



Northeast Site Solutions
Victoria Masse
420 Main Street #2, Sturbridge, MA 01566
860-306-2326
victoria@northeastsitesolutions.com

September 8, 2021

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

RE: Notice of Exempt Modification
340 Bloomfield Ave, Windsor CT 06095
Latitude: 41.85259700
Longitude: -72.66056600
T-Mobile Site#: CT11063B _Anchor_L600_L1900

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antenna at the 143-foot level of the existing 148-foot monopole located at 340 Bloomfield Ave, Windsor CT 06095. The monopole is owned by Crown Castle. The property is owned by the Town of Windsor. T-Mobile now intends to replace nine (9) existing antennas with nine (9) new 600/700/1900/2100/2500 MHz antenna. The new antennas would be installed at the 143-foot level of the monopole. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.

T-Mobile Planned Modifications:

Remove:

- (3) TMA
- (6) Coax
- (1) Hybrid Line

Remove and Replace:

- (3) AIR21 B2P/B4A antenna (Remove) - (3) AIR449 B41 antenna 2500 MHz (Replace)
- (3) AIR21 B2A/B4P antenna (Remove) - (3) APX16DWV-16DWV 1900/2100 MHz antenna (Replace)
- (3) LNX-6515DS-A1M antenna (Remove) - (3) APXVAALL24_43 600/700 MHz antenna (Replace)

Install New:

- (3) Radio RRU 4460 B25 + B66
- (3) Radio RRU 4480 B71
- (3) Hybrid Lines

Existing to Remain:

N/A



Ground Work:

- (1) Existing 6131 Cabinet to be removed
- (1) New 6160 Cabinet to be installed
- (1) New B160 Cabinet to be installed

This facility was approved by the Town of Windsor Planning & Zoning Commission on October 10, 2000.
Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to The Honorable Donald S. Trinks, Town Mayor, and Mr. Peter P. Souza, Town Manager as the property owner and Eric Barz, Windsor Town Planner as well as Crown Castle the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Victoria Masse
Mobile: 860-306-2326
Fax: 413-521-0558
Office: 420 Main Street, Unit 2, Sturbridge MA 01566
Email: victoria@northeastsitesolutions.com



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

Attachments:

cc:

CROWN CASTLE- as tower owner
500 West Cummings Park, Suite 3600,
Woburn, MA 01801

The Honorable Donald S. Trinks, Mayor - property owner
275 Broad Street
Windsor, CT 06095

Eric Barz- Planning and Zoning
275 Broad Street
Windsor, CT 06095

Mr. Peter P. Souza, Town Manager
275 Broad Street
Windsor, CT 06095

Town of Windsor c/o AT&T Mobility
575 Morosgo Dr, Suite 13-F
West Tower
Atlanta, GA 30324

Exhibit A



First in Connecticut. First for its citizens.

October 25, 2000

Cuddy & Feder & Worby LLP
ATTN: Daniel F. Leary
90 Maple Avenue
White Plains, NY 10601-5196

Subject: Special Use #546 - Wireless Telecommunications Tower, 340 Bloomfield Avenue, Zoning Regulations Sections 12.2 & 2.2.19E(1), NZ Zone, Town of Windsor/AT&T Wireless PCS, LLC

Site Plan #308E - Revision, Wireless Telecommunications Tower, 340 Bloomfield Avenue, NZ Zone, Town of Windsor/AT&T Wireless PCS, LLC

Dear Mr. Leary:

At its meeting on October 10, 2000 the Windsor Town Planning & Zoning Commission took the following action on the subject applications:

Approved subject to the following condition:

- 1) Final approval of the Fire Marshal regarding fire safety issues**

Approval includes the following distance waiver:

- 1) 83 feet for Bloomfield Avenue south of site**

Very truly yours,

Town Planning & Zoning Commission

/mm

I, Anita M. Mips, Chairperson of the Windsor Town Planning and Zoning Commission, hereby certify that on October 10, 2000 the Planning and Zoning Commission of the Town of Windsor granted approval of Special Use Application #546 for a Wireless Telecommunications Tower with a monopole height of 150 feet plus 20-foot Town public service whip antennas for a total height of 170 feet, under Zoning Regulations Sections 12.2 & 2.2.19E(1), subject to the following condition:

1) Final approval of the Fire Marshal regarding fire safety issues.


This approval also includes the following waiver in accordance with Zoning Regulations Section 12.1:

1) a waiver of the fall zone distance requirement for 83 feet in relation to the distance of the tower from Bloomfield Avenue, 340 feet being required, 257 feet being proposed.

Said Special Use was granted for the property located at: 340 Bloomfield Avenue

The owner of record of said parcel is: Town of Windsor

Dated at Windsor, Connecticut, this 30th day of November, 2000

 Chairperson

Public Act #75-317

Received for Record this _____ day of _____, 2000

_____ Attest: Town Clerk

Exhibit B

| CURRENT OWNER | | | | TOPO. | UTILITIES | STRT./ROAD | LOCATION | CURRENT ASSESSMENT | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|---------|-------|-----------|------------|----------|--------------------|-------|-----------------|----------------|---------------------|
| WINDSOR TOWN OF C/O AT&T MOBILITY 575 MOROSGO DR SUITE 13-F WEST TOWER ATTN: NREA TAX DEPT ATLANTA, GA 30324 Additional Owners: | | | | | | | | Description | Code | Appraised Value | Assessed Value | 6164 WINDSOR, CT |
| | | | | | | | | IND LAND | 3-1 | 205,000 | 143,500 | |
| | | | | | | | | IND BLDG | 3-2 | 19,100 | 13,370 | |
| | | | | | | | | IND IMPR | 3-3 | 220,500 | 154,350 | VISION |
| SUPPLEMENTAL DATA | | | | | | | | Total | | 444,600 | 311,220 | |
| Account # | 03788.01 | TRACT | 4736.02 | INC: | CBLOCK | 208 | GH | DIST | HEART | GL YEAR | 2007 | |
| GIS ID: | 3788.01 | ASSOC PID# | | | | | | | | | | |

| RECORD OF OWNERSHIP | | | | BK-VOL/PAGE | SALE DATE | q/u | w/i | SALE PRICE | V.C. | PREVIOUS ASSESSMENTS (HISTORY) | | | | | | | | |
|---------------------|--|--|--|-------------|------------|-----|-----|------------|------|--------------------------------|------|----------------|--------|------|----------------|--------|------|----------------|
| WINDSOR TOWN OF | | | | 190/ 568 | 08/06/1963 | | | | | Yr. | Code | Assessed Value | Yr. | Code | Assessed Value | Yr. | Code | Assessed Value |
| | | | | | | | | | | 2018 | 3-1 | 143,500 | 2017 | 3-1 | 143,500 | 2016 | 3-1 | 143,500 |
| | | | | | | | | | | 2018 | 3-2 | 13,370 | 2017 | 3-2 | 10,290 | 2016 | 3-2 | 10,290 |
| | | | | | | | | | | 2018 | 3-3 | 154,350 | 2017 | 3-3 | 154,350 | 2016 | 3-3 | 154,350 |
| | | | | | | | | | | Total: | | 311,220 | Total: | | 308,140 | Total: | | 308,140 |

| EXEMPTIONS | | | |
|------------|------|-------------|--------|
| Year | Type | Description | Amount |
| | | | |
| Total: | | | |

This signature acknowledges a visit by a Data Collector or Assessor

| APPRAISED VALUE SUMMARY | |
|----------------------------------|---------|
| Appraised Bldg. Value (Card) | 0 |
| Appraised XF (B) Value (Bldg) | 0 |
| Appraised OB (L) Value (Bldg) | 220,500 |
| Appraised Land Value (Bldg) | 205,000 |
| Special Land Value | 0 |
| Total Appraised Parcel Value | 444,600 |
| Valuation Method: | I |
| Adjustment: | 0 |
| Net Total Appraised Parcel Value | 444,600 |

| NOTES | |
|-----------------------|----------------------|
| 09310.01 | LAND VALUE ADJUSTED |
| 54-456-98T | PER INC APPR 10/2003 |
| AT&T CELLULAR TOWER | |
| MARKET VALUE PER | |
| INCOME CAPITALIZATION | |
| 10/01/2001 SK | |

| BUILDING PERMIT RECORD | | | | | | | | |
|------------------------|------------|------|-------------|--------|------------|---------|------------|---------------------|
| Permit ID | Issue Date | Type | Description | Amount | Insp. Date | % Comp. | Date Comp. | Comments |
| P-190267 | 02/13/2019 | PL | Plumbing | 2,500 | | 0 | | GAS PIPING FOR GENE |
| B-190129 | 01/23/2019 | CM | Commercial | 8,500 | | 0 | | INSTALL GENERATOR |
| B-182243 | 09/05/2018 | RE | Renovation | 15,000 | | 0 | | GENERATOR ON CONC |
| B-170622 | 03/30/2017 | CM | Commercial | 20,000 | 08/17/2017 | 100 | 10/01/2017 | REPLACE 3 ANTENNAS |
| E-160074 | 01/11/2016 | EL | Electric | 15,000 | 08/18/2016 | 100 | 10/01/2016 | REPLACE 6 ANTENNA |
| B-150876 | 05/01/2015 | CM | Commercial | 20,000 | 06/19/2015 | 100 | 10/01/2015 | ADD 3 NEW ANTENNA |
| B-141344 | 04/15/2015 | CM | Commercial | 0 | 06/19/2015 | 100 | 10/01/2015 | SWAPPING 6 ANTENNA |

| VISIT/ CHANGE HISTORY | | | | | |
|-----------------------|------------|----|----|-----|------------------|
| Type | Date | IS | ID | Cd. | Purpose/Result |
| | 06/19/2015 | | LL | 20 | Bldg Permit Insp |
| | 10/01/2001 | | SK | 01 | Measur+1 Visit |

| LAND LINE VALUATION SECTION | | | | | | | | | | | | | | | | | | |
|-----------------------------|----------|-------------|------|---|----------|-------|-------|------------|-------------------------|---------|------|-----------|---------|-------------------|------------|-----------------|-----------------|---------|
| B# | Use Code | Description | Zone | D | Frontage | Depth | Units | Unit Price | I. Factor | S.A. | S.O. | C. Factor | ST. Idx | Adj. | Notes- Adj | Special Pricing | Land Value | |
| 1 | 4340 | Cell Tower | NZ | | | | 0.05 | AC | 82,000.00 | 50.0000 | 0 | 0 | | 1.00 | | | CELL TOWER SITE | 205,000 |
| Total Card Land Units: | | | | | | | 0.05 | AC | Parcel Total Land Area: | | | 0.05 | AC | Total Land Value: | | | 205,000 | |



Imagery ©2019 Google, Imagery ©2019 CNES / Airbus, Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data 200 ft ©2019



41°51'09.3"N 72°39'37.8"W

41.852594, -72.660497



Directions



Save



Nearby



Send to your phone



Share

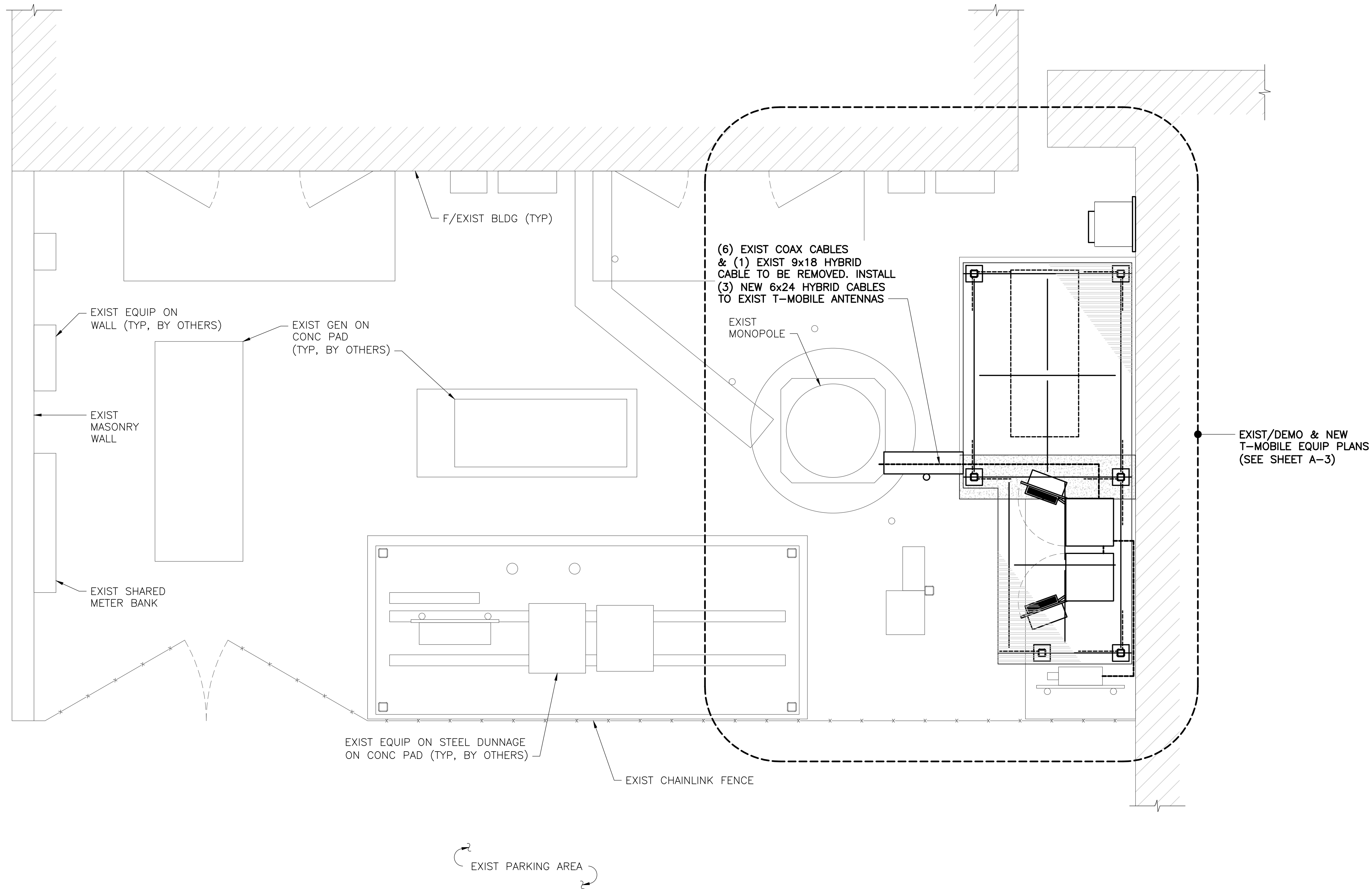
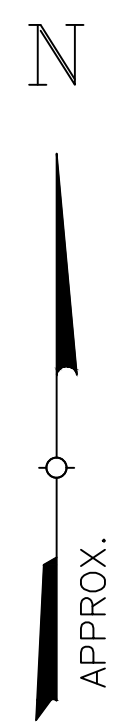


340 Bloomfield Ave, Windsor, CT 06095



V83Q+2R Windsor, Connecticut

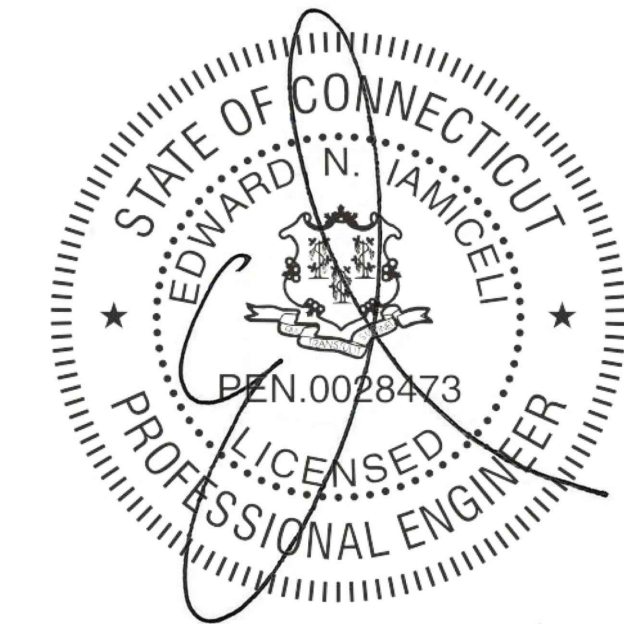
Exhibit C



1 SITE PLAN
A-1 SCALE: 3/8" = 1'-0"

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Tectonic Engineering & Surveying Consultants P.C.
70 Pleasant Hill Road Phone: (845) 534-5959
P.O. Box 37 (800) 529-6531
Mountainville, NY 10953 www.tectonicengineering.com
Project Contact Info
1279 Route 300
Newburgh, NY 12550 Phone: (845) 567-6656

Mobile
NORTHEAST, LLC.
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002



APPROVALS

LANDLORD _____

RF _____

CONSTRUCTION _____

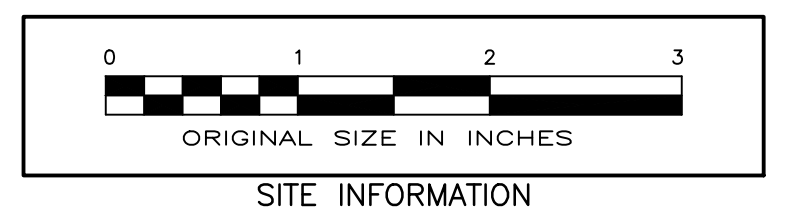
OPERATIONS _____

SITE ACQ. _____

PROJECT NUMBER 10473.CT11063B DESIGNED BY EI

| REV. | DATE | DESCRIPTION | DRAWN BY |
|------|-----------|-------------------------|----------|
| 1 | 8/31/2021 | ISSUED FOR CONSTRUCTION | BWY |

ISSUED BY _____ DATE _____

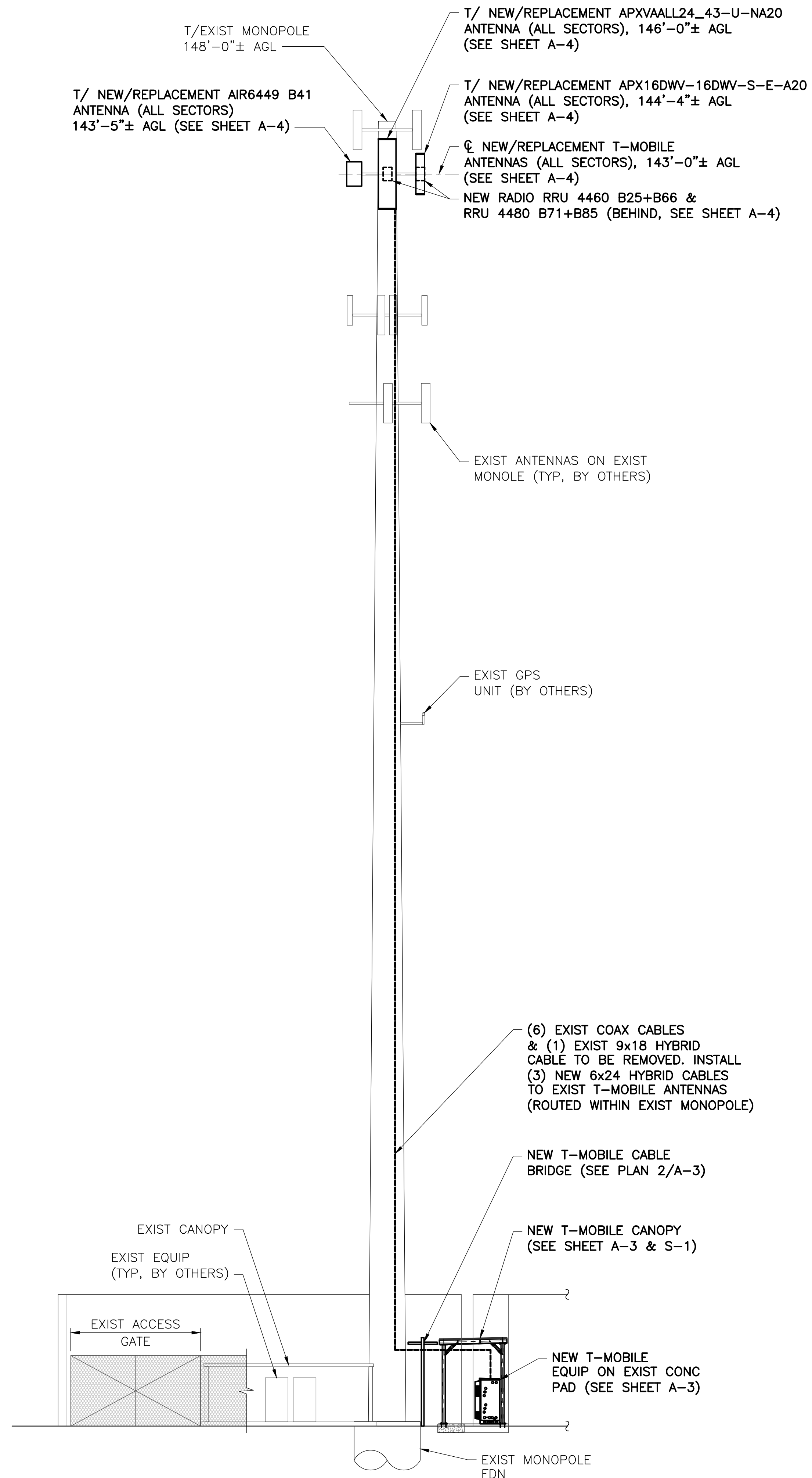


SITE INFORMATION

CT11063B
WINDSOR FIRE DEPARTMENT_1
340 BLOOMFIELD AVE
WINDSOR, CT
06095

SHEET TITLE
SITE PLAN

SHEET NUMBER
A-1



NOTE: NOT ALL SITE FEATURES SHOWN FOR CLARITY.

1
A-2
ELEVATION
SCALE: 1/8" = 1'-0"

STRUCTURAL NOTE

ANTENNA MOUNT FRAME

REFER TO THE ANTENNA MOUNT STRUCTURAL ANALYSIS REPORT BY "B+T GROUP", DATED JULY 15, 2021.

MONOPOLE

REFER TO THE STRUCTURAL ANALYSIS REPORT BY "TOWER ENGINEERING PROFESSIONALS", DATED 7/30/2021.

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P.O. Box 37 (800) 529-6531
Mountainville, NY 10953 www.tectonicengineering.com
Project Contact Info
1279 Route 300
Newburgh, NY 12550 Phone: (845) 567-6656

Mobile
NORTHEAST, LLC.
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

NSS NORTHEAST
SITE SOLUTIONS
Turnkey Wireless Development

APPROVALS

LANDLORD _____

RF _____

CONSTRUCTION _____

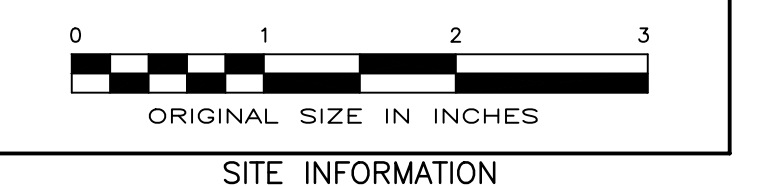
OPERATIONS _____

SITE ACQ. _____

PROJECT NUMBER 10473.CT11063B DESIGNED BY EI

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SITE INFORMATION

CT11063B
WINDSOR FIRE
DEPARTMENT_1
340 BLOOMFIELD AVE
WINDSOR, CT
06095

SHEET TITLE

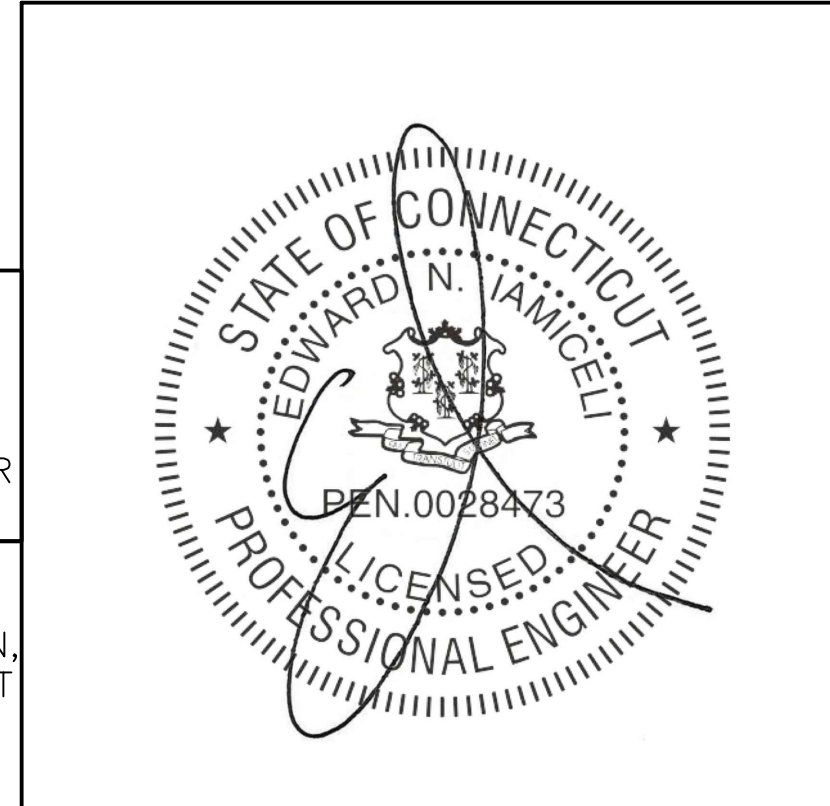
ELEVATION

SHEET NUMBER

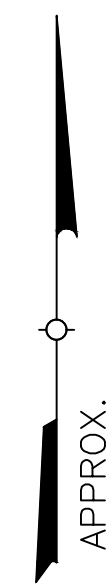
A-2

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N



EQUIPMENT LEASE AREA

EXISTING CONCRETE PAD: 122± SF
TOTAL LEASE AREA SIZE (CONCRETE PAD) (FINAL): 138± SF

RAN SCOPE NOTES

1. REMOVE EXISTING RBS6131 BASE STATION CABINET. REMOVE AND RETURN ALL CABINET RADIOS.
2. ADD (1) ENCLOSURE 6160.
3. MOVE DUG20, DUW30, AND BB6630 TO THE NEW ENCLOSURE 6160.
4. ADD (1) BB6648 FOR L600, L700, AND N600 (MMBB - MIXED MODE BASEBAND) TO THE NEW ENCLOSURE 6160.
5. ADD (1) IXRE ROUTER TO NEW ENCLOSURE 6160.
6. ADD (1) BB6648 FOR L2500 AND N2500 (MMBB - MIXED MODE BASEBAND) TO THE NEW ENCLOSURE 6160.
7. ADD (1) PSU4813 VOLTAGE BOOSTER TO THE NEW ENCLOSURE 6160.
8. ADD (1) BATTERY CABINET B160.
9. REMOVE ALL COAXIAL LINES.
10. REMOVE 9x18 HCS.
11. ADD (3) 6x24 HCS AS FOLLOWS: (2) 6X24 HCS TERMINATING AT THE RBS6131; (1) 6X24 HCS TERMINATING AT THE ENCLOSURE 6160 (CONNECT DC FOR THE AIR6449 B41 TO THE PSU4813VOLTAGE BOOSTER).

Tectonic

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Mobile

NORTHEAST, LLC.

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002



APPROVALS

LANDLORD _____
RF _____
CONSTRUCTION _____
OPERATIONS _____
SITE ACQ. _____

PROJECT NUMBER 10473.CT11063B DESIGNED BY EI

| REV. | DATE | DESCRIPTION | DRAWN BY |
|------|-----------|-------------------------|----------|
| 1 | 8/31/2021 | ISSUED FOR CONSTRUCTION | BWY |

ISSUED BY _____ DATE _____



SITE INFORMATION

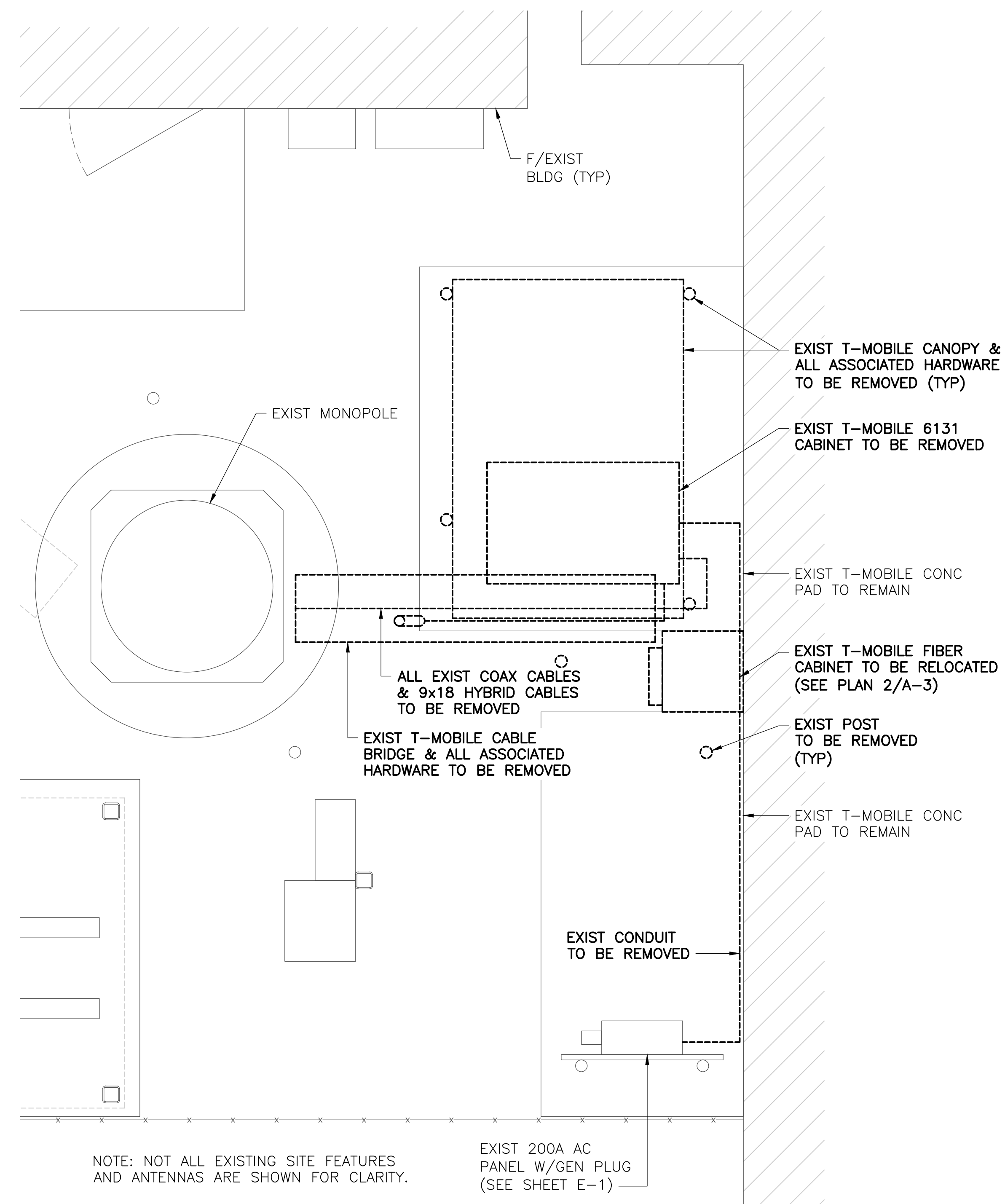
CT11063B
WINDSOR FIRE DEPARTMENT_1
340 BLOOMFIELD AVE
WINDSOR, CT 06095

SHEET TITLE

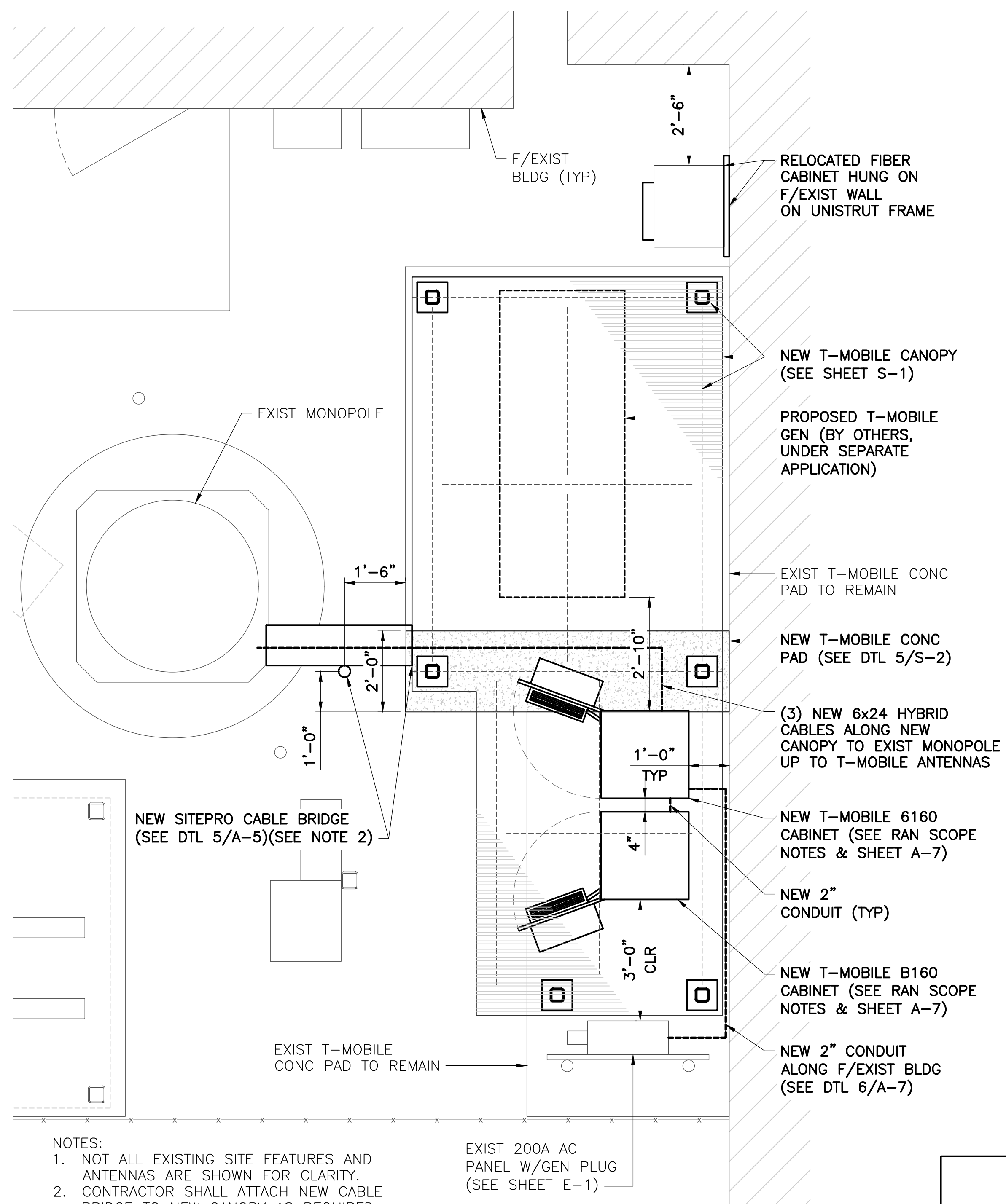
EXIST/DEMO & NEW T-MOBILE EQUIPMENT PLANS

SHEET NUMBER

A-3



1 EXIST/DEMO EQUIPMENT PLAN
A-3 SCALE: 1/2" = 1'-0"

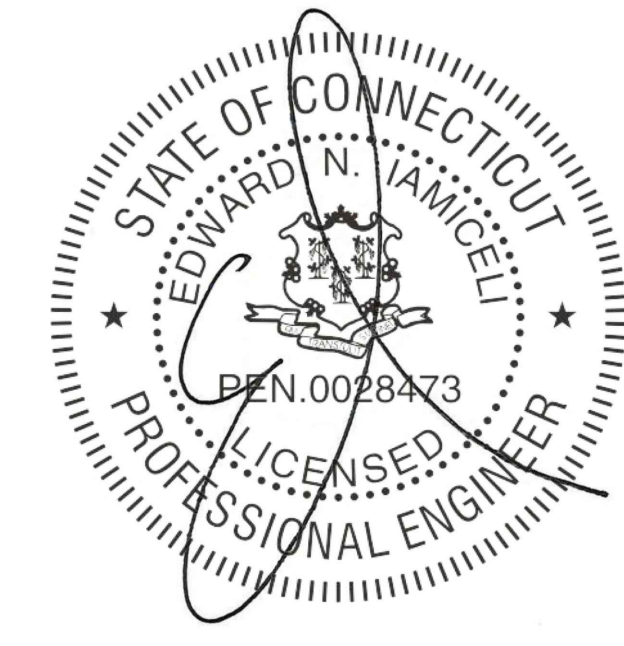


2 NEW EQUIPMENT PLAN
A-3 SCALE: 1/2" = 1'-0"

NOTES:
1. NOT ALL EXISTING SITE FEATURES AND ANTENNAS ARE SHOWN FOR CLARITY.
2. CONTRACTOR SHALL ATTACH NEW CABLE BRIDGE TO NEW CANOPY AS REQUIRED.

EXIST 200A AC PANEL W/GEN PLUG (SEE SHEET E-1)

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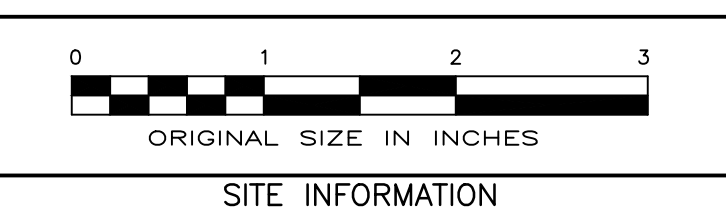
APPROVALS

LANDLORD _____
 RF _____
 CONSTRUCTION _____
 OPERATIONS _____
 SITE ACQ. _____

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|----------------|-------------|
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| REV. | DATE | DESCRIPTION | DRAWN BY |
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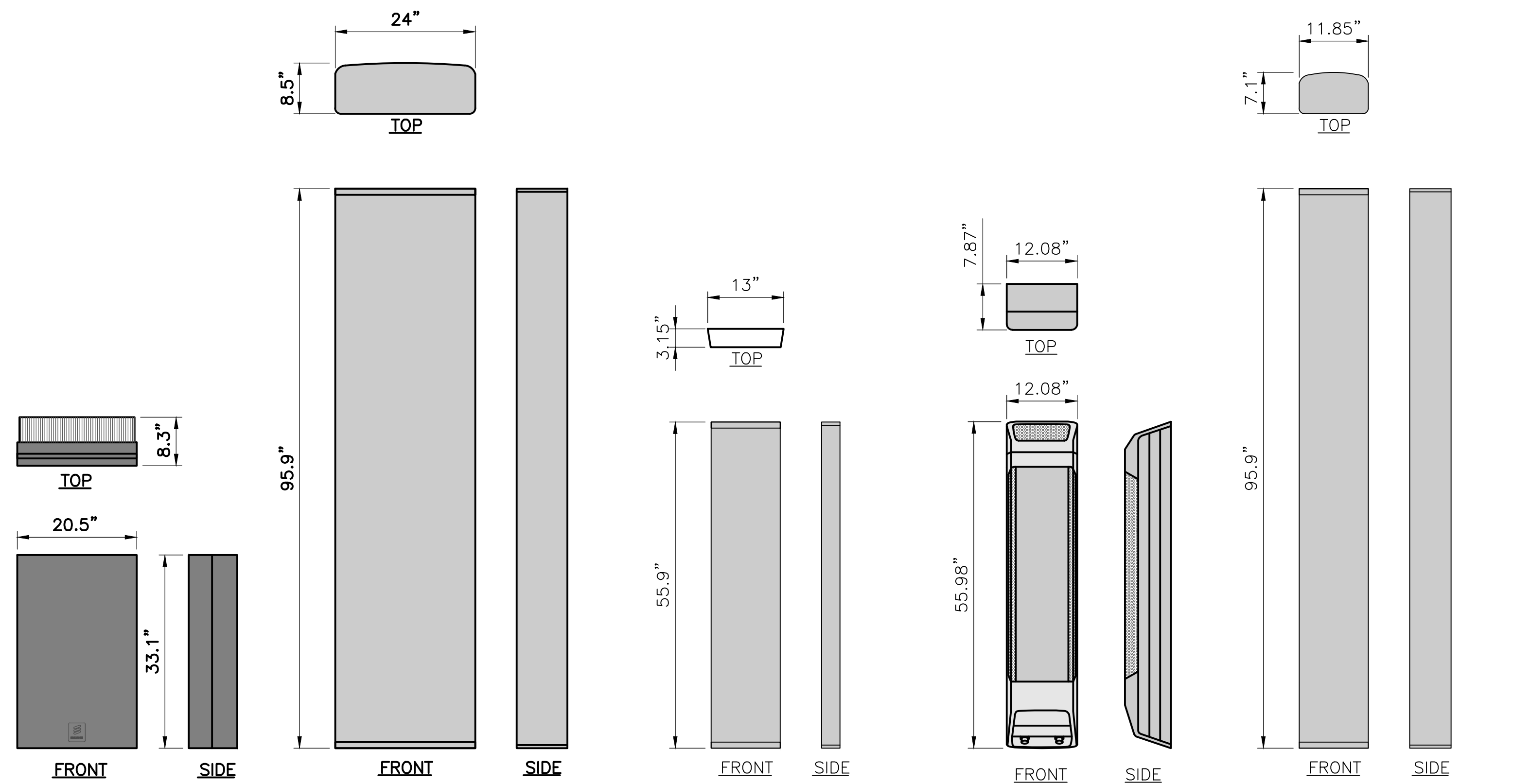
ISSUED BY _____ DATE _____



SITE INFORMATION
 CT11063B
 WINDSOR FIRE DEPARTMENT_1
 340 BLOOMFIELD AVE
 WINDSOR, CT 06095

SHEET TITLE
 DETAILS
 SHEET NUMBER

A-5



AIR6449 B41
 WEIGHT: 103 LBS
 PROPOSED

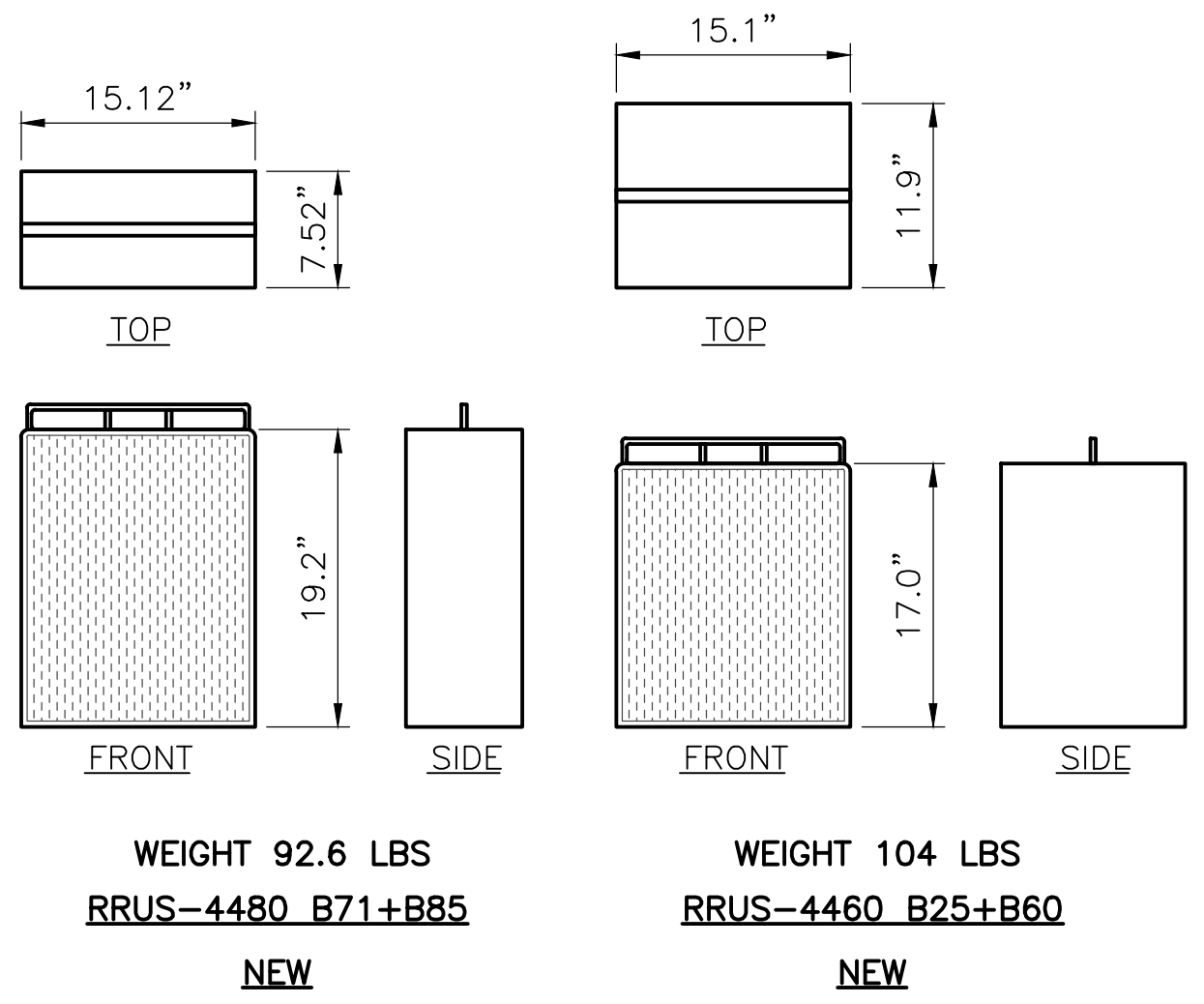
RFS: APXVAALL24_43-U-NA20
 WEIGHT: 122.8 LBS
 PROPOSED

RFS: APX16DWV-16DWVS-E-A20
 WEIGHT: 18.5 LBS
 PROPOSED

AIR 21 ANTENNA
 WEIGHT: 83 LBS
 TO BE REMOVED

COMMSCOPE: LNX-6515DS-A1M
 WEIGHT: 43.65 LBS
 TO BE REMOVED

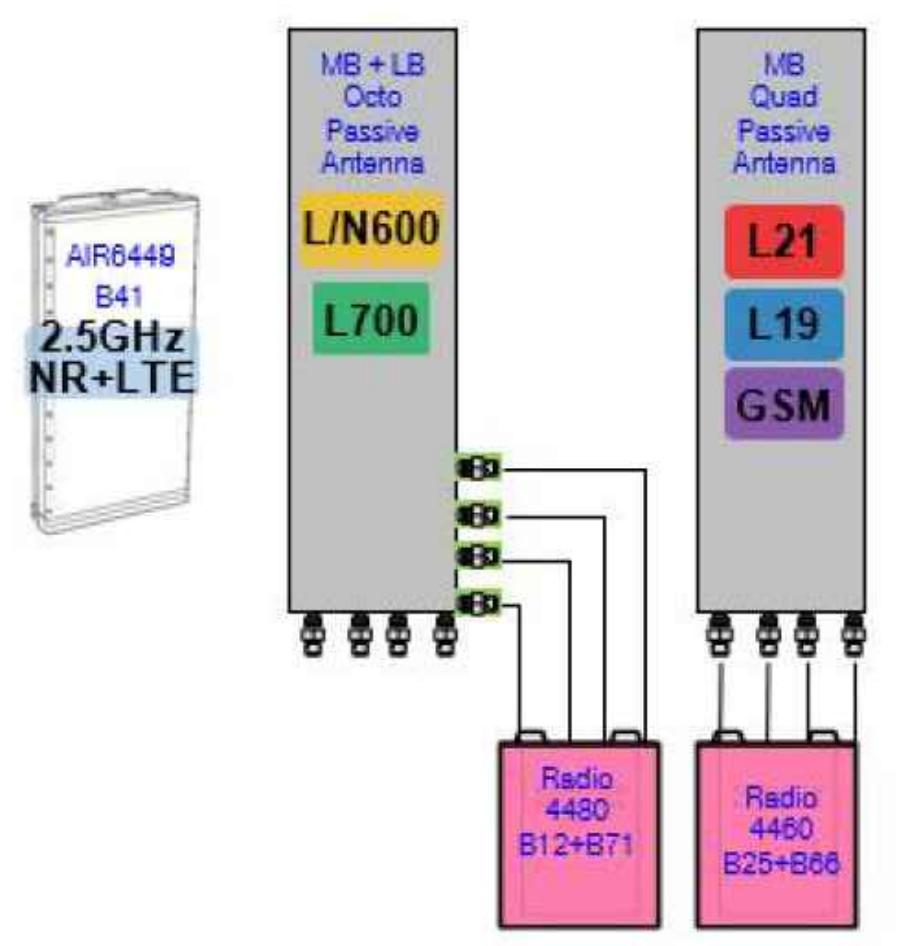
1 ANTENNA DETAILS
A-5 SCALE: 3/4" = 1'-0"



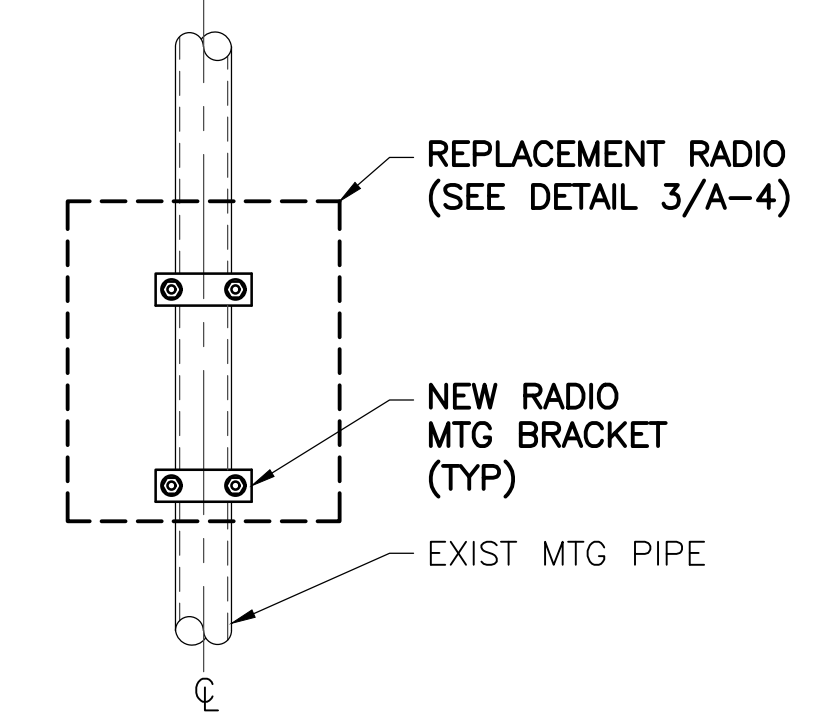
RRUS-4480 B71+B85
 WEIGHT 92.6 LBS
 NEW

RRUS-4460 B25+B60
 WEIGHT 104 LBS
 NEW

3 RADIO DETAILS
A-5 SCALE: 1" = 1'-0"

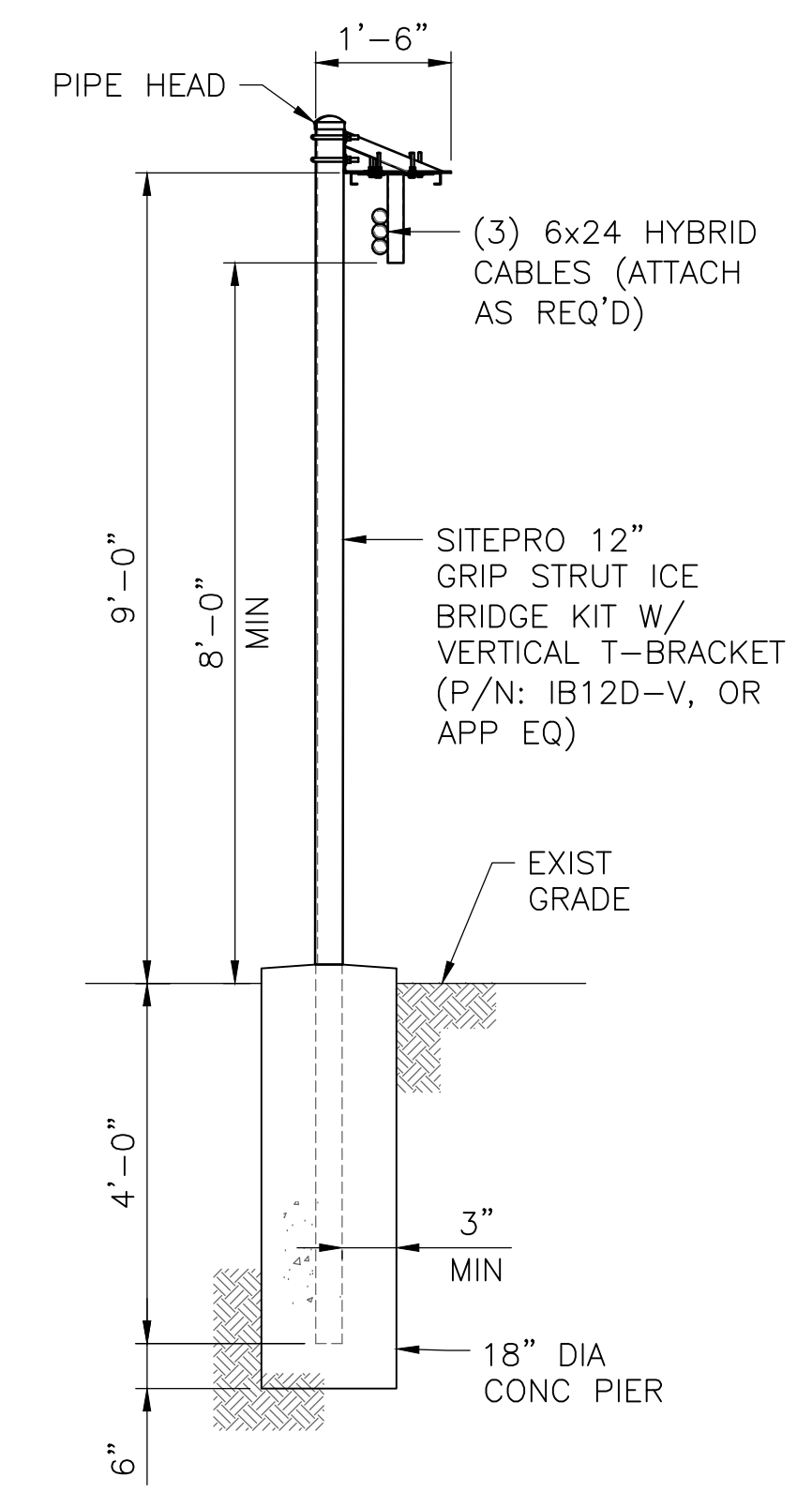


4 ANTENNA SCHEMATIC
A-5 SCALE: NTS



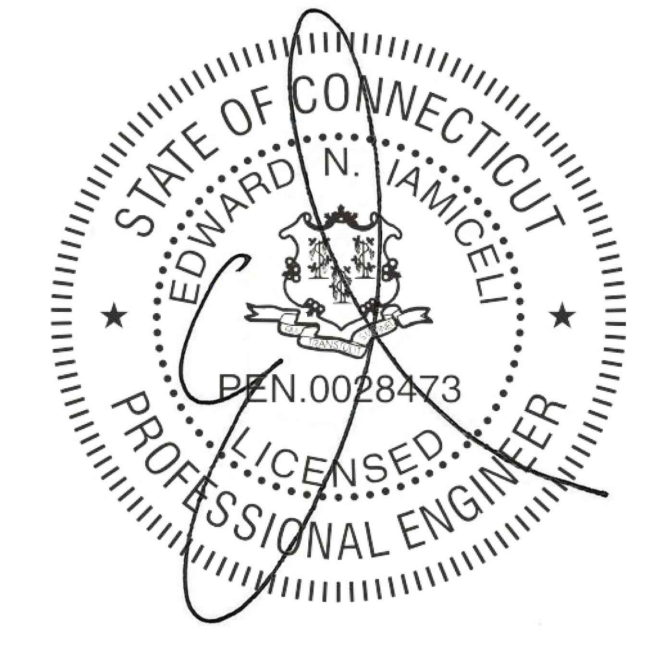
NOTE: MTG OF RADIO TO MTG PIPE, INCLUDING MTG BRACKET ASSEMBLY SHALL BE PER MANUFACTURER DIRECTION.

