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March 9, 2018

EMAIL & FEDEX
Melanie Bachman, Esq.
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Petition No. 443A - New Cingular Wireless PCS LLC ("AT&T")
Request for Administrative Approval of Temporary Facility
Site: 22 Sound Shore Drive, Greenwich, Connecticut

Dear Executive Director Bachman:

This letter and enclosures are submitted in furtherance of the captioned docket on behalf of New Cingular Wireless PCS, LLP ("AT&T"). I am writing as a follow up regarding AT&T's need for a temporary facility required to accommodate a transmission line reconfiguration planned by Eversource.

Procedural Background
As you will recall, by letter dated December 15, 2015 the Siting Council approved the relocation of AT&T's petition ("Petition 443A") to relocate an existing facility from Eversource Tower 1292 to nearby Tower 1279 (the "Petition 443A Facility"). As part of Petition 443A AT&T advised the Siting Council that a temporary tower facility would be necessary to provide continuity of service while AT&T waited for an outage allowing the facility on Tower 1279 to be installed. In its decision in 443A the Siting Council directed AT&T to submit for your approval the final location of the temporary facility.

Working with Eversource, and in lieu of deploying a temporary tower, AT&T designed a plan to modify the Tower 1292 facility by removing the then existing antenna platform and attaching AT&T antennas directly to Tower 1292. This plan took advantage of existing infrastructure, obviated the need to use a temporary tower and was believed to deter osprey nesting which had occurred in the area in the past. You provided your approval of this option by letter dated December 29, 2015 ("First Temporary Solution").

Subsequently Eversource continued its planning to reconfigure its transmission facilities in the area including Tower 1292 however an outage allowing installation on Tower 1279 was, and still is, unconfirmed. In addition, Metro North and the Connecticut Department of Transportation also required additional time, information and coordination regarding construction details of the permanent Petition 443A Facility. Given these variables and time constraints AT&T sought approval of an alternate temporary site at a nearby racquet club to assure continuity of service to

this area of Greenwich. As this temporary facility was not on the Site reviewed in the Petition 443A Approval, a petition for that second temporary solution ("Second Temporary Solution") was submitted to the Council as Petition 443B ("Petition 443B") and approved on July 7, 2016. Unfortunately, it has since become evident that the planned utility connections cannot be accommodated and the site is not viable without those connections. In addition, Eversource has also since notified AT&T that the antennas attached to Tower 1279 must be removed by April 1st in the interest of completing the planned infrastructure reconfiguration at the site.

New Temporary Siting Location Uses an Existing Transmission Tower

As depicted in the enclosed drawings prepared by Centek Engineering dated February 28, 2018 and included as Attachment 1, AT&T has now been able to arrive at a third temporary solution ("Third Temporary Solution") at the Site. AT&T will mount antennas to Eversource Tower 1281 which currently hosts Sprint and Verizon facilities at centerline heights of 148' and 139' respectively. AT&T's antennas will be mounted to Tower 1281 at a centerline height of 70' and associated equipment including remote radio head units and electrical breaker box will be provided from a cell-on-wheels trailer ("COW") with a cable connection installed on the north leg of Tower 1281. Notably, the telescoping mast on the COW will not be raised or used and as such will not be visible to anyone in the surrounding area. The COW will serve in lieu of a permanent equipment shelter or compound.

It should be noted that the low 70' centerline height above grade is driven by Eversource's requirement that all radio frequency emitting equipment be at least 15' from the bottom of the transmission line conductors. Combined with the limited number of antennas these restrictions severely limit the ability of the Third Temporary Solution to provide reliable service to the area of Cos Cob originally served by AT&T from Tower 1292. While workable as a temporary solution the service that can be provided from Tower 1281 is far inferior to the permanent site approved in Petition 443A which will be constructed once an outage is scheduled.

Materials Included

In support of this request please find the following attachments included with this letter:

1. Drawings and details of the proposed temporary solution prepared by Centek Engineering dated February 28, 2018;
2. Structural analysis prepared by Centek Engineering dated December 19, 2017; and
3. Information demonstrating compliance with federal emissions guidelines.

Conclusion

This temporary facility installation makes use of existing infrastructure at the Site reviewed in Petition 443A, will not require the deployment of a temporary tower mast and is similarly situated as the First Temporary Solution previously approved. Notably, no changes are proposed for the permanent facility approved for Tower 1279 which will be installed when a transmission line outage allows. We respectfully request your approval of this temporary facility as per the Siting Council's direction in the decision for Petition 443A.

CUDDY +FEDER LLP

Thank you once again for your time and consideration in this matter. Should you have any questions, please do not hesitate to contact me.

Very truly yours,

Daniel M. Laub
Attachments

cc: Hon. Peter Tesei, First Selectman, Town of Greenwich
Katie DeLuca, AICP, Director of Planning & Zoning, Town of Greenwich
AT&T

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WIRELESS COMMUNICATIONS FACILITY

CT5006
EVERSOURCE STRUCT. NO. 1281
COS COB RELO.
SOUND SHORE DRIVE
GREENWICH, CT 06830

PROJECT SCOPE

THE SCOPE OF WORK SHALL INCLUDE:

1. THE INSTALLATION OF A WIRELESS COMMUNICATION TOWER SUPPORTED ON AN EXISTING EVERSOURCE TRANSMISSION TOWER WHICH CONSISTS OF THE FOLLOWING:

1.1 THREE (3) TEMPORARY (3) AT&T PANEL ANTENNAS AND ASSOCIATED APPURTENANCES.

1.2. ONE (1) TEMPORARY CELL-ON-WHEELS EQUIPMENT CART.

2. THE PROPOSED WIRELESS FACILITY INSTALLATION WILL BE DESIGNED IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT SUPPLEMENT.

GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CONNECTICUT STATE BUILDING CODE, INCLUDING THE TIA-222 REVISION "G" STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES, 2016 CONNECTICUT FIRE SAFETY CODE AND, NATIONAL ELECTRICAL CODE AND LOCAL CODES.
2. THE COMPOUND, TOWER, PRIMARY GROUND RING, ELECTRICAL SERVICE TO THE METER BANK AND TELEPHONE SERVICE TO THE DEMARCATION POINT ARE PROVIDED BY SITE OWNER. AS BUILT FIELD CONDITIONS REGARDING THESE ITEMS SHALL BE CONFIRMED BY THE CONTRACTOR. SHOULD ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
3. CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUBCONTRACTORS AND ALL RELATED PARTIES. THE SUBCONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.
4. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL, AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON THE DRAWINGS OR IN THE WRITTEN SPECIFICATIONS.
5. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB ALL IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND ALL INSPECTIONS REQUIRED AND SHALL ALSO PAY FEES REQUIRED FOR THE GENERAL CONSTRUCTION, PLUMBING, ELECTRICAL AND HVAC. PERMITS SHALL BE PAID FOR BY THE RESPECTIVE SUBCONTRACTORS.
7. CONTRACTOR SHALL MAINTAIN A CURRENT SET OF DRAWINGS AND SPECIFICATIONS ON SITE AT ALL TIMES AND INSURE DISTRIBUTION OF NEW DRAWINGS TO SUBCONTRACTORS AND OTHER RELEVANT PARTIES AS SOON AS THEY ARE MADE AVAILABLE. ALL OLD DRAWINGS SHALL BE MARKED VOID AND REMOVED FROM THE CONTRACT AREA. THE CONTRACTOR SHALL FURNISH AN "AS-BUILT" SET OF DRAWINGS TO OWNER UPON COMPLETION OF PROJECT.
8. LOCATION OF EQUIPMENT, AND WORK SUPPLIED BY OTHERS THAT IS DIAGRAMMATICALLY INDICATED ON THE DRAWINGS SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL DETERMINE LOCATIONS AND DIMENSIONS SUBJECT TO STRUCTURAL CONDITIONS AND WORK OF THE SUBCONTRACTORS.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING BUILDING'S/PROPERTY'S OPERATIONS. COORDINATE WORK WITH BUILDING/PROPERTY OWNER.
10. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
11. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
12. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUBCONTRACTORS FOR ANY CONDITION PER MFR.'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
13. ANY AND ALL ERRORS, DISCREPANCIES, AND "MISSED" ITEMS ARE TO BE BROUGHT TO THE ATTENTION OF THE AT&T CONSTRUCTION MANAGER DURING THE BIDDING PROCESS BY THE CONTRACTOR. ALL THESE ITEMS ARE TO BE INCLUDED IN THE BID. NO 'EXTRA' WILL BE ALLOWED FOR MISSED ITEMS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE SAFETY FROM THE TIME THE JOB IS AWARDED UNTIL ALL WORK IS COMPLETE AND ACCEPTED BY THE OWNER.
15. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE CONSTRUCTION MANAGER FOR REVIEW.
16. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES, AND EXISTING CONDITIONS AT THE SITE, PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA.
17. COORDINATION, LAYOUT, FURNISHING AND INSTALLATION OF CONDUIT AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
18. ALL EQUIPMENT AND PRODUCTS PURCHASED ARE TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTORS FOR ANY CONDITION PER THE MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR TO SUPPLY THESE ITEMS AT NO COST TO OWNER OR CONSTRUCTION MANAGER.
19. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS AT 1-800-922-4455. ALL UTILITIES SHALL BE IDENTIFIED AND CLEARLY MARKED PRIOR TO ANY EXCAVATION WORK. CONTRACTOR SHALL MAINTAIN AND PROTECT MARKED UTILITIES THROUGHOUT PROJECT COMPLETION.
21. CONTRACTOR SHALL COMPLY WITH OWNERS ENVIRONMENTAL ENGINEER ON ALL METHODS AND PROVISIONS FOR ALL EXCAVATION ACTIVITIES INCLUDING SOIL DISPOSAL. ALL BACKFILL MATERIALS TO BE PROVIDED BY THE CONTRACTOR.

SITE DIRECTIONS

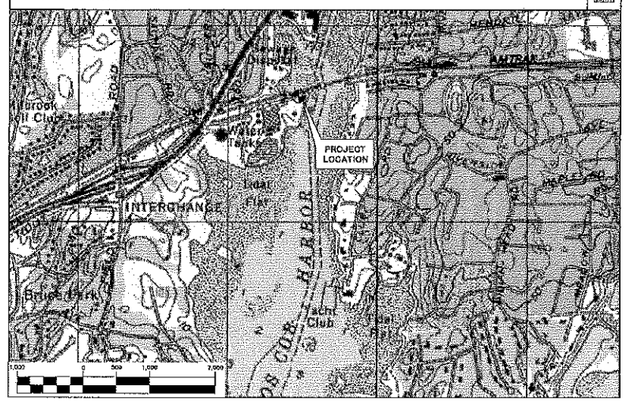
FROM: 500 ENTERPRISE DRIVE, ROCKY HILL, CONNECTICUT

TO: SOUND SHORE DRIVE, GREENWICH, CT 06830

1.	HEAD NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD	0.3 MI.
2.	TURN LEFT ONTO CAPITAL BLVD	0.2 MI.
3.	USE THE LEFT TWO LANES TO TURN LEFT ONTO STATE HWY 411	0.3 MI.
4.	TURN LEFT TO MERGE ONTO I-91 S	0.3 MI.
5.	MERGE ONTO I-91 S	8.4 MI.
6.	TAKE EXIT 17 TO MERGE ONTO CT-15S/WILBUR CROSS PKWY	30.2 MI.
7.	TAKE EXIT 52 FOR STATE ROUTE 108S/STATE ROUTE 8S TOWARD BRIDGEPORT	0.6 MI.
8.	KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR CT-8S/BRIDGEPORT AND MERGE ONTO CT-8S	5.2 MI.
9.	TAKE THE INTERSTATE 95S EXIT TOWARD NY CITY	0.2 MI.
10.	MERGE ONTO I-95S	25.0 MI.
11.	TAKE EXIT 4 FOR INDIAN FIELD ROAD TOWARD COS COB	0.2 MI.
12.	TURN RIGHT ONTO INDIAN FIELD ROAD	82 FT.
13.	TURN RIGHT ONTO SOUND SHORE DRIVE	0.4 MI.

VICINITY MAP

SCALE: 1" = 1000'



PROJECT INFORMATION

SITE NAME:	COS COB RELO – CT5006
SITE ADDRESS:	EVERSOURCE STRUCT. NO. 1281 SOUND SHORE DRIVE GREENWICH, CT 06830
PROPERTY OWNER:	STATE OF CONNECTICUT TOWN OF GREENWICH C/O FINANCE DEPARTMENT 101 FIELD POINT ROAD GREENWICH, CT 06830
LESSEE/TENANT:	AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067
CONTACT PERSON:	DAN BILEZIKIAN SAI COMMUNICATIONS (401) 368-0006
ENGINEER:	CENTEK ENGINEERING 63-2 NORTH BRANFORD ROAD, BRANFORD, CT 06405 (203) 488-0580
TOWER COORDINATES:	LATITUDE: 41°-01'-46.955" N LONGITUDE: 73°-35'-54.078" W EX. GROUND ELEVATION: 28.22'± A.M.S.L. COORDINATES AND GROUND ELEVATION BASED ON FAA 1-A SURVEY CERTIFICATION PREPARED BY CENTEK ENGINEERING, INC., DATED FEBRUARY 28, 2018.

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REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	02/26/18	FJP	DAC	CONSTRUCTION DOCUMENTS – ISSUED FOR CONSTRUCTION

PROFESSIONAL ENGINEER SEAL

at&t

SAI Communications

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AT&T MOBILITY
WIRELESS COMMUNICATIONS FACILITY
COS COB RELO
SITE NUMBER: CT5006
SOUND SHORE DRIVE
GREENWICH, CT 06830

DATE: 02/21/18
SCALE: AS NOTED
JOB NO. 16009.03

TITLE SHEET

T-1

Sheet No. 1 of 8

NOTES AND SPECIFICATIONS

DESIGN BASIS:

1. COVERING CODE: 2012 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2016 CT STATE BUILDING CODE.
2. ANSI/TIA-222-G, ASCE MANUAL NO. 72 – "DESIGN OF STEEL TRANSMISSION POLE STRUCTURES SECOND EDITION", NESC C2-2012 AND NORTHEAST UTILITIES DESIGN CRITERIA.
3. DESIGN CRITERIA

   WIND LOAD: (PCS MAST)
   NOMINAL DESIGN WIND SPEED (V_{ASD}) = 93 MPH (FASTEST MILE); BASED ON ANSI/TIA-222-G
   AND NU MAST DESIGN CRITERIA EXCEPTION 1.

   WIND LOAD: (UTILITY POLE & FOUNDATION)
   BASIC WIND SPEED (V) =110 MPH (3-SECOND GUST) BASED ON NESC C2-2012, SECTION 25 RULE 250C.

SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS ARE TO BE PROVIDED BY AN APPROVED AGENCY HIRED BY AT&T MOBILITY.

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE GOVERNING BUILDING CODE.
2. DRAWINGS INDICATE THE MINIMUM STANDARDS, BUT IF ANY WORK SHOULD BE INDICATED TO BE SUBSTANDARD TO ANY ORDINANCES, LAWS, CODES, RULES, OR REGULATIONS BEARING ON THE WORK, THE CONTRACTOR SHALL INCLUDE IN HIS WORK AND SHALL EXECUTE THE WORK CORRECTLY IN ACCORDANCE WITH SUCH ORDINANCES, LAWS, CODES, RULES OR REGULATIONS WITH NO INCREASE IN COSTS.
3. BEFORE BEGINNING THE WORK, THE CONTRACTOR IS RESPONSIBLE FOR MAKING SUCH INVESTIGATIONS CONCERNING PHYSICAL CONDITIONS (SURFACE AND SUBSURFACE) AT OR CONTIGUOUS TO THE SITE WHICH MAY AFFECT PERFORMANCE AND COST OF THE WORK.
4. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT BUILDING SHOP DRAWINGS.
5. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.
6. ALL DIMENSIONS, ELEVATIONS, AND OTHER REFERENCES TO EXISTING STRUCTURES, SURFACE, AND SUBSURFACE CONDITIONS ARE APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS, ELEVATIONS, ANGLES WITH EXISTING CONDITIONS AND WITH ARCHITECTURAL AND SITE DRAWINGS BEFORE PROCEEDING WITH ANY WORK.
7. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CONDITIONS WHICH ARE IN CONFLICT OR OTHERWISE NOT CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND SHALL NOT PROCEED WITH SUCH WORK UNTIL THE CONFLICT IS SATISFACTORILY RESOLVED.
8. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE SHORING, BRACING, AND BARRICADES AS MAY BE REQUIRED FOR THE PROTECTION OF EXISTING PROPERTY, CONSTRUCTION WORKERS, AND FOR PUBLIC SAFETY.
9. THE CONTRACTOR IS SOLELY RESPONSIBLE TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE EXISTING STRUCTURES AND ITS COMPONENT PARTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY. MAINTAIN EXISTING SITE OPERATIONS, COORDINATE WORK WITH NORTHEAST UTILITIES
10. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER FOUNDATION REMEDIATION WORK IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, GUYS OR TIEDOWNS, WHICH MIGHT BE NECESSARY.
11. THE CONTRACTOR SHALL LIMIT THE DURATION OF ANY FOUNDATION MODIFICATION WORK. THE EXISTING FOUNDATION WITHIN THE SHOWN LIMITS IS STABLE FOR WIND SPEEDS LESS THAN 50MPH WITHOUT ICE LOADING. IF HIGHER WIND SPEED OR ICE EVENT IS EXPECTED, THE EXCAVATION AREA SHALL BE FILLED WITH COMPACT FILL MATERIAL.
12. ALL DAMAGE CAUSED TO ANY EXISTING STRUCTURE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE HELD LIABLE FOR ALL REPAIRS REQUIRED FOR EXISTING STRUCTURES IF DAMAGED DURING CONSTRUCTION ACTIVITIES.
13. SHOP DRAWINGS, CONCRETE MIX DESIGNS, TEST REPORTS, AND OTHER SUBMITTALS PERTAINING TO STRUCTURAL WORK SHALL BE FORWARDED TO THE OWNER FOR REVIEW BEFORE FABRICATION AND/OR INSTALLATION IS MADE. SHOP DRAWINGS SHALL INCLUDE ERECTION DRAWINGS AND COMPLETE DETAILS OF CONNECTIONS AS WELL AS MANUFACTURER'S SPECIFICATION DATA WHERE APPROPRIATE. SHOP DRAWINGS SHALL BE CHECKED BY THE CONTRACTOR AND BEAR THE CHECKER'S INITIALS BEFORE BEING SUBMITTED FOR REVIEW.
14. NO DRILLING WELDING OR TAPING ON CL&P OWNED EQUIPMENT.
15. REFER TO DRAWING T1 FOR ADDITIONAL NOTES AND REQUIREMENTS.

SITE NOTES

1. THE CONTRACTOR SHALL CALL UTILITIES PRIOR TO THE START OF CONSTRUCTION.
2. ACTIVE EXISTING UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY, PRIOR TO PROCEEDING, SHOULD ANY UNCOVERED EXISTING UTILITY PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
3. ALL RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED OFF SITE AND BE LEGALLY DISPOSED, AT NO ADDITIONAL COST.
4. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT AND TOWER AREAS.
5. 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.
6. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
7. THE AREAS OF THE COMPOUND DISTURBED BY THE WORK SHALL BE RETURNED TO THEIR ORIGINAL CONDITION.
8. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
9. IF ANY FIELD CONDITIONS EXIST WHICH PRECLUDE COMPLIANCE WITH THE DRAWINGS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL PROCEED WITH AFFECTED WORK AFTER CONFLICT IS SATISFACTORILY RESOLVED.
10. DIMENSIONS AND DETAILS SHALL BE CHECKED AGAINST THE PRE MANUFACTURED EQUIPMENT BUILDING SHOP DRAWINGS.
11. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS, SLEEVES AND ANCHOR BOLTS AS REQUIRED BY ALL TRADES.

EARTHWORK NOTES

1. COMPACTED GRAVEL FILL SHALL BE FURNISHED AND PLACED AS A FOUNDATION FOR STRUCTURES, WHERE SHOWN ON THE CONTRACT DRAWINGS OR DIRECTED BY THE ENGINEER.
2. CRUSHED STONE FILL SHALL BE PLACED IN 12" MAX. LIFTS AND CONSOLIDATED USING A HAND OPERATED VIBRATORY PLATE COMPACTOR WITH A MINIMUM OF 2 PAQSSES OF COMPACTOR PER LIFT.
3. COMPACTED GRAVEL FILL TO BE WELL GRADED BANK RUN GRAVEL MEETING THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
1 ½"	100
No. 4	40-70
No. 100	5-20
No. 200	4-8

4. CRUSHED STONE TO BE UNIFORMLY GRADED, CLEAN, HARD PROCESS AGGREGATE MEETING THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	% PASSING
1"	100
¾"	90-100
½"	0-15
⅜"	0-5

5. SELECT BACKFILL FOR FOUNDATION WALLS SHALL BE FREE OF ORGANIC MATERIAL, TOPSOIL, DEBRIS AND BOULDERS LARGER THAN 6".
6. GRAVEL AND GRANULAR FILL SHALL BE INSTALLED IN 10" MAX. LIFTS. COMPACTED TO 95% MIN. AT MAX. DRY DENSITY.
7. NON WOVEN GEOTEXTILE FOR SEPARATION PURPOSES SHALL BE MIRAFI 140N, OR ENGINEER APPROVED EQUAL.

FOUNDATION CONSTRUCTION NOTES

1. ALL FOOTINGS SHALL BE PLACED ON SUITABLE, COMPACTED SOIL HAVING ADEQUATE BEARING CAPACITY AND FREE OF ORGANIC CONTENT, CLAY, OR OTHER UNSUITABLE MATERIAL. ADDITIONAL EXCAVATION MAY BE REQUIRED BELOW FOOTING ELEVATIONS INDICATED IF UNSUITABLE MATERIAL IS ENCOUNTERED.
2. SUBGRADE PREPARATION: IF UNSUITABLE SOIL IS ENCOUNTERED, REMOVE ALL UNSUITABLE MATERIALS FROM BELOW PROPOSED STRUCTURE FOUNDATIONS AND COMPACT EXPOSED SOIL SURFACES. PLACE AND COMPACT APPROVED GRAVEL FILL. PLACEMENT OF ALL COMPACTED FILL MUST BE UNDER SUPERVISION OF AN APPROVED TESTING LABORATORY. FILL SHALL BE COMPACTED IN LAYERS NOT TO EXCEED 10" BEFORE COMPACTION. DETERMINE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D1557-70 AND MAKE ONE (1) FIELD DENSITY TEST IN ACCORDANCE WITH ASTM D2167-66 FOR EACH 50 CUBIC YARDS OF COMPACTED FILL. BUT NOT LESS THAN ONE (1) PER LAYER, TO INSURE COMPACTION TO 95% OF MAX. DRY DENSITY.
3. ALL SOIL SURROUNDING AND UNDER ALL FOOTINGS SHALL BE KEPT REASONABLY DRY AND PROTECTED FROM FREEZING AND FROST ACTION DURING THE COURSE OF CONSTRUCTION.
4. WHERE GROUNDWATER IS ENCOUNTERED, DEWATERING SHALL BE ACCOMPLISHED CONTINUOUSLY AND COMPLETELY DURING FOUNDATION CONSTRUCTION. PROVIDE CRUSHED STONE AS REQUIRED TO STABILIZE FOOTING SUBGRADE.
5. ALL FOOTINGS ARE TO REST ON FIRM SOIL, REGARDLESS OF ELEVATIONS SHOWN ON THE DRAWINGS, BUT IN NO CASE MAY FOOTING ELEVATIONS BE HIGHER THAN INDICATED ON THE FOUNDATION PLAN, UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER.
6. FOUNDATION WATERPROOFING AND DAMPPROOFING SHALL COMPLY WITH BUILDING CODE REQUIREMENTS UNLESS A MORE SUBSTANTIAL SYSTEM IS INDICATED OR SPECIFIED.

CONCRETE CONSTRUCTION NOTES

1. CONCRETE CONSTRUCTION SHALL CONFORM TO THE FOLLOWING STANDARDS:

   ACI 211 – STANDARD PRACTICE FOR SELECTING PROPORTIONS FOR NORMAL AND HEAVYWEIGHT CONCRETE.

   ACI 301 – SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.

   ACI 302 – GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION

   ACI 304 – RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE.

   ACI 306.1 STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING

   ACI 318 – BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

2. CONCRETE SHALL DEVELOP COMPRESSIVE STRENGTH IN 28 DAYS AS FOLLOWS:

SLABS ON GRADE	4,000 PSI
ALL OTHER CONCRETE	3,000 PSI

   - PORTLAND CEMENT: ASTM C150, TYPE II, (540 LBS/CUBIC YARD)
   - AGGREGATE: ASTM C33, No. 67, TYPICAL
   - WATER: POTABLE WITH MAXIMUM WATER CEMENT RATIO OF .55
   - SLUMP: 3" TO 4"
   - ADMIXTURES: USE AIR ENTRAINING AGENT CONFORMING TO ASTM C260 WITH 4 TO 6% TOTAL AIR. USE WATER REDUCING AGENT CONFORMING TO ASTM C494, TYPE A, IN ALL CONCRETE. CALCIUM CHLORIDE MAY NOT BE USED TO ACCELERATE THE CONCRETE SETTING TIME.

3. REINFORCING STEEL SHALL BE 60,000 PSI YIELD STRENGTH.
4. WELDED WIRE FABRIC SHALL CONFORM TO ASTM- A-185.
5. ALL DETAILING, FABRICATION, AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, MUST FOLLOW THE LATEST ACI CODE AND LATEST ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES".
6. CONCRETE COVER OVER REINFORCING SHALL CONFORM TO THE FOLLOWING, UNLESS OTHERWISE SHOWN:

CONCRETE CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 THROUGH #18 BARS	2 INCHES
#5 BAR, W31 OR D31 WIRE, AND SMALLER	1-1/2 INCHES
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:	
#14 THROUGH #18 BARS	1-1/2 INCHES
#11 BAR AND SMALLER	3/4 INCHES

7. NO STEEL WIRE, METAL FORM TIES, OR ANY OTHER METAL SHALL REMAIN WITHIN THE REQUIRED COVER OF ANY CONCRETE SURFACE.
8. ALL REINFORCEMENT SHALL BE CONTINUOUS UNLESS OTHERWISE NOTED. SPLICES SHALL BE WELL STAGGERED. ADDITIONAL BARS AND SPECIAL BENDING DETAILS ARE REQUIRED AT INTERSECTING WALLS AND AT JOINTS. SUCH DETAILS SHALL COMPLY WITH ACI 315 RECOMMENDATIONS UNLESS OTHERWISE SHOWN.
9. NO TACK WELDING OF REINFORCING WILL BE PERMITTED.
10. NO CALCIUM CHLORIDE OR ADMIXTURES CONTAINING MORE THAN 1% CHLORIDE BY WEIGHT OF ADMIXTURE SHALL BE USED IN THE CONCRETE.
11. UNLESS OTHERWISE NOTED, ALL LAP SPLICES SHALL BE 48 BAR DIAMETERS.
12. SLAB ON GRADE FINISHES:

    EXTERIOR SLAB: NON-SLIP BROOM FINISH
    INTERIOR SLAB: STEEL TROWEL FINISH

13. INSPECTION AND TESTING OF CONCRETE WORK SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY, PAID BY THE OWNER, AND APPROVED BY THE ENGINEER. THE INSPECTOR SHALL OBSERVE CONDITION OF SOILS AND FORMWORK BEFORE FOOTINGS ARE PLACED, SIZE, SPACING AND LOCATION OF REINFORCEMENT, AND PLACEMENT OF CONCRETE.
14. THE TESTING COMPANY SHALL ALSO OBTAIN A MINIMUM OF THREE (3) COMPRESSIVE STRENGTH TEST SPECIMENS FOR EACH CONCRETE MIX DESIGN. ONE SPECIMEN TESTED AT 7 DAYS, ONE AT 28 DAYS, AND ONE HELD IN RESERVE FOR FUTURE TESTING, IF NEEDED.
15. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL IS DESIGNED BY ALLOWABLE STRESS DESIGN (ASD)

   A. STRUCTURAL STEEL (W SHAPES)----ASTM A992 (FY = 50 KSI)
   B. STRUCTURAL STEEL (OTHER SHAPES)---ASTM A36 (FY = 36 KSI)
   C. STRUCTURAL HSS (RECTANGULAR SHAPES)---ASTM A500 GRADE B, (FY = 46 KSI)
   D. STRUCTURAL HSS (ROUND SHAPES)---ASTM A500 GRADE B, (FY = 42 KSI)
   E. PIPE---ASTM A53 (FY = 35 KSI)
   F. CONNECTION BOLTS---ASTM A325-N
   G. U-BOLTS---ASTM A36
   H. ANCHOR RODS---ASTM F 1554
   I. WELDING ELECTRODE---ASTM E 70XX

2. CONTRACTOR TO REVIEW ALL SHOP DRAWINGS AND SUBMIT COPY TO ENGINEER FOR APPROVAL. DRAWINGS MUST BEAR THE CHECKER'S INITIALS BEFORE SUBMITTING TO THE ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE THE FOLLOWING: SECTION PROFILES, SIZES, CONNECTION ATTACHMENTS, REINFORCING, ANCHORAGE, SIZE AND TYPE OF FASTENERS AND ACCESSORIES. INCLUDE ERECTION DRAWINGS, ELEVATIONS AND DETAILS.
3. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST PROVISIONS OF AISC MANUAL OF STEEL CONSTRUCTION.
4. PROVIDE ALL PLATES, CLIP ANGLES, CLOSURE PIECES, STRAP ANCHORS, MISCELLANEOUS PIECES AND HOLES REQUIRED TO COMPLETE THE STRUCTURE.
5. FIT AND SHOP ASSEMBLE FABRICATIONS IN THE LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE.
6. INSTALL FABRICATIONS PLUMB AND LEVEL, ACCURATELY FITTED, AND FREE FROM DISTORTIONS OR DEFECTS.
7. AFTER ERECTION OF STRUCTURES, TOUCHUP ALL WELDS, ABRASIONS AND NON-GALVANIZED SURFACES WITH A 95% ORGANIC ZINC RICH PAINT IN ACCORDANCE WITH ASTM 780.
8. ALL STEEL MATERIAL (EXPOSED TO WEATHER) SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT DIPPED GALVANIZED) COATINGS" ON IRONS AND STEEL PRODUCTS.
9. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE".
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES APPEARANCE AND QUALITY OF WELDS, AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D1.1 WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLET J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION" 9TH EDITION. AT THE COMPLETION OF WELDING, ALL DAMAGE TO GALVANIZED COATING SHALL BE REPAIRED.
11. THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON CONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW.
12. CONNECTION ANGLES SHALL HAVE A MINIMUM THICKNESS OF 1/4 INCHES.
13. STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE 3/4" DIAMETER MINIMUM AND SHALL HAVE A MINIMUM OF TWO BOLTS, UNLESS OTHERWISE ON THE DRAWINGS.
14. LOCK WASHER ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES.
15. SHOP CONNECTIONS SHALL BE WELDED OR HIGH STRENGTH BOLTED.
16. MILL BEARING ENDS OF COLUMNS, STIFFENERS, AND OTHER BEARING SURFACES TO TRANSFER LOAD OVER ENTIRE CROSS SECTION.
17. FABRICATE BEAMS WITH MILL CAMBER UP.
18. LEVEL AND PLUMB INDIVIDUAL MEMBERS OF THE STRUCTURE TO AN ACCURACY OF 1:500, BUT NOT TO EXCEED 1/4" IN THE FULL HEIGHT OF THE COLUMN.
19. COMMENCEMENT OF STRUCTURAL STEEL WORK WITHOUT NOTIFYING THE ENGINEER OF ANY DISCREPANCIES WILL BE CONSIDERED ACCEPTANCE OF PRECEDING WORK.
20. INSPECTION AND TESTING OF ALL WELDING AND HIGH STRENGTH BOLTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY.
21. FOUR COPIES OF ALL INSPECTION TEST REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN TEN (10) WORKING DAYS OF THE DATE OF INSPECTION.

