

Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Wednesday, June 12, 2019 12:38 PM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030318352172



Your package has been delivered.

Delivery Date: Wednesday, 06/12/2019
Delivery Time: 12:31 PM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	<u>1Z9Y45030318352172</u>
Ship To:	Hon. Mayor Marcia A. Leclerc Town of East Hartford 740 MAIN ST EAST HARTFORD, CT 06108 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	RECEIVER ENMAN
Reference Number 1:	CT1002 - CSC to Mayor

COMPLIMENTARY 1-YEAR MEMBERSHIP
Unlimited free 2-day shipping and free returns at 100+ retailers



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Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Wednesday, June 12, 2019 12:38 PM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030318084159



Your package has been delivered.

Delivery Date: Wednesday, 06/12/2019
Delivery Time: 12:31 PM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	<u>1Z9Y45030318084159</u>
Ship To:	Bruce Cohen, Bldg Div. Sup. Town of East Hartford 740 MAIN ST EAST HARTFORD, CT 06108 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	RECEIVER ENMAN
Reference Number 1:	CT1002 - CSC to Bldg

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Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Wednesday, June 12, 2019 12:38 PM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030314917168



Your package has been delivered.

Delivery Date: Wednesday, 06/12/2019
Delivery Time: 12:31 PM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number:	1Z9Y45030314917168
Ship To:	John Ryan, Chair Plan. & Zon. Com. East Hartford Development Dept. 740 MAIN ST EAST HARTFORD, CT 06108 US
UPS Service:	UPS GROUND
Number of Packages:	1
Weight:	1.0 LBS
Delivery Location:	RECEIVER ENMAN
Reference Number 1:	CT1002 - CSC to P&Z

COMPLIMENTARY 1-YEAR MEMBERSHIP
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 SHOPRUNNER

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Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Wednesday, June 12, 2019 9:57 AM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030300853244



Your package has been delivered.

Delivery Date: Wednesday, 06/12/2019
Delivery Time: 09:54 AM

At the request of CENTERLINE SITE ACQUISITION this notice alerts you that the status of the shipment listed below has changed.

Shipment Detail

Tracking Number: [1Z9Y45030300853244](#)
C/O FREMONT MANAGEMENT LLC
FREMONT PRESTIGE II LLC
65 LASALLE RD
ROOM 202
WEST HARTFORD, CT 06107
US

Ship To:

UPS Service: UPS GROUND

Number of Packages: 1

Weight: 1.0 LBS

Delivery Location: OFFICE
TEPPER

Reference Number 1: CT1002 - CSC to Fremont Prestige

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Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030307453146

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

06/07/2019

Delivered On

06/12/2019 11:40 A.M.

Delivered To

WOBURN, MA, US

Received By

LONG

Left At

Receiver

Reference Number(s)

CT1002 - CSC TO ATC

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 06/12/2019 3:48 P.M. EST

June 7, 2019

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

Regarding: Notice of Exempt Modification – AT&T Site CT1002
Address: 310 Prestige Park Road, East Hartford CT

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC (“AT&T”) currently maintains a wireless telecommunications facility on an existing 150’ monopole tower at the above-referenced address, latitude 41.788300, longitude -72.600600. Said monopole tower is managed by American Tower Asset Sub II, LLC.

AT&T desires to modify its existing telecommunications facility by adding (3) antennas, swapping (3) antennas, adding (3) remote radio heads, swapping (6) remote radio heads, adding (1) surge Arrestor and (3) Diplexers as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Group LLC, dated January 16, 2019 and last revised May 29, 2019. Please also see the enclosed Modifications Drawings prepared by American Tower Corporation dated April 1, 2019. The centerline height of the existing antennas is and will remain at 154 feet.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the following individuals: Marcia A. Leclerc, Mayor of East Hartford; Bruce Cohen, Building Division Supervisor of East Hartford; John Ryan, Chair of the Planning and Zoning Commission of East Hartford; American Tower Asset Sub II, LLC as manager of the above referenced tower; and Fremont Prestige II LLC, as property owner at the above referenced address.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. *Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.*

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

6. The existing structure and its foundation can support the proposed loading. *Please see the structural analysis dated April 26, 2019 and prepared by American Tower Corporation enclosed herewith.*

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

Sincerely,



Jennifer Iliades
Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
jiliades@clinellc.com

Enclosures: Exhibit 1 – Construction Drawings and Modification Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Mount Analysis and Mount Modification Drawings
Exhibit 5 – RF Emissions Analysis Report Evaluation

cc: Marcia A. Leclerc, Mayor
Bruce Cohen, Building Division Supervisor
John Ryan, Chair of the Planning and Zoning Commission
American Tower Asset Sub II, LLC as manager of tower
Fremont Prestige II LLC, as property owner

PROJECT INFORMATION

SCOPE OF WORK: **ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE:**
 • NEW AT&T ANTENNAS: (800-10965) (TYP. OF 2 PER SECTOR, TOTAL OF 6) (TO REPLACE EXISTING (3) ANTENNAS).
 • NEW AT&T RRUS: B14 4478 (700) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 • NEW AT&T RRUS: B2/B66A 8843 (AWS) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 • NEW AT&T RRUS: B5/B12/ 4449 (850) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
 • NEW LOW BAND COMBINERS (DBCT108F1V92-1) (TYP OF 1 PER SECTOR TOTAL OF 3)
 • NEW SURGE ARRESTOR: DC6-48-60-8C-EV (TOTAL OF 1) WITH (2) DC POWER, (1) ALARM CABLE.

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
 • INSTALL (1) DC 12, INSTALL (12) TELCO FLEX RUNS BETWEEN PROPOSED AND EXISTING DC12 AND EXISTING BREAKER PANEL.
 • SWAP (2) DUS FOR (2) 5216.
 • ADD 2ND XMU.
 • ADD IDLe.
 • ADD (1) 6630.
 • NEW LOW BAND COMBINERS (DBCT108F1V92-1) (TYP. OF 1 PER SECTOR, TOTAL OF 3)

ITEMS TO REMAIN:
 • (6) ANTENNAS, (3) RRUS, (2) SURGE ARRESTOR, (12) COAX CABLES, (4) DC POWER & (2) FIBER.

SITE ADDRESS: 2 PRESTIGE PARK ROAD
 EAST HARTFORD, CT 06108

LATITUDE: 41.788325 N, 41° 47' 17.97" N
 LONGITUDE: 72.600543 W, 72° 36' 01.95" W
 TYPE OF SITE: MONOPOLE / INDOOR EQUIPMENT
 STRUCTURE HEIGHT: 150'-0"±
 RAD CENTER: 153'-0"±
 CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY



SITE NUMBER: CT1002

SITE NAME: EAST HARTFORD

FA CODE: 10034965

PACE ID: MRCTB033585, MRCTB33677, MRCTB033739,

MRCTB033619, MRCTB033629

PROJECT: LTE 4C/5C/6C/4TX4RX 2019 UPGRADE

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	ANTENNA LAYOUTS & ELEVATION	1
A-3	DETAILS	1
SN-1	STRUCTURAL NOTES	1
S-1	MOUNT MODIFICATIONS DESIGN	1
S-2	MOUNT MODIFICATIONS DESIGN	1
RF-1	RF PLUMBING DIAGRAM	1
G-1	GROUNDING DETAILS	1

VICINITY MAP

DIRECTIONS TO SITE:

TAKE THE RAMP TO I-90/MASSPIKE/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR INTERSTATE 90 W/MASSACHUSETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 W/MASSACHUSETTS TURNPIKE. FOLLOW I-90 W/MASSACHUSETTS TURNPIKE AND I-84 TO US-44 W/MIDDLE TURNPIKE W IN MANCHESTER. TAKE EXIT 60-62 FROM I-84. MERGE ONTO I-90 W/MASSACHUSETTS TURNPIKE. USE THE RIGHT 2 LANES TO TAKE EXIT 9 FOR I-84 TOWARD US-20/HARTFORD/NEW YORK CITY. CONTINUE ONTO I-84. ENTERING CONNECTICUT. TAKE EXIT 60-62 FOR US-44/MIDDLE TURNPIKE W. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-84 W/HARTFORD. KEEP RIGHT TO CONTINUE ON EXIT 60, FOLLOW SIGNS FOR US-44/BURNSIDE AVE/MIDDLE TURNPIKE W. CONTINUE ON US-44 W. DRIVE TO PRESTIGE PARK RD IN EAST HARTFORD. TURN RIGHT ONTO US-44 W/MIDDLE TURNPIKE W. CONTINUE TO FOLLOW US-44 W. TURN RIGHT ONTO SCHOOL ST. TURN RIGHT ONTO PRESTIGE PARK RD. 2 PRESTIGE PARK RD EAST HARTFORD, CT 06108



GENERAL NOTES

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

72 HOURS



CALL BEFORE YOU DIG



CALL TOLL FREE 1-800-922-4455
 OR CALL 811

UNDERGROUND SERVICE ALERT

ATC SITE NAME: E H F R PRESTIGE PARK
ATC SITE #: 302473



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



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

SITE NUMBER: CT1002
SITE NAME: EAST HARTFORD
ATC SITE #: 302473

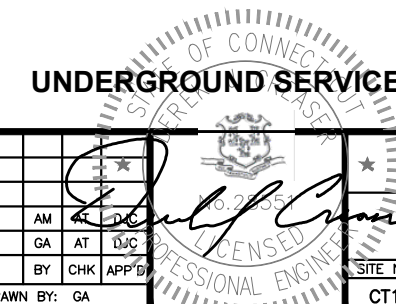
2 PRESTIGE PARK ROAD
 EAST HARTFORD, CT 06108
 HARTFORD COUNTY



550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D	SITE NUMBER	DRAWING NUMBER	REV
1	05/29/19	ISSUED FOR CONSTRUCTION	AM	AT	DC	CT1002	T-1	1
A	01/16/19	ISSUED FOR REVIEW	GA	AT	DC			

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



AT&T

TITLE SHEET
 (LTE 4C/5C/6C/4TX4RX)

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR – CENTERLINE
 SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER – AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

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

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

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

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

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

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

ABBREVIATIONS

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



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



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

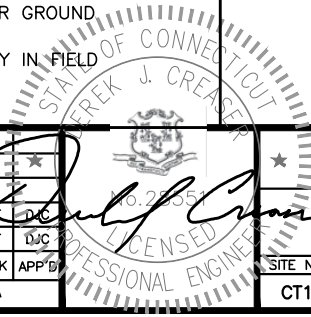
SITE NUMBER: CT1002
SITE NAME: EAST HARTFORD
ATC SITE #: 302473

2 PRESTIGE PARK ROAD
EAST HARTFORD, CT 06108
HARTFORD COUNTY



550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

1	05/29/19	ISSUED FOR CONSTRUCTION	AM	AT	CHK
A	01/16/19	ISSUED FOR REVIEW	GA	AT	CHK
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: GA		



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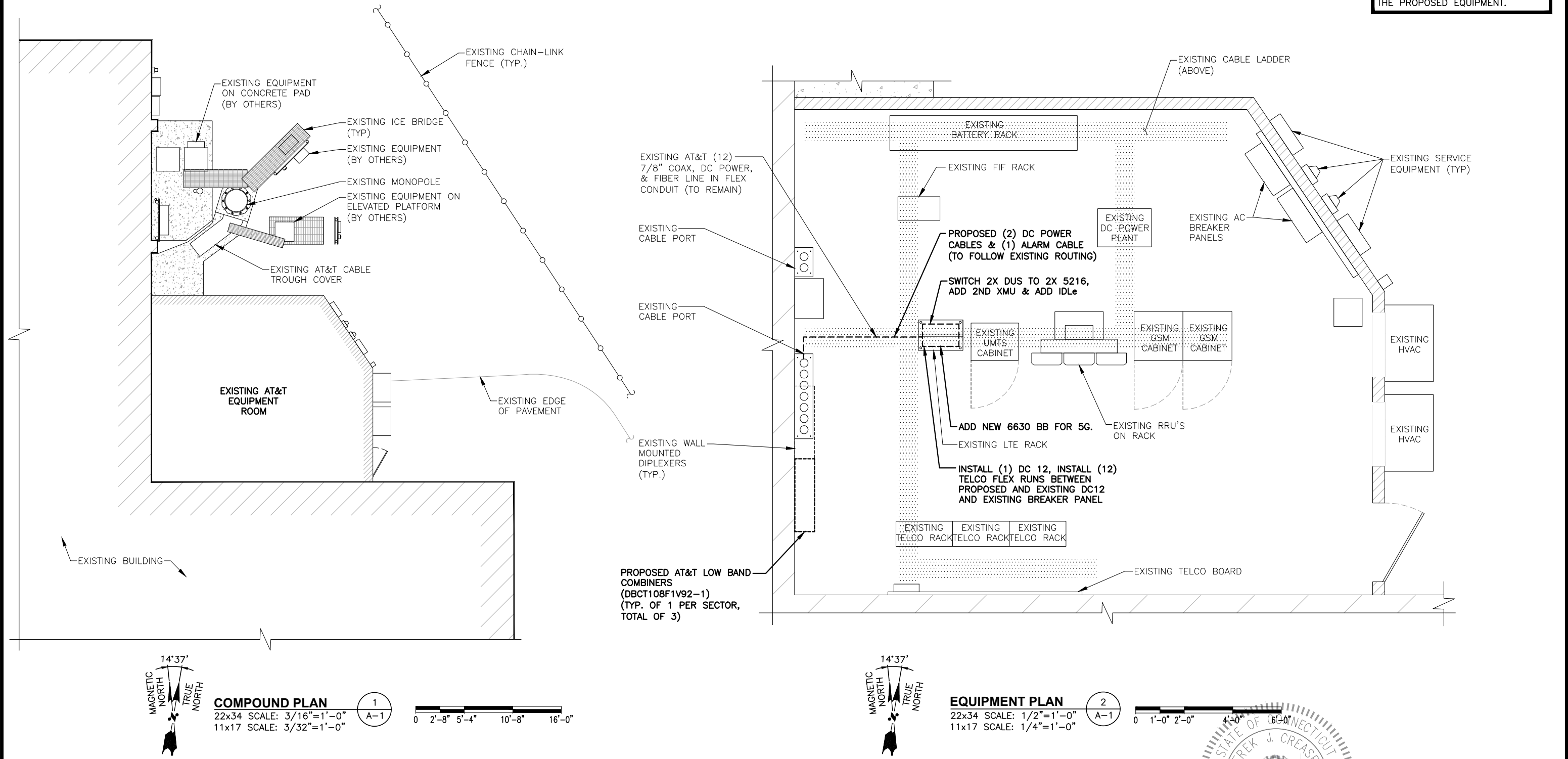
GENERAL NOTES
(LTE 4C/5C/6C/4TX4RX)

SITE NUMBER	DRAWING NUMBER	REV
CT1002	GN-1	1

NOTE:
 AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JANUARY 30, 2019

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

NOTE:
 REFER TO **STRUCTURAL ANALYSIS** BY: AMERICAN TOWER CORPORATION, DATED: APRIL 29, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



COMPOUND PLAN
 22x34 SCALE: 3/16"=1'-0"
 11x17 SCALE: 3/32"=1'-0"

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

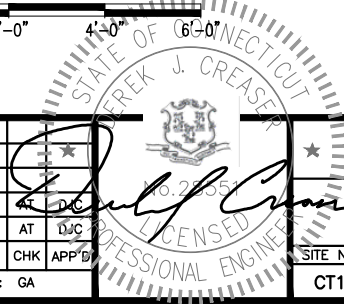
HG HUDSON
Design Group LLC
 45 BEECHWOOD DRIVE
 NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553
 FAX: (978) 336-5586

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

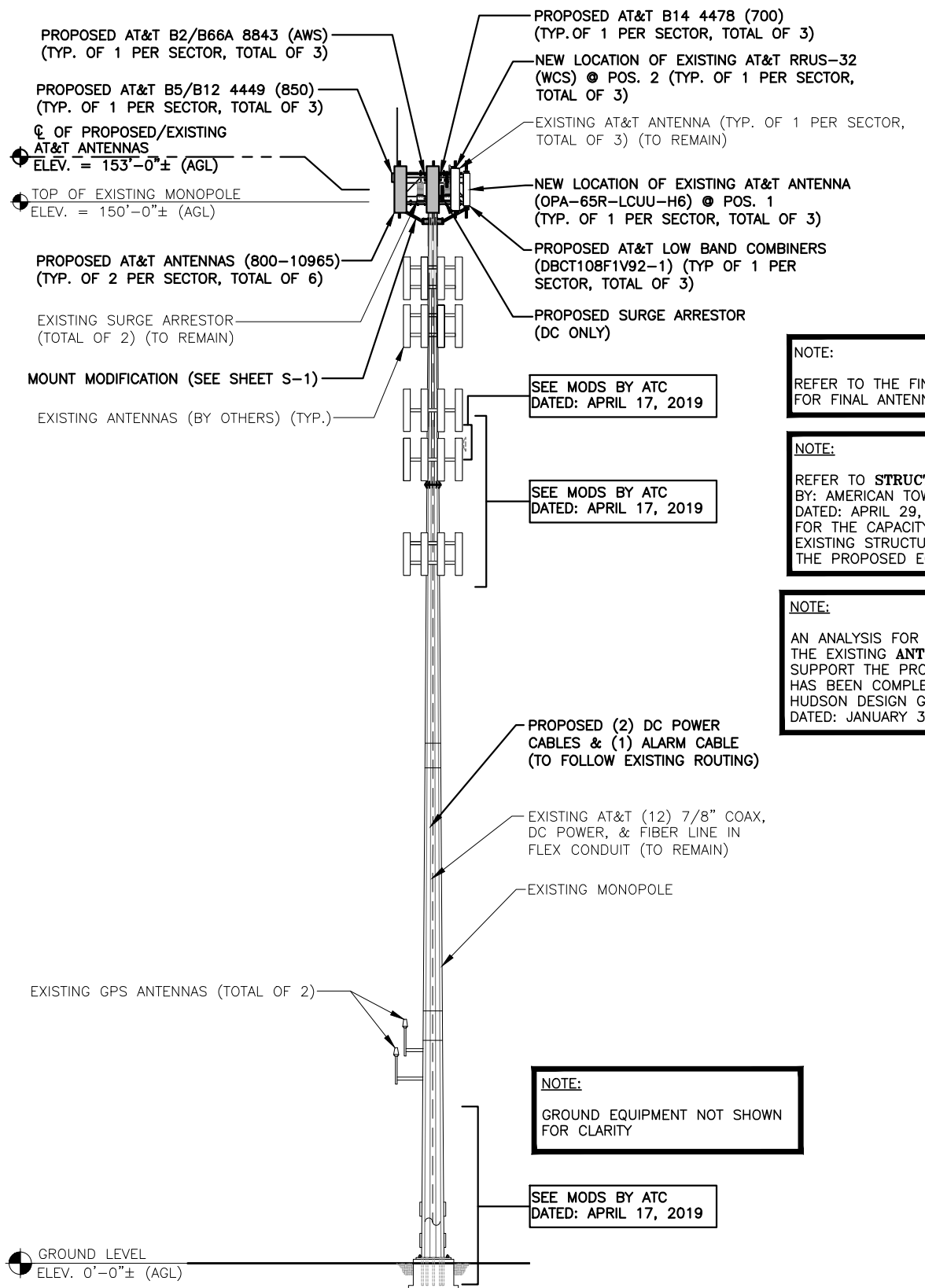
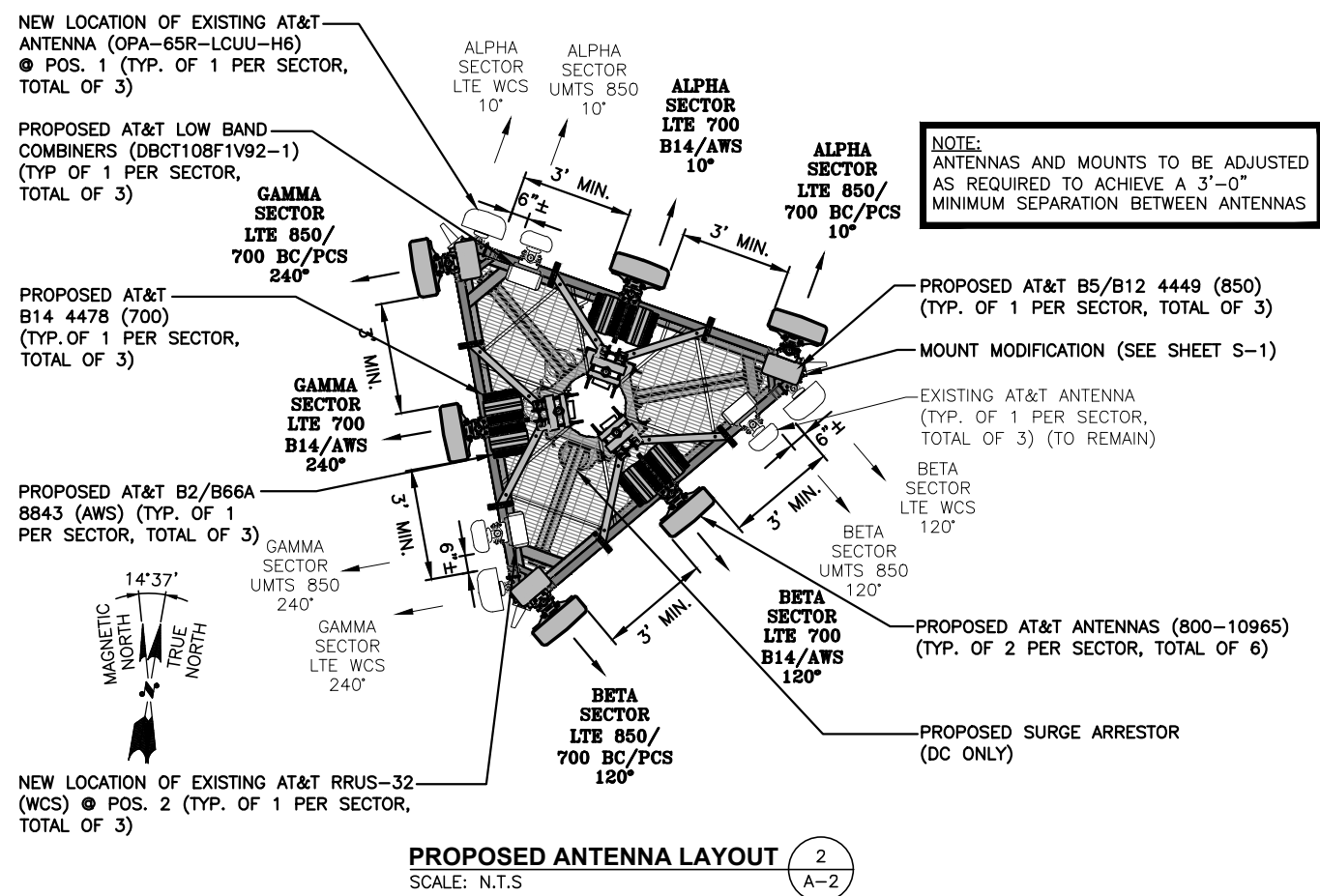
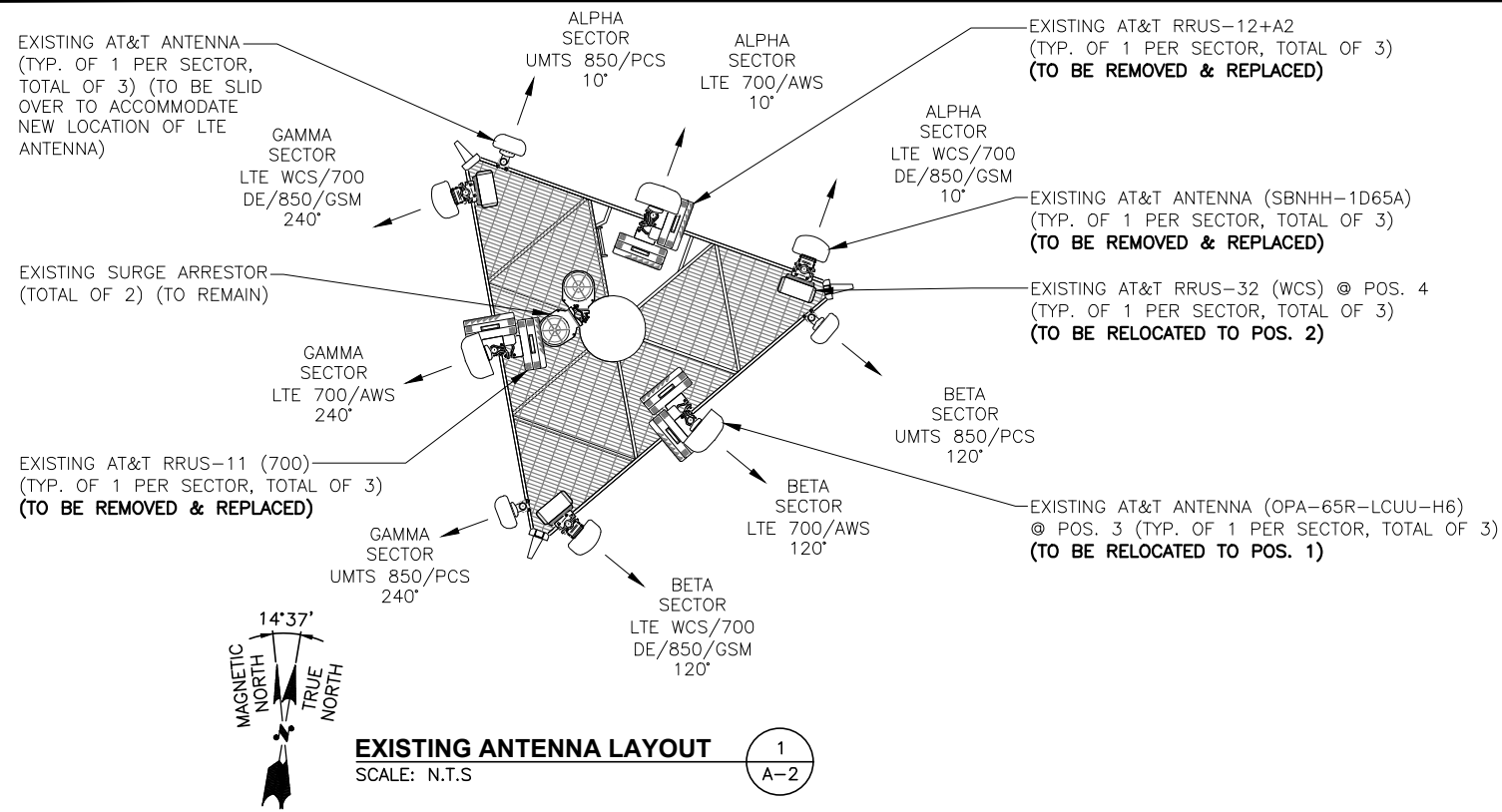
SITE NUMBER: CT1002
SITE NAME: EAST HARTFORD
ATC SITE #: 302473
 2 PRESTIGE PARK ROAD
 EAST HARTFORD, CT 06108
 HARTFORD COUNTY

at&t
 550 COCHITUATE ROAD
 FRAMINGHAM, MA 01701

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SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: GA		



AT&T
COMPOUND & EQUIPMENT PLANS
 (LTE 4C/5C/6C/4TX4RX)
 SITE NUMBER: CT1002
 DRAWING NUMBER: A-1
 REV: 1



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

NOTE:
REFER TO STRUCTURAL ANALYSIS BY: AMERICAN TOWER CORPORATION, DATED: APRIL 29, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JANUARY 30, 2019

NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

SEE MODS BY ATC DATED: APRIL 17, 2019

HDG HUDSON Design Group LLC
45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845
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CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301 WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT1002
SITE NAME: EAST HARTFORD
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2 PRESTIGE PARK ROAD EAST HARTFORD, CT 06108 HARTFORD COUNTY

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550 COCHITUATE ROAD FRAMINGHAM, MA 01701

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SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: GA		

AT&T
ANTENNA LAYOUTS & ELEVATION
(LTE 4C/5C/6C/4TX4RX)
SITE NUMBER: CT1002
DRAWING NUMBER: A-2
REV: 1

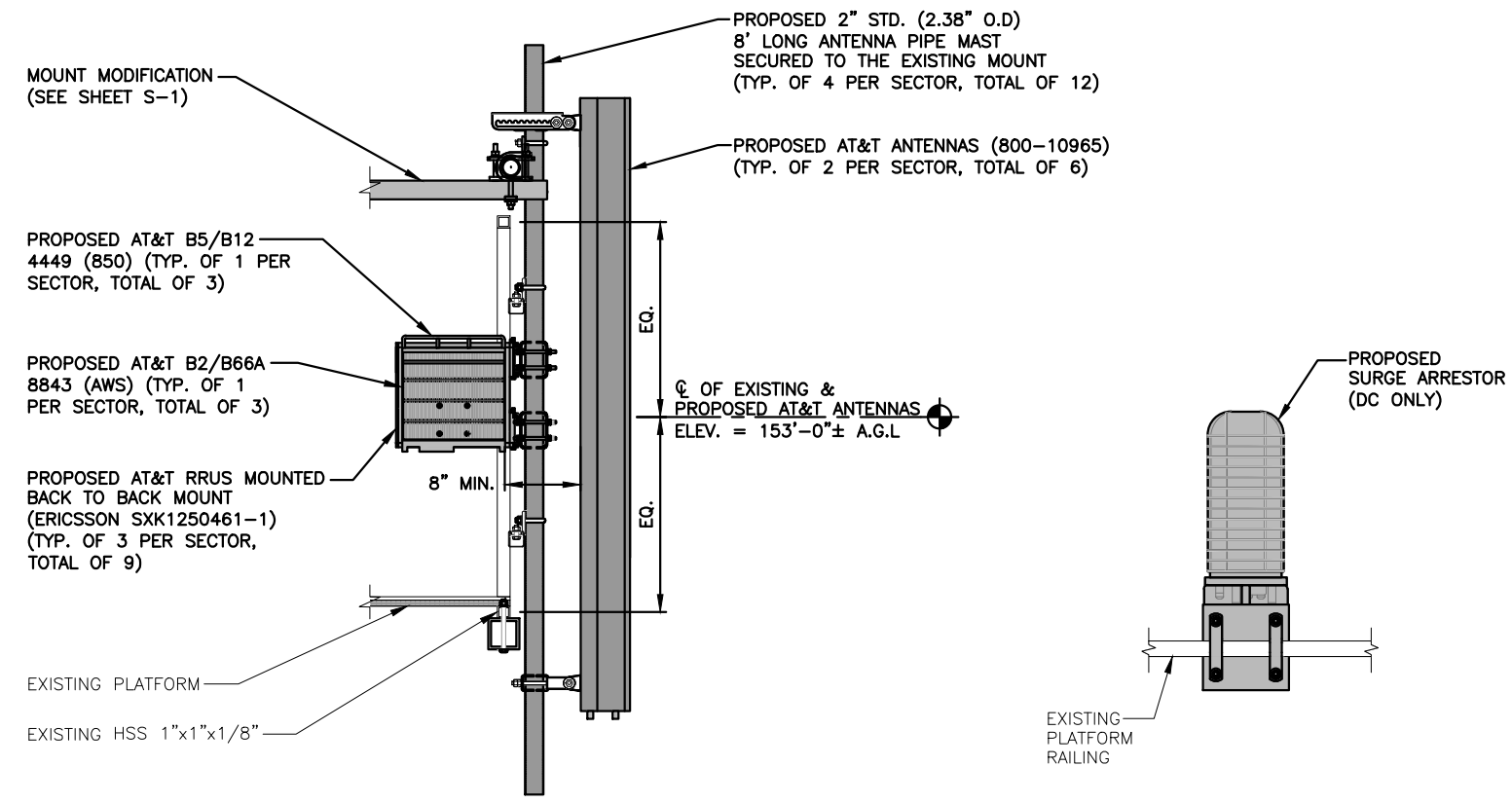
NOTE:
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NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: AMERICAN TOWER CORPORATION, DATED: APRIL 29, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

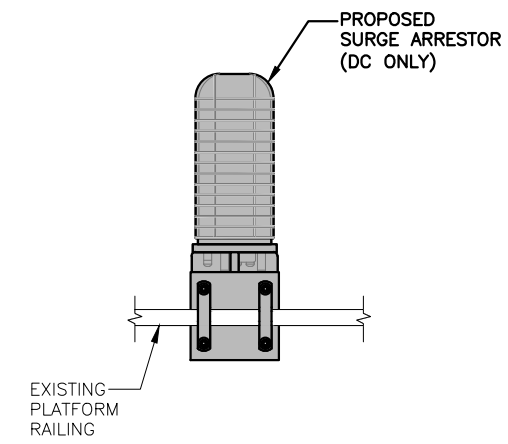
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ANTENNA SCHEDULE											
SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ϕ HEIGHT	AZIMUTH	TMA/DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
C1	EXISTING	LTE WCS	OPA-65R-LCUU-H6	72X14.8X7.4	$\pm 153'$	10°	(E)(2) LGP21401	-	-	(2) 7/8" COAX	(E)(1) RAYCAP DC6-48-60-18-8F
A2	EXISTING	UMTS 850	7770	55X11X5	$\pm 153'$	10°	(P)(1)(G) DBCT108F1V92-1(P)(1) DBCT108F1V92-1	(E)(1) RRUS-32 (WCS)	-	(2) 7/8" COAX	
A3	PROPOSED	LTE 700 B14/AWS	800-10965	78.7X20X6.9	$\pm 153'$	10°	-	(P)(1) B14 4478 (700) (P)(1) B2/B66A 8843 (AWS)	18.1X13.4X8.31 4.9X13.2X10.9	-	
A4	PROPOSED	LTE 850/700 BC/PCS	800-10965	78.7X20X6.9	$\pm 153'$	10°	-	(P)(1) B5/B12 4449 (850)	14.9X13.2X10.4	-	(E)(1) RAYCAP DC6-48-60-18-8F
A1	EXISTING	LTE WCS	OPA-65R-LCUU-H6	72X14.8X7.4	$\pm 153'$	120°	(E)(2) LGP21401	-	-	(2) 7/8" COAX	
B2	EXISTING	UMTS 850	7770	55X11X5	$\pm 153'$	120°	(P)(1)(G) DBCT108F1V92-1(P)(1) DBCT108F1V92-1	(E)(1) RRUS-32 (WCS)	-	(2) 7/8" COAX	
B3	PROPOSED	LTE 700 B14/AWS	800-10965	78.7X20X6.9	$\pm 153'$	120°	-	(P)(1) B14 4478 (700) (P)(1) B2/B66A 8843 (AWS)	18.1X13.4X8.31 4.9X13.2X10.9	-	(E)(1) RAYCAP DC6-48-60-18-8F
B4	PROPOSED	LTE 850/700 BC/PCS	800-10965	78.7X20X6.9	$\pm 153'$	120°	-	(P)(1) B5/B12 4449 (850)	14.9X13.2X10.4	-	
B1	EXISTING	LTE WCS	OPA-65R-LCUU-H6	72X14.8X7.4	$\pm 153'$	240°	(E)(2) LGP21401	-	-	(2) 7/8" COAX	
C2	EXISTING	UMTS 850	7770	55X11X5	$\pm 153'$	240°	(P)(1)(G) DBCT108F1V92-1(P)(1) DBCT108F1V92-1	(E)(1) RRUS-32 (WCS)	-	(2) 7/8" COAX	(P)(1) RAYCAP DC6-48-60-8C-EV
C3	PROPOSED	LTE 700 B14/AWS	800-10965	78.7X20X6.9	$\pm 153'$	240°	-	(P)(1) B14 4478 (700) (P)(1) B2/B66A 8843 (AWS)	18.1X13.4X8.31 4.9X13.2X10.9	-	
C4	PROPOSED	LTE 850/700 BC/PCS	800-10965	78.7X20X6.9	$\pm 153'$	240°	-	(P)(1) B5/B12 4449 (850)	14.9X13.2X10.4	-	

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



LTE ANTENNA, & RRH MOUNTING DETAIL 2
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0" A-3



SURGE ARRESTOR MOUNTING DETAIL 3
SCALE: N.T.S. A-3

RRU CHART				
QUANTITY	MODEL	L	W	D
3(E)	RRUS-32	27.2"	12.1"	7.0"
3(P)	B14 4478	18.1"	13.4"	8.3"
3(P)	B2/B66A 8843	14.9"	13.2"	10.9"
3(P)	B5/B12 4449	14.9"	13.2"	10.4"

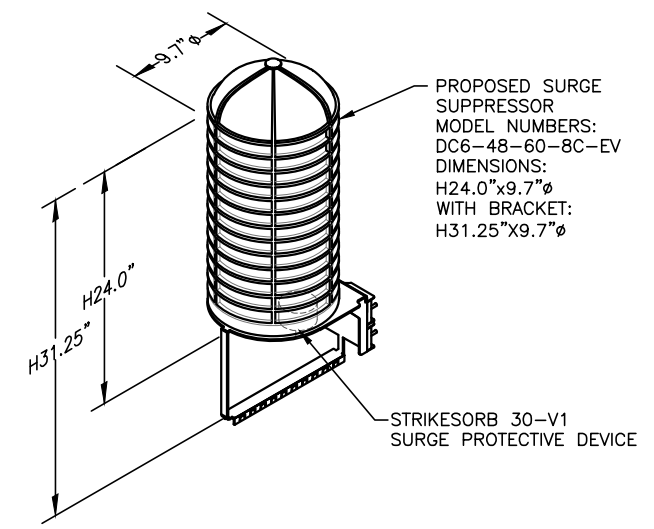
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

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

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL 4
SCALE: N.T.S. A-3



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL 5
SCALE: N.T.S. A-3

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NO.	DATE	REVISIONS	BY	CHK	APP'D
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A	01/16/19	ISSUED FOR REVIEW	GA	AT	BJC

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: GA

AT&T
DETAILS
(LTE 4C/5C/6C/4TX4RX)
SITE NUMBER: CT1002
DRAWING NUMBER: A-3
REV: 1

STRUCTURAL NOTES:

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

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

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

NOTES:

- REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
- PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
- PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
- HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
- ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 308.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 308.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
- AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

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

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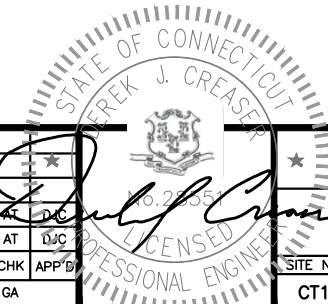
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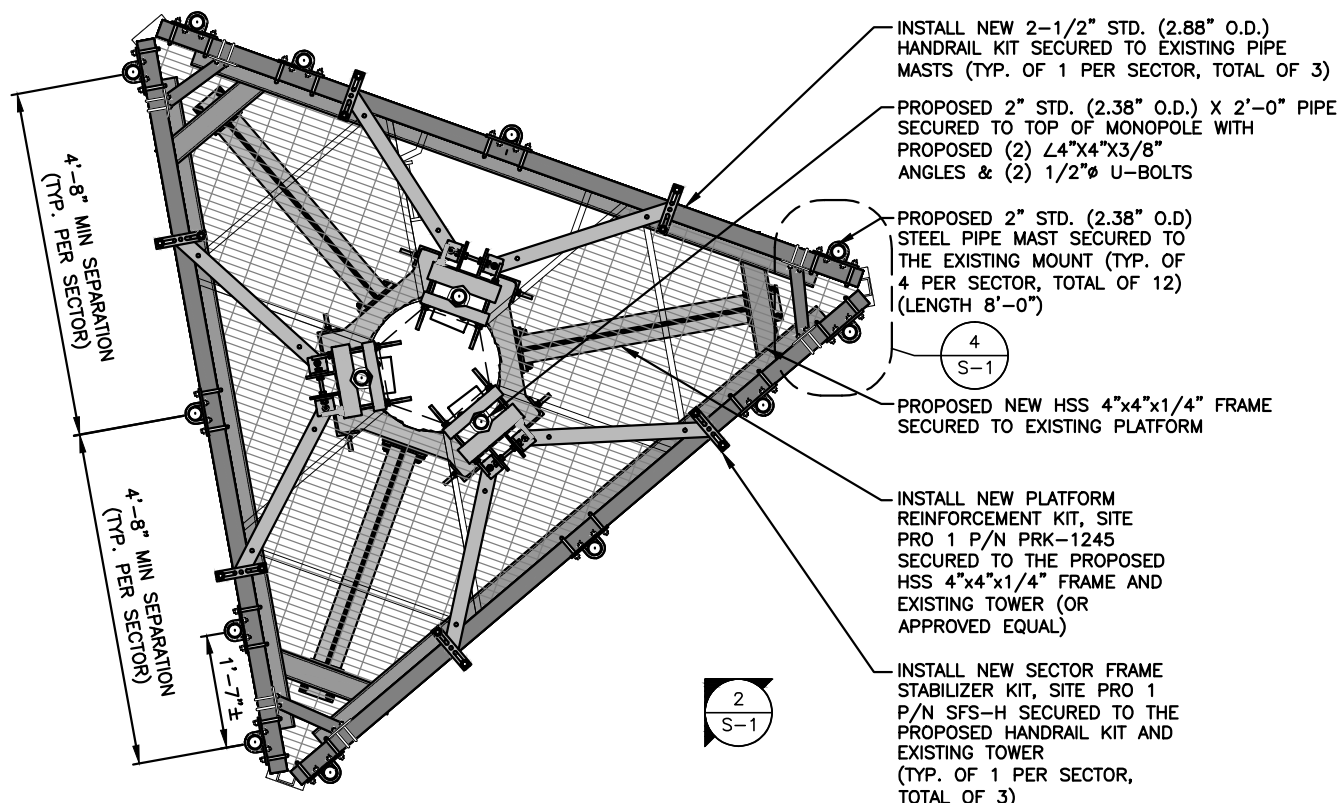
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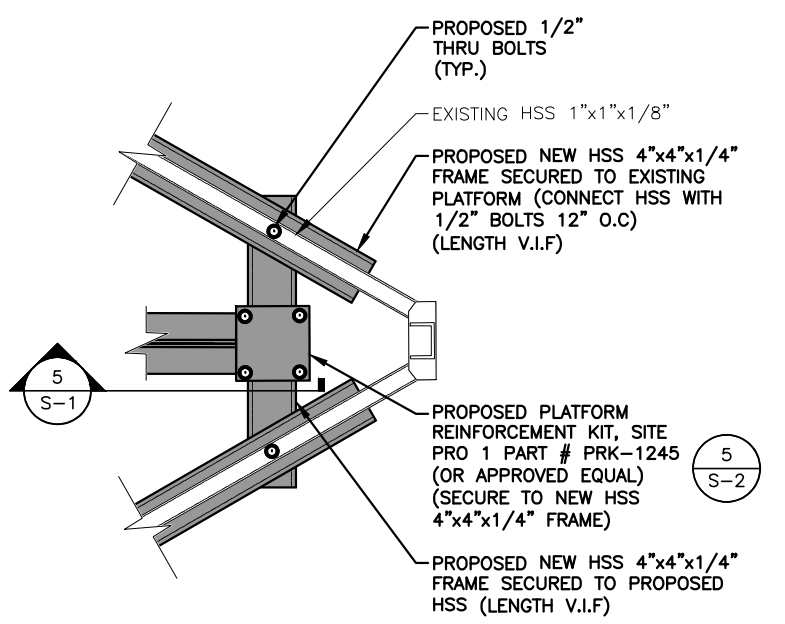
AT&T

STRUCTURAL NOTES
(LTE 4C/5C/6C/4TX4RX)

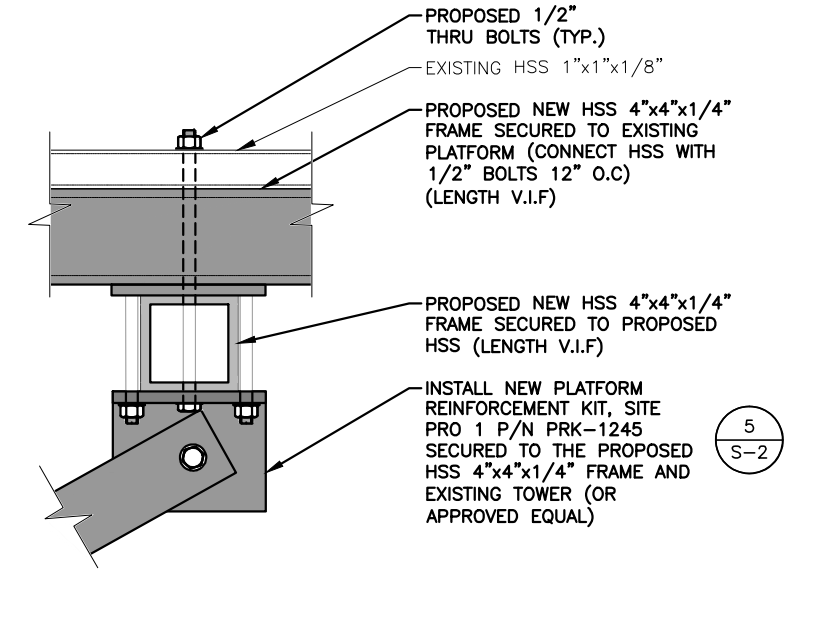
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CT1002	SN-1	1



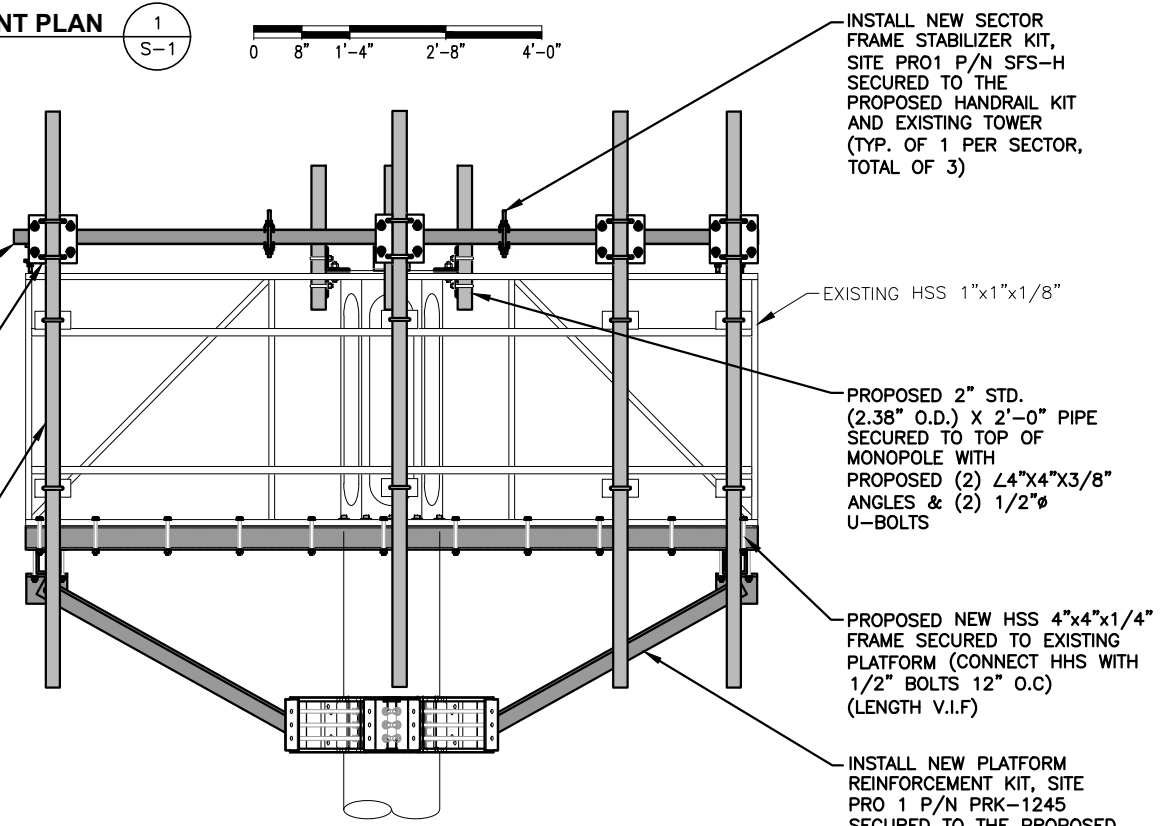
MOUNT REINFORCEMENT PLAN
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"



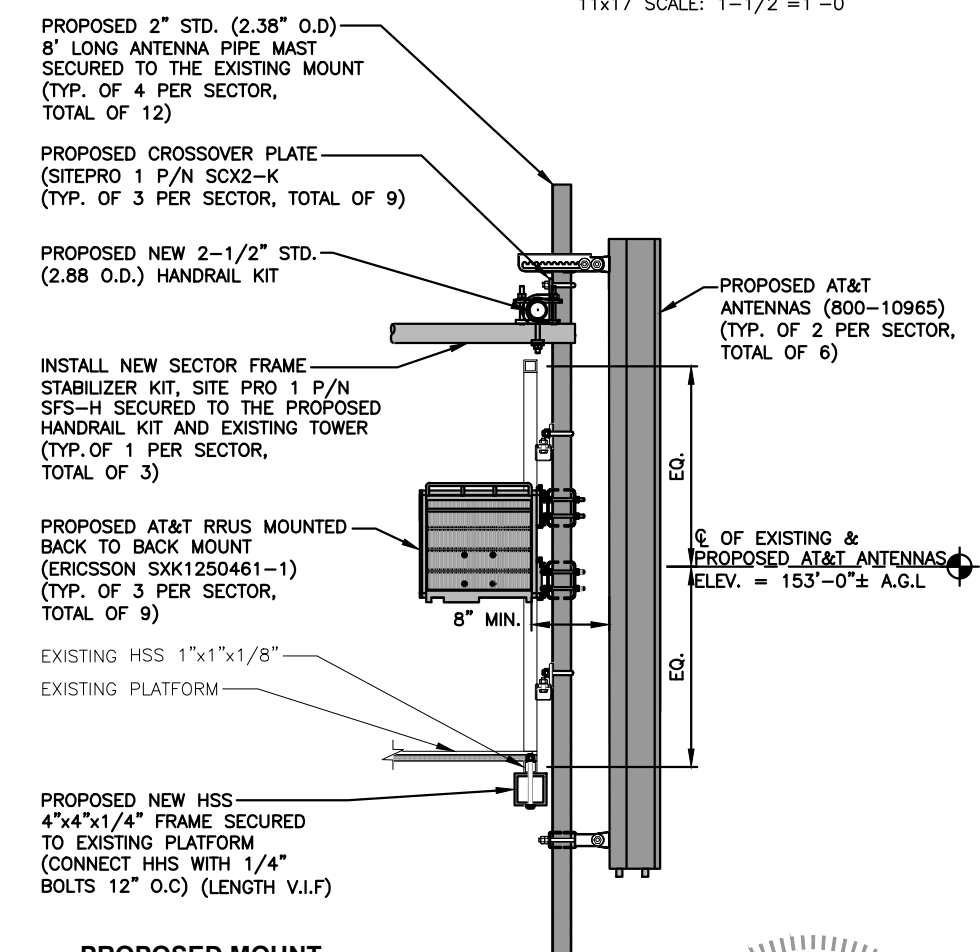
CONNECTION DETAIL PLAN
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"



CONNECTION DETAIL ELEVATION
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



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



PROPOSED MOUNT MODIFICATION DETAIL
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: AMERICAN TOWER CORPORATION, DATED: APRIL 29, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JANUARY 30, 2019

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

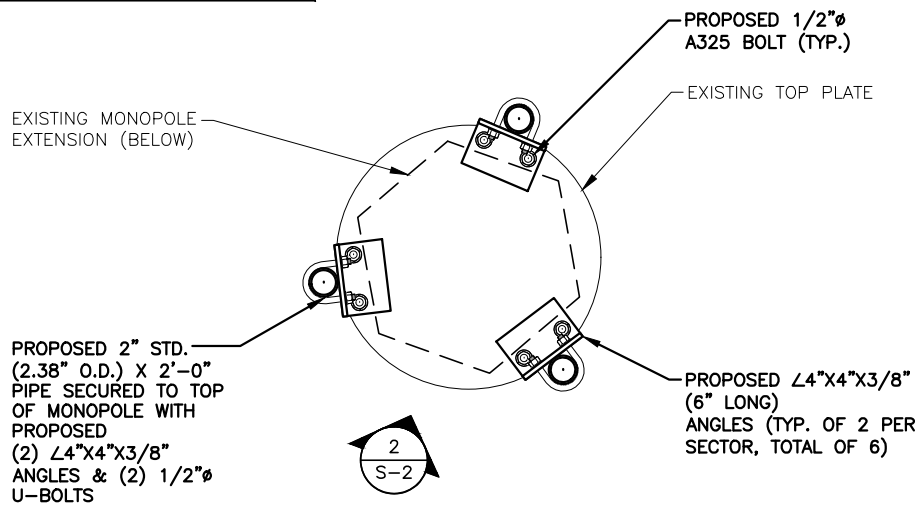
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A	01/16/19	ISSUED FOR REVIEW	GA	AT	GA
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: GA		

AT&T	
MOUNT MODIFICATIONS DESIGN (LTE 4C/5C/6C/4TX4RX)	
SITE NUMBER	DRAWING NUMBER
CT1002	S-1
REV	
1	

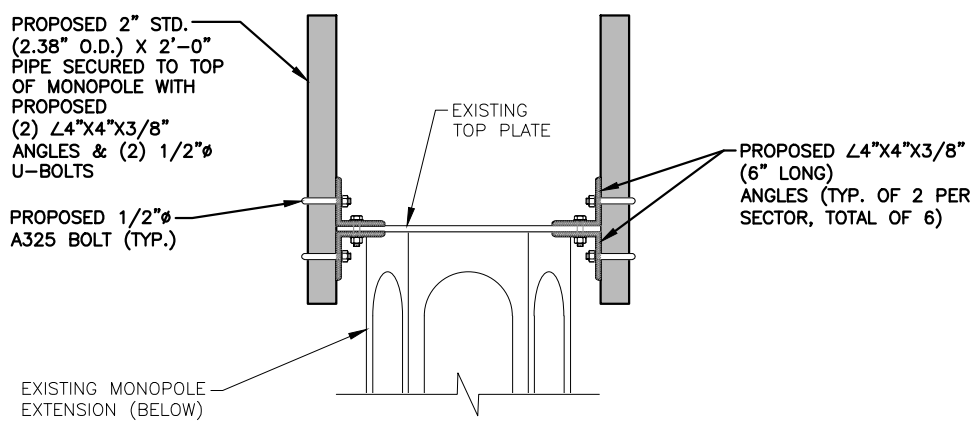
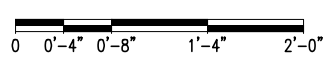
NOTE:
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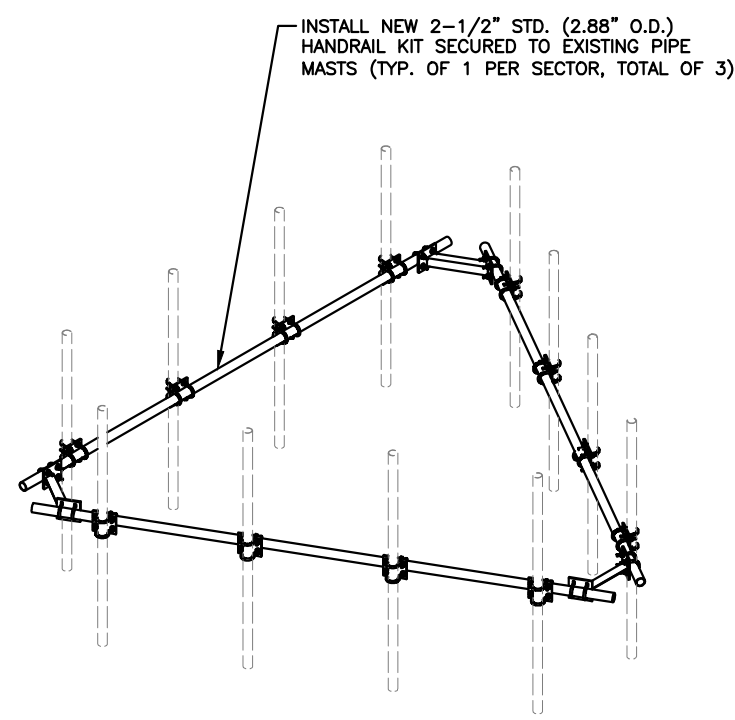
NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JANUARY 30, 2019



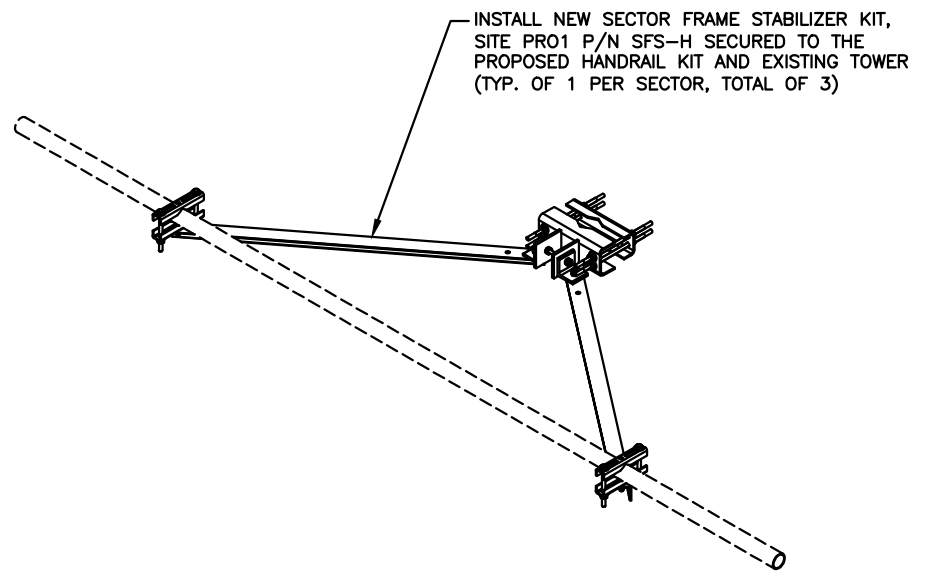
PROPOSED STABILIZER SUPPORT FRAME
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"



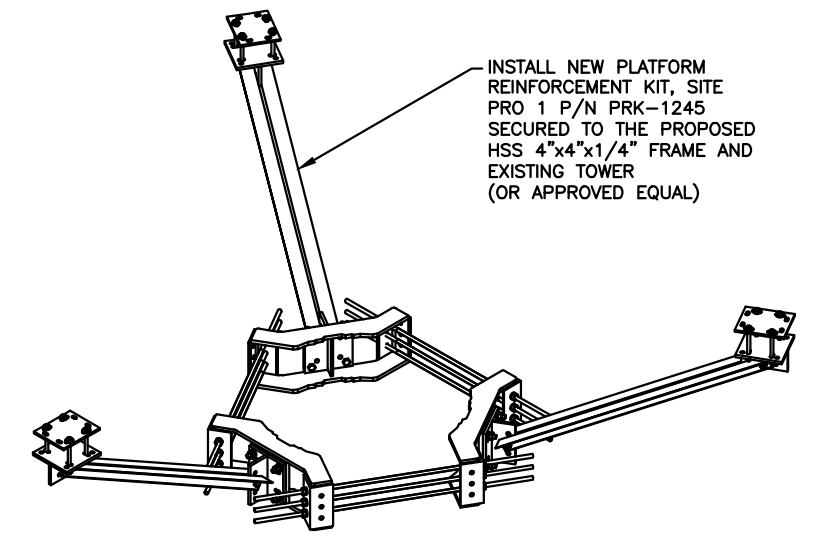
PROPOSED STABILIZER SUPPORT ELEVATION
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"



PROPOSED HANDRAIL KIT
SCALE: N.T.S.



PROPOSED REINFORCEMENT HANDRAIL KIT
SCALE: N.T.S.



PROPOSED PLATFORM REINFORCEMENT MOUNT DETAIL
SCALE: N.T.S.

