios- Add DC Only- Replace BB with 2x6630 + XMU + IDLe- Retain XMU- Baseband configuration as per PD / Section-7						
Local Market Note 2							
Local Market Note 3	1x6601 / 2x6630 / 1xXMU03 + IDLe (shared)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 2	PORT 1		61151.B.700.4G.1	CTL01129_7B_1	CTL01129_7B_1		LTE 700	DMP65R-BU6D_725MHz_04DT	13	143	4	Top	FIBER	0						1475.7065		11	
	PORT 2		61151.B.850.4G.1	CTL01129_8B_1	CTL01129_8B_1		LTE 850	DMP65R-BU6D_850MHz_04DT	13.1	143	4	Top	FIBER	0						1000		11	
	PORT 3		61151.B.AWS.4G.4	CTL00129_2B_2	CTL00129_2B_2		LTE AWS	DMP65R-BU6D_2130MHz_04DT	17.4	143	4	Top	FIBER	0						3837.0724		12	



	PORT 5		61151.B.850.5G.1	CTCN000129_N005B_1	CTCN000129_N005B_1	5G 850	DMP65R-BU6D_850MHz_04DT	13.1	143	4	Top	FIBER	0						1000		11	
ANTENNA POSITION 3	PORT 1		61151.B.700.4G.5	CTL01129_7B_3_F	CTL01129_7B_3_F	LTE 700	DMP65R-BU6D_770MHz_04DT	13.5	143	4	Top	FIBER	0						2951.413		13	
	PORT 3		61151.B.1900.4G.1	CTL00129_9B_1	CTL00129_9B_1	LTE 1900	DMP65R-BU6D_1930MHz_04DT	17.1	143	4	Top	FIBER	0						3664.3757		14	
	PORT 4		61151.B.1900.4G.4	CTL00129_9B_2	CTL00129_9B_2	LTE 1900	DMP65R-BU6D_1930MHz_04DT	17.1	143	4	Top	FIBER	0						3664.3757		14	

Section 16C - PLANNED/PROPOSED TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
Existing Antenna?							
ANTENNA MAKE - MODEL		DMP65R-BU8DA	DMP65R-BU8DA				
ANTENNA VENDOR		CCI	CCI				
ANTENNA SIZE (H x W x D)		96.0X20.7X7.7	96.0X20.7X7.7				
ANTENNA WEIGHT		95.7	95.7				
AZIMUTH		263	263				
MAGNETIC DECLINATION							
RADIATION CENTER (feet)		191	191				
ANTENNA TIP HEIGHT		187	187				
MECHANICAL DOWNTILT		0	0				
FEEDER AMOUNT							
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)		Built-In	Built-In				
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)							
DUPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)		LTE RRH	LTE RRH				
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)							
CURRENT INJECTORS FOR TMA (QTY/MODEL)							
PDU FOR TMAS (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	4449 B5/B12	1	4478 B14		
RRH - 850 band (QTY/MODEL)			RRH is shared with another band				
RRH - 1900 band (QTY/MODEL)				1	8843 B2/B66A		
RRH - AWS band (QTY/MODEL)			RRH is shared with another band				
RRH - WCS band (QTY/MODEL)							
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)							
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Antennae & Radio positions according to PD- Add/Replace LTE Antenna- Add/Replace LTE Radios- Add DC Only- Replace BB with 2x6630 + XMU + IDLe- Retain XMU- Baseband configuration as per PD / Section-7						
Local Market Note 2							
Local Market Note 3	1x6601 / 2x6630 / 1xXMU03 + IDLe (shared)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 2	PORT 1		61151.C.700.4G.1	CTL01129_7C_1	CTL01129_7C_1		LTE 700	DMP65R-BU8D_725MHz_02DT	14.3	263	2	Top	FIBER	0						1475.7065		19	
	PORT 2		61151.C.850.4G.1	CTL01129_8C_1	CTL01129_8C_1		LTE 850	DMP65R-BU8D_850MHz_04DT	14.7	263	4	Top	FIBER	0						1000		19	
	PORT 3		61151.C.AWS.4G.4	CTL00129_2C_2	CTL00129_2C_2		LTE AWS	DMP65R-BU8D_2130MHz_02DT	17.5	263	2	Top	FIBER	0						3837.0724		20	

	PORT 5		61151.C.850.5G.1	CTCN000129_N005C_1	CTCN000129_N005C_1	5G 850	DMP65R-BU8D_850MHz_04DT	14.7	263	4	Top	FIBER	0						1000		19	
ANTENNA POSITION 3	PORT 1		61151.C.700.4G.5	CTL01129_7C_3_F	CTL01129_7C_3_F	LTE 700	DMP65R-BU8D_770MHz_02DT	14.5	263	2	Top	FIBER	0						2951.413		21	
	PORT 3		61151.C.1900.4G.1	CTL00129_9C_1	CTL00129_9C_1	LTE 1900	DMP65R-BU8D_1930MHz_02DT	16.7	263	2	Top	FIBER	0						3664.3757		22	
	PORT 4		61151.C.1900.4G.4	CTL00129_9C_2	CTL00129_9C_2	LTE 1900	DMP65R-BU8D_1930MHz_02DT	16.7	263	2	Top	FIBER	0						3664.3757		22	