REV.	DATE	DRAWN BY	CHK'D BY	DESCRIPTION
0	02/28/18	FJP	CAG	CONSTRUCTION DOCUMENTS – ISSUED FOR CONSTRUCTION

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SOUND SHORE DRIVE
GREENWICH, CT 06830

DATE:	02/21/18
SCALE:	AS NOTED
JOB NO.	16009.03

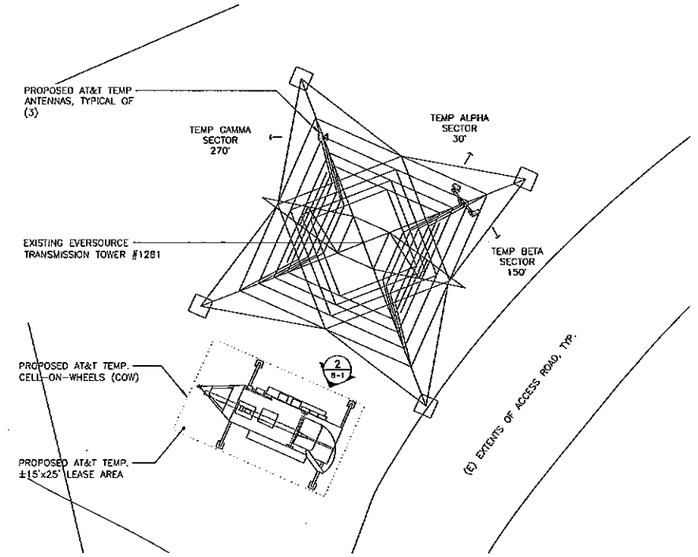
GENERAL NOTES AND SPECIFICATIONS

N-1

NOTES:

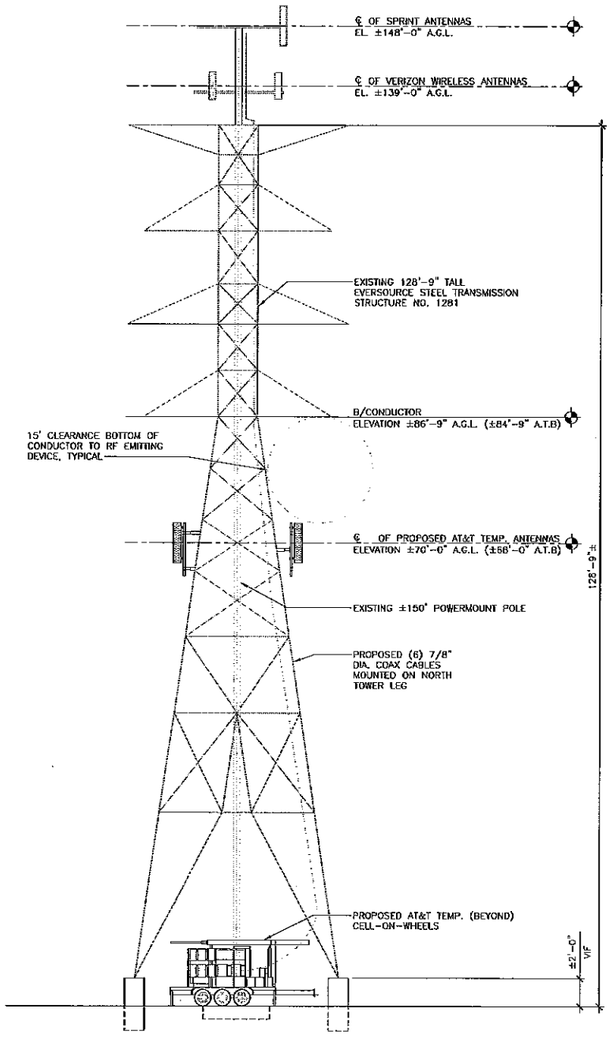
1. INFORMATION SHOW HEREIN IS FOR USE BY AT&T EQUIPMENT OPERATIONS.
2. THIS B.O.M. DRAWING IS BASED OFF FIELD MEASUREMENTS, CONSTRUCTION DRAWINGS PREPARED BY CENTEK ENGINEERING (REV.0 DATED: 02.28.18), & AT&T RF ANTENNA EQUIPMENT RECOMMENDATION

BILL OF MATERIALS - SITE EQUIPMENT				
		QUANTITY	LENGTH	COMMENTS
(1)	TEMP	3		(KATHREIN 840 10520)
(2)	1/2" COAX JUMPERS	6	6 FT	ROUTE FROM 7/8" COAX CABLE TO ANTENNA PORTS
(3)	7/8" COAX CABLE	6	±80 FT	ROUTE FROM COW TO 1/2" JUMPERS



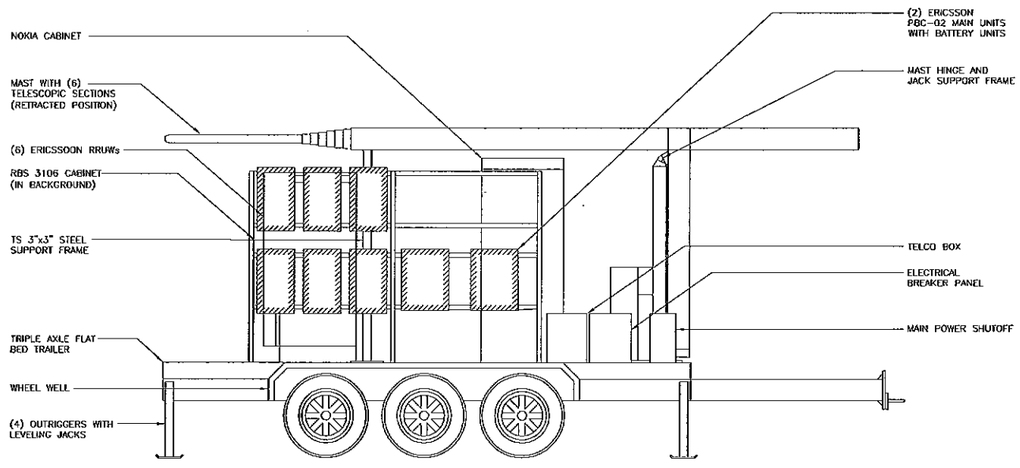
1 / B-1 SITE COMPOUND PLAN
SCALE: 1"=10'

NORTH



3 / B-1 TOWER EAST ELEVATION
SCALE: 1"=10'

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.



2 / B-1 CELL-ON-WHELLS ELEVATION
SCALE: 1/2"=1'

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DATE: 02/21/18
SCALE: AS NOTED
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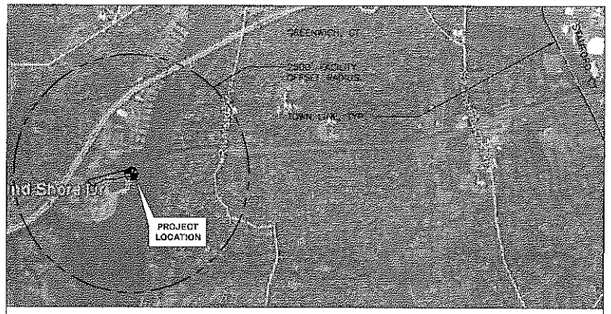
RF BILL OF MATERIALS

B-1

Sheet No. 3 of 8



MUNICIPALITY NOTIFICATION LIMIT MAP

STRICKLAND ROAD TOWN HOUSES ABUTTERS INFORMATION:

1. N/F: THOMAS P. FONG
100 STRICKLAND ROAD
GREENWICH, CT 06807
PARCEL ID: 08A-1725/S
MAILING ADDRESS:
68 LEWIS STREET
GREENWICH, CT 06830

2. N/F: GILLIAN H. LEVY & ALEXANDER FINKELSTEIN
100 STRICKLAND ROAD, UNIT 1
GREENWICH, CT 06807
PARCEL ID: 08-2746/S
MAILING ADDRESS:
SAME

3. N/F: HARRY CHIN
100 STRICKLAND ROAD, UNIT 2
GREENWICH, CT 06807
PARCEL ID: 08A-1716/S
MAILING ADDRESS:
SAME

4. N/F: MARY ELLEN KAWANEWSKY REVOCABLE TRUST
100 STRICKLAND ROAD, UNIT 3
GREENWICH, CT 06807
PARCEL ID: 08A-1717/S
MAILING ADDRESS:
102 ANGELFISH LANE
JUPITER, FL 33477

5. N/F: JODI PELLEGRINO
100 STRICKLAND ROAD, UNIT 4
GREENWICH, CT 06807
PARCEL ID: 08A-1718/S
MAILING ADDRESS:
SAME

6. N/F: TPF DEVELOPMENT CORP.
100 STRICKLAND ROAD, UNIT 5
GREENWICH, CT 06807
PARCEL ID: 08A-1719/S
MAILING ADDRESS:
64 LEWIS STREET
GREENWICH, CT 06831

7. N/F: TPF DEVELOPMENT CORP.
100 STRICKLAND ROAD, UNIT 6
GREENWICH, CT 06807
PARCEL ID: 08A-1720/S
MAILING ADDRESS:
64 LEWIS STREET
GREENWICH, CT 06831

8. N/F: TPF DEVELOPMENT CORP.
100 STRICKLAND ROAD, UNIT 7
GREENWICH, CT 06807
PARCEL ID: 08A-1721/S
MAILING ADDRESS:
64 LEWIS STREET
GREENWICH, CT 06831

9. N/F: CHRISTINE M. GARDNER
100 STRICKLAND ROAD, UNIT 8
GREENWICH, CT 06807
PARCEL ID: 08A-1722/S
MAILING ADDRESS:
SAME

10. N/F: BRETT J. WILBUR
100 STRICKLAND ROAD, UNIT 9
GREENWICH, CT 06807
PARCEL ID: 08A-1723/S
MAILING ADDRESS:
SAME

11. N/F: CHRISTOPHER A. LEE & ROBERT VAN GLAHN
100 STRICKLAND ROAD, UNIT 10
GREENWICH, CT 06807
PARCEL ID: 08A-1724/S
MAILING ADDRESS:
SAME

WATERFORD OF GREENWICH ABUTTERS INFORMATION:

1. N/F: BRUCE L. WARWICK TRUST & ANN MARGARET WARWICK TRUST
4 SOUND SHORE DR, UNIT 1
GREENWICH, CT 06830
PARCEL ID: 02-1688/S
MAILING ADDRESS:
SAME

2. N/F: IGOR TULCHINSKY
4 SOUND SHORE DR, UNIT 2
GREENWICH, CT 06830
PARCEL ID: 02-1744/S
MAILING ADDRESS:
30 ARCH STREET
RIVERSIDE, CT 06878

3. N/F:
TDC JR FAMILY INVESTMENT LLC II & CABOT -WELLINGTON, LLC
4 SOUND SHORE DR, UNIT 3
GREENWICH, CT 06830
PARCEL ID: 02-1745/S
MAILING ADDRESS:
70 FEDERAL STREET, 7TH FLOOR
BOSTON, MA 02110

4. N/F: ALICE P. MELLY & BENSLEY TRUSTEES
4 SOUND SHORE DR, UNIT 4
GREENWICH, CT 06830
PARCEL ID: 02-1746/S
MAILING ADDRESS:
SAME

5. N/F: KUHC DEVELOPMENT CORP. & MOTT & PRINCE MGMT, INC.
4 SOUND SHORE DR, UNIT 5
GREENWICH, CT 06830
PARCEL ID: 02-1747/S
MAILING ADDRESS:
6 BOWERY, 6/F
NEW YORK, NY 10013

6. N/F: LILLIAN C. ANDERSON REVOCABLE TRUST
4 SOUND SHORE DR, UNIT 6
GREENWICH, CT 06830
PARCEL ID: 02-1748/S
MAILING ADDRESS:
PMB 8091, 6001 HIGHWAY A1A
INDIAN RIVER SHORES, FL 32963

7. N/F: ROBERT F. FULLER REVOCABLE TRUST
4 SOUND SHORE DR, UNIT 7
GREENWICH, CT 06830
PARCEL ID: 02-1749/S
MAILING ADDRESS:
SAME

8. N/F: GENSSLER ENTERPRISES, LLP
4 SOUND SHORE DR, UNIT 8
GREENWICH, CT 06830
PARCEL ID: 02-1750/S
MAILING ADDRESS:
2602 JUNIPER COURT
PALM CITY, FL 34990

9. N/F: ROBERT H. CLARK, JR. & ROSALIE C. CLARK
4 SOUND SHORE DR, UNIT 9
GREENWICH, CT 06830
PARCEL ID: 02-1751/S
MAILING ADDRESS:
521 FIFTH AVENUE, 36TH FLOOR
NEW YORK, NY 10175

10. N/F: DAVID J. MACNAUGHTON & DONALD T. MACNAUGHTON
4 SOUND SHORE DR, UNIT 10
GREENWICH, CT 06830
PARCEL ID: 02-1752/S
MAILING ADDRESS:
30 MAPLE DRIVE
NORTH CALDWELL, NJ 07006

11. N/F: HENRY VOLQUARDSEN
4 SOUND SHORE DR, UNIT 11
GREENWICH, CT 06830
PARCEL ID: 02-1753/S
MAILING ADDRESS:
SAME

12. N/F: KELESHIAN INVESTMENTS, LLC
4 SOUND SHORE DR, UNIT 12
GREENWICH, CT 06830
PARCEL ID: 02-1754/S
MAILING ADDRESS:
SAME

13. N/F: HOLLIANN, LLC
4 SOUND SHORE DR, UNIT 13
GREENWICH, CT 06830
PARCEL ID: 02-1755/S
MAILING ADDRESS:
81217 OLD HIGHWAY
ISLAMORADA, FL 33036

14. N/F: MAUREEN R. SMITH TRUST & JAMES J. RYAN TRUSTEE
4 SOUND SHORE DR, UNIT 14
GREENWICH, CT 06830
PARCEL ID: 02-1756/S
MAILING ADDRESS:
11 CARRIAGE HOUSE LANE
MAMARONECK, NY 10543

15. N/F: JAMES A. LASH & DEBORAH JONES W/S
4 SOUND SHORE DR, UNIT 15
GREENWICH, CT 06830
PARCEL ID: 02-1757/S
MAILING ADDRESS:
25 STILES LANE
GREENWICH, CT 06831

16. N/F: LUCY F. GREENE TRUST
4 SOUND SHORE DR, UNIT 16
GREENWICH, CT 06830
PARCEL ID: 02-1758/S
MAILING ADDRESS:
SAME

17. N/F: LYNDA M. BIGGS 2004 REVOCABLE TRUST
4 SOUND SHORE DR, UNIT 17
GREENWICH, CT 06830
PARCEL ID: 02-1759/S
MAILING ADDRESS:
SAME

18. N/F: JONATHAN P. NELSON & LAURIE P. NELSON W/S
4 SOUND SHORE DR, UNIT 18
GREENWICH, CT 06830
PARCEL ID: 02-1760/S
MAILING ADDRESS:
SAME

19. N/F: FRED H. LANGHAMMER & REGINE LANGHAMMER W/S
4 SOUND SHORE DR, UNIT 19
GREENWICH, CT 06830
PARCEL ID: 02-1761/S
MAILING ADDRESS:
SAME

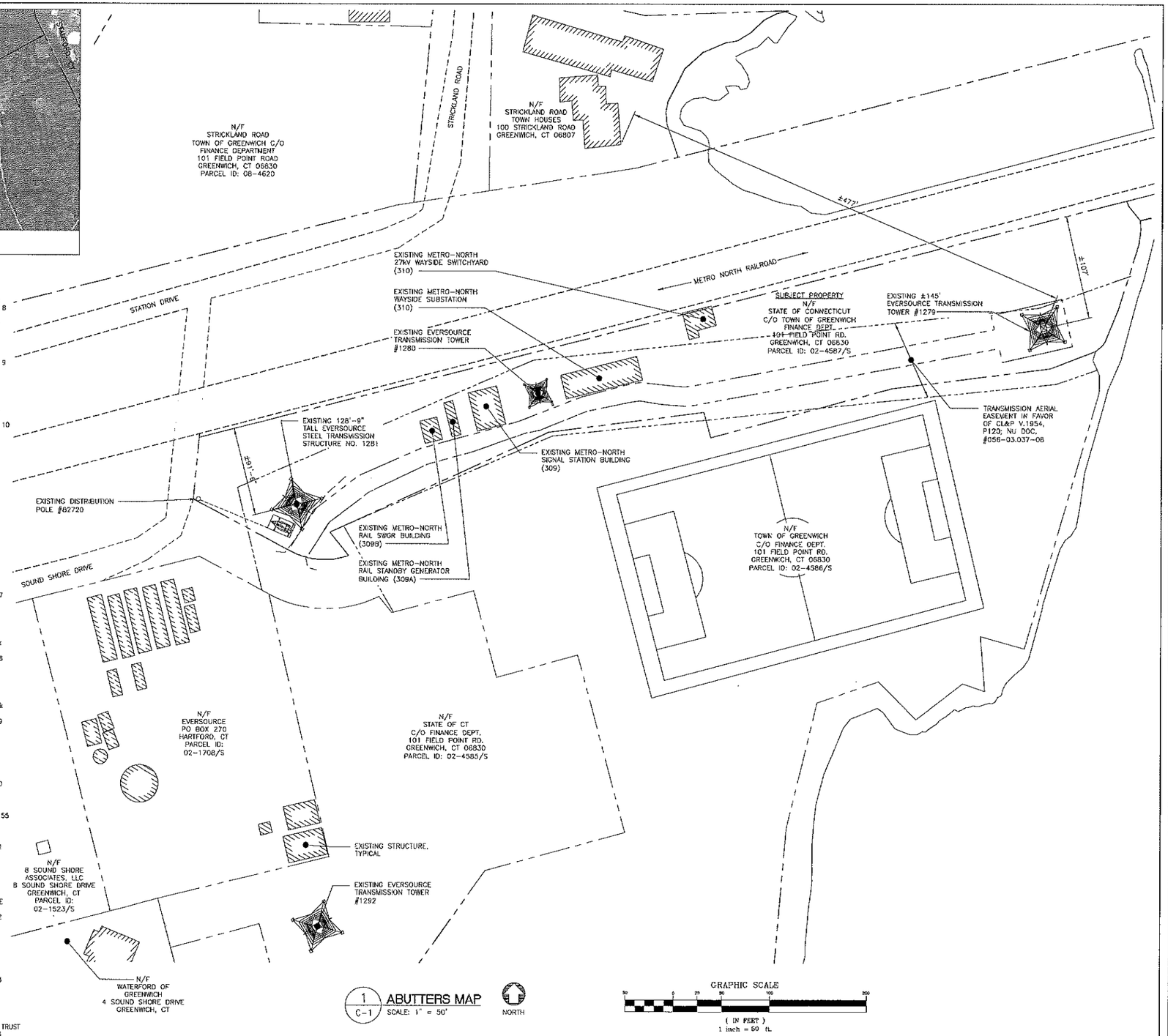
20. N/F: DONALD C. WAITE III 1996 LIVING TRUST
4 SOUND SHORE DR, UNIT 20
GREENWICH, CT 06830
PARCEL ID: 02-1762/S
MAILING ADDRESS:
24 DOCK SIDE LANE, PMB #155
KEY LARGO, FL 33037

21. N/F: 2121 WATERFORD, LLC
4 SOUND SHORE DR, UNIT 21
GREENWICH, CT 06830
PARCEL ID: 02-1763/S
MAILING ADDRESS:
675 STEAMBOAT ROAD
GREENWICH, CT 06830

22. N/F: HEINDREICH REAL ESTATE INVESTMENTS, LLC.
4 SOUND SHORE DR, UNIT 22
GREENWICH, CT 06830
PARCEL ID: 02-1764/S
MAILING ADDRESS:
SAME

23. N/F: PER HEINDREICH & ASTRID HEINDREICH W/S
4 SOUND SHORE DR, UNIT 23
GREENWICH, CT 06830
PARCEL ID: 02-1765/S
MAILING ADDRESS:
SAME

24. N/F: JOSEPH J. SHROPSHIRE TRUST
4 SOUND SHORE DR, UNIT 24
GREENWICH, CT 06830
PARCEL ID: 02-1766/S
MAILING ADDRESS:
SAME



1/C-1 ABUTTERS MAP
SCALE: 1" = 50'

NORTH

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

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DATE: 02/21/18
SCALE: AS NOTED
JOB NO. 16009.03

ABUTTERS AND SITE ACCESS MAP

C-1

Sheet No. 4 of 8

SURVEY NOTES

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THRU 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPT. 26, 1996. THE LIMITED TOPOGRAPHIC SURVEY PORTION OF THIS PLAN CONFORMS TO A VERTICAL ACCURACY OF CLASS T-2 AND IS INTENDED TO BE USED TO DEPICT A PROPOSED TELECOMMUNICATION SITE.

THE PROPERTY/BOUNDARY LINES DEPICTED HEREON ARE COMPILED FROM OTHER MAPS, DEEDS AND LIMITED FIELD SURVEY. THESE LINES ARE NOT TO BE CONSTRUED AS A BOUNDARY OPINION AND ARE SUBJECT TO CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE. PROPERTY MAY BE SUBJECT TO ENCUMBRANCES, EASEMENTS, RIGHTS OF WAY AS A TITLE SEARCH REPORT MAY DISCLOSE. PLANIMETRIC FEATURES SUCH AS PARKING AREAS, PAVED DRIVE ARE COMPILED FROM OTHER MAPS AND LIMITED FIELD SURVEY.

COORDINATES REFER TO NAD 83.

VERTICAL DATUM IS BASED ON NGVD 29.

PARCEL OWNER OF RECORD: STATE OF CONNECTICUT

PARCEL AREA = 2.78 ACRES.

PARCEL IS IN R-6 ZONING DISTRICT.

TAX PARCEL NUMBER 02-4585/S.

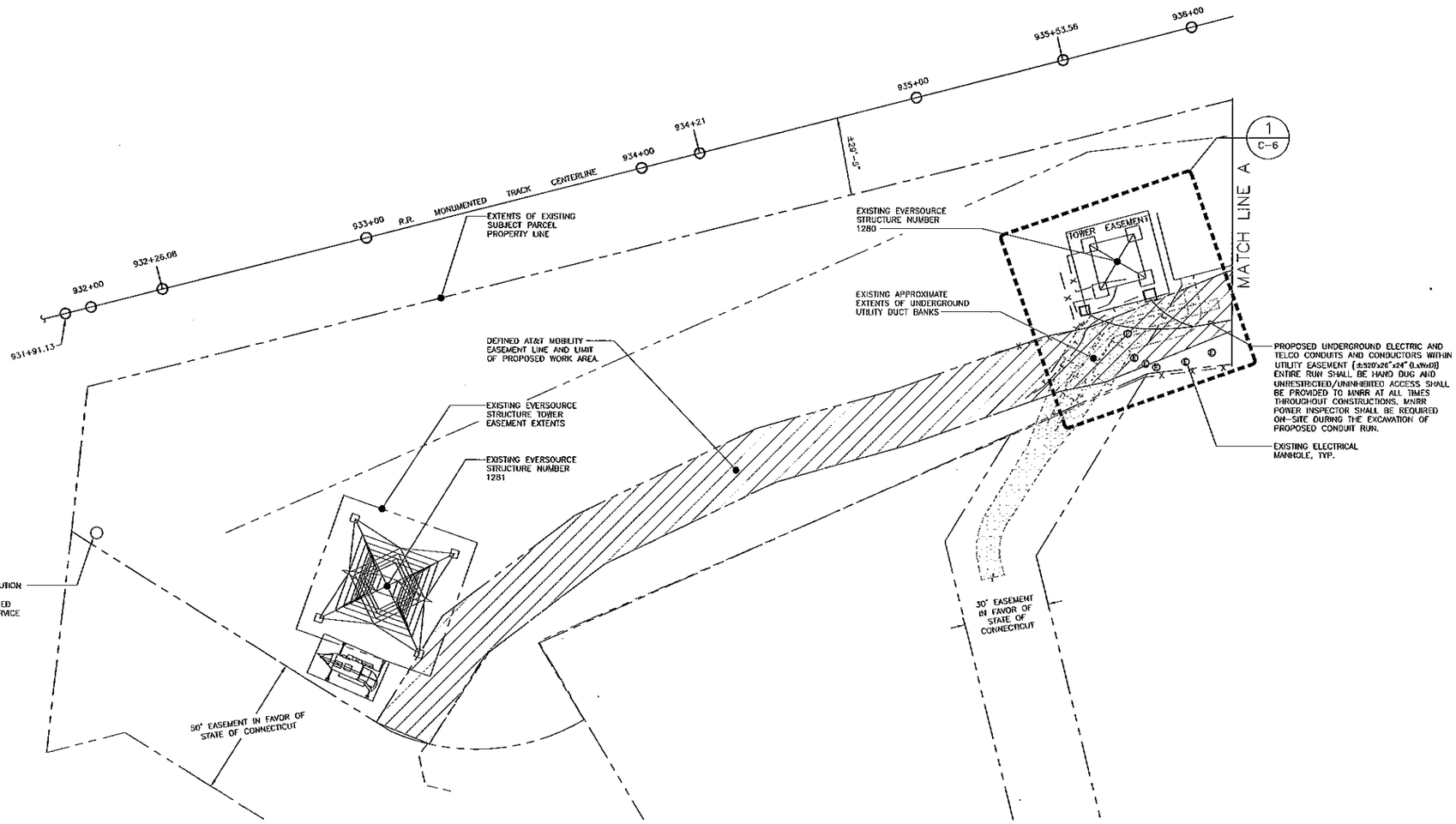
FLOOD ZONE LINE AS SHOWN ON THE FLOOD INSURANCE RATE MAP, FAIRFIELD COUNTY, CONNECTICUT PANEL 513 OF 626, MAP NUMBER 09001C0513GF, MAP EFFECTIVE DATE JUNE 8, 2013, BY FEDERAL EMERGENCY MANAGEMENT AGENCY.

NOT ALL IMPROVEMENTS SHOWN.

REFERENCE IS MADE TO THE FOLLOWING MAPS:

1. MAP OF COS COB POWER PLANT, TOWN OF GREENWICH, SCALE 1"=50', DATED MAY 15, 1989, BY CONNECTICUT DEPARTMENT OF TRANSPORTATION

2) PROPERTY SURVEY - "EXHIBIT C", DECLARATION OF ENVIRONMENTAL LAND USE RESTRICTION AND GRANT OF EASEMENT, TOWN OF GREENWICH, COS COB PARK, 22 SOUND SHORE DRIVE, GREENWICH, CONNECTICUT, SCALE 1"=50', DATED FEBRUARY 16, 2015, BY MILONE & MACBROOM.



1 / C-2 PARTIAL SITE PLAN
SCALE: 1"=20'

SYMBOLS LEGEND

⊗	Drill Hole
⊙	Manhole
□	"CL" CB
⊙	Round CB
	Deciduous Tree
WV	Water Valve
WM	Water Meter
---<	Guy Wire
	Property Line
103	Contour

TO MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON

THIS MAP IS NOT VALID WITHOUT A LIVE SIGNATURE AND SEAL

A. RAFAEL MARTINEZ LLS #18833 DATE

PROPOSED CONSTRUCTION EQUIPMENT

THE PROPOSED CONSTRUCTION EQUIPMENT SHALL BE AS FOLLOWS:

1. 150-FOOT MAN LIFT
2. 75-TON CRANE
3. 200-FOOT BRONTO SKYLIFT
4. ALL-WHEEL DRIVE FORKLIFT
5. STANDARD CONSTRUCTION VEHICLES
6. APPLICABLE EQUIPMENT FOR INSTALLATION OF PROPOSED TEMPORARY ACCESS DRIVE.

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COS COB RELO
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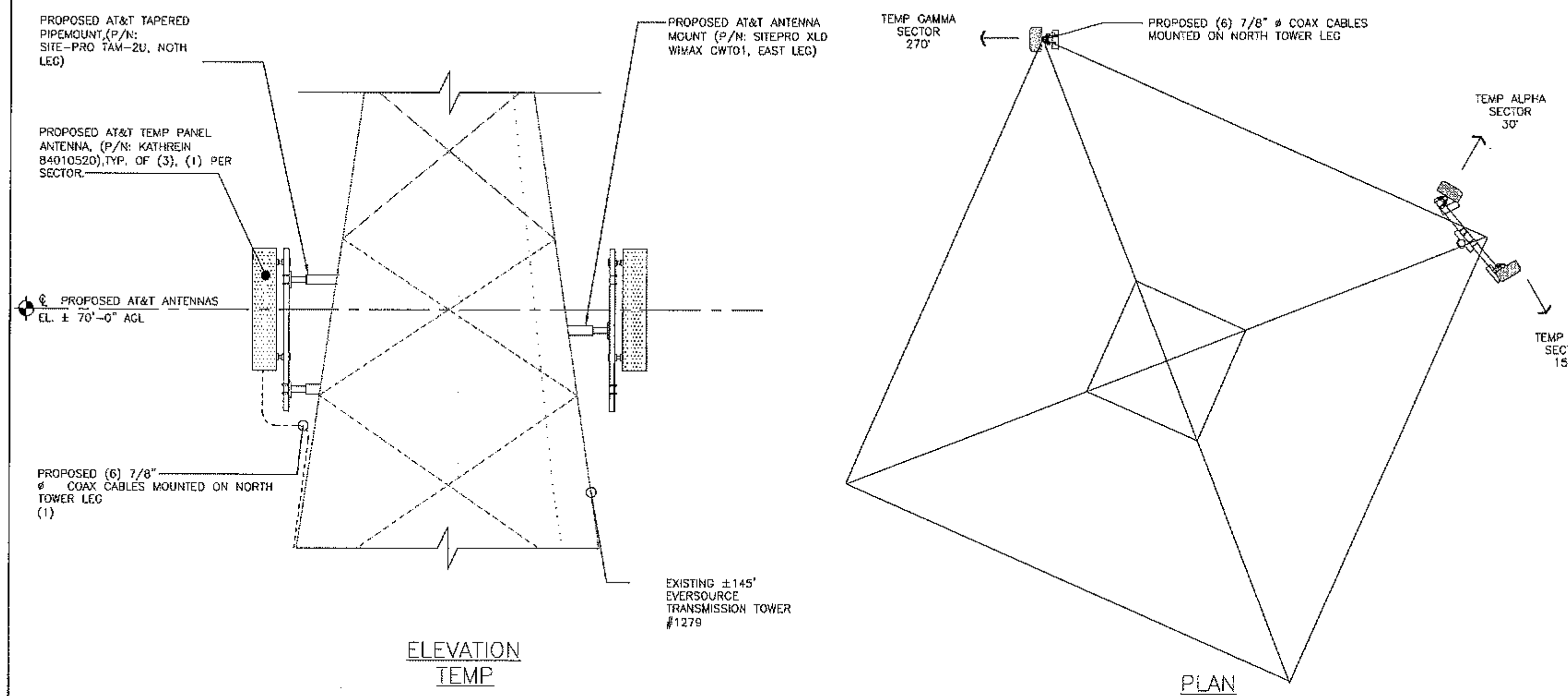
GREENWICH, CT 06830

DATE: 02/21/18
SCALE: AS NOTED
JOB NO. 15009.03

PARTIAL SITE PLAN

C-2

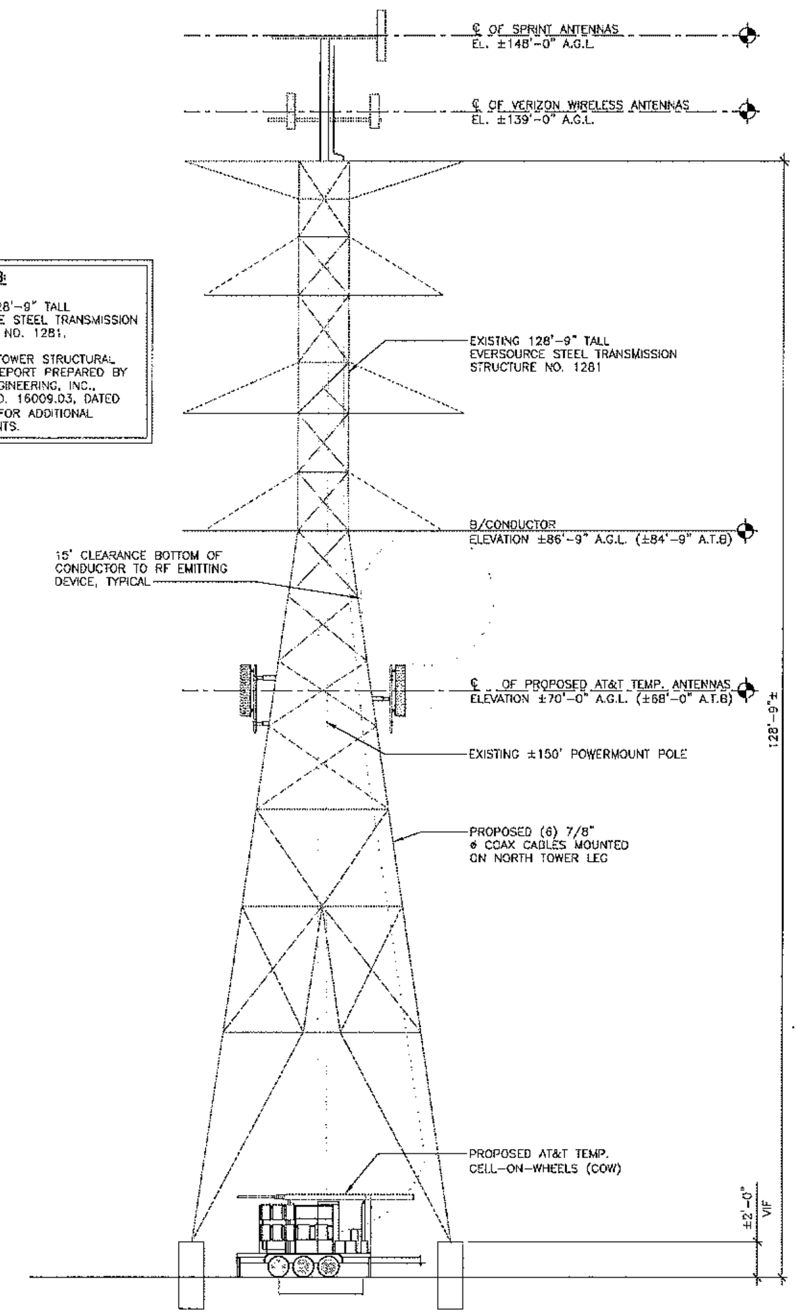
Sheet No. 5 of 8



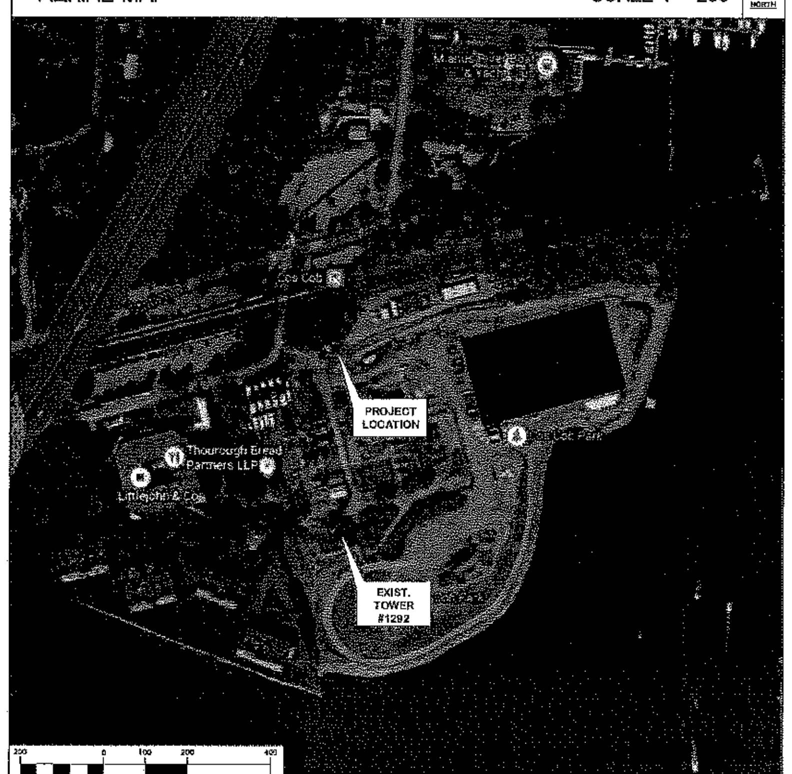
3 C-3 **ANTENNA MOUNTING CONFIGURATION**
SCALE: 1/4"=1'-0"
NORTH

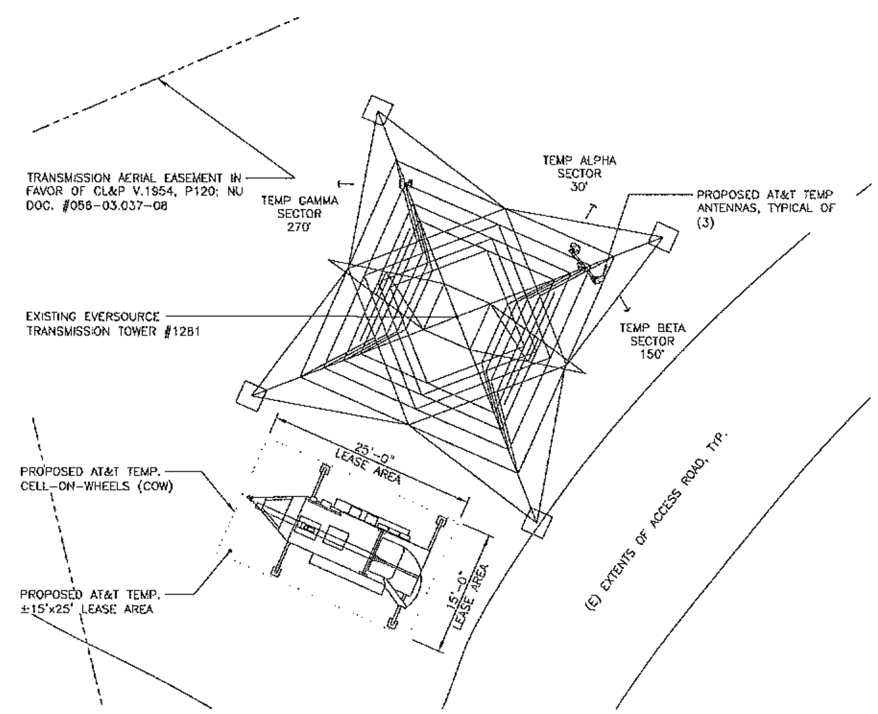
TOWER NOTES:

1. EXISTING 128'-9" TALL EVERSOURCE STEEL TRANSMISSION STRUCTURE NO. 1281.
2. REFER TO TOWER STRUCTURAL ANALYSIS REPORT PREPARED BY CENTEK ENGINEERING, INC., PROJECT NO. 16009.03, DATED 12/19/17 FOR ADDITIONAL REQUIREMENTS.



