Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

July 6, 2020

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

RE: **Notice of Exempt Modification for AT&T - 876402**
175 Stafford Street, Stafford, CT 06419
Latitude: 41° 59′ 13.38″ / Longitude: -72° 15′ 40.78″

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 136-foot mount on the existing 150-foot Monopole Tower, located at 175 Stafford Street, Stafford, CT. The property is owned by Harry and Nancy Pragl and the Tower is owned by Crown Castle. AT&T now intends to remove and replace six (6) existing antennas with six (6) new antennas. The new antennas will be installed at the 136-ft level of the tower. AT&T is also proposes tower mount modifications as shown on the enclosed Mount Analysis.

The facility was approved by the Connecticut Siting Council in Docket No. 212 on June 3, 2002. The approval was given with conditions which this exempt modification follows.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mary Mitta, First Selectwoman for the Town of Stafford, David Perkins, Zoning Enforcement Officer, Mr. and Mrs. Pragl as the property owners and Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

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

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Anne Marie Zsamba.
Sincerely,

Anne Marie Zsamba
Site Acquisition Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
(201) 236-9224
AnneMarie.Zsamba@crowncastle.com

Attachments
cc:

The Honorable Mary Mitta, First Selectwoman (*via email only to staffordtownhall@staffordct.org*)
Stafford Town Hall
1 Main Street
Stafford Springs, CT 06076

David Perkins, Zoning Enforcement Official (*via email only to zoning@staffordct.org*)
Stafford Town Hall
1 Main Street
Stafford Springs, CT 06076

Harry & Nancy Pragl *(via email only to hpragl@cox.net)*
PO Box 154 B
Staffordville, CT 06077

Crown Castle, Tower Owner

From: Zsamba, Anne Marie
To: "hpragl@cox.net"
Subject: Notice of Exempt Modification - AT&T - 175 Stafford Street
Date: Monday, July 6, 2020 10:17:00 AM
Attachments: EM-AT&T-175 STAFFORD STREET STAFFORD-CTV1258-876402_notice.pdf

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Dear Mr. & Mrs. Pragl:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today July 6, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

From: Zsamba, Anne Marie
To: "staffordtownhall@staffordct.org"
Subject: Notice of Exempt Modification - AT&T - 175 Stafford Street
Date: Monday, July 6, 2020 10:17:00 AM
Attachments: EM-AT&T-175 STAFFORD STREET STAFFORD-CTV1258-876402_notice.pdf

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Dear First Selectwoman Mitta:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today July 6, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

From:	Zsamba, Anne Marie
To:	zoning@staffordct.org
Subject:	Notice of Exempt Modification - AT&T - 175 Stafford Street
Date:	Monday, July 6, 2020 10:17:00 AM
Attachments:	EM-AT&T-175 STAFFORD STREET STAFFORD-CTV1258-876402_notice.pdf

Dear Mr. Perkins:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today July 6, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

Exhibit A

Original Facility Approval

DOCKET NO. 212 - Sprint Spectrum, L.P. d/b/a Sprint PCS application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a cellular telecommunications facility adjacent to 156 Stafford Street or 159 Stafford Street, Stafford, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	June 3, 2002

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility at the proposed alternate D (deer stand) site located at 159 Stafford Street, in Stafford, Connecticut, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Spectrum d/b/a Sprint PCS for the construction, maintenance, and operation of a wireless telecommunications facility at the proposed alternate D (deer stand) site located at 159 Stafford Street Stafford, Connecticut. We deny certification of the proposed prime site and alternate A, B, and C sites located off Stafford Street, Stafford, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas for Sprint PCS, and other telecommunications entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level including all appurtenances.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include: a final site plan(s) for development of the proposed alternate site including a compound reduced in size, the location and specifications for the tower foundation, antennas, equipment and foundation for equipment, security fence, access road to be no closer than 25 feet to any inland wetlands, and utility line that shall be underground; construction plans for site clearing, tree trimming, water drainage, and erosion and sedimentation controls consistent with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; landscaping; and provisions for the prevention and containment of spills and/or other discharge into adjacent inland wetlands.

3. The Certificate Holder shall not construct during the months of May, June, and July for the protection of a State species of special concern, the whip-poor-wills (Caprimulgus vociferus).

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall provide electromagnetic radio frequency power density measurements within sixty days following commencement of commercial operation.

6. The Certificate Holder shall provide the Council with a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels originally calculated and provided in the application.

7. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

8. Following completion of construction, if the facility does not initially provide or permanently ceases to provide wireless services this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment within sixty days, or reapply for any continued or new use to the Council before any such use is made.

9. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.

10. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, Stafford Reminder and the Journal Inquirer.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant

Sprint Spectrum, d/b/a Sprint PCS	Thomas J. Regan, Esq. Brown, Rudnick, Freed & Gesmer, P.C. CityPlace 1, 38th Floor 185 Asylum Street Hartford, CT 06103-3402

Intervenor

Citizens for Neighborhood Preservation	Glen E. Coe, Esq. Lewis B. Rome, Esq. Rome McGuigan Sabanosh, P.C. Attorneys At Law One State Street Hartford, CT 06103-3101

Party

Town of Stafford	Gordon J. Frassinelli, Jr. First Selectman Town of Stafford Warren Memorial Town 1 Main Street, P.O. Box 11 Stafford Springs, CT 06076

CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in Docket No. 212 – Sprint Spectrum, L.P. d/b/a Sprint PCS application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a wireless telecommunications facility adjacent to 156 Stafford Street or 159 Stafford Street, Stafford, Connecticut, and voted as follows to approve the alternate D (deer stand) site at 159 Stafford Street, and deny the prime site (156 Stafford Street), and alternate sites A, B and C:

Council Members	Vote Cast
Mortimer A. Gelston, Chairman	Yes
Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Yes
Commissioner Arthur J. Rocque, Jr. Designee: Brian J. Emerick	Yes
Brian O'Neill	Yes
Pamela B. Katz	Yes
Daniel P. Lynch, Jr.	Yes
Philip T. Ashton	Yes
Colin C. Tait	Yes
Edward S. Wilensky	Yes

Dated at New Britain, Connecticut, June 3, 2002.

STATE OF CONNECTICUT)

ss. New Britain, Connecticut :

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:

S. Derek Phelps
Executive Director
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 212 has been forwarded by Certified First Class Return Receipt Requested mail on June 5, 2002, to all parties and intervenors of record as listed on the attached service list, dated January 18, 2002.

ATTEST:

Gwenn R. Gregory
Secretary II
Connecticut Siting Council

Exhibit B

Property Card

175 STAFFORD ST

Location	175 STAFFORD ST	**Mblu**	30/ / 12/ /
Acct#	00142200	**Owner**	PRAGL HARRY J+NANCY C
Assessment	$182,420	**Appraisal**	$260,600
PID	1596	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$198,700	$61,900	$260,600
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$139,090	$43,330	$182,420

Owner of Record

Owner	PRAGL HARRY J+NANCY C	**Sale Price**	$0
Co-Owner		**Certificate**	1
Address	PO BOX 154 B STAFFORDVILLE, CT 06077	**Book & Page**	340/ 409
		Sale Date	09/03/1998
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
PRAGL HARRY J+NANCY C	$0	1	340/ 409		09/03/1998

Building Information

Building 1 : Section 1

Year Built:	1972
Living Area:	2,295
Replacement Cost:	$221,292
Building Percent Good:	83
Replacement Cost Less Depreciation:	$183,700

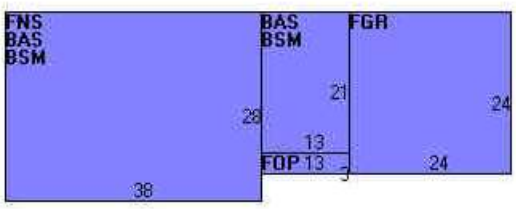
Building Attributes

Field	Description
Style	Colonial
Model	Residential
Grade:	C+
Occupancy	1
Exterior Wall 1	Aluminum Sidng
Exterior Wall 2	Brick
Roof Structure	Gambrel
Roof Cover	Asphalt
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	
Heat Fuel	Oil
Heat Type:	Hot Water
AC Type:	None
Total Bedrooms:	4
Full Bthrms:	1
Half Baths:	1
Extra Fixtures	0
Total Rooms:	8
Bath Style:	Average
Kitchen Style:	Average
Num Kitchens	1
Fireplaces	1
Extra Openings	
Prefab Fpl(s)	
Attic Type	None
Bsmt Type	Full
Bsmt Garage(s)	0
Fin Bsmnt	0
Fn. Bmt. Qual.	
Unfin Area	0

Building Photo

(http://images.vgsi.com/photos2/StaffordCTPhotos//\00\00\94/84.jpg)

Building Layout



(http://images.vgsi.com/photos2/StaffordCTPhotos//Sketches/1596_1596.jp

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	1,337	1,337
FNS	Finished 90% Story	1,064	958
BSM	Basement	1,337	0
FGR	Garage	576	0
FOP	Open Porch	39	0
		4,353	2,295

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	101
Description	Res Dwelling
Zone	AA
Neighborhood	240
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	3.98
Frontage	
Depth	
Assessed Value	$43,330
Appraised Value	$61,900

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
BRN6	2S Barn w/ Bsmt			748 S.F.	$15,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$198,700	$61,900	$260,600
2017	$198,700	$61,900	$260,600
2016	$198,700	$61,900	$260,600

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$139,090	$43,330	$182,420
2017	$139,090	$43,330	$182,420
2016	$139,090	$43,330	$182,420


Beach
TTM Technology
Upper Rd
STAFFORDVILLE
Ric's Place
19
Staffordville Congregational
My Last Gift LLC
New City Rd
Sartori Rd
Hydeville Rd
Stafford St
Bradway Rd
Pictz Rd
175 Stafford Street
Rfd Rd
Fox Run Dr

Exhibit C

Construction Drawings

AT&T

AT&T SITE NUMBER:	**CTV1258**	**BUSINESS UNIT #:**	**876402**
AT&T SITE NAME:	**STAFFORD - STAFFORD ST**	**SITE ADDRESS:**	**175 STAFFORD STREET STAFFORD, CT 06077**
AT&T FA CODE:	**10128067**	**COUNTY:**	**TOLLAND**
AT&T PACE NUMBER:	**MRCTB046878**	**SITE TYPE:**	**MONOPOLE**
AT&T PROJECT:	**5G NR UPGRADE LTE 2C/3C/4C/5GNR/4T4R + PACE**	**TOWER HEIGHT:**	**150'-0"**

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	STAFFORD/PRAGYL/SSUSA
SITE ADDRESS:	175 STAFFORD STREET STAFFORD, CT 06077
COUNTY:	TOLLAND
MAP PARCEL #:	STAF-000030-000007
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 59' 13.38"
LONGITUDE:	-72° 15' 40.78"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	957 FT.
CURRENT ZONING:	ST, AA
JURISDICTION:	TOWN OF STAFFORD
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	HARRY J & NANCY B PRAGL PO BOX 154 - 175 STAFFORD ST STAFFORDVILLE, CT 06077
TOWER OWNER:	GLOBAL SIGNAL ACQUISITIONS III LLC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	AT&T TOWER ASSET GROUP 575 MOROSGO DRIVE ATLANTA, GA 30324-3300
ELECTRIC PROVIDER:	NORTHEAST UTILITIES (800) 286-2000
TELCO PROVIDER:	AT&T (866) 620-6900

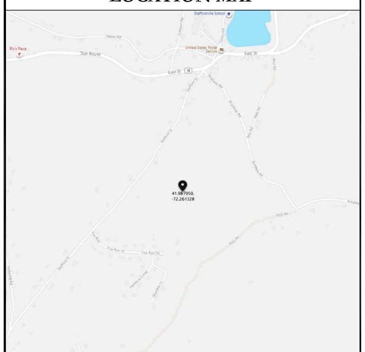
DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EXISTING & FINAL EQUIPMENT PLANS
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	FINAL EQUIPMENT SCHEDULE
C-4	EQUIPMENT SPECS
C-5	EQUIPMENT SPECS
G-1	GROUNDING SCHEMATIC
G-2	GROUNDING DETAILS
ATTACHED	MOUNT MODIFICATION DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL CONNECTICUT ONE CALL
(800) 922-4455 CBYD.COM
CALL 2 WORKING DAYS
BEFORE YOU DIG!

LOCATION MAP



NO SCALE

SITE PHOTO

PROJECT TEAM

A&E FIRM:	CROWN CASTLE USA INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317 CROWNAE.APPROVAL@CROWNCASTLE.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065
	VERONICA DELIA - PROJECT MANAGER (215) 292-2067
	JASON D'AMICO - CONSTRUCTION MANAGER (860) 209-0104

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:

- REMOVE (3) POWERWAVE - 7770 ANTENNAS
- REMOVE (2) POWERWAVE - P65-17-XLH-RR ANTENNAS
- REMOVE (1) KMW - AM-X-CD-16-65-00T-RET ANTENNAS
- REMOVE (3) ERICSSON - RRUS-11 B2 RRUs
- REMOVE (6) POWERWAVE - LDP 21901 DIPLEXERS
- REMOVE (6) COAX CABLES (1-5/8")
- INSTALL MOUNT MODIFICATIONS PER MOUNT ANALYSIS BY POWER OF DESIGN GROUP DATED MAY 05, 2020
- INSTALL (2) CCI - OPA65R-BU8DA ANTENNAS
- INSTALL (2) CCI - DMP65R-BU8DA ANTENNAS
- INSTALL (1) CCI - OPA65R-BU6DA ANTENNA
- INSTALL (1) CCI - DMP65R-BU6DA ANTENNA
- INSTALL (3) ERICSSON - 4449 B5/B12 RRUs
- INSTALL (3) ERICSSON - 4478 B14 RRUs
- INSTALL (3) ERICSSON - 8843 B2/B66A RRUs
- INSTALL (1) RAYCAP - DC9-48-60-24-8C-EV SQUID
- INSTALL (3) #6AWG CABLES (3/4")
- INSTALL (1) FIBER CABLE (3/8")

GROUND SCOPE OF WORK:

- REMOVE (1) 3206
- INSTALL (1) ARGUS SHELF
- INSTALL (2) 6630
- INSTALL (1) XMU
- INSTALL (1) IDLe

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE 2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE 2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE 2017 NEC W/ CT AMENDMENTS

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	PAUL J. FORD AND COMPANY
DATED:	MARCH 15, 2020
MOUNT ANALYSIS:	POWER OF DESIGN GROUP
DATED:	MAY 5, 2020
RFDS REVISION:	PRELIMINARY
DATED:	03/25/2020
ORDER ID:	517113
REVISION:	0

INSTALLER NOTE:
NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT MODIFICATION DESIGN BY POWER OF DESIGN GROUP DATED MAY 5, 2020.

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **CTV1258**

BU #: **876402**
STAFFORD/PRAGYL/SSUSA

175 STAFFORD STREET
STAFFORD, CT 06077

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/11/20	EA	PRELIMINARY	LR
B	05/21/20	EA	PRELIMINARY	LR
C	06/03/20	EA	PRELIMINARY	LR
0	06/24/20	EA	CONSTRUCTION	MD

DocuSigned by:
0143415346B482
STATE OF CONNECTICUT
MARIBEL DETTINGER
23524
LICENSED
PROFESSIONAL ENGINEER
6/24/2020 | 6:18:59 PM EDT

Crown Castle USA Inc.
Certificate of Registration #PEC.0001101

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
T-1	0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR 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.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: AT&T
   TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR 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 CROWN CASTLE.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
13. CONTRACTOR 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.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER 40 ksi
   #5 BARS AND LARGER 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 BARS AND LARGER 2"
   #5 BARS AND SMALLER 1–1/2"
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
   SLAB AND WALLS 3/4"
   BEAMS AND COLUMNS 1–1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

1. 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.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. 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.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON–METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD–WELD TERMINATION POINT THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "AT&T".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE

SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

APWA UNIFORM COLOR CODE:

WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **CTV1258**

BU #: **876402**
STAFFORD/PRAGYL/SSUSA

175 STAFFORD STREET
STAFFORD, CT 06077

EXISTING 150'-0" MONOPOLE

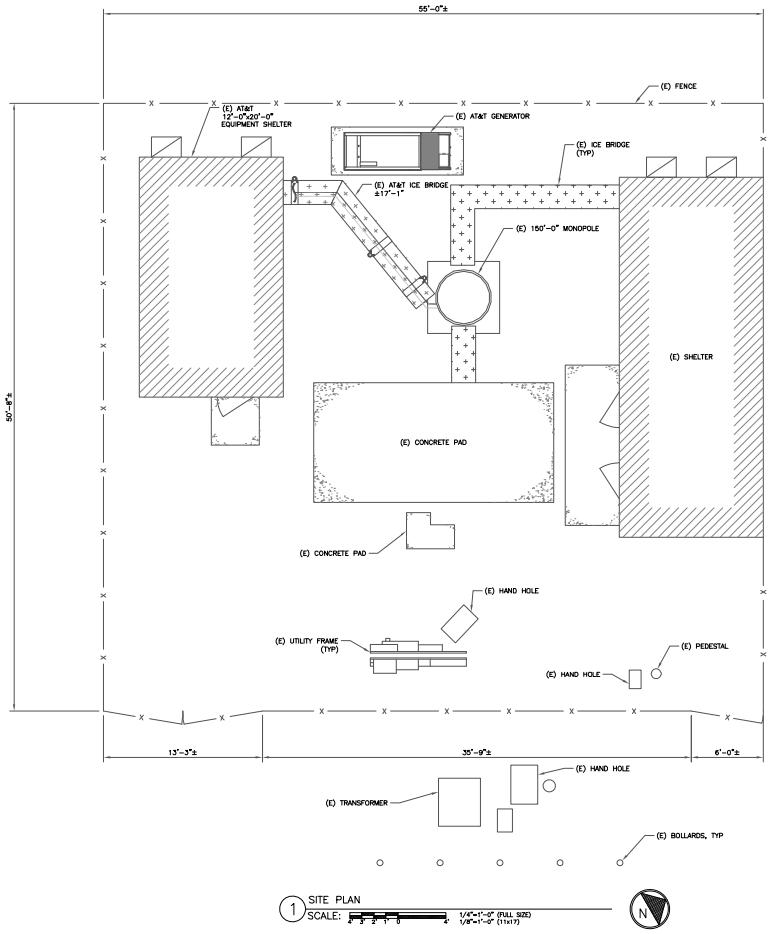
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/11/20	EA	PRELIMINARY	LR
B	05/21/20	EA	PRELIMINARY	LR
C	06/03/20	EA	PRELIMINARY	LR
0	06/24/20	EA	CONSTRUCTION	MD

DocuSigned by:
STATE OF CONNECTICUT
23524
LICENSED
PROFESSIONAL ENGINEER
6/24/2020 | 6:18:59 PM EDT

Crown Castle USA Inc.
Certificate of Registration #PEC.0001101

SHEET NUMBER: T-2
REVISION: 0



1 SITE PLAN
SCALE: 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

AT&T
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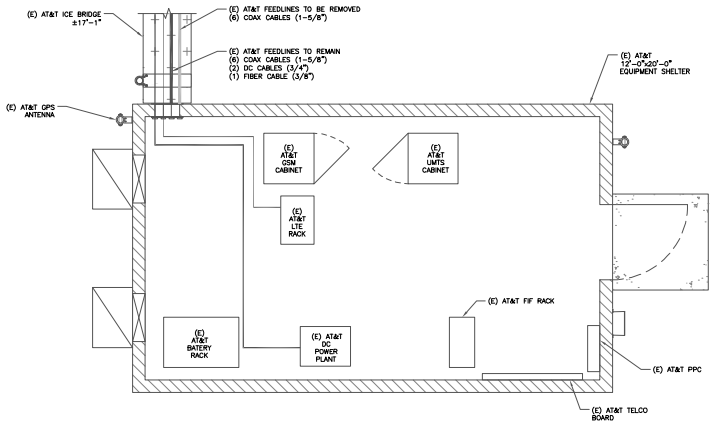
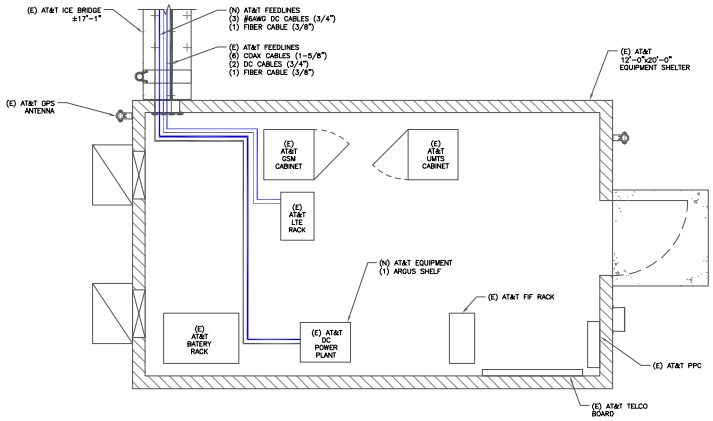
0	06/24/20	EA	CONSTRUCTION	DR

STATE OF CONNECTICUT
MARK DEFRANCESCO
23524
LICENSED PROFESSIONAL ENGINEER
6/24/2020 3:59 PM EDT
Crown Castle USA LLC
Connecticut Registration #PEC.0003101

SHEET NUMBER: C-1.1
REVISION: 0



1 EXISTING EQUIPMENT PLAN
SCALE: 3/4"=1'-0" (FULL SIZE) 3/8"=1'-0" (11x17)



2 FINAL EQUIPMENT PLAN
SCALE: 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

GROUND SCOPE OF WORK:

- REMOVE (1) 3206
- INSTALL (2) 6630
- INSTALL (1) XMU
- INSTALL (1) IDLe
- INSTALL (1) ARGUS SHELF

AT&T
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STATE OF CONNECTICUT
MATTHEW DIETZINGER
23524
LICENSED
PROFESSIONAL ENGINEER
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Crown Castle USA LLC
Connecticut Registration #PEC.0003101

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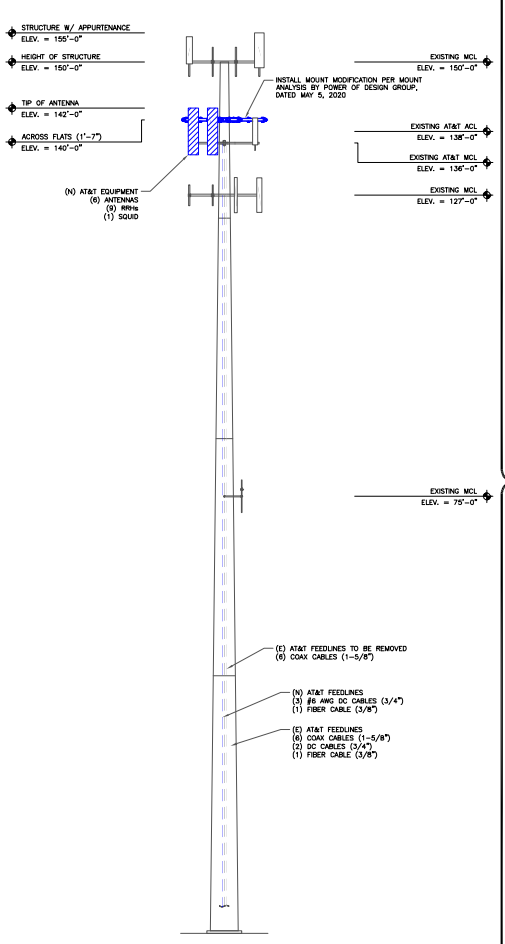
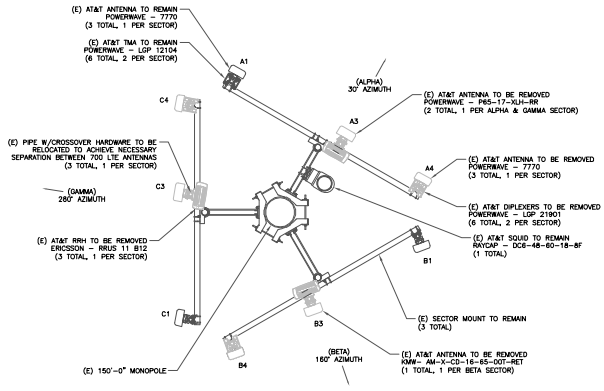
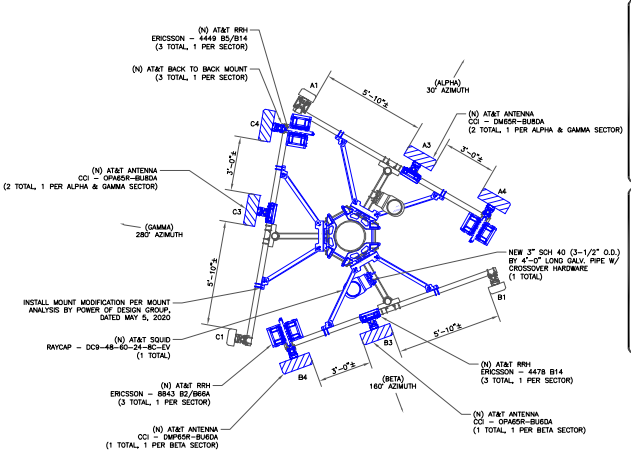
SHEET NUMBER: C-1.2
REVISION: 0



1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN
SCALE: 3/8"=1'-0" (FULL SIZE) 3/16"=1'-0" (11x17)



3 FINAL ANTENNA PLAN
SCALE: 3/8"=1'-0" (FULL SIZE) 3/16"=1'-0" (11x17)

"LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

INSTALLER NOTES:

1. REFERENCE C-3 FOR FINAL EQUIPMENT SCHEDULE.
2. REFERENCE C-4 FOR NEW EQUIPMENT SPECIFICATIONS.
3. CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
4. 3'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE ANTENNAS ON SAME SECTOR.
4. 6'-0" MINIMUM DISTANCE REQUIRED BETWEEN 700BC & 700DE ANTENNAS ON SAME SECTOR.
5. 4'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE 700 ANTENNAS ON OPPOSING SECTORS.
6. ALL ANTENNA MEASUREMENT DISTANCES MUST BE EDGE TO EDGE (RELOCATE ANTENNAS AS NEEDED).
7. 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO. SEE GENERIC EXAMPLE DETAIL ON SHEET C-5.

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EXISTING 150'-0" MONOPOLE

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0	06/24/20	SA	CONSTRUCTION	MD

STATE OF CONNECTICUT
MARK DILLENBURGER
23524
LICENSED
PROFESSIONAL ENGINEER
6/24/2020 3:39 PM EDT

Crown Castle USA LLC
Connecticut Registration #PEC.0001101

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SHEET NUMBER: C-2
REVISION: 0

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

POSITION	ANTENNA				RADIO			DIPLEXER			TMA			SURGE PROTECTION		CABLES			
	TECH.	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
ALPHA																		
A1	UMTS	(E) POWERWAVE TECH 7770	30°	138'-0"	–	–	–	2	(E)	GROUND	2	(E)	–	–	2	(E) COAX	1-5/8"	188'-0"
A2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
A3	LTE	(N) CCI OPA65R-BU8DA	30°	138'-0"	1	(N) 4478 B14	TOWER	–	–	–	–	–	1	(N) DC9-48-60-24-8C-EV	3	(N) DC	3/4"	188'-0"
															1	(N) FIBER	3/8"	188'-0"
A4	LTE/5G	(N) CCI DMP65R-BU8DA	30°	138'-0"	1	(N) 8843 B2/B66A	TOWER	–	–	–	–	–	1	(E) DC6-48-60-18-8F	2	(E) DC	3/4"	188'-0"
					1	(N) 4449 B5/B12	TOWER								1	(E) FIBER	3/8"	188'-0"
BETA																		
B1	UMTS	(E) POWERWAVE TECH 7770	160°	138'-0"	–	–	–	2	(E)	GROUND	2	(E)	–	–	2	(E) COAX	1-5/8"	188'-0"
B2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B3	LTE	(N) CCI OPA65R-BU6DA	160°	138'-0"	1	(N) 4478 B14	TOWER	–	–	–	–	–	–	–	–	–	–	–
B4	LTE/5G	(N) CCI DMP65R-BU6DA	160°	138'-0"	1	(N) 8843 B2/B66A	TOWER	–	–	–	–	–	–	–	–	–	–	–
					1	(N) 4449 B5/B12	TOWER											
GAMMA																		
C1	UMTS	(E) POWERWAVE TECH 7770	280°	138'-0"	–	–	–	2	(E)	GROUND	2	(E)	–	–	2	(E) COAX	1-5/8"	188'-0"
C2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C3	LTE	(N) CCI OPA65R-BU8DA	280°	138'-0"	1	(N) 4478 B14	TOWER	–	–	–	–	–	–	–	–	–	–	–
C4	LTE/5G	(N) CCI DMP65R-BU8DA	280°	138'-0"	1	(N) 8843 B2/B66A	TOWER	–	–	–	–	–	–	–	–	–	–	–
					1	(N) 4449 B5/B12	TOWER											

NOTE:
(E) – EXISTING
(N) – NEW

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

AT&T
575 MOROSGO DRIVE
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STAFFORD/PRAGYL/SSUSA

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STAFFORD, CT 06077

EXISTING 150'-0" MONOPOLE

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0	06/24/20	EA	CONSTRUCTION	MD

STATE OF CONNECTICUT
MATTHEW J. DELANGER
23524
LICENSED
PROFESSIONAL ENGINEER

6/24/2020 3:59 PM EDT

Crown Castle USA LLC
Connecticut Registration #PEC.0001101

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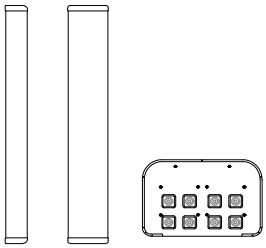
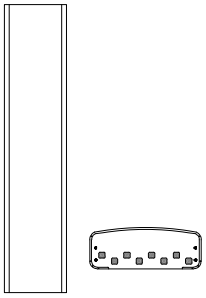
SHEET NUMBER: C-3
REVISION: 0



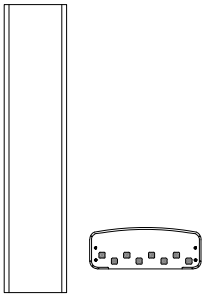
CCI ANTENNAS – OPA65R-BU6DA
WEIGHT (WITHOUT MOUNTING HARDWARE): 63.5 LBS
SIZE (HxWxD): 71.2x21.0x7.8 IN.
MOUNTING HARDWARE P/N: MSK-01
RATED WIND VELOCITY: 150.0 MPH

1 CCI ANTENNAS – OPA65R-BU6DA
SCALE: NOT TO SCALE



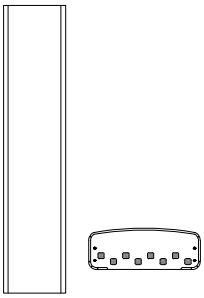
CCI ANTENNAS – OPA65R-BU8DA
WEIGHT (WITHOUT MOUNTING HARDWARE): 76.5 LBS
SIZE (HxWxD): 96x21.0x7.8 IN.

2 CCI ANTENNAS – OPA65R-BU8DA
SCALE: NOT TO SCALE



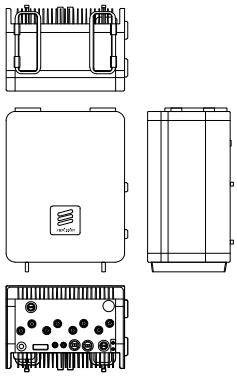
CCI ANTENNAS – DMP65R-BU8DA
WEIGHT (WITHOUT MOUNTING HARDWARE): 95.7 LBS
SIZE (HxWxD): 96x20.7x7.7 IN.

3 CCI ANTENNAS – DMP65R-BU8DA
SCALE: NOT TO SCALE



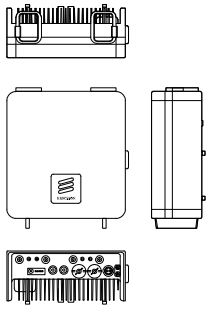
CCI ANTENNAS – DMP65R-BU6DA
WEIGHT (WITHOUT MOUNTING HARDWARE): 89.3 LBS
SIZE (HxWxD): 71.2x20.7x7.7 IN.

4 CCI ANTENNAS – DMP65R-BU6DA
SCALE: NOT TO SCALE



ERICSSON – RADIO 8843 B2/B66A
WEIGHT: 75.0 LBS
SIZE (HxWxD): 18.0x13.2x11.3 IN.

5 ERICSSON – RADIO 8843 B2/B66A
SCALE: NOT TO SCALE



ERICSSON – RADIO 4478 B14
WEIGHT: 60.0 LBS
SIZE (HxWxD): 15.0x13.0x8.0 IN.

6 ERICSSON – RADIO 4478 B14
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STATE OF CONNECTICUT
MATTHEW D. DELONGER
23524
LICENSED
PROFESSIONAL ENGINEER
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Connecticut Registration #PEC.0001101

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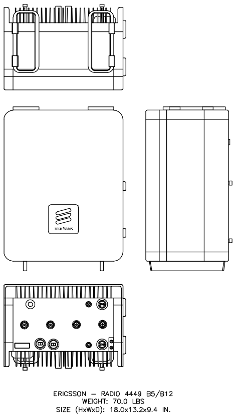
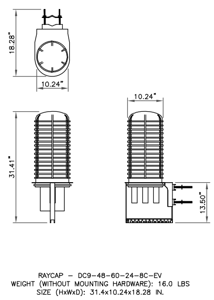
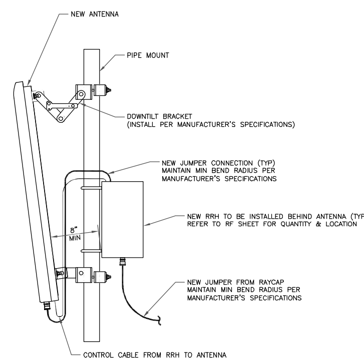
SHEET NUMBER: C-4
REVISION: 0



1 ERICSSON – RADIO 4449 B5/B12
SCALE: NOT TO SCALE



2 RAYCAP – DC9-48-60-24-8C-EV
SCALE: NOT TO SCALE


NEW ANTENNA
PIPE MOUNT
DOWNTILT BRACKET
(INSTALL PER MANUFACTURER'S SPECIFICATIONS)
NEW JUMPER CONNECTION (TYP)
MAINTAIN MIN BEND RADIUS PER
MANUFACTURER'S SPECIFICATIONS
NEW RRH TO BE INSTALLED BEHIND ANTENNA (TYP)
REFER TO RF SHEET FOR QUANTITY & LOCATION
8" MIN
NEW JUMPER FROM RAYCAP
MAINTAIN MIN BEND RADIUS PER
MANUFACTURER'S SPECIFICATIONS
CONTROL CABLE FROM RRH TO ANTENNA

3 GENERIC ANTENNA MOUNTING ELEVATION
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE

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0	06/24/20	EA	CONSTRUCTION	MD

DocuSigned by:
0143415346CB482...

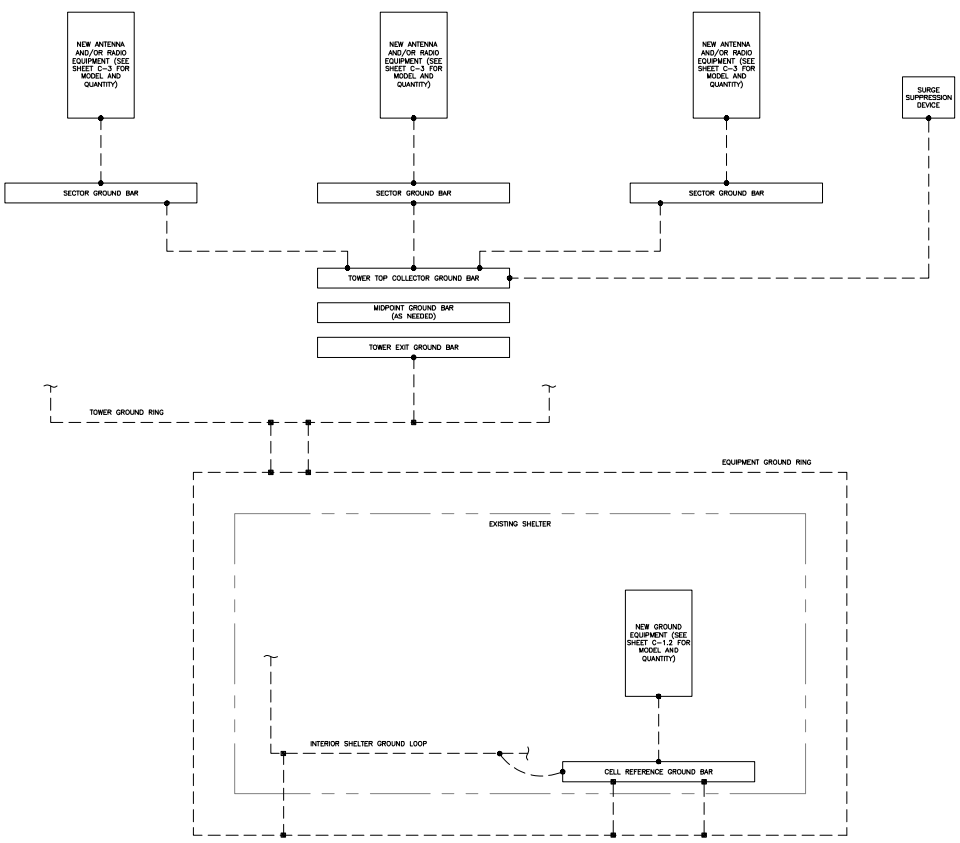
STATE OF CONNECTICUT
MARIBEL DEHTINGER
23524
LICENSED
PROFESSIONAL ENGINEER
QUI TRANSTULIT SUSTINET

6/24/2020 | 6:18:59 PM EDT

Crown Castle USA Inc.
Certificate of Registration #PEC.0001101

SHEET NUMBER: C-5

REVISION: 0



1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

--- GROUND WIRE
EXOTHERMIC WELD
MECHANICAL CONNECTION
COPPER GROUND ROD
GROUND ROD W/ TEST WELL

CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUITS (ATT-TP-76416 7.6.7).

HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H & AND TP76416 FIGURE 7-11 REQUIREMENTS.

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STATE OF CONNECTICUT
MICHAEL DEVINGER
23524
LICENSED
PROFESSIONAL ENGINEER

6/24/2020 3:39 PM EDT

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Connecticut Registration #PEC.0001101

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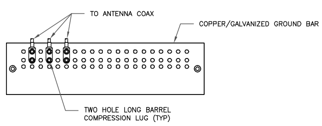
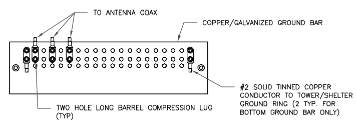
SHEET NUMBER: G-1
REVISION: 0



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

(1) ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

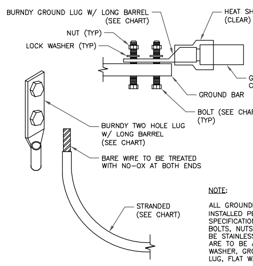


NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

(2) TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

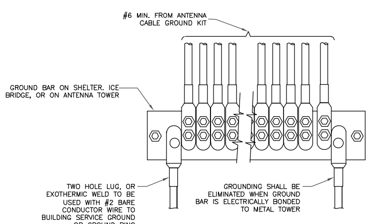
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C–2TC38	3/8" – 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C–2TC38	3/8" – 16 NC SS 2 BOLT
#2 STRANDED	YA2C–2TC38	3/8" – 16 NC SS 2 BOLT
#2/0 STRANDED	YA26–2TC38	3/8" – 16 NC SS 2 BOLT
#4/0 STRANDED	YA28–2N	1/2" – 16 NC SS 2 BOLT



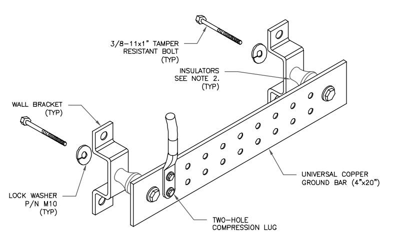
NOTE:

ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

(3) MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE


#6 MIN. FROM ANTENNA CABLE GROUND KIT
GROUND BAR ON SHELTER, ICE-BRIDGE, OR ON ANTENNA TOWER
TWO HOLE LUG, OR EXOTHERMIC WELD TO BE USED WITH #2 BARE CONDUCTOR WIRE TO BUILDING SERVICE GROUND OR GROUND RING
GROUNDING SHALL BE ELIMINATED WHEN GROUND BAR IS ELECTRICALLY BONDED TO METAL TOWER

(4) GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

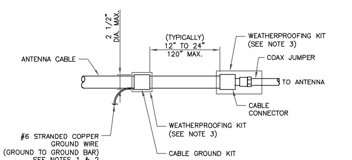


NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

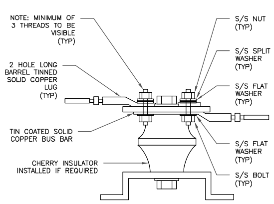
(5) GROUND BAR DETAIL
SCALE: NOT TO SCALE



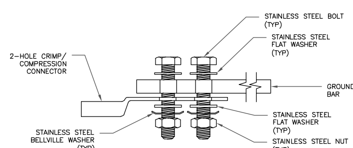
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

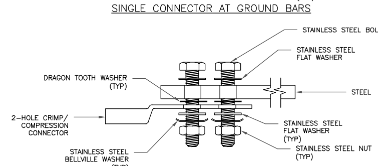
(6) CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



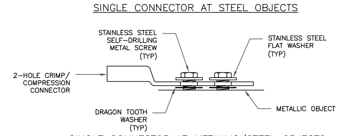
(7) LUG DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS



SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

(8) HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE

AT&T

575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE

3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **CTV1258**

BU #: **876402**
STAFFORD/PRAGYL/SSUSA

175 STAFFORD STREET
STAFFORD, CT 06077

EXISTING 150'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	05/11/20	EA	PRELIMINARY	LR
B	05/21/20	EA	PRELIMINARY	LR
C	06/03/20	EA	PRELIMINARY	LR
0	06/24/20	EA	CONSTRUCTION	MD

DocuSigned by:
01434153466B482...
STATE OF CONNECTICUT
MARIBEL DETTINGER
23524
LICENSED
PROFESSIONAL ENGINEER
6/24/2020 | 6:18:59 PM EDT

Crown Castle USA Inc.
Certificate of Registration #PEC.0001101

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: G-2

REVISION: 0

CROWN CASTLE

SITE:

876402 STAFFORD/PRAGYL/SSUSA (10128067)

MODIFICATION DRAWING FOR EXISTING 12.5' T-ARMS AT 136' ON A 150' MONOPOLE TOWER

SHEET INDEX	
T-01	TITLE SHEET
N-01	NOTES
S-01	PLAN VIEW
S-02	ELEVATION VIEW
MI-01	MODIFICATION CHECKLIST

PROJECT INFORMATION	
COUNTY:	TOLLAND
SITE ADDRESS:	175 STAFFORD ST. STAFFORD, CT 06077
LATITUDE:	41° 59' 13.38"
LONGITUDE:	-72° 15' 40.78"

SCOPE OF WORK:

MOUNT MODIFICATION DRAWINGS INCLUDES:
INSTALL PROPOSED FACE MEMBERS & STABILIZER KIT

PLANS PREPARED FOR:
CROWN CASTLE

PLANS PREPARED BY:
POD
POWER OF DESIGN
1032 E. TURKEYFOOT LAKE RD.
SUITE 304 AKRON, OHIO 44312
330-963-7462

CARRIER:
AT&T

MODIFICATION DRAWING

STATE OF CONNECTICUT
JASON CHERONIS
PEN.0032793
LICENSED
PROFESSIONAL ENGINEER

REV.	DATE	DESCRIPTION

SITE INFORMATION:
STAFFORD/PRAGYL/SSUSA
(10128067)

175 STAFFORD ST.
STAFFORD, CT 06077

SITE NUMBER:
876402

POD NUMBER: 20-63906

DRAWN BY: TAI
CHECKED BY: JSC
DATE: 05/05/2020

SHEET TITLE:
TITLE SHEET

T-01

GENERAL NOTES

1. THE MODIFICATIONS REPRESENTED IN THESE DRAWINGS ARE BASED ON THE STRUCTURAL DOCUMENTS PROVIDED IN THE STRUCTURAL DOCUMENTS TABLE. THE CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH ALL REFERENCED DOCUMENTS.

REFERENCE DOCUMENTS	
DOCUMENT TYPE	DESIGNATION
MOUNT ANALYSIS	POD PROJECT NUMBER: 20-63609 DATED: 04/28/2020

2. ALL MODIFICATIONS MUST BE INSTALLED TO BRING THE TOWER INTO CONFORMANCE WITH ALL APPLICABLE CODES.

GOVERNING CODES	TIA-222-H
ULTIMATE WIND SPEED	117 MPH 3 SECOND GUST
RADIAL ICE THICKNESS	1.5"
WIND SPEED W/ ICE	50 MPH 3 SECOND GUST
STRUCTURE CLASS	II
EXPOSURE CATEGORY	B
TOPOGRAPHIC CATEGORY	1
SPECTRAL RESPONSE ACCELERATIONS	SS= 0.176 & S1= 0.055

3. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE OR APPROVED BY THE EOR. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE PERFORMING WORK SIMILAR TO THAT DESCRIBED WITHIN THESE DRAWINGS. BY ACCEPTANCE OF THIS PROJECT, THE CONTRACTOR IS ATTESTING THAT HE HAS SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND REGISTERED TO PERFORM THE WORK IN THE PROJECT JURISDICTION.
4. WORK SHALL ONLY BE PERFORMED DURING CALM, DRY DAYS (WINDS LESS THAN 10XMPH). IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE INSTILLATION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIEDOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
5. ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND EOR. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE EOR SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES AND PROCEDURES.
6. THE DESIGN WITHIN THESE DRAWINGS ASSUMES THE TOWER AND ITS FOUNDATIONS HAVE BEEN WELL MAINTAINED, IN GOOD CONDITION AND ARE WITHOUT DEFECT. BENT MEMBERS, CORRODED MEMBER, LOOSE BOLTS, CRACKED WELDS, AND OTHER STRUCTURAL DEFECTS HAVE NOT BEEN CONSIDERED UNLESS SPECIFICALLY NOTED. THE TOWER IS ASSUMED TO BE PLUMB AND THE SITE IS ASSUMED LEVEL. THE OWNER AND/OR EOR SHALL BE NOTIFIED IMMEDIATELY IF ANY VARIANCES ARE FOUND.
7. THE CONTRACTOR SHALL ONLY WORK WITHIN THE LIMITS OF THE TOWER OWNER'S PROPERTY, LEASE AREA OR APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS PERFORMED WITHIN THESE BOUNDARIES. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE OWNER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAIN AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT ALL WORK PERFORMED COMPLIES WITH ALL APPLICATION SAFETY CODES AND GOVERNING REGULATIONS.
9. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULES AND MATERIAL DELIVERIES, WITH THE OWNER/RESIDENT LEASING AGENT FOR APPROVAL.
10. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNING AGENCIES. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
11. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDED BUT NOT LIMITED TO ALTERED SIZED AND/OR STRENGTHS, MUST BE APPROVED BY THE EOR.
12. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS SHALL MAINTAIN THE EXISTING MEMBER WORKING LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
13. ALL DIMENSIONS AND QUANTITIES LISTED WITHIN THESE DRAWINGS ARE INTENDED TO AID THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL DIMENSION AND QUANTITIES PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
14. ALL MANUFACTURERS' INSTRUCTIONS SHALL BE FOLLOWED EXACTLY. ANY DEVIATION REQUIRES WRITTEN APPROVAL FROM THE EOR.
15. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY REMOVING COAX, BRACKETS, ANTENNAS MOUNTS AND ANY OTHER TOWER APPURTENANCE THAT MAY INTERFERE WITH THE INSTILLATION OF THE TOWER MODIFICATIONS. ALL TOWER APPURTENANCES MUST BE REPLACE AND/OR RESTORED TO ITS ORIGINAL LOCATION. SOME MOUNTS OR ATTACHMENTS MAY REQUIRE CUSTOM MODIFICATION TO PROPERLY FIT THE MODIFIED REGION OF THE STRUCTURE. THESE CUSTOM MOUNTS OR ATTACHMENTS ARE DESIGNED BY OTHERS AND MUST BE APPROVED BY THE OWNER/EOR PRIOR TO REMOVAL. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE OWNER IN WRITING.
16. DO NOT SCALE DRAWINGS.

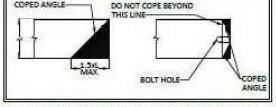
STRUCTURAL STEEL NOTES

1. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
2. ALL STRUCTURAL STEEL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

MATERIAL SPECIFICATIONS	
CHANNELS	ASTM A36 (36 KSI YIELD STRENGTH)
PIPES	ASTM A53 GR.B (35 KSI YIELD STRENGTH)
BOLTS	ASTM A325N
NUTS	ASTM A563
WASHER	ASTM F436
PLATE	ASTM A36 (36 KSI YIELD STRENGTH)

3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS, LATEST EDITION.
4. CAULKING SHALL BE PROVIDED AROUND PERIMETER OF ANY AND ALL MODIFICATION MEMBERS TO ENSURE COMPLETE SEAL BETWEEN EXISTING STRUCTURE AND REINFORCING MEMBERS IN FULL CONTACT WITH EXISTING STEEL. SEALANT IS TO BE EXTERIOR GRADE, PAINTABLE SILICONE CAULKING AS MANUFACTURED BY DOW AND ACCEPTABLE TO EOR.
5. HOLES SHALL NOT BE FLAME CUT THROUGH STEEL UNLESS APPROVED BY THE EOR.
6. ALL EXPOSED STEEL SHALL BE HOTDIPPED GALVANIZED PER ASTM A123, ASTM A153/A153M, OR ASTM A653 G90, AS APPLICABLE FOR FULL WEATHER PROTECTION. FOR HIGH STRENGTH STEEL FASTENERS WHERE HOTDIPPED GALVANIZING IS NOT PERMITTED DACROMET F1136 GRADE 3 COATING SHALL BE USED. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING TOWER STEEL. CONTRACTOR SHALL OBTAIN EOR APPROVAL FOR STEEL PROTECTION BY ANY OTHER MEANS.
7. REPAIR DAMAGED PAINTED/GALVANIZED SURFACES WITH TWO COATS OF BRUSH OR ROLL ON ZINC COLD GALVANIZING COMPOUND OR EOR APPROVED COATING. SURFACES MUST BE WIRE BRUSHED AND SOLVENT CLEANED PRIOR TO APPLICATION OF GALVANIZING COMPOUND.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES (LOCKING NUT/PAL NUT) TO BE INSTALLED IN ACCORDANCE WITH TIA/EIA/222 REQUIREMENTS.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.

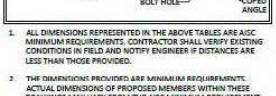
ALLOWABLE ANGLE COPE



1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENT.

BOLT SCHEDULE

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16x11/16	7/8	1 1/2
5/8	11/16	11/16x7/8	1-1/8	1-7/8
3/4	13/16	13/16x1	1-1/4	2-1/4
7/8	15/16	15/16x1-1/8	1-1/2	2-5/8
1	1-1/16	1-1/16x1-5/16	1-3/4	3



- DIMENSIONS GIVEN IN INCHES.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED ON THE PLANS.

WORKABLE GAGES

LEG	—	—	—
G	—	—	—

- DIMENSIONS GIVEN IN INCHES.
- MATCH EXISTING WHEN APPLICABLE.

PLANS PREPARED FOR:
CROWN CASTLE

PLANS PREPARED BY:
POD
POWER OF DESIGN
1033 E. TURKEYFOOT LAKE RD.
SUITE 206 AKRON, OHIO 44312
330-963-7432

CARRIER:
AT&T

MODIFICATION DRAWING

STATE OF CONNECTICUT
JASON CHERONIS
PEN.0032793
LICENSED PROFESSIONAL ENGINEER

REV.	DATE	DESCRIPTION

SITE INFORMATION:
STAFFORD/PRAGYL/SSUSA (10128067)
175 STAFFORD ST.
STAFFORD, CT 06077

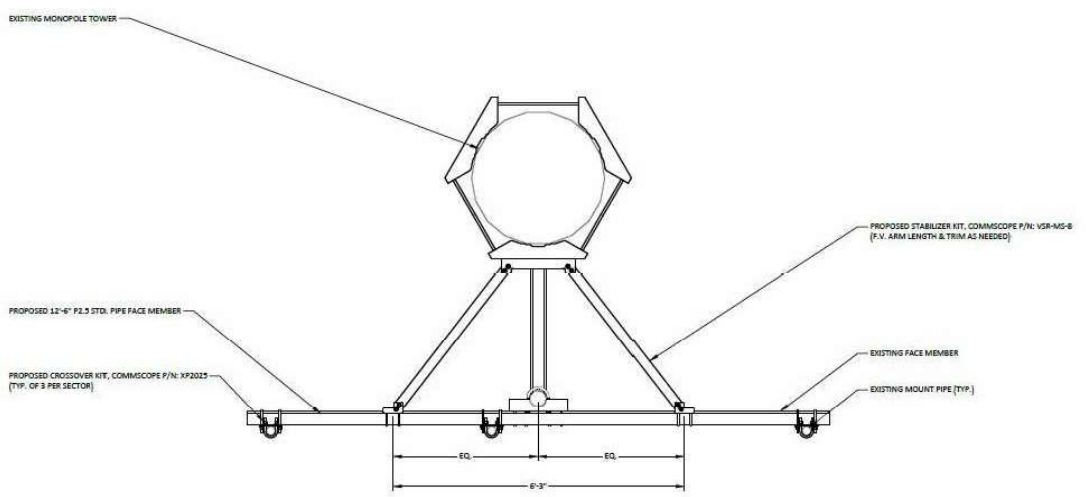
SITE NUMBER:
876402

POD NUMBER:	20-63936
DRAWN BY:	TAJ
CHECKED BY:	JSC
DATE:	05/05/2020

SHEET TITLE:
NOTES

N-01

NOTES:
- ANTENNAE & OTHER SECTORS NOT SHOWN FOR CLARITY
- MODIFICATIONS ARE (TYP.) & SHALL BE INSTALLED ON ALL (3) SECTORS
- ALL FIELD DRILLED HOLES SHALL BE SOLVIENT CLEANED AND TOUCHED UP WITH TWO COATS OF ZRC RICH PAINT
- EXCESS MATERIALS SHALL BE REMOVED AND DISPOSED OFF SITE BY THE CONTRACTOR



PLAN VIEW
1/2" = 1'-0"

PLANS PREPARED FOR:
CROWN CASTLE

PLANS PREPARED BY:
POD
POWER OF DESIGN
3333 E. TURKEYFOOT LAKE RD.
SUITE 208 AKRON, OHIO 44312
330-661-7422

CARRIER:
AT&T

MODIFICATION DRAWING

STATE OF CONNECTICUT
JASON CHERONIS
PEN.0032793
LICENSED
PROFESSIONAL ENGINEER

REV.	DATE	DESCRIPTION

SITE INFORMATION:
STAFFORD/PRAGYL/SSUSA (10128067)
175 STAFFORD ST.
STAFFORD, CT 06077

SITE NUMBER:
876402

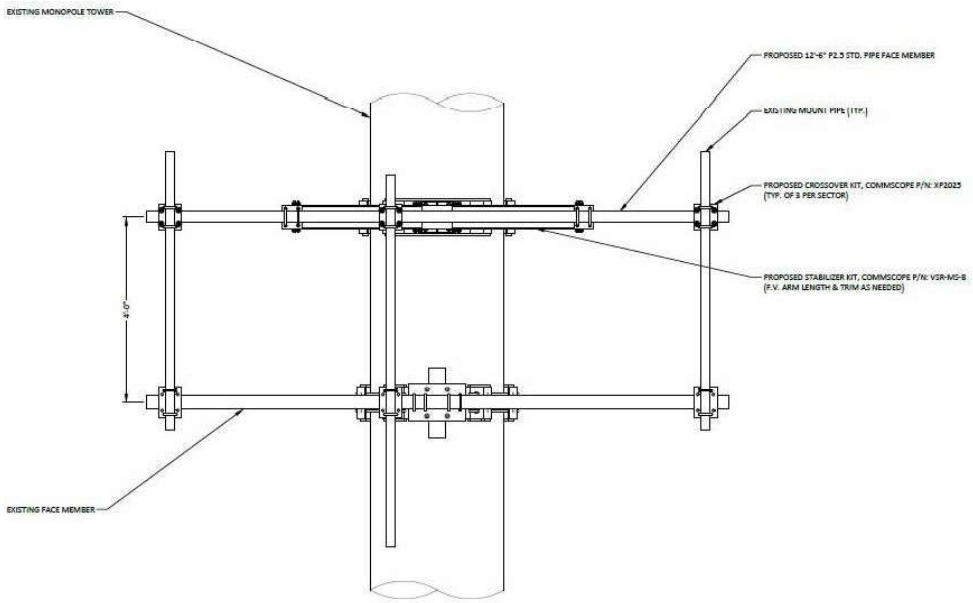
POD NUMBER:	20-63556
DRAWN BY:	TAJ
CHECKED BY:	JSC
DATE:	05/05/2020

SHEET TITLE:
PLAN VIEW

S-01

NOTES:

- ANTENNAE & OTHER SECTORS NOT SHOWN FOR CLARITY
- MODIFICATIONS ARE (TYP.) & SHALL BE INSTALLED ON ALL (3) SECTORS
- ALL FIELD DRILLED HOLES SHALL BE SOLVENT CLEANED AND TOUCHED UP WITH TWO COATS OF ZRC RICH PAINT
- EXCESS MATERIALS SHALL BE REMOVED AND DISPOSED OFF SITE BY THE CONTRACTOR



ELEVATION VIEW

1/2" = 1'-0"

PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

POD
POWER OF DESIGN
5033 E. TURKEYFOOT LAKE RD.
SUITE 304 AKRON, OHIO 44312
330-961-7422

CARRIER:

AT&T

DRAWING NOTICE:
THESE DOCUMENTS ARE CONFIDENTIAL AND ARE THE SOLE PROPERTY OF CROWN AND MAY NOT BE REPRODUCED, DISSEMINATED OR REDISTRIBUTED WITHOUT THE EXPRESS WRITTEN CONSENT OF CROWN.