Section 17A - FINAL TOWER CONFIGURATION - SECTOR A (OR OMNI)

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	DMP65R-BU6DA	DMP65R-BU6DA	SBNHH-1D65A			
ANTENNA VENDOR	Powerwave	CCI	CCI	Andrew			
ANTENNA SIZE (H x W x D)	55X11X5	71.2X20.7X7.7	71.2X20.7X7.7	55X11.9X7.1			
ANTENNA WEIGHT	35	79.4	79.4	35.5			
AZIMUTH	143	23	23	23			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	191	191	191	191			
ANTENNA TIP HEIGHT	187	187	187	187			
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT	2			Fiber+2 Coax			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020	Built-In	Built-In	Built-In		
SURGE ARRESTOR (QTY/MODEL)		1	DC/Fiber Squid	1	DC Only Squid	1	DC/Fiber Squid
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901			2	CCI Triplexer - TPX-070821	
DIPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)	1	Powerwave 7070	LTE RRH	LTE RRH	LTE RRH		
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Pwav LGP21401 Single 1900 w/ 850BP ( 850 )					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser / 1000860					
PDU FOR TMA (QTY/MODEL)	1	Powerwave LGP 12104					
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	4449 B5/B12	1	4478 B14		
RRH - 850 band (QTY/MODEL)			RRH is shared with another band				
RRH - 1900 band (QTY/MODEL)				1	8843 B2/B66A		
RRH - AWS band (QTY/MODEL)			RRH is shared with another band				
RRH - WCS band (QTY/MODEL)					1	RRUS-32 B30	
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)					2	Kathrein 782-10253BTS side & 782-10254 Antenna side	
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Antennae & Radio positions according to PD- Add/Replace LTE Antenna- Add/Replace LTE Radios- Add DC Only- Replace BB with 2x6630 + XMU + IDLe- Retain XMU- Baseband configuration as per PD / Section-7						
Local Market Note 2							
Local Market Note 3	1x6601 / 2x6630 / 1xXMU03 + IDLe (shared)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	61151.A.850.3G.1	61151.A.850.3G.222	CTV11291	CTV11291		UMTS 850	7770.00.850.06	13.5	143	6	None	RFS 1-5/8 ( 850 )	230						237.14		1	
ANTENNA POSITION 2	PORT 1	61151.A.700.4G.1	61151.A.700.4G.1	CTL01129_7A_1	CTL01129_7A_1		LTE 700	DMP65R-BU6D_725MHz_10DT	12.7	23	10	Top	FIBER	0						1475.7065		3	
	PORT 2	61151.A.850.4G.1	61151.A.850.4G.1	CTL01129_8A_1	CTL01129_8A_1		LTE 850	DMP65R-BU6D_850MHz_06DT	13.2	23	6	Top	FIBER	0						1000		3	

	PORT 3	61151.A.AWS.4G.4	61151.A.AWS.4G.4	CTL00129_2A_2	CTL00129_2A_2		LTE AWS	DMP65R- BU6D_2130MHz_08D T	17.3	23	8	Top	FIBER	0						3837.0724		4	
	PORT 5	61151.A.850.5G.1	61151.A.850.5G.1	CTCN000129_N005A_1	CTCN000129_N005A_1		5G 850	DMP65R- BU6D_850MHz_06DT	13.2	23	6	Top	FIBER	0						1000		3	
ANTENNA POSITION 3	PORT 1	61151.A.700.4G.5	61151.A.700.4G.5	CTL01129_7A_3_F	CTL01129_7A_3_F		LTE 700	DMP65R- BU6D_770MHz_10DT	13.1	23	10	Top	FIBER	0						2951.413		5	
	PORT 3	61151.A.1900.4G.2	61151.A.1900.4G.1	CTL00129_9A_1	CTL00129_9A_1		LTE 1900	DMP65R- BU6D_1930MHz_08D T	17.1	23	8	Top	FIBER	0						3664.3757		6	
	PORT 4	61151.A.1900.4G.5	61151.A.1900.4G.4	CTL00129_9A_2	CTL00129_9A_2		LTE 1900	DMP65R- BU6D_1930MHz_08D T	17.1	23	8	Top	FIBER	0						3664.3757		6	
ANTENNA POSITION 4	PORT 3	61151.A.WCS.4G.1	61151.A.WCS.4G.1	CTL01129_3A_1	CTL01129_3A_1		LTE WCS	SBNHH- 1D65A_2355MHz_03 DT	17.3	23	3	Top	FIBER	0						1285.2866		8	