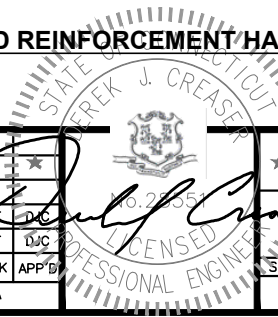
HGD HUDSON Design Group LLC
45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845
TEL: (978) 557-5553 FAX: (978) 336-5586

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

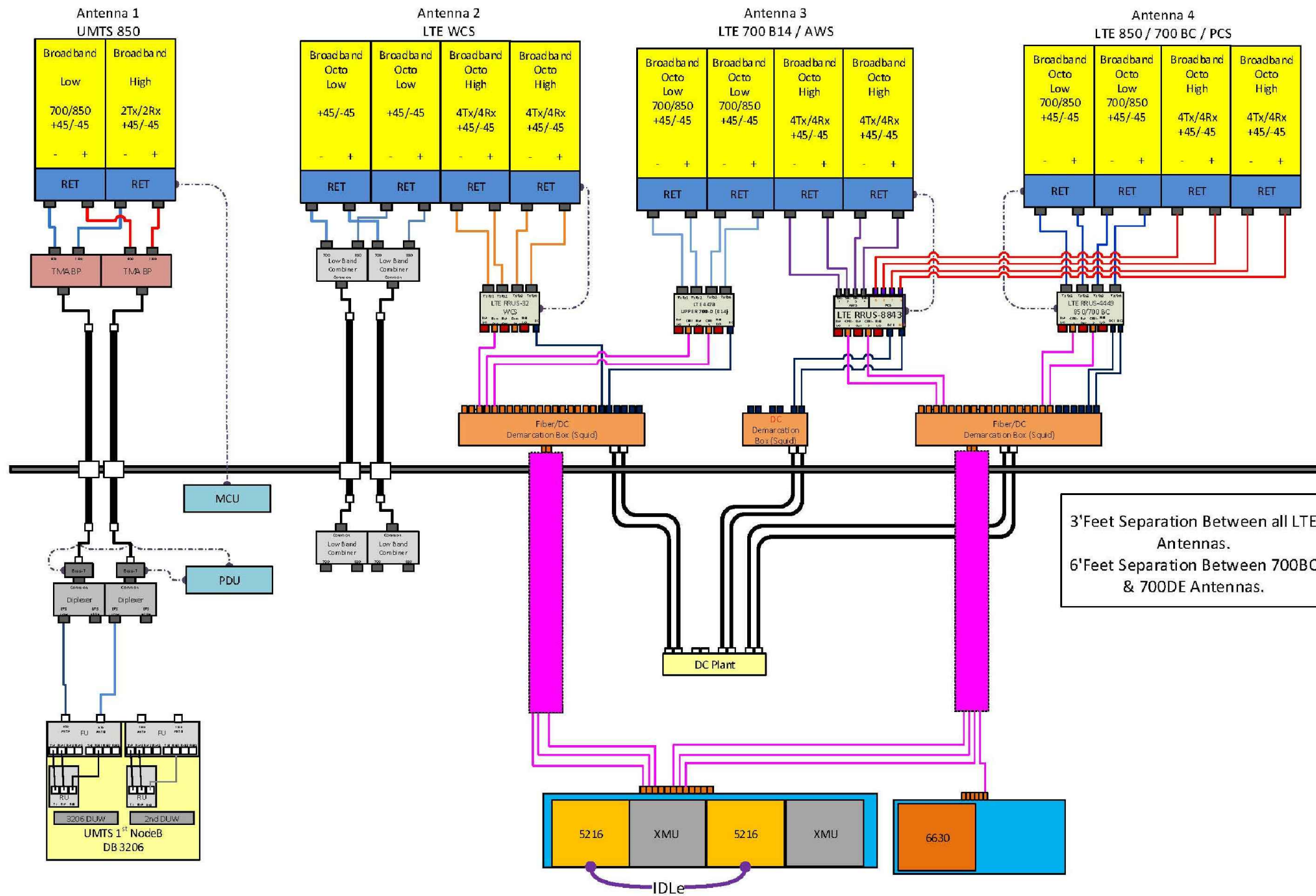
SITE NUMBER: CT1002
SITE NAME: EAST HARTFORD
ATC SITE #: 302473
2 PRESTIGE PARK ROAD EAST HARTFORD, CT 06108 HARTFORD COUNTY

at&t
550 COCHITUATE ROAD FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/29/19	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	01/16/19	ISSUED FOR REVIEW	GA	AT	DJC
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: GA		



AT&T
MOUNT MODIFICATIONS DESIGN (LTE 4C/5C/6C/4TX4RX)
SITE NUMBER: CT1002
DRAWING NUMBER: S-2
REV: 1



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

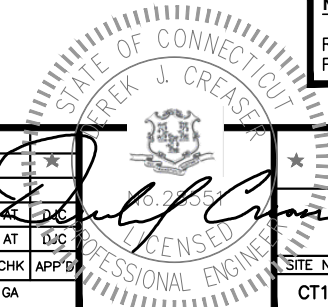
RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

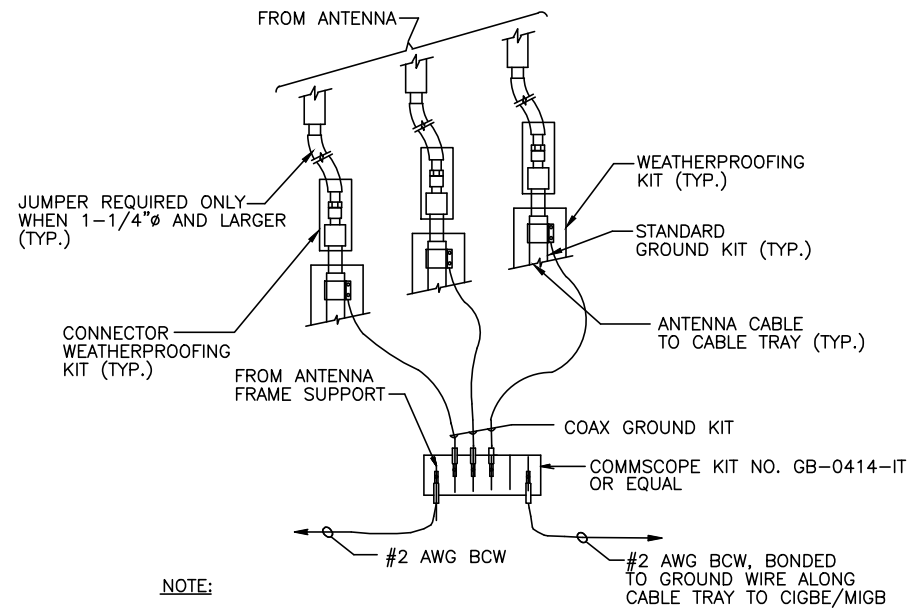
NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

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

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	05/29/19	ISSUED FOR CONSTRUCTION	AM	AT	GA
A	01/16/19	ISSUED FOR REVIEW	GA	AT	GA

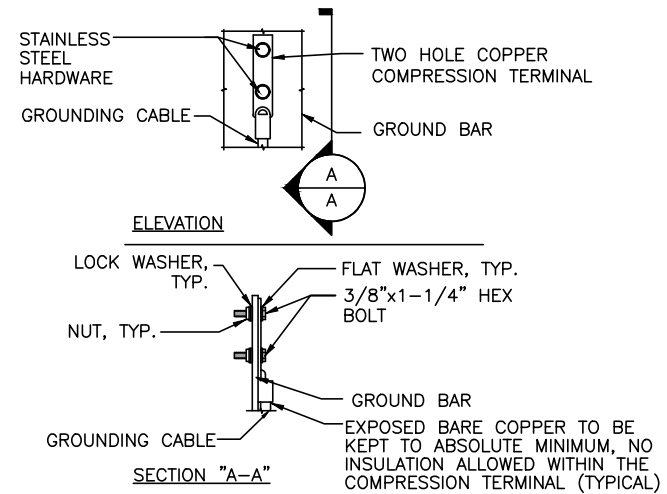
SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: GA





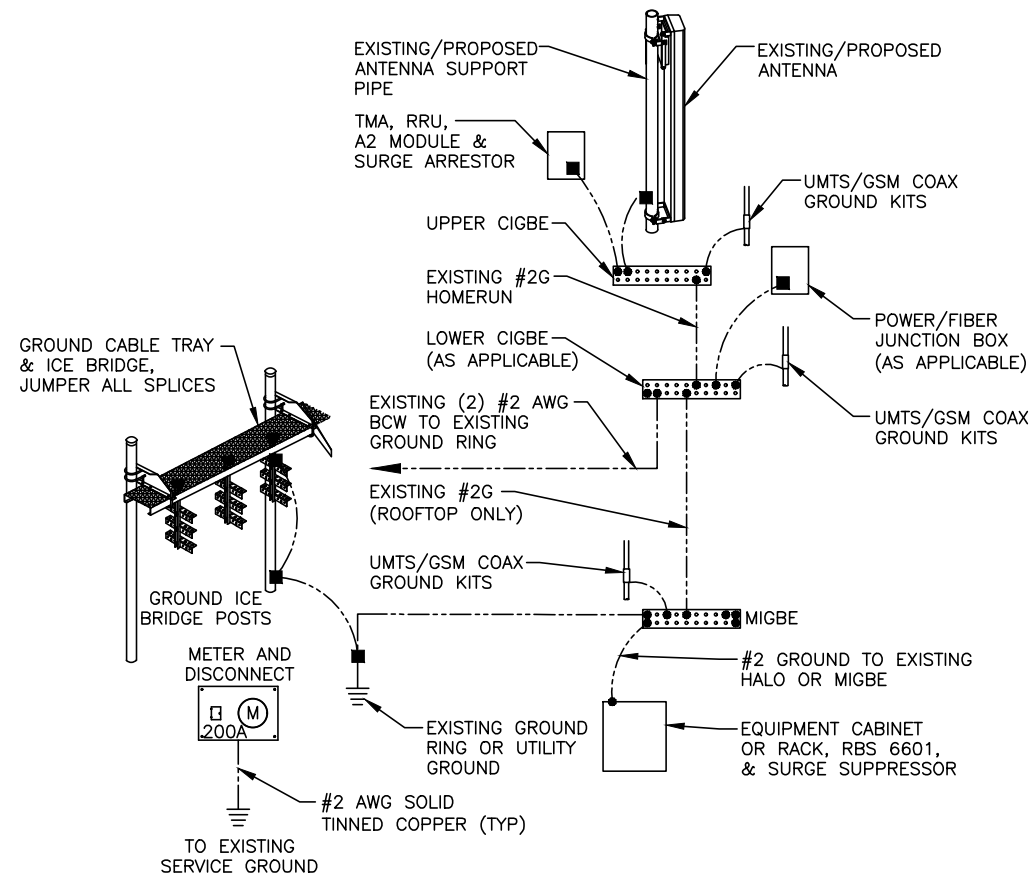
NOTE:
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL (1)
 SCALE: N.T.S. G-1



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

TYPICAL GROUND BAR CONNECTION DETAIL (3)
 SCALE: N.T.S. G-1



GROUNDING RISER DIAGRAM (2)
 SCALE: N.T.S. G-1

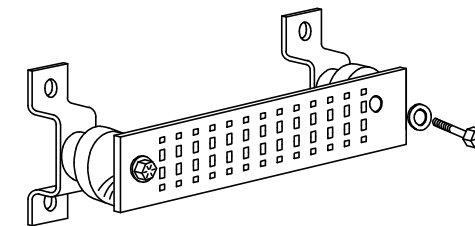
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

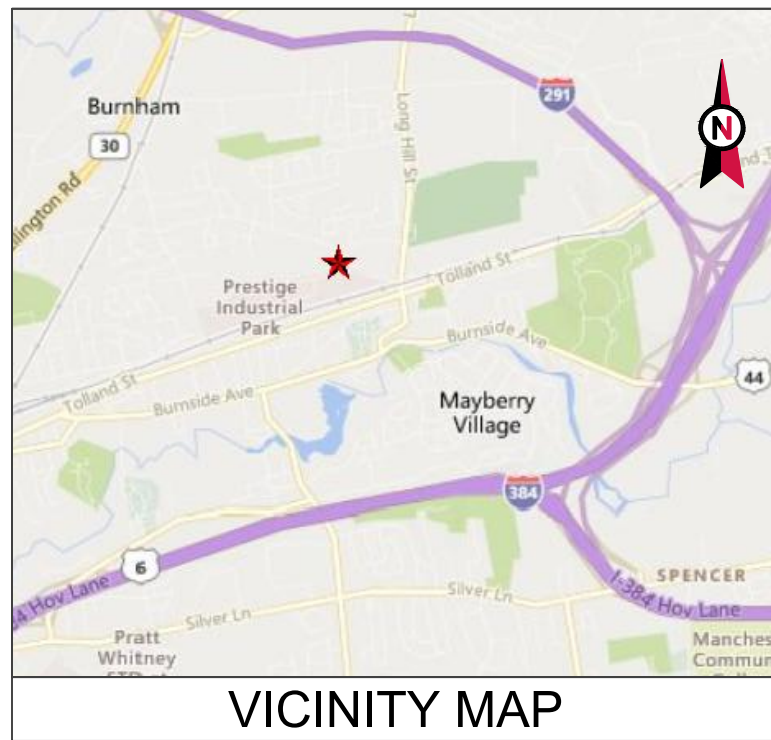
- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- 48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

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



GROUND BAR - DETAIL (4)
 SCALE: N.T.S. G-1

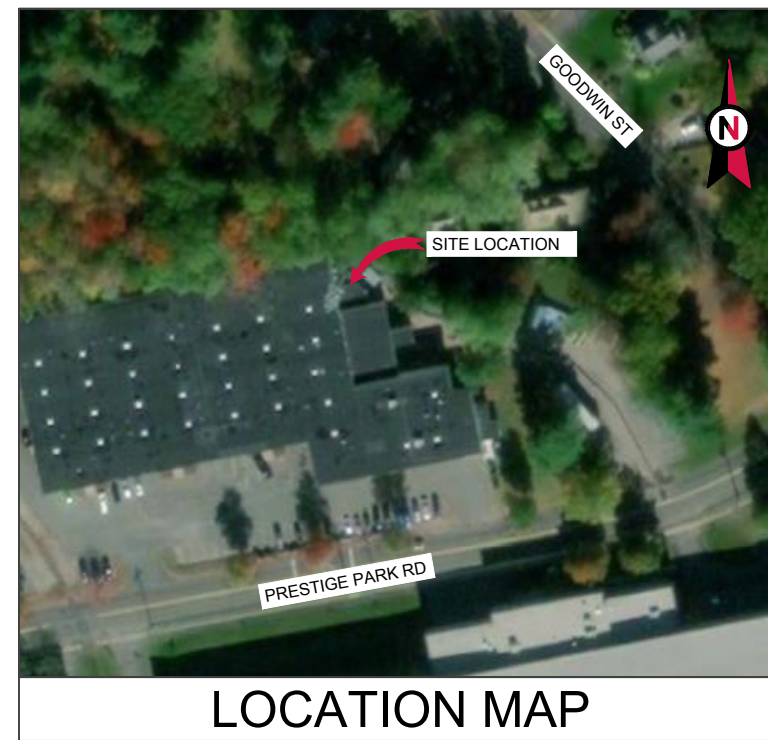


VICINITY MAP



AMERICAN TOWER®

SITE NAME: E H F R - PRESTIGE PARK
 SITE NUMBER: 302473
 ATC PROJECT NUMBER: OAA745293_C6_06
 SITE ADDRESS: 310 PRESTIGE PARK RD.
 EAST HARTFORD, CT
 06108



LOCATION MAP

AMERICAN TOWER®
 A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CWB	04/01/19

ATC SITE NUMBER:
 302473
 ATC SITE NAME:
 E H F R - PRESTIGE PARK
 CONNECTICUT
 SITE ADDRESS:
 310 PRESTIGE PARK RD.
 EAST HARTFORD, CT 06108

150 FT MONOPOLE MODIFICATIONS

PROJECT TEAM	PROJECT DESCRIPTION	SHEET	SHEET TITLE	REV.
<p>TOWER OWNER AMERICAN TOWER 10 PRESIDENTAL WAY WOBURN, MA 01801</p> <p>ENGINEERED BY ATC TOWER SERVICES 3500 REGENCY PARKWAY, SUITE 100 CARY, NC 27518</p> <p>CARRIER INFORMATION CARRIER: AT&T MOBILITY CARRIER SITE NAME: EAST HARTFORD CARRIER SITE NUMBER: CT1002/ FA#10034965</p>	<p>THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER OAA745293_C3_03 DATED 01/30/19. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.</p> <p>COMPLIANCE CODE</p> <p>ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.</p> <p>1. ANSI/TIA/EIA: STRUCTURAL STANDARDS (222-G EDITION) 2. INTERNATIONAL BUILDING CODE (2015 IBC) 3. CONNECTICUT STATE BUILDING CODE (2018)</p> <p>PROJECT LOCATION</p> <p>GEOGRAPHIC COORDINATES</p> <p>LATITUDE: 41.78833333 LONGITUDE: -72.60055556</p>	B-1	BILL OF MATERIALS	0
		IGN	IBC GENERAL NOTES	0
		SIC	SPECIAL INSPECTION CHECKLIST	0
		C-101	SITE PLAN	0
		A-1	MODIFICATION PROFILE	0
		A-2	FOUNDATION DETAILS	0
		A-3	REINFORCEMENT INSTALLATION DETAILS	0
		A-3A	REINFORCEMENT INSTALLATION DETAILS (CONT'D)	0
		#20SB	#20 STEP BOLT BRACKET INSTALLATION DETAILS	0
		A-4	PLATE WELDMENT INSTALLATION DETAILS	0
		A-4A	PLATE WELDMENT INSTALLATION DETAILS (CONT'D)	0
		A-4B	PLATE WELDMENT INSTALLATION DETAILS (CONT'D)	0
		FPSB	FLAT PLATE STEP BOLT BRACKET FABRICATION & INSTALLATION DETAILS	0
		F-1	PLATE FABRICATION DETAILS	0
		F-2	TERMINATION WELDMENT FABRICATION DETAILS	0
F-3	PLATE WELDMENT FABRICATION DETAILS	0		
F-4	PLATE WELDMENT FABRICATION DETAILS	0		

DRAWN BY:	CWB
APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

COVER

SHEET NUMBER:
COVER


REVISION:
0



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BILL OF MATERIALS

QUANTITY REQUIRED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTION	LENGTH	SHEET LIST	PART WEIGHT	WEIGHT (lb)	NOTES
DYWIDAG REINFORCEMENT MATERIAL & HARDWARE								
4	4	DYD-20-ATR-30	#20 ALL THREAD ROD 30'	30'-0"	A-3	501.0	2004	GALVANIZED
22	22	BR-20C	L 6" X 3 1/2" X 3/8"	1'-0"	A-3	12.3	271	CONCENTRIC
8	8	TB-20C-12	L 6" X 3 1/2" X 3/8"	3'-6 3/4"	A-3	43.8	350	CONCENTRIC
150	158	UB-580-3125	U-BOLT ASSEMBLIES FOR #20 ROD	----	----	----	----	GALVANIZED
100	105	NG-0625-0875-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	----	----	----	----	ALLFASTENERS - 2NG2060
10	15	#20SB	STEP BOLT WELDMENT	0'-7 1/4"	#20SB	2.5	38	
PLATE REINFORCEMENT MATERIAL & HARDWARE								
1	1	302473-1	PL 1 1/4" X 4"	16'-4"	A-4, A-4A, F-1	291.8	292	
1	1	302473-2	TERMINATION WELDMENT	8'-8 3/16"	A-4, A-4A, F-2	183.6	184	
3	3	302473-3	PLATE WELDMENT	20'-0"	A-4, A-4A, F-3	375.5	1127	
3	3	302473-4	PLATE WELDMENT	10'-0"	A-4, A-4A, F-4	239.3	718	
3	3	302473-5	PL 1" X 2 1/2"	2'-1 1/2"	A-4, A-4A, F-1	19.0	57	
12	13	UB-580-3125	U-BOLT ASSEMBLIES FOR #20 ROD	----	----	----	----	GALVANIZED
99	104	NG-1438-1875-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	----	----	----	----	ALLFASTENERS - 2NG2048
3	4	NG-2250-2688-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	----	----	----	----	ALLFASTENERS - 2NG2068
24	29	FPSB	FLAT PLATE STEP BOLT WELDMENT	0'-7 1/4"	FPSB	2.0	58	
FLANGE BOLTS								
12	13	BK-1000-375-A490-MAG	BOLT, 1"Ø A490 W/ HHN-LKW-FW, MAGNI 565 COATING	3 3/4"	----	----	----	ALLFASTENERS - 2STB01334A490M-A
TOTAL WEIGHT (lb)						5,099		



AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CWB	04/01/19

ATC SITE NUMBER:
302473

ATC SITE NAME:
E H F R - PRESTIGE PARK

CONNECTICUT

SITE ADDRESS:
310 PRESTIGE PARK RD.
EAST HARTFORD, CT 06108

DRAWN BY:	CWB
APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

BILL OF MATERIALS

SHEET NUMBER: B-1	REVISION: 0
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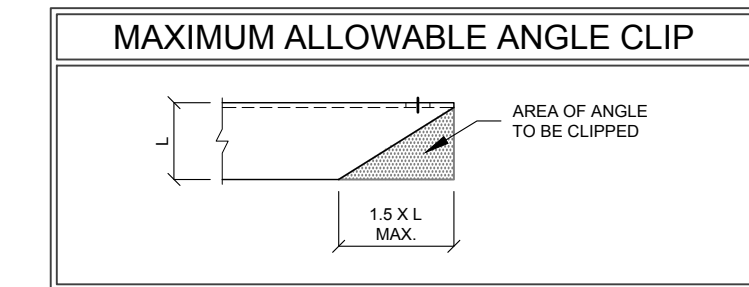
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GENERAL

- ALL WORK TO BE COMPLETED PER APPLICABLE LOCAL, STATE, FEDERAL CODES AND ORDINANCES AND COMPLY WITH ATC MASTER SPECIFICATIONS FOR WIRELESS TOWER SITES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND ABIDING BY ALL REQUIRED PERMITS.
- ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
- ANY SUBSTITUTIONS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- ANY MANUFACTURED DESIGN ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER ANSII/TIA-322 AND ANSII/ASSE A10.48, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
- CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.

STRUCTURAL STEEL

- ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
- ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
- ALL U-BOLTS SHALL BE ASTM A36 OR EQUIVALENT, WITH LOCKING DEVICE, UNLESS NOTED OTHERWISE.
- FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
- ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- ALL STRUCTURAL STEEL EMBEDDED IN THE CONCRETE SHALL BE APPLIED WITH (2) BRUSHED COATS OF POLYGUARD CA-14 MASTIC OR EQUIVALENT. REFER TO THE MANUFACTURER SPECIFICATIONS FOR SURFACE PREPARATION AND APPLICATION. APPLICATION OF POLYGUARD 400 WRAP IS NOT ESSENTIAL.
- CONTRACTOR SHALL PERFORM WORK ON ONLY ONE (1) TOWER FACE AND REPLACE/REINFORCE ONE (1) BOLT/MEMBER AT A TIME.
- ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.



PAINT

- AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO FAA ADVISORY CIRCULAR AC 70/7460-1L.

WELDING

- ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
- ALL WELDS SHALL BE INSPECTED VISUALLY. IF DIRECTED BY ENGINEER OF RECORD, 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE (100% IF REJECTABLE DEFECTS ARE FOUND) TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
- ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
- ALL WELDING ON LATTICE TOWERS SHALL BE DONE WITH E70XX ELECTRODES. ALL WELDING ON POLE STRUCTURES SHALL BE DONE WITH E80XX ELECTRODES UNLESS NOTED OTHERWISE.
- PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

BOLT TIGHTENING PROCEDURE

- STRUCTURAL CONNECTIONS TO BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC SPECIFICATIONS.
- FLANGE BOLTS SHALL BE INSTALLED AND TIGHTENED USING DIRECT TENSION INDICATING (DTI) SQUIRTER WASHERS. DTI SQUIRTER WASHERS ARE TO BE INSTALLED AND ORIENTED / TIGHTENED PER MANUFACTURER SPECIFICATIONS TO ACHIEVE DESIRED LEVEL OF BOLT PRE-TENSION.
- IN LIEU OF USING DTI SQUIRTER WASHERS, FLANGE BOLTS MAY BE TIGHTENED USING AISC / RCSC "TURN-OF-THE-NUT" METHOD, PENDING APPROVAL BY THE ENGINEER OF RECORD (EOR). TIGHTEN FLANGE BOLTS USING THE CHART BELOW:

BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS

1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIAMETERS BUT NOT EXCEEDING EIGHT DIAMETERS

1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS 4.75 TO 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS 5.25 TO 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS 5.75 TO 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS 6.25 TO 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

- SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

8.2.1 TURN-OF-NUT PRETENSIONING

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

- ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS. BOLTS SHALL BE PLACED IN ALL HOLES WITH WASHERS POSITIONED AS REQUIRED AND NUTS THREADED TO COMPLETE THE ASSEMBLY. COMPACTING THE JOINT TO THE SNUG-TIGHT CONDITION SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT. THE SNUG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

APPLICABLE CODES AND STANDARDS

- ANSI/TIA: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, 222-G EDITION.
- 2018 CONNECTICUT STATE BUILDING CODE.
- 2015 INTERNATIONAL BUILDING CODE.
- ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 318-02.
- CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION.
- AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
- AWS: AMERICAN WELDING SOCIETY D1.1, STRUCTURAL WELDING CODE, LATEST EDITION.

SPECIAL INSPECTION

- A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH IBC 2015, SECTION 1704 AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
 - STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELD ONLY)
 - HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 EXTENSION FLANGE BOLTS TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD)
- THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER IN ACCORDANCE WITH IBC 2015, SECTION 1704, UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT THE SPECIAL INSPECTIONS.

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0	FIRST ISSUE	CWB	04/01/19

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CONNECTICUT

SITE ADDRESS:
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 EAST HARTFORD, CT 06108

DRAWN BY:	CWB
APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

IBC GENERAL NOTES

SHEET NUMBER:	REVISION:
IGN	0

MODIFICATION INSPECTION NOTES

THE SPECIAL INSPECTION (SI) PROCEDURE IS INTENDED TO CONFIRM THAT CONSTRUCTION AND INSTALLATION MEETS ENGINEERING DESIGN, ATC PROCEDURES AND ATC STANDARD SPECIFICATIONS FOR WIRELESS TOWER SITES.

TO ENSURE THAT THE REQUIREMENTS OF THE SI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR AND THE INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED FROM AMERICAN TOWER CORPORATION (ATC). IT IS EXPECTED THAT EACH PARTY WILL PROACTIVELY REACH OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR AMERICAN TOWER POINT OF CONTACT.

SPECIAL INSPECTOR

THE SPECIAL INSPECTOR IS REQUIRED TO CONTACT THE GENERAL CONTRACTOR AS SOON AS RECEIVING A PO FROM ATC. UPON RECEIVING A PO FROM ATC THE SPECIAL INSPECTOR AT A MINIMUM MUST:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE GENERAL CONTRACTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- ANY CONCERNS WITH THE SCOPE OF WORK OR PROJECT COMMITMENT MUST BE RELAYED TO THE ATC POINT OF CONTACT IMMEDIATELY.

THE SPECIAL INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR INSPECTION AND TEST REPORTS, REVIEWING THESE DOCUMENTS FOR ADHERENCE TO CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE SI REPORT TO AMERICAN TOWER CORPORATION.

GENERAL CONTRACTOR

THE GENERAL CONTRACTOR IS REQUIRED TO CONTACT THE SI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE SI TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SI CHECKLIST.

SPECIAL INSPECTION CHECKLIST

INSPECTION DOCUMENT	DESCRIPTION	INSPECTION TESTING REQUIRED	RESPONSIBILITY	SI REVIEW REQUIRED			INSPECTION FREQUENCY	
				PRE CX	DURING CX	POST CX	PERIODIC	CONTINUOUS
SPECIAL INSPECTION FIELD WORK & REPORT	DOCUMENTATION AND SITE VISIT CONDUCTED BY AN ATC APPROVED SPECIAL INSPECTOR AS REQUIRED BY ATC AND OTHER AUTHORITIES HAVING JURISDICTION. INSPECTION PARAMETERS TO FOLLOW ATC'S STANDARD SPECIFICATION FOR WIRELESS TOWER SITES.	✓	SI			✓		
ENGINEERING ASSEMBLY DRAWINGS	GC SHALL SUBMIT DRAWINGS TO SI FOR INCLUSION IN SI REPORT	✓	GC	✓				
FABRICATED MATERIAL VERIFICATION & INSPECTION	MTR AND OR MILL CERTIFICATIONS FOR SUPPLIED MATERIALS GC SHALL SUPPLY SI WITH REPORTS TO BE INCLUDED IN SI REPORT WHEN REQUIRED BY ATC	✓	SI	✓				
CERTIFIED WELD INSPECTION	INSPECTION AND REPORT OF STRUCTURAL WELDING PERFORMED DURING PROJECT COMPLETED BY A CWI AND INCLUDED WITHIN SI REPORT	✓	GC / TA	✓	✓	✓	✓	
FOUNDATION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF FOUNDATION EXCAVATION, REBAR PLACEMENT, CASING/SHORING/FORMING PLACEMENT, AND ANCHOR TEMPLATE AND ANCHOR PLACEMENT - TO BE SI APPROVED PRIOR TO CONCRETE POUR AND DOCUMENTED IN THE SI REPORT		SI					
ANCHOR, ROCK ANCHOR OR HELICAL PULL-OUT TEST	PULL TESTING OF INSTALLED ANCHORS TO BE COMPLETED AND DOCUMENTED IN SI REPORT		GC / TA					
CONCRETE INSPECTION & VERIFICATION	CONCRETE MIX DESIGN, SLUMP TEST, COMPRESSIVE TESTING, AND SAMPLE GATHERING TECHNIQUES ARE TO BE PROVIDED FOR INCLUSION IN THE SI REPORT. SI SHALL VERIFY CONCRETE PLACEMENT AS REQUIRED BY THE DESIGN DOCUMENTS (INSPECTION FREQUENCY IS MARKED CONTINUOUS)		GC / TA					
DYWIDAG PLACEMENT/ANCHOR BOLT EMBEDMENT - EPOXY/GROUT INSTALL	ANCHOR/BAR EMBEDMENT, HOLE SIZE, EPOXY/GROUT TYPE, INSTALLATION TEMPERATURE AND INSTALLATION SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT	✓	GC / SI		✓			✓
BASE PLATE GROUT INSPECTION & VERIFICATION	BASE PLATE GROUTING TYPE AND PLACEMENT SHALL BE CONFIRMED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
EARTHWORK INSPECTION & VERIFICATION	EXCAVATION, FILL, SLOPE, GRADE AND OTHER EARTHWORK REQUIREMENTS PER PLANS SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT		GC / TA					
COMPACTION VERIFICATION	CONTRACTOR SHALL PROVIDE AN INDEPENDENT THIRD PARTY CERTIFIED INSPECTION WHICH PROVIDES TEST RESULTS FOR COMPACTION TEST OF SOILS IN PLACE TO ASTM STANDARDS.		GC / TA					
GROUND TESTING & VERIFICATION	GC SHALL PROVIDE DOCUMENTATION SHOWING THAT THE GROUNDING SYSTEM SHALL HAVE A MEASURED RESISTANCE TO THE GROUND OF NOT MORE THAN THE RECOMMENDED 10 OHMS. PER THE ATC CONSTRUCTION SPECIFICATION UNDER SECTION 2.15 THIS DOCUMENTATION MUST BE AN INDEPENDENT CERTIFICATION.		GC					
STEEL CONSTRUCTION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF STEEL CONSTRUCTION TO BE PERFORMED BY THE SI. INSPECTION TO INCLUDE VERIFICATION OF NEW CONSTRUCTION OR MODIFICATION OF EXISTING CONSTRUCTION PER ENGINEERED PLANS. DETAILED VERIFICATION SHALL BE INCLUDED IN SI REPORT.	✓	SI			✓	✓	
ON-SITE COLD GALVANIZING VERIFICATION	SI SHALL VERIFY WITH GC ALL COLD GALVANIZATION TYPE AND APPLICATION AND INCLUDE SUMMARY IN SI REPORT	✓	GC			✓	✓	
GUY WIRE TENSIONING & TOWER ALIGNMENT REPORT	GC SHALL PROVIDE SI EVIDENCE OF PROPER GUY TENSIONING AND TOWER PLUMB PER PLANS. SI SHALL VERIFY AND INCLUDE PLUMB AND TENSION REPORTING IN SI REPORT.		GC					
GC AS-BUILT DRAWINGS WITH CONSTRUCTION RED-LINES	GC SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS TO SI FOR APPROVAL/REVIEW AND INCLUSION IN SI REPORT	✓	GC			✓		
SI AS-BUILT DRAWINGS WITH INSPECTION RED-LINES (AS REQUIRED)	SI SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS WITHIN SI REPORT	✓	SI			✓		
TIA INSPECTION	SI SHALL COMPLETE TIA INSPECTION AND PROVIDE SEPARATE TIA INSPECTION DOCUMENTATION TO ATC CM		SI					
PHOTOGRAPHS	PHOTOGRAPHIC EVIDENCE OF SPECIAL INSPECTION, ON SITE REMEDIATION, AND ITEMS FAILING INSPECTION & REQUIRING FOLLOW UP TO BE INCLUDED WITHIN THE SI REPORT. COMPLETE PHOTO LOG IS TO BE SUBMITTED WITHIN SI REPORT.	✓	GC / SI			✓		

NOTE: SPECIAL INSPECTIONS ARE INTENDED TO BE A COLLABORATIVE EFFORT BETWEEN GC AND SI. WHENEVER POSSIBLE GC IS TO PROVIDE SI WITH PHOTOGRAPHIC OR OTHER ACCEPTABLE EVIDENCE OF PROPER INSTALLATION IF PERIODIC INSPECTION FREQUENCY IS ACCEPTABLE. THE GC AND SI SHALL WORK TO COMPILE EVIDENCE OF PROPER CONSTRUCTION AND LIMIT THE NUMBER OF SI SITE VISITS REQUIRED.

TABLE KEY:
 SI - ATC APPROVED SPECIAL INSPECTOR
 GC - GENERAL CONTRACTOR
 TA - 3RD PARTY TESTING AGENCY
 CX - CONSTRUCTION
 CM - CONSTRUCTION MANAGER
 ATC - AMERICAN TOWER CORPORATION



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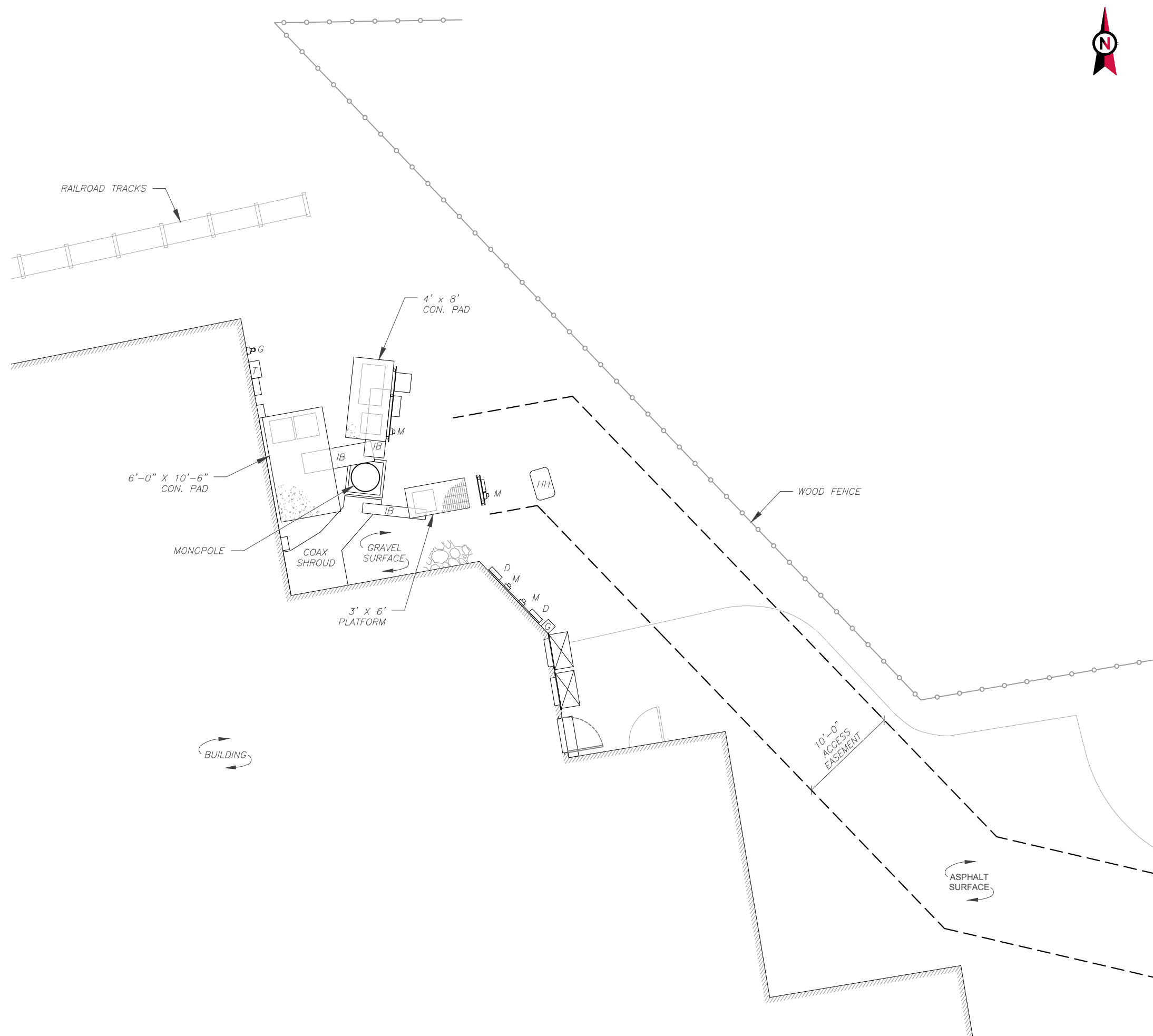
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SPECIAL INSPECTION CHECKLIST

SHEET NUMBER:	REVISION:
SIC	0

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LEGEND	
⊗	GROUNDING TEST WELL
AV, A/V	AIR VENT
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
C	CABINET
CS	COAX SHROUD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACLE
HH, V	HAND HOLE, VAULT
HFC	HYDROGEN FUEL CELL
HSM	HYDROGEN STORAGE MATERIAL
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
LPG	LIQUID PROPANE GAS
M	METER
OHW	OVERHEAD WIRE
P	POWER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
---	PROPERTY LINE
- - -	ADJACENT PROPERTY LINE
- · - · -	LEASE AREA
- · - · -	EASEMENT
○ ○ ○ ○	WOOD FENCE
— — — —	WIRE FENCE
□ □ □ □	METAL FENCE
— — — —	GUARD RAIL
x x x x	CHAINLINK FENCE
— — — —	ROAD (DIRT)
— — — —	ROAD (STONE)
— — — —	ROAD (PAVED)




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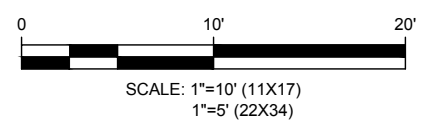
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 310 PRESTIGE PARK RD.
 EAST HARTFORD, CT 06108

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APPROVED BY:	CDW/KCI
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SITE PLAN	
SHEET NUMBER:	REVISION:
C-101	0



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AT&T MOBILITY
EL: 153.0' [PROPOSED]

EL: 150.0'
[TOP OF STRUCTURE]

SECTION 4

EL: 110.0'

SECTION 3

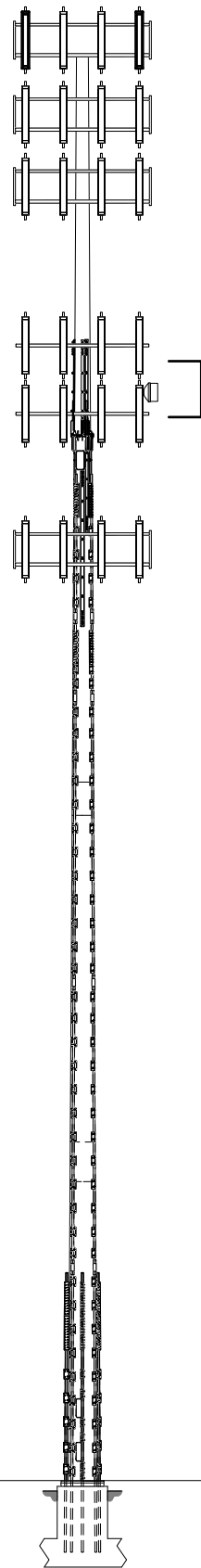
EL: 73.6'

SECTION 2

EL: 35.7'

SECTION 1

EL: 0.0'
[BOTTOM OF STRUCTURE]



TOWER ELEVATION VIEW

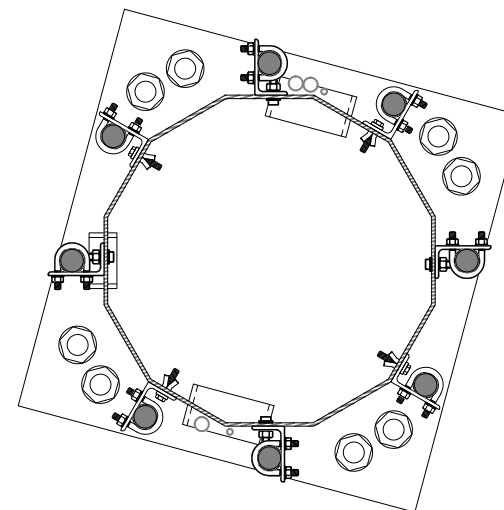
MOUNT MAY REQUIRE SUPPORT AND RE-MOUNTING DURING INSTALLATION. SEE NOTE BELOW.

INSTALL (4) PLATE REINFORCEMENTS [PL 1 1/4" X 4"] FROM EL: 90.0' TO 110.0'. AND INSTALL (3) PLATE REINFORCEMENTS [PL 1 1/4" X 5"] FROM EL: 110.0' TO 120.0' SEE SHEETS A-4 THRU A-4B FOR INSTALLATION DETAILS & UPGRADE 1"Ø FLANGE BOLTS WITH NEW 1"Ø X 3 3/4" A490 BOLTS [BK-1000-375-A490-MAG] SEE FLANGE BOLT INSTALLATION DETAIL.

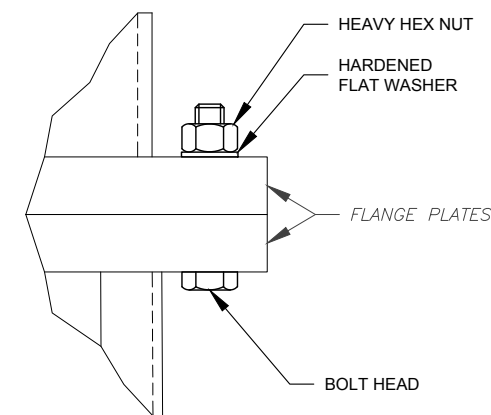
INSTALL (4) DYWIDAG #20 ALL THREAD RODS FROM EL: -7.5' TO 22.5'. SEE SHEETS A-2 TO A-3A FOR INSTALLATION DETAILS.

ADDITIONAL TOWER INFORMATION:

1. PRE-MOD MAPPING WAS COMPLETED FOR THIS PROJECT.



COAX DISTRIBUTION EXTERIOR ONLY



FLANGE BOLT INSTALLATION TYPICAL DETAIL

ALL FLANGE BOLTS SHALL BE TIGHTENED BY USING AISC/RCSC "TURN-OF-THE-NUT" METHODOLOGY. SEE SHEET IGN FOR DETAILS.

- NOTES:
1. PROPOSED AT&T MOBILITY COAX TO BE INSTALLED INSIDE MONOPOLE.
 2. CONTACT AMERICAN TOWER FIELD OPERATIONS WHEN EXISTING EQUIPMENT INTERFERES WITH INSTALLATION OF MODIFICATIONS. ONCE APPROVED, EXISTING EQUIPMENT MAY BE TEMPORARILY MOVED DURING INSTALLATION & REINSTALLED TO THE ORIGINAL HEIGHT & LOCATION BY CONTRACTOR POST COMPLETION OF MODIFICATIONS.



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MODIFICATION PROFILE	
SHEET NUMBER: A-1	REVISION: 0

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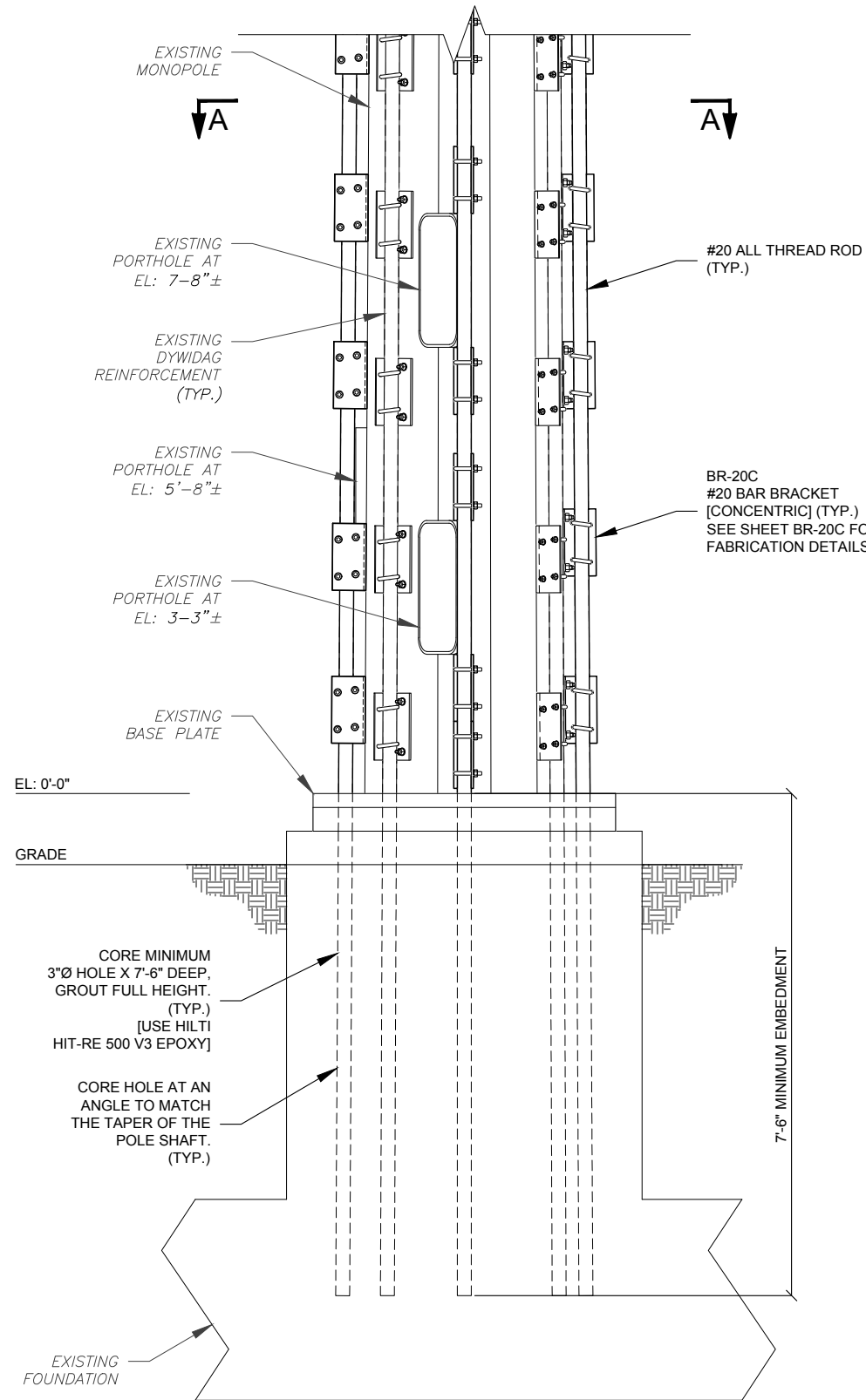
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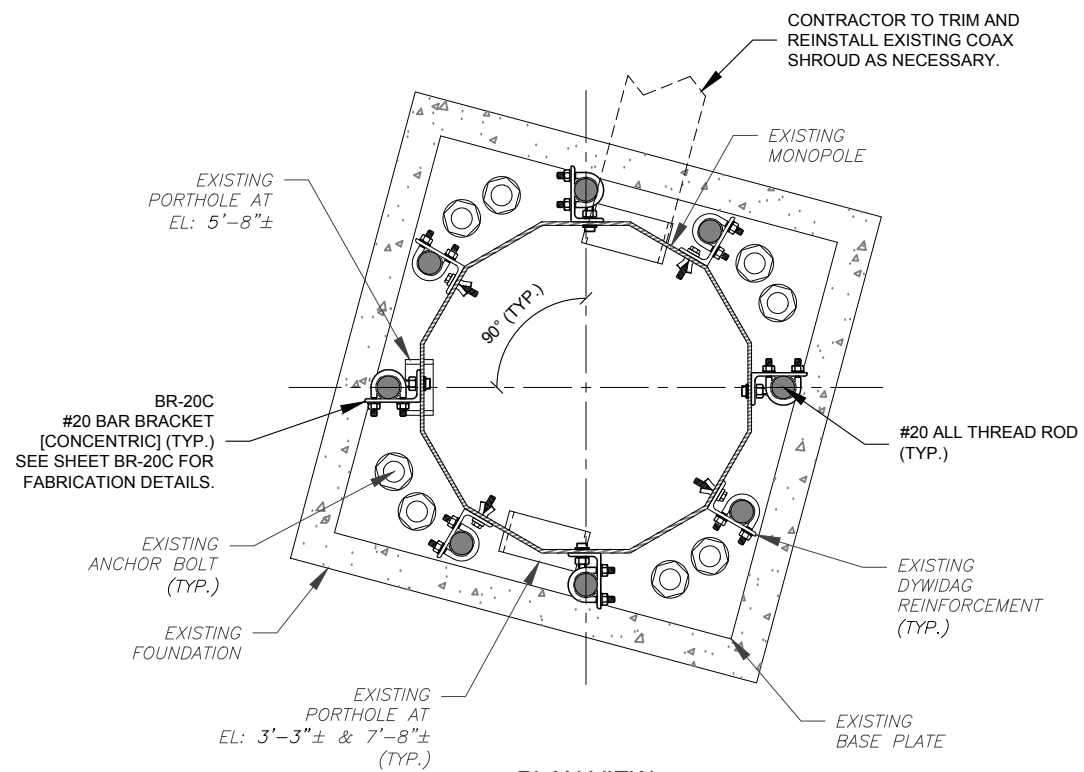
FOUNDATION DETAILS

SHEET NUMBER:	REVISION:
A-2	0

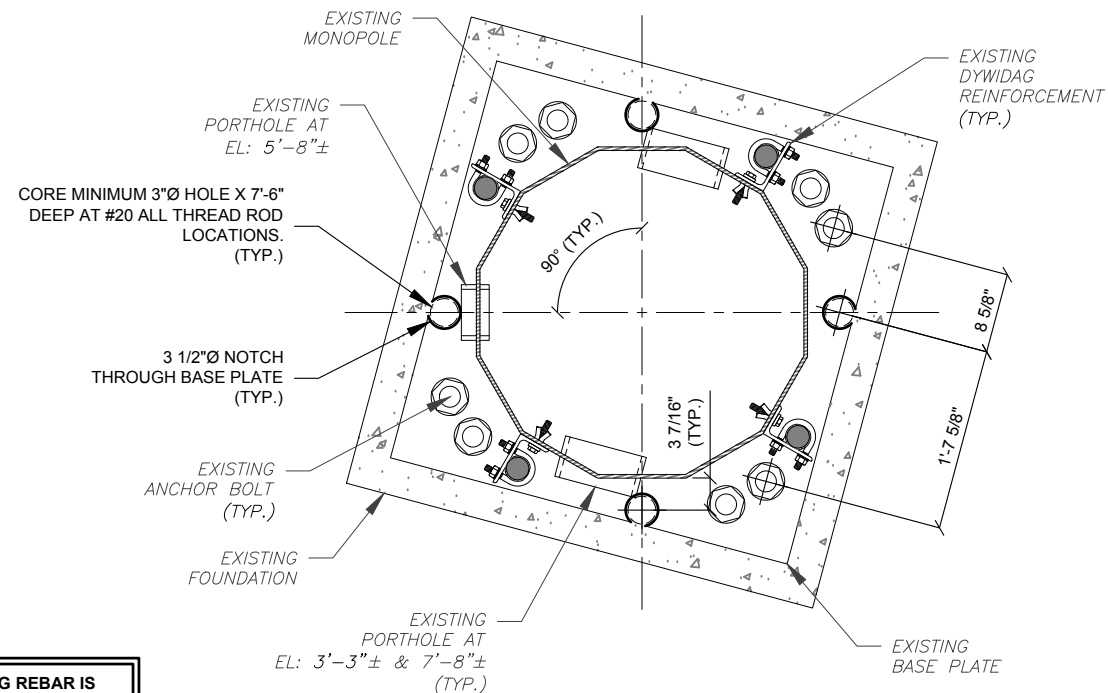


**ELEVATION VIEW
 FOUNDATION DETAIL**

NOTE:
 CONTRACTOR TO CONTACT ENGINEER OF RECORD IF EXISTING REBAR IS ENCOUNTERED DURING CORING.



**PLAN VIEW
 SECTION "A-A"**



**PLAN VIEW
 HOLE DRILL DETAIL**

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ATC SITE NUMBER:
302473

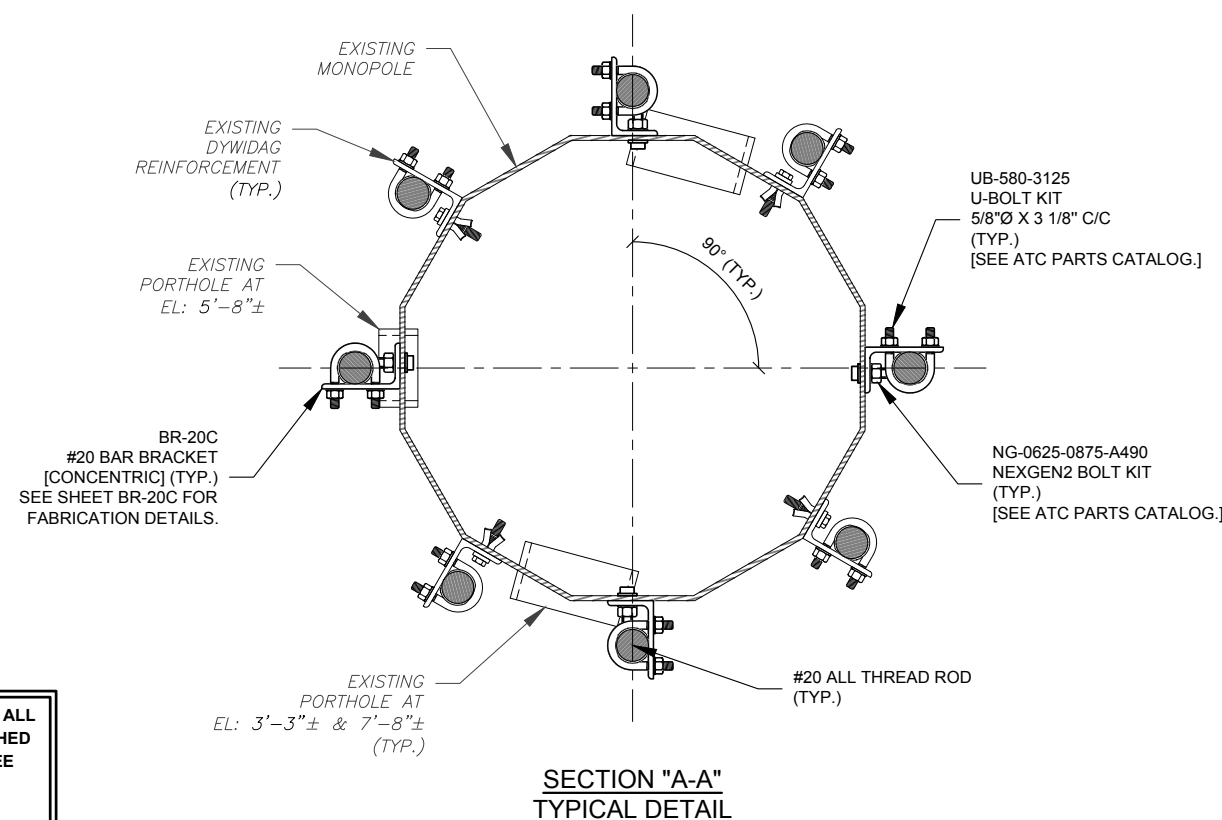
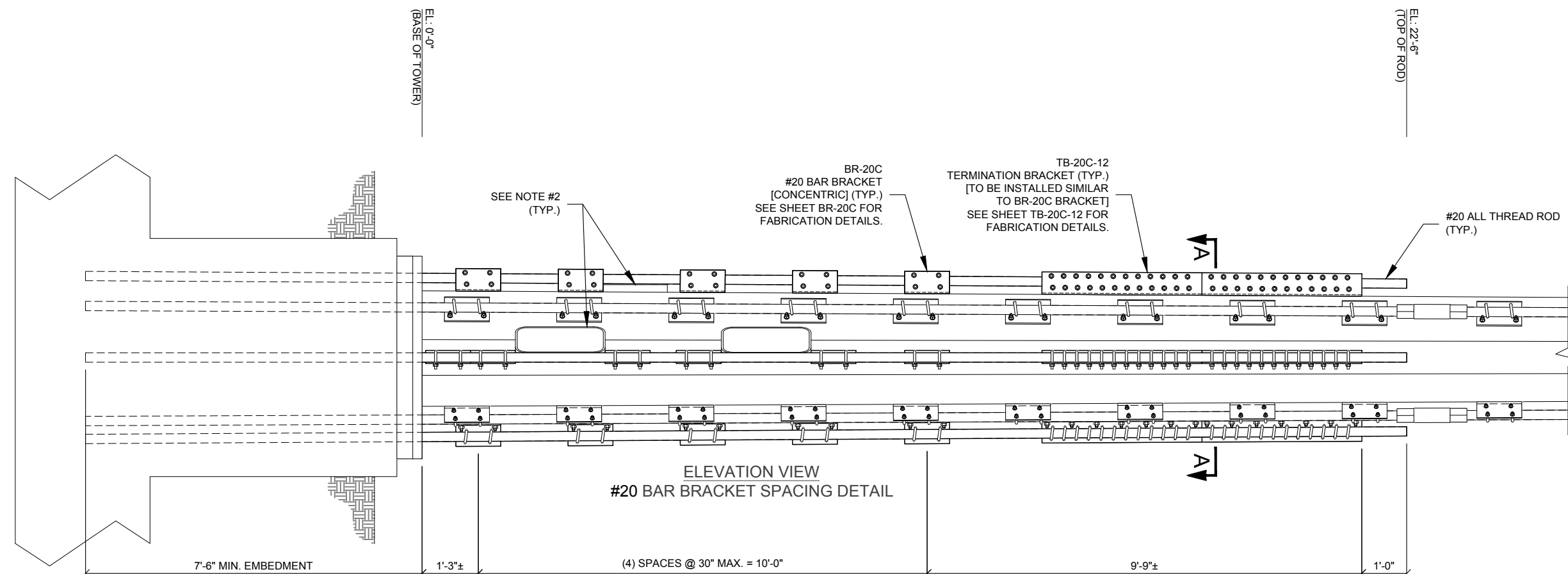
ATC SITE NAME:
E H F R - PRESTIGE PARK
CONNECTICUT

SITE ADDRESS:
 310 PRESTIGE PARK RD.
 EAST HARTFORD, CT 06108

DRAWN BY:	CWB
APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

**REINFORCEMENT
 INSTALLATION DETAILS**

SHEET NUMBER:	REVISION:
A-3	0



- NOTES:**
1. REPLACE ANY EXISTING STEP BOLTS THAT INTERFERE WITH THE NEW #20 ALL THREAD ROD REINFORCEMENTS. THE NEW STEP BOLTS SHALL BE ATTACHED TO THE #20 ALL THREAD RODS IN THE SAME APPROXIMATE LOCATION. SEE SHEET #20SB FOR INSTALLATION DETAILS.
 2. PLACE A BRACKET (BR-20C) DIRECTLY ABOVE AND BELOW ANY EXISTING PORTHOLE AS REQUIRED.
 3. SEE SHEET A-3A FOR #20 ALL THREAD ROD BRACKET INSTALLATION DETAILS.

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CONNECTICUT

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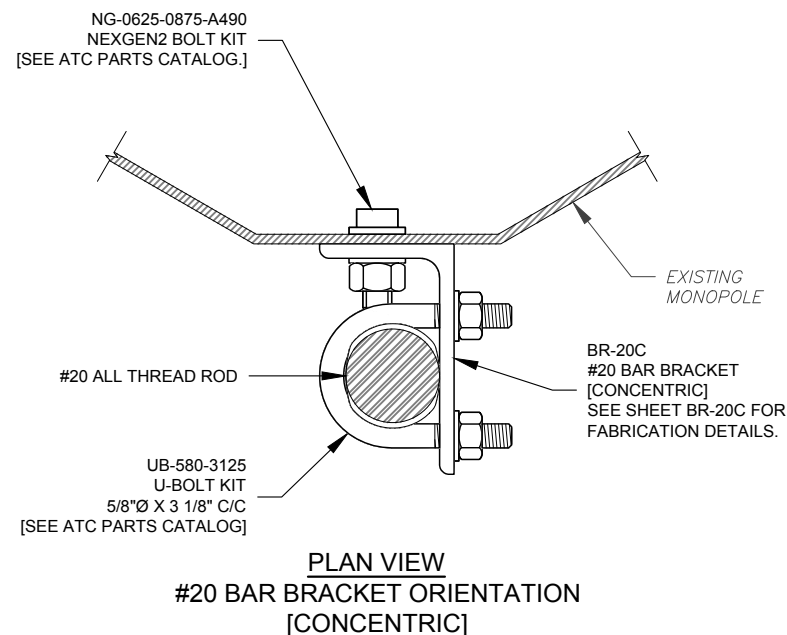
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APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

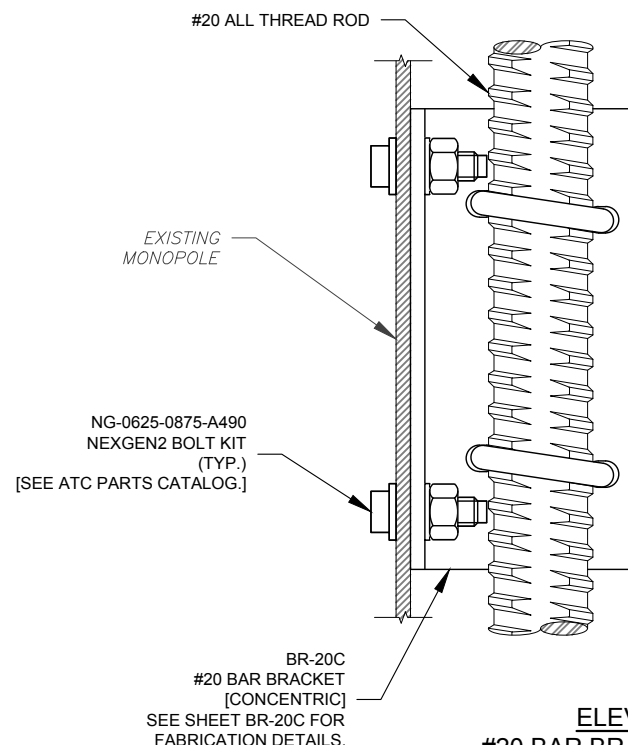
**REINFORCEMENT
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 (CONT'D)**

SHEET NUMBER:	REVISION:
A-3A	0

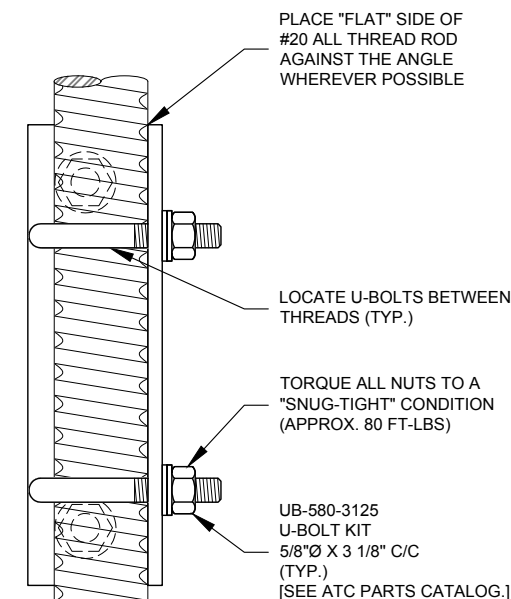
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PLAN VIEW
#20 BAR BRACKET ORIENTATION
[CONCENTRIC]



ELEVATION VIEW
#20 BAR BRACKET ORIENTATION
[CONCENTRIC]



PLACE "FLAT" SIDE OF
 #20 ALL THREAD ROD
 AGAINST THE ANGLE
 WHEREVER POSSIBLE

LOCATE U-BOLTS BETWEEN
 THREADS (TYP.)

TORQUE ALL NUTS TO A
 "SNUG-TIGHT" CONDITION
 (APPROX. 80 FT-LBS)

UB-580-3125
 U-BOLT KIT
 5/8"Ø X 3 1/8" C/C
 (TYP.)
 [SEE ATC PARTS CATALOG.]