MODIFICATION DRAWING

STATE OF CONNECTICUT
JASON T. CHERONIS
PEN.0032793
LICENSED PROFESSIONAL ENGINEER

REV.	DATE	DESCRIPTION

SITE INFORMATION:

STAFFORD/PRAGYL/SSUSA (10128067)

175 STAFFORD ST.
STAFFORD, CT 06077

SITE NUMBER:

876402

POD NUMBER:	20-63006
DRAWN BY:	TAJ
CHECKED BY:	JBC
DATE:	05/05/2020

SHEET TITLE:

ELEVATION VIEW

S-02

MODIFICATION INSPECTION CHECKLIST

BEFORE CONSTRUCTION		DURING CONSTRUCTION		AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
X	MODIFICATION INSPECTION CHECKLIST DWG	X	CONSTRUCTION INSPECTION	X	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWING(S)
-	ENGINEER OF RECORD APPROVED SHOP DRAWINGS	-	FOUNDATION INSPECTION	-	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
-	FABRICATION INSPECTION	-	CONCRETE COMP. STRENGTH AND SLUMP TEST	X	PHOTOGRAPHS
X	MATERIAL TEST REPORT	-	POST INSTALLED ANCHOR ROD VERIFICATION	ADDITIONAL TESTING AND INSPECTION	
-	FABRICATOR NDE INSPECTION	-	BASE PLATE GROUT VERIFICATION		
-	NDE REPORT OF MONOPOLE BASEPLATE (AS REQUIRED)	-	THIRD PARTY CERTIFIED WELD INSPECTION		
X	PACKING SLIP	-	EARTHWORK LIFT AND IDENSITY (REPORT REQUIRED)		
ADDITIONAL TESTING AND INSPECTION		X	ON SITE COLD GALVANIZING VERIFICATION		
		-	GUY WIRE TENSION REPORT		
		X	GC AS-BUILT DOCUMENTS		
		ADDITIONAL TESTING AND INSPECTION			

MODIFICATION INSPECTION NOTES:

GENERAL:

1. THE MODIFICATION INSPECTION IS A VISUAL INSPECTION OF TOWER MODIFICATION AND A REVIEW OF CONSTRUCTION INSPECTION AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. NAMELY THE MODIFICATION DRAWINGS., AS DESIGNED BY THE ENGINEER OF RECORD.
2. THE MODIFICATION INSPECTION IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AN IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MODIFICATION INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTENT RESIDES WITH THE ENGINEER OF RECORD AT ALL TIMES.
3. TO ENSURE THAT THE REQUIREMENT OF THE MODIFICATION INSPECTION ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MODIFICATION INSPECTOR BEGIN COMMUNICATION AND COORDINATING AS SOON AS A PO OR PAYMENT IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY.

MODIFICATION INSPECTOR:

1. THE MODIFICATION INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSPECTION TO:
   - REVIEW THE REQUIREMENT OF THE MODIFICATION INSPECTION CHECKLIST
   - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MODIFICATION INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
   - DISCUSS ANY SITE SPECIFIC INSPECTIONS OR CONCERNS
2. THE MODIFICATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS. REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE INXFELD INSPECTIONS, AND SUBMITTING THE MODIFICATION INSPECTION REPORT.

GENERAL CONTRACTOR:

1. THE GC IS REQUIRED TO CONTACT THE MODIFICATION INSPECTOR AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO:
   - REVIEW THE REQUIREMENT OF THE MODIFICATION INSPECTION CHECKLIST
   - WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MODIFICATION INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
   - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS
2. THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST.

RECOMMENDATIONS:

1. IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, TO THE MODIFICATION INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR MI MODIFICATION INSPECTION TO BE CONDUCTED.
   - THE GC AND MODIFICATION INSPECTION COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
   - WHEN POSSIBLE IT IS PREFERRED TO HAVE THE MODIFICATION INSPECTOR AND GC ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RETENSIONING OPERATIONS.
   - IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTION TO ALLOW FOUNDATION AND MODIFICATION INSPECTION(S) DONE IN ONE SITE VISIT.
   - WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MODIFICATION INSPECTOR ON-SITE DURING THE MODIFICATION INSPECTION. THEREFORE, THE GC MAY UNUSE TO COORDINATE THE MODIFICATION INSPECTION CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MODIFICATION INSPECTION:

1. IF THE GC AND MODIFICATION INSPECTOR AGREE TO A DATE ON WHICH THE MODIFICATION INSPECTION WILL BE CONDUCTED, AND EITHER ARTY CANCELS OR DELAYS, THE TOWER OWNER SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OR DEPOSITS AND/OR OTHER PENALTIES RELATE TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME. EXCEPTIONS MAY BE MADE IN THE DELAY / CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING MODIFICATION INSPECTION:

1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE MODIFICATION INSPECTION ("FAILED MODIFICATION INSPECTION"), THE GC SHALL WORK WITH MODIFICATION INSPECTOR TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
   - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MODIFICATION INSPECTION. OR, WITH TOWER OWNER'S APPROVAL THE GC MAY WORK WITH THE ENGINEER OF RECORD TO REANALYZE THE MODIFCATION/REINFORCEMENT USING AS-BUILT CONDITION.

VERIFICATION INSPECTIONS:

1. TOWER OWNER RESERVES THE RIGHT TO CONDUCT A VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MODIFICATION AND INSPECTION(S) ON TOWER MODIFICATION PRODUCTS.
2. VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MODIFICATION INSPECTION MODIFICATION INSPECTION" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS:

1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS ARE TO BE TAKEN AND INCLUDED IN THE MODIFICATION INSPECTION REPORT:
   - PREICONSTRUCTION GENERAL SITE CONDITION
   - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
     - RAW MATERIALS
     - PHOTOS OF ALL CRITICAL DETAILS
     - WELD PREPARATION
     - FOUNDATION MODIFICATION
     - BOLT INSTALLATION AND TORQUE
     - FINAL INSTALLED CONDITION
     - SURFACE COATING REPAIR
   - POST CONDITION PHOTOGRAPHS
   - FINAL INFIELD CONDITION ANY OTHER PHOTOS DEEMED RELEVANT TO SHOW COMPLETE DENTALS OF MODIFICATIONS
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

POD
POWER OF DESIGN
1099 E. TURKEYFOOT LAKE RD.
SUITE 206 AKRON, OHIO 44312
330-963-7432

CARRIER:

AT&T

MODIFICATION DRAWING

STATE OF CONNECTICUT
JASON CHERONIS
PEN.0032703
LICENSED PROFESSIONAL ENGINEER

REV.	DATE	DESCRIPTION

SITE INFORMATION:
STAFFORD/PRAGYL/SSUSA (10128067)
175 STAFFORD ST.
STAFFORD, CT 06077

SITE NUMBER:
876402

POD NUMBER:	20-63936
DRAWN BY:	TAJ
CHECKED BY:	JGC
DATE:	05/05/2020

SHEET TITLE:
MODIFICATION CHECKLIST

MI-01

DocuSign SECURED

Certificate Of Completion

Envelope Id: BE22CC48D760480CA6F7005044DCA122 Status: Completed

Subject: Please DocuSign: CTV1258_876402_STAFFORD_PRAGYL_SSUSA_AT&T 5G NR Upgrade FCD_REV 0_6.24.20.pdf

Source Envelope:

Document Pages: 15	Signatures: 10	Envelope Originator:
Certificate Pages: 3	Initials: 0	Whitney Sealover
AutoNav: Enabled		2000 Corporate Drive
EnvelopeId Stamping: Enabled		Canonsburg, PA 15317
Time Zone: (UTC-05:00) Eastern Time (US & Canada)		Whitney.Sealover@crowncastle.com
		IP Address: 162.254.108.200

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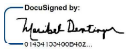
Maribel Dentinger	DocuSigned by: 	Sent: 6/24/2020 2:09:42 PM
maribel.dentinger@crowncastle.com		Viewed: 6/24/2020 6:18:45 PM
Crown Castle International Corp.		Signed: 6/24/2020 6:18:59 PM
Security Level: Email, Account Authentication (None)	Signature Adoption: Drawn on Device Using IP Address: 162.254.108.200	

Electronic Record and Signature Disclosure:
Accepted: 9/20/2018 8:56:27 AM
ID: 50d48a2f-ee52-4b02-9a1f-3c3a14f58c3b

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

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Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	6/24/2020 2:09:42 PM
Certified Delivered	Security Checked	6/24/2020 6:18:45 PM
Signing Complete	Security Checked	6/24/2020 6:18:59 PM
Completed	Security Checked	6/24/2020 6:18:59 PM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

Electronic Record and Signature Disclosure created on: 9/19/2018 4:13:40 PM
Parties agreed to: Maribel Dentinger

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Consequences of withdrawing consent to receive and/or execute documents electronically

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Unless you tell us otherwise in accordance with the procedures described herein, we may provide documents for execution, and other documents and records electronically to you through the DocuSign system during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any document for execution or other document or record, we prefer to provide all documents for execution, and other documents and records by the same method and to the same address that you have given us. If you do not agree with this process, please let us know as described below.

How to contact Crown Castle

You may contact us to let us know of any changes related to contacting you electronically, to request paper copies of documents for execution and other documents and records from us, and to withdraw your prior consent to receive documents for execution and other documents and records electronically as follows:

To contact us by phone call: 724-416-2000
To contact us by email, send messages to: esignature@CrownCastle.com
To contact us by paper mail, send correspondence to
Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317

To advise Crown Castle and DocuSign of your new e-mail address

To let us know of a change to the e-mail address where we should send documents for execution and other documents and records to you, you must send an email message to esignature@CrownCastle.com and state your previous e-mail address and your new e-mail address.

In addition, you must notify DocuSign, Inc. to arrange for your new email address to be reflected in your DocuSign account by following the process for changing e-mail in the DocuSign system.

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Browsers:	Internet Explorer® 11 (Windows only); Windows Edge Current Version; Mozilla Firefox Current Version; Safari™ (Mac OS only) 6.2 or above; Google Chrome Current Version; **Note** : Pre-release (e.g., beta) versions of operating systems and browsers are not supported.
Mobile Signing:	Apple iOS 7.0 or above; Android 4.0 or above
PDF Reader:	Acrobat® Reader or similar software may be required to view and print PDF files
Screen Resolution:	1024 x 768

Enabled Security Settings:	Allow per session cookies

These minimum requirements are subject to change. If these requirements change, you will be asked to re-accept the disclosure. Pre-release (e.g. beta) versions of operating systems and browsers are not supported.

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By checking the 'I agree' box, I confirm that:

- You can access and read this Electronic Record and Signature Disclosure; and
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Exhibit D

Structural Analysis Report

PAUL J. FORD & COMPANY

Date: **July 1, 2020**

Denice Nicholson
Crown Castle
3 Corporate Dr
Clifton Park, NY 12065

Paul J. Ford and Company
250 E. Broad St., Ste 600
Columbus, OH 43215
614-221-6679

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	CTV1258
	Carrier Site Name:	Stafford - Stafford ST
Crown Castle Designation:	**Crown Castle BU Number:**	876402
	Crown Castle Site Name:	Stafford/Pragyl/SSUSA
	Crown Castle JDE Job Number:	605420
	Crown Castle Work Order Number:	1848626
	Crown Castle Order Number:	517113 Rev. 0
Engineering Firm Designation:	**Paul J. Ford and Company Project Number:**	37520-0857.001.7805 **Revised**
Site Data:	**175 Stafford Street, STAFFORD, Tolland County, CT**	
	Latitude *41° 59' 13.38"*, Longitude *-72° 15' 40.78"*	
	150 Foot - Monopole Tower	

Dear Denice Nicholson,

Paul J. Ford and Company is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

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

LC7: Proposed Equipment Configuration **Sufficient Capacity 88.3%**

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

Respectfully submitted by:

Nathan C. Miller

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

STATE OF CONNECTICUT
JOSEPH PACHICARAH JACOBS
No. PEN 2273
LICENSED
PROFESSIONAL ENGINEER

07.01.2020

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 150 ft Monopole tower mapped by TEP in December of 2007.

The tower has been modified per reinforcement drawings prepared by Paul J. Ford and Company in June of 2013. Reinforcement consist of base plate stiffeners.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	125 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
136.0	138.0	1	cci antennas	DMP65R-BU6D w/ Mount Pipe	5 2 6	3/4 3/8 1-5/8
		2	cci antennas	DMP65R-BU8D w/ Mount Pipe		
		1	cci antennas	OPA65R-BU6D w/ Mount Pipe		
		2	cci antennas	OPA65R-BU8D w/ Mount Pipe		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS 4478 B14		
		3	ericsson	RRUS 8843 B2/B66A		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		6	powerwave technologies	LGP21401		
		1	raycap	DC6-48-60-18-8F		
		1	raycap	DC9-48-60-24-8C-EV		
	136.0	3	commscope	VSR-MS-B		
		3	tower mounts	P2.5 x 12.5' Face Member		
		9	commscope	XP-2025		
		1	tower mounts	T-Arm Mount [TA 602-3]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
150.0	152.0	6	alcatel lucent	800MHZ 2X50W RRH	1 3	7/8 1-1/4	1
		3	alcatel lucent	PCS 1900MHZ 4X45W-65MHZ			
		3	alcatel lucent	TD-RRH8X20-25			
		3	commscope	NNVV-65B-R4 w/ Mount Pipe			
		3	rfs celwave	APXVTM14-ALU-I20 w/ Mount Pipe			
	150.0	1	tower mounts	Platform Mount [LP 1201-1]			
127.0	127.0	3	alcatel lucent	B13 RRH 4X30	2	1-5/8	1
		3	alcatel lucent	B66A RRH4X45			
		6	commscope	SBNHH-1D65B w/ Mount Pipe			
		2	raycap	RXXDC-3315-PF-48			
		1	tower mounts	Miscellaneous [NA 507-1]			
		1	tower mounts	Platform Mount [LP 303-1]			
75.0	75.0	1	lucent	KS24019-L112A	1	1/2	1
		1	tower mounts	Side Arm Mount [SO 701-1]			

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	TEP, 131001.876402.01G, 04/12/2013	2194187	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	TEP, 072309, 02/22/2008 (Mapping)	2208777	CCISITES
4-TOWER MANUFACTURER DRAWINGS	TEP, 072309, 12/02/2007 (Mapping)	2175539	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF, 37513-0912A, 06/13/2013	3888429	CCISITES
4-POST-MODIFICATION INSPECTION	SGS, 145336, 09/10/2014	5639214	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 Standard.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
3) The structure was modified in conformance with the referenced modification drawings as shown in the referenced post modification inspection.
4) The manufacturer drawings are not available at the time of this analysis. Therefore, we have assumed the steel yield strength(s) (Fy) as per the following:
   a. Pole Shaft: ASTM A572 Gr 65
   b. Anchor rods: ASTM A615 (Fu = 100 ksi, Fy = 75 ksi)
   c. Base Plate: ASTM A572 Gr 50

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	150 - 123	Pole	TP22.69x17x0.25	1	-10.38	1065.50	29.9	Pass
L2	123 - 85	Pole	TP28.36x21.6105x0.375	2	-15.81	2003.63	48.4	Pass
L3	85 - 44	Pole	TP36.86x27.0303x0.4063	3	-24.02	2808.54	51.6	Pass
L4	44 - 0	Pole	TP42.53x35.0535x0.4375	4	-36.93	3590.34	57.1	Pass
							Summary	
						Pole (L4)	57.1	Pass
						Rating =	57.1	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	62.2	Pass
1	Base Plate	0	74.2	Pass
1	Base Foundation Structural Steel	0	88.3	Pass
1	Base Foundation Soil Interaction	0	43.0	Pass

Structure Rating (max from all components) =	88.3%

Notes:

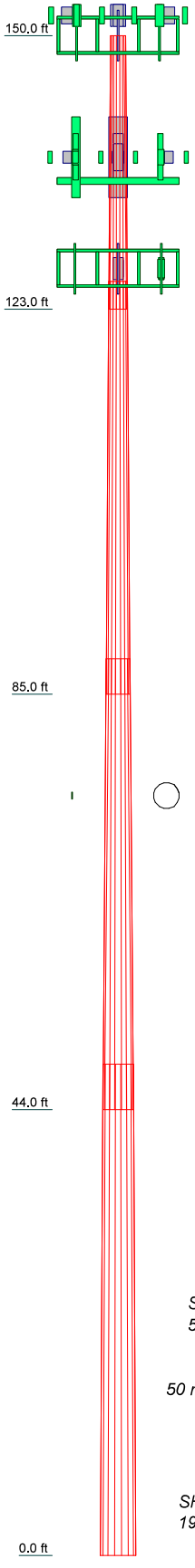
- All structural ratings are per TIA-222-H Section 15.5

1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

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

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	27.00	18	0.2500	2.75	17.0000	22.6900	A572-65	1.4
2	40.75	18	0.3750	3.50	21.6105	28.3600		4.1
3	44.50	18	0.4063	4.50	27.0303	36.8600		6.2
4	48.50	18	0.4375		35.0535	42.5300		8.8



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Tolland County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TIA-222-H Annex S
9. TOWER RATING: 57.1%

ALL REACTIONS ARE FACTORED

AXIAL 66 K

SHEAR 5 K — *MOMENT 684 kip-ft*

TORQUE 0 kip-ft
50 mph WIND - 2.0000 in ICE

AXIAL 37 K

SHEAR 19 K — *MOMENT 2198 kip-ft*

TORQUE 1 kip-ft
REACTIONS - 125 mph WIND

PJFLogo

Paul J. Ford and Company
250 E. Broad St., Ste 600
Columbus, OH 43215
Phone: 614-221-6679
FAX:

Job: ***150-Ft. Monopole | Stafford/Pragy/SSUSA***			
Project: ***PJF 37520-0857 | BU 876402***			
Client: Crown Castle	Drawn by: Nathan Miller	App'd:	
Code: TIA-222-H	Date: 05/15/20	Scale: NTS	
Path: G:\TOWER\375_Crown_Castle\2020\37520-0857_876402_STAFFORD-PRAGY(-SSUSA\37520-0857.001.7805_SA_184862\37520-0857.001.7805.eri		Dwg No. E-1	

APPENDIX A

TNXTOWER OUTPUT

Tower Input Data

This tower is designed using the TIA-222-H standard.
The following design criteria apply:

1) Tower is located in Tolland County, Connecticut.
2) Tower base elevation above sea level: 962.00 ft.
3) Basic wind speed of 125 mph.
4) Risk Category II.
5) Exposure Category B.
6) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
7) Topographic Category: 1.
8) Crest Height: 0.00 ft.
9) Nominal ice thickness of 2.0000 in.
10) Ice thickness is considered to increase with height.
11) Ice density of 56 pcf.
12) A wind speed of 50 mph is used in combination with ice.
13) Temperature drop of 50 °F.
14) Deflections calculated using a wind speed of 60 mph.
15) TIA-222-H Annex S.
16) A non-linear (P-delta) analysis was used.
17) Pressures are calculated at each section.
18) Stress ratio used in pole design is 1.05.
19) Tower analysis based on target reliabilities in accordance with Annex S.
20) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
21) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	*Elevation ft*	*Section Length ft*	*Splice Length ft*	*Number of Sides*	*Top Diameter in*	*Bottom Diameter in*	*Wall Thickness in*	*Bend Radius in*	*Pole Grade*
L1	150.00-123.00	27.00	2.75	18	17.0000	22.6900	0.2500	1.0000	A572-65 (65 ksi)
L2	123.00-85.00	40.75	3.50	18	21.6105	28.3600	0.3750	1.5000	A572-65 (65 ksi)
L3	85.00-44.00	44.50	4.50	18	27.0303	36.8600	0.4063	1.6250	A572-65 (65 ksi)
L4	44.00-0.00	48.50		18	35.0535	42.5300	0.4375	1.7500	A572-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
									(65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	17.2237	13.2911	471.1170	5.9463	8.6360	54.5527	942.8540	6.6468	2.5520	10.208
	23.0015	17.8061	1132.7992	7.9662	11.5265	98.2776	2267.0890	8.9048	3.5534	14.214
L2	22.3485	25.2755	1439.9945	7.5386	10.9781	131.1696	2881.8838	12.6402	3.1434	8.383
	28.7396	33.3091	3295.7296	9.9347	14.4069	228.7608	6595.7958	16.6577	4.3314	11.55
L3	28.1697	34.3300	3074.3930	9.4515	13.7314	223.8953	6152.8313	17.1683	4.0423	9.95
	37.3660	47.0048	7891.5876	12.9411	18.7249	421.4493	15793.5591	23.5069	5.7724	14.209
L4	36.2311	48.0686	7277.0016	12.2887	17.8072	408.6557	14563.5785	24.0389	5.3994	12.342
	43.1186	58.4507	13083.8812	14.9428	21.6052	605.5883	26184.9785	29.2309	6.7153	15.349

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 150.00-123.00				1	1	1			
L2 123.00-85.00				1	1	1			
L3 85.00-44.00				1	1	1			
L4 44.00-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
HB114-08U3M12-XXXF(7/8)	C	No	No	Inside Pole	150.00 - 0.00	1	No Ice	0.00	0.68
							1/2" Ice	0.00	0.68
							1" Ice	0.00	0.68
HB114-1-08U4-M5F(1-1/4)	C	No	No	Inside Pole	150.00 - 0.00	3	No Ice	0.00	1.08
							1/2" Ice	0.00	1.08
***							1" Ice	0.00	1.08
FB-L98B-002-75000(3/8)	C	No	No	Inside Pole	136.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
FB-L98B-002-XXX(3/8)	C	No	No	Inside Pole	136.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	136.00 - 0.00	2	No Ice	0.00	0.58
							1/2" Ice	0.00	0.58
							1" Ice	0.00	0.58
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	136.00 - 0.00	3	No Ice	0.00	0.58
							1/2" Ice	0.00	0.58
							1" Ice	0.00	0.58
FXL 1873 PE(1-5/8)	C	No	No	Inside Pole	136.00 - 0.00	6	No Ice	0.00	0.67
							1/2" Ice	0.00	0.67
							1" Ice	0.00	0.67
2" (Nominal) Conduit	C	No	No	Inside Pole	136.00 - 0.00	1	No Ice	0.00	0.72
							1/2" Ice	0.00	0.72
***							1" Ice	0.00	0.72
HB158-1-08U8-S8J18(1-5/8)	C	No	No	Inside Pole	127.00 - 0.00	2	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							1" Ice	0.00	1.30
***									
LDF4-50A(1/2)	C	No	No	Inside Pole	75.00 - 0.00	1	No Ice	0.00	0.15
							1/2" Ice	0.00	0.15
							1" Ice	0.00	0.15

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	150.00-123.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.22
L2	123.00-85.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.54
L3	85.00-44.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.59
L4	44.00-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.64

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	150.00-123.00	A	0.979	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.22
L2	123.00-85.00	A	0.953	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.54
L3	85.00-44.00	A	0.908	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.59
L4	44.00-0.00	A	0.814	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.64

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	150.00-123.00	0.0000	0.0000	0.0000	0.0000
L2	123.00-85.00	0.0000	0.0000	0.0000	0.0000
L3	85.00-44.00	0.0000	0.0000	0.0000	0.0000
L4	44.00-0.00	0.0000	0.0000	0.0000	0.0000

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
NNVV-65B-R4 w/ Mount Pipe	A	From Leg	4.00		0.0000	150.00	No Ice	7.55	4.23	0.11
			0.00				1/2" Ice	8.04	4.67	0.20
			2.00				1" Ice	8.53	5.12	0.30
NNVV-65B-R4 w/ Mount Pipe	B	From Leg	4.00		0.0000	150.00	No Ice	7.55	4.23	0.11
			0.00				1/2" Ice	8.04	4.67	0.20
			2.00				1" Ice	8.53	5.12	0.30
NNVV-65B-R4 w/ Mount Pipe	C	From Leg	4.00		0.0000	150.00	No Ice	7.55	4.23	0.11
			0.00				1/2" Ice	8.04	4.67	0.20
			2.00				1" Ice	8.53	5.12	0.30
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.00		0.0000	150.00	No Ice	4.09	2.86	0.08
			0.00				1/2" Ice	4.48	3.23	0.13
			2.00				1" Ice	4.88	3.61	0.19
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.00		0.0000	150.00	No Ice	4.09	2.86	0.08
			0.00				1/2" Ice	4.48	3.23	0.13
			2.00				1" Ice	4.88	3.61	0.19
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.00		0.0000	150.00	No Ice	4.09	2.86	0.08
			0.00				1/2" Ice	4.48	3.23	0.13
			2.00				1" Ice	4.88	3.61	0.19
(2) 800MHZ 2X50W RRH	A	From Leg	4.00		0.0000	150.00	No Ice	2.13	1.77	0.05
			0.00				1/2" Ice	2.32	1.95	0.07
			2.00				1" Ice	2.51	2.13	0.10
(2) 800MHZ 2X50W RRH	B	From Leg	4.00		0.0000	150.00	No Ice	2.13	1.77	0.05
			0.00				1/2" Ice	2.32	1.95	0.07
			2.00				1" Ice	2.51	2.13	0.10
(2) 800MHZ 2X50W RRH	C	From Leg	4.00		0.0000	150.00	No Ice	2.13	1.77	0.05
			0.00				1/2" Ice	2.32	1.95	0.07
			2.00				1" Ice	2.51	2.13	0.10
PCS 1900MHZ 4X45W-65MHZ	A	From Leg	4.00		0.0000	150.00	No Ice	2.32	2.24	0.06
			0.00				1/2" Ice	2.53	2.44	0.08
			2.00				1" Ice	2.74	2.65	0.11
PCS 1900MHZ 4X45W-65MHZ	B	From Leg	4.00		0.0000	150.00	No Ice	2.32	2.24	0.06
			0.00				1/2" Ice	2.53	2.44	0.08
			2.00				1" Ice	2.74	2.65	0.11
PCS 1900MHZ 4X45W-65MHZ	C	From Leg	4.00		0.0000	150.00	No Ice	2.32	2.24	0.06
			0.00				1/2" Ice	2.53	2.44	0.08
			2.00				1" Ice	2.74	2.65	0.11
TD-RRH8X20-25	A	From Leg	4.00		0.0000	150.00	No Ice	4.05	1.53	0.07
			0.00				1/2" Ice	4.30	1.71	0.10
			2.00				1" Ice	4.56	1.90	0.13
TD-RRH8X20-25	B	From Leg	4.00		0.0000	150.00	No Ice	4.05	1.53	0.07
			0.00				1/2" Ice	4.30	1.71	0.10
			2.00				1" Ice	4.56	1.90	0.13
TD-RRH8X20-25	C	From Leg	4.00		0.0000	150.00	No Ice	4.05	1.53	0.07
			0.00				1/2" Ice	4.30	1.71	0.10
			2.00				1" Ice	4.56	1.90	0.13
Platform Mount [LP 1201-1]	C	None			0.0000	150.00	No Ice	18.38	18.38	2.10
							1/2"	22.11	22.11	2.65

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						Ice	25.87	25.87	3.26
						1" Ice			
(2) 2.375" OD x 5' Mount Pipe	A	From Leg	4.00	0.0000	150.00	No Ice	1.19	1.19	0.02
			0.00			1/2"	1.50	1.50	0.03
			0.00			Ice	1.81	1.81	0.04
						1" Ice			
(2) 2.375" OD x 5' Mount Pipe	B	From Leg	4.00	0.0000	150.00	No Ice	1.19	1.19	0.02
			0.00			1/2"	1.50	1.50	0.03
			0.00			Ice	1.81	1.81	0.04
						1" Ice			
(2) 2.375" OD x 5' Mount Pipe	C	From Leg	4.00	0.0000	150.00	No Ice	1.19	1.19	0.02
			0.00			1/2"	1.50	1.50	0.03
			0.00			Ice	1.81	1.81	0.04
						1" Ice			
***									
DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.00	0.0000	136.00	No Ice	15.89	7.89	0.14
			0.00			1/2"	16.81	8.74	0.25
			2.00			Ice	17.76	9.60	0.38
						1" Ice			
DMP65R-BU6D w/ Mount Pipe	B	From Leg	4.00	0.0000	136.00	No Ice	11.96	5.97	0.11
			0.00			1/2"	12.70	6.63	0.20
			2.00			Ice	13.46	7.30	0.30
						1" Ice			
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.00	0.0000	136.00	No Ice	15.89	7.89	0.14
			0.00			1/2"	16.81	8.74	0.25
			2.00			Ice	17.76	9.60	0.38
						1" Ice			
OPA65R-BU8D w/ Mount Pipe	A	From Leg	4.00	0.0000	136.00	No Ice	18.33	10.34	0.11
			0.00			1/2"	19.06	11.86	0.23
			2.00			Ice	19.81	13.41	0.37
						1" Ice			
OPA65R-BU6D w/ Mount Pipe	B	From Leg	4.00	0.0000	136.00	No Ice	12.25	6.05	0.09
			0.00			1/2"	13.00	6.71	0.18
			2.00			Ice	13.76	7.39	0.27
						1" Ice			
OPA65R-BU8D w/ Mount Pipe	C	From Leg	4.00	0.0000	136.00	No Ice	18.33	10.34	0.11
			0.00			1/2"	19.06	11.86	0.23
			2.00			Ice	19.81	13.41	0.37
						1" Ice			
7770.00 w/ Mount Pipe	A	From Leg	4.00	0.0000	136.00	No Ice	5.75	4.25	0.06
			0.00			1/2"	6.18	5.01	0.10
			2.00			Ice	6.61	5.71	0.16
						1" Ice			
7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	136.00	No Ice	5.75	4.25	0.06
			0.00			1/2"	6.18	5.01	0.10
			2.00			Ice	6.61	5.71	0.16
						1" Ice			
7770.00 w/ Mount Pipe	C	From Leg	4.00	0.0000	136.00	No Ice	5.75	4.25	0.06
			0.00			1/2"	6.18	5.01	0.10
			2.00			Ice	6.61	5.71	0.16
						1" Ice			
RRUS 4449 B5/B12	A	From Leg	4.00	0.0000	136.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			2.00			Ice	2.33	1.73	0.11
						1" Ice			
RRUS 4449 B5/B12	B	From Leg	4.00	0.0000	136.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			2.00			Ice	2.33	1.73	0.11
						1" Ice			
RRUS 4449 B5/B12	C	From Leg	4.00	0.0000	136.00	No Ice	1.97	1.41	0.07
			0.00			1/2"	2.14	1.56	0.09
			2.00			Ice	2.33	1.73	0.11
						1" Ice			
RRUS 4478 B14	A	From Leg	4.00	0.0000	136.00	No Ice	2.02	1.25	0.06
			0.00			1/2"	2.20	1.40	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			2.00			Ice	2.39	1.55	0.10
						1" Ice			
RRUS 4478 B14	B	From Leg	4.00	0.0000	136.00	No Ice	2.02	1.25	0.06
			0.00			1/2"	2.20	1.40	0.08
			2.00			Ice	2.39	1.55	0.10
						1" Ice			
RRUS 4478 B14	C	From Leg	4.00	0.0000	136.00	No Ice	2.02	1.25	0.06
			0.00			1/2"	2.20	1.40	0.08
			2.00			Ice	2.39	1.55	0.10
						1" Ice			
RRUS 8843 B2/B66A	A	From Leg	4.00	0.0000	136.00	No Ice	1.64	1.35	0.07
			0.00			1/2"	1.80	1.50	0.09
			2.00			Ice	1.97	1.65	0.11
						1" Ice			
RRUS 8843 B2/B66A	B	From Leg	4.00	0.0000	136.00	No Ice	1.64	1.35	0.07
			0.00			1/2"	1.80	1.50	0.09
			2.00			Ice	1.97	1.65	0.11
						1" Ice			
RRUS 8843 B2/B66A	C	From Leg	4.00	0.0000	136.00	No Ice	1.64	1.35	0.07
			0.00			1/2"	1.80	1.50	0.09
			2.00			Ice	1.97	1.65	0.11
						1" Ice			
(2) LGP21401	A	From Leg	4.00	0.0000	136.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			2.00			Ice	1.38	0.54	0.03
						1" Ice			
(2) LGP21401	B	From Leg	4.00	0.0000	136.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			2.00			Ice	1.38	0.54	0.03
						1" Ice			
(2) LGP21401	C	From Leg	4.00	0.0000	136.00	No Ice	1.10	0.35	0.01
			0.00			1/2"	1.24	0.44	0.02
			2.00			Ice	1.38	0.54	0.03
						1" Ice			
DC6-48-60-18-8F	A	From Leg	4.00	0.0000	136.00	No Ice	1.21	1.21	0.03
			0.00			1/2"	1.89	1.89	0.05
			2.00			Ice	2.11	2.11	0.08
						1" Ice			
DC9-48-60-24-8C-EV	A	From Leg	4.00	0.0000	136.00	No Ice	2.74	4.78	0.03
			0.00			1/2"	2.96	5.06	0.06
			2.00			Ice	3.20	5.35	0.10
						1" Ice			
T-Arm Mount [TA 602-3]	C	None		0.0000	136.00	No Ice	13.40	13.40	0.77
						1/2"	16.44	16.44	1.00
						Ice	19.70	19.70	1.29
						1" Ice			
***									
(2) SBNHH-1D65B w/ Mount Pipe	A	From Leg	4.00	0.0000	127.00	No Ice	4.09	3.30	0.07
			0.00			1/2"	4.49	3.68	0.13
			0.00			Ice	4.89	4.07	0.20
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	B	From Leg	4.00	0.0000	127.00	No Ice	4.09	3.30	0.07
			0.00			1/2"	4.49	3.68	0.13
			0.00			Ice	4.89	4.07	0.20
						1" Ice			
(2) SBNHH-1D65B w/ Mount Pipe	C	From Leg	4.00	0.0000	127.00	No Ice	4.09	3.30	0.07
			0.00			1/2"	4.49	3.68	0.13
			0.00			Ice	4.89	4.07	0.20
						1" Ice			
B13 RRH 4X30	A	From Leg	4.00	0.0000	127.00	No Ice	2.06	1.32	0.06
			0.00			1/2"	2.24	1.48	0.07
			0.00			Ice	2.43	1.64	0.09
						1" Ice			
B13 RRH 4X30	B	From Leg	4.00	0.0000	127.00	No Ice	2.06	1.32	0.06
			0.00			1/2"	2.24	1.48	0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00					Ice	2.43	1.64	0.09
								1" Ice			
B13 RRH 4X30	B	From Leg	4.00			0.0000	127.00	No Ice	2.06	1.32	0.06
			0.00					1/2"	2.24	1.48	0.07
			0.00					Ice	2.43	1.64	0.09
								1" Ice			
B66A RRH4X45	A	From Leg	4.00			0.0000	127.00	No Ice	2.58	1.63	0.07
			0.00					1/2"	2.79	1.81	0.09
			0.00					Ice	3.01	2.00	0.11
								1" Ice			
B66A RRH4X45	B	From Leg	4.00			0.0000	127.00	No Ice	2.58	1.63	0.07
			0.00					1/2"	2.79	1.81	0.09
			0.00					Ice	3.01	2.00	0.11
								1" Ice			
B66A RRH4X45	B	From Leg	4.00			0.0000	127.00	No Ice	2.58	1.63	0.07
			0.00					1/2"	2.79	1.81	0.09
			0.00					Ice	3.01	2.00	0.11
								1" Ice			
RXXDC-3315-PF-48	B	From Leg	4.00			0.0000	127.00	No Ice	3.01	1.96	0.02
			0.00					1/2"	3.23	2.15	0.05
			0.00					Ice	3.46	2.35	0.08
								1" Ice			
RXXDC-3315-PF-48	B	From Leg	4.00			0.0000	127.00	No Ice	3.01	1.96	0.02
			0.00					1/2"	3.23	2.15	0.05
			0.00					Ice	3.46	2.35	0.08
								1" Ice			
Platform Mount [LP 303-1]	C	None				0.0000	127.00	No Ice	14.69	14.69	1.25
								1/2"	18.01	18.01	1.57
								Ice	21.34	21.34	1.94
								1" Ice			
Miscellaneous [NA 507-1]	C	None				0.0000	127.00	No Ice	4.56	4.56	0.25
								1/2"	6.39	6.39	0.31
								Ice	8.18	8.18	0.40
								1" Ice			
(2) 2.375" OD x 5' Mount Pipe	A	From Leg	4.00			0.0000	127.00	No Ice	1.19	1.19	0.02
			0.00					1/2"	1.50	1.50	0.03
			0.00					Ice	1.81	1.81	0.04
								1" Ice			
(2) 2.375" OD x 5' Mount Pipe	B	From Leg	4.00			0.0000	127.00	No Ice	1.19	1.19	0.02
			0.00					1/2"	1.50	1.50	0.03
			0.00					Ice	1.81	1.81	0.04
								1" Ice			
(2) 2.375" OD x 5' Mount Pipe	C	From Leg	4.00			0.0000	127.00	No Ice	1.19	1.19	0.02
			0.00					1/2"	1.50	1.50	0.03
			0.00					Ice	1.81	1.81	0.04
								1" Ice			
***											
KS24019-L112A	C	From Leg	4.00			0.0000	75.00	No Ice	0.14	0.14	0.01
			0.00					1/2"	0.20	0.20	0.01
			0.00					Ice	0.26	0.26	0.01
								1" Ice			
Side Arm Mount [SO 701-1]	C	None				0.0000	75.00	No Ice	0.85	1.67	0.07
								1/2"	1.14	2.34	0.08
								Ice	1.43	3.01	0.09
								1" Ice			

Tower Pressures - No Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 150.00-123.00	135.85	1.079	37.61	45.253	A	0.000	45.253	45.253	100.00	0.000	0.000
					B	0.000	45.253		100.00	0.000	0.000
					C	0.000	45.253		100.00	0.000	0.000
L2 123.00-85.00	103.46	0.998	34.74	80.890	A	0.000	80.890	80.890	100.00	0.000	0.000
					B	0.000	80.890		100.00	0.000	0.000
					C	0.000	80.890		100.00	0.000	0.000
L3 85.00-44.00	64.01	0.87	30.19	111.957	A	0.000	111.957	111.957	100.00	0.000	0.000
					B	0.000	111.957		100.00	0.000	0.000
					C	0.000	111.957		100.00	0.000	0.000
L4 44.00-0.00	21.51	0.7	24.72	145.475	A	0.000	145.475	145.475	100.00	0.000	0.000
					B	0.000	145.475		100.00	0.000	0.000
					C	0.000	145.475		100.00	0.000	0.000

Tower Pressure - With Ice

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 150.00-123.00	135.85	1.079	6.02	0.9792	49.660	A	0.000	49.660	49.660	100.00	0.000	0.000
						B	0.000	49.660		100.00	0.000	0.000
						C	0.000	49.660		100.00	0.000	0.000
L2 123.00-85.00	103.46	0.998	5.56	0.9529	87.091	A	0.000	87.091	87.091	100.00	0.000	0.000
						B	0.000	87.091		100.00	0.000	0.000
						C	0.000	87.091		100.00	0.000	0.000
L3 85.00-44.00	64.01	0.87	4.83	0.9082	118.468	A	0.000	118.468	118.468	100.00	0.000	0.000
						B	0.000	118.468		100.00	0.000	0.000
						C	0.000	118.468		100.00	0.000	0.000
L4 44.00-0.00	21.51	0.7	3.96	0.8144	152.135	A	0.000	152.135	152.135	100.00	0.000	0.000
						B	0.000	152.135		100.00	0.000	0.000
						C	0.000	152.135		100.00	0.000	0.000

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K_Z	q_z psf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1 150.00-123.00	135.85	1.079	8.16	45.253	A	0.000	45.253	45.253	100.00	0.000	0.000
					B	0.000	45.253		100.00	0.000	0.000
					C	0.000	45.253		100.00	0.000	0.000
L2 123.00-85.00	103.46	0.998	7.54	80.890	A	0.000	80.890	80.890	100.00	0.000	0.000
					B	0.000	80.890		100.00	0.000	0.000
					C	0.000	80.890		100.00	0.000	0.000
L3 85.00-44.00	64.01	0.87	6.55	111.957	A	0.000	111.957	111.957	100.00	0.000	0.000
					B	0.000	111.957		100.00	0.000	0.000
					C	0.000	111.957		100.00	0.000	0.000
L4 44.00-0.00	21.51	0.7	5.36	145.475	A	0.000	145.475	145.475	100.00	0.000	0.000
					B	0.000	145.475		100.00	0.000	0.000
					C	0.000	145.475		100.00	0.000	0.000

Load Combinations

Comb. No.	Description
1	Dead Only

Comb. No.	Description
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	150 - 123	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-19.83	-1.94	1.03
			Max. Mx	8	-10.37	-173.60	0.84
			Max. My	2	-10.38	-1.86	172.48
			Max. Vy	8	12.42	-173.60	0.84
			Max. Vx	2	-12.37	-1.86	172.48
			Max. Torque	6			1.74
L2	123 - 85	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.27	-2.10	1.11
			Max. Mx	8	-15.81	-678.41	0.05
			Max. My	2	-15.81	-1.10	675.62
			Max. Vy	8	14.66	-678.41	0.05
			Max. Vx	2	-14.62	-1.10	675.62

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	10			1.33
L3	85 - 44	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.68	-2.09	1.10
			Max. Mx	8	-24.02	-1313.54	-0.86
			Max. My	2	-24.03	-0.19	1308.98
			Max. Vy	8	17.05	-1313.54	-0.86
			Max. Vx	2	-17.01	-0.19	1308.98
			Max. Torque	10			1.32
L4	44 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.03	-2.06	1.08
			Max. Mx	8	-36.93	-2197.62	-1.96
			Max. My	2	-36.93	0.89	2190.99
			Max. Vy	8	19.29	-2197.62	-1.96
			Max. Vx	2	-19.25	0.89	2190.99
			Max. Torque	10			1.29

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	50.03	0.00	-0.00
	Max. H_x	20	36.94	19.25	0.02
	Max. H_z	3	27.71	0.02	19.21
	Max. M_x	2	2190.99	0.02	19.21
	Max. M_z	8	2197.62	-19.25	-0.02
	Max. Torsion	10	1.29	-16.68	-9.63
	Min. Vert	9	27.71	-19.25	-0.02
	Min. H_x	8	36.94	-19.25	-0.02
	Min. H_z	15	27.71	-0.02	-19.21
	Min. M_x	14	-2190.21	-0.02	-19.21
	Min. M_z	20	-2194.74	19.25	0.02
	Min. Torsion	22	-1.28	16.68	9.63

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	30.79	-0.00	0.00	-0.28	-1.04	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	36.94	-0.02	-19.21	-2190.99	0.89	0.60
0.9 Dead+1.0 Wind 0 deg - No Ice	27.71	-0.02	-19.21	-2152.16	1.26	0.57
1.2 Dead+1.0 Wind 30 deg - No Ice	36.94	9.61	-16.63	-1896.79	-1097.68	-0.06
0.9 Dead+1.0 Wind 30 deg - No Ice	27.71	9.61	-16.63	-1862.99	-1077.79	-0.08
1.2 Dead+1.0 Wind 60 deg - No Ice	36.94	16.66	-9.59	-1093.91	-1902.50	-0.71
0.9 Dead+1.0 Wind 60 deg - No Ice	27.71	16.66	-9.59	-1074.37	-1868.31	-0.72
1.2 Dead+1.0 Wind 90 deg - No Ice	36.94	19.25	0.02	1.96	-2197.62	-1.16
0.9 Dead+1.0 Wind 90 deg - No Ice	27.71	19.25	0.02	2.03	-2158.16	-1.15
1.2 Dead+1.0 Wind 120 deg - No Ice	36.94	16.68	9.63	1097.20	-1904.80	-1.29
0.9 Dead+1.0 Wind 120 deg - No Ice	27.71	16.68	9.63	1077.81	-1870.59	-1.27
1.2 Dead+1.0 Wind 150 deg - No Ice	36.94	9.65	16.65	1898.35	-1101.70	-1.08
0.9 Dead+1.0 Wind 150 deg - No Ice	27.71	9.65	16.65	1864.72	-1081.77	-1.04

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 180 deg - No Ice	36.94	0.02	19.21	2190.21	-3.78	-0.58
0.9 Dead+1.0 Wind 180 deg - No Ice	27.71	0.02	19.21	2151.59	-3.35	-0.54
1.2 Dead+1.0 Wind 210 deg - No Ice	36.94	-9.61	16.63	1896.03	1094.78	0.07
0.9 Dead+1.0 Wind 210 deg - No Ice	27.71	-9.61	16.63	1862.43	1075.69	0.09
1.2 Dead+1.0 Wind 240 deg - No Ice	36.94	-16.66	9.59	1093.16	1899.60	0.69
0.9 Dead+1.0 Wind 240 deg - No Ice	27.71	-16.66	9.59	1073.83	1866.21	0.70
1.2 Dead+1.0 Wind 270 deg - No Ice	36.94	-19.25	-0.02	-2.71	2194.74	1.14
0.9 Dead+1.0 Wind 270 deg - No Ice	27.71	-19.25	-0.02	-2.57	2156.08	1.13
1.2 Dead+1.0 Wind 300 deg - No Ice	36.94	-16.68	-9.63	-1097.96	1901.94	1.28
0.9 Dead+1.0 Wind 300 deg - No Ice	27.71	-16.68	-9.63	-1078.36	1868.52	1.26
1.2 Dead+1.0 Wind 330 deg - No Ice	36.94	-9.65	-16.65	-1899.12	1098.83	1.09
0.9 Dead+1.0 Wind 330 deg - No Ice	27.71	-9.65	-16.65	-1865.28	1079.68	1.06
1.2 Dead+1.0 Ice+1.0 Temp	50.03	-0.00	0.00	-1.08	-2.06	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	50.03	-0.01	-4.83	-555.42	-0.84	0.14
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	50.03	2.41	-4.18	-480.46	-279.23	-0.04
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	50.03	4.19	-2.41	-277.08	-483.41	-0.21
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	50.03	4.85	0.01	0.22	-558.65	-0.32
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	50.03	4.20	2.43	277.15	-484.81	-0.34
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	50.03	2.43	4.19	479.50	-281.66	-0.28
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	50.03	0.01	4.83	553.05	-3.64	-0.14
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	50.03	-2.41	4.18	478.09	274.75	0.04
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	50.03	-4.19	2.41	274.72	478.93	0.20
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	50.03	-4.85	-0.01	-2.59	554.17	0.32
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	50.03	-4.20	-2.43	-279.51	480.33	0.34
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	50.03	-2.43	-4.19	-481.86	277.18	0.28
Dead+Wind 0 deg - Service	30.79	-0.00	-4.17	-471.01	-0.68	0.13
Dead+Wind 30 deg - Service	30.79	2.08	-3.61	-407.70	-236.67	-0.02
Dead+Wind 60 deg - Service	30.79	3.62	-2.08	-235.23	-409.56	-0.16
Dead+Wind 90 deg - Service	30.79	4.18	0.00	0.18	-473.03	-0.25
Dead+Wind 120 deg - Service	30.79	3.62	2.09	235.46	-410.06	-0.28
Dead+Wind 150 deg - Service	30.79	2.09	3.61	407.56	-237.54	-0.23
Dead+Wind 180 deg - Service	30.79	0.00	4.17	470.37	-1.69	-0.12
Dead+Wind 210 deg - Service	30.79	-2.08	3.61	407.06	234.30	0.02
Dead+Wind 240 deg - Service	30.79	-3.62	2.08	234.59	407.19	0.16
Dead+Wind 270 deg - Service	30.79	-4.18	-0.00	-0.82	470.66	0.25
Dead+Wind 300 deg - Service	30.79	-3.62	-2.09	-236.10	407.69	0.28
Dead+Wind 330 deg - Service	30.79	-2.09	-3.61	-408.20	235.17	0.23

Solution Summary

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
1	0.00	-30.79	0.00	0.00	30.79	-0.00	0.002%
2	-0.02	-36.94	-19.21	0.02	36.94	19.21	0.010%
3	-0.02	-27.71	-19.21	0.02	27.71	19.21	0.008%
4	9.61	-36.94	-16.63	-9.61	36.94	16.63	0.000%
5	9.61	-27.71	-16.63	-9.61	27.71	16.63	0.000%
6	16.66	-36.94	-9.59	-16.66	36.94	9.59	0.000%
7	16.66	-27.71	-9.59	-16.66	27.71	9.59	0.000%
8	19.25	-36.94	0.02	-19.25	36.94	-0.02	0.005%
9	19.25	-27.71	0.02	-19.25	27.71	-0.02	0.008%
10	16.68	-36.94	9.63	-16.68	36.94	-9.63	0.000%
11	16.68	-27.71	9.63	-16.68	27.71	-9.63	0.000%
12	9.65	-36.94	16.65	-9.65	36.94	-16.65	0.000%
13	9.65	-27.71	16.65	-9.65	27.71	-16.65	0.000%
14	0.02	-36.94	19.21	-0.02	36.94	-19.21	0.010%
15	0.02	-27.71	19.21	-0.02	27.71	-19.21	0.008%
16	-9.61	-36.94	16.63	9.61	36.94	-16.63	0.000%
17	-9.61	-27.71	16.63	9.61	27.71	-16.63	0.000%
18	-16.66	-36.94	9.59	16.66	36.94	-9.59	0.000%
19	-16.66	-27.71	9.59	16.66	27.71	-9.59	0.000%
20	-19.25	-36.94	-0.02	19.25	36.94	0.02	0.005%
21	-19.25	-27.71	-0.02	19.25	27.71	0.02	0.008%
22	-16.68	-36.94	-9.63	16.68	36.94	9.63	0.000%
23	-16.68	-27.71	-9.63	16.68	27.71	9.63	0.000%
24	-9.65	-36.94	-16.65	9.65	36.94	16.65	0.000%
25	-9.65	-27.71	-16.65	9.65	27.71	16.65	0.000%
26	0.00	-50.03	0.00	0.00	50.03	-0.00	0.001%
27	-0.01	-50.03	-4.83	0.01	50.03	4.83	0.001%
28	2.41	-50.03	-4.18	-2.41	50.03	4.18	0.001%
29	4.19	-50.03	-2.41	-4.19	50.03	2.41	0.001%
30	4.85	-50.03	0.01	-4.85	50.03	-0.01	0.001%
31	4.20	-50.03	2.43	-4.20	50.03	-2.43	0.001%
32	2.43	-50.03	4.19	-2.43	50.03	-4.19	0.001%
33	0.01	-50.03	4.83	-0.01	50.03	-4.83	0.001%
34	-2.41	-50.03	4.18	2.41	50.03	-4.18	0.001%
35	-4.19	-50.03	2.41	4.19	50.03	-2.41	0.001%
36	-4.85	-50.03	-0.01	4.85	50.03	0.01	0.001%
37	-4.20	-50.03	-2.43	4.20	50.03	2.43	0.001%
38	-2.43	-50.03	-4.19	2.43	50.03	4.19	0.001%
39	-0.00	-30.79	-4.17	0.00	30.79	4.17	0.002%
40	2.08	-30.79	-3.61	-2.08	30.79	3.61	0.002%
41	3.62	-30.79	-2.08	-3.62	30.79	2.08	0.002%
42	4.18	-30.79	0.00	-4.18	30.79	-0.00	0.002%
43	3.62	-30.79	2.09	-3.62	30.79	-2.09	0.002%
44	2.09	-30.79	3.61	-2.09	30.79	-3.61	0.002%
45	0.00	-30.79	4.17	-0.00	30.79	-4.17	0.002%
46	-2.08	-30.79	3.61	2.08	30.79	-3.61	0.002%
47	-3.62	-30.79	2.08	3.62	30.79	-2.08	0.002%
48	-4.18	-30.79	-0.00	4.18	30.79	0.00	0.002%
49	-3.62	-30.79	-2.09	3.62	30.79	2.09	0.002%
50	-2.09	-30.79	-3.61	2.09	30.79	3.61	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	18	0.00011330	0.00011685
3	Yes	18	0.00007271	0.00009157
4	Yes	24	0.00000001	0.00008834
5	Yes	23	0.00000001	0.00011042
6	Yes	24	0.00000001	0.00009037
7	Yes	23	0.00000001	0.00011315
8	Yes	19	0.00006322	0.00009598