2 RADIO MTG DETAIL
A-5 SCALE: 1" = 1'-0"



5 ICE BRIDGE DETAIL
A-5 SCALE: NTS

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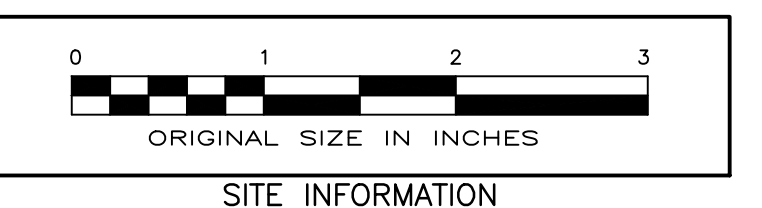
APPROVALS

LANDLORD _____
 RF _____
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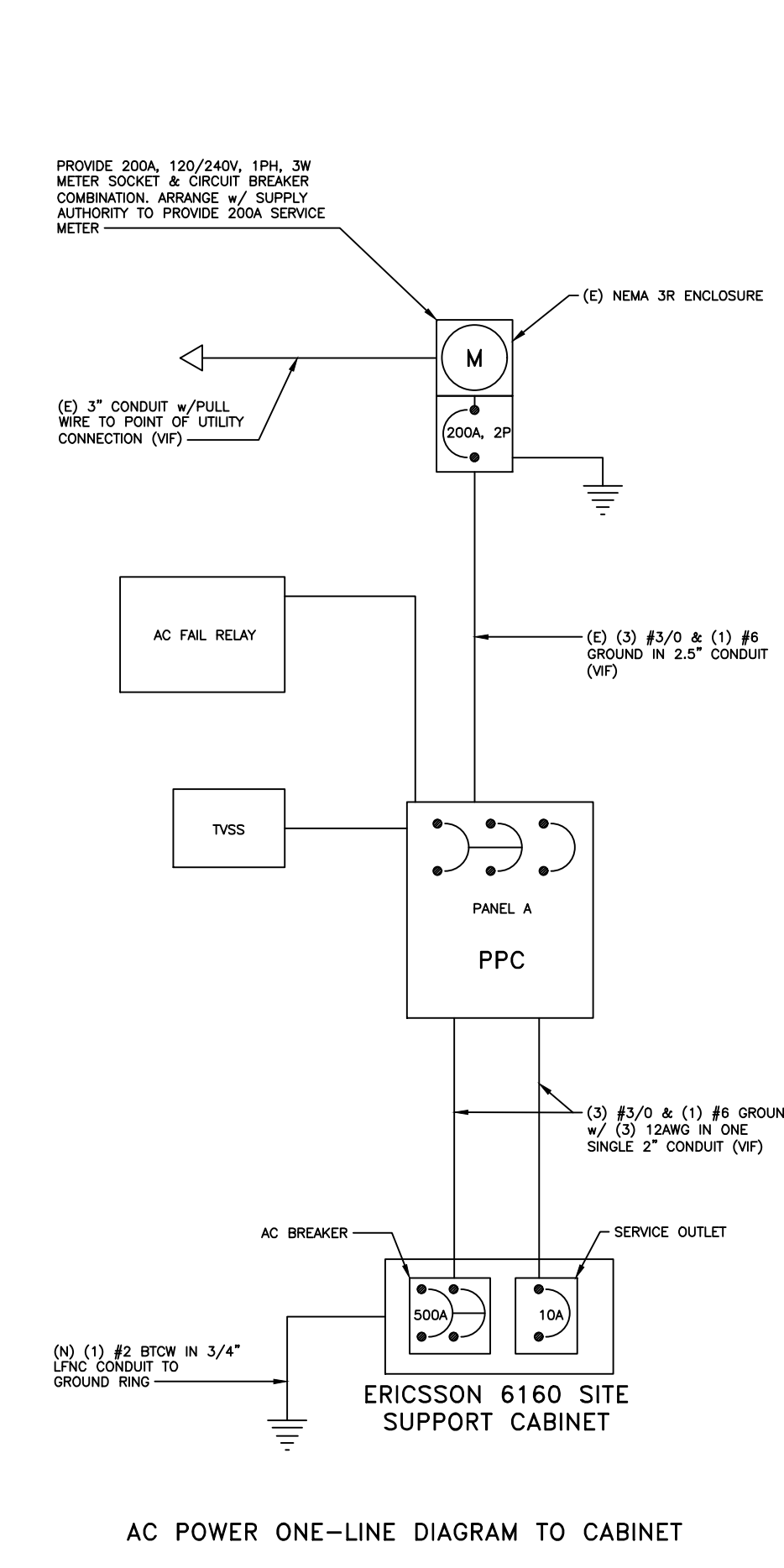
ISSUED BY _____ DATE _____



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 DEPARTMENT_1
 340 BLOOMFIELD AVE
 WINDSOR, CT
 06095

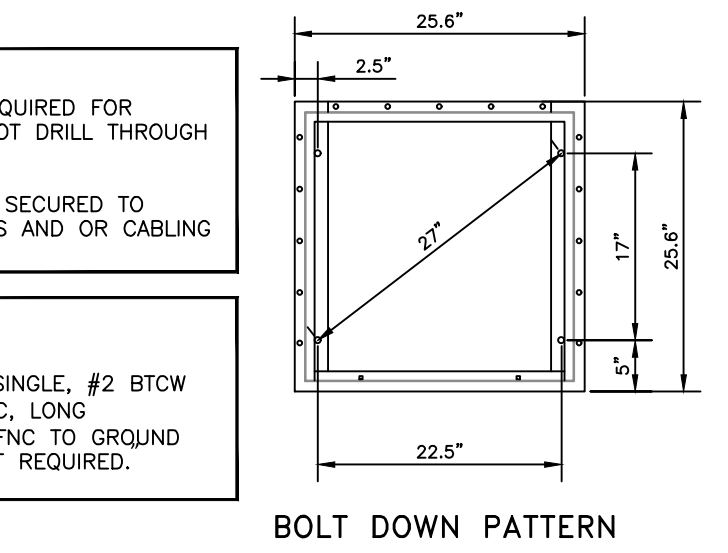
SHEET TITLE
 EQUIPMENT CABINET SPECIFICATIONS

SHEET NUMBER
 A-6



AC POWER ONE-LINE DIAGRAM TO CABINET

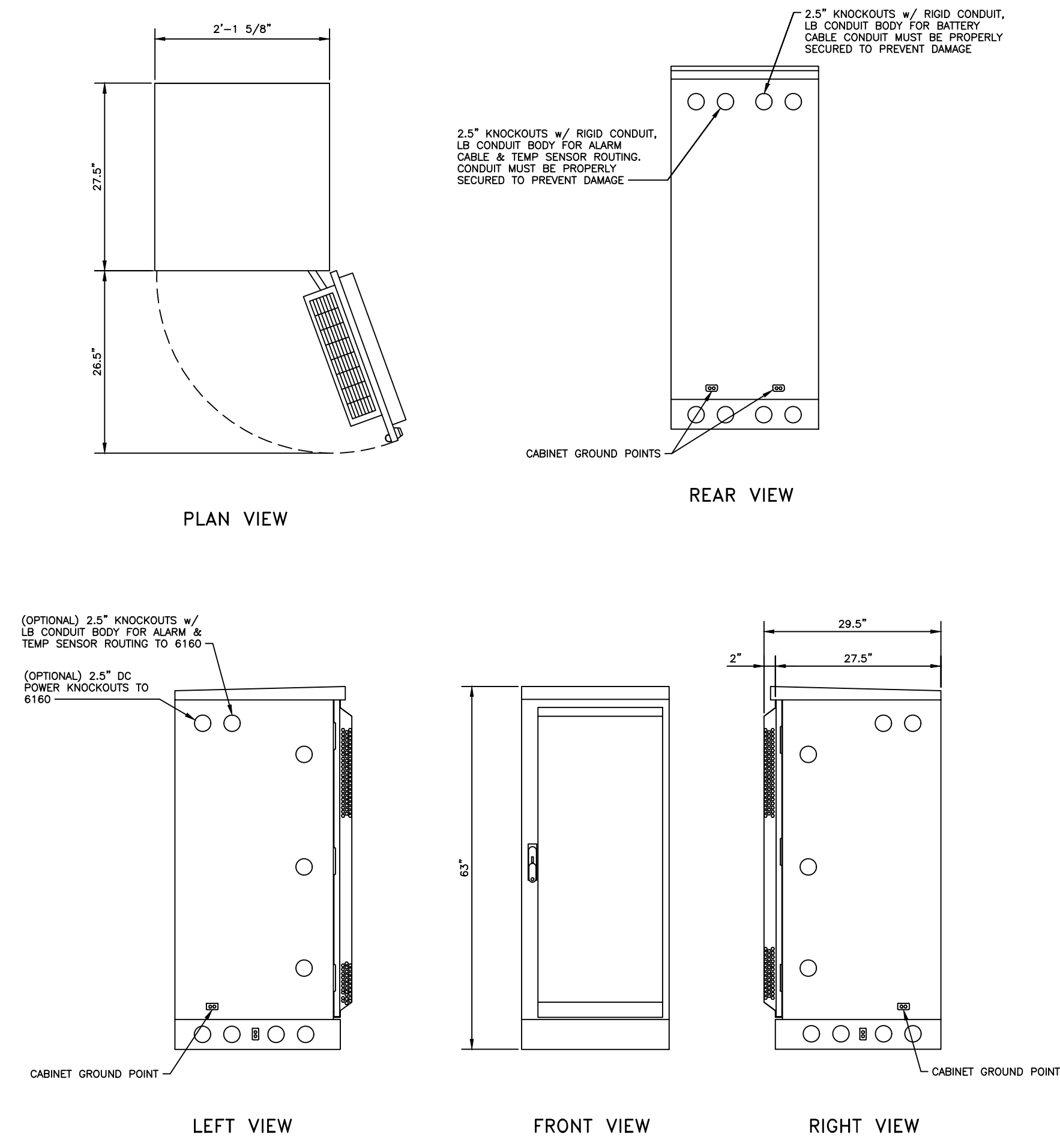
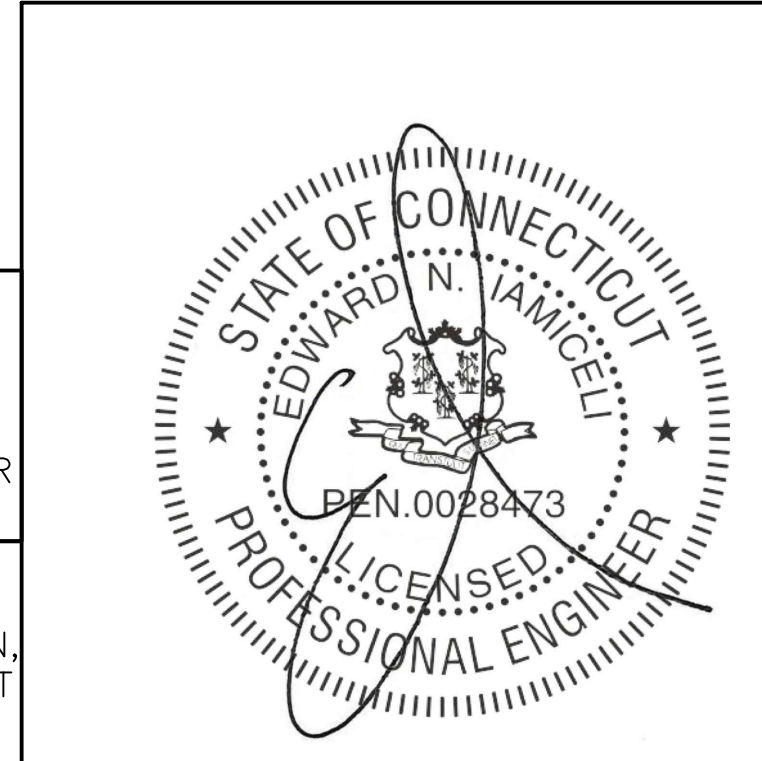
3 ONE LINE DIAGRAM
A-6 SCALE: NTS



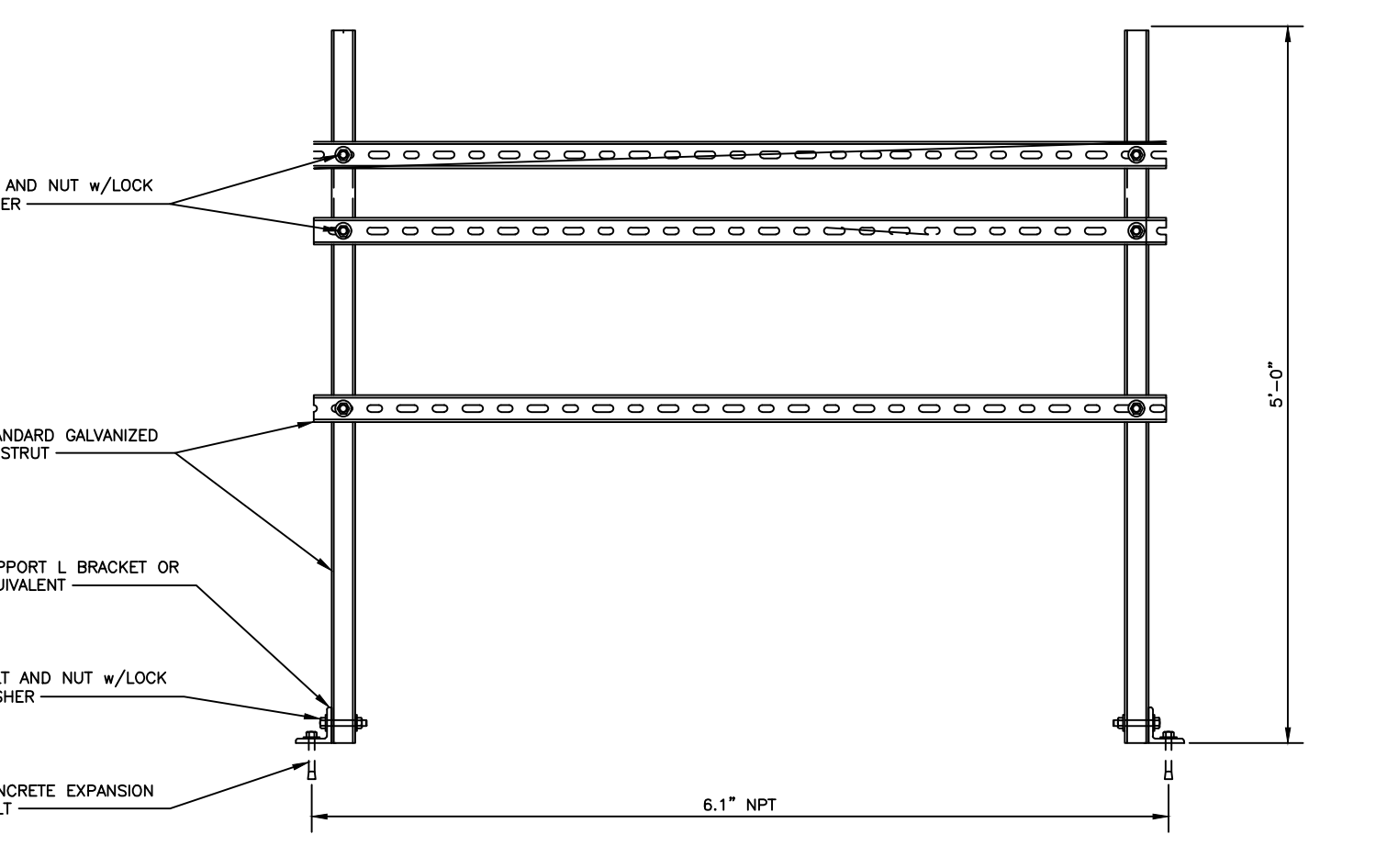
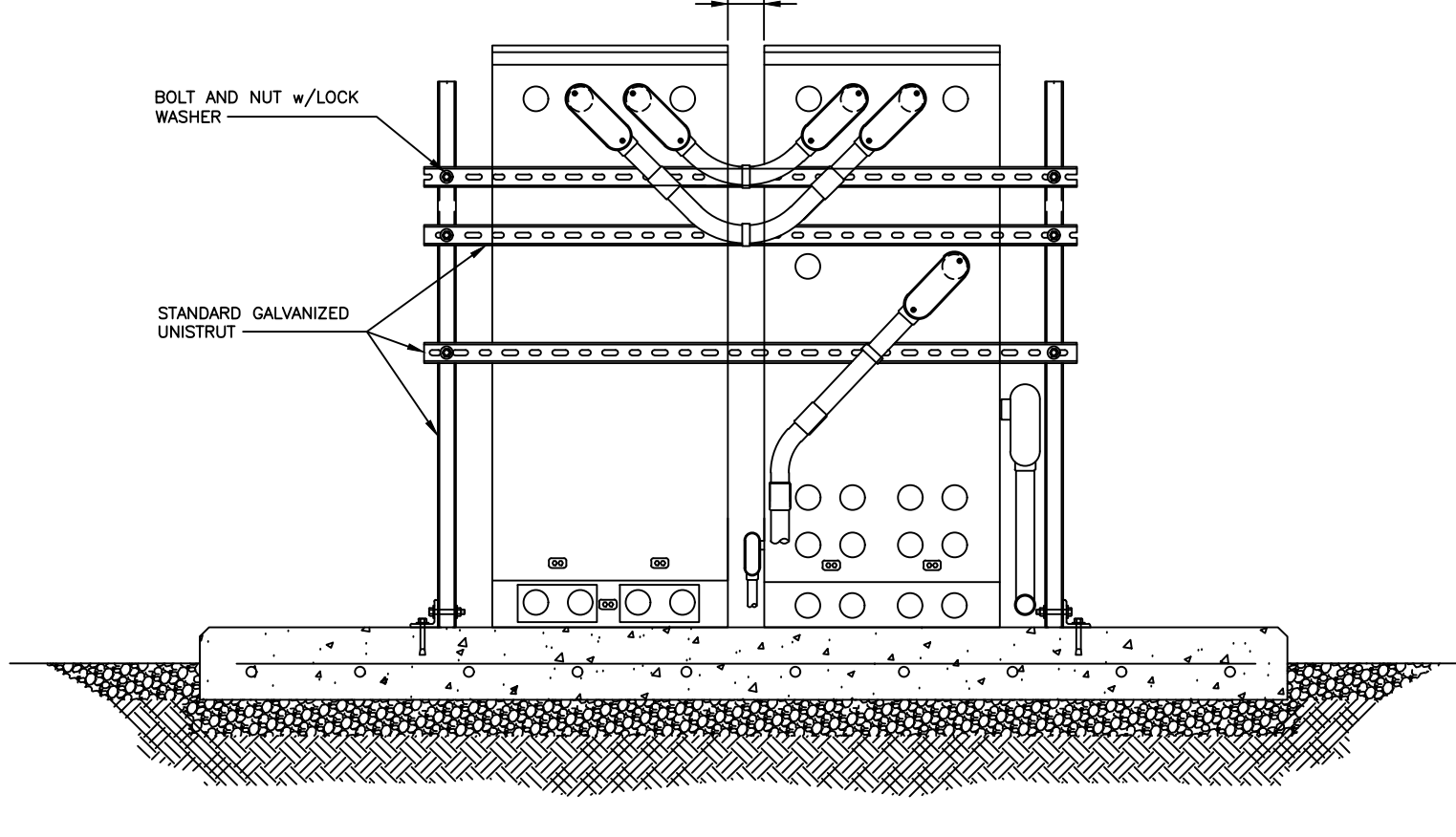
BOLT DOWN PATTERN

5 BOLTING AND GROUNDING
A-6 SCALE: NTS

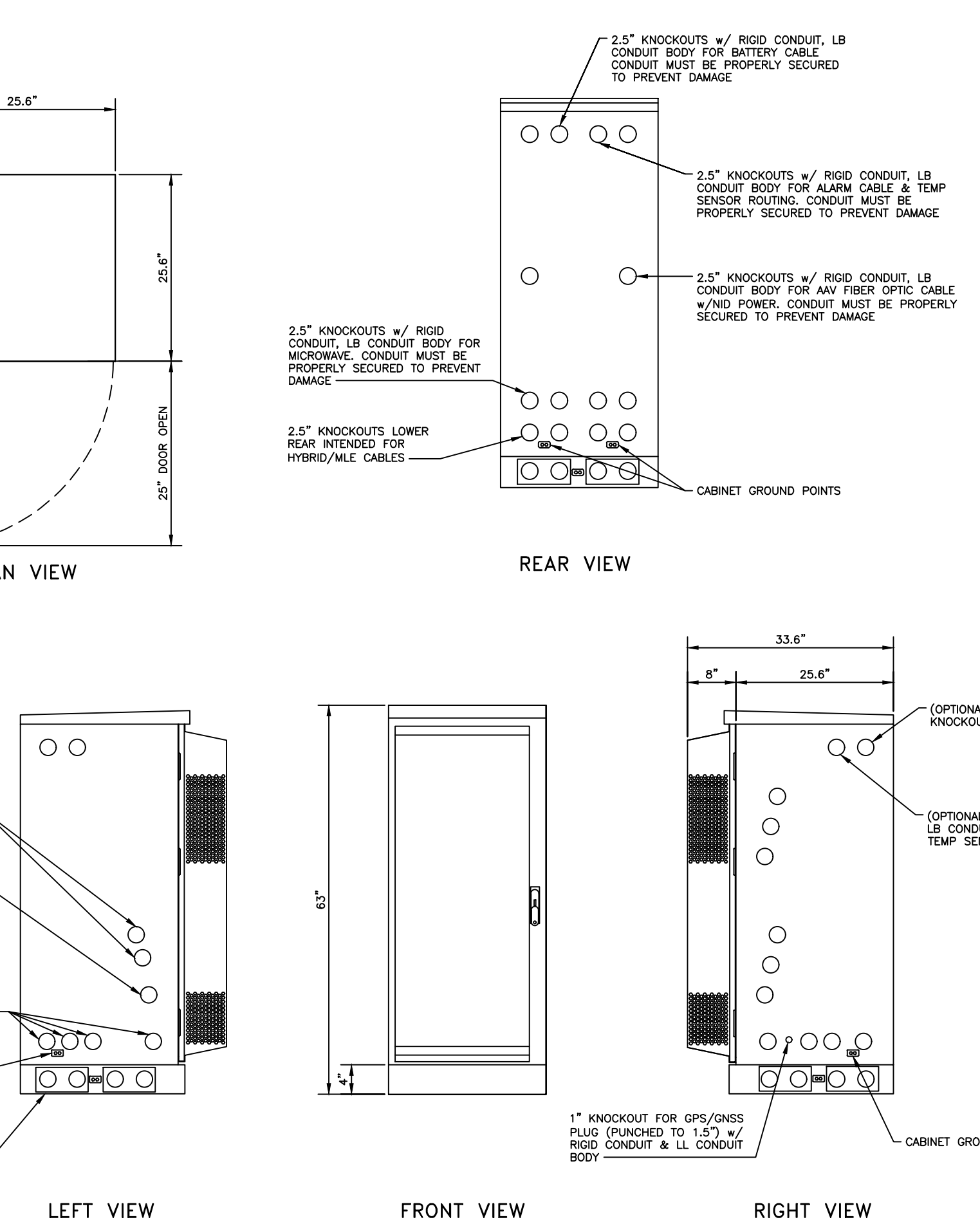
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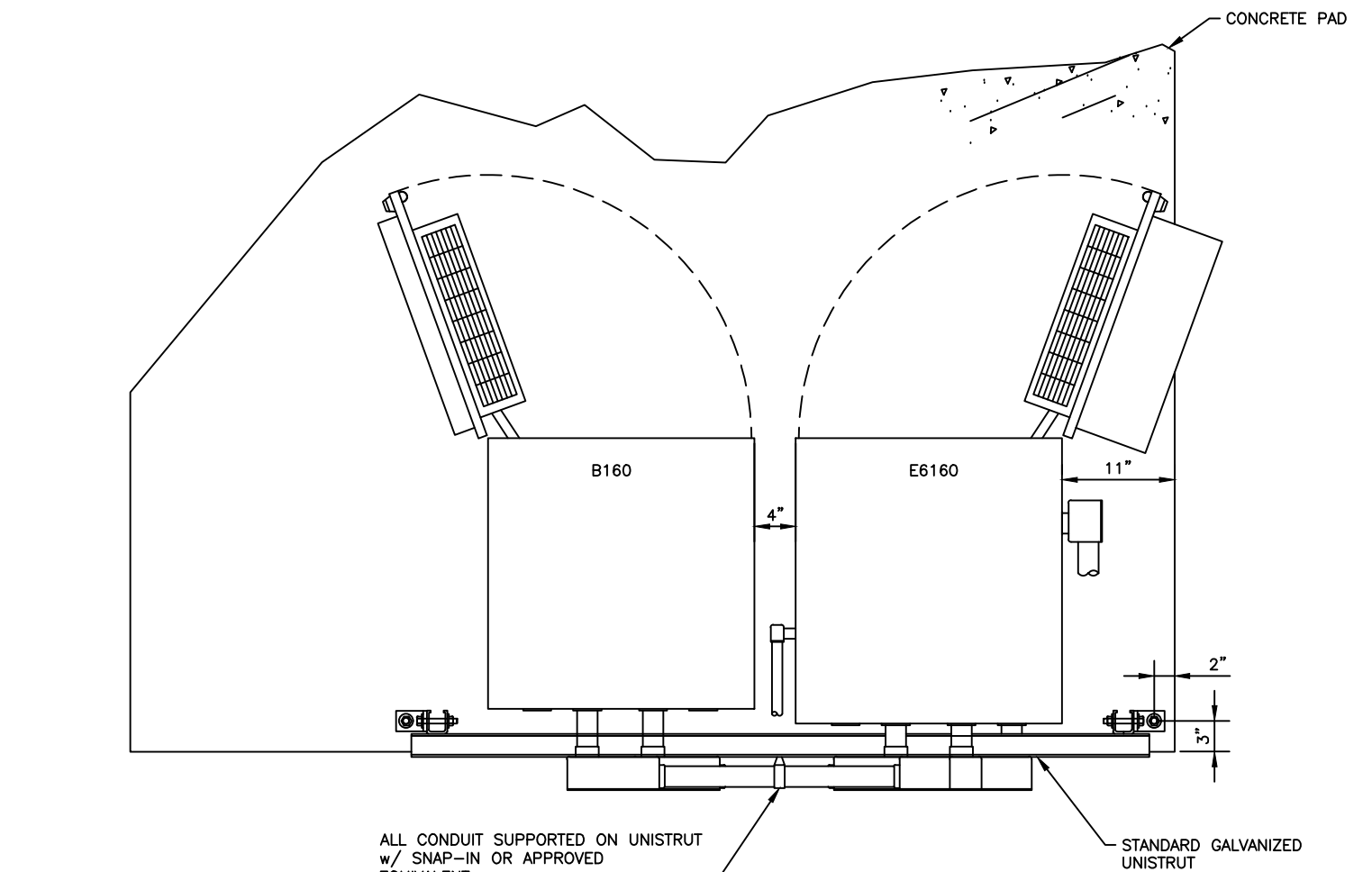
2 EQUIPMENT CABINET SPECIFICATIONS
A-6 SCALE: NTS



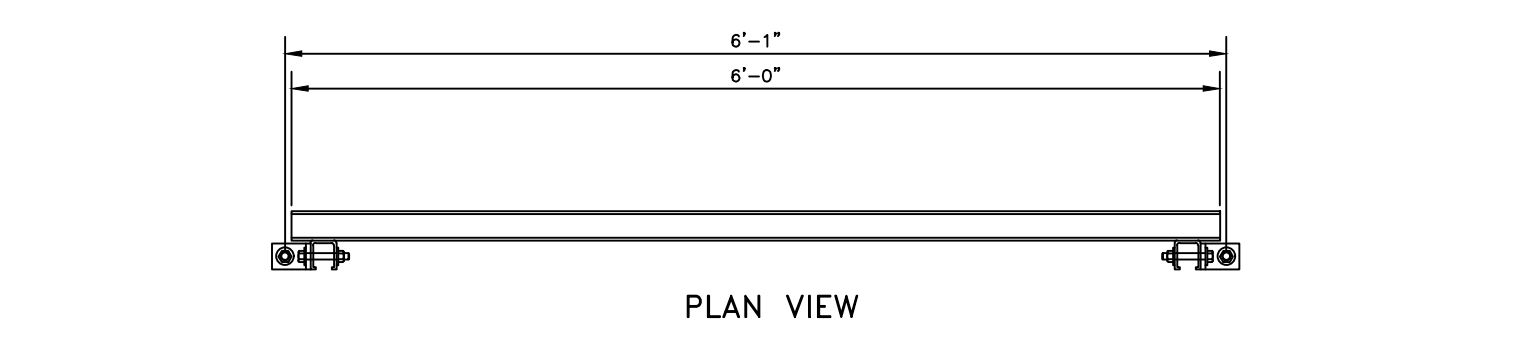
4 GENERIC CONDUIT SUPPORT FRAME
A-6 SCALE: NTS



1 EQUIPMENT CABINET SPECIFICATIONS
A-6 SCALE: NTS



- GROUNDING DETAILS
1. GALVANIZING ON THE UNISTRUT MUST BE REMOVED IN THE AREA OF THE LUG TO PROVIDE A BARE STEEL SURFACE FOR THE LUG TO CONTACT.
 2. NO OX COMPOUND MUST BE APPLIED BETWEEN THE LUG AND THE UNISTRUT
 3. ONLY 1/4" OR 3/8" STAINLESS STEEL HARDWARE MUST BE USED.
 4. ONLY 2-HOLE, STRAIGHT, LONG BARREL, WINDOW LUGS AND HARDWARE CAN BE USED.
 5. ONLY #2 BARE TINNED COPPER WIRE SHALL BE USED FOR THE CONNECTION BETWEEN THE FRAME AND THE GROUND RING.
 6. AFTER CONNECTION IS COMPLETE, THE CONNECTION SHOULD BE SPRAYED WITH COLD GALVANIZING SPRAY TO PREVENT CORROSION OF THE UNISTRUT.



4 GENERIC CONDUIT SUPPORT FRAME
A-6 SCALE: NTS

| | |
|---------------|---------------------------------|
| MANUFACTURER: | ERICSSON |
| MODEL: | 6160 SITE SUPPORT CABINET |
| DIMENSIONS: | 63" x 25.6" x 33.6" (H x W x D) |
| WEIGHT: | 373 LBS |

| | |
|---------------|---------------------------------|
| MANUFACTURER: | ERICSSON |
| MODEL: | B160 BATTERY CABINET |
| DIMENSIONS: | 63" x 25.6" x 29.5" (H x W x D) |
| WEIGHT: | 295 LBS (WITHOUT BATTERIES) |

GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CONNECTICUT BUILDING CODE, LATEST VERSION AND ALL OTHER APPLICABLE CODES AND ORDINANCES.
- CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- DIMENSIONS SHOWN ARE TO FINISH SURFACES, UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE AUTHORIZED REPRESENTATIVE OR THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING, AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE "NOTICE TO PROCEED," CONTRACTOR WILL CONTACT THE CONSTRUCTION MANAGER OF RECORD A MINIMUM OF 48 HOURS PRIOR TO WORK START.
- CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND TO BE IN THE FIELD.
- CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST CONSTRUCTION SKILLS AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS OTHERWISE NOTED.
- ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS, AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.
- CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
- CONTRACTOR SHALL MAINTAIN LIABILITY INSURANCE TO PROTECT THE OWNER.
- INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, AND PIPING. REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.
- REPAIR ALL EXISTING SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.
- KEEP CONTRACT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- PROVIDE 48 HOURS WRITTEN NOTICE TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS AND OTHER DOCUMENTATION SHALL BE TURNED OVER TO AT COMPLETION OF CONSTRUCTION.
- COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER DATE OF ACCEPTANCE BY. ANY WORK, MATERIALS OR EQUIPMENT FOUND TO BE DEFECTIVE DURING THAT PERIOD SHALL BE CORRECTED IMMEDIATELY UPON WRITTEN NOTIFICATION AT NO ADDITIONAL COST TO T-MOBILE.

STRUCTURAL NOTES

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
- STRUCTURAL STEEL BEAMS SHALL CONFORM TO ASTM A992 (Fy=50ksi). STRUCTURAL STEEL PLATES AND ANGLES SHALL CONFORM TO ASTM A36.
- ROUND AND SQUARE HOLLOW STRUCTURAL SECTIONS (HSS) CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE C.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 "PIPE, STEEL, BLACK AND HOT-DIPPED, ZINC-COATED WELDED AND SEAMLESS", TYPE E OR S, GRADE B.
- CONNECTIONS: WELD OR BOLT CONNECTIONS, AS INDICATED:
 - CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CITED AISC SPECIFICATION.
 - STRUCTURAL BOLTS SHALL CONFORM TO THE LATEST ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS".
 - WHERE THE REACTION VALUES OF BEAMS, BRACING, STRUTS, ETC., ARE NOT SHOWN ON THE DRAWINGS THE CONNECTIONS SHALL BE DESIGNED TO SUPPORT THE END REACTION DERIVED FROM THE TABLES AND FORMULA OF UNIFORM LOAD CONSTANTS IN PART 2, NINTH EDITION, OF THE AISC MANUAL OF STEEL CONSTRUCTION FOR THE GIVEN MEMBER SIZE, SPAN AND YIELD STRENGTH.
 - MINIMUM 3/16" FILLET E70-XX WELD SHALL APPLY UNLESS NOTED.
 - MINIMUM 1/2" DIA. A325 BOLTS SHALL APPLY UNLESS NOTED.
 - MINIMUM SIZE OF CLIP ANGLES SHALL BE L3x3x3/8" UNLESS NOTED.
 - ALL GUSSET PLATES SHALL BE 3/8" THICK UNLESS NOTED.
 - ALL HOLES FOR BOLTS SHALL BE 1/16 INCH LARGER THAN THE BOLT DIAMETER WITH AN EDGE DISTANCE OF AT LEAST 1 1/2 TIMES THE BOLT DIAMETER AND A SPACING OF AT LEAST 3 TIMES THE BOLT DIAMETER. ALL BOLTS SHALL BE PROVIDED WITH PALNUTS OR LOCK NUTS.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS", LATEST EDITION. BOLTS SHALL BE 3/4 INCH DIA. UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES".
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- ALL STEEL SUPPORTS SHALL BE INSTALLED WITH DOUBLE NUTS AND SHALL BE INSTALLED SNUG TIGHT.
- SLEEVE ANCHORS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 3, CLASS 3, AS MANUFACTURED BY HILTI FASTENING SYSTEMS OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE (3) INCHES.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS 1, HILTI KWIK BOLT II OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE FOUR (4) INCHES.
- EPOXY ANCHORING SYSTEM SHALL BE THE HILTI HY-270 FOR MASONRY CONSTRUCTION WITH HOLLOW BRICK OR BLOCK & THE HILTI HIT HY200 INJECTION ADHESIVE ANCHOR FOR GROUT FILLED CONCRETE MASONRY UNITS AND CONCRETE. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2"Ø STAINLESS STEEL ANCHOR ROD W/NUTS & WASHERS, AN INTERNALLY THREADED INSERT, A SCREEN TUBE FOR THE HY-270 ONLY & AN EPOXY ADHESIVE (6" MIN EMBEDMENT). THE INSTALLATION PROCEDURE SHALL BE AS FOLLOWS
 - DRILL THE HOLE USING MANUFACTURER RECOMMENDED DRILL BIT UP TO SPECIFIED DEPTH. HAMMERING IS NOT PERMITTED.
 - CLEAN THE HOLE USING NYLON BRUSH AND/OR COMPRESSED AIR. THE HOLE SHOULD BE CLEAR OF ANY LOOSE MATERIAL. IF WET, THE MASONRY SHOULD BE ALLOWED TO DRY FULLY BEFORE ANCHOR INSTALLATION.
 - INSERT SPECIFIED SCREEN TUBE INTO THE HOLE.
 - FILL THE SCREEN TUBE COMPLETELY WITH ADHESIVE, BEGINNING AT THE BOTTOM END.
 - INSERT ANCHOR ROD OR INTERNALLY THREADED INSERT INTO THE ADHESIVE-FILLED SCREEN TUBE, TWISTING SLIGHTLY.
 - LOAD FASTENER ONLY AFTER MANUFACTURER SPECIFIED CURE TIME HAS ELAPSED.
- GRATING SHALL BE GALVANIZED WELDED STEEL BAR GRATING TYPE W/BA WITH 1-1/4" BEARING BARS AT 1-3/16" OC. FASTEN TO SUPPORTING MEMBERS WITH SADDLE-TYPE CLIPS AT 2'-0" O.C. AND BAND ALL EXPOSED EDGES.
- SUBMIT DRAWINGS OF ALL STRUCTURAL AND MISCELLANEOUS STEEL TO THE ENGINEER FOR APPROVAL AND INCORPORATE ALL COMMENTS PRIOR TO FABRICATION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER APPROVAL.
- ALL WORK SHALL BE INSPECTED BY THE ENGINEER DURING AND AT THE COMPLETION OF CONSTRUCTION.
- CONTRACTOR TO REMOVE MASTIC ON THE EXISTING WALL/PARAPET AT EVERY STEEL SUPPORT ATTACHMENT AND REPOINT MASONRY AS REQUIRED. A BED OF SILICONE SHALL BE APPLIED BEHIND AND ALL AROUND THE STEEL SUPPORT ATTACHMENT TO MAKE IT WEATHERPROOF.
- HAMMER DRILLS ARE NOT TO BE USED WHEN DRILLING HOLES FOR SLEEVE OR EXPANSION BOLTS INSTALLED IN MASONRY BLOCKS/BRICKS.
- ALL HOLES TO BE ADDED IN THE FIELD SHALL BE PUNCHED OR DRILLED. NO HOLE BURNING SHALL BE ALLOWED.
- NOTES ARE NOT PROJECT SPECIFIC.

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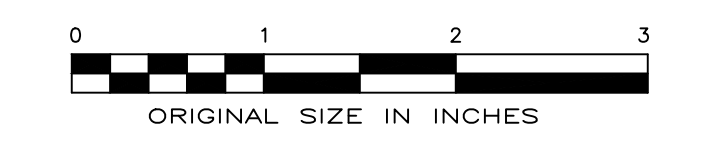
APPROVALS

LANDLORD _____
 RF _____
 CONSTRUCTION _____
 OPERATIONS _____
 SITE ACQ. _____

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| PROJECT NUMBER | DESIGNED BY |
| 10473.CT11063B | EI |

| REV. | DATE | DESCRIPTION | DRAWN BY |
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| △ | 8/31/2021 | ISSUED FOR CONSTRUCTION | BWY |
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SITE INFORMATION

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 WINDSOR FIRE
 DEPARTMENT_1
 340 BLOOMFIELD AVE
 WINDSOR, CT
 06095

SHEET TITLE

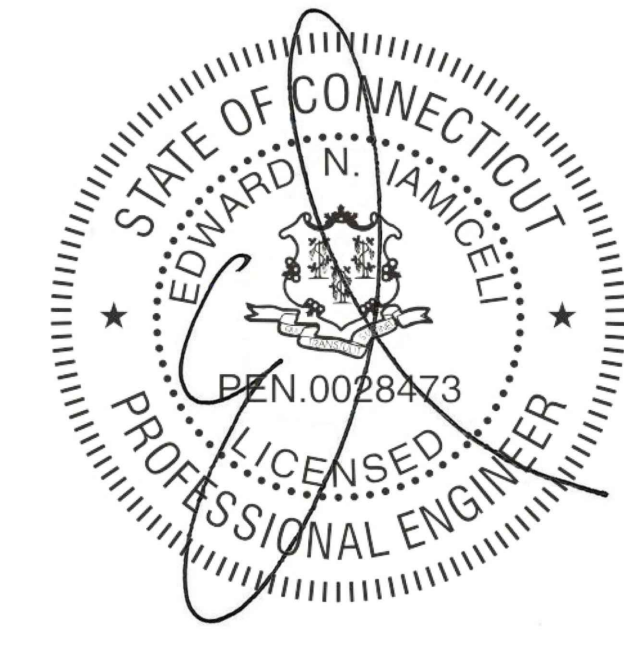
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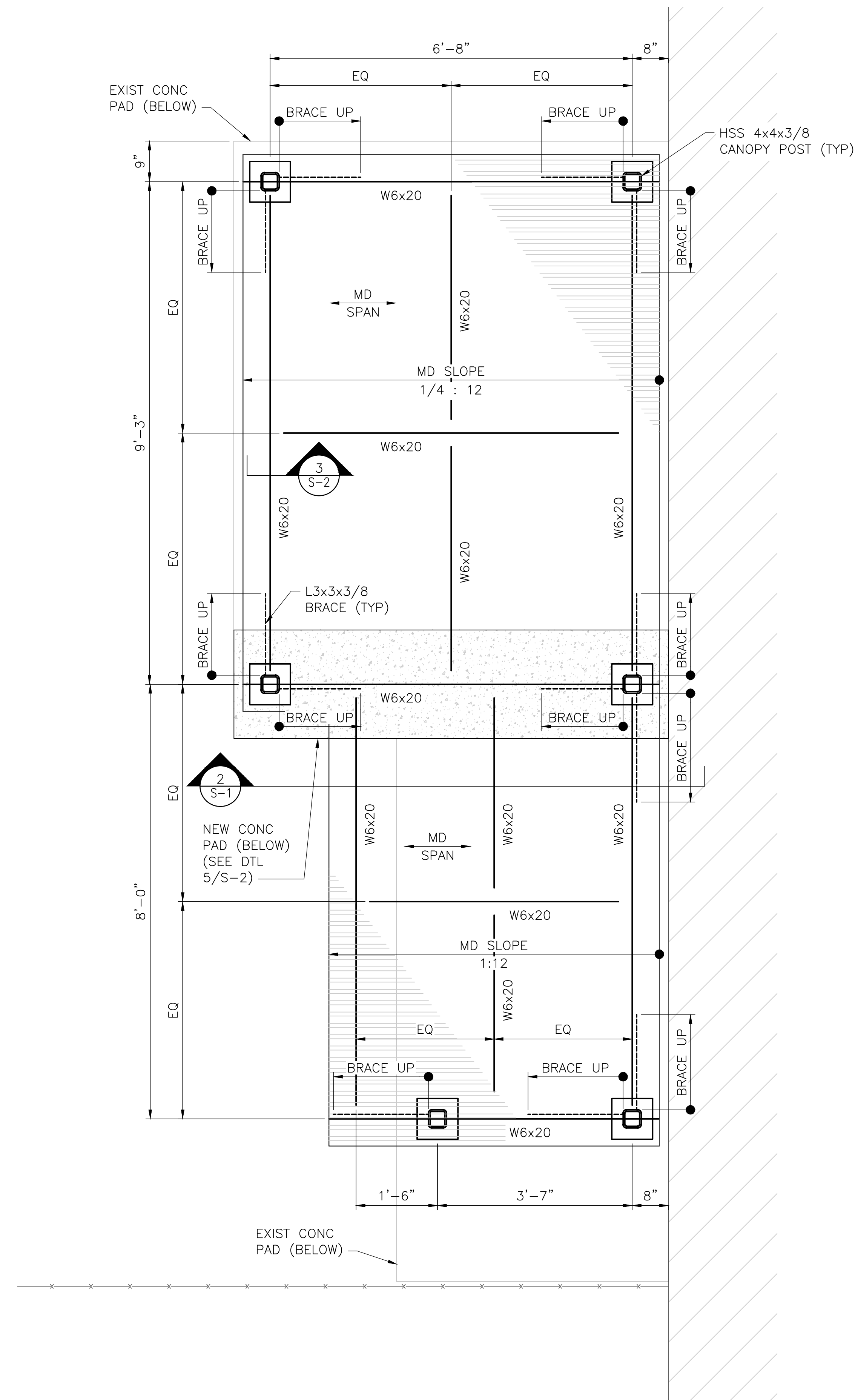
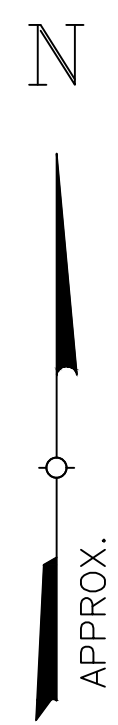
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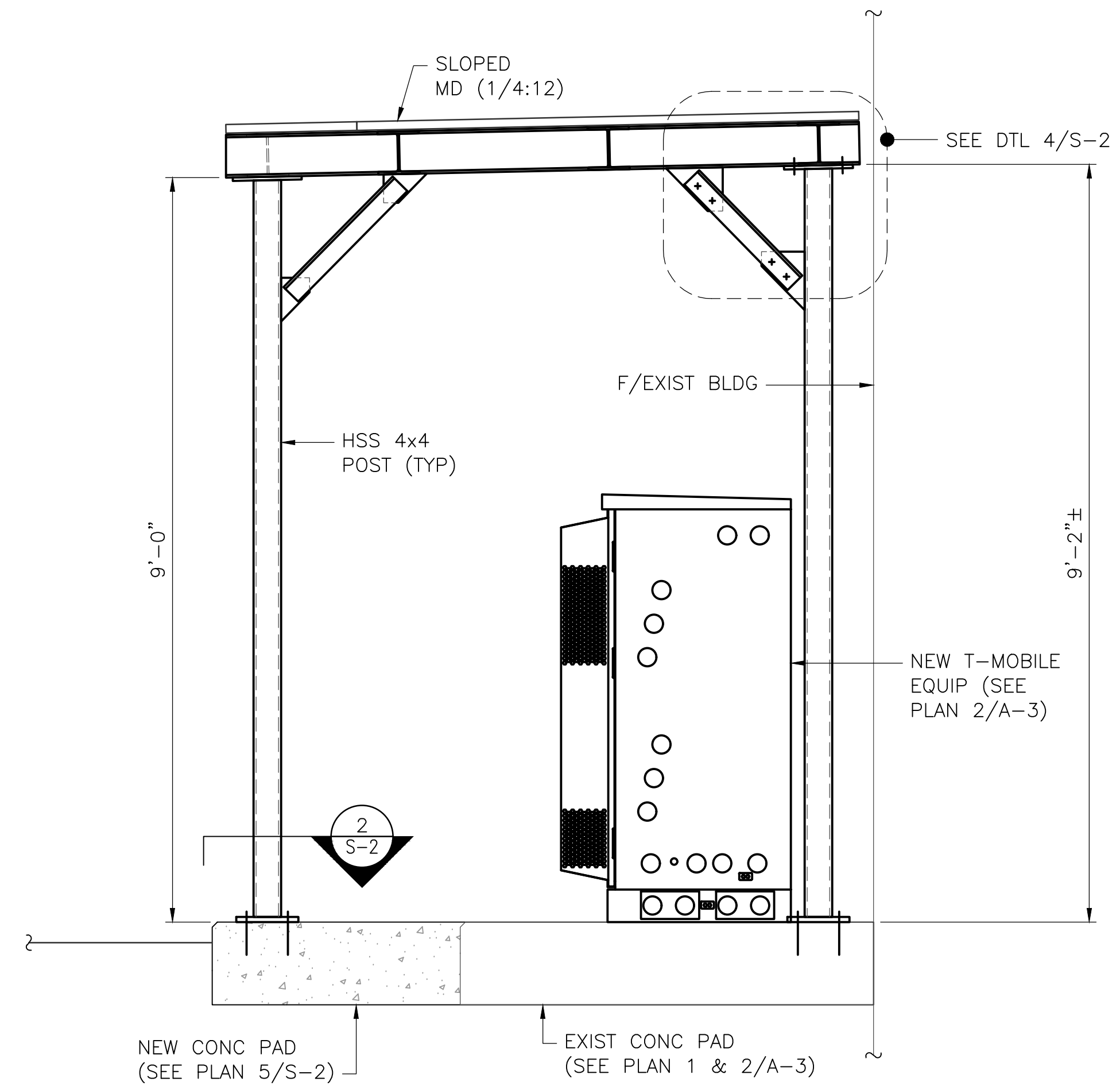
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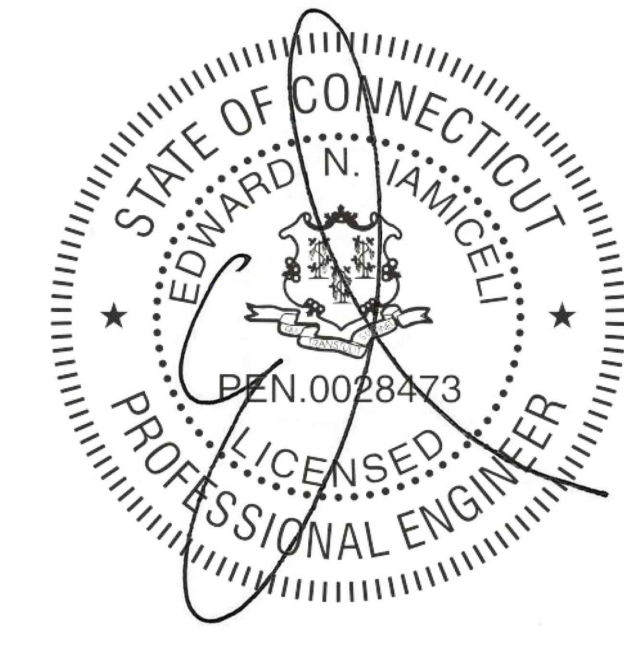
1
S-1
CANOPY FRAMING PLAN
SCALE: 3/4" = 1'-0"



2
S-1
CANOPY ELEVATION
SCALE: 3/4" = 1'-0"

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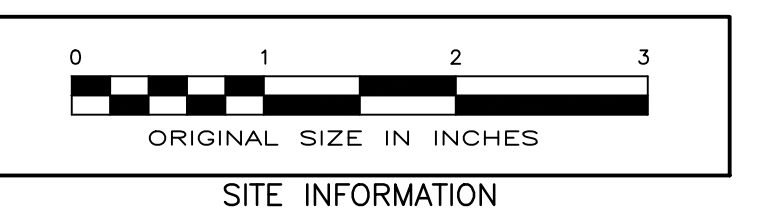
APPROVALS

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SHEET TITLE

CANOPY FRAMING PLAN & ELEVATION

SHEET NUMBER

S-1

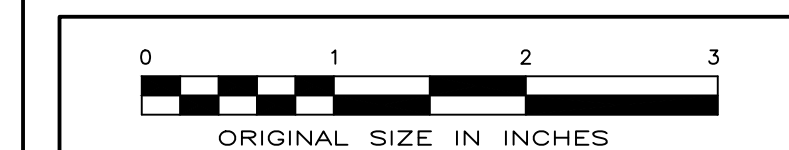
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| ISSUED BY | DATE |
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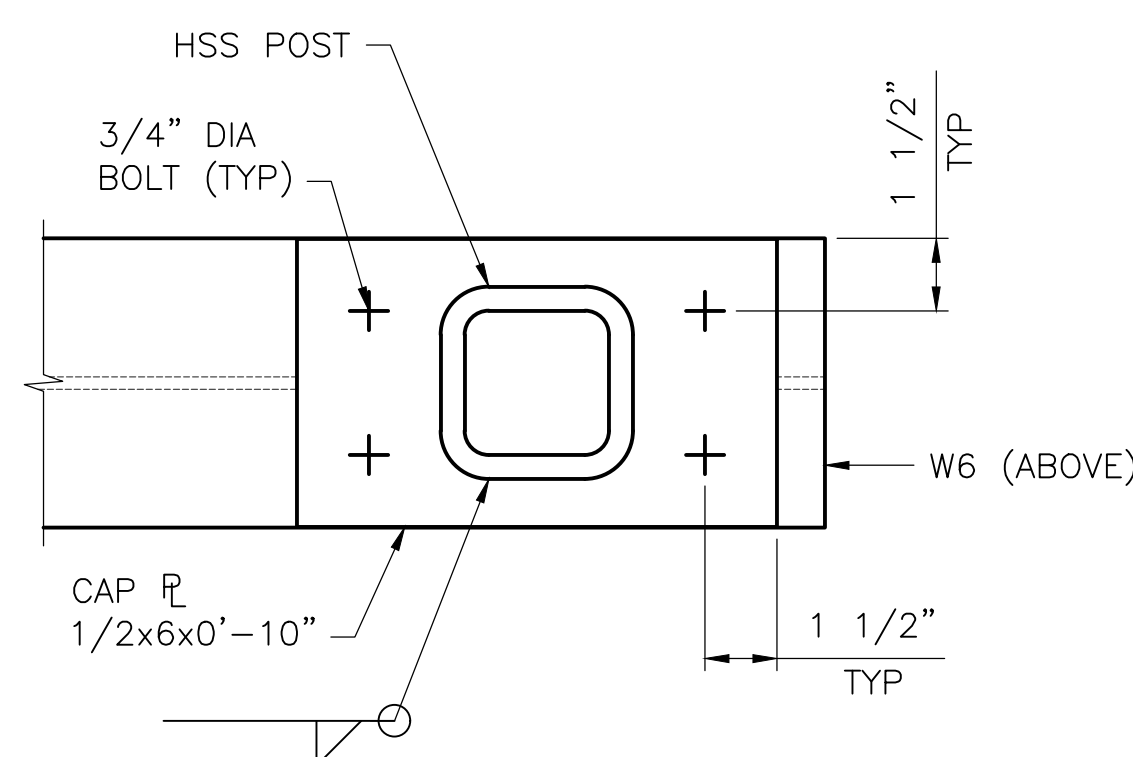
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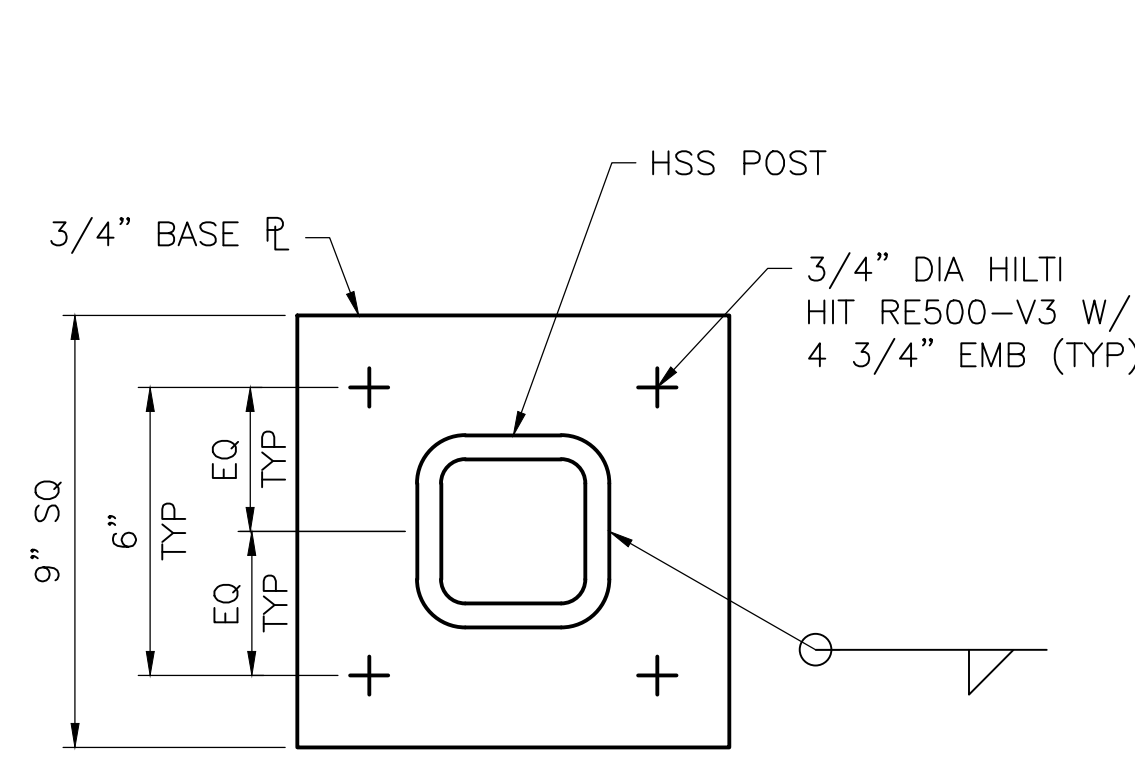
CANOPY SECTIONS
 & DETAILS

SHEET NUMBER

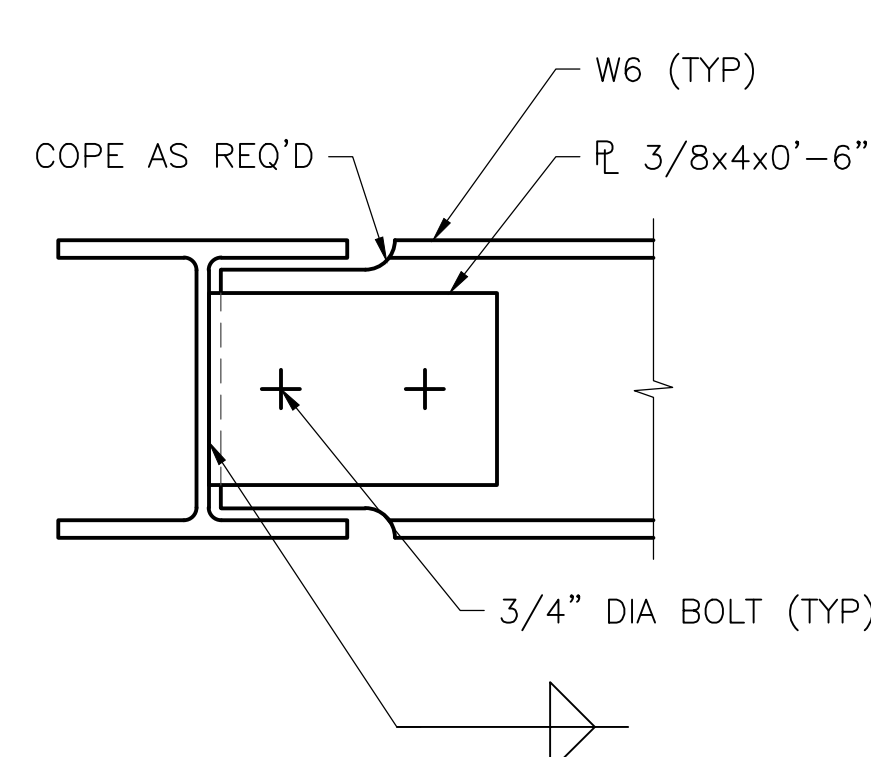
S-2



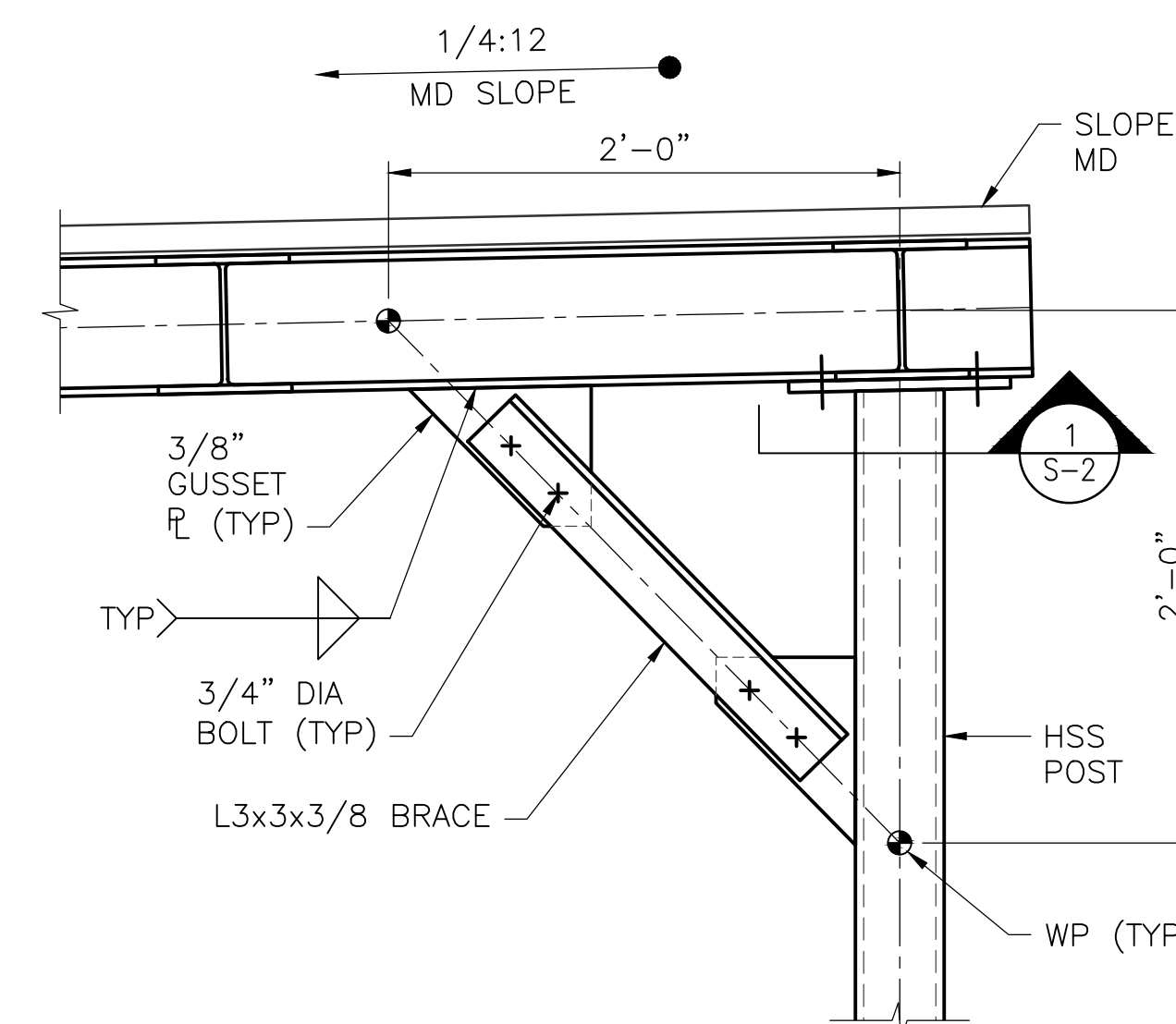
1 CAP PLATE DETAIL
 S-2 SCALE: 3" = 1'-0"



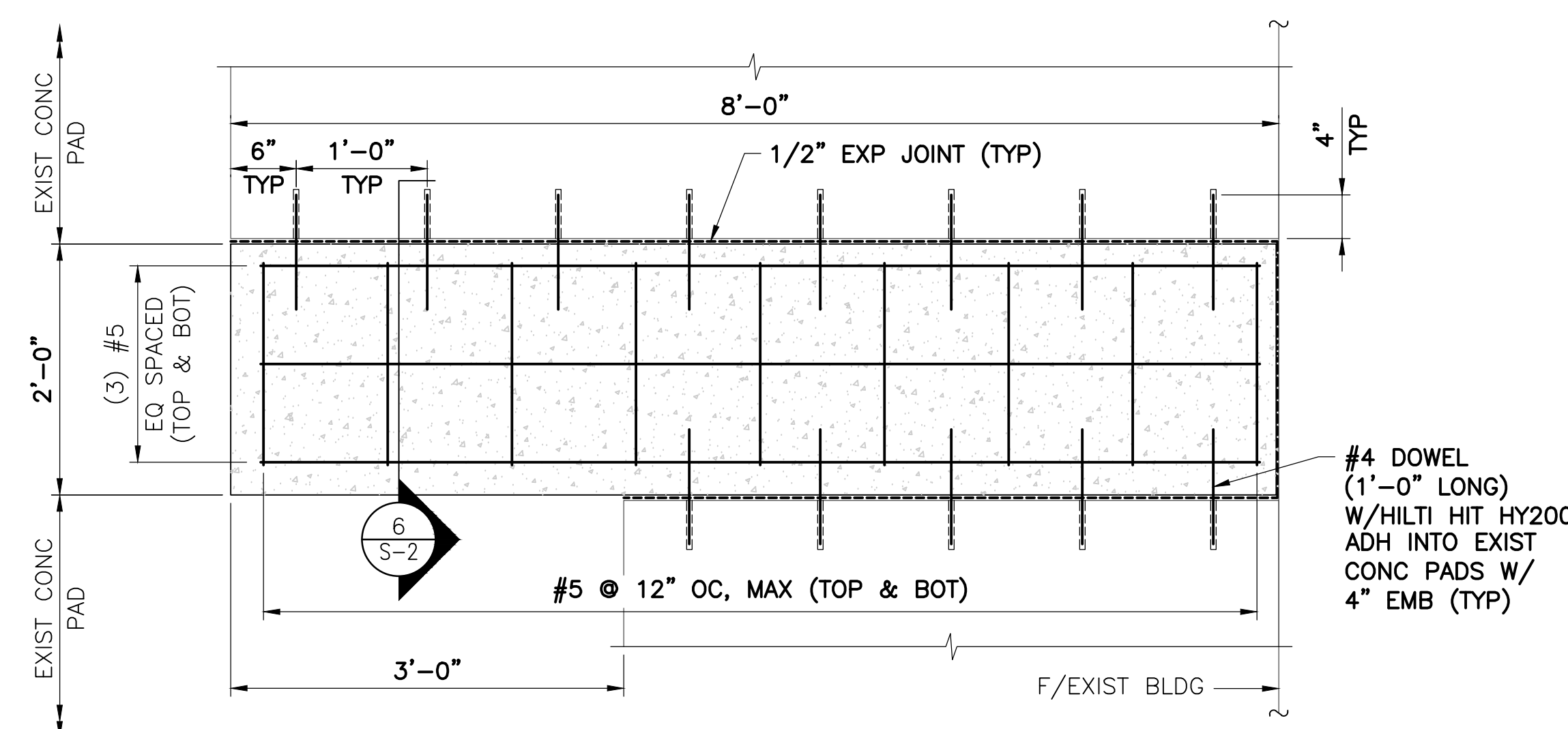
2 BASE PLATE DETAIL
 S-2 SCALE: 3" = 1'-0"



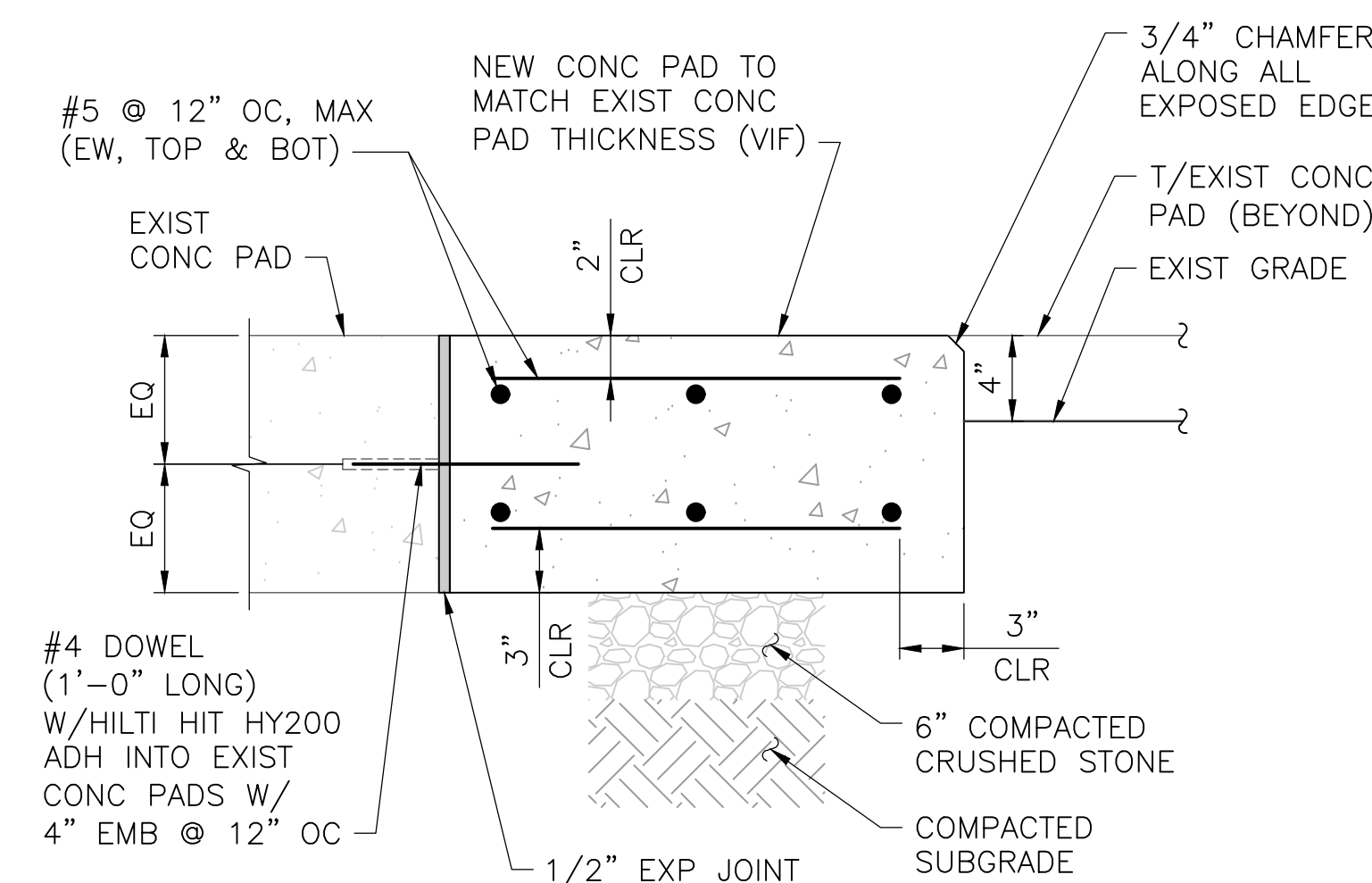
3 CONN DETAIL
 S-2 SCALE: 3" = 1'-0"



4 CANOPY BRACE DETAIL
 S-2 SCALE: 1 1/2" = 1'-0"



5 CONC PAD DETAIL PLAN
 S-2 SCALE: 1" = 1'-0"

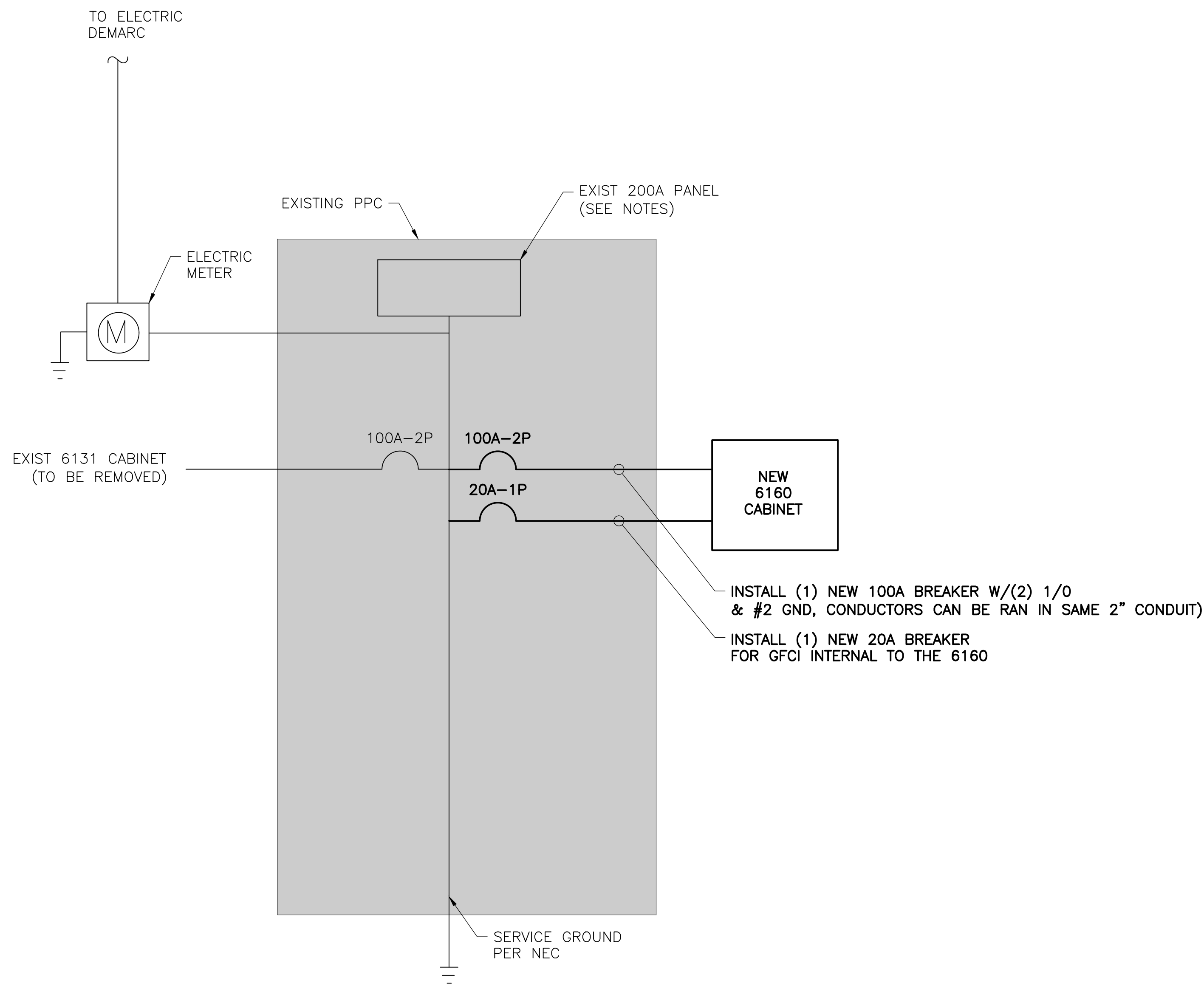


6 CONC PAD SECTION
 S-2 SCALE: 1 1/2" = 1'-0"

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- NOTES:
1. THE ABOVE DIAGRAM IS GENERIC AND ANY ELECTRICAL WORK SHALL BE COMPLETED BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH NEC STANDARDS.
 2. ELECTRICAL CONSULT SHALL BE PERFORMED TO CONSTRUCTION TO CONFIRM THE POWER REQUIREMENTS AND FEASIBILITY.
 3. NOT ALL BREAKERS ARE SHOWN FOR CLARITY.