AERIAL MAP SCALE: 1" = 200' NORTH





2 C-3 **SITE COMPOUND PLAN**
SCALE: 1"=10'
NORTH

GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.

1 C-3 **TOWER EAST ELEVATION**
SCALE: 1"=10'

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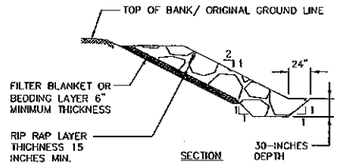
DATE: 02/21/18
SCALE: AS NOTED
JOB NO. 16009.03

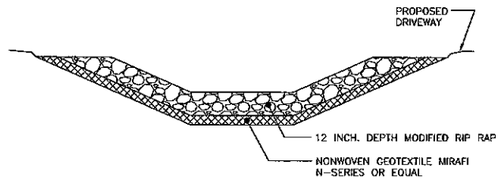
COMPOUND PLAN, ELEVATION AND ANTENNA CONFIG.

C-3

Sheet No. 8 of 8

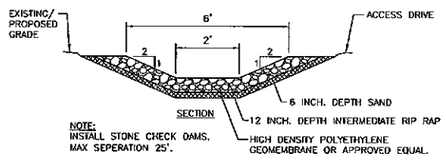
RIP RAP STABILIZATION





3 / C-4 RIP RAP SLOPE STABILIZATION
NOT TO SCALE

2 / C-4 RIP RAP DRAINAGE SWALE STABILIZATION
NOT TO SCALE (TYPICAL)



5 / C-4 RIP RAP SWALE
NOT TO SCALE

MODIFIED RIP RAP SIZE CHART	
STONE SIZE	% OF MASS
10" AND OVER	0
6" TO 10"	30-50
4" TO 6"	30-50
2" TO 4"	20-30
1" TO 2"	10-20
LEES THAN 1"	0-10

STABILIZATION CRITERIA

1. CONTRACTOR SHALL IMPLEMENT RIP RAP SLOPE STABILIZATION & SWALE CONSTRICTION IN LOCATIONS WHERE LEDGE OR UNSTABLE SUBGRADES WITH LARGE AMOUNTS OF ROCK ARE PREVALENT OR AS SPECIFICALLY INDICATED ON THE PLANS.

RIP RAP ON SLOPES AND CHANNELS

1. PREPARE THE SUBGRADE FOR RIP RAP, BEDDING, FILTER OR GEOTEXTILE TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE IN 12-INCHES LIFTS TO 95% OF STANDARD PROCTOR DENSITY. REMOVE BRUSH, TREES, STUMPS, AND OTHER OBJECTIONABLE MATERIAL.

2. IMMEDIATELY AFTER SLOPE OR CHANNEL PREPARATION, INSTALL THE FILTER OR BEDDING MATERIALS. SPREAD THE FILTER OR BEDDING MATERIALS IN A UNIFORM LAYER TO THE SPECIFIED DEPTH.

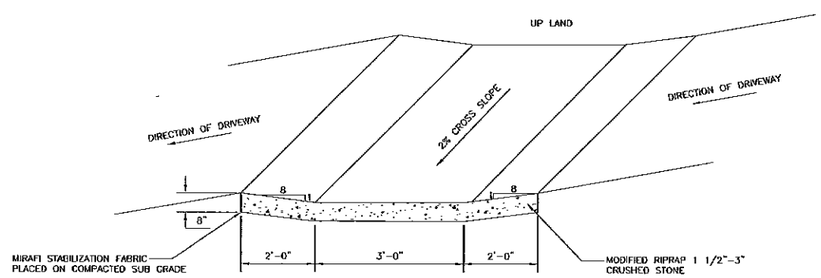
3. IMMEDIATELY AFTER PLACEMENT OF THE FILTER BLANKET, BEDDING, PLACE THE RIP RAP TO ITS FULL COURSE THICKNESS IN ONE OPERATION SO THAT IT PRODUCES A DENSE WELL GRADED MASS OF STONE WITH A MINIMUM OF VOIDS. THE DESIRED DISTRIBUTION OF STONES THROUGHOUT THE MASS MAY BE OBTAINED BY SELECTIVE LOADING AT THE QUARRY, CONTROLLED DUMPING OF SUCCESSIVE LOADS DURING THE FINAL PLACING, OR BY A COMBINATION OF THESE METHODS. DO NOT PLACE RIP RAP IN LAYERS OR USE CHUTES OR SIMILAR METHODS TO DUMP THE RIP RAP WHICH ARE LIKELY TO CAUSE SEGREGATION OF THE VARIOUS STONES.

4. TAKE CARE NOT TO DISLODGE THE UNDERLYING MATERIAL WHEN PLACING THE STONES. WHEN PLACING RIP RAP ON A FILTER FABRIC TAKE CARE NOT TO DAMAGE THE FABRIC. IF DAMAGE OCCURS, REMOVE AND REPLACE THE DAMAGED SHEET. FOR LARGE STONE, 12 INCHES OR GREATER, USE A 6 INCH LAYER OF FILTER OR BEDDING MATERIAL TO PREVENT DAMAGE TO THE MATERIAL FROM PUNCTURE.

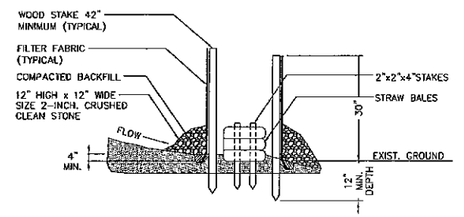
5. ENSURE THE FINISHED SLOPE OR CHANNEL IS FREE OF POCKETS OF SMALL STONES OR CLUSTERS OF LARGE STONES. HAND PLACING MAY BE NECESSARY TO ACHIEVE THE REQUIRED GRADES AND A GOOD DISTRIBUTION OF STONE SIZES. ENSURE THE FINAL THICKNESS OF THE RIP RAP BLANKET IS WITHIN PLUS OR MINUS 0.25 OF THE SPECIFIED THICKNESS.

MAINTENANCE

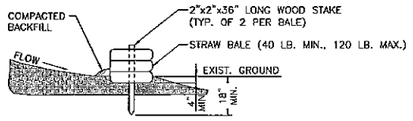
VERIZON WIRELESS SHALL PERIODICALLY INSPECT RIP RAP STABILIZED SLOPES & CHANNELS DETERMINE IF HIGH FLOWS HAVE CAUSED SCOUR BENEATH THE RIP RAP OR FILTER BLANKET MATERIALS. REMOVE TREES THAT DEVELOP IN THE PROTECTED SLOPES.



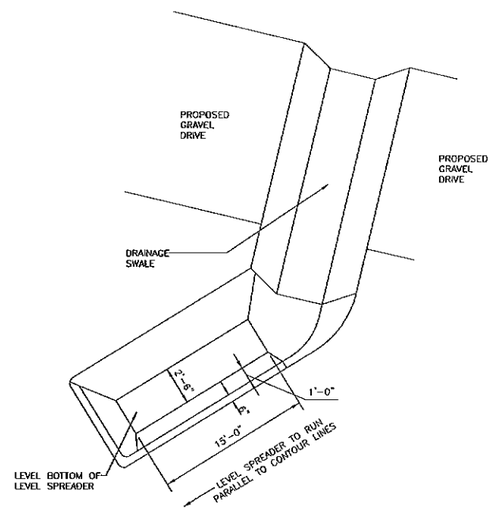
7 / C-4 CROSS DRAINAGE SWALE
NOT TO SCALE



1 / C-4 SILTATION FENCE/STRAW BALE SILTATION FENCE "SANDWICH" EROSION CONTROL
NOT TO SCALE



4 / C-4 TYP. STRAW BALE BARRIER EROSION CONTROL DETAIL
NOT TO SCALE



ARMORED STONE SURFACE SHALL BE FREE OF ORGANICS AND CONSIST SOLELY OF CRUSHED GRAVEL WITH THE FOLLOWING GRADATION:

SIEVE: 3 1/2"	% PASSING: 100
SIEVE: 2"	% PASSING: 35-70
SIEVE: 1 1/2"	% PASSING: 0-15
SIEVE: 1/2"	% PASSING: 0-5
SIEVE: NO. 4	% PASSING: 0

6 / C-4 LEVEL SPREADER W/ CROSS DRAINAGE SWALE
NOT TO SCALE

GENERAL CONSTRUCTION / PRE-CONSTRUCTION NOTES

1. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES, A MANDITORY ON-SITE PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED WITH THE VERIZON WIRELESS CONSTRUCTION MANAGER, CONTRACTOR'S CONSTRUCTION MANAGER, THE PROJECT EROSION AND SEDIMENTATION CONTROL/ENVIRONMENTAL MONITOR AND THE ENGINEER OF RECORD.

GENERAL CONSTRUCTION SEQUENCE

THIS IS A GENERAL CONSTRUCTION SEQUENCE OUTLINE SOME ITEMS OF WHICH MAY NOT APPLY TO PARTICULAR SITES.

1. CUT AND STUMP AREAS OF PROPOSED CONSTRUCTION.
2. INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED.
3. REMOVE AND STOCKPILE TOPSOIL. STOCKPILE SHALL BE SEEDED TO PREVENT EROSION.
4. CONSTRUCT CLOSED DRAINAGE SYSTEM. PRECEPT CULVERT INLETS AND CATCH BASINS WITH SEDIMENTATION BARRIERS.
5. CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING HAY BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION.
6. INSTALL UNDERGROUND UTILITIES.
7. BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. NO AREA SHALL BE LEFT UNSTABILIZED FOR A TIME PERIOD OF MORE THAN 30 DAYS.
8. DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
9. BEGIN EXCAVATION FOR AND CONSTRUCTION OF TOWERS AND PLATFORMS.
10. FINISH PAVING ALL ROADWAYS, DRIVES, AND PARKING AREAS.
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING.
12. NO FLOW SHALL BE DIVERTED TO ANY WETLANDS UNTIL A HEALTHY STAND OF GRASS HAS BEEN ESTABLISHED IN REGARDED AREAS.
13. AFTER GRASS HAS BEEN FULLY GERMINATED IN ALL SEEDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

SOIL EROSION AND SEDIMENT CONTROL SEQUENCE

1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS CONSTRUCTION ENTRANCE / ANTI TRACKING PAD, SILTATION FENCE, AND SILTATION FENCE / STRAW BALE SHALL BE IN PLACE PRIOR TO ANY GRADING ACTIVITY, INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. MEASURES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND/OR AREA IS STABILIZED.
2. THE ENTRANCE TO THE PROJECT SITE IS TO BE PROTECTED BY STONE ANTI TRACKING PAD OF ASTM Z-53, SIZE NO. 2 OR 3, OR D.O.T. 2" CRUSHED GRAVEL. THE STONE ANTI TRACKING PAD IS TO BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
3. LAND DISTURBANCE WILL BE KEPT TO A MINIMUM AND RESTABILIZATIONS WILL BE SCHEDULED AS SOON AS PRACTICAL.
4. ALL SOIL EROSION AND SEDIMENT CONTROL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL INCLUDING THE LATEST DATE FROM THE COUNCIL ON SOIL AND WATER CONSERVATION.
5. ANY ADDITIONAL EROSION/SEDIMENTATION CONTROL DEEMED NECESSARY BY TOWN STAFF DURING CONSTRUCTION, SHALL BE INSTALLED BY THE DEVELOPER. IN ADDITION, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE TOWN STAFF.
6. IN ALL AREAS, REMOVAL OF TREES, BUSHES AND OTHER VEGETATION AS WELL AS DISTURBANCE OF THE SOIL IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE. DURING CONSTRUCTION, EXPOSE AS SMALL AN AREA OF SOIL AS POSSIBLE FOR AS SHORT A TIME AS POSSIBLE.
7. SILTATION FENCE SHALL BE PLACED AS INDICATED BEFORE A CUT SLOPE HAS BEEN CREATED. SEDIMENT DEPOSITS SHOULD BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDES OF SILTATION FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR TO BE USED IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. SILTATION FENCE IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE FENCE IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.
8. SWALE DISCHARGE AREA WILL BE PROTECTED WITH RIP RAP SPLASH PAD/ ENERGY DISSIPATER.
9. ALL FILL AREAS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
10. THE SOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
11. AFTER CONSTRUCTION IS COMPLETE AND GROUND IS STABLE, REMOVE SILTS IN THE RIP RAP ENERGY DISSIPATERS. REMOVE OTHER EROSION AND SEDIMENT DEVICES.

CONSTRUCTION SPECIFICATIONS - SILT FENCE

1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BUILD UP IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

MAINTENANCE - SILT FENCE

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.

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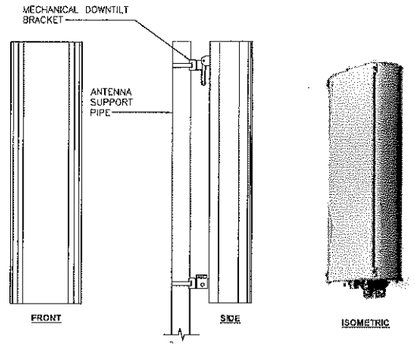
GREENWICH, CT 06830

DATE:	02/21/18
SCALE:	AS NOTED
JOB NO.	16009.03

SITE CONSTRUCTION, S&E CONTROL NOTES AND DETAILS

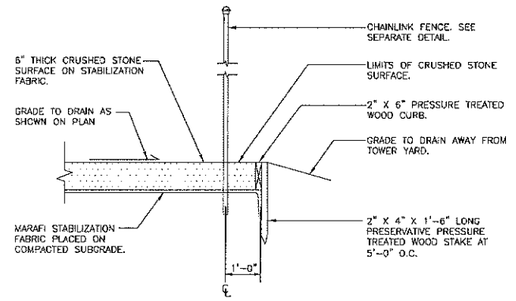
C-4

Sheet No. 7 of 8



ALPHA/BETA/GAMMA ANTENNA		
EQUIPMENT	DIMENSIONS	WEIGHT
MAKE: KATHREIN MODEL: 840-10520	23.6"H x 10.6"W x 7.2"D	15.9-LBS

1 / C-5 PROPOSED ANTENNA DETAIL
SCALE: NTS



2 / C-5 COMPOUND SURFACING DETAIL
NOT TO SCALE

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TYPICAL DETAILS

C-5
Sheet No. 8 of 8

2

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Structural Analysis of Eversource Tower

AT&T Site Ref: CT5006 – Temp

Structure No. 1281
129' Electric Transmission Lattice Tower

9 Sound Shore Drive
Greenwich, CT

CENTEK Project No. 16009.03

Date: December 19, 2017

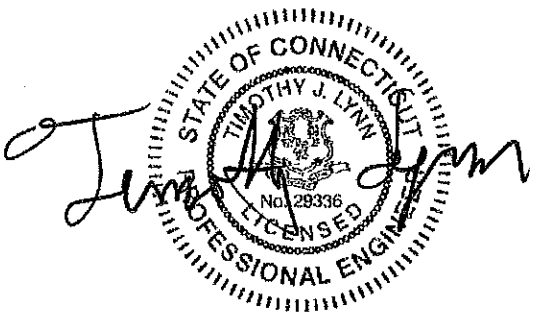

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Table of Contents

Introduction

The purpose of this report is to analyze the existing 128.75' utility tower located at 9 Sound Shore Drive in Greenwich, CT for the temp proposed antenna and equipment installation by AT&T.

The loads considered in this analysis consist of the following:

- VERIZON WIRELESS (Existing):
  Antennas: Two (2) Decibel DB854DG65ESX panel antennas, three (3) Andrew HBXX-6516DS panel antennas, three (3) Andrew SBNHH-1D65B panel antennas, one (1) Antel BXA-70063-6CF, six (6) RFS FDAP5002/2C-3L Diplexers and three (3) RFS ATSBT-TOP-FM-4G Bias Tee mounted on a (3) T-Arms with a RAD center elevation of 139-ft above grade.
  Coax Cables: Eighteen (18) 1-5/8" Ø coax cables running on the outside of the powermount as indicated in section 4 of this report
- SPRINT (Existing/Reserved):
  Antennas: Three (3) RFS APXVSPP18-C panel antennas mounted on an existing 14-ft low profile platform to the powermount with a RAD center elevation of 148-ft above grade.
  Coax Cables: Six (6) 1-5/8" Ø coax cables running on the inside of the existing powermount. Twelve (12) 1-5/8" Ø coax cables mounted on Site Pro Super Universal T-Brackets p/n T1200 running on a leg of the existing tower as indicated in section 4 of this report.
- **AT&T MOBILITY (Proposed – Temp Loading):**
  Antennas: One (1) Kathrein 840-10520 panel antenna mounted on one (1) Site Pro Tapered Pipe Mount p/n TAM-2U with a RAD center elevation of 70-ft above grade (North Leg). Two (2) Kathrein 840-10520 panel antennas mounted on one (1) Site Pro XLD WiMAX Tower mount p/n CWT01 with a RAD center elevation of 70-ft above grade (East Leg).
  Coax Cables: Six (6) 7/8" Ø coax cables running on the North tower leg.

Primary assumptions used in the analysis

- Allowable steel stresses are defined by AISC-ASD 9th edition for design of the Powermount and antenna supporting elements.
- ASCE Manual No. 10-97, "Design of Latticed Steel Transmission Structures", defines allowable steel stresses for evaluation of the CL&P utility tower.
- All utility tower members are adequately protected to prevent corrosion of steel members.
- All proposed antenna mounts are modeled as listed above.
- All coaxial cable will be installed within the powermount unless specified otherwise.
- Powermount will be properly installed and maintained.
- No residual stresses exist due to incorrect tower erection.
- All bolts are appropriately tightened providing the necessary connection continuity.
- All welds conform to the requirements of AWS D1.1.
- Powermount and utility tower will be in plumb condition.
- Utility tower was properly installed and maintained and all members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
- Any deviation from the analyzed loading will require a new analysis for verification of structural adequacy.

Analysis

Structural analysis of the existing CL&P tower structure was completed using the current version of PLS-Tower computer program licensed to CENTEK Engineering, Inc. The NESC program contains a library of all AISC angle shapes and corresponding section properties are computed and applied directly within the program. The program's Steel Code Check option was also utilized.

The existing 129-ft tall CL&P lattice tower was analyzed for its ability to resist loads prescribed by the NESC standard. Maximum usage for the tower was calculated considering the additional forces from the powermount and associated appurtenances. Section 7 of this report details these gravity and lateral wind loads.

Design Basis

Our analysis was performed in accordance with EIA-222-F-1996, ASCE Manual No. 10-97, "Design of Latticed Steel Transmission Structures", NESC C2-2007 and Eversource Design Criteria.

The CL&P tower structure, considering existing and future conductor and shield wire loading, with the proposed antenna mast was analyzed under two conditions:

- UTILITY TOWER ANALYSIS

  The purpose of this analysis is to determine the adequacy of the existing utility structure to support the proposed antenna loads. The loading and design requirements were analyzed in accordance with the EVERSOURCE Design Criteria Table, NESC C2-2007 ~ Construction Grade B, and ASCE Manual No. 10-97, "Design of Latticed Steel Transmission Structures".

  Load cases considered:

  Load Case 1: NESC Heavy

Wind Pressure.....	4.0 psf
Radial Ice Thickness.....	0.5"
Vertical Overload Capacity Factor.....	1.50
Wind Overload Capacity Factor.....	2.50
Wire Tension Overload Capacity Factor.....	1.65

  Load Case 2: NESC Extreme

Wind Speed.....	110 mph [1]
Radial Ice Thickness.....	0"

  Note 1: NESC C2-2007, Section25, Rule 250C: Extreme Wind Loading, 1.25 x Gust Response Factor (wind speed: 3-second gust)

Results

- UTILITY TOWER

This analysis finds that the subject utility structure is adequate to support the proposed antenna mast and related appurtenances. The tower stresses meet the requirements set forth by the ASCE Manual No. 10-97, "Design of Latticed Steel Transmission Structures", for the applied NESC Heavy and Hi-Wind load cases. The detailed analysis results are provided in Section 8 of this report. The analysis results are summarized as follows:

A maximum usage of **90.98%** occurs in the utility structure under the **NESC Extreme** loading condition.

TOWER SECTION:

The utility structure was found to be within allowable limits.

Tower Member	Stress Ratio (% of capacity)	Result
Angle g3P	90.98%	**PASS**

- FOUNDATION AND ANCHORS

The existing foundation consists of a 5-ft square x 8.5-ft long reinforced concrete pier with eight (8) rock anchor groups embedded 12-ft into rock The base of the tower is connected to the foundation by four (4) 2.00" ø A36 bolts per leg. Foundation information was obtained from NUSCO drawing no. 01037-60010.

BASE REACTIONS:

From PLS-Tower analysis of CL&P tower based on NESC/EVERSOURCE prescribed loads.

Load Case	Shear	Uplift	Compression
NESC Heavy Wind	47.34 kips	188.28 kips	226.21 kips
NESC Extreme Wind	56.57 kips	200.63 kips	207.29 kips

Note 1 – 10% increase to be applied to the above tower base reactions for foundation verification per OTRM 051

ANCHOR BOLTS:

The anchor bolts were found to be within allowable limits.

Component	Design Check	Stress Ratio (percentage of capacity)	Result
Anchor Bolts	Tension	93.0%	**PASS**

FOUNDATION:

The foundation was found to be within allowable limits.

Foundation	Design Check	Design Limit	Proposed Loading	Result
Reinf. Conc. Pier w/ Rock Anchors	Uplift	1.0 FS (2)	1.21 FS (2)	**PASS**
	OTM (1)	1.0 FS (2)	1.04 FS (2)	**PASS**
	Soil Bearing	50 ksf	32.19 ksf	**PASS**

Note 1: OTM denote overturning moment.
Note 2: FS denotes Factor of Safety.

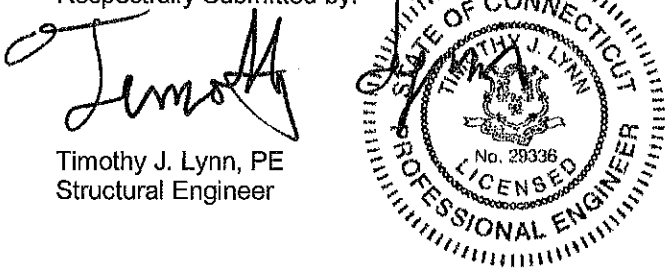
Conclusion

This analysis shows that the subject utility tower with **is adequate** to support the proposed Temporary AT&T equipment installation.

The analysis is based, in part on the information provided to this office by Eversource. If the existing conditions are different than the information in this report, CENTEK engineering, Inc. must be contacted for resolution of any potential issues.

Please feel free to call with any questions or comments.

Respectfully Submitted by:



Timothy J. Lynn, PE
Structural Engineer

STANDARD CONDITIONS FOR FURNISHING OF PROFESSIONAL ENGINEERING SERVICES ON EXISTING STRUCTURES

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessarily limited to:

- Information supplied by the client regarding the structure itself, its foundations, the soil conditions, the antenna and feed line loading on the structure and its components, or other relevant information.

- Information from the field and/or drawings in the possession of CENTEK engineering, Inc. or generated by field inspections or measurements of the structure.

- It is the responsibility of the client to ensure that the information provided to CENTEK engineering, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated. It is therefore assumed that its capacity has not significantly changed from the "as new" condition.

- All services will be performed to the codes specified by the client, and we do not imply to meet any other codes or requirements unless explicitly agreed in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement. In the absence of information to the contrary, all work will be performed in accordance with the latest revision of ANSI/ASCE10 & ANSI/EIA-222.

- All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. CENTEK engineering, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM ~ RISA-3D

RISA-3D Structural Analysis Program is an integrated structural analysis and design software package for buildings, bridges, tower structures, etc.

Modeling Features:

- Comprehensive CAD-like graphic drawing/editing capabilities that let you draw, modify and load elements as well as snap, move, rotate, copy, mirror, scale, split, merge, mesh, delete, apply, etc.
- Versatile drawing grids (orthogonal, radial, skewed)
- Universal snaps and object snaps allow drawing without grids
- Versatile general truss generator
- Powerful graphic select/unselect tools including box, line, polygon, invert, criteria, spreadsheet selection, with locking
- Saved selections to quickly recall desired selections
- Modification tools that modify single items or entire selections
- Real spreadsheets with cut, paste, fill, math, sort, find, etc.
- Dynamic synchronization between spreadsheets and views so you can edit or view any data in the plotted views or in the spreadsheets
- Simultaneous view of multiple spreadsheets
- Constant in-stream error checking and data validation
- Unlimited undo/redo capability
- Generation templates for grids, disks, cylinders, cones, arcs, trusses, tanks, hydrostatic loads, etc.
- Support for all units systems & conversions at any time
- Automatic interaction with RISASection libraries
- Import DXF, RISA-2D, STAAD and ProSteel 3D files
- Export DXF, SDNF and ProSteel 3D files

Analysis Features:

- Static analysis and P-Delta effects
- Multiple simultaneous dynamic and response spectra analysis using Gupta, CQC or SRSS mode combinations
- Automatic inclusion of mass offset (5% or user defined) for dynamic analysis
- Physical member modeling that does not require members to be broken up at intermediate joints
- State of the art 3 or 4 node plate/shell elements
- High-end automatic mesh generation — draw a polygon with any number of sides to create a mesh of well-formed quadrilateral (NOT triangular) elements.
- Accurate analysis of tapered wide flanges - web, top and bottom flanges may all taper independently
- Automatic rigid diaphragm modeling
- Area loads with one-way or two-way distributions
- Multiple simultaneous moving loads with standard AASHTO loads and custom moving loads for bridges, cranes, etc.
- Torsional warping calculations for stiffness, stress and design
- Automatic Top of Member offset modeling
- Member end releases & rigid end offsets
- Joint master-slave assignments
- Joints detachable from diaphragms
- Enforced joint displacements
- 1-Way members, for tension only bracing, slipping, etc.

- 1-Way springs, for modeling soils and other effects
- Euler members that take compression up to their buckling load, then turn off.
- Stress calculations on any arbitrary shape
- Inactive members, plates, and diaphragms allows you to quickly remove parts of structures from consideration
- Story drift calculations provide relative drift and ratio to height
- Automatic self-weight calculations for members and plates
- Automatic subgrade soil spring generator

Graphics Features:

- Unlimited simultaneous model view windows
- Extraordinary "true to scale" rendering, even when drawing
- High-speed redraw algorithm for instant refreshing
- Dynamic scrolling stops right where you want
- Plot & print virtually everything with color coding & labeling
- Rotate, zoom, pan, scroll and snap views
- Saved views to quickly restore frequent or desired views
- Full render or wire-frame animations of deflected model and dynamic mode shapes with frame and speed control
- Animation of moving loads with speed control
- High quality customizable graphics printing

Design Features:

- Designs concrete, hot rolled steel, cold formed steel and wood
- ACI 1999/2002, BS 8110-97, CSA A23.3-94, IS456:2000,EC 2-1992 with consistent bar sizes through adjacent spans
- Exact integration of concrete stress distributions using parabolic or rectangular stress blocks
- Concrete beam detailing (Rectangular, T and L)
- Concrete column interaction diagrams
- Steel Design Codes: AISC ASD 9th, LRFD 2nd & 3rd, HSS Specification, CAN/CSA-S16.1-1994 & 2004, BS 5950-1-2000, IS 800-1984, Euro 3-1993 including local shape databases
- AISI 1999 cold formed steel design
- NDS 1991/1997/2001 wood design, including Structural Composite Lumber, multi-ply, full sawn
- Automatic spectra generation for UBC 1997, IBC 2000/2003
- Generation of load combinations: ASCE, UBC, IBC, BOCA, SBC, ACI
- Unbraced lengths for physical members that recognize connecting elements and full lengths of members
- Automatic approximation of K factors
- Tapered wide flange design with either ASD or LRFD codes
- Optimization of member sizes for all materials and all design codes, controlled by standard or user-defined lists of available sizes and criteria such as maximum depths
- Automatic calculation of custom shape properties
- Steel Shapes: AISC, HSS, CAN, ARBED, British, Euro, Indian, Chilean
- Light Gage Shapes: AISI, SSMA, Dale / Incor, Dietrich, Marino\WARE
- Wood Shapes: Complete NDS species/grade database
- Full seamless integration with RISAFoot (Ver 2 or better) for advanced footing design and detailing
- Plate force summation tool

Results Features:

- Graphic presentation of color-coded results and plotted designs
- Color contours of plate stresses and forces with quadratic smoothing, the contours may also be animated
- Spreadsheet results with sorting and filtering of: reactions, member & joint deflections, beam & plate forces/stresses, optimized sizes, code designs, concrete reinforcing, material takeoffs, frequencies and mode shapes
- Standard and user-defined reports
- Graphic member detail reports with force/stress/deflection diagrams and detailed design calculations and expanded diagrams that display magnitudes at any dialed location
- Saved solutions quickly restore analysis and design results.

GENERAL DESCRIPTION OF STRUCTURAL ANALYSIS PROGRAM ~ PLS-TOWER

PLS-TOWER is a Microsoft Windows program for the analysis and design of steel latticed towers used in electric power lines or communication facilities. Both self-supporting and guyed towers can be modeled. The program performs design checks of structures under user specified loads. For electric power structures it can also calculate maximum allowable wind and weight spans and interaction diagrams between different ratios of allowable wind and weight spans.

Modeling Features:

- Powerful graphics module (stress usages shown in different colors)
- Graphical selection of joints and members allows graphical editing and checking
- Towers can be shown as lines, wire frames or can be rendered as 3-d polygon surfaces
- Can extract geometry and connectivity information from a DXF CAD drawing
- CAD design drawings, title blocks, drawing borders or photos can be tied to structure model
- XML based post processor interface
- Steel Detailing Neutral File (SDNF) export to link with detailing packages
- Can link directly to line design program PLS-CADD
- Automatic generation of structure files for PLS-CADD
- Databases of steel angles, rounds, bolts, guys, etc.
- Automatic generation of joints and members by symmetries and interpolations
- Automated mast generation (quickly builds model for towers that have regular repeating sections) via graphical copy/paste
- Steel angles and rounds modeled either as truss, beam or tension-only elements
- Guys are easily handled (can be modeled as exact cable elements)

Analysis Features:

- Automatic handling of tension-only members
- Automatic distribution of loads in 2-part suspension insulators (v-strings, horizontal vees, etc.)
- Automatic calculation of tower dead, ice, and wind loads as well as drag coefficients according to:
  - ASCE 74-1991
  - NESC 2002
  - NESC 2007
  - IEC 60826:2003
  - EN50341-1:2001 (CENELEC)
  - EN50341-3-9:2001 (UK NNA)
  - EN50341-3-17:2001 (Portugal NNA)
  - ESAA C(b)1-2003 (Australia)
  - TPNZ (New Zealand)
  - REE (Spain)
  - EIA/TIA 222-F
  - ANSI/TIA 222-G
  - CSA S37-01
- Automated microwave antenna loading as per EIA/TIA 222-F and ANSI/TIA 222-G
- Minimization of problems caused by unstable joints and mechanisms
- Automatic bandwidth minimization and ability to solve large problems
- Design checks according to (other standards can be added easily):
  - ASCE Standard 10-90

- AS 3995 (Australian Standard 3995)
- BS 8100 (British Standard 8100)
- EN50341-1 (CENELEC, both empirical and analytical methods are available)
- ECCS 1985
- NGT-ECCS
- PN-90/B-03200
- EIA/TIA 222-F
- ANSI/TIA 222-G
- CSA S37-01
- EDF/RTE Resal
- IS 802 (India Standard 802)

Results Features:

- Design summaries printed for each group of members
- Easy to interpret text, spreadsheet and graphics design summaries
- Automatic determination of allowable wind and weight spans
- Automatic determination of interaction diagrams between allowable wind and weight spans
- Capability to batch run multiple tower configurations and consolidate the results
- Automated optimum angle member size selection and bolt quantity determination

Tool for interactive angle member sizing and bolt quantity determination.

Criteria for Design of PCS Facilities On or Extending Above Metal Electric Transmission Towers & Analysis of Transmission Towers Supporting PCS Masts [1]

Introduction

This criteria is the result from an evaluation of the methods and loadings specified by the separate standards, which are used in designing telecommunications towers and electric transmission towers. That evaluation is detailed elsewhere, but in summary; the methods and loadings are significantly different. This criteria specifies the manner in which the appropriate standard is used to design PCS facilities including masts and brackets (hereafter referred to as "masts"), and to evaluate the electric transmission towers to support PCS masts. The intent is to achieve an equivalent level of safety and security under the extreme design conditions expected in Connecticut and Massachusetts.

ANSI Standard TIA/EIA-222 (Rev. F) covering the design of telecommunications structures specifies a working strength/allowable stress design approach. This approach applies the loads from extreme weather loading conditions, and designs the structure so that it does not exceed some defined percentage of failure strength (allowable stress).

ANSI Standard C2-2007 (National Electrical Safety Code) covering the design of electric transmission metal structures is based upon an ultimate strength/yield stress design approach. This approach applies a multiplier (overload capacity factor) to the loads possible from extreme weather loading conditions, and designs the structure so that it does not exceed its ultimate strength (yield stress).

Each standard defines the details of how loads are to be calculated differently. Most of the NU effort in "unifying" both codes was to establish what level of strength each approach would provide, and then increasing the appropriate elements of each to achieve a similar level of security under extreme weather loadings.

Two extreme weather conditions are considered. The first is an extreme wind condition (hurricane) based upon a 50-year recurrence (2% annual probability). The second is a winter condition combining wind and ice loadings.

The following sections describe the design criteria for any PCS mast extending above the top of an electric transmission tower, and the analysis criteria for evaluating the loads on the transmission tower from such a mast from the lower portions of such a mast, and loads on the pre-existing electric lower portions of such a mast, and loads on the pre-existing electric transmission tower and the conductors it supports.