9	Yes	18	0.00007268	0.00013298
10	Yes	24	0.00000001	0.00008668
11	Yes	23	0.00000001	0.00010834
12	Yes	24	0.00000001	0.00009064
13	Yes	23	0.00000001	0.00011347
14	Yes	18	0.00011330	0.00012103
15	Yes	18	0.00007271	0.00009451
16	Yes	24	0.00000001	0.00008843
17	Yes	23	0.00000001	0.00011091
18	Yes	24	0.00000001	0.00008660
19	Yes	23	0.00000001	0.00010842
20	Yes	19	0.00006322	0.00009983
21	Yes	18	0.00007268	0.00013803
22	Yes	24	0.00000001	0.00009089
23	Yes	23	0.00000001	0.00011393
24	Yes	24	0.00000001	0.00008673
25	Yes	23	0.00000001	0.00010858
26	Yes	11	0.00000001	0.00001239
27	Yes	20	0.00009145	0.00002763
28	Yes	20	0.00009134	0.00005326
29	Yes	20	0.00009134	0.00005485
30	Yes	20	0.00009146	0.00002836
31	Yes	20	0.00009129	0.00005189
32	Yes	20	0.00009125	0.00005457
33	Yes	20	0.00009135	0.00002741
34	Yes	20	0.00009120	0.00005169
35	Yes	20	0.00009119	0.00005051
36	Yes	20	0.00009134	0.00002797
37	Yes	20	0.00009123	0.00005461
38	Yes	20	0.00009127	0.00005160
39	Yes	18	0.00009128	0.00002624
40	Yes	18	0.00009119	0.00003024
41	Yes	18	0.00009119	0.00003421
42	Yes	18	0.00009130	0.00002726
43	Yes	18	0.00009117	0.00002758
44	Yes	18	0.00009115	0.00003422
45	Yes	18	0.00009125	0.00002617
46	Yes	18	0.00009113	0.00003107
47	Yes	18	0.00009112	0.00002782
48	Yes	18	0.00009123	0.00002701
49	Yes	18	0.00009112	0.00003503
50	Yes	18	0.00009114	0.00002778

Maximum Tower Deflections - Service Wind

Section No.	*Elevation ft*	*Horz. Deflection in*	*Gov. Load Comb.*	*Tilt °*	*Twist °*
L1	150 - 123	25.4854	42	1.5067	0.0041
L2	125.75 - 85	18.0599	42	1.3800	0.0030
L3	88.5 - 44	8.7410	42	0.9655	0.0013
L4	48.5 - 0	2.6009	42	0.4956	0.0005

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	*Appurtenance*	*Gov. Load Comb.*	*Deflection in*	*Tilt °*	*Twist °*	*Radius of Curvature ft*
150.00	NNVV-65B-R4 w/ Mount Pipe	42	25.4854	1.5067	0.0041	29601
136.00	DMP65R-BU8D w/ Mount Pipe	42	21.1246	1.4449	0.0034	10571
127.00	(2) SBNHH-1D65B w/ Mount Pipe	42	18.4243	1.3893	0.0031	6515
75.00	KS24019-L112A	42	6.1915	0.7998	0.0009	4546

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	150 - 123	118.2904	8	7.0000	0.0188
L2	125.75 - 85	83.8779	8	6.4077	0.0140
L3	88.5 - 44	40.6341	8	4.4904	0.0060
L4	48.5 - 0	12.0923	10	2.3053	0.0022

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
150.00	NNVV-65B-R4 w/ Mount Pipe	8	118.2904	7.0000	0.0188	6598
136.00	DMP65R-BU8D w/ Mount Pipe	8	98.0833	6.7096	0.0158	2354
127.00	(2) SBNHH-1D65B w/ Mount Pipe	8	85.5676	6.4510	0.0143	1448
75.00	KS24019-L112A	8	28.7878	3.7213	0.0041	987

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	150 - 123 (1)	TP22.69x17x0.25	27.00	0.00	0.0	17.3463	-10.38	1014.76	0.010
L2	123 - 85 (2)	TP28.36x21.6105x0.375	40.75	0.00	0.0	32.6191	-15.81	1908.22	0.008
L3	85 - 44 (3)	TP36.86x27.0303x0.4063	44.50	0.00	0.0	45.7231	-24.02	2674.80	0.009
L4	44 - 0 (4)	TP42.53x35.0535x0.4375	48.50	0.00	0.0	58.4507	-36.93	3419.37	0.011

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	150 - 123 (1)	TP22.69x17x0.25	174.08	577.27	0.302	0.00	577.27	0.000
L2	123 - 85 (2)	TP28.36x21.6105x0.375	678.41	1357.87	0.500	0.00	1357.87	0.000
L3	85 - 44 (3)	TP36.86x27.0303x0.4063	1313.55	2468.18	0.532	0.00	2468.18	0.000
L4	44 - 0 (4)	TP42.53x35.0535x0.4375	2198.21	3738.54	0.588	0.00	3738.54	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	150 - 123 (1)	TP22.69x17x0.25	12.39	304.43	0.041	1.74	582.80	0.003
L2	123 - 85 (2)	TP28.36x21.6105x0.375	14.66	572.47	0.026	1.18	1373.93	0.001
L3	85 - 44 (3)	TP36.86x27.0303x0.4063	17.06	802.44	0.021	1.30	2491.88	0.001
L4	44 - 0 (4)	TP42.53x35.0535x0.4375	19.30	1025.81	0.019	1.29	3781.39	0.000

Pole Interaction Design Data

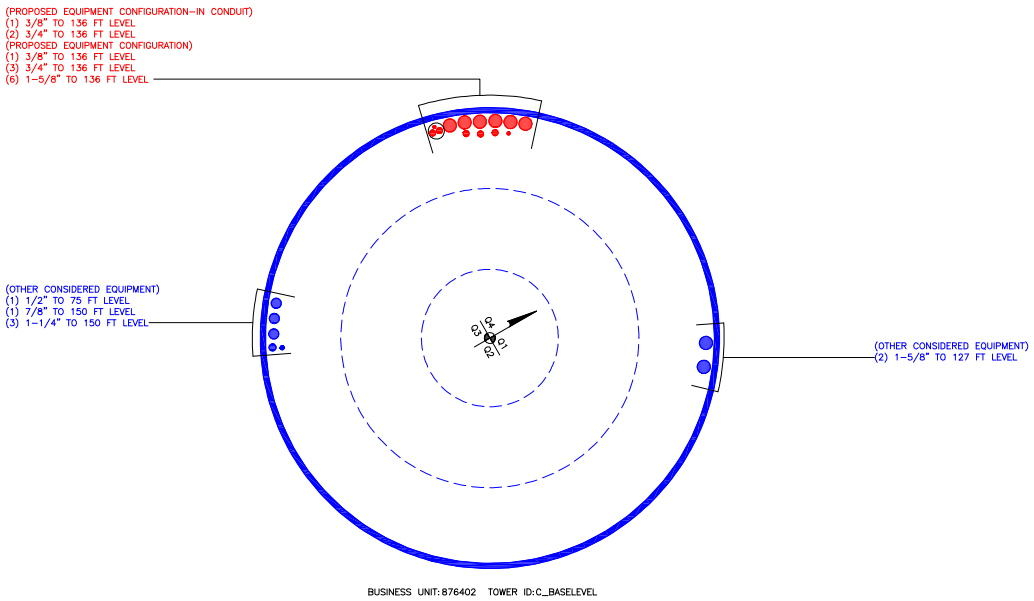
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	150 - 123 (1)	0.010	0.302	0.000	0.041	0.003	0.314	1.050	4.8.2
L2	123 - 85 (2)	0.008	0.500	0.000	0.026	0.001	0.509	1.050	4.8.2
L3	85 - 44 (3)	0.009	0.532	0.000	0.021	0.001	0.542	1.050	4.8.2
L4	44 - 0 (4)	0.011	0.588	0.000	0.019	0.000	0.599	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	150 - 123	Pole	TP22.69x17x0.25	1	-10.38	1065.50	29.9	Pass
L2	123 - 85	Pole	TP28.36x21.6105x0.375	2	-15.81	2003.63	48.4	Pass
L3	85 - 44	Pole	TP36.86x27.0303x0.4063	3	-24.02	2808.54	51.6	Pass
L4	44 - 0	Pole	TP42.53x35.0535x0.4375	4	-36.93	3590.34	57.1	Pass
						Summary		
						Pole (L4)	57.1	Pass
						RATING =	**57.1**	**Pass**

APPENDIX B

BASE LEVEL DRAWING


(PROPOSED EQUIPMENT CONFIGURATION-IN CONDUIT)
(1) 3/8" TO 136 FT LEVEL
(2) 3/4" TO 136 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(1) 3/8" TO 136 FT LEVEL
(3) 3/4" TO 136 FT LEVEL
(6) 1-5/8" TO 136 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 75 FT LEVEL
(1) 7/8" TO 150 FT LEVEL
(3) 1-1/4" TO 150 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(2) 1-5/8" TO 127 FT LEVEL
A1
A2
A3
BUSINESS UNIT:876402 TOWER ID:C_BASELEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

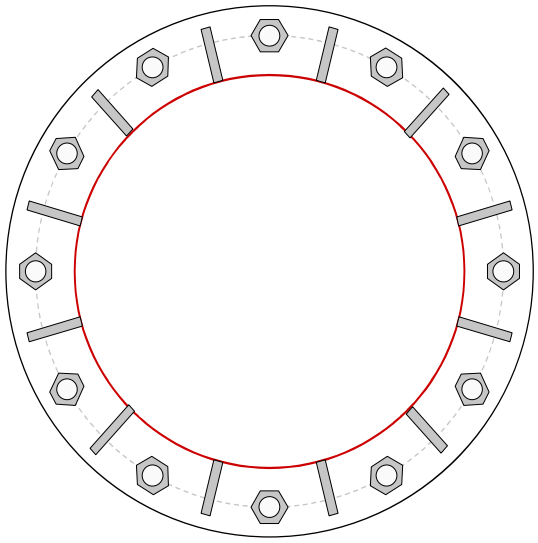
Monopole Base Plate Connection

Site Info	
BU #	876402
Site Name	Stafford/Pragyl/SSUSA
Order #	517113 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	1.25

Applied Loads	
Moment (kip-ft)	2198.21
Axial Force (kips)	36.93
Shear Force (kips)	19.30

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 51.03" BC

Base Plate Data

57.53" OD x 1.75" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Stiffener Data

(12) 18"H x 6"W x 1"T, Notch: 0.75"
plate: Fy= 50 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.49" groove, 45° dbl bevel, 0.5" fillet
vert. weld: 0.375" fillet

Pole Data

42.53" x 0.4375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary		*(units of kips, kip-in)*
Pu_c = 175.25	ϕPn_c = 268.39	**Stress Rating**
Vu = 1.61	ϕVn = 120.77	**62.2%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary		
Max Stress (ksi):	35.04	(Roark's Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**74.2%**	**Pass**

Stiffener Summary		
Horizontal Weld:	**54.4%**	**Pass**
Vertical Weld:	**35.3%**	**Pass**
Plate Flexure+Shear:	**11.2%**	**Pass**
Plate Tension+Shear:	**46.7%**	**Pass**
Plate Compression:	**48.0%**	**Pass**
Pole Summary		
Punching Shear:	**9.4%**	**Pass**

Pier and Pad Foundation

BU # :	876402
Site Name:	Stafford/Pragyl/SS
App. Number:	517113 Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☐

Superstructure Analysis Reactions

Compression, P_{comp}:	37	kips
Base Shear, Vu_comp:	19	kips
Moment, M_u:	2198	ft-kips
Tower Height, **H**:	150	ft
BP Dist. Above Fdn, bp_{dist}:	3.5	in

Pier Properties

Pier Shape:	Square	
Pier Diameter, **dpier**:	6	ft
Ext. Above Grade, **E**:	0.5	ft
Pier Rebar Size, **Sc**:	11	
Pier Rebar Quantity, **mc**:	26	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	7	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	7	ft
Pad Width, **W**:	22	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Bottom), **Sp**:	10	
Pad Rebar Quantity (Bottom), **mp**:	7	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	3	ksi
Dry Concrete Density, δ**c**:	150	pcf

Soil Properties

Total Soil Unit Weight, γ:	116	pcf
Ultimate Gross Bearing, Qult:	59.400	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	45	degrees
SPT Blow Count, N_{blows}:	100	
Base Friction, μ:	0.5	
Neglected Depth, **N**:	3.30	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	354.11	19.00	**5.1%**	**Pass**
Bearing Pressure (ksf)	44.55	2.14	**4.8%**	**Pass**
*Overturning (kip*ft)*	5457.58	2346.04	**43.0%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	5165.60	2283.50	**42.1%**	**Pass**
Pier Compression (kip)	17184.96	66.16	**0.4%**	**Pass**
*Pad Flexure (kip*ft)*	1228.11	812.05	**63.0%**	**Pass**
Pad Shear - 1-way (kips)	674.44	136.62	**19.3%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.029	**16.5%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	1478.36	1370.10	**88.3%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Soil Rating*:	**43.0%**
Structural Rating*:	**88.3%**

Version 3.3.2

ASCE 7 HAZARD TOOL

Location

Elevation	962 ft with respect to North American Vertical Datum of 1988 (NAVD 88)
Lat:	41.98705
Long:	-72.261328
Standard:	ASCE/SEI 7-10
Risk Category:	II
Soil Class:	D - Stiff Soil

Ice Details

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

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

Data Source

ASCE/SEI 7-10, Figs. 10-2 through 10-8, incorporating errata of March 31, 2013

Exhibit E

Mount Analysis

Date: **May 5, 2020**

Darcy Tarr
Crown Castle
6325 Ardrey Kell Rd., Suite 600
Charlotte, NC 28277
704-405-6589

POD Group
1033 E Turkeyfoot Lake Rd. Suite 206
Akron, OH 44312
(330) 961.7432
mhoudeshell@podgrp.com

Subject:	**Mount Modification Analysis Report**	
Carrier Designation:	**AT&T**	
	Carrier Site Number:	**CTV1258**
	Carrier Site Name:	**STAFFORD – STAFFORD ST**
	FA Number:	**10128067**
Crown Castle Designation:	**Crown Castle BU Number:**	**876402**
	Crown Castle Site Name:	**STAFFORD/PRAGYL/SSUSA**
	Crown Castle JDE Job Number:	**605420**
	Crown Castle Order Number:	**517113 Rev. 0**
Engineering Firm Designation:	**POD Report Designation:**	**20-63936**
Site Data:	**175 Stafford St., Stafford, Tolland County, CT 06077** **Latitude 41°59'13.38" Longitude 72°15'40.78"**	
Structure Information:	**Tower Height & Type:**	**150 ft Monopole**
	Mount Elevation:	**136 ft**
	Mount Type:	**12.5 ft T-Arm**

Dear Darcy Tarr,

POD Group is pleased to submit this "Mount Modification Report" to determine the structural integrity of AT&T's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

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

12.5 ft T-arm (Individual Sector) (Alpha)	**Sufficient**
12.5 ft T-arm (Individual Sector) (Beta)	**Sufficient**
12.5 ft T-arm (Individual Sector) (Gamma)	**Sufficient**

The analysis has been performed in accordance with the TIA-222-H Standard based upon an ultimate 3-second gust wind speed of 117 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Julianna Murphy

Respectfully submitted by:

5/5/20

Jason G. Cheronis, P.E.
Connecticut PE #: PEN.0032793

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15) **APPENDIX J**
Software Input Calculations (Gamma)

16) **APPENDIX K**
Software Analysis Output (Gamma)

17) **APPENDIX L**
Additional Calculations (Gamma)

18) **APPENDIX M**
ATC Wind Printout

19) **APPENDIX N**
Modification Manufacturer Part Specification Sheets

20) **APPENDIX O**
Mount Modification Design Drawings (MDD)

1) INTRODUCTION

This mount is an existing 12.5 ft t-arm mount. This mount is installed at the 136 ft elevation on 3 sector(s) of the 150 ft Monopole.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	117 mph
Exposure Category:	B
Topographic Factor at Base:	1.000
Topographic Factor at Mount:	1.000
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.176
Seismic S_1:	0.055
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	250 lb

Table 1 - Final Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details	Note
136	138	1	CCI	DMP65R-BU6D	12.5 ft T-Arm	
		2	CCI	DMP65R-BU8D		
		1	CCI	OPA65R-BU6D		
		2	CCI	OPA65R-BU8D		
		3	Powerwave	7770		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 4478 B14		
		3	Ericsson	RRUS 8843 B2/B66A		
		6	Powerwave	LGP21401		
		1	Raycap	DC6-48-60-18-8F		
		1	Raycap	DC9-48-60-24-8C-EV		

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	-	Crown Castle App ID: 517113 Rev. 0 Dated: 04/27/2020	Crown Castle
RFDS	-	AT&T RFDS #: CTV1258 Dated: 03/25/2020	Crown Castle
Manufacturer Specifications	-	Commscope Part Number: VSR-MS-B Date: 6/11/2013	CommScope
Modification Drawings		POD Group Project #: 20-63936 Date: 5/5/2020	POD Group

3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases. Selected output from the analysis are included in the Appendices.

A tool internally developed, using Microsoft Excel, by POD Group, was used to calculate wind loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the calculations is/are included in Appendices B, F, and J.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 Tower Mount Analysis (Revision B). In addition, this analysis is in accordance with AT&T's mount technical directive.

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed, and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
4) The weight of the mount was increased 10% in the analysis to account for connections, coax, and jumpers.
5) Member sizes have been assumed from photos of the site and experience with similar mounting systems. If the sizes assumed in this report differ from the actual member sizes, POD Group shall be contacted immediately, and the results of the analysis shall be considered null and void.
6) All structural members shall be verified in accordance with AT&T Mount Technical Directive.
7) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
8) Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
9) Steel grades have been assumed as follows, unless noted otherwise:
    a. Plate — ASTM A36 (GR 36)
    b. HSS (Rectangular) — ASTM 500 (GR B-46)
    c. Pipe — ASTM A53 (GR 35)
    d. Connection Bolts — ASTM A325

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and POD should be allowed to review any new information to determine its effect on the structural integrity of the mount.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (12.5 ft T-Arm) (Alpha)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
	Mount Pipe	MP ALPHA3	136	73.2	Pass
	Standoff	STANDOFF	136	57.8	Pass
	Face	FACE	136	51.2	Pass
	Connection	CONNECTION	136	38.0	Pass
	Stabilizer	Stabilizer2	136	37.0	Pass
	Standoff Pipe	SPIPE	136	5.3	Pass
	Vertical	VERT	136	1.0	Pass
1	Flange Plate	-	-	41.9	Pass
1	Flange Bolts	-	-	13.9	Pass

Structure Rating (max from all components) =	**73.2%**

Notes:
1) See additional documentation in "Appendix D – Additional Calculations (Alpha)" for calculations supporting the % capacity

4.1) Recommendations (Alpha)

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Stabilizer Kit, Commscope P/N: VSR-MS-B
2. 12.5 ft P2.5 STD Face Member
3. Cross Over Kits, Commscope P/N: XP-2025

Engineering detail drawings have been provided in Appendix O – Mount Modification Design Drawings. Connection from the mount to the tower and local stresses on the tower are sufficient.

Table 4 – AT&T Specification (Alpha)

Wind Speed (mph)	Ice Thickness (in)	Height (ft)	Exposure	Class	Topo	# of Pipes	Allowable EPA per Pipe (ft sq.)	Allowable Weight per Sector (lbs)
117	1,4	136	B	II	1	3	25.85	2814

Table 5 - Mount Component Stresses vs. Capacity (12.5 ft T-Arm) (Beta)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
	Mount Pipe	MP ALPHA3	136	71.8	Pass
	Standoff	STANDOFF	136	50.4	Pass
	Connection	CONNECTION	136	49.2	Pass
	Face	FACE	136	47.8	Pass
	Stabilizer	Stabilizer2	136	47.0	Pass
	Vertical	VERT	136	1.0	Pass
1	Flange Plate	-	-	39.4	Pass
1	Flange Bolts	-	-	12.1	Pass

Structure Rating (max from all components) =	71.8%

Notes:

1) See additional documentation in "Appendix H – Additional Calculations (Beta)" for calculations supporting the % capacity

4.2) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Stabilizer Kit, Commscope P/N: VSR-MS-B
2. 12.5 ft P2.5 STD Face Member
3. Cross Over Kits, Commscope P/N: XP-2025

Engineering detail drawings have been provided in Appendix O – Mount Modification Design Drawings. Connection from the mount to the tower and local stresses on the tower are sufficient.

Table 6 – AT&T Specification (Beta)

Wind Speed (mph)	Ice Thickness (in)	Height (ft)	Exposure	Class	Topo	# of Pipes	Allowable EPA per Pipe (ft sq.)	Allowable Weight per Sector (lbs)
117	1,4	136	B	II	1	3	25.85	2814

Table 7 - Mount Component Stresses vs. Capacity (12.5 ft T-Arm) (Gamma)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
	Mount Pipe	MP ALPHA3	136	74.6	Pass
	Standoff	STANDOFF	136	53.3	Pass
	Face	FACE	136	53.1	Pass
	Connection	CONNECTION	136	51.0	Pass
	Stabilizer	Stabilizer2	136	47.3	Pass
	Vertical	VERT	136	1.0	Pass
1	Flange Plate	-	-	41.3	Pass
1	Flange Bolts	-	-	13.3	Pass

Structure Rating (max from all components) =	74.6%

Notes:

1) See additional documentation in "Appendix L – Additional Calculations (Gamma)" for calculations supporting the % capacity

4.3) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Stabilizer Kit, Commscope P/N: VSR-MS-B
2. 12.5 ft P2.5 STD Face Member
3. Cross Over Kits, Commscope P/N: XP-2025

Engineering detail drawings have been provided in Appendix O – Mount Modification Design Drawings. Connection from the mount to the tower and local stresses on the tower are sufficient.

Table 8 – AT&T Specification

Wind Speed (mph)	Ice Thickness (in)	Height (ft)	Exposure	Class	Topo	# of Pipes	Allowable EPA per Pipe (ft sq.)	Allowable Weight per Sector (lbs)
117	1,4	136	B	II	1	3	25.85	2814

5) DISCLAIMER OF WARRANTIES

POD Group has not performed a site visit to the structure to verify the member sizes or antenna/coax loading unless noted otherwise. If the existing conditions are not as represented in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the structure or foundation. This report does not replace a full structure inspection. The structure, foundations, and mounting systems are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by POD Group in connection with this Structural Analysis are limited to a computer analysis of the structure and theoretical capacity of its main structural members. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

POD Group does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing structure. POD Group provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

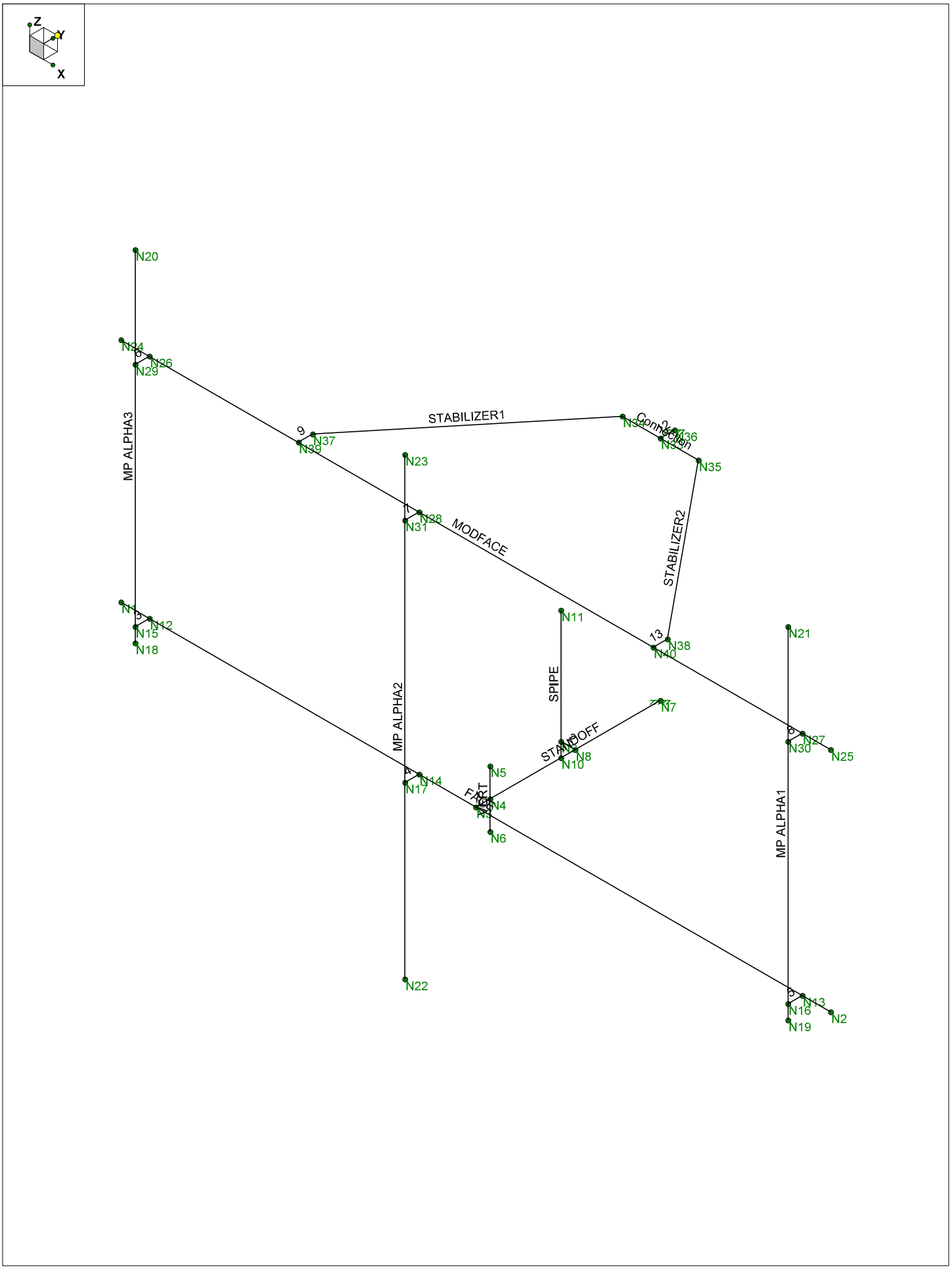
It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed structure. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from POD Group, but are beyond the scope of this report.

POD Group makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this structure. POD Group will not be responsible whatsoever, for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of POD Group pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Wire Frame and Rendered Models (Alpha)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X
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N24
N26
N29
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STABILIZER1
N37
N39
N23
N28
N31
MODFACE
STABILIZER2
N36
N35
N11
N38
N40
N21
N12
N15
N18
SPIPE
MP ALPHA2
N7
N8
N10
N27
N30
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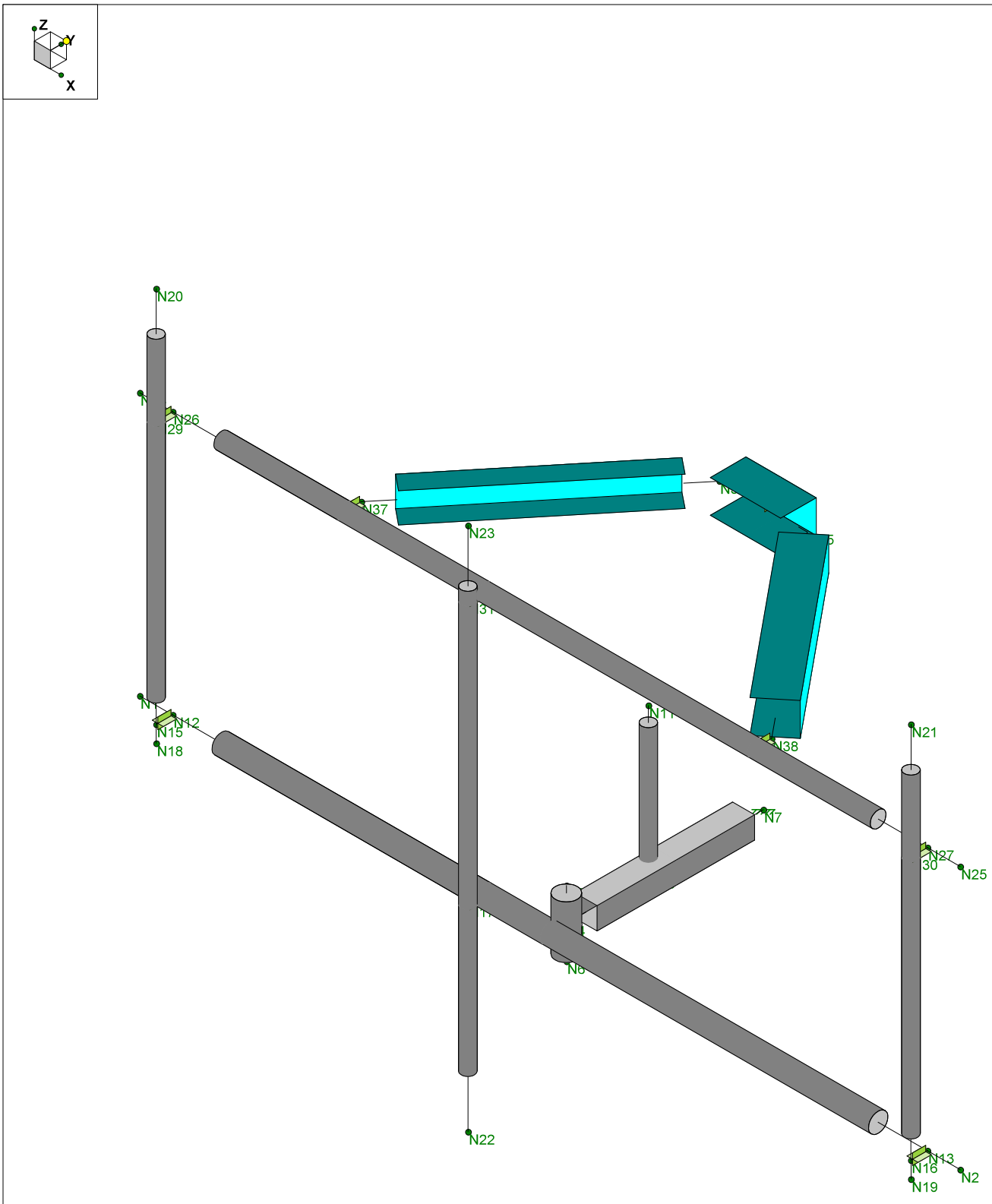
N17
N4
N6
N22
MP ALPHA1
N13
N16
N19
N2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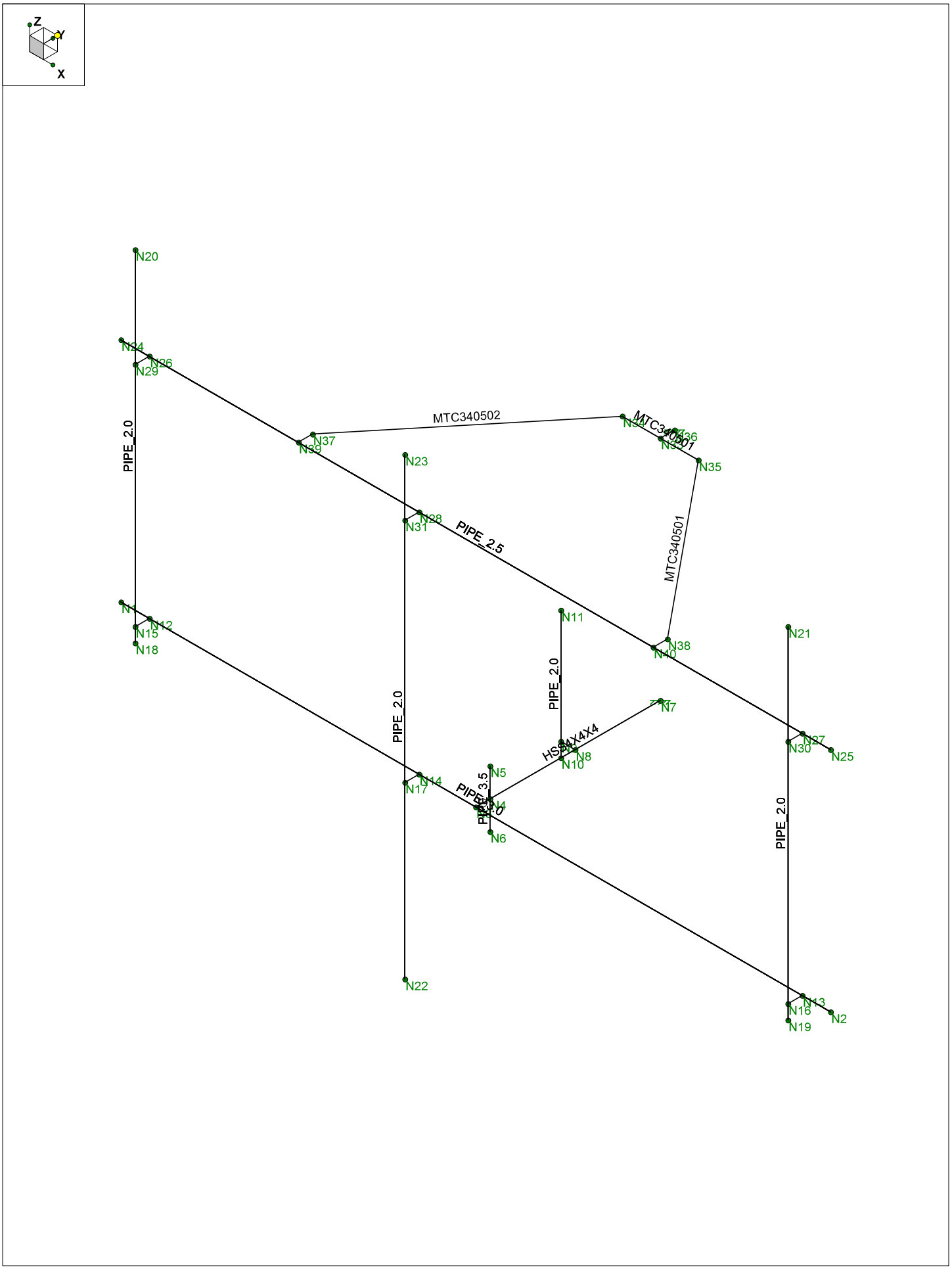
N19
N2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MTC340501
N35
N36
N38
N40
N11
N21
N12
N15
N18
PIPE_2.0
N7
N8
N10
N27
N30
N25
N5
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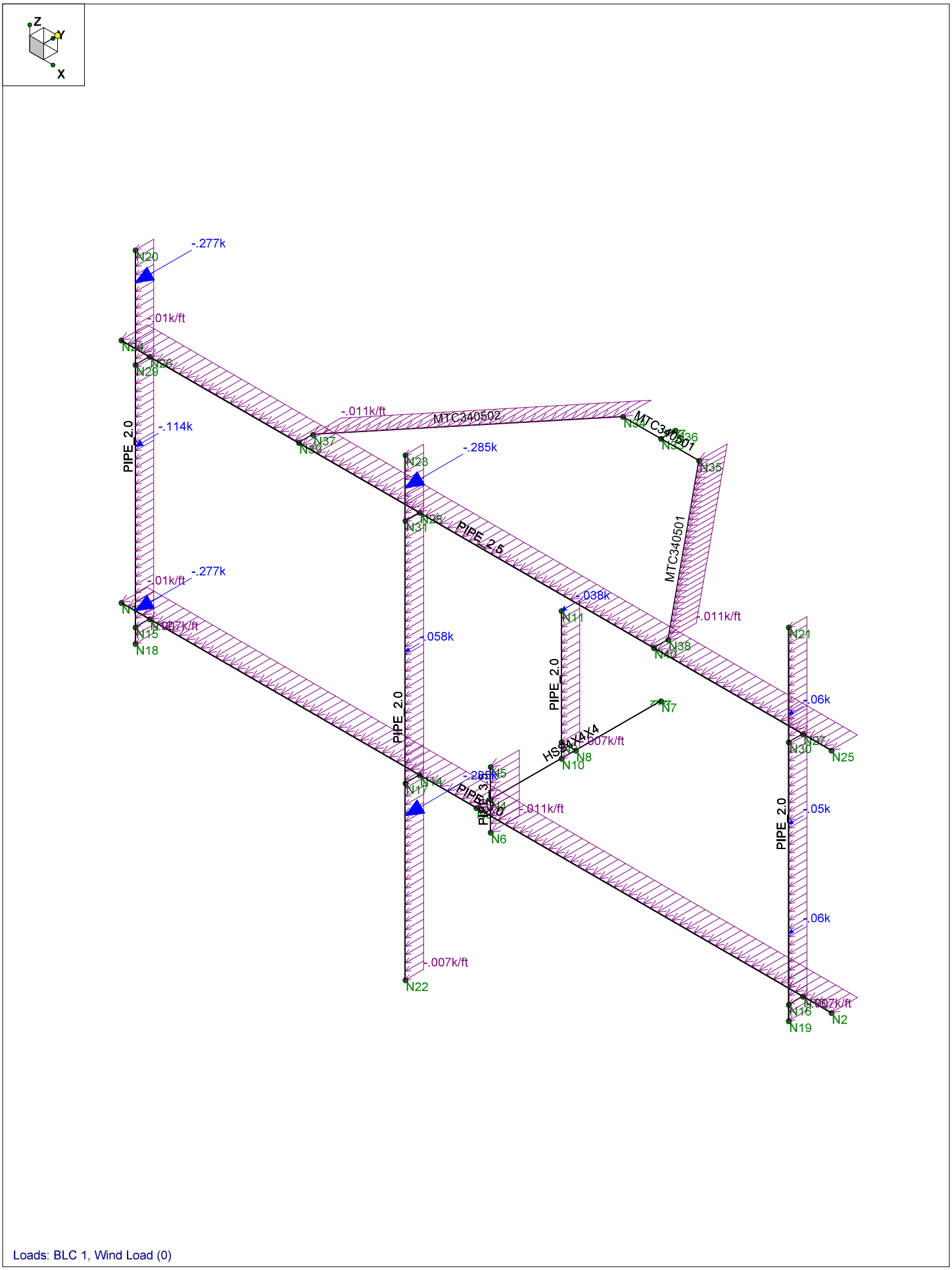
N17
PIPE_2.0
N4
N6
PIPE_2.0
N22
N13
N16
N19
N2



Loads: BLC 1, Wind Load (0)

APPENDIX B

Software Input Calculations (Alpha)

POD Job #	**20-63609**
Site Number	**876402**
Site Name	**STAFFORD/PRAGYL/SSUSA**

General Site Information

Mount Type	MF	Risk Category	II	I (seismic)	1	
V (Wind Speed)	117	I(ice)	1	Sms	0.282	
Zs	857			Sm1	0.132	
ti	1.5	Ss	0.176	Sds	0.188	
Vi	50	S1	0.055	Sd1	0.088	
Kzt	1	Soil Site Class	D (assumed)	Seismic Design Category		
Exposure	B	Fa	1.600	B		
zg	1200	Fv	2.400	Seismic Analysis Not Required		
α	7			R	2	TIA-222-H 16.7
Kmin	0.7	Tower Type	Monopole	As	1	TIA-222-H 16.7
G_H	1	Tower Height	150	Cs, Min	0.03	TIA-222-H 2.7.7.1.1
Ke	0.97			Cs	0.093866667	TIA-222-H 2.7.7.1.1
K_D	0.95					
K_s	0.9					

Appurtenance Information

Model	Shielded	% Shielded	Centerline	Spacing (in)	# on MP 1	# on MP 2	# on MP 3	# on MP 4
DMP65R-BU6D			138	50				
DMP65R-BU8D			138	60			1	
OPA65R-BU6D			138	50				
OPA65R-BU8D			138	60		1		
7770			138	40	1			
RRUS 4449 B5/B12			138				1	
RRUS 4478 B14			138			1		
RRUS 8843 B2/B66A			138				1	
LGP21401			138		2			
DC6-48-60-18-8F			139		1			
DC9-48-60-24-8C-EV			139					

Mount Information

Elevation (ft)	136
K_z	1.08
Kiz	1.15
tiz	1.73

	Length (ft)	Width (in)	Centerline
Mount Pipes	6	2.375	138

Round Members

Member	Length (ft)	Width (in)	Frame Member	# of Members
Face	12.5	3.5	Yes	1
Vertical Pipe	1	4	Yes	1
Standoff Pipe	2.25	2.375	Yes	1
New Face	12.5	2.875	Yes	1

Flat Members

Member	Length (ft)	Width (in)	Shape	A	B	C	D	Frame Member	# of Members
Standoff	3	4	Square HSS	4	0.25	4		Yes	1
Stabilizer	3.876	5.4	Channel	3.7	5.4	0.188	0.188	No	2
Connection	0.917	6	Channel	3.5	6	0.25	0.25	No	1

Version 2.2

Appurtenance Wind Calculations

Model	Height	Width	Depth	Weight (lbs)	Kz	qz (lb/ft$_2$)	$(EPA)_N$ (ft^2)	$(EPA)_T$(ft^2)	Wind Force (Kips) Front	Side	Alpha	Beta	Gamma
DMP65R-BU6D	71.2	20.7	7.7	89.3	1.08	34.97	11.93	4.48	0.417	0.156	0.352	0.352	0.156
DMP65R-BU8D	96.0	20.7	7.7	105.6	1.08	34.97	15.86	5.95	0.555	0.208	0.468	0.468	0.208
OPA65R-BU6D	71.2	21.0	7.8	63.5	1.08	34.97	12.22	4.54	0.427	0.159	0.360	0.360	0.159
OPA65R-BU8D	96.0	21.0	7.8	76.5	1.08	34.97	16.28	7.38	0.569	0.258	0.491	0.491	0.258
7770	55.0	11.0	5.0	35.0	1.08	34.97	3.42	1.56	0.120	0.055	0.103	0.103	0.055
RRUS 4449 B5/B12	17.9	13.2	9.4	71.0	1.08	34.97	1.77	1.27	0.062	0.044	0.058	0.058	0.044
RRUS 4478 B14	16.5	13.4	7.7	59.9	1.08	34.97	1.66	0.95	0.058	0.033	0.052	0.052	0.033
RRUS 8843 B2/B66A	14.9	13.2	10.9	72.0	1.08	34.97	1.48	1.22	0.052	0.043	0.049	0.049	0.043
LGP21401	14.2	6.7	5.4	22.0	1.08	34.97	0.71	0.58	0.025	0.020	0.024	0.024	0.020
DC6-48-60-18-8F	31.3	11.0	11.0	32.8	1.09	35.04	1.09	1.21	0.038	0.042	0.039	0.039	0.042
DC9-48-60-24-8C-EV	31.4	10.3	10.3	26.2	1.09	35.04	1.03	1.15	0.036	0.040	0.037	0.037	0.040

Appurtenance Ice Calculations

Model	tiz (in)	Height	Width	Depth	Weight (lbs)	Kiz	qz (lb/ft$_2$)	$(EPA)_N$ (ft^2)	$(EPA)_T$(ft^2)	Wind Force (Kips) Front	Side	Alpha	Beta	Gamma
DMP65R-BU6D	1.73	74.66	24.16	11.16	284.73	1.15	6.39	13.14	6.11	0.084	0.039	0.073	0.073	0.039
DMP65R-BU8D	1.73	99.46	24.16	11.16	373.37	1.15	6.39	17.26	8.02	0.110	0.051	0.096	0.096	0.051
OPA65R-BU6D	1.73	74.66	24.46	11.26	288.57	1.15	6.39	13.43	6.18	0.086	0.039	0.074	0.074	0.039
OPA65R-BU8D	1.73	99.46	24.46	11.26	378.32	1.15	6.39	11.18	5.89	0.071	0.038	0.063	0.063	0.038
7770	1.73	58.46	14.46	8.46	133.80	1.15	6.39	4.31	2.53	0.028	0.016	0.025	0.025	0.016
RRUS 4449 B5/B12	1.73	21.36	16.65	12.90	76.49	1.15	6.39	1.56	1.21	0.010	0.008	0.009	0.009	0.008
RRUS 4478 B14	1.73	19.96	16.86	11.16	66.57	1.15	6.39	1.48	0.98	0.009	0.006	0.009	0.009	0.006
RRUS 8843 B2/B66A	1.73	18.36	16.66	14.36	72.91	1.15	6.39	1.34	1.16	0.009	0.007	0.008	0.008	0.007
LGP21401	1.73	17.66	10.16	8.86	34.89	1.15	6.39	0.79	0.69	0.005	0.004	0.005	0.005	0.004
DC6-48-60-18-8F	1.73	34.71	14.46	14.46	112.72	1.15	6.40	2.20	2.20	0.014	0.014	0.014	0.014	0.014
DC9-48-60-24-8C-EV	1.73	34.87	13.71	13.71	105.52	1.15	6.40	2.09	2.09	0.013	0.013	0.013	0.013	0.013

Round Members

Member	Wind Calculations q_z (lb/ft^2)	Ar	C	Rrf	Cas	EPA (ft^2)	Load (k/ft)	Ice Calculations Width (in)	Weight (k/ft)	q_z (lb/ft^2)	Arice	Rrfice	Cas	EPA (ft^2)	Load (k/ft)
Face	34.82	3.65	34.90	0.78	1.59	4.09	0.011	6.96	0.01	6.36	7.25	1.05	1.59	10.89	0.006
Vertical Pipe	34.82	0.33	39.89	0.78	1.59	0.37	0.013	7.46	0.01	6.36	0.62	1.05	1.59	0.93	0.006
Standoff Pipe	34.82	0.45	23.68	0.78	1.59	0.50	0.008	5.83	0.01	6.36	1.09	1.05	1.59	1.64	0.005

Flat Members

Member	Wind Calculations q_z (lb/ft^2)	Af	Cas	EPA	Load (k/ft)	Ice Calculations Width (in)	Weight (k/ft)	q_z (lb/ft^2)	Arice	Rrfice	Cas	EPA	Load (k/ft)
Standoff	34.82	1.00	1.59	1.43	0.017	7.46	0.02	6.36	1.86	1.05	1.59	2.80	0.006

Appurtenance Seismic Calculations

Model	Weight	Sds	ρ	Cs	As	Ev	Eh
DMP65R-BU6D	89.3	0.188	1.000	0.094	1.000	0.003	0.008
DMP65R-BU8D	105.6	0.188	1.000	0.094	1.000	0.004	0.010
OPA65R-BU6D	63.5	0.188	1.000	0.094	1.000	0.002	0.006
OPA65R-BU8D	76.5	0.188	1.000	0.094	1.000	0.003	0.007
7770	35.0	0.188	1.000	0.094	1.000	0.001	0.003
RRUS 4449 B5/B12	71.0	0.188	1.000	0.094	1.000	0.003	0.007
RRUS 4478 B14	59.9	0.188	1.000	0.094	1.000	0.002	0.006
RRUS 8843 B2/B66A	72.0	0.188	1.000	0.094	1.000	0.003	0.007
LGP21401	22.0	0.188	1.000	0.094	1.000	0.001	0.002
DC6-48-60-18-8F	32.8	0.188	1.000	0.094	1.000	0.001	0.003
DC9-48-60-24-8C-EV	26.2	0.188	1.000	0.094	1.000	0.001	0.002

Version 2.1

APPENDIX C

Software Analysis Output (Alpha)

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
1	FACE	PIPE_3.0	12.5			Lbyy						Lateral
2	VERT	PIPE_3.5	1			Lbyy						Lateral
3	STANDOFF	HSS4X4X4	3			Lbyy						Lateral
4	SPIPE	PIPE_2.0	2.25			Lbyy						Lateral
5	MP ALPHA1	PIPE_2.0	6			Lbyy						Lateral
6	MP ALPHA2	PIPE_2.0	8			Lbyy						Lateral
7	MP ALPHA3	PIPE_2.0	6			Lbyy						Lateral
8	MODFACE	PIPE_2.5	12.5			Lbyy						Lateral

Cold Formed Steel Design Parameters

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	R	a[ft]	Funct...
1	STABILIZ...	MTC3405...	3.876			Lbyy								Lateral
2	STABILIZ...	MTC3405...	3.876			Lbyy								Lateral
3	Connection	MTC3405...	1.34			Lbyy								Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
1	FACE	N1	N2			PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical
2	VERT	N6	N5			PIPE_3.5	Beam	Pipe	A53 Gr.B	Typical
3	STANDOFF	N4	N7			HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical
4	SPIPE	N10	N11			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
5	MP ALPHA1	N19	N21			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
6	MP ALPHA2	N22	N23			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
7	MP ALPHA3	N18	N20			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
8	1	N3	N4			RIGID	None	None	RIGID	Typical
9	2	N8	N9			RIGID	None	None	RIGID	Typical
10	3	N15	N12			RIGID	None	None	RIGID	Typical
11	4	N17	N14			RIGID	None	None	RIGID	Typical
12	5	N16	N13			RIGID	None	None	RIGID	Typical
13	MODFACE	N24	N25			PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
14	6	N29	N26			RIGID	None	None	RIGID	Typical
15	7	N31	N28			RIGID	None	None	RIGID	Typical
16	8	N30	N27			RIGID	None	None	RIGID	Typical
17	STABILIZER1	N37	N34		90	MTC340502	Beam	None	CF (A36)	Typical
18	9	N37	N39			RIGID	None	None	RIGID	Typical
19	12	N33	N36			RIGID	None	None	RIGID	Typical
20	STABILIZER2	N38	N35		90	MTC340501	Beam	None	CF (A36)	Typical
21	13	N38	N40			RIGID	None	None	RIGID	Typical
22	Connection	N34	N35		90	MTC340501	Beam	None	CF (A36)	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic...
1	FACE						Yes				None
2	VERT						Yes				None
3	STANDOFF						Yes				None
4	SPIPE						Yes				None
5	MP ALPHA1						Yes				None
6	MP ALPHA2						Yes				None
7	MP ALPHA3						Yes				None
8	1		OOOOOO				Yes	** NA **			None
9	2						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic...
10	3						Yes	** NA **			None
11	4						Yes	** NA **			None
12	5						Yes	** NA **			None
13	MODFACE						Yes	Default			None
14	6						Yes	** NA **			None
15	7						Yes	** NA **			None
16	8						Yes	** NA **			None
17	STABILIZER1						Yes	Default			None
18	9						Yes	** NA **			None
19	12						Yes	** NA **			None
20	STABILIZER2						Yes	Default			None
21	13						Yes	** NA **			None
22	Connection						Yes				None

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 ...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A653 SS Gr33	29500	11346	.3	.65	.49	33	45
2	A653 SS Gr50/1	29500	11346	.3	.65	.49	50	65
3	CF (A36)	29000	11154	.3	.65	.49	36	58

Member Point Loads (BLC 1 : Wind Load (0))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.285	7.5
2	MP ALPHA3	Y	-.277	5.5
3	MP ALPHA1	Y	-.06	4.667
4	SPIPE	Y	-.038	2.25
5	MP ALPHA1	Y	-.05	3
6	MP ALPHA2	Y	-.058	5
7	MP ALPHA3	Y	-.114	3
8	MP ALPHA1	Y	-.06	1.333
9	MP ALPHA2	Y	-.285	2.5
10	MP ALPHA3	Y	-.277	.5

Member Point Loads (BLC 2 : Dead Load)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Z	-.038	7.5
2	MP ALPHA3	Z	-.053	5.5
3	MP ALPHA1	Z	-.018	4.667
4	SPIPE	Z	-.033	2.25
5	MP ALPHA1	Z	-.044	3
6	MP ALPHA2	Z	-.06	5

Member Point Loads (BLC 2 : Dead Load) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
7	MP ALPHA3	Z	-.143	3
8	MP ALPHA1	Z	-.018	1.333
9	MP ALPHA2	Z	-.038	2.5
10	MP ALPHA3	Z	-.053	.5

Member Point Loads (BLC 3 : Live Load)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	FACE	Z	-.5	0

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.036	7.5
2	MP ALPHA3	Y	-.055	5.5
3	MP ALPHA1	Y	-.014	4.667
4	SPIPE	Y	-.014	2.25
5	MP ALPHA1	Y	-.01	3
6	MP ALPHA2	Y	-.009	5
7	MP ALPHA3	Y	-.019	3
8	MP ALPHA1	Y	-.014	1.333
9	MP ALPHA2	Y	-.036	2.5
10	MP ALPHA3	Y	-.055	.5

Member Point Loads (BLC 5 : Ice Dead Load)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Z	-.189	7.5
2	MP ALPHA3	Z	-.187	5.5
3	MP ALPHA1	Z	-.067	4.667
4	SPIPE	Z	-.113	2.25
5	MP ALPHA1	Z	-.07	3
6	MP ALPHA2	Z	-.067	5
7	MP ALPHA3	Z	-.149	3
8	MP ALPHA1	Z	-.067	1.333
9	MP ALPHA2	Z	-.189	2.5
10	MP ALPHA3	Z	-.187	.5

Member Point Loads (BLC 6 : Wind Load (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.213	7.5
2	MP ALPHA2	X	-.123	7.5
3	MP ALPHA3	Y	-.203	5.5
4	MP ALPHA3	X	-.117	5.5
5	MP ALPHA1	Y	-.045	4.667
6	MP ALPHA1	X	-.026	4.667
7	SPIPE	Y	-.034	2.25
8	SPIPE	X	-.02	2.25
9	MP ALPHA1	Y	-.041	3
10	MP ALPHA1	X	-.024	3
11	MP ALPHA2	Y	-.045	5
12	MP ALPHA2	X	-.026	5
13	MP ALPHA3	Y	-.093	3
14	MP ALPHA3	X	-.053	3
15	MP ALPHA1	Y	-.045	1.333
16	MP ALPHA1	X	-.026	1.333
17	MP ALPHA2	Y	-.213	2.5
18	MP ALPHA2	X	-.123	2.5

Member Point Loads (BLC 6 : Wind Load (30)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
19	MP ALPHA3	Y	-.203	.5
20	MP ALPHA3	X	-.117	.5

Member Point Loads (BLC 7 : Ice Wind Load (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.027	7.5
2	MP ALPHA2	X	-.016	7.5
3	MP ALPHA3	Y	-.041	5.5
4	MP ALPHA3	X	-.024	5.5
5	MP ALPHA1	Y	-.011	4.667
6	MP ALPHA1	X	-.006	4.667
7	SPIPE	Y	-.012	2.25
8	SPIPE	X	-.007	2.25
9	MP ALPHA1	Y	-.008	3
10	MP ALPHA1	X	-.005	3
11	MP ALPHA2	Y	-.007	5
12	MP ALPHA2	X	-.004	5
13	MP ALPHA3	Y	-.015	3
14	MP ALPHA3	X	-.009	3
15	MP ALPHA1	Y	-.011	1.333
16	MP ALPHA1	X	-.006	1.333
17	MP ALPHA2	Y	-.027	2.5
18	MP ALPHA2	X	-.016	2.5
19	MP ALPHA3	Y	-.041	.5
20	MP ALPHA3	X	-.024	.5

Member Point Loads (BLC 8 : Wind Load (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.084	7.5
2	MP ALPHA2	X	-.145	7.5
3	MP ALPHA3	Y	-.074	5.5
4	MP ALPHA3	X	-.128	5.5
5	MP ALPHA1	Y	-.018	4.667
6	MP ALPHA1	X	-.031	4.667
7	SPIPE	Y	-.021	2.25
8	SPIPE	X	-.036	2.25
9	MP ALPHA1	Y	-.021	3
10	MP ALPHA1	X	-.037	3
11	MP ALPHA2	Y	-.02	5
12	MP ALPHA2	X	-.034	5
13	MP ALPHA3	Y	-.047	3
14	MP ALPHA3	X	-.081	3
15	MP ALPHA1	Y	-.018	1.333
16	MP ALPHA1	X	-.031	1.333
17	MP ALPHA2	Y	-.084	2.5
18	MP ALPHA2	X	-.145	2.5
19	MP ALPHA3	Y	-.074	.5
20	MP ALPHA3	X	-.128	.5

Member Point Loads (BLC 9 : Ice Wind Load (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.012	7.5
2	MP ALPHA2	X	-.02	7.5
3	MP ALPHA3	Y	-.016	5.5
4	MP ALPHA3	X	-.029	5.5