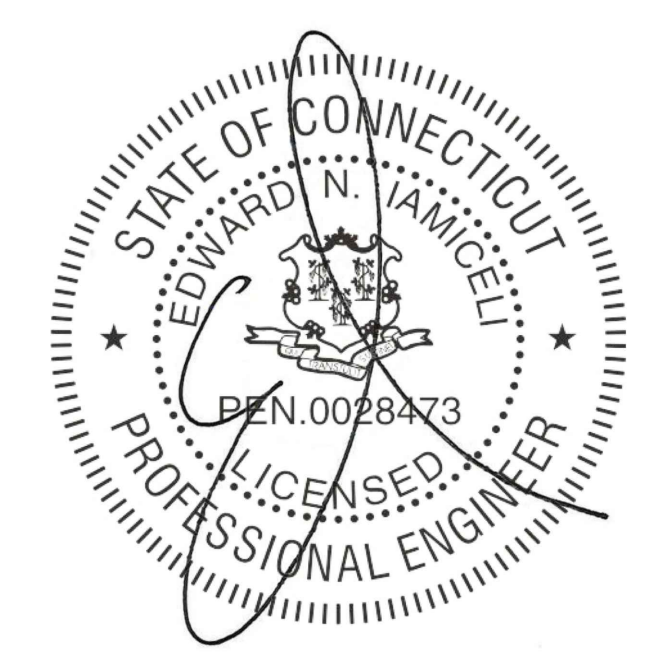
1 ONE-LINE DIAGRAM
E-1 SCALE: NTS

GENERAL ELECTRICAL NOTES

1. CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
2. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
3. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES (U.L.) AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. AND SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
4. CONTRACTOR TO COORDINATE WITH SITE OWNER FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
5. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
6. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
7. METER SOCKETS AMPERES, VOLTAGE AND NUMBER OF PHASES SHALL BE NOTED AND SHALL BE MANUFACTURED BY SQUARE "D" COMPANY, SANGAMO OR APPROVED EQUAL. METER SOCKET SHALL BE APPROVED BY UTILITY COMPANY PRIOR TO INSTALLATION.
8. WIRE AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM WITH TYPE THHN INSULATION UNLESS SPECIFICALLY NOTED OTHERWISE.
9. ALL CONDUCTORS SHALL BE COPPER.
10. USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURES.
11. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANEL BOARD, PULLBOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.)
12. CONDUIT:
 - A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR.
 - B. INTERMEDIATE METAL CONDUIT SHALL BE U.L. LABEL, FITTINGS SHALL BE THREADED ALUMINUM OR STEEL AND SHALL BE USED FOR ALL EXTERIOR RUNS. THREADLESS COUPLINGS AND CONNECTORS SHALL NOT BE USED.
 - C. ELECTRICAL METALLIC TUBING (EMT) SHALL HAVE U.L. LABEL, FITTINGS SHALL BE NO SET SCREW OR CRIMP TYPE FITTINGS SHALL BE USED. GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
 - D. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
 - E. CONDUIT SHALL BE SIZED PER THE NEC AND AS SHOWN.
 - F. CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH OWNER PRIOR TO INSTALLING.
 - G. ALL CONDUIT ONLY (C.O.) RUNS SHALL HAVE A PULL WIRE OR ROPE.
13. COVERPLATES SHALL BE BRUSHED STAINLESS STEEL FOR ALL SWITCHES, RECEPTACLES, TELEPHONE AND BLANKED OUTLETS, AND SHALL HAVE ENGRAVED LETTERING WHERE INDICATED WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA #WPD-8 LIFT COVERPLATES.
14. REFER TO MANUFACTURERS MANUAL FOR RECOMMENDED FUSE AND WIRE SIZES.
15. ALL FINAL CONNECTIONS TO THE EQUIPMENT ARE TO BE OF FLEXIBLE WEATHERPROOF CONDUIT TO MEET APPLICABLE CODES.
16. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
17. GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2, UNLESS OTHERWISE NOTED.
18. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO THE CONSTRUCTION MANAGER. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
19. PROVIDE CONSTRUCTION MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH GAINING APPROVALS AND PAYING ALL FEES ASSESSED BY UTILITY COMPANY FOR ELECTRICAL SERVICE.

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NORTHEAST, LLC.
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

NSS NORTHEAST
SITE SOLUTIONS
Turnkey Wireless Development

APPROVALS

LANDLORD _____

RF _____

CONSTRUCTION _____

OPERATIONS _____

SITE ACQ. _____

PROJECT NUMBER 10473.CT11063B DESIGNED BY EI

| REV. | DATE | DESCRIPTION | DRAWN BY |
|------|-----------|-------------------------|----------|
| 1 | 8/31/2021 | ISSUED FOR CONSTRUCTION | BWY |

ISSUED BY _____ DATE _____



SITE INFORMATION

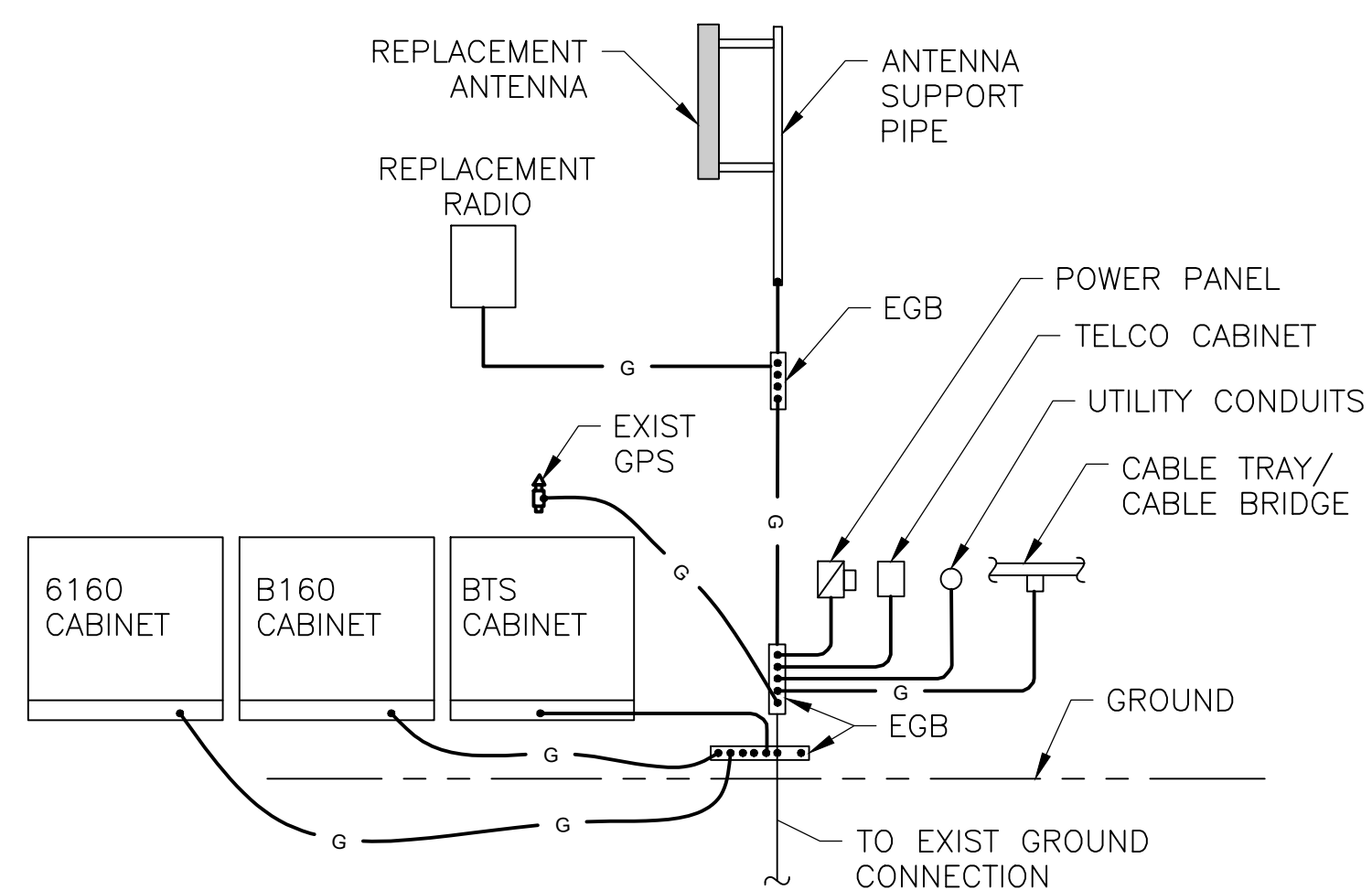
CT11063B
WINDSOR FIRE DEPARTMENT_1
340 BLOOMFIELD AVE
WINDSOR, CT 06095

SHEET TITLE

ELECTRICAL NOTES & ONE-LINE DIAGRAM

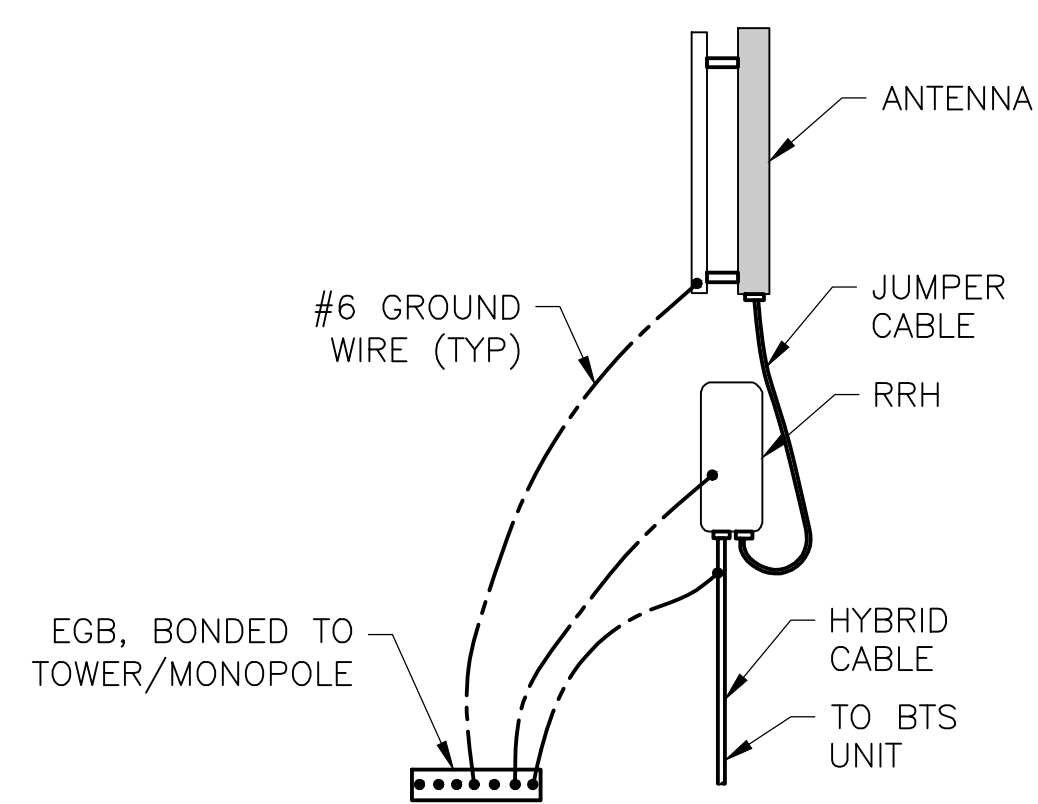
SHEET NUMBER

E-1

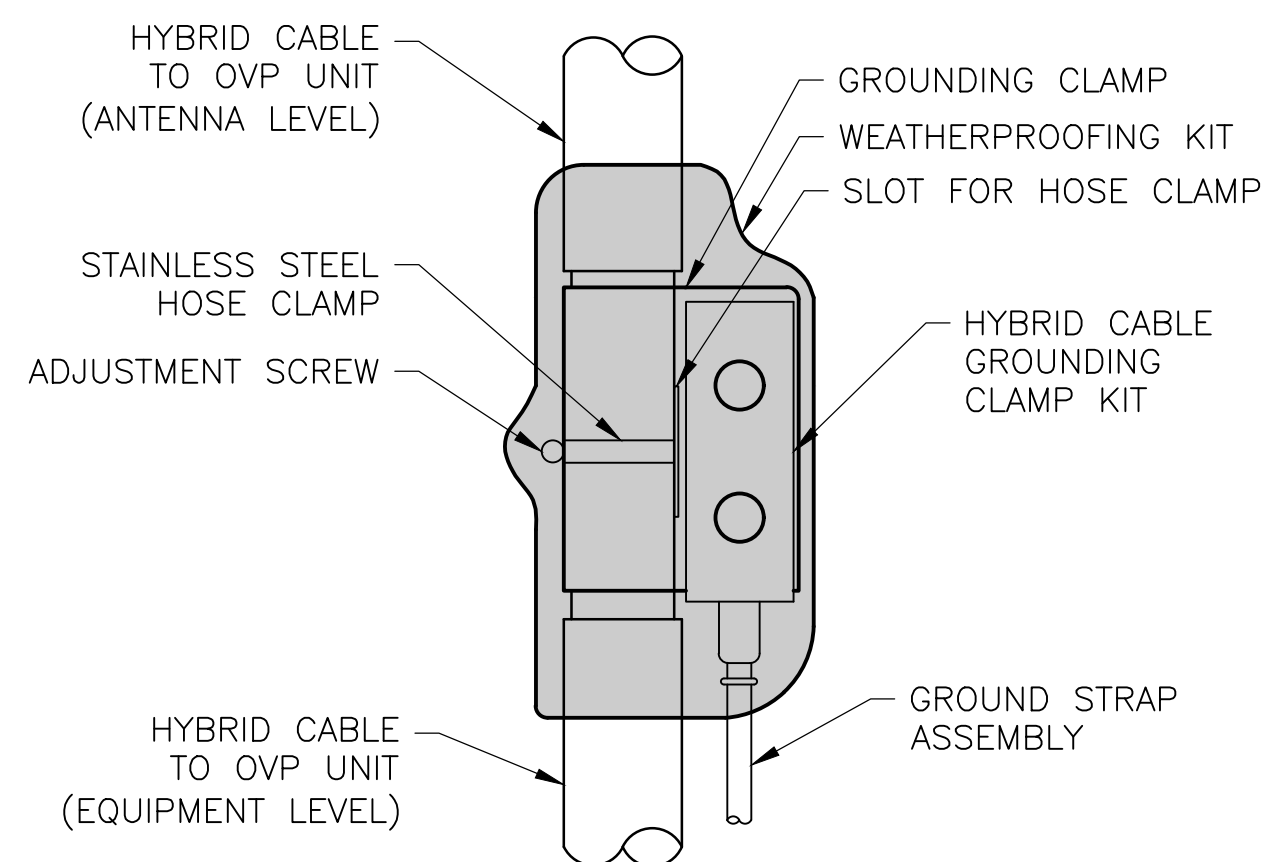


NOTE: CONTRACTOR SHALL CONFIRM ALL EQUIPMENT IS GROUNDED. IF NOT, CONTRACTOR SHALL GROUND EQUIPMENT AS SHOWN AND AS REQUIRED.

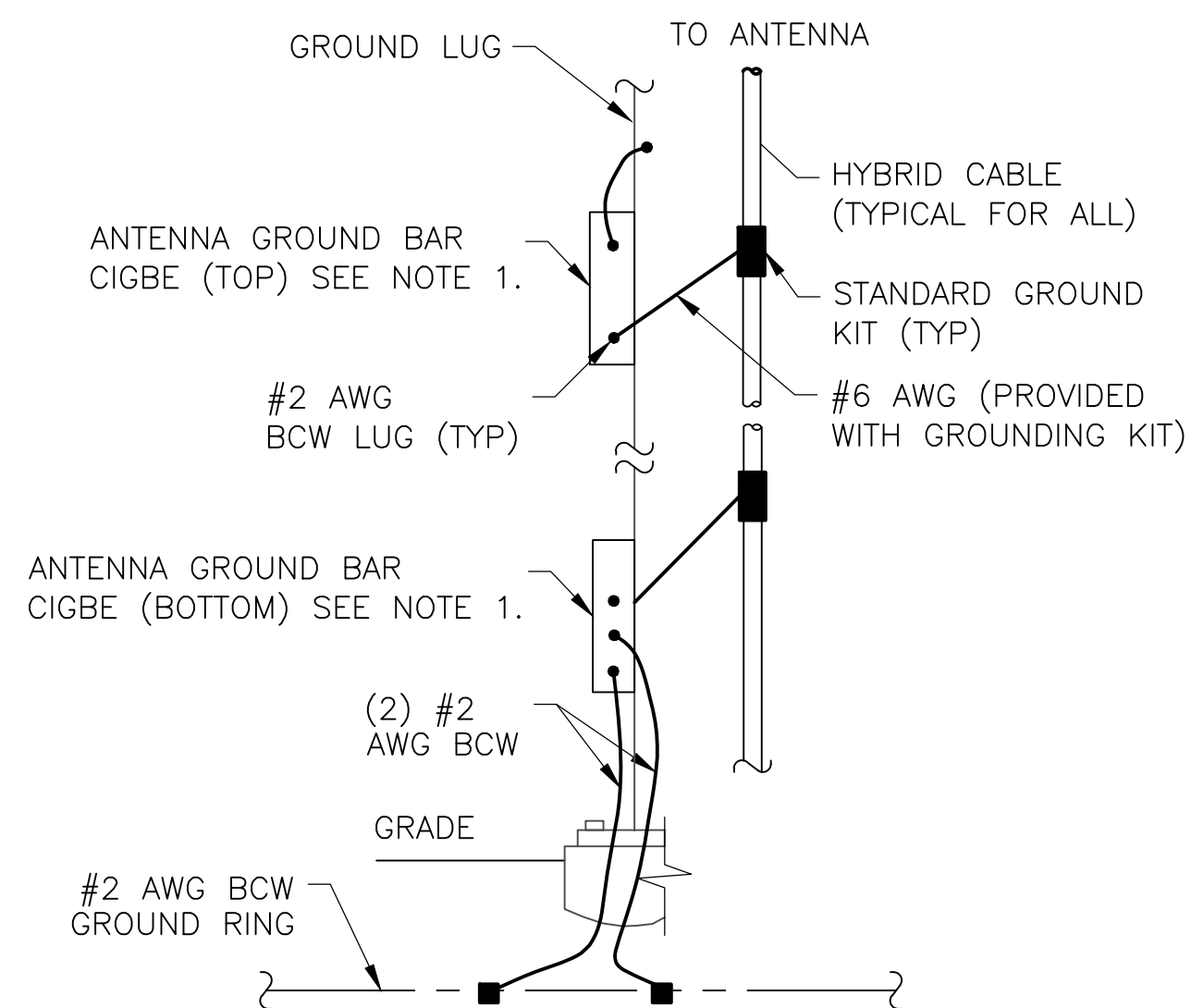
1 GROUNDING RISER DIAGRAM
G-1 SCALE: NTS



2 HYBRID CABLE CONNECTION DETAIL
G-1 SCALE: NTS

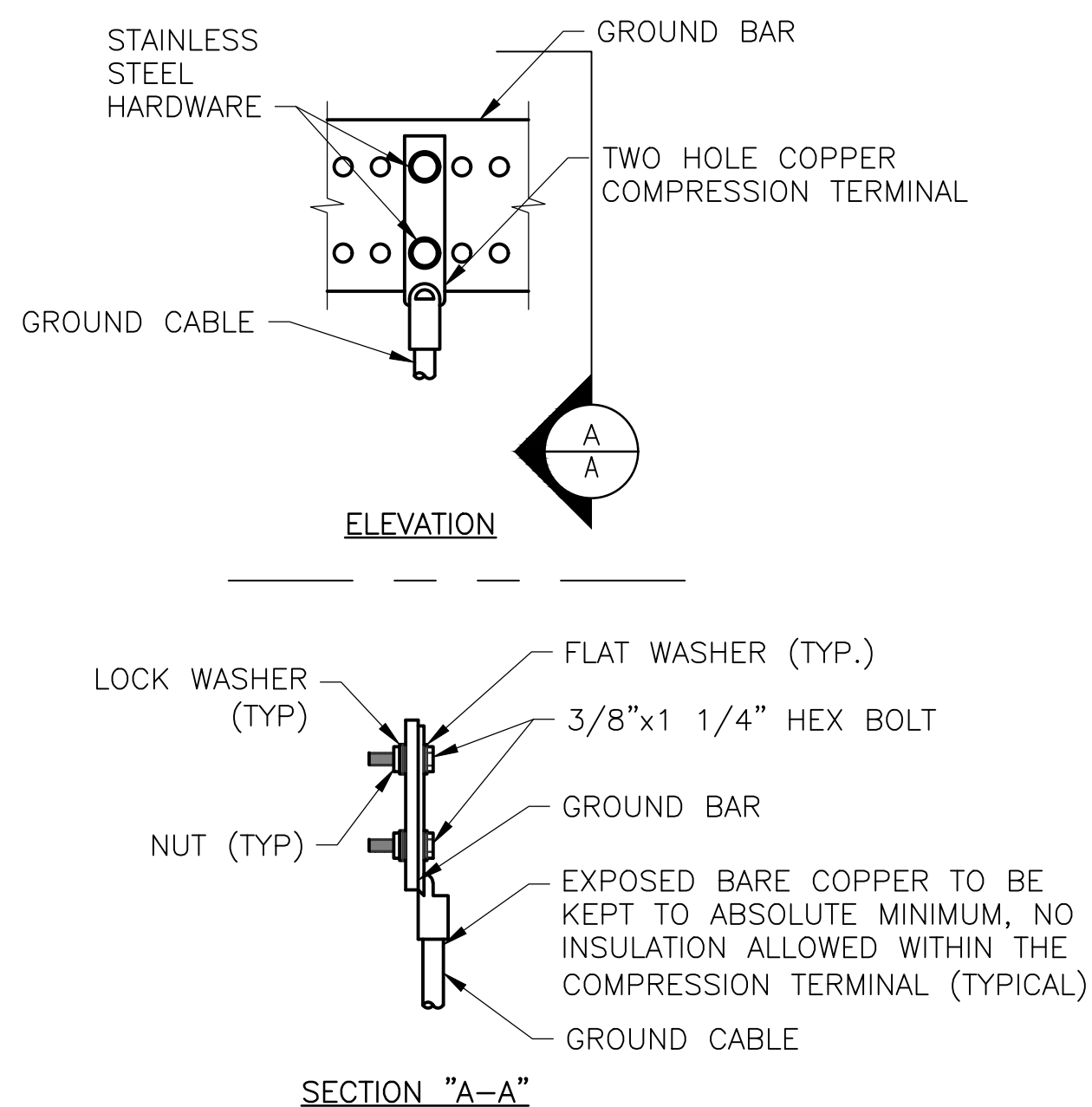


3 HYBRID CABLE GROUNDING DETAIL
G-1 SCALE: NTS



NOTES:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION AND CONNECTION ANTENNA LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS UNIT IF REQUIRED.

4 ANTENNA CABLE GROUNDING
G-1 SCALE: NTS

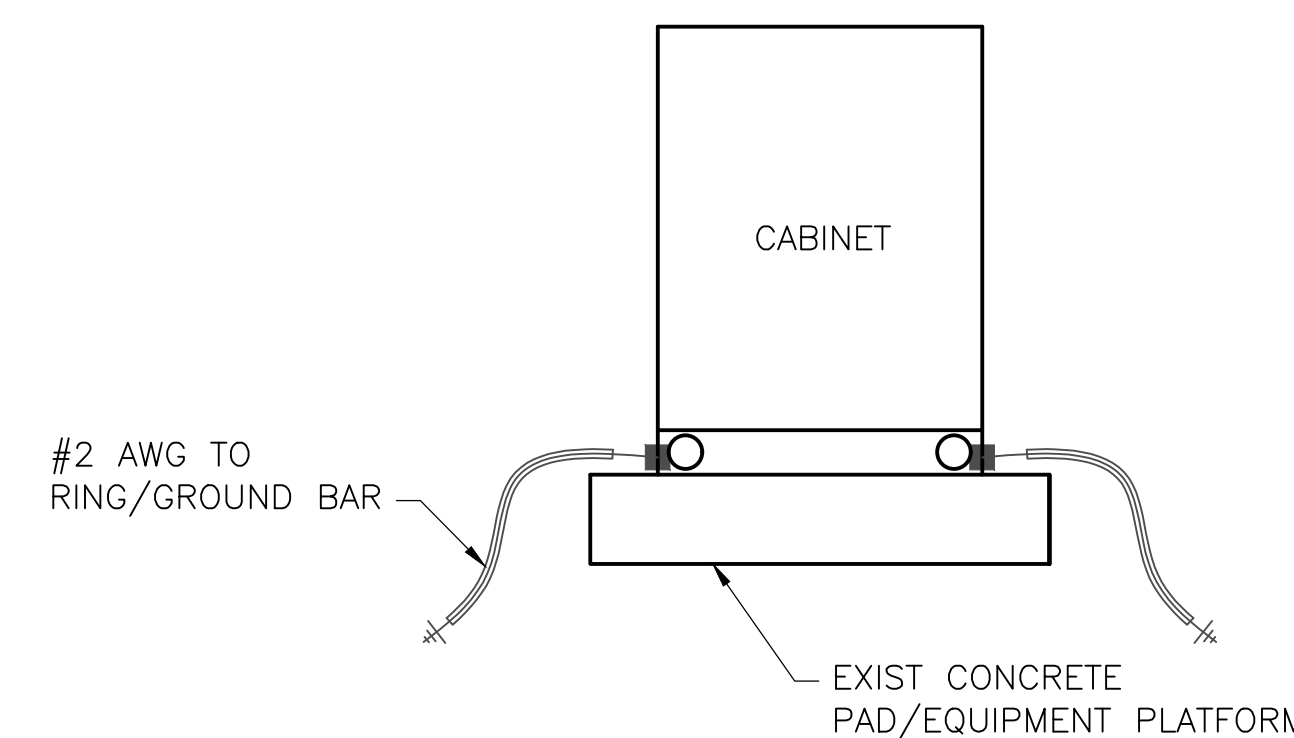


NOTES:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.
4. ALL GROUND LUGS MUST NE HEAT SHRUNK AT WIRE/LUG CONNECTION.

5 GROUND BAR CONNECTION DETAIL
G-1 SCALE: NTS

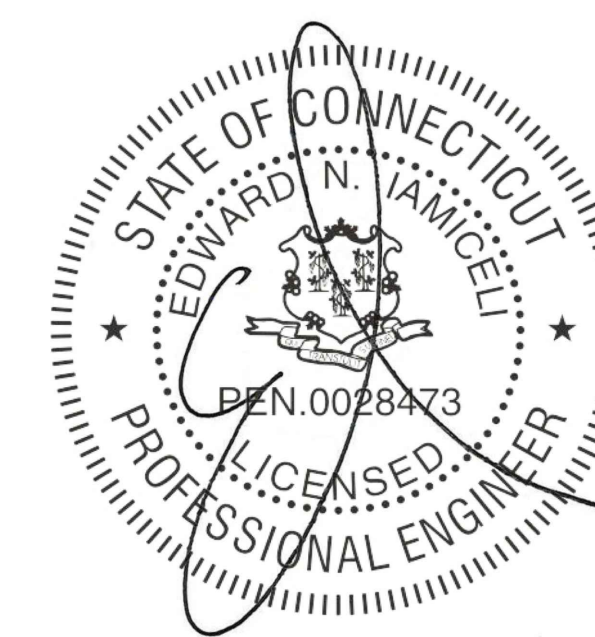
GROUNDING NOTES

1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
2. ALL GROUNDING WORK SHALL BE IN ACCORDANCE WITH T-MOBILE STANDARD PRACTICE.
3. ALL BUS CONNECTORS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS, T&B OR EQUAL, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL LUGS SHALL BE ATTACHED TO BUSES USING BOLTS, NUTS, AND LOCK WASHERS. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED.
4. ALL CONNECTORS SHALL BE CRIMPED USING HYDRAULIC CRIMPING TOOLS, T&B #TBM 8 OR EQUIVALENT.
5. ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT APPLIED PRIOR TO INSTALLATION.
6. ALL COPPER BUSES SHALL BE CLEANED, POLISHED, AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
7. ALL BENDS SHALL BE AS SHALLOW AS POSSIBLE, WITH NO TURN SHORTER THAN AN 8-INCH NOMINAL RADIUS.
8. GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2. ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS, OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
9. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 10 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
10. ALL ROOF TOP ANTENNA MOUNTS SHALL BE GROUNDED WITH A #2 GROUND WIRE CONNECTED TO THE NEAREST GROUND BUS. ALL CONNECTIONS ARE TO BE CAD-WELDED IF POSSIBLE.
11. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO THE PROJECT MANAGER.
12. GROUNDING CONNECTION TO TRAVEL IN A DOWNWARD DIRECTION.
13. ALL EXPOSED #2 WIRE MUST BE TINN NOT BTW.
14. TECTONIC TAKES NO RESPONSIBILITY OR LIABILITY FOR THE GROUNDING SYSTEM AS SHOWN ON THIS SITE. THIS IS A STANDARD GROUNDING SYSTEM.



6 CABINET GROUNDING DETAIL
G-1 SCALE: NTS

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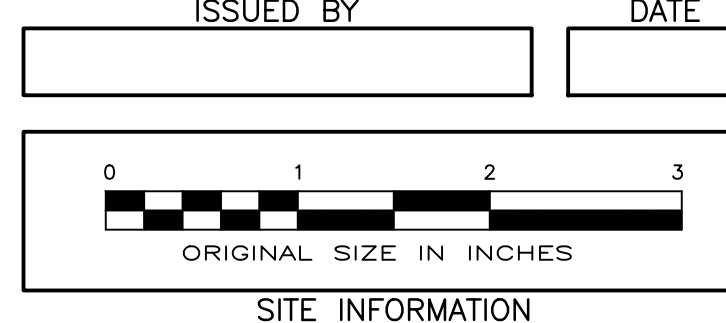
APPROVALS

LANDLORD _____
RF _____
CONSTRUCTION _____
OPERATIONS _____
SITE ACQ. _____

PROJECT NUMBER 10473.CT11063B
DESIGNED BY EI

| REV. | DATE | DESCRIPTION | DRAWN BY |
|------|-----------|-------------------------|----------|
| 1 | 8/31/2021 | ISSUED FOR CONSTRUCTION | BWY |

| ISSUED BY | DATE |
|-----------|------|
| | |



SITE INFORMATION
CT11063B
WINDSOR FIRE DEPARTMENT_1
340 BLOOMFIELD AVE
WINDSOR, CT 06095

SHEET TITLE
GROUNDING DETAILS & NOTES
SHEET NUMBER

G-1

Exhibit D

Date: July 30, 2021



Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351

Subject: Structural Analysis Report

Carrier Designation: **T-Mobile Co-Locate**
Site Number: CT11063B
Site Name: Windsor Fire Department_1

Crown Castle Designation: **BU Number:** 855662
Site Name: WINDSORCENTRAL
JDE Job Number: 578038
Work Order Number: 1776659
Order Number: 495574 Rev. 5

Engineering Firm Designation: **TEP Project Number:** 58885.577447

Site Data: **340 Bloomfield Avenue, Windsor, Hartford County, CT 06095**
Latitude 41° 51' 9.34", Longitude -72° 39' 37.79"
148 Foot - Monopole Tower

Tower Engineering Professionals is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration

Sufficient Capacity – 84.3%

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

Structural analysis prepared by: Sayf A. Altaie / RAL

Respectfully submitted by:

Aaron T. Rucker, P.E.



Electronic Copy

08/02/2021

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1) INTRODUCTION

This tower is a 148-ft monopole tower designed by Paul J. Ford and Company and mapped by BTE Management Group, LLC in July of 2012. The tower has been modified per reinforcement drawings prepared by B+T Group in October of 2014.

2) ANALYSIS CRITERIA

| | |
|-----------------------------|-----------|
| TIA-222 Revision: | TIA-222-H |
| Risk Category: | II |
| Wind Speed: | 125 mph |
| Exposure Category: | C |
| Topographic Factor: | 1.0 |
| Ice Thickness: | 2.0 in |
| Wind Speed with Ice: | 50 mph |
| Service Wind Speed: | 60 mph |

Table 1 - Proposed Equipment Configuration

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|----------------------------------------|----------------------|---------------------|
| 139.0 | 143.0 | 3 | RFS Celwave | APX16DWV-16DWV-S-E-A20 w/ Mount Pipe | 3 | 1-5/8 |
| | | 3 | RFS Celwave | APXVAALL24_43-U-NA20_TMO w/ Mount Pipe | | |
| | | 3 | Ericsson | AIR6449 B41_T-MOBILE w/ Mount Pipe | | |
| | | 3 | Ericsson | RADIO 4460 B2/B25 B66_TMO | | |
| | | 3 | Ericsson | RADIO 4480 B71_TMO | | |
| | 139.0 | 1 | Tower Mounts | Platform Mount [LP 1201-1] | | |
| | | 1 | SitePro1 | HRK12 Support Rail Kit | | |

Table 2 - Other Considered Equipment

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|---------------------------------|----------------------|----------------------------|
| 148.0 | 148.0 | 1 | Tower Mounts | Platform Mount [LP 1201-1_HR-1] | 1 7 1 2 | 7/8 1-5/8 3/8 3/4 |
| | 146.0 | 3 | Kathrein | 800 10121 w/ Mount Pipe | | |
| | | 2 | Quintel Technology | QS66512-2 w/ Mount Pipe | | |
| | | 1 | Quintel Technology | QS86512-2 w/ Mount Pipe | | |
| | | 1 | RFS Celwave | PD320-2 | | |
| | | 1 | Raycap | DC6-48-60-18-8F | | |
| | | 3 | Ericsson | RRUS12/RRUS A2 | | |
| | | 3 | Ericsson | RRUS 11 | | |
| | | 3 | Cci Antennas | DTMABP7819VG12A | | |

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|------------------------------------|----------------------|-----------------------------|
| 126.0 | 128.0 | 3 | Antel | BXA-70063-4CF-EDIN-X w/ Mount Pipe | 8 | 1-5/8 |
| | | 3 | Samsung Telecom. | MT6407-77A w/ Mount Pipe | | |
| | | 6 | Commscope | SBNHH-1D65B w/ Mount Pipe | | |
| | | 3 | Samsung Telecom. | CBRS w/ Mount Pipe | | |
| | | 3 | Samsung Telecom. | RFV01U-D1A | | |
| | | 3 | Samsung Telecom. | RFV01U-D2A | | |
| | 1 | RFS Celwave | DB-T1-6Z-8AB-0Z | | | |
| | 126.0 | 1 | Tower Mounts | Platform Mount [LP 404-1_KCKR] | | |
| 111.0 | 111.0 | 3 | Alcatel Lucent | TME-800MHz 2X50W RRH W/FILTER | - | - |
| | | 3 | Alcatel Lucent | PCS 1900MHz 4x45W-65MHz | | |
| | | 1 | Tower Mounts | Pipe Mount [PM 601-3] | | |
| 109.0 | 116.0 | 1 | Decibel | DB205-L | 5 3 3 1 | 7/8 5/16 1-1/4 5/8 |
| | | 1 | Kathrein | K732267 | | |
| | 113.0 | 1 | Sinclair | SD212-SF3P2SNM W/Mount Piipe | | |
| | 110.0 | 3 | RFS Celwave | APXVTM14-C-120 w/ Mount Pipe | | |
| | | 4 | RFS Celwave | APXVSPP18-C-A20 w/ Mount Pipe | | |
| | 109.0 | 3 | Alcatel Lucent | TD-RRH8X20-25 | | |
| 99.0 | 99.0 | 3 | Jma wireless | MX08FRO665-21 w/ Mount Pipe | 1 | 1-1/2 |
| | | 3 | Fujitsu | TA08025-B604 | | |
| | | 3 | Fujitsu | TA08025-B605 | | |
| | | 1 | Raycap | RDIDC-9181-PF-48 | | |
| | | 1 | Tower Mounts | Commscope MC-PK8-DSH | | |
| 50.0 | 51.0 | 1 | Pctel | GPS-TMG-HR-26N | 1 | 1/2 |
| | 50.0 | 1 | Tower Mounts | Side Arm Mount [SO 701-1] | | |

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

| Document | Reference | Source |
|------------------------------|-----------|----------|
| Geotechnical Report | 5269642 | CCISites |
| Tower Foundation Drawings | 4864324 | CCISites |
| Tower Manufacturer Drawings | 5338627 | CCISites |
| Tower Mapping Report | | |
| Tower Reinforcement Drawings | 5373232 | CCISites |
| Post-Modification Inspection | 5649676 | CCISites |

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 Standard.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix C.

3.2) Assumptions

- 1) The tower and structures were maintained in accordance with the TIA-222 Standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2, and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Tower Engineering Professionals should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

| Elevation (ft) | Component Type | Size | Critical Element | % Capacity | Pass / Fail |
|-----------------|----------------|------------------------|--------------------------|------------|-------------|
| 148 - 143 | Pole | TP24.975x24x0.2188 | Pole | 3.6% | Pass |
| 143 - 138 | Pole | TP25.95x24.975x0.2188 | Pole | 10.3% | Pass |
| 138 - 133 | Pole | TP26.925x25.95x0.2188 | Pole | 17.2% | Pass |
| 133 - 128 | Pole | TP27.901x26.925x0.2188 | Pole | 23.6% | Pass |
| 128 - 123 | Pole | TP28.876x27.901x0.2188 | Pole | 32.4% | Pass |
| 123 - 119.75 | Pole | TP30.241x28.876x0.2188 | Pole | 37.9% | Pass |
| 119.75 - 114.75 | Pole | TP30.047x29.072x0.25 | Pole | 39.3% | Pass |
| 114.75 - 109.75 | Pole | TP31.022x30.047x0.25 | Pole | 45.6% | Pass |
| 109.75 - 104.75 | Pole | TP31.997x31.022x0.25 | Pole | 54.1% | Pass |
| 104.75 - 99.75 | Pole | TP32.972x31.997x0.25 | Pole | 61.3% | Pass |
| 99.75 - 94.75 | Pole | TP33.947x32.972x0.25 | Pole | 69.5% | Pass |
| 94.75 - 93.5 | Pole | TP34.191x33.947x0.25 | Pole | 71.4% | Pass |
| 93.5 - 93.25 | Pole + Reinf. | TP34.24x34.191x0.4375 | Reinf. 4 Tension Rupture | 58.9% | Pass |
| 93.25 - 88.25 | Pole + Reinf. | TP35.215x34.24x0.4313 | Reinf. 4 Tension Rupture | 65.1% | Pass |
| 88.25 - 83.25 | Pole + Reinf. | TP36.19x35.215x0.425 | Reinf. 4 Tension Rupture | 70.8% | Pass |
| 83.25 - 79.5 | Pole + Reinf. | TP37.847x36.19x0.425 | Reinf. 4 Tension Rupture | 74.9% | Pass |
| 79.5 - 74.5 | Pole + Reinf. | TP37.396x36.421x0.4875 | Reinf. 4 Tension Rupture | 71.2% | Pass |
| 74.5 - 69.5 | Pole + Reinf. | TP38.371x37.396x0.475 | Reinf. 4 Tension Rupture | 75.2% | Pass |
| 69.5 - 64.5 | Pole + Reinf. | TP39.346x38.371x0.475 | Reinf. 4 Tension Rupture | 79.0% | Pass |
| 64.5 - 59.5 | Pole + Reinf. | TP40.321x39.346x0.4688 | Reinf. 4 Tension Rupture | 82.6% | Pass |
| 59.5 - 57.75 | Pole + Reinf. | TP40.663x40.321x0.4625 | Reinf. 4 Tension Rupture | 83.7% | Pass |
| 57.75 - 57.5 | Pole + Reinf. | TP40.711x40.663x0.525 | Reinf. 2 Tension Rupture | 73.9% | Pass |
| 57.5 - 52.5 | Pole + Reinf. | TP41.687x40.711x0.525 | Reinf. 2 Tension Rupture | 76.8% | Pass |

| Elevation (ft) | Component Type | Size | Critical Element | % Capacity | Pass / Fail |
|----------------|----------------|------------------------|--------------------------|--------------|-------------|
| 52.5 - 47.5 | Pole + Reinf. | TP42.662x41.687x0.5125 | Reinf. 2 Tension Rupture | 79.6% | Pass |
| 47.5 - 45 | Pole + Reinf. | TP44.222x42.662x0.5125 | Reinf. 2 Tension Rupture | 80.9% | Pass |
| 45 - 38.5 | Pole + Reinf. | TP43.792x42.524x0.575 | Reinf. 2 Tension Rupture | 76.9% | Pass |
| 38.5 - 33.5 | Pole + Reinf. | TP44.767x43.792x0.5625 | Reinf. 2 Tension Rupture | 78.9% | Pass |
| 33.5 - 31.75 | Pole + Reinf. | TP45.108x44.767x0.5625 | Reinf. 2 Tension Rupture | 79.6% | Pass |
| 31.75 - 31.5 | Pole + Reinf. | TP45.157x45.108x0.725 | Reinf. 1 Bolt Shear | 66.3% | Pass |
| 31.5 - 28.25 | Pole + Reinf. | TP45.791x45.157x0.725 | Reinf. 1 Compression | 64.8% | Pass |
| 28.25 - 28 | Pole + Reinf. | TP45.84x45.791x0.5375 | Reinf. 1 Compression | 73.2% | Pass |
| 28 - 23 | Pole + Reinf. | TP46.815x45.84x0.5375 | Reinf. 1 Compression | 74.8% | Pass |
| 23 - 18 | Pole + Reinf. | TP47.79x46.815x0.525 | Reinf. 1 Compression | 76.3% | Pass |
| 18 - 13 | Pole + Reinf. | TP48.765x47.79x0.525 | Reinf. 1 Compression | 77.8% | Pass |
| 13 - 8 | Pole + Reinf. | TP49.74x48.765x0.525 | Reinf. 1 Compression | 79.1% | Pass |
| 8 - 3 | Pole + Reinf. | TP50.715x49.74x0.525 | Reinf. 1 Compression | 80.4% | Pass |
| 3 - 0 | Pole + Reinf. | TP51.3x50.715x0.5188 | Reinf. 1 Bolt Shear | 84.3% | Pass |
| | | | | Summary | |
| | | | Pole | 71.4% | Pass |
| | | | Reinforcement | 84.3% | Pass |
| | | | Overall | 84.3% | Pass |

Table 5 - Tower Component Stresses vs. Capacity - LC7

| Notes | Component | Elevation (ft) | % Capacity | Pass / Fail |
|-------|----------------------------------|----------------|------------|-------------|
| 1,2 | Anchor Rods | - | 79.9 | Pass |
| 1,2 | Base Plate | - | 74.3 | Pass |
| 1,2 | Base Foundation Structural | - | 81.3 | Pass |
| 1,2 | Base Foundation Soil Interaction | - | 71.2 | Pass |

| | |
|-----------------------------------------------------|--------------|
| Structure Rating (max from all components) = | 84.3% |
|-----------------------------------------------------|--------------|

Notes:

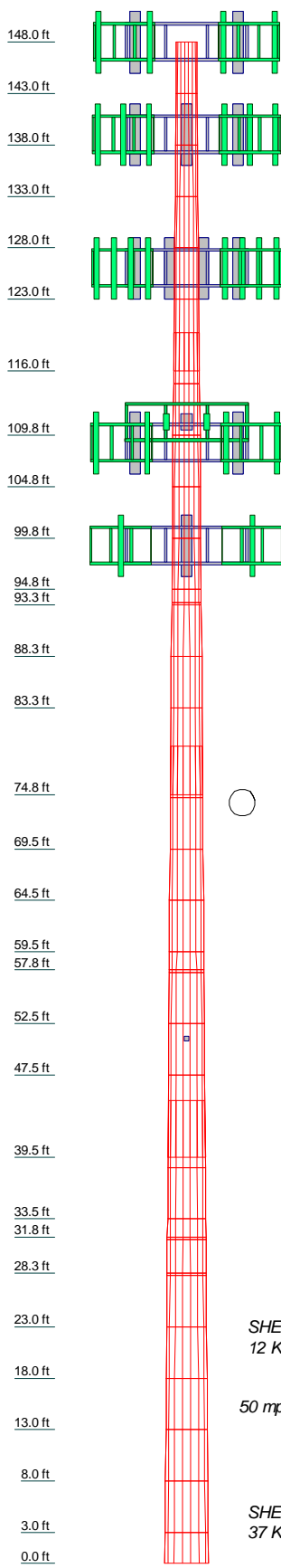
- 1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity listed.
- 2) Rating per TIA-222-H Section 15.5

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

| Section | Length (ft) | Number of Sides | Thickness (in) | Socket Length (ft) | Top Dia (in) | Bot Dia (in) | Grade | Weight (K) |
|---------|-------------|-----------------|----------------|--------------------|--------------|--------------|-------|------------|
| 1 | 5.00 | 18 | 0.2188 | 3.75 | 24.0000 | 24.9752 | 0.3 | 0.3 |
| 2 | 5.00 | 18 | 0.2188 | | 25.9503 | 26.9255 | 0.3 | 0.3 |
| 3 | 5.00 | 18 | 0.2188 | | 26.9255 | 27.9006 | 0.3 | 0.3 |
| 4 | 5.00 | 18 | 0.2188 | | 27.9006 | 28.8758 | 0.3 | 0.3 |
| 5 | 5.00 | 18 | 0.2188 | | 28.8758 | 29.8510 | 0.3 | 0.3 |
| 6 | 5.00700 | 18 | 0.2188 | | 29.8510 | 30.8262 | 0.3 | 0.3 |
| 7 | 5.00 | 18 | 0.2500 | | 30.8262 | 31.8014 | 0.4 | 0.4 |
| 8 | 5.00 | 18 | 0.2500 | 4.75 | 31.7766 | 32.7518 | 0.4 | 0.4 |
| 9 | 5.00 | 18 | 0.2500 | | 32.7518 | 33.7270 | 0.4 | 0.4 |
| 10 | 5.00 | 18 | 0.2500 | | 33.7270 | 34.7022 | 0.4 | 0.4 |
| 11 | 5.00 | 18 | 0.2500 | | 34.6774 | 35.6776 | 0.4 | 0.4 |
| 12 | 5.00 | 18 | 0.2500 | | 35.6526 | 36.6530 | 0.4 | 0.4 |
| 13 | 5.00 | 18 | 0.4250 | | 36.6278 | 37.6282 | 0.8 | 0.8 |
| 14 | 5.00 | 18 | 0.4250 | | 37.6030 | 38.6034 | 0.8 | 0.8 |
| 15 | 5.00 | 18 | 0.4250 | 5.50 | 38.5786 | 39.5786 | 1.0 | 1.0 |
| 16 | 5.00 | 18 | 0.4250 | | 39.5538 | 40.5538 | 1.0 | 1.0 |
| 17 | 5.00 | 18 | 0.4250 | | 40.5290 | 41.5290 | 1.0 | 1.0 |
| 18 | 5.00 | 18 | 0.4250 | | 41.5042 | 42.5042 | 1.0 | 1.0 |
| 19 | 5.00 | 18 | 0.4250 | | 42.4794 | 43.4794 | 1.0 | 1.0 |
| 20 | 5.00 | 18 | 0.4250 | | 43.4546 | 44.4546 | 1.0 | 1.0 |
| 21 | 5.00 | 18 | 0.4250 | | 44.4298 | 45.4298 | 1.0 | 1.0 |
| 22 | 5.00 | 18 | 0.4250 | 5.50 | 45.4050 | 46.4050 | 1.1 | 1.1 |
| 23 | 5.00 | 18 | 0.4250 | | 46.3802 | 47.3802 | 1.1 | 1.1 |
| 24 | 5.00 | 18 | 0.4250 | | 47.3554 | 48.3554 | 1.1 | 1.1 |
| 25 | 5.00 | 18 | 0.4250 | | 48.3306 | 49.3306 | 1.1 | 1.1 |
| 26 | 5.00 | 18 | 0.4250 | | 49.3058 | 50.3058 | 1.1 | 1.1 |
| 27 | 5.00 | 18 | 0.4250 | | 50.2810 | 51.2810 | 1.1 | 1.1 |
| 28 | 5.00 | 18 | 0.4250 | | 51.2562 | 52.2562 | 1.1 | 1.1 |
| 29 | 5.00 | 18 | 0.4250 | 5.50 | 52.2314 | 53.2314 | 1.1 | 1.1 |
| 30 | 5.00 | 18 | 0.4250 | | 53.2066 | 54.2066 | 1.1 | 1.1 |
| 31 | 5.00 | 18 | 0.4250 | | 54.1818 | 55.1818 | 1.1 | 1.1 |
| 32 | 5.00 | 18 | 0.4250 | | 55.1570 | 56.1570 | 1.1 | 1.1 |
| 33 | 5.00 | 18 | 0.4250 | | 56.1322 | 57.1322 | 1.1 | 1.1 |
| 34 | 5.00 | 18 | 0.4250 | | 57.1074 | 58.1074 | 1.1 | 1.1 |
| 35 | 5.00 | 18 | 0.4250 | | 58.0826 | 59.0826 | 1.1 | 1.1 |
| 36 | 5.00 | 18 | 0.4250 | 5.50 | 59.0578 | 60.0578 | 1.1 | 1.1 |
| 37 | 3.00 | 18 | 0.5188 | | 60.0330 | 61.0330 | 1.1 | 1.1 |
| 38 | 3.00 | 18 | 0.5188 | | 61.0082 | 62.0082 | 1.1 | 1.1 |

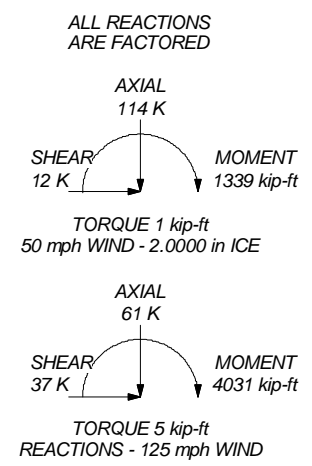


MATERIAL STRENGTH

| GRADE | Fy | Fu | GRADE | Fy | Fu |
|---------|--------|--------|-------|----|----|
| A607-65 | 65 ksi | 80 ksi | | | |

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-H Standard.
2. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
3. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Risk Category II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING:84.3%



| | | | | |
|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------|----------------------------------------|
|  Tower Engineering Professionals | Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | | | Job: WindsorCentral (BU 855662) |
| | Project: TEP No. 58885.577447 | | | |
| | Client: Crown Castle | Drawn by: saltaie | App'd: | |
| | Code: TIA-222-H | Date: 07/30/21 | Scale: NTS | |
| Path: | Dwg No. E-1 | | | |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 1 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

Tower Input Data

The tower is a monopole.