Section 17B - FINAL TOWER CONFIGURATION - SECTOR B

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	DMP65R-BU6DA	DMP65R-BU6DA	SBNHH-1D65A			
ANTENNA VENDOR	Powerwave	CCI	CCI	Andrew			
ANTENNA SIZE (H x W x D)	55X11X5	71.2X20.7X7.7	71.2X20.7X7.7	55X11.9X7.1			
ANTENNA WEIGHT	35	79.4	79.4	35.5			
AZIMUTH	263	143	143	143			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	191	191	191	191			
ANTENNA TIP HEIGHT	187	187	187	187			
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT	2			Fiber+2 Coax			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020	Built-In	Built-In	Built-In		
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901			2	CCI Triplexer -TPX-070821	
DIPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH	LTE RRH	LTE RRH		
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Pwav LGP21401 Single 1900 w/ 850BP ( 850 )					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser / 1000860					
PDU FOR TMA (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	4449 B5/B12	1	4478 B14		
RRH - 850 band (QTY/MODEL)			RRH is shared with another band				
RRH - 1900 band (QTY/MODEL)				1	8843 B2/B66A		
RRH - AWS band (QTY/MODEL)			RRH is shared with another band				
RRH - WCS band (QTY/MODEL)					1	RRUS-32 B30	
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)					2	Kathrein 782-10253BTS side & 782-10254 Antenna side	
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Antennae & Radio positions according to PD- Add/Replace LTE Antenna- Add/Replace LTE Radios- Add DC Only- Replace BB with 2x6630 + XMU + IDLe- Retain XMU- Baseband configuration as per PD / Section-7						
Local Market Note 2							
Local Market Note 3	1x6601 / 2x6630 / 1xXMU03 + IDLe (shared)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	61151.B.850.3G.1	61151.B.850.3G.222	CTV11292	CTV11292		UMTS 850	7770.00.850.04	13.5	263	4	None	RFS 1-5/8 ( 850 )	230						237.14		9	
ANTENNA POSITION 2	PORT 1	61151.B.700.4G.1	61151.B.700.4G.1	CTL01129_7B_1	CTL01129_7B_1		LTE 700	DMP65R-BU6D_725MHz_04DT	13	143	4	Top	FIBER	0						1475.7065		11	
	PORT 2	61151.B.850.4G.1	61151.B.850.4G.1	CTL01129_8B_1	CTL01129_8B_1		LTE 850	DMP65R-BU6D_850MHz_04DT	13.1	143	4	Top	FIBER	0						1000		11	

	PORT 3	61151.B.AWS.4G.4	61151.B.AWS.4G.4	CTL00129_2B_2	CTL00129_2B_2		LTE AWS	DMP65R- BU6D_2130MHz_04D T	17.4	143	4	Top	FIBER	0						3837.0724	12	
	PORT 5	61151.B.850.5G.1	61151.B.850.5G.1	CTCN000129_N005B _1	CTCN000129_N005B _1		5G 850	DMP65R- BU6D_850MHz_04DT	13.1	143	4	Top	FIBER	0						1000	11	
ANTENNA POSITION 3	PORT 1	61151.B.700.4G.5	61151.B.700.4G.5	CTL01129_7B_3_F	CTL01129_7B_3_F		LTE 700	DMP65R- BU6D_770MHz_04DT	13.5	143	4	Top	FIBER	0						2951.413	13	
	PORT 3	61151.B.1900.4G.2	61151.B.1900.4G.1	CTL00129_9B_1	CTL00129_9B_1		LTE 1900	DMP65R- BU6D_1930MHz_04D T	17.1	143	4	Top	FIBER	0						3664.3757	14	
	PORT 4	61151.B.1900.4G.6	61151.B.1900.4G.4	CTL00129_9B_2	CTL00129_9B_2		LTE 1900	DMP65R- BU6D_1930MHz_04D T	17.1	143	4	Top	FIBER	0						3664.3757	14	
ANTENNA POSITION 4	PORT 3	61151.B.WCS.4G.1	61151.B.WCS.4G.1	CTL01129_3B_1	CTL01129_3B_1		LTE WCS	SBNHH- 1D65A_2355MHz_03 DT	17.3	143	3	Top	FIBER	0						1285.2866	16	