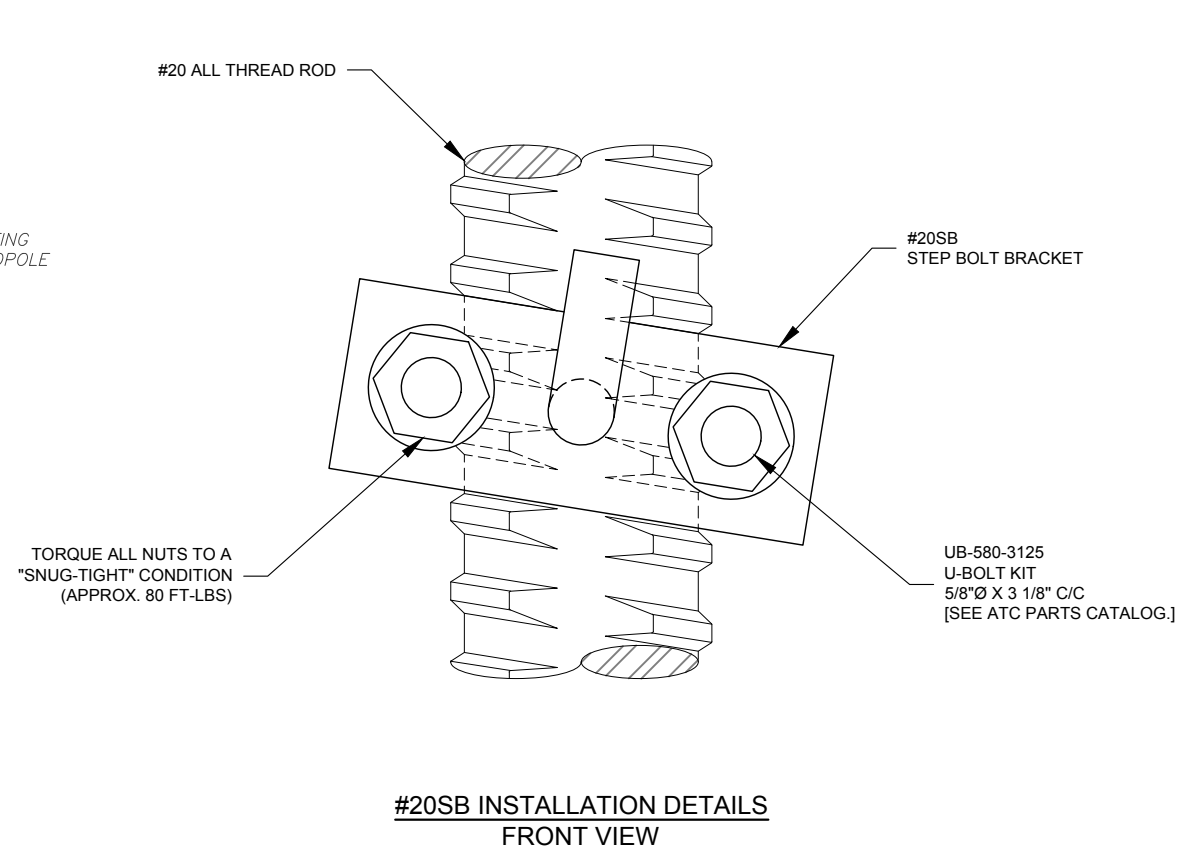
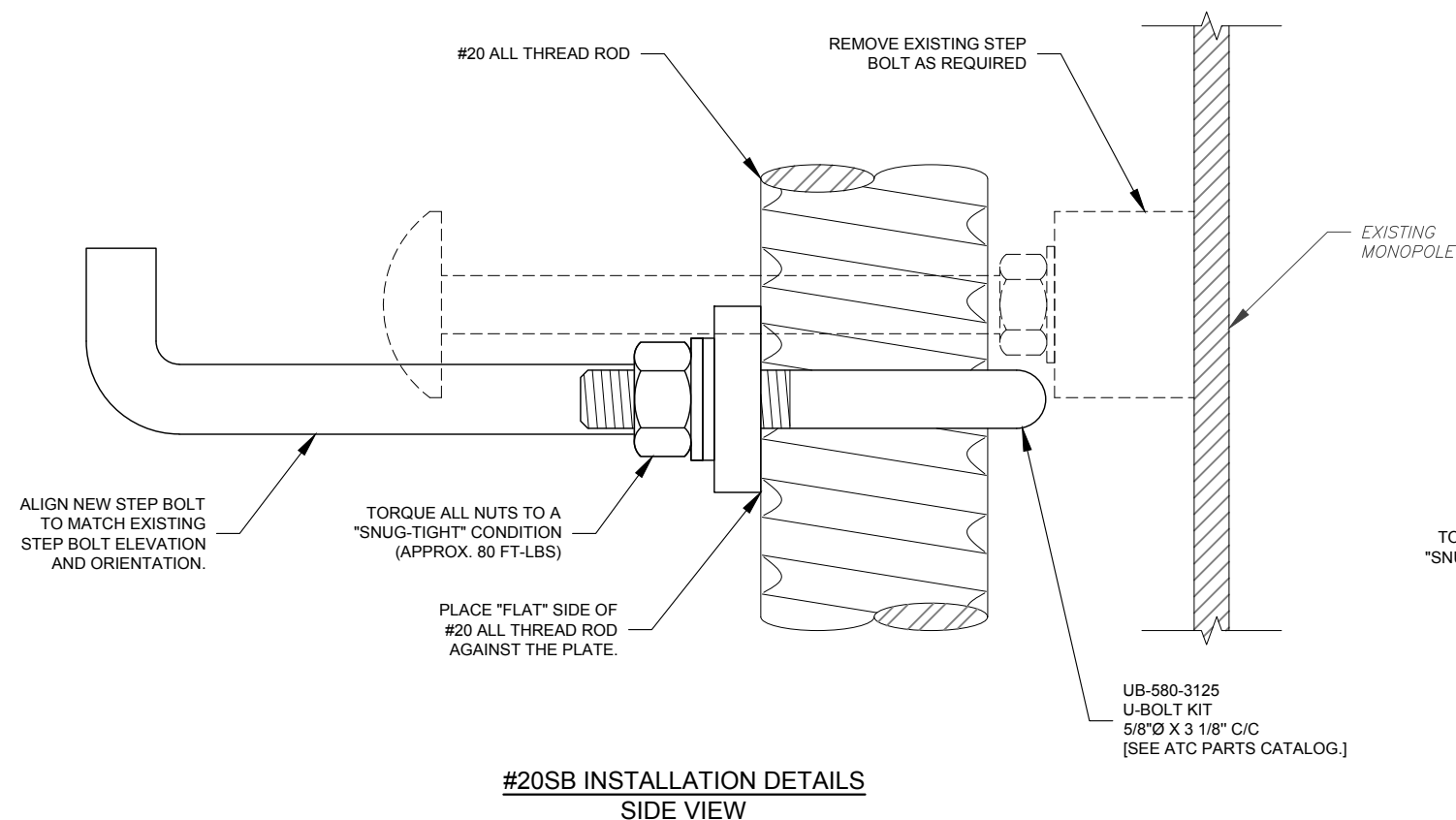


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 ATC SITE NAME:
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CONNECTICUT
 SITE ADDRESS:
 310 PRESTIGE PARK RD.
 EAST HARTFORD, CT 06108



NOTE:
 STEP PEG SPACING IS NOT TO EXCEED 15" MAX. STAGGERED OR 30" MAX. ON ANY SINGLE SIDE OF THE DYWIDAG BAR.

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APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

**#20 STEP BOLT BRACKET
INSTALLATION DETAILS**

SHEET NUMBER:	REVISION:
#20SB	0

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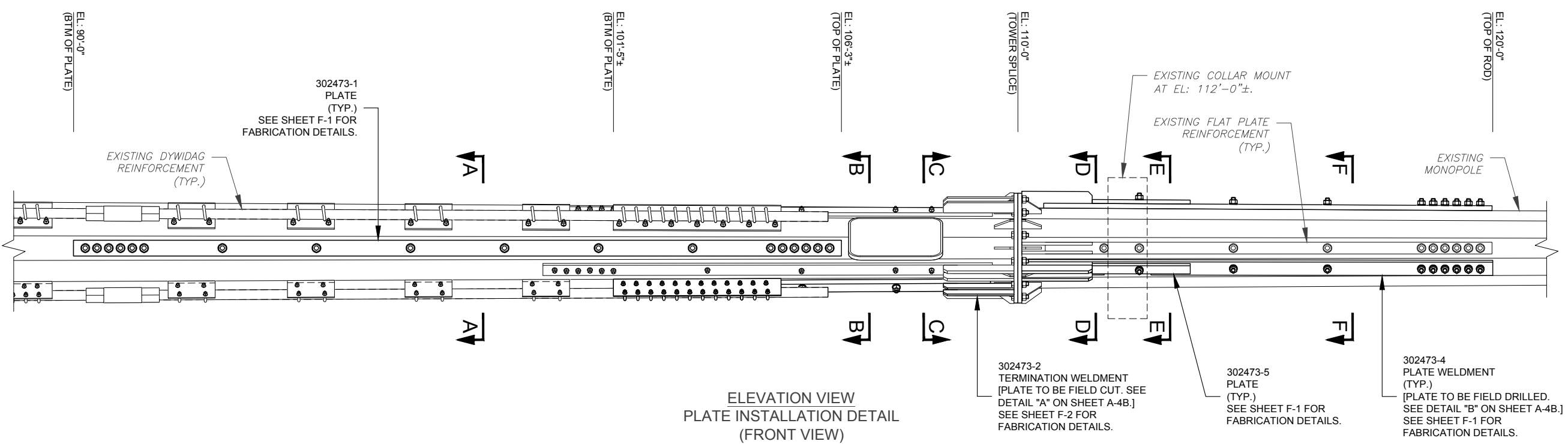
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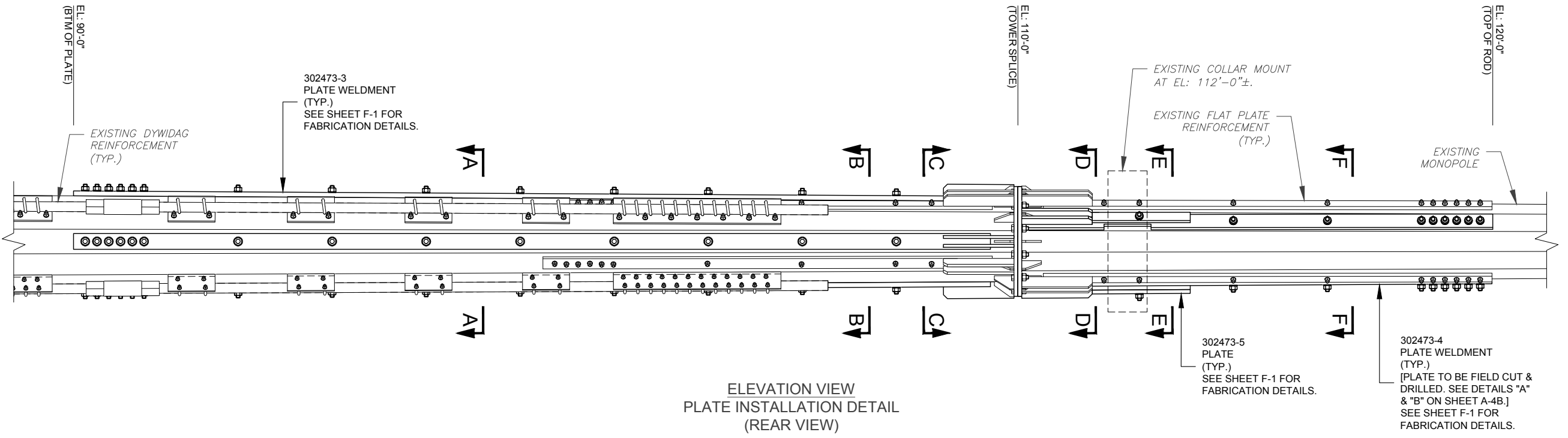
**PLATE WELDMENT
 INSTALLATION DETAILS**

SHEET NUMBER:
A-4

REVISION:
0



**ELEVATION VIEW
 PLATE INSTALLATION DETAIL
 (FRONT VIEW)**



**ELEVATION VIEW
 PLATE INSTALLATION DETAIL
 (REAR VIEW)**

- NOTES:**
- SEE SHEET A-4A FOR SECTIONS "A-A" THRU "G-G" AND TYPICAL WELD DETAILS.
 - REPLACE ANY EXISTING STEP BOLTS THAT INTERFERE WITH THE NEW PLATE WELDMENT INSTALLATIONS. THE NEW STEP BOLTS SHALL BE ATTACHED TO THE PLATE WELDMENTS IN THE SAME APPROXIMATE LOCATION. SEE SHEET FBSB FOR INSTALLATION DETAILS.
 - NG-2250-2688-A490 NEXGEN2 BOLT KITS ARE SUPPLIED AS REQUIRED FOR BAR BRACKET CONNECTIONS THAT FALL WITHIN MOUNT BYPASS PLATE [302473-5] LOCATIONS.

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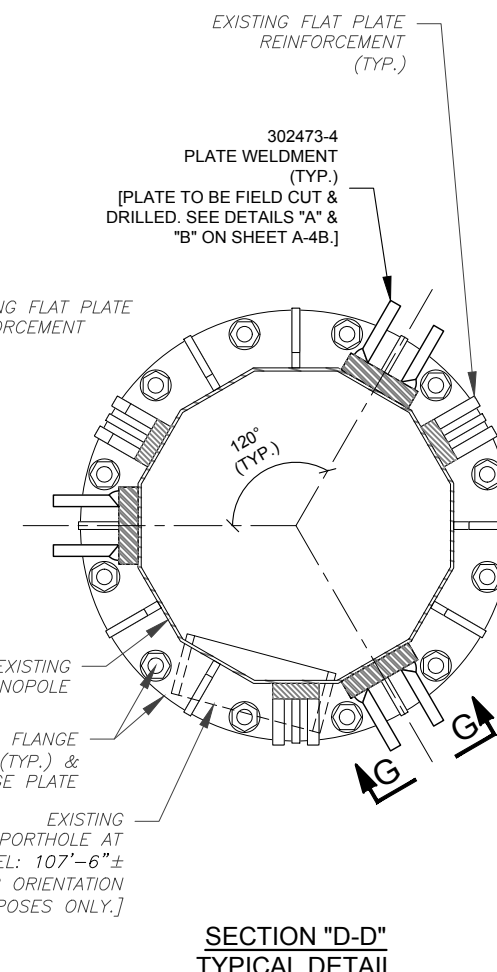
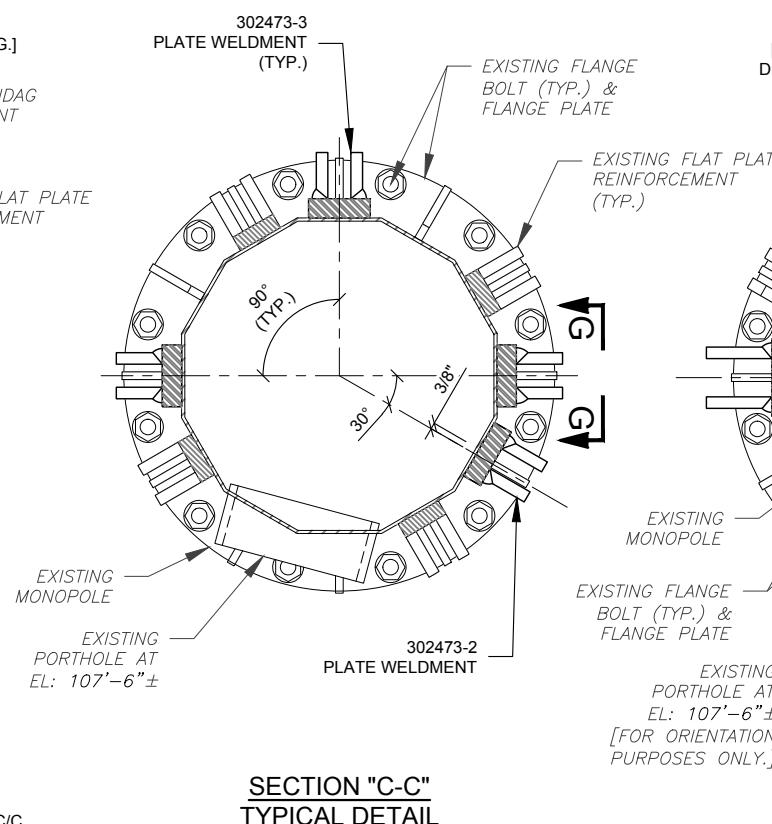
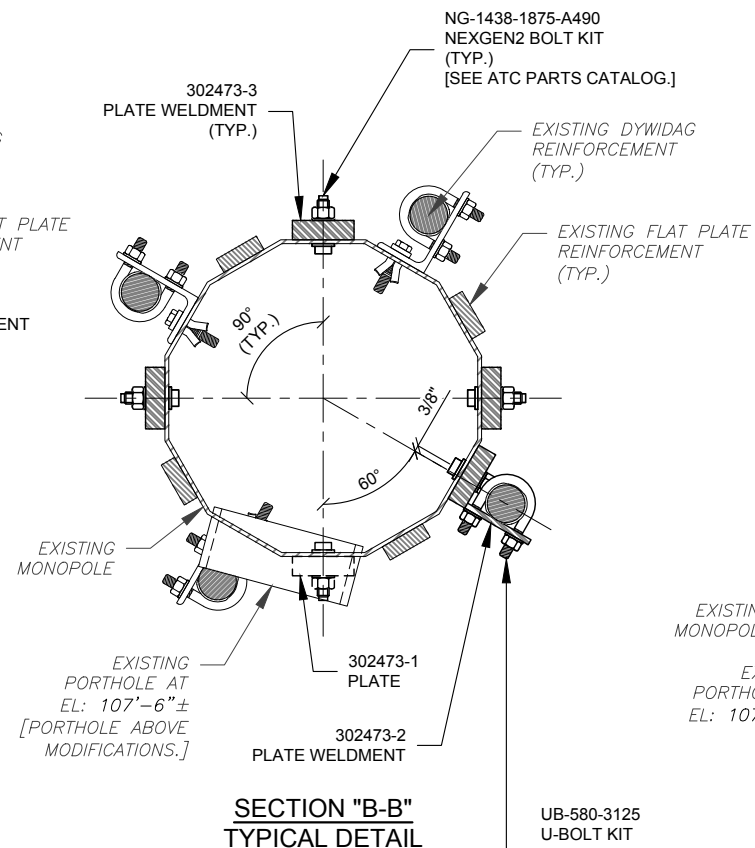
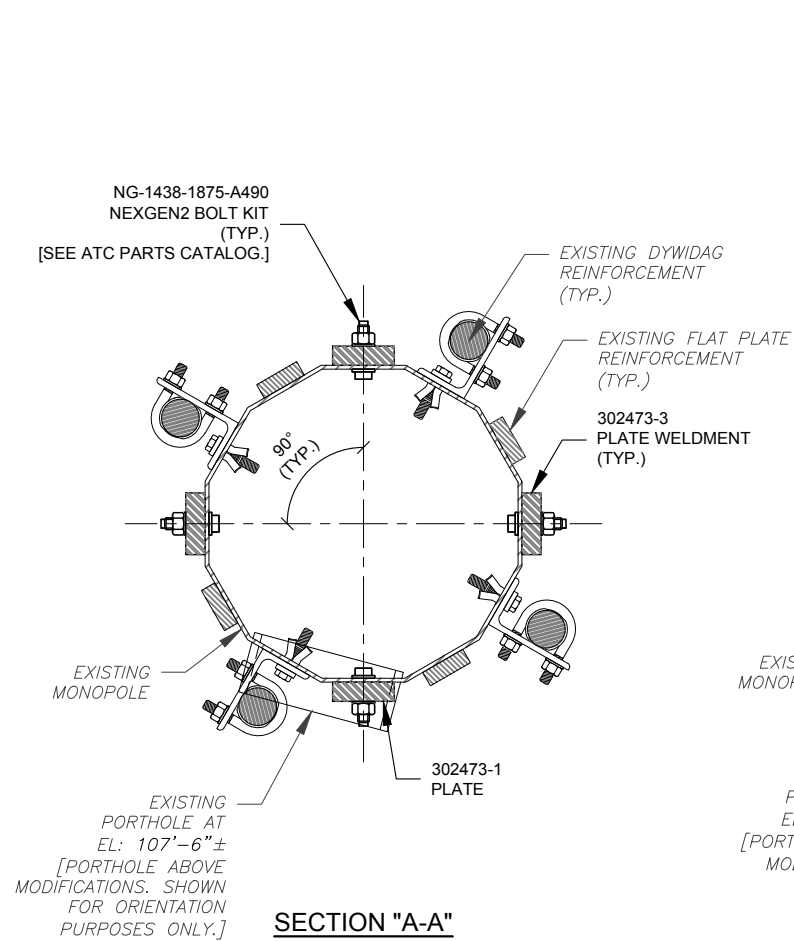
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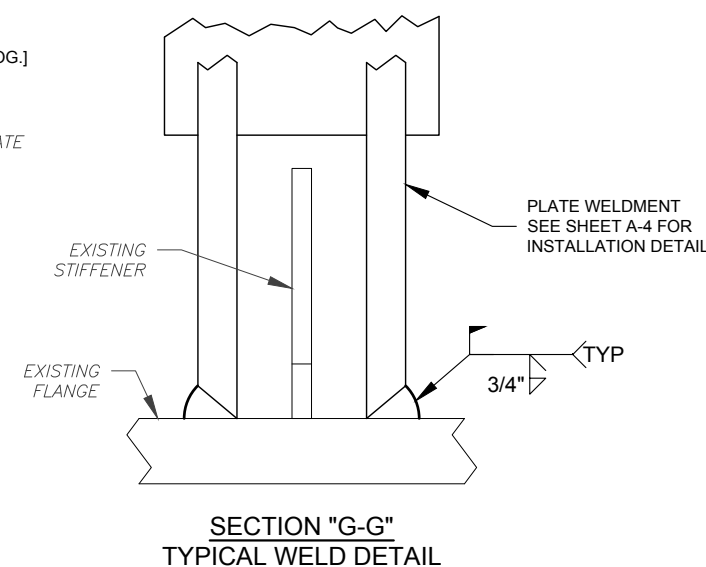
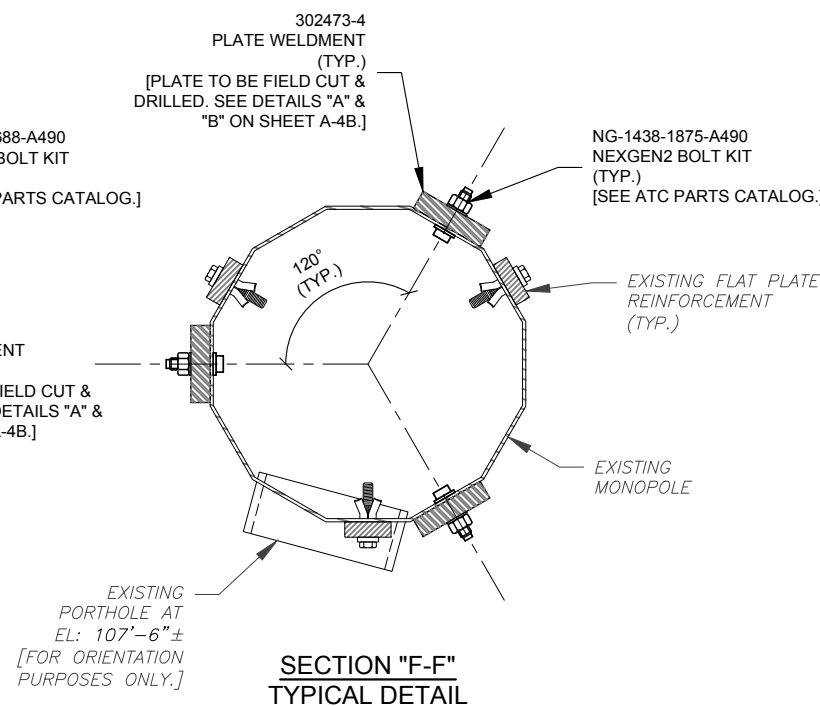
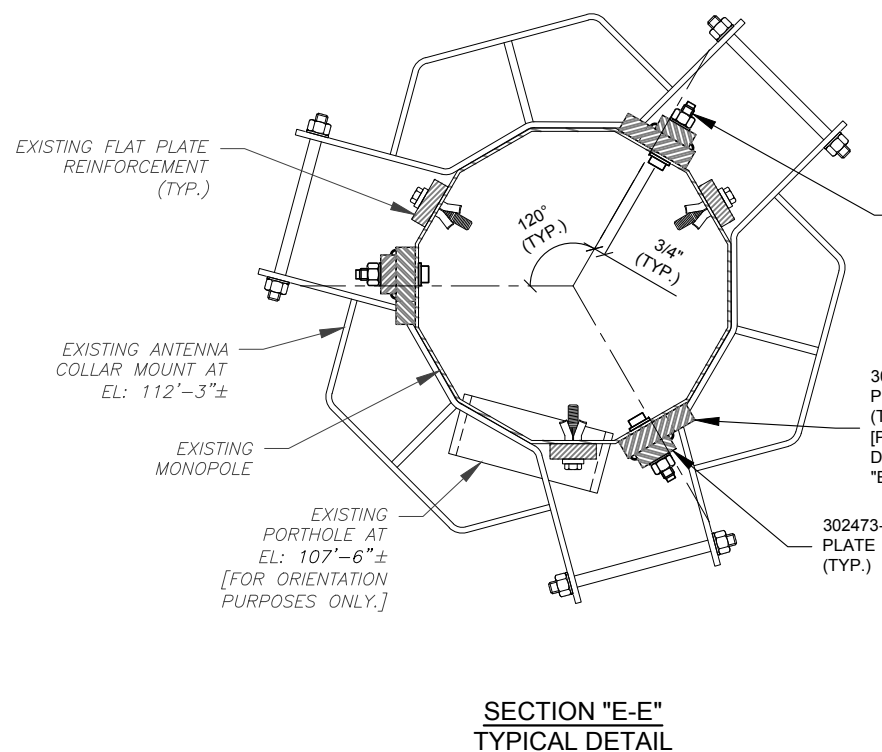
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SEE SHEET A-4 FOR ADDITIONAL INSTALLATION DETAILS.



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APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

**PLATE WELDMENT
 INSTALLATION DETAILS
 (CONT'D)**

SHEET NUMBER:
A-4A

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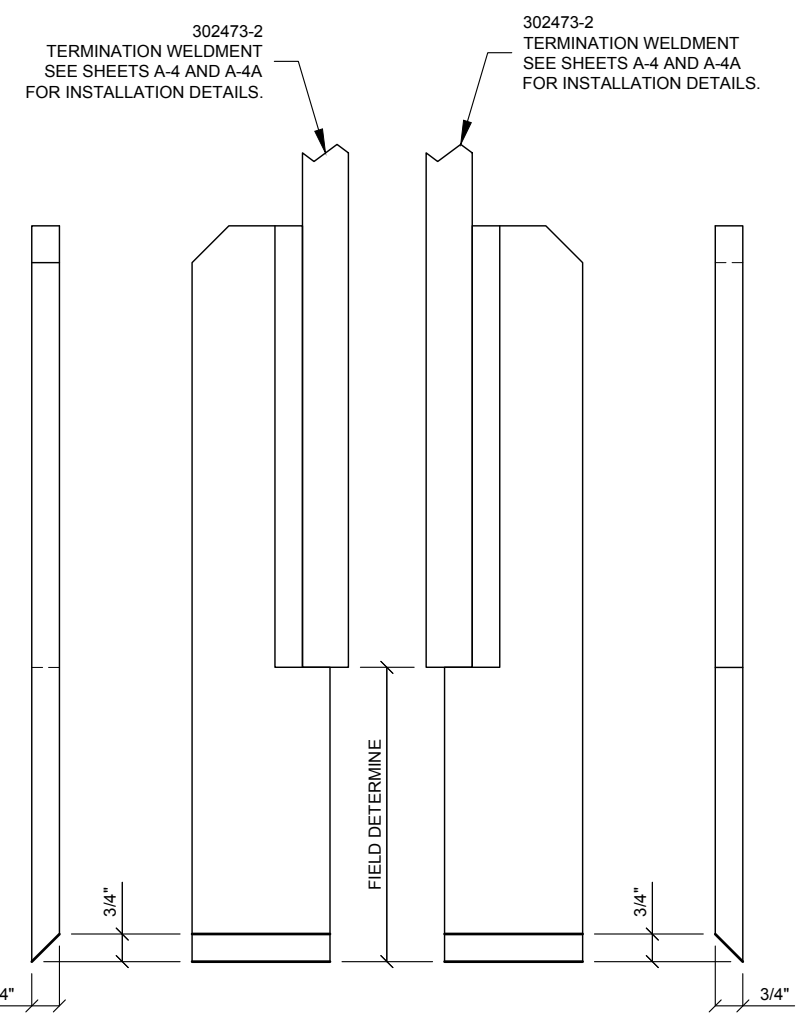
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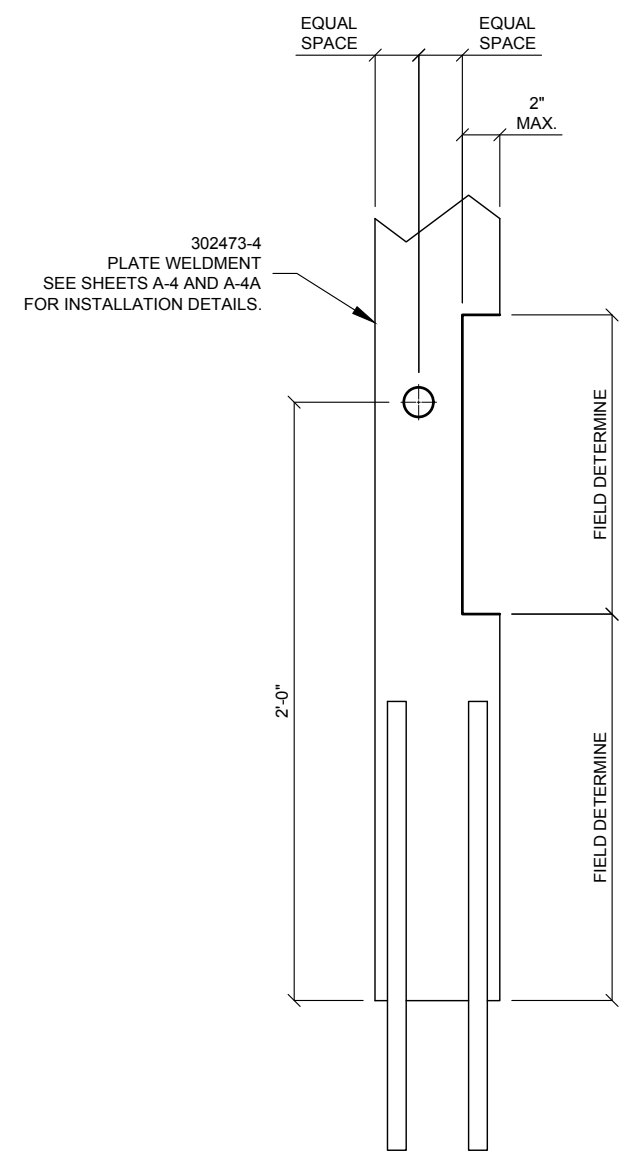
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 INSTALLATION DETAILS
 (CONT'D)**

SHEET NUMBER:
A-4B

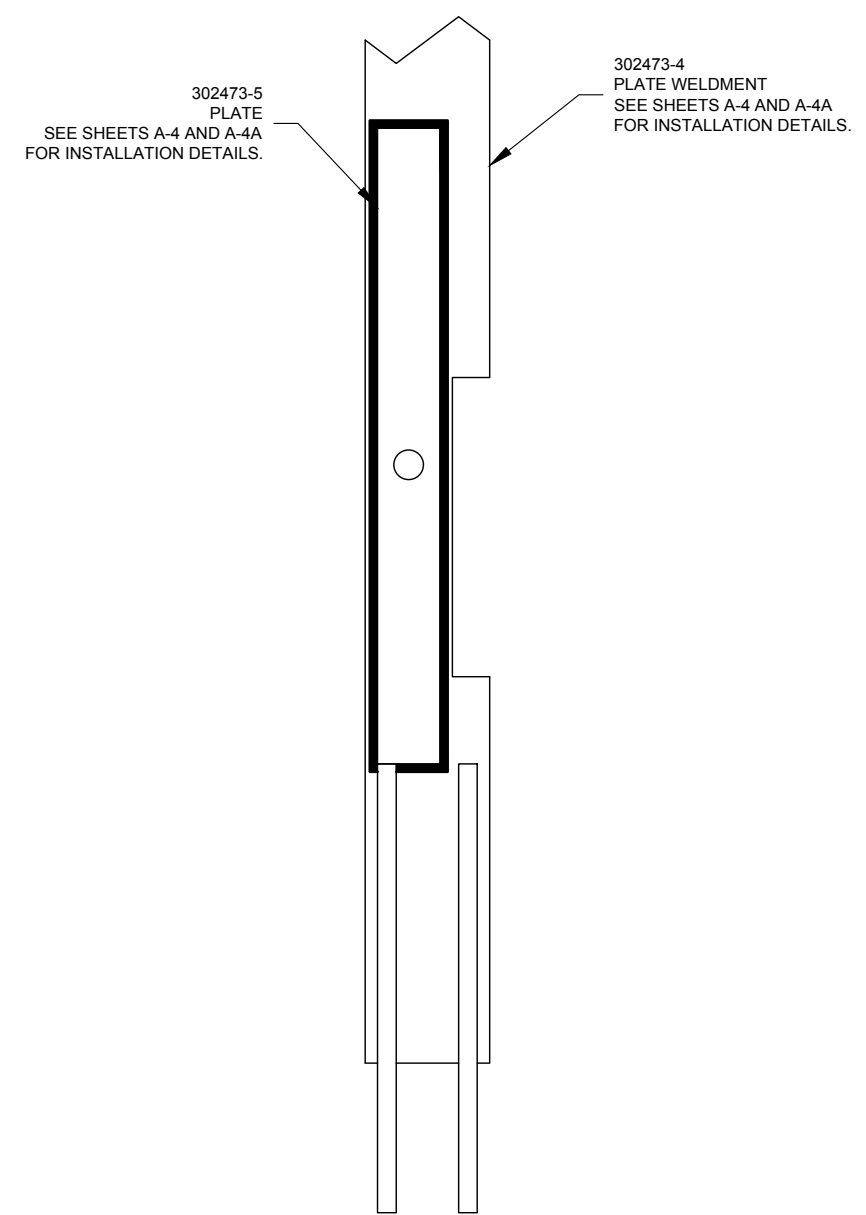
REVISION:
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DETAIL "A"
 FIELD CUT



DETAIL "B"
 TYPICAL FIELD CUT & DRILL DETAIL
 STEP 1



DETAIL "B"
 TYPICAL FIELD WELD DETAIL
 STEP 2

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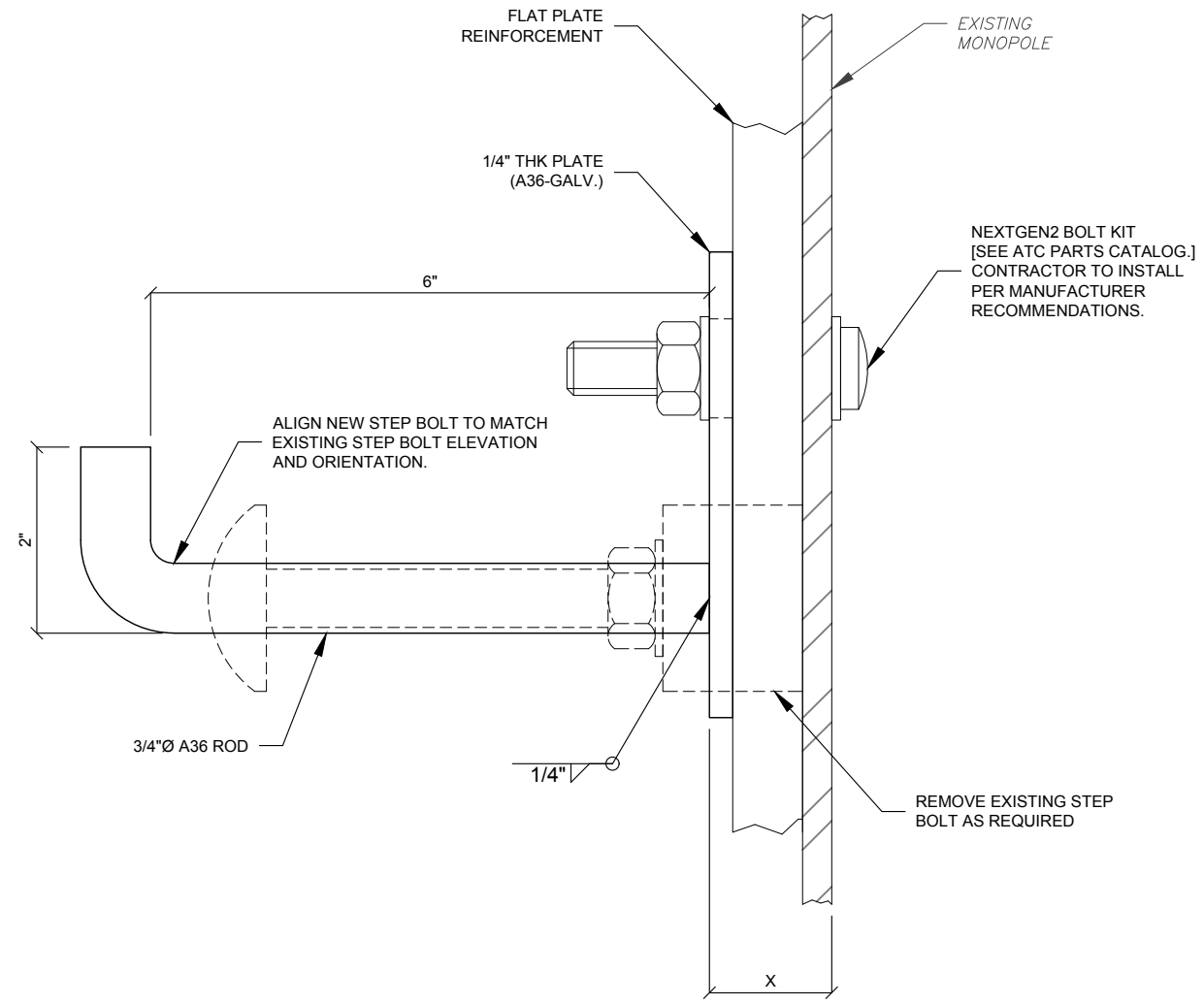
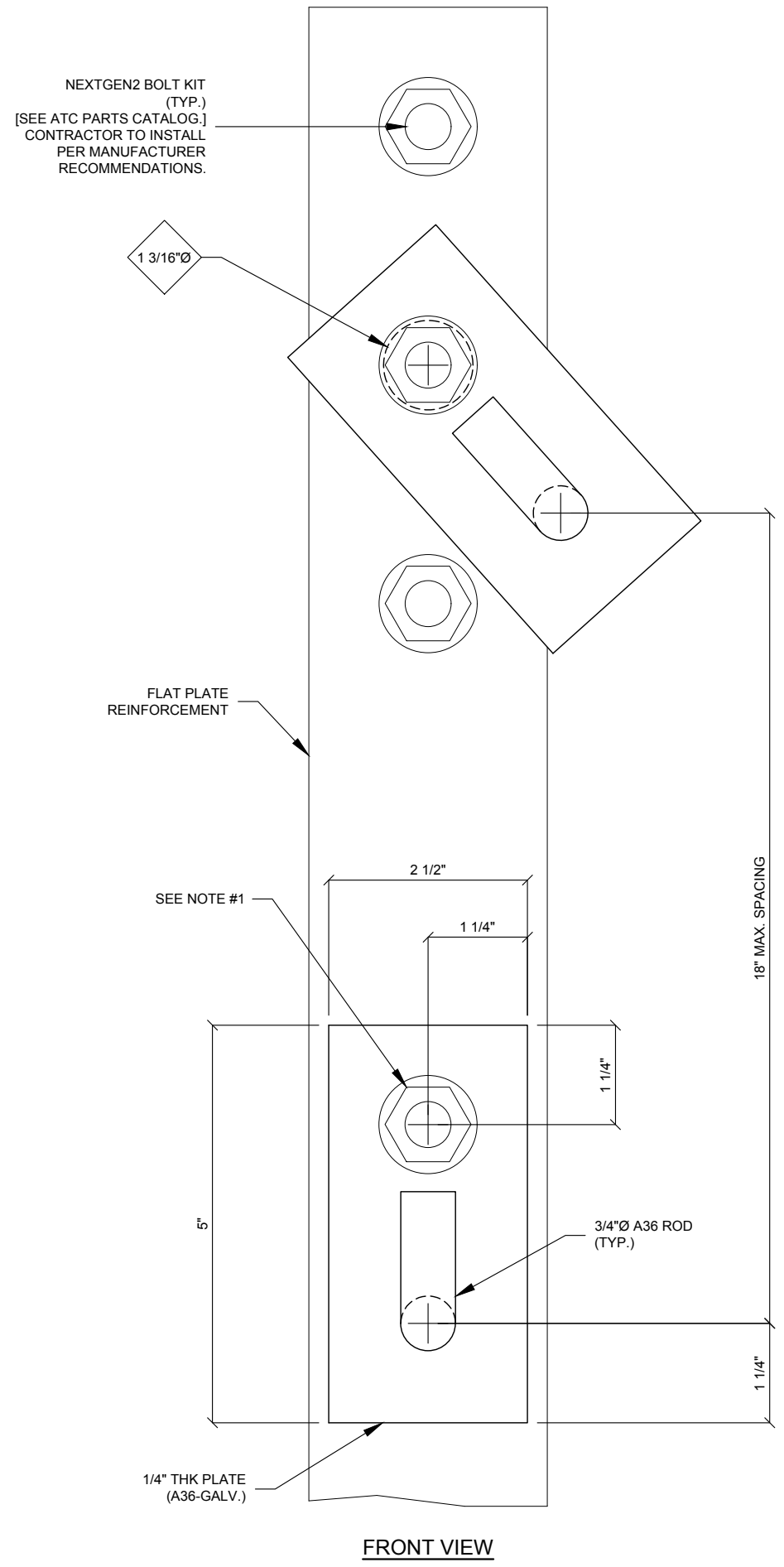
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FLAT PLATE STEP BOLT BRACKET FABRICATION & INSTALLATION DETAILS

SHEET NUMBER:
FPSB

REVISION:
0



SIDE VIEW

NEXGEN2 BLIND BOLTS (A490)		
ATC KIT NUMBER	ALLFASTENER	RANGE (IN)
NG-0625-0875-A490	2NG2060	0.625-0.875
NG-0938-1438-A490	2NG2036	0.9375-1.4375
NG-1438-1875-A490	2NG2048	1.4375-1.875
NG-1875-2250-A490	2NG2057	1.875-2.25
NG-2250-2688-A490	2NG2068	2.25-2.6875
NG-2688-3750-A490	2NG2096	2.6875-3.75
NG-3750-5000-A490	2NG2127	3.75-5
NG-5000-8313-A490	2NG2212	5-8.3125

- NOTES:**
- BLIND BOLT LENGTHS TO BE VERIFIED PRIOR TO FLAT PLATE AND STEP BOLT INSTALLATION. USE NEXGEN2 BLIND BOLT CHART.
 - STEP PEG SPACING IS NOT TO EXCEED 15" MAX. STAGGERED OR 30" MAX. ON ANY SINGLE SIDE OF THE FLAT PLATE.

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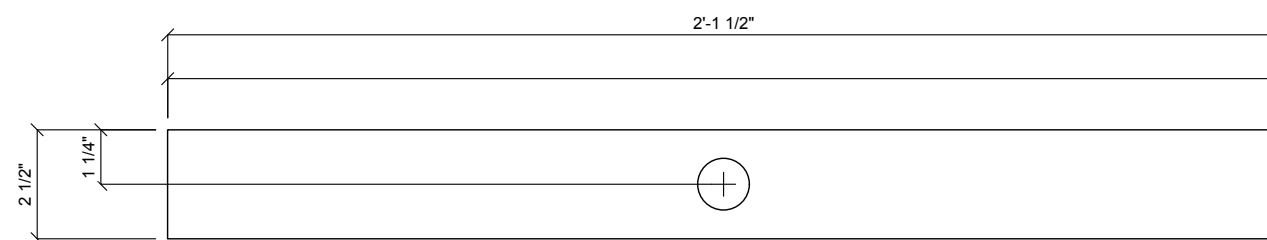
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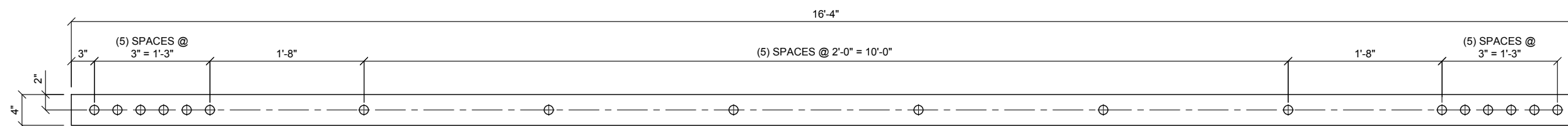
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302473-5
 PLATE



302473-1
 PLATE

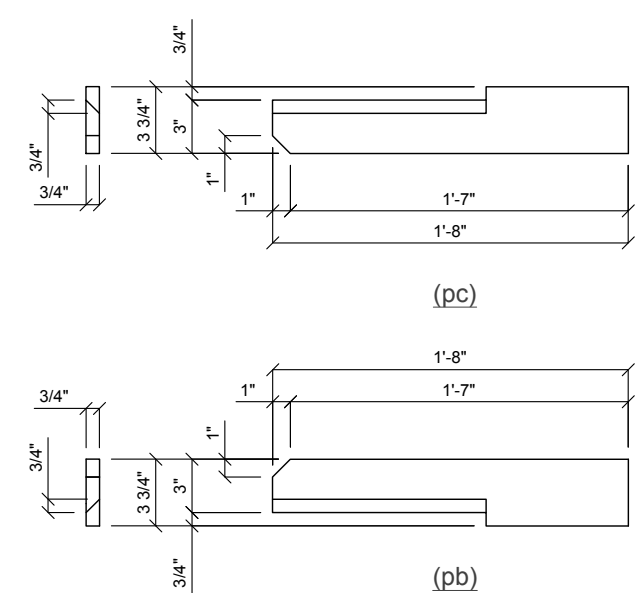
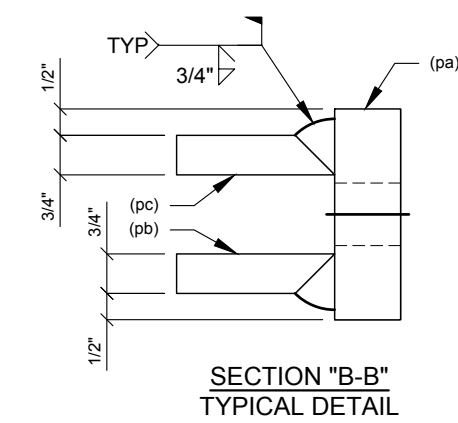
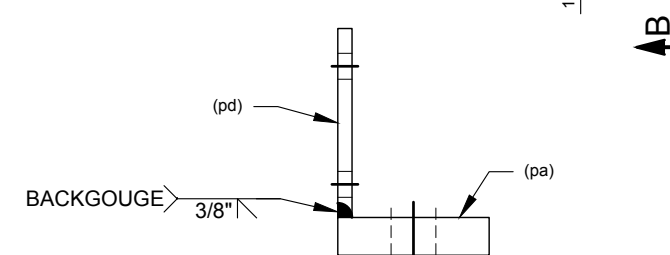
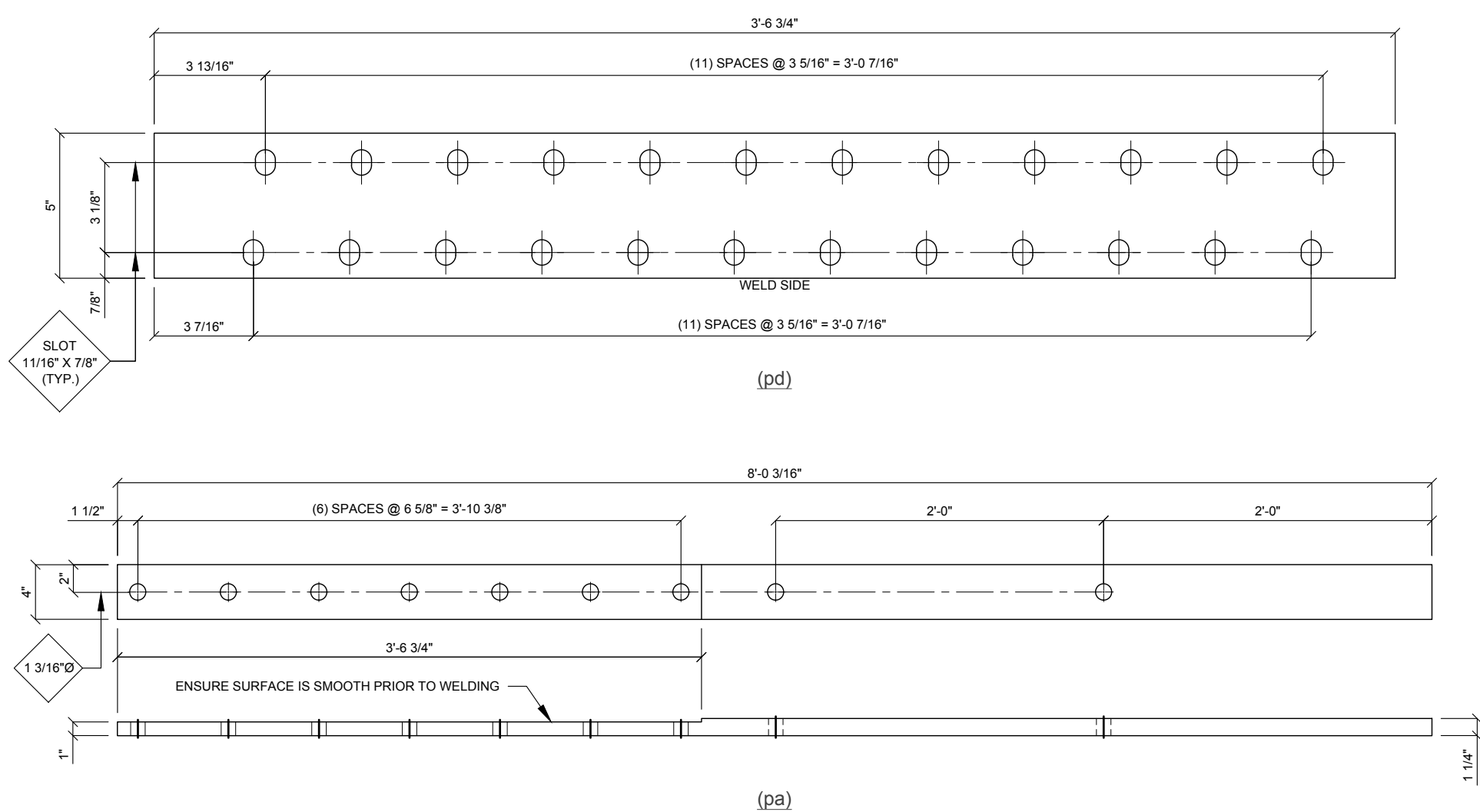
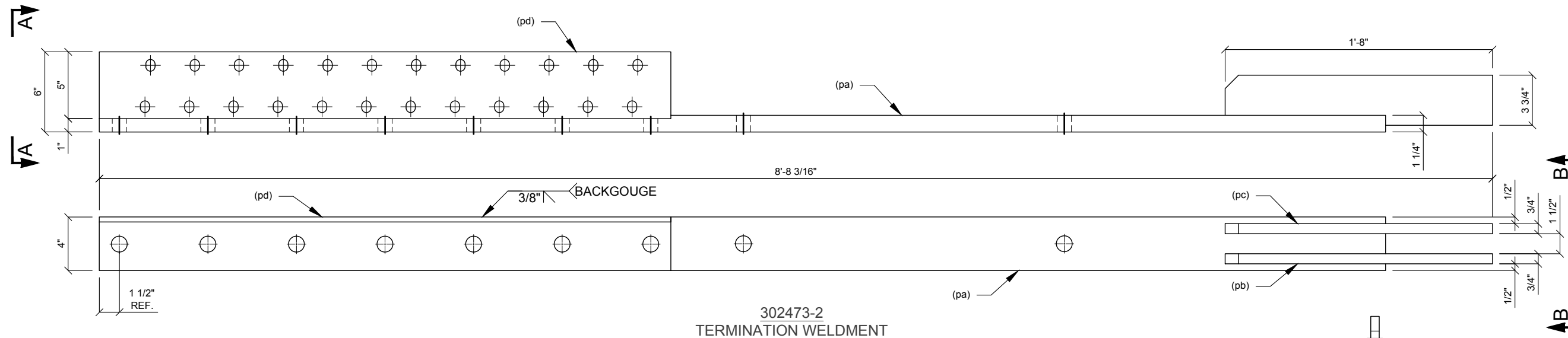
PART NO.	DESCRIPTION	LENGTH	NOTES	BLK WT	GALV WT
302473-5	PL 1" X 2 1/2"	2'-1 1/2"		18.1#	19.0#
302473-1	PL 1 1/4" X 4"	16'-4"		277.9#	291.8#
MATERIAL: A572 GR. 65		FINISH: GALVANIZED		HOLES: 1 3/16"Ø	

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APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

**PLATE
 FABRICATION DETAILS**

SHEET NUMBER:	REVISION:
F-1	0

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PART NO.	QTY	DESCRIPTION	LENGTH	NOTES	BLK WT
(pd)	1	PL 3/8" X 5"	3'-6 3/4"		22.7#
(pc)	1	PL 3/4" X 3 3/4"	1'-8"	SHAPE	13.9#
(pb)	1	PL 3/4" X 3 3/4"	1'-8"	SHAPE	13.9#
(pa)	1	PL 1 1/4" X 4"	8'-0 3/16"	SHAPE	124.3#
302473-2	1	TERMINATION WELDMENT	8'-8 3/16"		174.9#
MATERIAL: A572 GR. 65		FINISH: GALVANIZED		HOLES: AS NOTED	GALV WT: 183.6#

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302473

ATC SITE NAME:
**E H F R - PRESTIGE PARK
CONNECTICUT**

SITE ADDRESS:
310 PRESTIGE PARK RD.
EAST HARTFORD, CT 06108

DRAWN BY:	CWB
APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

TERMINATION WELDMENT
FABRICATION DETAILS

SHEET NUMBER:
F-2

REVISION:
0

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AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

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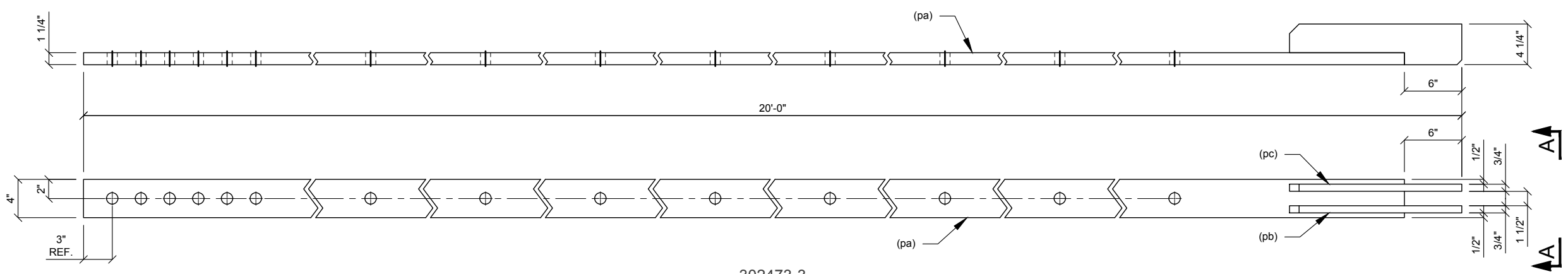
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CWB	04/01/19

ATC SITE NUMBER:
302473
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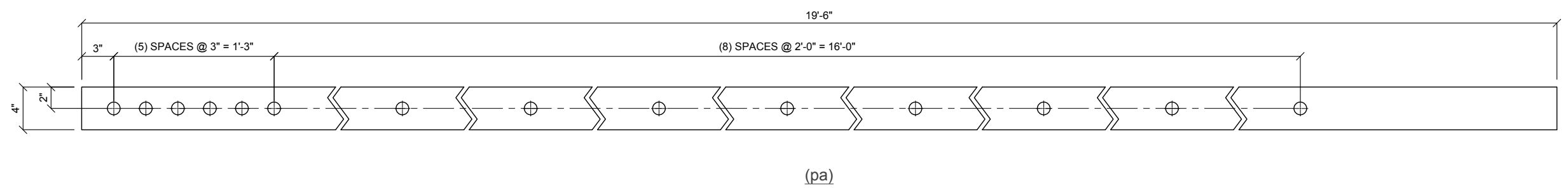
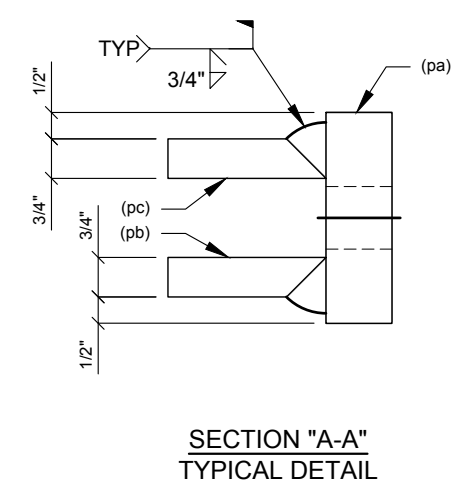
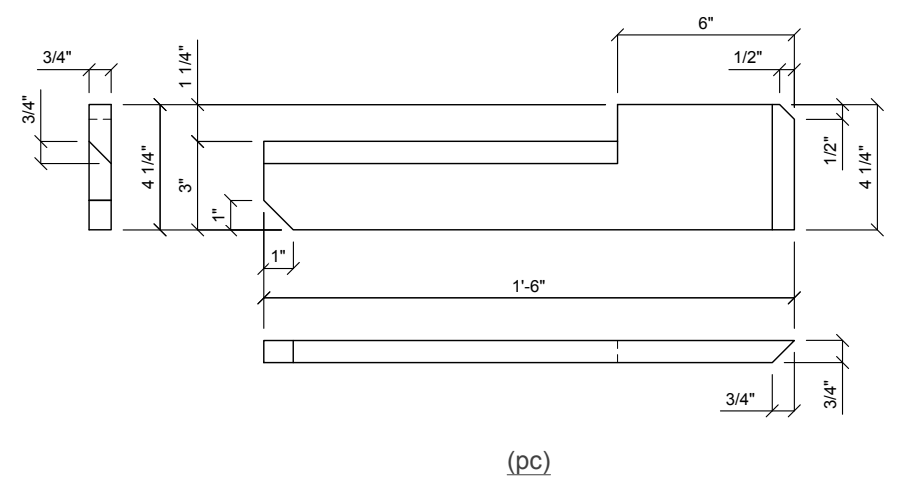
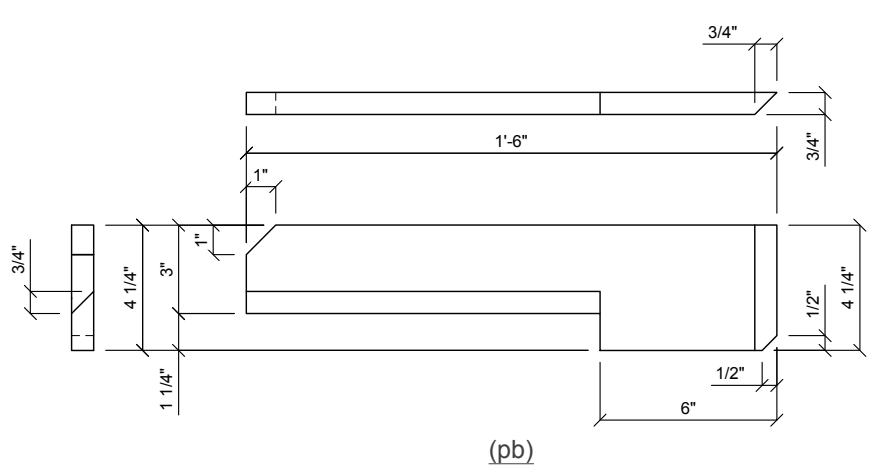
DRAWN BY:	CWB
APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

**PLATE WELDMENT
 FABRICATION DETAILS**

SHEET NUMBER:	REVISION:
F-3	0



**302473-3
 PLATE WELDMENT**



PART NO.	QTY	DESCRIPTION	LENGTH	NOTES	BLK WT
(pc)	1	PL 3/4" X 4 1/4"	1'-6"	SHAPE	12.9#
(pb)	1	PL 3/4" X 4 1/4"	1'-6"	SHAPE	12.9#
(pa)	1	PL 1 1/4" X 4"	19'-6"		331.8#
302473-3	1	PLATE WELDMENT	20'-0"		357.7#
MATERIAL: A572 GR. 65		FINISH: GALVANIZED		HOLES: 1 3/16"Ø	GALV WT: 375.5#

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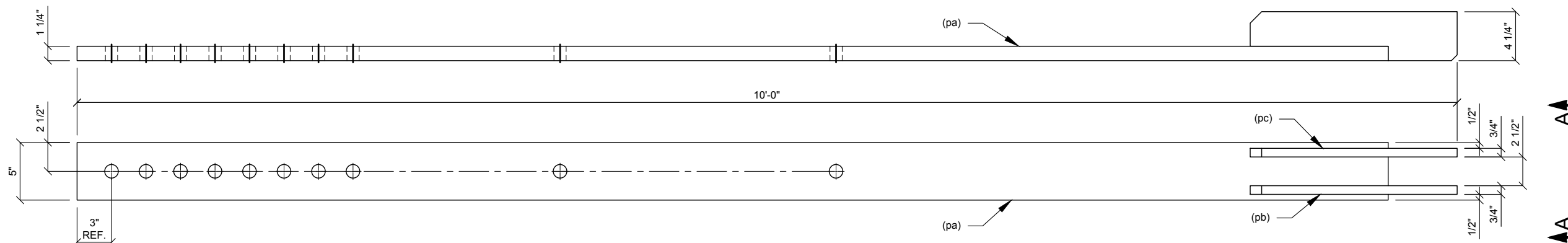
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	CWB	04/01/19

ATC SITE NUMBER:
302473
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E H F R - PRESTIGE PARK
CONNECTICUT
 SITE ADDRESS:
 310 PRESTIGE PARK RD.
 EAST HARTFORD, CT 06108

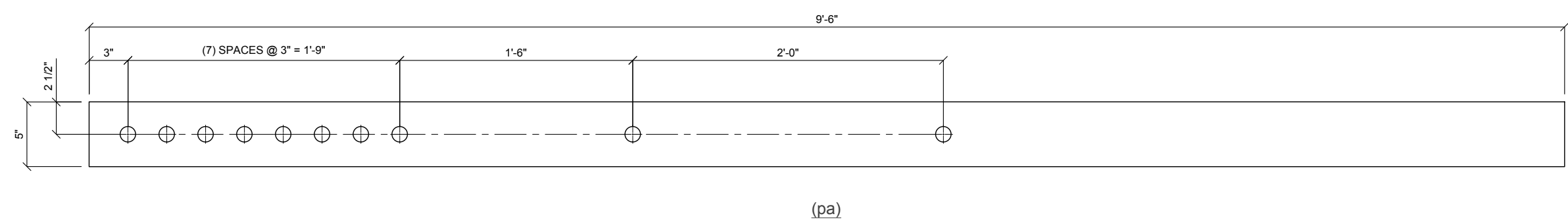
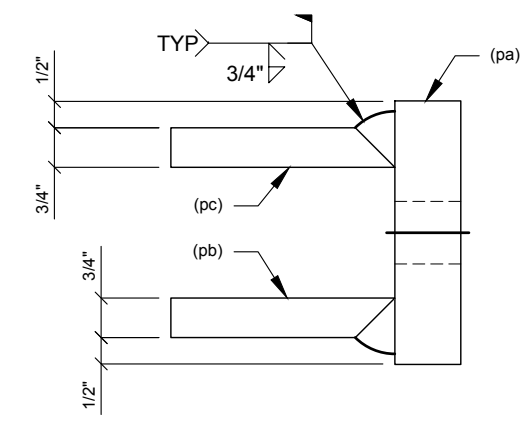
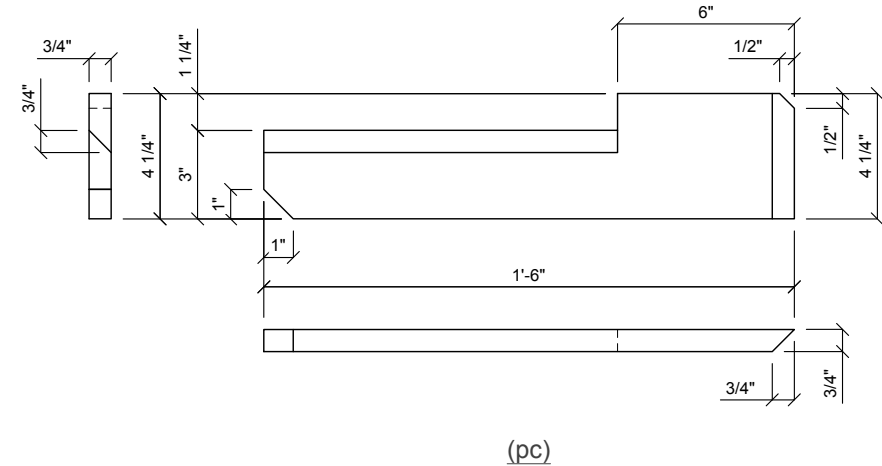
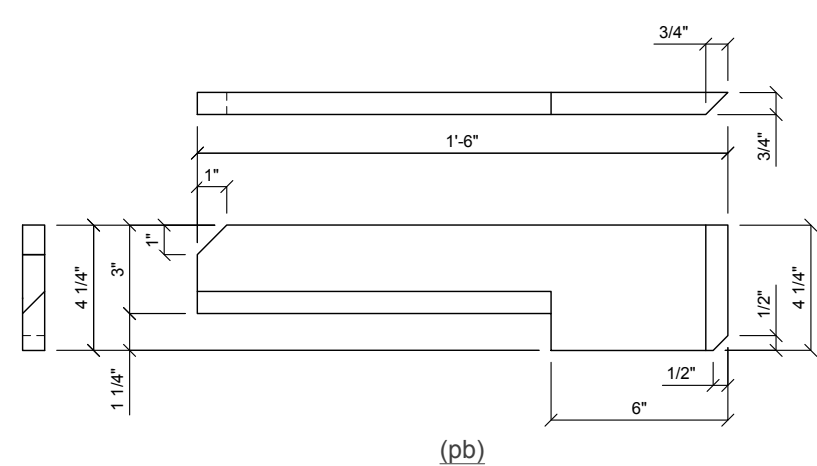
DRAWN BY:	CWB
APPROVED BY:	CDW/KCI
DATE DRAWN:	04/01/19
ATC JOB NO:	OAA745293_C6_06

**PLATE WELDMENT
 FABRICATION DETAILS**

SHEET NUMBER:
F-4
 REVISION:
0



**302473-4
 PLATE WELDMENT**



PART NO.	QTY	DESCRIPTION	LENGTH	NOTES	BLK WT
(pc)	1	PL 3/4" X 3 3/4"	1'-6"	SHAPE	12.9#
(pb)	1	PL 3/4" X 3 3/4"	1'-6"	SHAPE	12.9#
(pa)	1	PL 1 1/4" X 5"	9'-6"		202.0#
302473-4	1	TERMINATION WELDMENT	10'-0"		227.9#
MATERIAL: A572 GR. 65		FINISH: GALVANIZED		HOLES: 1 3/16"Ø	GALV WT: 239.3#

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Town of East Hartford Property Summary Report

284-310 PRESTIGE PARK RD

MAP LOT:	49-14	CAMA PID:	11576
LOCATION:	284-310 PRESTIGE PARK RD		
OWNER NAME:	FREMONT PRESTIGE I I L L C / C/O FREMONT MANAGEMENT L L C		



11576 03/29/2016

OWNER OF RECORD
FREMONT PRESTIGE I I L L C C/O FREMONT MANAGEMENT L L C 65 LA SALLE RD SUITE 202 WEST HARTFORD, CT 06107

LIVING AREA:	56744	ZONING:	I3	ACREAGE:	3.99
---------------------	-------	----------------	----	-----------------	------

SALES HISTORY

OWNER	BOOK / PAGE	SALE DATE	SALE PRICE
FREMONT PRESTIGE I I L L C C/O FREMONT MANAGEMENT L L	2714/ 23	14-Mar-2006	\$0.00
FREMONT PRESTIGE PARK LLC C/O FREMONT MANAGEMENT	1932/ 157	31-Oct-2000	\$1,389,000.00
TOLLAND ENTERPRISES	1087/ 147	01-Sep-1987	\$0.00
BECKENSTEIN LOUIS & HENRY	418/ 490	01-Jan-1900	\$0.00

CURRENT PARCEL ASSESSMENT

TOTAL:	\$1,430,830.00	IMPROVEMENTS:	\$1,247,470.00	LAND:	\$183,360.00
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ASSESSING HISTORY

FISCAL YEAR	TOTAL VALUE	IMPROVEMENT VALUE	LAND VALUE
2018	\$1,430,830.00	\$1,247,470.00	\$183,360.00
2017	\$1,430,830.00	\$1,247,470.00	\$183,360.00
2016	\$1,430,830.00	\$1,247,470.00	\$183,360.00
2015	\$1,336,330.00	\$1,152,970.00	\$183,360.00
2014	\$1,336,330.00	\$1,152,970.00	\$183,360.00

Town of East Hartford Property Summary Report

284-310 PRESTIGE PARK RD

MAP LOT:	49-14	CAMA PID:	11576
LOCATION:	284-310 PRESTIGE PARK RD		
OWNER NAME:	FREMONT PRESTIGE I I L L C / C/O FREMONT MANAGEMENT L L C		

BUILDING # 1

YEAR BUILT	1968	EXT WALL 1	Brick
STYLE	Storage Facility	INT WALLS 1	Painted Block
MODEL	Ind/Comm	HEAT FUEL	Other
STORIES	1.0	HEAT TYPE	Other
OCCUPANCY	Light Storage	AC TYPE	Partial
ROOF	Flat	BEDROOMS	
ROOF COVER	Typical	FULL BATHS	0
FLOOR COVER 1	Mixed	HALF BATHS	
% BSMT	null	TOTAL ROOMS	0
% FIN BSMT	null	% REC RM	null
% SEMI FIN	null	% ATTIC FINISH	null
BSMT GARAGE	null	FIREPLACES	null



11576 03/29/2016

EXTRA FEATURES

DESCRIPTION	CODE	UNITS
Sprinklers-Wet	SPR1	56744 S.F.
Load Dock	LDK	1 UNITS
W/Partitions	MEZ3	5674 S.F.