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

The following design criteria apply:

- Tower base elevation above sea level: 115.00 ft.
- Basic wind speed of 125 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 2.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.00 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.
- TOWER RATING:84.3%.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 2 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

Tapered Pole Section Geometry

| Section | Elevation ft | Section Length ft | Splice Length ft | Number of Sides | Top Diameter in | Bottom Diameter in | Wall Thickness in | Bend Radius in | Pole Grade |
|---------|-----------------|----------------------|---------------------|-----------------|--------------------|-----------------------|----------------------|-------------------|------------------|
| L1 | 148.00-143.00 | 5.00 | 0.00 | 18 | 24.0000 | 24.9752 | 0.2188 | 0.8750 | A607-65 (65 ksi) |
| L2 | 143.00-138.00 | 5.00 | 0.00 | 18 | 24.9752 | 25.9503 | 0.2188 | 0.8750 | A607-65 (65 ksi) |
| L3 | 138.00-133.00 | 5.00 | 0.00 | 18 | 25.9503 | 26.9255 | 0.2188 | 0.8750 | A607-65 (65 ksi) |
| L4 | 133.00-128.00 | 5.00 | 0.00 | 18 | 26.9255 | 27.9006 | 0.2188 | 0.8750 | A607-65 (65 ksi) |
| L5 | 128.00-123.00 | 5.00 | 0.00 | 18 | 27.9006 | 28.8758 | 0.2188 | 0.8750 | A607-65 (65 ksi) |
| L6 | 123.00-116.00 | 7.00 | 3.75 | 18 | 28.8758 | 30.2410 | 0.2188 | 0.8750 | A607-65 (65 ksi) |
| L7 | 116.00-114.75 | 5.00 | 0.00 | 18 | 29.0721 | 30.0471 | 0.2500 | 1.0000 | A607-65 (65 ksi) |
| L8 | 114.75-109.75 | 5.00 | 0.00 | 18 | 30.0471 | 31.0221 | 0.2500 | 1.0000 | A607-65 (65 ksi) |
| L9 | 109.75-104.75 | 5.00 | 0.00 | 18 | 31.0221 | 31.9971 | 0.2500 | 1.0000 | A607-65 (65 ksi) |
| L10 | 104.75-99.75 | 5.00 | 0.00 | 18 | 31.9971 | 32.9721 | 0.2500 | 1.0000 | A607-65 (65 ksi) |
| L11 | 99.75-94.75 | 5.00 | 0.00 | 18 | 32.9721 | 33.9471 | 0.2500 | 1.0000 | A607-65 (65 ksi) |
| L12 | 94.75-93.50 | 1.25 | 0.00 | 18 | 33.9471 | 34.1908 | 0.2500 | 1.0000 | A607-65 (65 ksi) |
| L13 | 93.50-93.25 | 0.25 | 0.00 | 18 | 34.1908 | 34.2396 | 0.4375 | 1.7500 | A607-65 (65 ksi) |
| L14 | 93.25-88.25 | 5.00 | 0.00 | 18 | 34.2396 | 35.2145 | 0.4313 | 1.7250 | A607-65 (65 ksi) |
| L15 | 88.25-83.25 | 5.00 | 0.00 | 18 | 35.2145 | 36.1895 | 0.4250 | 1.7000 | A607-65 (65 ksi) |
| L16 | 83.25-74.75 | 8.50 | 4.75 | 18 | 36.1895 | 37.8470 | 0.4250 | 1.7000 | A607-65 (65 ksi) |
| L17 | 74.75-74.50 | 5.00 | 0.00 | 18 | 36.4208 | 37.3959 | 0.4875 | 1.9500 | A607-65 (65 ksi) |
| L18 | 74.50-69.50 | 5.00 | 0.00 | 18 | 37.3959 | 38.3711 | 0.4750 | 1.9000 | A607-65 (65 ksi) |
| L19 | 69.50-64.50 | 5.00 | 0.00 | 18 | 38.3711 | 39.3462 | 0.4750 | 1.9000 | A607-65 (65 ksi) |
| L20 | 64.50-59.50 | 5.00 | 0.00 | 18 | 39.3462 | 40.3214 | 0.4688 | 1.8750 | A607-65 (65 ksi) |
| L21 | 59.50-57.75 | 1.75 | 0.00 | 18 | 40.3214 | 40.6627 | 0.4625 | 1.8500 | A607-65 (65 ksi) |
| L22 | 57.75-57.50 | 0.25 | 0.00 | 18 | 40.6627 | 40.7114 | 0.5250 | 2.1000 | A607-65 (65 ksi) |
| L23 | 57.50-52.50 | 5.00 | 0.00 | 18 | 40.7114 | 41.6866 | 0.5250 | 2.1000 | A607-65 (65 ksi) |
| L24 | 52.50-47.50 | 5.00 | 0.00 | 18 | 41.6866 | 42.6618 | 0.5125 | 2.0500 | A607-65 (65 ksi) |
| L25 | 47.50-39.50 | 8.00 | 5.50 | 18 | 42.6618 | 44.2220 | 0.5125 | 2.0500 | A607-65 (65 ksi) |
| L26 | 39.50-38.50 | 6.50 | 0.00 | 18 | 42.5243 | 43.7919 | 0.5750 | 2.3000 | A607-65 (65 ksi) |
| L27 | 38.50-33.50 | 5.00 | 0.00 | 18 | 43.7919 | 44.7670 | 0.5625 | 2.2500 | A607-65 (65 ksi) |
| L28 | 33.50-31.75 | 1.75 | 0.00 | 18 | 44.7670 | 45.1083 | 0.5625 | 2.2500 | A607-65 (65 ksi) |
| L29 | 31.75-31.50 | 0.25 | 0.00 | 18 | 45.1083 | 45.1570 | 0.7250 | 2.9000 | A607-65 (65 ksi) |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 3 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Section | Elevation ft | Section Length ft | Splice Length ft | Number of Sides | Top Diameter in | Bottom Diameter in | Wall Thickness in | Bend Radius in | Pole Grade |
|---------|-----------------|----------------------|---------------------|-----------------|--------------------|-----------------------|----------------------|-------------------|---------------------|
| L30 | 31.50-28.25 | 3.25 | 0.00 | 18 | 45.1570 | 45.7908 | 0.7250 | 2.9000 | A607-65 (65 ksi) |
| L31 | 28.25-28.00 | 0.25 | 0.00 | 18 | 45.7908 | 45.8396 | 0.5375 | 2.1500 | A607-65 (65 ksi) |
| L32 | 28.00-23.00 | 5.00 | 0.00 | 18 | 45.8396 | 46.8147 | 0.5375 | 2.1500 | A607-65 (65 ksi) |
| L33 | 23.00-18.00 | 5.00 | 0.00 | 18 | 46.8147 | 47.7897 | 0.5250 | 2.1000 | A607-65 (65 ksi) |
| L34 | 18.00-13.00 | 5.00 | 0.00 | 18 | 47.7897 | 48.7648 | 0.5250 | 2.1000 | A607-65 (65 ksi) |
| L35 | 13.00-8.00 | 5.00 | 0.00 | 18 | 48.7648 | 49.7399 | 0.5250 | 2.1000 | A607-65 (65 ksi) |
| L36 | 8.00-3.00 | 5.00 | 0.00 | 18 | 49.7399 | 50.7150 | 0.5250 | 2.1000 | A607-65 (65 ksi) |
| L37 | 3.00-0.00 | 3.00 | | 18 | 50.7150 | 51.3000 | 0.5188 | 2.0750 | A607-65 (65 ksi) |

Tapered Pole Properties

| Section | Tip Dia. in | Area in ² | I in ⁴ | r in | C in | I/C in ³ | J in ⁴ | I/Q in ² | w in | w/t |
|---------|----------------|-------------------------|----------------------|---------|---------|------------------------|----------------------|------------------------|---------|--------|
| L1 | 24.3365 | 16.5116 | 1179.7676 | 8.4423 | 12.1920 | 96.7657 | 2361.0876 | 8.2574 | 3.8390 | 17.55 |
| | 25.3267 | 17.1887 | 1330.9301 | 8.7885 | 12.6874 | 104.9019 | 2663.6114 | 8.5960 | 4.0106 | 18.334 |
| L2 | 25.3267 | 17.1887 | 1330.9301 | 8.7885 | 12.6874 | 104.9019 | 2663.6114 | 8.5960 | 4.0106 | 18.334 |
| | 26.3169 | 17.8657 | 1494.4828 | 9.1347 | 13.1828 | 113.3665 | 2990.9320 | 8.9346 | 4.1823 | 19.119 |
| L3 | 26.3169 | 17.8657 | 1494.4828 | 9.1347 | 13.1828 | 113.3665 | 2990.9320 | 8.9346 | 4.1823 | 19.119 |
| | 27.3071 | 18.5428 | 1670.9138 | 9.4809 | 13.6781 | 122.1594 | 3344.0261 | 9.2732 | 4.3539 | 19.903 |
| L4 | 27.3071 | 18.5428 | 1670.9138 | 9.4809 | 13.6781 | 122.1594 | 3344.0261 | 9.2732 | 4.3539 | 19.903 |
| | 28.2973 | 19.2199 | 1860.7111 | 9.8271 | 14.1735 | 131.2808 | 3723.8705 | 9.6118 | 4.5255 | 20.688 |
| L5 | 28.2973 | 19.2199 | 1860.7111 | 9.8271 | 14.1735 | 131.2808 | 3723.8705 | 9.6118 | 4.5255 | 20.688 |
| | 29.2875 | 19.8969 | 2064.3628 | 10.1732 | 14.6689 | 140.7306 | 4131.4420 | 9.9504 | 4.6971 | 21.473 |
| L6 | 29.2875 | 19.8969 | 2064.3628 | 10.1732 | 14.6689 | 140.7306 | 4131.4420 | 9.9504 | 4.6971 | 21.473 |
| | 30.6738 | 20.8448 | 2373.6799 | 10.6579 | 15.3624 | 154.5120 | 4750.4831 | 10.4244 | 4.9374 | 22.571 |
| L7 | 30.6738 | 20.8448 | 2373.6799 | 10.6579 | 15.3624 | 154.5120 | 4750.4831 | 10.4244 | 4.9374 | 22.571 |
| | 30.2246 | 22.8704 | 2400.2845 | 10.2319 | 14.7686 | 162.5257 | 4803.7274 | 11.4374 | 4.6767 | 18.707 |
| L8 | 30.4721 | 23.6440 | 2652.2055 | 10.5780 | 15.2639 | 173.7563 | 5307.9008 | 11.8243 | 4.8483 | 19.393 |
| | 30.4721 | 23.6440 | 2652.2055 | 10.5780 | 15.2639 | 173.7563 | 5307.9008 | 11.8243 | 4.8483 | 19.393 |
| L9 | 31.4621 | 24.4177 | 2921.1639 | 10.9241 | 15.7592 | 185.3621 | 5846.1716 | 12.2112 | 5.0199 | 20.08 |
| | 31.4621 | 24.4177 | 2921.1639 | 10.9241 | 15.7592 | 185.3621 | 5846.1716 | 12.2112 | 5.0199 | 20.08 |
| L10 | 32.4521 | 25.1913 | 3207.7173 | 11.2702 | 16.2545 | 197.3431 | 6419.6555 | 12.5981 | 5.1915 | 20.766 |
| | 32.4521 | 25.1913 | 3207.7173 | 11.2702 | 16.2545 | 197.3431 | 6419.6555 | 12.5981 | 5.1915 | 20.766 |
| L11 | 33.4422 | 25.9650 | 3512.4232 | 11.6163 | 16.7498 | 209.6992 | 7029.4682 | 12.9849 | 5.3631 | 21.452 |
| | 34.4322 | 26.7386 | 3835.8391 | 11.9625 | 17.2451 | 222.4306 | 7676.7254 | 13.3718 | 5.5347 | 22.139 |
| L12 | 34.4322 | 26.7386 | 3835.8391 | 11.9625 | 17.2451 | 222.4306 | 7676.7254 | 13.3718 | 5.5347 | 22.139 |
| | 34.6797 | 26.9320 | 3919.6818 | 12.0490 | 17.3689 | 225.6720 | 7844.5212 | 13.4686 | 5.5776 | 22.31 |
| L13 | 34.6508 | 46.8707 | 6746.3886 | 11.9824 | 17.3689 | 388.4171 | 13501.6543 | 23.4398 | 5.2476 | 11.994 |
| | 34.7003 | 46.9384 | 6775.6619 | 11.9997 | 17.3937 | 389.5470 | 13560.2394 | 23.4736 | 5.2562 | 12.014 |
| L14 | 34.7012 | 46.2764 | 6682.5722 | 12.0019 | 17.3937 | 384.1951 | 13373.9375 | 23.1426 | 5.2672 | 12.214 |
| | 35.6913 | 47.6109 | 7277.5542 | 12.3481 | 17.8890 | 406.8176 | 14564.6844 | 23.8100 | 5.4388 | 12.612 |
| L15 | 35.6922 | 46.9293 | 7175.9492 | 12.3503 | 17.8890 | 401.1378 | 14361.3407 | 23.4691 | 5.4498 | 12.823 |
| | 36.6822 | 48.2446 | 7796.3386 | 12.6964 | 18.3843 | 424.0764 | 15602.9357 | 24.1269 | 5.6214 | 13.227 |
| L16 | 36.6822 | 48.2446 | 7796.3386 | 12.6964 | 18.3843 | 424.0764 | 15602.9357 | 24.1269 | 5.6214 | 13.227 |
| | 38.3653 | 50.4804 | 8931.2919 | 13.2848 | 19.2263 | 464.5357 | 17874.3359 | 25.2450 | 5.9131 | 13.913 |
| L17 | 37.8481 | 55.6004 | 9070.0357 | 12.7563 | 18.5017 | 490.2259 | 18152.0060 | 27.8055 | 5.5521 | 11.389 |
| | 37.8976 | 57.1093 | 9828.6824 | 13.1025 | 18.9971 | 517.3773 | 19670.2977 | 28.5601 | 5.7237 | 11.741 |
| L18 | 37.8995 | 55.6638 | 9586.3984 | 13.1069 | 18.9971 | 504.6236 | 19185.4108 | 27.8372 | 5.7457 | 12.096 |

| | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|
| <i>tnxTower</i> <i>Tower Engineering Professionals, Inc.</i> 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 5 of 31 |
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| | Client Crown Castle | Designed by saltaie |

| Tower Elevation | Gusset Area (per face) | Gusset Thickness | Gusset Grade | Adjust. Factor A_f | Adjust. Factor A_r | Weight Mult. | Double Angle Stitch Bolt Spacing Diagonals in | Double Angle Stitch Bolt Spacing Horizontals in | Double Angle Stitch Bolt Spacing Redundants in |
|-----------------|------------------------|------------------|--------------|----------------------|----------------------|--------------|-----------------------------------------------|-------------------------------------------------|------------------------------------------------|
| ft | ft ² | in | | | | | | | |
| L9 | | | | 1 | 1 | 1 | | | |
| 109.75-104.75 | | | | | | | | | |
| L10 | | | | 1 | 1 | 1 | | | |
| 104.75-99.75 | | | | | | | | | |
| L11 | | | | 1 | 1 | 1 | | | |
| 99.75-94.75 | | | | | | | | | |
| L12 | | | | 1 | 1 | 1 | | | |
| 94.75-93.50 | | | | | | | | | |
| L13 | | | | 1 | 1 | 0.958094 | | | |
| 93.50-93.25 | | | | | | | | | |
| L14 | | | | 1 | 1 | 0.960809 | | | |
| 93.25-88.25 | | | | | | | | | |
| L15 | | | | 1 | 1 | 0.964226 | | | |
| 88.25-83.25 | | | | | | | | | |
| L16 | | | | 1 | 1 | 0.956693 | | | |
| 83.25-74.75 | | | | | | | | | |
| L17 | | | | 1 | 1 | 0.959261 | | | |
| 74.75-74.50 | | | | | | | | | |
| L18 | | | | 1 | 1 | 0.975776 | | | |
| 74.50-69.50 | | | | | | | | | |
| L19 | | | | 1 | 1 | 0.967801 | | | |
| 69.50-64.50 | | | | | | | | | |
| L20 | | | | 1 | 1 | 0.972867 | | | |
| 64.50-59.50 | | | | | | | | | |
| L21 | | | | 1 | 1 | 0.983226 | | | |
| 59.50-57.75 | | | | | | | | | |
| L22 | | | | 1 | 1 | 0.962397 | | | |
| 57.75-57.50 | | | | | | | | | |
| L23 | | | | 1 | 1 | 0.953698 | | | |
| 57.50-52.50 | | | | | | | | | |
| L24 | | | | 1 | 1 | 0.968174 | | | |
| 52.50-47.50 | | | | | | | | | |
| L25 | | | | 1 | 1 | 0.964075 | | | |
| 47.50-39.50 | | | | | | | | | |
| L26 | | | | 1 | 1 | 0.964244 | | | |
| 39.50-38.50 | | | | | | | | | |
| L27 | | | | 1 | 1 | 0.978356 | | | |
| 38.50-33.50 | | | | | | | | | |
| L28 | | | | 1 | 1 | 0.975968 | | | |
| 33.50-31.75 | | | | | | | | | |
| L29 | | | | 1 | 1 | 0.992017 | | | |
| 31.75-31.50 | | | | | | | | | |
| L30 | | | | 1 | 1 | 0.98534 | | | |
| 31.50-28.25 | | | | | | | | | |
| L31 | | | | 1 | 1 | 1.11262 | | | |
| 28.25-28.00 | | | | | | | | | |
| L32 | | | | 1 | 1 | 1.10388 | | | |
| 28.00-23.00 | | | | | | | | | |
| L33 | | | | 1 | 1 | 1.12128 | | | |
| 23.00-18.00 | | | | | | | | | |
| L34 | | | | 1 | 1 | 1.11305 | | | |
| 18.00-13.00 | | | | | | | | | |
| L35 13.00-8.00 | | | | 1 | 1 | 1.10515 | | | |
| L36 8.00-3.00 | | | | 1 | 1 | 1.09756 | | | |
| L37 3.00-0.00 | | | | 1 | 1 | 1.10618 | | | |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 6 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

Feed Line/Linear Appurtenances - Entered As Round Or Flat

| Description | Sector | Exclude From Torque Calculation | Component Type | Placement ft | Total Number | Number Per Row | Start/End Position | Width or Diameter in | Perimeter in | Weight klf |
|-----------------------------------|--------|---------------------------------|-------------------|---------------|--------------|----------------|--------------------|----------------------|--------------|------------|
| *** LDF4-50A(1/2") | C | No | Surface Ar (CaAa) | 50.00 - 0.00 | 1 | 1 | 0.000 0.000 | 0.6300 | | 0.00 |
| *** **MOD** | | | | | | | | | | |
| (Area) CCI-65FP-085125 (H) | A | No | Surface Af (CaAa) | 35.50 - 0.00 | 1 | 1 | -0.250 -0.250 | 8.5000 | 19.5000 | 0.00 |
| (Area) CCI-65FP-085125 (H) | A | No | Surface Af (CaAa) | 35.50 - 0.00 | 1 | 1 | 0.500 0.500 | 8.5000 | 19.5000 | 0.00 |
| (Area) CCI-65FP-085125 (H) | B | No | Surface Af (CaAa) | 35.50 - 0.00 | 1 | 1 | 0.250 0.250 | 8.5000 | 19.5000 | 0.00 |
| *** (Area) CCI-65FP-065125 (H) | B | No | Surface Af (CaAa) | 60.50 - 25.50 | 1 | 1 | -0.250 -0.250 | 6.5000 | 15.5000 | 0.00 |
| (Area) CCI-65FP-065125 (H) | C | No | Surface Af (CaAa) | 60.50 - 25.50 | 1 | 1 | -0.250 -0.250 | 6.5000 | 15.5000 | 0.00 |
| (Area) CCI-65FP-065125 (H) | A | No | Surface Af (CaAa) | 60.50 - 35.50 | 1 | 1 | -0.250 -0.250 | 6.5000 | 15.5000 | 0.00 |
| *** (Area) CCI-65FP-060100 (H) | A | No | Surface Af (CaAa) | 95.50 - 60.50 | 1 | 1 | -0.250 -0.250 | 6.0000 | 14.0000 | 0.00 |
| (Area) CCI-65FP-060100 (H) | B | No | Surface Af (CaAa) | 95.50 - 60.50 | 1 | 1 | -0.250 -0.250 | 6.0000 | 14.0000 | 0.00 |
| (Area) CCI-65FP-060100 (H) | C | No | Surface Af (CaAa) | 95.50 - 60.50 | 1 | 1 | -0.250 -0.250 | 6.0000 | 14.0000 | 0.00 |

Feed Line/Linear Appurtenances - Entered As Area

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | CAAA ft ² /ft | Weight klf |
|----------------------------|-------------|--------------|---------------------------------|----------------|---------------|----------------|--------------------------|---|----------------------------------------------|----------------------------------------------|
| LDF5-50A(7/8") | B | No | No | Inside Pole | 148.00 - 0.00 | 0.0000 | 0 | 1 | No Ice 1/2" Ice 1" Ice 2" Ice | 0.00 0.00 0.00 0.00 0.00 0.00 |
| LDF7-50A(1-5/8") | B | No | No | Inside Pole | 148.00 - 0.00 | 0.0000 | 0 | 1 | No Ice 1/2" Ice 1" Ice 2" Ice | 0.00 0.00 0.00 0.00 0.00 0.00 |
| *** 2" Flexible Conduit | B | No | No | Inside Pole | 148.00 - 0.00 | 0.0000 | 0 | 2 | No Ice 1/2" Ice 1" Ice 2" Ice | 0.00 0.00 0.00 0.00 0.00 0.00 |
| LDF7-50A(1-5/8") | B | No | No | Inside Pole | 148.00 - 0.00 | 0.0000 | 0 | 6 | No Ice | 0.00 0.00 |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 7 of 31 |
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| | Client Crown Castle | Designed by saltaie |

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | C _{AA} ft ² /ft | Weight klf |
|----------------------------------------|-------------|--------------|---------------------------------|----------------|---------------|----------------|--------------------------|---|-------------------------------------|------------|
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| FB-L98B-002-75000(3/8) | B | No | No | Inside Pole | 148.00 - 0.00 | 0.0000 | 0 | 1 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| WR-VG86ST-BRD(3/4) | B | No | No | Inside Pole | 148.00 - 0.00 | 0.0000 | 0 | 2 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| *** | | | | | | | | | | |
| MLE Hybrid 9Power/18Fiber RL 2(1-5/8") | A | No | No | Inside Pole | 139.00 - 0.00 | 0.0000 | 0 | 3 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| *** | | | | | | | | | | |
| HJ7-50A(1-5/8") | C | No | No | Inside Pole | 126.00 - 0.00 | 0.0000 | 0 | 8 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| *** | | | | | | | | | | |
| LDF5-50A(7/8") | A | No | No | Inside Pole | 109.00 - 0.00 | 0.0000 | 0 | 5 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| ATCB-B01-006(5/16") | A | No | No | Inside Pole | 109.00 - 0.00 | 0.0000 | 0 | 3 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| MLE Hybrid 3Power/6Fiber RL 2(1-1/4") | A | No | No | Inside Pole | 109.00 - 0.00 | 0.0000 | 0 | 3 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| HB058-M12-XXXF(5/8") | A | No | No | Inside Pole | 109.00 - 0.00 | 0.0000 | 0 | 1 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1" Ice | |
| | | | | | | | | | 2" Ice | |
| *** | | | | | | | | | | |
| CU12PSM9P6XXX(1-1/2) | C | No | No | Inside Pole | 99.00 - 0.00 | 0.0000 | 0 | 1 | No | 0.00 |
| | | | | | | | | | Ice | 0.00 |
| | | | | | | | | | 1/2" | 0.00 |
| | | | | | | | | | Ice | 0.00 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 8 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Description | Face or Leg | Allow Shield | Exclude From Torque Calculation | Component Type | Placement ft | Face Offset in | Lateral Offset (Frac FW) | # | | C _{AA} ft ² /ft | Weight klf |
|---------------------|-------------|--------------|---------------------------------|--------------------|----------------|----------------|--------------------------|---|----------|-------------------------------------|------------|
| | | | | | | | | | | 1" Ice | |
| | | | | | | | | | | 2" Ice | |
| *** | | | | | | | | | | | |
| *** | | | | | | | | | | | |
| ** | | | | | | | | | | | |
| *** | | | | | | | | | | | |
| 3/8-in Detuner Wire | A | No | No | CaAa (Out Of Face) | 147.00 - 15.00 | 36.0000 | 0 | 1 | No Ice | 0.02 | 0.00 |
| | | | | | | | | | 1/2" Ice | 0.12 | 0.00 |
| | | | | | | | | | 1/2" Ice | 0.22 | 0.00 |
| | | | | | | | | | 1" Ice | 0.42 | 0.01 |
| | | | | | | | | | 2" Ice | | |
| 3/8-in Detuner Wire | B | No | No | CaAa (Out Of Face) | 147.00 - 15.00 | 36.0000 | 0 | 1 | No Ice | 0.02 | 0.00 |
| | | | | | | | | | 1/2" Ice | 0.12 | 0.00 |
| | | | | | | | | | 1/2" Ice | 0.22 | 0.00 |
| | | | | | | | | | 1" Ice | 0.42 | 0.01 |
| | | | | | | | | | 2" Ice | | |
| 3/8-in Detuner Wire | C | No | No | CaAa (Out Of Face) | 147.00 - 15.00 | 36.0000 | 0 | 1 | No Ice | 0.02 | 0.00 |
| | | | | | | | | | 1/2" Ice | 0.12 | 0.00 |
| | | | | | | | | | 1/2" Ice | 0.22 | 0.00 |
| | | | | | | | | | 1" Ice | 0.42 | 0.01 |
| | | | | | | | | | 2" Ice | | |
| *** | | | | | | | | | | | |

Feed Line/Linear Appurtenances Section Areas

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|--------------------|------|--------------------------------|--------------------------------|-----------------------------------------|------------------------------------------|----------|
| L1 | 148.00-143.00 | A | 0.000 | 0.000 | 0.000 | 0.075 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.075 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.075 | 0 |
| L2 | 143.00-138.00 | A | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| L3 | 138.00-133.00 | A | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| L4 | 133.00-128.00 | A | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| L5 | 128.00-123.00 | A | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| L6 | 123.00-116.00 | A | 0.000 | 0.000 | 0.000 | 0.131 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.131 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.131 | 0 |
| L7 | 116.00-114.75 | A | 0.000 | 0.000 | 0.000 | 0.023 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.023 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.023 | 0 |
| L8 | 114.75-109.75 | A | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| L9 | 109.75-104.75 | A | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.094 | 0 |

| | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| <i>tnxTower</i> <i>Tower Engineering Professionals, Inc.</i> 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 9 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| <i>Tower Section</i> | <i>Tower Elevation ft</i> | <i>Face</i> | <i>A_R</i> ft ² | <i>A_F</i> ft ² | <i>C_{AA}</i> <i>In Face</i> ft ² | <i>C_{AA}</i> <i>Out Face</i> ft ² | <i>Weight</i> K |
|----------------------|---------------------------|-------------|-----------------------------------------|-----------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|--------------------|
| L10 | 104.75-99.75 | C | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | A | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 0.000 | 0.094 | 0 |
| L11 | 99.75-94.75 | A | 0.000 | 0.000 | 0.750 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 0.750 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 0.750 | 0.094 | 0 |
| L12 | 94.75-93.50 | A | 0.000 | 0.000 | 1.250 | 0.023 | 0 |
| | | B | 0.000 | 0.000 | 1.250 | 0.023 | 0 |
| | | C | 0.000 | 0.000 | 1.250 | 0.023 | 0 |
| L13 | 93.50-93.25 | A | 0.000 | 0.000 | 0.250 | 0.005 | 0 |
| | | B | 0.000 | 0.000 | 0.250 | 0.005 | 0 |
| | | C | 0.000 | 0.000 | 0.250 | 0.005 | 0 |
| L14 | 93.25-88.25 | A | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| L15 | 88.25-83.25 | A | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| L16 | 83.25-74.75 | A | 0.000 | 0.000 | 8.500 | 0.159 | 0 |
| | | B | 0.000 | 0.000 | 8.500 | 0.159 | 0 |
| | | C | 0.000 | 0.000 | 8.500 | 0.159 | 0 |
| L17 | 74.75-74.50 | A | 0.000 | 0.000 | 0.250 | 0.005 | 0 |
| | | B | 0.000 | 0.000 | 0.250 | 0.005 | 0 |
| | | C | 0.000 | 0.000 | 0.250 | 0.005 | 0 |
| L18 | 74.50-69.50 | A | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| L19 | 69.50-64.50 | A | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 5.000 | 0.094 | 0 |
| L20 | 64.50-59.50 | A | 0.000 | 0.000 | 5.083 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 5.083 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 5.083 | 0.094 | 0 |
| L21 | 59.50-57.75 | A | 0.000 | 0.000 | 1.896 | 0.033 | 0 |
| | | B | 0.000 | 0.000 | 1.896 | 0.033 | 0 |
| | | C | 0.000 | 0.000 | 1.896 | 0.033 | 0 |
| L22 | 57.75-57.50 | A | 0.000 | 0.000 | 0.271 | 0.005 | 0 |
| | | B | 0.000 | 0.000 | 0.271 | 0.005 | 0 |
| | | C | 0.000 | 0.000 | 0.271 | 0.005 | 0 |
| L23 | 57.50-52.50 | A | 0.000 | 0.000 | 5.417 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 5.417 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 5.417 | 0.094 | 0 |
| L24 | 52.50-47.50 | A | 0.000 | 0.000 | 5.417 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 5.417 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 5.574 | 0.094 | 0 |
| L25 | 47.50-39.50 | A | 0.000 | 0.000 | 8.667 | 0.150 | 0 |
| | | B | 0.000 | 0.000 | 8.667 | 0.150 | 0 |
| | | C | 0.000 | 0.000 | 9.171 | 0.150 | 0 |
| L26 | 39.50-38.50 | A | 0.000 | 0.000 | 1.083 | 0.019 | 0 |
| | | B | 0.000 | 0.000 | 1.083 | 0.019 | 0 |
| | | C | 0.000 | 0.000 | 1.146 | 0.019 | 0 |
| L27 | 38.50-33.50 | A | 0.000 | 0.000 | 8.917 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 8.250 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 5.732 | 0.094 | 0 |
| L28 | 33.50-31.75 | A | 0.000 | 0.000 | 4.958 | 0.033 | 0 |
| | | B | 0.000 | 0.000 | 4.375 | 0.033 | 0 |
| | | C | 0.000 | 0.000 | 2.006 | 0.033 | 0 |
| L29 | 31.75-31.50 | A | 0.000 | 0.000 | 0.708 | 0.005 | 0 |
| | | B | 0.000 | 0.000 | 0.625 | 0.005 | 0 |
| | | C | 0.000 | 0.000 | 0.287 | 0.005 | 0 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 10 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Tower Section | Tower Elevation ft | Face | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| L30 | 31.50-28.25 | A | 0.000 | 0.000 | 9.208 | 0.061 | 0 |
| | | B | 0.000 | 0.000 | 8.125 | 0.061 | 0 |
| | | C | 0.000 | 0.000 | 3.726 | 0.061 | 0 |
| L31 | 28.25-28.00 | A | 0.000 | 0.000 | 0.708 | 0.005 | 0 |
| | | B | 0.000 | 0.000 | 0.625 | 0.005 | 0 |
| | | C | 0.000 | 0.000 | 0.287 | 0.005 | 0 |
| L32 | 28.00-23.00 | A | 0.000 | 0.000 | 14.167 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 9.792 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 3.023 | 0.094 | 0 |
| L33 | 23.00-18.00 | A | 0.000 | 0.000 | 14.167 | 0.094 | 0 |
| | | B | 0.000 | 0.000 | 7.083 | 0.094 | 0 |
| | | C | 0.000 | 0.000 | 0.315 | 0.094 | 0 |
| L34 | 18.00-13.00 | A | 0.000 | 0.000 | 14.167 | 0.056 | 0 |
| | | B | 0.000 | 0.000 | 7.083 | 0.056 | 0 |
| | | C | 0.000 | 0.000 | 0.315 | 0.056 | 0 |
| L35 | 13.00-8.00 | A | 0.000 | 0.000 | 14.167 | 0.000 | 0 |
| | | B | 0.000 | 0.000 | 7.083 | 0.000 | 0 |
| | | C | 0.000 | 0.000 | 0.315 | 0.000 | 0 |
| L36 | 8.00-3.00 | A | 0.000 | 0.000 | 14.167 | 0.000 | 0 |
| | | B | 0.000 | 0.000 | 7.083 | 0.000 | 0 |
| | | C | 0.000 | 0.000 | 0.315 | 0.000 | 0 |
| L37 | 3.00-0.00 | A | 0.000 | 0.000 | 8.500 | 0.000 | 0 |
| | | B | 0.000 | 0.000 | 4.250 | 0.000 | 0 |
| | | C | 0.000 | 0.000 | 0.189 | 0.000 | 0 |

Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------|---------------------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| L1 | 148.00-143.00 | A | 1.972 | 0.000 | 0.000 | 0.000 | 1.653 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 1.653 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 1.653 | 0 |
| L2 | 143.00-138.00 | A | 1.965 | 0.000 | 0.000 | 0.000 | 2.059 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 2.059 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 2.059 | 0 |
| L3 | 138.00-133.00 | A | 1.958 | 0.000 | 0.000 | 0.000 | 2.052 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 2.052 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 2.052 | 0 |
| L4 | 133.00-128.00 | A | 1.951 | 0.000 | 0.000 | 0.000 | 2.044 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 2.044 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 2.044 | 0 |
| L5 | 128.00-123.00 | A | 1.943 | 0.000 | 0.000 | 0.000 | 2.037 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 2.037 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 2.037 | 0 |
| L6 | 123.00-116.00 | A | 1.933 | 0.000 | 0.000 | 0.000 | 2.838 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 2.838 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 2.838 | 0 |
| L7 | 116.00-114.75 | A | 1.927 | 0.000 | 0.000 | 0.000 | 0.507 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 0.507 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 0.507 | 0 |
| L8 | 114.75-109.75 | A | 1.921 | 0.000 | 0.000 | 0.000 | 2.015 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 2.015 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 2.015 | 0 |
| L9 | 109.75-104.75 | A | 1.913 | 0.000 | 0.000 | 0.000 | 2.006 | 0 |
| | | B | | 0.000 | 0.000 | 0.000 | 2.006 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 2.006 | 0 |
| L10 | 104.75-99.75 | A | 1.904 | 0.000 | 0.000 | 0.000 | 1.997 | 0 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 11 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------|---------------------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| | | B | | 0.000 | 0.000 | 0.000 | 1.997 | 0 |
| | | C | | 0.000 | 0.000 | 0.000 | 1.997 | 0 |
| L11 | 99.75-94.75 | A | 1.894 | 0.000 | 0.000 | 1.034 | 1.988 | 0 |
| | | B | | 0.000 | 0.000 | 1.034 | 1.988 | 0 |
| | | C | | 0.000 | 0.000 | 1.034 | 1.988 | 0 |
| L12 | 94.75-93.50 | A | 1.888 | 0.000 | 0.000 | 1.722 | 0.495 | 0 |
| | | B | | 0.000 | 0.000 | 1.722 | 0.495 | 0 |
| | | C | | 0.000 | 0.000 | 1.722 | 0.495 | 0 |
| L13 | 93.50-93.25 | A | 1.886 | 0.000 | 0.000 | 0.344 | 0.099 | 0 |
| | | B | | 0.000 | 0.000 | 0.344 | 0.099 | 0 |
| | | C | | 0.000 | 0.000 | 0.344 | 0.099 | 0 |
| L14 | 93.25-88.25 | A | 1.881 | 0.000 | 0.000 | 6.881 | 1.975 | 0 |
| | | B | | 0.000 | 0.000 | 6.881 | 1.975 | 0 |
| | | C | | 0.000 | 0.000 | 6.881 | 1.975 | 0 |
| L15 | 88.25-83.25 | A | 1.870 | 0.000 | 0.000 | 6.870 | 1.964 | 0 |
| | | B | | 0.000 | 0.000 | 6.870 | 1.964 | 0 |
| | | C | | 0.000 | 0.000 | 6.870 | 1.964 | 0 |
| L16 | 83.25-74.75 | A | 1.855 | 0.000 | 0.000 | 11.653 | 3.313 | 0 |
| | | B | | 0.000 | 0.000 | 11.653 | 3.313 | 0 |
| | | C | | 0.000 | 0.000 | 11.653 | 3.313 | 0 |
| L17 | 74.75-74.50 | A | 1.845 | 0.000 | 0.000 | 0.343 | 0.097 | 0 |
| | | B | | 0.000 | 0.000 | 0.343 | 0.097 | 0 |
| | | C | | 0.000 | 0.000 | 0.343 | 0.097 | 0 |
| L18 | 74.50-69.50 | A | 1.838 | 0.000 | 0.000 | 6.838 | 1.932 | 0 |
| | | B | | 0.000 | 0.000 | 6.838 | 1.932 | 0 |
| | | C | | 0.000 | 0.000 | 6.838 | 1.932 | 0 |
| L19 | 69.50-64.50 | A | 1.825 | 0.000 | 0.000 | 6.825 | 1.918 | 0 |
| | | B | | 0.000 | 0.000 | 6.825 | 1.918 | 0 |
| | | C | | 0.000 | 0.000 | 6.825 | 1.918 | 0 |
| L20 | 64.50-59.50 | A | 1.811 | 0.000 | 0.000 | 6.894 | 1.904 | 0 |
| | | B | | 0.000 | 0.000 | 6.894 | 1.904 | 0 |
| | | C | | 0.000 | 0.000 | 6.894 | 1.904 | 0 |
| L21 | 59.50-57.75 | A | 1.801 | 0.000 | 0.000 | 2.526 | 0.663 | 0 |
| | | B | | 0.000 | 0.000 | 2.526 | 0.663 | 0 |
| | | C | | 0.000 | 0.000 | 2.526 | 0.663 | 0 |
| L22 | 57.75-57.50 | A | 1.797 | 0.000 | 0.000 | 0.361 | 0.095 | 0 |
| | | B | | 0.000 | 0.000 | 0.361 | 0.095 | 0 |
| | | C | | 0.000 | 0.000 | 0.361 | 0.095 | 0 |
| L23 | 57.50-52.50 | A | 1.789 | 0.000 | 0.000 | 7.206 | 1.883 | 0 |
| | | B | | 0.000 | 0.000 | 7.206 | 1.883 | 0 |
| | | C | | 0.000 | 0.000 | 7.206 | 1.883 | 0 |
| L24 | 52.50-47.50 | A | 1.772 | 0.000 | 0.000 | 7.189 | 1.866 | 0 |
| | | B | | 0.000 | 0.000 | 7.189 | 1.866 | 0 |
| | | C | | 0.000 | 0.000 | 8.232 | 1.866 | 0 |
| L25 | 47.50-39.50 | A | 1.748 | 0.000 | 0.000 | 11.463 | 2.946 | 0 |
| | | B | | 0.000 | 0.000 | 11.463 | 2.946 | 0 |
| | | C | | 0.000 | 0.000 | 14.763 | 2.946 | 0 |
| L26 | 39.50-38.50 | A | 1.729 | 0.000 | 0.000 | 1.433 | 0.368 | 0 |
| | | B | | 0.000 | 0.000 | 1.433 | 0.368 | 0 |
| | | C | | 0.000 | 0.000 | 1.845 | 0.368 | 0 |
| L27 | 38.50-33.50 | A | 1.715 | 0.000 | 0.000 | 11.317 | 1.809 | 0 |
| | | B | | 0.000 | 0.000 | 10.651 | 1.809 | 0 |
| | | C | | 0.000 | 0.000 | 9.161 | 1.809 | 0 |
| L28 | 33.50-31.75 | A | 1.698 | 0.000 | 0.000 | 6.147 | 0.627 | 0 |
| | | B | | 0.000 | 0.000 | 5.564 | 0.627 | 0 |
| | | C | | 0.000 | 0.000 | 3.195 | 0.627 | 0 |
| L29 | 31.75-31.50 | A | 1.693 | 0.000 | 0.000 | 0.878 | 0.089 | 0 |
| | | B | | 0.000 | 0.000 | 0.794 | 0.089 | 0 |
| | | C | | 0.000 | 0.000 | 0.456 | 0.089 | 0 |
| L30 | 31.50-28.25 | A | 1.683 | 0.000 | 0.000 | 11.396 | 1.155 | 0 |
| | | B | | 0.000 | 0.000 | 10.313 | 1.155 | 0 |

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| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Tower Section | Tower Elevation ft | Face or Leg | Ice Thickness in | A _R ft ² | A _F ft ² | C _{AA} In Face ft ² | C _{AA} Out Face ft ² | Weight K |
|---------------|-----------------------|-------------|---------------------|-----------------------------------|-----------------------------------|-----------------------------------------------|------------------------------------------------|-------------|
| L31 | 28.25-28.00 | C | 1.673 | 0.000 | 0.000 | 5.914 | 1.155 | 0 |
| | | A | | 0.000 | 0.000 | 0.876 | 0.088 | 0 |
| | | B | | 0.000 | 0.000 | 0.792 | 0.088 | 0 |
| L32 | 28.00-23.00 | C | 1.657 | 0.000 | 0.000 | 0.454 | 0.088 | 0 |
| | | A | | 0.000 | 0.000 | 17.480 | 1.750 | 0 |
| | | B | | 0.000 | 0.000 | 12.277 | 1.750 | 0 |
| L33 | 23.00-18.00 | C | 1.621 | 0.000 | 0.000 | 5.508 | 1.750 | 0 |
| | | A | | 0.000 | 0.000 | 17.408 | 1.715 | 0 |
| | | B | | 0.000 | 0.000 | 8.704 | 1.715 | 0 |
| L34 | 18.00-13.00 | C | 1.576 | 0.000 | 0.000 | 1.936 | 1.715 | 0 |
| | | A | | 0.000 | 0.000 | 17.319 | 1.002 | 0 |
| | | B | | 0.000 | 0.000 | 8.660 | 1.002 | 0 |
| L35 | 13.00-8.00 | C | 1.516 | 0.000 | 0.000 | 1.891 | 1.002 | 0 |
| | | A | | 0.000 | 0.000 | 17.199 | 0.000 | 0 |
| | | B | | 0.000 | 0.000 | 8.599 | 0.000 | 0 |
| L36 | 8.00-3.00 | C | 1.421 | 0.000 | 0.000 | 1.831 | 0.000 | 0 |
| | | A | | 0.000 | 0.000 | 17.009 | 0.000 | 0 |
| | | B | | 0.000 | 0.000 | 8.504 | 0.000 | 0 |
| L37 | 3.00-0.00 | C | 1.248 | 0.000 | 0.000 | 1.736 | 0.000 | 0 |
| | | A | | 0.000 | 0.000 | 9.997 | 0.000 | 0 |
| | | B | | 0.000 | 0.000 | 4.999 | 0.000 | 0 |
| | | C | | 0.000 | 0.000 | 0.938 | 0.000 | 0 |

Feed Line Center of Pressure

| Section | Elevation ft | CP _X in | CP _Z in | CP _X Ice in | CP _Z Ice in |
|---------|-----------------|-----------------------|-----------------------|------------------------------|------------------------------|
| L1 | 148.00-143.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L2 | 143.00-138.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L3 | 138.00-133.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L4 | 133.00-128.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L5 | 128.00-123.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L6 | 123.00-116.00 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L7 | 116.00-114.75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L8 | 114.75-109.75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L9 | 109.75-104.75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L10 | 104.75-99.75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L11 | 99.75-94.75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L12 | 94.75-93.50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L13 | 93.50-93.25 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L14 | 93.25-88.25 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L15 | 88.25-83.25 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L16 | 83.25-74.75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L17 | 74.75-74.50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L18 | 74.50-69.50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L19 | 69.50-64.50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L20 | 64.50-59.50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L21 | 59.50-57.75 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L22 | 57.75-57.50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L23 | 57.50-52.50 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| L24 | 52.50-47.50 | 0.0000 | 0.1142 | 0.0000 | 0.4374 |
| L25 | 47.50-39.50 | 0.0000 | 0.2295 | 0.0000 | 0.8601 |
| L26 | 39.50-38.50 | 0.0000 | 0.2303 | 0.0000 | 0.8633 |
| L27 | 38.50-33.50 | 3.0623 | -0.5116 | 2.3685 | 0.1910 |
| L28 | 33.50-31.75 | 6.1085 | -1.2487 | 4.9924 | -0.5461 |
| L29 | 31.75-31.50 | 6.1278 | -1.2523 | 5.0082 | -0.5487 |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 13 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Section | Elevation | CP _x | CP _z | CP _x | CP _z |
|---------|-------------|-----------------|-----------------|-----------------|-----------------|
| | | | | Ice | Ice |
| | ft | in | in | in | in |
| L30 | 31.50-28.25 | 6.1596 | -1.2582 | 5.0341 | -0.5532 |
| L31 | 28.25-28.00 | 6.1902 | -1.2638 | 5.0589 | -0.5578 |
| L32 | 28.00-23.00 | 5.4920 | -0.6796 | 4.3586 | 0.0013 |
| L33 | 23.00-18.00 | 4.5985 | 0.0857 | 3.5018 | 0.6967 |
| L34 | 18.00-13.00 | 4.6691 | 0.0895 | 3.6722 | 0.7174 |
| L35 | 13.00-8.00 | 4.7462 | 0.0933 | 3.9136 | 0.7446 |
| L36 | 8.00-3.00 | 4.8009 | 0.0967 | 3.9455 | 0.7173 |
| L37 | 3.00-0.00 | 4.8439 | 0.0994 | 3.9596 | 0.6549 |

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|----------------------------|-------------------------|-----------------------|--------------------|
| L11 | 45 | (Area) CCI-65FP-060100 (H) | 94.75 - 95.50 | 1.0000 | 1.0000 |
| L11 | 46 | (Area) CCI-65FP-060100 (H) | 94.75 - 95.50 | 1.0000 | 1.0000 |
| L11 | 47 | (Area) CCI-65FP-060100 (H) | 94.75 - 95.50 | 1.0000 | 1.0000 |
| L12 | 45 | (Area) CCI-65FP-060100 (H) | 93.50 - 94.75 | 1.0000 | 1.0000 |
| L12 | 46 | (Area) CCI-65FP-060100 (H) | 93.50 - 94.75 | 1.0000 | 1.0000 |
| L12 | 47 | (Area) CCI-65FP-060100 (H) | 93.50 - 94.75 | 1.0000 | 1.0000 |
| L13 | 45 | (Area) CCI-65FP-060100 (H) | 93.25 - 93.50 | 1.0000 | 1.0000 |
| L13 | 46 | (Area) CCI-65FP-060100 (H) | 93.25 - 93.50 | 1.0000 | 1.0000 |
| L13 | 47 | (Area) CCI-65FP-060100 (H) | 93.25 - 93.50 | 1.0000 | 1.0000 |
| L14 | 45 | (Area) CCI-65FP-060100 (H) | 88.25 - 93.25 | 1.0000 | 1.0000 |
| L14 | 46 | (Area) CCI-65FP-060100 (H) | 88.25 - 93.25 | 1.0000 | 1.0000 |
| L14 | 47 | (Area) CCI-65FP-060100 (H) | 88.25 - 93.25 | 1.0000 | 1.0000 |
| L15 | 45 | (Area) CCI-65FP-060100 (H) | 83.25 - 88.25 | 1.0000 | 1.0000 |
| L15 | 46 | (Area) CCI-65FP-060100 (H) | 83.25 - 88.25 | 1.0000 | 1.0000 |
| L15 | 47 | (Area) CCI-65FP-060100 (H) | 83.25 - 88.25 | 1.0000 | 1.0000 |
| L16 | 45 | (Area) CCI-65FP-060100 (H) | 74.75 - 83.25 | 1.0000 | 1.0000 |
| L16 | 46 | (Area) CCI-65FP-060100 (H) | 74.75 - 83.25 | 1.0000 | 1.0000 |
| L16 | 47 | (Area) CCI-65FP-060100 (H) | 74.75 - 83.25 | 1.0000 | 1.0000 |
| L17 | 45 | (Area) CCI-65FP-060100 (H) | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L17 | 46 | (Area) CCI-65FP-060100 (H) | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L17 | 47 | (Area) CCI-65FP-060100 (H) | 74.50 - 74.75 | 1.0000 | 1.0000 |
| L18 | 45 | (Area) CCI-65FP-060100 (H) | 69.50 - 74.50 | 1.0000 | 1.0000 |
| L18 | 46 | (Area) CCI-65FP-060100 (H) | 69.50 - 74.50 | 1.0000 | 1.0000 |
| L18 | 47 | (Area) CCI-65FP-060100 (H) | 69.50 - 74.50 | 1.0000 | 1.0000 |
| L19 | 45 | (Area) CCI-65FP-060100 (H) | 64.50 - 69.50 | 1.0000 | 1.0000 |
| L19 | 46 | (Area) CCI-65FP-060100 (H) | 64.50 - 69.50 | 1.0000 | 1.0000 |
| L19 | 47 | (Area) CCI-65FP-060100 (H) | 64.50 - 69.50 | 1.0000 | 1.0000 |
| L20 | 41 | (Area) CCI-65FP-065125 (H) | 59.50 - 60.50 | 1.0000 | 1.0000 |
| L20 | 42 | (Area) CCI-65FP-065125 (H) | 59.50 - 60.50 | 1.0000 | 1.0000 |
| L20 | 43 | (Area) CCI-65FP-065125 (H) | 59.50 - 60.50 | 1.0000 | 1.0000 |
| L20 | 45 | (Area) CCI-65FP-060100 (H) | 60.50 - 64.50 | 1.0000 | 1.0000 |
| L20 | 46 | (Area) CCI-65FP-060100 (H) | 60.50 - 64.50 | 1.0000 | 1.0000 |
| L20 | 47 | (Area) CCI-65FP-060100 (H) | 60.50 - 64.50 | 1.0000 | 1.0000 |
| L21 | 41 | (Area) CCI-65FP-065125 (H) | 57.75 - 59.50 | 1.0000 | 1.0000 |
| L21 | 42 | (Area) CCI-65FP-065125 (H) | 57.75 - 59.50 | 1.0000 | 1.0000 |
| L21 | 43 | (Area) CCI-65FP-065125 (H) | 57.75 - 59.50 | 1.0000 | 1.0000 |
| L22 | 41 | (Area) CCI-65FP-065125 (H) | 57.50 - 57.75 | 1.0000 | 1.0000 |
| L22 | 42 | (Area) CCI-65FP-065125 (H) | 57.50 - 57.75 | 1.0000 | 1.0000 |
| L22 | 43 | (Area) CCI-65FP-065125 (H) | 57.50 - 57.75 | 1.0000 | 1.0000 |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 14 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|----------------------------|-------------------------|-----------------------|--------------------|
| L23 | 41 | (Area) CCI-65FP-065125 (H) | 52.50 - 57.50 | 1.0000 | 1.0000 |
| L23 | 42 | (Area) CCI-65FP-065125 (H) | 52.50 - 57.50 | 1.0000 | 1.0000 |
| L23 | 43 | (Area) CCI-65FP-065125 (H) | 52.50 - 57.50 | 1.0000 | 1.0000 |
| L24 | 29 | LDF4-50A(1/2") | 47.50 - 50.00 | 1.0000 | 1.0000 |
| L24 | 41 | (Area) CCI-65FP-065125 (H) | 47.50 - 52.50 | 1.0000 | 1.0000 |
| L24 | 42 | (Area) CCI-65FP-065125 (H) | 47.50 - 52.50 | 1.0000 | 1.0000 |
| L24 | 43 | (Area) CCI-65FP-065125 (H) | 47.50 - 52.50 | 1.0000 | 1.0000 |
| L25 | 29 | LDF4-50A(1/2") | 39.50 - 47.50 | 1.0000 | 1.0000 |
| L25 | 41 | (Area) CCI-65FP-065125 (H) | 39.50 - 47.50 | 1.0000 | 1.0000 |
| L25 | 42 | (Area) CCI-65FP-065125 (H) | 39.50 - 47.50 | 1.0000 | 1.0000 |
| L25 | 43 | (Area) CCI-65FP-065125 (H) | 39.50 - 47.50 | 1.0000 | 1.0000 |
| L26 | 29 | LDF4-50A(1/2") | 38.50 - 39.50 | 1.0000 | 1.0000 |
| L26 | 41 | (Area) CCI-65FP-065125 (H) | 38.50 - 39.50 | 1.0000 | 1.0000 |
| L26 | 42 | (Area) CCI-65FP-065125 (H) | 38.50 - 39.50 | 1.0000 | 1.0000 |
| L26 | 43 | (Area) CCI-65FP-065125 (H) | 38.50 - 39.50 | 1.0000 | 1.0000 |
| L27 | 29 | LDF4-50A(1/2") | 33.50 - 38.50 | 1.0000 | 1.0000 |
| L27 | 37 | (Area) CCI-65FP-085125 (H) | 33.50 - 35.50 | 1.0000 | 1.0000 |
| L27 | 38 | (Area) CCI-65FP-085125 (H) | 33.50 - 35.50 | 1.0000 | 1.0000 |
| L27 | 39 | (Area) CCI-65FP-085125 (H) | 33.50 - 35.50 | 1.0000 | 1.0000 |
| L27 | 41 | (Area) CCI-65FP-065125 (H) | 33.50 - 38.50 | 1.0000 | 1.0000 |
| L27 | 42 | (Area) CCI-65FP-065125 (H) | 33.50 - 38.50 | 1.0000 | 1.0000 |
| L27 | 43 | (Area) CCI-65FP-065125 (H) | 35.50 - 38.50 | 1.0000 | 1.0000 |
| L28 | 29 | LDF4-50A(1/2") | 31.75 - 33.50 | 1.0000 | 1.0000 |
| L28 | 37 | (Area) CCI-65FP-085125 (H) | 31.75 - 33.50 | 1.0000 | 1.0000 |
| L28 | 38 | (Area) CCI-65FP-085125 (H) | 31.75 - 33.50 | 1.0000 | 1.0000 |
| L28 | 39 | (Area) CCI-65FP-085125 (H) | 31.75 - 33.50 | 1.0000 | 1.0000 |
| L28 | 41 | (Area) CCI-65FP-065125 (H) | 31.75 - 33.50 | 1.0000 | 1.0000 |
| L28 | 42 | (Area) CCI-65FP-065125 (H) | 31.75 - 33.50 | 1.0000 | 1.0000 |
| L29 | 29 | LDF4-50A(1/2") | 31.50 - 31.75 | 1.0000 | 1.0000 |
| L29 | 37 | (Area) CCI-65FP-085125 (H) | 31.50 - 31.75 | 1.0000 | 1.0000 |
| L29 | 38 | (Area) CCI-65FP-085125 (H) | 31.50 - 31.75 | 1.0000 | 1.0000 |
| L29 | 39 | (Area) CCI-65FP-085125 (H) | 31.50 - 31.75 | 1.0000 | 1.0000 |
| L29 | 41 | (Area) CCI-65FP-065125 (H) | 31.50 - 31.75 | 1.0000 | 1.0000 |
| L29 | 42 | (Area) CCI-65FP-065125 (H) | 31.50 - 31.75 | 1.0000 | 1.0000 |
| L30 | 29 | LDF4-50A(1/2") | 28.25 - 31.50 | 1.0000 | 1.0000 |
| L30 | 37 | (Area) CCI-65FP-085125 (H) | 28.25 - 31.50 | 1.0000 | 1.0000 |
| L30 | 38 | (Area) CCI-65FP-085125 (H) | 28.25 - 31.50 | 1.0000 | 1.0000 |
| L30 | 39 | (Area) CCI-65FP-085125 (H) | 28.25 - 31.50 | 1.0000 | 1.0000 |
| L30 | 41 | (Area) CCI-65FP-065125 (H) | 28.25 - 31.50 | 1.0000 | 1.0000 |
| L30 | 42 | (Area) CCI-65FP-065125 (H) | 28.25 - 31.50 | 1.0000 | 1.0000 |
| L31 | 29 | LDF4-50A(1/2") | 28.00 - 28.25 | 1.0000 | 1.0000 |
| L31 | 37 | (Area) CCI-65FP-085125 (H) | 28.00 - 28.25 | 1.0000 | 1.0000 |
| L31 | 38 | (Area) CCI-65FP-085125 (H) | 28.00 - 28.25 | 1.0000 | 1.0000 |
| L31 | 39 | (Area) CCI-65FP-085125 (H) | 28.00 - 28.25 | 1.0000 | 1.0000 |
| L31 | 41 | (Area) CCI-65FP-065125 (H) | 28.00 - 28.25 | 1.0000 | 1.0000 |
| L31 | 42 | (Area) CCI-65FP-065125 (H) | 28.00 - 28.25 | 1.0000 | 1.0000 |
| L32 | 29 | LDF4-50A(1/2") | 23.00 - 28.00 | 1.0000 | 1.0000 |
| L32 | 37 | (Area) CCI-65FP-085125 (H) | 23.00 - 28.00 | 1.0000 | 1.0000 |
| L32 | 38 | (Area) CCI-65FP-085125 (H) | 23.00 - 28.00 | 1.0000 | 1.0000 |
| L32 | 39 | (Area) CCI-65FP-085125 (H) | 23.00 - 28.00 | 1.0000 | 1.0000 |
| L32 | 41 | (Area) CCI-65FP-065125 (H) | 25.50 - 28.00 | 1.0000 | 1.0000 |
| L32 | 42 | (Area) CCI-65FP-065125 (H) | 25.50 - 28.00 | 1.0000 | 1.0000 |
| L33 | 29 | LDF4-50A(1/2") | 18.00 - 23.00 | 1.0000 | 1.0000 |
| L33 | 37 | (Area) CCI-65FP-085125 (H) | 18.00 - 23.00 | 1.0000 | 1.0000 |
| L33 | 38 | (Area) CCI-65FP-085125 (H) | 18.00 - 23.00 | 1.0000 | 1.0000 |
| L33 | 39 | (Area) CCI-65FP-085125 (H) | 18.00 - 23.00 | 1.0000 | 1.0000 |
| L34 | 29 | LDF4-50A(1/2") | 13.00 - 18.00 | 1.0000 | 1.0000 |
| L34 | 37 | (Area) CCI-65FP-085125 (H) | 13.00 - 18.00 | 1.0000 | 1.0000 |
| L34 | 38 | (Area) CCI-65FP-085125 (H) | 13.00 - 18.00 | 1.0000 | 1.0000 |
| L34 | 39 | (Area) CCI-65FP-085125 (H) | 13.00 - 18.00 | 1.0000 | 1.0000 |
| L35 | 29 | LDF4-50A(1/2") | 8.00 - 13.00 | 1.0000 | 1.0000 |
| L35 | 37 | (Area) CCI-65FP-085125 (H) | 8.00 - 13.00 | 1.0000 | 1.0000 |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 15 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Tower Section | Feed Line Record No. | Description | Feed Line Segment Elev. | K _a No Ice | K _a Ice |
|---------------|----------------------|----------------------------|-------------------------|-----------------------|--------------------|
| L35 | 38 | (Area) CCI-65FP-085125 (H) | 8.00 - 13.00 | 1.0000 | 1.0000 |
| L35 | 39 | (Area) CCI-65FP-085125 (H) | 8.00 - 13.00 | 1.0000 | 1.0000 |
| L36 | 29 | LDF4-50A(1/2") | 3.00 - 8.00 | 1.0000 | 1.0000 |
| L36 | 37 | (Area) CCI-65FP-085125 (H) | 3.00 - 8.00 | 1.0000 | 1.0000 |
| L36 | 38 | (Area) CCI-65FP-085125 (H) | 3.00 - 8.00 | 1.0000 | 1.0000 |
| L36 | 39 | (Area) CCI-65FP-085125 (H) | 3.00 - 8.00 | 1.0000 | 1.0000 |
| L37 | 29 | LDF4-50A(1/2") | 0.00 - 3.00 | 1.0000 | 1.0000 |
| L37 | 37 | (Area) CCI-65FP-085125 (H) | 0.00 - 3.00 | 1.0000 | 1.0000 |
| L37 | 38 | (Area) CCI-65FP-085125 (H) | 0.00 - 3.00 | 1.0000 | 1.0000 |
| L37 | 39 | (Area) CCI-65FP-085125 (H) | 0.00 - 3.00 | 1.0000 | 1.0000 |

Effective Width of Flat Linear Attachments / Feed Lines

| Tower Section | Attachment Record No. | Description | Attachment Segment Elev. | Ratio Calculation Method | Effective Width Ratio |
|---------------|-----------------------|----------------------------|--------------------------|--------------------------|-----------------------|
| L11 | 45 | (Area) CCI-65FP-060100 (H) | 94.75 - 95.50 | Auto | 0.0797 |
| L11 | 46 | (Area) CCI-65FP-060100 (H) | 94.75 - 95.50 | Auto | 0.0797 |
| L11 | 47 | (Area) CCI-65FP-060100 (H) | 94.75 - 95.50 | Auto | 0.0797 |
| L12 | 45 | (Area) CCI-65FP-060100 (H) | 93.50 - 94.75 | Auto | 0.0740 |
| L12 | 46 | (Area) CCI-65FP-060100 (H) | 93.50 - 94.75 | Auto | 0.0740 |
| L12 | 47 | (Area) CCI-65FP-060100 (H) | 93.50 - 94.75 | Auto | 0.0740 |
| L13 | 45 | (Area) CCI-65FP-060100 (H) | 93.25 - 93.50 | Auto | 0.1247 |
| L13 | 46 | (Area) CCI-65FP-060100 (H) | 93.25 - 93.50 | Auto | 0.1247 |
| L13 | 47 | (Area) CCI-65FP-060100 (H) | 93.25 - 93.50 | Auto | 0.1247 |
| L14 | 45 | (Area) CCI-65FP-060100 (H) | 88.25 - 93.25 | Auto | 0.1078 |
| L14 | 46 | (Area) CCI-65FP-060100 (H) | 88.25 - 93.25 | Auto | 0.1078 |
| L14 | 47 | (Area) CCI-65FP-060100 (H) | 88.25 - 93.25 | Auto | 0.1078 |
| L15 | 45 | (Area) CCI-65FP-060100 (H) | 83.25 - 88.25 | Auto | 0.0774 |
| L15 | 46 | (Area) CCI-65FP-060100 (H) | 83.25 - 88.25 | Auto | 0.0774 |
| L15 | 47 | (Area) CCI-65FP-060100 (H) | 83.25 - 88.25 | Auto | 0.0774 |
| L16 | 45 | (Area) CCI-65FP-060100 (H) | 74.75 - 83.25 | Auto | 0.0388 |
| L16 | 46 | (Area) CCI-65FP-060100 (H) | 74.75 - 83.25 | Auto | 0.0388 |
| L16 | 47 | (Area) CCI-65FP-060100 (H) | 74.75 - 83.25 | Auto | 0.0388 |
| L17 | 45 | (Area) CCI-65FP-060100 (H) | 74.50 - 74.75 | Auto | 0.0468 |
| L17 | 46 | (Area) CCI-65FP-060100 (H) | 74.50 - 74.75 | Auto | 0.0468 |
| L17 | 47 | (Area) CCI-65FP-060100 (H) | 74.50 - 74.75 | Auto | 0.0468 |
| L18 | 45 | (Area) CCI-65FP-060100 (H) | 69.50 - 74.50 | Auto | 0.0281 |
| L18 | 46 | (Area) CCI-65FP-060100 (H) | 69.50 - 74.50 | Auto | 0.0281 |
| L18 | 47 | (Area) CCI-65FP-060100 (H) | 69.50 - 74.50 | Auto | 0.0281 |
| L19 | 45 | (Area) CCI-65FP-060100 (H) | 64.50 - 69.50 | Auto | 0.0033 |
| L19 | 46 | (Area) CCI-65FP-060100 (H) | 64.50 - 69.50 | Auto | 0.0033 |
| L19 | 47 | (Area) CCI-65FP-060100 (H) | 64.50 - 69.50 | Auto | 0.0033 |
| L20 | 41 | (Area) CCI-65FP-065125 (H) | 59.50 - 60.50 | Auto | 0.0378 |
| L20 | 42 | (Area) CCI-65FP-065125 (H) | 59.50 - 60.50 | Auto | 0.0378 |
| L20 | 43 | (Area) CCI-65FP-065125 (H) | 59.50 - 60.50 | Auto | 0.0378 |
| L20 | 45 | (Area) CCI-65FP-060100 (H) | 60.50 - 64.50 | Auto | 0.0000 |
| L20 | 46 | (Area) CCI-65FP-060100 (H) | 60.50 - 64.50 | Auto | 0.0000 |
| L20 | 47 | (Area) CCI-65FP-060100 (H) | 60.50 - 64.50 | Auto | 0.0000 |
| L21 | 41 | (Area) CCI-65FP-065125 (H) | 57.75 - 59.50 | Auto | 0.0288 |
| L21 | 42 | (Area) CCI-65FP-065125 (H) | 57.75 - 59.50 | Auto | 0.0288 |
| L21 | 43 | (Area) CCI-65FP-065125 (H) | 57.75 - 59.50 | Auto | 0.0288 |
| L22 | 41 | (Area) CCI-65FP-065125 (H) | 57.50 - 57.75 | Auto | 0.0405 |
| L22 | 42 | (Area) CCI-65FP-065125 (H) | 57.50 - 57.75 | Auto | 0.0405 |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 16 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Tower Section | Attachment Record No. | Description | Attachment Segment Elev. | Ratio Calculation Method | Effective Width Ratio |
|---------------|-----------------------|----------------------------|--------------------------|--------------------------|-----------------------|
| L22 | 43 | (Area) CCI-65FP-065125 (H) | 57.50 - 57.75 | Auto | 0.0405 |
| L23 | 41 | (Area) CCI-65FP-065125 (H) | 52.50 - 57.50 | Auto | 0.0266 |
| L23 | 42 | (Area) CCI-65FP-065125 (H) | 52.50 - 57.50 | Auto | 0.0266 |
| L23 | 43 | (Area) CCI-65FP-065125 (H) | 52.50 - 57.50 | Auto | 0.0266 |
| L24 | 41 | (Area) CCI-65FP-065125 (H) | 47.50 - 52.50 | Auto | 0.0019 |
| L24 | 42 | (Area) CCI-65FP-065125 (H) | 47.50 - 52.50 | Auto | 0.0019 |
| L24 | 43 | (Area) CCI-65FP-065125 (H) | 47.50 - 52.50 | Auto | 0.0019 |
| L25 | 41 | (Area) CCI-65FP-065125 (H) | 39.50 - 47.50 | Auto | 0.0000 |
| L25 | 42 | (Area) CCI-65FP-065125 (H) | 39.50 - 47.50 | Auto | 0.0000 |
| L25 | 43 | (Area) CCI-65FP-065125 (H) | 39.50 - 47.50 | Auto | 0.0000 |
| L26 | 41 | (Area) CCI-65FP-065125 (H) | 38.50 - 39.50 | Auto | 0.0000 |
| L26 | 42 | (Area) CCI-65FP-065125 (H) | 38.50 - 39.50 | Auto | 0.0000 |
| L26 | 43 | (Area) CCI-65FP-065125 (H) | 38.50 - 39.50 | Auto | 0.0000 |
| L27 | 37 | (Area) CCI-65FP-085125 (H) | 33.50 - 35.50 | Auto | 0.1936 |
| L27 | 38 | (Area) CCI-65FP-085125 (H) | 33.50 - 35.50 | Auto | 0.1936 |
| L27 | 39 | (Area) CCI-65FP-085125 (H) | 33.50 - 35.50 | Auto | 0.1936 |
| L27 | 41 | (Area) CCI-65FP-065125 (H) | 33.50 - 38.50 | Auto | 0.0000 |
| L27 | 42 | (Area) CCI-65FP-065125 (H) | 33.50 - 38.50 | Auto | 0.0000 |
| L27 | 43 | (Area) CCI-65FP-065125 (H) | 35.50 - 38.50 | Auto | 0.0000 |
| L28 | 37 | (Area) CCI-65FP-085125 (H) | 31.75 - 33.50 | Auto | 0.1860 |
| L28 | 38 | (Area) CCI-65FP-085125 (H) | 31.75 - 33.50 | Auto | 0.1860 |
| L28 | 39 | (Area) CCI-65FP-085125 (H) | 31.75 - 33.50 | Auto | 0.1860 |
| L28 | 41 | (Area) CCI-65FP-065125 (H) | 31.75 - 33.50 | Auto | 0.0000 |
| L28 | 42 | (Area) CCI-65FP-065125 (H) | 31.75 - 33.50 | Auto | 0.0000 |
| L29 | 37 | (Area) CCI-65FP-085125 (H) | 31.50 - 31.75 | Auto | 0.2156 |
| L29 | 38 | (Area) CCI-65FP-085125 (H) | 31.50 - 31.75 | Auto | 0.2156 |
| L29 | 39 | (Area) CCI-65FP-085125 (H) | 31.50 - 31.75 | Auto | 0.2156 |
| L29 | 41 | (Area) CCI-65FP-065125 (H) | 31.50 - 31.75 | Auto | 0.0000 |
| L29 | 42 | (Area) CCI-65FP-065125 (H) | 31.50 - 31.75 | Auto | 0.0000 |
| L30 | 37 | (Area) CCI-65FP-085125 (H) | 28.25 - 31.50 | Auto | 0.2085 |
| L30 | 38 | (Area) CCI-65FP-085125 (H) | 28.25 - 31.50 | Auto | 0.2085 |
| L30 | 39 | (Area) CCI-65FP-085125 (H) | 28.25 - 31.50 | Auto | 0.2085 |
| L30 | 41 | (Area) CCI-65FP-065125 (H) | 28.25 - 31.50 | Auto | 0.0000 |
| L30 | 42 | (Area) CCI-65FP-065125 (H) | 28.25 - 31.50 | Auto | 0.0000 |
| L31 | 37 | (Area) CCI-65FP-085125 (H) | 28.00 - 28.25 | Auto | 0.1626 |
| L31 | 38 | (Area) CCI-65FP-085125 (H) | 28.00 - 28.25 | Auto | 0.1626 |
| L31 | 39 | (Area) CCI-65FP-085125 (H) | 28.00 - 28.25 | Auto | 0.1626 |
| L31 | 41 | (Area) CCI-65FP-065125 (H) | 28.00 - 28.25 | Auto | 0.0000 |
| L31 | 42 | (Area) CCI-65FP-065125 (H) | 28.00 - 28.25 | Auto | 0.0000 |
| L32 | 37 | (Area) CCI-65FP-085125 (H) | 23.00 - 28.00 | Auto | 0.1521 |
| L32 | 38 | (Area) CCI-65FP-085125 (H) | 23.00 - 28.00 | Auto | 0.1521 |
| L32 | 39 | (Area) CCI-65FP-085125 (H) | 23.00 - 28.00 | Auto | 0.1521 |
| L32 | 41 | (Area) CCI-65FP-065125 (H) | 25.50 - 28.00 | Auto | 0.0000 |
| L32 | 42 | (Area) CCI-65FP-065125 (H) | 25.50 - 28.00 | Auto | 0.0000 |
| L33 | 37 | (Area) CCI-65FP-085125 (H) | 18.00 - 23.00 | Auto | 0.1293 |
| L33 | 38 | (Area) CCI-65FP-085125 (H) | 18.00 - 23.00 | Auto | 0.1293 |
| L33 | 39 | (Area) CCI-65FP-085125 (H) | 18.00 - 23.00 | Auto | 0.1293 |
| L34 | 37 | (Area) CCI-65FP-085125 (H) | 13.00 - 18.00 | Auto | 0.1091 |
| L34 | 38 | (Area) CCI-65FP-085125 (H) | 13.00 - 18.00 | Auto | 0.1091 |
| L34 | 39 | (Area) CCI-65FP-085125 (H) | 13.00 - 18.00 | Auto | 0.1091 |
| L35 | 37 | (Area) CCI-65FP-085125 (H) | 8.00 - 13.00 | Auto | 0.0889 |
| L35 | 38 | (Area) CCI-65FP-085125 (H) | 8.00 - 13.00 | Auto | 0.0889 |
| L35 | 39 | (Area) CCI-65FP-085125 (H) | 8.00 - 13.00 | Auto | 0.0889 |
| L36 | 37 | (Area) CCI-65FP-085125 (H) | 3.00 - 8.00 | Auto | 0.0687 |
| L36 | 38 | (Area) CCI-65FP-085125 (H) | 3.00 - 8.00 | Auto | 0.0687 |
| L36 | 39 | (Area) CCI-65FP-085125 (H) | 3.00 - 8.00 | Auto | 0.0687 |
| L37 | 37 | (Area) CCI-65FP-085125 (H) | 0.00 - 3.00 | Auto | 0.0513 |
| L37 | 38 | (Area) CCI-65FP-085125 (H) | 0.00 - 3.00 | Auto | 0.0513 |
| L37 | 39 | (Area) CCI-65FP-085125 (H) | 0.00 - 3.00 | Auto | 0.0513 |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 17 of 31 |
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| | Client | Crown Castle | Designed by | saltaie |