Member Point Loads (BLC 9 : Ice Wind Load (60)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	MP ALPHA1	Y	-.005	4.667
6	MP ALPHA1	X	-.008	4.667
7	SPIPE	Y	-.007	2.25
8	SPIPE	X	-.012	2.25
9	MP ALPHA1	Y	-.005	3
10	MP ALPHA1	X	-.008	3
11	MP ALPHA2	Y	-.004	5
12	MP ALPHA2	X	-.006	5
13	MP ALPHA3	Y	-.008	3
14	MP ALPHA3	X	-.014	3
15	MP ALPHA1	Y	-.005	1.333
16	MP ALPHA1	X	-.008	1.333
17	MP ALPHA2	Y	-.012	2.5
18	MP ALPHA2	X	-.02	2.5
19	MP ALPHA3	Y	-.016	.5
20	MP ALPHA3	X	-.029	.5

Member Point Loads (BLC 10 : Wind Load (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.129	7.5
2	MP ALPHA3	X	-.104	5.5
3	MP ALPHA1	X	-.027	4.667
4	SPIPE	X	-.042	2.25
5	MP ALPHA1	X	-.04	3
6	MP ALPHA2	X	-.033	5
7	MP ALPHA3	X	-.087	3
8	MP ALPHA1	X	-.027	1.333
9	MP ALPHA2	X	-.129	2.5
10	MP ALPHA3	X	-.104	.5

Member Point Loads (BLC 11 : Ice Wind Load (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.019	7.5
2	MP ALPHA3	X	-.026	5.5
3	MP ALPHA1	X	-.008	4.667
4	SPIPE	X	-.014	2.25
5	MP ALPHA1	X	-.009	3
6	MP ALPHA2	X	-.006	5
7	MP ALPHA3	X	-.015	3
8	MP ALPHA1	X	-.008	1.333
9	MP ALPHA2	X	-.019	2.5
10	MP ALPHA3	X	-.026	.5

Member Point Loads (BLC 12 : Wind Load (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.084	7.5
2	MP ALPHA2	X	-.145	7.5
3	MP ALPHA3	Y	.074	5.5
4	MP ALPHA3	X	-.128	5.5
5	MP ALPHA1	Y	.018	4.667
6	MP ALPHA1	X	-.031	4.667
7	SPIPE	Y	.021	2.25
8	SPIPE	X	-.036	2.25
9	MP ALPHA1	Y	.021	3
10	MP ALPHA1	X	-.037	3

Member Point Loads (BLC 12 : Wind Load (120)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
11	MP ALPHA2	Y	.02	5
12	MP ALPHA2	X	-.034	5
13	MP ALPHA3	Y	.047	3
14	MP ALPHA3	X	-.081	3
15	MP ALPHA1	Y	.018	1.333
16	MP ALPHA1	X	-.031	1.333
17	MP ALPHA2	Y	.084	2.5
18	MP ALPHA2	X	-.145	2.5
19	MP ALPHA3	Y	.074	.5
20	MP ALPHA3	X	-.128	.5

Member Point Loads (BLC 13 : Ice Wind Load (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.012	7.5
2	MP ALPHA2	X	-.02	7.5
3	MP ALPHA3	Y	.016	5.5
4	MP ALPHA3	X	-.029	5.5
5	MP ALPHA1	Y	.005	4.667
6	MP ALPHA1	X	-.008	4.667
7	SPIPE	Y	.007	2.25
8	SPIPE	X	-.012	2.25
9	MP ALPHA1	Y	.005	3
10	MP ALPHA1	X	-.008	3
11	MP ALPHA2	Y	.004	5
12	MP ALPHA2	X	-.006	5
13	MP ALPHA3	Y	.008	3
14	MP ALPHA3	X	-.014	3
15	MP ALPHA1	Y	.005	1.333
16	MP ALPHA1	X	-.008	1.333
17	MP ALPHA2	Y	.012	2.5
18	MP ALPHA2	X	-.02	2.5
19	MP ALPHA3	Y	.016	.5
20	MP ALPHA3	X	-.029	.5

Member Point Loads (BLC 14 : Wind Load (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.213	7.5
2	MP ALPHA2	X	-.123	7.5
3	MP ALPHA3	Y	.203	5.5
4	MP ALPHA3	X	-.117	5.5
5	MP ALPHA1	Y	.045	4.667
6	MP ALPHA1	X	-.026	4.667
7	SPIPE	Y	.034	2.25
8	SPIPE	X	-.02	2.25
9	MP ALPHA1	Y	.041	3
10	MP ALPHA1	X	-.024	3
11	MP ALPHA2	Y	.045	5
12	MP ALPHA2	X	-.026	5
13	MP ALPHA3	Y	.093	3
14	MP ALPHA3	X	-.053	3
15	MP ALPHA1	Y	.045	1.333
16	MP ALPHA1	X	-.026	1.333
17	MP ALPHA2	Y	.213	2.5
18	MP ALPHA2	X	-.123	2.5
19	MP ALPHA3	Y	.203	.5
20	MP ALPHA3	X	-.117	.5

Member Point Loads (BLC 15 : Ice Wind Load (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.027	7.5
2	MP ALPHA2	X	-.016	7.5
3	MP ALPHA3	Y	.041	5.5
4	MP ALPHA3	X	-.024	5.5
5	MP ALPHA1	Y	.011	4.667
6	MP ALPHA1	X	-.006	4.667
7	SPIPE	Y	.012	2.25
8	SPIPE	X	-.007	2.25
9	MP ALPHA1	Y	.008	3
10	MP ALPHA1	X	-.005	3
11	MP ALPHA2	Y	.007	5
12	MP ALPHA2	X	-.004	5
13	MP ALPHA3	Y	.015	3
14	MP ALPHA3	X	-.009	3
15	MP ALPHA1	Y	.011	1.333
16	MP ALPHA1	X	-.006	1.333
17	MP ALPHA2	Y	.027	2.5
18	MP ALPHA2	X	-.016	2.5
19	MP ALPHA3	Y	.041	.5
20	MP ALPHA3	X	-.024	.5

Member Point Loads (BLC 16 : Wind Load (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.285	7.5
2	MP ALPHA3	Y	.277	5.5
3	MP ALPHA1	Y	.06	4.667
4	SPIPE	Y	.038	2.25
5	MP ALPHA1	Y	.05	3
6	MP ALPHA2	Y	.058	5
7	MP ALPHA3	Y	.114	3
8	MP ALPHA1	Y	.06	1.333
9	MP ALPHA2	Y	.285	2.5
10	MP ALPHA3	Y	.277	.5

Member Point Loads (BLC 17 : Ice Wind Load (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.036	7.5
2	MP ALPHA3	Y	.055	5.5
3	MP ALPHA1	Y	.014	4.667
4	SPIPE	Y	.014	2.25
5	MP ALPHA1	Y	.01	3
6	MP ALPHA2	Y	.009	5
7	MP ALPHA3	Y	.019	3
8	MP ALPHA1	Y	.014	1.333
9	MP ALPHA2	Y	.036	2.5
10	MP ALPHA3	Y	.055	.5

Member Point Loads (BLC 18 : Wind Load (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.213	7.5
2	MP ALPHA2	X	.123	7.5
3	MP ALPHA3	Y	.203	5.5
4	MP ALPHA3	X	.117	5.5
5	MP ALPHA1	Y	.045	4.667
6	MP ALPHA1	X	.026	4.667

Member Point Loads (BLC 18 : Wind Load (210)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
7	SPIPE	Y	.034	2.25
8	SPIPE	X	.02	2.25
9	MP ALPHA1	Y	.041	3
10	MP ALPHA1	X	.024	3
11	MP ALPHA2	Y	.045	5
12	MP ALPHA2	X	.026	5
13	MP ALPHA3	Y	.093	3
14	MP ALPHA3	X	.053	3
15	MP ALPHA1	Y	.045	1.333
16	MP ALPHA1	X	.026	1.333
17	MP ALPHA2	Y	.213	2.5
18	MP ALPHA2	X	.123	2.5
19	MP ALPHA3	Y	.203	.5
20	MP ALPHA3	X	.117	.5

Member Point Loads (BLC 19 : Ice Wind Load (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.027	7.5
2	MP ALPHA2	X	.016	7.5
3	MP ALPHA3	Y	.041	5.5
4	MP ALPHA3	X	.024	5.5
5	MP ALPHA1	Y	.011	4.667
6	MP ALPHA1	X	.006	4.667
7	SPIPE	Y	.012	2.25
8	SPIPE	X	.007	2.25
9	MP ALPHA1	Y	.008	3
10	MP ALPHA1	X	.005	3
11	MP ALPHA2	Y	.007	5
12	MP ALPHA2	X	.004	5
13	MP ALPHA3	Y	.015	3
14	MP ALPHA3	X	.009	3
15	MP ALPHA1	Y	.011	1.333
16	MP ALPHA1	X	.006	1.333
17	MP ALPHA2	Y	.027	2.5
18	MP ALPHA2	X	.016	2.5
19	MP ALPHA3	Y	.041	.5
20	MP ALPHA3	X	.024	.5

Member Point Loads (BLC 20 : Wind Load (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.084	7.5
2	MP ALPHA2	X	.145	7.5
3	MP ALPHA3	Y	.074	5.5
4	MP ALPHA3	X	.128	5.5
5	MP ALPHA1	Y	.018	4.667
6	MP ALPHA1	X	.031	4.667
7	SPIPE	Y	.021	2.25
8	SPIPE	X	.036	2.25
9	MP ALPHA1	Y	.021	3
10	MP ALPHA1	X	.037	3
11	MP ALPHA2	Y	.02	5
12	MP ALPHA2	X	.034	5
13	MP ALPHA3	Y	.047	3
14	MP ALPHA3	X	.081	3
15	MP ALPHA1	Y	.018	1.333
16	MP ALPHA1	X	.031	1.333

Member Point Loads (BLC 20 : Wind Load (240)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
17	MP ALPHA2	Y	.084	2.5
18	MP ALPHA2	X	.145	2.5
19	MP ALPHA3	Y	.074	.5
20	MP ALPHA3	X	.128	.5

Member Point Loads (BLC 21 : Ice Wind Load (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.012	7.5
2	MP ALPHA2	X	.02	7.5
3	MP ALPHA3	Y	.016	5.5
4	MP ALPHA3	X	.029	5.5
5	MP ALPHA1	Y	.005	4.667
6	MP ALPHA1	X	.008	4.667
7	SPIPE	Y	.007	2.25
8	SPIPE	X	.012	2.25
9	MP ALPHA1	Y	.005	3
10	MP ALPHA1	X	.008	3
11	MP ALPHA2	Y	.004	5
12	MP ALPHA2	X	.006	5
13	MP ALPHA3	Y	.008	3
14	MP ALPHA3	X	.014	3
15	MP ALPHA1	Y	.005	1.333
16	MP ALPHA1	X	.008	1.333
17	MP ALPHA2	Y	.012	2.5
18	MP ALPHA2	X	.02	2.5
19	MP ALPHA3	Y	.016	.5
20	MP ALPHA3	X	.029	.5

Member Point Loads (BLC 22 : Wind Load (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.129	7.5
2	MP ALPHA3	X	.104	5.5
3	MP ALPHA1	X	.027	4.667
4	SPIPE	X	.042	2.25
5	MP ALPHA1	X	.04	3
6	MP ALPHA2	X	.033	5
7	MP ALPHA3	X	.087	3
8	MP ALPHA1	X	.027	1.333
9	MP ALPHA2	X	.129	2.5
10	MP ALPHA3	X	.104	.5

Member Point Loads (BLC 23 : Ice Wind Load (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.019	7.5
2	MP ALPHA3	X	.026	5.5
3	MP ALPHA1	X	.008	4.667
4	SPIPE	X	.014	2.25
5	MP ALPHA1	X	.009	3
6	MP ALPHA2	X	.006	5
7	MP ALPHA3	X	.015	3
8	MP ALPHA1	X	.008	1.333
9	MP ALPHA2	X	.019	2.5
10	MP ALPHA3	X	.026	.5

Member Point Loads (BLC 24 : Wind Load (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.084	7.5
2	MP ALPHA2	X	.145	7.5
3	MP ALPHA3	Y	-.074	5.5
4	MP ALPHA3	X	.128	5.5
5	MP ALPHA1	Y	-.018	4.667
6	MP ALPHA1	X	.031	4.667
7	SPIPE	Y	-.021	2.25
8	SPIPE	X	.036	2.25
9	MP ALPHA1	Y	-.021	3
10	MP ALPHA1	X	.037	3
11	MP ALPHA2	Y	-.02	5
12	MP ALPHA2	X	.034	5
13	MP ALPHA3	Y	-.047	3
14	MP ALPHA3	X	.081	3
15	MP ALPHA1	Y	-.018	1.333
16	MP ALPHA1	X	.031	1.333
17	MP ALPHA2	Y	-.084	2.5
18	MP ALPHA2	X	.145	2.5
19	MP ALPHA3	Y	-.074	.5
20	MP ALPHA3	X	.128	.5

Member Point Loads (BLC 25 : Ice Wind Load (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.012	7.5
2	MP ALPHA2	X	.02	7.5
3	MP ALPHA3	Y	-.016	5.5
4	MP ALPHA3	X	.029	5.5
5	MP ALPHA1	Y	-.005	4.667
6	MP ALPHA1	X	.008	4.667
7	SPIPE	Y	-.007	2.25
8	SPIPE	X	.012	2.25
9	MP ALPHA1	Y	-.005	3
10	MP ALPHA1	X	.008	3
11	MP ALPHA2	Y	-.004	5
12	MP ALPHA2	X	.006	5
13	MP ALPHA3	Y	-.008	3
14	MP ALPHA3	X	.014	3
15	MP ALPHA1	Y	-.005	1.333
16	MP ALPHA1	X	.008	1.333
17	MP ALPHA2	Y	-.012	2.5
18	MP ALPHA2	X	.02	2.5
19	MP ALPHA3	Y	-.016	.5
20	MP ALPHA3	X	.029	.5

Member Point Loads (BLC 26 : Wind Load (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.213	7.5
2	MP ALPHA2	X	.123	7.5
3	MP ALPHA3	Y	-.203	5.5
4	MP ALPHA3	X	.117	5.5
5	MP ALPHA1	Y	-.045	4.667
6	MP ALPHA1	X	.026	4.667
7	SPIPE	Y	-.034	2.25
8	SPIPE	X	.02	2.25
9	MP ALPHA1	Y	-.041	3
10	MP ALPHA1	X	.024	3

Member Point Loads (BLC 26 : Wind Load (330)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
11	MP ALPHA2	Y	-.045	5
12	MP ALPHA2	X	.026	5
13	MP ALPHA3	Y	-.093	3
14	MP ALPHA3	X	.053	3
15	MP ALPHA1	Y	-.045	1.333
16	MP ALPHA1	X	.026	1.333
17	MP ALPHA2	Y	-.213	2.5
18	MP ALPHA2	X	.123	2.5
19	MP ALPHA3	Y	-.203	.5
20	MP ALPHA3	X	.117	.5

Member Point Loads (BLC 27 : Ice Wind Load (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.027	7.5
2	MP ALPHA2	X	.016	7.5
3	MP ALPHA3	Y	-.041	5.5
4	MP ALPHA3	X	.024	5.5
5	MP ALPHA1	Y	-.011	4.667
6	MP ALPHA1	X	.006	4.667
7	SPIPE	Y	-.012	2.25
8	SPIPE	X	.007	2.25
9	MP ALPHA1	Y	-.008	3
10	MP ALPHA1	X	.005	3
11	MP ALPHA2	Y	-.007	5
12	MP ALPHA2	X	.004	5
13	MP ALPHA3	Y	-.015	3
14	MP ALPHA3	X	.009	3
15	MP ALPHA1	Y	-.011	1.333
16	MP ALPHA1	X	.006	1.333
17	MP ALPHA2	Y	-.027	2.5
18	MP ALPHA2	X	.016	2.5
19	MP ALPHA3	Y	-.041	.5
20	MP ALPHA3	X	.024	.5

Member Point Loads (BLC 28 : Maintanence (0))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.019	7.5
2	MP ALPHA3	Y	-.018	5.5
3	MP ALPHA1	Y	-.004	4.667
4	SPIPE	Y	-.003	2.25
5	MP ALPHA1	Y	-.003	3
6	MP ALPHA2	Y	-.004	5
7	MP ALPHA3	Y	-.007	3
8	MP ALPHA1	Y	-.004	1.333
9	MP ALPHA2	Y	-.019	2.5
10	MP ALPHA3	Y	-.018	.5

Member Point Loads (BLC 29 : Maintanence (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.014	7.5
2	MP ALPHA2	X	-.008	7.5
3	MP ALPHA3	Y	-.013	5.5
4	MP ALPHA3	X	-.008	5.5
5	MP ALPHA1	Y	-.003	4.667
6	MP ALPHA1	X	-.002	4.667

Member Point Loads (BLC 29 : Maintanence (30)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
7	SPIPE	Y	-.002	2.25
8	SPIPE	X	-.001	2.25
9	MP ALPHA1	Y	-.003	3
10	MP ALPHA1	X	-.002	3
11	MP ALPHA2	Y	-.003	5
12	MP ALPHA2	X	-.002	5
13	MP ALPHA3	Y	-.006	3
14	MP ALPHA3	X	-.004	3
15	MP ALPHA1	Y	-.003	1.333
16	MP ALPHA1	X	-.002	1.333
17	MP ALPHA2	Y	-.014	2.5
18	MP ALPHA2	X	-.008	2.5
19	MP ALPHA3	Y	-.013	.5
20	MP ALPHA3	X	-.008	.5

Member Point Loads (BLC 30 : Maintanence (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.006	7.5
2	MP ALPHA2	X	-.01	7.5
3	MP ALPHA3	Y	-.005	5.5
4	MP ALPHA3	X	-.008	5.5
5	MP ALPHA1	Y	-.001	4.667
6	MP ALPHA1	X	-.002	4.667
7	SPIPE	Y	-.001	2.25
8	SPIPE	X	-.002	2.25
9	MP ALPHA1	Y	-.001	3
10	MP ALPHA1	X	-.002	3
11	MP ALPHA2	Y	-.001	5
12	MP ALPHA2	X	-.002	5
13	MP ALPHA3	Y	-.003	3
14	MP ALPHA3	X	-.005	3
15	MP ALPHA1	Y	-.001	1.333
16	MP ALPHA1	X	-.002	1.333
17	MP ALPHA2	Y	-.006	2.5
18	MP ALPHA2	X	-.01	2.5
19	MP ALPHA3	Y	-.005	.5
20	MP ALPHA3	X	-.008	.5

Member Point Loads (BLC 31 : Maintanence (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.008	7.5
2	MP ALPHA3	X	-.007	5.5
3	MP ALPHA1	X	-.002	4.667
4	SPIPE	X	-.003	2.25
5	MP ALPHA1	X	-.003	3
6	MP ALPHA2	X	-.002	5
7	MP ALPHA3	X	-.006	3
8	MP ALPHA1	X	-.002	1.333
9	MP ALPHA2	X	-.008	2.5
10	MP ALPHA3	X	-.007	.5

Member Point Loads (BLC 32 : Maintanence (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.006	7.5
2	MP ALPHA2	X	-.01	7.5

Member Point Loads (BLC 32 : Maintanence (120)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
3	MP ALPHA3	Y	.005	5.5
4	MP ALPHA3	X	-.008	5.5
5	MP ALPHA1	Y	.001	4.667
6	MP ALPHA1	X	-.002	4.667
7	SPIPE	Y	.001	2.25
8	SPIPE	X	-.002	2.25
9	MP ALPHA1	Y	.001	3
10	MP ALPHA1	X	-.002	3
11	MP ALPHA2	Y	.001	5
12	MP ALPHA2	X	-.002	5
13	MP ALPHA3	Y	.003	3
14	MP ALPHA3	X	-.005	3
15	MP ALPHA1	Y	.001	1.333
16	MP ALPHA1	X	-.002	1.333
17	MP ALPHA2	Y	.006	2.5
18	MP ALPHA2	X	-.01	2.5
19	MP ALPHA3	Y	.005	.5
20	MP ALPHA3	X	-.008	.5

Member Point Loads (BLC 33 : Maintanence (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.014	7.5
2	MP ALPHA2	X	-.008	7.5
3	MP ALPHA3	Y	.013	5.5
4	MP ALPHA3	X	-.008	5.5
5	MP ALPHA1	Y	.003	4.667
6	MP ALPHA1	X	-.002	4.667
7	SPIPE	Y	.002	2.25
8	SPIPE	X	-.001	2.25
9	MP ALPHA1	Y	.003	3
10	MP ALPHA1	X	-.002	3
11	MP ALPHA2	Y	.003	5
12	MP ALPHA2	X	-.002	5
13	MP ALPHA3	Y	.006	3
14	MP ALPHA3	X	-.004	3
15	MP ALPHA1	Y	.003	1.333
16	MP ALPHA1	X	-.002	1.333
17	MP ALPHA2	Y	.014	2.5
18	MP ALPHA2	X	-.008	2.5
19	MP ALPHA3	Y	.013	.5
20	MP ALPHA3	X	-.008	.5

Member Point Loads (BLC 34 : Maintanence (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.019	7.5
2	MP ALPHA3	Y	.018	5.5
3	MP ALPHA1	Y	.004	4.667
4	SPIPE	Y	.003	2.25
5	MP ALPHA1	Y	.003	3
6	MP ALPHA2	Y	.004	5
7	MP ALPHA3	Y	.007	3
8	MP ALPHA1	Y	.004	1.333
9	MP ALPHA2	Y	.019	2.5
10	MP ALPHA3	Y	.018	.5

Member Point Loads (BLC 35 : Maintanence (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.014	7.5
2	MP ALPHA2	X	.008	7.5
3	MP ALPHA3	Y	.013	5.5
4	MP ALPHA3	X	.008	5.5
5	MP ALPHA1	Y	.003	4.667
6	MP ALPHA1	X	.002	4.667
7	SPIPE	Y	.002	2.25
8	SPIPE	X	.001	2.25
9	MP ALPHA1	Y	.003	3
10	MP ALPHA1	X	.002	3
11	MP ALPHA2	Y	.003	5
12	MP ALPHA2	X	.002	5
13	MP ALPHA3	Y	.006	3
14	MP ALPHA3	X	.004	3
15	MP ALPHA1	Y	.003	1.333
16	MP ALPHA1	X	.002	1.333
17	MP ALPHA2	Y	.014	2.5
18	MP ALPHA2	X	.008	2.5
19	MP ALPHA3	Y	.013	.5
20	MP ALPHA3	X	.008	.5

Member Point Loads (BLC 36 : Maintanence (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.006	7.5
2	MP ALPHA2	X	.01	7.5
3	MP ALPHA3	Y	.005	5.5
4	MP ALPHA3	X	.008	5.5
5	MP ALPHA1	Y	.001	4.667
6	MP ALPHA1	X	.002	4.667
7	SPIPE	Y	.001	2.25
8	SPIPE	X	.002	2.25
9	MP ALPHA1	Y	.001	3
10	MP ALPHA1	X	.002	3
11	MP ALPHA2	Y	.001	5
12	MP ALPHA2	X	.002	5
13	MP ALPHA3	Y	.003	3
14	MP ALPHA3	X	.005	3
15	MP ALPHA1	Y	.001	1.333
16	MP ALPHA1	X	.002	1.333
17	MP ALPHA2	Y	.006	2.5
18	MP ALPHA2	X	.01	2.5
19	MP ALPHA3	Y	.005	.5
20	MP ALPHA3	X	.008	.5

Member Point Loads (BLC 37 : Maintanence (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.008	7.5
2	MP ALPHA3	X	.007	5.5
3	MP ALPHA1	X	.002	4.667
4	SPIPE	X	.003	2.25
5	MP ALPHA1	X	.003	3
6	MP ALPHA2	X	.002	5
7	MP ALPHA3	X	.006	3
8	MP ALPHA1	X	.002	1.333
9	MP ALPHA2	X	.008	2.5
10	MP ALPHA3	X	.007	.5

Member Point Loads (BLC 38 : Maintanence (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.006	7.5
2	MP ALPHA2	X	.01	7.5
3	MP ALPHA3	Y	-.005	5.5
4	MP ALPHA3	X	.008	5.5
5	MP ALPHA1	Y	-.001	4.667
6	MP ALPHA1	X	.002	4.667
7	SPIPE	Y	-.001	2.25
8	SPIPE	X	.002	2.25
9	MP ALPHA1	Y	-.001	3
10	MP ALPHA1	X	.002	3
11	MP ALPHA2	Y	-.001	5
12	MP ALPHA2	X	.002	5
13	MP ALPHA3	Y	-.003	3
14	MP ALPHA3	X	.005	3
15	MP ALPHA1	Y	-.001	1.333
16	MP ALPHA1	X	.002	1.333
17	MP ALPHA2	Y	-.006	2.5
18	MP ALPHA2	X	.01	2.5
19	MP ALPHA3	Y	-.005	.5
20	MP ALPHA3	X	.008	.5

Member Point Loads (BLC 39 : Maintanence (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.014	7.5
2	MP ALPHA2	X	.008	7.5
3	MP ALPHA3	Y	-.013	5.5
4	MP ALPHA3	X	.008	5.5
5	MP ALPHA1	Y	-.003	4.667
6	MP ALPHA1	X	.002	4.667
7	SPIPE	Y	-.002	2.25
8	SPIPE	X	.001	2.25
9	MP ALPHA1	Y	-.003	3
10	MP ALPHA1	X	.002	3
11	MP ALPHA2	Y	-.003	5
12	MP ALPHA2	X	.002	5
13	MP ALPHA3	Y	-.006	3
14	MP ALPHA3	X	.004	3
15	MP ALPHA1	Y	-.003	1.333
16	MP ALPHA1	X	.002	1.333
17	MP ALPHA2	Y	-.014	2.5
18	MP ALPHA2	X	.008	2.5
19	MP ALPHA3	Y	-.013	.5
20	MP ALPHA3	X	.008	.5

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Member Distributed Loads (BLC 1 : Wind Load (0))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.01	-.01	0	0
2	VERT	PY	-.011	-.011	0	0
3	STANDOFF	PY	-.017	-.017	0	0

Member Distributed Loads (BLC 1 : Wind Load (0)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
4	SPIPE	PY	-.007	-.007	0	0
5	MP ALPHA1	PY	-.007	-.007	0	0
6	MP ALPHA2	PY	-.007	-.007	0	0
7	MP ALPHA3	PY	-.007	-.007	0	0
8	MODFACE	PY	-.01	-.01	0	0
9	STABILIZER1	PY	-.017	-.017	0	0
10	STABILIZER2	PY	-.017	-.017	0	0

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

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.004	-.004	0	0
2	VERT	PY	-.004	-.004	0	0
3	STANDOFF	PY	-.004	-.004	0	0
4	SPIPE	PY	-.003	-.003	0	0
5	MP ALPHA1	PY	-.003	-.003	0	0
6	MP ALPHA2	PY	-.003	-.003	0	0
7	MP ALPHA3	PY	-.003	-.003	0	0
8	MODFACE	PY	-.004	-.004	0	0
9	STABILIZER1	PY	-.004	-.004	0	0
10	STABILIZER2	PY	-.004	-.004	0	0

Member Distributed Loads (BLC 5 : Ice Dead Load)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	Z	-.011	-.011	0	0
2	VERT	Z	-.012	-.012	0	0
3	STANDOFF	Z	-.015	-.015	0	0
4	SPIPE	Z	-.009	-.009	0	0
5	MP ALPHA1	Z	-.009	-.009	0	0
6	MP ALPHA2	Z	-.009	-.009	0	0
7	MP ALPHA3	Z	-.009	-.009	0	0
8	MODFACE	Z	-.011	-.011	0	0
9	STABILIZER1	Z	-.015	-.015	0	0
10	STABILIZER2	Z	-.015	-.015	0	0

Member Distributed Loads (BLC 6 : Wind Load (30))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.009	-.009	0	0
2	VERT	PY	-.01	-.01	0	0
3	STANDOFF	PY	-.015	-.015	0	0
4	SPIPE	PY	-.006	-.006	0	0
5	MP ALPHA1	PY	-.006	-.006	0	0
6	MP ALPHA2	PY	-.006	-.006	0	0
7	MP ALPHA3	PY	-.006	-.006	0	0
8	FACE	PX	-.005	-.005	0	0
9	VERT	PX	-.005	-.005	0	0
10	STANDOFF	PX	-.009	-.009	0	0
11	SPIPE	PX	-.004	-.004	0	0
12	MP ALPHA1	PX	-.004	-.004	0	0
13	MP ALPHA2	PX	-.004	-.004	0	0
14	MP ALPHA3	PX	-.004	-.004	0	0
15	MODFACE	PY	-.009	-.009	0	0
16	MODFACE	PX	-.005	-.005	0	0
17	STABILIZER1	PY	-.015	-.015	0	0
18	STABILIZER1	PX	-.009	-.009	0	0
19	STABILIZER2	PY	-.015	-.015	0	0

Member Distributed Loads (BLC 6 : Wind Load (30)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
20	STABILIZER2	PX	-.009	-.009	0	0

Member Distributed Loads (BLC 7 : Ice Wind Load (30))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.003	-.003	0	0
2	VERT	PY	-.003	-.003	0	0
3	STANDOFF	PY	-.003	-.003	0	0
4	SPIPE	PY	-.003	-.003	0	0
5	MP ALPHA1	PY	-.003	-.003	0	0
6	MP ALPHA2	PY	-.003	-.003	0	0
7	MP ALPHA3	PY	-.003	-.003	0	0
8	FACE	PX	-.002	-.002	0	0
9	VERT	PX	-.002	-.002	0	0
10	STANDOFF	PX	-.002	-.002	0	0
11	SPIPE	PX	-.002	-.002	0	0
12	MP ALPHA1	PX	-.002	-.002	0	0
13	MP ALPHA2	PX	-.002	-.002	0	0
14	MP ALPHA3	PX	-.002	-.002	0	0
15	MODFACE	PY	-.003	-.003	0	0
16	MODFACE	PX	-.002	-.002	0	0
17	STABILIZER1	PY	-.003	-.003	0	0
18	STABILIZER1	PX	-.002	-.002	0	0
19	STABILIZER2	PY	-.003	-.003	0	0
20	STABILIZER2	PX	-.002	-.002	0	0

Member Distributed Loads (BLC 8 : Wind Load (60))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.005	-.005	0	0
2	VERT	PY	-.005	-.005	0	0
3	STANDOFF	PY	-.009	-.009	0	0
4	SPIPE	PY	-.004	-.004	0	0
5	MP ALPHA1	PY	-.004	-.004	0	0
6	MP ALPHA2	PY	-.004	-.004	0	0
7	MP ALPHA3	PY	-.004	-.004	0	0
8	FACE	PX	-.009	-.009	0	0
9	VERT	PX	-.01	-.01	0	0
10	STANDOFF	PX	-.015	-.015	0	0
11	SPIPE	PX	-.006	-.006	0	0
12	MP ALPHA1	PX	-.006	-.006	0	0
13	MP ALPHA2	PX	-.006	-.006	0	0
14	MP ALPHA3	PX	-.006	-.006	0	0
15	MODFACE	PY	-.005	-.005	0	0
16	MODFACE	PX	-.009	-.009	0	0
17	STABILIZER1	PY	-.009	-.009	0	0
18	STABILIZER1	PX	-.015	-.015	0	0
19	STABILIZER2	PY	-.009	-.009	0	0
20	STABILIZER2	PX	-.015	-.015	0	0

Member Distributed Loads (BLC 9 : Ice Wind Load (60))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.002	-.002	0	0
2	VERT	PY	-.002	-.002	0	0
3	STANDOFF	PY	-.002	-.002	0	0
4	SPIPE	PY	-.002	-.002	0	0
5	MP ALPHA1	PY	-.002	-.002	0	0

Member Distributed Loads (BLC 9 : Ice Wind Load (60)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
6	MP ALPHA2	PY	-.002	-.002	0	0
7	MP ALPHA3	PY	-.002	-.002	0	0
8	FACE	PX	-.003	-.003	0	0
9	VERT	PX	-.003	-.003	0	0
10	STANDOFF	PX	-.003	-.003	0	0
11	SPIPE	PX	-.003	-.003	0	0
12	MP ALPHA1	PX	-.003	-.003	0	0
13	MP ALPHA2	PX	-.003	-.003	0	0
14	MP ALPHA3	PX	-.003	-.003	0	0
15	MODFACE	PY	-.002	-.002	0	0
16	MODFACE	PX	-.003	-.003	0	0
17	STABILIZER1	PY	-.002	-.002	0	0
18	STABILIZER1	PX	-.003	-.003	0	0
19	STABILIZER2	PY	-.002	-.002	0	0
20	STABILIZER2	PX	-.003	-.003	0	0

Member Distributed Loads (BLC 10 : Wind Load (90))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	-.01	-.01	0	0
2	VERT	PX	-.011	-.011	0	0
3	STANDOFF	PX	-.017	-.017	0	0
4	SPIPE	PX	-.007	-.007	0	0
5	MP ALPHA1	PX	-.007	-.007	0	0
6	MP ALPHA2	PX	-.007	-.007	0	0
7	MP ALPHA3	PX	-.007	-.007	0	0
8	MODFACE	PX	-.01	-.01	0	0
9	STABILIZER1	PX	-.017	-.017	0	0
10	STABILIZER2	PX	-.017	-.017	0	0

Member Distributed Loads (BLC 11 : Ice Wind Load (90))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	-.004	-.004	0	0
2	VERT	PX	-.004	-.004	0	0
3	STANDOFF	PX	-.004	-.004	0	0
4	SPIPE	PX	-.003	-.003	0	0
5	MP ALPHA1	PX	-.003	-.003	0	0
6	MP ALPHA2	PX	-.003	-.003	0	0
7	MP ALPHA3	PX	-.003	-.003	0	0
8	MODFACE	PX	-.004	-.004	0	0
9	STABILIZER1	PX	-.004	-.004	0	0
10	STABILIZER2	PX	-.004	-.004	0	0

Member Distributed Loads (BLC 12 : Wind Load (120))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.005	.005	0	0
2	VERT	PY	.005	.005	0	0
3	STANDOFF	PY	.009	.009	0	0
4	SPIPE	PY	.004	.004	0	0
5	MP ALPHA1	PY	.004	.004	0	0
6	MP ALPHA2	PY	.004	.004	0	0
7	MP ALPHA3	PY	.004	.004	0	0
8	FACE	PX	-.009	-.009	0	0
9	VERT	PX	-.01	-.01	0	0
10	STANDOFF	PX	-.015	-.015	0	0
11	SPIPE	PX	-.006	-.006	0	0

Member Distributed Loads (BLC 12 : Wind Load (120)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
12	MP ALPHA1	PX	-.006	-.006	0	0
13	MP ALPHA2	PX	-.006	-.006	0	0
14	MP ALPHA3	PX	-.006	-.006	0	0
15	MODFACE	PY	.005	.005	0	0
16	MODFACE	PX	-.009	-.009	0	0
17	STABILIZER1	PY	.009	.009	0	0
18	STABILIZER1	PX	-.015	-.015	0	0
19	STABILIZER2	PY	.009	.009	0	0
20	STABILIZER2	PX	-.015	-.015	0	0

Member Distributed Loads (BLC 13 : Ice Wind Load (120))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.002	.002	0	0
2	VERT	PY	.002	.002	0	0
3	STANDOFF	PY	.002	.002	0	0
4	SPIPE	PY	.002	.002	0	0
5	MP ALPHA1	PY	.002	.002	0	0
6	MP ALPHA2	PY	.002	.002	0	0
7	MP ALPHA3	PY	.002	.002	0	0
8	FACE	PX	-.003	-.003	0	0
9	VERT	PX	-.003	-.003	0	0
10	STANDOFF	PX	-.003	-.003	0	0
11	SPIPE	PX	-.003	-.003	0	0
12	MP ALPHA1	PX	-.003	-.003	0	0
13	MP ALPHA2	PX	-.003	-.003	0	0
14	MP ALPHA3	PX	-.003	-.003	0	0
15	MODFACE	PY	.002	.002	0	0
16	MODFACE	PX	-.003	-.003	0	0
17	STABILIZER1	PY	.002	.002	0	0
18	STABILIZER1	PX	-.003	-.003	0	0
19	STABILIZER2	PY	.002	.002	0	0
20	STABILIZER2	PX	-.003	-.003	0	0

Member Distributed Loads (BLC 14 : Wind Load (150))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.009	.009	0	0
2	VERT	PY	.01	.01	0	0
3	STANDOFF	PY	.015	.015	0	0
4	SPIPE	PY	.006	.006	0	0
5	MP ALPHA1	PY	.006	.006	0	0
6	MP ALPHA2	PY	.006	.006	0	0
7	MP ALPHA3	PY	.006	.006	0	0
8	FACE	PX	-.005	-.005	0	0
9	VERT	PX	-.005	-.005	0	0
10	STANDOFF	PX	-.009	-.009	0	0
11	SPIPE	PX	-.004	-.004	0	0
12	MP ALPHA1	PX	-.004	-.004	0	0
13	MP ALPHA2	PX	-.004	-.004	0	0
14	MP ALPHA3	PX	-.004	-.004	0	0
15	MODFACE	PY	.009	.009	0	0
16	MODFACE	PX	-.005	-.005	0	0
17	STABILIZER1	PY	.015	.015	0	0
18	STABILIZER1	PX	-.009	-.009	0	0
19	STABILIZER2	PY	.015	.015	0	0
20	STABILIZER2	PX	-.009	-.009	0	0

Member Distributed Loads (BLC 15 : Ice Wind Load (150))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.003	.003	0	0
2	VERT	PY	.003	.003	0	0
3	STANDOFF	PY	.003	.003	0	0
4	SPIPE	PY	.003	.003	0	0
5	MP ALPHA1	PY	.003	.003	0	0
6	MP ALPHA2	PY	.003	.003	0	0
7	MP ALPHA3	PY	.003	.003	0	0
8	FACE	PX	-.002	-.002	0	0
9	VERT	PX	-.002	-.002	0	0
10	STANDOFF	PX	-.002	-.002	0	0
11	SPIPE	PX	-.002	-.002	0	0
12	MP ALPHA1	PX	-.002	-.002	0	0
13	MP ALPHA2	PX	-.002	-.002	0	0
14	MP ALPHA3	PX	-.002	-.002	0	0
15	MODFACE	PY	.003	.003	0	0
16	MODFACE	PX	-.002	-.002	0	0
17	STABILIZER1	PY	.003	.003	0	0
18	STABILIZER1	PX	-.002	-.002	0	0
19	STABILIZER2	PY	.003	.003	0	0
20	STABILIZER2	PX	-.002	-.002	0	0

Member Distributed Loads (BLC 16 : Wind Load (180))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.01	.01	0	0
2	VERT	PY	.011	.011	0	0
3	STANDOFF	PY	.017	.017	0	0
4	SPIPE	PY	.007	.007	0	0
5	MP ALPHA1	PY	.007	.007	0	0
6	MP ALPHA2	PY	.007	.007	0	0
7	MP ALPHA3	PY	.007	.007	0	0
8	MODFACE	PY	.01	.01	0	0
9	STABILIZER1	PY	.017	.017	0	0
10	STABILIZER2	PY	.017	.017	0	0

Member Distributed Loads (BLC 17 : Ice Wind Load (180))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.004	.004	0	0
2	VERT	PY	.004	.004	0	0
3	STANDOFF	PY	.004	.004	0	0
4	SPIPE	PY	.003	.003	0	0
5	MP ALPHA1	PY	.003	.003	0	0
6	MP ALPHA2	PY	.003	.003	0	0
7	MP ALPHA3	PY	.003	.003	0	0
8	MODFACE	PY	.004	.004	0	0
9	STABILIZER1	PY	.004	.004	0	0
10	STABILIZER2	PY	.004	.004	0	0

Member Distributed Loads (BLC 18 : Wind Load (210))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.009	.009	0	0
2	VERT	PY	.01	.01	0	0
3	STANDOFF	PY	.015	.015	0	0
4	SPIPE	PY	.006	.006	0	0
5	MP ALPHA1	PY	.006	.006	0	0
6	MP ALPHA2	PY	.006	.006	0	0

Member Distributed Loads (BLC 18 : Wind Load (210)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
7	MP ALPHA3	PY	.006	.006	0	0
8	FACE	PX	.005	.005	0	0
9	VERT	PX	.005	.005	0	0
10	STANDOFF	PX	.009	.009	0	0
11	SPIPE	PX	.004	.004	0	0
12	MP ALPHA1	PX	.004	.004	0	0
13	MP ALPHA2	PX	.004	.004	0	0
14	MP ALPHA3	PX	.004	.004	0	0
15	MODFACE	PY	.009	.009	0	0
16	MODFACE	PX	.005	.005	0	0
17	STABILIZER1	PY	.015	.015	0	0
18	STABILIZER1	PX	.009	.009	0	0
19	STABILIZER2	PY	.015	.015	0	0
20	STABILIZER2	PX	.009	.009	0	0

Member Distributed Loads (BLC 19 : Ice Wind Load (210))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.003	.003	0	0
2	VERT	PY	.003	.003	0	0
3	STANDOFF	PY	.003	.003	0	0
4	SPIPE	PY	.003	.003	0	0
5	MP ALPHA1	PY	.003	.003	0	0
6	MP ALPHA2	PY	.003	.003	0	0
7	MP ALPHA3	PY	.003	.003	0	0
8	FACE	PX	.002	.002	0	0
9	VERT	PX	.002	.002	0	0
10	STANDOFF	PX	.002	.002	0	0
11	SPIPE	PX	.002	.002	0	0
12	MP ALPHA1	PX	.002	.002	0	0
13	MP ALPHA2	PX	.002	.002	0	0
14	MP ALPHA3	PX	.002	.002	0	0
15	MODFACE	PY	.003	.003	0	0
16	MODFACE	PX	.002	.002	0	0
17	STABILIZER1	PY	.003	.003	0	0
18	STABILIZER1	PX	.002	.002	0	0
19	STABILIZER2	PY	.003	.003	0	0
20	STABILIZER2	PX	.002	.002	0	0

Member Distributed Loads (BLC 20 : Wind Load (240))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.005	.005	0	0
2	VERT	PY	.005	.005	0	0
3	STANDOFF	PY	.009	.009	0	0
4	SPIPE	PY	.004	.004	0	0
5	MP ALPHA1	PY	.004	.004	0	0
6	MP ALPHA2	PY	.004	.004	0	0
7	MP ALPHA3	PY	.004	.004	0	0
8	FACE	PX	.009	.009	0	0
9	VERT	PX	.01	.01	0	0
10	STANDOFF	PX	.015	.015	0	0
11	SPIPE	PX	.006	.006	0	0
12	MP ALPHA1	PX	.006	.006	0	0
13	MP ALPHA2	PX	.006	.006	0	0
14	MP ALPHA3	PX	.006	.006	0	0
15	MODFACE	PY	.005	.005	0	0
16	MODFACE	PX	.009	.009	0	0

Member Distributed Loads (BLC 20 : Wind Load (240)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
17	STABILIZER1	PY	.009	.009	0	0
18	STABILIZER1	PX	.015	.015	0	0
19	STABILIZER2	PY	.009	.009	0	0
20	STABILIZER2	PX	.015	.015	0	0

Member Distributed Loads (BLC 21 : Ice Wind Load (240))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.002	.002	0	0
2	VERT	PY	.002	.002	0	0
3	STANDOFF	PY	.002	.002	0	0
4	SPIPE	PY	.002	.002	0	0
5	MP ALPHA1	PY	.002	.002	0	0
6	MP ALPHA2	PY	.002	.002	0	0
7	MP ALPHA3	PY	.002	.002	0	0
8	FACE	PX	.003	.003	0	0
9	VERT	PX	.003	.003	0	0
10	STANDOFF	PX	.003	.003	0	0
11	SPIPE	PX	.003	.003	0	0
12	MP ALPHA1	PX	.003	.003	0	0
13	MP ALPHA2	PX	.003	.003	0	0
14	MP ALPHA3	PX	.003	.003	0	0
15	MODFACE	PY	.002	.002	0	0
16	MODFACE	PX	.003	.003	0	0
17	STABILIZER1	PY	.002	.002	0	0
18	STABILIZER1	PX	.003	.003	0	0
19	STABILIZER2	PY	.002	.002	0	0
20	STABILIZER2	PX	.003	.003	0	0

Member Distributed Loads (BLC 22 : Wind Load (270))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	.01	.01	0	0
2	VERT	PX	.011	.011	0	0
3	STANDOFF	PX	.017	.017	0	0
4	SPIPE	PX	.007	.007	0	0
5	MP ALPHA1	PX	.007	.007	0	0
6	MP ALPHA2	PX	.007	.007	0	0
7	MP ALPHA3	PX	.007	.007	0	0
8	MODFACE	PX	.01	.01	0	0
9	STABILIZER1	PX	.017	.017	0	0
10	STABILIZER2	PX	.017	.017	0	0

Member Distributed Loads (BLC 23 : Ice Wind Load (270))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	.004	.004	0	0
2	VERT	PX	.004	.004	0	0
3	STANDOFF	PX	.004	.004	0	0
4	SPIPE	PX	.003	.003	0	0
5	MP ALPHA1	PX	.003	.003	0	0
6	MP ALPHA2	PX	.003	.003	0	0
7	MP ALPHA3	PX	.003	.003	0	0
8	MODFACE	PX	.004	.004	0	0
9	STABILIZER1	PX	.004	.004	0	0
10	STABILIZER2	PX	.004	.004	0	0

Member Distributed Loads (BLC 24 : Wind Load (300))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.005	-.005	0	0
2	VERT	PY	-.005	-.005	0	0
3	STANDOFF	PY	-.009	-.009	0	0
4	SPIPE	PY	-.004	-.004	0	0
5	MP ALPHA1	PY	-.004	-.004	0	0
6	MP ALPHA2	PY	-.004	-.004	0	0
7	MP ALPHA3	PY	-.004	-.004	0	0
8	FACE	PX	.009	.009	0	0
9	VERT	PX	.01	.01	0	0
10	STANDOFF	PX	.015	.015	0	0
11	SPIPE	PX	.006	.006	0	0
12	MP ALPHA1	PX	.006	.006	0	0
13	MP ALPHA2	PX	.006	.006	0	0
14	MP ALPHA3	PX	.006	.006	0	0
15	MODFACE	PY	-.005	-.005	0	0
16	MODFACE	PX	.009	.009	0	0
17	STABILIZER1	PY	-.009	-.009	0	0
18	STABILIZER1	PX	.015	.015	0	0
19	STABILIZER2	PY	-.009	-.009	0	0
20	STABILIZER2	PX	.015	.015	0	0

Member Distributed Loads (BLC 25 : Ice Wind Load (300))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.002	-.002	0	0
2	VERT	PY	-.002	-.002	0	0
3	STANDOFF	PY	-.002	-.002	0	0
4	SPIPE	PY	-.002	-.002	0	0
5	MP ALPHA1	PY	-.002	-.002	0	0
6	MP ALPHA2	PY	-.002	-.002	0	0
7	MP ALPHA3	PY	-.002	-.002	0	0
8	FACE	PX	.003	.003	0	0
9	VERT	PX	.003	.003	0	0
10	STANDOFF	PX	.003	.003	0	0
11	SPIPE	PX	.003	.003	0	0
12	MP ALPHA1	PX	.003	.003	0	0
13	MP ALPHA2	PX	.003	.003	0	0
14	MP ALPHA3	PX	.003	.003	0	0
15	MODFACE	PY	-.002	-.002	0	0
16	MODFACE	PX	.003	.003	0	0
17	STABILIZER1	PY	-.002	-.002	0	0
18	STABILIZER1	PX	.003	.003	0	0
19	STABILIZER2	PY	-.002	-.002	0	0
20	STABILIZER2	PX	.003	.003	0	0

Member Distributed Loads (BLC 26 : Wind Load (330))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.009	-.009	0	0
2	VERT	PY	-.01	-.01	0	0
3	STANDOFF	PY	-.015	-.015	0	0
4	SPIPE	PY	-.006	-.006	0	0
5	MP ALPHA1	PY	-.006	-.006	0	0
6	MP ALPHA2	PY	-.006	-.006	0	0
7	MP ALPHA3	PY	-.006	-.006	0	0
8	FACE	PX	.005	.005	0	0
9	VERT	PX	.005	.005	0	0
10	STANDOFF	PX	.009	.009	0	0

Member Distributed Loads (BLC 26 : Wind Load (330)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
11	SPIPE	PX	.004	.004	0	0
12	MP ALPHA1	PX	.004	.004	0	0
13	MP ALPHA2	PX	.004	.004	0	0
14	MP ALPHA3	PX	.004	.004	0	0
15	MODFACE	PY	-.009	-.009	0	0
16	MODFACE	PX	.005	.005	0	0
17	STABILIZER1	PY	-.015	-.015	0	0
18	STABILIZER1	PX	.009	.009	0	0
19	STABILIZER2	PY	-.015	-.015	0	0
20	STABILIZER2	PX	.009	.009	0	0

Member Distributed Loads (BLC 27 : Ice Wind Load (330))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.003	-.003	0	0
2	VERT	PY	-.003	-.003	0	0
3	STANDOFF	PY	-.003	-.003	0	0
4	SPIPE	PY	-.003	-.003	0	0
5	MP ALPHA1	PY	-.003	-.003	0	0
6	MP ALPHA2	PY	-.003	-.003	0	0
7	MP ALPHA3	PY	-.003	-.003	0	0
8	FACE	PX	.002	.002	0	0
9	VERT	PX	.002	.002	0	0
10	STANDOFF	PX	.002	.002	0	0
11	SPIPE	PX	.002	.002	0	0
12	MP ALPHA1	PX	.002	.002	0	0
13	MP ALPHA2	PX	.002	.002	0	0
14	MP ALPHA3	PX	.002	.002	0	0
15	MODFACE	PY	-.003	-.003	0	0
16	MODFACE	PX	.002	.002	0	0
17	STABILIZER1	PY	-.003	-.003	0	0
18	STABILIZER1	PX	.002	.002	0	0
19	STABILIZER2	PY	-.003	-.003	0	0
20	STABILIZER2	PX	.002	.002	0	0

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N7	max	.256	14	.577	2	2.598	21	-2.224	2	1.813	19	.635	14
2		min	-1.015	34	-.912	20	.881	35	-7.281	21	.255	35	-3.043	34
3	N36	max	1.022	10	1.427	2	.448	3	-.127	14	.188	4	5.073	17
4		min	-.401	26	-1.092	20	.156	17	-.354	36	-.03	20	-3.68	35
5	Totals:	max	1.073	14	2.004	2	3.023	21						
6		min	-1.073	32	-2.004	20	1.09	2						

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Wind Load (0)	WL					10	10		
2	Dead Load	DL			-1.1		10			
3	Live Load	LL					1			
4	Ice Wind Load (0)	OL1					10	10		
5	Ice Dead Load	OL2					10	10		
6	Wind Load (30)	WL					20	20		
7	Ice Wind Load (30)	OL1					20	20		
8	Wind Load (60)	WL					20	20		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
9	Ice Wind Load (60)	OL1					20	20		
10	Wind Load (90)	WL					10	10		
11	Ice Wind Load (90)	OL1					10	10		
12	Wind Load (120)	WL					20	20		
13	Ice Wind Load (120)	OL1					20	20		
14	Wind Load (150)	WL					20	20		
15	Ice Wind Load (150)	OL1					20	20		
16	Wind Load (180)	WL					10	10		
17	Ice Wind Load (180)	OL1					10	10		
18	Wind Load (210)	WL					20	20		
19	Ice Wind Load (210)	OL1					20	20		
20	Wind Load (240)	WL					20	20		
21	Ice Wind Load (240)	OL1					20	20		
22	Wind Load (270)	WL					10	10		
23	Ice Wind Load (270)	OL1					10	10		
24	Wind Load (300)	WL					20	20		
25	Ice Wind Load (300)	OL1					20	20		
26	Wind Load (330)	WL					20	20		
27	Ice Wind Load (330)	OL1					20	20		
28	Maintanence (0)	OL3					10			
29	Maintanence (30)	OL3					20			
30	Maintanence (60)	OL3					20			
31	Maintanence (90)	OL3					10			
32	Maintanence (120)	OL3					20			
33	Maintanence (150)	OL3					20			
34	Maintanence (180)	OL3					10			
35	Maintanence (210)	OL3					20			
36	Maintanence (240)	OL3					20			
37	Maintanence (270)	OL3					10			
38	Maintanence (300)	OL3					20			
39	Maintanence (330)	OL3					20			
40	Earthquake (x-directi...	EL	-.103							
41	Earthquake (y-directi...	EL		-.103						
42	Earthquake (z-directi...	EL			-.041					

Load Combinations

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		2	1.4																				
2	1.2D + 1.0W(0)	Yes	Y		2	1.2	1	1																		
3	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	4	1																
4	1.2D + 1.5L + 1.0Wl(0)	Yes	Y		2	1.2	3	1.5	28	1																
5	1.2D + 1.0W(30)	Yes	Y		2	1.2	6	1																		
6	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	7	1																
7	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	29	1																
8	1.2D + 1.0W(60)	Yes	Y		2	1.2	8	1																		
9	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	9	1																
10	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	30	1																
11	1.2D + 1.0W(90)	Yes	Y		2	1.2	10	1																		
12	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	11	1																
13	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	31	1																
14	1.2D + 1.0W(120)	Yes	Y		2	1.2	12	1																		
15	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	13	1																
16	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	32	1																
17	1.2D + 1.0W(150)	Yes	Y		2	1.2	14	1																		
18	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	15	1																

Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
19	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	33	1														
20	1.2D + 1.0W(180)	Yes	Y		2	1.2	16	1																
21	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	17	1														
22	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	34	1														
23	1.2D + 1.0W(210)	Yes	Y		2	1.2	18	1																
24	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	19	1														
25	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	35	1														
26	1.2D + 1.0W(240)	Yes	Y		2	1.2	20	1																
27	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	21	1														
28	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	36	1														
29	1.2D + 1.0W(270)	Yes	Y		2	1.2	22	1																
30	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	23	1														
31	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	37	1														
32	1.2D + 1.0W(300)	Yes	Y		2	1.2	24	1																
33	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	25	1														
34	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	38	1														
35	1.2D + 1.0W(330)	Yes	Y		2	1.2	26	1																
36	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	27	1														
37	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	39	1														
38	1.2D + 1.0E(x) + 1.0E...	Yes	Y		2	1.2	40	1	42	1	3	1												
39	1.2D + 1.0E(y) + 1.0E...	Yes	Y		2	1.2	41	1	42	1	3	1												
40	1.2D - 1.0E(x) + 1.0E(...	Yes	Y		2	1.2	40	-1	42	1	3	1												
41	1.2D - 1.0E(y) + 1.0E(...	Yes	Y		2	1.2	41	-1	42	1	3	1												

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

	Member	Shape	Code Check	Lo...	LC	She...	Loc[ft]	Dir	LC	phi*...	phi*...	phi*...	phi*...	...	Eqn
1	MP ALPHA3	PIPE_2.0	.732	.25	4	.080	.25		36	20.8...	32.13	1.872	1.872	...	H1-...
2	STANDOFF	HSS4X4X4	.578	3	27	.174	3	z	19	134....	139....	16.1...	16.1...	...	H1-...
3	MP ALPHA2	PIPE_2.0	.553	3	27	.146	3		20	14.9...	32.13	1.872	1.872	...	H1-...
4	FACE	PIPE_3.0	.512	6.25	21	.216	6.25		3	28.2...	65.2...	5.749	5.749	...	H1-...
5	MODFACE	PIPE_2.5	.493	3....	2	.115	3.125		21	14.5...	50.7...	3.596	3.596	...	H1-...
6	MP ALPHA1	PIPE_2.0	.330	.25	18	.073	.25		15	20.8...	32.13	1.872	1.872	...	H1-...
7	SPIPE	PIPE_2.0	.053	.258	11	.006	.258		11	30.2...	32.13	1.872	1.872	...	H1-...
8	VERT	PIPE_3.5	.000	.5	5	.000	.5		5	78.43	78.75	7.954	7.954	...	H1-...