OUTBUILDINGS

DESCRIPTION	CODE	UNITS
Paving	PAV1	1x47000 (47000 SF)
Rail Road Siding	RRS	1x300 (300 L.F.)



AMERICAN TOWER®
CORPORATION

Post – Modification Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : E H F R - Prestige Park, CT
ATC Site Number : 302473
Engineering Number : OAA745293_C4_05
Proposed Carrier : AT&T MOBILITY
Carrier Site Name : East Hartford
Carrier Site Number : CT1002- FA#10034965
Site Location : 310 Prestige Park Rd.
East Hartford, CT 06108-1206
41.788300,-72.600600
County : Hartford
Date : April 26, 2019
Max Usage : 103%
Result : Pass

Prepared By:
Jennifer Yu
Structural Engineer I

Reviewed By:

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	2
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Structure Usages	3
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Deflection and Sway	3
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Calculations	Attached



Introduction

The purpose of this report is to summarize results of a post – modification structural analysis performed on the 150 ft monopole to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	SpectraSite Drawing #D1, dated June 12, 2002
Foundation Drawing	Southern New England Telephone Job #38904, dated April 20, 1983
Geotechnical Report	GeoTechnologies Project #1-02-1122-EA, dated September 6, 2002
Modifications	SpectraSite Site#CT-0009, dated March 19, 2003 ATC Project #51574133, dated January 17, 2013 ATC Project #63706335, dated October 19, 2015 ATC Project #OAA696438_C6_05, dated July 11, 2017 ATC Project #OAA745293_C6_06, dated April 1, 2019 (Pending)

Analysis

The tower was analyzed using American Tower Corporation’s tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	97 mph (3-Second Gust, Vasd) / 125 mph (3-Second Gust, Vult)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.18, S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report. If the pending modifications cited in the Supporting Documents table are not completed, the results of this analysis are no longer valid, and AT&T MOBILITY should contact American Tower’s Site Manager for further direction on how to proceed.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
153.0	6	Powerwave Allgon LGP21401	Platform with Handrails	(4) 0.78" (19.7mm) 8 AWG 6 (1) 3/8" (0.38"- 9.5mm) RET Control Cable (12) 7/8" Coax	AT&T Mobility
	6	Powerwave Allgon 7020.00 Dual Band RET			
	2	Raycap DC6-48-60-18-8F			
	3	CCI OPA-65R-LCUU-H6			
	3	Powerwave Allgon 7770.00 (27 lbs)			
	3	Ericsson RRUS-32 (77 lbs)			
138.0	3	Alcatel-Lucent 800 MHz RRH w/ Notch Filter	T-Arm	(3) 1 1/4" Hybriflex Cable	Sprint Nextel
	3	RFS IBC1900HG-2A			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	RFS APXVTM14-C-I20			
	2	RFS APXV9ERR18-C-A20			
	1	RFS APXVSP18-C-A20			
	3	RFS IBC1900BB-1			
	3	Alcatel-Lucent 4X40W RRH			
128.0	3	Ericsson AIR 21, 1.3M, B4A B2P (90.4 lbs)	T-Arm	(6) 1 5/8" Coax (1) 1 5/8" Hybriflex (1) 1/2" Coax	Metro PCS Inc
	3	Ericsson AIR32 B66Aa/B2a			
	3	Andrew LNX-6515DS-A1M			
119.0	1	Generic 12" x 12" Junction Box	Collar	(1) 2" conduit (3) 1/2" Coax (6) 5/16" (0.31"- 7.9mm) Coax	Clearwire Corporation
118.0	3	NextNet BTS-2500			
	2	DragonWave A-ANT-23G-2-C			
	3	Argus LLPX310R			
	1	DragonWave A-ANT-23G-1-C			
	3	DragonWave Horizon Compact			
98.0	3	Alcatel-Lucent RRH2X60-1900A-4R	Sector Frame	(2) 1.58" (40.1mm) Hybrid	Verizon Wireless
	3	Alcatel-Lucent RRH2x60 700			
	3	Alcatel-Lucent RRH2X60-AWS Band 4			
	2	RFS DB-T1-6Z-8AB-OZ			
	12	Andrew SBNHH-1D65B			
35.0	1	Generic GPS	Stand-Off	(1) 1/2" Coax	AT&T Mobility
34.0	1	Generic GPS	Stand-Off	(1) 1/2" Coax	Sprint Nextel

Equipment to be Removed

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
153.0	3	Ericsson RRUS 12 w/ RRUS A2	-	-	AT&T Mobility
	3	Powerwave Allgon 7770.00 (27 lbs)			
	3	Ericsson RRUS 11 (Band 12) (55 lb)			



Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
153.0	1	Raycap DC6-48-60-18-8F	Platform with Handrails	(2) 0.78" (19.7mm) 8 AWG 6 (2) 0.39" (10mm) Fiber Trunk	AT&T Mobility
	3	Ericsson Radio 8843 - B2 + B66A			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS 4478 B14			
	3	Kaelus DBCT108F1V92-1			
	6	Kathrein Scala 80010965			

¹ Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	78%	Pass
Shaft	98%	Pass
Base Plate	53%	Pass
Flanges	101%	Pass
Reinforcement	103%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,367.3	100%
Axial (Kips)	98.7	28%
Shear (Kips)	32.0	48%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
153.0	Kaelus DBCT108F1V92-1	AT&T MOBILITY	0.000	0.000
	Raycap DC6-48-60-18-8F			
	Ericsson Radio 8843 - B2 + B66A			
	Ericsson RRUS 4449 B5, B12			
	Ericsson RRUS 4478 B14			
	Kathrein Scala 80010965			
118.0	DragonWave A-ANT-23G-1-C	CLEARWIRE CORPORATIO	1.921	1.753
	DragonWave A-ANT-23G-2-C			

*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

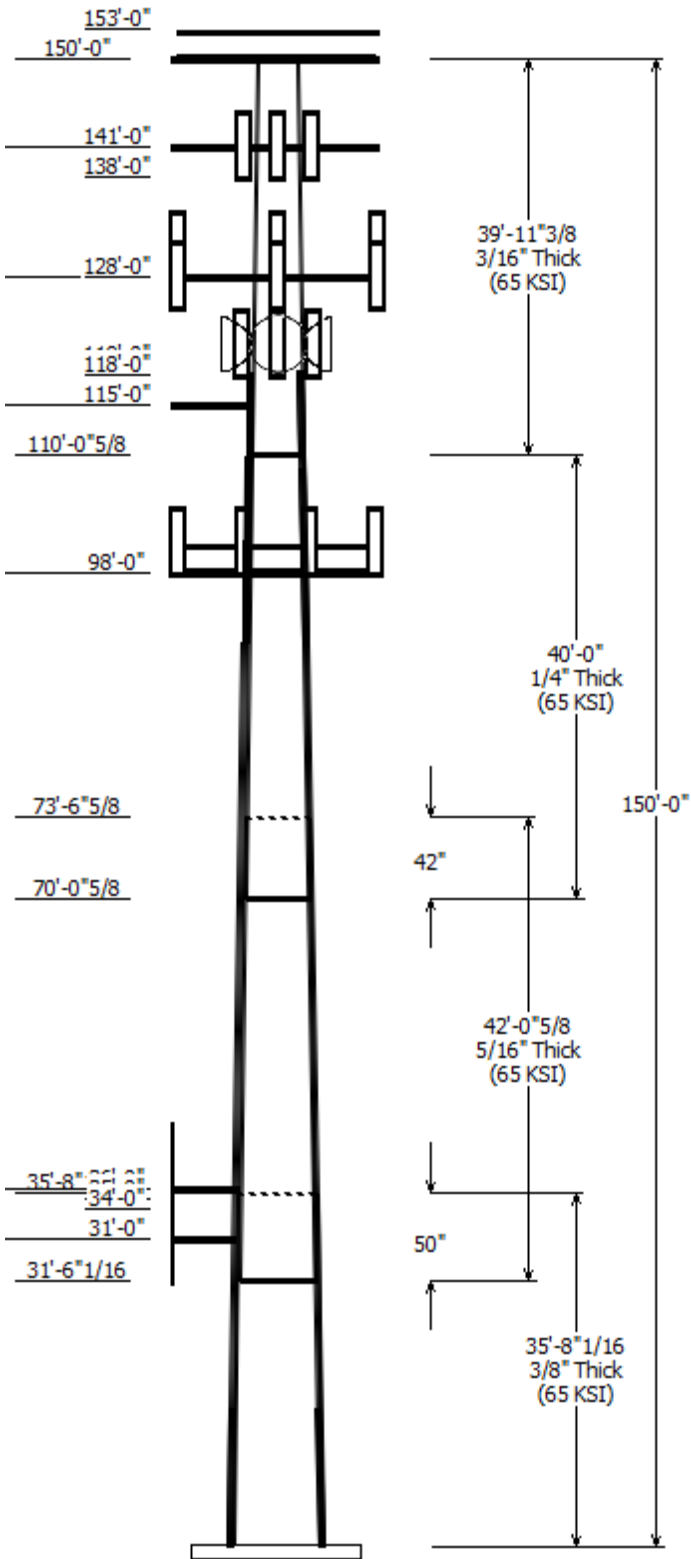
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

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Job Information	
Pole : 302473	Code: ANSI/TIA-222-G
Location : E H F R - Prestige Park, CT	
Description : 150' ITT Meyer Type "B" Monopole	
Client : AT&T MOBILITY	Struct Class : II
Shape : 12 Sides	Exposure : B
Height : 150.00 (ft)	Topo : 1
Base Elev (ft): 0.00	
Taper: 0.156567(in/ft)	

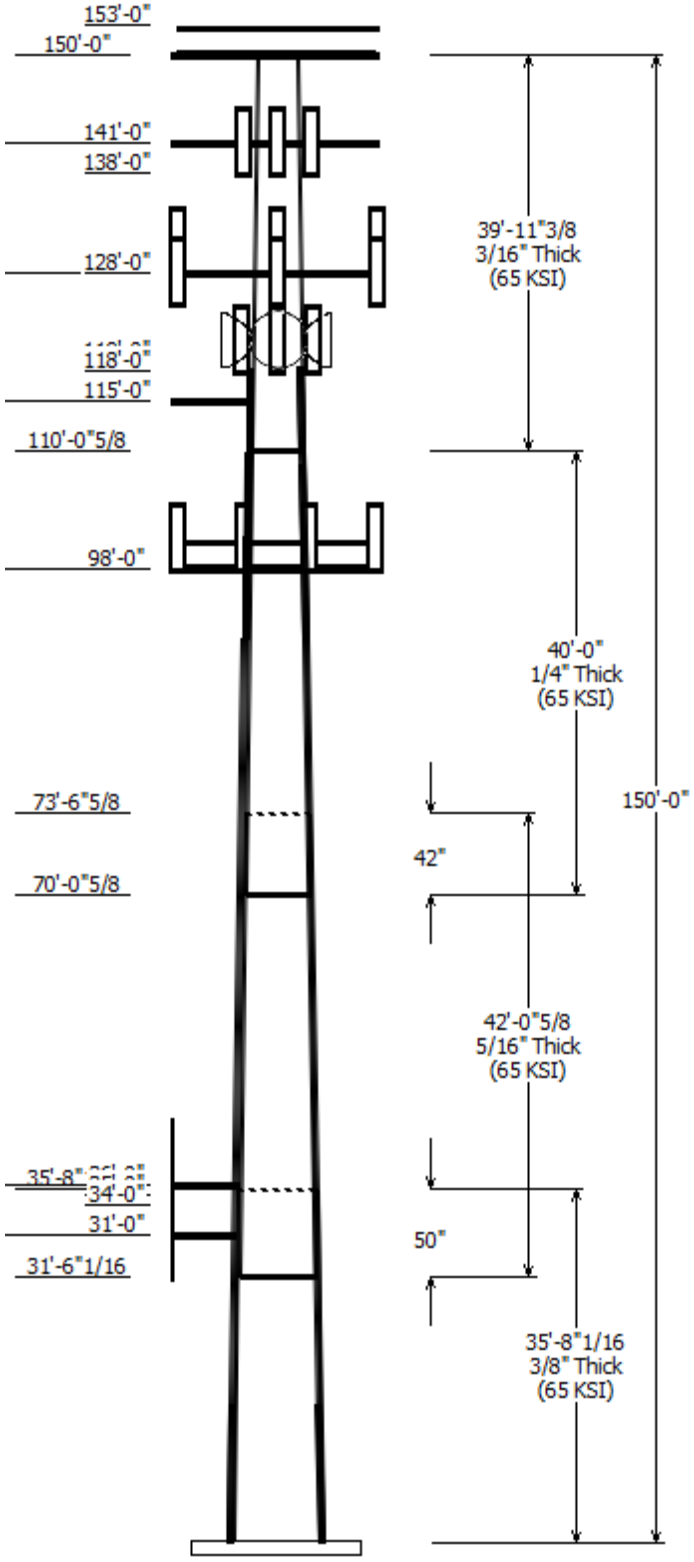
Sections Properties						
Shaft Section	Length (ft)	Diameter (in)		Joint Type	Overlap Length (in)	Steel Grade
		Across Flats Top	Across Flats Bottom			
1	35.670	31.77	37.36	0.375	0.000	12 Sides 65
2	42.050	26.46	33.05	0.313 Slip Joint	50.000	12 Sides 65
3	40.000	21.25	27.51	0.250 Slip Joint	42.000	12 Sides 65
4	39.947	15.00	21.25	0.188 Butt Joint	0.000	12 Sides 65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
153.000	153.000	6	Kathrein Scala 80010965
153.000	156.000	3	CCI OPA-65R-LCUU-H6
153.000	156.000	3	Powerwave Allgon 7770.00 (27
153.000	156.000	3	Ericsson RRUS-32 (77 lbs)
153.000	153.000	3	Ericsson RRUS 4478 B14
153.000	153.000	3	Ericsson RRUS 4449 B5, B12
153.000	153.000	3	Ericsson Radio 8843 - B2 + B66
153.000	156.000	1	Raycap DC6-48-60-18-8F
153.000	156.000	2	Raycap DC6-48-60-18-8F
153.000	156.000	6	Powerwave Allgon LGP21401
153.000	153.000	3	Kaelus DBCT108F1V92-1
153.000	153.000	6	Powerwave Allgon 7020.00
150.000	150.000	3	Generic Round Side Arm
150.000	150.000	1	Round Platform w/ Handrails
141.000	141.000	3	Round T-Arm
138.000	142.000	3	RFS IBC1900BB-1
138.000	142.000	3	RFS IBC1900HG-2A
138.000	142.000	2	RFS APXV9ERR18-C-A20
138.000	142.000	1	RFS APXVSP18-C-A20
138.000	142.000	3	RFS APXVTM14-C-I20
138.000	142.000	3	Alcatel-Lucent TD-RRH8x20-25
138.000	142.000	3	Alcatel-Lucent 800 MHz RRH
138.000	142.000	3	Alcatel-Lucent 4X40W RRH
128.000	128.000	3	Round T-Arm
128.000	128.000	3	RFS APXVAARR24_43-U-NA20
128.000	129.000	3	Ericsson AIR32 B66Aa/B2a
128.000	128.000	3	Ericsson AIR 21
128.000	128.000	3	Ericsson Radio 4449 B12,B71
119.000	119.000	1	Generic 12" x 12" Junction Box
118.000	120.000	2	DragonWave A-ANT-23G-2-C
118.000	120.000	3	Argus LLPX310R
118.000	120.000	3	NextNet BTS-2500
118.000	120.000	1	DragonWave A-ANT-23G-1-C
118.000	120.000	3	DragonWave Horizon Compact
115.000	115.000	1	Collar
98.000	98.000	3	Generic Flat Light Sector Fram
98.000	101.000	12	Andrew SBNHH-1D65B
98.000	101.000	2	RFS DB-T1-6Z-8AB-0Z
98.000	101.000	3	Alcatel-Lucent RRH2X60-AWS
98.000	98.000	3	Alcatel-Lucent RRH2x60 700
98.000	101.000	3	Alcatel-Lucent RRH2X60-1900A-
36.000	36.000	1	Stand-off
35.000	32.000	1	Generic GPS
34.000	37.000	1	Generic GPS

31.000 31.000 1 Stand-off

Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
110.0	120.0	Reinforcing Plate	Yes
110.0	120.0	Reinforcing Plate	Yes
110.0	120.0	Reinforcing Plate	Yes
106.0	110.0	Reinforcing Plate	Yes
106.0	110.0	Reinforcing Plate	Yes
106.0	110.0	Reinforcing Plate	Yes
106.0	110.0	Reinforcing Plate	Yes
90.000	120.0	Flat Plate 4 x 1.25	Yes
90.000	120.0	Flat Plate 4 x 1.25	Yes
90.000	120.0	Flat Plate 4 x 1.25	Yes
90.000	120.0	Flat Plate 4 x 1.25	Yes
0.000	118.0	1/2" Coax	No
0.000	118.0	5/16" (0.31")	No
0.000	119.0	2" conduit	No
0.000	22.500	#20 Dywidag Bars	Yes
0.000	22.500	#20 Dywidag Bars	Yes
0.000	22.500	#20 Dywidag Bars	Yes
0.000	22.500	#20 Dywidag Bars	Yes
0.000	34.000	1/2" Coax	Yes
0.000	35.000	1/2" Coax	Yes
0.000	98.000	1.58" (40.1mm)	Yes
0.000	106.0	#20 Dywidag Bars	Yes
0.000	106.0	#20 Dywidag Bars	Yes
0.000	106.0	#20 Dywidag Bars	Yes
0.000	106.0	#20 Dywidag Bars	Yes
0.000	128.0	1 5/8" (1.63")	No
0.000	138.0	1 1/4" Hybriflex	No
0.000	142.0	5/8" Hybriflex	No
0.000	153.0	0.39" (10mm)	No
0.000	153.0	0.78" (19.7mm) 8	No
0.000	153.0	0.78" (19.7mm) 8	No
0.000	153.0	3/8" (0.38")	No
0.000	153.0	7/8" Coax	No
0.000	156.0	1 5/8" Coax	No
0.000	156.0	3" conduit	No



Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	3367.32	31.98	49.20
0.9D + 1.6W	3300.94	31.95	36.88
1.2D + 1.0Di + 1.0Wi	1116.15	9.68	98.73
(1.2 + 0.2Sds) * DL + E ELFM	171.19	1.40	46.45
(1.2 + 0.2Sds) * DL + E EMAM	198.62	1.69	46.45
(0.9 - 0.2Sds) * DL + E ELFM	167.56	1.40	32.32
(0.9 - 0.2Sds) * DL + E EMAM	193.94	1.69	32.32

1.0D + 1.0W

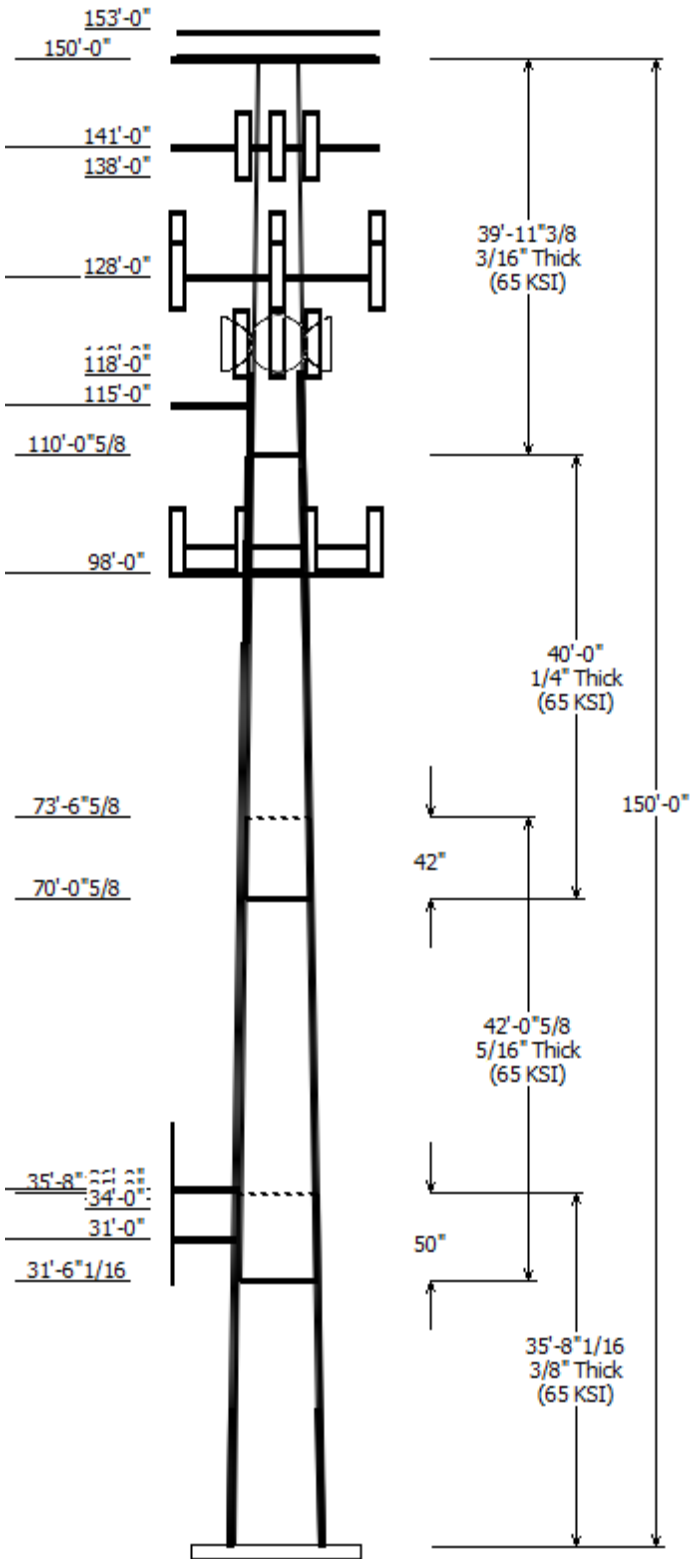
799.56

7.66

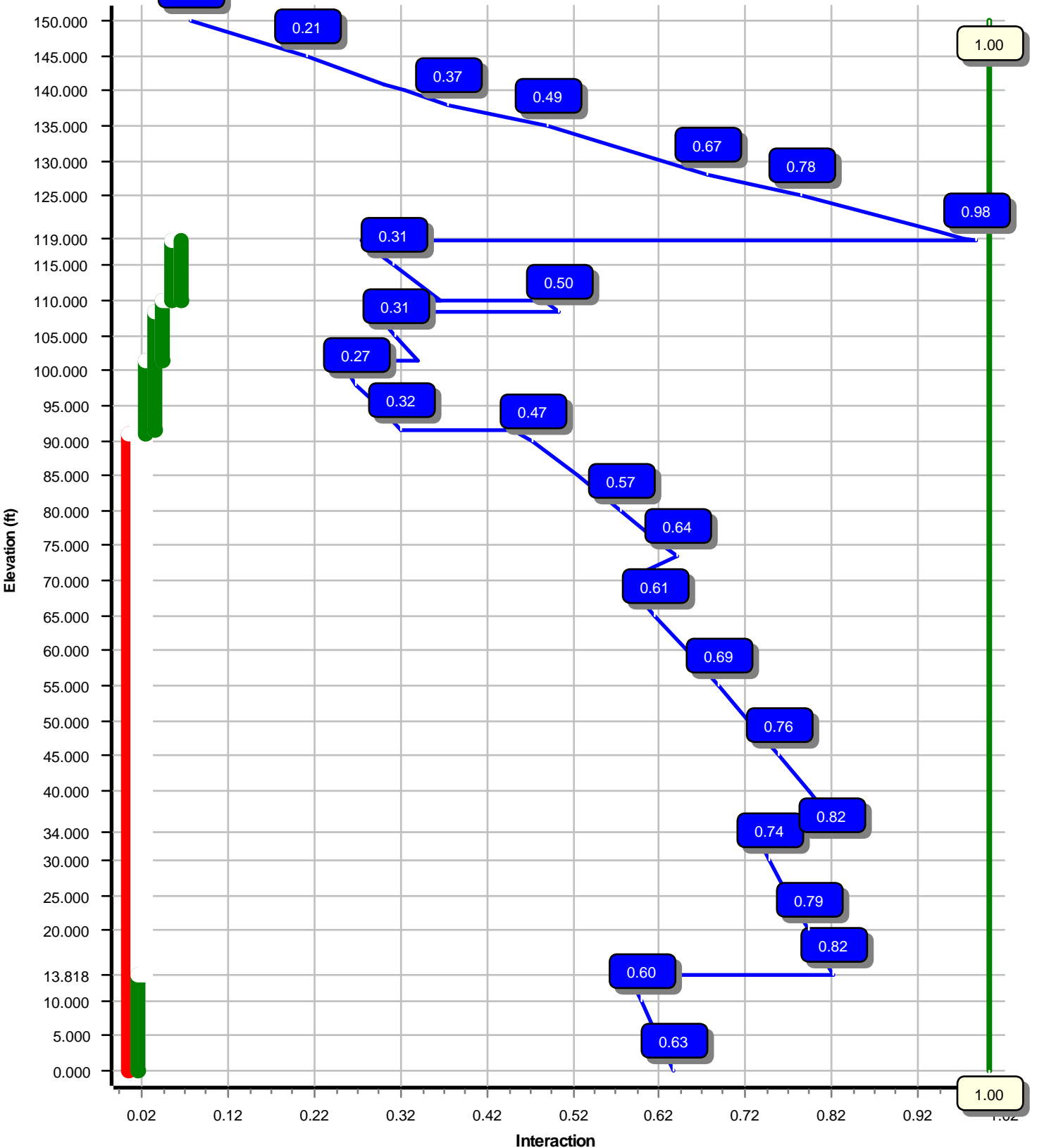
41.06

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	118.00	23.056	1.753
1.0D + 1.0W	118.00	23.056	1.753



Load Case : 1.2D + 1.6W
Max Ratio 98.43% at 118.5 ft



Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:07 PM

Customer: METRO PCS INC

Analysis Parameters

Location :	HARTFORD County, CT	Height (ft) :	150
Code :	ANSI/TIA-222-G	Base Diameter (in) :	37.36
Shape :	12 Sides	Top Diameter (in) :	15.00
Pole Type :	Taper	Taper (in/ft) :	0.157
Pole Manufacturer :	ITT Meyer	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	3.06		
T _L (sec):	6	p:	1.3
S _s :	0.180	S ₁ :	0.060
F _a :	1.600	F _v :	2.400
S _{ds} :	0.192	S _{d1} :	0.096
		C _s :	0.030
		C _s Max:	0.030
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice
(1.2 + 0.2S _{ds}) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2S _{ds}) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2S _{ds}) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2S _{ds}) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:07 PM

Customer: METRO PCS INC

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Slip		Weight (lb)	Bottom						Top						
				Joint Type	Joint Len (in)		Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	35.670	0.3750	65		0.00	5,011	37.36	0.00	44.66	7797.4	24.02	99.63	31.77	35.67	37.92	4771.7	20.02	84.73	0.156567
2-12	42.050	0.3125	65	Slip	50.00	4,240	33.05	31.50	32.94	4507.5	25.66	105.77	26.46	73.55	26.32	2298.4	20.02	84.70	0.156567
3-12	40.000	0.2500	65	Slip	42.00	2,645	27.51	70.05	21.95	2083.0	26.81	110.07	21.25	110.05	16.91	952.2	20.10	85.02	0.156567
4-12	39.947	0.1875	65	Butt	0.00	1,472	21.25	110.05	12.72	720.5	27.69	113.36	15.00	150.00	8.94	250.5	18.76	80.00	0.156567
Shaft Weight						13,368													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor	Weight (lb)	Ice EPAa (sf)	Orientation Factor
153.00	Powerwave Allgon 7020.00 Dual	6	0.75	0.000	2.20	0.340	0.50	15.83	0.888	0.50
153.00	Kaelus DBCT108F1V92-1	3	0.75	0.000	13.90	0.630	0.50	47.47	1.354	0.50
153.00	Powerwave Allgon LGP21401	6	0.75	3.000	14.10	1.100	0.50	47.38	2.049	0.50
153.00	Raycap DC6-48-60-18-8F	2	0.75	3.000	20.00	1.260	0.90	90.23	2.138	0.90
153.00	Raycap DC6-48-60-18-8F	1	0.75	3.000	20.00	1.260	0.90	90.23	2.138	0.90
153.00	Ericsson Radio 8843 - B2 + B66A	3	0.75	0.000	71.90	1.650	0.50	154.08	2.780	0.50
153.00	Ericsson RRUS 4449 B5, B12	3	0.75	0.000	71.00	1.970	0.50	156.96	3.215	0.50
153.00	Ericsson RRUS 4478 B14	3	0.75	0.000	59.40	2.020	0.50	141.26	3.278	0.50
153.00	Ericsson RRUS-32 (77 lbs)	3	0.75	3.000	77.00	3.310	0.50	206.72	5.020	0.50
153.00	Powerwave Allgon 7770.00 (27	3	0.75	3.000	27.00	5.510	0.65	178.61	8.346	0.65
153.00	CCI OPA-65R-LCUU-H6	3	0.75	3.000	73.00	9.660	0.66	344.47	13.358	0.66
153.00	Kathrein Scala 80010965	6	0.75	0.000	97.60	13.810	0.62	453.20	17.878	0.62
150.00	Generic Round Side Arm	3	1.00	0.000	75.00	2.500	0.67	123.78	4.242	0.67
150.00	Round Platform w/ Handrails	1	1.00	0.000	2,000.00	27.200	1.00	3,728.35	59.804	1.00
141.00	Round T-Arm	3	0.75	0.000	250.00	9.700	0.67	527.41	20.643	0.67
138.00	RFS IBC1900HG-2A	3	0.80	4.000	22.00	0.970	0.50	57.72	1.849	0.50
138.00	RFS IBC1900BB-1	3	0.80	4.000	22.00	0.970	0.50	57.72	1.849	0.50
138.00	Alcatel-Lucent 4X40W RRH	3	0.80	4.000	59.50	2.320	0.50	166.10	3.749	0.50
138.00	Alcatel-Lucent 800 MHz RRH w/	3	0.80	4.000	61.80	2.500	0.50	181.46	3.881	0.50
138.00	Alcatel-Lucent TD-RRH8x20-25	3	0.80	4.000	70.00	4.050	0.50	195.08	5.809	0.50
138.00	RFS APXVTM14-C-I20	3	0.80	4.000	52.90	6.340	0.66	235.13	9.222	0.66
138.00	RFS APXVSP18-C-A20	1	0.80	4.000	57.00	8.020	0.69	285.31	11.710	0.69
138.00	RFS APXV9ERR18-C-A20	2	0.80	4.000	62.00	8.020	0.78	301.70	11.710	0.78
128.00	Ericsson Radio 4449 B12,B71	3	0.80	0.000	74.00	1.640	0.50	147.54	2.749	0.50
128.00	Ericsson AIR 21	3	0.80	0.000	91.00	6.050	0.70	281.69	8.890	0.70
128.00	Ericsson AIR32 B66Aa/B2a	3	0.80	1.000	132.20	6.510	0.71	341.84	9.387	0.71
128.00	Round T-Arm	3	0.75	0.000	250.00	9.700	0.67	524.52	20.529	0.67
128.00	RFS APXVAARR24_43-U-NA20	3	0.80	0.000	127.90	20.240	0.63	643.56	25.111	0.63
119.00	Generic 12" x 12" Junction Box	1	1.00	0.000	10.00	1.200	0.90	64.37	2.147	0.90
118.00	DragonWave Horizon Compact	3	0.80	2.000	10.60	0.720	0.50	39.89	1.460	0.50
118.00	DragonWave A-ANT-23G-1-C	1	1.00	2.000	15.00	1.610	1.00	61.03	2.596	1.00
118.00	NextNet BTS-2500	3	0.80	2.000	35.00	1.820	0.50	95.42	3.016	0.50
118.00	Argus LLPX310R	3	0.80	2.000	28.60	4.290	0.63	146.00	6.443	0.63
118.00	DragonWave A-ANT-23G-2-C	2	1.00	2.000	12.30	4.690	0.50	139.53	6.350	0.50
115.00	Collar	1	1.00	0.000	560.00	8.500	1.00	1,167.76	17.725	1.00
98.00	Alcatel-Lucent RRH2X60-1900A-	3	0.80	3.000	46.00	1.870	0.50	118.39	3.066	0.50
98.00	Alcatel-Lucent RRH2x60 700	3	0.80	0.000	56.70	2.150	0.50	143.71	3.431	0.50
98.00	Alcatel-Lucent RRH2X60-AWS	3	0.80	3.000	55.00	3.350	0.50	158.16	5.200	0.50
98.00	RFS DB-T1-6Z-8AB-0Z	2	0.80	3.000	44.00	4.800	0.69	204.90	6.617	0.69
98.00	Andrew SBNHH-1D65B	12	0.80	3.000	50.70	8.170	0.69	275.03	11.786	0.69
98.00	Generic Flat Light Sector Frame	3	0.75	0.000	500.00	17.900	0.67	980.93	37.190	0.67
36.00	Stand-off	1	1.00	0.000	50.00	2.000	0.90	90.33	3.613	0.90
35.00	Generic GPS	1	1.00	-3.000	10.00	0.900	0.90	43.75	1.638	0.90
34.00	Generic GPS	1	1.00	3.000	10.00	0.900	0.90	43.57	1.634	0.90
31.00	Stand-off	1	1.00	0.000	50.00	2.000	0.90	89.69	3.587	0.90

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:07 PM

Customer: METRO PCS INC

Totals Num Loadings:45 129 11,590.60 32,722.74

Linear Appurtenance Properties Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Flat	Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	156.00	3	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	156.00	2	3" conduit	3.50	7.58	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	153.00	2	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	153.00	4	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	153.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	153.00	1	3/8" (0.38" - 9.5mm)	0.38	0.23	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	153.00	12	7/8" Coax	1.09	0.33	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	142.00	1	5/8" Hybriflex	0.84	0.70	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	138.00	3	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	128.00	3	1 5/8" (1.63"-41.3mm)	1.63	1.61	N	0	0.00	0.00	0	0.00	N	METRO PCS INC
90.00	120.00	1	Flat Plate 4 x 1.25	5.00	0.00	N	1	0.00	0.00	60	0.00	Y	--
90.00	120.00	1	Flat Plate 4 x 1.25	5.00	0.00	N	1	0.00	0.00	150	0.00	Y	--
90.00	120.00	1	Flat Plate 4 x 1.25	5.00	0.00	N	1	0.00	0.00	240	0.00	Y	--
90.00	120.00	1	Flat Plate 4 x 1.25	5.00	0.00	N	1	0.00	0.00	330	0.00	Y	--
110.00	120.00	1	Reinforcing Plate	4.00	0.00	Y	1	0.00	0.00	0	0.00	Y	--
110.00	120.00	1	Reinforcing Plate	4.00	0.00	Y	1	0.00	0.00	120	0.00	Y	--
110.00	120.00	1	Reinforcing Plate	4.00	0.00	Y	1	0.00	0.00	240	0.00	Y	--
0.00	119.00	1	2" conduit	2.38	3.65	N	0	0.00	0.00	0	0.00	N	CLEARWIRE
0.00	118.00	3	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	CLEARWIRE
0.00	118.00	6	5/16" (0.31"-7.9mm)	0.31	0.05	N	0	0.00	0.00	0	0.00	N	CLEARWIRE
106.00	110.00	1	Reinforcing Plate 4 x 1	1.00	0.00	Y	1	0.00	0.00	30	0.00	Y	--
106.00	110.00	1	Reinforcing Plate 4 x 1	1.00	0.00	Y	1	0.00	0.00	120	0.00	Y	--
106.00	110.00	1	Reinforcing Plate 4 x 1	1.00	0.00	Y	1	0.00	0.00	210	0.00	Y	--
106.00	110.00	1	Reinforcing Plate 4 x 1	1.00	0.00	Y	1	0.00	0.00	300	0.00	Y	--
0.00	106.00	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0.00	0	0.00	Y	--
0.00	106.00	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0.00	90	0.00	Y	--
0.00	106.00	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0.00	180	0.00	Y	--
0.00	106.00	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0.00	270	0.00	Y	--
0.00	98.00	2	1.58" (40.1mm) Hybrid	1.58	1.61	N	2	0.00	0.00	0	0.00	Y	VERIZON WIRELESS
0.00	35.00	1	1/2" Coax	0.63	0.15	N	1	0.00	0.00	0	0.00	Y	AT&T MOBILITY
0.00	34.00	1	1/2" Coax	0.63	0.15	N	1	0.00	0.00	210	0.00	Y	SPRINT NEXTEL
0.00	22.50	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0.00	45	0.00	Y	--
0.00	22.50	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0.00	135	0.00	Y	--
0.00	22.50	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0.00	225	0.00	Y	--
0.00	22.50	1	#20 Dywidag Bars	4.00	0.00	N	1	0.00	0.00	315	0.00	Y	--

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connections			Connectors	Continuation?
					Description	Spacing (in)	Len (in)			
0.00	91.10	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	No
0.00	13.82	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	No

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:07 PM

Customer: METRO PCS INC

91.10	101.5	4	SOL	#20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes
91.50	108.5	4	PL	PL 4 x 1.25	43	0.00	AJAX M20 Class	24.0	3.00	AJAX M20 Class	No
101.5	110.0	4	PL	PL 3" x 1"	49	0.00	AJAX M20 Class	24.0	3.00	AJAX M20 Class	No
110.0	118.5	3	PL	PL 3" x 1"	49	0.00	AJAX M20 Class	24.0	3.00	AJAX M20 Class	No
110.0	118.5	3	PL	PL 5" x 1.25"	34	0.00	AJAX M20 Class	24.0	3.00	AJAX M20 Class	No

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.3750	37.360	44.659	7,797.4	24.02	99.63	78.5	403.2	0.0	0.0	39.28	9,908	0.0
5.00		0.3750	36.577	43.714	7,312.7	23.46	97.54	79.1	386.2	0.0	751.8	39.28	9,554	668.0
10.00		0.3750	35.794	42.769	6,848.5	22.90	95.45	79.7	369.6	0.0	735.7	39.28	9,207	668.0
13.82	Reinf. Top	0.3750	35.197	42.047	6,507.6	22.47	93.86	80.2	357.2	0.0	550.9	39.28	8,946	510.0
15.00		0.3750	35.012	41.824	6,404.4	22.34	93.36	80.4	353.4	0.0	168.7	19.64	4,433	79.0
20.00		0.3750	34.229	40.878	5,979.9	21.78	91.28	81.0	337.5	0.0	703.5	19.64	4,265	334.0
25.00		0.3750	33.446	39.933	5,574.5	21.22	89.19	81.6	322.0	0.0	687.5	19.64	4,101	334.0
30.00		0.3750	32.663	38.988	5,188.0	20.66	87.10	81.9	306.8	0.0	671.4	19.64	3,940	334.0
31.00		0.3750	32.506	38.799	5,112.9	20.55	86.68	81.9	303.9	0.0	132.3	19.64	3,908	66.8
31.50	Bot - Section 2	0.3750	32.428	38.704	5,075.3	20.49	86.47	81.9	302.4	0.0	66.4	19.64	3,892	33.6
34.00		0.3750	32.037	38.232	4,891.9	20.21	85.43	81.9	295.0	0.0	605.0	19.64	3,940	166.8
35.00		0.3750	31.880	38.042	4,819.7	20.10	85.01	81.9	292.1	0.0	240.3	19.64	3,908	66.8
35.67	Top - Section 1	0.3125	32.400	32.288	4,243.4	25.10	103.68	77.3	253.0	0.0	160.3	19.64	3,887	44.8
36.00		0.3125	32.349	32.236	4,222.9	25.06	103.52	77.4	252.2	0.0	36.2	19.64	3,876	22.0
40.00		0.3125	31.722	31.606	3,980.1	24.52	101.51	78.0	242.4	0.0	434.5	19.64	3,751	267.2
45.00		0.3125	30.940	30.818	3,689.8	23.85	99.01	78.7	230.4	0.0	531.0	19.64	3,597	334.0
50.00		0.3125	30.157	30.031	3,414.1	23.18	96.50	79.4	218.7	0.0	517.6	19.64	3,447	334.0
55.00		0.3125	29.374	29.243	3,152.4	22.51	94.00	80.2	207.3	0.0	504.2	19.64	3,299	334.0
60.00		0.3125	28.591	28.455	2,904.4	21.84	91.49	80.9	196.2	0.0	490.8	19.64	3,155	334.0
65.00		0.3125	27.808	27.668	2,669.8	21.16	88.99	81.6	185.5	0.0	477.4	19.64	3,014	334.0
70.00		0.3125	27.025	26.880	2,448.2	20.49	86.48	81.9	175.0	0.0	464.0	19.64	2,877	334.0
70.05	Bot - Section 3	0.3125	27.017	26.871	2,445.9	20.49	86.45	81.9	174.9	0.0	4.9	19.64	2,875	3.6
73.55	Top - Section 2	0.2500	26.969	21.509	1,959.9	26.23	107.88	76.1	140.4	0.0	575.5	19.64	2,867	233.8
75.00		0.2500	26.743	21.326	1,910.5	25.98	106.97	76.4	138.0	0.0	105.4	19.64	2,828	96.6
80.00		0.2500	25.960	20.696	1,746.1	25.14	103.84	77.3	129.9	0.0	357.5	19.64	2,695	334.0
85.00		0.2500	25.177	20.066	1,591.4	24.30	100.71	78.2	122.1	0.0	346.8	19.64	2,565	334.0
90.00		0.2500	24.394	19.436	1,446.1	23.47	97.58	79.1	114.5	0.0	336.0	19.64	2,438	334.0
91.10	Reinf. Top Reinf	0.2500	24.222	19.297	1,415.4	23.28	96.89	79.3	112.9	0.0	72.5	19.64	2,438	334.0
91.50	Reinf Bottom	0.2500	24.159	19.247	1,404.3	23.21	96.64	79.4	112.3	0.0	26.2	19.64	2,400	26.7
95.00		0.2500	23.611	18.806	1,310.0	22.63	94.44	80.0	107.2	0.0	226.6	39.64	3,874	471.9
98.00		0.2500	23.141	18.428	1,232.5	22.12	92.57	80.6	102.9	0.0	190.0	39.64	3,744	404.5
100.0		0.2500	22.828	18.176	1,182.7	21.79	91.31	81.0	100.1	0.0	124.6	39.64	3,658	269.7
101.5	Reinf. Top Reinf	0.2500	22.593	17.987	1,146.1	21.54	90.37	81.2	98.0	0.0	92.3	39.64	3,630	235.7
105.0		0.2500	22.046	17.545	1,063.9	20.95	88.18	81.9	93.2	0.0	211.6	32.00	2,173	381.1
108.5	Reinf. Top	0.2500	21.498	17.104	985.6	20.36	85.99	81.9	88.6	0.0	206.3	32.00	2,072	381.1
110.0	Reinf. Top Reinf	0.2500	21.263	16.915	953.3	20.11	85.05	81.9	86.6	0.0	86.8	12.00	748.4	61.3
110.0	Top - Section 3	0.2500	21.254	16.908	952.2	20.10	85.02	81.9	86.5	0.0	3.1	27.75	1,768	5.0
110.0	Bot - Section 4	0.1875	21.254	12.719	720.5	27.69	113.36	74.5	65.5	0.0		27.75	1,768	
115.0		0.1875	20.480	12.251	643.9	26.59	109.23	75.7	60.7	0.0	210.2	27.75	1,650	467.6
118.0		0.1875	20.010	11.968	600.2	25.92	106.72	76.4	57.9	0.0	123.6	27.75	1,580	283.6
118.5	Reinf. Top Reinf.	0.1875	19.932	11.921	593.2	25.80	106.30	76.6	57.5	0.0	20.3	27.75	1,569	47.3
119.0		0.1875	19.854	11.873	586.1	25.69	105.89	76.7	57.0	0.0	20.2			
120.0		0.1875	19.697	11.779	572.2	25.47	105.05	76.9	56.1	0.0	40.2			
125.0		0.1875	18.914	11.306	506.1	24.35	100.88	78.2	51.7	0.0	196.4			
128.0		0.1875	18.444	11.023	469.0	23.68	98.37	78.9	49.1	0.0	114.0			
130.0		0.1875	18.131	10.834	445.2	23.23	96.70	79.4	47.4	0.0	74.4			
135.0		0.1875	17.349	10.361	389.5	22.11	92.53	80.6	43.4	0.0	180.3			
138.0		0.1875	16.879	10.077	358.4	21.44	90.02	81.3	41.0	0.0	104.3			
140.0		0.1875	16.566	9.888	338.6	20.99	88.35	81.8	39.5	0.0	67.9			
141.0		0.1875	16.409	9.794	328.9	20.77	87.52	81.9	38.7	0.0	33.5			
145.0		0.1875	15.783	9.416	292.3	19.88	84.18	81.9	35.8	0.0	130.7			
150.0		0.1875	15.000	8.943	250.5	18.76	80.00	81.9	32.3	0.0	156.2			
											13,368.2			
												10,304.		

Load Case: 1.2D + 1.6W	97 mph with No Ice	28 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.20		
Wind Load Factor :1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		269.7	0.0					0.0	0.0	269.7	0.0	0.0	0.0
5.00		533.8	902.1					112.8	1,053.1	646.5	1,955.3	0.0	0.0
10.00		461.8	882.8					112.8	1,053.1	574.5	1,936.0	0.0	0.0
13.82	Reinf. Top	258.3	661.1					86.1	804.1	344.4	1,465.2	0.0	0.0
15.00		313.2	202.5					26.7	154.2	339.8	356.7	0.0	0.0
20.00		499.5	844.2					112.8	652.3	612.3	1,496.6	0.0	0.0
25.00		488.1	824.9					112.8	652.3	600.8	1,477.3	0.0	0.0
30.00		289.0	805.6					112.8	652.3	401.8	1,458.0	0.0	0.0
31.00	Appurtenance(s)	72.0	158.8	51.3	0.0	0.0	60.0	22.7	130.5	145.9	349.3	0.0	0.0
31.50	Bot - Section 2	147.0	79.6					11.5	65.7	158.5	145.3	0.0	0.0
34.00	Appurtenance(s)	172.4	726.0	24.3	0.0	72.8	12.0	57.8	325.7	254.4	1,063.7	0.0	0.0
35.00	Appurtenance(s)	82.8	288.3	23.3	0.0	-69.8	12.0	23.5	130.3	129.6	430.6	0.0	0.0
35.67	Top - Section 1	49.7	192.4					15.8	87.2	65.5	279.6	0.0	0.0
36.00	Appurtenance(s)	216.6	43.5	53.5	0.0	0.0	60.0	7.8	42.9	278.0	146.4	0.0	0.0
40.00		453.0	521.4					96.6	520.4	549.6	1,041.8	0.0	0.0
45.00		507.1	637.3					124.7	650.5	631.8	1,287.8	0.0	0.0
50.00		509.4	621.2					128.7	650.5	638.1	1,271.7	0.0	0.0
55.00		509.9	605.1					132.4	650.5	642.4	1,255.6	0.0	0.0
60.00		508.9	589.0					135.9	650.5	644.8	1,239.5	0.0	0.0
65.00		506.4	572.9					139.2	650.5	645.6	1,223.4	0.0	0.0
70.00		255.1	556.8					142.3	650.5	397.4	1,207.4	0.0	0.0
70.05	Bot - Section 3	181.4	5.9					1.5	6.9	182.9	12.8	0.0	0.0
73.55	Top - Section 2	252.2	690.6					101.4	455.4	353.6	1,146.0	0.0	0.0
75.00		325.9	126.5					42.3	188.2	368.2	314.7	0.0	0.0
80.00		501.7	429.0					148.0	650.5	649.7	1,079.5	0.0	0.0
85.00		495.0	416.1					150.7	650.5	645.7	1,066.6	0.0	0.0
90.00		299.3	403.2					153.2	650.5	452.5	1,053.8	0.0	0.0
91.10	Reinf. Top Reinf	73.0	87.0					31.6	455.7	104.6	542.7	0.0	0.0
91.50	Reinf Bottom	188.2	31.5					11.5	52.0	199.8	83.5	0.0	0.0
95.00		311.8	271.9					101.2	741.1	413.0	1,013.0	0.0	0.0
98.00	Appurtenance(s)	237.4	228.1	3,791.4	0.0	7,864.6	3,203.4	87.4	635.3	4,116.2	4,066.7	0.0	0.0
100.00		164.8	149.5					58.4	415.8	223.2	565.2	0.0	0.0
101.50	Reinf. Top Reinf	232.7	110.7					43.9	351.9	276.7	462.7	0.0	0.0
105.00		322.4	253.9					102.8	618.6	425.1	872.5	0.0	0.0
108.50	Reinf. Top	227.7	247.6					103.2	618.6	330.9	866.2	0.0	0.0
110.00	Reinf. Top Reinf	70.2	104.2					30.6	142.6	100.8	246.8	0.0	0.0
110.05	Top - Section 3	222.4	3.7					1.5	8.5	223.9	12.2	0.0	0.0
115.00	Appurtenance(s)	350.7	252.2	352.1	0.0	0.0	672.0	143.7	789.1	846.5	1,713.3	0.0	0.0
118.00	Appurtenance(s)	152.3	148.3	663.9	0.0	1,327.8	314.6	89.2	478.5	905.3	941.5	0.0	0.0
118.50	Reinf. Top Reinf.	43.1	24.4					15.0	79.3	58.1	103.7	0.0	0.0
119.00	Appurtenance(s)	64.4	24.3	45.2	0.0	0.0	12.0	15.0	22.6	124.6	58.9	0.0	0.0
120.00		218.5	48.3					30.2	40.8	248.7	89.1	0.0	0.0
125.00		278.5	235.7					0.0	204.0	278.5	439.7	0.0	0.0
128.00	Appurtenance(s)	170.4	136.8	2,924.4	0.0	474.8	2,430.4	0.0	122.4	3,094.9	2,689.5	0.0	0.0
130.00		232.6	89.2					0.0	70.0	232.6	159.3	0.0	0.0
135.00		261.4	216.4					0.0	175.0	261.4	391.4	0.0	0.0
138.00	Appurtenance(s)	159.4	125.2	1,647.6	0.0	6,590.3	1,254.7	0.0	105.0	1,807.0	1,484.9	0.0	0.0
140.00		94.3	81.5					0.0	62.8	94.3	144.3	0.0	0.0

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:18 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.6W

97 mph with No Ice

28 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

141.00	Appurtenance(s)	153.6	40.2	642.0	0.0	0.0	900.0	0.0	31.4	795.6	971.6	0.0	0.0
145.00		270.1	156.9					0.0	123.1	270.1	280.0	0.0	0.0
150.00	Appurtenance(s)	147.6	187.4	1,440.1	0.0	0.0	2,670.0	0.0	152.8	1,587.7	3,010.2	0.0	0.0
Totals:										28,643.5	46,969.3	0.00	0.00

Load Case: 1.2D + 1.6W	97 mph with No Ice	28 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.20		
Wind Load Factor :1.60		

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.20	-31.98	0.00	-3,367.32	0.00	3,367.32	3,156.09	1,578.04	4,808.01	2,374.50	0.00	0.00	0.633
5.00	-47.10	-31.55	0.00	-3,207.42	0.00	3,207.42	3,113.28	1,556.64	4,641.42	2,292.22	0.14	-0.26	0.615
10.00	-45.04	-31.14	0.00	-3,049.69	0.00	3,049.69	3,069.45	1,534.72	4,476.09	2,210.57	0.56	-0.53	0.597
13.82	-43.51	-30.88	0.00	-2,930.80	0.00	2,930.80	3,035.27	1,517.64	4,350.78	2,148.69	1.07	-0.73	0.582
13.82	-43.51	-30.88	0.00	-2,930.80	0.00	2,930.80	3,035.27	1,517.64	4,350.78	2,148.69	1.07	-0.73	0.819
15.00	-43.04	-30.70	0.00	-2,894.29	0.00	2,894.29	3,024.57	1,512.28	4,312.14	2,129.61	1.26	-0.79	0.813
20.00	-41.36	-30.33	0.00	-2,740.79	0.00	2,740.79	2,978.65	1,489.33	4,149.68	2,049.37	2.29	-1.16	0.790
25.00	-39.71	-29.95	0.00	-2,589.14	0.00	2,589.14	2,931.70	1,465.85	3,988.78	1,969.91	3.70	-1.53	0.767
30.00	-38.15	-29.65	0.00	-2,439.38	0.00	2,439.38	2,873.79	1,436.89	3,816.40	1,884.77	5.51	-1.90	0.745
31.00	-37.77	-29.53	0.00	-2,409.72	0.00	2,409.72	2,859.85	1,429.93	3,779.26	1,866.44	5.91	-1.98	0.741
31.50	-37.58	-29.45	0.00	-2,394.86	0.00	2,394.86	2,852.84	1,426.42	3,760.64	1,857.24	6.12	-2.02	0.739
34.00	-36.46	-29.23	0.00	-2,321.27	0.00	2,321.27	2,818.05	1,409.02	3,668.95	1,811.96	7.23	-2.20	0.719
35.00	-36.00	-29.13	0.00	-2,292.04	0.00	2,292.04	2,804.11	1,402.06	3,632.54	1,793.98	7.70	-2.28	0.714
35.67	-35.70	-29.07	0.00	-2,272.52	0.00	2,272.52	2,247.39	1,123.70	2,971.54	1,467.53	8.02	-2.33	0.819
36.00	-35.48	-28.89	0.00	-2,262.93	0.00	2,262.93	2,245.17	1,122.59	2,963.78	1,463.70	8.18	-2.35	0.817
40.00	-34.30	-28.51	0.00	-2,147.35	0.00	2,147.35	2,217.94	1,108.97	2,870.05	1,417.41	10.29	-2.66	0.790
45.00	-32.86	-28.03	0.00	-2,004.82	0.00	2,004.82	2,182.97	1,091.48	2,753.70	1,359.95	13.28	-3.04	0.756
50.00	-31.44	-27.53	0.00	-1,864.66	0.00	1,864.66	2,146.96	1,073.48	2,638.35	1,302.98	16.67	-3.42	0.722
55.00	-30.06	-27.00	0.00	-1,727.02	0.00	1,727.02	2,109.91	1,054.96	2,524.10	1,246.56	20.45	-3.79	0.686
60.00	-28.70	-26.46	0.00	-1,592.01	0.00	1,592.01	2,071.82	1,035.91	2,411.06	1,190.73	24.62	-4.16	0.650
65.00	-27.37	-25.89	0.00	-1,459.73	0.00	1,459.73	2,032.70	1,016.35	2,299.33	1,135.55	29.17	-4.52	0.612
70.00	-26.12	-25.47	0.00	-1,330.29	0.00	1,330.29	1,981.31	990.65	2,176.68	1,074.98	34.08	-4.87	0.577
70.05	-26.07	-25.35	0.00	-1,328.94	0.00	1,328.94	1,980.69	990.35	2,175.31	1,074.30	34.14	-4.87	0.577
73.55	-24.88	-24.97	0.00	-1,240.23	0.00	1,240.23	1,473.36	736.68	1,622.77	801.43	37.79	-5.11	0.638
75.00	-24.51	-24.67	0.00	-1,204.11	0.00	1,204.11	1,465.95	732.98	1,600.80	790.57	39.36	-5.21	0.624
80.00	-23.35	-24.06	0.00	-1,080.77	0.00	1,080.77	1,439.68	719.84	1,525.22	753.25	44.99	-5.55	0.574
85.00	-22.23	-23.43	0.00	-960.49	0.00	960.49	1,412.37	706.19	1,450.29	716.24	50.97	-5.88	0.523
90.00	-21.15	-22.94	0.00	-843.34	0.00	843.34	1,384.02	692.01	1,376.10	679.61	57.29	-6.19	0.471
91.10	-20.61	-22.79	0.00	-818.11	0.00	818.11	1,377.65	688.82	1,359.89	671.60	58.72	-6.25	0.456
91.10	-20.61	-22.79	0.00	-818.11	0.00	818.11	1,377.65	688.82	1,359.89	671.60	58.72	-6.25	0.459
91.50	-20.50	-22.63	0.00	-808.99	0.00	808.99	1,375.32	687.66	1,354.01	668.69	59.24	-6.28	0.455
95.00	-19.48	-22.16	0.00	-729.80	0.00	729.80	1,354.64	677.32	1,302.77	643.39	63.91	-6.48	0.292
98.00	-15.88	-17.63	0.00	-655.47	0.00	655.47	1,336.51	668.25	1,259.21	621.88	68.02	-6.59	0.266
100.00	-15.33	-17.36	0.00	-620.22	0.00	620.22	1,324.21	662.11	1,230.38	607.64	70.79	-6.67	0.254
101.50	-14.87	-17.05	0.00	-594.18	0.00	594.18	1,314.88	657.44	1,208.86	597.01	72.89	-6.72	0.243
101.50	-14.87	-17.05	0.00	-594.18	0.00	594.18	1,314.88	657.44	1,208.86	597.01	72.89	-6.72	0.338
105.00	-14.02	-16.56	0.00	-534.49	0.00	534.49	1,293.27	646.64	1,159.51	572.64	77.85	-6.84	0.311
108.50	-13.17	-16.15	0.00	-476.53	0.00	476.53	1,260.75	630.38	1,101.62	544.05	82.91	-6.99	0.287
108.50	-13.17	-16.15	0.00	-476.53	0.00	476.53	1,260.75	630.38	1,101.62	544.05	82.91	-6.99	0.500
110.00	-12.92	-16.03	0.00	-452.30	0.00	452.30	1,246.82	623.41	1,077.26	532.02	85.11	-7.06	0.483
110.00	-12.92	-16.03	0.00	-452.30	0.00	452.30	1,246.82	623.41	1,077.26	532.02	85.11	-7.06	0.302
110.05	-12.91	-15.83	0.00	-451.45	0.00	451.45	1,246.32	623.16	1,076.40	531.59	85.19	-7.06	0.302
110.05	-12.91	-15.83	0.00	-451.45	0.00	451.45	852.93	426.46	741.03	365.97	85.19	-7.06	0.363
115.00	-11.27	-14.81	0.00	-373.13	0.00	373.13	834.88	417.44	698.45	344.94	92.61	-7.28	0.309
118.00	-10.43	-13.81	0.00	-327.37	0.00	327.37	823.44	411.72	672.79	332.27	97.21	-7.41	0.276
118.50	-10.33	-13.74	0.00	-320.47	0.00	320.47	821.50	410.75	668.53	330.16	97.99	-7.43	0.271
118.50	-10.33	-13.74	0.00	-320.47	0.00	320.47	821.50	410.75	668.53	330.16	97.99	-7.43	0.984
119.00	-10.27	-13.62	0.00	-313.60	0.00	313.60	819.55	409.77	664.27	328.06	98.76	-7.45	0.970
120.00	-10.12	-13.44	0.00	-299.97	0.00	299.97	815.61	407.80	655.76	323.86	100.34	-7.60	0.940
125.00	-9.61	-13.19	0.00	-232.77	0.00	232.77	795.30	397.65	613.53	303.00	108.63	-8.26	0.781
128.00	-7.35	-9.77	0.00	-192.73	0.00	192.73	782.61	391.31	588.45	290.61	113.92	-8.62	0.673

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:18 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.6W

97 mph with No Ice

28 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

130.00	-7.17	-9.56	0.00	-173.20	0.00	173.20	773.95	386.97	571.85	282.42	117.57	-8.84	0.623
135.00	-6.77	-9.28	0.00	-125.40	0.00	125.40	751.56	375.78	530.84	262.16	127.05	-9.32	0.488
138.00	-5.58	-7.27	0.00	-90.96	0.00	90.96	737.63	368.82	506.58	250.18	132.96	-9.56	0.372
140.00	-5.44	-7.17	0.00	-76.41	0.00	76.41	728.14	364.07	490.58	242.28	136.98	-9.69	0.323
141.00	-4.60	-6.23	0.00	-69.25	0.00	69.25	721.90	360.95	481.67	237.88	139.00	-9.76	0.298
145.00	-4.35	-5.93	0.00	-44.33	0.00	44.33	694.03	347.02	445.00	219.77	147.23	-9.95	0.208
150.00	0.00	-5.08	0.00	-14.70	0.00	14.70	659.19	329.60	401.19	198.13	157.68	-10.10	0.074