Discrete Tower Loads

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | CAAA Front | CAAA Side | Weight | |
|-------------------------|-------------|--------------------|--------------|------|--------------------|-----------|------------|-----------|--------|---|
| | | | Horz Lateral | Vert | | | | | | ° |
| **148** | | | | | | | | | | |
| 800 10121 w/ Mount Pipe | A | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 3.60 | 2.95 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 4.00 | 3.34 | 0 |
| | | | | | | | 1" Ice | 4.42 | 3.74 | 0 |
| | | | | | | | 2" Ice | 5.29 | 4.59 | 0 |
| 800 10121 w/ Mount Pipe | B | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 3.60 | 2.95 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 4.00 | 3.34 | 0 |
| | | | | | | | 1" Ice | 4.42 | 3.74 | 0 |
| | | | | | | | 2" Ice | 5.29 | 4.59 | 0 |
| 800 10121 w/ Mount Pipe | C | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 3.60 | 2.95 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 4.00 | 3.34 | 0 |
| | | | | | | | 1" Ice | 4.42 | 3.74 | 0 |
| | | | | | | | 2" Ice | 5.29 | 4.59 | 0 |
| QS66512-2 w/ Mount Pipe | A | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 4.04 | 4.18 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 4.42 | 4.57 | 0 |
| | | | | | | | 1" Ice | 4.82 | 4.97 | 0 |
| | | | | | | | 2" Ice | 5.63 | 5.79 | 0 |
| QS86512-2 w/ Mount Pipe | B | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 5.42 | 5.62 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 5.92 | 6.12 | 0 |
| | | | | | | | 1" Ice | 6.43 | 6.63 | 0 |
| | | | | | | | 2" Ice | 7.48 | 7.69 | 1 |
| QS66512-2 w/ Mount Pipe | C | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 4.04 | 4.18 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 4.42 | 4.57 | 0 |
| | | | | | | | 1" Ice | 4.82 | 4.97 | 0 |
| | | | | | | | 2" Ice | 5.63 | 5.79 | 0 |
| PD320-2 | B | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 2.03 | 2.03 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 4.58 | 4.58 | 0 |
| | | | | | | | 1" Ice | 7.13 | 7.13 | 0 |
| | | | | | | | 2" Ice | 12.23 | 12.23 | 0 |
| DC6-48-60-18-8F | B | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 1.21 | 1.21 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 1.89 | 1.89 | 0 |
| | | | | | | | 1" Ice | 2.11 | 2.11 | 0 |
| | | | | | | | 2" Ice | 2.57 | 2.57 | 0 |
| RRUS12/RRUS A2 | A | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 3.14 | 1.84 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 3.36 | 2.01 | 0 |
| | | | | | | | 1" Ice | 3.59 | 2.20 | 0 |
| | | | | | | | 2" Ice | 4.07 | 2.59 | 0 |
| RRUS12/RRUS A2 | B | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 3.14 | 1.84 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 3.36 | 2.01 | 0 |
| | | | | | | | 1" Ice | 3.59 | 2.20 | 0 |
| | | | | | | | 2" Ice | 4.07 | 2.59 | 0 |
| RRUS12/RRUS A2 | C | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 3.14 | 1.84 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 3.36 | 2.01 | 0 |
| | | | | | | | 1" Ice | 3.59 | 2.20 | 0 |
| | | | | | | | 2" Ice | 4.07 | 2.59 | 0 |
| RRUS 11 | A | From Centroid-Face | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 2.79 | 1.19 | 0 |
| | | | -2.00 | 0.00 | | | 1/2" Ice | 3.00 | 1.34 | 0 |
| | | | | | | | 1" Ice | 3.21 | 1.50 | 0 |
| | | | | | | | 2" Ice | 3.67 | 1.84 | 0 |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 18 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | CAAA | | Weight | |
|--------------------------------------------|-------------|---------------------------|----------|-------|--------------------|-----------|-----------------|-----------------|--------|---|
| | | | Horz | Vert | | | Front | Side | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K | |
| RRUS 11 | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 2.79 | 1.19 | 0 |
| | | | 0.00 | -2.00 | | | 1/2" Ice | 3.00 | 1.34 | 0 |
| | | | | | | | 1" Ice | 3.21 | 1.50 | 0 |
| | | | | | | | 2" Ice | 3.67 | 1.84 | 0 |
| RRUS 11 | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 2.79 | 1.19 | 0 |
| | | | 0.00 | -2.00 | | | 1/2" Ice | 3.00 | 1.34 | 0 |
| | | | | | | | 1" Ice | 3.21 | 1.50 | 0 |
| | | | | | | | 2" Ice | 3.67 | 1.84 | 0 |
| DTMABP7819VG12A | A | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 0.98 | 0.34 | 0 |
| | | | 0.00 | -2.00 | | | 1/2" Ice | 1.10 | 0.42 | 0 |
| | | | | | | | 1" Ice | 1.23 | 0.51 | 0 |
| | | | | | | | 2" Ice | 1.52 | 0.71 | 0 |
| DTMABP7819VG12A | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 0.98 | 0.34 | 0 |
| | | | 0.00 | -2.00 | | | 1/2" Ice | 1.10 | 0.42 | 0 |
| | | | | | | | 1" Ice | 1.23 | 0.51 | 0 |
| | | | | | | | 2" Ice | 1.52 | 0.71 | 0 |
| DTMABP7819VG12A | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 0.98 | 0.34 | 0 |
| | | | 0.00 | -2.00 | | | 1/2" Ice | 1.10 | 0.42 | 0 |
| | | | | | | | 1" Ice | 1.23 | 0.51 | 0 |
| | | | | | | | 2" Ice | 1.52 | 0.71 | 0 |
| (2) 2.4" Dia. x 6-ft | A | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 1.43 | 1.43 | 0 |
| | | | 0.00 | -2.00 | | | 1/2" Ice | 1.92 | 1.92 | 0 |
| | | | | | | | 1" Ice | 2.29 | 2.29 | 0 |
| | | | | | | | 2" Ice | 3.06 | 3.06 | 0 |
| (2) 2.4" Dia. x 6-ft | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 1.43 | 1.43 | 0 |
| | | | 0.00 | -2.00 | | | 1/2" Ice | 1.92 | 1.92 | 0 |
| | | | | | | | 1" Ice | 2.29 | 2.29 | 0 |
| | | | | | | | 2" Ice | 3.06 | 3.06 | 0 |
| (2) 2.4" Dia. x 6-ft | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 148.00 | No Ice | 1.43 | 1.43 | 0 |
| | | | 0.00 | -2.00 | | | 1/2" Ice | 1.92 | 1.92 | 0 |
| | | | | | | | 1" Ice | 2.29 | 2.29 | 0 |
| | | | | | | | 2" Ice | 3.06 | 3.06 | 0 |
| Platform Mount [LP 1201-1_HR-1] | C | None | | | 0.0000 | 148.00 | No Ice | 26.39 | 26.39 | 2 |
| | | | | | | | 1/2" Ice | 31.40 | 31.40 | 3 |
| | | | | | | | 1" Ice | 36.20 | 36.20 | 4 |
| | | | | | | | 2" Ice | 45.40 | 45.40 | 6 |
| **139** | | | | | | | | | | |
| APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe | A | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 6.29 | 2.76 | 0 |
| | | | 0.00 | 4.00 | | | 1/2" Ice | 6.86 | 3.27 | 0 |
| | | | | | | | 1" Ice | 7.45 | 3.79 | 0 |
| | | | | | | | 2" Ice | 8.68 | 4.90 | 0 |
| APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 6.29 | 2.76 | 0 |
| | | | 0.00 | 4.00 | | | 1/2" Ice | 6.86 | 3.27 | 0 |
| | | | | | | | 1" Ice | 7.45 | 3.79 | 0 |
| | | | | | | | 2" Ice | 8.68 | 4.90 | 0 |
| APX16DWV-16DWV-S-E-A 20 w/ Mount Pipe | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 6.29 | 2.76 | 0 |
| | | | 0.00 | 4.00 | | | 1/2" Ice | 6.86 | 3.27 | 0 |
| | | | | | | | 1" Ice | 7.45 | 3.79 | 0 |
| | | | | | | | 2" Ice | 8.68 | 4.90 | 0 |
| APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe | A | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 14.69 | 6.87 | 0 |
| | | | 0.00 | 4.00 | | | 1/2" Ice | 15.46 | 7.55 | 0 |
| | | | | | | | 1" Ice | 16.23 | 8.25 | 0 |
| | | | | | | | 2" Ice | 17.82 | 9.67 | 1 |
| APXVAALL24_43-U-NA20 _TMO w/ Mount Pipe | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 14.69 | 6.87 | 0 |
| | | | 0.00 | 4.00 | | | 1/2" Ice | 15.46 | 7.55 | 0 |
| | | | | | | | 1" Ice | 16.23 | 8.25 | 0 |
| | | | | | | | 2" Ice | 17.82 | 9.67 | 1 |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 19 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | CAAA | | Weight | |
|----------------------------------------|-------------|------------------------|----------|------|--------------------|-----------|-----------------|-----------------|--------|---|
| | | | Horz | Vert | | | Front | Side | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K | |
| APXVAALL24_43-U-NA20_TMO w/ Mount Pipe | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 14.69 | 6.87 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 15.46 | 7.55 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 16.23 | 8.25 | 0 |
| | | | | | | | 2" Ice | 17.82 | 9.67 | 1 |
| | | | | | | | No Ice | 5.19 | 2.71 | 0 |
| AIR6449 B41_T-MOBILE w/ Mount Pipe | A | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 5.19 | 2.71 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 5.59 | 3.04 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 6.02 | 3.38 | 0 |
| | | | | | | | 2" Ice | 6.90 | 4.12 | 0 |
| | | | | | | | No Ice | 5.19 | 2.71 | 0 |
| AIR6449 B41_T-MOBILE w/ Mount Pipe | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 5.19 | 2.71 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 5.59 | 3.04 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 6.02 | 3.38 | 0 |
| | | | | | | | 2" Ice | 6.90 | 4.12 | 0 |
| | | | | | | | No Ice | 5.19 | 2.71 | 0 |
| AIR6449 B41_T-MOBILE w/ Mount Pipe | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 5.19 | 2.71 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 5.59 | 3.04 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 6.02 | 3.38 | 0 |
| | | | | | | | 2" Ice | 6.90 | 4.12 | 0 |
| | | | | | | | No Ice | 5.19 | 2.71 | 0 |
| RADIO 4460 B2/B25 B66_TMO | A | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 2.14 | 1.69 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.32 | 1.85 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 2.51 | 2.02 | 0 |
| | | | | | | | 2" Ice | 2.91 | 2.39 | 0 |
| | | | | | | | No Ice | 2.14 | 1.69 | 0 |
| RADIO 4460 B2/B25 B66_TMO | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 2.14 | 1.69 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.32 | 1.85 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 2.51 | 2.02 | 0 |
| | | | | | | | 2" Ice | 2.91 | 2.39 | 0 |
| | | | | | | | No Ice | 2.14 | 1.69 | 0 |
| RADIO 4460 B2/B25 B66_TMO | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 2.14 | 1.69 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 2.32 | 1.85 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 2.51 | 2.02 | 0 |
| | | | | | | | 2" Ice | 2.91 | 2.39 | 0 |
| | | | | | | | No Ice | 2.85 | 1.38 | 0 |
| RADIO 4480 B71_TMO | A | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 2.85 | 1.38 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 3.06 | 1.54 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 3.28 | 1.71 | 0 |
| | | | | | | | 2" Ice | 3.74 | 2.07 | 0 |
| | | | | | | | No Ice | 2.85 | 1.38 | 0 |
| RADIO 4480 B71_TMO | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 2.85 | 1.38 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 3.06 | 1.54 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 3.28 | 1.71 | 0 |
| | | | | | | | 2" Ice | 3.74 | 2.07 | 0 |
| | | | | | | | No Ice | 2.85 | 1.38 | 0 |
| RADIO 4480 B71_TMO | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 2.85 | 1.38 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 3.06 | 1.54 | 0 |
| | | | 4.00 | 0.00 | | | 1" Ice | 3.28 | 1.71 | 0 |
| | | | | | | | 2" Ice | 3.74 | 2.07 | 0 |
| | | | | | | | No Ice | 2.85 | 1.38 | 0 |
| (2) 2.4" Dia. x 4-ft | A | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 0.87 | 0.87 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 1.12 | 1.12 | 0 |
| | | | 0.00 | 0.00 | | | 1" Ice | 1.37 | 1.37 | 0 |
| | | | | | | | 2" Ice | 1.91 | 1.91 | 0 |
| | | | | | | | No Ice | 0.87 | 0.87 | 0 |
| (2) 2.4" Dia. x 4-ft | B | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 0.87 | 0.87 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 1.12 | 1.12 | 0 |
| | | | 0.00 | 0.00 | | | 1" Ice | 1.37 | 1.37 | 0 |
| | | | | | | | 2" Ice | 1.91 | 1.91 | 0 |
| | | | | | | | No Ice | 0.87 | 0.87 | 0 |
| (2) 2.4" Dia. x 4-ft | C | From Centroid-Fa ce | 4.00 | 0.00 | 0.0000 | 139.00 | No Ice | 0.87 | 0.87 | 0 |
| | | | 0.00 | 0.00 | | | 1/2" Ice | 1.12 | 1.12 | 0 |
| | | | 0.00 | 0.00 | | | 1" Ice | 1.37 | 1.37 | 0 |
| | | | | | | | 2" Ice | 1.91 | 1.91 | 0 |
| | | | | | | | No Ice | 26.39 | 26.39 | 2 |
| Platform Mount [LP 1201-1_HR-1] | C | None | | | 0.0000 | 139.00 | 1/2" Ice | 31.40 | 31.40 | 3 |
| | | | | | | | 1" Ice | 36.20 | 36.20 | 4 |
| | | | | | | | 2" Ice | 45.40 | 45.40 | 6 |
| | | | | | | | | | | |

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| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 20 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | C _{AA} Front | C _{AA} Side | Weight |
|------------------------------------|-------------|--------------------|----------|---------|--------------------|-----------|-----------------------|----------------------|--------|
| | | | Horz | Lateral | | | | | |
| BXA-70063-4CF-EDIN-X w/ Mount Pipe | A | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.84 | 3.54 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 5.35 | 4.03 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 5.88 | 4.53 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 6.99 | 5.59 | 0 |
| BXA-70063-4CF-EDIN-X w/ Mount Pipe | B | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.84 | 3.54 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 5.35 | 4.03 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 5.88 | 4.53 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 6.99 | 5.59 | 0 |
| BXA-70063-4CF-EDIN-X w/ Mount Pipe | C | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.84 | 3.54 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 5.35 | 4.03 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 5.88 | 4.53 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 6.99 | 5.59 | 0 |
| MT6407-77A w/ Mount Pipe | A | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.91 | 2.68 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 5.26 | 3.14 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 5.61 | 3.62 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 6.36 | 4.63 | 0 |
| MT6407-77A w/ Mount Pipe | B | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.91 | 2.68 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 5.26 | 3.14 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 5.61 | 3.62 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 6.36 | 4.63 | 0 |
| MT6407-77A w/ Mount Pipe | C | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.91 | 2.68 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 5.26 | 3.14 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 5.61 | 3.62 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 6.36 | 4.63 | 0 |
| (2) SBNHH-1D65B w/ Mount Pipe | A | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.09 | 3.30 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 4.49 | 3.68 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 4.89 | 4.07 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 5.72 | 4.87 | 0 |
| (2) SBNHH-1D65B w/ Mount Pipe | B | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.09 | 3.30 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 4.49 | 3.68 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 4.89 | 4.07 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 5.72 | 4.87 | 0 |
| (2) SBNHH-1D65B w/ Mount Pipe | C | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 4.09 | 3.30 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 4.49 | 3.68 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 4.89 | 4.07 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 5.72 | 4.87 | 0 |
| CBRS w/ Mount Pipe | A | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 1.45 | 0.99 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 1.67 | 1.18 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 1.90 | 1.39 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 2.42 | 1.85 | 0 |
| CBRS w/ Mount Pipe | B | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 1.45 | 0.99 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 1.67 | 1.18 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 1.90 | 1.39 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 2.42 | 1.85 | 0 |
| CBRS w/ Mount Pipe | C | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 1.45 | 0.99 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 1.67 | 1.18 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 1.90 | 1.39 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 2.42 | 1.85 | 0 |
| RFV01U-D1A | A | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 1.88 | 1.25 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 2.05 | 1.39 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 2.22 | 1.54 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 2.60 | 1.86 | 0 |
| RFV01U-D1A | B | From Centroid-Le g | 4.00 | 0.0000 | 126.00 | No Ice | 1.88 | 1.25 | 0 |
| | | | 0.00 | 0.0000 | 126.00 | 1/2" Ice | 2.05 | 1.39 | 0 |
| | | | 2.00 | 0.0000 | 126.00 | 1" Ice | 2.22 | 1.54 | 0 |
| | | | | 0.0000 | 126.00 | 2" Ice | 2.60 | 1.86 | 0 |
| RFV01U-D1A | C | From | 4.00 | 0.0000 | 126.00 | No Ice | 1.88 | 1.25 | 0 |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 21 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | CAAA Front | CAAA Side | Weight |
|--------------------------------|-------------|-------------|--------------|--------|--------------------|-----------|------------|-----------|--------|
| | | | Horz Lateral | Vert | | | | | |
| | | Centroid-Le | 0.00 | | | 1/2" Ice | 2.05 | 1.39 | 0 |
| | | g | 2.00 | | | 1" Ice | 2.22 | 1.54 | 0 |
| | | | | | | 2" Ice | 2.60 | 1.86 | 0 |
| RFV01U-D2A | A | From | 4.00 | 0.0000 | 126.00 | No Ice | 1.88 | 1.01 | 0 |
| | | Centroid-Le | 0.00 | | | 1/2" Ice | 2.05 | 1.14 | 0 |
| | | g | 2.00 | | | 1" Ice | 2.22 | 1.28 | 0 |
| | | | | | | 2" Ice | 2.60 | 1.59 | 0 |
| RFV01U-D2A | B | From | 4.00 | 0.0000 | 126.00 | No Ice | 1.88 | 1.01 | 0 |
| | | Centroid-Le | 0.00 | | | 1/2" Ice | 2.05 | 1.14 | 0 |
| | | g | 2.00 | | | 1" Ice | 2.22 | 1.28 | 0 |
| | | | | | | 2" Ice | 2.60 | 1.59 | 0 |
| RFV01U-D2A | C | From | 4.00 | 0.0000 | 126.00 | No Ice | 1.88 | 1.01 | 0 |
| | | Centroid-Le | 0.00 | | | 1/2" Ice | 2.05 | 1.14 | 0 |
| | | g | 2.00 | | | 1" Ice | 2.22 | 1.28 | 0 |
| | | | | | | 2" Ice | 2.60 | 1.59 | 0 |
| DB-T1-6Z-8AB-0Z | C | From | 4.00 | 0.0000 | 126.00 | No Ice | 4.80 | 2.00 | 0 |
| | | Centroid-Le | 0.00 | | | 1/2" Ice | 5.07 | 2.19 | 0 |
| | | g | 2.00 | | | 1" Ice | 5.35 | 2.39 | 0 |
| | | | | | | 2" Ice | 5.93 | 2.81 | 0 |
| Platform Mount [LP 404-1_KCKR] | C | None | | 0.0000 | 126.00 | No Ice | 35.82 | 35.82 | 2 |
| | | | | | | 1/2" Ice | 45.85 | 45.85 | 3 |
| | | | | | | 1" Ice | 55.76 | 55.76 | 4 |
| | | | | | | 2" Ice | 75.77 | 75.77 | 6 |
| **111** | | | | | | | | | |
| TME-800MHz 2X50W RRH W/FILTER | A | From Leg | 1.00 | 0.0000 | 111.00 | No Ice | 2.06 | 1.93 | 0 |
| | | | 0.00 | | | 1/2" Ice | 2.24 | 2.11 | 0 |
| | | | 0.00 | | | 1" Ice | 2.43 | 2.29 | 0 |
| | | | | | | 2" Ice | 2.83 | 2.68 | 0 |
| TME-800MHz 2X50W RRH W/FILTER | B | From Leg | 1.00 | 0.0000 | 111.00 | No Ice | 2.06 | 1.93 | 0 |
| | | | 0.00 | | | 1/2" Ice | 2.24 | 2.11 | 0 |
| | | | 0.00 | | | 1" Ice | 2.43 | 2.29 | 0 |
| | | | | | | 2" Ice | 2.83 | 2.68 | 0 |
| TME-800MHz 2X50W RRH W/FILTER | C | From Leg | 1.00 | 0.0000 | 111.00 | No Ice | 2.06 | 1.93 | 0 |
| | | | 0.00 | | | 1/2" Ice | 2.24 | 2.11 | 0 |
| | | | 0.00 | | | 1" Ice | 2.43 | 2.29 | 0 |
| | | | | | | 2" Ice | 2.83 | 2.68 | 0 |
| PCS 1900MHz 4x45W-65MHz | A | From Leg | 1.00 | 0.0000 | 111.00 | No Ice | 2.32 | 2.24 | 0 |
| | | | 0.00 | | | 1/2" Ice | 2.53 | 2.44 | 0 |
| | | | 0.00 | | | 1" Ice | 2.74 | 2.65 | 0 |
| | | | | | | 2" Ice | 3.19 | 3.09 | 0 |
| PCS 1900MHz 4x45W-65MHz | B | From Leg | 1.00 | 0.0000 | 111.00 | No Ice | 2.32 | 2.24 | 0 |
| | | | 0.00 | | | 1/2" Ice | 2.53 | 2.44 | 0 |
| | | | 0.00 | | | 1" Ice | 2.74 | 2.65 | 0 |
| | | | | | | 2" Ice | 3.19 | 3.09 | 0 |
| PCS 1900MHz 4x45W-65MHz | C | From Leg | 1.00 | 0.0000 | 111.00 | No Ice | 2.32 | 2.24 | 0 |
| | | | 0.00 | | | 1/2" Ice | 2.53 | 2.44 | 0 |
| | | | 0.00 | | | 1" Ice | 2.74 | 2.65 | 0 |
| | | | | | | 2" Ice | 3.19 | 3.09 | 0 |
| Pipe Mount [PM 601-3] | C | None | | 0.0000 | 111.00 | No Ice | 3.17 | 3.17 | 0 |
| | | | | | | 1/2" Ice | 3.79 | 3.79 | 0 |
| | | | | | | 1" Ice | 4.42 | 4.42 | 0 |
| | | | | | | 2" Ice | 5.76 | 5.76 | 0 |
| **109** | | | | | | | | | |
| APXVTM14-C-120 w/ Mount Pipe | A | From | 4.00 | 0.0000 | 109.00 | No Ice | 4.09 | 2.86 | 0 |
| | | Centroid-Le | 0.00 | | | 1/2" Ice | 4.48 | 3.23 | 0 |
| | | g | 1.00 | | | 1" Ice | 4.88 | 3.61 | 0 |
| | | | | | | 2" Ice | 5.71 | 4.40 | 0 |

| | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 22 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | CAAA | | Weight |
|-------------------------------------|-------------|--------------------------|----------|----------|--------------------|-----------|-----------------|-----------------|--------|
| | | | Horz | Lateral | | | Front | Side | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K |
| APXVTM14-C-120 w/ Mount Pipe | B | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 4.09 | 2.86 | 0 |
| | | | 0.00 | 1/2" Ice | | 4.48 | 3.23 | 0 | |
| | | | 1.00 | 1" Ice | | 4.88 | 3.61 | 0 | |
| | | | | 2" Ice | | 5.71 | 4.40 | 0 | |
| APXVTM14-C-120 w/ Mount Pipe | C | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 4.09 | 2.86 | 0 |
| | | | 0.00 | 1/2" Ice | | 4.48 | 3.23 | 0 | |
| | | | 1.00 | 1" Ice | | 4.88 | 3.61 | 0 | |
| | | | | 2" Ice | | 5.71 | 4.40 | 0 | |
| APXVSP18-C-A20 w/ Mount Pipe | A | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 4.60 | 4.01 | 0 |
| | | | 0.00 | 1/2" Ice | | 5.05 | 4.45 | 0 | |
| | | | 1.00 | 1" Ice | | 5.50 | 4.89 | 0 | |
| | | | | 2" Ice | | 6.44 | 5.82 | 0 | |
| APXVSP18-C-A20 w/ Mount Pipe | B | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 4.60 | 4.01 | 0 |
| | | | 0.00 | 1/2" Ice | | 5.05 | 4.45 | 0 | |
| | | | 1.00 | 1" Ice | | 5.50 | 4.89 | 0 | |
| | | | | 2" Ice | | 6.44 | 5.82 | 0 | |
| (2) APXVSP18-C-A20 w/ Mount Pipe | C | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 4.60 | 4.01 | 0 |
| | | | 0.00 | 1/2" Ice | | 5.05 | 4.45 | 0 | |
| | | | 1.00 | 1" Ice | | 5.50 | 4.89 | 0 | |
| | | | | 2" Ice | | 6.44 | 5.82 | 0 | |
| SD212-SF3P2SNM W/Mount Pipe | B | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 6.37 | 28.33 | 0 |
| | | | 0.00 | 1/2" Ice | | 6.97 | 29.54 | 0 | |
| | | | 4.00 | 1" Ice | | 7.58 | 30.62 | 0 | |
| | | | | 2" Ice | | 8.82 | 32.84 | 1 | |
| TD-RRH8X20-25 | A | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 3.70 | 1.29 | 0 |
| | | | 0.00 | 1/2" Ice | | 3.95 | 1.46 | 0 | |
| | | | 1.00 | 1" Ice | | 4.20 | 1.64 | 0 | |
| | | | | 2" Ice | | 4.72 | 2.02 | 0 | |
| TD-RRH8X20-25 | B | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 3.70 | 1.29 | 0 |
| | | | 0.00 | 1/2" Ice | | 3.95 | 1.46 | 0 | |
| | | | 1.00 | 1" Ice | | 4.20 | 1.64 | 0 | |
| | | | | 2" Ice | | 4.72 | 2.02 | 0 | |
| TD-RRH8X20-25 | C | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 3.70 | 1.29 | 0 |
| | | | 0.00 | 1/2" Ice | | 3.95 | 1.46 | 0 | |
| | | | 1.00 | 1" Ice | | 4.20 | 1.64 | 0 | |
| | | | | 2" Ice | | 4.72 | 2.02 | 0 | |
| DB205-L | B | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 1.72 | 1.72 | 0 |
| | | | 0.00 | 1/2" Ice | | 3.45 | 3.45 | 0 | |
| | | | 7.00 | 1" Ice | | 5.20 | 5.20 | 0 | |
| | | | | 2" Ice | | 8.75 | 8.75 | 0 | |
| K732267 | A | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 3.10 | 0.65 | 0 |
| | | | 0.00 | 1/2" Ice | | 3.47 | 0.81 | 0 | |
| | | | 7.00 | 1" Ice | | 3.84 | 0.97 | 0 | |
| | | | | 2" Ice | | 4.58 | 1.30 | 0 | |
| (2) 2.4" Dia. x 6-ft | A | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 1.43 | 1.43 | 0 |
| | | | 0.00 | 1/2" Ice | | 1.92 | 1.92 | 0 | |
| | | | 0.00 | 1" Ice | | 2.29 | 2.29 | 0 | |
| | | | | 2" Ice | | 3.06 | 3.06 | 0 | |
| (2) 2.4" Dia. x 6-ft | B | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 1.43 | 1.43 | 0 |
| | | | 0.00 | 1/2" Ice | | 1.92 | 1.92 | 0 | |
| | | | 0.00 | 1" Ice | | 2.29 | 2.29 | 0 | |
| | | | | 2" Ice | | 3.06 | 3.06 | 0 | |
| (2) 2.4" Dia. x 6-ft | C | From Centroid-Le g | 4.00 | 0.0000 | 109.00 | No Ice | 1.43 | 1.43 | 0 |
| | | | 0.00 | 1/2" Ice | | 1.92 | 1.92 | 0 | |
| | | | 0.00 | 1" Ice | | 2.29 | 2.29 | 0 | |
| | | | | 2" Ice | | 3.06 | 3.06 | 0 | |
| Platform Mount [LP 1201-1] | C | None | | 0.0000 | 109.00 | No Ice | 18.38 | 18.38 | 2 |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 23 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Description | Face or Leg | Offset Type | Offsets: | | Azimuth Adjustment | Placement | CAAA Front | CAAA Side | Weight | |
|-----------------------------|-------------|--------------------|----------------------|------|--------------------|-----------|----------------------------------------|-------------------------------|------------------------------|------------------|
| | | | Horz | Vert | | | | | | |
| | | | ft | ft | ° | ft | ft ² | ft ² | K | |
| | | | | | | 1/2" Ice | 22.11 | 22.11 | 3 | |
| | | | | | | 1" Ice | 25.87 | 25.87 | 3 | |
| | | | | | | 2" Ice | 33.47 | 33.47 | 5 | |
| ***99*** | | | | | | | | | | |
| MX08FRO665-21 w/ Mount Pipe | A | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 8.01 8.52 9.04 10.11 | 4.23 4.69 5.16 6.12 | 0 0 0 1 |
| MX08FRO665-21 w/ Mount Pipe | B | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 8.01 8.52 9.04 10.11 | 4.23 4.69 5.16 6.12 | 0 0 0 1 |
| MX08FRO665-21 w/ Mount Pipe | C | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 8.01 8.52 9.04 10.11 | 4.23 4.69 5.16 6.12 | 0 0 0 1 |
| TA08025-B604 | A | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.96 2.14 2.32 2.71 | 0.98 1.11 1.25 1.55 | 0 0 0 0 |
| TA08025-B605 | A | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.96 2.14 2.32 2.71 | 1.13 1.27 1.41 1.72 | 0 0 0 0 |
| TA08025-B604 | B | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.96 2.14 2.32 2.71 | 0.98 1.11 1.25 1.55 | 0 0 0 0 |
| TA08025-B605 | B | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.96 2.14 2.32 2.71 | 1.13 1.27 1.41 1.72 | 0 0 0 0 |
| TA08025-B604 | C | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.96 2.14 2.32 2.71 | 0.98 1.11 1.25 1.55 | 0 0 0 0 |
| TA08025-B605 | C | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.96 2.14 2.32 2.71 | 1.13 1.27 1.41 1.72 | 0 0 0 0 |
| RDIDC-9181-PF-48 | A | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 2.01 2.19 2.37 2.76 | 1.17 1.31 1.46 1.78 | 0 0 0 0 |
| (2) 8' x 2" Mount Pipe | A | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.90 2.73 3.40 4.40 | 1.90 2.73 3.40 4.40 | 0 0 0 0 |
| (2) 8' x 2" Mount Pipe | B | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.90 2.73 3.40 4.40 | 1.90 2.73 3.40 4.40 | 0 0 0 0 |
| (2) 8' x 2" Mount Pipe | C | From Centroid-Le g | 4.00 0.00 0.00 | | 0.0000 | 99.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 1.90 2.73 3.40 4.40 | 1.90 2.73 3.40 4.40 | 0 0 0 0 |
| Commscope MC-PK8-DSH | C | None | | | 0.0000 | 99.00 | No Ice | 34.24 | 34.24 | 2 |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 24 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Description | Face or Leg | Offset Type | Offsets: Horz Lateral Vert | Azimuth Adjustment | Placement | CAAA Front | CAAA Side | Weight | |
|---------------------------|-------------|-------------|----------------------------|--------------------|-----------|----------------------------------------|--------------------------------|--------------------------------|------------------|
| | | | ft ft ft | ° | ft | ft ² | ft ² | K | |
| | | | | | | 1/2" Ice | 62.95 | 62.95 | 2 |
| | | | | | | 1" Ice | 91.66 | 91.66 | 2 |
| | | | | | | 2" Ice | 149.08 | 149.08 | 3 |
| **80** | | | | | | | | | |
| **79** | | | | | | | | | |
| **74** | | | | | | | | | |
| **50** | | | | | | | | | |
| GPS-TMG-HR-26N | A | From Leg | 3.00 0.00 1.00 | 0.0000 | 50.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 0.21 0.27 0.33 0.49 | 0.13 0.18 0.24 0.37 | 0 0 0 0 |
| 2.4" Dia. x 2-ft | A | From Leg | 3.00 0.00 0.00 | 0.0000 | 50.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 0.35 0.48 0.62 0.92 | 0.35 0.48 0.62 0.92 | 0 0 0 0 |
| Side Arm Mount [SO 701-1] | A | From Leg | 1.50 0.00 0.00 | 0.0000 | 50.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 0.85 1.14 1.43 2.01 | 1.67 2.34 3.01 4.35 | 0 0 0 0 |
| ** | | | | | | | | | |
| *** | | | | | | | | | |
| Side Arm Mount [SO 601-3] | C | None | | 0.0000 | 147.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 7.63 9.41 11.34 15.83 | 7.63 9.41 11.34 15.83 | 0 1 1 1 |
| Side Arm Mount [SO 601-3] | C | None | | 0.0000 | 15.00 | No Ice 1/2" Ice 1" Ice 2" Ice | 7.63 9.41 11.34 15.83 | 7.63 9.41 11.34 15.83 | 0 1 1 1 |
| *** | | | | | | | | | |

Dishes

| Description | Face or Leg | Dish Type | Offset Type | Offsets: Horz Lateral Vert | Azimuth Adjustment | 3 dB Beam Width | Elevation | Outside Diameter | Aperture Area | Weight |
|-------------|-------------|-----------|-------------|----------------------------|--------------------|-----------------|-----------|------------------|-----------------|--------|
| | | | | ft ft ft | ° | ° | ft | ft | ft ² | K |
| ** | | | | | | | | | | |
| *** | | | | | | | | | | |

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 |

| | | |
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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 25 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Comb. No. | Description |
|-----------|--------------------------------------------|
| 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 |
| 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 Tower Deflections - Service Wind

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|--------------------|-----------|------------|
| L1 | 148 - 143 | 20.224 | 40 | 1.2031 | 0.0050 |
| L2 | 143 - 138 | 18.965 | 40 | 1.2011 | 0.0048 |
| L3 | 138 - 133 | 17.711 | 40 | 1.1931 | 0.0046 |
| L4 | 133 - 128 | 16.470 | 40 | 1.1752 | 0.0045 |
| L5 | 128 - 123 | 15.252 | 40 | 1.1495 | 0.0044 |
| L6 | 123 - 116 | 14.066 | 40 | 1.1160 | 0.0043 |

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| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|-----------------|-----------|------------|
| L7 | 119.75 - 114.75 | 13.315 | 40 | 1.0894 | 0.0043 |
| L8 | 114.75 - 109.75 | 12.186 | 40 | 1.0614 | 0.0043 |
| L9 | 109.75 - 104.75 | 11.100 | 40 | 1.0124 | 0.0042 |
| L10 | 104.75 - 99.75 | 10.069 | 40 | 0.9568 | 0.0037 |
| L11 | 99.75 - 94.75 | 9.099 | 40 | 0.8951 | 0.0031 |
| L12 | 94.75 - 93.5 | 8.197 | 40 | 0.8279 | 0.0026 |
| L13 | 93.5 - 93.25 | 7.982 | 40 | 0.8104 | 0.0025 |
| L14 | 93.25 - 88.25 | 7.940 | 40 | 0.8084 | 0.0024 |
| L15 | 88.25 - 83.25 | 7.116 | 40 | 0.7649 | 0.0022 |
| L16 | 83.25 - 74.75 | 6.339 | 40 | 0.7184 | 0.0019 |
| L17 | 79.5 - 74.5 | 5.789 | 40 | 0.6822 | 0.0017 |
| L18 | 74.5 - 69.5 | 5.087 | 40 | 0.6575 | 0.0016 |
| L19 | 69.5 - 64.5 | 4.423 | 40 | 0.6098 | 0.0014 |
| L20 | 64.5 - 59.5 | 3.810 | 40 | 0.5613 | 0.0013 |
| L21 | 59.5 - 57.75 | 3.248 | 40 | 0.5116 | 0.0011 |
| L22 | 57.75 - 57.5 | 3.064 | 40 | 0.4940 | 0.0010 |
| L23 | 57.5 - 52.5 | 3.038 | 40 | 0.4918 | 0.0010 |
| L24 | 52.5 - 47.5 | 2.547 | 40 | 0.4466 | 0.0009 |
| L25 | 47.5 - 39.5 | 2.103 | 40 | 0.4001 | 0.0008 |
| L26 | 45 - 38.5 | 1.900 | 40 | 0.3768 | 0.0007 |
| L27 | 38.5 - 33.5 | 1.407 | 40 | 0.3434 | 0.0006 |
| L28 | 33.5 - 31.75 | 1.071 | 40 | 0.2990 | 0.0005 |
| L29 | 31.75 - 31.5 | 0.964 | 40 | 0.2837 | 0.0005 |
| L30 | 31.5 - 28.25 | 0.949 | 40 | 0.2820 | 0.0005 |
| L31 | 28.25 - 28 | 0.765 | 40 | 0.2595 | 0.0004 |
| L32 | 28 - 23 | 0.751 | 40 | 0.2572 | 0.0004 |
| L33 | 23 - 18 | 0.506 | 40 | 0.2113 | 0.0004 |
| L34 | 18 - 13 | 0.309 | 40 | 0.1647 | 0.0003 |
| L35 | 13 - 8 | 0.161 | 40 | 0.1185 | 0.0002 |
| L36 | 8 - 3 | 0.061 | 40 | 0.0727 | 0.0001 |
| L37 | 3 - 0 | 0.009 | 40 | 0.0273 | 0.0000 |

Critical Deflections and Radius of Curvature - Service Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|-----------------------------------------|-----------------|------------------|-----------|------------|---------------------------|
| 148.00 | 800 10121 w/ Mount Pipe | 40 | 20.224 | 1.2031 | 0.0050 | 59325 |
| 147.00 | Side Arm Mount [SO 601-3] | 40 | 19.972 | 1.2029 | 0.0050 | 59325 |
| 139.00 | APX16DWV-16DWV-S-E-A20 w/ Mount Pipe | 40 | 17.961 | 1.1955 | 0.0046 | 25872 |
| 126.00 | BXA-70063-4CF-EDIN-X w/ Mount Pipe | 40 | 14.773 | 1.1375 | 0.0044 | 8553 |
| 111.00 | TME-800MHz 2X50W RRH W/FILTER | 40 | 11.367 | 1.0261 | 0.0043 | 5754 |
| 109.00 | APXVTM14-C-120 w/ Mount Pipe | 40 | 10.942 | 1.0042 | 0.0042 | 5367 |
| 99.00 | MX08FRO665-21 w/ Mount Pipe | 40 | 8.959 | 0.8858 | 0.0030 | 4390 |
| 50.00 | GPS-TMG-HR-26N | 40 | 2.319 | 0.4238 | 0.0008 | 6137 |
| 15.00 | Side Arm Mount [SO 601-3] | 40 | 0.214 | 0.1369 | 0.0002 | 6173 |

Maximum Tower Deflections - Design Wind

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 27 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

| Section No. | Elevation ft | Horz. Deflection in | Gov. Load Comb. | Tilt ° | Twist ° |
|-------------|-----------------|------------------------|-----------------|-----------|------------|
| L1 | 148 - 143 | 93.874 | 4 | 5.5929 | 0.0235 |
| L2 | 143 - 138 | 88.035 | 4 | 5.5849 | 0.0223 |
| L3 | 138 - 133 | 82.218 | 4 | 5.5486 | 0.0213 |
| L4 | 133 - 128 | 76.463 | 4 | 5.4662 | 0.0205 |
| L5 | 128 - 123 | 70.813 | 4 | 5.3467 | 0.0200 |
| L6 | 123 - 116 | 65.306 | 4 | 5.1912 | 0.0197 |
| L7 | 119.75 - 114.75 | 61.821 | 4 | 5.0675 | 0.0195 |
| L8 | 114.75 - 109.75 | 56.583 | 4 | 4.9370 | 0.0194 |
| L9 | 109.75 - 104.75 | 51.541 | 4 | 4.7083 | 0.0192 |
| L10 | 104.75 - 99.75 | 46.753 | 4 | 4.4495 | 0.0167 |
| L11 | 99.75 - 94.75 | 42.249 | 4 | 4.1620 | 0.0141 |
| L12 | 94.75 - 93.5 | 38.058 | 4 | 3.8492 | 0.0117 |
| L13 | 93.5 - 93.25 | 37.062 | 4 | 3.7679 | 0.0112 |
| L14 | 93.25 - 88.25 | 36.866 | 4 | 3.7583 | 0.0111 |
| L15 | 88.25 - 83.25 | 33.039 | 4 | 3.5558 | 0.0099 |
| L16 | 83.25 - 74.75 | 29.432 | 4 | 3.3393 | 0.0087 |
| L17 | 79.5 - 74.5 | 26.878 | 4 | 3.1709 | 0.0079 |
| L18 | 74.5 - 69.5 | 23.617 | 4 | 3.0555 | 0.0074 |
| L19 | 69.5 - 64.5 | 20.535 | 4 | 2.8339 | 0.0065 |
| L20 | 64.5 - 59.5 | 17.687 | 4 | 2.6082 | 0.0057 |
| L21 | 59.5 - 57.75 | 15.079 | 4 | 2.3765 | 0.0050 |
| L22 | 57.75 - 57.5 | 14.223 | 4 | 2.2949 | 0.0047 |
| L23 | 57.5 - 52.5 | 14.103 | 4 | 2.2844 | 0.0047 |
| L24 | 52.5 - 47.5 | 11.822 | 4 | 2.0742 | 0.0041 |
| L25 | 47.5 - 39.5 | 9.763 | 4 | 1.8582 | 0.0035 |
| L26 | 45 - 38.5 | 8.819 | 4 | 1.7499 | 0.0032 |
| L27 | 38.5 - 33.5 | 6.531 | 4 | 1.5944 | 0.0029 |
| L28 | 33.5 - 31.75 | 4.970 | 4 | 1.3882 | 0.0024 |
| L29 | 31.75 - 31.5 | 4.474 | 4 | 1.3171 | 0.0023 |
| L30 | 31.5 - 28.25 | 4.405 | 4 | 1.3091 | 0.0023 |
| L31 | 28.25 - 28 | 3.550 | 4 | 1.2046 | 0.0020 |
| L32 | 28 - 23 | 3.487 | 4 | 1.1939 | 0.0020 |
| L33 | 23 - 18 | 2.349 | 4 | 0.9808 | 0.0016 |
| L34 | 18 - 13 | 1.435 | 4 | 0.7645 | 0.0012 |
| L35 | 13 - 8 | 0.747 | 4 | 0.5499 | 0.0009 |
| L36 | 8 - 3 | 0.283 | 4 | 0.3373 | 0.0005 |
| L37 | 3 - 0 | 0.040 | 4 | 0.1267 | 0.0002 |

Critical Deflections and Radius of Curvature - Design Wind

| Elevation ft | Appurtenance | Gov. Load Comb. | Deflection in | Tilt ° | Twist ° | Radius of Curvature ft |
|-----------------|-----------------------------------------|-----------------|------------------|-----------|------------|---------------------------|
| 148.00 | 800 10121 w/ Mount Pipe | 4 | 93.874 | 5.5929 | 0.0235 | 13706 |
| 147.00 | Side Arm Mount [SO 601-3] | 4 | 92.706 | 5.5923 | 0.0233 | 13706 |
| 139.00 | APX16DWV-16DWV-S-E-A20 w/ Mount Pipe | 4 | 83.378 | 5.5593 | 0.0215 | 5786 |
| 126.00 | BXA-70063-4CF-EDIN-X w/ Mount Pipe | 4 | 68.590 | 5.2912 | 0.0199 | 1874 |
| 111.00 | TME-800MHz 2X50W RRH W/FILTER | 4 | 52.780 | 4.7723 | 0.0194 | 1255 |
| 109.00 | APXVTM14-C-120 w/ Mount Pipe | 4 | 50.806 | 4.6700 | 0.0190 | 1169 |
| 99.00 | MX08FRO665-21 w/ Mount Pipe | 4 | 41.600 | 4.1187 | 0.0138 | 954 |
| 50.00 | GPS-TMG-HR-26N | 4 | 10.763 | 1.9685 | 0.0038 | 1323 |
| 15.00 | Side Arm Mount [SO 601-3] | 4 | 0.995 | 0.6354 | 0.0010 | 1330 |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job WindsorCentral (BU 855662) | Page 28 of 31 |
| | Project TEP No. 58885.577447 | Date 14:49:10 07/30/21 |
| | Client Crown Castle | Designed by saltaie |

Compression Checks

Pole Design Data

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|---------------------|--------------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| L1 | 148 - 143 (1) | TP24.9752x24x0.2188 | 5.00 | 0.00 | 0.0 | 17.1887 | -5 | 1006 | 0.005 |
| L2 | 143 - 138 (2) | TP25.9503x24.9752x0.2188 | 5.00 | 0.00 | 0.0 | 17.8657 | -10 | 1045 | 0.009 |
| L3 | 138 - 133 (3) | TP26.9255x25.9503x0.2188 | 5.00 | 0.00 | 0.0 | 18.5428 | -10 | 1085 | 0.009 |
| L4 | 133 - 128 (4) | TP27.9006x26.9255x0.2188 | 5.00 | 0.00 | 0.0 | 19.2199 | -11 | 1124 | 0.009 |
| L5 | 128 - 123 (5) | TP28.8758x27.9006x0.2188 | 5.00 | 0.00 | 0.0 | 19.8969 | -15 | 1164 | 0.013 |
| L6 | 123 - 116 (6) | TP30.241x28.8758x0.2188 | 7.00 | 0.00 | 0.0 | 20.3370 | -15 | 1190 | 0.013 |
| L7 | 116 - 114.75 (7) | TP30.0471x29.0721x0.25 | 5.00 | 0.00 | 0.0 | 23.6440 | -16 | 1383 | 0.012 |
| L8 | 114.75 - 109.75 (8) | TP31.0221x30.0471x0.25 | 5.00 | 0.00 | 0.0 | 24.4177 | -18 | 1428 | 0.012 |
| L9 | 109.75 - 104.75 (9) | TP31.9971x31.0221x0.25 | 5.00 | 0.00 | 0.0 | 25.1913 | -22 | 1474 | 0.015 |
| L10 | 104.75 - 99.75 (10) | TP32.9721x31.9971x0.25 | 5.00 | 0.00 | 0.0 | 25.9650 | -22 | 1519 | 0.015 |
| L11 | 99.75 - 94.75 (11) | TP33.9471x32.9721x0.25 | 5.00 | 0.00 | 0.0 | 26.7386 | -26 | 1564 | 0.017 |
| L12 | 94.75 - 93.5 (12) | TP34.1908x33.9471x0.25 | 1.25 | 0.00 | 0.0 | 26.9320 | -26 | 1576 | 0.017 |
| L13 | 93.5 - 93.25 (13) | TP34.2396x34.1908x0.4375 | 0.25 | 0.00 | 0.0 | 46.9384 | -26 | 2746 | 0.010 |
| L14 | 93.25 - 88.25 (14) | TP35.2145x34.2396x0.4313 | 5.00 | 0.00 | 0.0 | 47.6109 | -27 | 2785 | 0.010 |
| L15 | 88.25 - 83.25 (15) | TP36.1895x35.2145x0.425 | 5.00 | 0.00 | 0.0 | 48.2446 | -29 | 2822 | 0.010 |
| L16 | 83.25 - 74.75 (16) | TP37.847x36.1895x0.425 | 8.50 | 0.00 | 0.0 | 49.2310 | -29 | 2880 | 0.010 |
| L17 | 74.75 - 74.5 (17) | TP37.3959x36.4208x0.4875 | 5.00 | 0.00 | 0.0 | 57.1093 | -32 | 3341 | 0.009 |
| L18 | 74.5 - 69.5 (18) | TP38.3711x37.3959x0.475 | 5.00 | 0.00 | 0.0 | 57.1340 | -33 | 3342 | 0.010 |
| L19 | 69.5 - 64.5 (19) | TP39.3462x38.3711x0.475 | 5.00 | 0.00 | 0.0 | 58.6042 | -34 | 3428 | 0.010 |
| L20 | 64.5 - 59.5 (20) | TP40.3214x39.3462x0.4688 | 5.00 | 0.00 | 0.0 | 59.2932 | -36 | 3469 | 0.010 |
| L21 | 59.5 - 57.75 (21) | TP40.6627x40.3214x0.4625 | 1.75 | 0.00 | 0.0 | 59.0129 | -36 | 3452 | 0.011 |
| L22 | 57.75 - 57.5 (22) | TP40.7114x40.6627x0.525 | 0.25 | 0.00 | 0.0 | 66.9647 | -36 | 3917 | 0.009 |
| L23 | 57.5 - 52.5 (23) | TP41.6866x40.7114x0.525 | 5.00 | 0.00 | 0.0 | 68.5896 | -38 | 4012 | 0.009 |
| L24 | 52.5 - 47.5 (24) | TP42.6618x41.6866x0.5125 | 5.00 | 0.00 | 0.0 | 68.5631 | -40 | 4011 | 0.010 |
| L25 | 47.5 - 39.5 (25) | TP44.222x42.6618x0.5125 | 8.00 | 0.00 | 0.0 | 69.3563 | -41 | 4057 | 0.010 |
| L26 | 39.5 - 38.5 (26) | TP43.7919x42.5243x0.575 | 6.50 | 0.00 | 0.0 | 78.8731 | -44 | 4614 | 0.010 |
| L27 | 38.5 - 33.5 (27) | TP44.767x43.7919x0.5625 | 5.00 | 0.00 | 0.0 | 78.9216 | -46 | 4617 | 0.010 |
| L28 | 33.5 - 31.75 (28) | TP45.1083x44.767x0.5625 | 1.75 | 0.00 | 0.0 | 79.5309 | -47 | 4653 | 0.010 |
| L29 | 31.75 - 31.5 (29) | TP45.157x45.1083x0.725 | 0.25 | 0.00 | 0.0 | 102.245 0 | -47 | 5981 | 0.008 |
| L30 | 31.5 - 28.25 (30) | TP45.7908x45.157x0.725 | 3.25 | 0.00 | 0.0 | 103.703 0 | -48 | 6067 | 0.008 |
| L31 | 28.25 - 28 (31) | TP45.8396x45.7908x0.5375 | 0.25 | 0.00 | 0.0 | 77.2865 | -49 | 4521 | 0.011 |
| L32 | 28 - 23 (32) | TP46.8147x45.8396x0.5375 | 5.00 | 0.00 | 0.0 | 78.9500 | -51 | 4619 | 0.011 |
| L33 | 23 - 18 (33) | TP47.7897x46.8147x0.525 | 5.00 | 0.00 | 0.0 | 78.7596 | -53 | 4607 | 0.011 |
| L34 | 18 - 13 (34) | TP48.7648x47.7897x0.525 | 5.00 | 0.00 | 0.0 | 80.3844 | -55 | 4702 | 0.012 |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 29 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Section No. | Elevation ft | Size | L ft | L _u ft | Kl/r | A in ² | P _u K | φP _n K | Ratio $\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------------|---------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| L35 | 13 - 8 (35) | TP49.7399x48.7648x0.525 | 5.00 | 0.00 | 0.0 | 82.0092 | -57 | 4798 | 0.012 |
| L36 | 8 - 3 (36) | TP50.715x49.7399x0.525 | 5.00 | 0.00 | 0.0 | 83.6340 | -60 | 4893 | 0.012 |
| L37 | 3 - 0 (37) | TP51.3x50.715x0.5188 | 3.00 | 0.00 | 0.0 | 83.6120 | -61 | 4891 | 0.012 |

Pole Bending Design Data

| Section No. | Elevation ft | Size | M _{ux} kip-ft | φM _{ux} kip-ft | Ratio $\frac{M_{ux}}{\phi M_{ux}}$ | M _{uy} kip-ft | φM _{uy} kip-ft | Ratio $\frac{M_{uy}}{\phi M_{uy}}$ |
|-------------|---------------------|--------------------------|---------------------------|----------------------------|---------------------------------------|---------------------------|----------------------------|---------------------------------------|
| L1 | 148 - 143 (1) | TP24.9752x24x0.2188 | 20 | 620 | 0.032 | 0 | 620 | 0.000 |
| L2 | 143 - 138 (2) | TP25.9503x24.9752x0.2188 | 65 | 662 | 0.097 | 0 | 662 | 0.000 |
| L3 | 138 - 133 (3) | TP26.9255x25.9503x0.2188 | 120 | 705 | 0.170 | 0 | 705 | 0.000 |
| L4 | 133 - 128 (4) | TP27.9006x26.9255x0.2188 | 178 | 749 | 0.237 | 0 | 749 | 0.000 |
| L5 | 128 - 123 (5) | TP28.8758x27.9006x0.2188 | 258 | 793 | 0.325 | 0 | 793 | 0.000 |
| L6 | 123 - 116 (6) | TP30.241x28.8758x0.2188 | 314 | 822 | 0.382 | 0 | 822 | 0.000 |
| L7 | 116 - 114.75 (7) | TP30.0471x29.0721x0.25 | 403 | 1011 | 0.399 | 0 | 1011 | 0.000 |
| L8 | 114.75 - 109.75 (8) | TP31.0221x30.0471x0.25 | 496 | 1067 | 0.464 | 0 | 1067 | 0.000 |
| L9 | 109.75 - 104.75 (9) | TP31.9971x31.0221x0.25 | 619 | 1124 | 0.550 | 0 | 1124 | 0.000 |
| L10 | 104.75 - 99.75 (10) | TP32.9721x31.9971x0.25 | 740 | 1182 | 0.626 | 0 | 1182 | 0.000 |
| L11 | 99.75 - 94.75 (11) | TP33.9471x32.9721x0.25 | 879 | 1240 | 0.709 | 0 | 1240 | 0.000 |
| L12 | 94.75 - 93.5 (12) | TP34.1908x33.9471x0.25 | 915 | 1255 | 0.729 | 0 | 1255 | 0.000 |
| L13 | 93.5 - 93.25 (13) | TP34.2396x34.1908x0.4375 | 922 | 2412 | 0.382 | 0 | 2412 | 0.000 |
| L14 | 93.25 - 88.25 (14) | TP35.2145x34.2396x0.4313 | 1066 | 2519 | 0.423 | 0 | 2519 | 0.000 |
| L15 | 88.25 - 83.25 (15) | TP36.1895x35.2145x0.425 | 1213 | 2626 | 0.462 | 0 | 2626 | 0.000 |
| L16 | 83.25 - 74.75 (16) | TP37.847x36.1895x0.425 | 1325 | 2735 | 0.485 | 0 | 2735 | 0.000 |
| L17 | 74.75 - 74.5 (17) | TP37.3959x36.4208x0.4875 | 1477 | 3203 | 0.461 | 0 | 3203 | 0.000 |
| L18 | 74.5 - 69.5 (18) | TP38.3711x37.3959x0.475 | 1632 | 3293 | 0.496 | 0 | 3293 | 0.000 |
| L19 | 69.5 - 64.5 (19) | TP39.3462x38.3711x0.475 | 1789 | 3465 | 0.516 | 0 | 3465 | 0.000 |
| L20 | 64.5 - 59.5 (20) | TP40.3214x39.3462x0.4688 | 1948 | 3596 | 0.542 | 0 | 3596 | 0.000 |
| L21 | 59.5 - 57.75 (21) | TP40.6627x40.3214x0.4625 | 2004 | 3611 | 0.555 | 0 | 3611 | 0.000 |
| L22 | 57.75 - 57.5 (22) | TP40.7114x40.6627x0.525 | 2012 | 4090 | 0.492 | 0 | 4090 | 0.000 |
| L23 | 57.5 - 52.5 (23) | TP41.6866x40.7114x0.525 | 2175 | 4292 | 0.507 | 0 | 4292 | 0.000 |
| L24 | 52.5 - 47.5 (24) | TP42.6618x41.6866x0.5125 | 2341 | 4396 | 0.532 | 0 | 4396 | 0.000 |
| L25 | 47.5 - 39.5 (25) | TP44.222x42.6618x0.5125 | 2425 | 4499 | 0.539 | 0 | 4499 | 0.000 |
| L26 | 39.5 - 38.5 (26) | TP43.7919x42.5243x0.575 | 2645 | 5180 | 0.511 | 0 | 5180 | 0.000 |
| L27 | 38.5 - 33.5 (27) | TP44.767x43.7919x0.5625 | 2818 | 5304 | 0.531 | 0 | 5304 | 0.000 |
| L28 | 33.5 - 31.75 (28) | TP45.1083x44.767x0.5625 | 2879 | 5387 | 0.534 | 0 | 5387 | 0.000 |
| L29 | 31.75 - 31.5 (29) | TP45.157x45.1083x0.725 | 2888 | 6883 | 0.420 | 0 | 6883 | 0.000 |
| L30 | 31.5 - 28.25 (30) | TP45.7908x45.157x0.725 | 3002 | 7082 | 0.424 | 0 | 7082 | 0.000 |
| L31 | 28.25 - 28 (31) | TP45.8396x45.7908x0.5375 | 3011 | 5328 | 0.565 | 0 | 5328 | 0.000 |