Envelope AISI S100-16: LRFD Cold Formed Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shea...	Loc[...	Dir	LC	phi*Pn...	phi*Tn...	phi*M...	phi*M...	phi*...	phi*...	Cb	Eqn
1	Connection	MTC340501	.380	.67	17	.230	.67	y	21	107.283	142.028	10.981	19.906	17.9...	53.8...	1.222	H1.2-1
2	STABILIZE...	MTC340501	.370	3.876	17	.022	0	z	19	96.37	142.028	10.981	19.906	17.9...	53.8...	1.534	H1.2-1
3	STABILIZE...	MTC340502	.316	0	2	.045	3.876	y	4	20.874	38.653	1.901	2.275	17.6...	25.2...	1.887	H1.1-2

APPENDIX D

Additional Calculations (Alpha)

POD Job #	**20-63609**
Site Number	**876402**
Site Name	**STAFFORD/PRAGYL/SSUSA**

Calculations Based on *TIA-222-H*

Reactions from RISA-3D

Moment	7.281	ft-kip
Axial	1.015	kips
Shear	0.912	kips

Capacities

Bolts	*13.7%*
Flange Plate	*41.9%*

Bolt Information

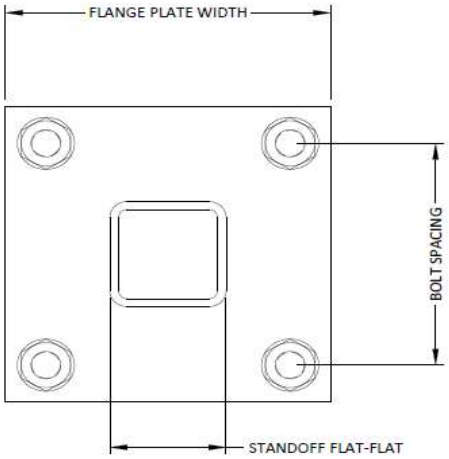
Grade	A325	
Threads in Shear Plane	Included	
Diameter	0.625	in.
Bolt Spacing	6	in.
Number of Rods	4	

Flange Plate Inforation

Width	7.875	in.
Thickness	0.75	in.
Grade	A36	

Standoff Information

Standoff Member	HSS	
Flat-Flat	4	in.
Thickness	0.25	in.



Bolt Calculations

ϕ	0.75	
A_{nt}	0.226	in^2
A_b	0.307	in^2
Fu	120	ksi
ϕR_{nV}	13.81	kips
ϕR_{nt}	20.34	kips
V	0.23	kips
F	7.52	kips
Capacity	13.7%	

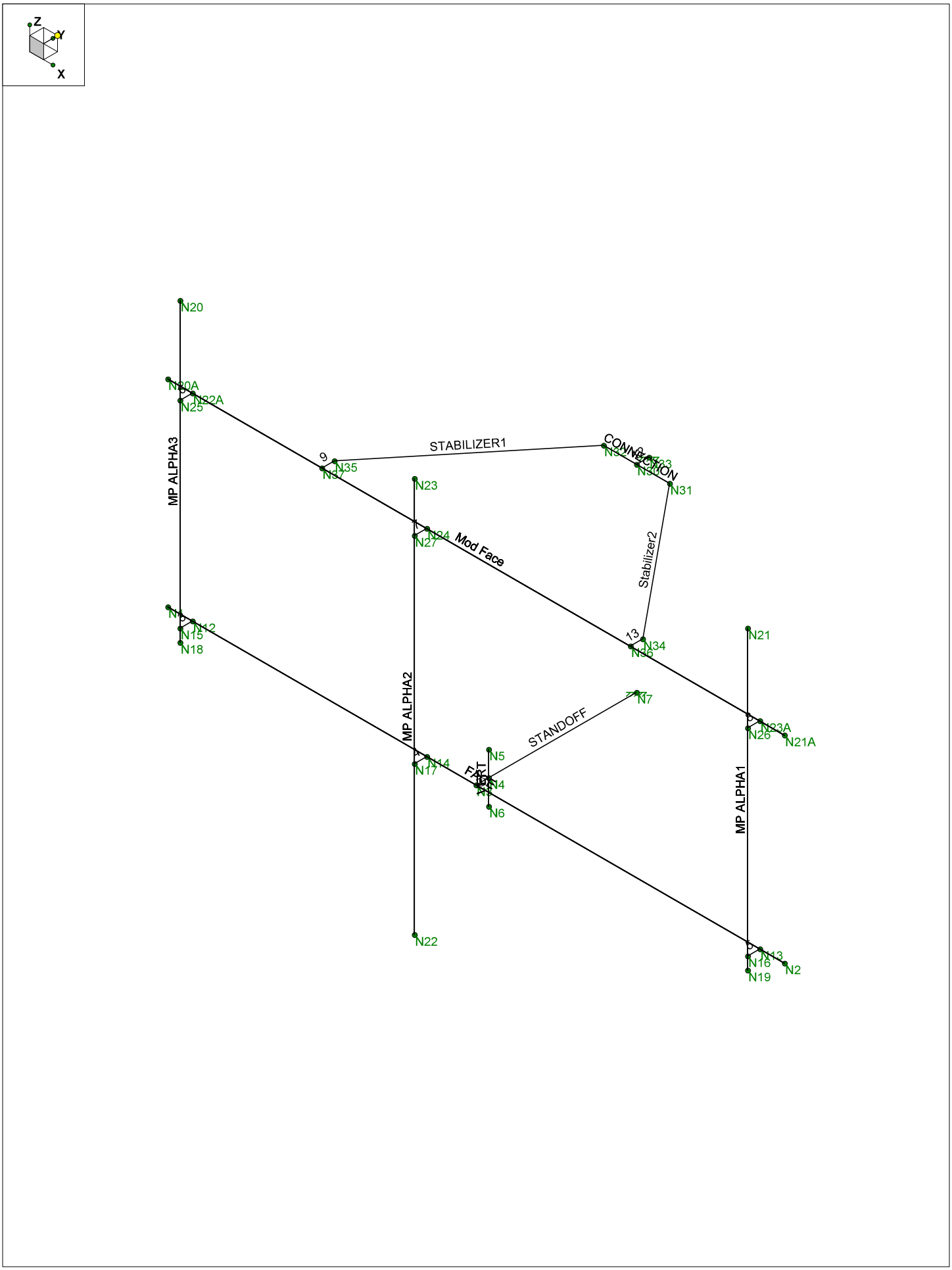
Flange Plate Calculations

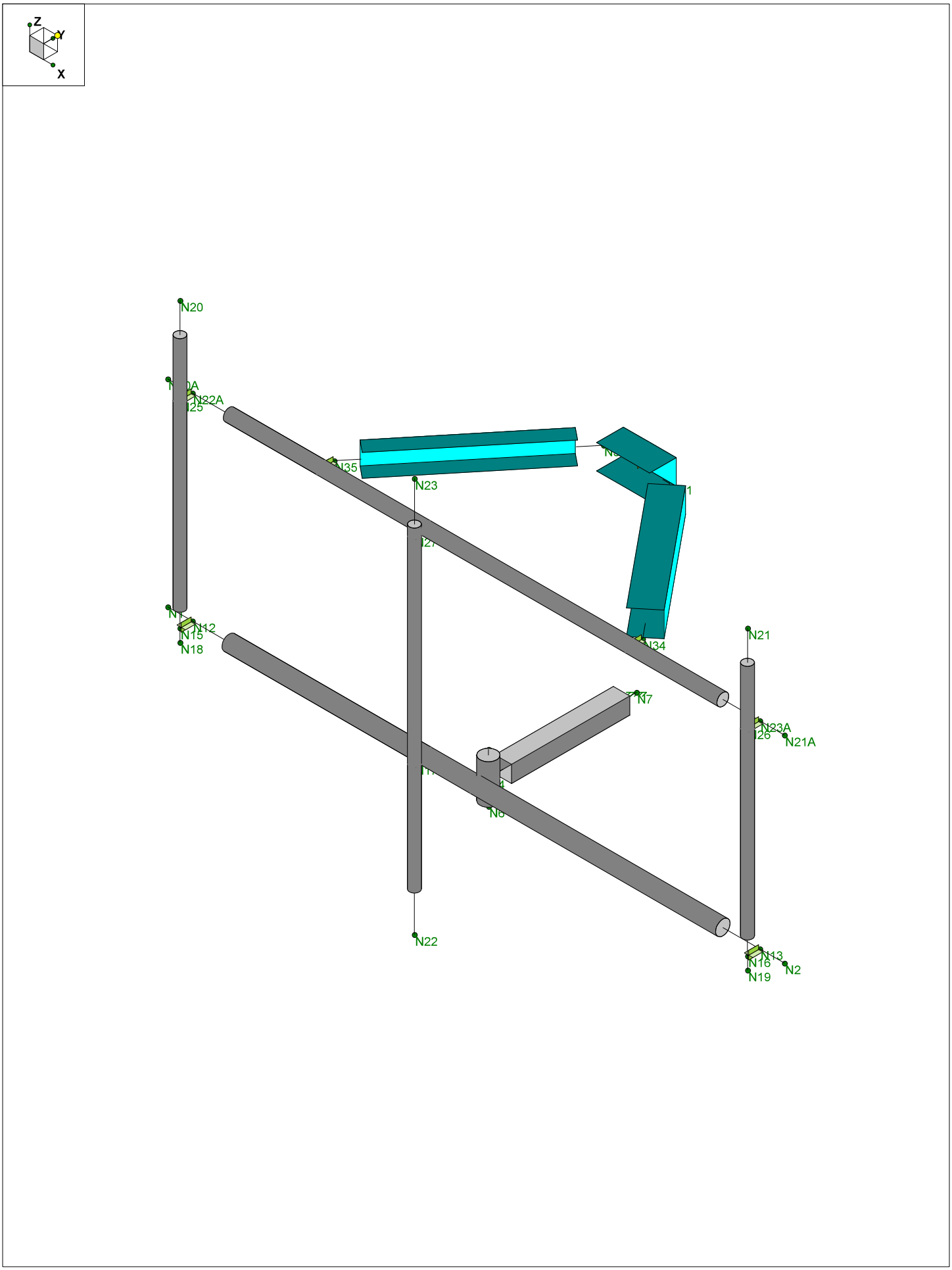
ϕ	0.9	
Fy	36	ksi
t_{min}	0.26	in
Z	1.1	in^3
ϕM_n	35.9	in-kip
M_u	15.0	in-kip
Capacity	41.9%	

Ver 1.0 - 3/5/2019

APPENDIX E

Wire Frame and Rendered Models (Beta)


Z
Y
X
N20
N20A
N32A
N25
MP ALPHA3
STABILIZER1
N35
N37
N23
N24
N27
Mod Face
N31
Stabilizer2
N15
N12
N18
N34
N36
N21
N7
STANDOFF
N23A
N26
N21A
MP ALPHA2
N5
N14
N17
N4
N6
MP ALPHA1
N22
N13
N16
N19
N2


Z
Y
X
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N22A
N25
N35
N23
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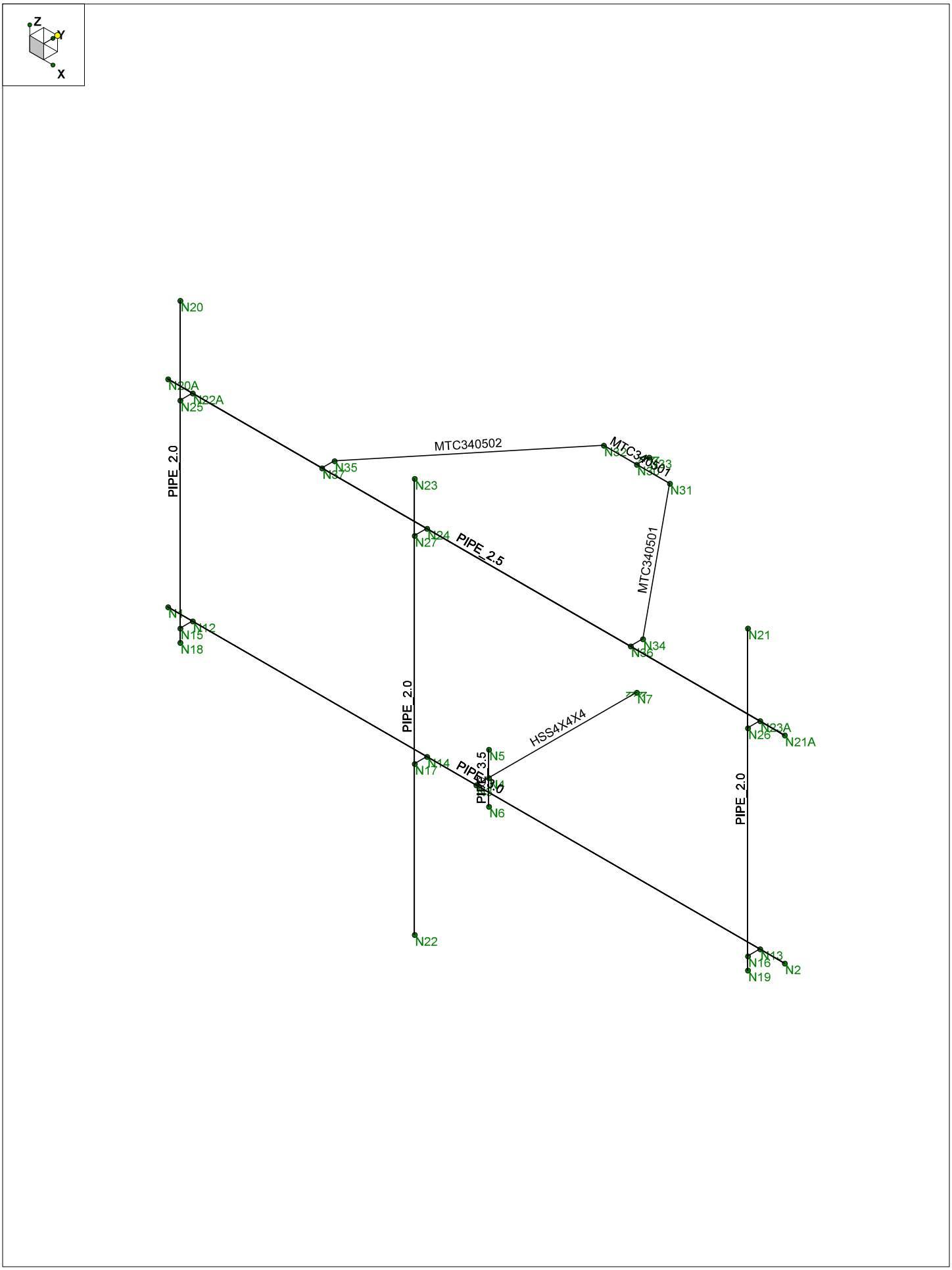
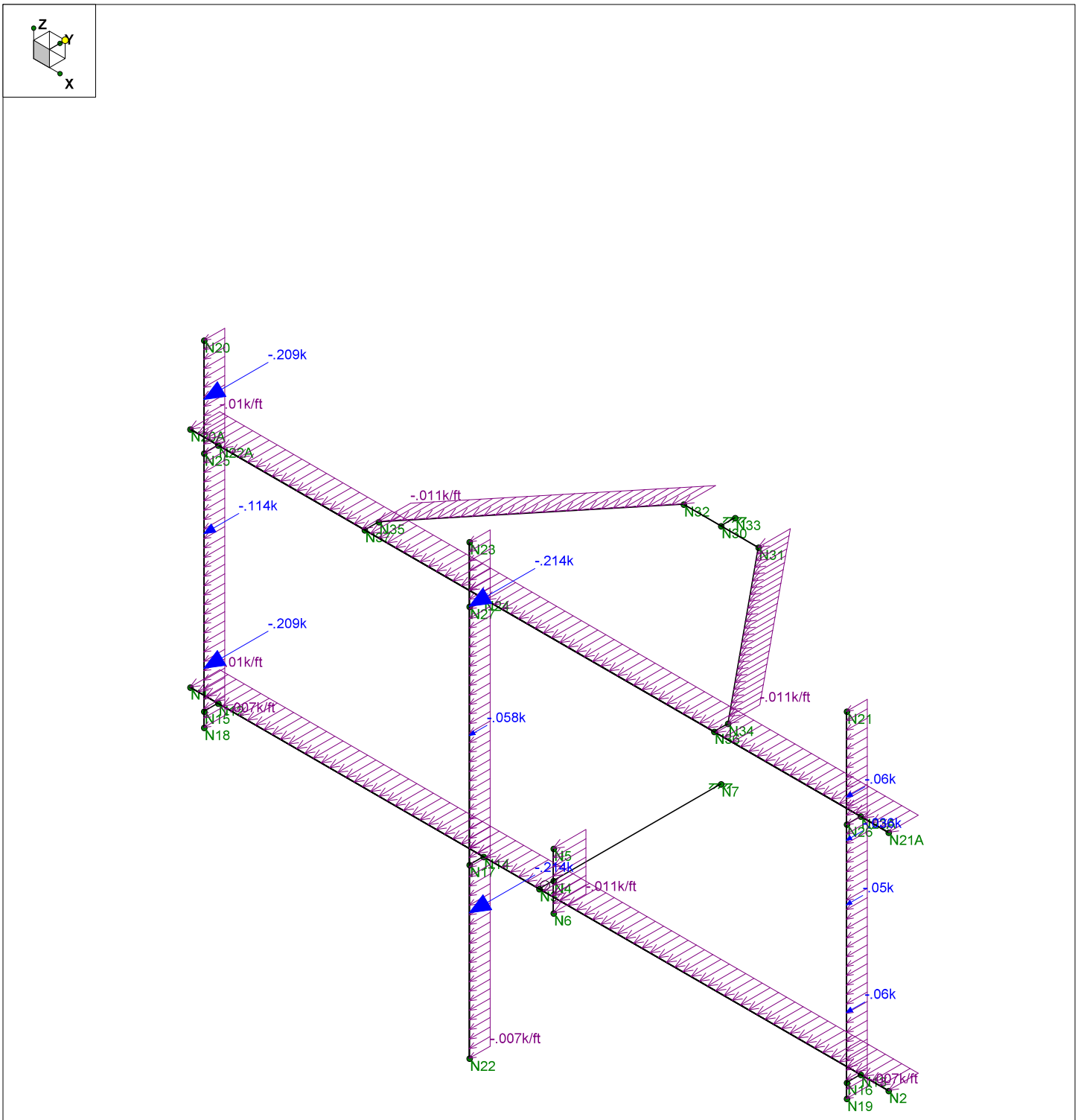
N15
N12
N18
N7
N21
N23A
N26
N21A
N22
N13
N16
N19
N2


Z
Y
X
N20
N20A
N32A
N25
MTC340502
N35
N37
N23
N31
PIPE_2.0
N24
N27
PIPE_2.5
MTC340501
N1
N15
N12
N18
N34
N36
N21
N7
HSS4X4X4
N23A
N26
N21A
PIPE_2.0
N5
N14
N17
PIPE3.5
N4
N6
PIPE_2.0
N22
N13
N16
N19
N2



Loads: BLC 1, Wind Load (0)

APPENDIX F

Software Input Calculations (Beta)

POD Job #	**20-63609**
Site Number	**876402**
Site Name	**STAFFORD/PRAGYL/SSUSA**

General Site Information

Mount Type	MF	Risk Category	II	I (seismic)	1	
V (Wind Speed)	117	I(ice)	1	Sms	0.282	
Zs	857			Sm1	0.132	
ti	1.5	Ss	0.176	Sds	0.188	
Vi	50	S1	0.055	Sd1	0.088	
Kzt	1	Soil Site Class	D (assumed)	Seismic Design Category		
Exposure	B	Fa	1.600	B		
zg	1200	Fv	2.400	Seismic Analysis Not Required		
α	7			R	2	TIA-222-H 16.7
Kmin	0.7	Tower Type	Monopole	As	1	TIA-222-H 16.7
G_H	1	Tower Height	150	Cs, Min	0.03	TIA-222-H 2.7.7.1.1
Ke	0.97			Cs	0.093866667	TIA-222-H 2.7.7.1.1
K_D	0.95					
K_s	0.9					

Appurtenance Information

Model	Shielded	% Shielded	Centerline	Spacing (in)	# on MP 1	# on MP 2	# on MP 3	# on MP 4
DMP65R-BU6D			138	50			1	
DMP65R-BU8D			138	60				
OPA65R-BU6D			138	50		1		
OPA65R-BU8D			138	60				
7770			138	40	1			
RRUS 4449 B5/B12			138				1	
RRUS 4478 B14			138			1		
RRUS 8843 B2/B66A			138				1	
LGP21401			138		2			
DC6-48-60-18-8F			139					
DC9-48-60-24-8C-EV			139		1			

Mount Information

Elevation (ft)	136
K_z	1.08
Kiz	1.15
tiz	1.73

	Length (ft)	Width (in)	Centerline
Mount Pipes	6	2.375	138

Round Members

Member	Length (ft)	Width (in)	Frame Member	# of Members
Face	12.5	3.5	Yes	1
Vertical Pipe	1	4	Yes	1
Standoff Pipe	2.25	2.375	Yes	1
New Face	12.5	2.875	Yes	1

Flat Members

Member	Length (ft)	Width (in)	Shape	A	B	C	D	Frame Member	# of Members
Standoff	3	4	Square HSS	4	0.25	4		Yes	1
Stabilizer	3.876	5.4	Channel	3.7	5.4	0.188	0.188	No	2
Connection	0.917	6	Channel	3.5	6	0.25	0.25	No	1

Version 2.2

Appurtenance Wind Calculations

Model	Height	Width	Depth	Weight (lbs)	Kz	qz (lb/ft$_2$)	$(EPA)_N$ (ft^2)	$(EPA)_T$(ft^2)	Wind Force (Kips) Front	Side	Alpha	Beta	Gamma
DMP65R-BU6D	71.2	20.7	7.7	89.3	1.08	34.97	11.93	4.48	0.417	0.156	0.352	0.352	0.156
DMP65R-BU8D	96.0	20.7	7.7	105.6	1.08	34.97	15.86	5.95	0.555	0.208	0.468	0.468	0.208
OPA65R-BU6D	71.2	21.0	7.8	63.5	1.08	34.97	12.22	4.54	0.427	0.159	0.360	0.360	0.159
OPA65R-BU8D	96.0	21.0	7.8	76.5	1.08	34.97	16.28	7.38	0.569	0.258	0.491	0.491	0.258
7770	55.0	11.0	5.0	35.0	1.08	34.97	3.42	1.56	0.120	0.055	0.103	0.103	0.055
RRUS 4449 B5/B12	17.9	13.2	9.4	71.0	1.08	34.97	1.77	1.27	0.062	0.044	0.058	0.058	0.044
RRUS 4478 B14	16.5	13.4	7.7	59.9	1.08	34.97	1.66	0.95	0.058	0.033	0.052	0.052	0.033
RRUS 8843 B2/B66A	14.9	13.2	10.9	72.0	1.08	34.97	1.48	1.22	0.052	0.043	0.049	0.049	0.043
LGP21401	14.2	6.7	5.4	22.0	1.08	34.97	0.71	0.58	0.025	0.020	0.024	0.024	0.020
DC6-48-60-18-8F	31.3	11.0	11.0	32.8	1.09	35.04	1.09	1.21	0.038	0.042	0.039	0.039	0.042
DC9-48-60-24-8C-EV	31.4	10.3	10.3	26.2	1.09	35.04	1.03	1.15	0.036	0.040	0.037	0.037	0.040

Appurtenance Ice Calculations

Model	tiz (in)	Height	Width	Depth	Weight (lbs)	Kiz	qz (lb/ft$_2$)	$(EPA)_N$ (ft^2)	$(EPA)_T$(ft^2)	Wind Force (Kips) Front	Side	Alpha	Beta	Gamma
DMP65R-BU6D	1.73	74.66	24.16	11.16	284.73	1.15	6.39	13.14	6.11	0.084	0.039	0.073	0.073	0.039
DMP65R-BU8D	1.73	99.46	24.16	11.16	373.37	1.15	6.39	17.26	8.02	0.110	0.051	0.096	0.096	0.051
OPA65R-BU6D	1.73	74.66	24.46	11.26	288.57	1.15	6.39	13.43	6.18	0.086	0.039	0.074	0.074	0.039
OPA65R-BU8D	1.73	99.46	24.46	11.26	378.32	1.15	6.39	11.18	5.89	0.071	0.038	0.063	0.063	0.038
7770	1.73	58.46	14.46	8.46	133.80	1.15	6.39	4.31	2.53	0.028	0.016	0.025	0.025	0.016
RRUS 4449 B5/B12	1.73	21.36	16.65	12.90	76.49	1.15	6.39	1.56	1.21	0.010	0.008	0.009	0.009	0.008
RRUS 4478 B14	1.73	19.96	16.86	11.16	66.57	1.15	6.39	1.48	0.98	0.009	0.006	0.009	0.009	0.006
RRUS 8843 B2/B66A	1.73	18.36	16.66	14.36	72.91	1.15	6.39	1.34	1.16	0.009	0.007	0.008	0.008	0.007
LGP21401	1.73	17.66	10.16	8.86	34.89	1.15	6.39	0.79	0.69	0.005	0.004	0.005	0.005	0.004
DC6-48-60-18-8F	1.73	34.71	14.46	14.46	112.72	1.15	6.40	2.20	2.20	0.014	0.014	0.014	0.014	0.014
DC9-48-60-24-8C-EV	1.73	34.87	13.71	13.71	105.52	1.15	6.40	2.09	2.09	0.013	0.013	0.013	0.013	0.013

Round Members

Member	Wind Calculations q_z (lb/ft^2)	Ar	C	Rrf	Cas	EPA (ft^2)	Load (k/ft)	Ice Calculations Width (in)	Weight (k/ft)	q_z (lb/ft^2)	Arice	Rrfice	Cas	EPA (ft^2)	Load (k/ft)
Face	34.82	3.65	34.90	0.78	1.59	4.09	0.011	6.96	0.01	6.36	7.25	1.05	1.59	10.89	0.006
Vertical Pipe	34.82	0.33	39.89	0.78	1.59	0.37	0.013	7.46	0.01	6.36	0.62	1.05	1.59	0.93	0.006
Standoff Pipe	34.82	0.45	23.68	0.78	1.59	0.50	0.008	5.83	0.01	6.36	1.09	1.05	1.59	1.64	0.005

Flat Members

Member	Wind Calculations q_z (lb/ft^2)	Af	Cas	EPA	Load (k/ft)	Ice Calculations Width (in)	Weight (k/ft)	q_z (lb/ft^2)	Arice	Rrfice	Cas	EPA	Load (k/ft)
Standoff	34.82	1.00	1.59	1.43	0.017	7.46	0.02	6.36	1.86	1.05	1.59	2.80	0.006

Appurtenance Seismic Calculations

Model	Weight	Sds	ρ	Cs	As	Ev	Eh
DMP65R-BU6D	89.3	0.188	1.000	0.094	1.000	0.003	0.008
DMP65R-BU8D	105.6	0.188	1.000	0.094	1.000	0.004	0.010
OPA65R-BU6D	63.5	0.188	1.000	0.094	1.000	0.002	0.006
OPA65R-BU8D	76.5	0.188	1.000	0.094	1.000	0.003	0.007
7770	35.0	0.188	1.000	0.094	1.000	0.001	0.003
RRUS 4449 B5/B12	71.0	0.188	1.000	0.094	1.000	0.003	0.007
RRUS 4478 B14	59.9	0.188	1.000	0.094	1.000	0.002	0.006
RRUS 8843 B2/B66A	72.0	0.188	1.000	0.094	1.000	0.003	0.007
LGP21401	22.0	0.188	1.000	0.094	1.000	0.001	0.002
DC6-48-60-18-8F	32.8	0.188	1.000	0.094	1.000	0.001	0.003
DC9-48-60-24-8C-EV	26.2	0.188	1.000	0.094	1.000	0.001	0.002

Version 2.1

APPENDIX G

Software Analysis Output (Beta)

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
1	FACE	PIPE_3.0	12.5			Lbyy						Lateral
2	VERT	PIPE_3.5	1			Lbyy						Lateral
3	STANDOFF	HSS4X4X4	3			Lbyy						Lateral
4	MP ALPHA1	PIPE_2.0	6			Lbyy						Lateral
5	MP ALPHA2	PIPE_2.0	8			Lbyy						Lateral
6	MP ALPHA3	PIPE_2.0	6			Lbyy						Lateral
7	Mod Face	PIPE_2.5	12.5			Lbyy						Lateral

Cold Formed Steel Design Parameters

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	R	a[ft]	Funct...
1	STABILIZ...	MTC3405...	3.876			Lbyy								Lateral
2	Stabilizer2	MTC3405...	3.876			Lbyy								Lateral
3	CONNEC...	MTC3405...	1.34			Lbyy								Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
1	FACE	N1	N2			PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical
2	VERT	N6	N5			PIPE_3.5	Beam	Pipe	A53 Gr.B	Typical
3	STANDOFF	N4	N7			HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical
4	MP ALPHA1	N19	N21			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
5	MP ALPHA2	N22	N23			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
6	MP ALPHA3	N18	N20			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
7	1	N3	N4			RIGID	None	None	RIGID	Typical
8	3	N15	N12			RIGID	None	None	RIGID	Typical
9	4	N17	N14			RIGID	None	None	RIGID	Typical
10	5	N16	N13			RIGID	None	None	RIGID	Typical
11	Mod Face	N20A	N21A			PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
12	6	N25	N22A			RIGID	None	None	RIGID	Typical
13	7	N27	N24			RIGID	None	None	RIGID	Typical
14	8	N26	N23A			RIGID	None	None	RIGID	Typical
15	STABILIZER1	N35	N32		90	MTC340502	Beam	None	CF3 (A36)	Typical
16	9	N37	N35			RIGID	None	None	RIGID	Typical
17	12	N30	N33			RIGID	None	None	RIGID	Typical
18	Stabilizer2	N34	N31		90	MTC340501	Beam	None	CF3 (A36)	Typical
19	13	N36	N34			RIGID	None	None	RIGID	Typical
20	CONNECTION	N32	N31		90	MTC340501	Beam	None	CF3 (A36)	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic...
1	FACE						Yes				None
2	VERT						Yes				None
3	STANDOFF						Yes				None
4	MP ALPHA1						Yes				None
5	MP ALPHA2						Yes				None
6	MP ALPHA3						Yes				None
7	1		OOOOOO				Yes	** NA **			None
8	3						Yes	** NA **			None
9	4						Yes	** NA **			None
10	5						Yes	** NA **			None
11	Mod Face						Yes				None
12	6						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic...
13	7						Yes	** NA **			None
14	8						Yes	** NA **			None
15	STABILIZER1						Yes	Default			None
16	9						Yes	** NA **			None
17	12						Yes	** NA **			None
18	Stabilizer2						Yes	Default			None
19	13						Yes	** NA **			None
20	CONNECTION						Yes				None

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 ...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A653 SS Gr33	29500	11346	.3	.65	.49	33	45
2	A653 SS Gr50/1	29500	11346	.3	.65	.49	50	65
3	CF3 (A36)	29000	11154	.3	.65	.49	36	58

Member Point Loads (BLC 1 : Wind Load (0))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.214	7
2	MP ALPHA3	Y	-.209	5.083
3	MP ALPHA1	Y	-.06	4.667
4	MP ALPHA1	Y	-.036	4
5	MP ALPHA1	Y	-.05	3
6	MP ALPHA2	Y	-.058	5
7	MP ALPHA3	Y	-.114	3
8	MP ALPHA1	Y	-.06	1.333
9	MP ALPHA2	Y	-.214	2.25
10	MP ALPHA3	Y	-.209	.917

Member Point Loads (BLC 2 : Dead Load)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Z	-.032	7
2	MP ALPHA3	Z	-.045	5.083
3	MP ALPHA1	Z	-.018	4.667
4	MP ALPHA1	Z	-.026	4
5	MP ALPHA1	Z	-.044	3
6	MP ALPHA2	Z	-.06	5
7	MP ALPHA3	Z	-.143	3
8	MP ALPHA1	Z	-.018	1.333
9	MP ALPHA2	Z	-.032	2.25
10	MP ALPHA3	Z	-.045	.917

Member Point Loads (BLC 3 : Live Load)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	FACE	Z	-.5	0

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.043	7
2	MP ALPHA3	Y	-.042	5.083
3	MP ALPHA1	Y	-.014	4.667
4	MP ALPHA1	Y	-.013	4
5	MP ALPHA1	Y	-.01	3
6	MP ALPHA2	Y	-.009	5
7	MP ALPHA3	Y	-.019	3
8	MP ALPHA1	Y	-.014	1.333
9	MP ALPHA2	Y	-.043	2.25
10	MP ALPHA3	Y	-.042	.917

Member Point Loads (BLC 5 : Ice Dead Load)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Z	-.144	7
2	MP ALPHA3	Z	-.142	5.083
3	MP ALPHA1	Z	-.067	4.667
4	MP ALPHA1	Z	-.106	4
5	MP ALPHA1	Z	-.07	3
6	MP ALPHA2	Z	-.067	5
7	MP ALPHA3	Z	-.149	3
8	MP ALPHA1	Z	-.067	1.333
9	MP ALPHA2	Z	-.144	2.25
10	MP ALPHA3	Z	-.142	.917

Member Point Loads (BLC 6 : Wind Load (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.156	7
2	MP ALPHA2	X	-.09	7
3	MP ALPHA3	Y	-.152	5.083
4	MP ALPHA3	X	-.088	5.083
5	MP ALPHA1	Y	-.045	4.667
6	MP ALPHA1	X	-.026	4.667
7	MP ALPHA1	Y	-.032	4
8	MP ALPHA1	X	-.019	4
9	MP ALPHA1	Y	-.041	3
10	MP ALPHA1	X	-.024	3
11	MP ALPHA2	Y	-.045	5
12	MP ALPHA2	X	-.026	5
13	MP ALPHA3	Y	-.093	3
14	MP ALPHA3	X	-.053	3
15	MP ALPHA1	Y	-.045	1.333
16	MP ALPHA1	X	-.026	1.333
17	MP ALPHA2	Y	-.156	2.25
18	MP ALPHA2	X	-.09	2.25
19	MP ALPHA3	Y	-.152	.917
20	MP ALPHA3	X	-.088	.917

Member Point Loads (BLC 7 : Ice Wind Load (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.032	7
2	MP ALPHA2	X	-.019	7

Member Point Loads (BLC 7 : Ice Wind Load (30)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
3	MP ALPHA3	Y	-.031	5.083
4	MP ALPHA3	X	-.018	5.083
5	MP ALPHA1	Y	-.011	4.667
6	MP ALPHA1	X	-.006	4.667
7	MP ALPHA1	Y	-.012	4
8	MP ALPHA1	X	-.007	4
9	MP ALPHA1	Y	-.008	3
10	MP ALPHA1	X	-.005	3
11	MP ALPHA2	Y	-.007	5
12	MP ALPHA2	X	-.004	5
13	MP ALPHA3	Y	-.015	3
14	MP ALPHA3	X	-.009	3
15	MP ALPHA1	Y	-.011	1.333
16	MP ALPHA1	X	-.006	1.333
17	MP ALPHA2	Y	-.032	2.25
18	MP ALPHA2	X	-.019	2.25
19	MP ALPHA3	Y	-.031	.917
20	MP ALPHA3	X	-.018	.917

Member Point Loads (BLC 8 : Wind Load (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.056	7
2	MP ALPHA2	X	-.098	7
3	MP ALPHA3	Y	-.055	5.083
4	MP ALPHA3	X	-.096	5.083
5	MP ALPHA1	Y	-.018	4.667
6	MP ALPHA1	X	-.031	4.667
7	MP ALPHA1	Y	-.02	4
8	MP ALPHA1	X	-.034	4
9	MP ALPHA1	Y	-.021	3
10	MP ALPHA1	X	-.037	3
11	MP ALPHA2	Y	-.02	5
12	MP ALPHA2	X	-.034	5
13	MP ALPHA3	Y	-.047	3
14	MP ALPHA3	X	-.081	3
15	MP ALPHA1	Y	-.018	1.333
16	MP ALPHA1	X	-.031	1.333
17	MP ALPHA2	Y	-.056	2.25
18	MP ALPHA2	X	-.098	2.25
19	MP ALPHA3	Y	-.055	.917
20	MP ALPHA3	X	-.096	.917

Member Point Loads (BLC 9 : Ice Wind Load (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.013	7
2	MP ALPHA2	X	-.022	7
3	MP ALPHA3	Y	-.013	5.083
4	MP ALPHA3	X	-.022	5.083
5	MP ALPHA1	Y	-.005	4.667
6	MP ALPHA1	X	-.008	4.667
7	MP ALPHA1	Y	-.007	4
8	MP ALPHA1	X	-.012	4
9	MP ALPHA1	Y	-.005	3
10	MP ALPHA1	X	-.008	3
11	MP ALPHA2	Y	-.004	5
12	MP ALPHA2	X	-.006	5

Member Point Loads (BLC 9 : Ice Wind Load (60)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
13	MP ALPHA3	Y	-.008	3
14	MP ALPHA3	X	-.014	3
15	MP ALPHA1	Y	-.005	1.333
16	MP ALPHA1	X	-.008	1.333
17	MP ALPHA2	Y	-.013	2.25
18	MP ALPHA2	X	-.022	2.25
19	MP ALPHA3	Y	-.013	.917
20	MP ALPHA3	X	-.022	.917

Member Point Loads (BLC 10 : Wind Load (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.079	7
2	MP ALPHA3	X	-.078	5.083
3	MP ALPHA1	X	-.027	4.667
4	MP ALPHA1	X	-.04	4
5	MP ALPHA1	X	-.04	3
6	MP ALPHA2	X	-.033	5
7	MP ALPHA3	X	-.087	3
8	MP ALPHA1	X	-.027	1.333
9	MP ALPHA2	X	-.079	2.25
10	MP ALPHA3	X	-.078	.917

Member Point Loads (BLC 11 : Ice Wind Load (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.02	7
2	MP ALPHA3	X	-.02	5.083
3	MP ALPHA1	X	-.008	4.667
4	MP ALPHA1	X	-.013	4
5	MP ALPHA1	X	-.009	3
6	MP ALPHA2	X	-.006	5
7	MP ALPHA3	X	-.015	3
8	MP ALPHA1	X	-.008	1.333
9	MP ALPHA2	X	-.02	2.25
10	MP ALPHA3	X	-.02	.917

Member Point Loads (BLC 12 : Wind Load (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.056	7
2	MP ALPHA2	X	-.098	7
3	MP ALPHA3	Y	.055	5.083
4	MP ALPHA3	X	-.096	5.083
5	MP ALPHA1	Y	.018	4.667
6	MP ALPHA1	X	-.031	4.667
7	MP ALPHA1	Y	.02	4
8	MP ALPHA1	X	-.034	4
9	MP ALPHA1	Y	.021	3
10	MP ALPHA1	X	-.037	3
11	MP ALPHA2	Y	.02	5
12	MP ALPHA2	X	-.034	5
13	MP ALPHA3	Y	.047	3
14	MP ALPHA3	X	-.081	3
15	MP ALPHA1	Y	.018	1.333
16	MP ALPHA1	X	-.031	1.333
17	MP ALPHA2	Y	.056	2.25
18	MP ALPHA2	X	-.098	2.25

Member Point Loads (BLC 12 : Wind Load (120)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
19	MP ALPHA3	Y	.055	.917
20	MP ALPHA3	X	-.096	.917

Member Point Loads (BLC 13 : Ice Wind Load (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.013	7
2	MP ALPHA2	X	-.022	7
3	MP ALPHA3	Y	.013	5.083
4	MP ALPHA3	X	-.022	5.083
5	MP ALPHA1	Y	.005	4.667
6	MP ALPHA1	X	-.008	4.667
7	MP ALPHA1	Y	.007	4
8	MP ALPHA1	X	-.012	4
9	MP ALPHA1	Y	.005	3
10	MP ALPHA1	X	-.008	3
11	MP ALPHA2	Y	.004	5
12	MP ALPHA2	X	-.006	5
13	MP ALPHA3	Y	.008	3
14	MP ALPHA3	X	-.014	3
15	MP ALPHA1	Y	.005	1.333
16	MP ALPHA1	X	-.008	1.333
17	MP ALPHA2	Y	.013	2.25
18	MP ALPHA2	X	-.022	2.25
19	MP ALPHA3	Y	.013	.917
20	MP ALPHA3	X	-.022	.917

Member Point Loads (BLC 14 : Wind Load (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.156	7
2	MP ALPHA2	X	-.09	7
3	MP ALPHA3	Y	.152	5.083
4	MP ALPHA3	X	-.088	5.083
5	MP ALPHA1	Y	.045	4.667
6	MP ALPHA1	X	-.026	4.667
7	MP ALPHA1	Y	.032	4
8	MP ALPHA1	X	-.019	4
9	MP ALPHA1	Y	.041	3
10	MP ALPHA1	X	-.024	3
11	MP ALPHA2	Y	.045	5
12	MP ALPHA2	X	-.026	5
13	MP ALPHA3	Y	.093	3
14	MP ALPHA3	X	-.053	3
15	MP ALPHA1	Y	.045	1.333
16	MP ALPHA1	X	-.026	1.333
17	MP ALPHA2	Y	.156	2.25
18	MP ALPHA2	X	-.09	2.25
19	MP ALPHA3	Y	.152	.917
20	MP ALPHA3	X	-.088	.917

Member Point Loads (BLC 15 : Ice Wind Load (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.032	7
2	MP ALPHA2	X	-.019	7
3	MP ALPHA3	Y	.031	5.083
4	MP ALPHA3	X	-.018	5.083

Member Point Loads (BLC 15 : Ice Wind Load (150)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	MP ALPHA1	Y	.011	4.667
6	MP ALPHA1	X	-.006	4.667
7	MP ALPHA1	Y	.012	4
8	MP ALPHA1	X	-.007	4
9	MP ALPHA1	Y	.008	3
10	MP ALPHA1	X	-.005	3
11	MP ALPHA2	Y	.007	5
12	MP ALPHA2	X	-.004	5
13	MP ALPHA3	Y	.015	3
14	MP ALPHA3	X	-.009	3
15	MP ALPHA1	Y	.011	1.333
16	MP ALPHA1	X	-.006	1.333
17	MP ALPHA2	Y	.032	2.25
18	MP ALPHA2	X	-.019	2.25
19	MP ALPHA3	Y	.031	.917
20	MP ALPHA3	X	-.018	.917

Member Point Loads (BLC 16 : Wind Load (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.214	7
2	MP ALPHA3	Y	.209	5.083
3	MP ALPHA1	Y	.06	4.667
4	MP ALPHA1	Y	.036	4
5	MP ALPHA1	Y	.05	3
6	MP ALPHA2	Y	.058	5
7	MP ALPHA3	Y	.114	3
8	MP ALPHA1	Y	.06	1.333
9	MP ALPHA2	Y	.214	2.25
10	MP ALPHA3	Y	.209	.917

Member Point Loads (BLC 17 : Ice Wind Load (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.043	7
2	MP ALPHA3	Y	.042	5.083
3	MP ALPHA1	Y	.014	4.667
4	MP ALPHA1	Y	.013	4
5	MP ALPHA1	Y	.01	3
6	MP ALPHA2	Y	.009	5
7	MP ALPHA3	Y	.019	3
8	MP ALPHA1	Y	.014	1.333
9	MP ALPHA2	Y	.043	2.25
10	MP ALPHA3	Y	.042	.917

Member Point Loads (BLC 18 : Wind Load (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.156	7
2	MP ALPHA2	X	.09	7
3	MP ALPHA3	Y	.152	5.083
4	MP ALPHA3	X	.088	5.083
5	MP ALPHA1	Y	.045	4.667
6	MP ALPHA1	X	.026	4.667
7	MP ALPHA1	Y	.032	4
8	MP ALPHA1	X	.019	4
9	MP ALPHA1	Y	.041	3
10	MP ALPHA1	X	.024	3

Member Point Loads (BLC 18 : Wind Load (210)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
11	MP ALPHA2	Y	.045	5
12	MP ALPHA2	X	.026	5
13	MP ALPHA3	Y	.093	3
14	MP ALPHA3	X	.053	3
15	MP ALPHA1	Y	.045	1.333
16	MP ALPHA1	X	.026	1.333
17	MP ALPHA2	Y	.156	2.25
18	MP ALPHA2	X	.09	2.25
19	MP ALPHA3	Y	.152	.917
20	MP ALPHA3	X	.088	.917

Member Point Loads (BLC 19 : Ice Wind Load (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.032	7
2	MP ALPHA2	X	.019	7
3	MP ALPHA3	Y	.031	5.083
4	MP ALPHA3	X	.018	5.083
5	MP ALPHA1	Y	.011	4.667
6	MP ALPHA1	X	.006	4.667
7	MP ALPHA1	Y	.012	4
8	MP ALPHA1	X	.007	4
9	MP ALPHA1	Y	.008	3
10	MP ALPHA1	X	.005	3
11	MP ALPHA2	Y	.007	5
12	MP ALPHA2	X	.004	5
13	MP ALPHA3	Y	.015	3
14	MP ALPHA3	X	.009	3
15	MP ALPHA1	Y	.011	1.333
16	MP ALPHA1	X	.006	1.333
17	MP ALPHA2	Y	.032	2.25
18	MP ALPHA2	X	.019	2.25
19	MP ALPHA3	Y	.031	.917
20	MP ALPHA3	X	.018	.917

Member Point Loads (BLC 20 : Wind Load (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.056	7
2	MP ALPHA2	X	.098	7
3	MP ALPHA3	Y	.055	5.083
4	MP ALPHA3	X	.096	5.083
5	MP ALPHA1	Y	.018	4.667
6	MP ALPHA1	X	.031	4.667
7	MP ALPHA1	Y	.02	4
8	MP ALPHA1	X	.034	4
9	MP ALPHA1	Y	.021	3
10	MP ALPHA1	X	.037	3
11	MP ALPHA2	Y	.02	5
12	MP ALPHA2	X	.034	5
13	MP ALPHA3	Y	.047	3
14	MP ALPHA3	X	.081	3
15	MP ALPHA1	Y	.018	1.333
16	MP ALPHA1	X	.031	1.333
17	MP ALPHA2	Y	.056	2.25
18	MP ALPHA2	X	.098	2.25
19	MP ALPHA3	Y	.055	.917
20	MP ALPHA3	X	.096	.917

Member Point Loads (BLC 21 : Ice Wind Load (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.013	7
2	MP ALPHA2	X	.022	7
3	MP ALPHA3	Y	.013	5.083
4	MP ALPHA3	X	.022	5.083
5	MP ALPHA1	Y	.005	4.667
6	MP ALPHA1	X	.008	4.667
7	MP ALPHA1	Y	.007	4
8	MP ALPHA1	X	.012	4
9	MP ALPHA1	Y	.005	3
10	MP ALPHA1	X	.008	3
11	MP ALPHA2	Y	.004	5
12	MP ALPHA2	X	.006	5
13	MP ALPHA3	Y	.008	3
14	MP ALPHA3	X	.014	3
15	MP ALPHA1	Y	.005	1.333
16	MP ALPHA1	X	.008	1.333
17	MP ALPHA2	Y	.013	2.25
18	MP ALPHA2	X	.022	2.25
19	MP ALPHA3	Y	.013	.917
20	MP ALPHA3	X	.022	.917

Member Point Loads (BLC 22 : Wind Load (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.079	7
2	MP ALPHA3	X	.078	5.083
3	MP ALPHA1	X	.027	4.667
4	MP ALPHA1	X	.04	4
5	MP ALPHA1	X	.04	3
6	MP ALPHA2	X	.033	5
7	MP ALPHA3	X	.087	3
8	MP ALPHA1	X	.027	1.333
9	MP ALPHA2	X	.079	2.25
10	MP ALPHA3	X	.078	.917

Member Point Loads (BLC 23 : Ice Wind Load (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.02	7
2	MP ALPHA3	X	.02	5.083
3	MP ALPHA1	X	.008	4.667
4	MP ALPHA1	X	.013	4
5	MP ALPHA1	X	.009	3
6	MP ALPHA2	X	.006	5
7	MP ALPHA3	X	.015	3
8	MP ALPHA1	X	.008	1.333
9	MP ALPHA2	X	.02	2.25
10	MP ALPHA3	X	.02	.917

Member Point Loads (BLC 24 : Wind Load (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.056	7
2	MP ALPHA2	X	.098	7
3	MP ALPHA3	Y	-.055	5.083
4	MP ALPHA3	X	.096	5.083
5	MP ALPHA1	Y	-.018	4.667
6	MP ALPHA1	X	.031	4.667

Member Point Loads (BLC 24 : Wind Load (300)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
7	MP ALPHA1	Y	-.02	4
8	MP ALPHA1	X	.034	4
9	MP ALPHA1	Y	-.021	3
10	MP ALPHA1	X	.037	3
11	MP ALPHA2	Y	-.02	5
12	MP ALPHA2	X	.034	5
13	MP ALPHA3	Y	-.047	3
14	MP ALPHA3	X	.081	3
15	MP ALPHA1	Y	-.018	1.333
16	MP ALPHA1	X	.031	1.333
17	MP ALPHA2	Y	-.056	2.25
18	MP ALPHA2	X	.098	2.25
19	MP ALPHA3	Y	-.055	.917
20	MP ALPHA3	X	.096	.917

Member Point Loads (BLC 25 : Ice Wind Load (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.013	7
2	MP ALPHA2	X	.022	7
3	MP ALPHA3	Y	-.013	5.083
4	MP ALPHA3	X	.022	5.083
5	MP ALPHA1	Y	-.005	4.667
6	MP ALPHA1	X	.008	4.667
7	MP ALPHA1	Y	-.007	4
8	MP ALPHA1	X	.012	4
9	MP ALPHA1	Y	-.005	3
10	MP ALPHA1	X	.008	3
11	MP ALPHA2	Y	-.004	5
12	MP ALPHA2	X	.006	5
13	MP ALPHA3	Y	-.008	3
14	MP ALPHA3	X	.014	3
15	MP ALPHA1	Y	-.005	1.333
16	MP ALPHA1	X	.008	1.333
17	MP ALPHA2	Y	-.013	2.25
18	MP ALPHA2	X	.022	2.25
19	MP ALPHA3	Y	-.013	.917
20	MP ALPHA3	X	.022	.917

Member Point Loads (BLC 26 : Wind Load (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.156	7
2	MP ALPHA2	X	.09	7
3	MP ALPHA3	Y	-.152	5.083
4	MP ALPHA3	X	.088	5.083
5	MP ALPHA1	Y	-.045	4.667
6	MP ALPHA1	X	.026	4.667
7	MP ALPHA1	Y	-.032	4
8	MP ALPHA1	X	.019	4
9	MP ALPHA1	Y	-.041	3
10	MP ALPHA1	X	.024	3
11	MP ALPHA2	Y	-.045	5
12	MP ALPHA2	X	.026	5
13	MP ALPHA3	Y	-.093	3
14	MP ALPHA3	X	.053	3
15	MP ALPHA1	Y	-.045	1.333
16	MP ALPHA1	X	.026	1.333

Member Point Loads (BLC 26 : Wind Load (330)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
17	MP ALPHA2	Y	-.156	2.25
18	MP ALPHA2	X	.09	2.25
19	MP ALPHA3	Y	-.152	.917
20	MP ALPHA3	X	.088	.917

Member Point Loads (BLC 27 : Ice Wind Load (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.032	7
2	MP ALPHA2	X	.019	7
3	MP ALPHA3	Y	-.031	5.083
4	MP ALPHA3	X	.018	5.083
5	MP ALPHA1	Y	-.011	4.667
6	MP ALPHA1	X	.006	4.667
7	MP ALPHA1	Y	-.012	4
8	MP ALPHA1	X	.007	4
9	MP ALPHA1	Y	-.008	3
10	MP ALPHA1	X	.005	3
11	MP ALPHA2	Y	-.007	5
12	MP ALPHA2	X	.004	5
13	MP ALPHA3	Y	-.015	3
14	MP ALPHA3	X	.009	3
15	MP ALPHA1	Y	-.011	1.333
16	MP ALPHA1	X	.006	1.333
17	MP ALPHA2	Y	-.032	2.25
18	MP ALPHA2	X	.019	2.25
19	MP ALPHA3	Y	-.031	.917
20	MP ALPHA3	X	.018	.917

Member Point Loads (BLC 28 : Maintanence (0))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.014	7
2	MP ALPHA3	Y	-.014	5.083
3	MP ALPHA1	Y	-.004	4.667
4	MP ALPHA1	Y	-.002	4
5	MP ALPHA1	Y	-.003	3
6	MP ALPHA2	Y	-.004	5
7	MP ALPHA3	Y	-.007	3
8	MP ALPHA1	Y	-.004	1.333
9	MP ALPHA2	Y	-.014	2.25
10	MP ALPHA3	Y	-.014	.917

Member Point Loads (BLC 29 : Maintanence (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.01	7
2	MP ALPHA2	X	-.006	7
3	MP ALPHA3	Y	-.01	5.083
4	MP ALPHA3	X	-.006	5.083
5	MP ALPHA1	Y	-.003	4.667
6	MP ALPHA1	X	-.002	4.667
7	MP ALPHA1	Y	-.002	4
8	MP ALPHA1	X	-.001	4
9	MP ALPHA1	Y	-.003	3
10	MP ALPHA1	X	-.002	3
11	MP ALPHA2	Y	-.003	5
12	MP ALPHA2	X	-.002	5

Member Point Loads (BLC 29 : Maintanence (30)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
13	MP ALPHA3	Y	-.006	3
14	MP ALPHA3	X	-.004	3
15	MP ALPHA1	Y	-.003	1.333
16	MP ALPHA1	X	-.002	1.333
17	MP ALPHA2	Y	-.01	2.25
18	MP ALPHA2	X	-.006	2.25
19	MP ALPHA3	Y	-.01	.917
20	MP ALPHA3	X	-.006	.917

Member Point Loads (BLC 30 : Maintanence (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.004	7
2	MP ALPHA2	X	-.006	7
3	MP ALPHA3	Y	-.004	5.083
4	MP ALPHA3	X	-.006	5.083
5	MP ALPHA1	Y	-.001	4.667
6	MP ALPHA1	X	-.002	4.667
7	MP ALPHA1	Y	-.001	4
8	MP ALPHA1	X	-.002	4
9	MP ALPHA1	Y	-.001	3
10	MP ALPHA1	X	-.002	3
11	MP ALPHA2	Y	-.001	5
12	MP ALPHA2	X	-.002	5
13	MP ALPHA3	Y	-.003	3
14	MP ALPHA3	X	-.005	3
15	MP ALPHA1	Y	-.001	1.333
16	MP ALPHA1	X	-.002	1.333
17	MP ALPHA2	Y	-.004	2.25
18	MP ALPHA2	X	-.006	2.25
19	MP ALPHA3	Y	-.004	.917
20	MP ALPHA3	X	-.006	.917