Load Case: 0.9D + 1.6W	97 mph with No Ice (Reduced DL)	28 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :0.90		
Wind Load Factor :1.60		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		269.7	0.0					0.0	0.0	269.7	0.0	0.0	0.0
5.00		533.8	676.6					112.8	789.8	646.5	1,466.4	0.0	0.0
10.00		461.8	662.1					112.8	789.8	574.5	1,452.0	0.0	0.0
13.82	Reinf. Top	258.3	495.8					86.1	603.1	344.4	1,098.9	0.0	0.0
15.00		313.2	151.8					26.7	115.7	339.8	267.5	0.0	0.0
20.00		499.5	633.2					112.8	489.2	612.3	1,122.4	0.0	0.0
25.00		488.1	618.7					112.8	489.2	600.8	1,107.9	0.0	0.0
30.00		289.0	604.2					112.8	489.2	401.8	1,093.5	0.0	0.0
31.00	Appurtenance(s)	72.0	119.1	51.3	0.0	0.0	45.0	22.7	97.8	145.9	262.0	0.0	0.0
31.50	Bot - Section 2	147.0	59.7					11.5	49.2	158.5	109.0	0.0	0.0
34.00	Appurtenance(s)	172.4	544.5	24.3	0.0	72.8	9.0	57.8	244.3	254.4	797.8	0.0	0.0
35.00	Appurtenance(s)	82.8	216.2	23.3	0.0	-69.8	9.0	23.5	97.7	129.6	323.0	0.0	0.0
35.67	Top - Section 1	49.7	144.3					15.8	65.4	65.5	209.7	0.0	0.0
36.00	Appurtenance(s)	216.6	32.6	53.5	0.0	0.0	45.0	7.8	32.2	278.0	109.8	0.0	0.0
40.00		453.0	391.0					96.6	390.3	549.6	781.3	0.0	0.0
45.00		507.1	477.9					124.7	487.9	631.8	965.8	0.0	0.0
50.00		509.4	465.9					128.7	487.9	638.1	953.8	0.0	0.0
55.00		509.9	453.8					132.4	487.9	642.4	941.7	0.0	0.0
60.00		508.9	441.8					135.9	487.9	644.8	929.6	0.0	0.0
65.00		506.4	429.7					139.2	487.9	645.6	917.6	0.0	0.0
70.00		255.1	417.6					142.3	487.9	397.4	905.5	0.0	0.0
70.05	Bot - Section 3	181.4	4.4					1.5	5.2	182.9	9.6	0.0	0.0
73.55	Top - Section 2	252.2	518.0					101.4	341.5	353.6	859.5	0.0	0.0
75.00		325.9	94.9					42.3	141.2	368.2	236.1	0.0	0.0
80.00		501.7	321.7					148.0	487.9	649.7	809.6	0.0	0.0
85.00		495.0	312.1					150.7	487.9	645.7	800.0	0.0	0.0
90.00		299.3	302.4					153.2	487.9	452.5	790.3	0.0	0.0
91.10	Reinf. Top Reinf	73.0	65.2					31.6	341.8	104.6	407.0	0.0	0.0
91.50	Reinf Bottom	188.2	23.6					11.5	39.0	199.8	62.6	0.0	0.0
95.00		311.8	203.9					101.2	555.8	413.0	759.8	0.0	0.0
98.00	Appurtenance(s)	237.4	171.0	3,791.4	0.0	7,864.6	2,402.5	87.4	476.4	4,116.2	3,050.0	0.0	0.0
100.00		164.8	112.1					58.4	311.8	223.2	423.9	0.0	0.0
101.50	Reinf. Top Reinf	232.7	83.1					43.9	263.9	276.7	347.0	0.0	0.0
105.00		322.4	190.4					102.8	463.9	425.1	654.4	0.0	0.0
108.50	Reinf. Top	227.7	185.7					103.2	463.9	330.9	649.6	0.0	0.0
110.00	Reinf. Top Reinf	70.2	78.1					30.6	107.0	100.8	185.1	0.0	0.0
110.05	Top - Section 3	222.4	2.8					1.5	6.4	223.9	9.1	0.0	0.0
115.00	Appurtenance(s)	350.7	189.1	352.1	0.0	0.0	504.0	143.7	591.8	846.5	1,284.9	0.0	0.0
118.00	Appurtenance(s)	152.3	111.3	663.9	0.0	1,327.8	236.0	89.2	358.9	905.3	706.1	0.0	0.0
118.50	Reinf. Top Reinf.	43.1	18.3					15.0	59.5	58.1	77.8	0.0	0.0
119.00	Appurtenance(s)	64.4	18.2	45.2	0.0	0.0	9.0	15.0	16.9	124.6	44.2	0.0	0.0
120.00		218.5	36.2					30.2	30.6	248.7	66.8	0.0	0.0
125.00		278.5	176.7					0.0	153.0	278.5	329.7	0.0	0.0
128.00	Appurtenance(s)	170.4	102.6	2,924.4	0.0	474.8	1,822.8	0.0	91.8	3,094.9	2,017.1	0.0	0.0
130.00		232.6	66.9					0.0	52.5	232.6	119.4	0.0	0.0
135.00		261.4	162.3					0.0	131.3	261.4	293.5	0.0	0.0
138.00	Appurtenance(s)	159.4	93.9	1,647.6	0.0	6,590.3	941.0	0.0	78.8	1,807.0	1,113.7	0.0	0.0
140.00		94.3	61.1					0.0	47.1	94.3	108.3	0.0	0.0

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:28 PM

Customer: METRO PCS INC

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

28 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

141.00	Appurtenance(s)	153.6	30.1	642.0	0.0	0.0	675.0	0.0	23.6	795.6	728.7	0.0	0.0
145.00		270.1	117.7					0.0	92.3	270.1	210.0	0.0	0.0
150.00	Appurtenance(s)	147.6	140.6	1,440.1	0.0	0.0	2,002.5	0.0	114.6	1,587.7	2,257.7	0.0	0.0
Totals:										28,643.5	35,226.9	0.00	0.00

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

28 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-36.88	-31.95	0.00	-3,300.94	0.00	3,300.94	3,156.09	1,578.04	4,808.01	2,374.50	0.00	0.00	0.619
5.00	-35.28	-31.46	0.00	-3,141.19	0.00	3,141.19	3,113.28	1,556.64	4,641.42	2,292.22	0.14	-0.26	0.600
10.00	-33.71	-31.01	0.00	-2,983.90	0.00	2,983.90	3,069.45	1,534.72	4,476.09	2,210.57	0.55	-0.52	0.582
13.82	-32.54	-30.73	0.00	-2,865.52	0.00	2,865.52	3,035.27	1,517.64	4,350.78	2,148.69	1.05	-0.71	0.568
13.82	-32.54	-30.73	0.00	-2,865.52	0.00	2,865.52	3,035.27	1,517.64	4,350.78	2,148.69	1.05	-0.71	0.798
15.00	-32.17	-30.50	0.00	-2,829.19	0.00	2,829.19	3,024.57	1,512.28	4,312.14	2,129.61	1.23	-0.78	0.793
20.00	-30.86	-30.07	0.00	-2,676.68	0.00	2,676.68	2,978.65	1,489.33	4,149.68	2,049.37	2.24	-1.14	0.770
25.00	-29.58	-29.63	0.00	-2,526.34	0.00	2,526.34	2,931.70	1,465.85	3,988.78	1,969.91	3.62	-1.50	0.746
30.00	-28.39	-29.30	0.00	-2,378.21	0.00	2,378.21	2,873.79	1,436.89	3,816.40	1,884.77	5.39	-1.86	0.724
31.00	-28.11	-29.17	0.00	-2,348.91	0.00	2,348.91	2,859.85	1,429.93	3,779.26	1,866.44	5.79	-1.93	0.720
31.50	-27.95	-29.07	0.00	-2,334.22	0.00	2,334.22	2,852.84	1,426.42	3,760.64	1,857.24	5.99	-1.97	0.718
34.00	-27.10	-28.84	0.00	-2,261.58	0.00	2,261.58	2,818.05	1,409.02	3,668.95	1,811.96	7.07	-2.15	0.698
35.00	-26.75	-28.73	0.00	-2,232.74	0.00	2,232.74	2,804.11	1,402.06	3,632.54	1,793.98	7.53	-2.23	0.694
35.67	-26.52	-28.67	0.00	-2,213.49	0.00	2,213.49	2,247.39	1,123.70	2,971.54	1,467.53	7.85	-2.27	0.795
36.00	-26.34	-28.47	0.00	-2,204.03	0.00	2,204.03	2,245.17	1,122.59	2,963.78	1,463.70	8.00	-2.30	0.793
40.00	-25.42	-28.03	0.00	-2,090.17	0.00	2,090.17	2,217.94	1,108.97	2,870.05	1,417.41	10.06	-2.60	0.767
45.00	-24.31	-27.51	0.00	-1,950.01	0.00	1,950.01	2,182.97	1,091.48	2,753.70	1,359.95	12.98	-2.97	0.733
50.00	-23.22	-26.97	0.00	-1,812.45	0.00	1,812.45	2,146.96	1,073.48	2,638.35	1,302.98	16.29	-3.34	0.699
55.00	-22.16	-26.41	0.00	-1,677.60	0.00	1,677.60	2,109.91	1,054.96	2,524.10	1,246.56	19.98	-3.70	0.664
60.00	-21.12	-25.84	0.00	-1,545.54	0.00	1,545.54	2,071.82	1,035.91	2,411.06	1,190.73	24.04	-4.06	0.629
65.00	-20.10	-25.24	0.00	-1,416.37	0.00	1,416.37	2,032.70	1,016.35	2,299.33	1,135.55	28.47	-4.40	0.592
70.00	-19.15	-24.83	0.00	-1,290.15	0.00	1,290.15	1,981.31	990.65	2,176.68	1,074.98	33.26	-4.74	0.558
70.05	-19.11	-24.69	0.00	-1,288.82	0.00	1,288.82	1,980.69	990.35	2,175.31	1,074.30	33.31	-4.75	0.558
73.55	-18.21	-24.32	0.00	-1,202.41	0.00	1,202.41	1,473.36	736.68	1,622.77	801.43	36.88	-4.98	0.617
75.00	-17.92	-24.00	0.00	-1,167.23	0.00	1,167.23	1,465.95	732.98	1,600.80	790.57	38.40	-5.07	0.603
80.00	-17.04	-23.37	0.00	-1,047.25	0.00	1,047.25	1,439.68	719.84	1,525.22	753.25	43.89	-5.41	0.554
85.00	-16.18	-22.74	0.00	-930.39	0.00	930.39	1,412.37	706.19	1,450.29	716.24	49.71	-5.72	0.504
90.00	-15.37	-22.26	0.00	-816.70	0.00	816.70	1,384.02	692.01	1,376.10	679.61	55.86	-6.02	0.454
91.10	-14.96	-22.12	0.00	-792.22	0.00	792.22	1,377.65	688.82	1,359.89	671.60	57.25	-6.09	0.440
91.10	-14.96	-22.12	0.00	-792.22	0.00	792.22	1,377.65	688.82	1,359.89	671.60	57.25	-6.09	0.443
91.50	-14.88	-21.94	0.00	-783.37	0.00	783.37	1,375.32	687.66	1,354.01	668.69	57.76	-6.11	0.439
95.00	-14.11	-21.49	0.00	-706.56	0.00	706.56	1,354.64	677.32	1,302.77	643.39	62.30	-6.30	0.282
98.00	-11.51	-17.08	0.00	-634.23	0.00	634.23	1,336.51	668.25	1,259.21	621.88	66.29	-6.41	0.256
100.00	-11.10	-16.82	0.00	-600.08	0.00	600.08	1,324.21	662.11	1,230.38	607.64	68.99	-6.49	0.245
101.50	-10.76	-16.52	0.00	-574.85	0.00	574.85	1,314.88	657.44	1,208.86	597.01	71.03	-6.54	0.234
101.50	-10.76	-16.52	0.00	-574.85	0.00	574.85	1,314.88	657.44	1,208.86	597.01	71.03	-6.54	0.326
105.00	-10.12	-16.05	0.00	-517.02	0.00	517.02	1,293.27	646.64	1,159.51	572.64	75.86	-6.65	0.300
108.50	-9.49	-15.66	0.00	-460.85	0.00	460.85	1,260.75	630.38	1,101.62	544.05	80.78	-6.80	0.276
108.50	-9.49	-15.66	0.00	-460.85	0.00	460.85	1,260.75	630.38	1,101.62	544.05	80.78	-6.80	0.482
110.00	-9.31	-15.54	0.00	-437.36	0.00	437.36	1,246.82	623.41	1,077.26	532.02	82.93	-6.86	0.466
110.00	-9.31	-15.54	0.00	-437.36	0.00	437.36	1,246.82	623.41	1,077.26	532.02	82.93	-6.86	0.291
110.05	-9.29	-15.34	0.00	-436.53	0.00	436.53	1,246.32	623.16	1,076.40	531.59	83.00	-6.87	0.291
110.05	-9.29	-15.34	0.00	-436.53	0.00	436.53	852.93	426.46	741.03	365.97	83.00	-6.87	0.350
115.00	-8.08	-14.37	0.00	-360.66	0.00	360.66	834.88	417.44	698.45	344.94	90.21	-7.07	0.298
118.00	-7.48	-13.39	0.00	-316.23	0.00	316.23	823.44	411.72	672.79	332.27	94.69	-7.20	0.266
118.50	-7.40	-13.32	0.00	-309.54	0.00	309.54	821.50	410.75	668.53	330.16	95.44	-7.22	0.261
118.50	-7.40	-13.32	0.00	-309.54	0.00	309.54	821.50	410.75	668.53	330.16	95.44	-7.22	0.948
119.00	-7.35	-13.21	0.00	-302.88	0.00	302.88	819.55	409.77	664.27	328.06	96.20	-7.24	0.933
120.00	-7.23	-13.00	0.00	-289.67	0.00	289.67	815.61	407.80	655.76	323.86	97.73	-7.38	0.904
125.00	-6.83	-12.74	0.00	-224.67	0.00	224.67	795.30	397.65	613.53	303.00	105.79	-8.02	0.751
128.00	-5.23	-9.41	0.00	-185.97	0.00	185.97	782.61	391.31	588.45	290.61	110.93	-8.37	0.647

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:29 PM

Customer: METRO PCS INC

Load Case: 0.9D + 1.6W

97 mph with No Ice (Reduced DL)

28 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

130.00	-5.09	-9.20	0.00	-167.15	0.00	167.15	773.95	386.97	571.85	282.42	114.47	-8.58	0.599
135.00	-4.79	-8.92	0.00	-121.16	0.00	121.16	751.56	375.78	530.84	262.16	123.68	-9.05	0.469
138.00	-3.95	-6.97	0.00	-87.80	0.00	87.80	737.63	368.82	506.58	250.18	129.42	-9.28	0.357
140.00	-3.85	-6.87	0.00	-73.86	0.00	73.86	728.14	364.07	490.58	242.28	133.32	-9.41	0.310
141.00	-3.25	-5.97	0.00	-66.99	0.00	66.99	721.90	360.95	481.67	237.88	135.29	-9.47	0.286
145.00	-3.07	-5.68	0.00	-43.10	0.00	43.10	694.03	347.02	445.00	219.77	143.27	-9.66	0.201
150.00	0.00	-5.08	0.00	-14.70	0.00	14.70	659.19	329.60	401.19	198.13	153.42	-9.80	0.074

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 1.00 in Radial Ice	29 Iterations
Gust Response Factor :1.10	Ice Dead Load Factor :1.00	Wind Importance Factor :1.00
Dead Load Factor :1.20		Ice Importance Factor :1.00
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		48.4	0.0					0.0	0.0	48.4	0.0	0.0	0.0
5.00		96.3	1,283.4					119.0	1,276.9	215.3	2,560.3	0.0	0.0
10.00		84.0	1,301.6					119.0	1,308.6	203.0	2,610.2	0.0	0.0
13.82	Reinf. Top	47.1	991.3					90.3	1,010.5	137.5	2,001.8	0.0	0.0
15.00		57.4	306.3					27.9	219.7	85.3	525.9	0.0	0.0
20.00		91.8	1,282.8					117.5	935.7	209.4	2,218.4	0.0	0.0
25.00		90.2	1,265.4					116.9	886.2	207.1	2,151.7	0.0	0.0
30.00		53.5	1,245.6					114.6	832.4	168.2	2,078.0	0.0	0.0
31.00	Appurtenance(s)	13.4	247.4	15.3	0.0	0.0	149.7	22.9	167.0	51.5	564.0	0.0	0.0
31.50	Bot - Section 2	27.3	124.2					11.6	84.1	38.9	208.3	0.0	0.0
34.00	Appurtenance(s)	32.0	949.8	7.3	0.0	21.9	55.6	58.0	417.7	97.3	1,423.0	0.0	0.0
35.00	Appurtenance(s)	15.4	378.0	7.0	0.0	-21.1	55.7	23.5	165.3	45.9	599.1	0.0	0.0
35.67	Top - Section 1	9.2	252.5					15.8	109.4	25.1	361.8	0.0	0.0
36.00	Appurtenance(s)	40.4	73.1	16.1	0.0	0.0	150.3	7.9	53.9	64.3	277.3	0.0	0.0
40.00		84.6	875.7					96.9	654.2	181.5	1,529.9	0.0	0.0
45.00		95.1	1,075.0					123.6	820.1	218.7	1,895.1	0.0	0.0
50.00		95.9	1,053.6					126.0	822.5	221.9	1,876.0	0.0	0.0
55.00		96.4	1,031.5					127.9	824.6	224.4	1,856.1	0.0	0.0
60.00		96.6	1,008.8					129.6	826.6	226.2	1,835.4	0.0	0.0
65.00		96.6	985.7					130.9	828.4	227.5	1,814.1	0.0	0.0
70.00		48.8	962.1					131.9	830.1	180.7	1,792.2	0.0	0.0
70.05	Bot - Section 3	34.7	10.2					1.4	8.9	36.2	19.1	0.0	0.0
73.55	Top - Section 2	48.3	975.6					92.8	582.1	141.2	1,557.7	0.0	0.0
75.00		62.7	243.8					38.9	240.8	101.6	484.6	0.0	0.0
80.00		96.9	825.2					134.6	833.3	231.5	1,658.5	0.0	0.0
85.00		96.1	803.9					135.1	834.7	231.1	1,638.6	0.0	0.0
90.00		58.3	782.3					135.3	836.0	193.6	1,618.4	0.0	0.0
91.10	Reinf. Top Reinf	14.3	170.1					37.1	533.0	51.4	703.2	0.0	0.0
91.50	Reinf Bottom	36.9	61.7					13.5	80.2	50.4	141.9	0.0	0.0
95.00		61.2	531.2					118.5	988.0	179.7	1,519.2	0.0	0.0
98.00	Appurtenance(s)	46.7	447.1	1,027.1	0.0	1,894.9	11,117.1	101.9	847.7	1,175.7	12,411.9	0.0	0.0
100.00		32.5	294.1					30.5	538.3	63.0	832.4	0.0	0.0
101.50	Reinf. Top Reinf	46.1	218.4					23.2	444.0	69.3	662.4	0.0	0.0
105.00		64.1	500.2					55.2	834.1	119.2	1,334.2	0.0	0.0
108.50	Reinf. Top	45.4	489.2					41.2	793.7	86.6	1,282.9	0.0	0.0
110.00	Reinf. Top Reinf	14.0	206.9					15.5	210.8	29.5	417.8	0.0	0.0
110.05	Top - Section 3	44.7	7.3					0.8	11.4	45.4	18.8	0.0	0.0
115.00	Appurtenance(s)	70.6	580.8	121.9	0.0	0.0	1,839.8	71.9	1,061.8	264.4	3,482.3	0.0	0.0
118.00	Appurtenance(s)	30.8	344.3	167.5	0.0	335.0	1,498.7	45.2	644.6	243.5	2,487.5	0.0	0.0
118.50	Reinf. Top Reinf.	8.7	57.0					7.6	107.0	16.4	164.0	0.0	0.0
119.00	Appurtenance(s)	13.1	56.8	13.4	0.0	0.0	76.4	7.7	50.3	34.2	183.5	0.0	0.0
120.00		51.7	112.9					15.5	96.3	67.1	209.2	0.0	0.0
125.00		68.3	547.8					0.0	204.0	68.3	751.8	0.0	0.0
128.00	Appurtenance(s)	42.1	320.5	731.8	0.0	113.7	8,247.8	0.0	122.4	773.9	8,690.7	0.0	0.0
130.00		57.8	210.2					0.0	70.0	57.8	280.2	0.0	0.0
135.00		65.3	507.9					0.0	175.0	65.3	682.9	0.0	0.0
138.00	Appurtenance(s)	40.1	296.5	410.9	0.0	1,643.8	4,823.1	0.0	105.0	451.1	5,224.5	0.0	0.0
140.00		23.8	194.1					0.0	62.8	23.8	256.9	0.0	0.0

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:39 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

29 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

141.00	Appurtenance(s)	39.1	96.1	226.9	0.0	0.0	2,482.2	0.0	31.4	266.0	2,609.7	0.0	0.0
145.00		69.2	373.3					0.0	123.1	69.2	496.4	0.0	0.0
150.00	Appurtenance(s)	38.0	447.1	507.1	0.0	0.0	6,769.7	0.0	152.8	545.1	7,369.6	0.0	0.0
Totals:										8,829.09	89,369.3	0.00	0.00

Site Number: 302473

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29 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-98.73	-9.68	0.00	-1,116.15	0.00	1,116.15	3,156.09	1,578.04	4,808.01	2,374.50	0.00	0.00	0.224
5.00	-96.15	-9.61	0.00	-1,067.73	0.00	1,067.73	3,113.28	1,556.64	4,641.42	2,292.22	0.05	-0.09	0.218
10.00	-93.53	-9.53	0.00	-1,019.66	0.00	1,019.66	3,069.45	1,534.72	4,476.09	2,210.57	0.19	-0.18	0.213
13.82	-91.52	-9.46	0.00	-983.27	0.00	983.27	3,035.27	1,517.64	4,350.78	2,148.69	0.35	-0.24	0.208
13.82	-91.52	-9.46	0.00	-983.27	0.00	983.27	3,035.27	1,517.64	4,350.78	2,148.69	0.35	-0.24	0.292
15.00	-90.98	-9.49	0.00	-972.09	0.00	972.09	3,024.57	1,512.28	4,312.14	2,129.61	0.42	-0.26	0.290
20.00	-88.75	-9.46	0.00	-924.65	0.00	924.65	2,978.65	1,489.33	4,149.68	2,049.37	0.76	-0.39	0.284
25.00	-86.58	-9.42	0.00	-877.36	0.00	877.36	2,931.70	1,465.85	3,988.78	1,969.91	1.24	-0.51	0.276
30.00	-84.49	-9.35	0.00	-830.24	0.00	830.24	2,873.79	1,436.89	3,816.40	1,884.77	1.84	-0.64	0.270
31.00	-83.92	-9.32	0.00	-820.90	0.00	820.90	2,859.85	1,429.93	3,779.26	1,866.44	1.98	-0.67	0.269
31.50	-83.71	-9.33	0.00	-816.21	0.00	816.21	2,852.84	1,426.42	3,760.64	1,857.24	2.05	-0.68	0.268
34.00	-82.28	-9.28	0.00	-792.89	0.00	792.89	2,818.05	1,409.02	3,668.95	1,811.96	2.42	-0.74	0.262
35.00	-81.68	-9.26	0.00	-783.61	0.00	783.61	2,804.11	1,402.06	3,632.54	1,793.98	2.58	-0.77	0.260
35.67	-81.31	-9.24	0.00	-777.41	0.00	777.41	2,247.39	1,123.70	2,971.54	1,467.53	2.69	-0.78	0.299
36.00	-81.03	-9.26	0.00	-774.36	0.00	774.36	2,245.17	1,122.59	2,963.78	1,463.70	2.74	-0.79	0.298
40.00	-79.48	-9.22	0.00	-737.33	0.00	737.33	2,217.94	1,108.97	2,870.05	1,417.41	3.45	-0.90	0.290
45.00	-77.57	-9.15	0.00	-691.24	0.00	691.24	2,182.97	1,091.48	2,753.70	1,359.95	4.47	-1.03	0.279
50.00	-75.68	-9.06	0.00	-645.51	0.00	645.51	2,146.96	1,073.48	2,638.35	1,302.98	5.62	-1.16	0.268
55.00	-73.81	-8.96	0.00	-600.21	0.00	600.21	2,109.91	1,054.96	2,524.10	1,246.56	6.90	-1.29	0.256
60.00	-71.96	-8.85	0.00	-555.41	0.00	555.41	2,071.82	1,035.91	2,411.06	1,190.73	8.32	-1.42	0.244
65.00	-70.13	-8.73	0.00	-511.16	0.00	511.16	2,032.70	1,016.35	2,299.33	1,135.55	9.87	-1.54	0.232
70.00	-68.34	-8.57	0.00	-467.53	0.00	467.53	1,981.31	990.65	2,176.68	1,074.98	11.56	-1.67	0.220
70.05	-68.31	-8.58	0.00	-467.07	0.00	467.07	1,980.69	990.35	2,175.31	1,074.30	11.57	-1.67	0.220
73.55	-66.75	-8.47	0.00	-437.03	0.00	437.03	1,473.36	736.68	1,622.77	801.43	12.83	-1.75	0.245
75.00	-66.26	-8.44	0.00	-424.78	0.00	424.78	1,465.95	732.98	1,600.80	790.57	13.36	-1.79	0.240
80.00	-64.59	-8.29	0.00	-382.58	0.00	382.58	1,439.68	719.84	1,525.22	753.25	15.30	-1.91	0.223
85.00	-62.94	-8.13	0.00	-341.14	0.00	341.14	1,412.37	706.19	1,450.29	716.24	17.36	-2.02	0.205
90.00	-61.32	-7.94	0.00	-300.51	0.00	300.51	1,384.02	692.01	1,376.10	679.61	19.54	-2.13	0.187
91.10	-60.62	-7.88	0.00	-291.77	0.00	291.77	1,377.65	688.82	1,359.89	671.60	20.03	-2.16	0.182
91.10	-60.62	-7.88	0.00	-291.77	0.00	291.77	1,377.65	688.82	1,359.89	671.60	20.03	-2.16	0.183
91.50	-60.48	-7.87	0.00	-288.62	0.00	288.62	1,375.32	687.66	1,354.01	668.69	20.21	-2.16	0.181
95.00	-58.96	-7.69	0.00	-261.07	0.00	261.07	1,354.64	677.32	1,302.77	643.39	21.83	-2.24	0.117
98.00	-46.60	-6.05	0.00	-236.10	0.00	236.10	1,336.51	668.25	1,259.21	621.88	23.25	-2.28	0.105
100.00	-45.77	-5.98	0.00	-223.99	0.00	223.99	1,324.21	662.11	1,230.38	607.64	24.21	-2.30	0.101
101.50	-45.10	-5.90	0.00	-215.03	0.00	215.03	1,314.88	657.44	1,208.86	597.01	24.93	-2.32	0.097
101.50	-45.10	-5.90	0.00	-215.03	0.00	215.03	1,314.88	657.44	1,208.86	597.01	24.93	-2.32	0.133
105.00	-43.77	-5.77	0.00	-194.36	0.00	194.36	1,293.27	646.64	1,159.51	572.64	26.65	-2.37	0.124
108.50	-42.49	-5.66	0.00	-174.17	0.00	174.17	1,260.75	630.38	1,101.62	544.05	28.41	-2.42	0.115
108.50	-42.49	-5.66	0.00	-174.17	0.00	174.17	1,260.75	630.38	1,101.62	544.05	28.41	-2.42	0.200
110.00	-42.07	-5.62	0.00	-165.68	0.00	165.68	1,246.82	623.41	1,077.26	532.02	29.18	-2.45	0.194
110.00	-42.07	-5.62	0.00	-165.68	0.00	165.68	1,246.82	623.41	1,077.26	532.02	29.18	-2.45	0.122
110.05	-42.05	-5.60	0.00	-165.39	0.00	165.39	1,246.32	623.16	1,076.40	531.59	29.20	-2.45	0.122
110.05	-42.05	-5.60	0.00	-165.39	0.00	165.39	852.93	426.46	741.03	365.97	29.20	-2.45	0.146
115.00	-38.58	-5.23	0.00	-137.66	0.00	137.66	834.88	417.44	698.45	344.94	31.78	-2.53	0.126
118.00	-36.10	-4.89	0.00	-121.64	0.00	121.64	823.44	411.72	672.79	332.27	33.38	-2.57	0.114
118.50	-35.94	-4.88	0.00	-119.19	0.00	119.19	821.50	410.75	668.53	330.16	33.65	-2.58	0.112
118.50	-35.94	-4.88	0.00	-119.19	0.00	119.19	821.50	410.75	668.53	330.16	33.65	-2.58	0.405
119.00	-35.75	-4.85	0.00	-116.75	0.00	116.75	819.55	409.77	664.27	328.06	33.93	-2.59	0.400
120.00	-35.53	-4.87	0.00	-111.90	0.00	111.90	815.61	407.80	655.76	323.86	34.47	-2.65	0.389
125.00	-34.77	-4.88	0.00	-87.53	0.00	87.53	795.30	397.65	613.53	303.00	37.38	-2.89	0.333
128.00	-26.12	-3.71	0.00	-72.77	0.00	72.77	782.61	391.31	588.45	290.61	39.24	-3.03	0.284

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:39 PM

Customer: METRO PCS INC

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 1.00 in Radial Ice

29 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor :1.00

Wind Importance Factor :1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

130.00	-25.84	-3.70	0.00	-65.35	0.00	65.35	773.95	386.97	571.85	282.42	40.53	-3.11	0.265
135.00	-25.15	-3.65	0.00	-46.86	0.00	46.86	751.56	375.78	530.84	262.16	43.89	-3.29	0.212
138.00	-19.96	-2.92	0.00	-34.25	0.00	34.25	737.63	368.82	506.58	250.18	45.98	-3.38	0.164
140.00	-19.70	-2.90	0.00	-28.41	0.00	28.41	728.14	364.07	490.58	242.28	47.41	-3.43	0.144
141.00	-17.11	-2.49	0.00	-25.51	0.00	25.51	721.90	360.95	481.67	237.88	48.13	-3.46	0.131
145.00	-16.62	-2.41	0.00	-15.56	0.00	15.56	694.03	347.02	445.00	219.77	51.06	-3.53	0.095
150.00	0.00	-1.37	0.00	-3.53	0.00	3.53	659.19	329.60	401.19	198.13	54.78	-3.57	0.018

Load Case: 1.0D + 1.0W	Serviceability 60 mph	26 Iterations
Gust Response Factor :1.10		Wind Importance Factor :1.00
Dead Load Factor :1.00		
Wind Load Factor :1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		64.5	0.0					0.0	0.0	64.5	0.0	0.0	0.0
5.00		127.6	751.8					27.0	877.6	154.6	1,629.4	0.0	0.0
10.00		110.4	735.7					27.0	877.6	137.4	1,613.3	0.0	0.0
13.82	Reinf. Top	61.8	550.9					20.6	670.1	82.4	1,221.0	0.0	0.0
15.00		74.9	168.7					6.4	128.5	81.3	297.2	0.0	0.0
20.00		119.4	703.5					27.0	543.6	146.4	1,247.1	0.0	0.0
25.00		116.7	687.5					27.0	543.6	143.7	1,231.1	0.0	0.0
30.00		69.1	671.4					27.0	543.6	96.1	1,215.0	0.0	0.0
31.00	Appurtenance(s)	17.2	132.3	12.3	0.0	0.0	50.0	5.4	108.7	34.9	291.1	0.0	0.0
31.50	Bot - Section 2	35.2	66.4					2.7	54.7	37.9	121.1	0.0	0.0
34.00	Appurtenance(s)	41.2	605.0	5.8	0.0	17.4	10.0	13.8	271.4	60.8	886.5	0.0	0.0
35.00	Appurtenance(s)	19.8	240.3	5.6	0.0	-16.7	10.0	5.6	108.6	31.0	358.8	0.0	0.0
35.67	Top - Section 1	11.9	160.3					3.8	72.6	15.7	233.0	0.0	0.0
36.00	Appurtenance(s)	51.8	36.2	12.8	0.0	0.0	50.0	1.9	35.8	66.5	122.0	0.0	0.0
40.00		108.3	434.5					23.1	433.7	131.4	868.2	0.0	0.0
45.00		121.3	531.0					29.8	542.1	151.1	1,073.1	0.0	0.0
50.00		121.8	517.6					30.8	542.1	152.6	1,059.7	0.0	0.0
55.00		121.9	504.2					31.7	542.1	153.6	1,046.3	0.0	0.0
60.00		121.7	490.8					32.5	542.1	154.2	1,032.9	0.0	0.0
65.00		121.1	477.4					33.3	542.1	154.4	1,019.5	0.0	0.0
70.00		61.0	464.0					34.0	542.1	95.0	1,006.1	0.0	0.0
70.05	Bot - Section 3	43.4	4.9					0.4	5.8	43.7	10.7	0.0	0.0
73.55	Top - Section 2	60.3	575.5					24.2	379.5	84.6	955.0	0.0	0.0
75.00		77.9	105.4					10.1	156.8	88.0	262.3	0.0	0.0
80.00		120.0	357.5					35.4	542.1	155.4	899.6	0.0	0.0
85.00		118.4	346.8					36.0	542.1	154.4	888.9	0.0	0.0
90.00		71.6	336.0					36.6	542.1	108.2	878.1	0.0	0.0
91.10	Reinf. Top Reinf	17.4	72.5					8.1	379.8	25.6	452.3	0.0	0.0
91.50	Reinf Bottom	45.0	26.2					3.0	43.4	48.0	69.6	0.0	0.0
95.00		74.6	226.6					26.1	617.6	100.7	844.2	0.0	0.0
98.00	Appurtenance(s)	56.8	190.0	906.6	0.0	1,880.7	2,669.5	22.6	529.4	986.0	3,388.9	0.0	0.0
100.00		39.4	124.6					15.2	346.5	54.6	471.0	0.0	0.0
101.50	Reinf. Top Reinf	55.7	92.3					11.4	293.3	67.1	385.5	0.0	0.0
105.00		77.1	211.6					26.9	515.5	104.0	727.1	0.0	0.0
108.50	Reinf. Top	54.5	206.3					27.2	515.5	81.6	721.8	0.0	0.0
110.00	Reinf. Top Reinf	16.8	86.8					9.3	118.9	26.1	205.7	0.0	0.0
110.05	Top - Section 3	53.2	3.1					0.4	7.1	53.6	10.2	0.0	0.0
115.00	Appurtenance(s)	83.9	210.2	84.2	0.0	0.0	560.0	38.8	657.6	206.8	1,427.7	0.0	0.0
118.00	Appurtenance(s)	36.4	123.6	158.8	0.0	317.5	262.2	24.1	398.8	219.3	784.6	0.0	0.0
118.50	Reinf. Top Reinf.	10.3	20.3					4.1	66.1	14.4	86.4	0.0	0.0
119.00	Appurtenance(s)	15.4	20.2	10.8	0.0	0.0	10.0	4.1	18.8	30.3	49.1	0.0	0.0
120.00		52.2	40.2					8.2	34.0	60.4	74.2	0.0	0.0
125.00		66.6	196.4					0.0	170.0	66.6	366.4	0.0	0.0
128.00	Appurtenance(s)	40.8	114.0	699.3	0.0	113.5	2,025.3	0.0	102.0	740.1	2,241.3	0.0	0.0
130.00		55.6	74.4					0.0	58.3	55.6	132.7	0.0	0.0
135.00		62.5	180.3					0.0	145.9	62.5	326.2	0.0	0.0
138.00	Appurtenance(s)	38.1	104.3	394.0	0.0	1,576.0	1,045.6	0.0	87.5	432.1	1,237.4	0.0	0.0
140.00		22.5	67.9					0.0	52.3	22.5	120.3	0.0	0.0

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:48 PM

Customer: METRO PCS INC

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

141.00	Appurtenance(s)	36.7	33.5	153.5	0.0	0.0	750.0	0.0	26.2	190.3	809.7	0.0	0.0
145.00		64.6	130.7					0.0	102.6	64.6	233.3	0.0	0.0
150.00	Appurtenance(s)	35.3	156.2	344.4	0.0	0.0	2,225.0	0.0	127.4	379.7	2,508.5	0.0	0.0
Totals:										6,872.06	39,141.0	0.00	0.00

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-41.06	-7.66	0.00	-799.56	0.00	799.56	3,156.09	1,578.04	4,808.01	2,374.50	0.00	0.00	0.155
5.00	-39.42	-7.55	0.00	-761.24	0.00	761.24	3,113.28	1,556.64	4,641.42	2,292.22	0.03	-0.06	0.151
10.00	-37.80	-7.45	0.00	-723.49	0.00	723.49	3,069.45	1,534.72	4,476.09	2,210.57	0.13	-0.13	0.146
13.82	-36.58	-7.38	0.00	-695.05	0.00	695.05	3,035.27	1,517.64	4,350.78	2,148.69	0.25	-0.17	0.142
13.82	-36.58	-7.38	0.00	-695.05	0.00	695.05	3,035.27	1,517.64	4,350.78	2,148.69	0.25	-0.17	0.200
15.00	-36.27	-7.33	0.00	-686.33	0.00	686.33	3,024.57	1,512.28	4,312.14	2,129.61	0.30	-0.19	0.199
20.00	-35.02	-7.23	0.00	-649.66	0.00	649.66	2,978.65	1,489.33	4,149.68	2,049.37	0.54	-0.28	0.193
25.00	-33.77	-7.14	0.00	-613.49	0.00	613.49	2,931.70	1,465.85	3,988.78	1,969.91	0.88	-0.36	0.187
30.00	-32.55	-7.06	0.00	-577.81	0.00	577.81	2,873.79	1,436.89	3,816.40	1,884.77	1.31	-0.45	0.182
31.00	-32.26	-7.03	0.00	-570.75	0.00	570.75	2,859.85	1,429.93	3,779.26	1,866.44	1.40	-0.47	0.181
31.50	-32.14	-7.01	0.00	-567.21	0.00	567.21	2,852.84	1,426.42	3,760.64	1,857.24	1.45	-0.48	0.180
34.00	-31.25	-6.96	0.00	-549.70	0.00	549.70	2,818.05	1,409.02	3,668.95	1,811.96	1.72	-0.52	0.175
35.00	-30.89	-6.93	0.00	-542.74	0.00	542.74	2,804.11	1,402.06	3,632.54	1,793.98	1.83	-0.54	0.174
35.67	-30.65	-6.92	0.00	-538.10	0.00	538.10	2,247.39	1,123.70	2,971.54	1,467.53	1.90	-0.55	0.200
36.00	-30.53	-6.87	0.00	-535.82	0.00	535.82	2,245.17	1,122.59	2,963.78	1,463.70	1.94	-0.56	0.199
40.00	-29.65	-6.77	0.00	-508.34	0.00	508.34	2,217.94	1,108.97	2,870.05	1,417.41	2.44	-0.63	0.193
45.00	-28.57	-6.65	0.00	-474.48	0.00	474.48	2,182.97	1,091.48	2,753.70	1,359.95	3.15	-0.72	0.185
50.00	-27.50	-6.53	0.00	-441.21	0.00	441.21	2,146.96	1,073.48	2,638.35	1,302.98	3.95	-0.81	0.176
55.00	-26.45	-6.40	0.00	-408.57	0.00	408.57	2,109.91	1,054.96	2,524.10	1,246.56	4.85	-0.90	0.168
60.00	-25.41	-6.27	0.00	-376.57	0.00	376.57	2,071.82	1,035.91	2,411.06	1,190.73	5.84	-0.99	0.159
65.00	-24.38	-6.13	0.00	-345.24	0.00	345.24	2,032.70	1,016.35	2,299.33	1,135.55	6.92	-1.07	0.150
70.00	-23.37	-6.03	0.00	-314.59	0.00	314.59	1,981.31	990.65	2,176.68	1,074.98	8.08	-1.15	0.141
70.05	-23.36	-6.00	0.00	-314.27	0.00	314.27	1,980.69	990.35	2,175.31	1,074.30	8.09	-1.15	0.141
73.55	-22.40	-5.91	0.00	-293.27	0.00	293.27	1,473.36	736.68	1,622.77	801.43	8.96	-1.21	0.157
75.00	-22.14	-5.84	0.00	-284.72	0.00	284.72	1,465.95	732.98	1,600.80	790.57	9.33	-1.23	0.153
80.00	-21.24	-5.69	0.00	-255.53	0.00	255.53	1,439.68	719.84	1,525.22	753.25	10.67	-1.31	0.141
85.00	-20.34	-5.54	0.00	-227.07	0.00	227.07	1,412.37	706.19	1,450.29	716.24	12.09	-1.39	0.129
90.00	-19.46	-5.43	0.00	-199.35	0.00	199.35	1,384.02	692.01	1,376.10	679.61	13.58	-1.46	0.116
91.10	-19.01	-5.39	0.00	-193.38	0.00	193.38	1,377.65	688.82	1,359.89	671.60	13.92	-1.48	0.113
91.10	-19.01	-5.39	0.00	-193.38	0.00	193.38	1,377.65	688.82	1,359.89	671.60	13.92	-1.48	0.113
91.50	-18.94	-5.35	0.00	-191.22	0.00	191.22	1,375.32	687.66	1,354.01	668.69	14.05	-1.49	0.112
95.00	-18.10	-5.24	0.00	-172.49	0.00	172.49	1,354.64	677.32	1,302.77	643.39	15.16	-1.53	0.072
98.00	-14.73	-4.17	0.00	-154.88	0.00	154.88	1,336.51	668.25	1,259.21	621.88	16.13	-1.56	0.065
100.00	-14.26	-4.11	0.00	-146.53	0.00	146.53	1,324.21	662.11	1,230.38	607.64	16.79	-1.58	0.062
101.50	-13.88	-4.03	0.00	-140.37	0.00	140.37	1,314.88	657.44	1,208.86	597.01	17.28	-1.59	0.060
101.50	-13.88	-4.03	0.00	-140.37	0.00	140.37	1,314.88	657.44	1,208.86	597.01	17.28	-1.59	0.083
105.00	-13.15	-3.92	0.00	-126.25	0.00	126.25	1,293.27	646.64	1,159.51	572.64	18.46	-1.62	0.076
108.50	-12.43	-3.82	0.00	-112.54	0.00	112.54	1,260.75	630.38	1,101.62	544.05	19.66	-1.66	0.070
108.50	-12.43	-3.82	0.00	-112.54	0.00	112.54	1,260.75	630.38	1,101.62	544.05	19.66	-1.66	0.122
110.00	-12.23	-3.79	0.00	-106.81	0.00	106.81	1,246.82	623.41	1,077.26	532.02	20.19	-1.67	0.118
110.00	-12.23	-3.79	0.00	-106.81	0.00	106.81	1,246.82	623.41	1,077.26	532.02	20.19	-1.67	0.074
110.05	-12.22	-3.74	0.00	-106.61	0.00	106.61	1,246.32	623.16	1,076.40	531.59	20.20	-1.67	0.074
110.05	-12.22	-3.74	0.00	-106.61	0.00	106.61	852.93	426.46	741.03	365.97	20.20	-1.67	0.089
115.00	-10.79	-3.50	0.00	-88.09	0.00	88.09	834.88	417.44	698.45	344.94	21.96	-1.72	0.076
118.00	-10.01	-3.26	0.00	-77.27	0.00	77.27	823.44	411.72	672.79	332.27	23.06	-1.75	0.068
118.50	-9.93	-3.25	0.00	-75.64	0.00	75.64	821.50	410.75	668.53	330.16	23.24	-1.76	0.067
118.50	-9.93	-3.25	0.00	-75.64	0.00	75.64	821.50	410.75	668.53	330.16	23.24	-1.76	0.241
119.00	-9.88	-3.22	0.00	-74.02	0.00	74.02	819.55	409.77	664.27	328.06	23.42	-1.76	0.238
120.00	-9.80	-3.17	0.00	-70.80	0.00	70.80	815.61	407.80	655.76	323.86	23.80	-1.80	0.231
125.00	-9.43	-3.11	0.00	-54.95	0.00	54.95	795.30	397.65	613.53	303.00	25.77	-1.95	0.193
128.00	-7.21	-2.30	0.00	-45.50	0.00	45.50	782.61	391.31	588.45	290.61	27.02	-2.04	0.166

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:49 PM

Customer: METRO PCS INC

Load Case: 1.0D + 1.0W

Serviceability 60 mph

26 Iterations

Gust Response Factor :1.10

Wind Importance Factor :1.00

Dead Load Factor :1.00

Wind Load Factor :1.00

130.00	-7.08	-2.25	0.00	-40.89	0.00	40.89	773.95	386.97	571.85	282.42	27.89	-2.09	0.154
135.00	-6.75	-2.19	0.00	-29.62	0.00	29.62	751.56	375.78	530.84	262.16	30.14	-2.20	0.122
138.00	-5.53	-1.71	0.00	-21.48	0.00	21.48	737.63	368.82	506.58	250.18	31.54	-2.26	0.093
140.00	-5.41	-1.69	0.00	-18.06	0.00	18.06	728.14	364.07	490.58	242.28	32.50	-2.29	0.082
141.00	-4.61	-1.47	0.00	-16.37	0.00	16.37	721.90	360.95	481.67	237.88	32.98	-2.31	0.075
145.00	-4.38	-1.40	0.00	-10.50	0.00	10.50	694.03	347.02	445.00	219.77	34.93	-2.35	0.054
150.00	0.00	-1.21	0.00	-3.51	0.00	3.51	659.19	329.60	401.19	198.13	37.42	-2.39	0.018

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	3.06
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	41.06 k
Seismic Base Shear (E):	1.60 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
50	147.50	284	6,168	0.018	28	351
49	143.00	233	4,771	0.014	22	289
48	140.50	60	1,178	0.003	5	74
47	139.00	120	2,324	0.007	11	149
46	136.50	192	3,574	0.010	16	238
45	132.50	326	5,726	0.016	26	404
44	129.00	133	2,208	0.006	10	164
43	126.50	216	3,456	0.010	16	267
42	122.50	366	5,498	0.016	25	454
41	119.50	74	1,060	0.003	5	92
40	118.75	39	551	0.002	3	48
39	118.25	86	1,208	0.003	6	107
38	116.50	522	7,090	0.020	32	647
37	112.53	868	10,987	0.031	50	1,075
36	110.03	10	123	0.000	1	13
35	109.25	206	2,455	0.007	11	255
34	106.75	722	8,225	0.023	38	894
33	103.25	727	7,751	0.022	35	900
32	100.75	386	3,914	0.011	18	477
31	99.00	471	4,617	0.013	21	583
30	96.50	719	6,699	0.019	31	891
29	93.25	844	7,341	0.021	34	1,045
28	91.30	70	580	0.002	3	86

27	90.55	452	3,708	0.011	17	560
26	87.50	878	6,723	0.019	31	1,087
25	82.50	889	6,050	0.017	28	1,101
24	77.50	900	5,403	0.015	25	1,114
23	74.28	262	1,447	0.004	7	325
22	71.80	955	4,924	0.014	22	1,183
21	70.03	11	52	0.000	0	13
20	67.50	1,006	4,584	0.013	21	1,246
19	62.50	1,020	3,983	0.011	18	1,263
18	57.50	1,033	3,415	0.010	16	1,279
17	52.50	1,046	2,884	0.008	13	1,296
16	47.50	1,060	2,391	0.007	11	1,312
15	42.50	1,073	1,938	0.006	9	1,329
14	38.00	868	1,254	0.004	6	1,075
13	35.83	72	92	0.000	0	89
12	35.33	233	291	0.001	1	288
11	34.50	349	415	0.001	2	432
10	32.75	876	940	0.003	4	1,085
9	31.25	121	118	0.000	1	150
8	30.50	241	224	0.001	1	299
7	27.50	1,215	919	0.003	4	1,505
6	22.50	1,231	623	0.002	3	1,525
5	17.50	1,247	382	0.001	2	1,544
4	14.41	297	62	0.000	0	368
3	11.91	1,221	173	0.000	1	1,512
2	7.50	1,613	91	0.000	0	1,998
1	2.50	1,629	10	0.000	0	2,018
Powerwave Allgon 702	153.00	13	309	0.001	1	16
Kaelus DBCT108F1V92-	153.00	42	976	0.003	4	52
Powerwave Allgon LGP	153.00	85	1,980	0.006	9	105
Raycap DC6-48-60-18-	153.00	40	936	0.003	4	50
Raycap DC6-48-60-18-	153.00	20	468	0.001	2	25
Ericsson Radio 8843	153.00	216	5,049	0.014	23	267
Ericsson RRUS 4449 B	153.00	213	4,986	0.014	23	264
Ericsson RRUS 4478 B	153.00	178	4,171	0.012	19	221
Ericsson RRUS-32 (77	153.00	231	5,407	0.015	25	286
Powerwave Allgon 777	153.00	81	1,896	0.005	9	100
CCI OPA-65R-LCUU-H6	153.00	219	5,127	0.015	23	271
Kathrein Scala 80010	153.00	586	13,708	0.039	63	725
Generic Round Side A	150.00	225	5,063	0.014	23	279
Round Platform w/ Ha	150.00	2,000	45,000	0.128	206	2,477
Round T-Arm	141.00	750	14,911	0.043	68	929
RFS IBC1900HG-2A	138.00	66	1,257	0.004	6	82
RFS IBC1900BB-1	138.00	66	1,257	0.004	6	82
Alcatel-Lucent 4X40W	138.00	178	3,399	0.010	16	221
Alcatel-Lucent 800 M	138.00	185	3,531	0.010	16	230
Alcatel-Lucent TD-RR	138.00	210	3,999	0.011	18	260
RFS APXVTM14-C-I20	138.00	159	3,022	0.009	14	197
RFS APXVSP18-C-A20	138.00	57	1,086	0.003	5	71
RFS APXV9ERR18-C-A20	138.00	124	2,361	0.007	11	154
Ericsson Radio 4449	128.00	222	3,637	0.010	17	275
Ericsson AIR 21	128.00	273	4,473	0.013	20	338
Ericsson AIR32 B66Aa	128.00	397	6,498	0.019	30	491
Round T-Arm	128.00	750	12,288	0.035	56	929
RFS APXVAARR24_43-U-	128.00	384	6,287	0.018	29	475
Generic 12" x 12" Ju	119.00	10	142	0.000	1	12
DragonWave Horizon C	118.00	32	443	0.001	2	39
DragonWave A-ANT-23G	118.00	15	209	0.001	1	19
NextNet BTS-2500	118.00	105	1,462	0.004	7	130
Argus LLPX310R	118.00	86	1,195	0.003	5	106
DragonWave A-ANT-23G	118.00	25	343	0.001	2	30
Collar	115.00	560	7,406	0.021	34	694
Alcatel-Lucent RRH2X	98.00	138	1,325	0.004	6	171
Alcatel-Lucent RRH2x	98.00	170	1,634	0.005	7	211

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

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Customer: METRO PCS INC

Alcatel-Lucent RRH2X	98.00	165	1,585	0.005	7	204
RFS DB-T1-6Z-8AB-0Z	98.00	88	845	0.002	4	109
Andrew SBNHH-1D65B	98.00	608	5,843	0.017	27	753
Generic Flat Light S	98.00	1,500	14,406	0.041	66	1,858
Stand-off	36.00	50	65	0.000	0	62
Generic GPS	35.00	10	12	0.000	0	12
Generic GPS	34.00	10	12	0.000	0	12
Stand-off	31.00	50	48	0.000	0	62
		41,064	350,660	1.000	1,601	50,854

Load Case (0.9 - 0.2Sds) * DL + E ELFM

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
50	147.50	284	6,168	0.018	28	244
49	143.00	233	4,771	0.014	22	201
48	140.50	60	1,178	0.003	5	51
47	139.00	120	2,324	0.007	11	104
46	136.50	192	3,574	0.010	16	165
45	132.50	326	5,726	0.016	26	281
44	129.00	133	2,208	0.006	10	114
43	126.50	216	3,456	0.010	16	186
42	122.50	366	5,498	0.016	25	316
41	119.50	74	1,060	0.003	5	64
40	118.75	39	551	0.002	3	34
39	118.25	86	1,208	0.003	6	74
38	116.50	522	7,090	0.020	32	450
37	112.53	868	10,987	0.031	50	748
36	110.03	10	123	0.000	1	9
35	109.25	206	2,455	0.007	11	177
34	106.75	722	8,225	0.023	38	622
33	103.25	727	7,751	0.022	35	626
32	100.75	386	3,914	0.011	18	332
31	99.00	471	4,617	0.013	21	406
30	96.50	719	6,699	0.019	31	620
29	93.25	844	7,341	0.021	34	727
28	91.30	70	580	0.002	3	60
27	90.55	452	3,708	0.011	17	390
26	87.50	878	6,723	0.019	31	757
25	82.50	889	6,050	0.017	28	766
24	77.50	900	5,403	0.015	25	775
23	74.28	262	1,447	0.004	7	226
22	71.80	955	4,924	0.014	22	823
21	70.03	11	52	0.000	0	9
20	67.50	1,006	4,584	0.013	21	867
19	62.50	1,020	3,983	0.011	18	878
18	57.50	1,033	3,415	0.010	16	890
17	52.50	1,046	2,884	0.008	13	902
16	47.50	1,060	2,391	0.007	11	913
15	42.50	1,073	1,938	0.006	9	925
14	38.00	868	1,254	0.004	6	748
13	35.83	72	92	0.000	0	62
12	35.33	233	291	0.001	1	201
11	34.50	349	415	0.001	2	301
10	32.75	876	940	0.003	4	755
9	31.25	121	118	0.000	1	104
8	30.50	241	224	0.001	1	208
7	27.50	1,215	919	0.003	4	1,047
6	22.50	1,231	623	0.002	3	1,061
5	17.50	1,247	382	0.001	2	1,075

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

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Customer: METRO PCS INC

4	14.41	297	62	0.000	0	256
3	11.91	1,221	173	0.000	1	1,052
2	7.50	1,613	91	0.000	0	1,390
1	2.50	1,629	10	0.000	0	1,404
Powerwave Allgon 702	153.00	13	309	0.001	1	11
Kaelus DBCT108F1V92-	153.00	42	976	0.003	4	36
Powerwave Allgon LGP	153.00	85	1,980	0.006	9	73
Raycap DC6-48-60-18-	153.00	40	936	0.003	4	34
Raycap DC6-48-60-18-	153.00	20	468	0.001	2	17
Ericsson Radio 8843	153.00	216	5,049	0.014	23	186
Ericsson RRUS 4449 B	153.00	213	4,986	0.014	23	184
Ericsson RRUS 4478 B	153.00	178	4,171	0.012	19	154
Ericsson RRUS-32 (77	153.00	231	5,407	0.015	25	199
Powerwave Allgon 777	153.00	81	1,896	0.005	9	70
CCI OPA-65R-LCUU-H6	153.00	219	5,127	0.015	23	189
Kathrein Scala 80010	153.00	586	13,708	0.039	63	505
Generic Round Side A	150.00	225	5,063	0.014	23	194
Round Platform w/ Ha	150.00	2,000	45,000	0.128	206	1,723
Round T-Arm	141.00	750	14,911	0.043	68	646
RFS IBC1900HG-2A	138.00	66	1,257	0.004	6	57
RFS IBC1900BB-1	138.00	66	1,257	0.004	6	57
Alcatel-Lucent 4X40W	138.00	178	3,399	0.010	16	154
Alcatel-Lucent 800 M	138.00	185	3,531	0.010	16	160
Alcatel-Lucent TD-RR	138.00	210	3,999	0.011	18	181
RFS APXVTM14-C-I20	138.00	159	3,022	0.009	14	137
RFS APXVSP18-C-A20	138.00	57	1,086	0.003	5	49
RFS APXV9ERR18-C-A20	138.00	124	2,361	0.007	11	107
Ericsson Radio 4449	128.00	222	3,637	0.010	17	191
Ericsson AIR 21	128.00	273	4,473	0.013	20	235
Ericsson AIR32 B66Aa	128.00	397	6,498	0.019	30	342
Round T-Arm	128.00	750	12,288	0.035	56	646
RFS APXVAARR24_43-U-	128.00	384	6,287	0.018	29	331
Generic 12" x 12" Ju	119.00	10	142	0.000	1	9
DragonWave Horizon C	118.00	32	443	0.001	2	27
DragonWave A-ANT-23G	118.00	15	209	0.001	1	13
NextNet BTS-2500	118.00	105	1,462	0.004	7	90
Argus LLPX310R	118.00	86	1,195	0.003	5	74
DragonWave A-ANT-23G	118.00	25	343	0.001	2	21
Collar	115.00	560	7,406	0.021	34	482
Alcatel-Lucent RRH2X	98.00	138	1,325	0.004	6	119
Alcatel-Lucent RRH2x	98.00	170	1,634	0.005	7	147
Alcatel-Lucent RRH2X	98.00	165	1,585	0.005	7	142
RFS DB-T1-6Z-8AB-0Z	98.00	88	845	0.002	4	76
Andrew SBNHH-1D65B	98.00	608	5,843	0.017	27	524
Generic Flat Light S	98.00	1,500	14,406	0.041	66	1,292
Stand-off	36.00	50	65	0.000	0	43
Generic GPS	35.00	10	12	0.000	0	9
Generic GPS	34.00	10	12	0.000	0	9
Stand-off	31.00	50	48	0.000	0	43
		41,064	350,660	1.000	1,601	35,381

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg	Pu	Vu	Tu	Mu	Mu	Resultant	phi	phi	phi	phi	Total	Total	
Elev	FY (-)	FX (-)	MY	MZ	MX	Moment	Pn	Vn	Tn	Mn	Deflect	Rotation	Ratio
(ft)	(kips)	(kips)	(ft-kips)	(ft-kips)	(ft-kips)	(ft-kips)	(kips)	(kips)	(ft-kips)	(ft-kips)	(in)	(deg)	
0.00	-46.45	-1.40	0.00	-171.19	0.00	171.19	3,156.09	1,578.04	4,808.01	2,374.50	0.00	0.00	0.040
5.00	-44.46	-1.41	0.00	-164.18	0.00	164.18	3,113.28	1,556.64	4,641.42	2,292.22	0.01	-0.01	0.039
10.00	-42.94	-1.42	0.00	-157.13	0.00	157.13	3,069.45	1,534.72	4,476.09	2,210.57	0.03	-0.03	0.038
13.82	-42.58	-1.42	0.00	-151.72	0.00	151.72	3,035.27	1,517.64	4,350.78	2,148.69	0.05	-0.04	0.037
13.82	-42.58	-1.42	0.00	-151.72	0.00	151.72	3,035.27	1,517.64	4,350.78	2,148.69	0.05	-0.04	0.051
15.00	-41.03	-1.43	0.00	-150.04	0.00	150.04	3,024.57	1,512.28	4,312.14	2,129.61	0.06	-0.04	0.051
20.00	-39.51	-1.44	0.00	-142.90	0.00	142.90	2,978.65	1,489.33	4,149.68	2,049.37	0.12	-0.06	0.050
25.00	-38.00	-1.44	0.00	-135.71	0.00	135.71	2,931.70	1,465.85	3,988.78	1,969.91	0.19	-0.08	0.048
30.00	-37.70	-1.45	0.00	-128.49	0.00	128.49	2,873.79	1,436.89	3,816.40	1,884.77	0.28	-0.10	0.047
31.00	-37.49	-1.45	0.00	-127.04	0.00	127.04	2,859.85	1,429.93	3,779.26	1,866.44	0.30	-0.10	0.047
31.50	-36.40	-1.45	0.00	-126.31	0.00	126.31	2,852.84	1,426.42	3,760.64	1,857.24	0.32	-0.10	0.047
34.00	-35.96	-1.45	0.00	-122.70	0.00	122.70	2,818.05	1,409.02	3,668.95	1,811.96	0.37	-0.11	0.046
35.00	-35.66	-1.45	0.00	-121.25	0.00	121.25	2,804.11	1,402.06	3,632.54	1,793.98	0.40	-0.12	0.046
35.67	-35.57	-1.45	0.00	-120.28	0.00	120.28	2,247.39	1,123.70	2,971.54	1,467.53	0.41	-0.12	0.053
36.00	-34.43	-1.45	0.00	-119.80	0.00	119.80	2,245.17	1,122.59	2,963.78	1,463.70	0.42	-0.12	0.052
40.00	-33.10	-1.45	0.00	-114.01	0.00	114.01	2,217.94	1,108.97	2,870.05	1,417.41	0.53	-0.14	0.051
45.00	-31.79	-1.44	0.00	-106.78	0.00	106.78	2,182.97	1,091.48	2,753.70	1,359.95	0.69	-0.16	0.049
50.00	-30.49	-1.44	0.00	-99.56	0.00	99.56	2,146.96	1,073.48	2,638.35	1,302.98	0.87	-0.18	0.047
55.00	-29.21	-1.43	0.00	-92.38	0.00	92.38	2,109.91	1,054.96	2,524.10	1,246.56	1.07	-0.20	0.044
60.00	-27.95	-1.41	0.00	-85.24	0.00	85.24	2,071.82	1,035.91	2,411.06	1,190.73	1.28	-0.22	0.042
65.00	-26.70	-1.40	0.00	-78.17	0.00	78.17	2,032.70	1,016.35	2,299.33	1,135.55	1.52	-0.24	0.040
70.00	-26.69	-1.40	0.00	-71.19	0.00	71.19	1,981.31	990.65	2,176.68	1,074.98	1.78	-0.26	0.038
70.05	-25.51	-1.38	0.00	-71.12	0.00	71.12	1,980.69	990.35	2,175.31	1,074.30	1.79	-0.26	0.038
73.55	-25.18	-1.37	0.00	-66.30	0.00	66.30	1,473.36	736.68	1,622.77	801.43	1.98	-0.27	0.043
75.00	-24.07	-1.35	0.00	-64.32	0.00	64.32	1,465.95	732.98	1,600.80	790.57	2.06	-0.27	0.041
80.00	-22.97	-1.32	0.00	-57.58	0.00	57.58	1,439.68	719.84	1,525.22	753.25	2.36	-0.29	0.038
85.00	-21.88	-1.29	0.00	-50.98	0.00	50.98	1,412.37	706.19	1,450.29	716.24	2.68	-0.31	0.035
90.00	-21.32	-1.27	0.00	-44.52	0.00	44.52	1,384.02	692.01	1,376.10	679.61	3.01	-0.33	0.032
91.10	-21.23	-1.27	0.00	-43.12	0.00	43.12	1,377.65	688.82	1,359.89	671.60	3.09	-0.33	0.031
91.10	-21.23	-1.27	0.00	-43.12	0.00	43.12	1,377.65	688.82	1,359.89	671.60	3.09	-0.33	0.031
91.50	-20.19	-1.23	0.00	-42.61	0.00	42.61	1,375.32	687.66	1,354.01	668.69	3.11	-0.33	0.031
95.00	-19.30	-1.20	0.00	-38.29	0.00	38.29	1,354.64	677.32	1,302.77	643.39	3.36	-0.34	0.020
98.00	-15.41	-1.04	0.00	-34.69	0.00	34.69	1,336.51	668.25	1,259.21	621.88	3.58	-0.35	0.017
100.00	-14.93	-1.02	0.00	-32.60	0.00	32.60	1,324.21	662.11	1,230.38	607.64	3.73	-0.35	0.017
101.50	-14.03	-0.98	0.00	-31.07	0.00	31.07	1,314.88	657.44	1,208.86	597.01	3.84	-0.36	0.016
101.50	-14.03	-0.98	0.00	-31.07	0.00	31.07	1,314.88	657.44	1,208.86	597.01	3.84	-0.36	0.021
105.00	-13.14	-0.94	0.00	-27.64	0.00	27.64	1,293.27	646.64	1,159.51	572.64	4.10	-0.36	0.019
108.50	-12.88	-0.93	0.00	-24.34	0.00	24.34	1,260.75	630.38	1,101.62	544.05	4.37	-0.37	0.018
108.50	-12.88	-0.93	0.00	-24.34	0.00	24.34	1,260.75	630.38	1,101.62	544.05	4.37	-0.37	0.031
110.00	-12.87	-0.93	0.00	-22.95	0.00	22.95	1,246.82	623.41	1,077.26	532.02	4.48	-0.37	0.030
110.00	-12.87	-0.93	0.00	-22.95	0.00	22.95	1,246.82	623.41	1,077.26	532.02	4.48	-0.37	0.019
110.05	-11.80	-0.87	0.00	-22.90	0.00	22.90	1,246.32	623.16	1,076.40	531.59	4.49	-0.37	0.019
110.05	-11.80	-0.87	0.00	-22.90	0.00	22.90	852.93	426.46	741.03	365.97	4.49	-0.37	0.022
115.00	-10.46	-0.80	0.00	-18.59	0.00	18.59	834.88	417.44	698.45	344.94	4.88	-0.38	0.019
118.00	-10.02	-0.77	0.00	-16.19	0.00	16.19	823.44	411.72	672.79	332.27	5.12	-0.39	0.017
118.50	-9.98	-0.77	0.00	-15.80	0.00	15.80	821.50	410.75	668.53	330.16	5.16	-0.39	0.017
118.50	-9.98	-0.77	0.00	-15.80	0.00	15.80	821.50	410.75	668.53	330.16	5.16	-0.39	0.060
119.00	-9.87	-0.77	0.00	-15.42	0.00	15.42	819.55	409.77	664.27	328.06	5.21	-0.39	0.059
120.00	-9.42	-0.74	0.00	-14.65	0.00	14.65	815.61	407.80	655.76	323.86	5.29	-0.40	0.057
125.00	-9.15	-0.73	0.00	-10.94	0.00	10.94	795.30	397.65	613.53	303.00	5.72	-0.43	0.048
128.00	-6.48	-0.55	0.00	-8.76	0.00	8.76	782.61	391.31	588.45	290.61	6.00	-0.45	0.038
130.00	-6.08	-0.52	0.00	-7.67	0.00	7.67	773.95	386.97	571.85	282.42	6.19	-0.46	0.035
135.00	-5.84	-0.50	0.00	-5.07	0.00	5.07	751.56	375.78	530.84	262.16	6.68	-0.48	0.027
138.00	-4.39	-0.39	0.00	-3.56	0.00	3.56	737.63	368.82	506.58	250.18	6.98	-0.49	0.020
140.00	-4.32	-0.38	0.00	-2.78	0.00	2.78	728.14	364.07	490.58	242.28	7.19	-0.49	0.017
141.00	-3.10	-0.28	0.00	-2.40	0.00	2.40	721.90	360.95	481.67	237.88	7.29	-0.49	0.014