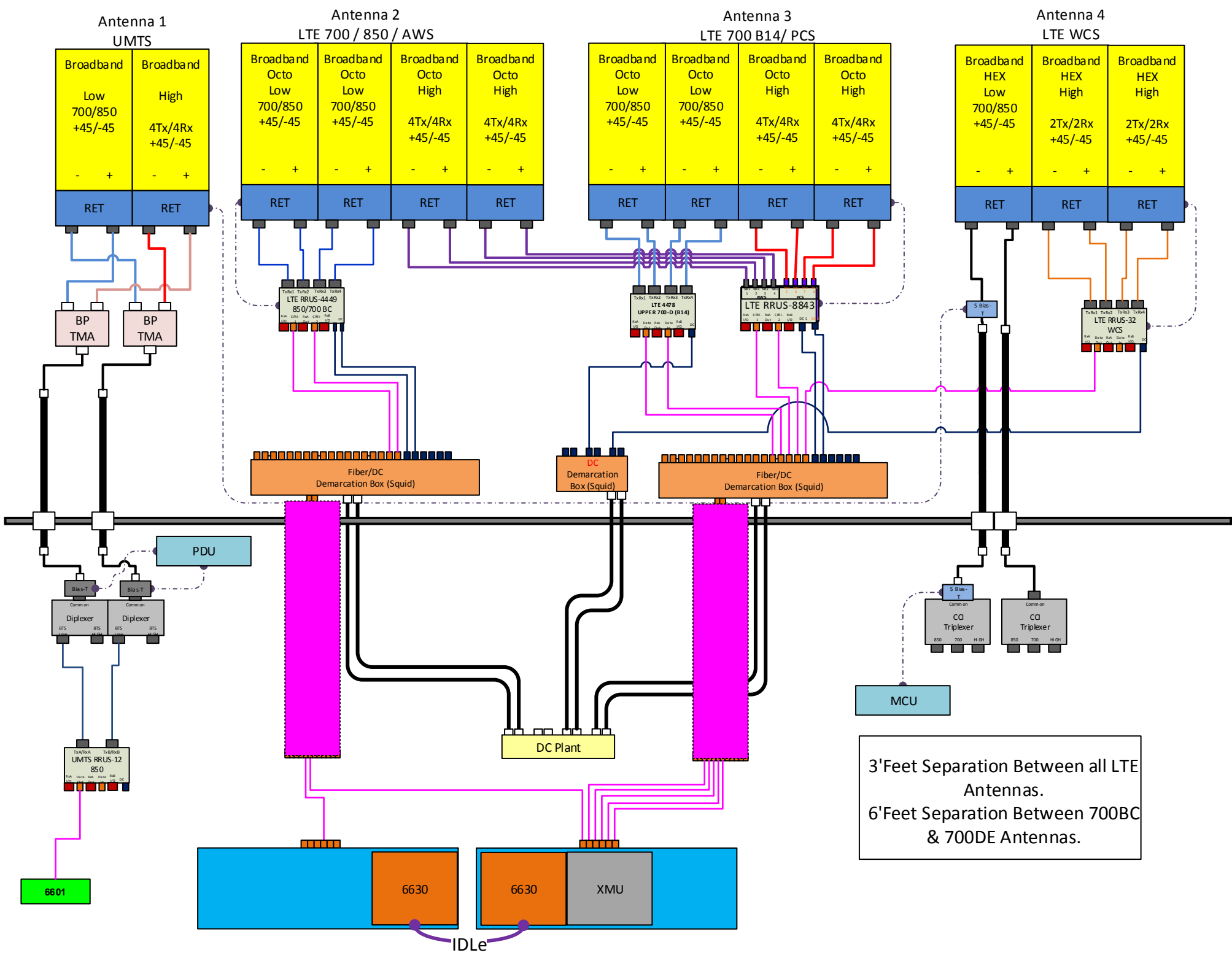
Section 17C - FINAL TOWER CONFIGURATION - SECTOR C

ANTENNA POSITION is LEFT to RIGHT from BACK OF ANTENNA (unless otherwise specified)	ANTENNA POSITION 1	ANTENNA POSITION 2	ANTENNA POSITION 3	ANTENNA POSITION 4	ANTENNA POSITION 5	ANTENNA POSITION 6	ANTENNA POSITION 7
ANTENNA MAKE - MODEL	7770	DMP65R-BU8DA	DMP65R-BU8DA	SBNHH-1D65A			
ANTENNA VENDOR	Powerwave	CCI	CCI	Andrew			
ANTENNA SIZE (H x W x D)	55X11X5	96.0X20.7X7.7	96.0X20.7X7.7	55X11.9X7.1			
ANTENNA WEIGHT	35	95.7	95.7	35.5			
AZIMUTH	23	263	263	263			
MAGNETIC DECLINATION							
RADIATION CENTER (feet)	191	191	191	191			
ANTENNA TIP HEIGHT	187	187	187	187			
MECHANICAL DOWNTILT	0	0	0	0			
FEEDER AMOUNT	2			Fiber+2 Coax			
VERTICAL SEPARATION from ANTENNA ABOVE (TIP to TIP)							
VERTICAL SEPARATION from ANTENNA BELOW (TIP to TIP)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to LEFT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from CLOSEST ANTENNA to RIGHT (CENTERLINE to CENTERLINE)							
HORIZONTAL SEPARATION from ANOTHER ANTENNA (which antenna # / # of inches)							
Antenna RET Motor (QTY/MODEL)	2	Powerwave 7020	Built-In	Built-In	Built-In		
SURGE ARRESTOR (QTY/MODEL)							
DIPLEXER (QTY/MODEL)	2	Powerwave / LGP 21901			2	CCI Triplexer -TPX-070821	
DIPLEXER (QTY/MODEL)							
Antenna RET CONTROL UNIT (QTY/MODEL)			LTE RRH	LTE RRH	LTE RRH		
DC BLOCK (QTY/MODEL)							
TMA/LNA (QTY/MODEL)	2	Pwav LGP21401 Single 1900 w/ 850BP ( 850 )					
CURRENT INJECTORS FOR TMA (QTY/MODEL)	2	Polyphaser / 1000860					
PDU FOR TMA (QTY/MODEL)							
FILTER (QTY/MODEL)							
SQUID (QTY/MODEL)							
FIBER TRUNK (QTY/MODEL)							
DC TRUNK (QTY/MODEL)							
REPEATER (QTY/MODEL)							
RRH - 700 band (QTY/MODEL)		1	4449 B5/B12	1	4478 B14		
RRH - 850 band (QTY/MODEL)			RRH is shared with another band				
RRH - 1900 band (QTY/MODEL)				1	8843 B2/B66A		
RRH - AWS band (QTY/MODEL)			RRH is shared with another band				
RRH - WCS band (QTY/MODEL)					1	RRUS-32 B30	
Additional RRH #1 - any band (QTY/MODEL)							
Additional RRH #2 - any band (QTY/MODEL)							
Additional Component 1 (QTY/MODEL)					2	Kathrein 782-10253BTS side & 782-10254 Antenna side	
Additional Component 2 (QTY/MODEL)							
Additional Component 3 (QTY/MODEL)							
Local Market Note 1	// Antennae & Radio positions according to PD- Add/Replace LTE Antenna- Add/Replace LTE Radios- Add DC Only- Replace BB with 2x6630 + XMU + IDLe- Retain XMU- Baseband configuration as per PD / Section-7						
Local Market Note 2							
Local Market Note 3	1x6601 / 2x6630 / 1xXMU03 + IDLe (shared)						