Note 1: Prepared from documentation provide from Northeast Utilities.

P C S M a s t

The PCS facility (mast, external cable/trays, including the initial and any planned future support platforms, antennas, etc. extending the full height above the top level of the electric transmission structure) shall be designed in accordance with the provisions of TIA/EIA-222 (Rev. F) with two exceptions:

1. An 85 mph extreme wind speed shall be used for locations in all counties throughout the NU system.
2. The allowable stress increase of TIA Section 3.1.1.1 is allowed for the mast section, but is disallowed for the mast to structure connection design.

   The combined wind and ice condition shall consider ½" radial ice in combination with the wind load (0.75 Wi) as specified in TIA section 2.3.16.

E L E C T R I C T R A N S M I S S I O N T O W E R

The electric transmission tower shall be analyzed using yield stress theory in accordance with the attached table titled "NU Design Criteria". This specifies uniform loadings (different from the TIA loadings) on the each of the following components of the installed facility:

- PCS mast for its total height above ground level, including the initial and planned future support platforms, antennas, etc. above the top of an electric transmission structure.
- Conductors are related devices and hardware.
- Electric transmission structure. The loads from the PCS facility and from the electric conductors shall be applied to the structure at conductor and PCS mast attachment points, where those load transfer to the tower.

The uniform loadings and factors specified for the above components in the table are based upon the National Electrical Safety Code 2007 Edition Extreme Wind (Rule 250C) and Combined Ice and Wind (Rule 250B-Heavy) Loadings. These provide equivalent loadings compared to TIA and its loads and factors with the exceptions noted above. (Note that the NESC does not require the projected wind surfaces of structures and equipment to be increased by the ice covering.)

In the event that the electric transmission tower is not sufficient to support the additional loadings of the PCS mast, reinforcement will be necessary to upgrade the strength of the overstressed members.

Attachment A

NU Design Criteria

			Basic Wind Speed	Pressure	Height Factor	Gust Factor	Load or Stress Factor	Force Coef - Shape Factor
			V (MPH)	Q (PSF)	Kz	Gh		
Ice Condition	TIA/EIA	Antenna Mount	TIA	TIA (.75Wi)	TIA	TIA	TIA, Section 3.1.1.1 disallowed for connection design	TIA
	NESC Heavy	Tower/Pole Analysis with antennas extending above top of Tower/Pole (Yield Stress)	-----	4	1.00	1.00	2.50	1.6 Flat Surfaces 1.3 Round Surfaces
		Tower/Pole Analysis with Antennas below top of Tower/Pole (on two faces)	-----	4	1.00	1.00	2.50	1.6 Flat Surfaces 1.3 Round Surfaces
		Conductors:	Conductor loads provided by NU					
High Wind Condtion	TIA/EIA	Antenna Mount	85	TIA	TIA	TIA	TIA, Section 3.1.1.1 disallowed for connection design	TIA
	NESC Extreme Wind	Tower/Pole Analysis with antennas extending above top of Tower/Pole	Use NESC C2-2007, Section 25, Rule 250C: Extreme Wind Loading 1.25 x Gust Response Factor Height above ground level based on top of Mast/Antenna					1.6 Flat Surfaces 1.3 Round Surfaces
		Tower/Pole Analysis with Antennas below top of Tower/Pole	Use NESC C2-2007, Section 25, Rule 250C: Extreme Wind Loading Height above ground level based on top of Tower/Pole					1.6 Flat Surfaces 1.3 Round Surfaces
		Conductors:	Conductor loads provided by NU					
NESC Extreme Ice with Wind Conditon*		Tower/Pole Analysis with antennas extending above top of Tower/Pole	Use NESC C2-2007, Section 25, Rule 250D: Extreme Ice with Wind Loading 4PSF Wind Load 1.25 x Gust Response Factor Height above ground level based on top of Mast/Antenna					1.6 Flat Surfaces 1.3 Round Surfaces
		Tower/Pole Analysis with Antennas below top of Tower/Pole	Use NESC C2-2007, Section 25, Rule 250D: Extreme Ice with Wind Loading 4PSF Wind Load Height above ground level based on top of Tower/Pole					1.6 Flat Surfaces 1.3 Round Surfaces
		Conductors:	Conductor loads provided by NU					
		* Only for Structures Installed after 2007						

Shape Factor Criteria shall be per TIA Shape Factors.

2) STEP 2 - The electric transmission structure analysis and evaluation shall be performed in accordance with NESC requirements and shall include the mast and antenna loads determined from NESC applied loading conditions (not TIA/EIA Loads) on the structure and mount as specified below, and shall include the wireless communication mast and antenna loads per NESC criteria)

The structure shall be analyzed using yield stress theory in accordance with Attachment A, "NU Design Criteria." This specifies uniform loadings (different from the TIA loadings) on each of the following components of the installed facility:

a) Wireless communication mast for its total height above ground level, including the initial and any planned future equipment (Support Platforms, Antennas, TMA's etc.) above the top of an electric transmission structure.

b) Conductors and related devices and hardware (wire loads will be provided by NU).

c) Electric Transmission Structure

i) The loads from the wireless communication equipment components based on NESC and NU Criteria in Attachment A, and from the electric conductors shall be applied to the structure at conductor and wireless communication mast attachment points, where those loads transfer to the tower.

ii) Shape Factor Multiplier:

NESC Structure Shape	Cd
Polyround (for polygonal steel poles)	1.3
Flat	1.6
Open Lattice	3.2

iii) When Coaxial Cables are mounted along side the pole structure, the shape multiplier shall be:

Mount Type	Cable Cd	Pole Cd
Coaxial Cables on outside periphery (One layer)	1.45	1.45
Coaxial Cables mounted on stand offs	1.6	1.3

d) The uniform loadings and factors specified for the above components in Attachment A, "NU Design Criteria" are based upon the National Electric Safety Code 2007 Edition Extreme Wind (Rule 250C) and Combined Ice and Wind (Rule 250B-Heavy) Loadings. These provide equivalent loadings compared to the TIA and its loads and factors with the exceptions noted above.

Note: The NESC does not require ice load be included in the supporting structure. (Ice on conductors and shield wire only, and NU will provide these loads).

e) Mast reaction loads shall be evaluated for local effects on the transmission structure members at the attachment points.

Northeast Utilities System

Job :
Description:

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INPUT DATA

TOWER ID: 1281

Structure Height (ft) : 129

Wind Zone : Central CT (green)

Wind Speed : 110 mph

Tower Type : ○ Suspension ◉ Strain

Extreme Wind Model : PCS Addition

Shield Wire Properties:

	BACK	AHEAD
NAME =	*NONE*	*NONE*
DESCRIPTION =	-	-
STRANDING =	- -	- -
DIAMETER =	0.000 in	0.000 in
WEIGHT =	0.000 lb/ft	0.000 lb/ft

Conductor Properties:

	BACK	AHEAD	
NAME =	*BITTERN*	*BITTERN*	
Number of Conductors per phase: 1	1272.000 45/7 ACSR	1272.000 45/7 ACSR	1 Number of Conductors per phase
DIAMETER =	1.345 in	1.345 in	
WEIGHT =	1.432 lb/ft	1.432 lb/ft	

Insulator Weight = 0 lbs

Broken Wire Side = AHEAD SPAN

Horizontal Line Tensions:

	BACK		AHEAD	
	Shield	Conductor	Shield	Conductor
NESC HEAVY =	na	6,000	na	6,000
EXTREME WIND =	na	5,621	na	4,646
LONG. WIND =	na	na	na	na
250D COMBINED =	na	na	na	na
NESC W/O OLF =	na	na	na	na
60 DEG F NO WIND =	na	2,421	na	2,092

Line Geometry:

					SUM
LINE ANGLE (deg) =	BACK:	45	AHEAD:	45	**90**
WIND SPAN (ft) =	BACK:	141	AHEAD:	91	**232**
WEIGHT SPAN (ft) =	BACK:	39	AHEAD:	588	**627**

Northeast Utilities System

Job :
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WIRE LOADING AT ATTACHMENTS

TOWER ID: 1281

Wind Span =	232	ft
Weight Span =	627	ft
Total Angle =	90	degrees

Broken Wire Span = AHEAD SPAN
Type of Insulator Attachment = STRAIN

1. NESC RULE 250B Heavy Loading:

	INTACT CONDITION			BROKEN WIRE CONDITION		
	Horizontal	Longitudinal	Vertical	Horizontal	Longitudinal	Vertical
Shield Wire =	#VALUE!	#VALUE!	292 lb	#VALUE!	#VALUE!	18 lb
Conductor =	14,454 lb	0 lb	2,426 lb	7,276 lb	7,000 lb	151 lb

2. NESC RULE 250C Transverse Extreme Wind Loading:

	Horizontal	Longitudinal	Vertical
Shield Wire =	#VALUE!	#VALUE!	0 lb
Conductor =	9,332 lb	793 lb	1,033 lb

3. NESC RULE 250C Longitudinal Extreme Wind Loading:

	Horizontal	Longitudinal	Vertical
Shield Wire =	#VALUE!	#VALUE!	0 lb
Conductor =	#VALUE!	#VALUE!	1,033 lb

4. NESC RULE 250D Extreme Ice & Wind Loading:

	Horizontal	Longitudinal	Vertical
Shield Wire =	#VALUE!	#VALUE!	780 lb
Conductor =	#VALUE!	#VALUE!	2,726 lb

5. NESC RULE 250B w/o OLF's

	Horizontal	Longitudinal	Vertical
Shield Wire =	#VALUE!	#VALUE!	195 lb
Conductor =	#VALUE!	#VALUE!	1,617 lb

6. 60 Deg. F, No Wind

	Horizontal	Longitudinal	Vertical
Shield Wire =	#VALUE!	#VALUE!	0 lb
Conductor =	3,191 lb	233 lb	898 lb

7. Construction

	Horizontal	Longitudinal	Vertical
Shield Wire =	#VALUE!	#VALUE!	0 lb
Conductor =	4,787 lb	349 lb	1,347 lb

Northeast
Utilities System

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Description:	Spec. Number	Sheet	of
	Computed by	Date	10/27/10
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NOTE: All loads include required overload factors (OLF's).

LC 1		HORIZONTAL	LONGITUDINAL	VERTICAL
NESC Heavy	shield - back	#VALUE!	#VALUE!	18.18687622
	shield - ahead	#VALUE!	#VALUE!	274.2021338
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**292.38901**
	conductor - back	7275.894634	7000.357134	150.8815733
	conductor - ahead	7178.1863	-7000.357134	2274.829874
	CONDUCTOR - SUM	**14454.08093**	**0**	**2425.711447**
LC 2		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
Extreme Wind	shield - back	#VALUE!	#VALUE!	0
	shield - ahead	#VALUE!	#VALUE!	0
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**0**
	conductor - back	5168.274228	4570.8443	64.2252
	conductor - ahead	4163.576165	-3778.000821	968.3184
	CONDUCTOR - SUM	**9331.850393**	**792.8434784**	**1032.5436**
LC 3		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
Long. Wind	shield - back	#VALUE!	#VALUE!	0
	shield - ahead	#VALUE!	#VALUE!	0
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**0**
	conductor - back	#VALUE!	#VALUE!	64.2252
	conductor - ahead	#VALUE!	#VALUE!	968.3184
	CONDUCTOR - SUM	**#VALUE!**	**#VALUE!**	**1032.5436**
LC 4		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
RULE 250D	shield - back	#VALUE!	#VALUE!	48.49833659
	shield - ahead	#VALUE!	#VALUE!	731.2056901
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**779.7040267**
	conductor - back	#VALUE!	#VALUE!	169.5765993
	conductor - ahead	#VALUE!	#VALUE!	2556.693343
	CONDUCTOR - SUM	**#VALUE!**	**#VALUE!**	**2726.269943**
LC 5		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
NESC w/o OLF's	shield - back	#VALUE!	#VALUE!	12.12458415
	shield - ahead	#VALUE!	#VALUE!	182.8014225
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**194.9260067**
	conductor - back	#VALUE!	#VALUE!	100.5877155
	conductor - ahead	#VALUE!	#VALUE!	1516.553249
	CONDUCTOR - SUM	**#VALUE!**	**#VALUE!**	**1617.140965**
LC 6		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
Raking	shield - back	#VALUE!	#VALUE!	0
	shield - ahead	#VALUE!	#VALUE!	0
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**0**
	conductor - back	1711.905517	1711.905517	55.848
	conductor - ahead	1479.267386	-1479.267386	842.016
	CONDUCTOR - SUM	**3191.172903**	**232.638131**	**897.864**
LC 6		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
60 DEG F NO WIND	shield - back	#VALUE!	#VALUE!	0
	shield - ahead	#VALUE!	#VALUE!	0
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**0**
	conductor - back	2567.858276	2567.858276	83.772
	conductor - ahead	2218.901079	-2218.901079	1263.024
	CONDUCTOR - SUM	**4786.759355**	**348.9571965**	**1346.796**

Northeast Utilities System

Job :
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INPUT DATA

TOWER ID: 1281

Structure Height (ft) : 129

Wind Zone : Central CT (green)

Wind Speed : 110 mph

Tower Type : ○ Suspension ◉ Strain

Extreme Wind Model : PCS Addition

Shield Wire Properties:

	BACK	AHEAD
NAME =	*NONE*	*NONE*
DESCRIPTION =	-	-
STRANDING =	-	-
DIAMETER =	0.000 in	0.000 in
WEIGHT =	0.000 lb/ft	0.000 lb/ft

SW (SHIELD WIRE)

Conductor Properties:

	BACK	AHEAD	
NAME =	*LINNET*	*LINNET*	
Number of Conductors per phase: 1	336	336	1 Number of Conductors per phase
	26/7 ACSR	26/7 ACSR	
DIAMETER =	0.720 in	0.720 in	
WEIGHT =	0.462 lb/ft	0.462 lb/ft	

Insulator Weight = 0 lbs

Broken Wire Side = AHEAD SPAN

Horizontal Line Tensions:

	BACK SW		AHEAD SW	
	Shield	Conductor	Shield	Conductor
NESC HEAVY =	na	4,000	na	4,000
EXTREME WIND =	na	3,449	na	3,005
LONG. WIND =	na	na	na	na
250D COMBINED =	na	na	na	na
NESC W/O OLF =	na	na	na	na
60 DEG F NO WIND =	na	2,194	na	1,830

Line Geometry:

					SUM
LINE ANGLE (deg) =	BACK:	45	AHEAD:	45	**90**
WIND SPAN (ft) =	BACK:	141	AHEAD:	91	**232**
WEIGHT SPAN (ft) =	BACK:	39	AHEAD:	588	**627**

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Date 10/27/10
Date

WIRE LOADING AT ATTACHMENTS

TOWER ID: 1281

Wind Span =	232	ft
Weight Span =	627	ft
Total Angle =	90	degrees

Broken Wire Span = AHEAD SPAN
Type of Insulator Attachment = STRAIN

1. NESC RULE 250B Heavy Loading:

	INTACT CONDITION			BROKEN WIRE CONDITION		
	Horizontal	Longitudinal	Vertical	Horizontal	Longitudinal	Vertical
[redacted] =	#VALUE!	#VALUE!	292 lb	#VALUE!	#VALUE!	18 lb
SW [redacted] =	9,666 lb	0 lb	1,148 lb	4,869 lb	4,667 lb	71 lb

2. NESC RULE 250C Transverse Extreme Wind Loading:

	Horizontal	Longitudinal	Vertical
[redacted] =	#VALUE!	#VALUE!	0 lb
SW [redacted] =	5,774 lb	361 lb	333 lb

3. NESC RULE 250C Longitudinal Extreme Wind Loading:

	Horizontal	Longitudinal	Vertical
[redacted] =	#VALUE!	#VALUE!	0 lb
Conductor =	#VALUE!	#VALUE!	333 lb

4. NESC RULE 250D Extreme Ice & Wind Loading:

	Horizontal	Longitudinal	Vertical
[redacted] =	#VALUE!	#VALUE!	780 lb
Conductor =	#VALUE!	#VALUE!	1,631 lb

5. NESC RULE 250B w/o OLF's

	Horizontal	Longitudinal	Vertical
[redacted] =	#VALUE!	#VALUE!	195 lb
Conductor =	#VALUE!	#VALUE!	765 lb

6. 60 Deg. F, No Wind

	Horizontal	Longitudinal	Vertical
[redacted] =	#VALUE!	#VALUE!	0 lb
Conductor =	2,845 lb	257 lb	290 lb

7. Construction

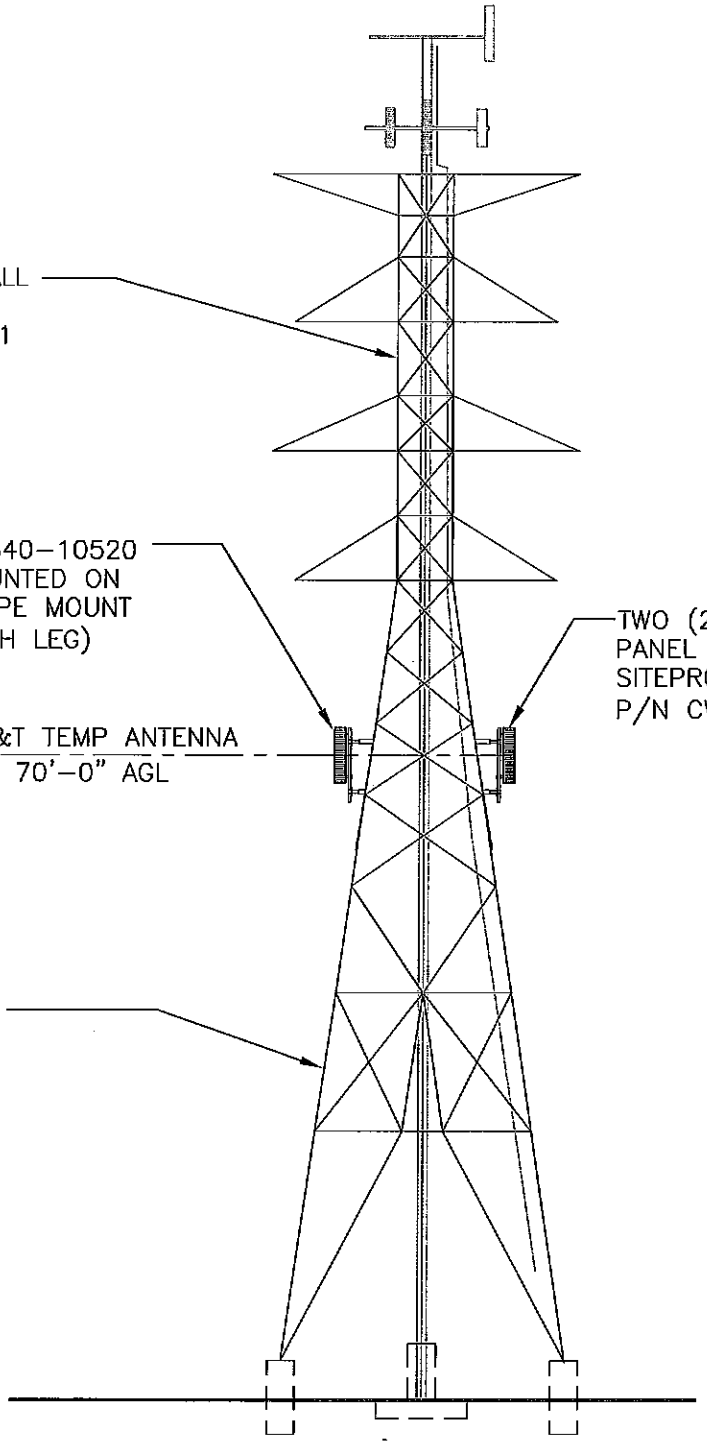
	Horizontal	Longitudinal	Vertical
[redacted] =	#VALUE!	#VALUE!	0 lb
SW [redacted] =	4,268 lb	386 lb	435 lb

Northeast
Utilities System

Job :		Page	of
Description:	Spec. Number	Sheet	of
	Computed by	Date	10/27/10
	Checked by	Date	

NOTE: All loads include required overload factors (OLF's).

LC 1		HORIZONTAL	LONGITUDINAL	VERTICAL
NESC Heavy	shield - back	#VALUE!	#VALUE!	3.18687622
	shield - ahead	#VALUE!	#VALUE!	274.202338
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**292.38901**
SW	conductor - back	4869.004756	4666.904756	71.40297798
	conductor - ahead	4797.338089	-4666.904756	1076.537206
	CONDUCTOR - SUM	**9666.342845**	**0**	**1147.940184**
LC 2		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
Extreme Wind	shield - back	#VALUE!	#VALUE!	0
	shield - ahead	#VALUE!	#VALUE!	0
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**0**
SW	conductor - back	3124.446772	2804.632982	20.7207
	conductor - ahead	2649.988904	-2443.584259	312.4044
	CONDUCTOR - SUM	**5774.435676**	**361.0487225**	**333.1251**
LC 3		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
Long. Wind	shield - back	#VALUE!	#VALUE!	0
	shield - ahead	#VALUE!	#VALUE!	0
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**0**
	conductor - back	#VALUE!	#VALUE!	20.7207
	conductor - ahead	#VALUE!	#VALUE!	312.4044
	CONDUCTOR - SUM	**#VALUE!**	**#VALUE!**	**333.1251**
LC 4		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
RULE 250D	shield - back	#VALUE!	#VALUE!	48.49833659
	shield - ahead	#VALUE!	#VALUE!	731.2056901
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**779.7040267**
	conductor - back	#VALUE!	#VALUE!	101.4351389
	conductor - ahead	#VALUE!	#VALUE!	1529.329787
	CONDUCTOR - SUM	**#VALUE!**	**#VALUE!**	**1630.764926**
LC 5		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
NESC w/o OLF's	shield - back	#VALUE!	#VALUE!	12.12458415
	shield - ahead	#VALUE!	#VALUE!	182.8014225
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**194.9260067**
	conductor - back	#VALUE!	#VALUE!	47.60198532
	conductor - ahead	#VALUE!	#VALUE!	717.691471
	CONDUCTOR - SUM	**#VALUE!**	**#VALUE!**	**765.2934563**
LC 6		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
Raking	shield - back	#VALUE!	#VALUE!	0
	shield - ahead	#VALUE!	#VALUE!	0
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**0**
	conductor - back	1551.392278	1551.392278	18.018
	conductor - ahead	1294.00541	-1294.00541	271.656
	CONDUCTOR - SUM	**2845.397687**	**257.3868684**	**289.674**
LC 6		**HORIZONTAL**	**LONGITUDINAL**	**VERTICAL**
60 DEG F NO WIND	shield - back	#VALUE!	#VALUE!	0
	shield - ahead	#VALUE!	#VALUE!	0
	SHIELD - SUM	**#VALUE!**	**#VALUE!**	**0**
SW	conductor - back	2327.088417	2327.088417	27.027
	conductor - ahead	1941.008114	-1941.008114	407.484
	CONDUCTOR - SUM	**4268.096531**	**386.0803025**	**434.511**



1 / EL–1 **TOWER + MAST ELEVATION**

SCALE: NOT TO SCALE

REVISIONS		
00	12/19/17	ISSUED FOR REVIEW

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CT5006

SOUND SHORE DRIVE
GREENWICH, CT 06830

PROJECT NO:	16009.003
DRAWN BY:	TJL
CHECKED BY:	CFC
SCALE:	AS NOTED
DATE:	12/19/17

TOWER ELEVATION

EL-1

DWG. 1 OF 1

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Subject: Load Analysis of Equipment on CL&P Structure #1281

Location: Greenwich, CT

Rev. 0: 12/19/17

Prepared by: T.J.L Checked by: C.F.C.
Job No. 16009.03

Basic Components

Heavy Wind Pressure =	p := 4.00	psf	(User Input NESC 2007 Figure 250-1 & Table 250-1)
Basic Windspeed =	V := 110	mph	(User Input NESC 2007 Figure 250-2(e))
Radial Ice Thickness =	Ir := 0.50	in	(User Input)
Radial Ice Density =	Id := 56.0	pcf	(User Input)

Factors for Extreme Wind Calculation

Elevation of Top of PCS Mast Above Grade =	TME := 148	ft	(User Input)
Multiplier Gust Response Factor =	m := 1.25		(User Input - Only for NESC Extreme wind case)
NESC Factor =	kv := 1.43		(User Input from NESC 2007 Table 250-3 equation)
Importance Factor =	I := 1.0		(User Input from NESC 2007 Section 250.C.2)

Velocity Pressure Coefficient = $Kz := 2.01 \cdot \left(\frac{TME}{900}\right)^{\frac{2}{9.5}} = 1.375$ (NESC 2007 Table 250-2)

Exposure Factor = $Es := 0.346 \left[\frac{33}{(0.67 \cdot TME)}\right]^{\frac{1}{7}} = 0.296$ (NESC 2007 Table 250-3)

Response Term = $Bs := \frac{1}{\left(1 + 0.375 \cdot \frac{TME}{220}\right)} = 0.799$ (NESC 2007 Table 250-3)

Gust Response Factor = $Grf := \frac{\left[1 + \left(2.7 \cdot Es \cdot Bs^{\frac{1}{2}}\right)\right]}{kv^2} = 0.838$ (NESC 2007 Table 250-3)

Wind Pressure = $qz := 0.00256 \cdot Kz \cdot V^2 \cdot Grf \cdot I = 35.7$ psf (NESC 2007 Section 250.C.2)

Shape Factors

NUS Design Criteria Issued April 12, 2007

Shape Factor for Round Members =	$Cd_R := 1.3$	(User Input)
Shape Factor for Flat Members =	$Cd_F := 1.6$	(User Input)
Shape Factor for Coax Cables Attached to Outside of Pole =	$Cd_{coax} := 1.45$	(User Input)

Overload Factors

NU Design Criteria Table

Overload Factors for Wind Loads:

NESC Heavy Loading =	**2.5**	(User Input)	Apply in Risa-3D Analysis
NESC Extreme Loading =	**1.0**	(User Input)	Apply in Risa-3D Analysis

Overload Factors for Vertical Loads:

NESC Heavy Loading =	**1.5**	(User Input)	Apply in Risa-3D Analysis
NESC Extreme Loading =	**1.0**	(User Input)	Apply in Risa-3D Analysis

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Location:	Greenwich, CT
Rev. 0: 12/19/17	Prepared by: T.J.L Checked by: C.F.C. Job No. 16009.03

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	RFSAPXVSPP18-C		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 72$	in	(User Input)
Antenna Width =	$W_{ant} := 11.8$	in	(User Input)
Antenna Thickness =	$T_{ant} := 7$	in	(User Input)
Antenna Weight =	$WT_{ant} := 57$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 3$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 5.9$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 17.7$ sf

Total Antenna Wind Force = $F_{ant1} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 1263$ lbs

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice = $SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 6.5$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 19.5$ sf

Total Antenna Wind Force w/ Ice = $Fi_{ant1} := p \cdot Cd_F \cdot A_{ICEant} = 125$ lbs

Gravity Load (without ice)

Weight of All Antennas = $Wt_{ant1} := (WT_{ant} \cdot N_{ant}) = 171$ lbs

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 5947$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 1528$ cu in

Weight of Ice on Each Antenna = $W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 50$ lbs

Weight of Ice on All Antennas = $Wt_{ice.ant1} := W_{ICEant} \cdot N_{ant} = 149$ lbs

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Location: Greenwich, CT

Rev. 0: 12/19/17

Prepared by: T.J.L Checked by: C.F.C.
Job No. 16009.03

Development of Wind & Ice Load on Platform

Platform Data: (Sprint)

Platform Model =	FWT 14' Low Profile Platform		(User Input)
Platform Shape =	Flat		(User Input)
Platform Area =	$A_{plt} := 14.2$	sq ft	(User Input from FWT design calcs)
Platform Area w/ Ice =	$A_{ICEplt} := 15.8$	sq ft	(User Input from FWT design calcs)
Platform Weight =	$WT_{plt} := 3020$	lbs	(User Input from FWT design calcs)
Platform Weight w/ Ice =	$WT_{ICEplt} := 4300$	lbs	(User Input from FWT design calcs)

Wind Load (NESC Extreme)

Total Platform Wind Force = $F_{mnt1} := qz \cdot Cd_F \cdot A_{plt} \cdot m = 1013$ lbs

Wind Load (NESC Heavy)

Total Platform Wind Force w/ Ice = $Fi_{mnt1} := p \cdot Cd_F \cdot A_{ICEplt} = 101$ lbs

Gravity Load (without ice)

Weight of Platform = $Wt_{mnt1} := WT_{plt} = 3020$ lbs

Gravity Load (ice only)

Weight of Ice on Platform = $Wt_{ice.mnt1} := WT_{ICEplt} - WT_{plt} = 1280$ lbs

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Location:	Greenwich, CT
Rev. 0: 12/19/17	Prepared by: T.J.L Checked by: C.F.C. Job No. 16009.03

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Andrew HBXX-6516DS		(Verizon)
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 50.9$	in	(User Input)
Antenna Width =	$W_{ant} := 12$	in	(User Input)
Antenna Thickness =	$T_{ant} := 6.5$	in	(User Input)
Antenna Weight =	$WT_{ant} := 31$	lbs	(User Input)
Number of Antennas =	$N_{ant} := 3$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 4.2$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 12.7$ sf

Total Antenna Wind Force = $F_{ant2} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 908$ lbs

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice = $SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 4.7$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 14.1$ sf

Total Antenna Wind Force w/ Ice = $Fi_{ant2} := p \cdot Cd_F \cdot A_{ICEant} = 90$ lbs

Gravity Load (without ice)

Weight of All Antennas = $Wt_{ant2} := (WT_{ant} \cdot N_{ant}) = 93$ lbs

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 3970$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 1090$ cu in

Weight of Ice on Each Antenna = $W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 35$ lbs

Weight of Ice on All Antennas = $Wt_{ice.ant2} := W_{ICEant} \cdot N_{ant} = 106$ lbs

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Andrew SBNHH-1D65B		(Verizon)
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 72.0$	in	(User Input)
Antenna Width =	$W_{ant} := 11.9$	in	(User Input)
Antenna Thickness =	$T_{ant} := 7.1$	in	(User Input)
Antenna Weight =	$WT_{ant} := 41$	lbs	(User Input)
Number ofAntennas =	$N_{ant} := 3$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 6$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 17.9$ sf

Total Antenna Wind Force = $F_{ant3} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 1274$ lbs

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice = $SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 6.5$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 19.6$, sf

Total Antenna Wind Force w/ Ice = $Fl_{ant3} := p \cdot Cd_F \cdot A_{ICEant} = 126$ lbs

Gravity Load (without ice)

Weight ofAll Antennas = $Wt_{ant3} := (WT_{ant} \cdot N_{ant}) = 123$ lbs

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 6083$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 1544$ cu in

Weight of Ice on Each Antenna = $W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 50$ lbs

Weight of Ice on All Antennas = $Wt_{ice.ant3} := W_{ICEant} \cdot N_{ant} = 150$ lbs

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Subject:	Load Analysis of Equipment on CL&P Structure #1281
Location:	Greenwich, CT
Rev. 0: 12/19/17	Prepared by: T.J.L Checked by: C.F.C. Job No. 16009.03

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Decibel DB854DG65ESX		(Verizon)
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 48.5$	in	(User Input)
Antenna Width =	$W_{ant} := 12.5$	in	(User Input)
Antenna Thickness =	$T_{ant} := 6$	in	(User Input)
Antenna Weight =	$WT_{ant} := 18.5$	lbs	(User Input)
Number ofAntennas =	$N_{ant} := 2$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 4.2$	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 8.4$	sf
Total Antenna Wind Force =	$F_{ant4} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 601$	lbs

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice =	$SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 4.6$	sf
Antenna Projected Surface Area w/ Ice =	$A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 9.3$	sf
Total Antenna Wind Force w/ Ice =	$Fi_{ant4} := p \cdot Cd_F \cdot A_{ICEant} = 59$	lbs

Gravity Load (without ice)

Weight ofAll Antennas =	$Wt_{ant4} := (WT_{ant} \cdot N_{ant}) = 37$	lbs

Gravity Load (ice only)

Volume of Each Antenna =	$V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 3638$	cu in
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 1040$	cu in
Weight of Ice on Each Antenna =	$W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 34$	lbs
Weight of Ice on All Antennas =	$Wt_{ice.ant4} := W_{ICEant} \cdot N_{ant} = 67$	lbs

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Antel BXA-70063-6CF		(Verizon)
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 71$	in	(User Input)
Antenna Width =	$W_{ant} := 11.2$	in	(User Input)
Antenna Thickness =	$T_{ant} := 5.2$	in	(User Input)
Antenna Weight =	$WT_{ant} := 17$	lbs	(User Input)
Number ofAntennas =	$N_{ant} := 1$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 5.5$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 5.5$ sf

Total Antenna Wind Force = $F_{ant5} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 394$ lbs

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice = $SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 6.1$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 6.1$ sf

Total Antenna Wind Force w/ Ice = $Fi_{ant5} := p \cdot Cd_F \cdot A_{ICEant} = 39$ lbs

Gravity Load (without ice)

Weight ofAll Antennas = $Wt_{ant5} := (WT_{ant} \cdot N_{ant}) = 17$ lbs

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 4135$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 1311$ cu in

Weight of Ice on Each Antenna = $W_{ICEant} := \frac{V_{ice}}{1728} \cdot ld = 42$ lbs

Weight of Ice on All Antennas = $Wi_{ce.ant5} := W_{ICEant} \cdot N_{ant} = 42$ lbs

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Rev. 0: 12/19/17	Prepared by: T.J.L Checked by: C.F.C. Job No. 16009.03

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	RFS FDAP5002/2C-3L Diplexer		(Verizon)
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 6.5$	in	(User Input)
Antenna Width =	$W_{ant} := 8.3$	in	(User Input)
Antenna Thickness =	$T_{ant} := 3.3$	in	(User Input)
Antenna Weight =	$WT_{ant} := 7$	lbs	(User Input)
Number ofAntennas =	$N_{ant} := 6$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 0.4$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 2.2$ sf

Total Antenna Wind Force = $F_{ant6} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 160$ lbs

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice = $SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 0.5$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 2.9$ sf

Total Antenna Wind Force w/ Ice = $Fi_{ant6} := p \cdot Cd_F \cdot A_{ICEant} = 19$ lbs

Gravity Load (without ice)

Weight of All Antennas = $Wt_{ant6} := (WT_{ant} \cdot N_{ant}) = 42$ lbs

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 178$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 122$ cu in

Weight of Ice on Each Antenna = $W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 4$ lbs

Weight of Ice on All Antennas = $Wt_{ice.ant6} := W_{ICEant} \cdot N_{ant} = 24$ lbs

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Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	RFSATSBT-TOP-FM-4G Bias Tee		(Verizon)
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 5.63$	in	(User Input)
Antenna Width =	$W_{ant} := 3.7$	in	(User Input)
Antenna Thickness =	$T_{ant} := 2.0$	in	(User Input)
Antenna Weight =	$WT_{ant} := 2$	lbs	(User Input)
Number ofAntennas =	$N_{ant} := 3$		(User Input)