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

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Customer: METRO PCS INC

145.00	-2.75	-0.25	0.00	-1.26	0.00	1.26	694.03	347.02	445.00	219.77	7.71	-0.50	0.010
150.00	0.00	-0.23	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	8.24	-0.50	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELMF

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.32	-1.40	0.00	-167.56	0.00	167.56	3,156.09	1,578.04	4,808.01	2,374.50	0.00	0.00	0.037
5.00	-30.93	-1.41	0.00	-160.56	0.00	160.56	3,113.28	1,556.64	4,641.42	2,292.22	0.01	-0.01	0.036
10.00	-29.88	-1.41	0.00	-153.53	0.00	153.53	3,069.45	1,534.72	4,476.09	2,210.57	0.03	-0.03	0.035
13.82	-29.62	-1.41	0.00	-148.15	0.00	148.15	3,035.27	1,517.64	4,350.78	2,148.69	0.05	-0.04	0.034
13.82	-29.62	-1.41	0.00	-148.15	0.00	148.15	3,035.27	1,517.64	4,350.78	2,148.69	0.05	-0.04	0.048
15.00	-28.55	-1.42	0.00	-146.48	0.00	146.48	3,024.57	1,512.28	4,312.14	2,129.61	0.06	-0.04	0.047
20.00	-27.49	-1.42	0.00	-139.40	0.00	139.40	2,978.65	1,489.33	4,149.68	2,049.37	0.11	-0.06	0.046
25.00	-26.44	-1.42	0.00	-132.29	0.00	132.29	2,931.70	1,465.85	3,988.78	1,969.91	0.19	-0.08	0.045
30.00	-26.23	-1.43	0.00	-125.16	0.00	125.16	2,873.79	1,436.89	3,816.40	1,884.77	0.28	-0.10	0.044
31.00	-26.08	-1.43	0.00	-123.73	0.00	123.73	2,859.85	1,429.93	3,779.26	1,866.44	0.30	-0.10	0.044
31.50	-25.33	-1.43	0.00	-123.02	0.00	123.02	2,852.84	1,426.42	3,760.64	1,857.24	0.31	-0.10	0.043
34.00	-25.02	-1.43	0.00	-119.45	0.00	119.45	2,818.05	1,409.02	3,668.95	1,811.96	0.36	-0.11	0.042
35.00	-24.81	-1.43	0.00	-118.03	0.00	118.03	2,804.11	1,402.06	3,632.54	1,793.98	0.39	-0.12	0.042
35.67	-24.75	-1.43	0.00	-117.07	0.00	117.07	2,247.39	1,123.70	2,971.54	1,467.53	0.40	-0.12	0.048
36.00	-23.95	-1.42	0.00	-116.60	0.00	116.60	2,245.17	1,122.59	2,963.78	1,463.70	0.41	-0.12	0.048
40.00	-23.03	-1.42	0.00	-110.91	0.00	110.91	2,217.94	1,108.97	2,870.05	1,417.41	0.52	-0.14	0.047
45.00	-22.12	-1.41	0.00	-103.82	0.00	103.82	2,182.97	1,091.48	2,753.70	1,359.95	0.67	-0.16	0.045
50.00	-21.21	-1.40	0.00	-96.76	0.00	96.76	2,146.96	1,073.48	2,638.35	1,302.98	0.85	-0.17	0.043
55.00	-20.32	-1.39	0.00	-89.73	0.00	89.73	2,109.91	1,054.96	2,524.10	1,246.56	1.04	-0.19	0.041
60.00	-19.45	-1.38	0.00	-82.77	0.00	82.77	2,071.82	1,035.91	2,411.06	1,190.73	1.25	-0.21	0.039
65.00	-18.58	-1.36	0.00	-75.88	0.00	75.88	2,032.70	1,016.35	2,299.33	1,135.55	1.49	-0.23	0.037
70.00	-18.57	-1.36	0.00	-69.08	0.00	69.08	1,981.31	990.65	2,176.68	1,074.98	1.74	-0.25	0.035
70.05	-17.75	-1.34	0.00	-69.01	0.00	69.01	1,980.69	990.35	2,175.31	1,074.30	1.74	-0.25	0.035
73.55	-17.52	-1.33	0.00	-64.33	0.00	64.33	1,473.36	736.68	1,622.77	801.43	1.93	-0.26	0.039
75.00	-16.74	-1.31	0.00	-62.40	0.00	62.40	1,465.95	732.98	1,600.80	790.57	2.01	-0.27	0.038
80.00	-15.98	-1.28	0.00	-55.86	0.00	55.86	1,439.68	719.84	1,525.22	753.25	2.30	-0.29	0.035
85.00	-15.22	-1.25	0.00	-49.45	0.00	49.45	1,412.37	706.19	1,450.29	716.24	2.61	-0.30	0.032
90.00	-14.83	-1.23	0.00	-43.19	0.00	43.19	1,384.02	692.01	1,376.10	679.61	2.93	-0.32	0.029
91.10	-14.77	-1.23	0.00	-41.83	0.00	41.83	1,377.65	688.82	1,359.89	671.60	3.01	-0.32	0.028
91.10	-14.77	-1.23	0.00	-41.83	0.00	41.83	1,377.65	688.82	1,359.89	671.60	3.01	-0.32	0.028
91.50	-14.04	-1.20	0.00	-41.34	0.00	41.34	1,375.32	687.66	1,354.01	668.69	3.03	-0.32	0.028
95.00	-13.42	-1.16	0.00	-37.15	0.00	37.15	1,354.64	677.32	1,302.77	643.39	3.27	-0.33	0.018
98.00	-10.72	-1.01	0.00	-33.66	0.00	33.66	1,336.51	668.25	1,259.21	621.88	3.49	-0.34	0.016
100.00	-10.39	-0.99	0.00	-31.64	0.00	31.64	1,324.21	662.11	1,230.38	607.64	3.63	-0.34	0.015
101.50	-9.76	-0.95	0.00	-30.15	0.00	30.15	1,314.88	657.44	1,208.86	597.01	3.74	-0.35	0.014
101.50	-9.76	-0.95	0.00	-30.15	0.00	30.15	1,314.88	657.44	1,208.86	597.01	3.74	-0.35	0.020
105.00	-9.14	-0.91	0.00	-26.81	0.00	26.81	1,293.27	646.64	1,159.51	572.64	3.99	-0.35	0.018
108.50	-8.96	-0.90	0.00	-23.62	0.00	23.62	1,260.75	630.38	1,101.62	544.05	4.25	-0.36	0.016
108.50	-8.96	-0.90	0.00	-23.62	0.00	23.62	1,260.75	630.38	1,101.62	544.05	4.25	-0.36	0.029
110.00	-8.95	-0.90	0.00	-22.26	0.00	22.26	1,246.82	623.41	1,077.26	532.02	4.37	-0.36	0.028
110.00	-8.95	-0.90	0.00	-22.26	0.00	22.26	1,246.82	623.41	1,077.26	532.02	4.37	-0.36	0.017
110.05	-8.21	-0.85	0.00	-22.22	0.00	22.22	1,246.32	623.16	1,076.40	531.59	4.37	-0.36	0.017
110.05	-8.21	-0.85	0.00	-22.22	0.00	22.22	852.93	426.46	741.03	365.97	4.37	-0.36	0.021
115.00	-7.27	-0.78	0.00	-18.02	0.00	18.02	834.88	417.44	698.45	344.94	4.75	-0.37	0.017
118.00	-6.97	-0.75	0.00	-15.70	0.00	15.70	823.44	411.72	672.79	332.27	4.99	-0.38	0.016
118.50	-6.94	-0.75	0.00	-15.32	0.00	15.32	821.50	410.75	668.53	330.16	5.03	-0.38	0.015
118.50	-6.94	-0.75	0.00	-15.32	0.00	15.32	821.50	410.75	668.53	330.16	5.03	-0.38	0.055
119.00	-6.87	-0.74	0.00	-14.95	0.00	14.95	819.55	409.77	664.27	328.06	5.07	-0.38	0.054
120.00	-6.55	-0.72	0.00	-14.20	0.00	14.20	815.61	407.80	655.76	323.86	5.15	-0.39	0.052
125.00	-6.37	-0.70	0.00	-10.60	0.00	10.60	795.30	397.65	613.53	303.00	5.57	-0.42	0.043
128.00	-4.51	-0.53	0.00	-8.49	0.00	8.49	782.61	391.31	588.45	290.61	5.84	-0.44	0.035
130.00	-4.23	-0.50	0.00	-7.43	0.00	7.43	773.95	386.97	571.85	282.42	6.02	-0.44	0.032
135.00	-4.06	-0.49	0.00	-4.91	0.00	4.91	751.56	375.78	530.84	262.16	6.50	-0.46	0.024
138.00	-3.06	-0.38	0.00	-3.45	0.00	3.45	737.63	368.82	506.58	250.18	6.80	-0.47	0.018
140.00	-3.01	-0.37	0.00	-2.70	0.00	2.70	728.14	364.07	490.58	242.28	7.00	-0.48	0.015
141.00	-2.16	-0.27	0.00	-2.32	0.00	2.32	721.90	360.95	481.67	237.88	7.10	-0.48	0.013

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:49 PM

Customer: METRO PCS INC

145.00	-1.92	-0.24	0.00	-1.22	0.00	1.22	694.03	347.02	445.00	219.77	7.50	-0.49	0.008
150.00	0.00	-0.23	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	8.01	-0.49	0.000

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	3.06
Redundancy Factor (ρ):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
50	147.50	284	1.828	1.667	1.025	0.321	79	351
49	143.00	233	1.718	1.191	0.842	0.255	52	289
48	140.50	60	1.658	0.970	0.752	0.221	11	74
47	139.00	120	1.623	0.851	0.702	0.201	21	149
46	136.50	192	1.565	0.674	0.624	0.171	28	238
45	132.50	326	1.475	0.441	0.513	0.125	35	404
44	129.00	133	1.398	0.280	0.430	0.090	10	164
43	126.50	216	1.344	0.186	0.377	0.067	13	267
42	122.50	366	1.261	0.069	0.302	0.035	11	454
41	119.50	74	1.200	0.004	0.254	0.013	1	92
40	118.75	39	1.185	-0.009	0.243	0.008	0	48
39	118.25	86	1.175	-0.018	0.236	0.005	0	107
38	116.50	522	1.140	-0.045	0.213	-0.006	-2	647
37	112.53	868	1.064	-0.088	0.165	-0.026	-20	1,075
36	110.03	10	1.017	-0.105	0.140	-0.037	0	13
35	109.25	206	1.003	-0.109	0.133	-0.040	-7	255
34	106.75	722	0.957	-0.118	0.111	-0.048	-30	894
33	103.25	727	0.895	-0.122	0.086	-0.056	-35	900
32	100.75	386	0.853	-0.119	0.070	-0.060	-20	477
31	99.00	471	0.823	-0.116	0.061	-0.061	-25	583
30	96.50	719	0.782	-0.108	0.049	-0.061	-38	891
29	93.25	844	0.730	-0.096	0.036	-0.058	-43	1,045
28	91.30	70	0.700	-0.087	0.030	-0.055	-3	86
27	90.55	452	0.689	-0.083	0.028	-0.053	-21	560
26	87.50	878	0.643	-0.068	0.020	-0.045	-34	1,087
25	82.50	889	0.572	-0.043	0.012	-0.027	-21	1,101
24	77.50	900	0.505	-0.018	0.007	-0.004	-3	1,114
23	74.28	262	0.463	-0.003	0.006	0.010	2	325
22	71.80	955	0.433	0.007	0.006	0.020	17	1,183
21	70.03	11	0.412	0.014	0.006	0.027	0	13
20	67.50	1,006	0.383	0.023	0.007	0.035	31	1,246
19	62.50	1,020	0.328	0.039	0.010	0.047	42	1,263
18	57.50	1,033	0.278	0.050	0.014	0.055	49	1,279
17	52.50	1,046	0.232	0.058	0.019	0.058	52	1,296

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:49 PM

Customer: METRO PCS INC

16	47.50	1,060	0.190	0.064	0.025	0.059	54	1,312
15	42.50	1,073	0.152	0.068	0.030	0.058	54	1,329
14	38.00	868	0.121	0.070	0.034	0.057	43	1,075
13	35.83	72	0.108	0.071	0.036	0.056	4	89
12	35.33	233	0.105	0.071	0.037	0.056	11	288
11	34.50	349	0.100	0.071	0.037	0.056	17	432
10	32.75	876	0.090	0.071	0.038	0.055	42	1,085
9	31.25	121	0.082	0.072	0.039	0.055	6	150
8	30.50	241	0.078	0.072	0.040	0.055	11	299
7	27.50	1,215	0.064	0.072	0.041	0.054	57	1,505
6	22.50	1,231	0.043	0.070	0.042	0.053	56	1,525
5	17.50	1,247	0.026	0.067	0.040	0.050	54	1,544
4	14.41	297	0.017	0.062	0.037	0.048	12	368
3	11.91	1,221	0.012	0.057	0.033	0.045	48	1,512
2	7.50	1,613	0.005	0.044	0.025	0.037	52	1,998
1	2.50	1,629	0.001	0.018	0.010	0.018	26	2,018
Powerwave Allgon 702	153.00	13	1.966	2.408	1.291	0.412	5	16
Kaelus DBCT108F1V92-	153.00	42	1.966	2.408	1.291	0.412	15	52
Powerwave Allgon LGP	153.00	85	1.966	2.408	1.291	0.412	30	105
Raycap DC6-48-60-18-	153.00	40	1.966	2.408	1.291	0.412	14	50
Raycap DC6-48-60-18-	153.00	20	1.966	2.408	1.291	0.412	7	25
Ericsson Radio 8843	153.00	216	1.966	2.408	1.291	0.412	77	267
Ericsson RRUS 4449 B	153.00	213	1.966	2.408	1.291	0.412	76	264
Ericsson RRUS 4478 B	153.00	178	1.966	2.408	1.291	0.412	64	221
Ericsson RRUS-32 (77	153.00	231	1.966	2.408	1.291	0.412	82	286
Powerwave Allgon 777	153.00	81	1.966	2.408	1.291	0.412	29	100
CCI OPA-65R-LCUU-H6	153.00	219	1.966	2.408	1.291	0.412	78	271
Kathrein Scala 80010	153.00	586	1.966	2.408	1.291	0.412	209	725
Generic Round Side A	150.00	225	1.890	1.980	1.140	0.361	70	279
Round Platform w/ Ha	150.00	2,000	1.890	1.980	1.140	0.361	626	2,477
Round T-Arm	141.00	750	1.670	1.012	0.769	0.227	148	929
RFS IBC1900HG-2A	138.00	66	1.600	0.778	0.670	0.189	11	82
RFS IBC1900BB-1	138.00	66	1.600	0.778	0.670	0.189	11	82
Alcatel-Lucent 4X40W	138.00	178	1.600	0.778	0.670	0.189	29	221
Alcatel-Lucent 800 M	138.00	185	1.600	0.778	0.670	0.189	30	230
Alcatel-Lucent TD-RR	138.00	210	1.600	0.778	0.670	0.189	34	260
RFS APXVTM14-C-I20	138.00	159	1.600	0.778	0.670	0.189	26	197
RFS APXVSP18-C-A20	138.00	57	1.600	0.778	0.670	0.189	9	71
RFS APXV9ERR18-C-A20	138.00	124	1.600	0.778	0.670	0.189	20	154
Ericsson Radio 4449	128.00	222	1.376	0.240	0.408	0.081	16	275
Ericsson AIR 21	128.00	273	1.376	0.240	0.408	0.081	19	338
Ericsson AIR32 B66Aa	128.00	397	1.376	0.240	0.408	0.081	28	491
Round T-Arm	128.00	750	1.376	0.240	0.408	0.081	52	929
RFS APXVAARR24_43-U-	128.00	384	1.376	0.240	0.408	0.081	27	475
Generic 12" x 12" Ju	119.00	10	1.190	-0.005	0.247	0.010	0	12
DragonWave Horizon C	118.00	32	1.170	-0.022	0.233	0.004	0	39
DragonWave A-ANT-23G	118.00	15	1.170	-0.022	0.233	0.004	0	19
NextNet BTS-2500	118.00	105	1.170	-0.022	0.233	0.004	0	130
Argus LLPX310R	118.00	86	1.170	-0.022	0.233	0.004	0	106
DragonWave A-ANT-23G	118.00	25	1.170	-0.022	0.233	0.004	0	30
Collar	115.00	560	1.111	-0.064	0.194	-0.014	-7	694
Alcatel-Lucent RRH2X	98.00	138	0.807	-0.113	0.056	-0.061	-7	171
Alcatel-Lucent RRH2x	98.00	170	0.807	-0.113	0.056	-0.061	-9	211
Alcatel-Lucent RRH2X	98.00	165	0.807	-0.113	0.056	-0.061	-9	204
RFS DB-T1-6Z-8AB-0Z	98.00	88	0.807	-0.113	0.056	-0.061	-5	109
Andrew SBNHH-1D65B	98.00	608	0.807	-0.113	0.056	-0.061	-32	753
Generic Flat Light S	98.00	1,500	0.807	-0.113	0.056	-0.061	-80	1,858
Stand-off	36.00	50	0.109	0.071	0.036	0.056	2	62
Generic GPS	35.00	10	0.103	0.071	0.037	0.056	0	12
Generic GPS	34.00	10	0.097	0.071	0.038	0.056	0	12
Stand-off	31.00	50	0.081	0.072	0.040	0.055	2	62
		41,064	95.624	46.902	36.095	9.611	2,400	50,854

Load Case (0.9 - 0.2Sds) * DL + E EMAM

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
50	147.50	284	1.828	1.667	1.025	0.321	79	244
49	143.00	233	1.718	1.191	0.842	0.255	52	201
48	140.50	60	1.658	0.970	0.752	0.221	11	51
47	139.00	120	1.623	0.851	0.702	0.201	21	104
46	136.50	192	1.565	0.674	0.624	0.171	28	165
45	132.50	326	1.475	0.441	0.513	0.125	35	281
44	129.00	133	1.398	0.280	0.430	0.090	10	114
43	126.50	216	1.344	0.186	0.377	0.067	13	186
42	122.50	366	1.261	0.069	0.302	0.035	11	316
41	119.50	74	1.200	0.004	0.254	0.013	1	64
40	118.75	39	1.185	-0.009	0.243	0.008	0	34
39	118.25	86	1.175	-0.018	0.236	0.005	0	74
38	116.50	522	1.140	-0.045	0.213	-0.006	-2	450
37	112.53	868	1.064	-0.088	0.165	-0.026	-20	748
36	110.03	10	1.017	-0.105	0.140	-0.037	0	9
35	109.25	206	1.003	-0.109	0.133	-0.040	-7	177
34	106.75	722	0.957	-0.118	0.111	-0.048	-30	622
33	103.25	727	0.895	-0.122	0.086	-0.056	-35	626
32	100.75	386	0.853	-0.119	0.070	-0.060	-20	332
31	99.00	471	0.823	-0.116	0.061	-0.061	-25	406
30	96.50	719	0.782	-0.108	0.049	-0.061	-38	620
29	93.25	844	0.730	-0.096	0.036	-0.058	-43	727
28	91.30	70	0.700	-0.087	0.030	-0.055	-3	60
27	90.55	452	0.689	-0.083	0.028	-0.053	-21	390
26	87.50	878	0.643	-0.068	0.020	-0.045	-34	757
25	82.50	889	0.572	-0.043	0.012	-0.027	-21	766
24	77.50	900	0.505	-0.018	0.007	-0.004	-3	775
23	74.28	262	0.463	-0.003	0.006	0.010	2	226
22	71.80	955	0.433	0.007	0.006	0.020	17	823
21	70.03	11	0.412	0.014	0.006	0.027	0	9
20	67.50	1,006	0.383	0.023	0.007	0.035	31	867
19	62.50	1,020	0.328	0.039	0.010	0.047	42	878
18	57.50	1,033	0.278	0.050	0.014	0.055	49	890
17	52.50	1,046	0.232	0.058	0.019	0.058	52	902
16	47.50	1,060	0.190	0.064	0.025	0.059	54	913
15	42.50	1,073	0.152	0.068	0.030	0.058	54	925
14	38.00	868	0.121	0.070	0.034	0.057	43	748
13	35.83	72	0.108	0.071	0.036	0.056	4	62
12	35.33	233	0.105	0.071	0.037	0.056	11	201
11	34.50	349	0.100	0.071	0.037	0.056	17	301
10	32.75	876	0.090	0.071	0.038	0.055	42	755
9	31.25	121	0.082	0.072	0.039	0.055	6	104
8	30.50	241	0.078	0.072	0.040	0.055	11	208
7	27.50	1,215	0.064	0.072	0.041	0.054	57	1,047
6	22.50	1,231	0.043	0.070	0.042	0.053	56	1,061
5	17.50	1,247	0.026	0.067	0.040	0.050	54	1,075
4	14.41	297	0.017	0.062	0.037	0.048	12	256
3	11.91	1,221	0.012	0.057	0.033	0.045	48	1,052
2	7.50	1,613	0.005	0.044	0.025	0.037	52	1,390
1	2.50	1,629	0.001	0.018	0.010	0.018	26	1,404
Powerwave Allgon 702	153.00	13	1.966	2.408	1.291	0.412	5	11
Kaelus DBCT108F1V92-	153.00	42	1.966	2.408	1.291	0.412	15	36
Powerwave Allgon LGP	153.00	85	1.966	2.408	1.291	0.412	30	73
Raycap DC6-48-60-18-	153.00	40	1.966	2.408	1.291	0.412	14	34
Raycap DC6-48-60-18-	153.00	20	1.966	2.408	1.291	0.412	7	17
Ericsson Radio 8843	153.00	216	1.966	2.408	1.291	0.412	77	186

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

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Customer: METRO PCS INC

Ericsson RRUS 4449 B	153.00	213	1.966	2.408	1.291	0.412	76	184
Ericsson RRUS 4478 B	153.00	178	1.966	2.408	1.291	0.412	64	154
Ericsson RRUS-32 (77	153.00	231	1.966	2.408	1.291	0.412	82	199
Powerwave Allgon 777	153.00	81	1.966	2.408	1.291	0.412	29	70
CCI OPA-65R-LCUU-H6	153.00	219	1.966	2.408	1.291	0.412	78	189
Kathrein Scala 80010	153.00	586	1.966	2.408	1.291	0.412	209	505
Generic Round Side A	150.00	225	1.890	1.980	1.140	0.361	70	194
Round Platform w/ Ha	150.00	2,000	1.890	1.980	1.140	0.361	626	1,723
Round T-Arm	141.00	750	1.670	1.012	0.769	0.227	148	646
RFS IBC1900HG-2A	138.00	66	1.600	0.778	0.670	0.189	11	57
RFS IBC1900BB-1	138.00	66	1.600	0.778	0.670	0.189	11	57
Alcatel-Lucent 4X40W	138.00	178	1.600	0.778	0.670	0.189	29	154
Alcatel-Lucent 800 M	138.00	185	1.600	0.778	0.670	0.189	30	160
Alcatel-Lucent TD-RR	138.00	210	1.600	0.778	0.670	0.189	34	181
RFS APXVTM14-C-I20	138.00	159	1.600	0.778	0.670	0.189	26	137
RFS APXVSP18-C-A20	138.00	57	1.600	0.778	0.670	0.189	9	49
RFS APXV9ERR18-C-A20	138.00	124	1.600	0.778	0.670	0.189	20	107
Ericsson Radio 4449	128.00	222	1.376	0.240	0.408	0.081	16	191
Ericsson AIR 21	128.00	273	1.376	0.240	0.408	0.081	19	235
Ericsson AIR32 B66Aa	128.00	397	1.376	0.240	0.408	0.081	28	342
Round T-Arm	128.00	750	1.376	0.240	0.408	0.081	52	646
RFS APXVAARR24_43-U-	128.00	384	1.376	0.240	0.408	0.081	27	331
Generic 12" x 12" Ju	119.00	10	1.190	-0.005	0.247	0.010	0	9
DragonWave Horizon C	118.00	32	1.170	-0.022	0.233	0.004	0	27
DragonWave A-ANT-23G	118.00	15	1.170	-0.022	0.233	0.004	0	13
NextNet BTS-2500	118.00	105	1.170	-0.022	0.233	0.004	0	90
Argus LLPX310R	118.00	86	1.170	-0.022	0.233	0.004	0	74
DragonWave A-ANT-23G	118.00	25	1.170	-0.022	0.233	0.004	0	21
Collar	115.00	560	1.111	-0.064	0.194	-0.014	-7	482
Alcatel-Lucent RRH2X	98.00	138	0.807	-0.113	0.056	-0.061	-7	119
Alcatel-Lucent RRH2x	98.00	170	0.807	-0.113	0.056	-0.061	-9	147
Alcatel-Lucent RRH2X	98.00	165	0.807	-0.113	0.056	-0.061	-9	142
RFS DB-T1-6Z-8AB-0Z	98.00	88	0.807	-0.113	0.056	-0.061	-5	76
Andrew SBNHH-1D65B	98.00	608	0.807	-0.113	0.056	-0.061	-32	524
Generic Flat Light S	98.00	1,500	0.807	-0.113	0.056	-0.061	-80	1,292
Stand-off	36.00	50	0.109	0.071	0.036	0.056	2	43
Generic GPS	35.00	10	0.103	0.071	0.037	0.056	0	9
Generic GPS	34.00	10	0.097	0.071	0.038	0.056	0	9
Stand-off	31.00	50	0.081	0.072	0.040	0.055	2	43
		41,064	95.624	46.902	36.095	9.611	2,400	35,381

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-46.45	-1.69	0.00	-198.62	0.00	198.62	3,156.09	1,578.04	4,808.01	2,374.50	0.00	0.00	0.045
5.00	-44.46	-1.65	0.00	-190.15	0.00	190.15	3,113.28	1,556.64	4,641.42	2,292.22	0.01	-0.02	0.043
10.00	-42.94	-1.61	0.00	-181.89	0.00	181.89	3,069.45	1,534.72	4,476.09	2,210.57	0.03	-0.03	0.042
13.82	-42.58	-1.61	0.00	-175.72	0.00	175.72	3,035.27	1,517.64	4,350.78	2,148.69	0.06	-0.04	0.042
13.82	-42.58	-1.61	0.00	-175.72	0.00	175.72	3,035.27	1,517.64	4,350.78	2,148.69	0.06	-0.04	0.058
15.00	-41.03	-1.56	0.00	-173.82	0.00	173.82	3,024.57	1,512.28	4,312.14	2,129.61	0.07	-0.05	0.057
20.00	-39.51	-1.52	0.00	-166.01	0.00	166.01	2,978.65	1,489.33	4,149.68	2,049.37	0.14	-0.07	0.056
25.00	-38.00	-1.48	0.00	-158.41	0.00	158.41	2,931.70	1,465.85	3,988.78	1,969.91	0.22	-0.09	0.055
30.00	-37.70	-1.47	0.00	-151.03	0.00	151.03	2,873.79	1,436.89	3,816.40	1,884.77	0.33	-0.11	0.054
31.00	-37.49	-1.47	0.00	-149.56	0.00	149.56	2,859.85	1,429.93	3,779.26	1,866.44	0.35	-0.12	0.054
31.50	-36.40	-1.43	0.00	-148.82	0.00	148.82	2,852.84	1,426.42	3,760.64	1,857.24	0.37	-0.12	0.054
34.00	-35.96	-1.41	0.00	-145.26	0.00	145.26	2,818.05	1,409.02	3,668.95	1,811.96	0.43	-0.13	0.053
35.00	-35.66	-1.40	0.00	-143.84	0.00	143.84	2,804.11	1,402.06	3,632.54	1,793.98	0.46	-0.14	0.053
35.67	-35.57	-1.40	0.00	-142.90	0.00	142.90	2,247.39	1,123.70	2,971.54	1,467.53	0.48	-0.14	0.061
36.00	-34.43	-1.36	0.00	-142.44	0.00	142.44	2,245.17	1,122.59	2,963.78	1,463.70	0.49	-0.14	0.060
40.00	-33.10	-1.31	0.00	-137.00	0.00	137.00	2,217.94	1,108.97	2,870.05	1,417.41	0.62	-0.16	0.059
45.00	-31.79	-1.27	0.00	-130.43	0.00	130.43	2,182.97	1,091.48	2,753.70	1,359.95	0.80	-0.19	0.057
50.00	-30.49	-1.23	0.00	-124.08	0.00	124.08	2,146.96	1,073.48	2,638.35	1,302.98	1.01	-0.21	0.056
55.00	-29.21	-1.19	0.00	-117.94	0.00	117.94	2,109.91	1,054.96	2,524.10	1,246.56	1.25	-0.24	0.055
60.00	-27.95	-1.15	0.00	-112.01	0.00	112.01	2,071.82	1,035.91	2,411.06	1,190.73	1.51	-0.26	0.053
65.00	-26.70	-1.13	0.00	-106.26	0.00	106.26	2,032.70	1,016.35	2,299.33	1,135.55	1.80	-0.29	0.052
70.00	-26.69	-1.13	0.00	-100.62	0.00	100.62	1,981.31	990.65	2,176.68	1,074.98	2.11	-0.31	0.051
70.05	-25.51	-1.11	0.00	-100.56	0.00	100.56	1,980.69	990.35	2,175.31	1,074.30	2.12	-0.31	0.050
73.55	-25.18	-1.12	0.00	-96.66	0.00	96.66	1,473.36	736.68	1,622.77	801.43	2.35	-0.33	0.058
75.00	-24.07	-1.12	0.00	-95.05	0.00	95.05	1,465.95	732.98	1,600.80	790.57	2.46	-0.34	0.057
80.00	-22.97	-1.14	0.00	-89.45	0.00	89.45	1,439.68	719.84	1,525.22	753.25	2.83	-0.37	0.055
85.00	-21.88	-1.18	0.00	-83.73	0.00	83.73	1,412.37	706.19	1,450.29	716.24	3.23	-0.40	0.053
90.00	-21.32	-1.21	0.00	-77.82	0.00	77.82	1,384.02	692.01	1,376.10	679.61	3.66	-0.42	0.050
91.10	-21.23	-1.21	0.00	-76.49	0.00	76.49	1,377.65	688.82	1,359.89	671.60	3.75	-0.43	0.049
91.10	-21.23	-1.21	0.00	-76.49	0.00	76.49	1,377.65	688.82	1,359.89	671.60	3.75	-0.43	0.050
91.50	-20.19	-1.25	0.00	-76.01	0.00	76.01	1,375.32	687.66	1,354.01	668.69	3.79	-0.43	0.049
95.00	-19.30	-1.28	0.00	-71.64	0.00	71.64	1,354.64	677.32	1,302.77	643.39	4.11	-0.45	0.033
98.00	-15.40	-1.42	0.00	-67.79	0.00	67.79	1,336.51	668.25	1,259.21	621.88	4.40	-0.46	0.031
100.00	-14.93	-1.44	0.00	-64.94	0.00	64.94	1,324.21	662.11	1,230.38	607.64	4.60	-0.47	0.030
101.50	-14.03	-1.47	0.00	-62.78	0.00	62.78	1,314.88	657.44	1,208.86	597.01	4.75	-0.48	0.029
101.50	-14.03	-1.47	0.00	-62.78	0.00	62.78	1,314.88	657.44	1,208.86	597.01	4.75	-0.48	0.039
105.00	-13.13	-1.50	0.00	-57.63	0.00	57.63	1,293.27	646.64	1,159.51	572.64	5.10	-0.49	0.037
108.50	-12.88	-1.50	0.00	-52.39	0.00	52.39	1,260.75	630.38	1,101.62	544.05	5.46	-0.51	0.035
108.50	-12.88	-1.50	0.00	-52.39	0.00	52.39	1,260.75	630.38	1,101.62	544.05	5.46	-0.51	0.060
110.00	-12.86	-1.51	0.00	-50.14	0.00	50.14	1,246.82	623.41	1,077.26	532.02	5.62	-0.51	0.059
110.00	-12.86	-1.51	0.00	-50.14	0.00	50.14	1,246.82	623.41	1,077.26	532.02	5.62	-0.51	0.037
110.05	-11.79	-1.52	0.00	-50.06	0.00	50.06	1,246.32	623.16	1,076.40	531.59	5.63	-0.51	0.037
110.05	-11.79	-1.52	0.00	-50.06	0.00	50.06	852.93	426.46	741.03	365.97	5.63	-0.51	0.044
115.00	-10.45	-1.52	0.00	-42.55	0.00	42.55	834.88	417.44	698.45	344.94	6.17	-0.54	0.038
118.00	-10.02	-1.51	0.00	-38.00	0.00	38.00	823.44	411.72	672.79	332.27	6.52	-0.55	0.035
118.50	-9.97	-1.51	0.00	-37.24	0.00	37.24	821.50	410.75	668.53	330.16	6.57	-0.55	0.035
118.50	-9.97	-1.51	0.00	-37.24	0.00	37.24	821.50	410.75	668.53	330.16	6.57	-0.55	0.125
119.00	-9.86	-1.51	0.00	-36.48	0.00	36.48	819.55	409.77	664.27	328.06	6.63	-0.56	0.123
120.00	-9.41	-1.51	0.00	-34.97	0.00	34.97	815.61	407.80	655.76	323.86	6.75	-0.57	0.120
125.00	-9.14	-1.50	0.00	-27.43	0.00	27.43	795.30	397.65	613.53	303.00	7.39	-0.65	0.102
128.00	-6.47	-1.32	0.00	-22.93	0.00	22.93	782.61	391.31	588.45	290.61	7.82	-0.69	0.087
130.00	-6.06	-1.29	0.00	-20.29	0.00	20.29	773.95	386.97	571.85	282.42	8.11	-0.72	0.080
135.00	-5.83	-1.26	0.00	-13.87	0.00	13.87	751.56	375.78	530.84	262.16	8.90	-0.77	0.061
138.00	-4.38	-1.05	0.00	-10.09	0.00	10.09	737.63	368.82	506.58	250.18	9.39	-0.80	0.046
140.00	-4.31	-1.04	0.00	-8.00	0.00	8.00	728.14	364.07	490.58	242.28	9.73	-0.82	0.039
141.00	-3.09	-0.82	0.00	-6.96	0.00	6.96	721.90	360.95	481.67	237.88	9.91	-0.82	0.034

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

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Customer: METRO PCS INC

145.00	-2.74	-0.74	0.00	-3.68	0.00	3.68	694.03	347.02	445.00	219.77	10.60	-0.84	0.021
150.00	0.00	-0.70	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	11.49	-0.85	0.000

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:49 PM

Customer: METRO PCS INC

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.32	-1.69	0.00	-193.94	0.00	193.94	3,156.09	1,578.04	4,808.01	2,374.50	0.00	0.00	0.041
5.00	-30.93	-1.65	0.00	-185.48	0.00	185.48	3,113.28	1,556.64	4,641.42	2,292.22	0.01	-0.02	0.040
10.00	-29.88	-1.61	0.00	-177.25	0.00	177.25	3,069.45	1,534.72	4,476.09	2,210.57	0.03	-0.03	0.039
13.82	-29.62	-1.60	0.00	-171.11	0.00	171.11	3,035.27	1,517.64	4,350.78	2,148.69	0.06	-0.04	0.039
13.82	-29.62	-1.60	0.00	-171.11	0.00	171.11	3,035.27	1,517.64	4,350.78	2,148.69	0.06	-0.04	0.054
15.00	-28.55	-1.55	0.00	-169.22	0.00	169.22	3,024.57	1,512.28	4,312.14	2,129.61	0.07	-0.05	0.053
20.00	-27.48	-1.50	0.00	-161.48	0.00	161.48	2,978.65	1,489.33	4,149.68	2,049.37	0.13	-0.07	0.052
25.00	-26.44	-1.45	0.00	-153.97	0.00	153.97	2,931.70	1,465.85	3,988.78	1,969.91	0.22	-0.09	0.051
30.00	-26.23	-1.45	0.00	-146.70	0.00	146.70	2,873.79	1,436.89	3,816.40	1,884.77	0.32	-0.11	0.050
31.00	-26.08	-1.44	0.00	-145.25	0.00	145.25	2,859.85	1,429.93	3,779.26	1,866.44	0.34	-0.12	0.050
31.50	-25.33	-1.40	0.00	-144.53	0.00	144.53	2,852.84	1,426.42	3,760.64	1,857.24	0.36	-0.12	0.050
34.00	-25.02	-1.39	0.00	-141.03	0.00	141.03	2,818.05	1,409.02	3,668.95	1,811.96	0.42	-0.13	0.049
35.00	-24.81	-1.38	0.00	-139.64	0.00	139.64	2,804.11	1,402.06	3,632.54	1,793.98	0.45	-0.13	0.049
35.67	-24.75	-1.37	0.00	-138.72	0.00	138.72	2,247.39	1,123.70	2,971.54	1,467.53	0.47	-0.14	0.056
36.00	-23.95	-1.33	0.00	-138.27	0.00	138.27	2,245.17	1,122.59	2,963.78	1,463.70	0.48	-0.14	0.056
40.00	-23.03	-1.28	0.00	-132.95	0.00	132.95	2,217.94	1,108.97	2,870.05	1,417.41	0.60	-0.16	0.055
45.00	-22.12	-1.24	0.00	-126.54	0.00	126.54	2,182.97	1,091.48	2,753.70	1,359.95	0.78	-0.18	0.053
50.00	-21.21	-1.19	0.00	-120.36	0.00	120.36	2,146.96	1,073.48	2,638.35	1,302.98	0.98	-0.21	0.052
55.00	-20.32	-1.15	0.00	-114.42	0.00	114.42	2,109.91	1,054.96	2,524.10	1,246.56	1.21	-0.23	0.051
60.00	-19.45	-1.11	0.00	-108.70	0.00	108.70	2,071.82	1,035.91	2,411.06	1,190.73	1.47	-0.25	0.049
65.00	-18.58	-1.08	0.00	-103.16	0.00	103.16	2,032.70	1,016.35	2,299.33	1,135.55	1.75	-0.28	0.048
70.00	-18.57	-1.09	0.00	-97.75	0.00	97.75	1,981.31	990.65	2,176.68	1,074.98	2.05	-0.30	0.047
70.05	-17.75	-1.07	0.00	-97.69	0.00	97.69	1,980.69	990.35	2,175.31	1,074.30	2.06	-0.31	0.047
73.55	-17.52	-1.07	0.00	-93.96	0.00	93.96	1,473.36	736.68	1,622.77	801.43	2.29	-0.32	0.054
75.00	-16.74	-1.07	0.00	-92.41	0.00	92.41	1,465.95	732.98	1,600.80	790.57	2.39	-0.33	0.053
80.00	-15.98	-1.10	0.00	-87.06	0.00	87.06	1,439.68	719.84	1,525.22	753.25	2.75	-0.36	0.051
85.00	-15.22	-1.13	0.00	-81.58	0.00	81.58	1,412.37	706.19	1,450.29	716.24	3.14	-0.38	0.049
90.00	-14.83	-1.15	0.00	-75.92	0.00	75.92	1,384.02	692.01	1,376.10	679.61	3.55	-0.41	0.047
91.10	-14.77	-1.16	0.00	-74.65	0.00	74.65	1,377.65	688.82	1,359.89	671.60	3.65	-0.42	0.046
91.10	-14.77	-1.16	0.00	-74.65	0.00	74.65	1,377.65	688.82	1,359.89	671.60	3.65	-0.42	0.046
91.50	-14.04	-1.20	0.00	-74.19	0.00	74.19	1,375.32	687.66	1,354.01	668.69	3.68	-0.42	0.046
95.00	-13.42	-1.24	0.00	-70.00	0.00	70.00	1,354.64	677.32	1,302.77	643.39	4.00	-0.44	0.031
98.00	-10.71	-1.38	0.00	-66.29	0.00	66.29	1,336.51	668.25	1,259.21	621.88	4.28	-0.45	0.029
100.00	-10.38	-1.40	0.00	-63.53	0.00	63.53	1,324.21	662.11	1,230.38	607.64	4.47	-0.46	0.028
101.50	-9.76	-1.43	0.00	-61.42	0.00	61.42	1,314.88	657.44	1,208.86	597.01	4.61	-0.46	0.027
101.50	-9.76	-1.43	0.00	-61.42	0.00	61.42	1,314.88	657.44	1,208.86	597.01	4.61	-0.46	0.037
105.00	-9.13	-1.46	0.00	-56.41	0.00	56.41	1,293.27	646.64	1,159.51	572.64	4.96	-0.47	0.035
108.50	-8.96	-1.47	0.00	-51.30	0.00	51.30	1,260.75	630.38	1,101.62	544.05	5.31	-0.49	0.033
108.50	-8.96	-1.47	0.00	-51.30	0.00	51.30	1,260.75	630.38	1,101.62	544.05	5.31	-0.49	0.057
110.00	-8.95	-1.47	0.00	-49.10	0.00	49.10	1,246.82	623.41	1,077.26	532.02	5.47	-0.50	0.056
110.00	-8.95	-1.47	0.00	-49.10	0.00	49.10	1,246.82	623.41	1,077.26	532.02	5.47	-0.50	0.035
110.05	-8.20	-1.48	0.00	-49.02	0.00	49.02	1,246.32	623.16	1,076.40	531.59	5.47	-0.50	0.035
110.05	-8.20	-1.48	0.00	-49.02	0.00	49.02	852.93	426.46	741.03	365.97	5.47	-0.50	0.042
115.00	-7.27	-1.49	0.00	-41.69	0.00	41.69	834.88	417.44	698.45	344.94	6.00	-0.52	0.037
118.00	-6.96	-1.48	0.00	-37.23	0.00	37.23	823.44	411.72	672.79	332.27	6.34	-0.54	0.033
118.50	-6.93	-1.48	0.00	-36.49	0.00	36.49	821.50	410.75	668.53	330.16	6.39	-0.54	0.033
118.50	-6.93	-1.48	0.00	-36.49	0.00	36.49	821.50	410.75	668.53	330.16	6.39	-0.54	0.119
119.00	-6.86	-1.48	0.00	-35.75	0.00	35.75	819.55	409.77	664.27	328.06	6.45	-0.54	0.117
120.00	-6.54	-1.47	0.00	-34.26	0.00	34.26	815.61	407.80	655.76	323.86	6.56	-0.56	0.114
125.00	-6.35	-1.47	0.00	-26.89	0.00	26.89	795.30	397.65	613.53	303.00	7.19	-0.63	0.097
128.00	-4.50	-1.30	0.00	-22.49	0.00	22.49	782.61	391.31	588.45	290.61	7.60	-0.68	0.083
130.00	-4.21	-1.26	0.00	-19.90	0.00	19.90	773.95	386.97	571.85	282.42	7.89	-0.70	0.076
135.00	-4.05	-1.23	0.00	-13.61	0.00	13.61	751.56	375.78	530.84	262.16	8.66	-0.76	0.057
138.00	-3.05	-1.03	0.00	-9.91	0.00	9.91	737.63	368.82	506.58	250.18	9.14	-0.78	0.044
140.00	-2.99	-1.02	0.00	-7.85	0.00	7.85	728.14	364.07	490.58	242.28	9.47	-0.80	0.037
141.00	-2.15	-0.81	0.00	-6.84	0.00	6.84	721.90	360.95	481.67	237.88	9.64	-0.80	0.032

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:49 PM

Customer: METRO PCS INC

145.00	-1.91	-0.72	0.00	-3.62	0.00	3.62	694.03	347.02	445.00	219.77	10.32	-0.82	0.019
150.00	0.00	-0.70	0.00	0.00	0.00	0.00	659.19	329.60	401.19	198.13	11.19	-0.83	0.000

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:49 PM

Customer: METRO PCS INC

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	31.98	0.00	49.20	0.00	0.00	3367.32	118.50	0.98
0.9D + 1.6W	31.95	0.00	36.88	0.00	0.00	3300.94	118.50	0.95
1.2D + 1.0Di + 1.0Wi	9.68	0.00	98.73	0.00	0.00	1116.15	118.50	0.40
(1.2 + 0.2Sds) * DL + E ELFM	1.40	0.00	46.45	0.00	0.00	171.19	118.50	0.06
(1.2 + 0.2Sds) * DL + E EMAM	1.69	0.00	46.45	0.00	0.00	198.62	118.50	0.12
(0.9 - 0.2Sds) * DL + E ELFM	1.40	0.00	32.32	0.00	0.00	167.56	118.50	0.05
(0.9 - 0.2Sds) * DL + E EMAM	1.69	0.00	32.32	0.00	0.00	193.94	118.50	0.12
1.0D + 1.0W	7.66	0.00	41.06	0.00	0.00	799.56	118.50	0.24

Site Number: 302473

Code: ANSI/TIA-222-G

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Site Name: E H F R - Prestige Park, CT

Engineering Number: 12927130_C3_01

4/26/2019 3:59:49 PM

Customer: METRO PCS INC

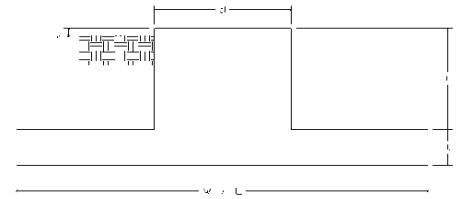
Additional Steel Summary

			Intermediate Connectors				Max Member		
Elev From (ft)	Elev To (ft)	Member	VQ/I (lb/in)	Shear Applied (kips)	Shear phiVn (kips)	Ratio	Pu (kip)	phiPn (kip)	Ratio
0.00	91.10	(4) SOL-#20 All Thread Bar	456.9	13.7	16.8	0.815	338.8	330.5	1.025
0.00	13.82	(4) SOL-#20 All Thread Bar	209.2	6.3	16.8	0.373	254.4	330.5	0.770
91.10	101.50	(4) SOL-#20 All Thread Bar	457.5	13.7	16.8	0.817	199.7	330.5	0.604
91.50	108.50	(4) PL-PL 4 x 1.25	300.4	7.2	38.3	0.188	125.7	180.0	0.698
101.50	110.00	(4) PL-PL 3" x 1"	314.6	7.5	38.3	0.197	111.6	116.3	0.960
110.00	118.50	(3) PL-PL 3" x 1"	208.0	5.0	38.3	0.130	67.4	116.3	0.580
110.00	118.50	(3) PL-PL 5" x 1.25"	438.4	10.5	38.3	0.275	142.0	180.0	0.789

			Upper Termination Connectors					Lower Termination Connectors				
Elev From (ft)	Elev To (ft)	Member	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Ratio	MQ/I (kips)	phiVn (kips)	Num Reqd	Num Actual	Ratio
0.00	91.10	(4) SOL-#20 All Thread Bar	0.0	12.0	0	0	0.000	0.0	12.0	0	0	0.000
0.00	13.82	(4) SOL-#20 All Thread Bar	238.3	12.0	20	24	0.827	0.0	12.0	0	0	0.000
91.10	101.50	(4) SOL-#20 All Thread Bar	109.4	12.0	10	14	0.651	0.0	12.0	0	0	0.000
91.50	108.50	(4) PL-PL 4 x 1.25	106.3	38.3	3	6	0.463	113.5	38.3	3	6	0.494
101.50	110.00	(4) PL-PL 3" x 1"	106.5	38.3	3	6	0.464	73.7	38.3	2	6	0.321
110.00	118.50	(3) PL-PL 3" x 1"	0.0	38.3	0	6	0.000	0.0	38.3	0	6	0.000
110.00	118.50	(3) PL-PL 5" x 1.25"	117.7	38.3	4	8	0.385	140.2	38.3	4	8	0.458

Site Name: E H F R - Prestige Park, CT
 Site Number: 302473
 Engineering Number: Structural
 Engineer: Jennifer.Yu
 Date: 04/26/19
 Tower Type: MP

Program Last Updated: 5/13/2014



Design Loads (Factored) - Analysis per TIA-222-G Standards

Design / Analysis / Mapping:	Analysis		
Compression/Leg:	49.2 k	Concrete Strength (f'_c):	4000 psi
Uplift/Leg:	0 k	Pad Tension Steel Depth:	32.0 in
Total Shear:	32.0 k	ϕ_{Shear} :	0.75
Moment:	3367.3 k-ft	$\phi_{\text{Flexure / Tension}}$:	0.9
Tower + Appurtenance Weight:	49.2 k	$\phi_{\text{Compression}}$:	0.65
Depth to Base of Foundation (l + t - h):	8 ft	β :	0.85
Diameter of Pier (d):	5.5 ft	Bottom Pad Rebar Size #:	10
Length of Pier (l):	5.5 ft	Dead Load Factor:	1.2
Height of Pier above Ground (h):	0.5 ft	# of Bottom Pad Rebar:	36
Width of Pad (W):	18 ft	Pad Bottom Steel Area:	45.72 in ²
Length of Pad (L):	18 ft	Pad Steel F_y :	60000 psi
Thickness of Pad (t):	3 ft	Top Pad Rebar Size #:	5
Tower Leg Center to Center:	0 ft	# of Top Pad Rebar:	36
Number of Tower Legs:	1 (1 if MP or GT)	Pad Top Steel Area:	11.16 in ²
Tower Center from Mat Center:	0 ft	Pier Rebar Size #:	11
Depth Below Ground Surface to Water Table:	12 ft	Pier Steel Area (Single Bar):	1.56 in ²
Unit Weight of Concrete:	150 pcf	# of Pier Rebar:	52
Unit Weight of Soil Above Water Table:	121 pcf	Pier Steel F_y :	60000 psi
Unit Weight of Water:	62.4 pcf	Pier Cage Diameter:	58.0 in
Unit Weight of Soil Below Water Table:	58.6 pcf	Rebar Strain Limit:	0.008
Friction Angle of Uplift:	15 Degrees	Steel Elastic Modulus:	29000 ksi
Ultimate Coefficient of Shear Friction:	0.4	Tie Rebar Size #:	4
Ultimate Compressive Bearing Pressure:	39000 psf	Tie Steel Area (Single Bar):	0.2 in ²
Ultimate Passive Pressure on Pad Face:	2600 psf	Tie Spacing:	12 in
$\phi_{\text{Soil and Concrete Weight}}$:	0.9	Tie Steel F_y :	60000 psi
ϕ_{Soil} :	0.75		

Overturning Moment Usage

Design OTM:	3639.2 k-ft
OTM Resistance:	3643.7 k-ft
Design OTM / OTM Resistance:	1.00 Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	8301 psf
Factored Nominal Bearing Pressure:	29250 psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.28 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

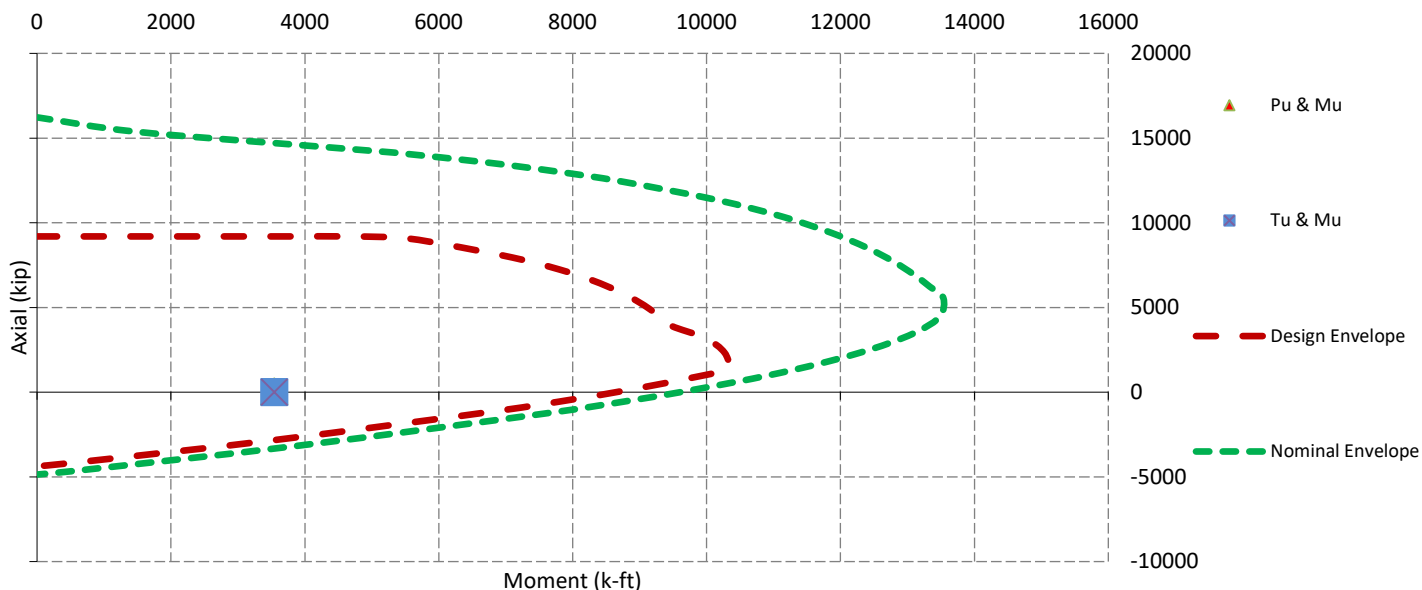
Sliding Factor of Safety

Total Factored Sliding Resistance:	211.2 k
Sliding Design / Sliding Resistance:	0.15 Result: OK

One Way Shear, Flexural Capacity, and Punching Shear

Factored One Way Shear (V_u):	257.0 k
One Way Shear Capacity (ϕV_c):	532.7 k - ACI11.3.1.1
$V_u / \phi V_c$:	0.48 Result: OK
Load Direction Controlling Shear Capacity:	Diagonal to Pad Edge
Lower Steel Pad Factored Moment (M_u):	1456.0 k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	6257.1 k-ft - ACI10.3
$M_u / \phi M_n$:	0.23 Result: OK
Load Direction Controlling Flexural Capacity:	Parallel to Pad Edge
Upper Steel Pad Factored Moment (M_u):	593.4 k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	1587.6 k-ft
$M_u / \phi M_n$:	0.37 Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0066 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0016 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	6 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	6 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0 k
Nominal Punching Shear Capacity ($\phi_c V_n$):	1869.3 k - ACI11.12.2.1
$V_u / \phi V_c$:	0.00 Result: OK
Factored Moment in Pier (M_u):	3543.2 k-ft
Pier Moment Capacity (ϕM_n):	10352.3 k-ft
$M_u / \phi M_n$:	0.34 Result: OK
Factored Shear in Pier (V_u):	32.0 k
Pier Shear Capacity (ϕV_n):	326.9 k
$V_u / \phi V_c$:	0.10 Result: OK
Pier Shear Reinforcement Ratio:	0.0006 No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0 k
Pier Tension Capacity (ϕT_n):	4380.5 k
$T_u / \phi T_n$:	0.00 Result: OK
Factored Compression in Pier (P_u):	49.2 k
Pier Compression Capacity (ϕP_n):	5905.3 k - ACI10.3.6.2
$P_u / \phi P_n$:	0.01 Result: OK
Pier Compression Reinforcement Ratio:	0.024 OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.34 Result: OK

Nominal and Design Moment Capacity and Factored Design Loads





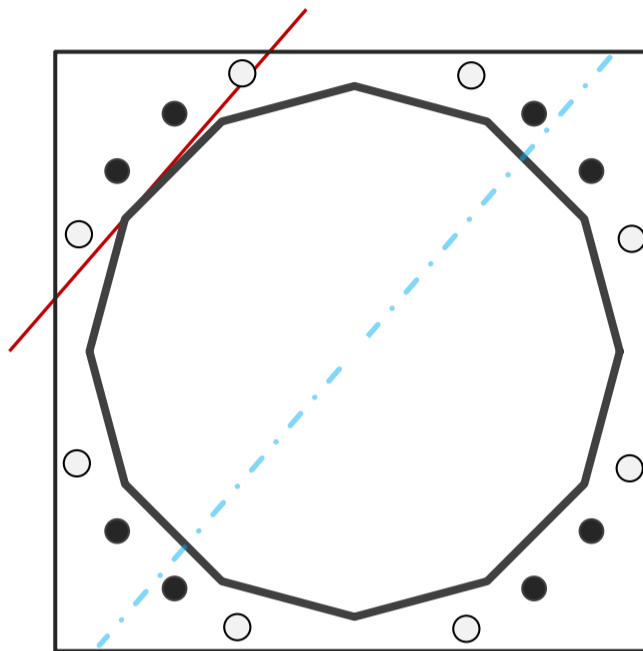
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	12	-
Diameter	37.36	in
Thickness	0.375	in
Orientation Offset		°

Base Reactions			
Moment, Mu	3367.3	k-ft	
Axial, Pu	49.2	k	
Shear, Vu	32.0	k	
Neutral Axis	49	°	

Report Capacities		
Component	Capacity	Result
Base Plate	53%	Pass
Anchor Rods	78%	Pass
Dwyidag	63%	Pass

Base Plate		
Shape	Square	-
Width	44.25	in
Thickness	2 1/2	in
Grade	Other	-
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	80	ksi
Clip	0	in
Orientation Offset		°
Anchor Rod Detail	c	$\eta=0.55$
Clear Distance	N/A	in
Applied Moment, Mu	1121.6	k
Bending Stress, ϕMn	2106.8	k



Dwyidag Reinforcement		
Quantity	8	-
Bar Size	#20	in
Diameter, ϕ	2.5	in
Bracket Type	Angle	-
Circle	44.24	in
Orientation Offset	-23	°
Applied Force, Pu	249.1	k
Dwyidag Bar, ϕPn	392.7	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	8	-
Diameter, ϕ	2 1/4	in
Bolt Circle	44	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset		°
Applied Force, Pu	201.1	k
Anchor Rods, ϕPn	259.8	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	32.0	1460.2	0.43
Anchor Rod Forces	32.0	1460.2	0.43
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	1907.1	0.57
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	43.0759	3.5897	0.1691		7367.42
Bolt	3.9761	3.2477	0.8393	4.5	6294.24
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		9622.61
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	44.25	in
Thickness, t	2.5	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	80	ksi
Base Plate Chord	23.713	in
Detail Type	c	-
Detail Factor	0.55	-
Clear Distance	N/A	-

Anchor Rods		
Anchor Rod Quantity, N	8	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	44	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	201.1	k
Applied Shear, Vu	0.5	k
Compressive Capacity, φPn	259.8	k
Tensile Capacity, φRnt	0.774	OK
Interaction Capacity	0.777	OK

External Base Plate		
Chord Length AA	24.719	in
Additional AA	0.250	in
Section Modulus, Z	39.014	in ³
Applied Moment, Mu	1121.6	k-ft
Bending Capacity, φMn	2106.8	k-ft
Capacity, Mu/φMn	0.532	OK

Chord Length AB	23.383	in
Additional AB	0.250	in
Section Modulus, Z	36.927	in ³
Applied Moment, Mu	855.5	k-ft
Bending Capacity, φMn	1994.1	k-ft
Capacity, Mu/φMn	0.429	OK

Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in ³
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in ³
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Dywidag Reinforcement		
Dywidag Quantity, N	8	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	44.24	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	249.1	k
Compressive Capacity, φPn	392.7	k
Capacity, Pu/φPn	0.634	OK

Base/Flange Plate	Plate Type	Flange @ 110.0 ft
	Pole Diameter	21.2543 in
	Pole Thickness	0.1875 in
	Plate Diameter	28 in
	Plate Thickness	1 in
	Plate Fy	50 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	183.84 k-in
	Applied	94.74 k-in
Stiffeners	#	12 Show
	Thickness	0.5 in
	Length	3.875 in
	Height	5 in
	Chamfer	1 in
	Offset Angle	0°
	Fy	36 ksi

Code Rev. **G**

Date **4/26/2019**
 Engineer **Jennifer.Yu**
 Site # **302473**
 Carrier **AT&T MOBILITY**

Moment **451.5 k-ft**
 Axial **12.9 k**

Bolts	#	12
	Bolt Circle (R)adial / (S)quare	25.75 in R
	Diameter	1 in
	Hole Diameter	1.125 in
	Type	A490
	Fy	130 ksi
	Fu	150 ksi
	ϕ_s Resistance	68.15 k
	Applied	69.01 k
	Reinforcement	#
Extra Bolts	#	0

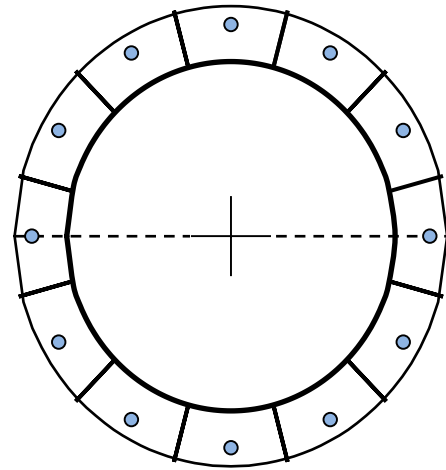


Plate Stress Ratio:
0.52 (Pass)

Bolt Stress Ratio:
1.01 (Acceptable Overstress)

January 30, 2019



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

RE: Site Number: CT1002 (LTE 4C/5C/6C)
 FA Number: 10034965
 PACE Number: MRCTB033585
 PT Number: 2051A0JDA5
 Site Name: EAST HARTFORD
 Site Address: 2 Prestige Park Road
 East Hartford, CT 06108

To Whom It May Concern:

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

- (3) 7770 Antennas (55.0"x11.0"x5.0" – Wt. = 35 lbs. /each)
- (3) OPA-65R-LCUU-H6 Antennas (72.0"x14.8"x7.4" – Wt. = 73 lbs. /each)
- (3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (2) Squid Surge Arrestors (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)
- **(6) 800-10965 Antennas (78.7"x20.0"x6.9" – Wt. = 109 lbs. /each)**
- **(3) 4449 B5/B12 RRH's (18.0"x13.2"x9.5" – Wt. = 71 lbs. /each)**
- **(3) 4478 B14 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(3) 8843 B2/B66A RRH's (14.9"x13.2"x10.9" – Wt. 72 lbs. /each)**
- **(6) DBCT108F1V92-1 Diplexers (10.7"x6.8"x3.5" – Wt. = 14 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each) (Tower Mount)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mount. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mount on January 19, 2019.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R11.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-G Annex B, the max basic wind speed for this site is equal to 105 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. Per the AT&T Mount Technical Directive and Appendix N of the Connecticut State Building Code, an ultimate wind speed of 125 mph converted to a nominal wind speed of 97 mph and an escalated ice thickness of 2.33 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- The mount has been analyzed with load combinations consisting of 250 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 3.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing monopole with welded plates. The connection is considered OK by visual inspection.

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

- **Install new HSS 4x4x1/4 frame secured to the existing platform.**
- **Install new platform reinforcement kit, SitePro1 P/N PRK-1245 secured to proposed HSS 4x4x1/4 frame and existing tower (or approved equal).**
- **Install new 2-1/2" std. (2.88" O.D.) handrail kit secured to existing pipe masts (typ. of 1 per sector, total of 3).**
- **Install new Sector Frame Stabilizer Kit, SitePro1 P/N SFS-H secured to the proposed handrail kit and existing tower (or approved equal) (typ. of 1 per sector, total of 3).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 4C/5C/6C) Mount Rating	115	LC3	484%	FAIL
Modified (LTE 4C/5C/6C) Mount Rating	129	LC5	82%	PASS

Reference Documents:

- Mount mapping report prepared by ProVertic LLC.