Member Point Loads (BLC 31 : Maintanence (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.005	7
2	MP ALPHA3	X	-.005	5.083
3	MP ALPHA1	X	-.002	4.667
4	MP ALPHA1	X	-.003	4
5	MP ALPHA1	X	-.003	3
6	MP ALPHA2	X	-.002	5
7	MP ALPHA3	X	-.006	3
8	MP ALPHA1	X	-.002	1.333
9	MP ALPHA2	X	-.005	2.25
10	MP ALPHA3	X	-.005	.917

Member Point Loads (BLC 32 : Maintanence (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.004	7
2	MP ALPHA2	X	-.006	7
3	MP ALPHA3	Y	.004	5.083
4	MP ALPHA3	X	-.006	5.083
5	MP ALPHA1	Y	.001	4.667
6	MP ALPHA1	X	-.002	4.667
7	MP ALPHA1	Y	.001	4
8	MP ALPHA1	X	-.002	4

Member Point Loads (BLC 32 : Maintanence (120)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
9	MP ALPHA1	Y	.001	3
10	MP ALPHA1	X	-.002	3
11	MP ALPHA2	Y	.001	5
12	MP ALPHA2	X	-.002	5
13	MP ALPHA3	Y	.003	3
14	MP ALPHA3	X	-.005	3
15	MP ALPHA1	Y	.001	1.333
16	MP ALPHA1	X	-.002	1.333
17	MP ALPHA2	Y	.004	2.25
18	MP ALPHA2	X	-.006	2.25
19	MP ALPHA3	Y	.004	.917
20	MP ALPHA3	X	-.006	.917

Member Point Loads (BLC 33 : Maintanence (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.01	7
2	MP ALPHA2	X	-.006	7
3	MP ALPHA3	Y	.01	5.083
4	MP ALPHA3	X	-.006	5.083
5	MP ALPHA1	Y	.003	4.667
6	MP ALPHA1	X	-.002	4.667
7	MP ALPHA1	Y	.002	4
8	MP ALPHA1	X	-.001	4
9	MP ALPHA1	Y	.003	3
10	MP ALPHA1	X	-.002	3
11	MP ALPHA2	Y	.003	5
12	MP ALPHA2	X	-.002	5
13	MP ALPHA3	Y	.006	3
14	MP ALPHA3	X	-.004	3
15	MP ALPHA1	Y	.003	1.333
16	MP ALPHA1	X	-.002	1.333
17	MP ALPHA2	Y	.01	2.25
18	MP ALPHA2	X	-.006	2.25
19	MP ALPHA3	Y	.01	.917
20	MP ALPHA3	X	-.006	.917

Member Point Loads (BLC 34 : Maintanence (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.014	7
2	MP ALPHA3	Y	.014	5.083
3	MP ALPHA1	Y	.004	4.667
4	MP ALPHA1	Y	.002	4
5	MP ALPHA1	Y	.003	3
6	MP ALPHA2	Y	.004	5
7	MP ALPHA3	Y	.007	3
8	MP ALPHA1	Y	.004	1.333
9	MP ALPHA2	Y	.014	2.25
10	MP ALPHA3	Y	.014	.917

Member Point Loads (BLC 35 : Maintanence (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.01	7
2	MP ALPHA2	X	.006	7
3	MP ALPHA3	Y	.01	5.083
4	MP ALPHA3	X	.006	5.083

Member Point Loads (BLC 35 : Maintanence (210)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	MP ALPHA1	Y	.003	4.667
6	MP ALPHA1	X	.002	4.667
7	MP ALPHA1	Y	.002	4
8	MP ALPHA1	X	.001	4
9	MP ALPHA1	Y	.003	3
10	MP ALPHA1	X	.002	3
11	MP ALPHA2	Y	.003	5
12	MP ALPHA2	X	.002	5
13	MP ALPHA3	Y	.006	3
14	MP ALPHA3	X	.004	3
15	MP ALPHA1	Y	.003	1.333
16	MP ALPHA1	X	.002	1.333
17	MP ALPHA2	Y	.01	2.25
18	MP ALPHA2	X	.006	2.25
19	MP ALPHA3	Y	.01	.917
20	MP ALPHA3	X	.006	.917

Member Point Loads (BLC 36 : Maintanence (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.004	7
2	MP ALPHA2	X	.006	7
3	MP ALPHA3	Y	.004	5.083
4	MP ALPHA3	X	.006	5.083
5	MP ALPHA1	Y	.001	4.667
6	MP ALPHA1	X	.002	4.667
7	MP ALPHA1	Y	.001	4
8	MP ALPHA1	X	.002	4
9	MP ALPHA1	Y	.001	3
10	MP ALPHA1	X	.002	3
11	MP ALPHA2	Y	.001	5
12	MP ALPHA2	X	.002	5
13	MP ALPHA3	Y	.003	3
14	MP ALPHA3	X	.005	3
15	MP ALPHA1	Y	.001	1.333
16	MP ALPHA1	X	.002	1.333
17	MP ALPHA2	Y	.004	2.25
18	MP ALPHA2	X	.006	2.25
19	MP ALPHA3	Y	.004	.917
20	MP ALPHA3	X	.006	.917

Member Point Loads (BLC 37 : Maintanence (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.005	7
2	MP ALPHA3	X	.005	5.083
3	MP ALPHA1	X	.002	4.667
4	MP ALPHA1	X	.003	4
5	MP ALPHA1	X	.003	3
6	MP ALPHA2	X	.002	5
7	MP ALPHA3	X	.006	3
8	MP ALPHA1	X	.002	1.333
9	MP ALPHA2	X	.005	2.25
10	MP ALPHA3	X	.005	.917

Member Point Loads (BLC 38 : Maintanence (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]

Member Point Loads (BLC 38 : Maintanence (300)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.004	7
2	MP ALPHA2	X	.006	7
3	MP ALPHA3	Y	-.004	5.083
4	MP ALPHA3	X	.006	5.083
5	MP ALPHA1	Y	-.001	4.667
6	MP ALPHA1	X	.002	4.667
7	MP ALPHA1	Y	-.001	4
8	MP ALPHA1	X	.002	4
9	MP ALPHA1	Y	-.001	3
10	MP ALPHA1	X	.002	3
11	MP ALPHA2	Y	-.001	5
12	MP ALPHA2	X	.002	5
13	MP ALPHA3	Y	-.003	3
14	MP ALPHA3	X	.005	3
15	MP ALPHA1	Y	-.001	1.333
16	MP ALPHA1	X	.002	1.333
17	MP ALPHA2	Y	-.004	2.25
18	MP ALPHA2	X	.006	2.25
19	MP ALPHA3	Y	-.004	.917
20	MP ALPHA3	X	.006	.917

Member Point Loads (BLC 39 : Maintanence (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.01	7
2	MP ALPHA2	X	.006	7
3	MP ALPHA3	Y	-.01	5.083
4	MP ALPHA3	X	.006	5.083
5	MP ALPHA1	Y	-.003	4.667
6	MP ALPHA1	X	.002	4.667
7	MP ALPHA1	Y	-.002	4
8	MP ALPHA1	X	.001	4
9	MP ALPHA1	Y	-.003	3
10	MP ALPHA1	X	.002	3
11	MP ALPHA2	Y	-.003	5
12	MP ALPHA2	X	.002	5
13	MP ALPHA3	Y	-.006	3
14	MP ALPHA3	X	.004	3
15	MP ALPHA1	Y	-.003	1.333
16	MP ALPHA1	X	.002	1.333
17	MP ALPHA2	Y	-.01	2.25
18	MP ALPHA2	X	.006	2.25
19	MP ALPHA3	Y	-.01	.917
20	MP ALPHA3	X	.006	.917

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Member Distributed Loads (BLC 1 : Wind Load (0))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.01	-.01	0	0
2	VERT	PY	-.011	-.011	0	0
3	STANDOFF	PY	-.017	-.017	0	0

Member Distributed Loads (BLC 1 : Wind Load (0)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
4	MP ALPHA1	PY	-.007	-.007	0	0
5	MP ALPHA2	PY	-.007	-.007	0	0
6	MP ALPHA3	PY	-.007	-.007	0	0
7	Mod Face	PY	-.01	-.01	0	0
8	STABILIZER1	PY	-.017	-.017	0	0
9	Stabilizer2	PY	-.017	-.017	0	0

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

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.004	-.004	0	0
2	VERT	PY	-.004	-.004	0	0
3	STANDOFF	PY	-.004	-.004	0	0
4	MP ALPHA1	PY	-.003	-.003	0	0
5	MP ALPHA2	PY	-.003	-.003	0	0
6	MP ALPHA3	PY	-.003	-.003	0	0
7	Mod Face	PY	-.004	-.004	0	0
8	STABILIZER1	PY	-.004	-.004	0	0
9	Stabilizer2	PY	-.004	-.004	0	0

Member Distributed Loads (BLC 5 : Ice Dead Load)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	Z	-.011	-.011	0	0
2	VERT	Z	-.012	-.012	0	0
3	STANDOFF	Z	-.015	-.015	0	0
4	MP ALPHA1	Z	-.009	-.009	0	0
5	MP ALPHA2	Z	-.009	-.009	0	0
6	MP ALPHA3	Z	-.009	-.009	0	0
7	Mod Face	Z	-.011	-.011	0	0
8	STABILIZER1	Z	-.015	-.015	0	0
9	Stabilizer2	Z	-.015	-.015	0	0

Member Distributed Loads (BLC 6 : Wind Load (30))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.009	-.009	0	0
2	VERT	PY	-.01	-.01	0	0
3	STANDOFF	PY	-.015	-.015	0	0
4	MP ALPHA1	PY	-.006	-.006	0	0
5	MP ALPHA2	PY	-.006	-.006	0	0
6	MP ALPHA3	PY	-.006	-.006	0	0
7	FACE	PX	-.005	-.005	0	0
8	VERT	PX	-.005	-.005	0	0
9	STANDOFF	PX	-.009	-.009	0	0
10	MP ALPHA1	PX	-.004	-.004	0	0
11	MP ALPHA2	PX	-.004	-.004	0	0
12	MP ALPHA3	PX	-.004	-.004	0	0
13	Mod Face	PY	-.009	-.009	0	0
14	Mod Face	PX	-.005	-.005	0	0
15	STABILIZER1	PY	-.015	-.015	0	0
16	STABILIZER1	PX	-.009	-.009	0	0
17	Stabilizer2	PY	-.015	-.015	0	0
18	Stabilizer2	PX	-.009	-.009	0	0

Member Distributed Loads (BLC 7 : Ice Wind Load (30))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.003	-.003	0	0

Member Distributed Loads (BLC 7 : Ice Wind Load (30)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
2	VERT	PY	-.003	-.003	0	0
3	STANDOFF	PY	-.003	-.003	0	0
4	MP ALPHA1	PY	-.003	-.003	0	0
5	MP ALPHA2	PY	-.003	-.003	0	0
6	MP ALPHA3	PY	-.003	-.003	0	0
7	FACE	PX	-.002	-.002	0	0
8	VERT	PX	-.002	-.002	0	0
9	STANDOFF	PX	-.002	-.002	0	0
10	MP ALPHA1	PX	-.002	-.002	0	0
11	MP ALPHA2	PX	-.002	-.002	0	0
12	MP ALPHA3	PX	-.002	-.002	0	0
13	Mod Face	PY	-.003	-.003	0	0
14	Mod Face	PX	-.002	-.002	0	0
15	STABILIZER1	PY	-.003	-.003	0	0
16	STABILIZER1	PX	-.002	-.002	0	0
17	Stabilizer2	PY	-.003	-.003	0	0
18	Stabilizer2	PX	-.002	-.002	0	0

Member Distributed Loads (BLC 8 : Wind Load (60))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.005	-.005	0	0
2	VERT	PY	-.005	-.005	0	0
3	STANDOFF	PY	-.009	-.009	0	0
4	MP ALPHA1	PY	-.004	-.004	0	0
5	MP ALPHA2	PY	-.004	-.004	0	0
6	MP ALPHA3	PY	-.004	-.004	0	0
7	FACE	PX	-.009	-.009	0	0
8	VERT	PX	-.01	-.01	0	0
9	STANDOFF	PX	-.015	-.015	0	0
10	MP ALPHA1	PX	-.006	-.006	0	0
11	MP ALPHA2	PX	-.006	-.006	0	0
12	MP ALPHA3	PX	-.006	-.006	0	0
13	Mod Face	PY	-.005	-.005	0	0
14	Mod Face	PX	-.009	-.009	0	0
15	STABILIZER1	PY	-.009	-.009	0	0
16	STABILIZER1	PX	-.015	-.015	0	0
17	Stabilizer2	PY	-.009	-.009	0	0
18	Stabilizer2	PX	-.015	-.015	0	0

Member Distributed Loads (BLC 9 : Ice Wind Load (60))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.002	-.002	0	0
2	VERT	PY	-.002	-.002	0	0
3	STANDOFF	PY	-.002	-.002	0	0
4	MP ALPHA1	PY	-.002	-.002	0	0
5	MP ALPHA2	PY	-.002	-.002	0	0
6	MP ALPHA3	PY	-.002	-.002	0	0
7	FACE	PX	-.003	-.003	0	0
8	VERT	PX	-.003	-.003	0	0
9	STANDOFF	PX	-.003	-.003	0	0
10	MP ALPHA1	PX	-.003	-.003	0	0
11	MP ALPHA2	PX	-.003	-.003	0	0
12	MP ALPHA3	PX	-.003	-.003	0	0
13	Mod Face	PY	-.002	-.002	0	0
14	Mod Face	PX	-.003	-.003	0	0
15	STABILIZER1	PY	-.002	-.002	0	0

Member Distributed Loads (BLC 9 : Ice Wind Load (60)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
16	STABILIZER1	PX	-.003	-.003	0	0
17	Stabilizer2	PY	-.002	-.002	0	0
18	Stabilizer2	PX	-.003	-.003	0	0

Member Distributed Loads (BLC 10 : Wind Load (90))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	-.01	-.01	0	0
2	VERT	PX	-.011	-.011	0	0
3	STANDOFF	PX	-.017	-.017	0	0
4	MP ALPHA1	PX	-.007	-.007	0	0
5	MP ALPHA2	PX	-.007	-.007	0	0
6	MP ALPHA3	PX	-.007	-.007	0	0
7	Mod Face	PX	-.01	-.01	0	0
8	STABILIZER1	PX	-.017	-.017	0	0
9	Stabilizer2	PX	-.017	-.017	0	0

Member Distributed Loads (BLC 11 : Ice Wind Load (90))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	-.004	-.004	0	0
2	VERT	PX	-.004	-.004	0	0
3	STANDOFF	PX	-.004	-.004	0	0
4	MP ALPHA1	PX	-.003	-.003	0	0
5	MP ALPHA2	PX	-.003	-.003	0	0
6	MP ALPHA3	PX	-.003	-.003	0	0
7	Mod Face	PX	-.004	-.004	0	0
8	STABILIZER1	PX	-.004	-.004	0	0
9	Stabilizer2	PX	-.004	-.004	0	0

Member Distributed Loads (BLC 12 : Wind Load (120))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.005	.005	0	0
2	VERT	PY	.005	.005	0	0
3	STANDOFF	PY	.009	.009	0	0
4	MP ALPHA1	PY	.004	.004	0	0
5	MP ALPHA2	PY	.004	.004	0	0
6	MP ALPHA3	PY	.004	.004	0	0
7	FACE	PX	-.009	-.009	0	0
8	VERT	PX	-.01	-.01	0	0
9	STANDOFF	PX	-.015	-.015	0	0
10	MP ALPHA1	PX	-.006	-.006	0	0
11	MP ALPHA2	PX	-.006	-.006	0	0
12	MP ALPHA3	PX	-.006	-.006	0	0
13	Mod Face	PY	.005	.005	0	0
14	Mod Face	PX	-.009	-.009	0	0
15	STABILIZER1	PY	.009	.009	0	0
16	STABILIZER1	PX	-.015	-.015	0	0
17	Stabilizer2	PY	.009	.009	0	0
18	Stabilizer2	PX	-.015	-.015	0	0

Member Distributed Loads (BLC 13 : Ice Wind Load (120))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.002	.002	0	0
2	VERT	PY	.002	.002	0	0
3	STANDOFF	PY	.002	.002	0	0
4	MP ALPHA1	PY	.002	.002	0	0

Member Distributed Loads (BLC 13 : Ice Wind Load (120)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
5	MP ALPHA2	PY	.002	.002	0	0
6	MP ALPHA3	PY	.002	.002	0	0
7	FACE	PX	-.003	-.003	0	0
8	VERT	PX	-.003	-.003	0	0
9	STANDOFF	PX	-.003	-.003	0	0
10	MP ALPHA1	PX	-.003	-.003	0	0
11	MP ALPHA2	PX	-.003	-.003	0	0
12	MP ALPHA3	PX	-.003	-.003	0	0
13	Mod Face	PY	.002	.002	0	0
14	Mod Face	PX	-.003	-.003	0	0
15	STABILIZER1	PY	.002	.002	0	0
16	STABILIZER1	PX	-.003	-.003	0	0
17	Stabilizer2	PY	.002	.002	0	0
18	Stabilizer2	PX	-.003	-.003	0	0

Member Distributed Loads (BLC 14 : Wind Load (150))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.009	.009	0	0
2	VERT	PY	.01	.01	0	0
3	STANDOFF	PY	.015	.015	0	0
4	MP ALPHA1	PY	.006	.006	0	0
5	MP ALPHA2	PY	.006	.006	0	0
6	MP ALPHA3	PY	.006	.006	0	0
7	FACE	PX	-.005	-.005	0	0
8	VERT	PX	-.005	-.005	0	0
9	STANDOFF	PX	-.009	-.009	0	0
10	MP ALPHA1	PX	-.004	-.004	0	0
11	MP ALPHA2	PX	-.004	-.004	0	0
12	MP ALPHA3	PX	-.004	-.004	0	0
13	Mod Face	PY	.009	.009	0	0
14	Mod Face	PX	-.005	-.005	0	0
15	STABILIZER1	PY	.015	.015	0	0
16	STABILIZER1	PX	-.009	-.009	0	0
17	Stabilizer2	PY	.015	.015	0	0
18	Stabilizer2	PX	-.009	-.009	0	0

Member Distributed Loads (BLC 15 : Ice Wind Load (150))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.003	.003	0	0
2	VERT	PY	.003	.003	0	0
3	STANDOFF	PY	.003	.003	0	0
4	MP ALPHA1	PY	.003	.003	0	0
5	MP ALPHA2	PY	.003	.003	0	0
6	MP ALPHA3	PY	.003	.003	0	0
7	FACE	PX	-.002	-.002	0	0
8	VERT	PX	-.002	-.002	0	0
9	STANDOFF	PX	-.002	-.002	0	0
10	MP ALPHA1	PX	-.002	-.002	0	0
11	MP ALPHA2	PX	-.002	-.002	0	0
12	MP ALPHA3	PX	-.002	-.002	0	0
13	Mod Face	PY	.003	.003	0	0
14	Mod Face	PX	-.002	-.002	0	0
15	STABILIZER1	PY	.003	.003	0	0
16	STABILIZER1	PX	-.002	-.002	0	0
17	Stabilizer2	PY	.003	.003	0	0
18	Stabilizer2	PX	-.002	-.002	0	0

Member Distributed Loads (BLC 16 : Wind Load (180))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.01	.01	0	0
2	VERT	PY	.011	.011	0	0
3	STANDOFF	PY	.017	.017	0	0
4	MP ALPHA1	PY	.007	.007	0	0
5	MP ALPHA2	PY	.007	.007	0	0
6	MP ALPHA3	PY	.007	.007	0	0
7	Mod Face	PY	.01	.01	0	0
8	STABILIZER1	PY	.017	.017	0	0
9	Stabilizer2	PY	.017	.017	0	0

Member Distributed Loads (BLC 17 : Ice Wind Load (180))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.004	.004	0	0
2	VERT	PY	.004	.004	0	0
3	STANDOFF	PY	.004	.004	0	0
4	MP ALPHA1	PY	.003	.003	0	0
5	MP ALPHA2	PY	.003	.003	0	0
6	MP ALPHA3	PY	.003	.003	0	0
7	Mod Face	PY	.004	.004	0	0
8	STABILIZER1	PY	.004	.004	0	0
9	Stabilizer2	PY	.004	.004	0	0

Member Distributed Loads (BLC 18 : Wind Load (210))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.009	.009	0	0
2	VERT	PY	.01	.01	0	0
3	STANDOFF	PY	.015	.015	0	0
4	MP ALPHA1	PY	.006	.006	0	0
5	MP ALPHA2	PY	.006	.006	0	0
6	MP ALPHA3	PY	.006	.006	0	0
7	FACE	PX	.005	.005	0	0
8	VERT	PX	.005	.005	0	0
9	STANDOFF	PX	.009	.009	0	0
10	MP ALPHA1	PX	.004	.004	0	0
11	MP ALPHA2	PX	.004	.004	0	0
12	MP ALPHA3	PX	.004	.004	0	0
13	Mod Face	PY	.009	.009	0	0
14	Mod Face	PX	.005	.005	0	0
15	STABILIZER1	PY	.015	.015	0	0
16	STABILIZER1	PX	.009	.009	0	0
17	Stabilizer2	PY	.015	.015	0	0
18	Stabilizer2	PX	.009	.009	0	0

Member Distributed Loads (BLC 19 : Ice Wind Load (210))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.003	.003	0	0
2	VERT	PY	.003	.003	0	0
3	STANDOFF	PY	.003	.003	0	0
4	MP ALPHA1	PY	.003	.003	0	0
5	MP ALPHA2	PY	.003	.003	0	0
6	MP ALPHA3	PY	.003	.003	0	0
7	FACE	PX	.002	.002	0	0
8	VERT	PX	.002	.002	0	0
9	STANDOFF	PX	.002	.002	0	0
10	MP ALPHA1	PX	.002	.002	0	0

Member Distributed Loads (BLC 19 : Ice Wind Load (210)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
11	MP ALPHA2	PX	.002	.002	0	0
12	MP ALPHA3	PX	.002	.002	0	0
13	Mod Face	PY	.003	.003	0	0
14	Mod Face	PX	.002	.002	0	0
15	STABILIZER1	PY	.003	.003	0	0
16	STABILIZER1	PX	.002	.002	0	0
17	Stabilizer2	PY	.003	.003	0	0
18	Stabilizer2	PX	.002	.002	0	0

Member Distributed Loads (BLC 20 : Wind Load (240))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.005	.005	0	0
2	VERT	PY	.005	.005	0	0
3	STANDOFF	PY	.009	.009	0	0
4	MP ALPHA1	PY	.004	.004	0	0
5	MP ALPHA2	PY	.004	.004	0	0
6	MP ALPHA3	PY	.004	.004	0	0
7	FACE	PX	.009	.009	0	0
8	VERT	PX	.01	.01	0	0
9	STANDOFF	PX	.015	.015	0	0
10	MP ALPHA1	PX	.006	.006	0	0
11	MP ALPHA2	PX	.006	.006	0	0
12	MP ALPHA3	PX	.006	.006	0	0
13	Mod Face	PY	.005	.005	0	0
14	Mod Face	PX	.009	.009	0	0
15	STABILIZER1	PY	.009	.009	0	0
16	STABILIZER1	PX	.015	.015	0	0
17	Stabilizer2	PY	.009	.009	0	0
18	Stabilizer2	PX	.015	.015	0	0

Member Distributed Loads (BLC 21 : Ice Wind Load (240))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.002	.002	0	0
2	VERT	PY	.002	.002	0	0
3	STANDOFF	PY	.002	.002	0	0
4	MP ALPHA1	PY	.002	.002	0	0
5	MP ALPHA2	PY	.002	.002	0	0
6	MP ALPHA3	PY	.002	.002	0	0
7	FACE	PX	.003	.003	0	0
8	VERT	PX	.003	.003	0	0
9	STANDOFF	PX	.003	.003	0	0
10	MP ALPHA1	PX	.003	.003	0	0
11	MP ALPHA2	PX	.003	.003	0	0
12	MP ALPHA3	PX	.003	.003	0	0
13	Mod Face	PY	.002	.002	0	0
14	Mod Face	PX	.003	.003	0	0
15	STABILIZER1	PY	.002	.002	0	0
16	STABILIZER1	PX	.003	.003	0	0
17	Stabilizer2	PY	.002	.002	0	0
18	Stabilizer2	PX	.003	.003	0	0

Member Distributed Loads (BLC 22 : Wind Load (270))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	.01	.01	0	0
2	VERT	PX	.011	.011	0	0

Member Distributed Loads (BLC 22 : Wind Load (270)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
3	STANDOFF	PX	.017	.017	0	0
4	MP ALPHA1	PX	.007	.007	0	0
5	MP ALPHA2	PX	.007	.007	0	0
6	MP ALPHA3	PX	.007	.007	0	0
7	Mod Face	PX	.01	.01	0	0
8	STABILIZER1	PX	.017	.017	0	0
9	Stabilizer2	PX	.017	.017	0	0

Member Distributed Loads (BLC 23 : Ice Wind Load (270))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	.004	.004	0	0
2	VERT	PX	.004	.004	0	0
3	STANDOFF	PX	.004	.004	0	0
4	MP ALPHA1	PX	.003	.003	0	0
5	MP ALPHA2	PX	.003	.003	0	0
6	MP ALPHA3	PX	.003	.003	0	0
7	Mod Face	PX	.004	.004	0	0
8	STABILIZER1	PX	.004	.004	0	0
9	Stabilizer2	PX	.004	.004	0	0

Member Distributed Loads (BLC 24 : Wind Load (300))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.005	-.005	0	0
2	VERT	PY	-.005	-.005	0	0
3	STANDOFF	PY	-.009	-.009	0	0
4	MP ALPHA1	PY	-.004	-.004	0	0
5	MP ALPHA2	PY	-.004	-.004	0	0
6	MP ALPHA3	PY	-.004	-.004	0	0
7	FACE	PX	.009	.009	0	0
8	VERT	PX	.01	.01	0	0
9	STANDOFF	PX	.015	.015	0	0
10	MP ALPHA1	PX	.006	.006	0	0
11	MP ALPHA2	PX	.006	.006	0	0
12	MP ALPHA3	PX	.006	.006	0	0
13	Mod Face	PY	-.005	-.005	0	0
14	Mod Face	PX	.009	.009	0	0
15	STABILIZER1	PY	-.009	-.009	0	0
16	STABILIZER1	PX	.015	.015	0	0
17	Stabilizer2	PY	-.009	-.009	0	0
18	Stabilizer2	PX	.015	.015	0	0

Member Distributed Loads (BLC 25 : Ice Wind Load (300))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.002	-.002	0	0
2	VERT	PY	-.002	-.002	0	0
3	STANDOFF	PY	-.002	-.002	0	0
4	MP ALPHA1	PY	-.002	-.002	0	0
5	MP ALPHA2	PY	-.002	-.002	0	0
6	MP ALPHA3	PY	-.002	-.002	0	0
7	FACE	PX	.003	.003	0	0
8	VERT	PX	.003	.003	0	0
9	STANDOFF	PX	.003	.003	0	0
10	MP ALPHA1	PX	.003	.003	0	0
11	MP ALPHA2	PX	.003	.003	0	0
12	MP ALPHA3	PX	.003	.003	0	0

Member Distributed Loads (BLC 25 : Ice Wind Load (300)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
13	Mod Face	PY	-.002	-.002	0	0
14	Mod Face	PX	.003	.003	0	0
15	STABILIZER1	PY	-.002	-.002	0	0
16	STABILIZER1	PX	.003	.003	0	0
17	Stabilizer2	PY	-.002	-.002	0	0
18	Stabilizer2	PX	.003	.003	0	0

Member Distributed Loads (BLC 26 : Wind Load (330))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.009	-.009	0	0
2	VERT	PY	-.01	-.01	0	0
3	STANDOFF	PY	-.015	-.015	0	0
4	MP ALPHA1	PY	-.006	-.006	0	0
5	MP ALPHA2	PY	-.006	-.006	0	0
6	MP ALPHA3	PY	-.006	-.006	0	0
7	FACE	PX	.005	.005	0	0
8	VERT	PX	.005	.005	0	0
9	STANDOFF	PX	.009	.009	0	0
10	MP ALPHA1	PX	.004	.004	0	0
11	MP ALPHA2	PX	.004	.004	0	0
12	MP ALPHA3	PX	.004	.004	0	0
13	Mod Face	PY	-.009	-.009	0	0
14	Mod Face	PX	.005	.005	0	0
15	STABILIZER1	PY	-.015	-.015	0	0
16	STABILIZER1	PX	.009	.009	0	0
17	Stabilizer2	PY	-.015	-.015	0	0
18	Stabilizer2	PX	.009	.009	0	0

Member Distributed Loads (BLC 27 : Ice Wind Load (330))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.003	-.003	0	0
2	VERT	PY	-.003	-.003	0	0
3	STANDOFF	PY	-.003	-.003	0	0
4	MP ALPHA1	PY	-.003	-.003	0	0
5	MP ALPHA2	PY	-.003	-.003	0	0
6	MP ALPHA3	PY	-.003	-.003	0	0
7	FACE	PX	.002	.002	0	0
8	VERT	PX	.002	.002	0	0
9	STANDOFF	PX	.002	.002	0	0
10	MP ALPHA1	PX	.002	.002	0	0
11	MP ALPHA2	PX	.002	.002	0	0
12	MP ALPHA3	PX	.002	.002	0	0
13	Mod Face	PY	-.003	-.003	0	0
14	Mod Face	PX	.002	.002	0	0
15	STABILIZER1	PY	-.003	-.003	0	0
16	STABILIZER1	PX	.002	.002	0	0
17	Stabilizer2	PY	-.003	-.003	0	0
18	Stabilizer2	PX	.002	.002	0	0

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N7	max	.201	14	.453	2	2.346	21	-2.06	2	1.7	22	.538	14
2		min	-.961	34	-.786	20	.803	2	-6.833	21	.209	2	-2.883	34
3	N33	max	.968	10	1.255	2	.446	3	-.123	20	.172	4	3.788	17

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
4		min	-.37	26	-.922	20	.131	20	-.354	36	-.049	20	-2.703	35
5	Totals:	max	.899	14	1.708	2	2.764	21						
6		min	-.899	32	-1.708	20	1.037	2						

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Wind Load (0)	WL					10	9		
2	Dead Load	DL			-1.1		10			
3	Live Load	LL					1			
4	Ice Wind Load (0)	OL1					10	9		
5	Ice Dead Load	OL2					10	9		
6	Wind Load (30)	WL					20	18		
7	Ice Wind Load (30)	OL1					20	18		
8	Wind Load (60)	WL					20	18		
9	Ice Wind Load (60)	OL1					20	18		
10	Wind Load (90)	WL					10	9		
11	Ice Wind Load (90)	OL1					10	9		
12	Wind Load (120)	WL					20	18		
13	Ice Wind Load (120)	OL1					20	18		
14	Wind Load (150)	WL					20	18		
15	Ice Wind Load (150)	OL1					20	18		
16	Wind Load (180)	WL					10	9		
17	Ice Wind Load (180)	OL1					10	9		
18	Wind Load (210)	WL					20	18		
19	Ice Wind Load (210)	OL1					20	18		
20	Wind Load (240)	WL					20	18		
21	Ice Wind Load (240)	OL1					20	18		
22	Wind Load (270)	WL					10	9		
23	Ice Wind Load (270)	OL1					10	9		
24	Wind Load (300)	WL					20	18		
25	Ice Wind Load (300)	OL1					20	18		
26	Wind Load (330)	WL					20	18		
27	Ice Wind Load (330)	OL1					20	18		
28	Maintanence (0)	OL3					10			
29	Maintanence (30)	OL3					20			
30	Maintanence (60)	OL3					20			
31	Maintanence (90)	OL3					10			
32	Maintanence (120)	OL3					20			
33	Maintanence (150)	OL3					20			
34	Maintanence (180)	OL3					10			
35	Maintanence (210)	OL3					20			
36	Maintanence (240)	OL3					20			
37	Maintanence (270)	OL3					10			
38	Maintanence (300)	OL3					20			
39	Maintanence (330)	OL3					20			
40	Earthquake (x-directi...	EL	-.103							
41	Earthquake (y-directi...	EL		-.103						
42	Earthquake (z-directi...	EL			-.041					

Load Combinations

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		2	1.4																				
2	1.2D + 1.0W(0)	Yes	Y		2	1.2	1	1																		
3	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	4	1																

Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
4	1.2D + 1.5L + 1.0Wl(0)	Yes	Y		2	1.2	3	1.5	28	1														
5	1.2D + 1.0W(30)	Yes	Y		2	1.2	6	1																
6	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	7	1														
7	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	29	1														
8	1.2D + 1.0W(60)	Yes	Y		2	1.2	8	1																
9	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	9	1														
10	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	30	1														
11	1.2D + 1.0W(90)	Yes	Y		2	1.2	10	1																
12	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	11	1														
13	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	31	1														
14	1.2D + 1.0W(120)	Yes	Y		2	1.2	12	1																
15	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	13	1														
16	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	32	1														
17	1.2D + 1.0W(150)	Yes	Y		2	1.2	14	1																
18	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	15	1														
19	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	33	1														
20	1.2D + 1.0W(180)	Yes	Y		2	1.2	16	1																
21	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	17	1														
22	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	34	1														
23	1.2D + 1.0W(210)	Yes	Y		2	1.2	18	1																
24	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	19	1														
25	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	35	1														
26	1.2D + 1.0W(240)	Yes	Y		2	1.2	20	1																
27	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	21	1														
28	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	36	1														
29	1.2D + 1.0W(270)	Yes	Y		2	1.2	22	1																
30	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	23	1														
31	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	37	1														
32	1.2D + 1.0W(300)	Yes	Y		2	1.2	24	1																
33	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	25	1														
34	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	38	1														
35	1.2D + 1.0W(330)	Yes	Y		2	1.2	26	1																
36	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	27	1														
37	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	39	1														
38	1.2D + 1.0E(x) + 1.0E...	Yes	Y		2	1.2	40	1	42	1	3	1												
39	1.2D + 1.0E(y) + 1.0E...	Yes	Y		2	1.2	41	1	42	1	3	1												
40	1.2D - 1.0E(x) + 1.0E(...	Yes	Y		2	1.2	40	-1	42	1	3	1												
41	1.2D - 1.0E(y) + 1.0E(...	Yes	Y		2	1.2	41	-1	42	1	3	1												

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

	Member	Shape	Code Check	Lo...	LC	She...	Loc[ft]	Dir	LC	phi*...	phi*...	phi*...	phi*...	...	Eqn
1	MP ALPHA3	PIPE_2.0	.718	.25	37	.072	.25		25	20.8...	32.13	1.872	1.872	...	H1-...
2	STANDOFF	HSS4X4X4	.504	3	27	.165	3	z	22	134....	139....	16.1...	16.1...	...	H1-...
3	MP ALPHA2	PIPE_2.0	.495	3	25	.113	3		20	14.9...	32.13	1.872	1.872	...	H1-...
4	FACE	PIPE_3.0	.478	6.25	21	.200	6.25		3	28.2...	65.2...	5.749	5.749	...	H1-...
5	MP ALPHA1	PIPE_2.0	.426	.25	18	.078	.25		9	20.8...	32.13	1.872	1.872	...	H1-...
6	Mod Face	PIPE_2.5	.404	3....	2	.104	3.125		2	14.5...	50.7...	3.596	3.596	...	H1-...
7	VERT	PIPE_3.5	.000	.5	5	.000	.5		5	78.43	78.75	7.954	7.954	...	H1-...

Envelope AISI S100-16: ASD Cold Formed Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shea...	Loc[...	Dir	LC	Pn/O...	Tn/O...	Mnyy/...	Mnzz/...	Vny...	Vnz...	Cb	Eqn
1	STABILIZE...	MTC340502	.470	0	2	.067	3.876	y	4	13.643	25.717	1.265	1.514	11.6...	16.6...	1.853	H1.1-2
2	Stabilizer2	MTC340501	.423	3.876	17	.045	3.876	y	3	62.987	94.496	7.306	13.244	11.8...	35.4...	1.577	H1.2-1
3	CONNECTI...	MTC340501	.492	.67	19	.332	.656	y	22	70.12	94.496	7.306	13.245	11.8...	35.4...	1.357	F3.1-1

APPENDIX H

Additional Calculations (Beta)

POD Job #	**20-63609**
Site Number	**876402**
Site Name	**STAFFORD/PRAGYL/SSUSA**

Calculations Based on *TIA-222-H*

Reactions from RISA-3D

Moment	6.833	ft-kip
Axial	0.961	kips
Shear	0.803	kips

Capacities

Bolts	*12.1%*
Flange Plate	*39.4%*

Bolt Information

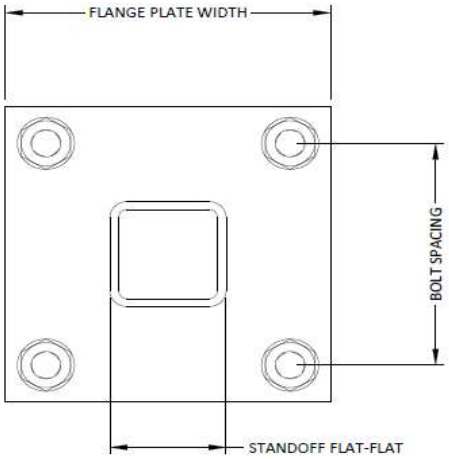
Grade	A325	
Threads in Shear Plane	Included	
Diameter	0.625	in.
Bolt Spacing	6	in.
Number of Rods	4	

Flange Plate Inforation

Width	7.875	in.
Thickness	0.75	in.
Grade	A36	

Standoff Information

Standoff Member	HSS	
Flat-Flat	4	in.
Thickness	0.25	in.



Bolt Calculations

ϕ	0.75	
A_{nt}	0.226	in^2
A_b	0.307	in^2
Fu	120	ksi
ϕR_{nV}	13.81	kips
ϕR_{nt}	20.34	kips
V	0.20	kips
F	7.06	kips
Capacity	12.1%	

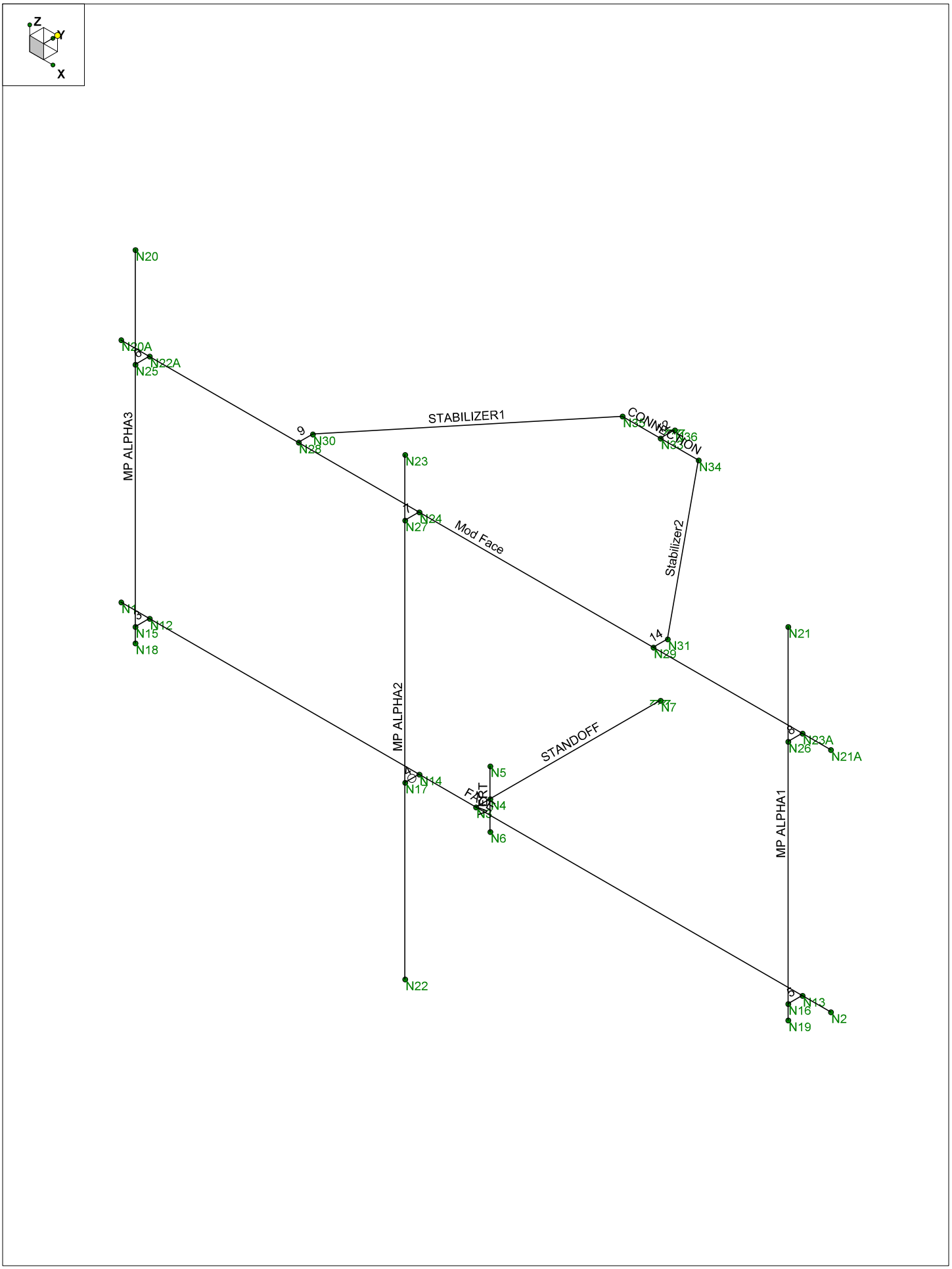
Flange Plate Calculations

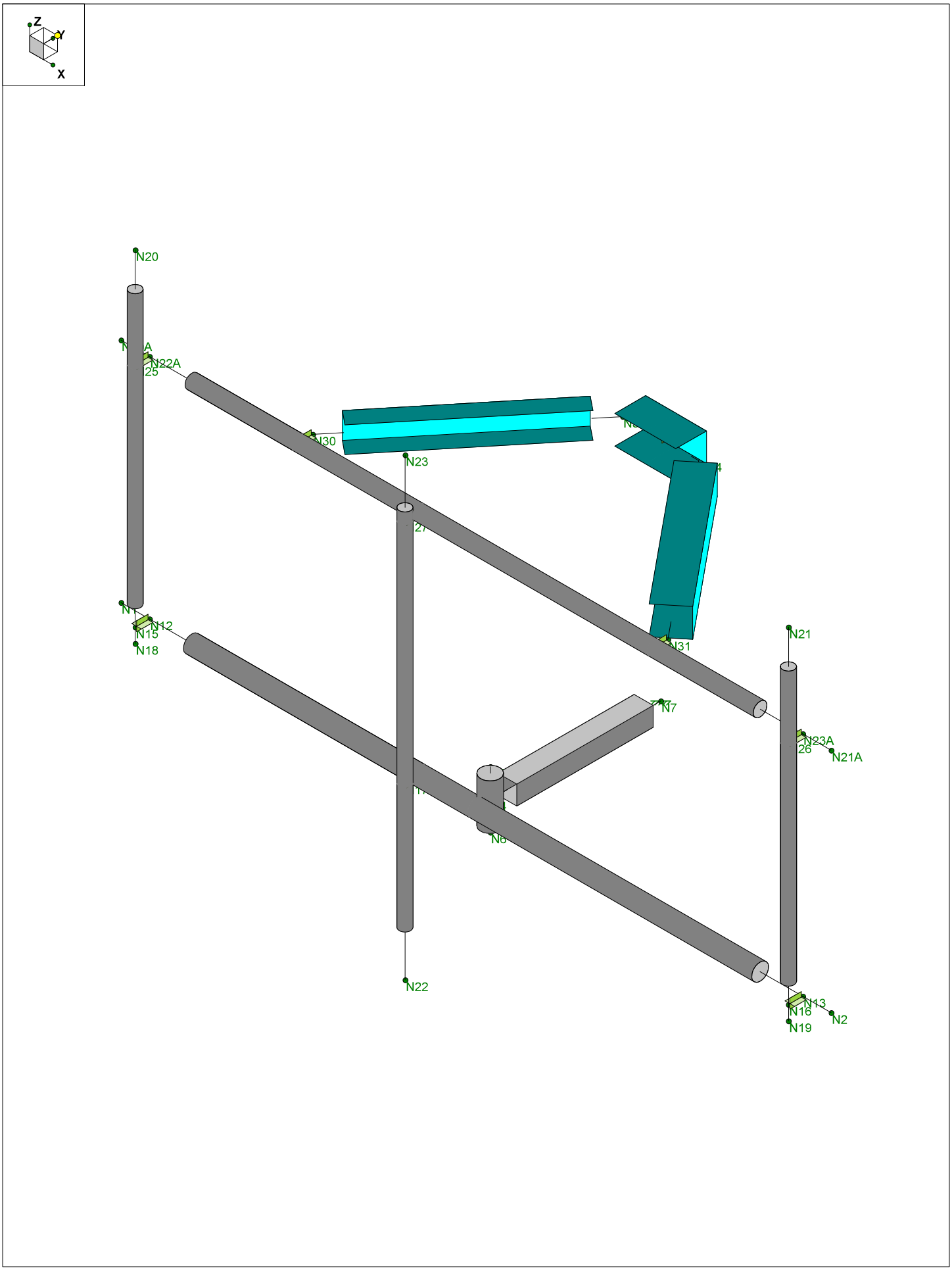
ϕ	0.9	
Fy	36	ksi
t_{min}	0.25	in
Z	1.1	in^3
ϕM_n	35.9	in-kip
M_u	14.1	in-kip
Capacity	39.4%	

Ver 1.0 - 3/5/2019

APPENDIX I

Wire Frame and Rendered Models (Gamma)


Z
Y
X
N20
N20A
N22A
N25
MP ALPHA3
STABILIZER1
N30
N28
N23
N24
N27
Mod Face
CONNECTION
N34
Stabilizer2
N31
N29
N21
N7
STANDOFF
N23A
N26
N21A
MP ALPHA2
N5
N14
N17
N4
N6
MP ALPHA1
N22
N13
N16
N19
N2
N12
N15
N18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Y
X
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N22A
N30
N23
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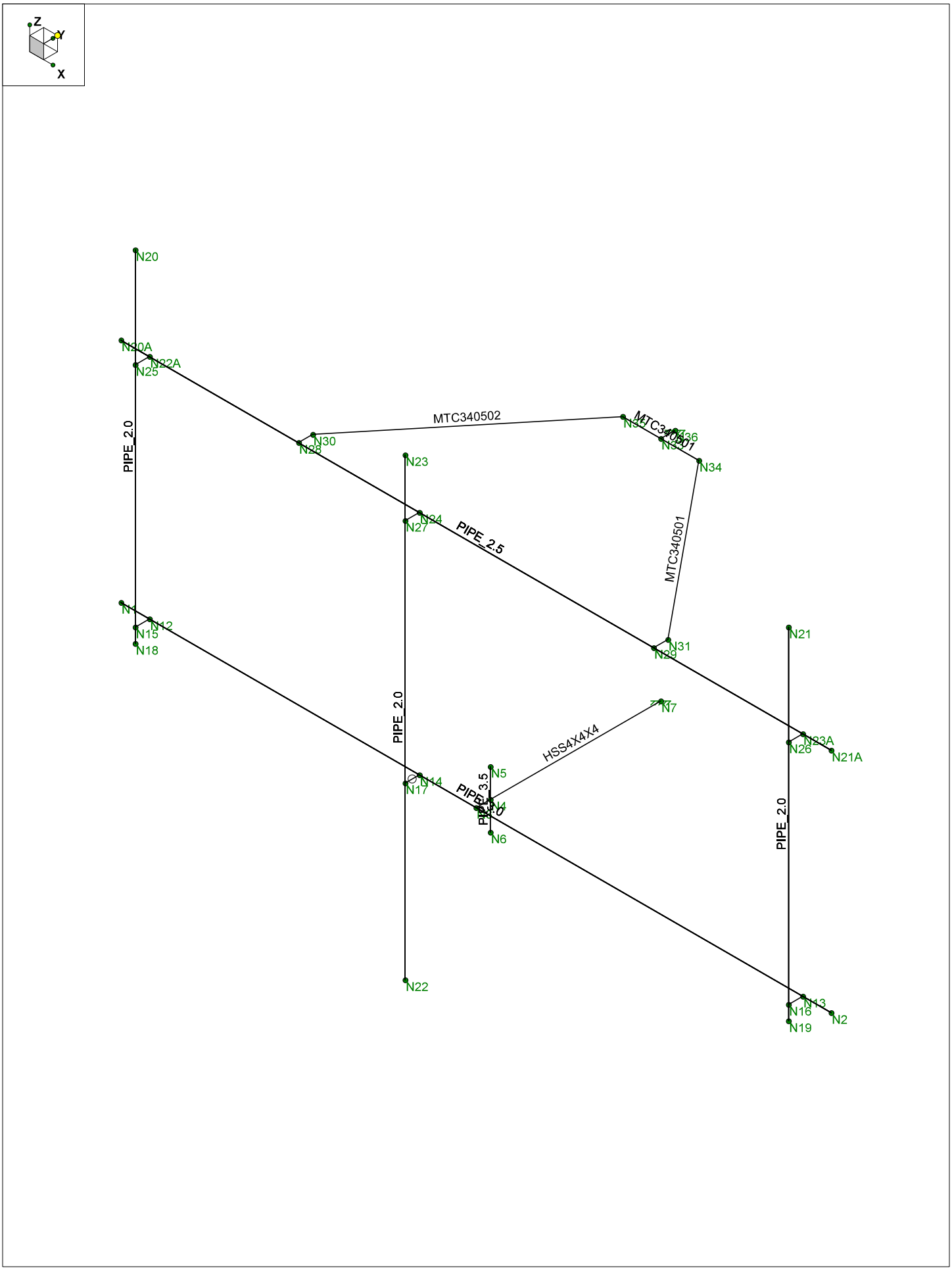
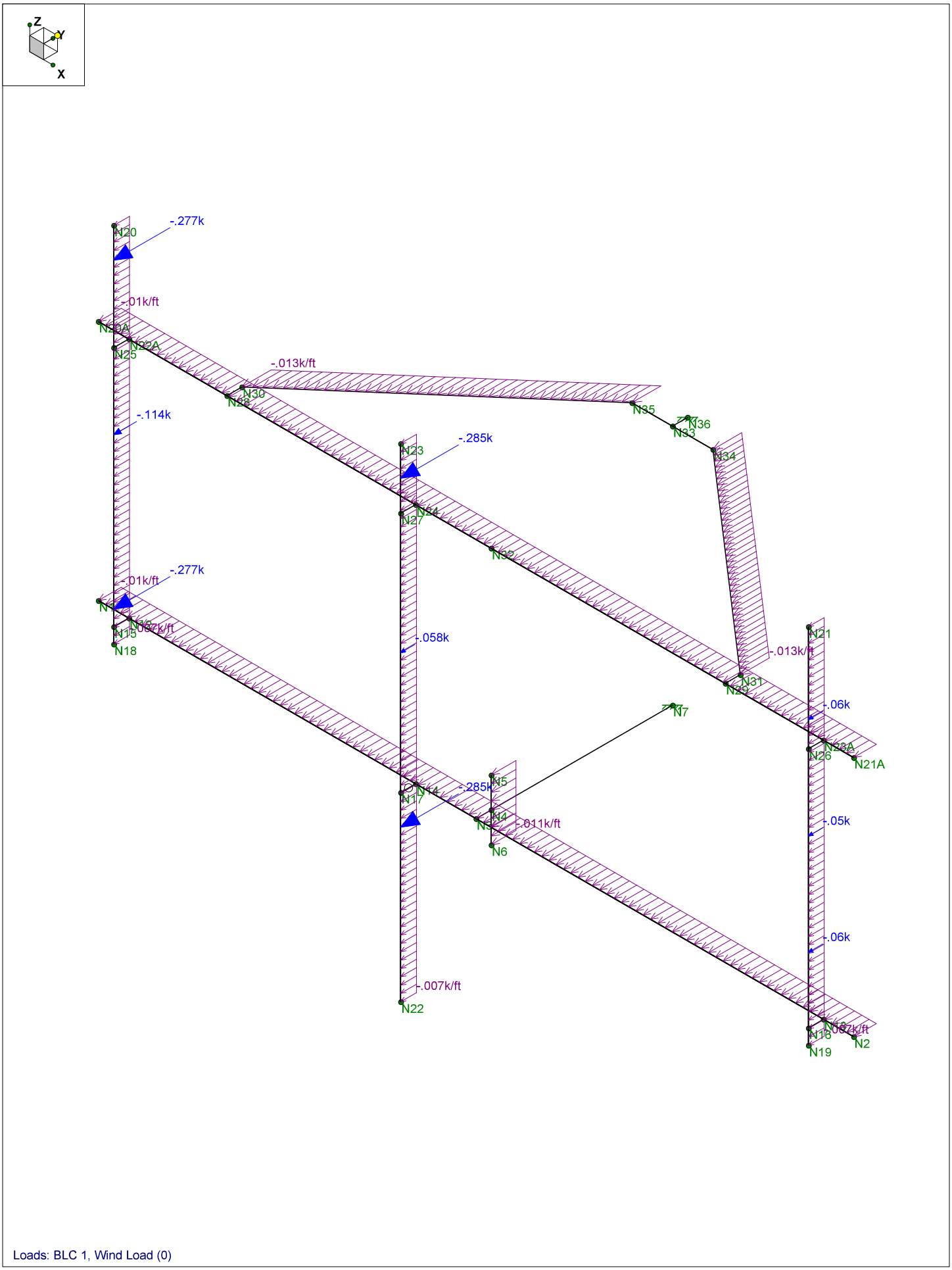
N7
N23A
N21A
N8
N22
N13
N16
N19
N2


Z
Y
X
N20
N20A
N22A
N25
MTC340502
N30
N28
N23
N24
N27
PIPE_2.5
MTC340501
N34
PIPE_2.0
N31
N29
N21
N7
N23A
N26
N21A
HSS4X4X4
N5
N14
N17
PIPE_3.5
N4
N6
PIPE_2.0
N22
N13
N16
N19
N2
N12
N15
N18



Loads: BLC 1, Wind Load (0)

APPENDIX J

Software Input Calculations (Gamma)

POD Job #	**20-63609**
Site Number	**876402**
Site Name	**STAFFORD/PRAGYL/SSUSA**

General Site Information

Mount Type	MF	Risk Category	II	I (seismic)	1	
V (Wind Speed)	117	I(ice)	1	Sms	0.282	
Zs	857			Sm1	0.132	
ti	1.5	Ss	0.176	Sds	0.188	
Vi	50	S1	0.055	Sd1	0.088	
Kzt	1	Soil Site Class	D (assumed)	Seismic Design Category		
Exposure	B	Fa	1.600	B		
zg	1200	Fv	2.400	Seismic Analysis Not Required		
α	7			R	2	TIA-222-H 16.7
Kmin	0.7	Tower Type	Monopole	As	1	TIA-222-H 16.7
G_H	1	Tower Height	150	Cs, Min	0.03	TIA-222-H 2.7.7.1.1
Ke	0.97			Cs	0.093866667	TIA-222-H 2.7.7.1.1
K_D	0.95					
K_s	0.9					