PORT SPECIFIC FIELDS	PORT NUMBER	USEID (CSSng)	USEID (Atoll)	ATOLL TXID	ATOLL CELL ID	TX/RX ?	TECHNOLOGY/FREQUENCY	ANTENNA ATOLL	ANTENNA GAIN	ELECTRICAL AZIMUTH	ELECTRICAL TILT	RRH LOCATION (Top/Bottom/Integrated/None)	FEEDERS TYPE	FEEDER LENGTH (feet)	RXAIT KIT MODULE?	TRIPLEXER or LLC (QTY)	TRIPLEXER or LLC (MODEL)	SCPA/MCPA MODULE?	HATCHPLATE POWER (Watts)	ERP (Watts)	Antenna RET Name	CABLE NUMBER	CABLE ID (CSSNG)
ANTENNA POSITION 1	PORT 1	61151.C.850.3G.1	61151.C.850.3G.222	CTV11293	CTV11293		UMTS 850	7770.00.850.04	13.5	23	4	None	RFS 1-5/8 ( 850 )	230						237.14		17	
ANTENNA POSITION 2	PORT 1	61151.C.700.4G.1	61151.C.700.4G.1	CTL01129_7C_1	CTL01129_7C_1		LTE 700	DMP65R-BU8D_725MHz_02DT	14.3	263	2	Top	FIBER	0						1475.7065		19	
	PORT 2	61151.C.850.4G.1	61151.C.850.4G.1	CTL01129_8C_1	CTL01129_8C_1		LTE 850	DMP65R-BU8D_850MHz_04DT	14.7	263	4	Top	FIBER	0						1000		19	