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| tnxTower Tower Engineering Professionals, Inc. 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 30 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

| Section No. | Elevation ft | Size | M_{ux} kip-ft | ϕM_{nx} kip-ft | Ratio $\frac{M_{ux}}{\phi M_{nx}}$ | M_{uy} kip-ft | ϕM_{ny} kip-ft | Ratio $\frac{M_{uy}}{\phi M_{ny}}$ |
|-------------|-----------------|--------------------------|--------------------|-------------------------|---------------------------------------|--------------------|-------------------------|---------------------------------------|
| L32 | 28 - 23 (32) | TP46.8147x45.8396x0.5375 | 3188 | 5561 | 0.573 | 0 | 5561 | 0.000 |
| L33 | 23 - 18 (33) | TP47.7897x46.8147x0.525 | 3368 | 5669 | 0.594 | 0 | 5669 | 0.000 |
| L34 | 18 - 13 (34) | TP48.7648x47.7897x0.525 | 3549 | 5906 | 0.601 | 0 | 5906 | 0.000 |
| L35 | 13 - 8 (35) | TP49.7399x48.7648x0.525 | 3733 | 6149 | 0.607 | 0 | 6149 | 0.000 |
| L36 | 8 - 3 (36) | TP50.715x49.7399x0.525 | 3919 | 6388 | 0.613 | 0 | 6388 | 0.000 |
| L37 | 3 - 0 (37) | TP51.3x50.715x0.5188 | 4031 | 6426 | 0.627 | 0 | 6426 | 0.000 |

Pole Shear Design Data

| Section No. | Elevation ft | Size | Actual V_u K | ϕV_n K | Ratio $\frac{V_u}{\phi V_n}$ | Actual T_u kip-ft | ϕT_n kip-ft | Ratio $\frac{T_u}{\phi T_n}$ |
|-------------|------------------------|--------------------------|----------------------|-----------------|---------------------------------|---------------------------|----------------------|---------------------------------|
| L1 | 148 - 143 (1) | TP24.9752x24x0.2188 | 5 | 302 | 0.017 | 0 | 654 | 0.000 |
| L2 | 143 - 138 (2) | TP25.9503x24.9752x0.2188 | 11 | 314 | 0.035 | 0 | 707 | 0.001 |
| L3 | 138 - 133 (3) | TP26.9255x25.9503x0.2188 | 11 | 325 | 0.035 | 0 | 761 | 0.001 |
| L4 | 133 - 128 (4) | TP27.9006x26.9255x0.2188 | 12 | 337 | 0.035 | 0 | 818 | 0.001 |
| L5 | 128 - 123 (5) | TP28.8758x27.9006x0.2188 | 17 | 349 | 0.049 | 0 | 876 | 0.000 |
| L6 | 123 - 116 (6) | TP30.241x28.8758x0.2188 | 18 | 357 | 0.049 | 0 | 916 | 0.000 |
| L7 | 116 - 114.75 (7) | TP30.0471x29.0721x0.25 | 18 | 415 | 0.044 | 0 | 1083 | 0.000 |
| L8 | 114.75 - 109.75 (8) | TP31.0221x30.0471x0.25 | 19 | 429 | 0.045 | 0 | 1155 | 0.000 |
| L9 | 109.75 - 104.75 (9) | TP31.9971x31.0221x0.25 | 24 | 442 | 0.054 | 5 | 1229 | 0.004 |
| L10 | 104.75 - 99.75 (10) | TP32.9721x31.9971x0.25 | 25 | 456 | 0.054 | 5 | 1306 | 0.004 |
| L11 | 99.75 - 94.75 (11) | TP33.9471x32.9721x0.25 | 29 | 469 | 0.061 | 5 | 1385 | 0.003 |
| L12 | 94.75 - 93.5 (12) | TP34.1908x33.9471x0.25 | 29 | 473 | 0.061 | 5 | 1405 | 0.003 |
| L13 | 93.5 - 93.25 (13) | TP34.2396x34.1908x0.4375 | 29 | 824 | 0.035 | 5 | 2439 | 0.002 |
| L14 | 93.25 - 88.25 (14) | TP35.2145x34.2396x0.4313 | 29 | 836 | 0.035 | 5 | 2545 | 0.002 |
| L15 | 88.25 - 83.25 (15) | TP36.1895x35.2145x0.425 | 30 | 847 | 0.035 | 5 | 2652 | 0.002 |
| L16 | 83.25 - 74.75 (16) | TP37.847x36.1895x0.425 | 30 | 864 | 0.035 | 5 | 2761 | 0.002 |
| L17 | 74.75 - 74.5 (17) | TP37.3959x36.4208x0.4875 | 31 | 1002 | 0.031 | 5 | 3240 | 0.001 |
| L18 | 74.5 - 69.5 (18) | TP38.3711x37.3959x0.475 | 31 | 1003 | 0.031 | 5 | 3328 | 0.001 |
| L19 | 69.5 - 64.5 (19) | TP39.3462x38.3711x0.475 | 32 | 1029 | 0.031 | 5 | 3501 | 0.001 |
| L20 | 64.5 - 59.5 (20) | TP40.3214x39.3462x0.4688 | 32 | 1041 | 0.031 | 5 | 3632 | 0.001 |
| L21 | 59.5 - 57.75 (21) | TP40.6627x40.3214x0.4625 | 32 | 1036 | 0.031 | 5 | 3646 | 0.001 |
| L22 | 57.75 - 57.5 (22) | TP40.7114x40.6627x0.525 | 32 | 1175 | 0.028 | 5 | 4136 | 0.001 |
| L23 | 57.5 - 52.5 (23) | TP41.6866x40.7114x0.525 | 33 | 1204 | 0.027 | 5 | 4339 | 0.001 |
| L24 | 52.5 - 47.5 (24) | TP42.6618x41.6866x0.5125 | 33 | 1203 | 0.028 | 5 | 4442 | 0.001 |
| L25 | 47.5 - 39.5 (25) | TP44.222x42.6618x0.5125 | 34 | 1217 | 0.028 | 5 | 4545 | 0.001 |
| L26 | 39.5 - 38.5 (26) | TP43.7919x42.5243x0.575 | 34 | 1384 | 0.025 | 5 | 5239 | 0.001 |
| L27 | 38.5 - 33.5 (27) | TP44.767x43.7919x0.5625 | 35 | 1385 | 0.025 | 5 | 5362 | 0.001 |
| L28 | 33.5 - 31.75 (28) | TP45.1083x44.767x0.5625 | 35 | 1396 | 0.025 | 5 | 5445 | 0.001 |
| L29 | 31.75 - 31.5 (29) | TP45.157x45.1083x0.725 | 35 | 1794 | 0.019 | 5 | 6982 | 0.001 |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|--------------------|-------------------|
| <i>tnxTower</i> <i>Tower Engineering Professionals, Inc.</i> 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350 | Job | WindsorCentral (BU 855662) | Page | 31 of 31 |
| | Project | TEP No. 58885.577447 | Date | 14:49:10 07/30/21 |
| | Client | Crown Castle | Designed by | saltaie |

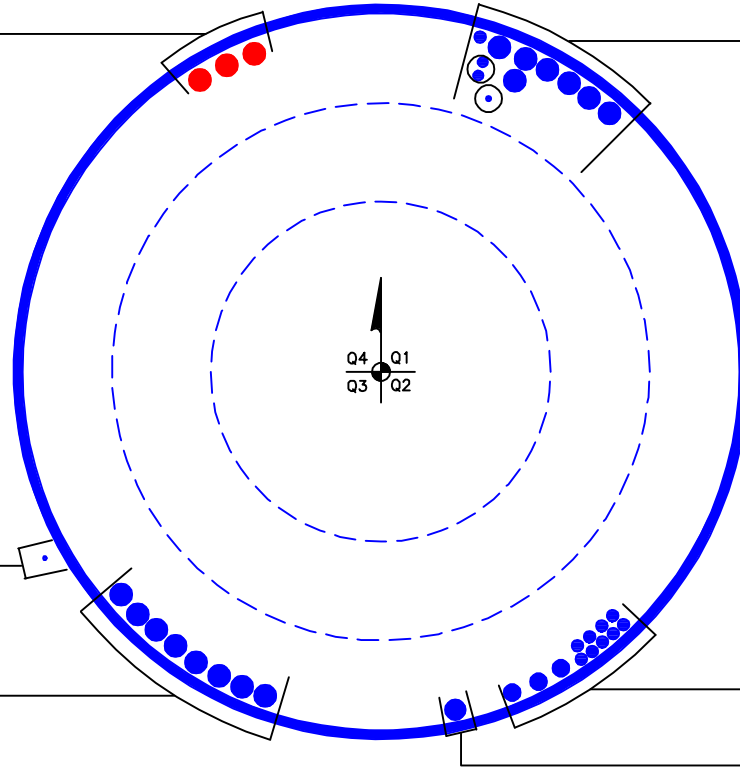
| <i>Section No.</i> | <i>Elevation ft</i> | <i>Size</i> | <i>Actual V_u K</i> | ϕV_n <i>K</i> | <i>Ratio $\frac{V_u}{\phi V_n}$</i> | <i>Actual T_u kip-ft</i> | ϕT_n <i>kip-ft</i> | <i>Ratio $\frac{T_u}{\phi T_n}$</i> |
|--------------------|---------------------|--------------------------|----------------------------------|------------------------|------------------------------------------------|---------------------------------------|-----------------------------|------------------------------------------------|
| L30 | 31.5 - 28.25 (30) | TP45.7908x45.157x0.725 | 35 | 1820 | 0.019 | 5 | 7183 | 0.001 |
| L31 | 28.25 - 28 (31) | TP45.8396x45.7908x0.5375 | 35 | 1356 | 0.026 | 5 | 5381 | 0.001 |
| L32 | 28 - 23 (32) | TP46.8147x45.8396x0.5375 | 36 | 1386 | 0.026 | 5 | 5615 | 0.001 |
| L33 | 23 - 18 (33) | TP47.7897x46.8147x0.525 | 36 | 1382 | 0.026 | 5 | 5721 | 0.001 |
| L34 | 18 - 13 (34) | TP48.7648x47.7897x0.525 | 37 | 1411 | 0.026 | 5 | 5960 | 0.001 |
| L35 | 13 - 8 (35) | TP49.7399x48.7648x0.525 | 37 | 1439 | 0.026 | 5 | 6203 | 0.001 |
| L36 | 8 - 3 (36) | TP50.715x49.7399x0.525 | 37 | 1468 | 0.025 | 5 | 6451 | 0.001 |
| L37 | 3 - 0 (37) | TP51.3x50.715x0.5188 | 37 | 1467 | 0.026 | 5 | 6526 | 0.001 |

APPENDIX B
BASE LEVEL DRAWING



(PROPOSED EQUIPMENT CONFIGURATION)
(3) 1-5/8" TO 139 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 7/8" TO 148 FT LEVEL
(1) 1-5/8" TO 148 FT LEVEL
(6) 1-5/8" TO 148 FT LEVEL
(OTHER CONSIDERED EQUIPMENT—IN 2" CONDUITS)
(1) 3/8" TO 148 FT LEVEL
(2) 3/4" TO 148 FT LEVEL



(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 50 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(8) 1-5/8" TO 126 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(3) 5/16" TO 109 FT LEVEL
(1) 5/8" TO 109 FT LEVEL
(3) 1-1/4" TO 109 FT LEVEL
(5) 7/8" TO 109 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1-1/2" TO 99 FT LEVEL

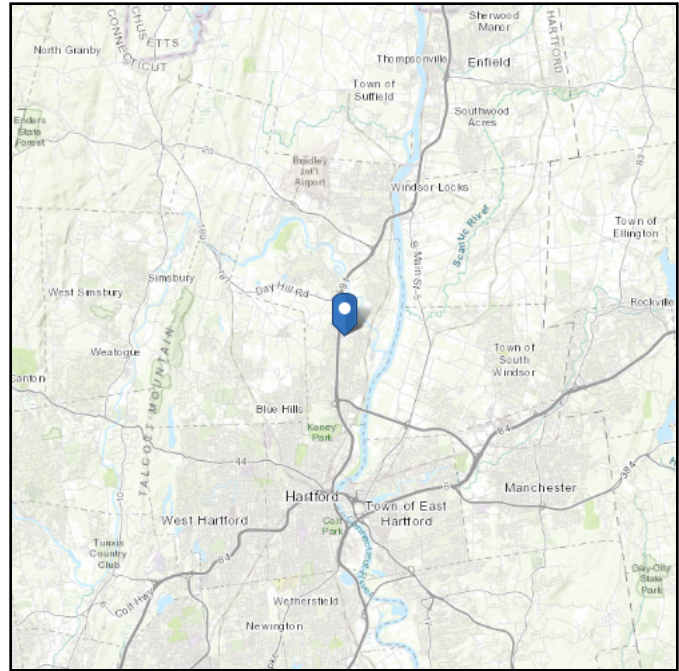
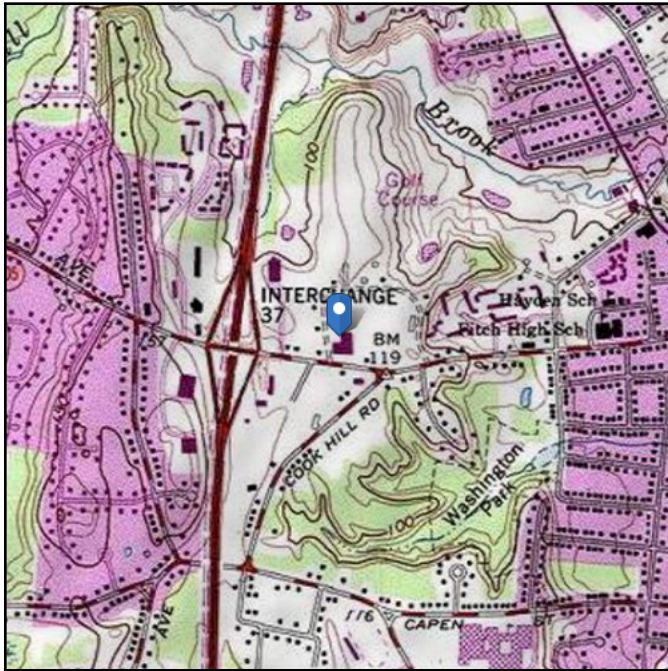
APPENDIX C
ADDITIONAL CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 115.16 ft (NAVD 88)
Latitude: 41.852594
Longitude: -72.660497



Wind

Results:

| | |
|--------------|----------|
| Wind Speed: | 121 Vmph |
| 10-year MRI | 76 Vmph |
| 25-year MRI | 86 Vmph |
| 50-year MRI | 92 Vmph |
| 100-year MRI | 99 Vmph |

Wind speed updated per local jurisdiction requirements

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

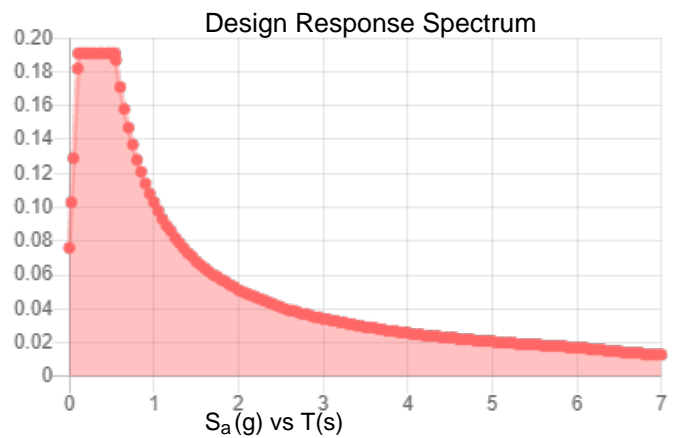
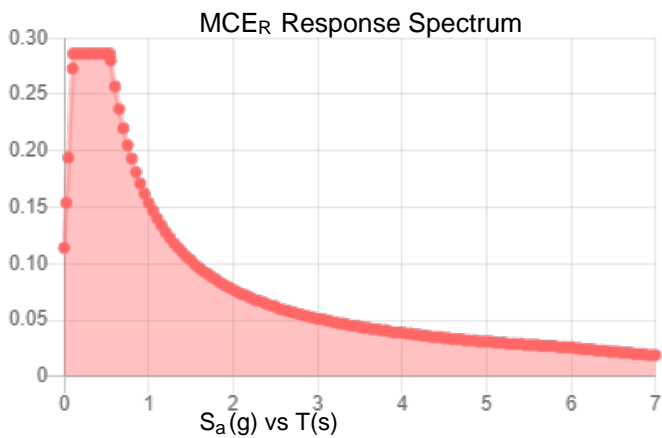
Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

| | | | |
|------------|-------|--------------------|-------|
| S_s : | 0.179 | S_{DS} : | 0.191 |
| S_1 : | 0.064 | S_{D1} : | 0.103 |
| F_a : | 1.6 | T_L : | 6 |
| F_v : | 2.4 | PGA : | 0.089 |
| S_{MS} : | 0.286 | PGA _M : | 0.142 |
| S_{M1} : | 0.154 | F _{PGA} : | 1.6 |
| | | I_e : | 1 |

Seismic Design Category B



Data Accessed:

Tue Jul 27 2021

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 5 F
Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Tue Jul 27 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Site BU: 855662
Work Order: 1776659



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Pole Geometry

| | Pole Height Above Base (ft) | Section Length (ft) | Lap Splice Length (ft) | Number of Sides | Top Diameter (in) | Bottom Diameter (in) | Wall Thickness (in) | Bend Radius (in) | Pole Material |
|---|-----------------------------|---------------------|------------------------|-----------------|-------------------|----------------------|---------------------|------------------|---------------|
| 1 | 148 | 32 | 3.75 | 18 | 24 | 30.241 | 0.21875 | Auto | A607-65 |
| 2 | 119.75 | 45 | 4.75 | 18 | 29.07 | 37.847 | 0.25 | Auto | A607-65 |
| 3 | 79.5 | 40 | 5.5 | 18 | 36.42 | 44.222 | 0.3125 | Auto | A607-65 |
| 4 | 45 | 45 | 0 | 18 | 42.52 | 51.3 | 0.375 | Auto | A607-65 |

Reinforcement Configuration

| | Bottom Effective Elevation (ft) | Top Effective Elevation (ft) | Type | Model | Number | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
|----|---------------------------------|------------------------------|-------|----------------|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|---|
| 1 | 0 | 31.75 | plate | CCI-SFP-085125 | 3 | | | | | | | | x | | | | | x | | | | | | x |
| 2 | 28.25 | 57.75 | plate | CCI-SFP-065125 | 2 | | | | | | x | | | | | | x | | | | | | | |
| 3 | 31.75 | 57.75 | plate | CCI-SFP-065125 | 1 | | | | | | | | | | | | | | | | | | | x |
| 4 | 57.75 | 93.5 | plate | CCI-SFP-060100 | 3 | | | | | | x | | | | | | x | | | | | | | x |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |

Reinforcement Details

| | B (in) | H (in) | Gross Area (in ²) | Pole Face to Centroid (in) | Bottom Termination Type | Bottom Termination Length (in) | Top Termination Type | Top Termination Length (in) | Lu (in) | Net Area (in ²) | Bolt Hole Size (in) | Reinforcement Material |
|---|--------|--------|-------------------------------|----------------------------|-------------------------|--------------------------------|----------------------|-----------------------------|---------|-----------------------------|---------------------|------------------------|
| 1 | 8.5 | 1.25 | 10.625 | 0.625 | PC 8.8 - M20 (100) | 45 | PC 8.8 - M20 (100) | 45.000 | 17.000 | 9.063 | 1.1875 | A572-65 |
| 2 | 6.5 | 1.25 | 8.125 | 0.625 | PC 8.8 - M20 (100) | 33 | PC 8.8 - M20 (100) | 33.000 | 19.000 | 6.563 | 1.1875 | A572-65 |
| 3 | 6.5 | 1.25 | 8.125 | 0.625 | PC 8.8 - M20 (100) | 33 | PC 8.8 - M20 (100) | 33.000 | 19.000 | 6.563 | 1.1875 | A572-65 |
| 4 | 6 | 1 | 6 | 0.5 | PC 8.8 - M20 (100) | 24 | PC 8.8 - M20 (100) | 24.000 | 16.000 | 4.750 | 1.1875 | A572-65 |

TNX Geometry Input

Increment (ft): [Export to TNX](#)

| | Section Height (ft) | Section Length (ft) | Lap Splice Length (ft) | Number of Sides | Top Diameter (in) | Bottom Diameter (in) | Wall Thickness (in) | Tapered Pole Grade | Weight Multiplier |
|----|---------------------|---------------------|------------------------|-----------------|-------------------|----------------------|---------------------|--------------------|-------------------|
| 1 | 148 - 143 | 5 | | 18 | 24.000 | 24.975 | 0.21875 | A607-65 | 1.000 |
| 2 | 143 - 138 | 5 | | 18 | 24.975 | 25.950 | 0.21875 | A607-65 | 1.000 |
| 3 | 138 - 133 | 5 | | 18 | 25.950 | 26.925 | 0.21875 | A607-65 | 1.000 |
| 4 | 133 - 128 | 5 | | 18 | 26.925 | 27.901 | 0.21875 | A607-65 | 1.000 |
| 5 | 128 - 123 | 5 | | 18 | 27.901 | 28.876 | 0.21875 | A607-65 | 1.000 |
| 6 | 123 - 119.75 | 7 | 3.75 | 18 | 28.876 | 30.241 | 0.21875 | A607-65 | 1.000 |
| 7 | 119.75 - 114.75 | 5 | | 18 | 29.072 | 30.047 | 0.25 | A607-65 | 1.000 |
| 8 | 114.75 - 109.75 | 5 | | 18 | 30.047 | 31.022 | 0.25 | A607-65 | 1.000 |
| 9 | 109.75 - 104.75 | 5 | | 18 | 31.022 | 31.997 | 0.25 | A607-65 | 1.000 |
| 10 | 104.75 - 99.75 | 5 | | 18 | 31.997 | 32.972 | 0.25 | A607-65 | 1.000 |
| 11 | 99.75 - 94.75 | 5 | | 18 | 32.972 | 33.947 | 0.25 | A607-65 | 1.000 |
| 12 | 94.75 - 93.5 | 1.25 | | 18 | 33.947 | 34.191 | 0.25 | A607-65 | 1.000 |
| 13 | 93.5 - 93.25 | 0.25 | | 18 | 34.191 | 34.240 | 0.4375 | A607-65 | 0.958 |
| 14 | 93.25 - 88.25 | 5 | | 18 | 34.240 | 35.215 | 0.43125 | A607-65 | 0.961 |
| 15 | 88.25 - 83.25 | 5 | | 18 | 35.215 | 36.190 | 0.425 | A607-65 | 0.964 |
| 16 | 83.25 - 79.5 | 8.5 | 4.75 | 18 | 36.190 | 37.847 | 0.425 | A607-65 | 0.957 |
| 17 | 79.5 - 74.5 | 5 | | 18 | 36.421 | 37.396 | 0.4875 | A607-65 | 0.959 |
| 18 | 74.5 - 69.5 | 5 | | 18 | 37.396 | 38.371 | 0.475 | A607-65 | 0.976 |
| 19 | 69.5 - 64.5 | 5 | | 18 | 38.371 | 39.346 | 0.475 | A607-65 | 0.968 |
| 20 | 64.5 - 59.5 | 5 | | 18 | 39.346 | 40.321 | 0.46875 | A607-65 | 0.973 |
| 21 | 59.5 - 57.75 | 1.75 | | 18 | 40.321 | 40.663 | 0.4625 | A607-65 | 0.983 |
| 22 | 57.75 - 57.5 | 0.25 | | 18 | 40.663 | 40.711 | 0.525 | A607-65 | 0.962 |
| 23 | 57.5 - 52.5 | 5 | | 18 | 40.711 | 41.687 | 0.525 | A607-65 | 0.954 |
| 24 | 52.5 - 47.5 | 5 | | 18 | 41.687 | 42.662 | 0.5125 | A607-65 | 0.968 |
| 25 | 47.5 - 45 | 8 | 5.5 | 18 | 42.662 | 44.222 | 0.5125 | A607-65 | 0.964 |
| 26 | 45 - 38.5 | 6.5 | | 18 | 42.524 | 43.792 | 0.575 | A607-65 | 0.964 |
| 27 | 38.5 - 33.5 | 5 | | 18 | 43.792 | 44.767 | 0.5625 | A607-65 | 0.978 |
| 28 | 33.5 - 31.75 | 1.75 | | 18 | 44.767 | 45.108 | 0.5625 | A607-65 | 0.976 |
| 29 | 31.75 - 31.5 | 0.25 | | 18 | 45.108 | 45.157 | 0.725 | A607-65 | 0.992 |
| 30 | 31.5 - 28.25 | 3.25 | | 18 | 45.157 | 45.791 | 0.725 | A607-65 | 0.985 |
| 31 | 28.25 - 28 | 0.25 | | 18 | 45.791 | 45.840 | 0.5375 | A607-65 | 1.113 |
| 32 | 28 - 23 | 5 | | 18 | 45.840 | 46.815 | 0.5375 | A607-65 | 1.104 |
| 33 | 23 - 18 | 5 | | 18 | 46.815 | 47.790 | 0.525 | A607-65 | 1.121 |
| 34 | 18 - 13 | 5 | | 18 | 47.790 | 48.765 | 0.525 | A607-65 | 1.113 |
| 35 | 13 - 8 | 5 | | 18 | 48.765 | 49.740 | 0.525 | A607-65 | 1.105 |
| 36 | 8 - 3 | 5 | | 18 | 49.740 | 50.715 | 0.525 | A607-65 | 1.098 |
| 37 | 3 - 0 | 3 | | 18 | 50.715 | 51.300 | 0.51875 | A607-65 | 1.106 |

TNX Section Forces

| Increment (ft): | | TNX Output | | | | |
|-----------------|-----------------|---------------------|---------|-----------|-------------------|-----------|
| | 5 | Section Height (ft) | | P_u (K) | M_{ux} (kip-ft) | V_u (K) |
| 1 | 148 - 143 | 4.82 | 20.02 | 5.24 | | |
| 2 | 143 - 138 | 9.72 | 64.56 | 10.82 | | |
| 3 | 138 - 133 | 10.13 | 119.87 | 11.31 | | |
| 4 | 133 - 128 | 10.56 | 177.59 | 11.79 | | |
| 5 | 128 - 123 | 15.08 | 257.68 | 17.22 | | |
| 6 | 123 - 119.75 | 15.43 | 314.14 | 17.53 | | |
| 7 | 119.75 - 114.75 | 16.33 | 403.14 | 18.07 | | |
| 8 | 114.75 - 109.75 | 17.60 | 495.56 | 19.29 | | |
| 9 | 109.75 - 104.75 | 21.71 | 618.53 | 24.09 | | |
| 10 | 104.75 - 99.75 | 22.45 | 740.07 | 24.55 | | |
| 11 | 99.75 - 94.75 | 26.02 | 878.82 | 28.53 | | |
| 12 | 94.75 - 93.5 | 26.23 | 914.53 | 28.64 | | |
| 13 | 93.5 - 93.25 | 26.30 | 921.69 | 28.67 | | |
| 14 | 93.25 - 88.25 | 27.44 | 1066.21 | 29.17 | | |
| 15 | 88.25 - 83.25 | 28.61 | 1213.27 | 29.68 | | |
| 16 | 83.25 - 79.5 | 29.50 | 1325.22 | 30.05 | | |
| 17 | 79.5 - 74.5 | 31.73 | 1476.98 | 30.67 | | |
| 18 | 74.5 - 69.5 | 33.09 | 1631.51 | 31.17 | | |
| 19 | 69.5 - 64.5 | 34.48 | 1788.52 | 31.66 | | |
| 20 | 64.5 - 59.5 | 35.91 | 1947.97 | 32.15 | | |
| 21 | 59.5 - 57.75 | 36.40 | 2004.35 | 32.32 | | |
| 22 | 57.75 - 57.5 | 36.50 | 2012.43 | 32.33 | | |
| 23 | 57.5 - 52.5 | 38.06 | 2175.27 | 32.83 | | |
| 24 | 52.5 - 47.5 | 39.75 | 2340.84 | 33.38 | | |
| 25 | 47.5 - 45 | 40.56 | 2424.54 | 33.62 | | |
| 26 | 45 - 38.5 | 44.35 | 2645.41 | 34.35 | | |
| 27 | 38.5 - 33.5 | 46.17 | 2818.21 | 34.80 | | |
| 28 | 33.5 - 31.75 | 46.81 | 2879.21 | 34.96 | | |
| 29 | 31.75 - 31.5 | 46.95 | 2887.94 | 34.96 | | |
| 30 | 31.5 - 28.25 | 48.44 | 3002.05 | 35.28 | | |
| 31 | 28.25 - 28 | 48.55 | 3010.87 | 35.29 | | |
| 32 | 28 - 23 | 50.58 | 3188.29 | 35.70 | | |
| 33 | 23 - 18 | 52.65 | 3367.62 | 36.07 | | |
| 34 | 18 - 13 | 55.32 | 3549.22 | 36.66 | | |
| 35 | 13 - 8 | 57.44 | 3733.22 | 36.98 | | |
| 36 | 8 - 3 | 59.59 | 3918.80 | 37.29 | | |
| 37 | 3 - 0 | 60.89 | 4030.89 | 37.48 | | |

Analysis Results

| Elevation (ft) | Component Type | Size | Critical Element | % Capacity | Pass / Fail |
|-----------------|----------------|------------------------|--------------------------|------------|-------------|
| 148 - 143 | Pole | TP24.975x24x0.2188 | Pole | 3.6% | Pass |
| 143 - 138 | Pole | TP25.95x24.975x0.2188 | Pole | 10.3% | Pass |
| 138 - 133 | Pole | TP26.925x25.95x0.2188 | Pole | 17.2% | Pass |
| 133 - 128 | Pole | TP27.901x26.925x0.2188 | Pole | 23.6% | Pass |
| 128 - 123 | Pole | TP28.876x27.901x0.2188 | Pole | 32.4% | Pass |
| 123 - 119.75 | Pole | TP30.241x28.876x0.2188 | Pole | 37.9% | Pass |
| 119.75 - 114.75 | Pole | TP30.047x29.072x0.25 | Pole | 39.3% | Pass |
| 114.75 - 109.75 | Pole | TP31.022x30.047x0.25 | Pole | 45.6% | Pass |
| 109.75 - 104.75 | Pole | TP31.997x31.022x0.25 | Pole | 54.1% | Pass |
| 104.75 - 99.75 | Pole | TP32.972x31.997x0.25 | Pole | 61.3% | Pass |
| 99.75 - 94.75 | Pole | TP33.947x32.972x0.25 | Pole | 69.5% | Pass |
| 94.75 - 93.5 | Pole | TP34.191x33.947x0.25 | Pole | 71.4% | Pass |
| 93.5 - 93.25 | Pole + Reinf. | TP34.24x34.191x0.4375 | Reinf. 4 Tension Rupture | 58.9% | Pass |
| 93.25 - 88.25 | Pole + Reinf. | TP35.215x34.24x0.4313 | Reinf. 4 Tension Rupture | 65.1% | Pass |
| 88.25 - 83.25 | Pole + Reinf. | TP36.19x35.215x0.425 | Reinf. 4 Tension Rupture | 70.8% | Pass |
| 83.25 - 79.5 | Pole + Reinf. | TP37.847x36.19x0.425 | Reinf. 4 Tension Rupture | 74.9% | Pass |
| 79.5 - 74.5 | Pole + Reinf. | TP37.396x36.421x0.4875 | Reinf. 4 Tension Rupture | 71.2% | Pass |
| 74.5 - 69.5 | Pole + Reinf. | TP38.371x37.396x0.475 | Reinf. 4 Tension Rupture | 75.2% | Pass |
| 69.5 - 64.5 | Pole + Reinf. | TP39.346x38.371x0.475 | Reinf. 4 Tension Rupture | 79.0% | Pass |
| 64.5 - 59.5 | Pole + Reinf. | TP40.321x39.346x0.4688 | Reinf. 4 Tension Rupture | 82.6% | Pass |
| 59.5 - 57.75 | Pole + Reinf. | TP40.663x40.321x0.4625 | Reinf. 4 Tension Rupture | 83.7% | Pass |
| 57.75 - 57.5 | Pole + Reinf. | TP40.711x40.663x0.525 | Reinf. 2 Tension Rupture | 73.9% | Pass |
| 57.5 - 52.5 | Pole + Reinf. | TP41.687x40.711x0.525 | Reinf. 2 Tension Rupture | 76.8% | Pass |
| 52.5 - 47.5 | Pole + Reinf. | TP42.662x41.687x0.5125 | Reinf. 2 Tension Rupture | 79.6% | Pass |
| 47.5 - 45 | Pole + Reinf. | TP44.222x42.662x0.5125 | Reinf. 2 Tension Rupture | 80.9% | Pass |
| 45 - 38.5 | Pole + Reinf. | TP43.792x42.524x0.575 | Reinf. 2 Tension Rupture | 76.9% | Pass |
| 38.5 - 33.5 | Pole + Reinf. | TP44.767x43.792x0.5625 | Reinf. 2 Tension Rupture | 78.9% | Pass |
| 33.5 - 31.75 | Pole + Reinf. | TP45.108x44.767x0.5625 | Reinf. 2 Tension Rupture | 79.6% | Pass |
| 31.75 - 31.5 | Pole + Reinf. | TP45.157x45.108x0.725 | Reinf. 1 Bolt Shear | 66.3% | Pass |
| 31.5 - 28.25 | Pole + Reinf. | TP45.791x45.157x0.725 | Reinf. 1 Compression | 64.8% | Pass |
| 28.25 - 28 | Pole + Reinf. | TP45.84x45.791x0.5375 | Reinf. 1 Compression | 73.2% | Pass |
| 28 - 23 | Pole + Reinf. | TP46.815x45.84x0.5375 | Reinf. 1 Compression | 74.8% | Pass |
| 23 - 18 | Pole + Reinf. | TP47.79x46.815x0.525 | Reinf. 1 Compression | 76.3% | Pass |
| 18 - 13 | Pole + Reinf. | TP48.765x47.79x0.525 | Reinf. 1 Compression | 77.8% | Pass |
| 13 - 8 | Pole + Reinf. | TP49.74x48.765x0.525 | Reinf. 1 Compression | 79.1% | Pass |
| 8 - 3 | Pole + Reinf. | TP50.715x49.74x0.525 | Reinf. 1 Compression | 80.4% | Pass |
| 3 - 0 | Pole + Reinf. | TP51.3x50.715x0.5188 | Reinf. 1 Bolt Shear | 84.3% | Pass |
| | | | | Summary | |
| | | | Pole | 71.4% | Pass |
| | | | Reinforcement | 84.3% | Pass |
| | | | Overall | 84.3% | Pass |

Additional Calculations

| Section Elevation (ft) | Moment of Inertia (in ⁴) | | | Area (in ²) | | | % Capacity* | | | | |
|---------------------------|--------------------------------------|--------|-------|-------------------------|--------|--------|-------------|-------|-------|-------|-------|
| | Pole | Reinf. | Total | Pole | Reinf. | Total | Pole | R1 | R2 | R3 | R4 |
| 148 - 143 | 1330 | n/a | 1330 | 17.19 | n/a | 17.19 | 3.6% | | | | |
| 143 - 138 | 1494 | n/a | 1494 | 17.87 | n/a | 17.87 | 10.3% | | | | |
| 138 - 133 | 1670 | n/a | 1670 | 18.54 | n/a | 18.54 | 17.2% | | | | |
| 133 - 128 | 1860 | n/a | 1860 | 19.22 | n/a | 19.22 | 23.6% | | | | |
| 128 - 123 | 2064 | n/a | 2064 | 19.90 | n/a | 19.90 | 32.4% | | | | |
| 123 - 119.75 | 2204 | n/a | 2204 | 20.34 | n/a | 20.34 | 37.9% | | | | |
| 119.75 - 114.75 | 2651 | n/a | 2651 | 23.64 | n/a | 23.64 | 39.3% | | | | |
| 114.75 - 109.75 | 2920 | n/a | 2920 | 24.42 | n/a | 24.42 | 45.6% | | | | |
| 109.75 - 104.75 | 3207 | n/a | 3207 | 25.19 | n/a | 25.19 | 54.1% | | | | |
| 104.75 - 99.75 | 3511 | n/a | 3511 | 25.96 | n/a | 25.96 | 61.3% | | | | |
| 99.75 - 94.75 | 3834 | n/a | 3834 | 26.74 | n/a | 26.74 | 69.5% | | | | |
| 94.75 - 93.5 | 3918 | n/a | 3918 | 26.93 | n/a | 26.93 | 71.4% | | | | |
| 93.5 - 93.25 | 3935 | 2822 | 6757 | 26.97 | 18.00 | 44.97 | 41.2% | | | | 58.9% |
| 93.25 - 88.25 | 4284 | 2979 | 7262 | 27.74 | 18.00 | 45.74 | 46.0% | | | | 65.1% |
| 88.25 - 83.25 | 4652 | 3140 | 7792 | 28.52 | 18.00 | 46.52 | 50.6% | | | | 70.8% |
| 83.25 - 79.5 | 4942 | 3263 | 8205 | 29.10 | 18.00 | 47.10 | 53.9% | | | | 74.9% |
| 79.5 - 74.5 | 6388 | 3345 | 9733 | 36.78 | 18.00 | 54.78 | 47.5% | | | | 71.2% |
| 74.5 - 69.5 | 6906 | 3515 | 10421 | 37.75 | 18.00 | 55.75 | 50.6% | | | | 75.2% |
| 69.5 - 64.5 | 7450 | 3690 | 11140 | 38.72 | 18.00 | 56.72 | 53.7% | | | | 79.0% |
| 64.5 - 59.5 | 8022 | 3870 | 11892 | 39.68 | 18.00 | 57.68 | 56.5% | | | | 82.6% |
| 59.5 - 57.75 | 8230 | 3933 | 12163 | 40.02 | 18.00 | 58.02 | 57.5% | | | | 83.7% |
| 57.75 - 57.5 | 8259 | 5409 | 13669 | 40.07 | 24.38 | 64.44 | 51.5% | | 73.9% | 73.9% | |
| 57.5 - 52.5 | 8872 | 5662 | 14534 | 41.04 | 24.38 | 65.41 | 54.0% | | 76.8% | 76.8% | |
| 52.5 - 47.5 | 9514 | 5920 | 15434 | 42.00 | 24.38 | 66.38 | 56.5% | | 79.6% | 79.6% | |
| 47.5 - 45 | 9847 | 6051 | 15897 | 42.49 | 24.38 | 66.86 | 57.7% | | 80.9% | 80.9% | |
| 45 - 38.5 | 12303 | 6226 | 18529 | 51.68 | 24.38 | 76.05 | 51.8% | | 76.9% | 76.9% | |
| 38.5 - 33.5 | 13150 | 6496 | 19647 | 52.84 | 24.38 | 77.21 | 53.6% | | 78.9% | 78.9% | |
| 33.5 - 31.75 | 13456 | 6593 | 20048 | 53.24 | 24.38 | 77.62 | 54.2% | | 79.6% | 79.6% | |
| 31.75 - 31.5 | 13800 | 12075 | 25875 | 53.30 | 48.13 | 101.42 | 47.1% | 66.3% | 60.4% | | |
| 31.5 - 28.25 | 14389 | 12408 | 26798 | 54.05 | 48.13 | 102.18 | 48.1% | 64.8% | 61.5% | | |
| 28.25 - 28 | 14322 | 5866 | 20187 | 54.11 | 31.88 | 85.99 | 62.0% | 73.2% | | | |
| 28 - 23 | 15257 | 6111 | 21369 | 55.27 | 31.88 | 87.15 | 63.7% | 74.8% | | | |
| 23 - 18 | 16233 | 6362 | 22595 | 56.43 | 31.88 | 88.31 | 65.3% | 76.3% | | | |
| 18 - 13 | 17249 | 6618 | 23867 | 57.59 | 31.88 | 89.47 | 66.9% | 77.8% | | | |
| 13 - 8 | 18307 | 6880 | 25186 | 58.75 | 31.88 | 90.63 | 68.5% | 79.1% | | | |
| 8 - 3 | 19407 | 7146 | 26553 | 59.91 | 31.88 | 91.79 | 70.0% | 80.4% | | | |
| 3 - 0 | 20088 | 7309 | 27396 | 60.61 | 31.88 | 92.49 | 70.8% | 84.3% | | | |

Note: Section capacity checked using 5 degree increments.
Rating per TIA-222-H Section 15.5.

Monopole Base Plate Connection

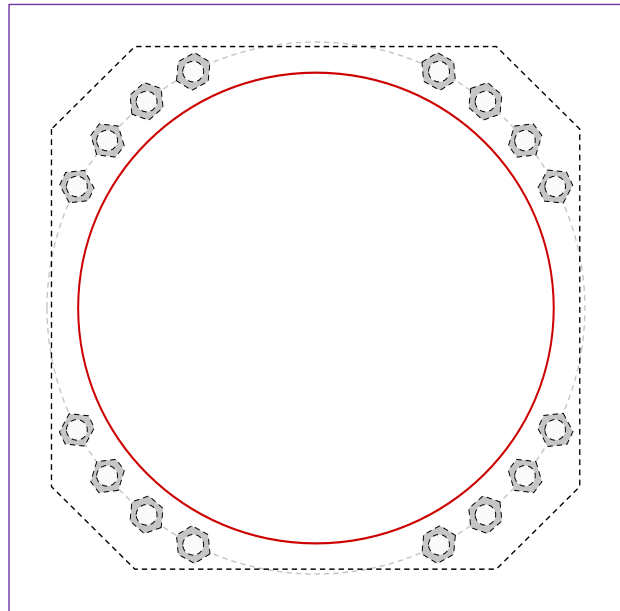


| Site Info | |
|-----------|----------------|
| BU # | 855662 |
| Site Name | WindsorCentral |
| Order # | 495574 Rev.5 |

| Analysis Considerations | |
|-------------------------|-----|
| TIA-222 Revision | H |
| Grout Considered: | No |
| l_{ar} (in) | 1.5 |

| Applied Loads | |
|--------------------|---------|
| Moment (kip-ft) | 4031.00 |
| Axial Force (kips) | 61.00 |
| Shear Force (kips) | 37.00 |

*TIA-222-H Section 15.5 Applied



| Connection Properties | Analysis Results |
|-----------------------|------------------|
|-----------------------|------------------|

Anchor Rod Data
 (16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 58" BC
Anchor Spacing: 6 in

Base Plate Data
 57" W x 2.75" Plate (A572-55; $F_y=55$ ksi, $F_u=70$ ksi); Clip: 9 in

Stiffener Data
 N/A

Pole Data
 51.3" x 0.375" 18-sided pole (A607-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary *(units of kips, kip-in)*

| | | |
|--------------------|-------------------------|----------------------|
| $P_{u,t} = 204.56$ | $\phi P_{n,t} = 243.75$ | Stress Rating |
| $V_u = 2.31$ | $\phi V_n = 149.1$ | 79.9% |
| $M_u = n/a$ | $\phi M_n = n/a$ | Pass |

Base Plate Summary

| | | |
|-------------------------|--------------|-------------|
| Max Stress (ksi): | 38.64 | (Flexural) |
| Allowable Stress (ksi): | 49.5 | |
| Stress Rating: | 74.3% | Pass |

Drilled Pier Foundation

| | |
|-------------------|----------------|
| BU # : | 855662 |
| Site Name: | WINDSORCENTRAL |
| Order Number: | 495574 Rev.5 |
| TIA-222 Revision: | H |
| Tower Type: | Monopole |

Report File:



| Applied Loads | | |
|--------------------|-------|--------|
| | Comp. | Uplift |
| Moment (kip-ft) | 4031 | |
| Axial Force (kips) | 61 | |
| Shear Force (kips) | 37 | |

| Material Properties | | |
|--------------------------------------|----|-----|
| Concrete Strength, f _c : | 3 | ksi |
| Rebar Strength, F _y : | 60 | ksi |
| Tie Yield Strength, F _y : | 40 | ksi |

| Pier Design Data | | |
|---------------------------------------------------|------|----|
| Depth | 32.5 | ft |
| Ext. Above Grade | 0.5 | ft |
| Pier Section 1 | | |
| <i>From 0.5' above grade to 32.5' below grade</i> | | |
| Pier Diameter | 7 | ft |
| Rebar Quantity | 20 | |
| Rebar Size | 11 | |
| Clear Cover to Ties | 4 | in |
| Tie Size | 5 | |
| Tie Spacing | 18 | in |

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

| Analysis Results | | | |
|------------------------------------|-------------|--------|--|
| Soil Lateral Check | | | |
| | Compression | Uplift | |
| D _{v=0} (ft from TOC) | 7.51 | - | |
| Soil Safety Factor | 1.78 | - | |
| Max Moment (kip-ft) | 4275.84 | - | |
| Rating* | 71.2% | - | |
| Soil Vertical Check | | | |
| | Compression | Uplift | |
| Skin Friction (kips) | 150.09 | - | |
| End Bearing (kips) | 189.92 | - | |
| Weight of Concrete (kips) | 140.68 | - | |
| Total Capacity (kips) | 340.01 | - | |
| Axial (kips) | 201.68 | - | |
| Rating* | 56.5% | - | |
| Reinforced Concrete Flexure | | | |
| | Compression | Uplift | |
| Critical Depth (ft from TOC) | 7.56 | - | |
| Critical Moment (kip-ft) | 4275.83 | - | |
| Critical Moment Capacity | 5007.04 | - | |
| Rating* | 81.3% | - | |
| Reinforced Concrete Shear | | | |
| | Compression | Uplift | |
| Critical Depth (ft from TOC) | 19.59 | - | |
| Critical Shear (kip) | 334.27 | - | |
| Critical Shear Capacity | 493.56 | - | |
| Rating* | 64.5% | - | |

| Check Limitation | |
|---------------------------------------|-------------------------------------|
| Apply TIA-222-H Section 15.5: | <input checked="" type="checkbox"/> |
| N/A | <input type="checkbox"/> |
| Additional Longitudinal Rebar | |
| Input Effective Depths (else Actual): | <input type="checkbox"/> |
| Shear Design Options | |
| Check Shear along Depth of Pier: | <input checked="" type="checkbox"/> |
| Utilize Shear-Friction Methodology: | <input type="checkbox"/> |
| Override Critical Depth: | <input type="checkbox"/> |

[Go to Soil Calculations](#)

| | |
|--------------------------------------|--------------|
| Structural Foundation Rating* | 81.3% |
| Soil Interaction Rating* | 71.2% |

*Rating per TIA-222-H Section 15.5

| Soil Profile | | | |
|-------------------|---|-------------|---|
| Groundwater Depth | 2 | # of Layers | 5 |

| Layer | Top (ft) | Bottom (ft) | Thickness (ft) | Y _{soil} (pcf) | Y _{concrete} (pcf) | Cohesion (ksf) | Angle of Friction (degrees) | Calculated Ultimate Skin Friction Comp (ksf) | Calculated Ultimate Skin Friction Uplift (ksf) | Ultimate Skin Friction Comp Override (ksf) | Ultimate Skin Friction Uplift Override (ksf) | Ult. Gross Bearing Capacity (ksf) | SPT Blow Count | Soil Type |
|-------|----------|-------------|----------------|-------------------------|-----------------------------|----------------|-----------------------------|----------------------------------------------|------------------------------------------------|--------------------------------------------|----------------------------------------------|-----------------------------------|----------------|--------------|
| 1 | 0 | 2 | 2 | 110 | 150 | 0 | | 0.000 | 0.000 | 0.00 | 0.00 | | | Cohesionless |
| 2 | 2 | 5 | 3 | 50 | 87.6 | 0 | | 0.000 | 0.000 | 0.00 | 0.00 | | | Cohesionless |
| 3 | 5 | 12 | 7 | 55 | 87.6 | | 35 | 0.000 | 0.000 | 0.36 | 0.36 | | | Cohesionless |
| 4 | 12 | 16 | 4 | 50 | 87.6 | | 31 | 0.000 | 0.000 | 0.49 | 0.49 | | | Cohesionless |
| 5 | 16 | 32.5 | 16.5 | 50 | 87.6 | 0.8 | | 0.440 | 0.440 | 0.28 | 0.28 | 6.58 | | Cohesive |

Exhibit E



Date: June 15, 2021

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject: Mount Analysis Report

Carrier Designation: T-Mobile
Site Number: CT11063B
Site Name: Windsor Fire Department_1

Crown Castle Designation: BU Number: 855662
Site Name: Windsor Central
JDE Job Number: 578038
Order Number: 495574, Revision 5

Engineering Firm Designation: Report Designation: 91728.013.01

Site Data: 340 Bloomfield Avenue, Windsor, CT 06095. Hartford County
Latitude 41° 51' 9.34" Longitude -72° 39' 37.79"

Structure Information: Tower Height & Type: 148.0 ft. Monopole
Mount Elevation: 143.0 ft.
Mount Type: 14.0 ft. Platform

We are pleased to submit this “Mount Analysis Report” to determine the structural integrity of T-Mobile’s antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount’s stress level. Based on our analysis we have determined the stress level to be:

Platform with new Support Rails

Sufficient

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code (2015 IBC). Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Khup Hatzaw, P.E.

Respectfully submitted by: John W. Kelly P.E. Engineering D.P.C.
COA #: PEC.0001564, Expires: 02/10/2022

Chad E. Tuttle, P.E.
Engineer of Record

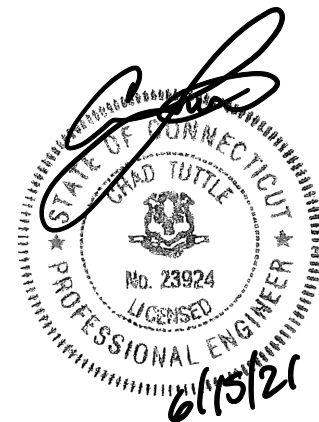


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Software Analysis Output

1) INTRODUCTION

The existing Mount is a 14.0 ft. Platform mapped by B+T Group. A new Support Rail Kit will be installed at 2'-0" above from the Platform level.

2) ANALYSIS CRITERIA

| | |
|----------------------------------|------------------|
| Building Code: | 2015 IBC |
| TIA-222 Revision: | TIA-222-H |
| Risk Category: | II |
| Ultimate Wind Speed: | 125 mph |
| Exposure Category: | C |
| Topographic Factor at Base: | 1 |
| Topographic Factor at Mount: | 1 |
| Ice Thickness: | 2 in |
| Wind Speed with Ice: | 50 mph |
| Seismic S _s : | 0.179 |
| Seismic S ₁ : | 0.064 |
| Live Loading Wind Speed: | 30 mph |
| Man Live Load at Mid/End-Points: | 250 lb |
| Man Live Load at Mount Pipes: | 500 lb |

Table 1 - Proposed Equipment Configuration

| Mount Centerline (ft) | Antenna Centerline (ft) | Qty. | Manufacturer | Model / Type | Mount / Modification Details |
|-----------------------|-------------------------|------|--------------|---------------------------|------------------------------------------------|
| 143 | 143 | 3 | RFS | APX16DWV-16DWV-S-E-A20 | Existing 14.0' Platform with new Support Rails |
| | | 3 | RFS | APXVAALL24_43-U-NA20_TMO | |
| | | 3 | Ericsson | AIR6449 B41_T-MOBILE | |
| | | 3 | Ericsson | RADIO 4460 B2/B25 B66_TMO | |
| | | 3 | Ericsson | RADIO 4480 B71_TMO | |

Table 2 - Documents Provided

| Document | Description | Reference | Source |
|-----------------------------------------|---------------------------------------|------------------|--------------|
| CCI Order Information | Proposed Loading and Existing Loading | Date: 06/10/2019 | Crown Castle |
| RFDS | | Date: 05/12/2021 | |
| Crone Mount Mapping Report by B+T Group | Existing Mount | Date: 07/30/2019 | On File |
| Mount Analysis Report by B+T Group | Mount Structural Analysis | Date: 08/07/2019 | |

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.3), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed by John W. Kelly P.E. Engineering D.P.C., was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B “Software Input Calculations”.

This analysis was performed in accordance with Crown Castle’s ENG-SOW-10208 *Tower Mount Analysis* (Revision D). In addition, this analysis is in accordance with OTHER SOW.

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
3. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
4. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
5. The following assumptions have been included in the analysis of the mount]

| Component | Section | Length | Note |
|------------------|-----------------|--------|----------------------------------|
| Support Rail Kit | SitePro1 #HRK12 | 12'-6" | Field to verify Length and Model |

6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
9. The following material grades were assumed (Unless Noted Otherwise):
 - (a) Connection Bolts : ASTM A325
 - (b) Steel Pipe : ASTM A53 (GR. 35)
 - (c) HSS (Round) : ASTM 500 (GR. B-42)
 - (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - (e) Channel : ASTM A36 (GR. 36)
 - (f) Steel Solid Rod : ASTM A36 (GR. 36)
 - (g) Steel Plate : ASTM A36 (GR. 36)
 - (h) Steel Angle : ASTM A36 (GR. 36)
 - (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. John W. Kelly P.E. Engineering D.P.C. should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform with Support Rails)

| Notes | Component | Centerline (ft) | Critical Member | % Capacity | Pass / Fail |
|-------|--------------------------------|-----------------|-----------------|------------|-------------|
| 1 | Antenna Mount – Pipes | 143.0 | MP13 | 76.0 | Pass |
| | Face Horizontal – Angles | 143.0 | F13 | 54.7 | Pass |
| | Standoff Support – Tubes | 143.0 | S13 | 51.0 | Pass |
| | Platform Frame – Angles | 143.0 | F22 | 34.0 | Pass |
| | Platform Frame – Double Angles | 143.0 | B3 | 13.6 | Pass |
| 2 | Support Rail – Pipes | 143.0 | H1 | 37.1 | Pass |
| | Rail Bridge – Angles | 143.0 | HB2 | 20.3 | Pass |

Notes:

- 1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
- 2) New Member

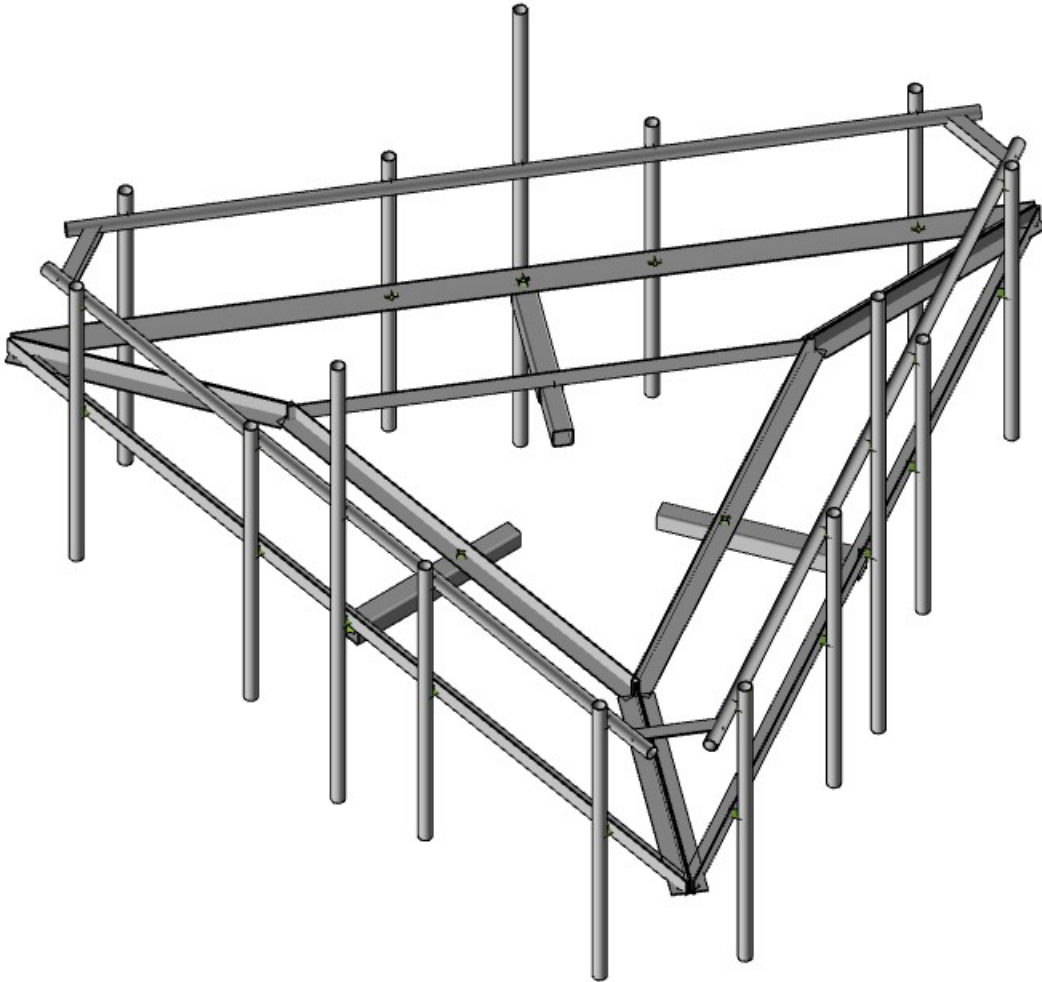
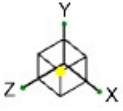
| | |
|-----------------------------------------------------|--------------|
| Structure Rating (max from all components) = | 76.0% |
|-----------------------------------------------------|--------------|

4.1) RECOMMENDATIONS

The existing Mount with new Support Rail Kit at 2'-0" above Platform level, has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T GROUP

KH

91728.013.01

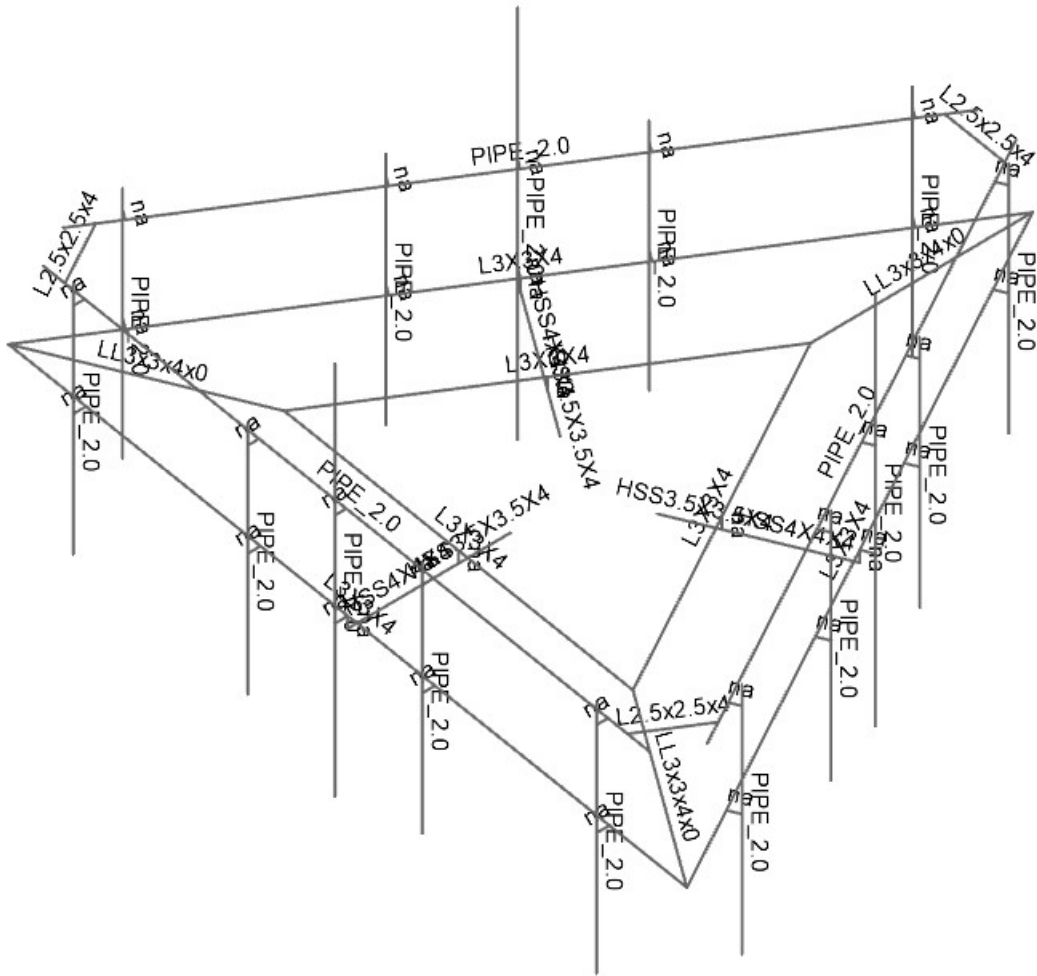
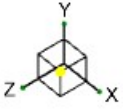
WINDSOR CENTRAL 855662