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna =	$SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 0.1$	sf
Antenna Projected Surface Area =	$A_{ant} := SA_{ant} \cdot N_{ant} = 0.4$	sf
Total Antenna Wind Force =	$F_{ant7} := qz \cdot Cd_F \cdot A_{ant} \cdot m = 31$	lbs

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice =	$SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 0.2$	sf
Antenna Projected Surface Area w/ Ice =	$A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 0.6$	sf
Total Antenna Wind Force w/ Ice =	$Fi_{ant7} := p \cdot Cd_F \cdot A_{ICEant} = 4$	lbs

Gravity Load (without ice)

Weight of All Antennas =	$Wt_{ant7} := (WT_{ant} \cdot N_{ant}) = 6$	lbs

Gravity Load (ice only)

Volume of Each Antenna =	$V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 42$	cu in
Volume of Ice on Each Antenna =	$V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 52$	cu in
Weight of Ice on Each Antenna =	$W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 2$	lbs
Weight of Ice on All Antennas =	$Wt_{ice.ant7} := W_{ICEant} \cdot N_{ant} = 5$	lbs

Development of Wind & Ice Load on Platform

Platform Data:

Platform Model =	T-Arm Colocation Mount		(User Input)
Platform Shape =	Flat		(User Input)
Platform Area =	$A_{plt} := 10.65$	sq ft	(User Input)
Platform Area w/ Ice =	$A_{ICEplt} := 13.7$	sq ft	(User Input)
Platform Weight =	$WT_{plt} := 750$	lbs	(User Input)
Platform Weight w/ Ice =	$WT_{ICEplt} := 950$	lbs	(User Input)

Wind Load (NESC Extreme)

Total Platform Wind Force = $F_{mnt2} := qz \cdot Cd_F \cdot A_{plt} \cdot m = 760$ lbs

Wind Load (NESC Heavy)

Total Platform Wind Force w/ Ice = $Fi_{mnt2} := p \cdot Cd_F \cdot A_{ICEplt} = 88$ lbs

Gravity Load (without ice)

Weight of Platform = $Wt_{mnt2} := WT_{plt} = 750$ lbs

Gravity Load (ice only)

Weight of Ice on Platform = $Wt_{ice.mnt2} := WT_{ICEplt} - WT_{plt} = 200$ lbs

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Subject:	Load Analysis of Equipment on CL&P Structure #1281
Location:	Greenwich, CT
Rev. 0: 12/19/17	Prepared by: T.J.L Checked by: C.F.C. Job No. 16009.03

Development of Wind & Ice Load on Antennas

Antenna Data:

Antenna Model =	Kathrein 840-10520		
Antenna Shape =	Flat		(User Input)
Antenna Height =	$L_{ant} := 23.5$	in	(User Input)
Antenna Width =	$W_{ant} := 10.3$	in	(User Input)
Antenna Thickness =	$T_{ant} := 5.9$	in	(User Input)
Antenna Weight =	$WT_{ant} := 19$	lbs	(User Input)
Number ofAntennas =	$N_{ant} := 1$		(User Input)

Gravity Load (without ice)

Weight ofAll Antennas = $Wt_{ant8} := WT_{ant} \cdot N_{ant} = 19$ lbs

Gravity Load (ice only)

Volume of Each Antenna = $V_{ant} := L_{ant} \cdot W_{ant} \cdot T_{ant} = 1428$ cu in

Volume of Ice on Each Antenna = $V_{ice} := (L_{ant} + 1)(W_{ant} + 1) \cdot (T_{ant} + 1) - V_{ant} = 482$ cu in

Weight of Ice on Each Antenna = $W_{ICEant} := \frac{V_{ice}}{1728} \cdot Id = 16$ lbs

Weight of Ice on All Antennas = $Wt_{ice.ant8} := W_{ICEant} \cdot N_{ant} = 16$ lbs

Wind Load (NESC Extreme)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna = $SA_{ant} := \frac{L_{ant} \cdot W_{ant}}{144} = 1.7$ sf

Antenna Projected Surface Area = $A_{ant} := SA_{ant} \cdot N_{ant} = 1.7$ sf

Total Antenna Wind Force = $F_{ant8} := qz \cdot Cd_F \cdot A_{ant} = 96$ lbs

Wind Load (NESC Heavy)

Assumes Maximum Possible Wind Pressure Applied to all Antennas Simultaneously

Surface Area for One Antenna w/ Ice = $SA_{ICEant} := \frac{(L_{ant} + 1) \cdot (W_{ant} + 1)}{144} = 1.9$ sf

Antenna Projected Surface Area w/ Ice = $A_{ICEant} := SA_{ICEant} \cdot N_{ant} = 1.9$ sf

Total Antenna Wind Force w/ Ice = $Fi_{ant8} := p \cdot Cd_F \cdot A_{ICEant} = 12$ lbs

Development of Wind & Ice Load on Antenna Mounts

Mount Data:

Mount Type:	SitePro Tapered Pipe Mount		
Mount Shape =	Round		(User Input)
Pipe Mount Length =	$L_{mnt} := 36$	in	(User Input)
2 inch Pipe Mount Linear Weight =	$W_{mnt} := 3.66$	plf	(User Input)
Pipe Mount Outside Diameter =	$D_{mnt} := 2.375$	in	(User Input)
Number of Mounting Pipes =	$N_{mnt} := 1$		(User Input)
Mount Weight =	$W_{tp.mnt} := 77$	lbs	(User Input)

Gravity Loads (without ice)

Weight Each Pipe Mount = $WT_{mnt} := W_{mnt} \cdot \frac{L_{mnt}}{12} = 11$ lbs

Weight of All Mounts = $Wt_{mnt3} := WT_{mnt} \cdot N_{mnt} + W_{tp.mnt} = 88$ lbs

Gravity Load (ice)

Volume of Each Pipe = $V_{mnt} := \frac{\pi}{4} \cdot D_{mnt}^{2} \cdot L_{mnt} = 159$ cu in

Volume of Ice on Each Pipe = $V_{ice} := \left[\frac{\pi}{4} \cdot \left[\left(D_{mnt} + 2 \cdot Ir\right)^{2}\right] \cdot \left(L_{mnt} + 2 \cdot Ir\right)\right] - V_{mnt} = 172$ cu in

Weight of Ice each mount (incl, hardware) = $W_{ICEmnt} := \frac{V_{ice}}{1728} \cdot Id = 6$ lbs

Weight of Ice on All Mounts = $Wt_{ice.mnt3} := \left(W_{ICEmnt} \cdot N_{mnt} + 5\right) = 11$ lbs

Wind Load (NESC Extreme Wind)

Assumes Mount is Shielded by Antenna

Mount Projected Surface Area = $A_{mnt} := 0.0$ sf

Total Mount Wind Force = $F_{mnt3} := qz \cdot Cd_F \cdot A_{mnt} \cdot m = 0$ lbs

Wind Load (NESC Heavy Wind)

Assumes Mount is Shielded by Antenna

Mount Projected Surface Area w/ Ice = $A_{ICEmnt} := 0.0$ sf

Total Mount Wind Force = $Fi_{mnt3} := p \cdot Cd_F \cdot A_{ICEmnt} = 0$ lbs

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Development of Wind & Ice Load on Antenna Mounts

Mount Data:

Mount Type: SitePro XLD WiMax Tower Mount

Platform Area =	$A_{plt} := 4.5$	sq ft	(User Input)
Platform Area w/ Ice =	$A_{ICEplt} := 6$	sq ft	(User Input)
Platform Weight =	$WT_{plt} := 160$	lbs	(User Input)
Platform Weight w/ Ice =	$WT_{ICEplt} := 185$	lbs	(User Input)

Wind Load (NESC Extreme)

Total Platform Wind Force = $F_{mnt4} := qz \cdot Cd_F \cdot A_{plt} \cdot m = 321$ lbs

Wind Load (NESC Heavy)

Total Platform Wind Force w/ Ice = $Fi_{mnt4} := p \cdot Cd_F \cdot A_{ICEplt} = 38$ lbs

Gravity Load (without ice)

Weight of Platform = $Wt_{mnt4} := WT_{plt} = 160$ lbs

Gravity Load (ice only)

Weight of Ice on Platform = $Wt_{ice.mnt4} := WT_{ICEplt} - WT_{plt} = 25$ lbs

Total Equipment Loads:

Sprint @ 148-ftAGL

NESC Heavy Wind Vertical = $\left(Wt_{ant1} + Wt_{ice.ant1} + Wt_{mnt1} + Wt_{ice.mnt1}\right) \cdot 1.5 = 6929$

NESC Heavy Wind Trasnsverse = $\left(Fl_{ant1} + Fl_{mnt1}\right) \cdot 2.5 = 564$

NESC Extreme Wind Vertical = $\left(Wt_{ant1} + Wt_{mnt1}\right) = 3191$

NESC Extreme Wind Trasnsverse = $\left(F_{ant1} + F_{mnt1}\right) = 2276$

Verizon @ 139-ftAGL

NESC Heavy Wind Vertical =

$$NESC\_Heavy\_Vert := \left(Wt_{ant2} + Wt_{ice.ant2} + Wt_{ant3} + Wt_{ice.ant3} + Wt_{ant4} + Wt_{ice.ant4} + Wt_{ant5} + Wt_{ice.ant5} + Wt_{ant6} + Wt_{ice.ant6} + Wt_{ant7} + Wt_{ice.ant7}\right)$$

$NESC\_Heavy\_Vert = 2494$

NESC Heavy Wind Trasnsverse = $\left(Fl_{ant2} + Fl_{ant3} + Fl_{ant4} + Fl_{ant5} + Fl_{ant6} + Fl_{ant7} + Fl_{mnt2}\right) \cdot 2.5 = 1061$

NESC Extreme Wind Vertical = $\left(Wt_{ant2} + Wt_{ant3} + Wt_{ant4} + Wt_{ant5} + Wt_{ant6} + Wt_{ant7} + Wt_{mnt2}\right) = 1068$

NESC Extreme Wind Trasnsverse = $\left(F_{ant2} + F_{ant3} + F_{ant4} + F_{ant5} + F_{ant6} + F_{ant7} + F_{mnt2}\right) = 4127$

AT&T @ 70-ftAGL

NESC Heavy Wind Vertical = $\left(Wt_{ant8} + Wt_{ice.ant8} + Wt_{mnt3} + Wt_{ice.mnt3}\right) \cdot 1.5 = 200$ North Tower Leg - Alpha Sector

NESC Heavy Wind Trasnsverse = $\left(Fl_{ant8} + Fl_{mnt3}\right) \cdot 2.5 = 31$

NESC Extreme Wind Vertical = $\left(Wt_{ant8} + Wt_{mnt3}\right) = 107$

NESC Extreme Wind Trasnsverse = $\left(F_{ant8} + F_{mnt3}\right) = 96$

NESC Heavy Wind Vertical = $\left(Wt_{ant8} \cdot 2 + Wt_{ice.ant8} \cdot 2 + Wt_{mnt4} + Wt_{ice.mnt4}\right) \cdot 1.5 = 381$ East Tower Leg - Beta/Gamma Sectors

NESC Heavy Wind Trasnsverse = $\left(Fl_{ant8} \cdot 2 + Fl_{mnt4}\right) \cdot 2.5 = 158$

NESC Extreme Wind Vertical = $\left(Wt_{ant8} \cdot 2 + Wt_{mnt4}\right) = 198$

NESC Extreme Wind Trasnsverse = $\left(F_{ant8} \cdot 2 + F_{mnt4}\right) = 513$

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Subject: Coax Cable on Powermount on CL&P Tower # 1281

Location: Greenwich, CT

Rev. 0: 12/19/17

Prepared by: T.J.L Checked by: C.F.C.
Job No. 16009.03

Coax Cable within Powermount

(Below Top of Tower)

Distance Between Coax Cable Attach Points = $Coax_{Span} := \begin{pmatrix} 8 \\ 15 \\ 14 \\ 29.375 \\ 29.875 \\ 32.5 \end{pmatrix} \cdot ft$ *(User Input)*

Diameter of Coax Cable =	$D_{coax} := 1.98 \cdot in$	*(User Input)*	
Weight of Coax Cable =	$W_{coax} := 1.04 \cdot plf$	*(User Input)*	
Number of Coax Cables =	$N_{coax} := 24$	*(User Input)*	(6 Cables inside Powermount 18 on Exterior)
Number of Projected Coax Cables Transverse =	$NP_{Tcoax} := 4$	*(User Input)*	
Extreme Wind Pressure =	$qz := 35.7 \cdot psf$	*(User Input)*	
Heavy Wind Pressure =	$p := 4 \cdot psf$	*(User Input)*	
Radial Ice Thickness =	$Ir := 0.5 \cdot in$	*(User Input)*	
Radial Ice Density =	$Id := 56 \cdot pcf$	*(User Input)*	
Shape Factor =	$Cd_{coax} := 1.6$	*(User Input)*	
Overload Factor for NESC Heavy Wind Load =	$OF_{HW} := 2.5$	*(User Input)*	
Overload Factor for NESC Extreme Wind Load =	$OF_{EW} := 1.0$	*(User Input)*	
Overload Factor for NESC Heavy Vertical Load =	$OF_{HV} := 1.5$	*(User Input)*	
Overload Factor for NESC Extreme Vertical Load =	$OF_{EV} := 1.0$	*(User Input)*	

Wind Area with Ice Transverse = $A_{Tice} := \left(NP_{Tcoax} \cdot D_{coax} + 2 \cdot Ir\right) = 8.92 \cdot in$

Wind Area without Ice Transverse = $A_T := \left(NP_{Tcoax} \cdot D_{coax}\right) = 7.92 \cdot in$

Ice Area per Liner Ft = $Ai_{coax} := \frac{\pi}{4} \cdot \left[\left(D_{coax} + 2 \cdot Ir\right)^2 - D_{coax}^2\right] = 0.027\,ft^2$

Weight of Ice on All Coax Cables = $W_{ice} := Ai_{coax} \cdot Id \cdot N_{coax} = 36.359 \cdot plf$

Heavy Vertical Load =

$$Heavy_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax} + W_{ice}\right) \cdot Coax_{Span} \cdot OF_{HV}\right]}$$

Heavy Transverse Load =

$$Heavy_{Trans} := \overrightarrow{\left(p \cdot A_{Tice} \cdot Cd_{coax} \cdot Coax_{Span} \cdot OF_{HW}\right)}$$

$$Heavy_{Vert} = \begin{pmatrix} 736 \\ 1380 \\ 1288 \\ 2702 \\ 2748 \\ 2989 \end{pmatrix} lb \qquad Heavy_{Trans} = \begin{pmatrix} 95 \\ 178 \\ 167 \\ 349 \\ 355 \\ 387 \end{pmatrix} lb$$

Extreme Vertical Load =

$$Extreme_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax}\right) \cdot Coax_{Span} \cdot OF_{EV}\right]}$$

Extreme Transverse Load =

$$Extreme_{Trans} := \overrightarrow{\left[\left(qz \cdot A_T \cdot Cd_{coax}\right) \cdot Coax_{Span} \cdot OF_{EW}\right]}$$

$$Extreme_{Vert} = \begin{pmatrix} 200 \\ 374 \\ 349 \\ 733 \\ 746 \\ 811 \end{pmatrix} lb \qquad Extreme_{Trans} = \begin{pmatrix} 302 \\ 565 \\ 528 \\ 1107 \\ 1126 \\ 1225 \end{pmatrix} lb$$

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Subject: Coax Cable on Powermount on CL&P Tower # 1281

Location: Greenwich, CT

Rev. 0: 12/19/17 Prepared by: T.J.L Checked by: C.F.C.
Job No. 16009.03

Coax Cable on Powermount

(Above Top of Tower)

Coax Cable Span =	$Coax_{Span} := 15 \cdot ft$	*(User Input)*	
Diameter of Coax Cable =	$D_{coax} := 1.98 \cdot in$	*(User Input)*	
Weight of Coax Cable =	$W_{coax} := 1.04 \cdot plf$	*(User Input)*	
Number of Coax Cables =	$N_{coax} := 18$	*(User Input)*	(6 Cables inside Powermount 12 on Exterior)
Number of Projected Coax Cables Transverse =	$NP_{Tcoax} := 2$	*(User Input)*	
Extreme Wind Pressure =	$qz := 35.7 \cdot psf$	*(User Input)*	
Heavy Wind Pressure =	$p := 4 \cdot psf$	*(User Input)*	
Radial Ice Thickness =	$Ir := 0.5 \cdot in$	*(User Input)*	
Radial Ice Density =	$Id := 56 \cdot pcf$	*(User Input)*	
Shape Factor =	$Cd_{coax} := 1.6$	*(User Input)*	
Overload Factor for NESC Heavy Wind Load =	$OF_{HW} := 2.5$	*(User Input)*	
Overload Factor for NESC Extreme Wind Load =	$OF_{EW} := 1.0$	*(User Input)*	
Overload Factor for NESC Heavy Vertical Load =	$OF_{HV} := 1.5$	*(User Input)*	
Overload Factor for NESC Extreme Vertical Load =	$OF_{EV} := 1.0$	*(User Input)*	

Wind Area with Ice Transverse = $A_{Tice} := \left(NP_{Tcoax} \cdot D_{coax} + 2 \cdot Ir\right) = 4.96 \cdot in$

Wind Area without Ice Transverse = $A_T := \left(NP_{Tcoax} \cdot D_{coax}\right) = 3.96 \cdot in$

Ice Area per Liner Ft = $Ai_{coax} := \frac{\pi}{4} \cdot \left[\left(D_{coax} + 2 \cdot Ir\right)^2 - D_{coax}^{\ 2}\right] = 0.027\,ft^2$

Weight of Ice on All Coax Cables = $W_{ice} := Ai_{coax} \cdot Id \cdot N_{coax} = 27.269 \cdot plf$

Heavy Vertical Load =

$Heavy_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax} + W_{ice}\right) \cdot Coax_{Span} \cdot OF_{HV}\right]}$ $Heavy_{Vert} = 1035\,lb$

Heavy Transverse Load =

$Heavy_{Trans} := \overrightarrow{\left(p \cdot A_{Tice} \cdot Cd_{coax} \cdot Coax_{Span} \cdot OF_{HW}\right)}$ $Heavy_{Trans} = 99\,lb$

Extreme Vertical Load =

$Extreme_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax}\right) \cdot Coax_{Span} \cdot OF_{EV}\right]}$ $Extreme_{Vert} = 281\,lb$

Extreme Transverse Load =

$Extreme_{Trans} := \overrightarrow{\left[\left(qz \cdot A_T \cdot Cd_{coax}\right) \cdot Coax_{Span} \cdot OF_{EW}\right]}$ $Extreme_{Trans} = 283\,lb$

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Subject: Coax Cable on CL&P Tower # 1281

Location: Greenwich, CT

Rev. 0: 12/19/17

Prepared by: T.J.L Checked by: C.F.C.
Job No. 16009.03

Coax Cable on CL&P Tower

Sprint Cables on East Leg

Distance Between Coax Cable Attach Points =

Coax Cable Span = $Coax_{Span} := \begin{pmatrix} 10.25 \\ 12.775 \\ 14.025 \\ 14.75 \\ 16.585 \\ 14.625 \\ 13.29 \\ 32.5 \end{pmatrix} \cdot ft$ *(User Input)*

Diameter of Coax Cable = $D_{coax} := 1.98 \cdot in$ *(User Input)*

Weight of Coax Cable = $W_{coax} := 1.04 \cdot plf$ *(User Input)*

Number of Coax Cables = $N_{coax} := 12$ *(User Input)*

Number of Projected Coax Cables Transverse = $NP_{Tcoax} := 6$ *(User Input)*

Extreme Wind Pressure = $qz := 35.7 \cdot psf$ *(User Input)*

Heavy Wind Pressure = $p := 4 \cdot psf$ *(User Input)*

Radial Ice Thickness = $Ir := 0.5 \cdot in$ *(User Input)*

Radial Ice Density = $Id := 56 \cdot pcf$ *(User Input)*

Shape Factor = $Cd_{coax} := 1.6$ *(User Input)*

Overload Factor for NESC Heavy Wind Load = $OF_{HW} := 2.5$ *(User Input)*

Overload Factor for NESC Extreme Wind Load = $OF_{EW} := 1.0$ *(User Input)*

Overload Factor for NESC Heavy Vertical Load = $OF_{HV} := 1.5$ *(User Input)*

Overload Factor for NESC Extreme Vertical Load = $OF_{EV} := 1.0$ *(User Input)*

Wind Area with Ice Transverse = $A_{Tice} := \left(NP_{Tcoax} \cdot D_{coax} + 2 \cdot Ir\right) = 12.88 \cdot in$

Wind Area without Ice Transverse = $A_T := \left(NP_{Tcoax} \cdot D_{coax}\right) = 11.88 \cdot in$

Ice Area per Liner Ft = $Ai_{coax} := \frac{\pi}{4} \cdot \left[\left(D_{coax} + 2 \cdot Ir\right)^2 - D_{coax}^{\ 2}\right] = 0.027\,ft^2$

Weight of Ice on All Coax Cables = $W_{ice} := Ai_{coax} \cdot Id \cdot N_{coax} = 18.179 \cdot plf$

Heavy Vertical Load =

$$Heavy_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax} + W_{ice}\right) \cdot Coax_{Span} \cdot OF_{HV}\right]}$$

Heavy Transverse Load =

$$Heavy_{Trans} := \overrightarrow{\left(p \cdot A_{Tice} \cdot Cd_{coax} \cdot Coax_{Span} \cdot OF_{HW}\right)}$$

$$Heavy_{Vert} = \begin{pmatrix} 471 \\ 588 \\ 645 \\ 678 \\ 763 \\ 673 \\ 611 \\ 1495 \end{pmatrix} lb \qquad Heavy_{Trans} = \begin{pmatrix} 176 \\ 219 \\ 241 \\ 253 \\ 285 \\ 251 \\ 228 \\ 558 \end{pmatrix} lb$$

Extreme Vertical Load =

$$Extreme_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax}\right) \cdot Coax_{Span} \cdot OF_{EV}\right]}$$

Extreme Transverse Load =

$$Extreme_{Trans} := \overrightarrow{\left[\left(qz \cdot A_T \cdot Cd_{coax}\right) \cdot Coax_{Span} \cdot OF_{EW}\right]}$$

$$Extreme_{Vert} = \begin{pmatrix} 128 \\ 159 \\ 175 \\ 184 \\ 207 \\ 183 \\ 166 \\ 406 \end{pmatrix} lb \qquad Extreme_{Trans} = \begin{pmatrix} 580 \\ 722 \\ 793 \\ 834 \\ 938 \\ 827 \\ 752 \\ 1838 \end{pmatrix} lb$$

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Subject:	Coax Cable on CL&P Tower # 1281
Location:	Greenwich, CT
Rev. 0: 12/19/17	Prepared by: T.J.L Checked by: C.F.C. Job No. 16009.03

Coax Cable on CL&P Tower

AT&T Cables on North Leg

Distance Between Coax Cable Attach Points =

Coax Cable Span = $Coax_{Span} := \begin{pmatrix} 10 \\ 15 \\ 13 \\ 32 \end{pmatrix} \cdot ft$ *(User Input)*

Diameter of Coax Cable = $D_{coax} := 1.98 \cdot in$ *(User Input)*

Weight of Coax Cable = $W_{coax} := 1.04 \cdot plf$ *(User Input)*

Number of Coax Cables = $N_{coax} := 4$ *(User Input)*

Number of Projected Coax Cables Transverse = $NP_{Tcoax} := 2$ *(User Input)*

Extreme Wind Pressure = $qz := 35.7 \cdot psf$ *(User Input)*

Heavy Wind Pressure = $p := 4 \cdot psf$ *(User Input)*

Radial Ice Thickness = $Ir := 0.5 \cdot in$ *(User Input)*

Radial Ice Density = $Id := 56 \cdot pcf$ *(User Input)*

Shape Factor = $Cd_{coax} := 1.6$ *(User Input)*

Overload Factor for NESC Heavy Wind Load = $OF_{HW} := 2.5$ *(User Input)*

Overload Factor for NESC Extreme Wind Load = $OF_{EW} := 1.0$ *(User Input)*

Overload Factor for NESC Heavy Vertical Load = $OF_{HV} := 1.5$ *(User Input)*

Overload Factor for NESC Extreme Vertical Load = $OF_{EV} := 1.0$ *(User Input)*

Wind Area with Ice Transverse = $A_{Tice} := \left(NP_{Tcoax} \cdot D_{coax} + 2 \cdot Ir\right) = 4.96 \cdot in$

Wind Area without Ice Transverse = $A_T := \left(NP_{Tcoax} \cdot D_{coax}\right) = 3.96 \cdot in$

Ice Area per Liner Ft = $Ai_{coax} := \frac{\pi}{4} \cdot \left[\left(D_{coax} + 2 \cdot Ir\right)^2 - D_{coax}^{\ 2}\right] = 0.027\,ft^2$

Weight of Ice on All Coax Cables = $W_{ice} := Ai_{coax} \cdot Id \cdot N_{coax} = 6.06 \cdot plf$

Heavy Vertical Load =

$$Heavy_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax} + W_{ice}\right) \cdot Coax_{Span} \cdot OF_{HV}\right]}$$

Heavy Transverse Load =

$$Heavy_{Trans} := \overrightarrow{\left(p \cdot A_{Tice} \cdot Cd_{coax} \cdot Coax_{Span} \cdot OF_{HW}\right)}$$

$$Heavy_{Vert} = \begin{pmatrix} 153 \\ 230 \\ 199 \\ 491 \end{pmatrix} lb \qquad Heavy_{Trans} = \begin{pmatrix} 66 \\ 99 \\ 86 \\ 212 \end{pmatrix} lb$$

Extreme Vertical Load =

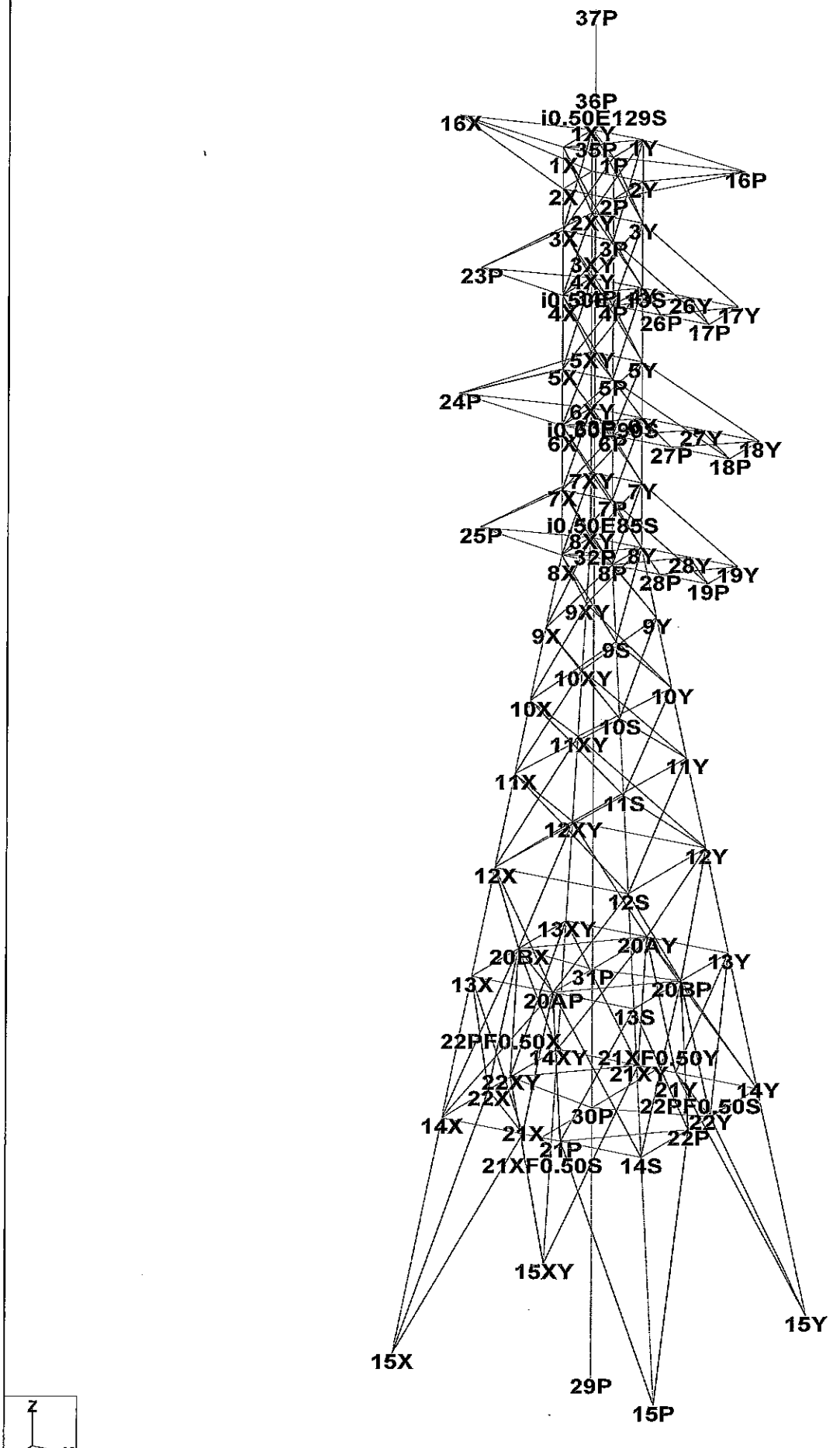
$$Extreme_{Vert} := \overrightarrow{\left[\left(N_{coax} \cdot W_{coax}\right) \cdot Coax_{Span} \cdot OF_{EV}\right]}$$

Extreme Transverse Load =

$$Extreme_{Trans} := \overrightarrow{\left[\left(qz \cdot A_T \cdot Cd_{coax}\right) \cdot Coax_{Span} \cdot OF_{EW}\right]}$$

$$Extreme_{Vert} = \begin{pmatrix} 42 \\ 62 \\ 54 \\ 133 \end{pmatrix} lb \qquad Extreme_{Trans} = \begin{pmatrix} 188 \\ 283 \\ 245 \\ 603 \end{pmatrix} lb$$

Centek Engineering Inc, Project: "CL&P # 1281"
Tower Version 12.50, 4:35:30 PM Tuesday, December 19, 2017
Undeformed geometry displayed



Project Name : 16009.03 - Greenwich, CT
Project Notes: CL&P Structure #1281 / AT&T CT5103
Project File : J:\Jobs\1600900.WI\003_Cos Cob (TEMP) Struct No 1281\04_Structural\Backup Documentation\PLS Tower\CL&P # 1281.tow
Date run : 4:34:33 PM Tuesday, December 19, 2017
by : Tower Version 12.50
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Successfully performed nonlinear analysis

Angle member "36P" has 1.00 bolt holes, but double angles should have at least 2 holes. ??
Angle member "36X" has 1.00 bolt holes, but double angles should have at least 2 holes. ??
Member "5P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "5X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Unable to calculate rupture capacity for member "g106P" because it has a long and short edge distance of 0. ??
KL/R value of 200.30 exceeds maximum of 200.00 for member "g118P" ??
Problem calculating gross area of longitudinal face for section "1": width is zero at elevation 128.80 (ft) which is not the top of the section. ??
Problem calculating gross area of longitudinal face for section "2": width is zero at elevation -4.25 (ft) which is not the top of the section. ??
Unusual number of fixed joints found: 5. Towers normally have from between 1 and 4 fixed joints. ??
The model has 121 warnings. ??

Member check option: ASCE 10
Connection rupture check: ASCE 10
Crossing diagonal check: ASCE 10 [Alternate Unsupported RLOUT = 1]
Included angle check: None
Climbing load check: None
Redundant members checked with: Actual Force

Loads from file: j:\jobs\1600900.wi\003_cos cob (temp) struct no 1281\04_structural\backup documentation\pls tower\cl&p # 1281.lca

*** Analysis Results:

Maximum element usage is 90.98% for Angle "3P" in load case "NESC Extreme"
Maximum insulator usage is 29.57% for Clamp "10" in load case "NESC Heavy"

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Bending Moment (ft-k)	Vert. Moment (ft-k)	Found. Usage %
NESC Heavy	15P	-32.08	-32.98	-220.23	46.01	-2.78	3.51	4.48	0.12	0.00
NESC Heavy	29P	-0.19	-1.19	-34.21	1.20	11.40	-3.54	11.94	0.84	0.00
NESC Heavy	15X	34.21	-29.68	187.35	45.29	-0.36	-0.19	0.41	0.01	0.00
NESC Heavy	15XY	-34.98	-31.90	188.28	47.34	1.41	-0.21	1.42	0.07	0.00
NESC Heavy	15Y	33.04	-33.01	-226.21	46.70	-1.71	-5.98	6.22	-0.37	0.00
NESC Extreme	15P	-29.55	-29.88	-207.29	42.02	-1.27	3.20	3.44	0.38	0.00
NESC Extreme	29P	-0.07	-2.53	-12.94	2.53	30.58	-2.59	30.69	1.16	0.00
NESC Extreme	15X	30.62	-33.84	168.73	45.64	4.46	0.17	4.46	0.74	0.00
NESC Extreme	15XY	-37.01	-42.78	200.63	56.57	6.85	-0.89	6.91	-0.61	0.00
NESC Extreme	15Y	30.53	-30.59	-204.80	43.22	4.44	-6.74	8.07	-1.35	0.00

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case	Support Joint	Origin Joint	Member	Leg Force In Leg Dir. (kips)	Residual Shear Perpendicular To Leg (kips)	Residual Shear Horizontal To Leg - Res. (kips)	Residual Shear Horizontal To Leg - Long. (kips)	Residual Shear Horizontal To Leg - Tran. (kips)	Total Long. Force (kips)	Total Tran. Force (kips)	Total Vert. Force (kips)
NESC Heavy	15P	14S	14P	224.984	0.695	0.698	-0.247	0.652	-32.08	-32.98	-220.23
NESC Heavy	15X	14X	14X	-192.625	6.941	7.058	-6.713	2.181	34.21	-29.68	187.35

NESC Heavy	15XY	14XY	14XY	-193.965	8.324	8.489	7.342	4.262	-34.98	-31.90	188.28
NESC Heavy	15Y	14Y	14Y	230.985	0.253	0.259	0.168	-0.197	33.04	-33.01	-226.21
NESC Extreme	15P	14S	14P	211.503	1.019	1.040	-0.882	-0.551	-29.55	-29.88	-207.29
NESC Extreme	15X	14X	14X	-174.471	10.584	10.799	-5.854	9.075	30.62	-33.84	168.73
NESC Extreme	15XY	14XY	14XY	-207.908	15.034	15.331	7.563	13.335	-37.01	-42.78	200.63
NESC Extreme	15Y	14Y	14Y	209.307	0.695	0.710	-0.470	0.532	30.53	-30.59	-204.80

Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Tran. Face Top Width (ft)	Tran. Face Bot Width (ft)	Tran. Face Gross Area (ft^2)	Long. Face Top Width (ft)	Long. Face Bot Width (ft)	Long. Face Gross Area (ft^2)	
1	143.750	84.750	59	188	0.00	6.00	309.150	0.00	28.50	817.275	Problem calculating gross area of longitudinal face for section "1": width is zero at elevation 128.80 (ft) which is not the top of the section. ??
2	84.750	-4.250	52	147	6.00	0.00	1226.814	6.00	0.00	1226.814	Problem calculating gross area of longitudinal face for section "2": width is zero at elevation -4.25 (ft) which is not the top of the section. ??