Appurtenance Information

Model	Shielded	% Shielded	Centerline	Spacing (in)	# on MP 1	# on MP 2	# on MP 3	# on MP 4
DMP65R-BU6D			138	50				
DMP65R-BU8D			138	60			1	
OPA65R-BU6D			138	50				
OPA65R-BU8D			138	60		1		
7770			138	40	1			
RRUS 4449 B5/B12			138				1	
RRUS 4478 B14			138			1		
RRUS 8843 B2/B66A			138				1	
LGP21401			138		2			
DC6-48-60-18-8F			139					
DC9-48-60-24-8C-EV			139					

Mount Information

Elevation (ft)	136
K_z	1.08
Kiz	1.15
tiz	1.73

	Length (ft)	Width (in)	Centerline
Mount Pipes	6	2.375	138

Round Members

Member	Length (ft)	Width (in)	Frame Member	# of Members
Face	12.5	3.5	Yes	1
Vertical Pipe	1	4	Yes	1
Standoff Pipe	2.25	2.375	Yes	1
New Face	12.5	2.875	Yes	1

Flat Members

Member	Length (ft)	Width (in)	Shape	A	B	C	D	Frame Member	# of Members
Standoff	3	4	Square HSS	4	0.25	4		Yes	1
Stabilizer	3.876	5.4	Channel	3.7	5.4	0.188	0.188	No	2
Connection	0.917	6	Channel	3.5	6	0.25	0.25	No	1

Version 2.2

Appurtenance Wind Calculations

Model	Height	Width	Depth	Weight (lbs)	Kz	qz (lb/ft$_2$)	$(EPA)_N$ (ft^2)	$(EPA)_T$(ft^2)	Wind Force (Kips) Front	Side	Alpha	Beta	Gamma
DMP65R-BU6D	71.2	20.7	7.7	89.3	1.08	34.97	11.93	4.48	0.417	0.156	0.352	0.352	0.156
DMP65R-BU8D	96.0	20.7	7.7	105.6	1.08	34.97	15.86	5.95	0.555	0.208	0.468	0.468	0.208
OPA65R-BU6D	71.2	21.0	7.8	63.5	1.08	34.97	12.22	4.54	0.427	0.159	0.360	0.360	0.159
OPA65R-BU8D	96.0	21.0	7.8	76.5	1.08	34.97	16.28	7.38	0.569	0.258	0.491	0.491	0.258
7770	55.0	11.0	5.0	35.0	1.08	34.97	3.42	1.56	0.120	0.055	0.103	0.103	0.055
RRUS 4449 B5/B12	17.9	13.2	9.4	71.0	1.08	34.97	1.77	1.27	0.062	0.044	0.058	0.058	0.044
RRUS 4478 B14	16.5	13.4	7.7	59.9	1.08	34.97	1.66	0.95	0.058	0.033	0.052	0.052	0.033
RRUS 8843 B2/B66A	14.9	13.2	10.9	72.0	1.08	34.97	1.48	1.22	0.052	0.043	0.049	0.049	0.043
LGP21401	14.2	6.7	5.4	22.0	1.08	34.97	0.71	0.58	0.025	0.020	0.024	0.024	0.020
DC6-48-60-18-8F	31.3	11.0	11.0	32.8	1.09	35.04	1.09	1.21	0.038	0.042	0.039	0.039	0.042
DC9-48-60-24-8C-EV	31.4	10.3	10.3	26.2	1.09	35.04	1.03	1.15	0.036	0.040	0.037	0.037	0.040

Appurtenance Ice Calculations

Model	tiz (in)	Height	Width	Depth	Weight (lbs)	Kiz	qz (lb/ft$_2$)	$(EPA)_N$ (ft^2)	$(EPA)_T$(ft^2)	Wind Force (Kips) Front	Side	Alpha	Beta	Gamma
DMP65R-BU6D	1.73	74.66	24.16	11.16	284.73	1.15	6.39	13.14	6.11	0.084	0.039	0.073	0.073	0.039
DMP65R-BU8D	1.73	99.46	24.16	11.16	373.37	1.15	6.39	17.26	8.02	0.110	0.051	0.096	0.096	0.051
OPA65R-BU6D	1.73	74.66	24.46	11.26	288.57	1.15	6.39	13.43	6.18	0.086	0.039	0.074	0.074	0.039
OPA65R-BU8D	1.73	99.46	24.46	11.26	378.32	1.15	6.39	11.18	5.89	0.071	0.038	0.063	0.063	0.038
7770	1.73	58.46	14.46	8.46	133.80	1.15	6.39	4.31	2.53	0.028	0.016	0.025	0.025	0.016
RRUS 4449 B5/B12	1.73	21.36	16.65	12.90	76.49	1.15	6.39	1.56	1.21	0.010	0.008	0.009	0.009	0.008
RRUS 4478 B14	1.73	19.96	16.86	11.16	66.57	1.15	6.39	1.48	0.98	0.009	0.006	0.009	0.009	0.006
RRUS 8843 B2/B66A	1.73	18.36	16.66	14.36	72.91	1.15	6.39	1.34	1.16	0.009	0.007	0.008	0.008	0.007
LGP21401	1.73	17.66	10.16	8.86	34.89	1.15	6.39	0.79	0.69	0.005	0.004	0.005	0.005	0.004
DC6-48-60-18-8F	1.73	34.71	14.46	14.46	112.72	1.15	6.40	2.20	2.20	0.014	0.014	0.014	0.014	0.014
DC9-48-60-24-8C-EV	1.73	34.87	13.71	13.71	105.52	1.15	6.40	2.09	2.09	0.013	0.013	0.013	0.013	0.013

Round Members

Member	Wind Calculations q_z (lb/ft^2)	Ar	C	Rrf	Cas	EPA (ft^2)	Load (k/ft)	Ice Calculations Width (in)	Weight (k/ft)	q_z (lb/ft^2)	Arice	Rrfice	Cas	EPA (ft^2)	Load (k/ft)
Face	34.82	3.65	34.90	0.78	1.59	4.09	0.011	6.96	0.01	6.36	7.25	1.05	1.59	10.89	0.006
Vertical Pipe	34.82	0.33	39.89	0.78	1.59	0.37	0.013	7.46	0.01	6.36	0.62	1.05	1.59	0.93	0.006
Standoff Pipe	34.82	0.45	23.68	0.78	1.59	0.50	0.008	5.83	0.01	6.36	1.09	1.05	1.59	1.64	0.005

Flat Members

Member	Wind Calculations q_z (lb/ft^2)	Af	Cas	EPA	Load (k/ft)	Ice Calculations Width (in)	Weight (k/ft)	q_z (lb/ft^2)	Arice	Rrfice	Cas	EPA	Load (k/ft)
Standoff	34.82	1.00	1.59	1.43	0.017	7.46	0.02	6.36	1.86	1.05	1.59	2.80	0.006

Appurtenance Seismic Calculations

Model	Weight	Sds	ρ	Cs	As	Ev	Eh
DMP65R-BU6D	89.3	0.188	1.000	0.094	1.000	0.003	0.008
DMP65R-BU8D	105.6	0.188	1.000	0.094	1.000	0.004	0.010
OPA65R-BU6D	63.5	0.188	1.000	0.094	1.000	0.002	0.006
OPA65R-BU8D	76.5	0.188	1.000	0.094	1.000	0.003	0.007
7770	35.0	0.188	1.000	0.094	1.000	0.001	0.003
RRUS 4449 B5/B12	71.0	0.188	1.000	0.094	1.000	0.003	0.007
RRUS 4478 B14	59.9	0.188	1.000	0.094	1.000	0.002	0.006
RRUS 8843 B2/B66A	72.0	0.188	1.000	0.094	1.000	0.003	0.007
LGP21401	22.0	0.188	1.000	0.094	1.000	0.001	0.002
DC6-48-60-18-8F	32.8	0.188	1.000	0.094	1.000	0.001	0.003
DC9-48-60-24-8C-EV	26.2	0.188	1.000	0.094	1.000	0.001	0.002

Version 2.1

APPENDIX K

Software Analysis Output (Gamma)

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
1	FACE	PIPE_3.0	12.5			Lbyy						Lateral
2	VERT	PIPE_3.5	1			Lbyy						Lateral
3	STANDOFF	HSS4X4X4	3			Lbyy						Lateral
4	MP ALPHA1	PIPE_2.0	6			Lbyy						Lateral
5	MP ALPHA2	PIPE_2.0	8			Lbyy						Lateral
6	MP ALPHA3	PIPE_2.0	6			Lbyy						Lateral
7	Mod Face	PIPE_2.5	12.5			Lbyy						Lateral

Cold Formed Steel Design Parameters

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	R	a[ft]	Funct...
1	STABILIZ...	MTC3405...	3.876			Lbyy								Lateral
2	Stabilizer2	MTC3405...	3.876			Lbyy								Lateral
3	CONNEC...	MTC3405...	1.34			Lbyy								Lateral

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(...	Section/Shape	Type	Design List	Material	Design R...
1	FACE	N1	N2			PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical
2	VERT	N6	N5			PIPE_3.5	Beam	Pipe	A53 Gr.B	Typical
3	STANDOFF	N4	N7			HSS4X4X4	Beam	SquareTube	A500 Gr.B Rect	Typical
4	MP ALPHA1	N19	N21			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
5	MP ALPHA2	N22	N23			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
6	MP ALPHA3	N18	N20			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
7	1	N3	N4			RIGID	None	None	RIGID	Typical
8	3	N15	N12			RIGID	None	None	RIGID	Typical
9	4	N17	N14			RIGID	None	None	RIGID	Typical
10	5	N16	N13			RIGID	None	None	RIGID	Typical
11	Mod Face	N20A	N21A			PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical
12	6	N25	N22A			RIGID	None	None	RIGID	Typical
13	7	N27	N24			RIGID	None	None	RIGID	Typical
14	8	N26	N23A			RIGID	None	None	RIGID	Typical
15	STABILIZER1	N30	N35		90	MTC340502	Beam	None	CF3 (A36)	Typical
16	9	N28	N30			RIGID	None	None	RIGID	Typical
17	12	N33	N36			RIGID	None	None	RIGID	Typical
18	Stabilizer2	N31	N34		90	MTC340501	Beam	None	CF3 (A36)	Typical
19	14	N29	N31			RIGID	None	None	RIGID	Typical
20	CONNECTION	N35	N34		90	MTC340501	Beam	None	CF3 (A36)	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic...
1	FACE						Yes				None
2	VERT						Yes				None
3	STANDOFF						Yes				None
4	MP ALPHA1						Yes				None
5	MP ALPHA2						Yes				None
6	MP ALPHA3						Yes				None
7	1						Yes	** NA **			None
8	3						Yes	** NA **			None
9	4		OOOOOO				Yes	** NA **			None
10	5						Yes	** NA **			None
11	Mod Face						Yes				None
12	6						Yes	** NA **			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis ...	Inactive	Seismic...
13	7						Yes	** NA **			None
14	8						Yes	** NA **			None
15	STABILIZER1						Yes	Default			None
16	9						Yes	** NA **			None
17	12						Yes	** NA **			None
18	Stabilizer2						Yes	Default			None
19	14						Yes	** NA **			None
20	CONNECTION						Yes	Default			None

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 ...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.25	65	1.15
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A653 SS Gr33	29500	11346	.3	.65	.49	33	45
2	A653 SS Gr50/1	29500	11346	.3	.65	.49	50	65
3	CF3 (A36)	29000	11154	.3	.65	.49	36	58

Member Point Loads (BLC 1 : Wind Load (0))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.285	7.5
2	MP ALPHA3	Y	-.277	5.5
3	MP ALPHA1	Y	-.06	4.667
4	MP ALPHA1	Y	-.05	3
5	MP ALPHA2	Y	-.058	5
6	MP ALPHA3	Y	-.114	3
7	MP ALPHA1	Y	-.06	1.333
8	MP ALPHA2	Y	-.285	2.5
9	MP ALPHA3	Y	-.277	.5

Member Point Loads (BLC 2 : Dead Load)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Z	-.038	7.5
2	MP ALPHA3	Z	-.053	5.5
3	MP ALPHA1	Z	-.018	4.667
4	MP ALPHA1	Z	-.044	3
5	MP ALPHA2	Z	-.06	5
6	MP ALPHA3	Z	-.143	3
7	MP ALPHA1	Z	-.018	1.333
8	MP ALPHA2	Z	-.038	2.5
9	MP ALPHA3	Z	-.053	.5

Member Point Loads (BLC 3 : Live Load)

Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]

Member Point Loads (BLC 3 : Live Load) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	FACE	Z	-.5	0

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

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.036	7.5
2	MP ALPHA3	Y	-.055	5.5
3	MP ALPHA1	Y	-.014	4.667
4	MP ALPHA1	Y	-.01	3
5	MP ALPHA2	Y	-.009	5
6	MP ALPHA3	Y	-.019	3
7	MP ALPHA1	Y	-.014	1.333
8	MP ALPHA2	Y	-.036	2.5
9	MP ALPHA3	Y	-.055	.5

Member Point Loads (BLC 5 : Ice Dead Load)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Z	-.189	7.5
2	MP ALPHA3	Z	-.187	5.5
3	MP ALPHA1	Z	-.067	4.667
4	MP ALPHA1	Z	-.07	3
5	MP ALPHA2	Z	-.067	5
6	MP ALPHA3	Z	-.149	3
7	MP ALPHA1	Z	-.067	1.333
8	MP ALPHA2	Z	-.189	2.5
9	MP ALPHA3	Z	-.187	.5

Member Point Loads (BLC 6 : Wind Load (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.213	7.5
2	MP ALPHA2	X	-.123	7.5
3	MP ALPHA3	Y	-.203	5.5
4	MP ALPHA3	X	-.117	5.5
5	MP ALPHA1	Y	-.045	4.667
6	MP ALPHA1	X	-.026	4.667
7	MP ALPHA1	Y	-.041	3
8	MP ALPHA1	X	-.024	3
9	MP ALPHA2	Y	-.045	5
10	MP ALPHA2	X	-.026	5
11	MP ALPHA3	Y	-.093	3
12	MP ALPHA3	X	-.053	3
13	MP ALPHA1	Y	-.045	1.333
14	MP ALPHA1	X	-.026	1.333
15	MP ALPHA2	Y	-.213	2.5
16	MP ALPHA2	X	-.123	2.5
17	MP ALPHA3	Y	-.203	.5
18	MP ALPHA3	X	-.117	.5

Member Point Loads (BLC 7 : Ice Wind Load (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.027	7.5
2	MP ALPHA2	X	-.016	7.5
3	MP ALPHA3	Y	-.041	5.5
4	MP ALPHA3	X	-.024	5.5
5	MP ALPHA1	Y	-.011	4.667
6	MP ALPHA1	X	-.006	4.667

Member Point Loads (BLC 7 : Ice Wind Load (30)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
7	MP ALPHA1	Y	-.008	3
8	MP ALPHA1	X	-.005	3
9	MP ALPHA2	Y	-.007	5
10	MP ALPHA2	X	-.004	5
11	MP ALPHA3	Y	-.015	3
12	MP ALPHA3	X	-.009	3
13	MP ALPHA1	Y	-.011	1.333
14	MP ALPHA1	X	-.006	1.333
15	MP ALPHA2	Y	-.027	2.5
16	MP ALPHA2	X	-.016	2.5
17	MP ALPHA3	Y	-.041	.5
18	MP ALPHA3	X	-.024	.5

Member Point Loads (BLC 8 : Wind Load (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.084	7.5
2	MP ALPHA2	X	-.145	7.5
3	MP ALPHA3	Y	-.074	5.5
4	MP ALPHA3	X	-.128	5.5
5	MP ALPHA1	Y	-.018	4.667
6	MP ALPHA1	X	-.031	4.667
7	MP ALPHA1	Y	-.021	3
8	MP ALPHA1	X	-.037	3
9	MP ALPHA2	Y	-.02	5
10	MP ALPHA2	X	-.034	5
11	MP ALPHA3	Y	-.047	3
12	MP ALPHA3	X	-.081	3
13	MP ALPHA1	Y	-.018	1.333
14	MP ALPHA1	X	-.031	1.333
15	MP ALPHA2	Y	-.084	2.5
16	MP ALPHA2	X	-.145	2.5
17	MP ALPHA3	Y	-.074	.5
18	MP ALPHA3	X	-.128	.5

Member Point Loads (BLC 9 : Ice Wind Load (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.012	7.5
2	MP ALPHA2	X	-.02	7.5
3	MP ALPHA3	Y	-.016	5.5
4	MP ALPHA3	X	-.029	5.5
5	MP ALPHA1	Y	-.005	4.667
6	MP ALPHA1	X	-.008	4.667
7	MP ALPHA1	Y	-.005	3
8	MP ALPHA1	X	-.008	3
9	MP ALPHA2	Y	-.004	5
10	MP ALPHA2	X	-.006	5
11	MP ALPHA3	Y	-.008	3
12	MP ALPHA3	X	-.014	3
13	MP ALPHA1	Y	-.005	1.333
14	MP ALPHA1	X	-.008	1.333
15	MP ALPHA2	Y	-.012	2.5
16	MP ALPHA2	X	-.02	2.5
17	MP ALPHA3	Y	-.016	.5
18	MP ALPHA3	X	-.029	.5

Member Point Loads (BLC 10 : Wind Load (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.129	7.5
2	MP ALPHA3	X	-.104	5.5
3	MP ALPHA1	X	-.027	4.667
4	MP ALPHA1	X	-.04	3
5	MP ALPHA2	X	-.033	5
6	MP ALPHA3	X	-.087	3
7	MP ALPHA1	X	-.027	1.333
8	MP ALPHA2	X	-.129	2.5
9	MP ALPHA3	X	-.104	.5

Member Point Loads (BLC 11 : Ice Wind Load (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.019	7.5
2	MP ALPHA3	X	-.026	5.5
3	MP ALPHA1	X	-.008	4.667
4	MP ALPHA1	X	-.009	3
5	MP ALPHA2	X	-.006	5
6	MP ALPHA3	X	-.015	3
7	MP ALPHA1	X	-.008	1.333
8	MP ALPHA2	X	-.019	2.5
9	MP ALPHA3	X	-.026	.5

Member Point Loads (BLC 12 : Wind Load (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.084	7.5
2	MP ALPHA2	X	-.145	7.5
3	MP ALPHA3	Y	.074	5.5
4	MP ALPHA3	X	-.128	5.5
5	MP ALPHA1	Y	.018	4.667
6	MP ALPHA1	X	-.031	4.667
7	MP ALPHA1	Y	.021	3
8	MP ALPHA1	X	-.037	3
9	MP ALPHA2	Y	.02	5
10	MP ALPHA2	X	-.034	5
11	MP ALPHA3	Y	.047	3
12	MP ALPHA3	X	-.081	3
13	MP ALPHA1	Y	.018	1.333
14	MP ALPHA1	X	-.031	1.333
15	MP ALPHA2	Y	.084	2.5
16	MP ALPHA2	X	-.145	2.5
17	MP ALPHA3	Y	.074	.5
18	MP ALPHA3	X	-.128	.5

Member Point Loads (BLC 13 : Ice Wind Load (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.012	7.5
2	MP ALPHA2	X	-.02	7.5
3	MP ALPHA3	Y	.016	5.5
4	MP ALPHA3	X	-.029	5.5
5	MP ALPHA1	Y	.005	4.667
6	MP ALPHA1	X	-.008	4.667
7	MP ALPHA1	Y	.005	3
8	MP ALPHA1	X	-.008	3
9	MP ALPHA2	Y	.004	5
10	MP ALPHA2	X	-.006	5

Member Point Loads (BLC 13 : Ice Wind Load (120)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
11	MP ALPHA3	Y	.008	3
12	MP ALPHA3	X	-.014	3
13	MP ALPHA1	Y	.005	1.333
14	MP ALPHA1	X	-.008	1.333
15	MP ALPHA2	Y	.012	2.5
16	MP ALPHA2	X	-.02	2.5
17	MP ALPHA3	Y	.016	.5
18	MP ALPHA3	X	-.029	.5

Member Point Loads (BLC 14 : Wind Load (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.213	7.5
2	MP ALPHA2	X	-.123	7.5
3	MP ALPHA3	Y	.203	5.5
4	MP ALPHA3	X	-.117	5.5
5	MP ALPHA1	Y	.045	4.667
6	MP ALPHA1	X	-.026	4.667
7	MP ALPHA1	Y	.041	3
8	MP ALPHA1	X	-.024	3
9	MP ALPHA2	Y	.045	5
10	MP ALPHA2	X	-.026	5
11	MP ALPHA3	Y	.093	3
12	MP ALPHA3	X	-.053	3
13	MP ALPHA1	Y	.045	1.333
14	MP ALPHA1	X	-.026	1.333
15	MP ALPHA2	Y	.213	2.5
16	MP ALPHA2	X	-.123	2.5
17	MP ALPHA3	Y	.203	.5
18	MP ALPHA3	X	-.117	.5

Member Point Loads (BLC 15 : Ice Wind Load (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.027	7.5
2	MP ALPHA2	X	-.016	7.5
3	MP ALPHA3	Y	.041	5.5
4	MP ALPHA3	X	-.024	5.5
5	MP ALPHA1	Y	.011	4.667
6	MP ALPHA1	X	-.006	4.667
7	MP ALPHA1	Y	.008	3
8	MP ALPHA1	X	-.005	3
9	MP ALPHA2	Y	.007	5
10	MP ALPHA2	X	-.004	5
11	MP ALPHA3	Y	.015	3
12	MP ALPHA3	X	-.009	3
13	MP ALPHA1	Y	.011	1.333
14	MP ALPHA1	X	-.006	1.333
15	MP ALPHA2	Y	.027	2.5
16	MP ALPHA2	X	-.016	2.5
17	MP ALPHA3	Y	.041	.5
18	MP ALPHA3	X	-.024	.5

Member Point Loads (BLC 16 : Wind Load (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.285	7.5
2	MP ALPHA3	Y	.277	5.5

Member Point Loads (BLC 16 : Wind Load (180)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
3	MP ALPHA1	Y	.06	4.667
4	MP ALPHA1	Y	.05	3
5	MP ALPHA2	Y	.058	5
6	MP ALPHA3	Y	.114	3
7	MP ALPHA1	Y	.06	1.333
8	MP ALPHA2	Y	.285	2.5
9	MP ALPHA3	Y	.277	.5

Member Point Loads (BLC 17 : Ice Wind Load (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.036	7.5
2	MP ALPHA3	Y	.055	5.5
3	MP ALPHA1	Y	.014	4.667
4	MP ALPHA1	Y	.01	3
5	MP ALPHA2	Y	.009	5
6	MP ALPHA3	Y	.019	3
7	MP ALPHA1	Y	.014	1.333
8	MP ALPHA2	Y	.036	2.5
9	MP ALPHA3	Y	.055	.5

Member Point Loads (BLC 18 : Wind Load (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.213	7.5
2	MP ALPHA2	X	.123	7.5
3	MP ALPHA3	Y	.203	5.5
4	MP ALPHA3	X	.117	5.5
5	MP ALPHA1	Y	.045	4.667
6	MP ALPHA1	X	.026	4.667
7	MP ALPHA1	Y	.041	3
8	MP ALPHA1	X	.024	3
9	MP ALPHA2	Y	.045	5
10	MP ALPHA2	X	.026	5
11	MP ALPHA3	Y	.093	3
12	MP ALPHA3	X	.053	3
13	MP ALPHA1	Y	.045	1.333
14	MP ALPHA1	X	.026	1.333
15	MP ALPHA2	Y	.213	2.5
16	MP ALPHA2	X	.123	2.5
17	MP ALPHA3	Y	.203	.5
18	MP ALPHA3	X	.117	.5

Member Point Loads (BLC 19 : Ice Wind Load (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.027	7.5
2	MP ALPHA2	X	.016	7.5
3	MP ALPHA3	Y	.041	5.5
4	MP ALPHA3	X	.024	5.5
5	MP ALPHA1	Y	.011	4.667
6	MP ALPHA1	X	.006	4.667
7	MP ALPHA1	Y	.008	3
8	MP ALPHA1	X	.005	3
9	MP ALPHA2	Y	.007	5
10	MP ALPHA2	X	.004	5
11	MP ALPHA3	Y	.015	3
12	MP ALPHA3	X	.009	3

Member Point Loads (BLC 19 : Ice Wind Load (210)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
13	MP ALPHA1	Y	.011	1.333
14	MP ALPHA1	X	.006	1.333
15	MP ALPHA2	Y	.027	2.5
16	MP ALPHA2	X	.016	2.5
17	MP ALPHA3	Y	.041	.5
18	MP ALPHA3	X	.024	.5

Member Point Loads (BLC 20 : Wind Load (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.084	7.5
2	MP ALPHA2	X	.145	7.5
3	MP ALPHA3	Y	.074	5.5
4	MP ALPHA3	X	.128	5.5
5	MP ALPHA1	Y	.018	4.667
6	MP ALPHA1	X	.031	4.667
7	MP ALPHA1	Y	.021	3
8	MP ALPHA1	X	.037	3
9	MP ALPHA2	Y	.02	5
10	MP ALPHA2	X	.034	5
11	MP ALPHA3	Y	.047	3
12	MP ALPHA3	X	.081	3
13	MP ALPHA1	Y	.018	1.333
14	MP ALPHA1	X	.031	1.333
15	MP ALPHA2	Y	.084	2.5
16	MP ALPHA2	X	.145	2.5
17	MP ALPHA3	Y	.074	.5
18	MP ALPHA3	X	.128	.5

Member Point Loads (BLC 21 : Ice Wind Load (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.012	7.5
2	MP ALPHA2	X	.02	7.5
3	MP ALPHA3	Y	.016	5.5
4	MP ALPHA3	X	.029	5.5
5	MP ALPHA1	Y	.005	4.667
6	MP ALPHA1	X	.008	4.667
7	MP ALPHA1	Y	.005	3
8	MP ALPHA1	X	.008	3
9	MP ALPHA2	Y	.004	5
10	MP ALPHA2	X	.006	5
11	MP ALPHA3	Y	.008	3
12	MP ALPHA3	X	.014	3
13	MP ALPHA1	Y	.005	1.333
14	MP ALPHA1	X	.008	1.333
15	MP ALPHA2	Y	.012	2.5
16	MP ALPHA2	X	.02	2.5
17	MP ALPHA3	Y	.016	.5
18	MP ALPHA3	X	.029	.5

Member Point Loads (BLC 22 : Wind Load (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.129	7.5
2	MP ALPHA3	X	.104	5.5
3	MP ALPHA1	X	.027	4.667
4	MP ALPHA1	X	.04	3

Member Point Loads (BLC 22 : Wind Load (270)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	MP ALPHA2	X	.033	5
6	MP ALPHA3	X	.087	3
7	MP ALPHA1	X	.027	1.333
8	MP ALPHA2	X	.129	2.5
9	MP ALPHA3	X	.104	.5

Member Point Loads (BLC 23 : Ice Wind Load (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.019	7.5
2	MP ALPHA3	X	.026	5.5
3	MP ALPHA1	X	.008	4.667
4	MP ALPHA1	X	.009	3
5	MP ALPHA2	X	.006	5
6	MP ALPHA3	X	.015	3
7	MP ALPHA1	X	.008	1.333
8	MP ALPHA2	X	.019	2.5
9	MP ALPHA3	X	.026	.5

Member Point Loads (BLC 24 : Wind Load (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.084	7.5
2	MP ALPHA2	X	.145	7.5
3	MP ALPHA3	Y	-.074	5.5
4	MP ALPHA3	X	.128	5.5
5	MP ALPHA1	Y	-.018	4.667
6	MP ALPHA1	X	.031	4.667
7	MP ALPHA1	Y	-.021	3
8	MP ALPHA1	X	.037	3
9	MP ALPHA2	Y	-.02	5
10	MP ALPHA2	X	.034	5
11	MP ALPHA3	Y	-.047	3
12	MP ALPHA3	X	.081	3
13	MP ALPHA1	Y	-.018	1.333
14	MP ALPHA1	X	.031	1.333
15	MP ALPHA2	Y	-.084	2.5
16	MP ALPHA2	X	.145	2.5
17	MP ALPHA3	Y	-.074	.5
18	MP ALPHA3	X	.128	.5

Member Point Loads (BLC 25 : Ice Wind Load (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.012	7.5
2	MP ALPHA2	X	.02	7.5
3	MP ALPHA3	Y	-.016	5.5
4	MP ALPHA3	X	.029	5.5
5	MP ALPHA1	Y	-.005	4.667
6	MP ALPHA1	X	.008	4.667
7	MP ALPHA1	Y	-.005	3
8	MP ALPHA1	X	.008	3
9	MP ALPHA2	Y	-.004	5
10	MP ALPHA2	X	.006	5
11	MP ALPHA3	Y	-.008	3
12	MP ALPHA3	X	.014	3
13	MP ALPHA1	Y	-.005	1.333
14	MP ALPHA1	X	.008	1.333

Member Point Loads (BLC 25 : Ice Wind Load (300)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
15	MP ALPHA2	Y	-.012	2.5
16	MP ALPHA2	X	.02	2.5
17	MP ALPHA3	Y	-.016	.5
18	MP ALPHA3	X	.029	.5

Member Point Loads (BLC 26 : Wind Load (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.213	7.5
2	MP ALPHA2	X	.123	7.5
3	MP ALPHA3	Y	-.203	5.5
4	MP ALPHA3	X	.117	5.5
5	MP ALPHA1	Y	-.045	4.667
6	MP ALPHA1	X	.026	4.667
7	MP ALPHA1	Y	-.041	3
8	MP ALPHA1	X	.024	3
9	MP ALPHA2	Y	-.045	5
10	MP ALPHA2	X	.026	5
11	MP ALPHA3	Y	-.093	3
12	MP ALPHA3	X	.053	3
13	MP ALPHA1	Y	-.045	1.333
14	MP ALPHA1	X	.026	1.333
15	MP ALPHA2	Y	-.213	2.5
16	MP ALPHA2	X	.123	2.5
17	MP ALPHA3	Y	-.203	.5
18	MP ALPHA3	X	.117	.5

Member Point Loads (BLC 27 : Ice Wind Load (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.027	7.5
2	MP ALPHA2	X	.016	7.5
3	MP ALPHA3	Y	-.041	5.5
4	MP ALPHA3	X	.024	5.5
5	MP ALPHA1	Y	-.011	4.667
6	MP ALPHA1	X	.006	4.667
7	MP ALPHA1	Y	-.008	3
8	MP ALPHA1	X	.005	3
9	MP ALPHA2	Y	-.007	5
10	MP ALPHA2	X	.004	5
11	MP ALPHA3	Y	-.015	3
12	MP ALPHA3	X	.009	3
13	MP ALPHA1	Y	-.011	1.333
14	MP ALPHA1	X	.006	1.333
15	MP ALPHA2	Y	-.027	2.5
16	MP ALPHA2	X	.016	2.5
17	MP ALPHA3	Y	-.041	.5
18	MP ALPHA3	X	.024	.5

Member Point Loads (BLC 28 : Maintanence (0))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.019	7.5
2	MP ALPHA3	Y	-.018	5.5
3	MP ALPHA1	Y	-.004	4.667
4	MP ALPHA1	Y	-.003	3
5	MP ALPHA2	Y	-.004	5
6	MP ALPHA3	Y	-.007	3

Member Point Loads (BLC 28 : Maintanence (0)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
7	MP ALPHA1	Y	-.004	1.333
8	MP ALPHA2	Y	-.019	2.5
9	MP ALPHA3	Y	-.018	.5

Member Point Loads (BLC 29 : Maintanence (30))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.014	7.5
2	MP ALPHA2	X	-.008	7.5
3	MP ALPHA3	Y	-.013	5.5
4	MP ALPHA3	X	-.008	5.5
5	MP ALPHA1	Y	-.003	4.667
6	MP ALPHA1	X	-.002	4.667
7	MP ALPHA1	Y	-.003	3
8	MP ALPHA1	X	-.002	3
9	MP ALPHA2	Y	-.003	5
10	MP ALPHA2	X	-.002	5
11	MP ALPHA3	Y	-.006	3
12	MP ALPHA3	X	-.004	3
13	MP ALPHA1	Y	-.003	1.333
14	MP ALPHA1	X	-.002	1.333
15	MP ALPHA2	Y	-.014	2.5
16	MP ALPHA2	X	-.008	2.5
17	MP ALPHA3	Y	-.013	.5
18	MP ALPHA3	X	-.008	.5

Member Point Loads (BLC 30 : Maintanence (60))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.006	7.5
2	MP ALPHA2	X	-.01	7.5
3	MP ALPHA3	Y	-.005	5.5
4	MP ALPHA3	X	-.008	5.5
5	MP ALPHA1	Y	-.001	4.667
6	MP ALPHA1	X	-.002	4.667
7	MP ALPHA1	Y	-.001	3
8	MP ALPHA1	X	-.002	3
9	MP ALPHA2	Y	-.001	5
10	MP ALPHA2	X	-.002	5
11	MP ALPHA3	Y	-.003	3
12	MP ALPHA3	X	-.005	3
13	MP ALPHA1	Y	-.001	1.333
14	MP ALPHA1	X	-.002	1.333
15	MP ALPHA2	Y	-.006	2.5
16	MP ALPHA2	X	-.01	2.5
17	MP ALPHA3	Y	-.005	.5
18	MP ALPHA3	X	-.008	.5

Member Point Loads (BLC 31 : Maintanence (90))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	-.008	7.5
2	MP ALPHA3	X	-.007	5.5
3	MP ALPHA1	X	-.002	4.667
4	MP ALPHA1	X	-.003	3
5	MP ALPHA2	X	-.002	5
6	MP ALPHA3	X	-.006	3
7	MP ALPHA1	X	-.002	1.333

Member Point Loads (BLC 31 : Maintanence (90)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
8	MP ALPHA2	X	-.008	2.5
9	MP ALPHA3	X	-.007	.5

Member Point Loads (BLC 32 : Maintanence (120))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.006	7.5
2	MP ALPHA2	X	-.01	7.5
3	MP ALPHA3	Y	.005	5.5
4	MP ALPHA3	X	-.008	5.5
5	MP ALPHA1	Y	.001	4.667
6	MP ALPHA1	X	-.002	4.667
7	MP ALPHA1	Y	.001	3
8	MP ALPHA1	X	-.002	3
9	MP ALPHA2	Y	.001	5
10	MP ALPHA2	X	-.002	5
11	MP ALPHA3	Y	.003	3
12	MP ALPHA3	X	-.005	3
13	MP ALPHA1	Y	.001	1.333
14	MP ALPHA1	X	-.002	1.333
15	MP ALPHA2	Y	.006	2.5
16	MP ALPHA2	X	-.01	2.5
17	MP ALPHA3	Y	.005	.5
18	MP ALPHA3	X	-.008	.5

Member Point Loads (BLC 33 : Maintanence (150))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.014	7.5
2	MP ALPHA2	X	-.008	7.5
3	MP ALPHA3	Y	.013	5.5
4	MP ALPHA3	X	-.008	5.5
5	MP ALPHA1	Y	.003	4.667
6	MP ALPHA1	X	-.002	4.667
7	MP ALPHA1	Y	.003	3
8	MP ALPHA1	X	-.002	3
9	MP ALPHA2	Y	.003	5
10	MP ALPHA2	X	-.002	5
11	MP ALPHA3	Y	.006	3
12	MP ALPHA3	X	-.004	3
13	MP ALPHA1	Y	.003	1.333
14	MP ALPHA1	X	-.002	1.333
15	MP ALPHA2	Y	.014	2.5
16	MP ALPHA2	X	-.008	2.5
17	MP ALPHA3	Y	.013	.5
18	MP ALPHA3	X	-.008	.5

Member Point Loads (BLC 34 : Maintanence (180))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.019	7.5
2	MP ALPHA3	Y	.018	5.5
3	MP ALPHA1	Y	.004	4.667
4	MP ALPHA1	Y	.003	3
5	MP ALPHA2	Y	.004	5
6	MP ALPHA3	Y	.007	3
7	MP ALPHA1	Y	.004	1.333
8	MP ALPHA2	Y	.019	2.5

Member Point Loads (BLC 34 : Maintanence (180)) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
9	MP ALPHA3	Y	.018	.5

Member Point Loads (BLC 35 : Maintanence (210))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.014	7.5
2	MP ALPHA2	X	.008	7.5
3	MP ALPHA3	Y	.013	5.5
4	MP ALPHA3	X	.008	5.5
5	MP ALPHA1	Y	.003	4.667
6	MP ALPHA1	X	.002	4.667
7	MP ALPHA1	Y	.003	3
8	MP ALPHA1	X	.002	3
9	MP ALPHA2	Y	.003	5
10	MP ALPHA2	X	.002	5
11	MP ALPHA3	Y	.006	3
12	MP ALPHA3	X	.004	3
13	MP ALPHA1	Y	.003	1.333
14	MP ALPHA1	X	.002	1.333
15	MP ALPHA2	Y	.014	2.5
16	MP ALPHA2	X	.008	2.5
17	MP ALPHA3	Y	.013	.5
18	MP ALPHA3	X	.008	.5

Member Point Loads (BLC 36 : Maintanence (240))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	.006	7.5
2	MP ALPHA2	X	.01	7.5
3	MP ALPHA3	Y	.005	5.5
4	MP ALPHA3	X	.008	5.5
5	MP ALPHA1	Y	.001	4.667
6	MP ALPHA1	X	.002	4.667
7	MP ALPHA1	Y	.001	3
8	MP ALPHA1	X	.002	3
9	MP ALPHA2	Y	.001	5
10	MP ALPHA2	X	.002	5
11	MP ALPHA3	Y	.003	3
12	MP ALPHA3	X	.005	3
13	MP ALPHA1	Y	.001	1.333
14	MP ALPHA1	X	.002	1.333
15	MP ALPHA2	Y	.006	2.5
16	MP ALPHA2	X	.01	2.5
17	MP ALPHA3	Y	.005	.5
18	MP ALPHA3	X	.008	.5

Member Point Loads (BLC 37 : Maintanence (270))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	X	.008	7.5
2	MP ALPHA3	X	.007	5.5
3	MP ALPHA1	X	.002	4.667
4	MP ALPHA1	X	.003	3
5	MP ALPHA2	X	.002	5
6	MP ALPHA3	X	.006	3
7	MP ALPHA1	X	.002	1.333
8	MP ALPHA2	X	.008	2.5
9	MP ALPHA3	X	.007	.5

Member Point Loads (BLC 38 : Maintanence (300))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.006	7.5
2	MP ALPHA2	X	.01	7.5
3	MP ALPHA3	Y	-.005	5.5
4	MP ALPHA3	X	.008	5.5
5	MP ALPHA1	Y	-.001	4.667
6	MP ALPHA1	X	.002	4.667
7	MP ALPHA1	Y	-.001	3
8	MP ALPHA1	X	.002	3
9	MP ALPHA2	Y	-.001	5
10	MP ALPHA2	X	.002	5
11	MP ALPHA3	Y	-.003	3
12	MP ALPHA3	X	.005	3
13	MP ALPHA1	Y	-.001	1.333
14	MP ALPHA1	X	.002	1.333
15	MP ALPHA2	Y	-.006	2.5
16	MP ALPHA2	X	.01	2.5
17	MP ALPHA3	Y	-.005	.5
18	MP ALPHA3	X	.008	.5

Member Point Loads (BLC 39 : Maintanence (330))

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	MP ALPHA2	Y	-.014	7.5
2	MP ALPHA2	X	.008	7.5
3	MP ALPHA3	Y	-.013	5.5
4	MP ALPHA3	X	.008	5.5
5	MP ALPHA1	Y	-.003	4.667
6	MP ALPHA1	X	.002	4.667
7	MP ALPHA1	Y	-.003	3
8	MP ALPHA1	X	.002	3
9	MP ALPHA2	Y	-.003	5
10	MP ALPHA2	X	.002	5
11	MP ALPHA3	Y	-.006	3
12	MP ALPHA3	X	.004	3
13	MP ALPHA1	Y	-.003	1.333
14	MP ALPHA1	X	.002	1.333
15	MP ALPHA2	Y	-.014	2.5
16	MP ALPHA2	X	.008	2.5
17	MP ALPHA3	Y	-.013	.5
18	MP ALPHA3	X	.008	.5

Member Area Loads

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
No Data to Print ...						

Member Distributed Loads (BLC 1 : Wind Load (0))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.01	-.01	0	0
2	VERT	PY	-.011	-.011	0	0
3	STANDOFF	PY	-.017	-.017	0	0
4	MP ALPHA1	PY	-.007	-.007	0	0
5	MP ALPHA2	PY	-.007	-.007	0	0
6	MP ALPHA3	PY	-.007	-.007	0	0
7	Mod Face	PY	-.01	-.01	0	0

Member Distributed Loads (BLC 1 : Wind Load (0)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
8	STABILIZER1	PY	-.017	-.017	0	0
9	Stabilizer2	PY	-.017	-.017	0	0

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

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.004	-.004	0	0
2	VERT	PY	-.004	-.004	0	0
3	STANDOFF	PY	-.004	-.004	0	0
4	MP ALPHA1	PY	-.003	-.003	0	0
5	MP ALPHA2	PY	-.003	-.003	0	0
6	MP ALPHA3	PY	-.003	-.003	0	0
7	Mod Face	PY	-.004	-.004	0	0
8	STABILIZER1	PY	-.004	-.004	0	0
9	Stabilizer2	PY	-.004	-.004	0	0

Member Distributed Loads (BLC 5 : Ice Dead Load)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	Z	-.011	-.011	0	0
2	VERT	Z	-.012	-.012	0	0
3	STANDOFF	Z	-.015	-.015	0	0
4	MP ALPHA1	Z	-.009	-.009	0	0
5	MP ALPHA2	Z	-.009	-.009	0	0
6	MP ALPHA3	Z	-.009	-.009	0	0
7	Mod Face	Z	-.011	-.011	0	0
8	STABILIZER1	Z	-.015	-.015	0	0
9	Stabilizer2	Z	-.015	-.015	0	0

Member Distributed Loads (BLC 6 : Wind Load (30))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.009	-.009	0	0
2	VERT	PY	-.01	-.01	0	0
3	STANDOFF	PY	-.015	-.015	0	0
4	MP ALPHA1	PY	-.006	-.006	0	0
5	MP ALPHA2	PY	-.006	-.006	0	0
6	MP ALPHA3	PY	-.006	-.006	0	0
7	FACE	PX	-.005	-.005	0	0
8	VERT	PX	-.005	-.005	0	0
9	STANDOFF	PX	-.009	-.009	0	0
10	MP ALPHA1	PX	-.004	-.004	0	0
11	MP ALPHA2	PX	-.004	-.004	0	0
12	MP ALPHA3	PX	-.004	-.004	0	0
13	Mod Face	PY	-.009	-.009	0	0
14	Mod Face	PX	-.005	-.005	0	0
15	STABILIZER1	PY	-.015	-.015	0	0
16	STABILIZER1	PX	-.009	-.009	0	0
17	Stabilizer2	PY	-.015	-.015	0	0
18	Stabilizer2	PX	-.009	-.009	0	0

Member Distributed Loads (BLC 7 : Ice Wind Load (30))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.003	-.003	0	0
2	VERT	PY	-.003	-.003	0	0
3	STANDOFF	PY	-.003	-.003	0	0
4	MP ALPHA1	PY	-.003	-.003	0	0
5	MP ALPHA2	PY	-.003	-.003	0	0

Member Distributed Loads (BLC 7 : Ice Wind Load (30)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
6	MP ALPHA3	PY	-.003	-.003	0	0
7	FACE	PX	-.002	-.002	0	0
8	VERT	PX	-.002	-.002	0	0
9	STANDOFF	PX	-.002	-.002	0	0
10	MP ALPHA1	PX	-.002	-.002	0	0
11	MP ALPHA2	PX	-.002	-.002	0	0
12	MP ALPHA3	PX	-.002	-.002	0	0
13	Mod Face	PY	-.003	-.003	0	0
14	Mod Face	PX	-.002	-.002	0	0
15	STABILIZER1	PY	-.003	-.003	0	0
16	STABILIZER1	PX	-.002	-.002	0	0
17	Stabilizer2	PY	-.003	-.003	0	0
18	Stabilizer2	PX	-.002	-.002	0	0

Member Distributed Loads (BLC 8 : Wind Load (60))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.005	-.005	0	0
2	VERT	PY	-.005	-.005	0	0
3	STANDOFF	PY	-.009	-.009	0	0
4	MP ALPHA1	PY	-.004	-.004	0	0
5	MP ALPHA2	PY	-.004	-.004	0	0
6	MP ALPHA3	PY	-.004	-.004	0	0
7	FACE	PX	-.009	-.009	0	0
8	VERT	PX	-.01	-.01	0	0
9	STANDOFF	PX	-.015	-.015	0	0
10	MP ALPHA1	PX	-.006	-.006	0	0
11	MP ALPHA2	PX	-.006	-.006	0	0
12	MP ALPHA3	PX	-.006	-.006	0	0
13	Mod Face	PY	-.005	-.005	0	0
14	Mod Face	PX	-.009	-.009	0	0
15	STABILIZER1	PY	-.009	-.009	0	0
16	STABILIZER1	PX	-.015	-.015	0	0
17	Stabilizer2	PY	-.009	-.009	0	0
18	Stabilizer2	PX	-.015	-.015	0	0

Member Distributed Loads (BLC 9 : Ice Wind Load (60))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.002	-.002	0	0
2	VERT	PY	-.002	-.002	0	0
3	STANDOFF	PY	-.002	-.002	0	0
4	MP ALPHA1	PY	-.002	-.002	0	0
5	MP ALPHA2	PY	-.002	-.002	0	0
6	MP ALPHA3	PY	-.002	-.002	0	0
7	FACE	PX	-.003	-.003	0	0
8	VERT	PX	-.003	-.003	0	0
9	STANDOFF	PX	-.003	-.003	0	0
10	MP ALPHA1	PX	-.003	-.003	0	0
11	MP ALPHA2	PX	-.003	-.003	0	0
12	MP ALPHA3	PX	-.003	-.003	0	0
13	Mod Face	PY	-.002	-.002	0	0
14	Mod Face	PX	-.003	-.003	0	0
15	STABILIZER1	PY	-.002	-.002	0	0
16	STABILIZER1	PX	-.003	-.003	0	0
17	Stabilizer2	PY	-.002	-.002	0	0
18	Stabilizer2	PX	-.003	-.003	0	0

Member Distributed Loads (BLC 10 : Wind Load (90))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	-.01	-.01	0	0
2	VERT	PX	-.011	-.011	0	0
3	STANDOFF	PX	-.017	-.017	0	0
4	MP ALPHA1	PX	-.007	-.007	0	0
5	MP ALPHA2	PX	-.007	-.007	0	0
6	MP ALPHA3	PX	-.007	-.007	0	0
7	Mod Face	PX	-.01	-.01	0	0
8	STABILIZER1	PX	-.017	-.017	0	0
9	Stabilizer2	PX	-.017	-.017	0	0

Member Distributed Loads (BLC 11 : Ice Wind Load (90))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	-.004	-.004	0	0
2	VERT	PX	-.004	-.004	0	0
3	STANDOFF	PX	-.004	-.004	0	0
4	MP ALPHA1	PX	-.003	-.003	0	0
5	MP ALPHA2	PX	-.003	-.003	0	0
6	MP ALPHA3	PX	-.003	-.003	0	0
7	Mod Face	PX	-.004	-.004	0	0
8	STABILIZER1	PX	-.004	-.004	0	0
9	Stabilizer2	PX	-.004	-.004	0	0

Member Distributed Loads (BLC 12 : Wind Load (120))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.005	.005	0	0
2	VERT	PY	.005	.005	0	0
3	STANDOFF	PY	.009	.009	0	0
4	MP ALPHA1	PY	.004	.004	0	0
5	MP ALPHA2	PY	.004	.004	0	0
6	MP ALPHA3	PY	.004	.004	0	0
7	FACE	PX	-.009	-.009	0	0
8	VERT	PX	-.01	-.01	0	0
9	STANDOFF	PX	-.015	-.015	0	0
10	MP ALPHA1	PX	-.006	-.006	0	0
11	MP ALPHA2	PX	-.006	-.006	0	0
12	MP ALPHA3	PX	-.006	-.006	0	0
13	Mod Face	PY	.005	.005	0	0
14	Mod Face	PX	-.009	-.009	0	0
15	STABILIZER1	PY	.009	.009	0	0
16	STABILIZER1	PX	-.015	-.015	0	0
17	Stabilizer2	PY	.009	.009	0	0
18	Stabilizer2	PX	-.015	-.015	0	0

Member Distributed Loads (BLC 13 : Ice Wind Load (120))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.002	.002	0	0
2	VERT	PY	.002	.002	0	0
3	STANDOFF	PY	.002	.002	0	0
4	MP ALPHA1	PY	.002	.002	0	0
5	MP ALPHA2	PY	.002	.002	0	0
6	MP ALPHA3	PY	.002	.002	0	0
7	FACE	PX	-.003	-.003	0	0
8	VERT	PX	-.003	-.003	0	0
9	STANDOFF	PX	-.003	-.003	0	0
10	MP ALPHA1	PX	-.003	-.003	0	0

Member Distributed Loads (BLC 13 : Ice Wind Load (120)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
11	MP ALPHA2	PX	-.003	-.003	0	0
12	MP ALPHA3	PX	-.003	-.003	0	0
13	Mod Face	PY	.002	.002	0	0
14	Mod Face	PX	-.003	-.003	0	0
15	STABILIZER1	PY	.002	.002	0	0
16	STABILIZER1	PX	-.003	-.003	0	0
17	Stabilizer2	PY	.002	.002	0	0
18	Stabilizer2	PX	-.003	-.003	0	0

Member Distributed Loads (BLC 14 : Wind Load (150))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.009	.009	0	0
2	VERT	PY	.01	.01	0	0
3	STANDOFF	PY	.015	.015	0	0
4	MP ALPHA1	PY	.006	.006	0	0
5	MP ALPHA2	PY	.006	.006	0	0
6	MP ALPHA3	PY	.006	.006	0	0
7	FACE	PX	-.005	-.005	0	0
8	VERT	PX	-.005	-.005	0	0
9	STANDOFF	PX	-.009	-.009	0	0
10	MP ALPHA1	PX	-.004	-.004	0	0
11	MP ALPHA2	PX	-.004	-.004	0	0
12	MP ALPHA3	PX	-.004	-.004	0	0
13	Mod Face	PY	.009	.009	0	0
14	Mod Face	PX	-.005	-.005	0	0
15	STABILIZER1	PY	.015	.015	0	0
16	STABILIZER1	PX	-.009	-.009	0	0
17	Stabilizer2	PY	.015	.015	0	0
18	Stabilizer2	PX	-.009	-.009	0	0

Member Distributed Loads (BLC 15 : Ice Wind Load (150))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.003	.003	0	0
2	VERT	PY	.003	.003	0	0
3	STANDOFF	PY	.003	.003	0	0
4	MP ALPHA1	PY	.003	.003	0	0
5	MP ALPHA2	PY	.003	.003	0	0
6	MP ALPHA3	PY	.003	.003	0	0
7	FACE	PX	-.002	-.002	0	0
8	VERT	PX	-.002	-.002	0	0
9	STANDOFF	PX	-.002	-.002	0	0
10	MP ALPHA1	PX	-.002	-.002	0	0
11	MP ALPHA2	PX	-.002	-.002	0	0
12	MP ALPHA3	PX	-.002	-.002	0	0
13	Mod Face	PY	.003	.003	0	0
14	Mod Face	PX	-.002	-.002	0	0
15	STABILIZER1	PY	.003	.003	0	0
16	STABILIZER1	PX	-.002	-.002	0	0
17	Stabilizer2	PY	.003	.003	0	0
18	Stabilizer2	PX	-.002	-.002	0	0

Member Distributed Loads (BLC 16 : Wind Load (180))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.01	.01	0	0
2	VERT	PY	.011	.011	0	0

Member Distributed Loads (BLC 16 : Wind Load (180)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
3	STANDOFF	PY	.017	.017	0	0
4	MP ALPHA1	PY	.007	.007	0	0
5	MP ALPHA2	PY	.007	.007	0	0
6	MP ALPHA3	PY	.007	.007	0	0
7	Mod Face	PY	.01	.01	0	0
8	STABILIZER1	PY	.017	.017	0	0
9	Stabilizer2	PY	.017	.017	0	0

Member Distributed Loads (BLC 17 : Ice Wind Load (180))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.004	.004	0	0
2	VERT	PY	.004	.004	0	0
3	STANDOFF	PY	.004	.004	0	0
4	MP ALPHA1	PY	.003	.003	0	0
5	MP ALPHA2	PY	.003	.003	0	0
6	MP ALPHA3	PY	.003	.003	0	0
7	Mod Face	PY	.004	.004	0	0
8	STABILIZER1	PY	.004	.004	0	0
9	Stabilizer2	PY	.004	.004	0	0

Member Distributed Loads (BLC 18 : Wind Load (210))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.009	.009	0	0
2	VERT	PY	.01	.01	0	0
3	STANDOFF	PY	.015	.015	0	0
4	MP ALPHA1	PY	.006	.006	0	0
5	MP ALPHA2	PY	.006	.006	0	0
6	MP ALPHA3	PY	.006	.006	0	0
7	FACE	PX	.005	.005	0	0
8	VERT	PX	.005	.005	0	0
9	STANDOFF	PX	.009	.009	0	0
10	MP ALPHA1	PX	.004	.004	0	0
11	MP ALPHA2	PX	.004	.004	0	0
12	MP ALPHA3	PX	.004	.004	0	0
13	Mod Face	PY	.009	.009	0	0
14	Mod Face	PX	.005	.005	0	0
15	STABILIZER1	PY	.015	.015	0	0
16	STABILIZER1	PX	.009	.009	0	0
17	Stabilizer2	PY	.015	.015	0	0
18	Stabilizer2	PX	.009	.009	0	0

Member Distributed Loads (BLC 19 : Ice Wind Load (210))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.003	.003	0	0
2	VERT	PY	.003	.003	0	0
3	STANDOFF	PY	.003	.003	0	0
4	MP ALPHA1	PY	.003	.003	0	0
5	MP ALPHA2	PY	.003	.003	0	0
6	MP ALPHA3	PY	.003	.003	0	0
7	FACE	PX	.002	.002	0	0
8	VERT	PX	.002	.002	0	0
9	STANDOFF	PX	.002	.002	0	0
10	MP ALPHA1	PX	.002	.002	0	0
11	MP ALPHA2	PX	.002	.002	0	0
12	MP ALPHA3	PX	.002	.002	0	0

Member Distributed Loads (BLC 19 : Ice Wind Load (210)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
13	Mod Face	PY	.003	.003	0	0
14	Mod Face	PX	.002	.002	0	0
15	STABILIZER1	PY	.003	.003	0	0
16	STABILIZER1	PX	.002	.002	0	0
17	Stabilizer2	PY	.003	.003	0	0
18	Stabilizer2	PX	.002	.002	0	0

Member Distributed Loads (BLC 20 : Wind Load (240))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.005	.005	0	0
2	VERT	PY	.005	.005	0	0
3	STANDOFF	PY	.009	.009	0	0
4	MP ALPHA1	PY	.004	.004	0	0
5	MP ALPHA2	PY	.004	.004	0	0
6	MP ALPHA3	PY	.004	.004	0	0
7	FACE	PX	.009	.009	0	0
8	VERT	PX	.01	.01	0	0
9	STANDOFF	PX	.015	.015	0	0
10	MP ALPHA1	PX	.006	.006	0	0
11	MP ALPHA2	PX	.006	.006	0	0
12	MP ALPHA3	PX	.006	.006	0	0
13	Mod Face	PY	.005	.005	0	0
14	Mod Face	PX	.009	.009	0	0
15	STABILIZER1	PY	.009	.009	0	0
16	STABILIZER1	PX	.015	.015	0	0
17	Stabilizer2	PY	.009	.009	0	0
18	Stabilizer2	PX	.015	.015	0	0