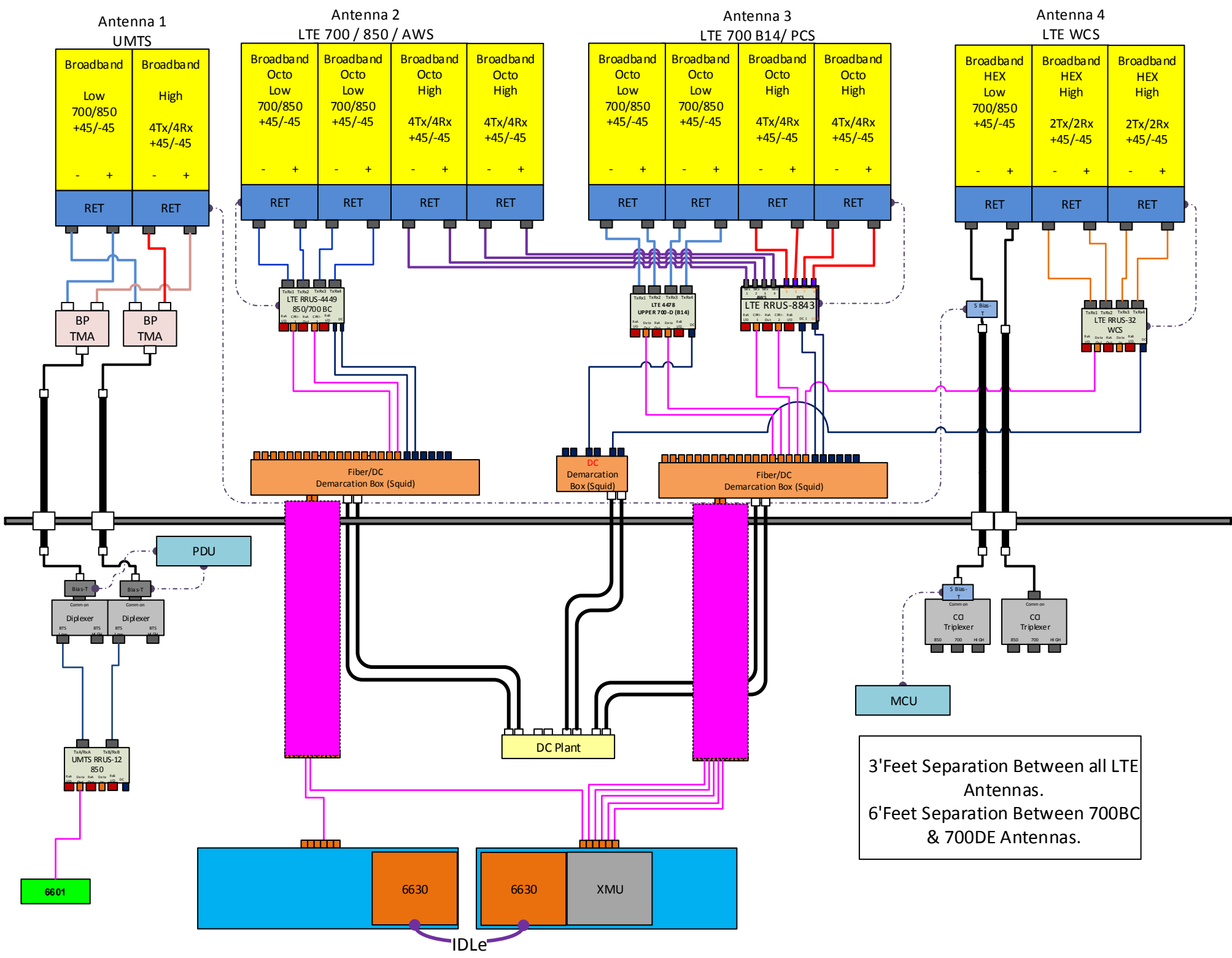


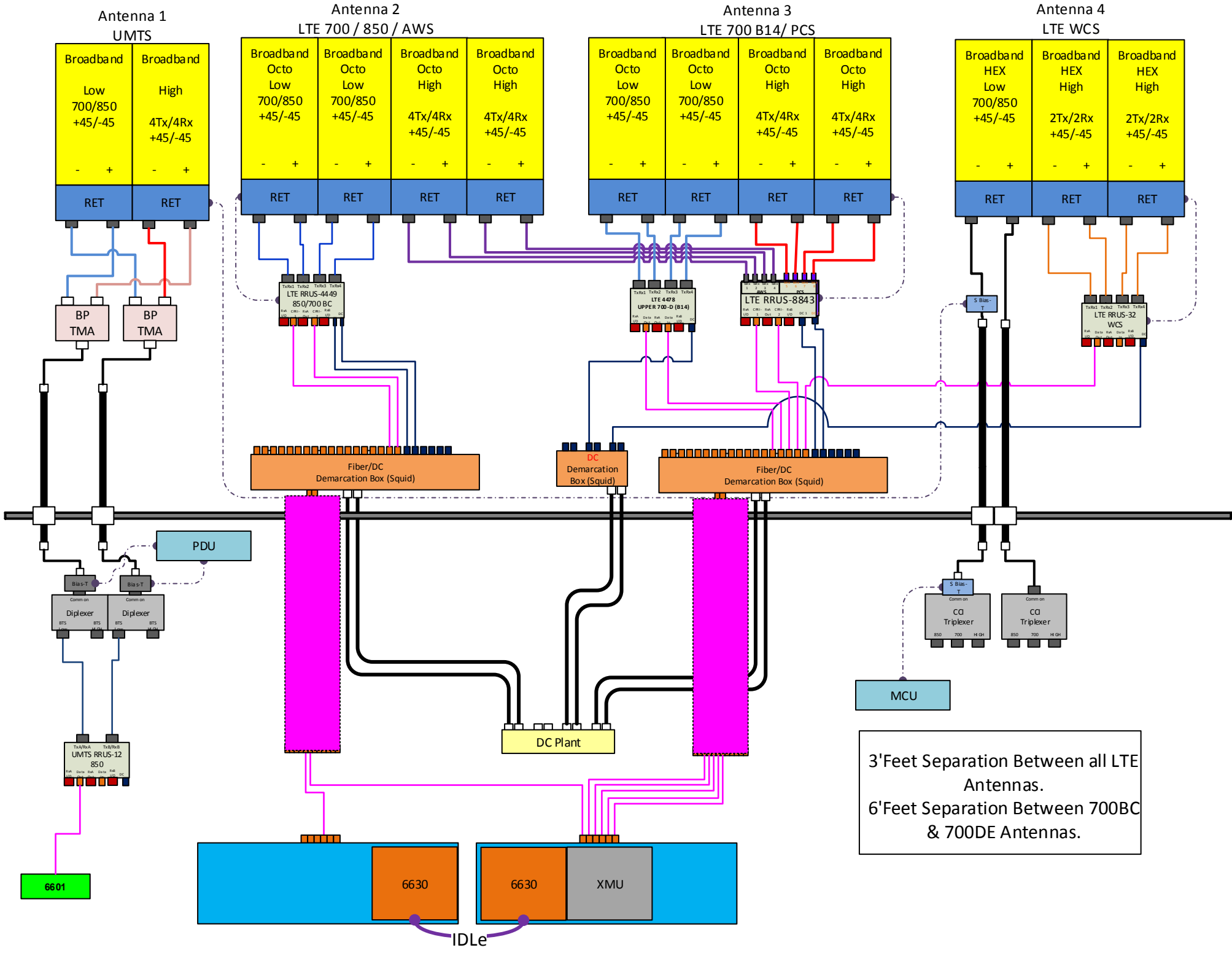
	PORT 3	61151.C.AWS.4G.4	61151.C.AWS.4G.4	CTL00129_2C_2	CTL00129_2C_2		LTE AWS	DMP65R- BU8D_2130MHz_02D T	17.5	263	2	Top	FIBER	0						3837.0724	20	
	PORT 5	61151.C.850.5G.1	61151.C.850.5G.1	CTCN000129_N005C _1	CTCN000129_N005C _1		5G 850	DMP65R- BU8D_850MHz_04DT	14.7	263	4	Top	FIBER	0						1000	19	
ANTENNA POSITION 3	PORT 1	61151.C.700.4G.5	61151.C.700.4G.5	CTL01129_7C_3_F	CTL01129_7C_3_F		LTE 700	DMP65R- BU8D_770MHz_02DT	14.5	263	2	Top	FIBER	0						2951.413	21	
	PORT 3	61151.C.1900.4G.2	61151.C.1900.4G.1	CTL00129_9C_1	CTL00129_9C_1		LTE 1900	DMP65R- BU8D_1930MHz_02D T	16.7	263	2	Top	FIBER	0						3664.3757	22	
	PORT 4	61151.C.1900.4G.5	61151.C.1900.4G.4	CTL00129_9C_2	CTL00129_9C_2		LTE 1900	DMP65R- BU8D_1930MHz_02D T	16.7	263	2	Top	FIBER	0						3664.3757	22	
ANTENNA POSITION 4	PORT 3	61151.C.WCS.4G.1	61151.C.WCS.4G.1	CTL01129_3C_1	CTL01129_3C_1		LTE WCS	SBNHH- 1D65A_2355MHz_03 DT	17.3	263	3	Top	FIBER	0						1285.2866	24	