This determination was based on the following limitations and assumptions:

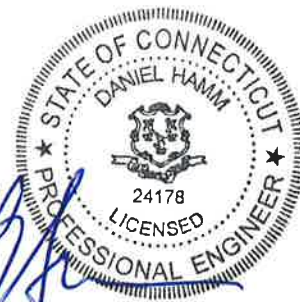
1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities. Contractor to perform pre-inspection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

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

Respectfully Submitted,
Hudson Design Group LLC



Michael Cabral
Structural Dept. Head



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

**Wind & Ice
Calculations**

Date: 1/30/2019
 Project Name: EAST HARTFORD
 Project No.: CT1002
 Designed By: JP Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

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

z = 154 (ft)
 z_g = 1200 (ft)
 α = 7.0

K_z = 1.118

K_{zmin} ≤ K_z ≤ 2.01

Table 2-4

Exposure	Z _g	α	K _{zmin}	K _e
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.4 Topographic Factor:

Table 2-5

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

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

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

K_{zt} = #DIV/0!

K_h = #DIV/0!

K_e = 0.9 (from Table 2-4)

K_t = (from Table 2-5)

f = (from Table 2-5)

z = 154

H = (Ht. of the crest above surrounding terrain)

K_{zt} = 1.00

K_{iz} = 1.17 (from Sec. 2.6.8)

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

Category = 1

2.6.8 Design Ice Thickness

Max Ice Thickness =

t_i = 1.00 in

Importance Factor, I_{ice} =

I_{ice} = 1.00 (from Table 2-3)

$$t_{iz} = 2.0 \cdot t_i \cdot I_{ice} \cdot K_{iz} \cdot (K_{zt})^{0.35}$$

t_{iz} = 2.33 in

2.6.7 Gust Effect Factor

2.6.7.1 Self Supporting Lattice Structures

Gh = 1.0 Latticed Structures > 600 ft

Gh = 0.85 Latticed Structures 450 ft or less

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

h= 150 Gh= 0.85

2.6.7.2 Guyed Masts Gh= 0.85

2.6.7.3 Pole Structures Gh= 1.1

2.6.9 Appurtenances Gh= 1.0

2.6.7.4 Structures Supported on Other Structures

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

Gh= 1.35 Gh= 1.00

2.6.9.2 Design Wind Force on Appurtenances

State Code Ultimate Design Wind Speed: V_{ult} = 125 mph

Nomial Design Wind Speed, V_{asd} = V_{ult} V(0.6) V_{asd} = 97 mph

V_{asd} per the AT&T Mount Technical Directive and Connecticut State Building Code, Latest Edition.

Per TIA-222-G, V_{min} = 90 mph V_{max} = 105 mph

F = q_z * Gh * (EPA)_A

q_z = 0.00256 * K_z * K_{zt} * K_d * V_{max}² * I

q_z = 25.49
 q_{z (ice)} = 6.80
 q_{z (30)} = 2.45

K_z = 1.118
 K_{zt} = 1.0
 K_d = 0.95 (from Table 2-2)
 V_{asd} = 97 mph
 V_{max (ice)} = 50 mph
 V₃₀ = 30 mph
 I = 1.0 (from Table 2-3)
 I_{wice} = 1.0 (from Table 2-3)

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95

Determine Ca:

Table 2-8

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Round	C < 32 (Subcritical)	0.7	0.8	1.2
	32 ≤ C ≤ 64 (Transitional)	$3.76/(C^{0.485})$	$3.37/(C^{0.415})$	$38.4/(C^{1.0})$
	C > 64 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance,
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **2.33 in** Angle = **0 (deg)** Equivalent Angle = **180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	140	58	13
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	4.86	1.31	246	92	24
800-10965 Antenna	78.7	20.0	6.9	10.93	3.94	1.26	352	123	34
RRUS-32 RRH	27.2	12.1	7.0	2.29	2.25	1.20	70	30	7
RRUS-32 RRH (Shielded)	27.2	0.0	7.0	0.00	0.00	1.20	0	8	0
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.89	1.20	36	18	3
4449 B5/B12 RRH (Shielded)	18.0	0.0	13.2	0.00	0.00	1.20	0	6	0
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.20	34	17	3
8843 B2/B66A RRH (Shielded)	14.9	0.0	13.2	0.00	0.00	1.20	0	5	0
4478 B14 RRH	18.1	13.4	8.3	1.68	1.35	1.20	52	23	5
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	0.00	1.20	0	6	0
LGP21401 TMA	14.4	2.7	9.0	0.27	5.33	1.33	9	9	1
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	29	14	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	6	7	1
2-1/2" Pipe	2.9	12.0		0.24	0.24	1.20	7	7	1
1x1 HSS	1.0	12.0		0.08	0.08	2.00	4	9	0
L2-1/2x2-1/2x3/16 Angles	2.5	12.0		0.21	0.21	2.00	11	11	1

WIND LOADS

Angle = 30 (deg)

Ice Thickness = 2.33 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	140	75	124
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	246	141	220
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	352	149	301
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	70	43	63
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	38	43	39
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	36	50	40
4449 B5/B12 RRH (Shielded)	18.0	4.8	13.2	0.59	1.65	3.79	1.36	1.26	1.20	19	50	27
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	34	42	36
8843 B2/B66A RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	17	42	23
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	52	32	47
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	26	32	27
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	9	28	14

WIND LOADS WITH ICE:

7770 Antenna	59.7	15.7	9.7	6.49	4.01	3.81	6.17	1.26	1.36	56	37	51
OPA-65R-LCUU-H6 Antenna	76.7	19.5	12.1	10.36	6.42	3.94	6.35	1.26	1.37	89	60	82
800-10965 Antenna	83.4	24.7	11.6	14.28	6.70	3.38	7.21	1.24	1.41	120	64	106
RRUS-32 RRH	31.9	16.8	11.7	3.71	2.58	1.90	2.73	1.20	1.21	90	21	28
RRUS-32 RRH (Shielded)	31.9	8.4	11.7	1.86	2.58	3.80	2.73	1.26	1.21	16	21	17
4449 B5/B12 RRH	22.7	14.2	17.9	2.23	2.81	1.60	1.27	1.20	1.20	18	23	19
4449 B5/B12 RRH (Shielded)	22.7	7.1	17.9	1.11	2.81	3.20	1.27	1.23	1.20	9	23	13
8843 B2/B66A RRH	19.6	15.6	17.9	2.12	2.43	1.26	1.10	1.20	1.20	17	20	18
8843 B2/B66A RRH (Shielded)	19.6	7.8	17.9	1.06	2.43	2.51	1.10	1.20	1.20	9	20	11
4478 B14 RRH	22.8	18.1	13.0	2.86	2.05	1.26	1.76	1.20	1.20	23	17	22
4478 B14 RRH (Shielded)	22.8	9.0	13.0	1.43	2.05	2.52	1.76	1.20	1.20	12	17	13
LGP21401 TMA	19.1	7.4	13.7	0.98	1.81	2.59	1.40	1.20	1.20	8	15	10

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	12
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	13	21
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	29
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	3	5	4
4449 B5/B12 RRH (Shielded)	18.0	4.8	13.2	0.59	1.65	3.79	1.36	1.26	1.20	2	5	3
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	3
8843 B2/B66A RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	4	2
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	1

WIND LOADS

Angle = **60** (deg)

Ice Thickness = **2.33** in.

Equivalent Angle = **240** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	140	75	91
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	246	141	167
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	352	149	200
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	70	43	49
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	53	43	45
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	36	50	47
4449 B5/B12 RRH (Shielded)	18.0	7.1	13.2	0.89	1.65	2.53	1.36	1.20	1.20	27	50	45
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	34	42	40
8843 B2/B66A RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	26	42	38
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	52	32	37
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	39	32	34
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	9	28	23

WIND LOADS WITH ICE:

7770 Antenna	59.7	15.7	9.7	6.49	4.01	3.81	6.17	1.26	1.36	56	37	42
OPA-65R-LCUU-H6 Antenna	76.7	19.5	12.1	10.36	6.42	3.94	6.35	1.26	1.37	89	60	67
800-10965 Antenna	83.4	24.7	11.6	14.28	6.70	3.38	7.21	1.24	1.41	120	64	78
RRUS-32 RRH	31.9	16.8	11.7	3.71	2.58	1.90	2.73	1.20	1.21	30	21	23
RRUS-32 RRH (Shielded)	31.9	12.6	11.7	2.78	2.58	2.53	2.73	1.20	1.21	23	21	22
4449 B5/B12 RRH	22.7	14.2	17.9	2.23	2.81	1.60	1.27	1.20	1.20	18	23	22
4449 B5/B12 RRH (Shielded)	22.7	10.6	17.9	1.67	2.81	2.13	1.27	1.20	1.20	14	23	21
8843 B2/B66A RRH	19.6	15.6	17.9	2.12	2.43	1.26	1.10	1.20	1.20	17	20	19
8843 B2/B66A RRH (Shielded)	19.6	11.7	17.9	1.59	2.43	1.68	1.10	1.20	1.20	13	20	18
4478 B14 RRH	22.8	18.1	13.0	2.86	2.05	1.26	1.76	1.20	1.20	23	17	18
4478 B14 RRH (Shielded)	22.8	13.5	13.0	2.14	2.05	1.68	1.76	1.20	1.20	17	17	17
LGP21401 TMA	19.1	7.4	13.7	0.98	1.81	2.59	1.40	1.20	1.20	8	15	13

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	9
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	13	16
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	19
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	3	5	5
4449 B5/B12 RRH (Shielded)	18.0	7.1	13.2	0.89	1.65	2.53	1.36	1.20	1.20	3	5	4
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
8843 B2/B66A RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	2	4	4
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2

WIND LOADS

Angle = **90** (deg) Ice Thickness = **2.33** in. Equivalent Angle = **270** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	140	75	75
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	246	141	141
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	352	149	149
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	70	43	43
RRUS-32 RRH (Shielded)	27.2	0.0	7.0	0.00	1.32	0.00	3.89	1.20	1.26	0	43	43
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	36	50	50
4449 B5/B12 RRH (Shielded)	18.0	0.0	13.2	0.00	1.65	0.00	1.36	1.20	1.20	0	50	50
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	34	42	42
8843 B2/B66A RRH (Shielded)	14.9	0.0	13.2	0.00	1.37	0.00	1.13	1.20	1.20	0	42	42
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	52	32	32
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	32	32
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	9	28	28

WIND LOADS WITH ICE:

7770 Antenna	59.7	15.7	9.7	6.49	4.01	3.81	6.17	1.26	1.36	56	37	37
OPA-65R-LCUU-H6 Antenna	76.7	19.5	12.1	10.36	6.42	3.94	6.35	1.26	1.37	89	60	60
800-10965 Antenna	83.4	24.7	11.6	14.28	6.70	3.38	7.21	1.24	1.41	120	64	64
RRUS-32 RRH	31.9	16.8	11.7	3.71	2.58	1.90	2.73	1.20	1.21	30	21	21
RRUS-32 RRH (Shielded)	31.9	4.7	11.7	1.03	2.58	6.83	2.73	1.39	1.21	10	21	21
4449 B5/B12 RRH	22.7	14.2	17.9	2.23	2.81	1.60	1.27	1.20	1.20	18	23	23
4449 B5/B12 RRH (Shielded)	22.7	4.7	17.9	0.73	2.81	4.86	1.27	1.30	1.20	7	23	23
8843 B2/B66A RRH	19.6	15.6	17.9	2.12	2.43	1.26	1.10	1.20	1.20	17	20	20
8843 B2/B66A RRH (Shielded)	19.6	4.7	17.9	0.63	2.43	4.19	1.10	1.28	1.20	5	20	20
4478 B14 RRH	22.8	18.1	13.0	2.86	2.05	1.26	1.76	1.20	1.20	23	17	17
4478 B14 RRH (Shielded)	22.8	4.7	13.0	0.74	2.05	4.88	1.76	1.31	1.20	7	17	17
LGP21401 TMA	19.1	7.4	13.7	0.98	1.81	2.59	1.40	1.20	1.20	8	15	15

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	7
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	13	13
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	14
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	4
RRUS-32 RRH (Shielded)	27.2	0.0	7.0	0.00	1.32	0.00	3.89	1.20	1.26	0	4	4
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	3	5	5
4449 B5/B12 RRH (Shielded)	18.0	0.0	13.2	0.00	1.65	0.00	1.36	1.20	1.20	0	5	5
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
8843 B2/B66A RRH (Shielded)	14.9	0.0	13.2	0.00	1.37	0.00	1.13	1.20	1.20	0	4	4
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	3
4478 B14 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	3

WIND LOADS

Angle = 120 (deg) Ice Thickness = 2.33 in. Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area		Ratio		Ca		Force (lbs)		
				(normal)	(side)	(normal)	(side)	(normal)	(side)	(normal)	(side)	(angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	140	75	91
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	246	141	167
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	352	149	200
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	70	43	49
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	53	43	45
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	36	50	47
4449 B5/B12 RRH (Shielded)	18.0	7.1	13.2	0.89	1.65	2.53	1.36	1.20	1.20	27	50	45
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	34	42	40
8843 B2/B66A RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	26	42	38
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	52	32	37
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	39	32	34
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	9	28	23

WIND LOADS WITH ICE:

7770 Antenna	59.7	15.7	9.7	6.49	4.01	3.81	6.17	1.26	1.36	56	37	42
OPA-65R-LCUU-H6 Antenna	76.7	19.5	12.1	10.36	6.42	3.94	6.35	1.26	1.37	89	60	67
800-10965 Antenna	83.4	24.7	11.6	14.28	6.70	3.38	7.21	1.24	1.41	120	64	78
RRUS-32 RRH	31.9	16.8	11.7	3.71	2.58	1.90	2.73	1.20	1.21	30	21	23
RRUS-32 RRH (Shielded)	31.9	12.6	11.7	2.78	2.58	2.53	2.73	1.20	1.21	23	21	22
4449 B5/B12 RRH	22.7	14.2	17.9	2.23	2.81	1.60	1.27	1.20	1.20	18	23	22
4449 B5/B12 RRH (Shielded)	22.7	10.6	17.9	1.67	2.81	2.13	1.27	1.20	1.20	14	23	21
8843 B2/B66A RRH	19.6	15.6	17.9	2.12	2.43	1.26	1.10	1.20	1.20	17	20	19
8843 B2/B66A RRH (Shielded)	19.6	11.7	17.9	1.59	2.43	1.68	1.10	1.20	1.20	13	20	18
4478 B14 RRH	22.8	18.1	13.0	2.86	2.05	1.26	1.76	1.20	1.20	23	17	18
4478 B14 RRH (Shielded)	22.8	13.5	13.0	2.14	2.05	1.68	1.76	1.20	1.20	17	17	17
LGP21401 TMA	19.1	7.4	13.7	0.98	1.81	2.59	1.40	1.20	1.20	8	15	13

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	9
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	13	16
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	19
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	5
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	3	5	5
4449 B5/B12 RRH (Shielded)	18.0	7.1	13.2	0.89	1.65	2.53	1.36	1.20	1.20	3	5	4
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	4
8843 B2/B66A RRH (Shielded)	14.9	8.2	13.2	0.85	1.37	1.82	1.13	1.20	1.20	2	4	4
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
4478 B14 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	4	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	2

WIND LOADS

Angle = 150 (deg)

Ice Thickness = 2.93 in.

Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area	Flat Area	Ratio	Ratio	Ca	Ca	Force (lbs)	Force (lbs)	Force (lbs)
				(normal)	(side)	(normal)	(side)	(normal)	(side)	(normal)	(side)	(angle)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	140	75	124
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	246	141	220
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	352	149	301
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	70	43	63
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	38	43	39
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	36	50	40
4449 B5/B12 RRH (Shielded)	18.0	4.8	13.2	0.59	1.65	3.79	1.36	1.26	1.20	19	50	27
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	34	42	36
8843 B2/B66A RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	17	42	23
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	52	32	47
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	26	32	27
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	9	28	14

WIND LOADS WITH ICE:

7770 Antenna	59.7	15.7	9.7	6.49	4.01	3.81	6.17	1.26	1.36	56	37	51
OPA-65R-LCUU-H6 Antenna	76.7	19.5	12.1	10.36	6.42	3.94	6.35	1.26	1.37	89	60	82
800-10965 Antenna	83.4	24.7	11.6	14.28	6.70	3.38	7.21	1.24	1.41	120	64	106
RRUS-32 RRH	31.9	16.8	11.7	3.71	2.58	1.90	2.73	1.20	1.21	30	21	28
RRUS-32 RRH (Shielded)	31.9	8.4	11.7	1.86	2.58	3.80	2.73	1.26	1.21	16	21	17
4449 B5/B12 RRH	22.7	14.2	17.9	2.23	2.81	1.60	1.27	1.20	1.20	18	23	19
4449 B5/B12 RRH (Shielded)	22.7	7.1	17.9	1.11	2.81	3.20	1.27	1.23	1.20	9	23	13
8843 B2/B66A RRH	19.6	15.6	17.9	2.12	2.43	1.26	1.10	1.20	1.20	17	20	18
8843 B2/B66A RRH (Shielded)	19.6	7.8	17.9	1.06	2.43	2.51	1.10	1.20	1.20	9	20	11
4478 B14 RRH	22.8	18.1	13.0	2.86	2.05	1.26	1.76	1.20	1.20	23	17	22
4478 B14 RRH (Shielded)	22.8	9.0	13.0	1.43	2.05	2.52	1.76	1.20	1.20	12	17	13
LGP21401 TMA	19.1	7.4	13.7	0.98	1.81	2.59	1.40	1.20	1.20	8	15	10

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	13	7	12
OPA-65R-LCUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	24	13	21
800-10965 Antenna	78.7	20.0	6.9	10.93	3.77	3.94	11.41	1.26	1.55	34	14	29
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	7	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	4	4	4
4449 B5/B12 RRH	18.0	9.5	13.2	1.19	1.65	1.89	1.36	1.20	1.20	3	5	4
4449 B5/B12 RRH (Shielded)	18.0	4.8	13.2	0.59	1.65	3.79	1.36	1.26	1.20	2	5	3
8843 B2/B66A RRH	14.9	10.9	13.2	1.13	1.37	1.37	1.13	1.20	1.20	3	4	3
8843 B2/B66A RRH (Shielded)	14.9	5.5	13.2	0.56	1.37	2.73	1.13	1.21	1.20	2	4	2
4478 B14 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	5	3	4
4478 B14 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	3	3
LGP21401 TMA	14.4	2.7	9.0	0.27	0.90	5.33	1.60	1.33	1.20	1	3	1

Date: 1/30/2019

Project Name: EAST HARTFORD

Project No.: CT1002

Designed By: JP Checked By: MSC



HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 2.33 in.
Density of ice: 56 pcf

7770 Antenna

Weight of ice based on total radial SF area:
Height (in): 55.0
Width (in): 11.0
Depth (in): 5.0
Total weight of ice on object: 188 lbs
Weight of object: 35.0 lbs
Combined weight of ice and object: 223 lbs

OPA-65R-LCUU-H6 Antenna

Weight of ice based on total radial SF area:
Height (in): 72.0
Width (in): 14.8
Depth (in): 7.4
Total weight of ice on object: 322 lbs
Weight of object: 73.0 lbs
Combined weight of ice and object: 395 lbs

800-10965 Antenna

Weight of ice based on total radial SF area:
Height (in): 78.7
Width (in): 20.0
Depth (in): 6.9
Total weight of ice on object: 438 lbs
Weight of object: 109.0 lbs
Combined weight of ice and object: 547 lbs

RRUS-32 RRH

Weight of ice based on total radial SF area:
Height (in): 27.2
Width (in): 12.1
Depth (in): 7.0
Total weight of ice on object: 105 lbs
Weight of object: 60.0 lbs
Combined weight of ice and object: 165 lbs

4449 B5/B12 RRH

Weight of ice based on total radial SF area:
Height (in): 18.0
Width (in): 13.2
Depth (in): 9.5
Total weight of ice on object: 79 lbs
Weight of object: 71.0 lbs
Combined weight of ice and object: 150 lbs

8843 B2/B66A RRH

Weight of ice based on total radial SF area:
Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9
Total weight of ice on object: 69 lbs
Weight of object: 72.0 lbs
Combined weight of ice and object: 141 lbs

4478 B14 RRH

Weight of ice based on total radial SF area:
Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3
Total weight of ice on object: 78 lbs
Weight of object: 60.0 lbs
Combined weight of ice and object: 138 lbs

LGP21401 TMA

Weight of ice based on total radial SF area:
Height (in): 14.4
Width (in): 2.7
Depth (in): 9.0
Total weight of ice on object: 40 lbs
Weight of object: 19.0 lbs
Combined weight of ice and object: 59 lbs

DBCT108F1V92-1 Diplexer

Weight of ice based on total radial SF area:
Height (in): 10.7
Width (in): 6.8
Depth (in): 3.5
Total weight of ice on object: 25 lbs
Weight of object: 14.0 lbs
Combined weight of ice and object: 39 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:
Depth (in): 24.0
Diameter (in): 9.7
Total weight of ice on object: 68 lbs
Weight of object: 33 lbs
Combined weight of ice and object: 101 lbs

2" pipe

Per foot weight of ice:
diameter (in): 2.38
Per foot weight of ice on object: 13 plf

2-1/2" pipe

Per foot weight of ice:
diameter (in): 2.88
Per foot weight of ice on object: 15 plf

HSS 1x1

Weight of ice based on total radial SF area:
Height (in): 1
Width (in): 1
Per foot weight of ice on object: 11 plf

HSS 4x4

Weight of ice based on total radial SF area:
Height (in): 4
Width (in): 4
Per foot weight of ice on object: 23 plf

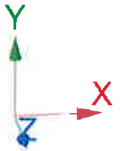
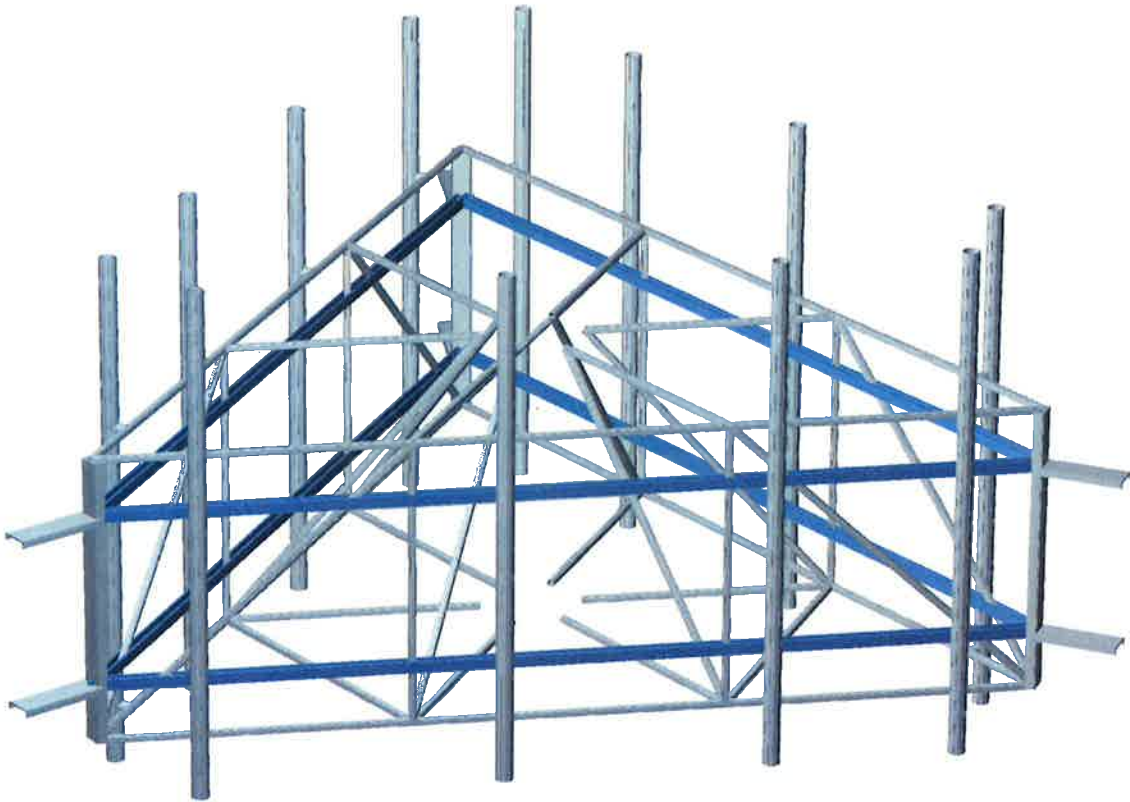
L 2-1/2x2-1/2x3/16 Angles

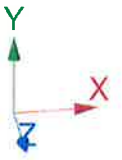
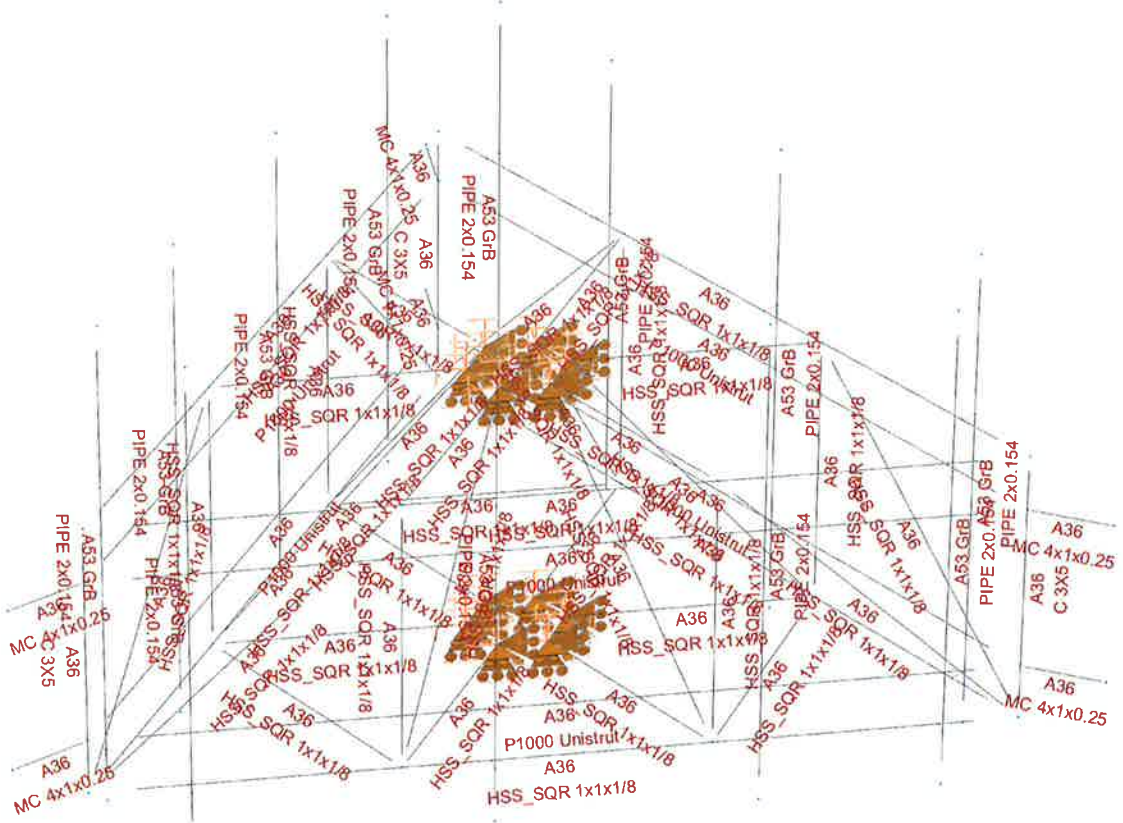
Weight of ice based on total radial SF area:
Height (in): 2.5
Width (in): 2.5
Per foot weight of ice on object: 17 plf



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Design Group LLC

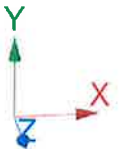
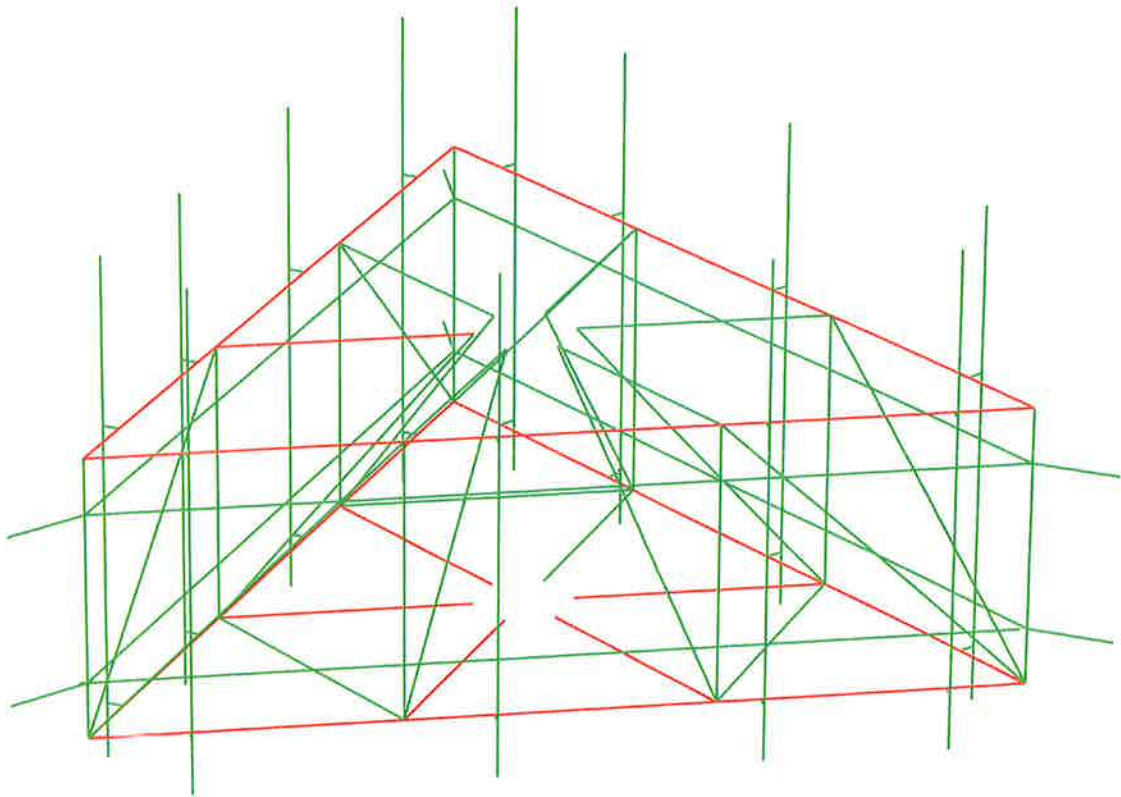
**4C/5C/6C Mount Calculations
(Existing Conditions)**

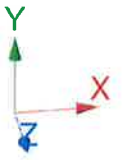
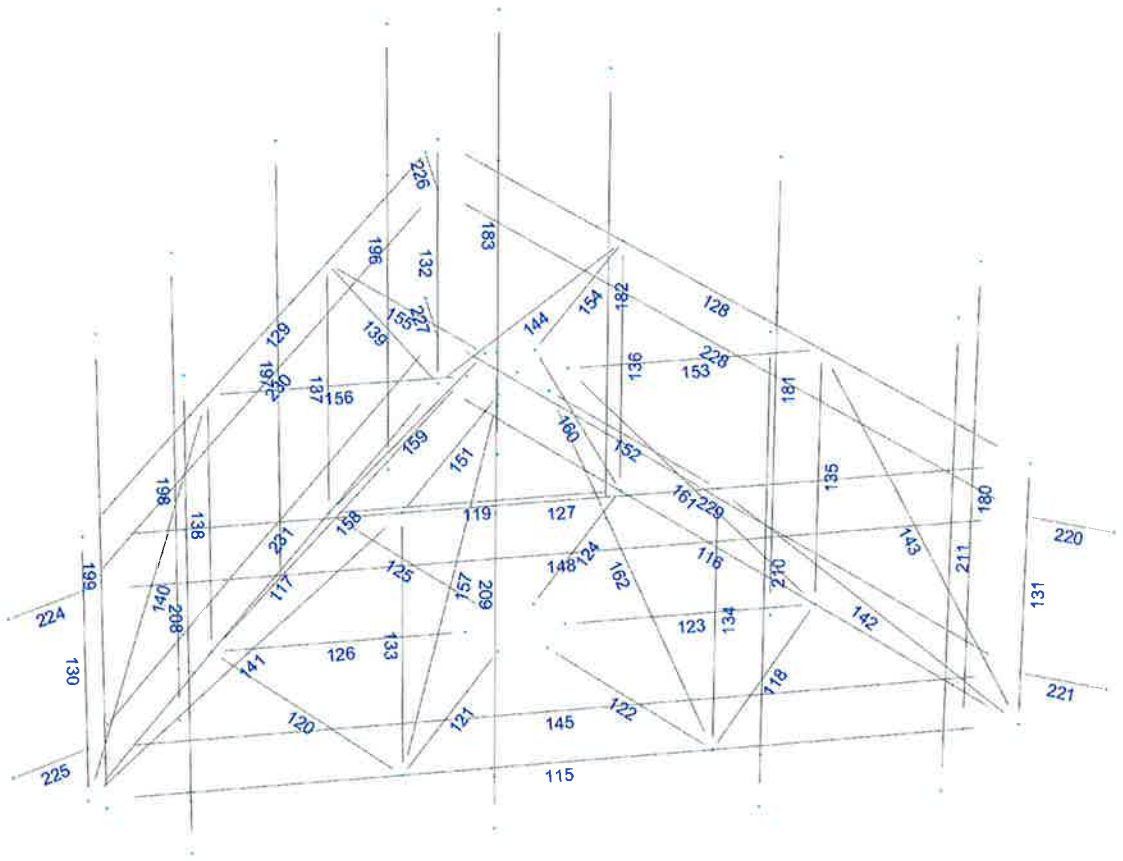




Design status

- Not designed
- Error on design
- Design O.K.
- With warnings





Load data

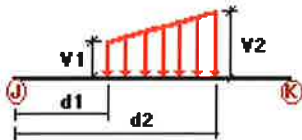
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load on Antenna 1	No	LL
LLa2	250 lb Live Load on Antenna 2	No	LL
LLa3	250 lb Live Load on Antenna 3	No	LL
LLa4	250 lb Live Load on Antenna 4	No	LL

Distributed force on members

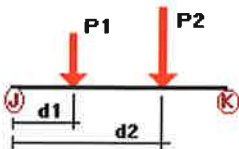


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%	
DL	118	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	119	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	120	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	121	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	122	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	123	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	124	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	125	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	126	Y	-0.01	-0.01	0.00	Yes	100.00	Yes	
	W0	115	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
		116	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
117		Z	-0.006	-0.006	0.00	Yes	100.00	Yes	
127		Z	-0.004	-0.004	0.00	Yes	100.00	Yes	
128		Z	-0.006	-0.006	0.00	Yes	100.00	Yes	

	129	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	133	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	134	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	141	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	142	Z	-0.004	-0.004	0.00	Yes	100.00	Yes
	151	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	152	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	153	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	154	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	155	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	156	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	157	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	158	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	159	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	160	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	161	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	162	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	180	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	181	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	182	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	183	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	196	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	197	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	198	z	-0.006	-0.006	0.00	Yes	100.00	Yes
	199	z	-0.006	-0.006	0.00	Yes	100.00	Yes
W30	116	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	117	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	128	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	129	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	135	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	136	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	137	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	138	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	139	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	140	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	143	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	144	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	151	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	152	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	153	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	154	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	155	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	156	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	157	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	158	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	159	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	160	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	161	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	162	X	-0.004	-0.004	0.00	Yes	100.00	Yes
	180	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	181	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	182	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	183	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	196	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	197	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	198	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	199	x	-0.006	-0.006	0.00	Yes	100.00	Yes
Di	115	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	116	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	117	Y	-0.011	-0.011	0.00	Yes	100.00	Yes

118	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
119	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
120	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
121	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
122	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
123	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
124	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
125	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
126	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
127	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
128	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
129	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
133	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
134	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
135	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
136	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
137	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
138	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
139	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
142	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
143	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
144	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
151	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
152	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
153	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
154	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
155	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
156	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
157	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
158	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
159	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
160	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
161	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
162	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
180	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
181	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
182	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
183	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
196	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
197	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
198	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
199	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
208	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
209	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
210	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
211	Y	-0.013	-0.013	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	180	y	-0.055	0.50	No
		y	-0.055	5.50	No
		y	-0.06	1.50	No
	181	y	-0.055	0.50	No
		y	-0.055	5.50	No
		y	-0.071	1.00	No
	182	y	-0.072	1.50	No
		y	-0.037	0.50	No
		y	-0.037	5.50	No
	183	y	-0.06	1.50	No
		y	-0.018	0.50	No
		y	-0.018	5.50	No
	196	y	-0.019	1.50	No
		y	-0.055	0.50	No
		y	-0.055	5.50	No
	197	y	-0.06	1.50	No
		y	-0.055	0.50	No
		y	-0.055	5.50	No
	198	y	-0.071	1.00	No
		y	-0.072	1.50	No
		y	-0.037	0.50	No
	199	y	-0.037	5.50	No
		y	-0.06	1.50	No
		y	-0.018	0.50	No
	208	y	-0.018	5.50	No
		y	-0.019	1.50	No
		y	-0.055	0.50	No
	209	y	-0.055	5.50	No
		y	-0.055	0.50	No
		y	-0.071	1.00	No
	210	y	-0.072	1.50	No
		y	-0.037	0.50	No
		y	-0.037	5.50	No
	211	y	-0.06	1.50	No
		y	-0.018	0.50	No
		y	-0.018	5.50	No
WO	180	z	-0.019	1.50	No
		z	-0.10	0.50	No
		z	-0.10	5.50	No
	181	z	-0.034	1.50	No
		z	-0.10	0.50	No
		z	-0.10	5.50	No
	182	z	-0.045	1.00	No
		z	-0.038	1.50	No
		z	-0.084	0.50	No
	183	z	-0.084	5.50	No
		z	-0.045	1.50	No
		z	-0.046	0.50	No
	196	z	-0.046	5.50	No
		z	-0.023	1.50	No
		z	-0.10	0.50	No
	197	z	-0.10	5.50	No
		z	-0.034	1.50	No
		z	-0.10	0.50	No
	198	z	-0.10	5.50	No
		z	-0.045	1.00	No
		z	-0.038	1.50	No
	198	z	-0.084	0.50	No

		z	-0.084	5.50	No
		z	-0.045	1.50	No
199		z	-0.046	0.50	No
		z	-0.046	5.50	No
		z	-0.023	1.50	No
208		z	-0.177	0.50	No
		z	-0.177	5.50	No
209		z	-0.177	0.50	No
		z	-0.177	5.50	No
210		z	-0.124	0.50	No
		z	-0.124	5.50	No
211		z	-0.071	0.50	No
		z	-0.071	5.50	No
W30	180	x	-0.151	0.50	No
		x	-0.151	5.50	No
		x	-0.027	1.50	No
181		x	-0.151	0.50	No
		x	-0.151	5.50	No
		x	-0.027	1.00	No
		x	-0.023	1.50	No
182		x	-0.11	0.50	No
		x	-0.11	5.50	No
		x	-0.039	1.50	No
183		x	-0.062	0.50	No
		x	-0.062	5.50	No
		x	-0.014	1.50	No
196		x	-0.151	0.50	No
		x	-0.151	5.50	No
		x	-0.027	1.50	No
197		x	-0.151	0.50	No
		x	-0.151	5.50	No
		x	-0.027	1.00	No
		x	-0.023	1.50	No
198		x	-0.11	0.50	No
		x	-0.11	5.50	No
		x	-0.039	1.50	No
199		x	-0.062	0.50	No
		x	-0.062	5.50	No
		x	-0.014	1.50	No
208		x	-0.075	0.50	No
		x	-0.075	5.50	No
		x	-0.032	1.50	No
209		x	-0.075	0.50	No
		x	-0.075	5.50	No
		x	-0.05	1.50	No
		x	-0.042	2.00	No
210		x	-0.071	0.50	No
		x	-0.071	5.50	No
		x	-0.043	1.50	No
211		x	-0.038	0.50	No
		x	-0.038	5.50	No
		x	-0.028	1.50	No
Di	180	y	-0.219	0.50	No
		y	-0.219	5.50	No
		y	-0.078	1.50	No
181		y	-0.219	0.50	No
		y	-0.219	5.50	No
		y	-0.079	1.00	No
		y	-0.069	1.50	No
182		y	-0.166	0.50	No

	y	-0.166	5.50	No
	y	-0.105	1.50	No
183	y	-0.094	0.50	No
	y	-0.094	5.50	No
	y	-0.04	1.50	No
196	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.078	1.50	No
197	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.079	1.00	No
	y	-0.069	1.50	No
198	y	-0.166	0.50	No
	y	-0.166	5.50	No
	y	-0.105	1.50	No
199	y	-0.094	0.50	No
	y	-0.094	5.50	No
	y	-0.04	1.50	No
208	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.078	1.50	No
209	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.079	1.00	No
	y	-0.069	1.50	No
210	y	-0.166	0.50	No
	y	-0.166	5.50	No
	y	-0.105	1.50	No
211	y	-0.094	0.50	No
	y	-0.094	5.50	No
	y	-0.04	1.50	No
WiO 180	z	-0.04	0.50	No
	z	-0.04	5.50	No
	z	-0.017	1.50	No
181	z	-0.04	0.50	No
	z	-0.04	5.50	No
	z	-0.021	1.00	No
	z	-0.018	1.50	No
182	z	-0.034	0.50	No
	z	-0.034	5.50	No
	z	-0.022	1.50	No
183	z	-0.021	0.50	No
	z	-0.021	5.50	No
	z	-0.013	1.50	No
196	z	-0.04	0.50	No
	z	-0.04	5.50	No
	z	-0.017	1.50	No
197	z	-0.04	0.50	No
	z	-0.04	5.50	No
	z	-0.021	1.00	No
	z	-0.018	1.50	No
198	z	-0.034	0.50	No
	z	-0.034	5.50	No
	z	-0.022	1.50	No
199	z	-0.021	0.50	No
	z	-0.021	5.50	No
	z	-0.013	1.50	No
208	z	-0.062	0.50	No
	z	-0.062	5.50	No
209	z	-0.062	0.50	No

		z	-0.062	5.50	No
	210	z	-0.046	0.50	No
		z	-0.046	5.50	No
	211	z	-0.029	0.50	No
		z	-0.029	5.50	No
W30	180	x	-0.054	0.50	No
		x	-0.054	5.50	No
		x	-0.013	1.50	No
	181	x	-0.054	0.50	No
		x	-0.054	5.50	No
		x	-0.013	1.00	No
		x	-0.011	1.50	No
	182	x	-0.041	0.50	No
		x	-0.041	5.50	No
		x	-0.017	1.50	No
	183	x	-0.026	0.50	No
		x	-0.026	5.50	No
		x	-0.01	1.50	No
	196	x	-0.054	0.50	No
		x	-0.054	5.50	No
		x	-0.013	1.50	No
	197	x	-0.054	0.50	No
		x	-0.054	5.50	No
		x	-0.013	1.00	No
		x	-0.011	1.50	No
	198	x	-0.041	0.50	No
		x	-0.041	5.50	No
		x	-0.017	1.50	No
	199	x	-0.026	0.50	No
		x	-0.026	5.50	No
		x	-0.01	1.50	No
	208	x	-0.033	0.50	No
		x	-0.033	5.50	No
		x	-0.017	1.50	No
	209	x	-0.033	0.50	No
		x	-0.033	5.50	No
		x	-0.023	1.00	No
		x	-0.02	1.50	No
	210	x	-0.03	0.50	No
		x	-0.03	5.50	No
		x	-0.021	1.50	No
	211	x	-0.019	0.50	No
		x	-0.019	5.50	No
		x	-0.015	1.50	No
WLO	180	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.004	1.50	No
	181	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.005	1.00	No
		z	-0.004	1.50	No
	182	z	-0.009	0.50	No
		z	-0.009	5.50	No
		z	-0.005	1.50	No
	183	z	-0.005	0.50	No
		z	-0.005	5.50	No
		z	-0.003	1.50	No
	196	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.004	1.50	No

	197	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.005	1.00	No
		z	-0.004	1.50	No
	198	z	-0.009	0.50	No
		z	-0.009	5.50	No
		z	-0.005	1.50	No
	199	z	-0.005	0.50	No
		z	-0.005	5.50	No
		z	-0.003	1.50	No
	208	z	-0.017	0.50	No
		z	-0.017	5.50	No
	209	z	-0.017	0.50	No
		z	-0.017	5.50	No
	210	z	-0.012	0.50	No
		z	-0.012	5.50	No
	211	z	-0.007	0.50	No
		z	-0.007	5.50	No
WL30	180	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.003	1.50	No
	181	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.003	1.00	No
		x	-0.003	1.50	No
	182	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.004	1.50	No
	183	x	-0.006	0.50	No
		x	-0.006	5.50	No
		x	-0.002	1.50	No
	196	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.003	1.50	No
	197	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.003	1.00	No
		x	-0.003	1.50	No
	198	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.004	1.50	No
	199	x	-0.006	0.50	No
		x	-0.006	5.50	No
		x	-0.002	1.50	No
	208	x	-0.008	0.50	No
		x	-0.008	5.50	No
		x	-0.004	1.50	No
	209	x	-0.008	0.50	No
		x	-0.008	5.50	No
		x	-0.005	1.00	No
		x	-0.005	1.50	No
	210	x	-0.007	0.50	No
		x	-0.007	5.50	No
		x	-0.005	1.50	No
	211	x	-0.004	0.50	No
		x	-0.004	5.50	No
		x	-0.003	1.50	No
LL1	127	y	-0.25	50.00	Yes
LL2	127	y	-0.25	0.00	Yes
LLa1	211	y	-0.25	50.00	Yes

LLa2	210	y	-0.25	50.00	Yes
LLa3	209	y	-0.25	50.00	Yes
LLa4	208	y	-0.25	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load on Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00



Current Date: 1/30/2019 11:10 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1002\LTE 4C-5C-6C\CT1002 (4C-5C-6C).etz\

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

- LC1=1.2DL+1.6W0
- LC2=1.2DL+1.6W30
- LC3=1.2DL-1.6W0
- LC4=1.2DL-1.6W30
- LC5=0.9DL+1.6W0
- LC6=0.9DL+1.6W30
- LC7=0.9DL-1.6W0
- LC8=0.9DL-1.6W30
- LC9=1.2DL+Di+W0
- LC10=1.2DL+Di+W30
- LC11=1.2DL+Di-W0
- LC12=1.2DL+Di-W30
- LC13=1.2DL
- LC14=0.9DL
- LC15=1.2DL+1.6LL1
- LC16=1.2DL+1.6LL2
- LC17=1.2DL+W0+LLa1
- LC18=1.2DL+W30+LLa1
- LC19=1.2DL-W0+LLa1
- LC20=1.2DL-W30+LLa1
- LC21=1.2DL+W0+LLa2
- LC22=1.2DL+W30+LLa2
- LC23=1.2DL-W0+LLa2
- LC24=1.2DL-W30+LLa2
- LC25=1.2DL+W0+LLa3
- LC26=1.2DL+W30+LLa3
- LC27=1.2DL-W0+LLa3
- LC28=1.2DL-W30+LLa3
- LC29=1.2DL+W0+LLa4
- LC30=1.2DL+W30+LLa4
- LC31=1.2DL-W0+LLa4
- LC32=1.2DL-W30+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 3X5	130	LC12 at 100.00%	0.38	OK	Eq. H1-1b
		131	LC10 at 100.00%	0.39	OK	Eq. H1-1b
		132	LC11 at 100.00%	0.39	OK	Eq. H1-1b
	HSS_SQR 1x1x1/8	115	LC3 at 33.93%	4.84	N.G.	Eq. H1-1a
		116	LC4 at 33.93%	4.10	N.G.	Eq. H1-1a
		117	LC2 at 33.93%	3.99	N.G.	Eq. H1-1a
		118	LC4 at 100.00%	0.52	OK	Eq. H1-1a
		119	LC1 at 43.75%	0.42	OK	Eq. H1-1a
		120	LC2 at 0.00%	0.45	OK	Eq. H1-1a
		121	LC4 at 100.00%	1.14	N.G.	Eq. H1-1a
		122	LC2 at 100.00%	1.07	N.G.	Eq. H1-1a
		123	LC2 at 100.00%	1.01	N.G.	Eq. H1-1a
		124	LC4 at 100.00%	0.97	OK	Eq. H1-1b
		125	LC2 at 100.00%	1.04	N.G.	Eq. H1-1a
		126	LC4 at 100.00%	1.01	N.G.	Eq. H1-1b

127	LC5 at 33.93%	2.08	N.G.	Eq. H1-1a	
128	LC4 at 66.96%	2.12	N.G.	Eq. H1-1a	
129	LC1 at 66.96%	2.22	N.G.	Eq. H1-1a	
133	LC11 at 0.00%	0.71	OK	Eq. H1-1a	
134	LC3 at 100.00%	0.41	OK	Eq. H1-1a	
135	LC12 at 0.00%	0.87	OK	Eq. H1-1a	
136	LC4 at 0.00%	0.64	OK	Eq. H1-1a	
137	LC9 at 0.00%	0.82	OK	Eq. H1-1a	
138	LC1 at 0.00%	0.61	OK	Eq. H1-1a	
139	LC8 at 0.00%	0.84	OK	Eq. H1-1a	
140	LC7 at 100.00%	0.82	OK	Eq. H1-1a	
141	LC5 at 100.00%	0.76	OK	Eq. H1-1a	
142	LC5 at 100.00%	0.72	OK	Eq. H1-1a	
143	LC7 at 0.00%	0.71	OK	Eq. H1-1a	
144	LC6 at 100.00%	0.93	OK	Eq. H1-1a	
151	LC2 at 100.00%	0.67	OK	Eq. H1-1b	
152	LC4 at 100.00%	0.67	OK	Eq. H1-1b	
153	LC4 at 100.00%	0.99	OK	Eq. H1-1b	
154	LC2 at 100.00%	0.91	OK	Eq. H1-1b	
155	LC4 at 100.00%	1.00	OK	Eq. H1-1b	
156	LC8 at 100.00%	1.05	N.G.	Eq. H1-1b	
157	LC5 at 100.00%	0.48	OK	Eq. H1-1a	
158	LC8 at 100.00%	0.52	OK	Eq. H1-1b	
159	LC8 at 100.00%	0.71	OK	Eq. H1-1a	
160	LC6 at 100.00%	0.76	OK	Eq. H1-1a	
161	LC4 at 100.00%	0.48	OK	Eq. H1-1b	
162	LC5 at 100.00%	0.49	OK	Eq. H1-1a	
<hr/>					
MC 4x1x0.25	220	LC2 at 100.00%	0.01	OK	Sec. F1
	221	LC12 at 100.00%	0.01	OK	Sec. F1
	224	LC3 at 100.00%	0.01	OK	Sec. F1
	225	LC2 at 100.00%	0.01	OK	Sec. F1
	226	LC1 at 100.00%	0.01	OK	Sec. F1
	227	LC9 at 100.00%	0.01	OK	Sec. F1
<hr/>					
P1000 Unistrut	145	LC3 at 0.00%	0.53	OK	Sec. C5.2
	148	LC8 at 66.25%	0.38	OK	Sec. C5.2
	228	LC1 at 66.25%	0.37	OK	Sec. C5.1
	229	LC1 at 66.25%	0.54	OK	Sec. C5.2
	230	LC7 at 33.75%	0.37	OK	Sec. C5.2
	231	LC2 at 33.75%	0.55	OK	Sec. C5.2
<hr/>					
PIPE 2x0.154	180	LC4 at 31.25%	0.41	OK	Eq. H1-1b
	181	LC4 at 31.25%	0.45	OK	Eq. H1-1b
	182	LC2 at 31.25%	0.31	OK	Eq. H1-1b
	183	LC2 at 31.25%	0.18	OK	Eq. H1-1b
	196	LC2 at 31.25%	0.41	OK	Eq. H1-1b
	197	LC2 at 31.25%	0.45	OK	Eq. H1-1b
	198	LC2 at 31.25%	0.31	OK	Eq. H1-1b
	199	LC4 at 33.33%	0.18	OK	Eq. H1-1b
	208	LC3 at 33.33%	0.32	OK	Eq. H1-1b
	209	LC3 at 33.33%	0.36	OK	Eq. H1-1b
	210	LC3 at 33.33%	0.23	OK	Eq. H1-1b
	211	LC1 at 33.33%	0.15	OK	Eq. H1-1b

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
111	-1.75	-3.3333	3.0312	0
112	-0.2917	-3.3333	0.5052	0
113	-0.5833	-3.3333	5.00E-05	0
114	-0.2917	-3.3333	-0.5052	0
115	-5.25	-3.3333	3.0312	0
116	-3.50	-3.3333	5.00E-05	0
117	-1.75	-3.3333	-3.0311	0
118	0.00	-3.3333	-6.0621	0
119	1.75	-3.3333	3.0312	0
120	0.2917	-3.3333	0.5052	0
121	0.5833	-3.3333	5.00E-05	0
122	0.2917	-3.3333	-0.5052	0
123	5.25	-3.3333	3.0312	0
124	3.50	-3.3333	5.00E-05	0
125	1.75	-3.3333	-3.0311	0
126	-1.75	0.00	3.0312	0
127	-5.25	0.00	3.0312	0
128	1.75	0.00	3.0312	0
129	0.00	0.00	-6.0621	0
130	3.50	0.00	5.00E-05	0
131	1.75	0.00	-3.0311	0

132	5.25	0.00	3.0312	0
133	-3.50	0.00	5.00E-05	0
134	-1.75	0.00	-3.0311	0
135	5.25	-2.6666	3.0311	0
136	-5.25	-2.6666	3.0312	0
138	5.25	-0.6666	3.0311	0
139	-5.25	-0.6666	3.0312	0
141	-0.2917	0.00	0.5052	0
142	-0.5833	0.00	5.00E-05	0
143	0.2917	0.00	0.5052	0
144	0.5833	0.00	5.00E-05	0
145	0.2917	0.00	-0.5052	0
146	-0.2917	0.00	-0.5052	0
165	0.00	0.00	0.00	0
183	4.8608	2.00	1.9568	0
184	4.8608	-4.00	1.9568	0
188	3.1733	2.00	-0.966	0
189	1.6733	2.00	-3.5641	0
190	0.6316	2.00	-5.3683	0
191	3.1733	-4.00	-0.966	0
192	1.6733	-4.00	-3.5641	0
193	0.6316	-4.00	-5.3683	0
234	-0.7357	2.00	-5.188	0
235	-0.7357	-4.00	-5.188	0
236	-2.4232	2.00	-2.2651	0
237	-2.4232	-4.00	-2.2651	0
238	-3.9232	2.00	0.333	0
239	-3.9232	-4.00	0.333	0
240	-4.9649	2.00	2.1372	0
241	-4.9649	-4.00	2.1372	0
258	-4.125	2.00	3.2312	0
259	-4.125	-4.00	3.2312	0
260	-0.75	2.00	3.2312	0
261	-0.75	-4.00	3.2312	0
262	2.25	2.00	3.2312	0
263	2.25	-4.00	3.2312	0
264	4.3333	2.00	3.2312	0
265	4.3333	-4.00	3.2312	0
266	6.116	-0.6666	3.5311	0
267	6.116	-2.6666	3.5311	0
272	-6.116	-0.6666	3.5311	0
274	-6.116	-2.6666	3.5311	0
276	0.00	-0.6666	-7.0621	0
277	0.00	-0.6666	-6.0621	0
278	0.00	-2.6666	-7.0621	0
279	0.00	-2.6666	-6.0621	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
112	1	1	1	1	1	1
113	1	1	1	1	1	1
114	1	1	1	1	1	1
120	1	1	1	1	1	1
121	1	1	1	1	1	1

122	1	1	1	1	1	1
141	1	1	1	1	1	1
142	1	1	1	1	1	1
143	1	1	1	1	1	1
144	1	1	1	1	1	1
145	1	1	1	1	1	1
146	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
115	115	123		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
116	123	118		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
117	118	115		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
118	119	124		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
119	125	117		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
120	116	111		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
121	111	112		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
122	119	120		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
123	124	121		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
124	125	122		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
125	117	114		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
126	116	113		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
127	127	132		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
128	132	129		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
129	129	127		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
130	115	127		C 3X5	A36	0.00	0.00	0.00
131	123	132		C 3X5	A36	0.00	0.00	0.00
132	118	129		C 3X5	A36	0.00	0.00	0.00
133	111	126		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
134	119	128		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
135	124	130		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
136	125	131		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
137	117	134		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
138	116	133		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
139	118	134		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
140	115	133		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
141	115	126		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
142	123	128		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
143	123	130		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
144	118	131		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
145	135	136		P1000 Unistrut	A36	0.00	0.00	0.00
148	138	139		P1000 Unistrut	A36	0.00	0.00	0.00
151	126	141		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
152	128	143		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
153	130	144		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
154	131	145		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
155	134	146		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
156	133	142		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
157	111	141		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
158	116	142		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
159	117	146		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
160	125	145		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
161	124	144		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
162	119	143		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00

180	183	184	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
181	188	191	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
182	189	192	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
183	190	193	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
196	234	235	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
197	236	237	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
198	238	239	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
199	240	241	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
208	258	259	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
209	260	261	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
210	262	263	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
211	264	265	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
220	266	138	MC 4x1x0.25	A36	0.00	0.00	0.00
221	267	135	MC 4x1x0.25	A36	0.00	0.00	0.00
224	272	139	MC 4x1x0.25	A36	0.00	0.00	0.00
225	274	136	MC 4x1x0.25	A36	0.00	0.00	0.00
226	276	277	MC 4x1x0.25	A36	0.00	0.00	0.00
227	278	279	MC 4x1x0.25	A36	0.00	0.00	0.00
228	138	277	P1000 Unistrut	A36	0.00	0.00	0.00
229	135	279	P1000 Unistrut	A36	0.00	0.00	0.00
230	277	139	P1000 Unistrut	A36	0.00	0.00	0.00
231	279	136	P1000 Unistrut	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
130	120.00	0	0.00	0.00	0.00
131	240.00	0	0.00	0.00	0.00
145	270.00	0	0.00	0.00	0.00
148	270.00	0	0.00	0.00	0.00
180	0.00	2	-0.50	0.00	-0.866
181	0.00	2	-0.50	0.00	-0.866
182	0.00	2	-0.50	0.00	-0.866
183	0.00	2	-0.50	0.00	-0.866
196	0.00	2	-0.50	0.00	0.866
197	0.00	2	-0.50	0.00	0.866
198	0.00	2	-0.50	0.00	0.866
199	0.00	2	-0.50	0.00	0.866
220	90.00	0	0.00	0.00	0.00
221	90.00	0	0.00	0.00	0.00
224	90.00	0	0.00	0.00	0.00
225	90.00	0	0.00	0.00	0.00
226	90.00	0	0.00	0.00	0.00
227	90.00	0	0.00	0.00	0.00
228	270.00	0	0.00	0.00	0.00
229	270.00	0	0.00	0.00	0.00
230	270.00	0	0.00	0.00	0.00
231	270.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
145	-1.00	0.00	0.00	-1.00	0.00	0.00

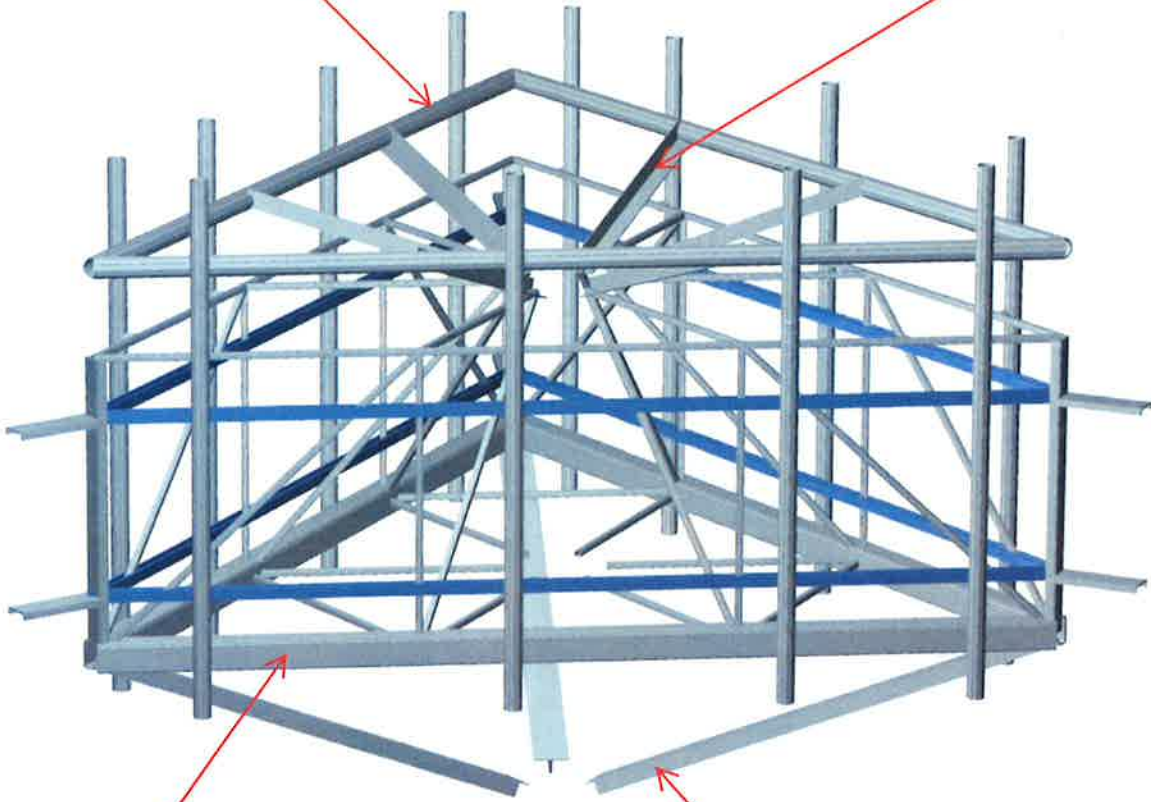


HUDSON
Design Group LLC

**4C/5C/6C Mount Calculations
(Modified Conditions)**

Install new 2-1/2" std. (2.88" O.D.) handrail kit secured to existing pipe masts (typ. of 1 per sector, total of 3).

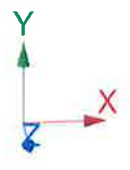
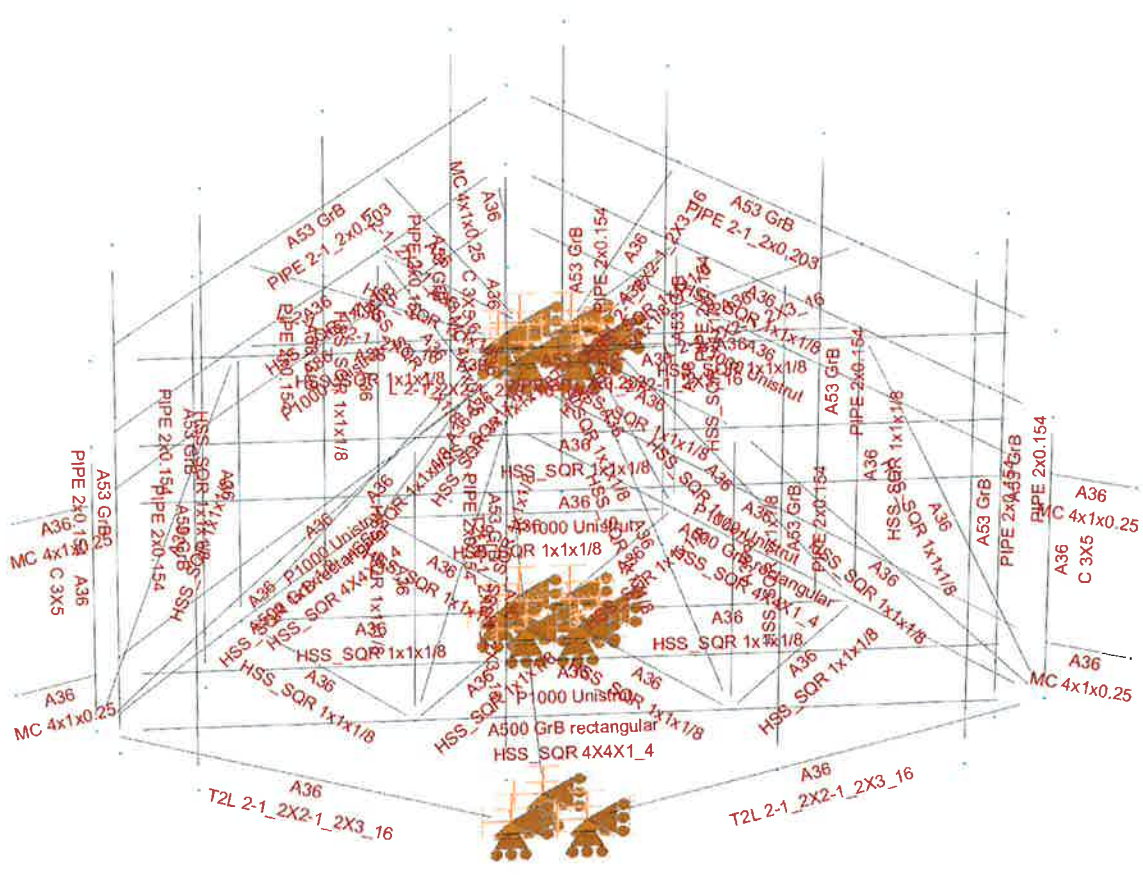
Install new Sector Frame Stabilizer Kit, SitePro1 P/N SFS-H secured to the proposed handrail kit and existing tower (typ. of 1 per sector, total of 3).