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage
which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Cont-rol	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/R Capacity (kips)	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/R Comp.	KL/R No.	Length Of Member	Curve Bolts	Angle No. Comp.	Steel No. Comp.	Max Usage (ft)
1	LEG1	SAE	3.5X3.5X0.25	36.0	90.98	Comp	90.98	3P	-29.853	NESC Ext	32.813	36.400	54.375	1.000	1.000	1.000	121.04	121.04	7.000	4	4		
2	LEG2	SAE	6X6X0.3125	36.0	87.73	Comp	87.73	5Y	-86.923	NESC Hea	99.083	109.200	203.906	1.000	1.000	1.000	60.50	60.50	6.050	1	12		
3	LEG3	SAE	8X8X0.5	36.0	68.57	Comp	68.57	7Y	-171.178	NESC Hea	249.636	254.800	380.624	1.000	1.000	1.000	52.83	52.83	7.000	1	14		
4	LEG4	SAE	8X8X0.625	36.0	72.74	Comp	72.74	10Y	-211.817	NESC Hea	306.646	291.200	543.749	1.000	1.000	1.000	60.12	60.12	7.915	1	16		
5	LEG5	SAE	8X8X0.75	36.0	63.48	Comp	63.48	11Y	-212.763	NESC Hea	335.162	0.000	0.000	1.000	1.000	1.000	76.95	76.95	10.131	1	0		
6	X1	SAE	2.5X2.5X0.1875	36.0	86.45	Comp	86.45	15AX	-13.515	NESC Ext	15.633	18.200	20.391	0.500	0.500	0.500	131.11	128.51	10.817	5	2		
7	X2	SAU	2.5X2X0.1875	36.0	85.43	Comp	85.43	16AX	-12.218	NESC Ext	14.303	18.200	20.391	0.500	0.500	0.500	129.55	127.32	9.220	5	2		
8	X3	SAU	4X3X0.25	36.0	57.37	Comp	57.37	17AX	-22.726	NESC Hea	39.613	45.500	67.969	0.500	0.750	0.500	100.45	105.33	10.000	2	5		
9	X4	SAU	3.5X2.5X0.25	36.0	60.32	Comp	60.32	18AXY	-19.747	NESC Hea	32.738	36.400	54.375	0.500	0.750	0.500	104.34	108.25	8.521	2	4		
10	X5	SAU	4X3.5X0.3125	36.0	54.28	Comp	54.28	19AX	-33.224	NESC Hea	61.204	63.700	118.945	0.500	0.750	0.500	77.55	88.16	9.220	2	7		
11	X6	SAU	5X3.5X0.25	36.0	26.18	Cross	26.18	21BP	-11.095	NESC Hea	42.374	54.600	81.562	1.000	0.580	0.580	95.79						

107.89	10.597	3	6																		
12		X7	SAU	4X3X0.25	36.0	16.00	Comp	16.00	22BX	-4.959NESC	Hea	30.985	36.400	54.375	0.560	0.560	0.560	126.41			
124.92	12.246	5	4																		
13		X8	SAU	3.5X3X0.25	36.0	8.89	Tens	6.03	23AX	-1.359NESC	Hea	22.542	27.300	40.781	0.550	0.550	0.550	147.17			
140.74	14.070	5	3																		
14		X9	SAU	5X3X0.25	36.0	18.11	Comp	18.11	24AXY	-3.882NESC	Ext	21.431	27.300	40.781	0.550	0.550	0.550	173.71			
160.96	17.450	5	3																		
15		D1	SAU	5X3X0.25	36.0	78.17	Tens	11.60	25BY	-3.919NESC	Ext	33.799	63.700	95.156	1.000	0.500	0.500	127.63			
125.86	14.103	5	7																		
16		D2	SAE	2X2X0.1875	36.0	41.26	Tens	7.59	26AY	-0.307NESC	Hea	4.044	18.200	20.391	0.500	0.500	0.500	256.65			
224.16	16.853	5	2																		
17		D3	SAU	3X2X0.25	36.0	65.57	Tens	0.00	27BXY	0.000		6.420	36.400	54.375	1.000	0.500	0.500	264.74			
230.33	19.194	5	4																		
18		D4	SAU	4X3X0.25	36.0	63.43	Tens	55.12	28BY	-6.332NESC	Ext	11.489	45.500	67.969	0.500	1.000	0.500	205.19			
205.19	15.321	4	5																		
19		D5	SAU	3.5X3X0.25	36.0	76.25	Tens	11.35	29AP	-2.911NESC	Hea	25.652	45.500	67.969	0.250	0.250	0.250	135.61			
131.93	28.523	5	5																		
20		H1	SAE	1.75X1.75X0.1875	36.0	51.30	Tens	0.00	35Y	0.000		4.027	9.100	10.195	1.000	1.000	1.000	209.91			
209.91	6.000	4	1																		
21		H2	SAU	4X3.5X0.25	36.0	53.92	Comp	53.92	37AY	-14.720NESC	Ext	27.341	27.300	40.781	1.000	0.500	0.500	148.70			
137.65	15.738	6	3																		
22		H3	SAE	3X3X0.1875	36.0	38.58	Comp	38.58	38BX	-4.438NESC	Ext	11.503	18.200	20.391	1.000	1.000	1.000	192.66			
164.68	9.569	6	2																		
23		H4	SAU	5X3X0.25	36.0	48.03	Comp	48.03	39AY	-8.742NESC	Ext	21.560	18.200	27.187	1.000	1.000	1.000	173.07			
160.48	9.562	5	2																		
24		H5	SAE	3.5X3.5X0.25	36.0	28.24	Comp	28.24	40XY	-3.780NESC	Ext	13.386	18.200	27.187	1.000	1.000	1.000	233.97			
190.09	13.531	6	2																		
25		X10	SAE	1.75X1.75X0.1875	36.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.00			
0.00	0.000	0	0																		
26		X11	SAE	2X2X0.1875	36.0	11.57	Tens	9.21	43CXY	-1.160NESC	Hea	12.587	18.200	20.391	1.000	1.000	1.000	129.22			
127.06	4.243	5	2																		
27		X12	SAU	2.5X2X0.1875	36.0	8.61	Comp	8.61	44P	-1.437NESC	Ext	16.678	18.200	20.391	0.750	0.500	0.500	115.57			
116.67	8.224	2	2																		
28		H6	SAU	4X3X0.25	36.0	37.58	Tens	0.00	45BP	0.000		35.407	18.200	27.187	1.000	1.000	1.000	110.60			
115.30	6.000	3	2																		
29		D6	SAU	3X2X0.1875	36.0	25.75	Comp	25.75	46Y	-1.992NESC	Hea	7.736	18.200	20.391	1.000	0.500	0.500	201.94			
182.48	14.775	5	2																		
30		HGR1	SAU	2.5X2X0.1875	36.0	31.56	Tens	0.00	49AY	0.000		5.486	18.200	20.391	1.000	0.500	0.500	205.58			
205.58	13.585	4	2																		
31		HGR2	SAE	3X3X0.1875	36.0	31.65	Tens	0.00	48AY	0.000		8.140	18.200	20.391	1.000	0.500	0.500	195.77			
195.77	15.319	4	2																		
32		A1	SAE	3X3X0.25	36.0	37.66	Tens	17.67	50XY	-3.216NESC	Hea	21.867	18.200	27.187	0.500	0.500	0.500	142.64			
137.29	14.073	5	2																		
33		A2	SAU	3.5X3X0.25	36.0	29.59	Comp	29.59	51Y	-9.664NESC	Hea	32.661	36.400	54.375	0.500	0.500	0.500	110.71			
115.36	11.643	3	4																		
34		A#	SAE	4X4X0.25	36.0	25.24	Comp	25.24	52Y	-10.506NESC	Hea	41.627	45.500	67.969	0.500	0.500	0.500	106.21			
113.11	14.073	3	5																		
35		H7	SAU	2.5X2X0.1875	36.0	20.02	Comp	20.02	54P	-1.633NESC	Hea	8.154	9.100	10.195	1.000	1.000	1.000	168.62			
168.62	6.000	4	1																		
36		H8	DAE	1.75X1.75X0.1875	36.0	84.81	Tens	67.24	36P	-11.296NESC	Hea	19.743	16.800	20.391	1.000	1.000	1.000	134.08			
134.08	6.000	4	1																		
Pwmnt	12" Std. Pipe	Pwmnt		Pipe 12" Std.	42.0	8.70	Comp	8.70	g101P	-22.636NESC	Hea	260.146	0.000	0.000	1.000	1.000	1.000	122.32			
122.32	44.750	4	0																		
PMBR1	L2x2x3/16	SAE		2X2X0.1875	36.0	3.67	Comp	3.67	g107P	-0.374NESC	Ext	20.042	16.800	10.195	1.000	1.000	1.000	45.71			
82.86	1.501	3	1																		
PMBR2	L2.5x2.5x3/16	SAE		2.5X2.5X0.1875	36.0	32.68	Comp	32.68	g111P	-3.332NESC	Ext	22.126	16.800	10.195	1.000	1.000	1.000	81.32			
100.66	3.354	3	1																		
PMBR3	L3x3x3/16	SAE		3X3X0.1875	36.0	2.24	Tens	0.00	g114P	0.000		11.823	16.800	10.195	1.000	1.000	1.000	162.44			
162.44	8.068	4	1																		
PMBR4	L3.5x3.5x1/4	SAE		3.5X3.5X0.25	36.0	15.25	Comp	15.25	g116X	-2.073NESC	Ext	17.249	16.800	13.594	1.000	1.000	1.000	167.46			

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167.46  9.685     4     1
  PMBR5       L4x4x1/4    SAE          4X4X0.25      36.0  8.23  Comp  8.23   g120P   -1.119NESC Ext   16.004   16.800   13.594 1.000 1.000 1.000 186.27
186.27 12.340     4     1 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize
moments): g118P  ??
    20a             H1    SAE 1.75X1.75X0.1875      36.0 19.51  Comp 19.51    30AP   -1.776NESC Hea   13.441    9.100   10.195 0.500 0.500 0.500 104.96
112.48  6.000     3     1
 AngleR       L2x2x1/4    SAE          2X2X0.25      36.0 37.80  Tens 34.46    42XY   -3.136NESC Ext   15.869    9.100   13.594 1.000 1.000 1.000 130.21
130.21  4.243     4     1
 BraceR  L2.5x2.5x1/4    SAE      2.5X2.5X0.25      36.0 58.05  Comp 58.05   g110X   -7.891NESC Ext   29.101   16.800   13.594 1.000 1.000 1.000  81.98
100.99  3.354     3     1 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize
moments): g110P  ??
  Plate    6"x3/4" PL    Bar             6x3/4      36.0  4.84  Comp  4.84   g106P   -0.813NESC Ext  109.423   16.800    0.000 1.000 1.000 1.000  83.19
101.59  1.501     3     1
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Group Summary (Tension Portion):

Group No.	Group Label	Angle Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Usage Control	Max Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Shear Capacity (kips)	Tension Connect. Bearing Capacity (kips)	Tension Connect. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts	Hole Diameter (in)	Holes
1		LEG1	SAE	3.5X3.5X0.25	36.0	90.98	Comp	73.56	3X	26.775	NESC Ext	48.465	36.400	54.375	60.417	7.000	4	0.6875	2.000
2		LEG2	SAE	6X6X0.3125	36.0	87.73	Comp	78.83	5XY	79.193	NESC Ext	100.462	109.200	203.906	226.562	6.050	12	0.6875	4.000
3		LEG3	SAE	8X8X0.5	36.0	68.57	Comp	66.97	7X	157.846	NESC Hea	235.687	254.800	380.624	422.916	7.000	14	0.6875	3.500
4		LEG4	SAE	8X8X0.625	36.0	72.74	Comp	67.09	9X	195.772	NESC Hea	291.819	0.000	0.000	0.000	7.915	0	0.6875	3.500
5		LEG5	SAE	8X8X0.75	36.0	63.48	Comp	57.26	11X	193.318	NESC Hea	337.589	0.000	0.000	0.000	10.131	0	0.6875	4.000
6		X1	SAE	2.5X2.5X0.1875	36.0	86.45	Comp	75.20	15AP	13.584	NESC Ext	25.048	18.200	20.391	18.063	10.817	2	0.6875	1.000
7		X2	SAU	2.5X2X0.1875	36.0	85.43	Comp	63.92	16AP	11.586	NESC Ext	19.030	18.200	20.391	18.125	9.220	2	0.6875	1.000
8		X3	SAU	4X3X0.25	36.0	57.37	Comp	49.96	17AP	22.516	NESC Hea	45.066	45.500	67.969	60.417	10.000	5	0.6875	1.740
9		X4	SAU	3.5X2.5X0.25	36.0	60.32	Comp	54.98	18AY	20.012	NESC Hea	40.920	36.400	54.375	42.647	8.521	4	0.6875	1.030
10		X5	SAU	4X3.5X0.3125	36.0	54.28	Comp	54.24	19AP	32.782	NESC Hea	60.440	63.700	118.945	112.337	9.220	7	0.6875	1.790
11		X6	SAU	5X3.5X0.25	36.0	26.18	Cross	26.16	21BXY	12.023	NESC Hea	45.962	54.600	81.562	72.500	10.597	6	0.6875	1.550
12		X7	SAU	4X3X0.25	36.0	16.00	Comp	11.18	22BY	4.070	NESC Hea	41.087	36.400	54.375	44.391	12.246	4	0.6875	1.000
13		X8	SAU	3.5X3X0.25	36.0	8.89	Tens	8.89	23AY	2.427	NESC Ext	40.925	27.300	40.781	38.516	14.070	3	0.6875	1.000
14		X9	SAU	5X3X0.25	36.0	18.11	Comp	2.95	24AP	0.805	NESC Hea	41.087	27.300	40.781	36.250	17.450	3	0.6875	1.000
15		D1	SAU	5X3X0.25	36.0	78.17	Tens	78.17	25AY	29.029	NESC Ext	37.133	63.700	95.156	74.632	14.103	7	0.6875	1.710
16		D2	SAE	2X2X0.1875	36.0	41.26	Tens	41.26	26BX	7.477	NESC Ext	18.827	18.200	20.391	18.125	16.853	2	0.6875	1.000

1.000	0.6875																		
	17		D3	SAU	3X2X0.25	36.0	65.57	Tens	65.57	27AXY	16.318NESC	Ext	24.887	36.400	54.375	48.333	19.194		4
1.000	0.6875																		
	18		D4	SAU	4X3X0.25	36.0	63.43	Tens	63.43	28AY	28.862NESC	Ext	47.739	45.500	67.969	60.417	15.321		5
1.260	0.6875																		
	19		D5	SAU	3.5X3X0.25	36.0	76.25	Tens	76.25	29AXY	34.293NESC	Ext	44.975	45.500	67.969	53.634	28.523		5
1.000	0.6875																		
	20		H1	SAE	1.75X1.75X0.1875	36.0	51.30	Tens	51.30	33Y	3.603NESC	Hea	15.911	9.100	10.195	7.024	6.000		1
1.000	0.6875																		
	21		H2	SAU	4X3.5X0.25	36.0	53.92	Comp	14.10	37BP	3.850NESC	Ext	49.025	27.300	40.781	36.250	15.738		3
1.000	0.6875																		
	22		H3	SAE	3X3X0.1875	36.0	38.58	Comp	5.65	38AXY	1.024NESC	Ext	31.139	18.200	20.391	18.125	9.569		2
1.000	0.6875																		
	23		H4	SAU	5X3X0.25	36.0	48.03	Comp	47.94	F39C2118X	8.726NESC	Ext	41.087	18.200	27.187	24.167	2.208		2
1.000	0.6875																		
	24		H5	SAE	3.5X3.5X0.25	36.0	28.24	Comp	21.85	40Y	3.977NESC	Ext	49.187	18.200	27.187	25.677	13.531		2
1.000	0.6875																		
	25		X10	SAE	1.75X1.75X0.1875	36.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000		0
0.000	0																		
	26		X11	SAE	2X2X0.1875	36.0	11.57	Tens	11.57	43AP	1.523NESC	Ext	18.827	18.200	20.391	13.170	4.243		2
1.000	0.6875																		
	27		X12	SAU	2.5X2X0.1875	36.0	8.61	Comp	7.97	44AY	1.444NESC	Ext	19.030	18.200	20.391	18.125	8.224		2
1.000	0.6875																		
	28		H6	SAU	4X3X0.25	36.0	37.58	Tens	37.58	45P	6.839NESC	Hea	41.087	18.200	27.187	24.167	6.000		2
1.000	0.6875																		
	29		D6	SAU	3X2X0.1875	36.0	25.75	Comp	0.00	46Y	0.000		18.908	18.200	20.391	13.577	14.775		2
1.000	0.6875																		
	30		HGR1	SAU	2.5X2X0.1875	36.0	31.56	Tens	31.56	47Y	4.286NESC	Hea	19.030	18.200	20.391	13.577	13.250		2
1.000	0.6875																		
	31		HGR2	SAE	3X3X0.1875	36.0	31.65	Tens	31.65	48Y	5.737NESC	Hea	31.139	18.200	20.391	18.125	15.022		2
1.000	0.6875																		
	32		A1	SAE	3X3X0.25	36.0	37.66	Tens	37.66	50Y	6.825NESC	Hea	37.802	18.200	27.187	18.125	14.073		2
1.590	0.6875																		
	33		A2	SAU	3.5X3X0.25	36.0	29.59	Comp	28.56	53BP	7.797NESC	Hea	35.356	27.300	40.781	31.985	5.625		3
2.000	0.6875																		
	34		A#	SAE	4X4X0.25	36.0	25.24	Comp	15.38	52BP	6.996NESC	Hea	51.718	45.500	67.969	71.078	6.875		5
2.000	0.6875																		
	35		H7	SAU	2.5X2X0.1875	36.0	20.02	Comp	7.70	54X	0.701NESC	Hea	22.067	9.100	10.195	9.629	6.000		1
1.000	0.6875																		
	36		H8	DAE	1.75X1.75X0.1875	36.0	84.81	Tens	84.81	36X	12.606NESC	Hea	35.999	16.800	20.391	14.864	6.000		1
1.000	0.6875																		
	Pwmnt	12" Std. Pipe	Pwmnt		Pipe 12" Std.	42.0	8.70	Comp	0.00	g121P	0.000		571.199	0.000	0.000	0.000	9.000		0
0.000	0																		
	PMBR1	L2x2x3/16	SAE		2X2X0.1875	36.0	3.67	Comp	0.87	g107P	0.088NESC	Hea	18.827	16.800	10.195	10.343	1.501		1
1.000	0.6875																		
	PMBR2	L2.5x2.5x3/16	SAE		2.5X2.5X0.1875	36.0	32.68	Comp	24.43	g111X	2.491NESC	Ext	25.048	16.800	10.195	11.328	3.354		1
1.000	0.6875																		
	PMBR3	L3x3x3/16	SAE		3X3X0.1875	36.0	2.24	Tens	2.24	g114P	0.228NESC	Ext	31.139	16.800	10.195	11.328	8.068		1
1.000	0.6875																		
	PMBR4	L3.5x3.5x1/4	SAE		3.5X3.5X0.25	36.0	15.25	Comp	13.43	g116P	1.826NESC	Ext	49.187	16.800	13.594	15.104	9.685		1
1.000	0.6875																		
	PMBR5	**L4x4x1/4**	**SAE**		**4X4X0.25**	**36.0**	**8.23**	**Comp**	**8.07**	**g120X**	**1.097NESC**	**Ext**	**57.287**	**16.800**	**13.594**	**15.104**	**12.340**		**1**
1.000	**0.6875 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): g118P**																		
??																			
	20a		H1	SAE	1.75X1.75X0.1875	36.0	19.51	Comp	7.89	30BP	0.554NESC	Hea	15.911	9.100	10.195	7.024	6.000		1
1.000	0.6875																		
	AngleR	L2x2x1/4	SAE		2X2X0.25	36.0	37.80	Tens	37.80	42X	3.440NESC	Ext	24.887	9.100	13.594	9.366	4.243		1
1.000	0.6875																		
	BraceR	**L2.5x2.5x1/4**	**SAE**		**2.5X2.5X0.25**	**36.0**	**58.05**	**Comp**	**44.87**	**g110P**	**6.100NESC**	**Ext**	**32.987**	**16.800**	**13.594**	**15.104**	**3.354**		**1**

1.000 0.6875 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): g110P
??
Plate 6"x3/4" PL Bar 6x3/4 36.0 4.84 Comp 2.51 g106P 0.421NESC Hea 145.800 16.800 0.000 0.000 1.501 1
1.000 0.6875

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
NESC Heavy	87.73	5Y	Angle
NESC Extreme	90.98	3P	Angle

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
1	Clamp	19.65	NESC Heavy	0.0
2	Clamp	19.51	NESC Heavy	0.0
3	Clamp	20.20	NESC Heavy	0.0
4	Clamp	20.61	NESC Heavy	0.0
5	Clamp	20.20	NESC Heavy	0.0
6	Clamp	20.62	NESC Heavy	0.0
7	Clamp	20.20	NESC Heavy	0.0
8	Clamp	20.61	NESC Heavy	0.0
9	Clamp	29.53	NESC Heavy	0.0
10	Clamp	29.57	NESC Heavy	0.0
11	Clamp	29.53	NESC Heavy	0.0
12	Clamp	1.81	NESC Extreme	0.0
13	Clamp	2.09	NESC Extreme	0.0
14	Clamp	2.32	NESC Heavy	0.0
15	Clamp	4.00	NESC Extreme	0.0
16	Clamp	4.67	NESC Extreme	0.0
17	Clamp	3.69	NESC Heavy	0.0
18	Clamp	3.20	NESC Extreme	0.0
19	Clamp	6.04	NESC Heavy	0.0
20	Clamp	10.21	NESC Heavy	0.0
21	Clamp	10.89	NESC Heavy	0.0
22	Clamp	10.43	NESC Heavy	0.0
23	Clamp	4.98	NESC Heavy	0.0
24	Clamp	5.34	NESC Heavy	0.0
25	Clamp	3.42	NESC Heavy	0.0
26	Clamp	9.14	NESC Extreme	0.0
27	Clamp	16.71	NESC Heavy	0.0
28	Clamp	2.37	NESC Extreme	0.0
29	Clamp	3.08	NESC Heavy	0.0
30	Clamp	2.50	NESC Heavy	0.0
31	Clamp	4.27	NESC Heavy	0.0