3' Feet Separation Between all LTE Antennas.  
 6' Feet Separation Between 700BC & 700DE Antennas.

IDLE





3' Feet Separation Between all LTE Antennas.  
 6' Feet Separation Between 700BC & 700DE Antennas.

6601

6630

6630

XMU

IDLE

## NOTES

Date Time (Eastern)	Version	ATTUID	Note
6/17/2019 5:01:27 PM	2.00	rx855w	RFDS VERSION incremented.
6/17/2019 5:01:28 PM	2.00	rx855w	version updated : re-verified
8/26/2019 10:25:20 AM	3.00	om636a	RFDS VERSION incremented.
9/20/2019 12:20:44 PM	4.00	om636a	RFDS VERSION incremented.

WORKFLOW SUMMARY

Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
05/24/2019	Preliminary In Progress	mr673a	Preliminary Submitted for Approval	JH495H	Promote	LTE Preliminary RFDS	NER-RCTB-19-02961 MRCTB040858 SUCCESS 05/24/2019 9:32:57 AM NER-RCTB-19-02962 MRCTB040676 SUCCESS 05/24/2019 9:32:57 AM NER-RCTB-19-02910 MRCTB040834 SUCCESS 05/24/2019 9:32:57 AM NER-RCTB-19-02755 MRCTB040638 SUCCESS 05/24/2019 9:32:57 AM NER-RCTB-19-02875 MRCTB040525 SUCCESS 05/24/2019 9:32:57 AM
06/17/2019	Preliminary Submitted for Approval	JH495H	Preliminary In Progress	rx855w	Pull Back	verficiation.	
06/17/2019	Preliminary In Progress	rx855w	Preliminary Submitted for Approval	JH495H	Promote	re-verification	NER-RCTB-19-02961 FAILURE 06/17/2019 5:23:51 PM NER-RCTB-19-02962 FAILURE 06/17/2019 5:23:51 PM NER-RCTB-19-02910 FAILURE 06/17/2019 5:23:51 PM NER-RCTB-19-02755 FAILURE 06/17/2019 5:23:51 PM NER-RCTB-19-02875 FAILURE 06/17/2019 5:23:51 PM
07/26/2019	Preliminary Submitted for Approval	JH495H	Preliminary Approved	KD602N	Promote	07/26/2019 Expedited, promoted without further review, please demote if issues found	
08/22/2019	Preliminary Approved	KD602N	Preliminary Modification Recommended	OM636A	Demote	ERROR :[CSS-NG error message]:3001 : AF-3084504-08222019122013 : Error in AddRBS3184 : RBS-CTS Common ID:CTCN000129R: Market, RF District and RF Zone combination is INVALID	
08/26/2019	Preliminary Modification Recommended	OM636A	Preliminary Submitted for Approval	JH495H	Promote	Updated to remove CSS error	
09/18/2019	Preliminary Submitted for Approval	JH495H	Preliminary Approved	KD602N	Promote	09/18/2019: Re- Promoting after CSS-NG Error	
09/18/2019	Preliminary Approved	KD602N	Final RF Approval	OM636A	Promote	sending to final:	
09/20/2019	Final RF Approval	OM636A	Final Approved	KD602N	Promote	Final RFDS	NER-RCTB-19-02961 MRCTB040858 SUCCESS 09/20/2019 12:25:27 PM NER-RCTB-19-02962 MRCTB040676 SUCCESS 09/20/2019 12:25:27 PM NER-RCTB-19-02910 MRCTB040834 SUCCESS 09/20/2019 12:25:27 PM NER-RCTB-19-02755 MRCTB040638 SUCCESS 09/20/2019 12:25:27 PM NER-RCTB-19-02875 MRCTB040525 SUCCESS 09/20/2019 12:25:27 PM
10/10/2019	Final Approved	KD602N	As Built In Progress	JI625B	Promote	sending to as built:	NER-RCTB-19-02961 MRCTB040858 SUCCESS 10/10/2019 10:58:48 AM NER-RCTB-19-02962 MRCTB040676 SUCCESS 10/10/2019 10:58:48 AM

								NER-RCTB-19-02910 MRCTB040834 SUCCESS 10/10/2019 10:58:48 AM NER-RCTB-19-02755 MRCTB040638 SUCCESS 10/10/2019 10:58:48 AM NER-RCTB-19-02875 MRCTB040525 SUCCESS 10/10/2019 10:58:48 AM
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85 Rangeway Road, Building 3, Suite 102  
Billerica, MA 01862

**To:** FILE

**From:** Will Noel

**Date:** 11/21/2019

**Subject:** No CSC Original Decision– CTL05736/ FA# 10071229 / MRCTB041391

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Upon review of the “Decisions” section of the CSC website and per conversation with Salem Connecticut Town Clerk, Linda Flugrad, (860)-859-3873 X7, the Connecticut Siting Council Original Decision for 27 Maynard road could not be obtained.





[FAQs >](#)

### Track Another Package +

**Tracking Number:** 9505510339779318056424

[Remove X](#)

Your item has been delivered and is available at a PO Box at 3:27 pm on November 14, 2019 in NORTH GROSVENORDALE, CT 06255.

## **Delivered**

November 14, 2019 at 3:27 pm  
Delivered, PO Box  
NORTH GROSVENORDALE, CT 06255

[Get Updates](#) ✓

Feedback

---

#### **Text & Email Updates**



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#### **Tracking History**



##### **November 14, 2019, 3:27 pm**

Delivered, PO Box  
NORTH GROSVENORDALE, CT 06255

Your item has been delivered and is available at a PO Box at 3:27 pm on November 14, 2019 in NORTH GROSVENORDALE, CT 06255.

---

##### **November 14, 2019, 3:27 pm**

Arrived at Post Office  
NORTH GROSVENORDALE, CT 06255

November 14, 2019, 3:21 pm  
USPS in possession of item  
NORTH GROSVENORDALE, CT 06255

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**Product Information**



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**See Less** ^

## Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

**FAQs**

Feedback



[FAQs >](#)

### Track Another Package +

**Tracking Number:** 9505510339779318056417

[Remove X](#)

Your item has been delivered and is available at a PO Box at 3:27 pm on November 14, 2019 in NORTH GROSVENORDALE, CT 06255.

## **Delivered**

November 14, 2019 at 3:27 pm  
Delivered, PO Box  
NORTH GROSVENORDALE, CT 06255

[Get Updates](#) ✓

Feedback

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### Text & Email Updates



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### Tracking History



#### November 14, 2019, 3:27 pm

Delivered, PO Box  
NORTH GROSVENORDALE, CT 06255

Your item has been delivered and is available at a PO Box at 3:27 pm on November 14, 2019 in NORTH GROSVENORDALE, CT 06255.

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#### November 14, 2019, 3:27 pm

Arrived at Post Office  
NORTH GROSVENORDALE, CT 06255

**November 14, 2019, 3:21 pm**  
USPS in possession of item  
NORTH GROSVENORDALE, CT 06255

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**Product Information**



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**See Less** ^

## **Can't find what you're looking for?**

Go to our FAQs section to find answers to your tracking questions.

**FAQs**

Feedback



[FAQs >](#)

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Feedback

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### Text & Email Updates



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### Tracking History



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**Product Information**



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**See Less** ^

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**FAQs**

Feedback