Install new HSS 4x4x1/4 frame secured to the existing platform.

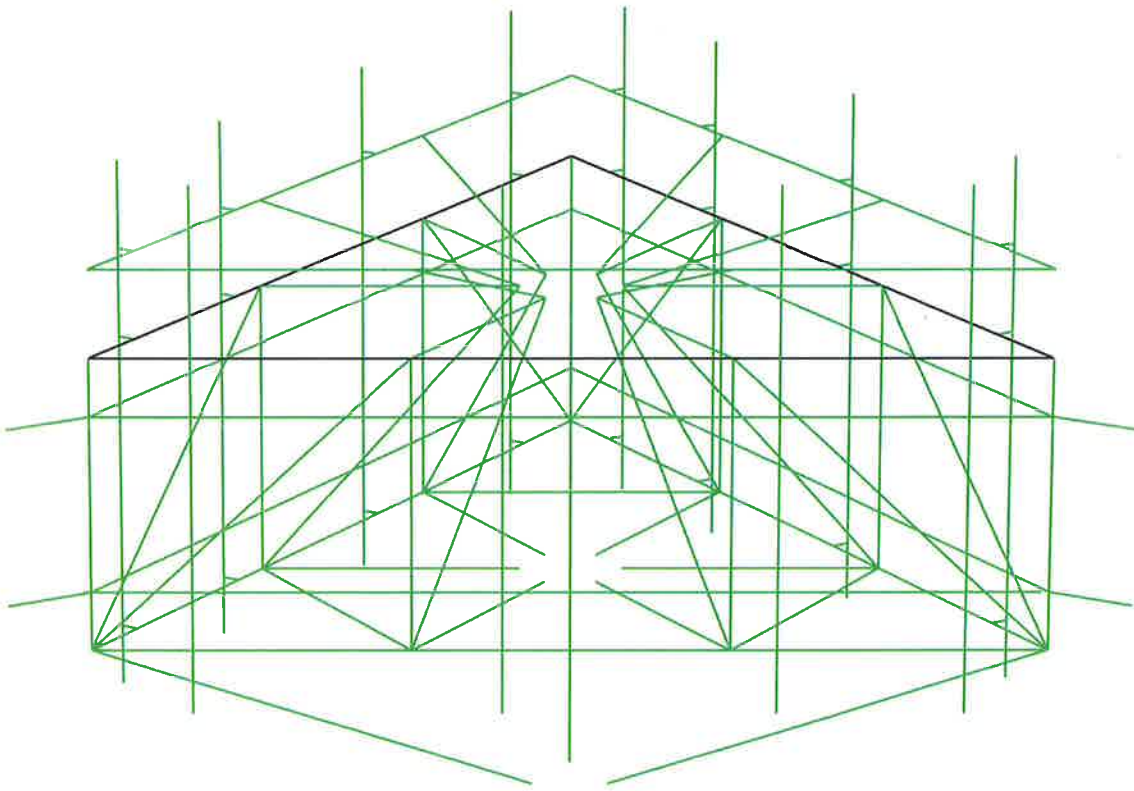
Install new platform reinforcement kit, SitePro1 P/N PRK-1245 secured to proposed HSS 4x4x1/4 frame and existing tower (or approved equal).

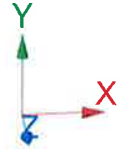
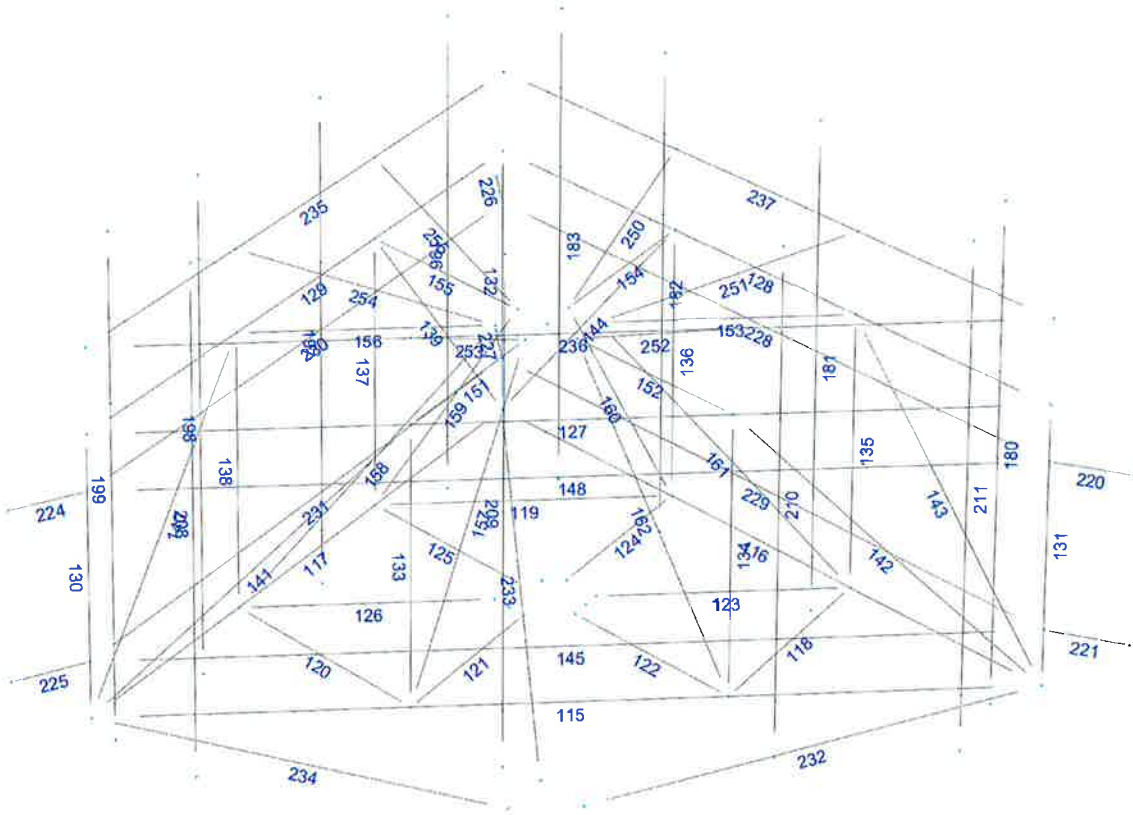




Design status

-  Not designed
-  Error on design
-  Design O.K.
-  With warnings





Current Date: 1/30/2019 11:21 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1002\LTE 4C-5C-6\CT1002 (4C-5C (MOD).etz)

Load data

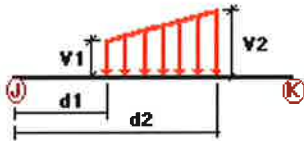
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	250 lb Live Load on Antenna 1	No	LL
LLa2	250 lb Live Load on Antenna 2	No	LL
LLa3	250 lb Live Load on Antenna 3	No	LL
LLa4	250 lb Live Load on Antenna 4	No	LL

Distributed force on members

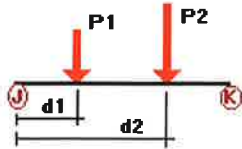


Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	118	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	119	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	120	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	121	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	122	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	123	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	124	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	125	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	126	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	W0	115	Z	-0.004	-0.004	0.00	Yes	100.00
116		Z	-0.006	-0.006	0.00	Yes	100.00	Yes
117		Z	-0.006	-0.006	0.00	Yes	100.00	Yes
127		Z	-0.004	-0.004	0.00	Yes	100.00	Yes
128		Z	-0.006	-0.006	0.00	Yes	100.00	Yes

	198	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	199	x	-0.006	-0.006	0.00	Yes	100.00	Yes
	232	X	-0.011	-0.011	0.00	Yes	100.00	Yes
	233	X	-0.011	-0.011	0.00	Yes	100.00	Yes
	234	X	-0.011	-0.011	0.00	Yes	100.00	Yes
	235	X	-0.007	-0.007	0.00	Yes	100.00	Yes
Di	237	X	-0.007	-0.007	0.00	Yes	100.00	Yes
	115	Y	-0.023	-0.023	0.00	Yes	100.00	Yes
	116	Y	-0.023	-0.023	0.00	Yes	100.00	Yes
	117	Y	-0.023	-0.023	0.00	Yes	100.00	Yes
	118	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	119	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	120	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	121	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	122	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	123	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	124	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	125	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	126	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	127	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	128	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	129	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	133	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	134	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	135	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	136	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	137	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	138	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	139	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	142	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	143	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	144	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	151	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	152	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	153	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	154	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	155	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	156	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	157	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	158	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	159	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	160	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	161	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	162	Y	-0.011	-0.011	0.00	Yes	100.00	Yes
	180	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	181	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	182	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	183	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	196	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	197	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	198	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	199	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	208	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	209	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	210	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	211	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	232	Y	-0.017	-0.017	0.00	Yes	100.00	Yes
	233	Y	-0.017	-0.017	0.00	Yes	100.00	Yes
	234	Y	-0.017	-0.017	0.00	Yes	100.00	Yes
	235	Y	-0.015	-0.015	0.00	Yes	100.00	Yes

236	Y	-0.015	-0.015	0.00	Yes	100.00	Yes
237	Y	-0.015	-0.015	0.00	Yes	100.00	Yes
250	Y	-0.017	-0.017	0.00	Yes	100.00	Yes
251	Y	-0.017	-0.017	0.00	Yes	100.00	Yes
252	Y	-0.017	-0.017	0.00	Yes	100.00	Yes
253	Y	-0.017	-0.017	0.00	Yes	100.00	Yes
254	Y	-0.017	-0.017	0.00	Yes	100.00	Yes
255	Y	-0.017	-0.017	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	180	y	-0.055	0.50	No
		y	-0.055	5.50	No
		y	-0.06	1.50	No
181	y	y	-0.055	0.50	No
		y	-0.055	5.50	No
		y	-0.071	1.00	No
182	y	y	-0.072	1.50	No
		y	-0.037	0.50	No
		y	-0.037	5.50	No
183	y	y	-0.06	1.50	No
		y	-0.018	0.50	No
		y	-0.018	5.50	No
196	y	y	-0.019	1.50	No
		y	-0.055	0.50	No
		y	-0.055	5.50	No
197	y	y	-0.06	1.50	No
		y	-0.055	0.50	No
		y	-0.055	5.50	No
198	y	y	-0.071	1.00	No
		y	-0.072	1.50	No
		y	-0.037	0.50	No
199	y	y	-0.037	5.50	No
		y	-0.06	1.50	No
		y	-0.018	0.50	No
208	y	y	-0.018	5.50	No
		y	-0.019	1.50	No
		y	-0.055	0.50	No
209	y	y	-0.055	5.50	No
		y	-0.06	1.50	No
		y	-0.055	0.50	No
210	y	y	-0.055	5.50	No
		y	-0.071	1.00	No
		y	-0.072	1.50	No
211	y	y	-0.072	1.50	No
		y	-0.037	0.50	No
		y	-0.037	5.50	No
	y	y	-0.06	1.50	No
		y	-0.018	0.50	No
		y	-0.018	5.50	No

		y	-0.018	5.50	No
		y	-0.019	1.50	No
W0	180	z	-0.10	0.50	No
		z	-0.10	5.50	No
		z	-0.034	1.50	No
	181	z	-0.10	0.50	No
		z	-0.10	5.50	No
		z	-0.045	1.00	No
		z	-0.038	1.50	No
	182	z	-0.084	0.50	No
		z	-0.084	5.50	No
		z	-0.045	1.50	No
	183	z	-0.046	0.50	No
		z	-0.046	5.50	No
		z	-0.023	1.50	No
	196	z	-0.10	0.50	No
		z	-0.10	5.50	No
		z	-0.034	1.50	No
	197	z	-0.10	0.50	No
		z	-0.10	5.50	No
		z	-0.045	1.00	No
		z	-0.038	1.50	No
	198	z	-0.084	0.50	No
		z	-0.084	5.50	No
		z	-0.045	1.50	No
	199	z	-0.046	0.50	No
		z	-0.046	5.50	No
		z	-0.023	1.50	No
	208	z	-0.177	0.50	No
		z	-0.177	5.50	No
	209	z	-0.177	0.50	No
		z	-0.177	5.50	No
	210	z	-0.124	0.50	No
		z	-0.124	5.50	No
	211	z	-0.071	0.50	No
		z	-0.071	5.50	No
W30	180	x	-0.151	0.50	No
		x	-0.151	5.50	No
		x	-0.027	1.50	No
	181	x	-0.151	0.50	No
		x	-0.151	5.50	No
		x	-0.027	1.00	No
		x	-0.023	1.50	No
	182	x	-0.11	0.50	No
		x	-0.11	5.50	No
		x	-0.039	1.50	No
	183	x	-0.062	0.50	No
		x	-0.062	5.50	No
		x	-0.014	1.50	No
	196	x	-0.151	0.50	No
		x	-0.151	5.50	No
		x	-0.027	1.50	No
	197	x	-0.151	0.50	No
		x	-0.151	5.50	No
		x	-0.027	1.00	No
		x	-0.023	1.50	No
	198	x	-0.11	0.50	No
		x	-0.11	5.50	No
		x	-0.039	1.50	No
	199	x	-0.062	0.50	No

	x	-0.062	5.50	No
	x	-0.014	1.50	No
208	x	-0.075	0.50	No
	x	-0.075	5.50	No
	x	-0.032	1.50	No
209	x	-0.075	0.50	No
	x	-0.075	5.50	No
	x	-0.05	1.50	No
	x	-0.042	2.00	No
210	x	-0.071	0.50	No
	x	-0.071	5.50	No
	x	-0.043	1.50	No
211	x	-0.038	0.50	No
	x	-0.038	5.50	No
	x	-0.028	1.50	No
Di 180	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.078	1.50	No
181	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.079	1.00	No
	y	-0.069	1.50	No
182	y	-0.166	0.50	No
	y	-0.166	5.50	No
	y	-0.105	1.50	No
183	y	-0.094	0.50	No
	y	-0.094	5.50	No
	y	-0.04	1.50	No
196	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.078	1.50	No
197	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.079	1.00	No
	y	-0.069	1.50	No
198	y	-0.166	0.50	No
	y	-0.166	5.50	No
	y	-0.105	1.50	No
199	y	-0.094	0.50	No
	y	-0.094	5.50	No
	y	-0.04	1.50	No
208	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.078	1.50	No
209	y	-0.219	0.50	No
	y	-0.219	5.50	No
	y	-0.079	1.00	No
	y	-0.069	1.50	No
210	y	-0.166	0.50	No
	y	-0.166	5.50	No
	y	-0.105	1.50	No
211	y	-0.094	0.50	No
	y	-0.094	5.50	No
	y	-0.04	1.50	No
Wi0 180	z	-0.04	0.50	No
	z	-0.04	5.50	No
	z	-0.017	1.50	No
181	z	-0.04	0.50	No
	z	-0.04	5.50	No
	z	-0.021	1.00	No

		z	-0.018	1.50	No
182		z	-0.034	0.50	No
		z	-0.034	5.50	No
		z	-0.022	1.50	No
183		z	-0.021	0.50	No
		z	-0.021	5.50	No
		z	-0.013	1.50	No
196		z	-0.04	0.50	No
		z	-0.04	5.50	No
		z	-0.017	1.50	No
197		z	-0.04	0.50	No
		z	-0.04	5.50	No
		z	-0.021	1.00	No
		z	-0.018	1.50	No
198		z	-0.034	0.50	No
		z	-0.034	5.50	No
		z	-0.022	1.50	No
199		z	-0.021	0.50	No
		z	-0.021	5.50	No
		z	-0.013	1.50	No
208		z	-0.062	0.50	No
		z	-0.062	5.50	No
209		z	-0.062	0.50	No
		z	-0.062	5.50	No
210		z	-0.046	0.50	No
		z	-0.046	5.50	No
211		z	-0.029	0.50	No
		z	-0.029	5.50	No
Wi30	180	x	-0.054	0.50	No
		x	-0.054	5.50	No
		x	-0.013	1.50	No
181		x	-0.054	0.50	No
		x	-0.054	5.50	No
		x	-0.013	1.00	No
		x	-0.011	1.50	No
182		x	-0.041	0.50	No
		x	-0.041	5.50	No
		x	-0.017	1.50	No
183		x	-0.026	0.50	No
		x	-0.026	5.50	No
		x	-0.01	1.50	No
196		x	-0.054	0.50	No
		x	-0.054	5.50	No
		x	-0.013	1.50	No
197		x	-0.054	0.50	No
		x	-0.054	5.50	No
		x	-0.013	1.00	No
		x	-0.011	1.50	No
198		x	-0.041	0.50	No
		x	-0.041	5.50	No
		x	-0.017	1.50	No
199		x	-0.026	0.50	No
		x	-0.026	5.50	No
		x	-0.01	1.50	No
208		x	-0.033	0.50	No
		x	-0.033	5.50	No
		x	-0.017	1.50	No
209		x	-0.033	0.50	No
		x	-0.033	5.50	No
		x	-0.023	1.00	No

		x	-0.02	1.50	No
	210	x	-0.03	0.50	No
		x	-0.03	5.50	No
		x	-0.021	1.50	No
	211	x	-0.019	0.50	No
		x	-0.019	5.50	No
WLO	180	x	-0.015	1.50	No
		z	-0.01	0.50	No
		z	-0.01	5.50	No
	181	z	-0.004	1.50	No
		z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.005	1.00	No
	182	z	-0.004	1.50	No
		z	-0.009	0.50	No
		z	-0.009	5.50	No
		z	-0.005	1.50	No
	183	z	-0.005	0.50	No
		z	-0.005	5.50	No
		z	-0.003	1.50	No
	196	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.004	1.50	No
	197	z	-0.01	0.50	No
		z	-0.01	5.50	No
		z	-0.005	1.00	No
		z	-0.004	1.50	No
	198	z	-0.009	0.50	No
		z	-0.009	5.50	No
		z	-0.005	1.50	No
	199	z	-0.005	0.50	No
		z	-0.005	5.50	No
		z	-0.003	1.50	No
	208	z	-0.017	0.50	No
		z	-0.017	5.50	No
	209	z	-0.017	0.50	No
		z	-0.017	5.50	No
	210	z	-0.012	0.50	No
		z	-0.012	5.50	No
	211	z	-0.007	0.50	No
		z	-0.007	5.50	No
WL30	180	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.003	1.50	No
	181	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.003	1.00	No
		x	-0.003	1.50	No
	182	x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.004	1.50	No
	183	x	-0.006	0.50	No
		x	-0.006	5.50	No
		x	-0.002	1.50	No
	196	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.003	1.50	No
	197	x	-0.015	0.50	No
		x	-0.015	5.50	No
		x	-0.003	1.00	No

		x	-0.003	1.50	No
198		x	-0.011	0.50	No
		x	-0.011	5.50	No
		x	-0.004	1.50	No
199		x	-0.006	0.50	No
		x	-0.006	5.50	No
		x	-0.002	1.50	No
208		x	-0.008	0.50	No
		x	-0.008	5.50	No
		x	-0.004	1.50	No
209		x	-0.008	0.50	No
		x	-0.008	5.50	No
		x	-0.005	1.00	No
		x	-0.005	1.50	No
210		x	-0.007	0.50	No
		x	-0.007	5.50	No
		x	-0.005	1.50	No
211		x	-0.004	0.50	No
		x	-0.004	5.50	No
		x	-0.003	1.50	No
LL1	127	y	-0.25	50.00	Yes
	236	y	-0.25	50.00	Yes
LL2	127	y	-0.25	0.00	Yes
	236	y	-0.25	0.00	Yes
LLa1	211	y	-0.25	50.00	Yes
LLa2	210	y	-0.25	50.00	Yes
LLa3	209	y	-0.25	50.00	Yes
LLa4	208	y	-0.25	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	250 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	250 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	250 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	250 lb Live Load on Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00

Current Date: 1/30/2019 11:21 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1002\LTE 4C-5C-6\CT1002 (4C-5C (MOD).etx)

Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

- LC1=1.2DL+1.6W0
- LC2=1.2DL+1.6W30
- LC3=1.2DL-1.6W0
- LC4=1.2DL-1.6W30
- LC5=0.9DL+1.6W0
- LC6=0.9DL+1.6W30
- LC7=0.9DL-1.6W0
- LC8=0.9DL-1.6W30
- LC9=1.2DL+Di+W0
- LC10=1.2DL+Di+W30
- LC11=1.2DL+Di-W0
- LC12=1.2DL+Di-W30
- LC13=1.2DL
- LC14=0.9DL
- LC15=1.2DL+1.6LL1
- LC16=1.2DL+1.6LL2
- LC17=1.2DL+W0+LLa1
- LC18=1.2DL+W30+LLa1
- LC19=1.2DL-W0+LLa1
- LC20=1.2DL-W30+LLa1
- LC21=1.2DL+W0+LLa2
- LC22=1.2DL+W30+LLa2
- LC23=1.2DL-W0+LLa2
- LC24=1.2DL-W30+LLa2
- LC25=1.2DL+W0+LLa3
- LC26=1.2DL+W30+LLa3
- LC27=1.2DL-W0+LLa3
- LC28=1.2DL-W30+LLa3
- LC29=1.2DL+W0+LLa4
- LC30=1.2DL+W30+LLa4
- LC31=1.2DL-W0+LLa4
- LC32=1.2DL-W30+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	C 3X5	130	LC9 at 0.00%	0.05	OK	Eq. H1-1b
		131	LC10 at 0.00%	0.04	OK	Eq. H1-1b
		132	LC9 at 100.00%	0.04	OK	Eq. H1-1b
	HSS_SQR 1x1x1/8	118	LC12 at 100.00%	0.36	OK	Eq. H1-1a
		119	LC1 at 100.00%	0.41	OK	Eq. H1-1a
		120	LC10 at 100.00%	0.35	OK	Eq. H1-1a
		121	LC4 at 100.00%	0.26	OK	Eq. H1-1b
		122	LC2 at 100.00%	0.25	OK	Eq. H1-1b
		123	LC2 at 100.00%	0.37	OK	Eq. H1-1a
		124	LC3 at 100.00%	0.27	OK	Eq. H1-1a
		125	LC3 at 100.00%	0.28	OK	Eq. H1-1a
		126	LC4 at 100.00%	0.28	OK	Eq. H1-1b
		127	LC15 at 42.86%	0.74	With warnings	Eq. H1-1a
		128	LC7 at 66.96%	0.70	With warnings	Eq. H1-1a
		129	LC5 at 66.96%	0.82	With warnings	Eq. H1-1a

133	LC4 at 0.00%	0.11	OK	Eq. H1-1b	
134	LC2 at 0.00%	0.11	OK	Eq. H1-1b	
135	LC1 at 0.00%	0.16	OK	Eq. H1-1b	
136	LC3 at 0.00%	0.11	OK	Eq. H1-1b	
137	LC3 at 0.00%	0.12	OK	Eq. H1-1b	
138	LC1 at 0.00%	0.16	OK	Eq. H1-1b	
139	LC4 at 20.83%	0.25	OK	Eq. H1-1a	
140	LC3 at 100.00%	0.29	OK	Eq. H1-1a	
141	LC2 at 20.83%	0.19	OK	Sec. E1	
142	LC1 at 20.83%	0.18	OK	Sec. E1	
143	LC3 at 100.00%	0.29	OK	Eq. H1-1a	
144	LC2 at 20.83%	0.26	OK	Eq. H1-1a	
151	LC11 at 100.00%	0.08	OK	Eq. H1-1b	
152	LC11 at 100.00%	0.09	OK	Eq. H1-1b	
153	LC4 at 100.00%	0.20	OK	Eq. H1-1b	
154	LC4 at 100.00%	0.18	OK	Eq. H1-1b	
155	LC2 at 100.00%	0.18	OK	Eq. H1-1b	
156	LC2 at 100.00%	0.20	OK	Eq. H1-1b	
157	LC11 at 100.00%	0.30	OK	Eq. H1-1a	
158	LC10 at 100.00%	0.30	OK	Eq. H1-1a	
159	LC10 at 100.00%	0.30	OK	Eq. H1-1a	
160	LC12 at 100.00%	0.30	OK	Eq. H1-1a	
161	LC12 at 100.00%	0.31	OK	Eq. H1-1a	
162	LC11 at 100.00%	0.30	OK	Eq. H1-1a	
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HSS_SQR 4X4X1_4	115	LC11 at 10.71%	0.06	OK	Eq. H1-1b
	116	LC4 at 33.04%	0.06	OK	Eq. H1-1b
	117	LC1 at 33.04%	0.06	OK	Eq. H1-1b
<hr/>					
L 2-1_2X2-1_2X3_16	250	LC4 at 0.00%	0.53	OK	Sec. F1
	251	LC2 at 0.00%	0.56	OK	Sec. F1
	252	LC4 at 0.00%	0.20	OK	Sec. F1
	253	LC2 at 0.00%	0.21	OK	Sec. F1
	254	LC4 at 0.00%	0.57	OK	Sec. F1
	255	LC2 at 0.00%	0.53	OK	Sec. F1
<hr/>					
MC 4x1x0.25	220	LC4 at 100.00%	0.01	OK	Sec. F1
	221	LC4 at 100.00%	0.01	OK	Sec. F1
	224	LC3 at 100.00%	0.01	OK	Sec. F1
	225	LC2 at 100.00%	0.01	OK	Sec. F1
	226	LC11 at 100.00%	0.01	OK	Sec. F1
	227	LC1 at 100.00%	0.01	OK	Sec. F1
<hr/>					
P1000 Unistrut	145	LC2 at 66.25%	0.07	OK	Sec. C5.2
	148	LC4 at 33.75%	0.09	OK	Sec. C5.2
	228	LC7 at 66.25%	0.10	OK	Sec. C5.2
	229	LC5 at 0.00%	0.08	OK	Sec. C5.2
	230	LC7 at 33.75%	0.10	OK	Sec. C5.2
	231	LC1 at 33.75%	0.08	OK	Sec. C5.2
<hr/>					
PIPE 2-1_2x0.203	235	LC3 at 33.04%	0.23	OK	Eq. H1-1b
	236	LC1 at 33.04%	0.15	OK	Eq. H1-1b
	237	LC2 at 33.04%	0.25	OK	Eq. H1-1b
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PIPE 2x0.154	180	LC2 at 15.63%	0.12	OK	Eq. H1-1b
	181	LC2 at 15.63%	0.12	OK	Eq. H1-1b
	182	LC4 at 15.63%	0.09	OK	Eq. H1-1b
	183	LC4 at 15.63%	0.05	OK	Eq. H1-1b
	196	LC2 at 15.63%	0.12	OK	Eq. H1-1b
	197	LC2 at 15.63%	0.12	OK	Eq. H1-1b
	198	LC2 at 15.63%	0.09	OK	Eq. H1-1b
	199	LC16 at 17.19%	0.06	OK	Eq. H1-1b
	208	LC1 at 15.63%	0.10	OK	Eq. H1-1b
	209	LC1 at 15.63%	0.10	OK	Eq. H1-1b

	210	LC1 at 15.63%	0.07	OK	Eq. H1-1b
	211	LC4 at 32.81%	0.05	OK	Eq. H1-1b
T2L 2-1_2X2-1_2X3_16	232	LC4 at 0.00%	0.28	OK	Eq. H2-1
	233	LC4 at 0.00%	0.29	OK	Eq. H2-1
	234	LC2 at 0.00%	0.28	OK	Eq. H2-1

Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
111	-1.75	-3.3333	3.0312	0
112	-0.2917	-3.3333	0.5052	0
113	-0.5833	-3.3333	5.00E-05	0
114	-0.2917	-3.3333	-0.5052	0
115	-5.25	-3.3333	3.0312	0
116	-3.50	-3.3333	5.00E-05	0
117	-1.75	-3.3333	-3.0311	0
118	0.00	-3.3333	-6.0621	0
119	1.75	-3.3333	3.0312	0
120	0.2917	-3.3333	0.5052	0
121	0.5833	-3.3333	5.00E-05	0
122	0.2917	-3.3333	-0.5052	0
123	5.25	-3.3333	3.0312	0
124	3.50	-3.3333	5.00E-05	0
125	1.75	-3.3333	-3.0311	0
126	-1.75	0.00	3.0312	0
127	-5.25	0.00	3.0312	0
128	1.75	0.00	3.0312	0
129	0.00	0.00	-6.0621	0
130	3.50	0.00	5.00E-05	0
131	1.75	0.00	-3.0311	0

132	5.25	0.00	3.0312	0
133	-3.50	0.00	5.00E-05	0
134	-1.75	0.00	-3.0311	0
135	5.25	-2.6666	3.0311	0
136	-5.25	-2.6666	3.0312	0
138	5.25	-0.6666	3.0311	0
139	-5.25	-0.6666	3.0312	0
141	-0.2917	0.00	0.5052	0
142	-0.5833	0.00	5.00E-05	0
143	0.2917	0.00	0.5052	0
144	0.5833	0.00	5.00E-05	0
145	0.2917	0.00	-0.5052	0
146	-0.2917	0.00	-0.5052	0
165	0.00	0.00	0.00	0
183	4.8608	2.00	1.9568	0
184	4.8608	-4.00	1.9568	0
188	3.1733	2.00	-0.966	0
189	1.6733	2.00	-3.5641	0
190	0.6316	2.00	-5.3683	0
191	3.1733	-4.00	-0.966	0
192	1.6733	-4.00	-3.5641	0
193	0.6316	-4.00	-5.3683	0
234	-0.7357	2.00	-5.188	0
235	-0.7357	-4.00	-5.188	0
236	-2.4232	2.00	-2.2651	0
237	-2.4232	-4.00	-2.2651	0
238	-3.9232	2.00	0.333	0
239	-3.9232	-4.00	0.333	0
240	-4.9649	2.00	2.1372	0
241	-4.9649	-4.00	2.1372	0
258	-4.125	2.00	3.2312	0
259	-4.125	-4.00	3.2312	0
260	-0.75	2.00	3.2312	0
261	-0.75	-4.00	3.2312	0
262	2.25	2.00	3.2312	0
263	2.25	-4.00	3.2312	0
264	4.3333	2.00	3.2312	0
265	4.3333	-4.00	3.2312	0
266	6.116	-0.6666	3.5311	0
267	6.116	-2.6666	3.5311	0
272	-6.116	-0.6666	3.5311	0
274	-6.116	-2.6666	3.5311	0
276	0.00	-0.6666	-7.0621	0
277	0.00	-0.6666	-6.0621	0
278	0.00	-2.6666	-7.0621	0
279	0.00	-2.6666	-6.0621	0
280	-0.4375	-3.3333	0.2526	0
281	-0.4375	-5.8333	0.2526	0
282	0.4375	-3.3333	0.2526	0
283	0.4375	-5.8333	0.2526	0
284	0.00	-3.3333	-0.5052	0
285	0.00	-5.8333	-0.5052	0
310	0.00	1.00	-6.0621	0
311	-5.25	1.00	3.0312	0
312	5.25	1.00	3.0312	0
313	1.75	1.00	-3.0311	0
314	3.50	1.00	5.00E-05	0
315	1.75	1.00	3.0312	0
316	-1.75	1.00	3.0312	0
317	-3.50	1.00	5.00E-05	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
112	1	1	1	1	1	1
113	1	1	1	1	1	1
114	1	1	1	1	1	1
120	1	1	1	1	1	1
121	1	1	1	1	1	1
122	1	1	1	1	1	1
141	1	1	1	1	1	1
142	1	1	1	1	1	1
143	1	1	1	1	1	1
144	1	1	1	1	1	1
145	1	1	1	1	1	1
146	1	1	1	1	1	1
281	1	1	1	1	1	1
283	1	1	1	1	1	1
285	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
115	115	123		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
116	123	118		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
117	118	115		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
118	119	124		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
119	125	117		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
120	116	111		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
121	111	112		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
122	119	120		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
123	124	121		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
124	125	122		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
125	117	114		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
126	116	113		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
127	127	132		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
128	132	129		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
129	129	127		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
130	115	127		C 3X5	A36	0.00	0.00	0.00
131	123	132		C 3X5	A36	0.00	0.00	0.00
132	118	129		C 3X5	A36	0.00	0.00	0.00
133	111	126		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
134	119	128		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
135	124	130		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
136	125	131		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
137	117	134		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
138	116	133		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
139	118	134		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
140	115	133		HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00

141	115	126	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
142	123	128	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
143	123	130	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
144	118	131	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
145	135	136	P1000 Unistrut	A36	0.00	0.00	0.00
148	138	139	P1000 Unistrut	A36	0.00	0.00	0.00
151	126	141	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
152	128	143	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
153	130	144	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
154	131	145	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
155	134	146	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
156	133	142	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
157	111	141	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
158	116	142	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
159	117	146	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
160	125	145	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
161	124	144	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
162	119	143	HSS_SQR 1x1x1/8	A36	0.00	0.00	0.00
180	183	184	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
181	188	191	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
182	189	192	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
183	190	193	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
196	234	235	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
197	236	237	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
198	238	239	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
199	240	241	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
208	258	259	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
209	260	261	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
210	262	263	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
211	264	265	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
220	266	138	MC 4x1x0.25	A36	0.00	0.00	0.00
221	267	135	MC 4x1x0.25	A36	0.00	0.00	0.00
224	272	139	MC 4x1x0.25	A36	0.00	0.00	0.00
225	274	136	MC 4x1x0.25	A36	0.00	0.00	0.00
226	276	277	MC 4x1x0.25	A36	0.00	0.00	0.00
227	278	279	MC 4x1x0.25	A36	0.00	0.00	0.00
228	138	277	P1000 Unistrut	A36	0.00	0.00	0.00
229	135	279	P1000 Unistrut	A36	0.00	0.00	0.00
230	277	139	P1000 Unistrut	A36	0.00	0.00	0.00
231	279	136	P1000 Unistrut	A36	0.00	0.00	0.00
232	283	123	T2L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
233	285	118	T2L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
234	281	115	T2L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
235	310	311	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
236	311	312	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
237	312	310	PIPE 2-1_2x0.203	A53 GrB	0.00	0.00	0.00
250	145	313	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
251	144	314	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
252	143	315	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
253	141	316	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
254	142	317	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00
255	146	318	L 2-1_2X2-1_2X3_16	A36	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
130	120.00	0	0.00	0.00	0.00
131	240.00	0	0.00	0.00	0.00
145	270.00	0	0.00	0.00	0.00
148	270.00	0	0.00	0.00	0.00
180	0.00	2	-0.50	0.00	-0.866
181	0.00	2	-0.50	0.00	-0.866
182	0.00	2	-0.50	0.00	-0.866
183	0.00	2	-0.50	0.00	-0.866
196	0.00	2	-0.50	0.00	0.866
197	0.00	2	-0.50	0.00	0.866
198	0.00	2	-0.50	0.00	0.866
199	0.00	2	-0.50	0.00	0.866
220	90.00	0	0.00	0.00	0.00
221	90.00	0	0.00	0.00	0.00
224	90.00	0	0.00	0.00	0.00
225	90.00	0	0.00	0.00	0.00
226	90.00	0	0.00	0.00	0.00
227	90.00	0	0.00	0.00	0.00
228	270.00	0	0.00	0.00	0.00
229	270.00	0	0.00	0.00	0.00
230	270.00	0	0.00	0.00	0.00
231	270.00	0	0.00	0.00	0.00
251	270.00	0	0.00	0.00	0.00
253	270.00	0	0.00	0.00	0.00
255	270.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
145	-1.00	0.00	0.00	-1.00	0.00	0.00

STRUCTURAL NOTES:

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

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

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

NOTES:

- REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
- PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
- PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
- HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
- ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 308.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 308.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
- AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

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

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

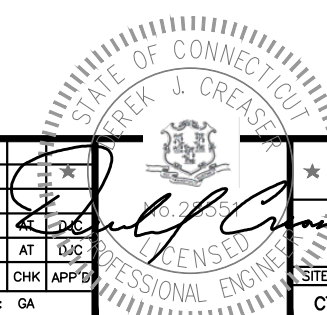
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT1002
SITE NAME: EAST HARTFORD
ATC SITE #: 302473

2 PRESTIGE PARK ROAD
EAST HARTFORD, CT 06108
HARTFORD COUNTY

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

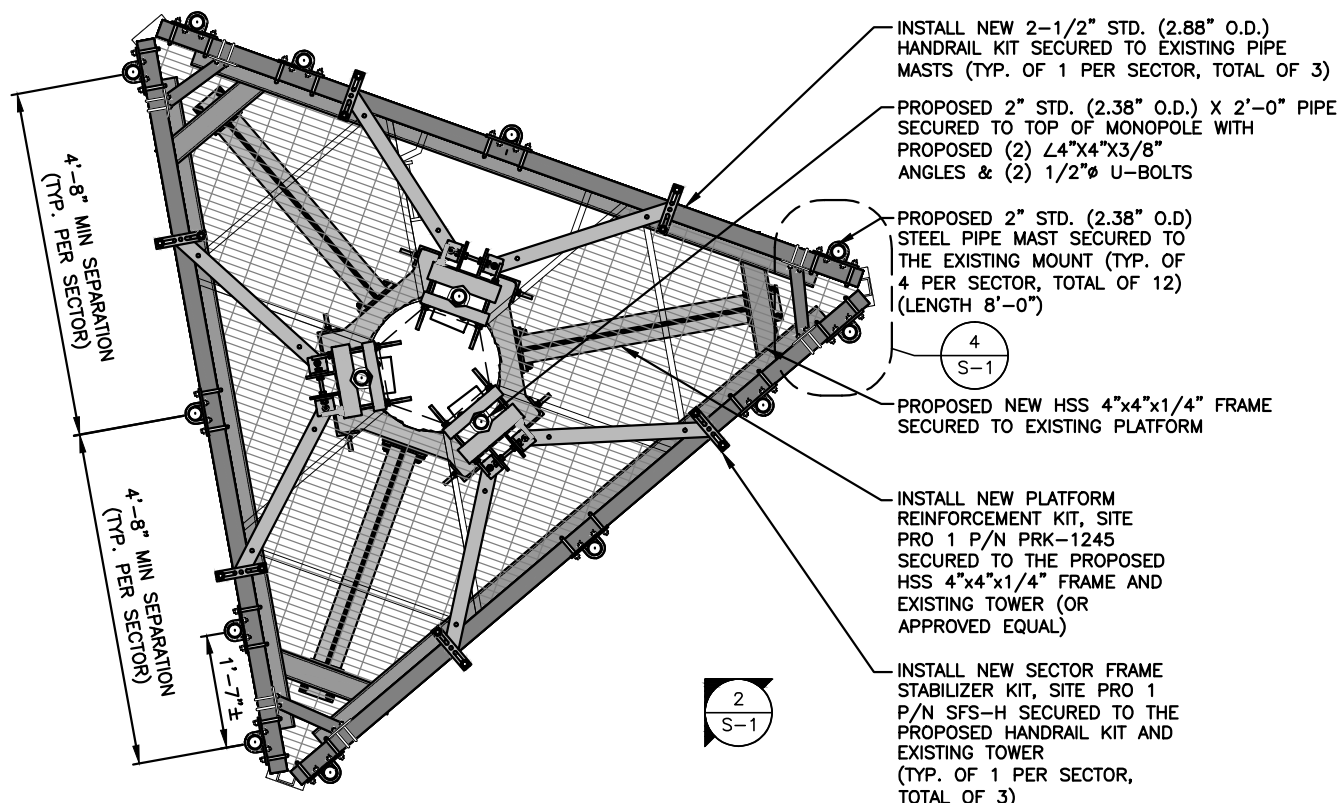
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A	01/16/19	ISSUED FOR REVIEW	GA	AT	CHK
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: GA		



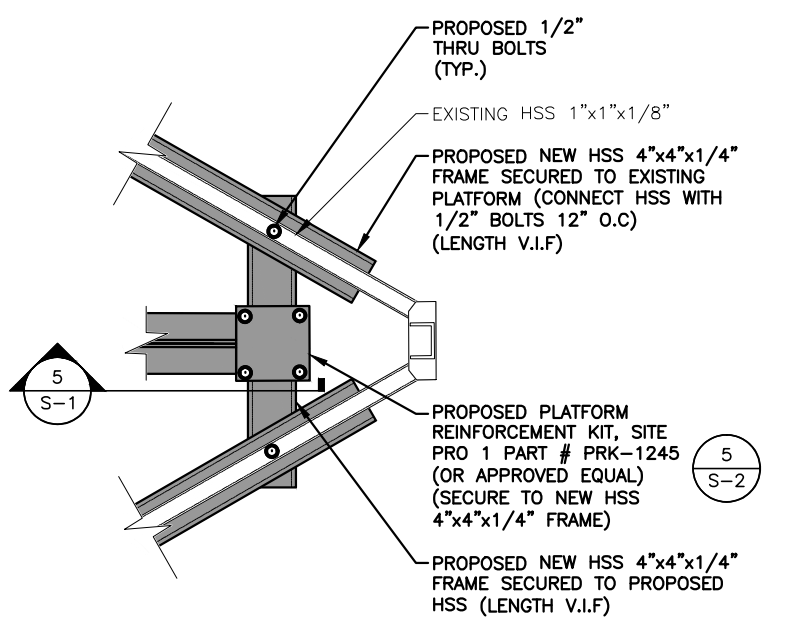
AT&T

STRUCTURAL NOTES
(LTE 4C/5C/6C/4TX4RX)

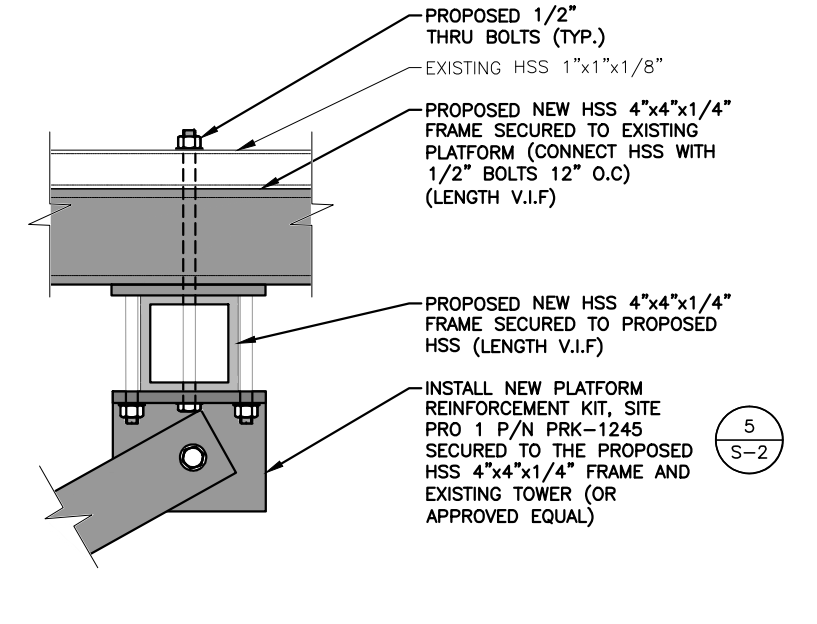
SITE NUMBER	DRAWING NUMBER	REV
CT1002	SN-1	1



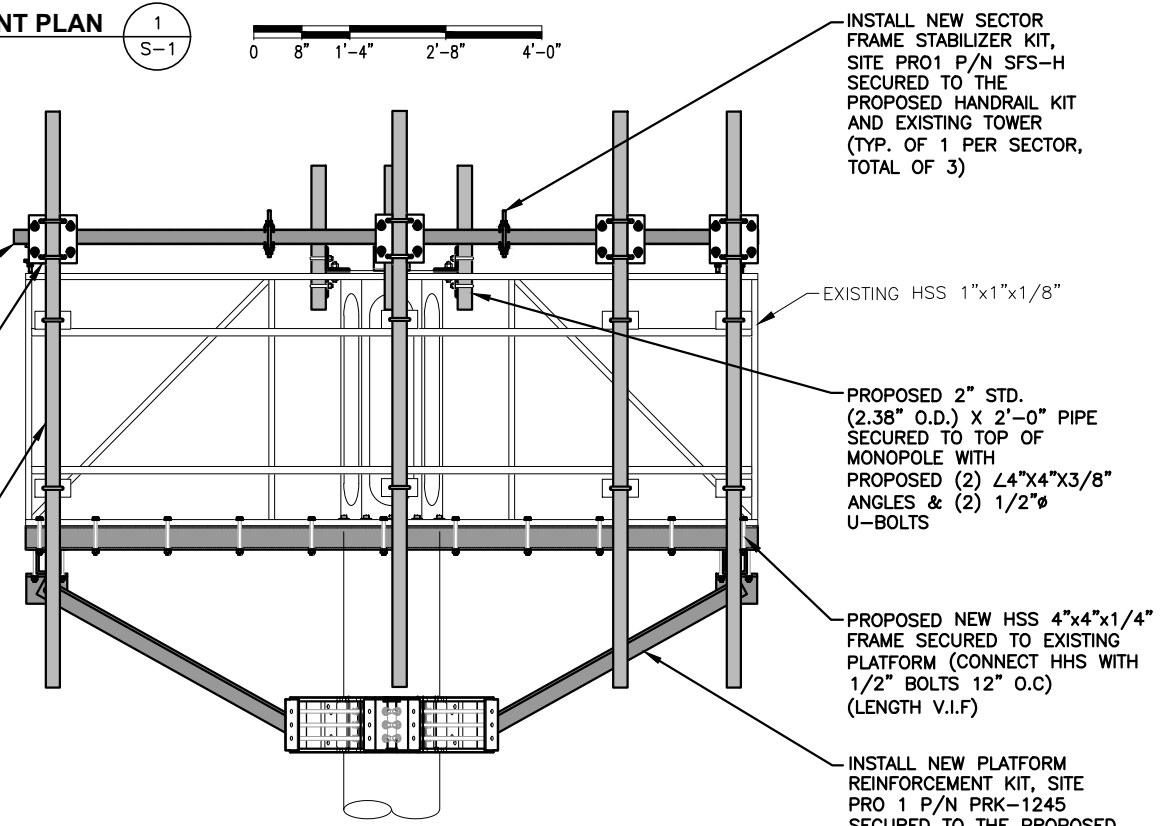
MOUNT REINFORCEMENT PLAN
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"



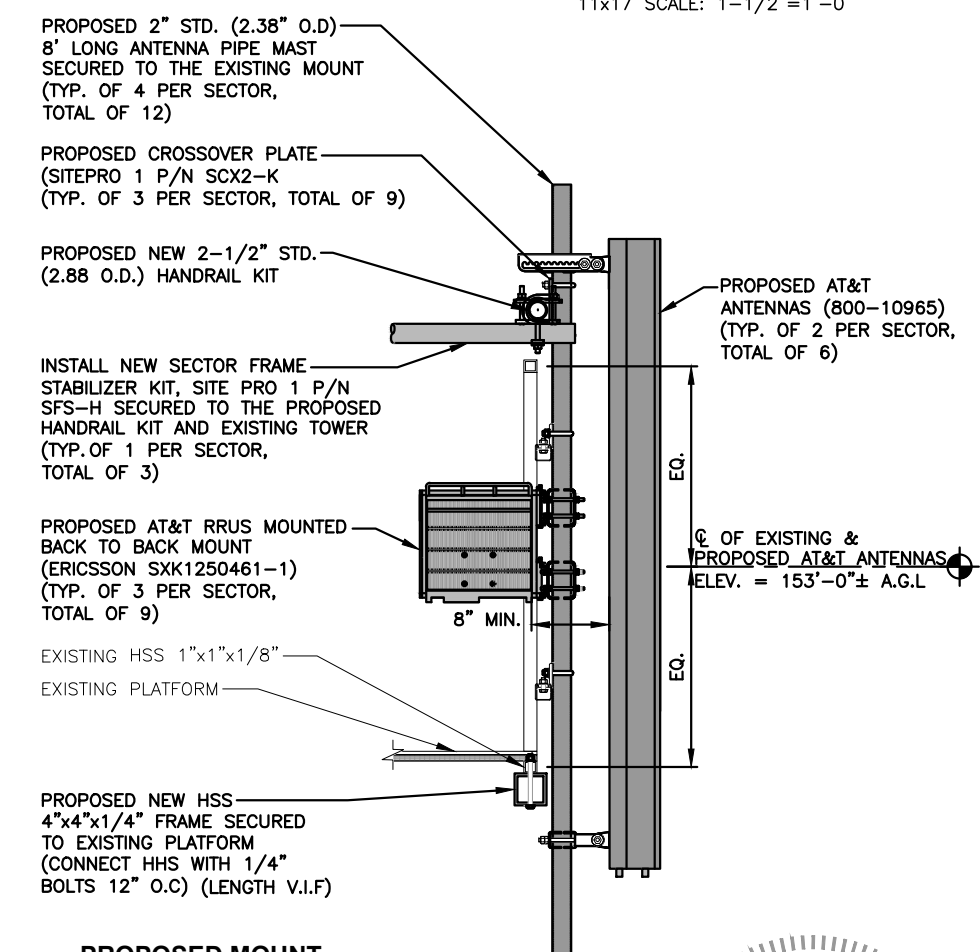
CONNECTION DETAIL PLAN
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"



CONNECTION DETAIL ELEVATION
22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



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



PROPOSED MOUNT MODIFICATION DETAIL
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

NOTE:
REFER TO **STRUCTURAL ANALYSIS** BY: AMERICAN TOWER CORPORATION, DATED: APRIL 29, 2019, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: JANUARY 30, 2019

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

1	05/29/19	ISSUED FOR CONSTRUCTION	AM	AT	GA
A	01/16/19	ISSUED FOR REVIEW	GA	AT	GA
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: GA		

AT&T

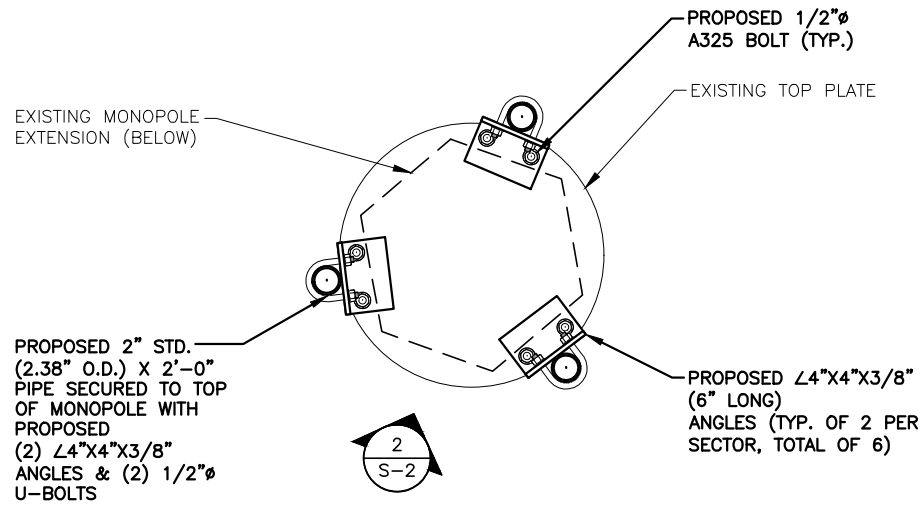
MOUNT MODIFICATIONS DESIGN
(LTE 4C/5C/6C/4TX4RX)

SITE NUMBER	DRAWING NUMBER	REV
CT1002	S-1	1

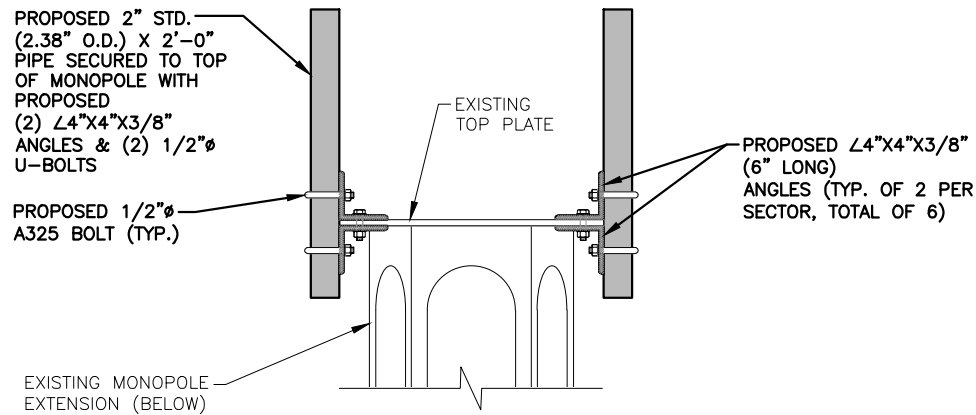
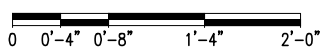
NOTE:
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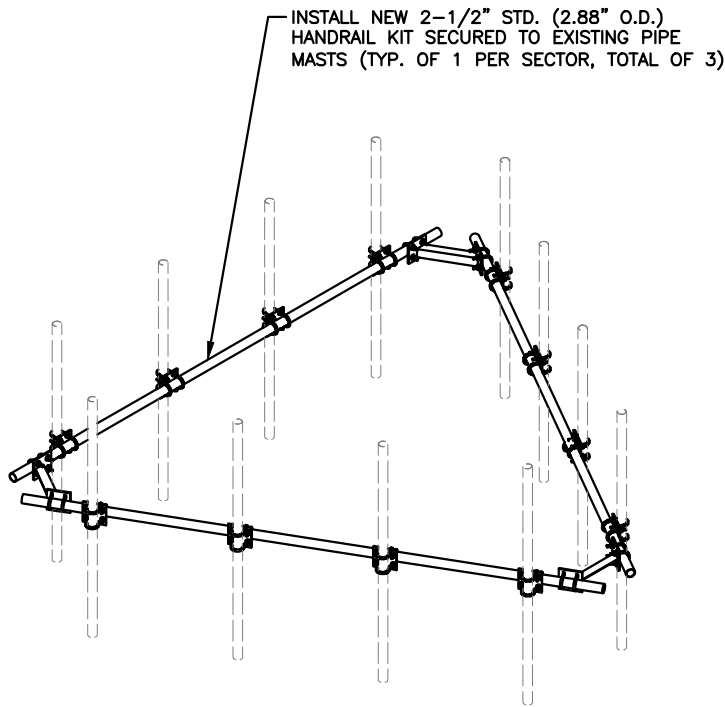
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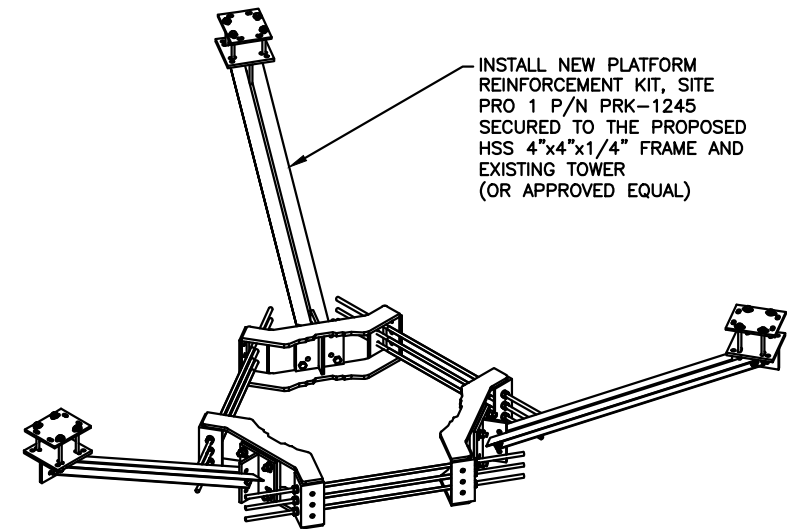
PROPOSED STABILIZER SUPPORT FRAME
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"



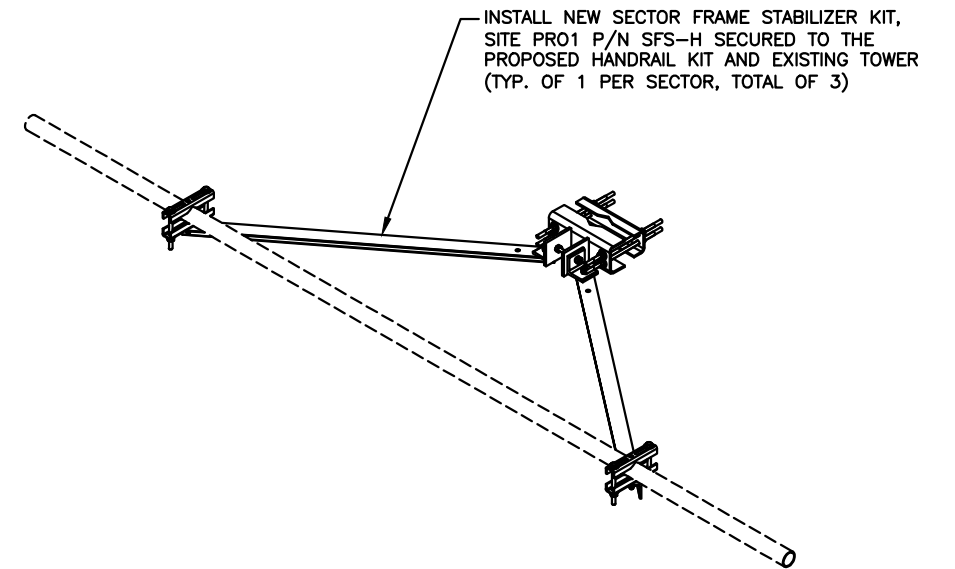
PROPOSED STABILIZER SUPPORT ELEVATION
22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"



PROPOSED HANDRAIL KIT
SCALE: N.T.S



PROPOSED PLATFORM REINFORCEMENT MOUNT DETAIL
SCALE: N.T.S



PROPOSED REINFORCEMENT HANDRAIL KIT
SCALE: N.T.S



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NO.	DATE	REVISIONS	BY	CHK	APP'D	SITE NUMBER	DRAWING NUMBER	REV
1	05/29/19	ISSUED FOR CONSTRUCTION	AM	AT	DJC	CT1002	S-2	1
A	01/16/19	ISSUED FOR REVIEW	GA	AT	DJC			

SCALE: AS SHOWN DESIGNED BY: AT DRAWN BY: GA

STATE OF CONNECTICUT
BREK J. CREASE
LICENSED PROFESSIONAL ENGINEER
06.28355

AT&T
MOUNT MODIFICATIONS DESIGN
(LTE 4C/5C/6C/4TX4RX)



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CTL01002

East Hartford
2 Prestige Park Road

East Hartford, CT 06108

June 4, 2019

Centerline Communications Project Number: 950012-220

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	17.52 %



June 4, 2019

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CTL01002 – East Hartford**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **2 Prestige Park Road in East Hartford, Connecticut** for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (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.

Additional details can be found in FCC OET 65.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **2 Prestige Park Road in East Hartford, Connecticut**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
5G	850 MHz	2	25
LTE	850 MHz	2	40
LTE	700 MHz	2	40
LTE	2100 MHz (AWS)	4	30
LTE	1900 MHz (PCS)	4	40
LTE	2300 MHz (WCS)	4	30

Table 1: Channel Data Table



The following antennas listed in Table 2 were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Powerwave 7770	154
A	2	CCI OPA-65R-LCUU-H6	154
A	3	Kathrein 800-10965	154
A	4	Kathrein 800-10965	154
B	1	Powerwave 7770	154
B	2	CCI OPA-65R-LCUU-H6	154
B	3	Kathrein 800-10965	154
B	4	Kathrein 800-10965	154
C	1	Powerwave 7770	154
C	2	CCI OPA-65R-LCUU-H6	154
C	3	Kathrein 800-10965	154
C	4	Kathrein 800-10965	154

Table 2: Antenna Data

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



RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX	ERP (W)	MPE %
Antenna A1	Powerwave 7770	850 MHz	11.5 dBd	2	60	547.52	0.23
Antenna A2	CCI OPA-65R-LCUU-H6	2300 MHz	15.45 dBd	4	120	4,209.02	0.64
Antenna A3	Kathrein 800-10965	700 MHz / 2100 MHz	12.65 dBd / 15.95 dBd	6	200	6,195.22	1.19
Antenna A4	Kathrein 800-10965	700 MHz / 850 MHz / 1900 MHz / 1900 MHz / 850 MHz	12.65 dBd / 13.45 dBd / 15.65 dBd / 15.65 dBd / 13.45 dBd	10	370	10,226.16	2.14
Sector A Composite MPE%							4.20
Antenna B1	Powerwave 7770	850 MHz	11.5 dBd	2	60	547.52	0.23
Antenna B2	CCI OPA-65R-LCUU-H6	2300 MHz	15.45 dBd	4	120	4,209.02	0.64
Antenna B3	Kathrein 800-10965	700 MHz / 2100 MHz	12.65 dBd / 15.95 dBd	6	200	6,195.22	1.19
Antenna B4	Kathrein 800-10965	700 MHz / 850 MHz / 1900 MHz / 1900 MHz / 850 MHz	12.65 dBd / 13.45 dBd / 15.65 dBd / 15.65 dBd / 13.45 dBd	10	370	10,226.16	2.14
Sector B Composite MPE%							4.20
Antenna C1	Powerwave 7770	850 MHz	11.5 dBd	2	60	547.52	0.23
Antenna C2	CCI OPA-65R-LCUU-H6	2300 MHz	15.45 dBd	4	120	4,209.02	0.64
Antenna C3	Kathrein 800-10965	700 MHz / 2100 MHz	12.65 dBd / 15.95 dBd	6	200	6,195.22	1.19
Antenna C4	Kathrein 800-10965	700 MHz / 850 MHz / 1900 MHz / 1900 MHz / 850 MHz	12.65 dBd / 13.45 dBd / 15.65 dBd / 15.65 dBd / 13.45 dBd	10	370	10,226.16	2.14
Sector C Composite MPE%							4.20

Table 3: AT&T Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Per Sector Value	4.20 %
Verizon	8.9 %
Clearwire	0.21 %
T-Mobile	3.19 %
Sprint	1.02 %
Site Total MPE %:	17.52 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	4.20 %
AT&T Sector B Total:	4.20 %
AT&T Sector C Total:	4.20 %
Site Total:	17.52 %

Table 5: Site MPE Summary



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

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (i.tW/cm ²)	Frequency (MHz)	Allowable MPE (i.tW/cm ²)	Calculated % MPE
AT&T 850 MHz UMTS- Antenna 1	2	423.76	154.0	1.28	850 MHz UMTS	567	0.23%
AT&T 2300 MHz LTE-WCS Antenna 2	4	1052.26	154.0	6.38	2300 MHz LTE-WCS	1000	0.64%
AT&T 700 MHz LTE Antenna 3	2	736.31	154.0	2.23	700 MHz LTE	467	0.48%
AT&T 2100 MHz LTE-AWS Antenna 3	4	1180.65	154.0	7.16	2100 MHz LTE-	1000	0.72%
AT&T 700 MHz LTE Antenna 4	2	736.31	154.0	2.23	700 MHz LTE	467	0.48%
AT&T 850 MHz LTE Antenna 4	2	885.24	154.0	2.68	850 MHz LTE	567	0.47%
AT&T 1900 MHz LTE Antenna 4	2	1469.13	154.0	4.45	1900 MHz LTE	1000	0.45%
AT&T 1900 MHz LTE Antenna 4	2	1469.13	154.0	4.45	1900 MHz LTE	1000	0.45%
AT&T 850 MHz 5G Antenna 4	2	553.27	154.0	1.68	850 MHz 5G	567	0.30%
						Total:	4.20%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	4.20 %
Sector B:	4.20 %
Sector C:	4.20 %
AT&T Maximum Total (per sector):	4.20 %
Site Total:	17.52 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **17.52 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

A handwritten signature in black ink that reads 'Ryan B. McManus'.

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