*** Weight of structure (lbs):
Weight of Angles*Section DLF: 38857.7

```
*****************************************************************************
*                                                                           *
* TOWER - Analysis and Design -  Copyright Power Line Systems, Inc. 1986-2011 *
*                                                                           *
*****************************************************************************

Project Name : 16009.03 - Greenwich, CT
Project Notes: CL&P Structure #1281 / AT&T CT5103
Project File : J:\Jobs\1600900.WI\003_Cos Cob (TEMP) Struct No 1281\04_Structural\Backup Documentation\PLS Tower\CL&P # 1281.tow
Date run     : 4:34:32 PM Tuesday, December 19, 2017
by           : Tower Version 12.50
Licensed to  : Centek Engineering Inc

Successfully performed nonlinear analysis

Angle member "36P" has 1.00 bolt holes, but double angles should have at least 2 holes. ??
Angle member "36X" has 1.00 bolt holes, but double angles should have at least 2 holes. ??
Member "5P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "5X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "5XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "5Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "7P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
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and spacing distances will be checked. ??
Member "7Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "10P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "10X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "10XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "10Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "12P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "12X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
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Member "12XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
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Member "12Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "13P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "13X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
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and spacing distances will be checked. ??
Member "13Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
and spacing distances will be checked. ??
Member "14P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge
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and spacing distances will be checked. ??
Member "14X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "14XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "14Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "17AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "17AX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "17AXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "17AY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "17BP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "17BX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "17BXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "17BY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "18AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "18AX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "18AXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "18AY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "18BP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "18BX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "19AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "19AX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "19AXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "19AY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "19BY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "20AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

Member "20AX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "20AXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "25AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "25AX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "25AXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "25BY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "28AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "28AX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "28BXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "28BY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "40P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "40X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "40XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "40Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "50P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "50AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "50AY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "51P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "51Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "51AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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Member "51BP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "51BY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "51CP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "51CY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "52P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
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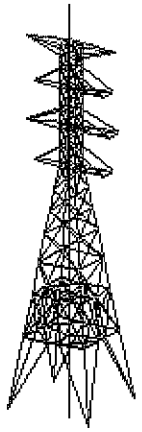
Member "53CP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Member "53CY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
Unable to calculate rupture capacity for member "g106P" because it has a long and short edge distance of 0. ??
KL/R value of 200.30 exceeds maximum of 200.00 for member "g118P" ??
Problem calculating gross area of longitudinal face for section "1": width is zero at elevation 128.80 (ft) which is not the top of the section. ??
Problem calculating gross area of longitudinal face for section "2": width is zero at elevation -4.25 (ft) which is not the top of the section. ??
Unusual number of fixed joints found: 5. Towers normally have from between 1 and 4 fixed joints. ??
The model has 121 warnings. ??



Nonlinear convergence parameters: Use Standard Parameters
Tension only member maximum compression load as a percent of compression capacity: 100%
Member check option: ASCE 10
Connection rupture check: ASCE 10
Crossing diagonal check: ASCE 10 [Alternate Unsupported RLOUT = 1]
Included angle check: None
Climbing load check: None
Redundant members checked with: Actual Force

Joints Geometry:

Joint	Symmetry	X Coord.	Y Coord.	Z Coord.	X Disp.	Y Disp.	Z Disp.	X Rot.	Y Rot.	Z Rot.

Label	Code	(ft)	(ft)	(ft)	Rest.	Rest.	Rest.	Rest.	Rest.	Rest.
1P	XY-Symmetry	3	3	128.8	Free	Free	Free	Free	Free	Free
2P	XY-Symmetry	3	3	124.3	Free	Free	Free	Free	Free	Free
3P	XY-Symmetry	3	3	119.8	Free	Free	Free	Free	Free	Free
4P	XY-Symmetry	3	3	112.8	Free	Free	Free	Free	Free	Free
5P	XY-Symmetry	3	3	104.8	Free	Free	Free	Free	Free	Free
6P	XY-Symmetry	3	3	98.75	Free	Free	Free	Free	Free	Free
7P	XY-Symmetry	3	3	91.75	Free	Free	Free	Free	Free	Free
8P	XY-Symmetry	3	3	84.75	Free	Free	Free	Free	Free	Free
15P	XY-Symmetry	15.44	15.44	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
16P	X-Symmetry	0	16.75	128.8	Free	Free	Free	Free	Free	Free
17P	Y-Symmetry	3	14.25	112.8	Free	Free	Free	Free	Free	Free
18P	Y-Symmetry	3	16.75	98.75	Free	Free	Free	Free	Free	Free
19P	Y-Symmetry	3	14.25	84.75	Free	Free	Free	Free	Free	Free
20AP	Y-Symmetry	9.568	0	40	Free	Free	Free	Free	Free	Free
20BP	X-Symmetry	0	9.568	40	Free	Free	Free	Free	Free	Free
21P	XY-Symmetry	11.77	2.208	25	Free	Free	Free	Free	Free	Free
22P	XY-Symmetry	2.208	11.77	25	Free	Free	Free	Free	Free	Free
23P	None	0	-14.25	112.8	Free	Free	Free	Free	Free	Free
24P	None	0	-16.75	98.75	Free	Free	Free	Free	Free	Free
25P	None	0	-14.25	84.75	Free	Free	Free	Free	Free	Free
26P	Y-Symmetry	3	8.625	112.8	Free	Free	Free	Free	Free	Free
27P	Y-Symmetry	3	9.875	98.75	Free	Free	Free	Free	Free	Free
28P	Y-Symmetry	3	8.625	84.75	Free	Free	Free	Free	Free	Free
29P	None	1.5	0	-4.25	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
30P	None	1.5	0	25	Free	Free	Free	Free	Free	Free
31P	None	1.5	0	40	Free	Free	Free	Free	Free	Free
32P	None	1.5	0	84.75	Free	Free	Free	Free	Free	Free
33P	None	1.5	0	98.75	Free	Free	Free	Free	Free	Free
34P	None	1.5	0	112.8	Free	Free	Free	Free	Free	Free
35P	None	1.5	0	128.8	Free	Free	Free	Free	Free	Free
36P	None	1.5	0	134.8	Free	Free	Free	Free	Free	Free
37P	None	1.5	0	143.8	Free	Free	Free	Free	Free	Free
1X	X-GenXY	3	-3	128.8	Free	Free	Free	Free	Free	Free
1XY	XY-GenXY	-3	-3	128.8	Free	Free	Free	Free	Free	Free
1Y	Y-GenXY	-3	3	128.8	Free	Free	Free	Free	Free	Free
2X	X-GenXY	3	-3	124.3	Free	Free	Free	Free	Free	Free
2XY	XY-GenXY	-3	-3	124.3	Free	Free	Free	Free	Free	Free
2Y	Y-GenXY	-3	3	124.3	Free	Free	Free	Free	Free	Free
3X	X-GenXY	3	-3	119.8	Free	Free	Free	Free	Free	Free
3XY	XY-GenXY	-3	-3	119.8	Free	Free	Free	Free	Free	Free
3Y	Y-GenXY	-3	3	119.8	Free	Free	Free	Free	Free	Free
4X	X-GenXY	3	-3	112.8	Free	Free	Free	Free	Free	Free
4XY	XY-GenXY	-3	-3	112.8	Free	Free	Free	Free	Free	Free
4Y	Y-GenXY	-3	3	112.8	Free	Free	Free	Free	Free	Free
5X	X-GenXY	3	-3	104.8	Free	Free	Free	Free	Free	Free
5XY	XY-GenXY	-3	-3	104.8	Free	Free	Free	Free	Free	Free
5Y	Y-GenXY	-3	3	104.8	Free	Free	Free	Free	Free	Free
6X	X-GenXY	3	-3	98.75	Free	Free	Free	Free	Free	Free
6XY	XY-GenXY	-3	-3	98.75	Free	Free	Free	Free	Free	Free
6Y	Y-GenXY	-3	3	98.75	Free	Free	Free	Free	Free	Free
7X	X-GenXY	3	-3	91.75	Free	Free	Free	Free	Free	Free
7XY	XY-GenXY	-3	-3	91.75	Free	Free	Free	Free	Free	Free
7Y	Y-GenXY	-3	3	91.75	Free	Free	Free	Free	Free	Free
8X	X-GenXY	3	-3	84.75	Free	Free	Free	Free	Free	Free
8XY	XY-GenXY	-3	-3	84.75	Free	Free	Free	Free	Free	Free
8Y	Y-GenXY	-3	3	84.75	Free	Free	Free	Free	Free	Free
15X	X-GenXY	15.44	-15.44	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
15XY	XY-GenXY	-15.44	-15.44	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed

15Y	Y-GenXY	-15.44	15.44	0	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
16X	X-Gen	0	-16.75	128.8	Free	Free	Free	Free	Free	Free
17Y	Y-Gen	-3	14.25	112.8	Free	Free	Free	Free	Free	Free
18Y	Y-Gen	-3	16.75	98.75	Free	Free	Free	Free	Free	Free
19Y	Y-Gen	-3	14.25	84.75	Free	Free	Free	Free	Free	Free
20AY	Y-Gen	-9.568	0	40	Free	Free	Free	Free	Free	Free
20BX	X-Gen	0	-9.568	40	Free	Free	Free	Free	Free	Free
21X	X-GenXY	11.77	-2.208	25	Free	Free	Free	Free	Free	Free
21XY	XY-GenXY	-11.77	-2.208	25	Free	Free	Free	Free	Free	Free
21Y	Y-GenXY	-11.77	2.208	25	Free	Free	Free	Free	Free	Free
22X	X-GenXY	2.208	-11.77	25	Free	Free	Free	Free	Free	Free
22XY	XY-GenXY	-2.208	-11.77	25	Free	Free	Free	Free	Free	Free
22Y	Y-GenXY	-2.208	11.77	25	Free	Free	Free	Free	Free	Free
26Y	Y-Gen	-3	8.625	112.8	Free	Free	Free	Free	Free	Free
27Y	Y-Gen	-3	9.875	98.75	Free	Free	Free	Free	Free	Free
28Y	Y-Gen	-3	8.625	84.75	Free	Free	Free	Free	Free	Free

Secondary Joints:

Joint Label	Symmetry Code	Origin Joint	End Joint	Fraction	Elevation (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.
9S	XY-Symmetry	8P	15P	0	77	Free	Free	Free	Free	Free	Free
10S	XY-Symmetry	8P	15P	0	69.25	Free	Free	Free	Free	Free	Free
11S	XY-Symmetry	8P	15P	0	61.5	Free	Free	Free	Free	Free	Free
12S	XY-Symmetry	8P	15P	0	51.58	Free	Free	Free	Free	Free	Free
13S	XY-Symmetry	8P	15P	0	40	Free	Free	Free	Free	Free	Free
14S	XY-Symmetry	8P	15P	0	25	Free	Free	Free	Free	Free	Free
i0.50E129S	None	1X	1Y	0.5	0	Free	Free	Free	Free	Free	Free
i0.50E113S	None	4X	4Y	0.5	0	Free	Free	Free	Free	Free	Free
i0.50E99S	None	6X	6Y	0.5	0	Free	Free	Free	Free	Free	Free
i0.50E85S	None	8X	8Y	0.5	0	Free	Free	Free	Free	Free	Free
21XF0.50S	Y-Symmetry	21X	21P	0.5	0	Free	Free	Free	Free	Free	Free
22PF0.50S	X-Symmetry	22P	22Y	0.5	0	Free	Free	Free	Free	Free	Free
9X	X-GenXY	8P	15P	0	77	Free	Free	Free	Free	Free	Free
9XY	XY-GenXY	8P	15P	0	77	Free	Free	Free	Free	Free	Free
9Y	Y-GenXY	8P	15P	0	77	Free	Free	Free	Free	Free	Free
10X	X-GenXY	8P	15P	0	69.25	Free	Free	Free	Free	Free	Free
10XY	XY-GenXY	8P	15P	0	69.25	Free	Free	Free	Free	Free	Free
10Y	Y-GenXY	8P	15P	0	69.25	Free	Free	Free	Free	Free	Free
11X	X-GenXY	8P	15P	0	61.5	Free	Free	Free	Free	Free	Free
11XY	XY-GenXY	8P	15P	0	61.5	Free	Free	Free	Free	Free	Free
11Y	Y-GenXY	8P	15P	0	61.5	Free	Free	Free	Free	Free	Free
12X	X-GenXY	8P	15P	0	51.58	Free	Free	Free	Free	Free	Free
12XY	XY-GenXY	8P	15P	0	51.58	Free	Free	Free	Free	Free	Free
12Y	Y-GenXY	8P	15P	0	51.58	Free	Free	Free	Free	Free	Free
13X	X-GenXY	8P	15P	0	40	Free	Free	Free	Free	Free	Free
13XY	XY-GenXY	8P	15P	0	40	Free	Free	Free	Free	Free	Free
13Y	Y-GenXY	8P	15P	0	40	Free	Free	Free	Free	Free	Free
14X	X-GenXY	8P	15P	0	25	Free	Free	Free	Free	Free	Free
14XY	XY-GenXY	8P	15P	0	25	Free	Free	Free	Free	Free	Free
14Y	Y-GenXY	8P	15P	0	25	Free	Free	Free	Free	Free	Free
21XF0.50Y	Y-Gen	21X	21P	0.5	0	Free	Free	Free	Free	Free	Free
22PF0.50X	X-Gen	22P	22Y	0.5	0	Free	Free	Free	Free	Free	Free

The model contains 74 primary and 32 secondary joints for a total of 106 joints.

Steel Material Properties:

Steel Material Label	Modulus of Elasticity (ksi)	Yield Stress Fy (ksi)	Ultimate Stress Fu (ksi)	Member All. Stress Hyp. 1 (ksi)	Member All. Stress Hyp. 2 (ksi)	Member Rupture Hyp. 1 (ksi)	Member Rupture Hyp. 2 (ksi)	Member Bearing Hyp. 1 (ksi)	Member Bearing Hyp. 2 (ksi)
A 36	2.9e+004	36	58	0	0	0	0	0	0
A500-42	2.9e+004	42	58	0	0	0	0	0	0

Bolt Properties:

Bolt Label	Bolt Diameter (in)	Hole Diameter (in)	Ultimate Shear Capacity (kips)	Default End Distance (in)	Default Bolt Spacing (in)	Shear Capacity Hyp. 1 (kips)	Shear Capacity Hyp. 2 (kips)
5/8 A394	0.625	0.6875	9.1	1.125	1.5	0	0
5/8 A325	0.625	0.6875	16.8	1.25	1.5	0	0

Number Bolts Used By Type:

Bolt Type	Number Bolts
5/8 A394	1248
5/8 A325	22

Angle Properties:

Angle Type	Angle Size	Long Leg (in)	Short Leg (in)	Thick. (in)	Unit Weight (lbs/ft)	Gross Area (in^2)	w/t Ratio	Radius of Gyration Rx (in)	Radius of Gyration Ry (in)	Radius of Gyration Rz (in)	Number of Angles	Wind Width (in)	Short Edge Dist. (in)	Long Edge Dist. (in)	Optimize Cost Factor	Section Modulus (in^3)
SAE	8X8X0.75	8	8	0.75	38.9	11.44	8.83	2.47	2.47	1.58	1	8	4	0	1.0000	0
SAE	8X8X0.625	8	8	0.625	32.7	9.61	10.8	2.49	2.49	1.58	1	8	4	0	1.0000	0
SAE	8X8X0.5	8	8	0.5	26.4	7.75	13.75	2.5	2.5	1.59	1	8	4	0	1.0000	0
SAE	6X6X0.3125	6	6	0.3125	12.5	3.65	16.6	1.89	1.89	1.2	1	6	3	0	1.0000	0
SAE	4X4X0.25	4	4	0.25	6.6	1.94	13.5	1.25	1.25	0.795	1	4	2	0	1.0000	0
SAE	3.5X3.5X0.25	3.5	3.5	0.25	5.8	1.69	11.5	1.09	1.09	0.694	1	3.5	1.75	0	1.0000	0
SAE	3X3X0.25	3	3	0.25	4.9	1.44	9.75	0.93	0.93	0.592	1	3	1.5	0	1.0000	0
SAE	3X3X0.1875	3	3	0.1875	3.71	1.09	13.33	0.939	0.939	0.596	1	3	1.5	0	1.0000	0
SAE	2.5X2.5X0.25	2.5	2.5	0.25	4.1	1.19	7.75	0.769	0.769	0.491	1	2.5	1.25	0	1.0000	0
SAE	2.5X2.5X0.1875	2.5	2.5	0.1875	3.07	0.902	10.67	0.778	0.778	0.495	1	2.5	1.25	0	1.0000	0
SAE	2X2X0.25	2	2	0.25	3.19	0.94	5	0.609	0.609	0.391	1	2	1	0	1.0000	0
SAE	2X2X0.1875	2	2	0.1875	2.44	0.71	8	0.617	0.617	0.394	1	2	1	0	1.0000	0
SAE	1.75X1.75X0.1875	1.75	1.75	0.1875	2.12	0.62	6	0.537	0.537	0.343	1	1.75	0.875	0	1.0000	0
SAU	5X3.5X0.25	5	3.5	0.25	7	2.06	17	1.62	1.04	0.77	1	5	1.75	0	1.0000	0
SAU	5X3X0.25	5	3	0.25	6.6	1.94	17	1.62	0.861	0.663	1	5	1.5	0	1.0000	0
SAU	4X3.5X0.3125	4	3.5	0.3125	7.7	2.25	10.4	1.26	1.07	0.73	1	4	1.75	0	1.0000	0
SAU	4X3.5X0.25	4	3.5	0.25	6.2	1.81	13.25	1.27	1.07	0.734	1	4	1.75	0	1.0000	0
SAU	4X3X0.25	4	3	0.25	5.8	1.69	13.25	1.28	0.896	0.651	1	4	1.5	0	1.0000	0
SAU	3.5X3X0.25	3.5	3	0.25	5.4	1.56	11.25	1.11	0.914	0.631	1	3.5	1.5	0	1.0000	0
SAU	3.5X2.5X0.25	3.5	2.5	0.25	4.9	1.44	11.25	1.12	0.735	0.544	1	3.5	1.25	0	1.0000	0
SAU	3X2X0.25	3	2	0.25	4.1	1.19	9.75	0.957	0.574	0.435	1	3	1	0	1.0000	0
SAU	3X2X0.1875	3	2	0.1875	3.07	0.9	13.33	0.966	0.583	0.439	1	3	1	0	1.0000	0
SAU	2.5X2X0.1875	2.5	2	0.1875	2.75	0.81	10.67	0.793	0.6	0.427	1	2.5	1	0	1.0000	0
Pwmnt	Pipe 12" Std.	12.75	12	0	49.6	13.6	1	4.39	4.39	4.39	1	12.75	0	0	0.0000	0
Bar	6x3/4	6	0.75	0	15.3	4.5	8	0.2165	1.732	1.732	1	6	0	0	0.0000	0

DAE	1.75X1.75X0.1875	1.75	1.75	0.1875	4.2	1.24	7	0.537	0.738	0.537	2	3.5	0	0	0.0000	0

Angle Groups:

Group Label	Group Description	Angle Type	Angle Size	Material Type	Element Type	Group Type	Optimize Group	Allow. Add. Angle Width For Optimize (in)
1	LEG1	SAE	3.5X3.5X0.25	A 36	Beam	Leg	None	0.000
2	LEG2	SAE	6X6X0.3125	A 36	Beam	Leg	None	0.000
3	LEG3	SAE	8X8X0.5	A 36	Beam	Leg	None	0.000
4	LEG4	SAE	8X8X0.625	A 36	Beam	Leg	None	0.000
5	LEG5	SAE	8X8X0.75	A 36	Beam	Leg	None	0.000
6	X1	SAE	2.5X2.5X0.1875	A 36	Truss	Crossing Diagonal	None	0.000
7	X2	SAU	2.5X2X0.1875	A 36	Truss	Crossing Diagonal	None	0.000
8	X3	SAU	4X3X0.25	A 36	Truss	Crossing Diagonal	None	0.000
9	X4	SAU	3.5X2.5X0.25	A 36	Truss	Crossing Diagonal	None	0.000
10	X5	SAU	4X3.5X0.3125	A 36	Truss	Crossing Diagonal	None	0.000
11	X6	SAU	5X3.5X0.25	A 36	Truss	Crossing Diagonal	None	0.000
12	X7	SAU	4X3X0.25	A 36	Truss	Crossing Diagonal	None	0.000
13	X8	SAU	3.5X3X0.25	A 36	Truss	Crossing Diagonal	None	0.000
14	X9	SAU	5X3X0.25	A 36	Truss	Crossing Diagonal	None	0.000
15	D1	SAU	5X3X0.25	A 36	Truss	Other	None	0.000
16	D2	SAE	2X2X0.1875	A 36	T-Only	Other	None	0.000
17	D3	SAU	3X2X0.25	A 36	T-Only	Other	None	0.000
18	D4	SAU	4X3X0.25	A 36	T-Only	Other	None	0.000
19	D5	SAU	3.5X3X0.25	A 36	Truss	Other	None	0.000
20	H1	SAE	1.75X1.75X0.1875	A 36	T-Only	Other	None	0.000
21	H2	SAU	4X3.5X0.25	A 36	Truss	Other	None	0.000
22	H3	SAE	3X3X0.1875	A 36	Truss	Other	None	0.000
23	H4	SAU	5X3X0.25	A 36	Truss	Other	None	0.000
24	H5	SAE	3.5X3.5X0.25	A 36	Truss	Other	None	0.000
25	X10	SAE	1.75X1.75X0.1875	A 36	Beam	Other	None	0.000
26	X11	SAE	2X2X0.1875	A 36	Beam	Other	None	0.000
27	X12	SAU	2.5X2X0.1875	A 36	Truss	Other	None	0.000
28	H6	SAU	4X3X0.25	A 36	Truss	Other	None	0.000
29	D6	SAU	3X2X0.1875	A 36	Truss	Other	None	0.000
30	HGR1	SAU	2.5X2X0.1875	A 36	T-Only	Other	None	0.000
31	HGR2	SAE	3X3X0.1875	A 36	T-Only	Other	None	0.000
32	A1	SAE	3X3X0.25	A 36	Beam	Other	None	0.000
33	A2	SAU	3.5X3X0.25	A 36	Beam	Other	None	0.000
34	A#	SAE	4X4X0.25	A 36	Beam	Other	None	0.000
35	H7	SAU	2.5X2X0.1875	A 36	Truss	Other	None	0.000
36	H8	DAE	1.75X1.75X0.1875	A 36	T-Only Beam	Other	None	0.000
Pwmnt	12" Std. Pipe Pwmnt		Pipe 12" Std.	A500-42	Beam	Other	None	0.000
PMBR1	L2x2x3/16	SAE	2X2X0.1875	A 36	Beam	Other	None	12.000
PMBR2	L2.5x2.5x3/16	SAE	2.5X2.5X0.1875	A 36	Beam	Other	None	12.000
PMBR3	L3x3x3/16	SAE	3X3X0.1875	A 36	Beam	Other	None	12.000
PMBR4	L3.5x3.5x1/4	SAE	3.5X3.5X0.25	A 36	Beam	Other	None	12.000
PMBR5	L4x4x1/4	SAE	4X4X0.25	A 36	Beam	Other	None	12.000
20a	H1	SAE	1.75X1.75X0.1875	A 36	Truss	Other	None	0.000
AngleR	L2x2x1/4	SAE	2X2X0.25	A 36	Beam	Other	None	0.000
BraceR	L2.5x2.5x1/4	SAE	2.5X2.5X0.25	A 36	Beam	Other	None	0.000
Plate	6"x3/4" PL	Bar	6x3/4	A 36			None	0.000

Aggregate Angle Information:

Note: Estimate of surface area reported for painting purposes, not wind loading.

Angle Type	Angle Size	Material Type	Total Length (ft)	Total Surface Area (ft^2)	Total Weight (lbs)
SAE	3.5X3.5X0.25	A 36	212.92	248.41	1234.96
SAE	6X6X0.3125	A 36	56.20	112.40	702.50
SAE	8X8X0.5	A 36	56.00	149.33	1478.40
SAE	8X8X0.625	A 36	94.98	253.29	3105.93
SAE	8X8X0.75	A 36	251.24	669.98	9773.41
SAE	2.5X2.5X0.1875	A 36	106.66	88.88	327.44
SAU	2.5X2X0.1875	A 36	295.39	221.54	812.33
SAU	4X3X0.25	A 36	318.53	371.62	1847.48
SAU	3.5X2.5X0.25	A 36	68.17	68.17	334.01
SAU	4X3.5X0.3125	A 36	147.51	184.39	1135.85
SAU	5X3.5X0.25	A 36	84.78	120.10	593.45
SAU	3.5X3X0.25	A 36	456.32	494.34	2464.10
SAU	5X3X0.25	A 36	346.59	462.12	2287.47
SAE	2X2X0.1875	A 36	190.24	126.82	464.18
SAU	3X2X0.25	A 36	153.55	127.96	629.55
SAE	1.75X1.75X0.1875	A 36	84.00	49.00	178.08
DAE	1.75X1.75X0.1875	A 36	12.00	7.00	50.40
SAU	4X3.5X0.25	A 36	62.95	78.69	390.29
SAE	3X3X0.1875	A 36	145.30	145.30	539.06
SAE	2X2X0.25	A 36	16.97	11.31	54.14
SAU	3X2X0.1875	A 36	59.10	49.25	181.44
SAE	3X3X0.25	A 36	68.29	68.29	334.64
SAE	4X4X0.25	A 36	105.60	140.80	696.94
Pwmnt	Pipe 12" Std.	A500-42	148.00	610.50	7340.80
Bar	6x3/4	A 36	1.50	1.69	22.96
SAE	2.5X2.5X0.25	A 36	6.71	5.59	27.51

Sections:
The adjustment factors below only apply to dead load and wind areas that are calculated for members in the model.
They do not apply to equipment or to manually input dead load and drag areas.

Section Label	Joint Defining Section Bottom	Dead Load Adjust. Factor	Transverse Drag x Area Factor For Face	Longitudinal Drag x Area Factor For Face	Transverse Area Factor (CD From Code)	Longitudinal Area Factor (CD From Code)	Af Flat Factor For Face EIA Only	Ar Round Factor For Face EIA Only	Transverse Drag x Area Factor For All	Longitudinal Drag x Area Factor For All	SAPS Angle Drag x Area Factor	SAPS Round Drag x Area Factor	Force Solid Face
1	8X	1.050	3.350	3.350	1.100	1.100	0.000	0.000	1.000	1.000	0.000	0.000	None
2	29P	1.050	3.500	3.500	1.200	1.200	0.000	0.000	1.000	1.000	0.000	0.000	None

Angle Member Connectivity:

Member Label	Group Tension Label	Section Rest. Path	Symmetry Code	Origin Joint	End Joint	Ecc. Code	Rest. Code	Ratio RLX	Ratio RLY	Ratio RLZ	Bolt Type	# Bolts	# Bolt Holes	# Shear Planes	Connect Leg	Short Edge Dist. (in)	Long Edge Dist. (in)	End Dist. (in)	Bolt Spacing (in)	Shear Path Length (in)	Shear Path Length (in)
1P	1		XY-Symmetry	1P	2P	1	4	1	1	1	5/8 A394	0	2	1	Both	0	0	0			

0	0	0	0																	
	1X	1		X-GenXY	1X	2X	1	4	1	1	1 5/8	A394	0	2	1	Both	0	0	0	
0	0	0	0																	
	1XY	1		XY-GenXY	1XY	2XY	1	4	1	1	1 5/8	A394	0	2	1	Both	0	0	0	
0	0	0	0																	
	1Y	1		Y-GenXY	1Y	2Y	1	4	1	1	1 5/8	A394	0	2	1	Both	0	0	0	
0	0	0	0																	
	2P	1		XY-Symmetry	2P	3P	1	4	1	1	1 5/8	A394	0	2	1	Both	0	0	0	
0	0	0	0																	
	2X	1		X-GenXY	2X	3X	1	4	1	1	1 5/8	A394	0	2	1	Both	0	0	0	
0	0	0	0																	
	2XY	1		XY-GenXY	2XY	3XY	1	4	1	1	1 5/8	A394	0	2	1	Both	0	0	0	
0	0	0	0																	
	2Y	1		Y-GenXY	2Y	3Y	1	4	1	1	1 5/8	A394	0	2	1	Both	0	0	0	
0	0	0	0																	
	3P	1		XY-Symmetry	3P	4P	1	4	1	1	1 5/8	A394	4	2	1	Both	1.875	0	1.25	
2.5	0	0	0																	
	3X	1		X-GenXY	3X	4X	1	4	1	1	1 5/8	A394	4	2	1	Both	1.875	0	1.25	
2.5	0	0	0																	
	3XY	1		XY-GenXY	3XY	4XY	1	4	1	1	1 5/8	A394	4	2	1	Both	1.875	0	1.25	
2.5	0	0	0																	
	3Y	1		Y-GenXY	3Y	4Y	1	4	1	1	1 5/8	A394	4	2	1	Both	1.875	0	1.25	
2.5	0	0	0																	
	4P	2		XY-Symmetry	4P	5P	1	4	1	1	1 5/8	A394	0	4	1	Both	0	0	0	
0	0	0	0																	
	4X	2		X-GenXY	4X	5X	1	4	1	1	1 5/8	A394	0	4	1	Both	0	0	0	
0	0	0	0																	
	4XY	2		XY-GenXY	4XY	5XY	1	4	1	1	1 5/8	A394	0	4	1	Both	0	0	0	
0	0	0	0																	
	4Y	2		Y-GenXY	4Y	5Y	1	4	1	1	1 5/8	A394	0	4	1	Both	0	0	0	
0	0	0	0																	
	5P	2		XY-Symmetry	5P	6P	1	4	1	1	1 5/8	A394	12	4	1	Both	1.125	3.125	1.25	
3.5	0	0	0																	
	5X	2		X-GenXY	5X	6X	1	4	1	1	1 5/8	A394	12	4	1	Both	1.125	3.125	1.25	
3.5	0	0	0																	
	5XY	2		XY-GenXY	5XY	6XY	1	4	1	1	1 5/8	A394	12	4	1	Both	1.125	3.125	1.25	
3.5	0	0	0																	
	5Y	2		Y-GenXY	5Y	6Y	1	4	1	1	1 5/8	A394	12	4	1	Both	1.125	3.125	1.25	
3.5	0	0	0																	
	6P	3		XY-Symmetry	6P	7P	1	4	1	1	1 5/8	A394	0	3.5	1	Both	0	0	0	
0	0	0	0																	
	6X	3		X-GenXY	6X	7X	1	4	1	1	1 5/8	A394	0	3.5	1	Both	0	0	0	
0	0	0	0																	
	6XY	3		XY-GenXY	6XY	7XY	1	4	1	1	1 5/8	A394	0	3.5	1	Both	0	0	0	
0	0	0	0																	
	6Y	3		Y-GenXY	6Y	7Y	1	4	1	1	1 5/8	A394	0	3.5	1	Both	0	0	0	
0	0	0	0																	
	7P	3		XY-Symmetry	7P	8P	1	4	1	1	1 5/8	A394	14	3.5	2	Both	1.5	4.75	1.25	
3	0	0	0																	
	7X	3		X-GenXY	7X	8X	1	4	1	1	1 5/8	A394	14	3.5	2	Both	1.5	4.75	1.25	
3	0	0	0																	
	7XY	3		XY-GenXY	7XY	8XY	1	4	1	1	1 5/8	A394	14	3.5	2	Both	1.5	4.75	1.25	
3	0	0	0																	
	7Y	3		Y-GenXY	7Y	8Y	1	4	1	1	1 5/8	A394	14	3.5	2	Both	1.5	4.75	1.25	
3	0	0	0																	
	8P	4		XY-Symmetry	8P	9S	1	4	1	1	1 5/8	A394	0	3.5	1	Both	0	0	0	
0	0	0	0																	
	8X	4		X-GenXY	8X	9X	1	4	1	1	1 5/8	A394	0	3.5	1	Both	0	0	0	
0	0	0	0																	
	8XY	4		XY-GenXY	8XY	9XY	1	4	1	1	1 5/8	A394	0	3.5	1	Both	0	0	0	

0	0	0	0																			
	8Y	4		Y-GenXY	8Y	9Y	1	4	1	1	1	5/8	A394	0	3.5	1	Both	0	0	0		
0	0	0	0																			
	9P	4		XY-Symmetry	9S	10S	1	4	1	1	1	5/8	A394	0	3.5	1	Both	0	0	0		
0	0	0	0																			
	9X	4		X-GenXY	9X	10X	1	4	1	1	1	5/8	A394	0	3.5	1	Both	0	0	0		
0	0	0	0																			
	9XY	4		XY-GenXY	9XY	10XY	1	4	1	1	1	5/8	A394	0	3.5	1	Both	0	0	0		
0	0	0	0																			
	9Y	4		Y-GenXY	9Y	10Y	1	4	1	1	1	5/8	A394	0	3.5	1	Both	0	0	0		
0	0	0	0																			
	10P	4		XY-Symmetry	10S	11S	1	4	1	1	1	5/8	A394	16	3.5	2	Both	1.5	4.75	1.25		
3	0	0	0																			
	10X	4		X-GenXY	10X	11X	1	4	1	1	1	5/8	A394	16	3.5	2	Both	1.5	4.75	1.25		
3	0	0	0																			
	10XY	4		XY-GenXY	10XY	11XY	1	4	1	1	1	5/8	A394	16	3.5	2	Both	1.5	4.75	1.25		
3	0	0	0																			
	10Y	4		Y-GenXY	10Y	11Y	1	4	1	1	1	5/8	A394	16	3.5	2	Both	1.5	4.75	1.25		
3	0	0	0																			
	11P	5		XY-Symmetry	11S	12S	1	4	1	1	1	5/8	A394	0	4	1	Both	0	0	0		
0	0	0	0																			
	11X	5		X-GenXY	11X	12X	1	4	1	1	1	5/8	A394	0	4	1	Both	0	0	0		
0	0	0	0																			
	11XY	5		XY-GenXY	11XY	12XY	1	4	1	1	1	5/8	A394	0	4	1	Both	0	0	0		
0	0	0	0																			
	11Y	5		Y-GenXY	11Y	12Y	1	4	1	1	1	5/8	A394	0	4	1	Both	0	0	0		
0	0	0	0																			
	12P	5		XY-Symmetry	12S	13S	1	4	0.5	0.5	0.5	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	12X	5		X-GenXY	12X	13X	1	4	0.5	0.5	0.5	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	12XY	5		XY-GenXY	12XY	13XY	1	4	0.5	0.5	0.5	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	12Y	5		Y-GenXY	12Y	13Y	1	4	0.5	0.5	0.5	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	13P	5		XY-Symmetry	13S	14S	1	4	0.5	0.5	0.5	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	13X	5		X-GenXY	13X	14X	1	4	0.5	0.5	0.5	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	13XY	5		XY-GenXY	13XY	14XY	1	4	0.5	0.5	0.5	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	13Y	5		Y-GenXY	13Y	14Y	1	4	0.5	0.5	0.5	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	14P	5		XY-Symmetry	14S	15P	1	4	0.25	0.25	0.25	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	14X	5		X-GenXY	14X	15X	1	4	0.25	0.25	0.25	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	14XY	5		XY-GenXY	14XY	15XY	1	4	0.25	0.25	0.25	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	14Y	5		Y-GenXY	14Y	15Y	1	4	0.25	0.25	0.25	5/8	A394	20	4	2	Both	1.25	4.75	1.25		
3.5	0	0	0																			
	15AP	6		XY-Symmetry	1P	3X	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	0.875	0	1		
2.25	0	0	0																			
	15AX	6		X-GenXY	1X	3P	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	0.875	0	1		
2.25	0	0	0																			
	15AXY	6		XY-GenXY	1XY	3Y	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	0.875	0	1		
2.25	0	0	0																			
	15AY	6		Y-GenXY	1Y	3XY	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	0.875	0	1		
2.25	0	0	0																			
	15BP	6		XY-Symmetry	3P	1Y	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	0.875	0	1		

2.25	0	0	0																					
	15BX	6		X-GenXY	3X	1XY	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	0.875	0	1				
2.25	0	0	0																					
	15BXY	6		XY-GenXY	3XY	1X	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	0.875	0	1				
2.25	0	0	0																					
	15BY	6		Y-GenXY	3Y	1P	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	0.875	0	1				
2.25	0	0	0																					
	16AP	7		XY-Symmetry	3P	4X	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
3.25	0	0	0																					
	16AX	7		X-GenXY	3X	4P	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
3.25	0	0	0																					
	16AXY	7		XY-GenXY	3XY	4Y	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
3.25	0	0	0																					
	16AY	7		Y-GenXY	3Y	4XY	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
3.25	0	0	0																					
	16BP	7		XY-Symmetry	4P	3Y	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
3.125	0	0	0																					
	16BX	7		X-GenXY	4X	3XY	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
3.125	0	0	0																					
	16BXY	7		XY-GenXY	4XY	3X	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
3.125	0	0	0																					
	16BY	7		Y-GenXY	4Y	3P	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
3.125	0	0	0																					
	17AP	8		XY-Symmetry	4P	5X	2	5	0.5	0.75	0.5	5/8	A394	5	1.74	1	Long only	1	2.75	1				
2.25	0	0	0																					
	17AX	8		X-GenXY	4X	5P	2	5	0.5	0.75	0.5	5/8	A394	5	1.74	1	Long only	1	2.75	1				
2.25	0	0	0																					
	17AXY	8		XY-GenXY	4XY	5Y	2	5	0.5	0.75	0.5	5/8	A394	5	1.74	1	Long only	1	2.75	1				
2.25	0	0	0																					
	17AY	8		Y-GenXY	4Y	5XY	2	5	0.5	0.75	0.5	5/8	A394	5	1.74	1	Long only	1	2.75	1				
2.25	0	0	0																					
	17BP	8		XY-Symmetry	5P	4Y	2	5	0.5	0.75	0.5	5/8	A394	5	1.74	1	Long only	1	2.75	1				
2.25	0	0	0																					
	17BX	8		X-GenXY	5X	4XY	2	5	0.5	0.75	0.5	5/8	A394	5	1.74	1	Long only	1	2.75	1				
2.25	0	0	0																					
	17BXY	8		XY-GenXY	5XY	4X	2	5	0.5	0.75	0.5	5/8	A394	5	1.74	1	Long only	1	2.75	1				
2.25	0	0	0																					
	17BY	8		Y-GenXY	5Y	4P	2	5	0.5	0.75	0.5	5/8	A394	5	1.74	1	Long only	1	2.75	1				
2.25	0	0	0																					
	18AP	9		XY-Symmetry	5P	6X	2	5	0.5	0.75	0.5	5/8	A394	4	1.03	1	Long only	0.75	2.25	1				
4	0	0	0																					
	18AX	9		X-GenXY	5X	6P	2	5	0.5	0.75	0.5	5/8	A394	4	1.03	1	Long only	0.75	2.25	1				
4	0	0	0																					
	18AXY	9		XY-GenXY	5XY	6Y	2	5	0.5	0.75	0.5	5/8	A394	4	1.03	1	Long only	0.75	2.25	1				
4	0	0	0																					
	18AY	9		Y-GenXY	5Y	6XY	2	5	0.5	0.75	0.5	5/8	A394	4	1.03	1	Long only	0.75	2.25	1				
4	0	0	0																					
	18BP	9		XY-Symmetry	6P	5Y	2	5	0.5	0.75	0.5	5/8	A394	4	1.03	1	Long only	0.75	2.25	1				
4	0	0	0																					
	18BX	9		X-GenXY	6X	5XY	2	5	0.5	0.75	0.5	5/8	A394	4	1.03	1	Long only	0.75	2.25	1				
4	0	0	0																					
	18BXY	9		XY-GenXY	6XY	5X	2	5	0.5	0.75	0.5	5/8	A394	4	1.03	1	Long only	0.75	2.25	1				
4	0	0	0																					
	18BY	9		Y-GenXY	6Y	5P	2	5	0.5	0.75	0.5	5/8	A394	4	1.03	1	Long only	0.75	2.25	1				
4	0	0	0																					
	19AP	10		XY-Symmetry	6P	7X	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625				
2	0	0	0																					
	19AX	10		X-GenXY	6X	7P	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625				
2	0	0	0																					
	19AXY	10		XY-GenXY	6XY	7Y	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625				

2	0	0	0																			
	19AY	10		Y-GenXY	6Y	7XY	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
2	0	0	0																			
	19BP	10		XY-Symmetry	7P	6Y	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
2	0	0	0																			
	19BX	10		X-GenXY	7X	6XY	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
2	0	0	0																			
	19BXY	10		XY-GenXY	7XY	6X	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
2	0	0	0																			
	19BY	10		Y-GenXY	7Y	6P	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
2	0	0	0																			
	20AP	10		XY-Symmetry	7P	8X	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1		
1.75	0	0	0																			
	20AX	10		X-GenXY	7X	8P	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1		
1.75	0	0	0																			
	20AXY	10		XY-GenXY	7XY	8Y	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1		
1.75	0	0	0																			
	20AY	10		Y-GenXY	7Y	8XY	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1		
1.75	0	0	0																			
	20BP	10		XY-Symmetry	8P	7Y	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
1.75	0	0	0																			
	20BX	10		X-GenXY	8X	7XY	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
1.75	0	0	0																			
	20BXY	10		XY-GenXY	8XY	7X	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
1.75	0	0	0																			
	20BY	10		Y-GenXY	8Y	7P	2	5	0.5	0.75	0.5	5/8	A394	7	1.79	1	Long only	1	2.75	1.0625		
1.75	0	0	0																			
	21AP	11		XY-Symmetry	8P	9X	2	5	0.58	0.58	0.58	5/8	A394	6	1.55	1	Short only	1	2.25	1		
3.5	0	0	0																			
	21AX	11		X-GenXY	8X	9S	2	5	0.58	0.58	0.58	5/8	A394	6	1.55	1	Short only	1	2.25	1		
3.5	0	0	0																			
	21AXY	11		XY-GenXY	8XY	9Y	2	5	0.58	0.58	0.58	5/8	A394	6	1.55	1	Short only	1	2.25	1		
3.5	0	0	0																			
	21AY	11		Y-GenXY	8Y	9XY	2	5	0.58	0.58	0.58	5/8	A394	6	1.55	1	Short only	1	2.25	1		
3.5	0	0	0																			
	21BP	11		XY-Symmetry	9S	8Y	2	5	0.58	0.58	0.58	5/8	A394	6	1.55	1	Short only	1	2.25	1		
3.5	0	0	0																			
	21BX	11		X-GenXY	9X	8XY	2	5	0.58	0.58	0.58	5/8	A394	6	1.55	1	Short only	1	2.25	1		
3.5	0	0	0																			
	21BXY	11		XY-GenXY	9XY	8X	2	5	0.58	0.58	0.58	5/8	A394	6	1.55	1	Short only	1	2.25	1		
3.5	0	0	0																			