Member Distributed Loads (BLC 21 : Ice Wind Load (240))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	.002	.002	0	0
2	VERT	PY	.002	.002	0	0
3	STANDOFF	PY	.002	.002	0	0
4	MP ALPHA1	PY	.002	.002	0	0
5	MP ALPHA2	PY	.002	.002	0	0
6	MP ALPHA3	PY	.002	.002	0	0
7	FACE	PX	.003	.003	0	0
8	VERT	PX	.003	.003	0	0
9	STANDOFF	PX	.003	.003	0	0
10	MP ALPHA1	PX	.003	.003	0	0
11	MP ALPHA2	PX	.003	.003	0	0
12	MP ALPHA3	PX	.003	.003	0	0
13	Mod Face	PY	.002	.002	0	0
14	Mod Face	PX	.003	.003	0	0
15	STABILIZER1	PY	.002	.002	0	0
16	STABILIZER1	PX	.003	.003	0	0
17	Stabilizer2	PY	.002	.002	0	0
18	Stabilizer2	PX	.003	.003	0	0

Member Distributed Loads (BLC 22 : Wind Load (270))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	.01	.01	0	0
2	VERT	PX	.011	.011	0	0
3	STANDOFF	PX	.017	.017	0	0
4	MP ALPHA1	PX	.007	.007	0	0

Member Distributed Loads (BLC 22 : Wind Load (270)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
5	MP ALPHA2	PX	.007	.007	0	0
6	MP ALPHA3	PX	.007	.007	0	0
7	Mod Face	PX	.01	.01	0	0
8	STABILIZER1	PX	.017	.017	0	0
9	Stabilizer2	PX	.017	.017	0	0

Member Distributed Loads (BLC 23 : Ice Wind Load (270))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PX	.004	.004	0	0
2	VERT	PX	.004	.004	0	0
3	STANDOFF	PX	.004	.004	0	0
4	MP ALPHA1	PX	.003	.003	0	0
5	MP ALPHA2	PX	.003	.003	0	0
6	MP ALPHA3	PX	.003	.003	0	0
7	Mod Face	PX	.004	.004	0	0
8	STABILIZER1	PX	.004	.004	0	0
9	Stabilizer2	PX	.004	.004	0	0

Member Distributed Loads (BLC 24 : Wind Load (300))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.005	-.005	0	0
2	VERT	PY	-.005	-.005	0	0
3	STANDOFF	PY	-.009	-.009	0	0
4	MP ALPHA1	PY	-.004	-.004	0	0
5	MP ALPHA2	PY	-.004	-.004	0	0
6	MP ALPHA3	PY	-.004	-.004	0	0
7	FACE	PX	.009	.009	0	0
8	VERT	PX	.01	.01	0	0
9	STANDOFF	PX	.015	.015	0	0
10	MP ALPHA1	PX	.006	.006	0	0
11	MP ALPHA2	PX	.006	.006	0	0
12	MP ALPHA3	PX	.006	.006	0	0
13	Mod Face	PY	-.005	-.005	0	0
14	Mod Face	PX	.009	.009	0	0
15	STABILIZER1	PY	-.009	-.009	0	0
16	STABILIZER1	PX	.015	.015	0	0
17	Stabilizer2	PY	-.009	-.009	0	0
18	Stabilizer2	PX	.015	.015	0	0

Member Distributed Loads (BLC 25 : Ice Wind Load (300))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.002	-.002	0	0
2	VERT	PY	-.002	-.002	0	0
3	STANDOFF	PY	-.002	-.002	0	0
4	MP ALPHA1	PY	-.002	-.002	0	0
5	MP ALPHA2	PY	-.002	-.002	0	0
6	MP ALPHA3	PY	-.002	-.002	0	0
7	FACE	PX	.003	.003	0	0
8	VERT	PX	.003	.003	0	0
9	STANDOFF	PX	.003	.003	0	0
10	MP ALPHA1	PX	.003	.003	0	0
11	MP ALPHA2	PX	.003	.003	0	0
12	MP ALPHA3	PX	.003	.003	0	0
13	Mod Face	PY	-.002	-.002	0	0
14	Mod Face	PX	.003	.003	0	0

Member Distributed Loads (BLC 25 : Ice Wind Load (300)) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
15	STABILIZER1	PY	-.002	-.002	0	0
16	STABILIZER1	PX	.003	.003	0	0
17	Stabilizer2	PY	-.002	-.002	0	0
18	Stabilizer2	PX	.003	.003	0	0

Member Distributed Loads (BLC 26 : Wind Load (330))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.009	-.009	0	0
2	VERT	PY	-.01	-.01	0	0
3	STANDOFF	PY	-.015	-.015	0	0
4	MP ALPHA1	PY	-.006	-.006	0	0
5	MP ALPHA2	PY	-.006	-.006	0	0
6	MP ALPHA3	PY	-.006	-.006	0	0
7	FACE	PX	.005	.005	0	0
8	VERT	PX	.005	.005	0	0
9	STANDOFF	PX	.009	.009	0	0
10	MP ALPHA1	PX	.004	.004	0	0
11	MP ALPHA2	PX	.004	.004	0	0
12	MP ALPHA3	PX	.004	.004	0	0
13	Mod Face	PY	-.009	-.009	0	0
14	Mod Face	PX	.005	.005	0	0
15	STABILIZER1	PY	-.015	-.015	0	0
16	STABILIZER1	PX	.009	.009	0	0
17	Stabilizer2	PY	-.015	-.015	0	0
18	Stabilizer2	PX	.009	.009	0	0

Member Distributed Loads (BLC 27 : Ice Wind Load (330))

	Member Label	Direction	Start Magnitude[k/ft,F,ksf]	End Magnitude[k/ft,...	Start Location[ft,%]	End Location[ft,%]
1	FACE	PY	-.003	-.003	0	0
2	VERT	PY	-.003	-.003	0	0
3	STANDOFF	PY	-.003	-.003	0	0
4	MP ALPHA1	PY	-.003	-.003	0	0
5	MP ALPHA2	PY	-.003	-.003	0	0
6	MP ALPHA3	PY	-.003	-.003	0	0
7	FACE	PX	.002	.002	0	0
8	VERT	PX	.002	.002	0	0
9	STANDOFF	PX	.002	.002	0	0
10	MP ALPHA1	PX	.002	.002	0	0
11	MP ALPHA2	PX	.002	.002	0	0
12	MP ALPHA3	PX	.002	.002	0	0
13	Mod Face	PY	-.003	-.003	0	0
14	Mod Face	PX	.002	.002	0	0
15	STABILIZER1	PY	-.003	-.003	0	0
16	STABILIZER1	PX	.002	.002	0	0
17	Stabilizer2	PY	-.003	-.003	0	0
18	Stabilizer2	PX	.002	.002	0	0

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N7	max	.2	14	.541	2	2.413	21	-2.14	2	1.723	19	1.218	17
2		min	-1.025	34	-.877	20	.84	35	-7.02	21	.357	35	-2.508	37
3	N36	max	1.034	10	1.409	2	.445	3	-.127	2	.204	4	4.19	17
4		min	-.39	26	-1.073	20	.166	17	-.352	33	.001	23	-3.093	35
5	Totals:	max	1.023	14	1.95	2	2.84	24						

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
6		min	-1.023	32	-1.95	20	1.04	5						

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Wind Load (0)	WL					9	9		
2	Dead Load	DL			-1.1		9			
3	Live Load	LL					1			
4	Ice Wind Load (0)	OL1					9	9		
5	Ice Dead Load	OL2					9	9		
6	Wind Load (30)	WL					18	18		
7	Ice Wind Load (30)	OL1					18	18		
8	Wind Load (60)	WL					18	18		
9	Ice Wind Load (60)	OL1					18	18		
10	Wind Load (90)	WL					9	9		
11	Ice Wind Load (90)	OL1					9	9		
12	Wind Load (120)	WL					18	18		
13	Ice Wind Load (120)	OL1					18	18		
14	Wind Load (150)	WL					18	18		
15	Ice Wind Load (150)	OL1					18	18		
16	Wind Load (180)	WL					9	9		
17	Ice Wind Load (180)	OL1					9	9		
18	Wind Load (210)	WL					18	18		
19	Ice Wind Load (210)	OL1					18	18		
20	Wind Load (240)	WL					18	18		
21	Ice Wind Load (240)	OL1					18	18		
22	Wind Load (270)	WL					9	9		
23	Ice Wind Load (270)	OL1					9	9		
24	Wind Load (300)	WL					18	18		
25	Ice Wind Load (300)	OL1					18	18		
26	Wind Load (330)	WL					18	18		
27	Ice Wind Load (330)	OL1					18	18		
28	Maintanence (0)	OL3					9			
29	Maintanence (30)	OL3					18			
30	Maintanence (60)	OL3					18			
31	Maintanence (90)	OL3					9			
32	Maintanence (120)	OL3					18			
33	Maintanence (150)	OL3					18			
34	Maintanence (180)	OL3					9			
35	Maintanence (210)	OL3					18			
36	Maintanence (240)	OL3					18			
37	Maintanence (270)	OL3					9			
38	Maintanence (300)	OL3					18			
39	Maintanence (330)	OL3					18			
40	Earthquake (x-directi...	EL	-.103							
41	Earthquake (y-directi...	EL		-.103						
42	Earthquake (z-directi...	EL			-.041					

Load Combinations

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		2	1.4																						
2	1.2D + 1.0W(0)	Yes	Y		2	1.2	1	1																				
3	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	4	1																		
4	1.2D + 1.5L + 1.0Wl(0)	Yes	Y		2	1.2	3	1.5	28	1																		
5	1.2D + 1.0W(30)	Yes	Y		2	1.2	6	1																				

Load Combinations (Continued)

	Description	Solve	PDelta	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
6	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	7	1														
7	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	29	1														
8	1.2D + 1.0W(60)	Yes	Y		2	1.2	8	1																
9	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	9	1														
10	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	30	1														
11	1.2D + 1.0W(90)	Yes	Y		2	1.2	10	1																
12	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	11	1														
13	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	31	1														
14	1.2D + 1.0W(120)	Yes	Y		2	1.2	12	1																
15	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	13	1														
16	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	32	1														
17	1.2D + 1.0W(150)	Yes	Y		2	1.2	14	1																
18	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	15	1														
19	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	33	1														
20	1.2D + 1.0W(180)	Yes	Y		2	1.2	16	1																
21	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	17	1														
22	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	34	1														
23	1.2D + 1.0W(210)	Yes	Y		2	1.2	18	1																
24	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	19	1														
25	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	35	1														
26	1.2D + 1.0W(240)	Yes	Y		2	1.2	20	1																
27	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	21	1														
28	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	36	1														
29	1.2D + 1.0W(270)	Yes	Y		2	1.2	22	1																
30	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	23	1														
31	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	37	1														
32	1.2D + 1.0W(300)	Yes	Y		2	1.2	24	1																
33	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	25	1														
34	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	38	1														
35	1.2D + 1.0W(330)	Yes	Y		2	1.2	26	1																
36	1.2D + 1.0Di + 1.0Wi(...	Yes	Y		2	1.2	5	1	27	1														
37	1.2D + 1.5L + 1.0Wl(...	Yes	Y		2	1.2	3	1.5	39	1														
38	1.2D + 1.0E(x) + 1.0E...	Yes	Y		2	1.2	40	1	42	1	3	1												
39	1.2D + 1.0E(y) + 1.0E...	Yes	Y		2	1.2	41	1	42	1	3	1												
40	1.2D - 1.0E(x) + 1.0E(...	Yes	Y		2	1.2	40	-1	42	1	3	1												
41	1.2D - 1.0E(y) + 1.0E(...	Yes	Y		2	1.2	41	-1	42	1	3	1												

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

	Member	Shape	Code Check	Lo...	LC	She...	Loc[ft]	Dir	LC	phi*...	phi*...	phi*...	phi*...	...	Eqn
1	MP ALPHA3	PIPE_2.0	.746	.25	4	.079	.25		25	20.8...	32.13	1.872	1.872	...	H1-...
2	MP ALPHA2	PIPE_2.0	.558	3	24	.107	3		28	14.9...	32.13	1.872	1.872	...	H1-...
3	STANDOFF	HSS4X4X4	.533	3	33	.166	3	z	19	134....	139....	16.1...	16.1...	...	H1-...
4	FACE	PIPE_3.0	.531	6.25	21	.223	6.25		3	28.2...	65.2...	5.749	5.749	...	H1-...
5	Mod Face	PIPE_2.5	.452	3....	2	.113	3.125		3	14.5...	50.7...	3.596	3.596	...	H1-...
6	MP ALPHA1	PIPE_2.0	.304	.25	12	.072	.25		15	20.8...	32.13	1.872	1.872	...	H1-...
7	VERT	PIPE_3.5	.000	.5	5	.000	.5		5	78.43	78.75	7.954	7.954	...	H1-...

Envelope AISI S100-16: ASD Cold Formed Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shea...	Loc[...	Dir	LC	Pn/O...	Tn/O...	Mnyy/...	Mnzz/...	Vny...	Vnz...	Cb	Eqn
1	STABILIZE...	MTC340502	.510	0	20	.071	3.876	y	22	13.643	25.717	1.265	1.514	11.6...	16.6...	2.083	H1.2-1
2	Stabilizer2	MTC340501	.470	3.876	17	.031	3.876	y	36	62.987	94.496	7.306	13.244	11.8...	35.4...	1.518	H1.2-1
3	CONNECTI...	MTC340501	.473	1.34	17	.343	.656	y	21	70.12	94.496	7.306	13.244	11.8...	35.4...	1.175	H1.2-1

APPENDIX L

Additional Calculations (Gamma)

POD Job #	**20-63609**
Site Number	**876402**
Site Name	**STAFFORD/PRAGYL/SSUSA**

Calculations Based on *TIA-222-H*

Reactions from RISA-3D

Moment	7.172	ft-kip
Axial	0.996	kips
Shear	0.862	kips

Capacities

Bolts	*13.3%*
Flange Plate	*41.3%*

Bolt Information

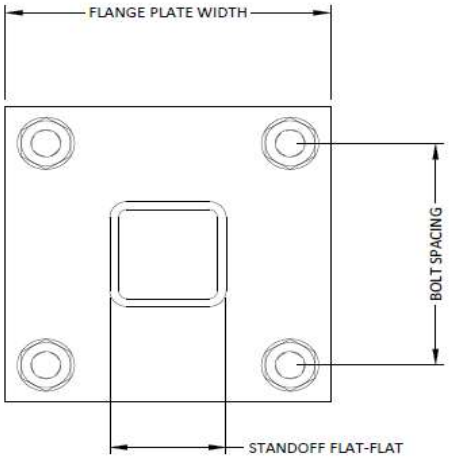
Grade	A325	
Threads in Shear Plane	Included	
Diameter	0.625	in.
Bolt Spacing	6	in.
Number of Rods	4	

Flange Plate Inforation

Width	7.875	in.
Thickness	0.75	in.
Grade	A36	

Standoff Information

Standoff Member	HSS	
Flat-Flat	4	in.
Thickness	0.25	in.



Bolt Calculations

ϕ	0.75	
A_{nt}	0.226	in^2
A_b	0.307	in^2
Fu	120	ksi
ϕR_{nV}	13.81	kips
ϕR_{nt}	20.34	kips
V	0.22	kips
F	7.41	kips
Capacity	13.3%	

Flange Plate Calculations

ϕ	0.9	
Fy	36	ksi
t_{min}	0.26	in
Z	1.1	in^3
ϕM_n	35.9	in-kip
M_u	14.8	in-kip
Capacity	41.3%	

Ver 1.0 - 3/5/2019

APPENDIX M

ATC Wind Printout

Hazards by Location

Search Information

Address: 175 Stafford St, Union, CT 06076, USA

Coordinates: 41.9890821, -72.262686

Elevation: 857 ft

Timestamp: 2020-04-27T19:33:54.741Z

Hazard Type: Wind

ASCE 7-16

MRI 10-Year	75 mph
MRI 25-Year	83 mph
MRI 50-Year	90 mph
MRI 100-Year	97 mph
Risk Category I	108 mph
Risk Category II	117 mph
Risk Category III	126 mph
Risk Category IV	⚠ 131 mph

You are in a wind-borne debris region if you are also within 1 mile of the coastal mean high water line.

ASCE 7-10

MRI 10-Year	77 mph
MRI 25-Year	87 mph
MRI 50-Year	93 mph
MRI 100-Year	100 mph
Risk Category I	113 mph
Risk Category II	124 mph
Risk Category III-IV	⚠ 134 mph

If the structure under consideration is a healthcare facility and you are also within 1 mile of the coastal mean high water line, you are in a wind-borne debris region. If other occupancy, use the Risk Category II basic wind speed contours to determine if you are in a wind-borne debris region.

ASCE 7-05

ASCE 7-05 Wind Speed	99 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

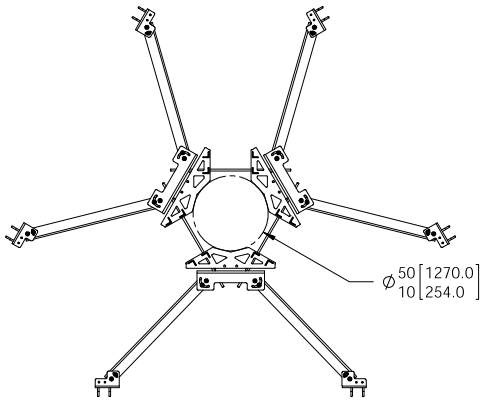
While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

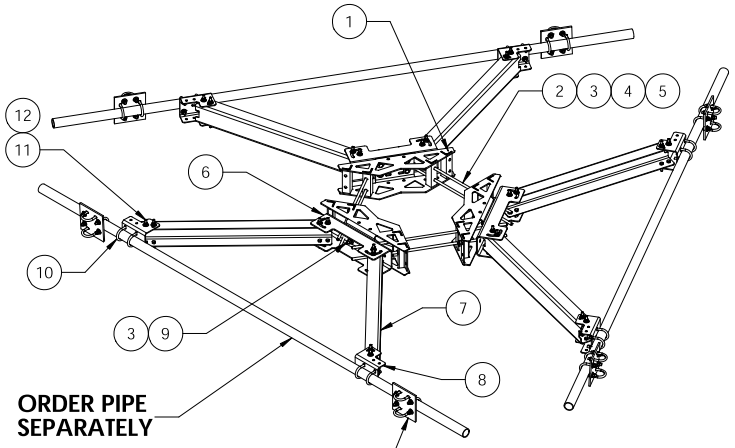
APPENDIX N

Mount Manufacturer Part Specification Sheets

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	MTC328601	10-50 RRU Mount Weldment	3	29.99 LBS
2	MT38240	5/8" X 40" GALV THREADED ROD	6	3.46 LBS
3	GWF-05	5/8" GALV FLAT WASHER	36	0.06 LBS
4	GWL-05	5/8" GALV LOCK WASHER	12	0.03 LBS
5	GN-05	5/8" GALV HEX NUT	12	0.08 LBS
6	MTC340501	Mount Channel	3	23.34 LBS
7	MTC340502	Support Arm	6	29.88 LBS
8	MTC340503	Mount Channel	6	5.39 LBS
9	GB-0520A	5/8" X 2" GALV BOLT KIT (A325)	12	0.27 LBS
10	GUB-4240	1/2" X 2-1/2" X 4" GALV U-BOLT	12	0.56 LBS
11	GB-04205	1/2" X 2" GALV BOLT KIT	48	0.16 LBS
12	GWF-04	1/2" GALV FLAT WASHER	48	0.03 LBS

REVISIONS				
REV.	ZONE	DESCRIPTION	BY	DATE
A		INITIAL RELEASE	MSM	06/11/13

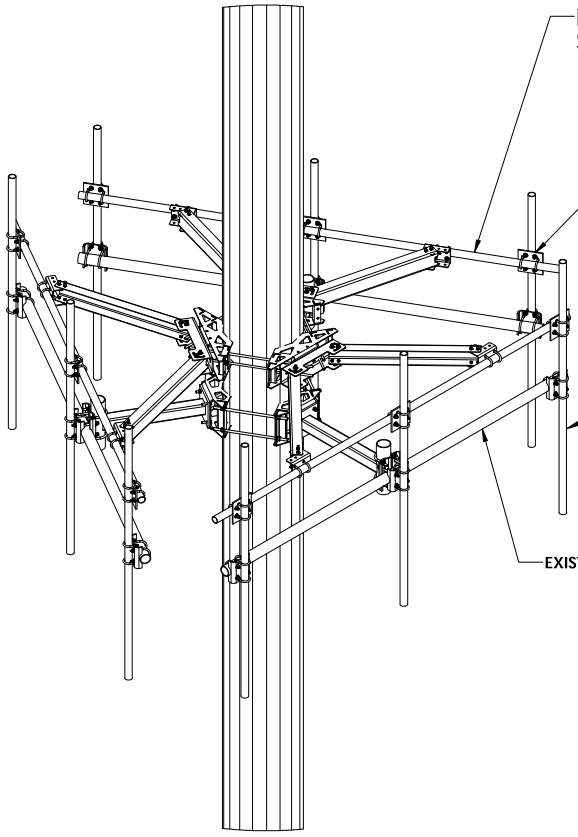




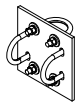
NOTES:
1. ALL METRIC DIMENSIONS ARE IN BRACKETS.
2. FIT MONOPOLES 10" – 50".
3. PRE CUT ALLTHREAD AS NEEDED FOR POLE OD.

ALL DIMENSIONS ARE IN INCHES U.O.S.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
.X = ± .12 ANGLES ±2°
.XX = ± .06 FRACTIONS ±1/32
.XXX= ± .03
REMOVE BURRS AND BREAK EDGES .005
DO NOT SCALE THIS PRINT

DRAWN BY: MSM	SHEET: 1 of 2	PART NUMBER: VSR-MS-B	
CHECKED BY: TP	SCALE: NTS	DESCRIPTION: Monopole T-Arm Reinforcement Kit	
DATE: 06/11/13	MATERIAL: A36	DRAWING TYPE: ASSEMBLY DRAWING	
REVISION: A	FINISH: GALV A123	COMMSCOPE® Hickory, NC 28602 U.S.A.	
	WEIGHT: 421.17 LBS		



AVAILABLE CROSSOVER KITS



PART NUMBER	DESCRIPTION
XP-2020	2-3/8" OD to 2-3/8" OD
XP-2025	2-3/8" OD to 2-7/8" OD
XP-2030	2-3/8" OD to 3-1/2" OD
XP-2040	2-3/8" OD to 4-1/2" OD

ALL DIMENSIONS ARE IN INCHES U.O.S.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
.X = ± .12 ANGLES ±2°
.XX = ± .06 FRACTIONS ±1/32
.XXX= ± .03
REMOVE BURRS AND BREAK EDGES .005
DO NOT SCALE THIS PRINT

DRAWN BY:	MSM
CHECKED BY:	TP
DATE:	06/11/13
REVISION:	A
SHEET:	2 of 2
SCALE:	NTS
MATERIAL:	A36
FINISH:	GALV A123
WEIGHT:	413.10 LBS
PART NUMBER:	VSR-MS-B
DESCRIPTION:	Monopole Reinforcement Kit
DRAWING TYPE:	ASSEMBLY DRAWING

COMMSCOPE®
Hickory, NC 28602 U.S.A.

APPENDIX O

Mount Manufacturer Design Drawings (MDD)

CROWN CASTLE

SITE:

876402 STAFFORD/PRAGYL/SSUSA (10128067)

MODIFICATION DRAWING FOR EXISTING 12.5' T-ARMS AT 136' ON A 150' MONOPOLE TOWER

SHEET INDEX	
T-01	TITLE SHEET
N-01	NOTES
S-01	PLAN VIEW
S-02	ELEVATION VIEW
MI-01	MODIFICATION CHECKLIST

PROJECT INFORMATION	
COUNTY:	TOLLAND
SITE ADDRESS:	175 STAFFORD ST. STAFFORD, CT 06077
LATITUDE:	41° 59' 13.38"
LONGITUDE:	-72° 15' 40.78"

SCOPE OF WORK:

MOUNT MODIFICATION DRAWINGS INCLUDES:
INSTALL PROPOSED FACE MEMBERS & STABILIZER KIT

PLANS PREPARED FOR:
CROWN CASTLE

PLANS PREPARED BY:
POD
POWER OF DESIGN
1033 E. TURKEYFOOT LAKE RD.
SUITE 206 AKRON, OHIO 44312
330-961-7432

CARRIER:
AT&T

MODIFICATION DRAWING

REV.	DATE	DESCRIPTION

SITE INFORMATION:
STAFFORD/PRAGYL/SSUSA
(10128067)

175 STAFFORD ST.
STAFFORD, CT 06077

SITE NUMBER:
876402

POD NUMBER: 20-63936

DRAWN BY: TAJ
CHECKED BY: JGC
DATE: 05/05/2020

SHEET TITLE:
TITLE SHEET

T-01

GENERAL NOTES

1. THE MODIFICATIONS REPRESENTED IN THESE DRAWINGS ARE BASED ON THE STRUCTURAL DOCUMENTS PROVIDED IN THE STRUCTURAL DOCUMENTS TABLE. THE CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH ALL REFERENCED DOCUMENTS.

REFERENCE DOCUMENTS	
DOCUMENT TYPE	DESIGNATION
MOUNT ANALYSIS	POD PROJECT NUMBER: 20-63609 DATED: 04/28/2020

2. ALL MODIFICATIONS MUST BE INSTALLED TO BRING THE TOWER INTO CONFORMANCE WITH ALL APPLICABLE CODES.

GOVERNING CODES	TIA-222-H
ULTIMATE WIND SPEED	117 MPH 3 SECOND GUST
RADIAL ICE THICKNESS	1.5"
WIND SPEED W/ ICE	50 MPH 3 SECOND GUST
STRUCTURE CLASS	II
EXPOSURE CATEGORY	B
TOPOGRAPHIC CATEGORY	1
SPECTRAL RESPONSE ACCELERATIONS	SS= 0.176 & S1= 0.055

3. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE OR APPROVED BY THE EOR. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE PERFORMING WORK SIMILAR TO THAT DESCRIBED WITHIN THESE DRAWINGS. BY ACCEPTANCE OF THIS PROJECT, THE CONTRACTOR IS ATTESTING THAT HE HAS SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND REGISTERED TO PERFORM THE WORK IN THE PROJECT JURISDICTION.
4. WORK SHALL ONLY BE PERFORMED DURING CALM, DRY DAYS (WINDS LESS THAN 10XMPH). IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE INSTILLATION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIEXDOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
5. ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND EOR. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE EOR SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES AND PROCEDURES.
6. THE DESIGN WITHIN THESE DRAWINGS ASSUMES THE TOWER AND ITS FOUNDATIONS HAVE BEEN WELL MAINTAINED, IN GOOD CONDITION AND ARE WITHOUT DEFECT. BENT MEMBERS, CORRODED MEMBER, LOOSE BOLTS, CRACKED WELDS, AND OTHER STRUCTURAL DEFECTS HAVE NOT BEEN CONSIDERED UNLESS SPECIFICALLY NOTED. THE TOWER IS ASSUMED TO BE PLUMB AND THE SITE IS ASSUMED LEVEL. THE OWNER AND/OR EOR SHALL BE NOTIFIED IMMEDIATELY IF ANY VARIANCES ARE FOUND.
7. THE CONTRACTOR SHALL ONLY WORK WITHIN THE LIMITS OF THE TOWER OWNER'S PROPERTY, LEASE AREA OR APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS PERFORMED WITHIN THESE BOUNDARIES. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE OWNER.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAIN AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT ALL WORK PERFORMED COMPLIES WITH ALL APPLICATION SAFETY CODES AND GOVERNING REGULATIONS.
9. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULES AND MATERIAL DELIVERIES, WITH THE OWNER/RESIDENT LEASING AGENT FOR APPROVAL.
10. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNING AGENCIES. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
11. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDED BUT NOT LIMITED TO ALTERED SIZED AND/OR STRENGTHS, MUST BE APPROVED BY THE EOR.
12. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS SHALL MAINTAIN THE EXISTING MEMBER WORKING LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
13. ALL DIMENSIONS AND QUANTITIES LISTED WITHIN THESE DRAWINGS ARE INTENDED TO AID THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL DIMENSION AND QUANTITIES PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
14. ALL MANUFACTURERS' INSTRUCTIONS SHALL BE FOLLOWED EXACTLY. ANY DEVIATION REQUIRES WRITTEN APPROVAL FROM THE EOR.
15. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY REMOVING COAX, BRACKETS, ANTENNAS MOUNTS AND ANY OTHER TOWER APPURTENANCE THAT MAY INTERFERE WITH THE INSTILLATION OF THE TOWER MODIFICATIONS. ALL TOWER APPURTENANCES MUST BE REPLACE AND/OR RESTORED TO ITS ORIGINAL LOCATION. SOME MOUNTS OR ATTACHMENTS MAY REQUIRE CUSTOM MODIFICATION TO PROPERLY FIT THE MODIFIED REGION OF THE STRUCTURE. THESE CUSTOM MOUNTS OR ATTACHMENTS ARE DESIGNED BY OTHERS AND MUST BE APPROVED BY THE OWNER/EOR PRIOR TO REMOVAL. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE OWNER IN WRITING.
16. DO NOT SCALE DRAWINGS.

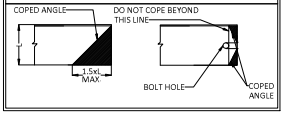
STRUCTURAL STEEL NOTES

1. ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
2. ALL STRUCTURAL STEEL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

MATERIAL SPECIFICATIONS	
CHANNELS	ASTM A36 (36 KSI YIELD STRENGTH)
PIPES	ASTM A53 GR.B (35 KSI YIELD STRENGTH)
BOLTS	ASTM A325N
NUTS	ASTM A563
WASHER	ASTM F436
PLATE	ASTM A36 (36 KSI YIELD STRENGTH)

3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS, LATEST EDITION.
4. CAULKING SHALL BE PROVIDED AROUND PERIMETER OF ANY AND ALL MODIFICATION MEMBERS TO ENSURE COMPLETE SEAL BETWEEN EXISTING STRUCTURE AND REINFORCING MEMBERS IN FULL CONTACT WITH EXISTING STEEL. SEALANT IS TO BE EXTERIOR GRADE, PAINTABLE SILICONE CAULKING AS MANUFACTURED BY DOW AND ACCEPTABLE TO EOR.
5. HOLES SHALL NOT BE FLAME CUT THROUGH STEEL UNLESS APPROVED BY THE EOR.
6. ALL EXPOSED STEEL SHALL BE HOTXDIPPED GALVANIZED PER ASTM A123, ASTM A153/A153M, OR ASTM A653 G90, AS APPLICABLE FOR FULL WEATHER PROTECTION. FOR HIGH STRENGTH STEEL FASTENERS WHERE HOTXDIPPED GALVANIZING IS NOT PERMITTED DACROMET F1136 GRADE 3 COATING SHALL BE USED. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING TOWER STEEL. CONTRACTOR SHALL OBTAIN EOR APPROVAL FOR STEEL PROTECTION BY ANY OTHER MEANS.
7. REPAIR DAMAGED PAINTED/GALVANIZED SURFACES WITH TWO COATS OF BRUSH OR ROLL ON ZRC COLD GALVANIZING COMPOUND OR EOR APPROVED COATING. SURFACES MUST BE WIRE BRUSHED AND SOLVENT CLEANED PRIOR TO APPLICATION OF GALVANIZING COMPOUND.
8. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES (LOCKING NUT/PAL NUT) TO BE INSTALLED IN ACCORDANCE WITH TIA/EIAX222 REQUIREMENTS.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.

ALLOWABLE ANGLE COPE



1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENT.

BOLT SCHEDULE

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16x11/16	7/8	1-1/2
5/8	11/16	11/16x7/8	1-1/8	1-7/8
3/4	13/16	13/16x1	1-1/4	2-1/4
7/8	15/16	15/16x1-1/8	1-1/2	2-5/8
1	1-1/16	1-1/16x1-5/16	1-3/4	3

- DIMENSIONS GIVEN IN INCHES.
- SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED ON THE PLANS.

WORKABLE GAGES

LEG	----	----	----
G	----	----	----

- DIMENSIONS GIVEN IN INCHES.
- MATCH EXISTING WHEN APPLICABLE.

PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

POD
POWER OF DESIGN
1033 E. TURKEYFOOT LAKE RD.
SUITE 206 AKRON, OHIO 44312
330-961-7432

CARRIER:

AT&T

DRAWING NOTICE:

MODIFICATION DRAWING

REV.	DATE	DESCRIPTION

SITE INFORMATION:

STAFFORD/PRAGYL/SSUSA
(10128067)

175 STAFFORD ST.
STAFFORD, CT 06077

SITE NUMBER:

876402

POD NUMBER: 20-63936

DRAWN BY: TAJ
CHECKED BY: JGC
DATE: 05/05/2020

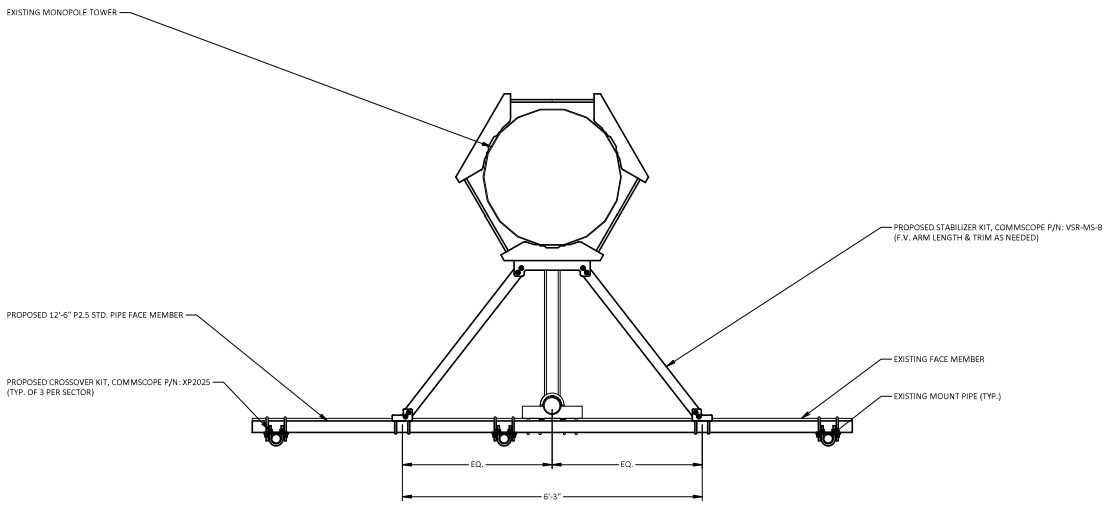
SHEET TITLE:

NOTES

N-01

NOTES:

- ANTENNAE & OTHER SECTORS NOT SHOWN FOR CLARITY
- MODIFICATIONS ARE (TYP.) & SHALL BE INSTALLED ON ALL (3) SECTORS
- ALL FIELD DRILLED HOLES SHALL BE SOLVENT CLEANED AND TOUCHED UP WITH TWO COATS OF ZRC RICH PAINT
- EXCESS MATERIALS SHALL BE REMOVED AND DISPOSED OFF SITE BY THE CONTRACTOR



PLAN VIEW
1/2" = 1'-0"

PLANS PREPARED FOR:
CROWN CASTLE

PLANS PREPARED BY:
POD
POWER OF DESIGN
1033 E. TURKEYFOOT LAKE RD.
SUITE 206 AKRON, OHIO 44312
330-961-7432

CARRIER:
AT&T

MODIFICATION DRAWING

REV.	DATE	DESCRIPTION

SITE INFORMATION:
STAFFORD/PRAGYL/SSUSA
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175 STAFFORD ST.
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SITE NUMBER:
876402

POD NUMBER: 20-63936

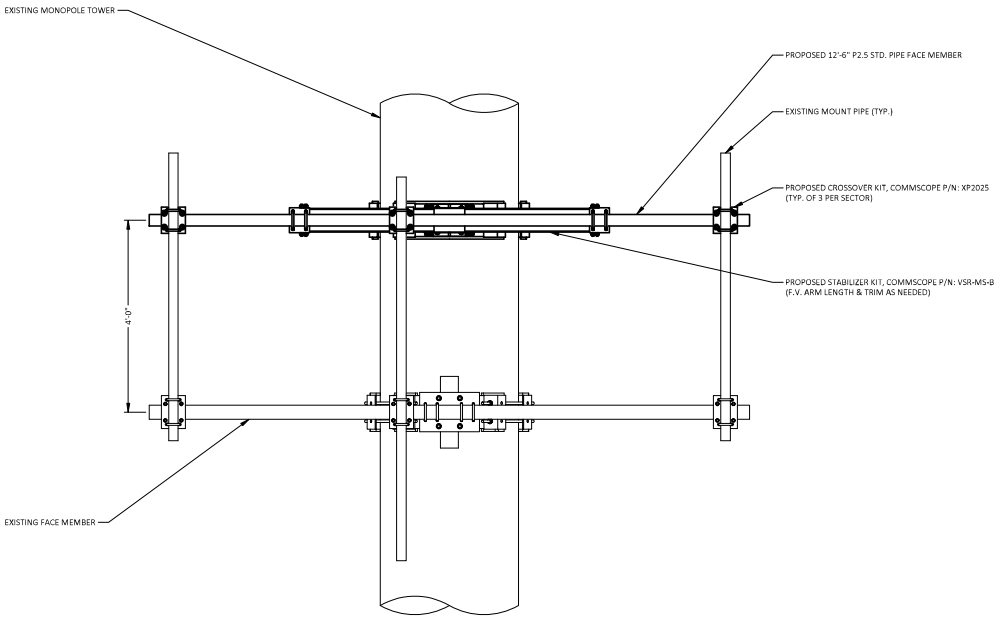
DRAWN BY: TAJ
CHECKED BY: JGC
DATE: 05/05/2020

SHEET TITLE:
PLAN VIEW

S-01

NOTES:

- ANTENNAE & OTHER SECTORS NOT SHOWN FOR CLARITY
- MODIFICATIONS ARE (TYP.) & SHALL BE INSTALLED ON ALL (3) SECTORS
- ALL FIELD DRILLED HOLES SHALL BE SOLVENT CLEANED AND TOUCHED UP WITH TWO COATS OF ZRC RICH PAINT
- EXCESS MATERIALS SHALL BE REMOVED AND DISPOSED OFF SITE BY THE CONTRACTOR



ELEVATION VIEW

1/2" = 1'-0"

PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

POD
POWER OF DESIGN
1033 E. TURNEYFOOT LAKE RD.
SUITE 206 AKRON, OHIO 44312
330-961-7432

CARRIER:

AT&T

MODIFICATION DRAWING

REV.	DATE	DESCRIPTION

SITE INFORMATION:

STAFFORD/PRAGYL/SSUSA
(10128067)

175 STAFFORD ST.
STAFFORD, CT 06077

SITE NUMBER:

876402

POD NUMBER: 20-63936

DRAWN BY: TAJ
CHECKED BY: JGC
DATE: 05/05/2020

SHEET TITLE:

ELEVATION VIEW

S-02

MODIFICATION INSPECTION CHECKLIST

BEFORE CONSTRUCTION		DURING CONSTRUCTION		AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM	CONSTRUCTION/INSTALLATION INSPECTION AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
X	MODIFICATION INSPECTION CHECKLIST DWG	X	CONSTRUCTION INSPECTION	X	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWING(S)
-	ENGINEER OF RECORD APPROVED SHOP DRAWINGS	-	FOUNDATION INSPECTION	-	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
-	FABRICATION INSPECTION	-	CONCRETE COMP. STRENGTH AND SLUMP TEST	X	PHOTOGRAPHS
X	MATERIAL TEST REPORT	-	POST INSTALLED ANCHOR ROD VERIFICATION	ADDITIONAL TESTING AND INSPECTION	
-	FABRICATOR NDE INSPECTION	-	BASE PLATE GROUT VERIFICATION		
-	NDE REPORT OF MONOPOLE BASEPLATE (AS REQUIRED)	-	THIRD PARTY CERTIFIED WELD INSPECTION		
X	PACKING SLIP	-	EARTHWORK LIFT AND DENSITY (REPORT REQUIRED)		
ADDITIONAL TESTING AND INSPECTION		X	ON SITE COLD GALVANIZING VERIFICATION		
		-	GUY WIRE TENSION REPORT		
		X	GC AS-BUILT DOCUMENTS		
		ADDITIONAL TESTING AND INSPECTION			

MODIFICATION INSPECTION NOTES:

GENERAL:

1. THE MODIFICATION INSPECTION IS A VISUAL INSPECTION OF TOWER MODIFICATION AND A REVIEW OF CONSTRUCTION INSPECTION AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. NAMELY THE MODIFICATION DRAWINGS., AS DESIGNED BY THE ENGINEER OF RECORD.
2. THE MODIFICATION INSPECTION IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AN IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MODIFICATION INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTENT RESIDES WITH THE ENGINEER OF RECORD AT ALL TIMES.
3. TO ENSURE THAT THE REQUIREMENT OF THE MODIFICATION INSPECTION ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MODIFICATION INSPECTOR BEGIN COMMUNICATION AND COORDINATING AS SOON AS A PO OR PAYMENT IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY.

MODIFICATION INSPECTOR:

1. THE MODIFICATION INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSPECTION TO:
   - REVIEW THE REQUIREMENT OF THE MODIFICATION INSPECTION CHECKLIST
   - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS
   - DISCUSS ANY SITE SPECIFIC INSPECTIONS OR CONCERNS
2. THE MODIFICATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS. REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE INXFEILD INSPECTIONS, AND SUBMITTING THE MODIFICATION INSPECTION REPORT.

GENERAL CONTRACTOR:

1. THE GC IS REQUIRED TO CONTACT THE MODIFICATION INSPECTOR AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO:
   - REVIEW THE REQUIREMENT OF THE MODIFICATION INSPECTION CHECKLIST
   - WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MODIFICATION INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
   - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS
2. THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST.

RECOMMENDATIONS:

1. IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, TO THE MODIFICATION INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR HE MODIFICATION INSPECTION TO BE CONDUCTED.
   - THE GC AND MODIFICATION INSPECTION COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
   - WHEN POSSIBLE IT IS PREFERRED TO HAVE THE MODIFICATION INSPECTOR AND GC ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RETENSIONING OPERATIONS.
   - IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTION TO ALLOW FOUNDATION AND MODIFICATION INSPECTION(S) DONE IN ONE SITE VISIT.
   - WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MODIFICATION INSPECTOR ON-SITE DURING THE MODIFICATION INSPECTION. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MODIFICATION INSPECTION CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MODIFICATION INSPECTION:

1. IF THE GC AND MODIFICATION INSPECTOR AGREE TO A DATE ON WHICH THE MODIFICATION INSPECTION WILL BE CONDUCTED, AND EITHER ARTY CANCELS OR DELAYS, THE TOWER OWNER SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OR DEPOSITS AND/OR OTHER PENALTIES RELATE TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME. EXCEPTIONS MAY BE MADE IN THE DELAY/ CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING MODIFICATION INSPECTION:

1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE MODIFICATION INSPECTION ("FAILED MODIFICATION INSPECTION"), THE GC SHALL WORK WITH MODIFICATION INSPECTOR TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
   - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MODIFICATION INSPECTION. OR, WITH TOWER OWNER'S APPROVAL, THE GC MAY WORK WITH THE ENGINEER OF RECORD TO REXANALYZE THE MODIFCATION/REINFORCEMENT USING AS-BUILT CONDITION.

VERIFICATION INSPECTIONS:

1. TOWER OWNER RESERVES THE RIGHT TO CONDUCT A VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MODIFICATION AND INSPECTION(S) ON TOWER MODIFICATION PRODUCTS.
2. VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MODIFICATION INSPECTION MODIFICATION INSPECTION" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS:

1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS ARE TO BE TAKEN AND INCLUDED IN THE MODIFICATION INSPECTION REPORT:
   - PREXCONSTRUCTION GENERAL SITE CONDITION
   - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
     - RAW MATERIALS
     - PHOTOS OF ALL CRITICAL DETAILS
     - WELD PREPARATION
     - FOUNDATION MODIFICATION
     - BOLT INSTALLATION AND TORQUE
     - FINAL INSTALLED CONDITION
     - SURFACE COATING REPAIR
   - POST CONDITION PHOTOGRAPHS
   - FINAL INFIELD CONDITION ANY OTHER PHOTOS DEEMED RELEVANT TO SHOW COMPLETE DENTALS OF MODIFICATIONS
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

PLANS PREPARED FOR:

CROWN CASTLE

PLANS PREPARED BY:

POD
POWER OF DESIGN
1033 E. TURKEYFOOT LAKE RD.
SUITE 206 AKRON, OHIO 44312
330-961-7432

CARRIER:

AT&T

MODIFICATION DRAWING

REV.	DATE	DESCRIPTION

SITE INFORMATION:

STAFFORD/PRAGYL/SSUSA
(10128067)

175 STAFFORD ST.
STAFFORD, CT 06077

SITE NUMBER:

876402

POD NUMBER: 20-63936

DRAWN BY: TAJ
CHECKED BY: JGC
DATE: 05/05/2020

SHEET TITLE:

MODIFICATION CHECKLIST

MI-01

Exhibit F

Power Density/RF Emissions Report

RF EMISSIONS COMPLIANCE REPORT

Crown Castle on behalf of AT&T Mobility, LLC

Crown Castle Site Order Number: 517113
Crown Castle Site BU Number: 876402
Crown Castle Site Name: STAFFORD/PRAGYL/SSUSA
AT&T Mobility, LLC Site FA Number: 10128067
AT&T Mobility, LLC Site ID: CTV1258
AT&T Mobility, LLC Site Name: STAFFORD - STAFFORD ST

175 Stafford Street
Stafford, CT
6/15/2020

Report Status:

AT&T Mobility, LLC is Compliant

Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2021

Signed 15 June 2020

Prepared By:

Site Safe, LLC

8618 Westwood Center Drive
Suite 315
Vienna, VA 22182
Voice: 703-276-1100
Fax: 703-276-1169

Engineering Statement in Re:
Electromagnetic Energy Analysis
Crown Castle
Stafford, CT

My signature on the cover of this document indicates:

That I am registered as a Professional Engineer in the jurisdiction indicated; and

That I have extensive professional experience in the wireless communications engineering industry; and

That I am an employee of Site Safe, LLC in Vienna, Virginia; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission ("the FCC" and "the FCC Rules") both in general and specifically as they apply to the FCC's Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by Crown Castle on behalf of AT&T Mobility, LLC (see attached Site Summary and Carrier documents) and that AT&T Mobility, LLC's installation involves communications equipment, antennas and associated technical equipment at a location referred to as "STAFFORD/PRAGYL/SSUSA" ("the site"); and

That AT&T Mobility, LLC proposes to operate at the site with transmit antennas listed in the carrier summary and with a maximum effective radiated power as specified by AT&T Mobility, LLC and shown on the worksheet and that worst-case 100% duty cycle has been assumed; and

That this analysis has been performed with the assumption that the ground immediately surrounding the tower is primarily flat or falling; and

That at this time, the FCC requires that certain licensees address specific levels of radio frequency energy to which workers or members of the public might possibly be exposed (at §1.1307(b) of the FCC Rules); and

That such consideration of possible exposure of humans to radio frequency energy must utilize the standards set by the FCC, which is the federal agency having jurisdiction over communications facilities; and

That the FCC rules define two tiers of permissible exposure guidelines: 1) "uncontrolled environments," which defines situations in which persons may not be aware of (the "general public"), or may not be able to control their exposure to a transmission facility; and 2) "controlled environments," which defines situations in which persons are aware of their potential for exposure (industry personnel); and

That this statement specifically addresses the uncontrolled environment (which is more conservative than the controlled environment) and the limit set forth in the FCC rules for licensees of AT&T Mobility, LLC's operating frequencies as shown on the attached antenna worksheet; and

That when applying the uncontrolled environment standards, the predicted Maximum Power Density at two meters above ground level from the proposed AT&T Mobility, LLC operation is no more than 5.242% of the maximum permissible exposure limits in any accessible area on the ground; and

That it is understood per FCC Guidelines and OET 65 Appendix A, that regardless of the existent radio frequency environment, only those licensees whose contributions exceed 5% of the exposure limit pertinent to their operation(s) bear any responsibility for bringing any non-compliant area(s) into compliance; and

That when applying the uncontrolled environment standards, the cumulative predicted energy density from the proposed operation is no more than 6.983% of the maximum in any accessible area up to two meters above the ground per OET 65; and

That the calculations provided in this report are based on data provided by the client and antenna pattern data supplied by the antenna manufacturer, in accordance with FCC guidelines listed in OET 65. Horizontal and vertical antenna patterns are combined for modeling purposes to accurately reflect the energy two meters above ground level where on-axis energy refers to maximum energy two meters above the ground along the azimuth of the antenna and where area energy refers to the maximum energy anywhere two meters above the ground regardless of the antenna azimuth, accounting for cumulative energy from multiple antennas for the carrier(s) and frequency range(s) indicated; and

That the Occupational Safety and Health Administration has policies in place which address worker safety in and around communications sites, thus individual companies will be responsible for their employees' training regarding radio frequency safety; and

In summary, it is stated here that the proposed operation at the site will not result in exposure of the public to excessive levels of radio frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307(b), and that AT&T Mobility, LLC's proposed operation is completely compliant.

Finally, it is stated that access to the tower should be restricted to communication industry professionals and approved contractor personnel trained in radio frequency safety and that this instant analysis addresses exposure levels at two meters above ground level and does not address exposure levels on the tower or in the immediate proximity of the antennas.

Crown Castle
STAFFORD/PRAGYL/SSUSA
Site Summary

Carrier	Area Maximum Percentage MPE
AT&T Mobility, LLC	0.160 %
AT&T Mobility, LLC (Proposed)	1.238 %
AT&T Mobility, LLC (Proposed)	1.165 %
AT&T Mobility, LLC (Proposed)	0.511 %
AT&T Mobility, LLC (Proposed)	0.547 %
AT&T Mobility, LLC (Proposed)	1.140 %
AT&T Mobility, LLC (Proposed)	0.481 %
Sprint	0.148 %
Sprint	0.291 %
Sprint	0.247 %
Verizon Wireless	0.673 %
Verizon Wireless	0.382 %
Composite Site MPE:	6.983 %

AT&T Mobility, LLC
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	0.90948	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.16050	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Powerwave	7770	138	30	547	0.272504	0.048089	0.430622	0.075992
Powerwave	7770	138	160	547	0.272504	0.048089	0.430622	0.075992
Powerwave	7770	138	280	547	0.272504	0.048089	0.430622	0.075992

AT&T Mobility, LLC (Proposed)
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	2100	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	12.38041	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	1.23804	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	DMP65R-BU8D	138	30	5250	5.605023	0.560502	6.795583	0.679558
CCI Antennas	DMP65R-BU6D	138	160	4788	4.565022	0.456502	5.761505	0.576151
CCI Antennas	DMP65R-BU8D	138	280	5250	5.605023	0.560502	6.795583	0.679558

AT&T Mobility, LLC (Proposed)
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	1900	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	11.64882	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	1.16488	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	DMP65R-BU8D	138	30	4170	4.455029	0.445503	5.632127	0.563213
CCI Antennas	DMP65R-BU6D	138	160	4075	5.171780	0.517178	6.082987	0.608299
CCI Antennas	DMP65R-BU8D	138	280	4170	4.455029	0.445503	5.632127	0.563213

AT&T Mobility, LLC (Proposed)
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	2.89720	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.51127	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	DMP65R-BU8D	138	30	2885	0.854727	0.150834	1.591403	0.280836
CCI Antennas	DMP65R-BU6D	138	160	2239	0.920438	0.162430	1.682330	0.296882
CCI Antennas	DMP65R-BU8D	138	280	2885	0.854727	0.150834	1.591403	0.280836

AT&T Mobility, LLC (Proposed)
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	737	MHz
Maximum Permissible Exposure (MPE):	491.33	$\mu W/cm^2$
Maximum power density at ground level:	2.68700	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.54688	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	DMP65R-BU8D	138	30	2692	0.824267	0.167761	1.524933	0.310366
CCI Antennas	DMP65R-BU6D	138	160	2400	0.987268	0.200936	1.280528	0.260623
CCI Antennas	DMP65R-BU8D	138	280	2692	0.824267	0.167761	1.524933	0.310366

AT&T Mobility, LLC (Proposed)
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	2300	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	11.39795	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	1.13980	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI	OPA65R-BU8D	138	30	2661	5.593181	0.559318	5.637653	0.563765
CCI	OPA65R-BU6D	138	160	2661	5.638193	0.563819	5.894866	0.589487
CCI	OPA65R-BU8D	138	280	2661	5.593181	0.559318	5.637653	0.563765

AT&T Mobility, LLC (Proposed)
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	763	MHz
Maximum Permissible Exposure (MPE):	508.67	$\mu W/cm^2$
Maximum power density at ground level:	2.44620	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.48090	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI	OPA65R-BU8D	138	30	3229	0.988949	0.194420	1.490630	0.293047
CCI	OPA65R-BU6D	138	160	2450	1.021686	0.200856	1.060500	0.208486
CCI	OPA65R-BU8D	138	160	3229	0.988949	0.194420	1.490630	0.293047

Sprint
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	1900	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	1.48339	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.14834	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
RFS	APXVTM14-C-I20	152	10	3469	0.549120	0.054912	1.027179	0.102718
RFS	APXVTM14-C-I20	152	140	3469	0.549120	0.054912	1.027179	0.102718
RFS	APXVTM14-C-I20	152	250	3469	0.549120	0.054912	1.027179	0.102718

Sprint
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	1.64821	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.29086	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
RFS	APXVTM14-C-I20	152	10	3855	0.610133	0.107671	1.141309	0.201407
RFS	APXVTM14-C-I20	152	140	3855	0.610133	0.107671	1.141309	0.201407
RFS	APXVTM14-C-I20	152	250	3855	0.610133	0.107671	1.141309	0.201407

Sprint
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	2500	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	2.46823	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.24682	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Commscope	NNVV-65B-R4	152	10	5372	1.771566	0.177157	2.433347	0.243335
Commscope	NNVV-65B-R4	152	140	5372	1.771566	0.177157	2.433347	0.243335
Commscope	NNVV-65B-R4	152	250	5372	1.771566	0.177157	2.433347	0.243335

Verizon Wireless
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	2100	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	6.73487	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.67349	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
ANDREW	SBNHH-1D65B	127	0	7732	4.232496	0.423250	6.451710	0.645171
ANDREW	SBNHH-1D65B	127	120	7732	4.232496	0.423250	6.451710	0.645171
ANDREW	SBNHH-1D65B	127	240	7732	4.232496	0.423250	6.451710	0.645171

Verizon Wireless
STAFFORD/PRAGYL/SSUSA
Carrier Summary

Frequency:	700	MHz
Maximum Permissible Exposure (MPE):	466.67	$\mu W/cm^2$
Maximum power density at ground level:	1.78351	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.38218	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
ANDREW	SBNHH-1D65B	127	0	2043	0.935129	0.200385	1.505944	0.322702
ANDREW	SBNHH-1D65B	127	120	2043	0.935129	0.200385	1.505944	0.322702
ANDREW	SBNHH-1D65B	127	240	2043	0.935129	0.200385	1.505944	0.322702