PLATFORM WITH NEW SUPPORT RAILS

SK-1

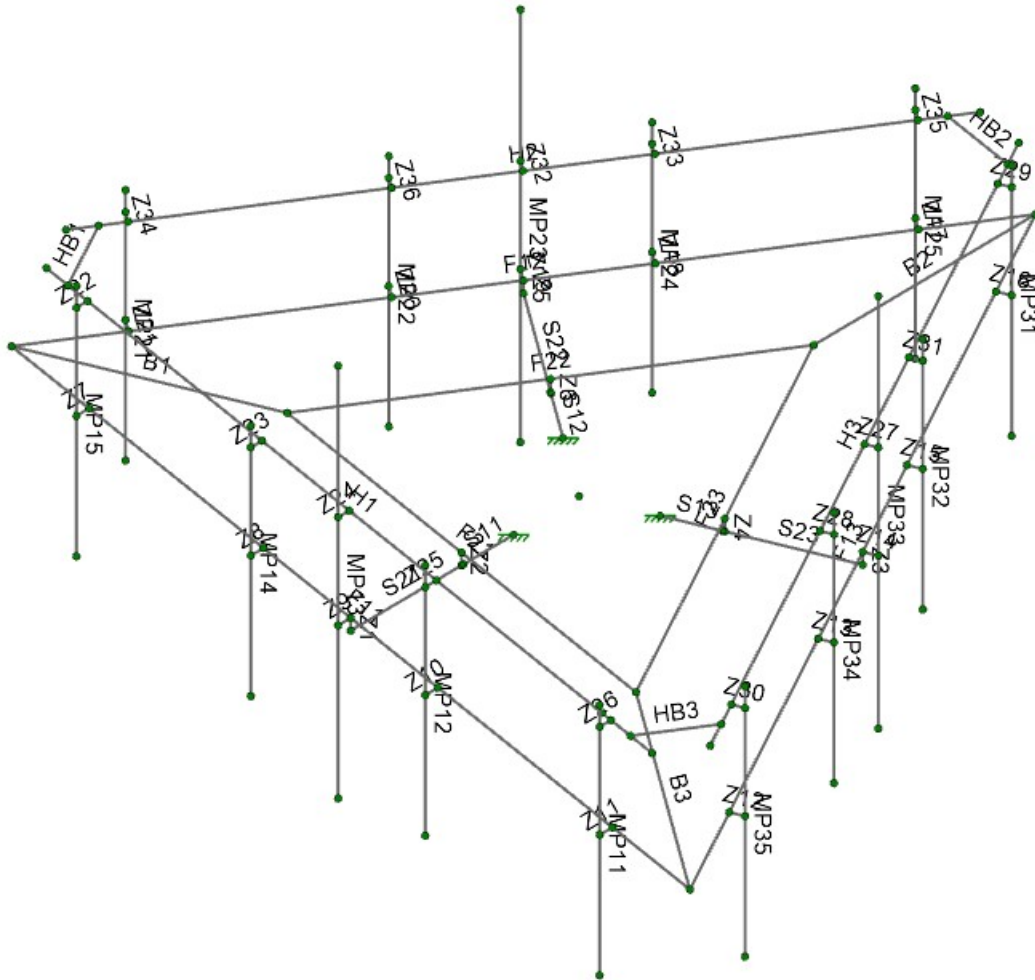
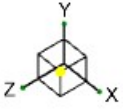
Jun 15, 2021

91728.013.01-Platform.r3d



Envelope Only Solution

| | | |
|--------------|---------------------------------|---------------------------|
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| KH | | Jun 15, 2021 |
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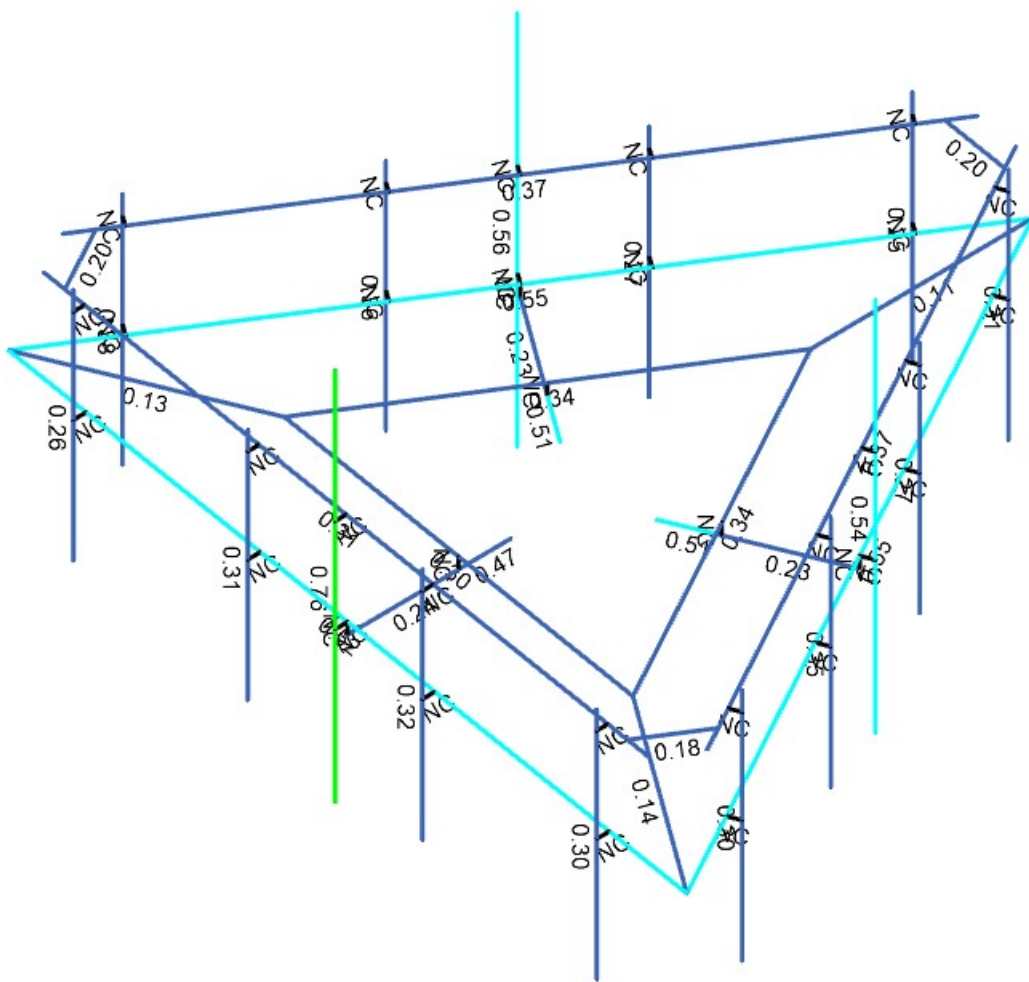
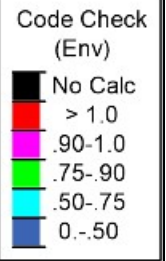
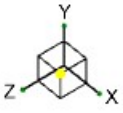


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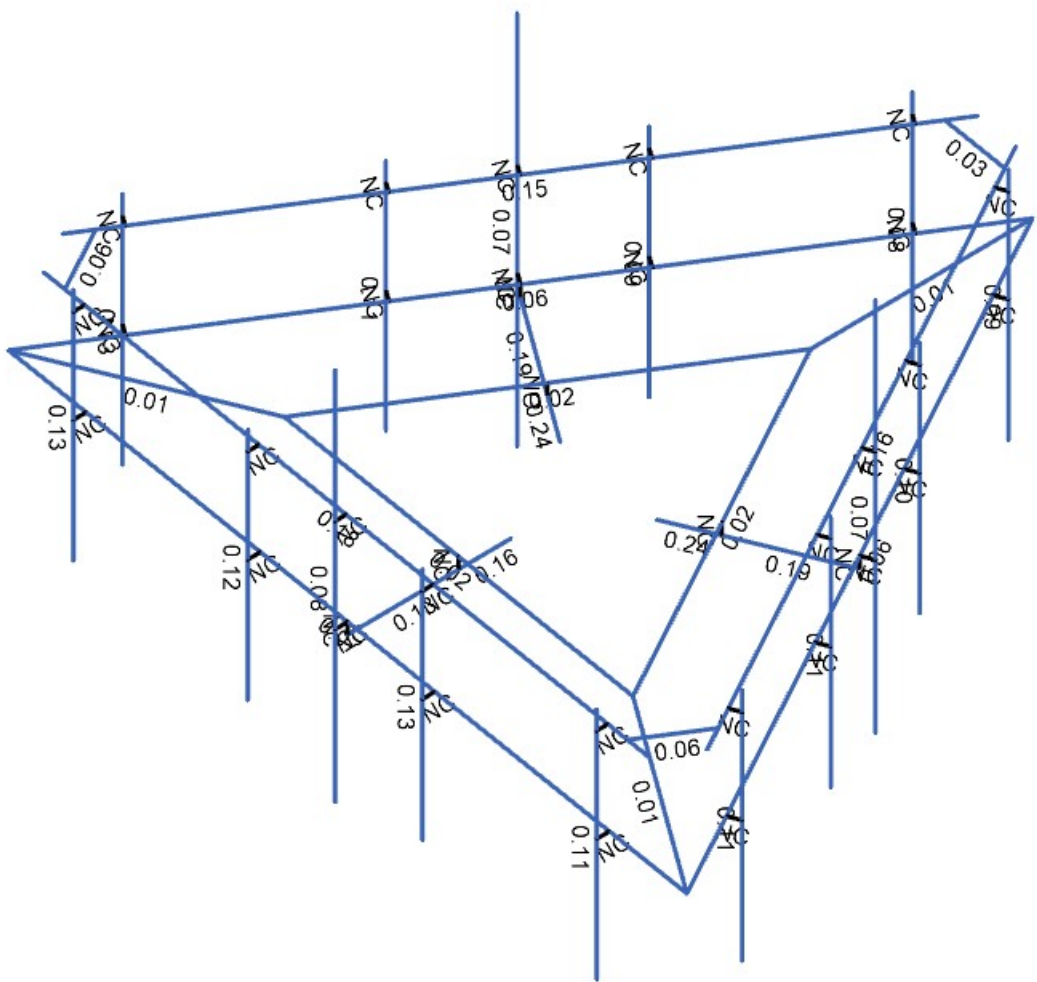
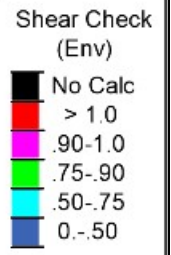
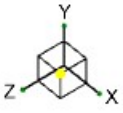
WINDSOR CENTRAL 855662
 PLATFORM WITH NEW SUPPORT RAILS

SK-3
 Jun 15, 2021
 91728.013.01-Platform.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

| | | |
|--------------|---------------------------------|---------------------------|
| B+T GROUP | WINDSOR CENTRAL 855662 | SK-4 |
| KH | | Jun 15, 2021 |
| 91728.013.01 | PLATFORM WITH NEW SUPPORT RAILS | 91728.013.01-Platform.r3d |



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

| | | |
|--------------|---------------------------------|---------------------------|
| B+T GROUP | WINDSOR CENTRAL 855662 | SK-5 |
| KH | | Jun 15, 2021 |
| 91728.013.01 | PLATFORM WITH NEW SUPPORT RAILS | 91728.013.01-Platform.r3d |

APPENDIX B
SOFTWARE INPUT CALCULATIONS

| | | |
|---------|---------------------------------------------------|------------|
| PROJECT | 91728.013.01 - WINDSOR CEI | KSC |
| SUBJECT | PLATFORM WITH SUPPORT RAILS Mount Analysis | |
| DATE | 06/15/21 | PAGE OF |



| | | | |
|-----------------------|----------|-------------|---------------------|
| Tower Type | : | Monopole | |
| Ground Elevation | Z_g | : 115 ft | [ASCE7 Hazard Tool] |
| Tower Height | : | 148.0 ft | |
| Mount Elevation | : | 143.0 ft | |
| Antenna Elevation | : | 143.0 ft | |
| Crest Height | : | 0 ft | |
| Risk Category | : | II | [Table 2-1] |
| Exposure Category | : | C | [Sec. 2.6.5.1.2] |
| Topography Category | : | 1 | [Sec. 2.6.6.2] |
| Wind Velocity | V | : 125 mph | [ASCE7 Hazard Tool] |
| Ice wind Velocity | V_i | : 50 mph | [ASCE7 Hazard Tool] |
| Service Velocity | V_s | : 30 mph | [ASCE7 Hazard Tool] |
| Base Ice thickness | t_i | : 2.00 in | [ASCE7 Hazard Tool] |
| Seismic Design Cat. | : | B | [ASCE7 Hazard Tool] |
| | S_S | : 0.18 | |
| | S_1 | : 0.06 | |
| | S_{D5} | : 0.19 | |
| | S_{D1} | : 0.10 | |
| Gust Factor | G_h | : 1.00 | [Sec. 16.6] |
| Pressure Coefficient | K_z | : 1.36 | [Sec. 2.6.5.2] |
| Topography Factor | K_{zt} | : 1.00 | [Sec. 2.6.6] |
| Elevation Factor | K_e | : 1.00 | [Sec. 2.6.8] |
| Directionality Factor | K_d | : 0.95 | [Sec. 16.6] |
| Shielding Factor | K_a | : 0.90 | [Sec. 16.6] |
| Design Ice Thickness | t_{iz} | : 2.32 in | [Sec. 2.6.10] |
| Importance Factor | I_e | : 1 | [Table 2-3] |
| Response Coefficient | C_s | : 0.096 | [Sec. 2.7.7.1] |
| Amplification | A_s | : 2.864865 | [Sec. 16.7] |
| | q_z | : 51.64 psf | |

| | | |
|---------|---------------------------------------------------|------------|
| PROJECT | 91728.013.01 - WINDSOR CEI | KSC |
| SUBJECT | PLATFORM WITH SUPPORT RAILS Mount Analysis | |
| DATE | 06/15/21 | PAGE OF |



| Manufacturer | Model | Qty | Aspect Ratio | C _a flat/round | EPA _N (ft ²) | EPA _T (ft ²) | EPA _{N-Ice} (ft ²) | EPA _{T-Ice} (ft ²) | F _A No Ice (N) | F _A No Ice (T) | F _A Ice (N) | F _A Ice (T) |
|--------------|---------------------------|-----|--------------|------------------------------|-------------------------------------|-------------------------------------|-----------------------------------------|-----------------------------------------|---------------------------|---------------------------|------------------------|------------------------|
| RFS/CELWAVE | APX16DWV-16DWV-S-E-A20 | 0.5 | 4.20 | 1.28 | 3.13 | 0.75 | 4.36 | 1.81 | 0.16 | 0.04 | 0.04 | 0.01 |
| RFS/CELWAVE | APX16DWV-16DWV-S-E-A20 | 0.5 | 4.20 | 1.28 | 3.13 | 0.75 | 4.36 | 1.81 | 0.16 | 0.04 | 0.04 | 0.01 |
| ERICSSON | RADIO 4460 B2/B25 B66_TMO | 1 | 1.23 | 1.20 | 2.10 | 1.62 | 3.38 | 2.78 | 0.12 | 0.09 | 0.02 | 0.01 |
| RFS/CELWAVE | APXVAALL24_43-U-NA20_TMC | 0.5 | 4.00 | 1.27 | 7.34 | 2.66 | 8.91 | 4.04 | 0.38 | 0.14 | 0.07 | 0.03 |
| RFS/CELWAVE | APXVAALL24_43-U-NA20_TMC | 0.5 | 4.00 | 1.27 | 7.34 | 2.66 | 8.91 | 4.04 | 0.38 | 0.14 | 0.07 | 0.03 |
| ERICSSON | RADIO 4480 B71_TMO | 1 | 1.39 | 1.20 | 2.38 | 1.14 | 3.73 | 2.23 | 0.13 | 0.06 | 0.02 | 0.01 |
| ERICSSON | AIR6449 B41_T-MOBILE | 0.5 | 1.61 | 1.20 | 2.64 | 1.02 | 3.53 | 1.72 | 0.14 | 0.05 | 0.03 | 0.01 |
| ERICSSON | AIR6449 B41_T-MOBILE | 0.5 | 1.61 | 1.20 | 2.64 | 1.02 | 3.53 | 1.72 | 0.14 | 0.05 | 0.03 | 0.01 |
| RFS/CELWAVE | APX16DWV-16DWV-S-E-A20 | 0.5 | 4.20 | 1.28 | 3.13 | 0.75 | 4.36 | 1.81 | 0.16 | 0.04 | 0.04 | 0.01 |
| RFS/CELWAVE | APX16DWV-16DWV-S-E-A20 | 0.5 | 4.20 | 1.28 | 3.13 | 0.75 | 4.36 | 1.81 | 0.16 | 0.04 | 0.04 | 0.01 |
| ERICSSON | RADIO 4460 B2/B25 B66_TMO | 1 | 1.23 | 1.20 | 2.10 | 1.62 | 3.38 | 2.78 | 0.12 | 0.09 | 0.02 | 0.01 |
| RFS/CELWAVE | APXVAALL24_43-U-NA20_TMC | 0.5 | 4.00 | 1.27 | 7.34 | 2.66 | 8.91 | 4.04 | 0.38 | 0.14 | 0.07 | 0.03 |
| RFS/CELWAVE | APXVAALL24_43-U-NA20_TMC | 0.5 | 4.00 | 1.27 | 7.34 | 2.66 | 8.91 | 4.04 | 0.38 | 0.14 | 0.07 | 0.03 |
| ERICSSON | RADIO 4480 B71_TMO | 1 | 1.39 | 1.20 | 2.38 | 1.14 | 3.73 | 2.23 | 0.13 | 0.06 | 0.02 | 0.01 |
| ERICSSON | AIR6449 B41_T-MOBILE | 0.5 | 1.61 | 1.20 | 2.64 | 1.02 | 3.53 | 1.72 | 0.14 | 0.05 | 0.03 | 0.01 |
| ERICSSON | AIR6449 B41_T-MOBILE | 0.5 | 1.61 | 1.20 | 2.64 | 1.02 | 3.53 | 1.72 | 0.14 | 0.05 | 0.03 | 0.01 |

APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Hot Rolled Steel Section Sets

| | Label | Shape | Type | Design List | Material | Design Rule | Area [in ²] | Iyy [in ⁴] | Izz [in ⁴] | J [in ⁴] |
|---|--------------|--------------|--------|-----------------------|----------------|-------------|-------------------------|------------------------|------------------------|----------------------|
| 1 | FH-Angle | L3X3X4 | Beam | Single Angle | A36 Gr.36 | Typical | 1.44 | 1.23 | 1.23 | 0.031 |
| 2 | PB-Tube | HSS4X4X4 | Beam | Tube | A500 Gr.B Rect | Typical | 3.37 | 7.8 | 7.8 | 12.8 |
| 3 | PS-Tube | HSS3.5X3.5X4 | Beam | Tube | A500 Gr.B Rect | Typical | 2.91 | 5.04 | 5.04 | 8.35 |
| 4 | MP-Pipe | PIPE 2.0 | Column | Pipe | A53 Gr.B | Typical | 1.02 | 0.627 | 0.627 | 1.25 |
| 5 | PF-Angle | L3X3X4 | Beam | Single Angle | A36 Gr.36 | Typical | 1.44 | 1.23 | 1.23 | 0.031 |
| 6 | PB-DbIAngle | LL3x3x4x0 | Beam | Double Angle (No Gap) | A36 Gr.36 | Typical | 2.88 | 4.5 | 2.46 | 0.063 |
| 7 | MOD-HR-Pipe | PIPE 2.0 | Beam | Pipe | A53 Gr.B | Typical | 1.02 | 0.627 | 0.627 | 1.25 |
| 8 | MOD-HB-Angle | L2.5x2.5x4 | Beam | Single Angle | A36 Gr.36 | Typical | 1.19 | 0.692 | 0.692 | 0.026 |

Member Primary Data

| | Label | I Node | J Node | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rule |
|----|-------|--------|--------|-------------|---------------|--------|-----------------------|----------------|-------------|
| 1 | B1 | N3 | N7 | 180 | PB-DbIAngle | Beam | Double Angle (No Gap) | A36 Gr.36 | Typical |
| 2 | B2 | N2 | N6 | 180 | PB-DbIAngle | Beam | Double Angle (No Gap) | A36 Gr.36 | Typical |
| 3 | B3 | N4 | N5 | 180 | PB-DbIAngle | Beam | Double Angle (No Gap) | A36 Gr.36 | Typical |
| 4 | F11 | N3 | N4 | 270 | FH-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 5 | F12 | N2 | N3 | 270 | FH-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 6 | F13 | N4 | N2 | 270 | FH-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 7 | F21 | N7 | N5 | | PF-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 8 | F22 | N6 | N7 | | PF-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 9 | F23 | N5 | N6 | | PF-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 10 | H1 | N83 | N84 | 270 | MOD-HR-Pipe | Beam | Pipe | A53 Gr.B | Typical |
| 11 | H2 | N118 | N119 | 270 | MOD-HR-Pipe | Beam | Pipe | A53 Gr.B | Typical |
| 12 | H3 | N116 | N117 | 270 | MOD-HR-Pipe | Beam | Pipe | A53 Gr.B | Typical |
| 13 | HB1 | N120 | N124 | 180 | MOD-HB-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 14 | HB2 | N125 | N122 | 180 | MOD-HB-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 15 | HB3 | N123 | N121 | 180 | MOD-HB-Angle | Beam | Single Angle | A36 Gr.36 | Typical |
| 16 | MP11 | N39 | N40 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 17 | MP12 | N37 | N38 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 18 | MP13 | N41 | N42 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 19 | MP14 | N35 | N36 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 20 | MP15 | N25 | N26 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 21 | MP21 | N79 | N80 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 22 | MP22 | N77 | N78 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 23 | MP23 | N81 | N82 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 24 | MP24 | N75 | N76 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 25 | MP25 | N65 | N66 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 26 | MP31 | N59 | N60 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 27 | MP32 | N57 | N58 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 28 | MP33 | N61 | N62 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 29 | MP34 | N55 | N56 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 30 | MP35 | N45 | N46 | | MP-Pipe | Column | Pipe | A53 Gr.B | Typical |
| 31 | S11 | N8 | R1 | | PS-Tube | Beam | Tube | A500 Gr.B Rect | Typical |
| 32 | S12 | N18 | R2 | | PS-Tube | Beam | Tube | A500 Gr.B Rect | Typical |
| 33 | S13 | N13 | R3 | | PS-Tube | Beam | Tube | A500 Gr.B Rect | Typical |
| 34 | S21 | N10 | N8 | | PB-Tube | Beam | Tube | A500 Gr.B Rect | Typical |
| 35 | S22 | N20 | N18 | | PB-Tube | Beam | Tube | A500 Gr.B Rect | Typical |
| 36 | S23 | N15 | N13 | | PB-Tube | Beam | Tube | A500 Gr.B Rect | Typical |
| 37 | Z1 | N29 | N10 | | RIGID | None | None | RIGID | Typical |
| 38 | Z2 | N11 | N12 | | RIGID | None | None | RIGID | Typical |
| 39 | Z3 | N49 | N15 | | RIGID | None | None | RIGID | Typical |
| 40 | Z4 | N16 | N17 | | RIGID | None | None | RIGID | Typical |
| 41 | Z5 | N69 | N20 | | RIGID | None | None | RIGID | Typical |
| 42 | Z6 | N21 | N22 | | RIGID | None | None | RIGID | Typical |
| 43 | Z7 | N23 | N24 | | RIGID | None | None | RIGID | Typical |
| 44 | Z8 | N27 | N28 | | RIGID | None | None | RIGID | Typical |



Company : B+T GROUP
 Designer : KH
 Job Number : 91728.013.01
 Model Name : WINDSOR CENTRAL 855662

6/15/2021
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 Checked By : (SV)

Member Primary Data (Continued)

| | Label | I Node | J Node | Rotate(deg) | Section/Shape | Type | Design List | Material | Design Rule |
|----|-------|--------|--------|-------------|---------------|------|-------------|----------|-------------|
| 45 | Z9 | N29 | N30 | | RIGID | None | None | RIGID | Typical |
| 46 | Z10 | N31 | N32 | | RIGID | None | None | RIGID | Typical |
| 47 | Z11 | N33 | N34 | | RIGID | None | None | RIGID | Typical |
| 48 | Z12 | N43 | N44 | | RIGID | None | None | RIGID | Typical |
| 49 | Z13 | N47 | N48 | | RIGID | None | None | RIGID | Typical |
| 50 | Z14 | N49 | N50 | | RIGID | None | None | RIGID | Typical |
| 51 | Z15 | N51 | N52 | | RIGID | None | None | RIGID | Typical |
| 52 | Z16 | N53 | N54 | | RIGID | None | None | RIGID | Typical |
| 53 | Z17 | N63 | N64 | | RIGID | None | None | RIGID | Typical |
| 54 | Z18 | N67 | N68 | | RIGID | None | None | RIGID | Typical |
| 55 | Z19 | N69 | N70 | | RIGID | None | None | RIGID | Typical |
| 56 | Z20 | N71 | N72 | | RIGID | None | None | RIGID | Typical |
| 57 | Z21 | N73 | N74 | | RIGID | None | None | RIGID | Typical |
| 58 | Z22 | N90 | N87 | | RIGID | None | None | RIGID | Typical |
| 59 | Z23 | N91 | N85 | | RIGID | None | None | RIGID | Typical |
| 60 | Z24 | N92 | N86 | | RIGID | None | None | RIGID | Typical |
| 61 | Z25 | N93 | N88 | | RIGID | None | None | RIGID | Typical |
| 62 | Z26 | N94 | N89 | | RIGID | None | None | RIGID | Typical |
| 63 | Z27 | N103 | N96 | | RIGID | None | None | RIGID | Typical |
| 64 | Z28 | N102 | N97 | | RIGID | None | None | RIGID | Typical |
| 65 | Z29 | N104 | N100 | | RIGID | None | None | RIGID | Typical |
| 66 | Z30 | N101 | N98 | | RIGID | None | None | RIGID | Typical |
| 67 | Z31 | N95 | N99 | | RIGID | None | None | RIGID | Typical |
| 68 | Z32 | N113 | N106 | | RIGID | None | None | RIGID | Typical |
| 69 | Z33 | N112 | N107 | | RIGID | None | None | RIGID | Typical |
| 70 | Z34 | N114 | N110 | | RIGID | None | None | RIGID | Typical |
| 71 | Z35 | N111 | N108 | | RIGID | None | None | RIGID | Typical |
| 72 | Z36 | N105 | N109 | | RIGID | None | None | RIGID | Typical |

Basic Load Cases

| | BLC Description | Category | Y Gravity | Nodal | Point | Distributed | Area(Member) |
|----|-------------------|----------|-----------|-------|-------|-------------|--------------|
| 1 | Dead Load | DL | -1 | | 45 | | 3 |
| 2 | 0 Wind - No Ice | WLZ | | | 45 | 36 | |
| 3 | 90 Wind - No Ice | WLX | | | 45 | 36 | |
| 4 | 0 Wind - Ice | WLZ | | | 45 | 36 | |
| 5 | 90 Wind - Ice | WLX | | | 45 | 36 | |
| 6 | 0 Wind - Service | WLZ | | | 45 | 36 | |
| 7 | 90 Wind - Service | WLX | | | 45 | 36 | |
| 8 | Ice Load | OL1 | | | 45 | 36 | 3 |
| 9 | 0 Seismic | ELZ | | | 45 | 36 | |
| 10 | 90 Seismic | ELX | | | 45 | 36 | |
| 11 | Live Load a | LL | | 2 | | | |
| 12 | Live Load b | LL | | 2 | | | |
| 13 | Live Load c | LL | | 2 | | | |
| 14 | Live Load d | LL | | 2 | | | |
| 15 | Maint LL 1 | LL | | | 1 | | |
| 16 | Maint LL 2 | LL | | | 1 | | |
| 17 | Maint LL 3 | LL | | | 1 | | |
| 18 | Maint LL 4 | LL | | | 1 | | |
| 19 | Maint LL 5 | LL | | | 1 | | |
| 20 | Maint LL 6 | LL | | | 1 | | |
| 21 | Maint LL 7 | LL | | | 1 | | |
| 22 | Maint LL 8 | LL | | | 1 | | |
| 23 | Maint LL 9 | LL | | | 1 | | |
| 24 | Maint LL 10 | LL | | | 1 | | |
| 25 | Maint LL 11 | LL | | | 1 | | |



Company : B+T GROUP
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 Model Name : WINDSOR CENTRAL 855662

6/15/2021
 10:09:02 AM
 Checked By : (SV)

Basic Load Cases (Continued)

| | BLC Description | Category | Y Gravity | Nodal | Point | Distributed | Area(Member) |
|----|----------------------------|----------|-----------|-------|-------|-------------|--------------|
| 26 | Maint LL 12 | LL | | | 1 | | |
| 27 | Maint LL 13 | LL | | | 1 | | |
| 28 | Maint LL 14 | LL | | | 1 | | |
| 29 | Maint LL 15 | LL | | | 1 | | |
| 30 | BLC 1 Transient Area Loads | None | | | | 28 | |

Load Combinations

| | Description | Solve | P-Delta | BLC | Factor | BLC | Factor | BLC | Factor | BLC |
|----|------------------------------------|-------|---------|-----|--------|-----|--------|-----|--------|-----|
| 1 | 1.4 Dead | Yes | Y | 1 | 1.4 | | | | | |
| 2 | 1.2 D + 1.0 - 0 W | Yes | Y | 1 | 1.2 | 2 | 1 | | | |
| 3 | 1.2 D + 1.0 - 30 W | Yes | Y | 1 | 1.2 | 2 | 0.866 | 3 | 0.5 | |
| 4 | 1.2 D + 1.0 - 60 W | Yes | Y | 1 | 1.2 | 3 | 0.866 | 2 | 0.5 | |
| 5 | 1.2 D + 1.0 - 90 W | Yes | Y | 1 | 1.2 | 3 | 1 | | | |
| 6 | 1.2 D + 1.0 - 120 W | Yes | Y | 1 | 1.2 | 3 | 0.866 | 2 | -0.5 | |
| 7 | 1.2 D + 1.0 - 150 W | Yes | Y | 1 | 1.2 | 2 | -0.866 | 3 | 0.5 | |
| 8 | 1.2 D + 1.0 - 180 W | Yes | Y | 1 | 1.2 | 2 | -1 | | | |
| 9 | 1.2 D + 1.0 - 210 W | Yes | Y | 1 | 1.2 | 2 | -0.866 | 3 | -0.5 | |
| 10 | 1.2 D + 1.0 - 240 W | Yes | Y | 1 | 1.2 | 3 | -0.866 | 2 | -0.5 | |
| 11 | 1.2 D + 1.0 - 270 W | Yes | Y | 1 | 1.2 | 3 | -1 | | | |
| 12 | 1.2 D + 1.0 - 300 W | Yes | Y | 1 | 1.2 | 3 | -0.866 | 2 | 0.5 | |
| 13 | 1.2 D + 1.0 - 330 W | Yes | Y | 1 | 1.2 | 2 | 0.866 | 3 | -0.5 | |
| 14 | 1.2 D + 1.0 - 0 W/Ice | Yes | Y | 1 | 1.2 | 4 | 1 | | | 8 |
| 15 | 1.2 D + 1.0 - 30 W/Ice | Yes | Y | 1 | 1.2 | 4 | 0.866 | 5 | 0.5 | 8 |
| 16 | 1.2 D + 1.0 - 60 W/Ice | Yes | Y | 1 | 1.2 | 5 | 0.866 | 4 | 0.5 | 8 |
| 17 | 1.2 D + 1.0 - 90 W/Ice | Yes | Y | 1 | 1.2 | 5 | 1 | | | 8 |
| 18 | 1.2 D + 1.0 - 120 W/Ice | Yes | Y | 1 | 1.2 | 5 | 0.866 | 4 | -0.5 | 8 |
| 19 | 1.2 D + 1.0 - 150 W/Ice | Yes | Y | 1 | 1.2 | 4 | -0.866 | 5 | 0.5 | 8 |
| 20 | 1.2 D + 1.0 - 180 W/Ice | Yes | Y | 1 | 1.2 | 4 | -1 | | | 8 |
| 21 | 1.2 D + 1.0 - 210 W/Ice | Yes | Y | 1 | 1.2 | 4 | -0.866 | 5 | -0.5 | 8 |
| 22 | 1.2 D + 1.0 - 240 W/Ice | Yes | Y | 1 | 1.2 | 5 | -0.866 | 4 | -0.5 | 8 |
| 23 | 1.2 D + 1.0 - 270 W/Ice | Yes | Y | 1 | 1.2 | 5 | -1 | | | 8 |
| 24 | 1.2 D + 1.0 - 300 W/Ice | Yes | Y | 1 | 1.2 | 5 | -0.866 | 4 | 0.5 | 8 |
| 25 | 1.2 D + 1.0 - 330 W/Ice | Yes | Y | 1 | 1.2 | 4 | 0.866 | 5 | -0.5 | 8 |
| 26 | 1.2 D + 1.0 E - 0 | Yes | Y | 1 | 1.2 | 9 | 1 | | | |
| 27 | 1.2 D + 1.0 E - 30 | Yes | Y | 1 | 1.2 | 9 | 0.866 | 10 | 0.5 | |
| 28 | 1.2 D + 1.0 E - 60 | Yes | Y | 1 | 1.2 | 10 | 0.866 | 9 | 0.5 | |
| 29 | 1.2 D + 1.0 E - 90 | Yes | Y | 1 | 1.2 | 10 | 1 | | | |
| 30 | 1.2 D + 1.0 E - 120 | Yes | Y | 1 | 1.2 | 10 | 0.866 | 9 | -0.5 | |
| 31 | 1.2 D + 1.0 E - 150 | Yes | Y | 1 | 1.2 | 9 | -0.866 | 10 | 0.5 | |
| 32 | 1.2 D + 1.0 E - 180 | Yes | Y | 1 | 1.2 | 9 | -1 | | | |
| 33 | 1.2 D + 1.0 E - 210 | Yes | Y | 1 | 1.2 | 9 | -0.866 | 10 | -0.5 | |
| 34 | 1.2 D + 1.0 E - 240 | Yes | Y | 1 | 1.2 | 10 | -0.866 | 9 | -0.5 | |
| 35 | 1.2 D + 1.0 E - 270 | Yes | Y | 1 | 1.2 | 10 | -1 | | | |
| 36 | 1.2 D + 1.0 E - 300 | Yes | Y | 1 | 1.2 | 10 | -0.866 | 9 | 0.5 | |
| 37 | 1.2 D + 1.0 E - 330 | Yes | Y | 1 | 1.2 | 9 | 0.866 | 10 | -0.5 | |
| 38 | 1.2 D + 1.5 LL a + Service - 0 W | Yes | Y | 1 | 1.2 | 6 | 1 | | | 11 |
| 39 | 1.2 D + 1.5 LL a + Service - 30 W | Yes | Y | 1 | 1.2 | 6 | 0.866 | 7 | 0.5 | 11 |
| 40 | 1.2 D + 1.5 LL a + Service - 60 W | Yes | Y | 1 | 1.2 | 7 | 0.866 | 6 | 0.5 | 11 |
| 41 | 1.2 D + 1.5 LL a + Service - 90 W | Yes | Y | 1 | 1.2 | 7 | 1 | | | 11 |
| 42 | 1.2 D + 1.5 LL a + Service - 120 W | Yes | Y | 1 | 1.2 | 7 | 0.866 | 6 | -0.5 | 11 |
| 43 | 1.2 D + 1.5 LL a + Service - 150 W | Yes | Y | 1 | 1.2 | 6 | -0.866 | 7 | 0.5 | 11 |
| 44 | 1.2 D + 1.5 LL a + Service - 180 W | Yes | Y | 1 | 1.2 | 6 | -1 | | | 11 |
| 45 | 1.2 D + 1.5 LL a + Service - 210 W | Yes | Y | 1 | 1.2 | 6 | -0.866 | 7 | -0.5 | 11 |
| 46 | 1.2 D + 1.5 LL a + Service - 240 W | Yes | Y | 1 | 1.2 | 7 | -0.866 | 6 | -0.5 | 11 |
| 47 | 1.2 D + 1.5 LL a + Service - 270 W | Yes | Y | 1 | 1.2 | 7 | -1 | | | 11 |
| 48 | 1.2 D + 1.5 LL a + Service - 300 W | Yes | Y | 1 | 1.2 | 7 | -0.866 | 6 | 0.5 | 11 |



Load Combinations (Continued)

| | Description | Solve | P-Delta | BLC | Factor | BLC | Factor | BLC | Factor | BLC |
|----|------------------------------------|-------|---------|-----|--------|-----|--------|-----|--------|-----|
| 49 | 1.2 D + 1.5 LL a + Service - 330 W | Yes | Y | 1 | 1.2 | 6 | 0.866 | 7 | -0.5 | 11 |
| 50 | 1.2 D + 1.5 LL b + Service - 0 W | Yes | Y | 1 | 1.2 | 6 | 1 | | | 12 |
| 51 | 1.2 D + 1.5 LL b + Service - 30 W | Yes | Y | 1 | 1.2 | 6 | 0.866 | 7 | 0.5 | 12 |
| 52 | 1.2 D + 1.5 LL b + Service - 60 W | Yes | Y | 1 | 1.2 | 7 | 0.866 | 6 | 0.5 | 12 |
| 53 | 1.2 D + 1.5 LL b + Service - 90 W | Yes | Y | 1 | 1.2 | 7 | 1 | | | 12 |
| 54 | 1.2 D + 1.5 LL b + Service - 120 W | Yes | Y | 1 | 1.2 | 7 | 0.866 | 6 | -0.5 | 12 |
| 55 | 1.2 D + 1.5 LL b + Service - 150 W | Yes | Y | 1 | 1.2 | 6 | -0.866 | 7 | 0.5 | 12 |
| 56 | 1.2 D + 1.5 LL b + Service - 180 W | Yes | Y | 1 | 1.2 | 6 | -1 | | | 12 |
| 57 | 1.2 D + 1.5 LL b + Service - 210 W | Yes | Y | 1 | 1.2 | 6 | -0.866 | 7 | -0.5 | 12 |
| 58 | 1.2 D + 1.5 LL b + Service - 240 W | Yes | Y | 1 | 1.2 | 7 | -0.866 | 6 | -0.5 | 12 |
| 59 | 1.2 D + 1.5 LL b + Service - 270 W | Yes | Y | 1 | 1.2 | 7 | -1 | | | 12 |
| 60 | 1.2 D + 1.5 LL b + Service - 300 W | Yes | Y | 1 | 1.2 | 7 | -0.866 | 6 | 0.5 | 12 |
| 61 | 1.2 D + 1.5 LL b + Service - 330 W | Yes | Y | 1 | 1.2 | 6 | 0.866 | 7 | -0.5 | 12 |
| 62 | 1.2 D + 1.5 LL c + Service - 0 W | Yes | Y | 1 | 1.2 | 6 | 1 | | | 13 |
| 63 | 1.2 D + 1.5 LL c + Service - 30 W | Yes | Y | 1 | 1.2 | 6 | 0.866 | 7 | 0.5 | 13 |
| 64 | 1.2 D + 1.5 LL c + Service - 60 W | Yes | Y | 1 | 1.2 | 7 | 0.866 | 6 | 0.5 | 13 |
| 65 | 1.2 D + 1.5 LL c + Service - 90 W | Yes | Y | 1 | 1.2 | 7 | 1 | | | 13 |
| 66 | 1.2 D + 1.5 LL c + Service - 120 W | Yes | Y | 1 | 1.2 | 7 | 0.866 | 6 | -0.5 | 13 |
| 67 | 1.2 D + 1.5 LL c + Service - 150 W | Yes | Y | 1 | 1.2 | 6 | -0.866 | 7 | 0.5 | 13 |
| 68 | 1.2 D + 1.5 LL c + Service - 180 W | Yes | Y | 1 | 1.2 | 6 | -1 | | | 13 |
| 69 | 1.2 D + 1.5 LL c + Service - 210 W | Yes | Y | 1 | 1.2 | 6 | -0.866 | 7 | -0.5 | 13 |
| 70 | 1.2 D + 1.5 LL c + Service - 240 W | Yes | Y | 1 | 1.2 | 7 | -0.866 | 6 | -0.5 | 13 |
| 71 | 1.2 D + 1.5 LL c + Service - 270 W | Yes | Y | 1 | 1.2 | 7 | -1 | | | 13 |
| 72 | 1.2 D + 1.5 LL c + Service - 300 W | Yes | Y | 1 | 1.2 | 7 | -0.866 | 6 | 0.5 | 13 |
| 73 | 1.2 D + 1.5 LL c + Service - 330 W | Yes | Y | 1 | 1.2 | 6 | 0.866 | 7 | -0.5 | 13 |
| 74 | 1.2 D + 1.5 LL d + Service - 0 W | Yes | Y | 1 | 1.2 | 6 | 1 | | | 14 |
| 75 | 1.2 D + 1.5 LL d + Service - 30 W | Yes | Y | 1 | 1.2 | 6 | 0.866 | 7 | 0.5 | 14 |
| 76 | 1.2 D + 1.5 LL d + Service - 60 W | Yes | Y | 1 | 1.2 | 7 | 0.866 | 6 | 0.5 | 14 |
| 77 | 1.2 D + 1.5 LL d + Service - 90 W | Yes | Y | 1 | 1.2 | 7 | 1 | | | 14 |
| 78 | 1.2 D + 1.5 LL d + Service - 120 W | Yes | Y | 1 | 1.2 | 7 | 0.866 | 6 | -0.5 | 14 |
| 79 | 1.2 D + 1.5 LL d + Service - 150 W | Yes | Y | 1 | 1.2 | 6 | -0.866 | 7 | 0.5 | 14 |
| 80 | 1.2 D + 1.5 LL d + Service - 180 W | Yes | Y | 1 | 1.2 | 6 | -1 | | | 14 |
| 81 | 1.2 D + 1.5 LL d + Service - 210 W | Yes | Y | 1 | 1.2 | 6 | -0.866 | 7 | -0.5 | 14 |
| 82 | 1.2 D + 1.5 LL d + Service - 240 W | Yes | Y | 1 | 1.2 | 7 | -0.866 | 6 | -0.5 | 14 |
| 83 | 1.2 D + 1.5 LL d + Service - 270 W | Yes | Y | 1 | 1.2 | 7 | -1 | | | 14 |
| 84 | 1.2 D + 1.5 LL d + Service - 300 W | Yes | Y | 1 | 1.2 | 7 | -0.866 | 6 | 0.5 | 14 |
| 85 | 1.2 D + 1.5 LL d + Service - 330 W | Yes | Y | 1 | 1.2 | 6 | 0.866 | 7 | -0.5 | 14 |
| 86 | 1.2 D + 1.5 LL Maint (1) | Yes | Y | 1 | 1.2 | | | | | 15 |
| 87 | 1.2 D + 1.5 LL Maint (2) | Yes | Y | 1 | 1.2 | | | | | 16 |
| 88 | 1.2 D + 1.5 LL Maint (3) | Yes | Y | 1 | 1.2 | | | | | 17 |
| 89 | 1.2 D + 1.5 LL Maint (4) | Yes | Y | 1 | 1.2 | | | | | 18 |
| 90 | 1.2 D + 1.5 LL Maint (5) | Yes | Y | 1 | 1.2 | | | | | 19 |
| 91 | 1.2 D + 1.5 LL Maint (6) | Yes | Y | 1 | 1.2 | | | | | 20 |

Member Point Loads (BLC 1 : Dead Load)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | Y | -0.02 | %5 |
| 2 | MP11 | Y | -0.02 | %90 |
| 3 | MP11 | Y | -0.109 | %30 |
| 4 | MP11 | Y | 0 | 0 |
| 5 | MP11 | Y | 0 | 0 |
| 6 | MP13 | Y | -0.075 | %15 |
| 7 | MP13 | Y | -0.075 | %85 |
| 8 | MP13 | Y | -0.084 | %50 |
| 9 | MP13 | Y | 0 | 0 |
| 10 | MP13 | Y | 0 | 0 |



Member Point Loads (BLC 1 : Dead Load) (Continued)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 11 | MP15 | Y | -0.057 | %5 |
| 12 | MP15 | Y | -0.057 | %30 |
| 13 | MP15 | Y | 0 | 0 |
| 14 | MP15 | Y | 0 | 0 |
| 15 | MP15 | Y | 0 | 0 |
| 16 | MP21 | Y | -0.02 | %5 |
| 17 | MP21 | Y | -0.02 | %90 |
| 18 | MP21 | Y | -0.109 | %30 |
| 19 | MP21 | Y | 0 | 0 |
| 20 | MP21 | Y | 0 | 0 |
| 21 | MP23 | Y | -0.075 | %15 |
| 22 | MP23 | Y | -0.075 | %85 |
| 23 | MP23 | Y | -0.084 | %50 |
| 24 | MP23 | Y | 0 | 0 |
| 25 | MP23 | Y | 0 | 0 |
| 26 | MP25 | Y | -0.057 | %5 |
| 27 | MP25 | Y | -0.057 | %30 |
| 28 | MP25 | Y | 0 | 0 |
| 29 | MP25 | Y | 0 | 0 |
| 30 | MP25 | Y | 0 | 0 |
| 31 | MP31 | Y | -0.02 | %5 |
| 32 | MP31 | Y | -0.02 | %90 |
| 33 | MP31 | Y | -0.109 | %30 |
| 34 | MP31 | Y | 0 | 0 |
| 35 | MP31 | Y | 0 | 0 |
| 36 | MP33 | Y | -0.075 | %15 |
| 37 | MP33 | Y | -0.075 | %85 |
| 38 | MP33 | Y | -0.084 | %50 |
| 39 | MP33 | Y | 0 | 0 |
| 40 | MP33 | Y | 0 | 0 |
| 41 | MP35 | Y | -0.057 | %5 |
| 42 | MP35 | Y | -0.057 | %30 |
| 43 | MP35 | Y | 0 | 0 |
| 44 | MP35 | Y | 0 | 0 |
| 45 | MP35 | Y | 0 | 0 |

Member Point Loads (BLC 2 : 0 Wind - No Ice)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | Z | -0.162 | %5 |
| 2 | MP11 | Z | -0.162 | %90 |
| 3 | MP11 | Z | -0.117 | %30 |
| 4 | MP11 | Z | 0 | 0 |
| 5 | MP11 | Z | 0 | 0 |
| 6 | MP13 | Z | -0.379 | %15 |
| 7 | MP13 | Z | -0.379 | %85 |
| 8 | MP13 | Z | -0.133 | %50 |
| 9 | MP13 | Z | 0 | 0 |
| 10 | MP13 | Z | 0 | 0 |
| 11 | MP15 | Z | -0.136 | %5 |
| 12 | MP15 | Z | -0.136 | %30 |
| 13 | MP15 | Z | 0 | 0 |
| 14 | MP15 | Z | 0 | 0 |
| 15 | MP15 | Z | 0 | 0 |
| 16 | MP21 | Z | -0.162 | %5 |
| 17 | MP21 | Z | -0.162 | %90 |
| 18 | MP21 | Z | -0.117 | %30 |



Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 19 | MP21 | Z | 0 | 0 |
| 20 | MP21 | Z | 0 | 0 |
| 21 | MP23 | Z | -0.379 | %15 |
| 22 | MP23 | Z | -0.379 | %85 |
| 23 | MP23 | Z | -0.133 | %50 |
| 24 | MP23 | Z | 0 | 0 |
| 25 | MP23 | Z | 0 | 0 |
| 26 | MP25 | Z | -0.136 | %5 |
| 27 | MP25 | Z | -0.136 | %30 |
| 28 | MP25 | Z | 0 | 0 |
| 29 | MP25 | Z | 0 | 0 |
| 30 | MP25 | Z | 0 | 0 |
| 31 | MP31 | Z | -0.162 | %5 |
| 32 | MP31 | Z | -0.162 | %90 |
| 33 | MP31 | Z | -0.117 | %30 |
| 34 | MP31 | Z | 0 | 0 |
| 35 | MP31 | Z | 0 | 0 |
| 36 | MP33 | Z | -0.379 | %15 |
| 37 | MP33 | Z | -0.379 | %85 |
| 38 | MP33 | Z | -0.133 | %50 |
| 39 | MP33 | Z | 0 | 0 |
| 40 | MP33 | Z | 0 | 0 |
| 41 | MP35 | Z | -0.136 | %5 |
| 42 | MP35 | Z | -0.136 | %30 |
| 43 | MP35 | Z | 0 | 0 |
| 44 | MP35 | Z | 0 | 0 |
| 45 | MP35 | Z | 0 | 0 |

Member Point Loads (BLC 3 : 90 Wind - No Ice)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | X | -0.039 | %5 |
| 2 | MP11 | X | -0.039 | %90 |
| 3 | MP11 | X | -0.09 | %30 |
| 4 | MP11 | X | 0 | 0 |
| 5 | MP11 | X | 0 | 0 |
| 6 | MP13 | X | -0.137 | %15 |
| 7 | MP13 | X | -0.137 | %85 |
| 8 | MP13 | X | -0.063 | %50 |
| 9 | MP13 | X | 0 | 0 |
| 10 | MP13 | X | 0 | 0 |
| 11 | MP15 | X | -0.052 | %5 |
| 12 | MP15 | X | -0.052 | %30 |
| 13 | MP15 | X | 0 | 0 |
| 14 | MP15 | X | 0 | 0 |
| 15 | MP15 | X | 0 | 0 |
| 16 | MP21 | X | -0.039 | %5 |
| 17 | MP21 | X | -0.039 | %90 |
| 18 | MP21 | X | -0.09 | %30 |
| 19 | MP21 | X | 0 | 0 |
| 20 | MP21 | X | 0 | 0 |
| 21 | MP23 | X | -0.137 | %15 |
| 22 | MP23 | X | -0.137 | %85 |
| 23 | MP23 | X | -0.063 | %50 |
| 24 | MP23 | X | 0 | 0 |
| 25 | MP23 | X | 0 | 0 |
| 26 | MP25 | X | -0.052 | %5 |



Member Point Loads (BLC 3 : 90 Wind - No Ice) (Continued)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 27 | MP25 | X | -0.052 | %30 |
| 28 | MP25 | X | 0 | 0 |
| 29 | MP25 | X | 0 | 0 |
| 30 | MP25 | X | 0 | 0 |
| 31 | MP31 | X | -0.039 | %5 |
| 32 | MP31 | X | -0.039 | %90 |
| 33 | MP31 | X | -0.09 | %30 |
| 34 | MP31 | X | 0 | 0 |
| 35 | MP31 | X | 0 | 0 |
| 36 | MP33 | X | -0.137 | %15 |
| 37 | MP33 | X | -0.137 | %85 |
| 38 | MP33 | X | -0.063 | %50 |
| 39 | MP33 | X | 0 | 0 |
| 40 | MP33 | X | 0 | 0 |
| 41 | MP35 | X | -0.052 | %5 |
| 42 | MP35 | X | -0.052 | %30 |
| 43 | MP35 | X | 0 | 0 |
| 44 | MP35 | X | 0 | 0 |
| 45 | MP35 | X | 0 | 0 |

Member Point Loads (BLC 4 : 0 Wind - Ice)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | Z | -0.036 | %5 |
| 2 | MP11 | Z | -0.036 | %90 |
| 3 | MP11 | Z | -0.019 | %30 |
| 4 | MP11 | Z | 0 | 0 |
| 5 | MP11 | Z | 0 | 0 |
| 6 | MP13 | Z | -0.074 | %15 |
| 7 | MP13 | Z | -0.074 | %85 |
| 8 | MP13 | Z | -0.021 | %50 |
| 9 | MP13 | Z | 0 | 0 |
| 10 | MP13 | Z | 0 | 0 |
| 11 | MP15 | Z | -0.029 | %5 |
| 12 | MP15 | Z | -0.029 | %30 |
| 13 | MP15 | Z | 0 | 0 |
| 14 | MP15 | Z | 0 | 0 |
| 15 | MP15 | Z | 0 | 0 |
| 16 | MP21 | Z | -0.036 | %5 |
| 17 | MP21 | Z | -0.036 | %90 |
| 18 | MP21 | Z | -0.019 | %30 |
| 19 | MP21 | Z | 0 | 0 |
| 20 | MP21 | Z | 0 | 0 |
| 21 | MP23 | Z | -0.074 | %15 |
| 22 | MP23 | Z | -0.074 | %85 |
| 23 | MP23 | Z | -0.021 | %50 |
| 24 | MP23 | Z | 0 | 0 |
| 25 | MP23 | Z | 0 | 0 |
| 26 | MP25 | Z | -0.029 | %5 |
| 27 | MP25 | Z | -0.029 | %30 |
| 28 | MP25 | Z | 0 | 0 |
| 29 | MP25 | Z | 0 | 0 |
| 30 | MP25 | Z | 0 | 0 |
| 31 | MP31 | Z | -0.036 | %5 |
| 32 | MP31 | Z | -0.036 | %90 |
| 33 | MP31 | Z | -0.019 | %30 |
| 34 | MP31 | Z | 0 | 0 |



Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 35 | MP31 | Z | 0 | 0 |
| 36 | MP33 | Z | -0.074 | %15 |
| 37 | MP33 | Z | -0.074 | %85 |
| 38 | MP33 | Z | -0.021 | %50 |
| 39 | MP33 | Z | 0 | 0 |
| 40 | MP33 | Z | 0 | 0 |
| 41 | MP35 | Z | -0.029 | %5 |
| 42 | MP35 | Z | -0.029 | %30 |
| 43 | MP35 | Z | 0 | 0 |
| 44 | MP35 | Z | 0 | 0 |
| 45 | MP35 | Z | 0 | 0 |

Member Point Loads (BLC 5 : 90 Wind - Ice)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | X | -0.015 | %5 |
| 2 | MP11 | X | -0.015 | %90 |
| 3 | MP11 | X | -0.015 | %30 |
| 4 | MP11 | X | 0 | 0 |
| 5 | MP11 | X | 0 | 0 |
| 6 | MP13 | X | -0.033 | %15 |
| 7 | MP13 | X | -0.033 | %85 |
| 8 | MP13 | X | -0.01 | %50 |
| 9 | MP13 | X | 0 | 0 |
| 10 | MP13 | X | 0 | 0 |
| 11 | MP15 | X | -0.014 | %5 |
| 12 | MP15 | X | -0.014 | %30 |
| 13 | MP15 | X | 0 | 0 |
| 14 | MP15 | X | 0 | 0 |
| 15 | MP15 | X | 0 | 0 |
| 16 | MP21 | X | -0.015 | %5 |
| 17 | MP21 | X | -0.015 | %90 |
| 18 | MP21 | X | -0.015 | %30 |
| 19 | MP21 | X | 0 | 0 |
| 20 | MP21 | X | 0 | 0 |
| 21 | MP23 | X | -0.033 | %15 |
| 22 | MP23 | X | -0.033 | %85 |
| 23 | MP23 | X | -0.01 | %50 |
| 24 | MP23 | X | 0 | 0 |
| 25 | MP23 | X | 0 | 0 |
| 26 | MP25 | X | -0.014 | %5 |
| 27 | MP25 | X | -0.014 | %30 |
| 28 | MP25 | X | 0 | 0 |
| 29 | MP25 | X | 0 | 0 |
| 30 | MP25 | X | 0 | 0 |
| 31 | MP31 | X | -0.015 | %5 |
| 32 | MP31 | X | -0.015 | %90 |
| 33 | MP31 | X | -0.015 | %30 |
| 34 | MP31 | X | 0 | 0 |
| 35 | MP31 | X | 0 | 0 |
| 36 | MP33 | X | -0.033 | %15 |
| 37 | MP33 | X | -0.033 | %85 |
| 38 | MP33 | X | -0.01 | %50 |
| 39 | MP33 | X | 0 | 0 |
| 40 | MP33 | X | 0 | 0 |
| 41 | MP35 | X | -0.014 | %5 |
| 42 | MP35 | X | -0.014 | %30 |



Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 43 | MP35 | X | 0 | 0 |
| 44 | MP35 | X | 0 | 0 |
| 45 | MP35 | X | 0 | 0 |

Member Point Loads (BLC 6 : 0 Wind - Service)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | Z | -0.009 | %5 |
| 2 | MP11 | Z | -0.009 | %90 |
| 3 | MP11 | Z | -0.007 | %30 |
| 4 | MP11 | Z | 0 | 0 |
| 5 | MP11 | Z | 0 | 0 |
| 6 | MP13 | Z | -0.022 | %15 |
| 7 | MP13 | Z | -0.022 | %85 |
| 8 | MP13 | Z | -0.008 | %50 |
| 9 | MP13 | Z | 0 | 0 |
| 10 | MP13 | Z | 0 | 0 |
| 11 | MP15 | Z | -0.008 | %5 |
| 12 | MP15 | Z | -0.008 | %30 |
| 13 | MP15 | Z | 0 | 0 |
| 14 | MP15 | Z | 0 | 0 |
| 15 | MP15 | Z | 0 | 0 |
| 16 | MP21 | Z | -0.009 | %5 |
| 17 | MP21 | Z | -0.009 | %90 |
| 18 | MP21 | Z | -0.007 | %30 |
| 19 | MP21 | Z | 0 | 0 |
| 20 | MP21 | Z | 0 | 0 |
| 21 | MP23 | Z | -0.022 | %15 |
| 22 | MP23 | Z | -0.022 | %85 |
| 23 | MP23 | Z | -0.008 | %50 |
| 24 | MP23 | Z | 0 | 0 |
| 25 | MP23 | Z | 0 | 0 |
| 26 | MP25 | Z | -0.008 | %5 |
| 27 | MP25 | Z | -0.008 | %30 |
| 28 | MP25 | Z | 0 | 0 |
| 29 | MP25 | Z | 0 | 0 |
| 30 | MP25 | Z | 0 | 0 |
| 31 | MP31 | Z | -0.009 | %5 |
| 32 | MP31 | Z | -0.009 | %90 |
| 33 | MP31 | Z | -0.007 | %30 |
| 34 | MP31 | Z | 0 | 0 |
| 35 | MP31 | Z | 0 | 0 |
| 36 | MP33 | Z | -0.022 | %15 |
| 37 | MP33 | Z | -0.022 | %85 |
| 38 | MP33 | Z | -0.008 | %50 |
| 39 | MP33 | Z | 0 | 0 |
| 40 | MP33 | Z | 0 | 0 |
| 41 | MP35 | Z | -0.008 | %5 |
| 42 | MP35 | Z | -0.008 | %30 |
| 43 | MP35 | Z | 0 | 0 |
| 44 | MP35 | Z | 0 | 0 |
| 45 | MP35 | Z | 0 | 0 |



Member Point Loads (BLC 7 : 90 Wind - Service)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | X | -0.002 | %5 |
| 2 | MP11 | X | -0.002 | %90 |
| 3 | MP11 | X | -0.005 | %30 |
| 4 | MP11 | X | 0 | 0 |
| 5 | MP11 | X | 0 | 0 |
| 6 | MP13 | X | -0.008 | %15 |
| 7 | MP13 | X | -0.008 | %85 |
| 8 | MP13 | X | -0.004 | %50 |
| 9 | MP13 | X | 0 | 0 |
| 10 | MP13 | X | 0 | 0 |
| 11 | MP15 | X | -0.003 | %5 |
| 12 | MP15 | X | -0.003 | %30 |
| 13 | MP15 | X | 0 | 0 |
| 14 | MP15 | X | 0 | 0 |
| 15 | MP15 | X | 0 | 0 |
| 16 | MP21 | X | -0.002 | %5 |
| 17 | MP21 | X | -0.002 | %90 |
| 18 | MP21 | X | -0.005 | %30 |
| 19 | MP21 | X | 0 | 0 |
| 20 | MP21 | X | 0 | 0 |
| 21 | MP23 | X | -0.008 | %15 |
| 22 | MP23 | X | -0.008 | %85 |
| 23 | MP23 | X | -0.004 | %50 |
| 24 | MP23 | X | 0 | 0 |
| 25 | MP23 | X | 0 | 0 |
| 26 | MP25 | X | -0.003 | %5 |
| 27 | MP25 | X | -0.003 | %30 |
| 28 | MP25 | X | 0 | 0 |
| 29 | MP25 | X | 0 | 0 |
| 30 | MP25 | X | 0 | 0 |
| 31 | MP31 | X | -0.002 | %5 |
| 32 | MP31 | X | -0.002 | %90 |
| 33 | MP31 | X | -0.005 | %30 |
| 34 | MP31 | X | 0 | 0 |
| 35 | MP31 | X | 0 | 0 |
| 36 | MP33 | X | -0.008 | %15 |
| 37 | MP33 | X | -0.008 | %85 |
| 38 | MP33 | X | -0.004 | %50 |
| 39 | MP33 | X | 0 | 0 |
| 40 | MP33 | X | 0 | 0 |
| 41 | MP35 | X | -0.003 | %5 |
| 42 | MP35 | X | -0.003 | %30 |
| 43 | MP35 | X | 0 | 0 |
| 44 | MP35 | X | 0 | 0 |
| 45 | MP35 | X | 0 | 0 |

Member Point Loads (BLC 8 : Ice Load)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | Y | -0.103 | %5 |
| 2 | MP11 | Y | -0.103 | %90 |
| 3 | MP11 | Y | -0.101 | %30 |
| 4 | MP11 | Y | 0 | 0 |
| 5 | MP11 | Y | 0 | 0 |
| 6 | MP13 | Y | -0.325 | %15 |
| 7 | MP13 | Y | -0.325 | %85 |



Member Point Loads (BLC 8 : Ice Load) (Continued)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 8 | MP13 | Y | -0.101 | %50 |
| 9 | MP13 | Y | 0 | 0 |
| 10 | MP13 | Y | 0 | 0 |
| 11 | MP15 | Y | -0.148 | %5 |
| 12 | MP15 | Y | -0.148 | %30 |
| 13 | MP15 | Y | 0 | 0 |
| 14 | MP15 | Y | 0 | 0 |
| 15 | MP15 | Y | 0 | 0 |
| 16 | MP21 | Y | -0.103 | %5 |
| 17 | MP21 | Y | -0.103 | %90 |
| 18 | MP21 | Y | -0.101 | %30 |
| 19 | MP21 | Y | 0 | 0 |
| 20 | MP21 | Y | 0 | 0 |
| 21 | MP23 | Y | -0.325 | %15 |
| 22 | MP23 | Y | -0.325 | %85 |
| 23 | MP23 | Y | -0.101 | %50 |
| 24 | MP23 | Y | 0 | 0 |
| 25 | MP23 | Y | 0 | 0 |
| 26 | MP25 | Y | -0.148 | %5 |
| 27 | MP25 | Y | -0.148 | %30 |
| 28 | MP25 | Y | 0 | 0 |
| 29 | MP25 | Y | 0 | 0 |
| 30 | MP25 | Y | 0 | 0 |
| 31 | MP31 | Y | -0.103 | %5 |
| 32 | MP31 | Y | -0.103 | %90 |
| 33 | MP31 | Y | -0.101 | %30 |
| 34 | MP31 | Y | 0 | 0 |
| 35 | MP31 | Y | 0 | 0 |
| 36 | MP33 | Y | -0.325 | %15 |
| 37 | MP33 | Y | -0.325 | %85 |
| 38 | MP33 | Y | -0.101 | %50 |
| 39 | MP33 | Y | 0 | 0 |
| 40 | MP33 | Y | 0 | 0 |
| 41 | MP35 | Y | -0.148 | %5 |
| 42 | MP35 | Y | -0.148 | %30 |
| 43 | MP35 | Y | 0 | 0 |
| 44 | MP35 | Y | 0 | 0 |
| 45 | MP35 | Y | 0 | 0 |

Member Point Loads (BLC 9 : 0 Seismic)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | Z | -0.011 | %5 |
| 2 | MP11 | Z | -0.011 | %90 |
| 3 | MP11 | Z | -0.03 | %30 |
| 4 | MP11 | Z | 0 | 0 |
| 5 | MP11 | Z | 0 | 0 |
| 6 | MP13 | Z | -0.041 | %15 |
| 7 | MP13 | Z | -0.041 | %85 |
| 8 | MP13 | Z | -0.023 | %50 |
| 9 | MP13 | Z | 0 | 0 |
| 10 | MP13 | Z | 0 | 0 |
| 11 | MP15 | Z | -0.031 | %5 |
| 12 | MP15 | Z | -0.031 | %30 |
| 13 | MP15 | Z | 0 | 0 |
| 14 | MP15 | Z | 0 | 0 |
| 15 | MP15 | Z | 0 | 0 |



Member Point Loads (BLC 9 : 0 Seismic) (Continued)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 16 | MP21 | Z | -0.011 | %5 |
| 17 | MP21 | Z | -0.011 | %90 |
| 18 | MP21 | Z | -0.03 | %30 |
| 19 | MP21 | Z | 0 | 0 |
| 20 | MP21 | Z | 0 | 0 |
| 21 | MP23 | Z | -0.041 | %15 |
| 22 | MP23 | Z | -0.041 | %85 |
| 23 | MP23 | Z | -0.023 | %50 |
| 24 | MP23 | Z | 0 | 0 |
| 25 | MP23 | Z | 0 | 0 |
| 26 | MP25 | Z | -0.031 | %5 |
| 27 | MP25 | Z | -0.031 | %30 |
| 28 | MP25 | Z | 0 | 0 |
| 29 | MP25 | Z | 0 | 0 |
| 30 | MP25 | Z | 0 | 0 |
| 31 | MP31 | Z | -0.011 | %5 |
| 32 | MP31 | Z | -0.011 | %90 |
| 33 | MP31 | Z | -0.03 | %30 |
| 34 | MP31 | Z | 0 | 0 |
| 35 | MP31 | Z | 0 | 0 |
| 36 | MP33 | Z | -0.041 | %15 |
| 37 | MP33 | Z | -0.041 | %85 |
| 38 | MP33 | Z | -0.023 | %50 |
| 39 | MP33 | Z | 0 | 0 |
| 40 | MP33 | Z | 0 | 0 |
| 41 | MP35 | Z | -0.031 | %5 |
| 42 | MP35 | Z | -0.031 | %30 |
| 43 | MP35 | Z | 0 | 0 |
| 44 | MP35 | Z | 0 | 0 |
| 45 | MP35 | Z | 0 | 0 |

Member Point Loads (BLC 10 : 90 Seismic)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 1 | MP11 | X | -0.011 | %5 |
| 2 | MP11 | X | -0.011 | %90 |
| 3 | MP11 | X | -0.03 | %30 |
| 4 | MP11 | X | 0 | 0 |
| 5 | MP11 | X | 0 | 0 |
| 6 | MP13 | X | -0.041 | %15 |
| 7 | MP13 | X | -0.041 | %85 |
| 8 | MP13 | X | -0.023 | %50 |
| 9 | MP13 | X | 0 | 0 |
| 10 | MP13 | X | 0 | 0 |
| 11 | MP15 | X | -0.031 | %5 |
| 12 | MP15 | X | -0.031 | %30 |
| 13 | MP15 | X | 0 | 0 |
| 14 | MP15 | X | 0 | 0 |
| 15 | MP15 | X | 0 | 0 |
| 16 | MP21 | X | -0.011 | %5 |
| 17 | MP21 | X | -0.011 | %90 |
| 18 | MP21 | X | -0.03 | %30 |
| 19 | MP21 | X | 0 | 0 |
| 20 | MP21 | X | 0 | 0 |
| 21 | MP23 | X | -0.041 | %15 |
| 22 | MP23 | X | -0.041 | %85 |
| 23 | MP23 | X | -0.023 | %50 |



Member Point Loads (BLC 10 : 90 Seismic) (Continued)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|----|--------------|-----------|---------------------|--------------------|
| 24 | MP23 | X | 0 | 0 |
| 25 | MP23 | X | 0 | 0 |
| 26 | MP25 | X | -0.031 | %5 |
| 27 | MP25 | X | -0.031 | %30 |
| 28 | MP25 | X | 0 | 0 |
| 29 | MP25 | X | 0 | 0 |
| 30 | MP25 | X | 0 | 0 |
| 31 | MP31 | X | -0.011 | %5 |
| 32 | MP31 | X | -0.011 | %90 |
| 33 | MP31 | X | -0.03 | %30 |
| 34 | MP31 | X | 0 | 0 |
| 35 | MP31 | X | 0 | 0 |
| 36 | MP33 | X | -0.041 | %15 |
| 37 | MP33 | X | -0.041 | %85 |
| 38 | MP33 | X | -0.023 | %50 |
| 39 | MP33 | X | 0 | 0 |
| 40 | MP33 | X | 0 | 0 |
| 41 | MP35 | X | -0.031 | %5 |
| 42 | MP35 | X | -0.031 | %30 |
| 43 | MP35 | X | 0 | 0 |
| 44 | MP35 | X | 0 | 0 |
| 45 | MP35 | X | 0 | 0 |

Member Point Loads (BLC 15 : Maint LL 1)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | F11 | Y | -0.25 | %95 |

Member Point Loads (BLC 16 : Maint LL 2)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | F12 | Y | -0.25 | %5 |

Member Point Loads (BLC 17 : Maint LL 3)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | F12 | Y | -0.25 | %95 |

Member Point Loads (BLC 18 : Maint LL 4)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | F13 | Y | -0.25 | %5 |

Member Point Loads (BLC 19 : Maint LL 5)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | F13 | Y | -0.25 | %95 |

Member Point Loads (BLC 20 : Maint LL 6)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | S22 | Y | -0.25 | %5 |



Member Point Loads (BLC 21 : Maint LL 7)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | S23 | Y | -0.25 | %5 |

Member Point Loads (BLC 22 : Maint LL 8)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | S21 | Y | -0.25 | %5 |

Member Point Loads (BLC 23 : Maint LL 9)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | F11 | Y | -0.25 | %5 |

Member Point Loads (BLC 24 : Maint LL 10)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | H1 | Y | -0.25 | %5 |

Member Point Loads (BLC 25 : Maint LL 11)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | H2 | Y | -0.25 | %5 |

Member Point Loads (BLC 26 : Maint LL 12)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | H3 | Y | -0.25 | %5 |

Member Point Loads (BLC 27 : Maint LL 13)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | H1 | Y | -0.25 | %95 |

Member Point Loads (BLC 28 : Maint LL 14)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | H2 | Y | -0.25 | %95 |

Member Point Loads (BLC 29 : Maint LL 15)

| | Member Label | Direction | Magnitude [k, k-ft] | Location [(ft, %)] |
|---|--------------|-----------|---------------------|--------------------|
| 1 | H3 | Y | -0.25 | %95 |

Node Loads and Enforced Displacements (BLC 11 : Live Load a)

| | Node Label | L, D, M | Direction | Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)] |
|---|------------|---------|-----------|--------------------------------------------------------------------------------|
| 1 | N29 | L | Y | -0.5 |
| 2 | N69 | L | Y | -0.5 |



Node Loads and Enforced Displacements (BLC 12 : Live Load b)

| | Node Label | L, D, M | Direction | Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)] |
|---|------------|---------|-----------|--------------------------------------------------------------------------------|
| 1 | N31 | L | Y | -0.5 |
| 2 | N71 | L | Y | -0.5 |

Node Loads and Enforced Displacements (BLC 13 : Live Load c)

| | Node Label | L, D, M | Direction | Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)] |
|---|------------|---------|-----------|--------------------------------------------------------------------------------|
| 1 | N33 | L | Y | -0.5 |
| 2 | N73 | L | Y | -0.5 |

Node Loads and Enforced Displacements (BLC 14 : Live Load d)

| | Node Label | L, D, M | Direction | Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)] |
|---|------------|---------|-----------|--------------------------------------------------------------------------------|
| 1 | N23 | L | Y | -0.5 |
| 2 | N63 | L | Y | -0.5 |

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

| | Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|----|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | Z | -0.019 | -0.019 | 0 | %100 |
| 2 | B2 | Z | -0.019 | -0.019 | 0 | %100 |
| 3 | B3 | Z | -0.019 | -0.019 | 0 | %100 |
| 4 | F11 | Z | -0.023 | -0.023 | 0 | %100 |
| 5 | F12 | Z | -0.023 | -0.023 | 0 | %100 |
| 6 | F13 | Z | -0.023 | -0.023 | 0 | %100 |
| 7 | F21 | Z | -0.023 | -0.023 | 0 | %100 |
| 8 | F22 | Z | -0.023 | -0.023 | 0 | %100 |
| 9 | F23 | Z | -0.023 | -0.023 | 0 | %100 |
| 10 | H1 | Z | -0.011 | -0.011 | 0 | %100 |
| 11 | H2 | Z | -0.011 | -0.011 | 0 | %100 |
| 12 | H3 | Z | -0.011 | -0.011 | 0 | %100 |
| 13 | HB1 | Z | -0.013 | -0.013 | 0 | %100 |
| 14 | HB2 | Z | -0.013 | -0.013 | 0 | %100 |
| 15 | HB3 | Z | -0.013 | -0.013 | 0 | %100 |
| 16 | MP11 | Z | -0.011 | -0.011 | 0 | %100 |
| 17 | MP12 | Z | -0.011 | -0.011 | 0 | %100 |
| 18 | MP13 | Z | -0.011 | -0.011 | 0 | %100 |
| 19 | MP14 | Z | -0.011 | -0.011 | 0 | %100 |
| 20 | MP15 | Z | -0.011 | -0.011 | 0 | %100 |
| 21 | MP21 | Z | -0.011 | -0.011 | 0 | %100 |
| 22 | MP22 | Z | -0.011 | -0.011 | 0 | %100 |
| 23 | MP23 | Z | -0.011 | -0.011 | 0 | %100 |
| 24 | MP24 | Z | -0.011 | -0.011 | 0 | %100 |
| 25 | MP25 | Z | -0.011 | -0.011 | 0 | %100 |
| 26 | MP31 | Z | -0.011 | -0.011 | 0 | %100 |
| 27 | MP32 | Z | -0.011 | -0.011 | 0 | %100 |
| 28 | MP33 | Z | -0.011 | -0.011 | 0 | %100 |
| 29 | MP34 | Z | -0.011 | -0.011 | 0 | %100 |
| 30 | MP35 | Z | -0.011 | -0.011 | 0 | %100 |
| 31 | S11 | Z | -0.017 | -0.017 | 0 | %100 |
| 32 | S12 | Z | -0.017 | -0.017 | 0 | %100 |
| 33 | S13 | Z | -0.017 | -0.017 | 0 | %100 |
| 34 | S21 | Z | -0.021 | -0.021 | 0 | %100 |
| 35 | S22 | Z | -0.021 | -0.021 | 0 | %100 |
| 36 | S23 | Z | -0.021 | -0.021 | 0 | %100 |



Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | X | -0.019 | -0.019 | 0 %100 |
| 2 | B2 | X | -0.019 | -0.019 | 0 %100 |
| 3 | B3 | X | -0.019 | -0.019 | 0 %100 |
| 4 | F11 | X | -0.023 | -0.023 | 0 %100 |
| 5 | F12 | X | -0.023 | -0.023 | 0 %100 |
| 6 | F13 | X | -0.023 | -0.023 | 0 %100 |
| 7 | F21 | X | -0.023 | -0.023 | 0 %100 |
| 8 | F22 | X | -0.023 | -0.023 | 0 %100 |
| 9 | F23 | X | -0.023 | -0.023 | 0 %100 |
| 10 | H1 | X | -0.011 | -0.011 | 0 %100 |
| 11 | H2 | X | -0.011 | -0.011 | 0 %100 |
| 12 | H3 | X | -0.011 | -0.011 | 0 %100 |
| 13 | HB1 | X | -0.013 | -0.013 | 0 %100 |
| 14 | HB2 | X | -0.013 | -0.013 | 0 %100 |
| 15 | HB3 | X | -0.013 | -0.013 | 0 %100 |
| 16 | MP11 | X | -0.011 | -0.011 | 0 %100 |
| 17 | MP12 | X | -0.011 | -0.011 | 0 %100 |
| 18 | MP13 | X | -0.011 | -0.011 | 0 %100 |
| 19 | MP14 | X | -0.011 | -0.011 | 0 %100 |
| 20 | MP15 | X | -0.011 | -0.011 | 0 %100 |
| 21 | MP21 | X | -0.011 | -0.011 | 0 %100 |
| 22 | MP22 | X | -0.011 | -0.011 | 0 %100 |
| 23 | MP23 | X | -0.011 | -0.011 | 0 %100 |
| 24 | MP24 | X | -0.011 | -0.011 | 0 %100 |
| 25 | MP25 | X | -0.011 | -0.011 | 0 %100 |
| 26 | MP31 | X | -0.011 | -0.011 | 0 %100 |
| 27 | MP32 | X | -0.011 | -0.011 | 0 %100 |
| 28 | MP33 | X | -0.011 | -0.011 | 0 %100 |
| 29 | MP34 | X | -0.011 | -0.011 | 0 %100 |
| 30 | MP35 | X | -0.011 | -0.011 | 0 %100 |
| 31 | S11 | X | -0.017 | -0.017 | 0 %100 |
| 32 | S12 | X | -0.017 | -0.017 | 0 %100 |
| 33 | S13 | X | -0.017 | -0.017 | 0 %100 |
| 34 | S21 | X | -0.021 | -0.021 | 0 %100 |
| 35 | S22 | X | -0.021 | -0.021 | 0 %100 |
| 36 | S23 | X | -0.021 | -0.021 | 0 %100 |

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | Z | -0.009 | -0.009 | 0 %100 |
| 2 | B2 | Z | -0.009 | -0.009 | 0 %100 |
| 3 | B3 | Z | -0.009 | -0.009 | 0 %100 |
| 4 | F11 | Z | -0.01 | -0.01 | 0 %100 |
| 5 | F12 | Z | -0.01 | -0.01 | 0 %100 |
| 6 | F13 | Z | -0.01 | -0.01 | 0 %100 |
| 7 | F21 | Z | -0.01 | -0.01 | 0 %100 |
| 8 | F22 | Z | -0.01 | -0.01 | 0 %100 |
| 9 | F23 | Z | -0.01 | -0.01 | 0 %100 |
| 10 | H1 | Z | -0.003 | -0.003 | 0 %100 |
| 11 | H2 | Z | -0.003 | -0.003 | 0 %100 |
| 12 | H3 | Z | -0.003 | -0.003 | 0 %100 |
| 13 | HB1 | Z | -0.008 | -0.008 | 0 %100 |
| 14 | HB2 | Z | -0.008 | -0.008 | 0 %100 |
| 15 | HB3 | Z | -0.008 | -0.008 | 0 %100 |
| 16 | MP11 | Z | -0.003 | -0.003 | 0 %100 |



Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 17 | MP12 | Z | -0.003 | -0.003 | 0 %100 |
| 18 | MP13 | Z | -0.003 | -0.003 | 0 %100 |
| 19 | MP14 | Z | -0.003 | -0.003 | 0 %100 |
| 20 | MP15 | Z | -0.003 | -0.003 | 0 %100 |
| 21 | MP21 | Z | -0.003 | -0.003 | 0 %100 |
| 22 | MP22 | Z | -0.003 | -0.003 | 0 %100 |
| 23 | MP23 | Z | -0.003 | -0.003 | 0 %100 |
| 24 | MP24 | Z | -0.003 | -0.003 | 0 %100 |
| 25 | MP25 | Z | -0.003 | -0.003 | 0 %100 |
| 26 | MP31 | Z | -0.003 | -0.003 | 0 %100 |
| 27 | MP32 | Z | -0.003 | -0.003 | 0 %100 |
| 28 | MP33 | Z | -0.003 | -0.003 | 0 %100 |
| 29 | MP34 | Z | -0.003 | -0.003 | 0 %100 |
| 30 | MP35 | Z | -0.003 | -0.003 | 0 %100 |
| 31 | S11 | Z | -0.009 | -0.009 | 0 %100 |
| 32 | S12 | Z | -0.009 | -0.009 | 0 %100 |
| 33 | S13 | Z | -0.009 | -0.009 | 0 %100 |
| 34 | S21 | Z | -0.009 | -0.009 | 0 %100 |
| 35 | S22 | Z | -0.009 | -0.009 | 0 %100 |
| 36 | S23 | Z | -0.009 | -0.009 | 0 %100 |

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | X | -0.009 | -0.009 | 0 %100 |
| 2 | B2 | X | -0.009 | -0.009 | 0 %100 |
| 3 | B3 | X | -0.009 | -0.009 | 0 %100 |
| 4 | F11 | X | -0.01 | -0.01 | 0 %100 |
| 5 | F12 | X | -0.01 | -0.01 | 0 %100 |
| 6 | F13 | X | -0.01 | -0.01 | 0 %100 |
| 7 | F21 | X | -0.01 | -0.01 | 0 %100 |
| 8 | F22 | X | -0.01 | -0.01 | 0 %100 |
| 9 | F23 | X | -0.01 | -0.01 | 0 %100 |
| 10 | H1 | X | -0.003 | -0.003 | 0 %100 |
| 11 | H2 | X | -0.003 | -0.003 | 0 %100 |
| 12 | H3 | X | -0.003 | -0.003 | 0 %100 |
| 13 | HB1 | X | -0.008 | -0.008 | 0 %100 |
| 14 | HB2 | X | -0.008 | -0.008 | 0 %100 |
| 15 | HB3 | X | -0.008 | -0.008 | 0 %100 |
| 16 | MP11 | X | -0.003 | -0.003 | 0 %100 |
| 17 | MP12 | X | -0.003 | -0.003 | 0 %100 |
| 18 | MP13 | X | -0.003 | -0.003 | 0 %100 |
| 19 | MP14 | X | -0.003 | -0.003 | 0 %100 |
| 20 | MP15 | X | -0.003 | -0.003 | 0 %100 |
| 21 | MP21 | X | -0.003 | -0.003 | 0 %100 |
| 22 | MP22 | X | -0.003 | -0.003 | 0 %100 |
| 23 | MP23 | X | -0.003 | -0.003 | 0 %100 |
| 24 | MP24 | X | -0.003 | -0.003 | 0 %100 |
| 25 | MP25 | X | -0.003 | -0.003 | 0 %100 |
| 26 | MP31 | X | -0.003 | -0.003 | 0 %100 |
| 27 | MP32 | X | -0.003 | -0.003 | 0 %100 |
| 28 | MP33 | X | -0.003 | -0.003 | 0 %100 |
| 29 | MP34 | X | -0.003 | -0.003 | 0 %100 |
| 30 | MP35 | X | -0.003 | -0.003 | 0 %100 |
| 31 | S11 | X | -0.009 | -0.009 | 0 %100 |
| 32 | S12 | X | -0.009 | -0.009 | 0 %100 |
| 33 | S13 | X | -0.009 | -0.009 | 0 %100 |



Company : B+T GROUP
 Designer : KH
 Job Number : 91728.013.01
 Model Name : WINDSOR CENTRAL 855662

6/15/2021
 10:09:02 AM
 Checked By : (SV)

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 34 | S21 | X | -0.009 | -0.009 | 0 %100 |
| 35 | S22 | X | -0.009 | -0.009 | 0 %100 |
| 36 | S23 | X | -0.009 | -0.009 | 0 %100 |

Member Distributed Loads (BLC 6 : 0 Wind - Service)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | Z | -0.001 | -0.001 | 0 %100 |
| 2 | B2 | Z | -0.001 | -0.001 | 0 %100 |
| 3 | B3 | Z | -0.001 | -0.001 | 0 %100 |
| 4 | F11 | Z | -0.001 | -0.001 | 0 %100 |
| 5 | F12 | Z | -0.001 | -0.001 | 0 %100 |
| 6 | F13 | Z | -0.001 | -0.001 | 0 %100 |
| 7 | F21 | Z | -0.001 | -0.001 | 0 %100 |
| 8 | F22 | Z | -0.001 | -0.001 | 0 %100 |
| 9 | F23 | Z | -0.001 | -0.001 | 0 %100 |
| 10 | H1 | Z | -0.0003 | -0.0003 | 0 %100 |
| 11 | H2 | Z | -0.0003 | -0.0003 | 0 %100 |
| 12 | H3 | Z | -0.0003 | -0.0003 | 0 %100 |
| 13 | HB1 | Z | -0.0007 | -0.0007 | 0 %100 |
| 14 | HB2 | Z | -0.0007 | -0.0007 | 0 %100 |
| 15 | HB3 | Z | -0.0007 | -0.0007 | 0 %100 |
| 16 | MP11 | Z | -0.0003 | -0.0003 | 0 %100 |
| 17 | MP12 | Z | -0.0003 | -0.0003 | 0 %100 |
| 18 | MP13 | Z | -0.0003 | -0.0003 | 0 %100 |
| 19 | MP14 | Z | -0.0003 | -0.0003 | 0 %100 |
| 20 | MP15 | Z | -0.0003 | -0.0003 | 0 %100 |
| 21 | MP21 | Z | -0.0003 | -0.0003 | 0 %100 |
| 22 | MP22 | Z | -0.0003 | -0.0003 | 0 %100 |
| 23 | MP23 | Z | -0.0003 | -0.0003 | 0 %100 |
| 24 | MP24 | Z | -0.0003 | -0.0003 | 0 %100 |
| 25 | MP25 | Z | -0.0003 | -0.0003 | 0 %100 |
| 26 | MP31 | Z | -0.0003 | -0.0003 | 0 %100 |
| 27 | MP32 | Z | -0.0003 | -0.0003 | 0 %100 |
| 28 | MP33 | Z | -0.0003 | -0.0003 | 0 %100 |
| 29 | MP34 | Z | -0.0003 | -0.0003 | 0 %100 |
| 30 | MP35 | Z | -0.0003 | -0.0003 | 0 %100 |
| 31 | S11 | Z | -0.001 | -0.001 | 0 %100 |
| 32 | S12 | Z | -0.001 | -0.001 | 0 %100 |
| 33 | S13 | Z | -0.001 | -0.001 | 0 %100 |
| 34 | S21 | Z | -0.001 | -0.001 | 0 %100 |
| 35 | S22 | Z | -0.001 | -0.001 | 0 %100 |
| 36 | S23 | Z | -0.001 | -0.001 | 0 %100 |

Member Distributed Loads (BLC 7 : 90 Wind - Service)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | X | -0.001 | -0.001 | 0 %100 |
| 2 | B2 | X | -0.001 | -0.001 | 0 %100 |
| 3 | B3 | X | -0.001 | -0.001 | 0 %100 |
| 4 | F11 | X | -0.001 | -0.001 | 0 %100 |
| 5 | F12 | X | -0.001 | -0.001 | 0 %100 |
| 6 | F13 | X | -0.001 | -0.001 | 0 %100 |
| 7 | F21 | X | -0.001 | -0.001 | 0 %100 |
| 8 | F22 | X | -0.001 | -0.001 | 0 %100 |
| 9 | F23 | X | -0.001 | -0.001 | 0 %100 |
| 10 | H1 | X | -0.0003 | -0.0003 | 0 %100 |



Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 11 | H2 | X | -0.0003 | -0.0003 | 0 %100 |
| 12 | H3 | X | -0.0003 | -0.0003 | 0 %100 |
| 13 | HB1 | X | -0.0007 | -0.0007 | 0 %100 |
| 14 | HB2 | X | -0.0007 | -0.0007 | 0 %100 |
| 15 | HB3 | X | -0.0007 | -0.0007 | 0 %100 |
| 16 | MP11 | X | -0.0003 | -0.0003 | 0 %100 |
| 17 | MP12 | X | -0.0003 | -0.0003 | 0 %100 |
| 18 | MP13 | X | -0.0003 | -0.0003 | 0 %100 |
| 19 | MP14 | X | -0.0003 | -0.0003 | 0 %100 |
| 20 | MP15 | X | -0.0003 | -0.0003 | 0 %100 |
| 21 | MP21 | X | -0.0003 | -0.0003 | 0 %100 |
| 22 | MP22 | X | -0.0003 | -0.0003 | 0 %100 |
| 23 | MP23 | X | -0.0003 | -0.0003 | 0 %100 |
| 24 | MP24 | X | -0.0003 | -0.0003 | 0 %100 |
| 25 | MP25 | X | -0.0003 | -0.0003 | 0 %100 |
| 26 | MP31 | X | -0.0003 | -0.0003 | 0 %100 |
| 27 | MP32 | X | -0.0003 | -0.0003 | 0 %100 |
| 28 | MP33 | X | -0.0003 | -0.0003 | 0 %100 |
| 29 | MP34 | X | -0.0003 | -0.0003 | 0 %100 |
| 30 | MP35 | X | -0.0003 | -0.0003 | 0 %100 |
| 31 | S11 | X | -0.001 | -0.001 | 0 %100 |
| 32 | S12 | X | -0.001 | -0.001 | 0 %100 |
| 33 | S13 | X | -0.001 | -0.001 | 0 %100 |
| 34 | S21 | X | -0.001 | -0.001 | 0 %100 |
| 35 | S22 | X | -0.001 | -0.001 | 0 %100 |
| 36 | S23 | X | -0.001 | -0.001 | 0 %100 |

Member Distributed Loads (BLC 8 : Ice Load)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | Y | -0.026 | -0.026 | 0 %100 |
| 2 | B2 | Y | -0.026 | -0.026 | 0 %100 |
| 3 | B3 | Y | -0.026 | -0.026 | 0 %100 |
| 4 | F11 | Y | -0.019 | -0.019 | 0 %100 |
| 5 | F12 | Y | -0.019 | -0.019 | 0 %100 |
| 6 | F13 | Y | -0.019 | -0.019 | 0 %100 |
| 7 | F21 | Y | -0.019 | -0.019 | 0 %100 |
| 8 | F22 | Y | -0.019 | -0.019 | 0 %100 |
| 9 | F23 | Y | -0.019 | -0.019 | 0 %100 |
| 10 | H1 | Y | -0.013 | -0.013 | 0 %100 |
| 11 | H2 | Y | -0.013 | -0.013 | 0 %100 |
| 12 | H3 | Y | -0.013 | -0.013 | 0 %100 |
| 13 | HB1 | Y | -0.017 | -0.017 | 0 %100 |
| 14 | HB2 | Y | -0.017 | -0.017 | 0 %100 |
| 15 | HB3 | Y | -0.017 | -0.017 | 0 %100 |
| 16 | MP11 | Y | -0.013 | -0.013 | 0 %100 |
| 17 | MP12 | Y | -0.013 | -0.013 | 0 %100 |
| 18 | MP13 | Y | -0.013 | -0.013 | 0 %100 |
| 19 | MP14 | Y | -0.013 | -0.013 | 0 %100 |
| 20 | MP15 | Y | -0.013 | -0.013 | 0 %100 |
| 21 | MP21 | Y | -0.013 | -0.013 | 0 %100 |
| 22 | MP22 | Y | -0.013 | -0.013 | 0 %100 |
| 23 | MP23 | Y | -0.013 | -0.013 | 0 %100 |
| 24 | MP24 | Y | -0.013 | -0.013 | 0 %100 |
| 25 | MP25 | Y | -0.013 | -0.013 | 0 %100 |
| 26 | MP31 | Y | -0.013 | -0.013 | 0 %100 |
| 27 | MP32 | Y | -0.013 | -0.013 | 0 %100 |



Member Distributed Loads (BLC 8 : Ice Load) (Continued)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 28 | MP33 | Y | -0.013 | -0.013 | 0 %100 |
| 29 | MP34 | Y | -0.013 | -0.013 | 0 %100 |
| 30 | MP35 | Y | -0.013 | -0.013 | 0 %100 |
| 31 | S11 | Y | -0.021 | -0.021 | 0 %100 |
| 32 | S12 | Y | -0.021 | -0.021 | 0 %100 |
| 33 | S13 | Y | -0.021 | -0.021 | 0 %100 |
| 34 | S21 | Y | -0.023 | -0.023 | 0 %100 |
| 35 | S22 | Y | -0.023 | -0.023 | 0 %100 |
| 36 | S23 | Y | -0.023 | -0.023 | 0 %100 |

Member Distributed Loads (BLC 9 : 0 Seismic)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | Z | -0.003 | -0.003 | 0 %100 |
| 2 | B2 | Z | -0.003 | -0.003 | 0 %100 |
| 3 | B3 | Z | -0.003 | -0.003 | 0 %100 |
| 4 | F11 | Z | -0.001 | -0.001 | 0 %100 |
| 5 | F12 | Z | -0.001 | -0.001 | 0 %100 |
| 6 | F13 | Z | -0.001 | -0.001 | 0 %100 |
| 7 | F21 | Z | -0.001 | -0.001 | 0 %100 |
| 8 | F22 | Z | -0.001 | -0.001 | 0 %100 |
| 9 | F23 | Z | -0.001 | -0.001 | 0 %100 |
| 10 | H1 | Z | -0.001 | -0.001 | 0 %100 |
| 11 | H2 | Z | -0.001 | -0.001 | 0 %100 |
| 12 | H3 | Z | -0.001 | -0.001 | 0 %100 |
| 13 | HB1 | Z | -0.001 | -0.001 | 0 %100 |
| 14 | HB2 | Z | -0.001 | -0.001 | 0 %100 |
| 15 | HB3 | Z | -0.001 | -0.001 | 0 %100 |
| 16 | MP11 | Z | -0.001 | -0.001 | 0 %100 |
| 17 | MP12 | Z | -0.001 | -0.001 | 0 %100 |
| 18 | MP13 | Z | -0.001 | -0.001 | 0 %100 |
| 19 | MP14 | Z | -0.001 | -0.001 | 0 %100 |
| 20 | MP15 | Z | -0.001 | -0.001 | 0 %100 |
| 21 | MP21 | Z | -0.001 | -0.001 | 0 %100 |
| 22 | MP22 | Z | -0.001 | -0.001 | 0 %100 |
| 23 | MP23 | Z | -0.001 | -0.001 | 0 %100 |
| 24 | MP24 | Z | -0.001 | -0.001 | 0 %100 |
| 25 | MP25 | Z | -0.001 | -0.001 | 0 %100 |
| 26 | MP31 | Z | -0.001 | -0.001 | 0 %100 |
| 27 | MP32 | Z | -0.001 | -0.001 | 0 %100 |
| 28 | MP33 | Z | -0.001 | -0.001 | 0 %100 |
| 29 | MP34 | Z | -0.001 | -0.001 | 0 %100 |
| 30 | MP35 | Z | -0.001 | -0.001 | 0 %100 |
| 31 | S11 | Z | -0.003 | -0.003 | 0 %100 |
| 32 | S12 | Z | -0.003 | -0.003 | 0 %100 |
| 33 | S13 | Z | -0.003 | -0.003 | 0 %100 |
| 34 | S21 | Z | -0.003 | -0.003 | 0 %100 |
| 35 | S22 | Z | -0.003 | -0.003 | 0 %100 |
| 36 | S23 | Z | -0.003 | -0.003 | 0 %100 |

Member Distributed Loads (BLC 10 : 90 Seismic)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | X | -0.003 | -0.003 | 0 %100 |
| 2 | B2 | X | -0.003 | -0.003 | 0 %100 |
| 3 | B3 | X | -0.003 | -0.003 | 0 %100 |
| 4 | F11 | X | -0.001 | -0.001 | 0 %100 |



Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 5 | F12 | X | -0.001 | -0.001 | 0 %100 |
| 6 | F13 | X | -0.001 | -0.001 | 0 %100 |
| 7 | F21 | X | -0.001 | -0.001 | 0 %100 |
| 8 | F22 | X | -0.001 | -0.001 | 0 %100 |
| 9 | F23 | X | -0.001 | -0.001 | 0 %100 |
| 10 | H1 | X | -0.001 | -0.001 | 0 %100 |
| 11 | H2 | X | -0.001 | -0.001 | 0 %100 |
| 12 | H3 | X | -0.001 | -0.001 | 0 %100 |
| 13 | HB1 | X | -0.001 | -0.001 | 0 %100 |
| 14 | HB2 | X | -0.001 | -0.001 | 0 %100 |
| 15 | HB3 | X | -0.001 | -0.001 | 0 %100 |
| 16 | MP11 | X | -0.001 | -0.001 | 0 %100 |
| 17 | MP12 | X | -0.001 | -0.001 | 0 %100 |
| 18 | MP13 | X | -0.001 | -0.001 | 0 %100 |
| 19 | MP14 | X | -0.001 | -0.001 | 0 %100 |
| 20 | MP15 | X | -0.001 | -0.001 | 0 %100 |
| 21 | MP21 | X | -0.001 | -0.001 | 0 %100 |
| 22 | MP22 | X | -0.001 | -0.001 | 0 %100 |
| 23 | MP23 | X | -0.001 | -0.001 | 0 %100 |
| 24 | MP24 | X | -0.001 | -0.001 | 0 %100 |
| 25 | MP25 | X | -0.001 | -0.001 | 0 %100 |
| 26 | MP31 | X | -0.001 | -0.001 | 0 %100 |
| 27 | MP32 | X | -0.001 | -0.001 | 0 %100 |
| 28 | MP33 | X | -0.001 | -0.001 | 0 %100 |
| 29 | MP34 | X | -0.001 | -0.001 | 0 %100 |
| 30 | MP35 | X | -0.001 | -0.001 | 0 %100 |
| 31 | S11 | X | -0.003 | -0.003 | 0 %100 |
| 32 | S12 | X | -0.003 | -0.003 | 0 %100 |
| 33 | S13 | X | -0.003 | -0.003 | 0 %100 |
| 34 | S21 | X | -0.003 | -0.003 | 0 %100 |
| 35 | S22 | X | -0.003 | -0.003 | 0 %100 |
| 36 | S23 | X | -0.003 | -0.003 | 0 %100 |

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 1 | B1 | Y | -0.002 | -0.01 | 0 1.963 |
| 2 | B1 | Y | -0.01 | -0.017 | 1.963 3.926 |
| 3 | B3 | Y | -0.002 | -0.01 | 0 1.963 |
| 4 | B3 | Y | -0.01 | -0.017 | 1.963 3.926 |
| 5 | F11 | Y | -0.0002044 | -0.006 | 0 2 |
| 6 | F11 | Y | -0.006 | -0.01 | 2 4 |
| 7 | F11 | Y | -0.01 | -0.009 | 4 6 |
| 8 | F11 | Y | -0.009 | -0.009 | 6 8 |
| 9 | F11 | Y | -0.009 | -0.01 | 8 10 |
| 10 | F11 | Y | -0.01 | -0.006 | 10 12 |
| 11 | F11 | Y | -0.006 | -0.0002044 | 12 14 |
| 12 | F21 | Y | -0.01 | -0.01 | 0.008 7.192 |
| 13 | B2 | Y | -0.002 | -0.01 | 0 1.963 |
| 14 | B2 | Y | -0.01 | -0.017 | 1.963 3.926 |
| 15 | F12 | Y | -0.002 | -0.005 | 0 2.333 |
| 16 | F12 | Y | -0.005 | -0.009 | 2.333 4.667 |
| 17 | F12 | Y | -0.009 | -0.012 | 4.667 7 |
| 18 | F12 | Y | -0.012 | -0.009 | 7 9.333 |
| 19 | F12 | Y | -0.009 | -0.005 | 9.333 11.667 |
| 20 | F12 | Y | -0.005 | -0.002 | 11.667 14 |
| 21 | F22 | Y | -0.01 | -0.01 | 0.008 7.192 |



Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads) (Continued)

| Member Label | Direction | Start Magnitude [k/ft, F, psf, k-ft/ft] | End Magnitude [k/ft, F, psf, k-ft/ft] | Start Location [(ft, %)] | End Location [(ft, %)] |
|--------------|-----------|-----------------------------------------|---------------------------------------|--------------------------|------------------------|
| 22 | F13 | Y | -0.002 | -0.005 | 0 2.333 |
| 23 | F13 | Y | -0.005 | -0.009 | 2.333 4.667 |
| 24 | F13 | Y | -0.009 | -0.012 | 4.667 7 |
| 25 | F13 | Y | -0.012 | -0.009 | 7 9.333 |
| 26 | F13 | Y | -0.009 | -0.005 | 9.333 11.667 |
| 27 | F13 | Y | -0.005 | -0.002 | 11.667 14 |
| 28 | F23 | Y | -0.01 | -0.01 | 0.008 7.192 |

Member Area Loads (BLC 1 : Dead Load)

| Node A | Node B | Node C | Node D | Direction | Load Direction | Magnitude [psf] | |
|--------|--------|--------|--------|-----------|----------------|-----------------|-----|
| 1 | N3 | N7 | N5 | N4 | Y | Two Way | -10 |
| 2 | N2 | N6 | N7 | N3 | Y | Two Way | -10 |
| 3 | N4 | N5 | N6 | N2 | Y | Two Way | -10 |

Member Area Loads (BLC 8 : Ice Load)

| Node A | Node B | Node C | Node D | Direction | Load Direction | Magnitude [psf] | |
|--------|--------|--------|--------|-----------|----------------|-----------------|-----|
| 1 | N3 | N7 | N5 | N4 | Y | Two Way | -11 |
| 2 | N2 | N6 | N7 | N3 | Y | Two Way | -11 |
| 3 | N4 | N5 | N6 | N2 | Y | Two Way | -11 |

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

| Member | Shape | Code Check | Loc[ft] | LC | Shear | Check | Loc[ft] | Dir | cphi* | Pnc [k] | phi* | Pnt [k] | phi* | Mn y-y [k-ft] | phi* | Mn z-z [k-ft] | Cb | Eqn |
|--------|-------|--------------|---------|-------|-------|-------|---------|-----|--------|---------|---------|---------|--------|---------------|-------|---------------|----|-----|
| 1 | B1 | LL3x3x4x0 | 0.129 | 0 | 8 | 0.014 | 3.926 | z | 3 | 76.365 | 93.312 | 6.48 | 4.36 | 1.885 | H1-1b | | | |
| 2 | B2 | LL3x3x4x0 | 0.105 | 0 | 13 | 0.009 | 3.926 | z | 11 | 76.365 | 93.312 | 6.48 | 4.36 | 1.84 | H1-1b | | | |
| 3 | B3 | LL3x3x4x0 | 0.136 | 0 | 8 | 0.014 | 3.926 | z | 7 | 76.365 | 93.312 | 6.48 | 4.36 | 1.878 | H1-1b | | | |
| 4 | F11 | L3X3X4 | 0.522 | 8.896 | 8 | 0.07 | 7 | z | 2 | 15.778 | 46.656 | 1.688 | 2.161 | 1 | H2-1 | | | |
| 5 | F12 | L3X3X4 | 0.546 | 7 | 2 | 0.061 | 7 | z | 9 | 15.778 | 46.656 | 1.688 | 2.161 | 1 | H2-1 | | | |
| 6 | F13 | L3X3X4 | 0.549 | 7 | 2 | 0.061 | 7 | z | 7 | 15.778 | 46.656 | 1.688 | 2.161 | 1 | H2-1 | | | |
| 7 | F21 | L3X3X4 | 0.303 | 3.6 | 7 | 0.017 | 3.6 | y | 9 | 35.013 | 46.656 | 1.688 | 3.645 | 1.334 | H2-1 | | | |
| 8 | F22 | L3X3X4 | 0.34 | 3.6 | 2 | 0.019 | 3.6 | y | 2 | 35.013 | 46.656 | 1.688 | 3.689 | 1.44 | H2-1 | | | |
| 9 | F23 | L3X3X4 | 0.337 | 3.6 | 2 | 0.019 | 3.6 | y | 2 | 35.013 | 46.656 | 1.688 | 3.691 | 1.444 | H2-1 | | | |
| 10 | H1 | PIPE 2.0 | 0.311 | 6.25 | 7 | 0.18 | 6.25 | 8 | 6.295 | 32.13 | 1.872 | 1.872 | 1.187 | H1-1b | | | | |
| 11 | H2 | PIPE 2.0 | 0.371 | 6.25 | 2 | 0.154 | 6.25 | 3 | 6.295 | 32.13 | 1.872 | 1.872 | 1.976 | H1-1b | | | | |
| 12 | H3 | PIPE 2.0 | 0.371 | 6.25 | 2 | 0.155 | 6.25 | 13 | 6.295 | 32.13 | 1.872 | 1.872 | 2.235 | H1-1b | | | | |
| 13 | HB1 | L2.5x2.5x4 | 0.198 | 1.24 | 8 | 0.059 | 0 | y | 8 | 36.669 | 38.556 | 1.114 | 2.537 | 1.5 | H2-1 | | | |
| 14 | HB2 | L2.5x2.5x4 | 0.203 | 1.24 | 3 | 0.031 | 0 | y | 5 | 36.669 | 38.556 | 1.114 | 2.537 | 1.375 | H2-1 | | | |
| 15 | HB3 | L2.5x2.5x4 | 0.18 | 0 | 8 | 0.056 | 0 | y | 13 | 36.669 | 38.556 | 1.114 | 2.537 | 1.5 | H2-1 | | | |
| 16 | MP11 | PIPE 2.0 | 0.298 | 2.396 | 7 | 0.111 | 2.396 | 7 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 17 | MP12 | PIPE 2.0 | 0.32 | 0.417 | 7 | 0.133 | 2.396 | 8 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 18 | MP13 | PIPE 2.0 | 0.76 | 4.75 | 2 | 0.08 | 4.75 | 2 | 14.916 | 32.13 | 1.872 | 1.872 | 2.626 | H1-1b | | | | |
| 19 | MP14 | PIPE 2.0 | 0.307 | 0.417 | 9 | 0.116 | 2.396 | 8 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 20 | MP15 | PIPE 2.0 | 0.257 | 0.417 | 9 | 0.126 | 0.417 | 8 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 21 | MP21 | PIPE 2.0 | 0.375 | 2.396 | 2 | 0.129 | 2.396 | 2 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 22 | MP22 | PIPE 2.0 | 0.361 | 0.417 | 2 | 0.11 | 2.396 | 3 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 23 | MP23 | PIPE 2.0 | 0.556 | 4.75 | 9 | 0.066 | 4.75 | 8 | 14.916 | 32.13 | 1.872 | 1.872 | 2.194 | H1-1b | | | | |
| 24 | MP24 | PIPE 2.0 | 0.266 | 2.396 | 6 | 0.093 | 2.396 | 4 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 25 | MP25 | PIPE 2.0 | 0.246 | 2.396 | 6 | 0.084 | 0.417 | 4 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 26 | MP31 | PIPE 2.0 | 0.315 | 2.396 | 9 | 0.086 | 2.396 | 10 | 23.809 | 32.13 | 1.872 | 1.872 | 2.527 | H1-1b | | | | |
| 27 | MP32 | PIPE 2.0 | 0.27 | 2.396 | 10 | 0.103 | 2.396 | 12 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 28 | MP33 | PIPE 2.0 | 0.543 | 4.75 | 7 | 0.068 | 4.75 | 8 | 14.916 | 32.13 | 1.872 | 1.872 | 2.179 | H1-1b | | | | |
| 29 | MP34 | PIPE 2.0 | 0.347 | 0.417 | 2 | 0.106 | 2.396 | 13 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 30 | MP35 | PIPE 2.0 | 0.301 | 2.396 | 2 | 0.114 | 2.396 | 13 | 23.809 | 32.13 | 1.872 | 1.872 | 3 | H1-1b | | | | |
| 31 | S11 | HSS3.5X3.5X4 | 0.475 | 0.885 | 9 | 0.165 | 0.885 | z | 11 | 119.947 | 120.474 | 12.075 | 12.075 | 1.137 | H1-1b | | | |



Company : B+T GROUP
 Designer : KH
 Job Number : 91728.013.01
 Model Name : WINDSOR CENTRAL 855662

6/15/2021
 10:09:02 AM
 Checked By : (SV)

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

| Member | Shape | Code | Check | Loc[ft] | LC | Shear | Check | Loc[ft] | Dir. | C | Pnc [k] | phi*Pnt [k] | phi*Mn y-y [k-ft] | phi*Mn z-z [k-ft] | Cb | Eqn |
|--------|-------|--------------|-------|---------|----|-------|-------|---------|------|---|---------|-------------|-------------------|-------------------|-------|-------|
| 32 | S12 | HSS3.5X3.5X4 | 0.51 | 0.885 | 2 | 0.242 | 0.885 | z | 7 | | 119.947 | 120.474 | 12.075 | 12.075 | 1.147 | H1-1b |
| 33 | S13 | HSS3.5X3.5X4 | 0.51 | 0.885 | 2 | 0.243 | 0.885 | z | 9 | | 119.947 | 120.474 | 12.075 | 12.075 | 1.148 | H1-1b |
| 34 | S21 | HSS4X4X4 | 0.237 | 2 | 7 | 0.131 | 2 | z | 11 | | 137.202 | 139.518 | 16.181 | 16.181 | 1.473 | H1-1b |
| 35 | S22 | HSS4X4X4 | 0.232 | 1.979 | 3 | 0.192 | 2 | z | 7 | | 137.202 | 139.518 | 16.181 | 16.181 | 1.5 | H1-1b |
| 36 | S23 | HSS4X4X4 | 0.231 | 1.979 | 13 | 0.192 | 2 | z | 9 | | 137.202 | 139.518 | 16.181 | 16.181 | 1.507 | H1-1b |

Envelope Node Reactions

| Node Label | | X [k] | LC | Y [k] | LC | Z [k] | LC | MX [k-ft] | LC | MY [k-ft] | LC | MZ [k-ft] | LC | |
|------------|---------|-------|--------|-------|-------|-------|--------|-----------|--------|-----------|--------|-----------|--------|----|
| 1 | R1 | max | 2.397 | 5 | 1.741 | 8 | 1.67 | 2 | -0.715 | 2 | 1.499 | 5 | 0.937 | 11 |
| 2 | | min | -2.396 | 11 | 0.723 | 2 | -1.54 | 8 | -5.213 | 8 | -1.501 | 11 | -0.934 | 5 |
| 3 | R2 | max | 1.577 | 6 | 1.565 | 3 | 3.201 | 2 | 3.205 | 2 | 2.138 | 13 | -1.413 | 11 |
| 4 | | min | -1.689 | 12 | 0.903 | 9 | -3.266 | 8 | -0.252 | 8 | -2.14 | 7 | -3.743 | 5 |
| 5 | R3 | max | 1.69 | 4 | 1.577 | 13 | 3.192 | 2 | 3.218 | 2 | 2.137 | 9 | 3.741 | 11 |
| 6 | | min | -1.58 | 10 | 0.892 | 7 | -3.259 | 8 | -0.261 | 8 | -2.138 | 3 | 1.412 | 5 |
| 7 | Totals: | max | 5.087 | 5 | 4.32 | 1 | 8.064 | 2 | | | | | | |
| 8 | | min | -5.087 | 11 | 3.703 | 6 | -8.064 | 8 | | | | | | |

Exhibit F



Non-Ionizing Radiation Report

Compiled For: Northeast Site Solutions on behalf of T-Mobile

Site Name: Windsor Fire Department

Site ID: CT11063A

340 Bloomfield Avenue, Windsor, CT 06095

Latitude: 41-51-09.35 N; Longitude: 72-39-37.57 W

Structure Type: Monopole

Report Date: September 7, 2021

Report Written By: Tim Harris

Status: T-Mobile will be compliant with FCC rules on RF Exposure.

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1. Executive Summary:

Northeast Site Solutions on behalf of T-Mobile has contracted Infinigy Solutions, LLC to determine whether the site CT11063A – Windsor Fire Department located at 340 Bloomfield Avenue in Windsor, 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” (see Appendix A and B).

This document and the conclusions herein are based on information provided by Northeast Site Solutions on behalf of T-Mobile.

As a result of the analysis, **T-Mobile Will Be Compliant with FCC rules.**

| T-Mobile, All Bands Cumulative Exposure % | | |
|-------------------------------------------|------------------------------------------------------|--------|
| Uncontrolled / General Population | Exposure values at the site (mW/cm ²) | 0.0178 |
| | % Exposure | 2.23 % |
| Controlled / Occupational | Exposure values at the site (mW/cm ²) | 0.0178 |
| | % Exposure | 0.45 % |

2. Site Summary:

| Site Information | |
|--------------------------------------------------------|-------------------|
| Site Name: Windsor Fire Department | |
| Site ID: CT11063A | |
| Site Address: 340 Bloomfield Avenue, Windsor, CT 06095 | |
| Site Type: Monopole | |
| 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 an RF caution sign. Note: The recommendation for alerting signage is moot if there is an RF caution, or greater already installed.

5. Antenna Inventory Table

| Ant ID | Sector | Azimuth | Operator | Antenna manufacturer | Antenna Model | Operating Frequency/Technology | Rad Ctr (Ft) | Az (Deg) | Total ERP Power (Watts) |
|--------|--------|---------|----------|----------------------|-----------------------|--------------------------------|--------------|----------|-------------------------|
| 1a | Alpha | 46 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 2100 MHz LTE | 142 | 46 | 2154 |
| 1b | Alpha | 46 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 1900 MHz GSM | 142 | 46 | 3052 |
| 1c | Alpha | 46 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 1900 MHz LTE | 142 | 46 | 3052 |
| 1d | Alpha | 46 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 2100 MHz UMTS | 142 | 46 | 2154 |
| 2a | Alpha | 46 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 700 MHz LTE | 142 | 46 | 2256 |
| 2b | Alpha | 46 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 600 MHz LTE | 142 | 46 | 1128 |
| 2c | Alpha | 46 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 600 MHz 5G | 142 | 46 | 1128 |
| 3a | Alpha | 46 | T-Mobile | Ericsson | AIR6449 B41 | 2500 MHz LTE | 142 | 46 | 3590 |
| 3b | Alpha | 46 | T-Mobile | Ericsson | AIR6449 B41 | 2500 MHz 5G | 142 | 46 | 3591 |
| 4a | Beta | 180 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 2100 MHz LTE | 142 | 180 | 2154 |
| 4b | Beta | 180 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 1900 MHz GSM | 142 | 180 | 3052 |
| 4c | Beta | 180 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 1900 MHz LTE | 142 | 180 | 3052 |
| 4d | Beta | 180 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 2100 MHz UMTS | 142 | 180 | 2154 |
| 5a | Beta | 180 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 700 MHz LTE | 142 | 180 | 2256 |
| 5b | Beta | 180 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 600 MHz LTE | 142 | 180 | 1128 |
| 5c | Beta | 180 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 600 MHz 5G | 142 | 180 | 1128 |
| 6a | Beta | 180 | T-Mobile | Ericsson | AIR6449 B41 | 2500 MHz LTE | 142 | 180 | 3590 |
| 6b | Beta | 180 | T-Mobile | Ericsson | AIR6449 B41 | 2500 MHz 5G | 142 | 180 | 3591 |
| 7a | Gamma | 285 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 2100 MHz LTE | 142 | 285 | 2154 |
| 7b | Gamma | 285 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 1900 MHz GSM | 142 | 285 | 3052 |
| 7c | Gamma | 285 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 1900 MHz LTE | 142 | 285 | 3052 |
| 7d | Gamma | 285 | T-Mobile | RFS | APX16DW-16DWV-S-E-A20 | 2100 MHz UMTS | 142 | 285 | 2154 |
| 8a | Gamma | 285 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 700 MHz LTE | 142 | 285 | 2256 |
| 8b | Gamma | 285 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 600 MHz LTE | 142 | 285 | 1128 |

INFINIGY

| Ant ID | Sector | Azimuth | Operator | Antenna manufacturer | Antenna Model | Operating Frequency/Technology | Rad Ctr (Ft) | Az (Deg) | Total ERP Power (Watts) |
|--------|--------|---------|----------|----------------------|---------------------|--------------------------------|--------------|----------|-------------------------|
| 8c | Gamma | 285 | T-Mobile | RFS | APXVARR24_43-C-NA20 | 600 MHz 5G | 142 | 285 | 1128 |
| 9a | Gamma | 285 | T-Mobile | Ericsson | AIR6449 B41 | 2500 MHz LTE | 142 | 285 | 3590 |
| 9b | Gamma | 285 | T-Mobile | Ericsson | AIR6449 B41 | 2500 MHz 5G | 142 | 285 | 3591 |

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.

7. T-Mobile Exposure Analysis By Band and Technology

| T-Mobile 600 MHz LTE | | |
|-----------------------------------------|---------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 0.4 |
| | Exposure values at the site (mW/cm ²) | 0.0009 |
| | % Exposure | 0.23% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 2.0 |
| | Exposure values at the site (mW/cm ²) | 0.0009 |
| | % Exposure | 0.05% |

| T-Mobile 600 MHz 5G | | |
|-----------------------------------------|---------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 0.4 |
| | Exposure values at the site (mW/cm ²) | 0.0009 |
| | % Exposure | 0.23% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 2.0 |
| | Exposure values at the site (mW/cm ²) | 0.0009 |
| | % Exposure | 0.05% |

| T-Mobile 700 MHz LTE | | |
|-----------------------------------------|---------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 0.5 |
| | Exposure values at the site (mW/cm ²) | 0.0018 |
| | % Exposure | 0.36% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 2.3 |
| | Exposure values at the site (mW/cm ²) | 0.0018 |
| | % Exposure | 0.08% |

| T-Mobile 1900 MHz GSM | | |
|-----------------------------------------|------------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 1.0 |
| | Exposure values at the site (mW/cm ²) | 0.0025 |
| | % Exposure | 0.25% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 5.0 |
| | Exposure values at the site (mW/cm ²) | 0.0025 |
| | % Exposure | 0.05% |

| T-Mobile 1900 MHz LTE | | |
|-----------------------------------------|------------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 1.0 |
| | Exposure values at the site (mW/cm ²) | 0.0025 |
| | % Exposure | 0.25% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 5.0 |
| | Exposure values at the site (mW/cm ²) | 0.0025 |
| | % Exposure | 0.05% |

| T-Mobile 2100 MHz LTE | | |
|-----------------------------------------|------------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 1.0 |
| | Exposure values at the site (mW/cm ²) | 0.0017 |
| | % Exposure | 0.17% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 5.0 |
| | Exposure values at the site (mW/cm ²) | 0.0017 |
| | % Exposure | 0.03% |

| T-Mobile 2100 MHz UMTS | | |
|-----------------------------------------|------------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 1.0 |
| | Exposure values at the site (mW/cm ²) | 0.0017 |
| | % Exposure | 0.17% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 5.0 |
| | Exposure values at the site (mW/cm ²) | 0.0017 |
| | % Exposure | 0.03% |

| T-Mobile 2500 MHz LTE | | |
|-----------------------------------------|------------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 1.0 |
| | Exposure values at the site (mW/cm ²) | 0.0029 |
| | % Exposure | 0.29% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 5.0 |
| | Exposure values at the site (mW/cm ²) | 0.0029 |
| | % Exposure | 0.06% |

| T-Mobile 2500 MHz 5G | | |
|-----------------------------------------|------------------------------------------------------|---------------|
| Uncontrolled / General Population | FCC's exposure limits (mW/cm ²) | 1.0 |
| | Exposure values at the site (mW/cm ²) | 0.0029 |
| | % Exposure | 0.29% |
| Controlled / Occupational | FCC's Exposure limits(mW/cm ²) | 5.0 |
| | Exposure values at the site (mW/cm ²) | 0.0029 |
| | % Exposure | 0.06% |

8. 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/cm².

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 ²) | Averaging Time E ² , H ² or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------------|-------------------------------------------------------------------|
| 0.3-3.0 | 614 | 1.63 | (100)* | 6 |
| 3.0-30 | 1842/f | 4.89/f | (900/f ²)* | 6 |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 |
| 300-1500 | -- | -- | f/300 | 6 |
| 1500-100,000 | -- | -- | 5 | 6 |

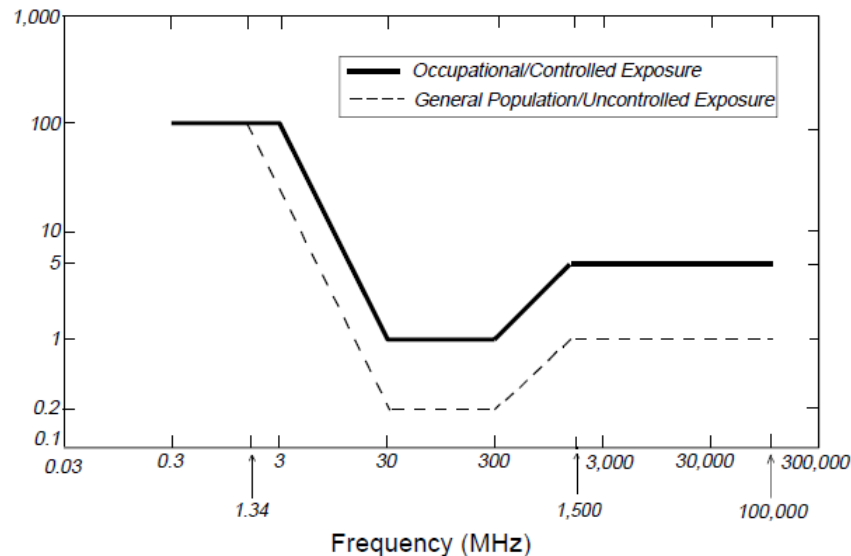
(B) Limits for General Population/Uncontrolled Exposure

| Frequency Range (MHz) | Electric Field Strength (E) (V/m) | Magnetic Field Strength (H) (A/m) | Power Density (S) (mW/cm ²) | Averaging Time E ² , H ² or S (minutes) |
|-----------------------|-----------------------------------|-----------------------------------|-----------------------------------------|-------------------------------------------------------------------|
| 0.3-1.34 | 614 | 1.63 | (100)* | 30 |
| 1.34-30 | 824/f | 2.19/f | (180/f ²)* | 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.

9. 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 RF safety practices, rules, and regulations.

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

Timothy A. Harris

9/7/2021

Signature

Date

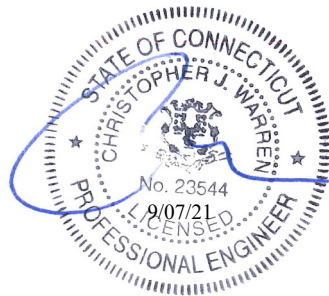



Exhibit G



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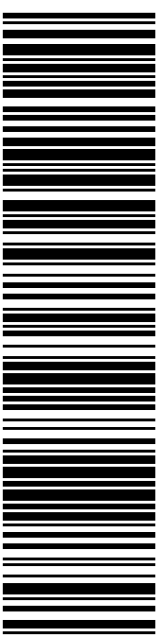
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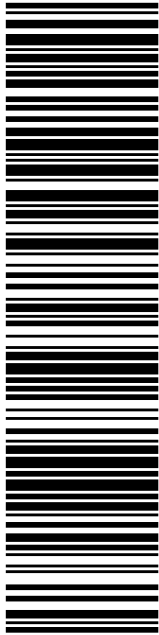
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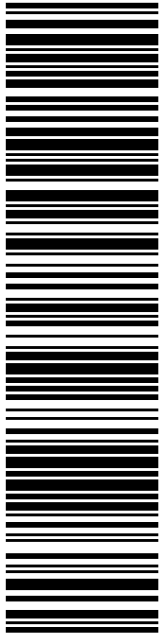
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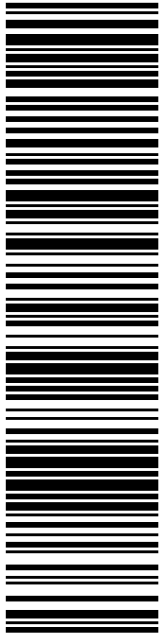
Ref#: 063B-AN-L6

To: PETE SOUZA
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09/10/2021

Mailed from 01566

U.S. POSTAGE PAID
click-n-ship®


PRIORITY MAIL 1-DAY™

Expected Delivery Date: 09/11/21
Ref#: 063B-AN-L6
0006

C036

SHIP TO: CROWN CASTLE-ZONING DEPT.
500 W CUMMINGS PARK
STE 3600
WOBURN MA 01801-6585

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359



Click-N-Ship®



Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0499 9024 71

| | |
|------------------------------------|---------------------------------------|
| Trans. #: 543256726 | Priority Mail® Postage: \$7.95 |
| Print Date: 09/10/2021 | Total: \$7.95 |
| Ship Date: 09/10/2021 | |
| Expected Delivery Date: 09/11/2021 | |

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: 063B-AN-L6

To: CROWN CASTLE-ZONING DEPT.
500 W CUMMINGS PARK
STE 3600
WOBURN MA 01801-6585

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



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

063B



FISKDALE
 458 MAIN ST
 FISKDALE, MA 01518-9998
 (800)275-8777

09/14/2021

10:28 AM

| Product | Qty | Unit Price | Price |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----|------------|--------|
| Prepaid Mail Atlanta, GA 30324 Weight: 1 lb 7.50 oz Acceptance Date: Tue 09/14/2021 Tracking #: 9405 5036 9930 0000 6817 41 | 1 | | \$0.00 |
| Prepaid Mail Windsor, CT 06095 Weight: 1 lb 7.40 oz Acceptance Date: Tue 09/14/2021 Tracking #: 9405 5036 9930 0499 9024 40 | 1 | | \$0.00 |
| Prepaid Mail Windsor, CT 06095 Weight: 1 lb 7.50 oz Acceptance Date: Tue 09/14/2021 Tracking #: 9405 5036 9930 0499 9024 57 | 1 | | \$0.00 |
| Prepaid Mail Woburn, MA 01801 Weight: 1 lb 7.40 oz Acceptance Date: Tue 09/14/2021 Tracking #: 9405 5036 9930 0499 9024 71 | 1 | | \$0.00 |
| Prepaid Mail Windsor, CT 06095 Weight: 1 lb 7.50 oz Acceptance Date: Tue 09/14/2021 Tracking #: 9405 5036 9930 0499 9024 64 | 1 | | \$0.00 |