	21BY	11		Y-GenXY	9Y	8P	2	5	0.58	0.58	0.58	5/8	A394	6	1.55	1	Short only	1	2.25	1		
3.5	0	0	0																			
	22AP	12		XY-Symmetry	9S	10X	2	5	0.56	0.56	0.56	5/8	A394	4	1	1	Short only	1.5	0	1.0625		
1.75	0	0	0																			
	22AX	12		X-GenXY	9X	10S	2	5	0.56	0.56	0.56	5/8	A394	4	1	1	Short only	1.5	0	1.0625		
1.75	0	0	0																			
	22AXY	12		XY-GenXY	9XY	10Y	2	5	0.56	0.56	0.56	5/8	A394	4	1	1	Short only	1.5	0	1.0625		
1.75	0	0	0																			
	22AY	12		Y-GenXY	9Y	10XY	2	5	0.56	0.56	0.56	5/8	A394	4	1	1	Short only	1.5	0	1.0625		
1.75	0	0	0																			
	22BP	12		XY-Symmetry	10S	9Y	2	5	0.56	0.56	0.56	5/8	A394	4	1	1	Short only	1.5	0	1.0625		
1.75	0	0	0																			
	22BX	12		X-GenXY	10X	9XY	2	5	0.56	0.56	0.56	5/8	A394	4	1	1	Short only	1.5	0	1.0625		
1.75	0	0	0																			
	22BXY	12		XY-GenXY	10XY	9X	2	5	0.56	0.56	0.56	5/8	A394	4	1	1	Short only	1.5	0	1.0625		
1.75	0	0	0																			
	22BY	12		Y-GenXY	10Y	9S	2	5	0.56	0.56	0.56	5/8	A394	4	1	1	Short only	1.5	0	1.0625		
1.75	0	0	0																			
	23AP	13		XY-Symmetry	10S	11X	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1.0625		

2.75	0		0	0																					
	23AX	13			X-GenXY	10X	11S	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1.0625				
2.75	0		0	0																					
	23AXY	13			XY-GenXY	10XY	11Y	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1.0625				
2.75	0		0	0																					
	23AY	13			Y-GenXY	10Y	11XY	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1.0625				
2.75	0		0	0																					
	23BP	13			XY-Symmetry	11S	10Y	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1.0625				
2.75	0		0	0																					
	23BX	13			X-GenXY	11X	10XY	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1.0625				
2.75	0		0	0																					
	23BXY	13			XY-GenXY	11XY	10X	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1.0625				
2.75	0		0	0																					
	23BY	13			Y-GenXY	11Y	10S	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1.0625				
2.75	0		0	0																					
	24AP	14			XY-Symmetry	11S	12X	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1				
2.25	0		0	0																					
	24AX	14			X-GenXY	11X	12S	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1				
2.25	0		0	0																					
	24AXY	14			XY-GenXY	11XY	12Y	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1				
2.25	0		0	0																					
	24AY	14			Y-GenXY	11Y	12XY	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1				
2.25	0		0	0																					
	24BP	14			XY-Symmetry	12S	11Y	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1				
2.25	0		0	0																					
	24BX	14			X-GenXY	12X	11XY	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1				
2.25	0		0	0																					
	24BXY	14			XY-GenXY	12XY	11X	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1				
2.25	0		0	0																					
	24BY	14			Y-GenXY	12Y	11S	2	5	0.55	0.55	0.55	5/8	A394	3	1	1	Short only	1.5	0	1				
2.25	0		0	0																					
	25AP	15			XY-Symmetry	12S	20AP	3	5	1	0.5	0.5	5/8	A394	7	1.71	1	Short only	0.75	2	1.0625				
2	0		0	0																					
	25AX	15			X-GenXY	12X	20AP	3	5	1	0.5	0.5	5/8	A394	7	1.71	1	Short only	0.75	2	1.0625				
2	0		0	0																					
	25AXY	15			XY-GenXY	12XY	20AY	3	5	1	0.5	0.5	5/8	A394	7	1.71	1	Short only	0.75	2	1.0625				
2	0		0	0																					
	25AY	15			Y-GenXY	12Y	20AY	3	5	1	0.5	0.5	5/8	A394	7	1.71	1	Short only	0.75	2	1.0625				
2	0		0	0																					
	25BP	15			XY-Symmetry	20BP	12S	3	5	1	0.5	0.5	5/8	A394	7	1.71	1	Short only	0.75	2	1.0625				
2	0		0	0																					
	25BX	15			X-GenXY	20BX	12X	3	5	1	0.5	0.5	5/8	A394	7	1.71	1	Short only	0.75	2	1.0625				
2	0		0	0																					
	25BXY	15			XY-GenXY	20BX	12XY	3	5	1	0.5	0.5	5/8	A394	7	1.71	1	Short only	0.75	2	1.0625				
2	0		0	0																					
	25BY	15			Y-GenXY	20BP	12Y	3	5	1	0.5	0.5	5/8	A394	7	1.71	1	Short only	0.75	2	1.0625				
2	0		0	0																					
	26AP	16			XY-Symmetry	21P	13S	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	1	0	1				
4	0		0	0																					
	26AX	16			X-GenXY	21X	13X	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	1	0	1				
4	0		0	0																					
	26AXY	16			XY-GenXY	21XY	13XY	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	1	0	1				
4	0		0	0																					
	26AY	16			Y-GenXY	21Y	13Y	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	1	0	1				
4	0		0	0																					
	26BP	16			XY-Symmetry	22P	13S	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	1	0	1				
4	0		0	0																					
	26BX	16			X-GenXY	22X	13X	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	1	0	1				
4	0		0	0																					
	26BXY	16			XY-GenXY	22XY	13XY	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	1	0	1				

4	0	0	0																					
	26BY	16		Y-GenXY	22Y	13Y	2	5	0.5	0.5	0.5	5/8	A394	2	1	1	Long only	1	0	1				
4	0	0	0																					
	27AP	17		XY-Symmetry	20AP	14S	3	5	1	0.5	0.5	5/8	A394	4	1	1	Short only	0.875	0	1				
2.25	0	0	0																					
	27AX	17		X-GenXY	20AP	14X	3	5	1	0.5	0.5	5/8	A394	4	1	1	Short only	0.875	0	1				
2.25	0	0	0																					
	27AXY	17		XY-GenXY	20AY	14XY	3	5	1	0.5	0.5	5/8	A394	4	1	1	Short only	0.875	0	1				
2.25	0	0	0																					
	27AY	17		Y-GenXY	20AY	14Y	3	5	1	0.5	0.5	5/8	A394	4	1	1	Short only	0.875	0	1				
2.25	0	0	0																					
	27BP	17		XY-Symmetry	14S	20BP	3	5	1	0.5	0.5	5/8	A394	4	1	1	Short only	0.875	0	1				
2.25	0	0	0																					
	27BX	17		X-GenXY	14X	20BX	3	5	1	0.5	0.5	5/8	A394	4	1	1	Short only	0.875	0	1				
2.25	0	0	0																					
	27BXY	17		XY-GenXY	14XY	20BX	3	5	1	0.5	0.5	5/8	A394	4	1	1	Short only	0.875	0	1				
2.25	0	0	0																					
	27BY	17		Y-GenXY	14Y	20BP	3	5	1	0.5	0.5	5/8	A394	4	1	1	Short only	0.875	0	1				
2.25	0	0	0																					
	28AP	18		XY-Symmetry	21X	20AP	3	4	0.5	1	0.5	5/8	A394	5	1.26	1	Long only	2.875	1.375	1				
3.5	0	0	0																					
	28AX	18		X-GenXY	21P	20AP	3	4	0.5	1	0.5	5/8	A394	5	1.26	1	Long only	2.875	1.375	1				
3.5	0	0	0																					
	28AXY	18		XY-GenXY	21Y	20AY	3	4	0.5	1	0.5	5/8	A394	5	1.26	1	Long only	2.875	1.375	1				
3.5	0	0	0																					
	28AY	18		Y-GenXY	21XY	20AY	3	4	0.5	1	0.5	5/8	A394	5	1.26	1	Long only	2.875	1.375	1				
3.5	0	0	0																					
	28BP	18		XY-Symmetry	20BP	22P	3	4	0.5	1	0.5	5/8	A394	5	1.26	1	Long only	2.875	1.375	1				
3.5	0	0	0																					
	28BX	18		X-GenXY	20BX	22X	3	4	0.5	1	0.5	5/8	A394	5	1.26	1	Long only	2.875	1.375	1				
3.5	0	0	0																					
	28BXY	18		XY-GenXY	20BX	22XY	3	4	0.5	1	0.5	5/8	A394	5	1.26	1	Long only	2.875	1.375	1				
3.5	0	0	0																					
	28BY	18		Y-GenXY	20BP	22Y	3	4	0.5	1	0.5	5/8	A394	5	1.26	1	Long only	2.875	1.375	1				
3.5	0	0	0																					
	29AP	19		XY-Symmetry	21P	15P	2	5	0.25	0.25	0.25	5/8	A394	5	1	1	Long only	1.5	0	1.0625				
1.75	0	0	0																					
	29AX	19		X-GenXY	21X	15X	2	5	0.25	0.25	0.25	5/8	A394	5	1	1	Long only	1.5	0	1.0625				
1.75	0	0	0																					
	29AXY	19		XY-GenXY	21XY	15XY	2	5	0.25	0.25	0.25	5/8	A394	5	1	1	Long only	1.5	0	1.0625				
1.75	0	0	0																					
	29AY	19		Y-GenXY	21Y	15Y	2	5	0.25	0.25	0.25	5/8	A394	5	1	1	Long only	1.5	0	1.0625				
1.75	0	0	0																					
	29BP	19		XY-Symmetry	15P	22P	2	5	0.25	0.25	0.25	5/8	A394	5	1	1	Long only	1.5	0	1.0625				
1.75	0	0	0																					
	29BX	19		X-GenXY	15X	22X	2	5	0.25	0.25	0.25	5/8	A394	5	1	1	Long only	1.5	0	1.0625				
1.75	0	0	0																					
	29BXY	19		XY-GenXY	15XY	22XY	2	5	0.25	0.25	0.25	5/8	A394	5	1	1	Long only	1.5	0	1.0625				
1.75	0	0	0																					
	29BY	19		Y-GenXY	15Y	22Y	2	5	0.25	0.25	0.25	5/8	A394	5	1	1	Long only	1.5	0	1.0625				
1.75	0	0	0																					
	30AP	20a		Y-Symmetry	2X	2P	3	4	0.5	0.5	0.5	5/8	A394	1	1	1	Long only	0.75	0	1				
0	0	0	0																					
	30AY	20a		Y-Gen	2XY	2Y	3	4	0.5	0.5	0.5	5/8	A394	1	1	1	Long only	0.75	0	1				
0	0	0	0																					
	30BP	20a		X-Symmetry	2P	2Y	3	4	0.5	0.5	0.5	5/8	A394	1	1	1	Long only	0.75	0	1				
0	0	0	0																					
	30BX	20a		X-Gen	2X	2XY	3	4	0.5	0.5	0.5	5/8	A394	1	1	1	Long only	0.75	0	1				
0	0	0	0																					
	31P	20		Y-Symmetry	3X	3P	3	4	1	1	1	5/8	A394	1	1	1	Long only	0.75	0	1				

0	0	0	0																			
	31Y	20		Y-Gen	3XY	3Y	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1	
0	0	0	0																			
	32P	20		X-Symmetry	4P	4Y	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1.0625	
0	0	0	0																			
	32X	20		X-Gen	4X	4XY	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1.0625	
0	0	0	0																			
	33P	20		Y-Symmetry	5X	5P	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1	
0	0	0	0																			
	33Y	20		Y-Gen	5XY	5Y	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1	
0	0	0	0																			
	34P	20		X-Symmetry	6P	6Y	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1.0625	
0	0	0	0																			
	34X	20		X-Gen	6X	6XY	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1.0625	
0	0	0	0																			
	35P	20		Y-Symmetry	7X	7P	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1	
0	0	0	0																			
	35Y	20		Y-Gen	7XY	7Y	3	4	1	1	1	5/8	A394	1	1	1	Long	only	0.75	0	1	
0	0	0	0																			
	36P	36		X-Symmetry	8P	8Y	3	4	1	1	1	5/8	A325	1	1	1	Long	only	0.75	0	1.0625	
0	0	0	0																			
	36X	36		X-Gen	8X	8XY	3	4	1	1	1	5/8	A325	1	1	1	Long	only	0.75	0	1.0625	
0	0	0	0																			
	37AP	21		Y-Symmetry	12X	12S	3	6	1	0.5	0.5	5/8	A394	3	1	1	Short	only	1.75	0	1	
2	0	0	0																			
	37AY	21		Y-Gen	12XY	12Y	3	6	1	0.5	0.5	5/8	A394	3	1	1	Short	only	1.75	0	1	
2	0	0	0																			
	37BP	21		X-Symmetry	12S	12Y	3	6	1	0.5	0.5	5/8	A394	3	1	1	Short	only	1.75	0	1	
2	0	0	0																			
	37BX	21		X-Gen	12X	12XY	3	6	1	0.5	0.5	5/8	A394	3	1	1	Short	only	1.75	0	1	
2	0	0	0																			
	38AP	22		XY-Symmetry	13X	20AP	3	6	1	1	1	5/8	A394	2	1	1	Long	only	1.5	0	1	
3.25	0	0	0																			
	38AX	22		X-GenXY	13S	20AP	3	6	1	1	1	5/8	A394	2	1	1	Long	only	1.5	0	1	
3.25	0	0	0																			
	38AXY	22		XY-GenXY	13Y	20AY	3	6	1	1	1	5/8	A394	2	1	1	Long	only	1.5	0	1	
3.25	0	0	0																			
	38AY	22		Y-GenXY	13XY	20AY	3	6	1	1	1	5/8	A394	2	1	1	Long	only	1.5	0	1	
3.25	0	0	0																			
	38BP	22		XY-Symmetry	13S	20BP	3	6	1	1	1	5/8	A394	2	1	1	Long	only	1.5	0	1	
3.25	0	0	0																			
	38BX	22		X-GenXY	13X	20BX	3	6	1	1	1	5/8	A394	2	1	1	Long	only	1.5	0	1	
3.25	0	0	0																			
	38BXY	22		XY-GenXY	13XY	20BX	3	6	1	1	1	5/8	A394	2	1	1	Long	only	1.5	0	1	
3.25	0	0	0																			
	38BY	22		Y-GenXY	13Y	20BP	3	6	1	1	1	5/8	A394	2	1	1	Long	only	1.5	0	1	
3.25	0	0	0																			
	39AP	23		XY-Symmetry	14X	21X	3	5	1	1	1	5/8	A394	2	1	1	Short	only	1.5	0	1	
3.25	0	0	0																			
	39AX	23		X-GenXY	14S	21P	3	5	1	1	1	5/8	A394	2	1	1	Short	only	1.5	0	1	
3.25	0	0	0																			
	39AXY	23		XY-GenXY	14Y	21Y	3	5	1	1	1	5/8	A394	2	1	1	Short	only	1.5	0	1	
3.25	0	0	0																			
	39AY	23		Y-GenXY	14XY	21XY	3	5	1	1	1	5/8	A394	2	1	1	Short	only	1.5	0	1	
3.25	0	0	0																			
	39BP	23		XY-Symmetry	14S	22P	3	5	1	1	1	5/8	A394	2	1	1	Short	only	1.5	0	1	
3.25	0	0	0																			
	39BX	23		X-GenXY	14X	22X	3	5	1	1	1	5/8	A394	2	1	1	Short	only	1.5	0	1	
3.25	0	0	0																			
	39BXY	23		XY-GenXY	14XY	22XY	3	5	1	1	1	5/8	A394	2	1	1	Short	only	1.5	0	1	

3.25	0	0	0																	
	39BY	23		Y-GenXY	14Y	22Y	3	5	1	1	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	39C1P	23		Y-Symmetry	21X	21XF0.50S	3	4	1	2	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	39C1Y	23		Y-Gen	21XY	21XF0.50Y	3	4	1	2	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	F39C197P	23		Y-Symmetry	21XF0.50S	21P	3	4	1	2	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	F39C197Y	23		Y-Gen	21XF0.50Y	21Y	3	4	1	2	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	39C2P	23		X-Symmetry	22P	22PF0.50S	3	4	1	2	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	39C2X	23		X-Gen	22X	22PF0.50X	3	4	1	2	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	F39C2118P	23		X-Symmetry	22PF0.50S	22Y	3	4	1	2	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	F39C2118X	23		X-Gen	22PF0.50X	22XY	3	4	1	2	1 5/8 A394	2	1	1 Short only	1.5	0	1			
3.25	0	0	0																	
	40P	24		XY-Symmetry	20AP	20BP	3	6	1	1	1 5/8 A394	2	1	1 Long only	1.5	2.375	1.0625			
2.125	0	0	0																	
	40X	24		X-GenXY	20AP	20BX	3	6	1	1	1 5/8 A394	2	1	1 Long only	1.5	2.375	1.0625			
2.125	0	0	0																	
	40XY	24		XY-GenXY	20AY	20BX	3	6	1	1	1 5/8 A394	2	1	1 Long only	1.5	2.375	1.0625			
2.125	0	0	0																	
	40Y	24		Y-GenXY	20AY	20BP	3	6	1	1	1 5/8 A394	2	1	1 Long only	1.5	2.375	1.0625			
2.125	0	0	0																	
	41P	24		XY-Symmetry	21P	22P	3	6	1	1	1 5/8 A394	2	1	1 Long only	2	0	1.0625			
2.5	0	0	0																	
	41X	24		X-GenXY	21X	22X	3	6	1	1	1 5/8 A394	2	1	1 Long only	2	0	1.0625			
2.5	0	0	0																	
	41XY	24		XY-GenXY	21XY	22XY	3	6	1	1	1 5/8 A394	2	1	1 Long only	2	0	1.0625			
2.5	0	0	0																	
	41Y	24		Y-GenXY	21Y	22Y	3	6	1	1	1 5/8 A394	2	1	1 Long only	2	0	1.0625			
2.5	0	0	0																	
	42P	AngleR		XY-Symmetry	1X	i0.50E129S	2	4	1	1	1 5/8 A394	1	1	1 Long only	0.75	0	1			
0	0	0	0																	
	42X	AngleR		X-GenXY	1P	i0.50E129S	2	4	1	1	1 5/8 A394	1	1	1 Long only	0.75	0	1			
0	0	0	0																	
	42XY	AngleR		XY-GenXY	1Y	i0.50E129S	2	4	1	1	1 5/8 A394	1	1	1 Long only	0.75	0	1			
0	0	0	0																	
	42Y	AngleR		Y-GenXY	1XY	i0.50E129S	2	4	1	1	1 5/8 A394	1	1	1 Long only	0.75	0	1			
0	0	0	0																	
	43AP	26		XY-Symmetry	4X	i0.50E113S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			
1.5	0	0	0																	
	43AX	26		X-GenXY	4P	i0.50E113S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			
1.5	0	0	0																	
	43AXY	26		XY-GenXY	4Y	i0.50E113S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			
1.5	0	0	0																	
	43AY	26		Y-GenXY	4XY	i0.50E113S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			
1.5	0	0	0																	
	43BP	26		XY-Symmetry	6X	i0.50E99S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			
1.5	0	0	0																	
	43BX	26		X-GenXY	6P	i0.50E99S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			
1.5	0	0	0																	
	43BXY	26		XY-GenXY	6Y	i0.50E99S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			
1.5	0	0	0																	
	43BY	26		Y-GenXY	6XY	i0.50E99S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			
1.5	0	0	0																	
	43CP	26		XY-Symmetry	8X	i0.50E85S	2	5	1	1	1 5/8 A394	2	1	1 Long only	0.875	0	1			

1.5	0	0	0																					
	43CX	26		X-GenXY	8P	i0.50E85S	2	5	1	1	1	5/8	A394	2	1	1	Long only	0.875	0	1				
1.5	0	0	0																					
	43CXY	26		XY-GenXY	8Y	i0.50E85S	2	5	1	1	1	5/8	A394	2	1	1	Long only	0.875	0	1				
1.5	0	0	0																					
	43CY	26		Y-GenXY	8XY	i0.50E85S	2	5	1	1	1	5/8	A394	2	1	1	Long only	0.875	0	1				
1.5	0	0	0																					
	44P	27		Y-Symmetry	8P	28Y	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44Y	27		Y-Gen	8Y	28P	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44AP	27		Y-Symmetry	28P	19Y	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44AY	27		Y-Gen	28Y	19P	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44BP	27		Y-Symmetry	6P	27Y	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44BY	27		Y-Gen	6Y	27P	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44CP	27		Y-Symmetry	27P	18Y	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44CY	27		Y-Gen	27Y	18P	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44DP	27		Y-Symmetry	4P	26Y	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44DY	27		Y-Gen	4Y	26P	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44EP	27		Y-Symmetry	26P	17Y	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	44EY	27		Y-Gen	26Y	17P	2	5	0.75	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
4	0	0	0																					
	45P	28		None	17P	17Y	3	5	1	1	1	5/8	A394	2	1	1	Short only	1.5	0	1				
4	0	0	0																					
	45AP	28		None	18P	18Y	3	5	1	1	1	5/8	A394	2	1	1	Short only	1.5	0	1				
4	0	0	0																					
	45BP	28		None	19P	19Y	3	5	1	1	1	5/8	A394	2	1	1	Short only	1.5	0	1				
4	0	0	0																					
	46P	29		XY-Symmetry	16P	2P	2	5	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1.0625				
1.5	0	0	0																					
	46X	29		X-GenXY	16X	2X	2	5	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1.0625				
1.5	0	0	0																					
	46XY	29		XY-GenXY	16X	2XY	2	5	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1.0625				
1.5	0	0	0																					
	46Y	29		Y-GenXY	16P	2Y	2	5	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1.0625				
1.5	0	0	0																					
	47P	30		Y-Symmetry	3P	17P	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
1.5625	0	0	0																					
	47Y	30		Y-Gen	3Y	17Y	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
1.5625	0	0	0																					
	47AP	30		Y-Symmetry	23P	3X	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1.0625				
1.75	0	0	0																					
	47AY	30		Y-Gen	23P	3XY	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1.0625				
1.75	0	0	0																					
	48P	31		Y-Symmetry	5P	18P	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
2.75	0	0	0																					
	48Y	31		Y-Gen	5Y	18Y	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
2.75	0	0	0																					
	48AP	31		Y-Symmetry	24P	5X	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				
1.75	0	0	0																					
	48AY	31		Y-Gen	24P	5XY	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1				

1.75	0	0	0																				
	49P	30		Y-Symmetry	7P	19P	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1.0625			
1.5625	0	0	0																				
	49Y	30		Y-Gen	7Y	19Y	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1.0625			
1.5625	0	0	0																				
	49AP	30		Y-Symmetry	25P	7X	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1			
1.75	0	0	0																				
	49AY	30		Y-Gen	25P	7XY	3	4	1	0.5	0.5	5/8	A394	2	1	1	Short only	0.875	0	1			
1.75	0	0	0																				
	50P	32		XY-Symmetry	16P	1P	3	5	0.5	0.5	0.5	5/8	A394	2	1.59	1	Long only	0.75	1.875	2.25			
1.125	0	0	0																				
	50X	32		X-GenXY	16X	1X	3	5	0.5	0.5	0.5	5/8	A394	2	1.59	1	Long only	0.75	1.875	2.25			
1.125	0	0	0																				
	50XY	32		XY-GenXY	16X	1XY	3	5	0.5	0.5	0.5	5/8	A394	2	1.59	1	Long only	0.75	1.875	2.25			
1.125	0	0	0																				
	50Y	32		Y-GenXY	16P	1Y	3	5	0.5	0.5	0.5	5/8	A394	2	1.59	1	Long only	0.75	1.875	2.25			
1.125	0	0	0																				
	50AP	32		Y-Symmetry	1X	1P	3	6	1	1	1	5/8	A394	2	1.3	1	Long only	1.1875	2	2			
1.25	0	0	0																				
	50AY	32		Y-Gen	1XY	1Y	3	6	1	1	1	5/8	A394	2	1.3	1	Long only	1.1875	2	2			
1.25	0	0	0																				
	51P	33		Y-Symmetry	23P	4X	3	5	0.5	0.5	0.5	5/8	A394	4	2.24	1	Short only	0.75	1.75	1			
2.25	0	0	0																				
	51Y	33		Y-Gen	23P	4XY	3	5	0.5	0.5	0.5	5/8	A394	4	2.24	1	Short only	0.75	1.75	1			
2.25	0	0	0																				
	51AP	33		Y-Symmetry	4X	4P	3	6	1	1	1	5/8	A394	4	1.54	1	Short only	0.75	1.75	1			
2.25	0	0	0																				
	51AY	33		Y-Gen	4XY	4Y	3	6	1	1	1	5/8	A394	4	1.54	1	Short only	0.75	1.75	1			
2.25	0	0	0																				
	51BP	33		Y-Symmetry	4P	26P	3	5	1	1	1	5/8	A394	3	2.1	1	Short only	0.75	1.75	2.6875			
3	0	0	0																				
	51BY	33		Y-Gen	4Y	26Y	3	5	1	1	1	5/8	A394	3	2.1	1	Short only	0.75	1.75	2.6875			
3	0	0	0																				
	51CP	33		Y-Symmetry	26P	17P	3	5	1	1	1	5/8	A394	4	2.13	1	Long only	0.75	2.25	1			
3.5	0	0	0																				
	51CY	33		Y-Gen	26Y	17Y	3	5	1	1	1	5/8	A394	4	2.13	1	Long only	0.75	2.25	1			
3.5	0	0	0																				
	52P	34		Y-Symmetry	24P	6X	3	5	0.5	0.5	0.5	5/8	A394	5	2.71	1	Long only	1	2.625	1			
2.25	0	0	0																				
	52Y	34		Y-Gen	24P	6XY	3	5	0.5	0.5	0.5	5/8	A394	5	2.71	1	Long only	1	2.625	1			
2.25	0	0	0																				
	52AP	34		Y-Symmetry	6X	6P	3	6	1	1	1	5/8	A394	5	1.82	1	Long only	0.5	2.5	1			
2	0	0	0																				
	52AY	34		Y-Gen	6XY	6Y	3	6	1	1	1	5/8	A394	5	1.82	1	Long only	0.5	2.5	1			
2	0	0	0																				
	52BP	34		Y-Symmetry	6P	27P	3	5	1	1	1	5/8	A394	5	2	1	Long only	1	2.5	1.5			
5	0	0	0																				
	52BY	34		Y-Gen	6Y	27Y	3	5	1	1	1	5/8	A394	5	2	1	Long only	1	2.5	1.5			
5	0	0	0																				
	52CP	34		Y-Symmetry	27P	18P	3	5	1	1	1	5/8	A394	6	2.66	1	Long only	0.75	2.75	1			
2.25	0	0	0																				
	52CY	34		Y-Gen	27Y	18Y	3	5	1	1	1	5/8	A394	6	2.66	1	Long only	0.75	2.75	1			
2.25	0	0	0																				
	53P	33		Y-Symmetry	25P	8X	3	5	0.5	0.5	0.5	5/8	A394	4	2.24	1	Short only	0.75	1.5	1			
3	0	0	0																				
	53Y	33		Y-Gen	25P	8XY	3	5	0.5	0.5	0.5	5/8	A394	4	2.24	1	Short only	0.75	1.5	1			
3	0	0	0																				
	53AP	33		Y-Symmetry	8X	8P	3	6	1	1	1	5/8	A394	4	1	1	Short only	0.75	1.5	1			
3	0	0	0																				
	53AY	33		Y-Gen	8XY	8Y	3	6	1	1	1	5/8	A394	4	1	1	Short only	0.75	1.5	1			

3	0	0	0																			
	53BP	33		Y-Symmetry	8P	28P	3	5	1	1	1	5/8	A394	3	2	1	Short only	0.75	1.5	2.6875		
4	0	0	0																			
	53BY	33		Y-Gen	8Y	28Y	3	5	1	1	1	5/8	A394	3	2	1	Short only	0.75	1.5	2.6875		
4	0	0	0																			
	53CP	33		Y-Symmetry	28P	19P	3	5	1	1	1	5/8	A394	4	2.21	1	Long only	0.75	2.25	1		
3.5	0	0	0																			
	53CY	33		Y-Gen	28Y	19Y	3	5	1	1	1	5/8	A394	4	2.21	1	Long only	0.75	2.25	1		
3.5	0	0	0																			
	54P	35		X-Symmetry	1P	1Y	3	4	1	1	1	5/8	A394	1	1	1	Long only	1.5	0	1.0625		
0	0	0	0																			
	54X	35		X-Gen	1X	1XY	3	4	1	1	1	5/8	A394	1	1	1	Long only	1.5	0	1.0625		
0	0	0	0																			
	g99P	Pwmnt		None	29P	30P	1	4	1	1	1			0	0	0		0	0	0		
0	0	0	0																			
	g100P	Pwmnt		None	30P	31P	1	4	1	1	1			0	0	0		0	0	0		
0	0	0	0																			
	g101P	Pwmnt		None	31P	32P	1	4	1	1	1			0	0	0		0	0	0		
0	0	0	0																			
	g102P	Pwmnt		None	32P	33P	1	4	1	1	1			0	0	0		0	0	0		
0	0	0	0																			
	g103P	Pwmnt		None	33P	34P	1	4	1	1	1			0	0	0		0	0	0		
0	0	0	0																			
	g104P	Pwmnt		None	34P	35P	1	4	1	1	1			0	0	0		0	0	0		
0	0	0	0																			
	g105P	Pwmnt		None	35P	36P	1	4	1	1	1			0	0	0		0	0	0		
0	0	0	0																			
	g106P	Plate		None	35P	i0.50E129S	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g107P	PMBR1		None	34P	i0.50E113S	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g108P	PMBR1		None	33P	i0.50E99S	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g109P	PMBR1		None	32P	i0.50E85S	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g110P	BraceR		X-Symmetry	1X	35P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g110X	BraceR		X-Gen	1P	35P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g111P	PMBR2		X-Symmetry	4X	34P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g111X	PMBR2		X-Gen	4P	34P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g112P	PMBR2		X-Symmetry	6X	33P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g112X	PMBR2		X-Gen	6P	33P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g113P	PMBR2		X-Symmetry	8X	32P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g113X	PMBR2		X-Gen	8P	32P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g114P	PMBR3		None	20AP	31P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g115P	PMBR4		None	31P	20AY	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g116P	PMBR4		X-Symmetry	20BX	31P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g116X	PMBR4		X-Gen	20BP	31P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		
0	0	0	0																			
	g117P	PMBR4		None	21XF0.50S	30P	3	4	1	1	1	5/8	A325	1	1	1	Long only	0	0	0		

0	0	0	0																	
	g118P	PMBR5		None	30P	21XF0.50Y	3	4	1	1	1 5/8 A325	1	1	1	Long only	0	0	0		
0	0	0	0																	
	g120P	PMBR5		X-Symmetry	22XY	30P	3	4	1	1	1 5/8 A325	1	1	1	Long only	0	0	0		
0	0	0	0																	
	g120X	PMBR5		X-Gen	22Y	30P	3	4	1	1	1 5/8 A325	1	1	1	Long only	0	0	0		
0	0	0	0																	
	g121P	Pwmnt		None	36P	37P	1	4	1	1	1	0	0	0		0	0	0		
0	0	0	0																	

Member Capacities and Overrides:

Member Label	Group Label	Design Comp. Control	Comp. Tension Control	Design Tension Face	Tension Criterion	L/r Length (ft)	L/r Comp. Capacity (kips)	Connection Shear Capacity (kips)	Connection Bearing Capacity (kips)	Net Section Tension Capacity (kips)	Rupture Tension Capacity (kips)	RTE End Dist. Capacity (kips)	RTE Edge Dist. Capacity (kips)	Override Comp. Capacity (kips)	Override Warnings or Errors	Unsup. Comp. (kips)	Criterion	Capacity (kips)	Criterion	Capacity (kips)	Criterion	Member
1P	1	49.257	L/r	48.465	Net Sect	78	4.50	49.257	0.000	0.000	48.465	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
1X	1	49.257	L/r	48.465	Net Sect	78	4.50	49.257	0.000	0.000	48.465	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
1XY	1	49.257	L/r	48.465	Net Sect	78	4.50	49.257	0.000	0.000	48.465	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
1Y	1	49.257	L/r	48.465	Net Sect	78	4.50	49.257	0.000	0.000	48.465	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
2P	1	49.257	L/r	48.465	Net Sect	78	4.50	49.257	0.000	0.000	48.465	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
2X	1	49.257	L/r	48.465	Net Sect	78	4.50	49.257	0.000	0.000	48.465	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
2XY	1	49.257	L/r	48.465	Net Sect	78	4.50	49.257	0.000	0.000	48.465	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
2Y	1	49.257	L/r	48.465	Net Sect	78	4.50	49.257	0.000	0.000	48.465	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
3P	1	32.813	L/r	36.400	Shear	121	7.00	32.813	36.400	54.375	48.465	60.417	0.000	0.000	0.000	0.000		0.000		Automatic		
3X	1	32.813	L/r	36.400	Shear	121	7.00	32.813	36.400	54.375	48.465	60.417	0.000	0.000	0.000	0.000		0.000		Automatic		
3XY	1	32.813	L/r	36.400	Shear	121	7.00	32.813	36.400	54.375	48.465	60.417	0.000	0.000	0.000	0.000		0.000		Automatic		
3Y	1	32.813	L/r	36.400	Shear	121	7.00	32.813	36.400	54.375	48.465	60.417	0.000	0.000	0.000	0.000		0.000		Automatic		
4P	2	91.206	L/r	100.462	Net Sect	80	8.00	91.206	0.000	0.000	100.462	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
4X	2	91.206	L/r	100.462	Net Sect	80	8.00	91.206	0.000	0.000	100.462	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
4XY	2	91.206	L/r	100.462	Net Sect	80	8.00	91.206	0.000	0.000	100.462	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		
4Y	2	91.206	L/r	100.462	Net Sect	80	8.00	91.206	0.000	0.000	100.462	0.000	0.000	0.000	0.000	0.000		0.000		Automatic		

5P	2	99.083	L/r 100.462	Net Sect	60	6.05	99.083	109.200	203.906	100.462	226.562	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "5P" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
5X	2	99.083	L/r 100.462	Net Sect	60	6.05	99.083	109.200	203.906	100.462	226.562	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "5X" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
5XY	2	99.083	L/r 100.462	Net Sect	60	6.05	99.083	109.200	203.906	100.462	226.562	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "5XY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
5Y	2	99.083	L/r 100.462	Net Sect	60	6.05	99.083	109.200	203.906	100.462	226.562	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "5Y" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
6P	3	249.636	L/r 235.687	Net Sect	53	7.00	249.636	0.000	0.000	235.687	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
6X	3	249.636	L/r 235.687	Net Sect	53	7.00	249.636	0.000	0.000	235.687	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
6XY	3	249.636	L/r 235.687	Net Sect	53	7.00	249.636	0.000	0.000	235.687	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
6Y	3	249.636	L/r 235.687	Net Sect	53	7.00	249.636	0.000	0.000	235.687	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
7P	3	249.636	L/r 235.687	Net Sect	53	7.00	249.636	254.800	380.624	235.687	422.916	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "7P" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
7X	3	249.636	L/r 235.687	Net Sect	53	7.00	249.636	254.800	380.624	235.687	422.916	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "7X" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
7XY	3	249.636	L/r 235.687	Net Sect	53	7.00	249.636	254.800	380.624	235.687	422.916	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "7XY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
7Y	3	249.636	L/r 235.687	Net Sect	53	7.00	249.636	254.800	380.624	235.687	422.916	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "7Y" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
8P	4	306.646	L/r 291.819	Net Sect	60	7.92	306.646	0.000	0.000	291.819	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
8X	4	306.646	L/r 291.819	Net Sect	60	7.92	306.646	0.000	0.000	291.819	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
8XY	4	306.646	L/r 291.819	Net Sect	60	7.92	306.646	0.000	0.000	291.819	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
8Y	4	306.646	L/r 291.819	Net Sect	60	7.92	306.646	0.000	0.000	291.819	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
9P	4	306.646	L/r 291.819	Net Sect	60	7.92	306.646	0.000	0.000	291.819	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
9X	4	306.646	L/r 291.819	Net Sect	60	7.92	306.646	0.000	0.000	291.819	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
9XY	4	306.646	L/r 291.819	Net Sect	60	7.92	306.646	0.000	0.000	291.819	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
9Y	4	306.646	L/r 291.819	Net Sect	60	7.92	306.646	0.000	0.000	291.819	0.000	0.000	0.000	0.000	0.000
0.000		0.000	Automatic												
10P	4	291.200	Shear 291.200	Shear	60	7.92	306.646	291.200	543.749	291.819	604.166	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "10P" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
10X	4	291.200	Shear 291.200	Shear	60	7.92	306.646	291.200	543.749	291.819	604.166	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "10X" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
10XY	4	291.200	Shear 291.200	Shear	60	7.92	306.646	291.200	543.749	291.819	604.166	0.000	0.000	0.000	0.000
0.000		0.000	Automatic	Member "10XY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
10Y	4	291.200	Shear 291.200	Shear	60	7.92	306.646	291.200	543.749	291.819	604.166	0.000	0.000	0.000	0.000

0.000		0.000		Automatic	Member "10Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
11P	5	335.162	L/r	337.589	Net Sect	77	10.13	335.162	0.000	0.000	337.589	0.000	0.000	0.000	0.000	0.000
11X	5	335.162	L/r	337.589	Net Sect	77	10.13	335.162	0.000	0.000	337.589	0.000	0.000	0.000	0.000	0.000
11XY	5	335.162	L/r	337.589	Net Sect	77	10.13	335.162	0.000	0.000	337.589	0.000	0.000	0.000	0.000	0.000
11Y	5	335.162	L/r	337.589	Net Sect	77	10.13	335.162	0.000	0.000	337.589	0.000	0.000	0.000	0.000	0.000
12P	5	364.000	Shear	337.589	Net Sect	45	11.83	385.718	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "12P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
12X	5	364.000	Shear	337.589	Net Sect	45	11.83	385.718	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "12X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
12XY	5	364.000	Shear	337.589	Net Sect	45	11.83	385.718	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "12XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
12Y	5	364.000	Shear	337.589	Net Sect	45	11.83	385.718	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "12Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
13P	5	364.000	Shear	337.589	Net Sect	58	15.32	368.010	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "13P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
13X	5	364.000	Shear	337.589	Net Sect	58	15.32	368.010	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "13X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
13XY	5	364.000	Shear	337.589	Net Sect	58	15.32	368.010	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "13XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
13Y	5	364.000	Shear	337.589	Net Sect	58	15.32	368.010	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "13Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
14P	5	364.000	Shear	337.589	Net Sect	48	25.53	381.402	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "14P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
14X	5	364.000	Shear	337.589	Net Sect	48	25.53	381.402	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "14X" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
14XY	5	364.000	Shear	337.589	Net Sect	48	25.53	381.402	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "14XY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
14Y	5	364.000	Shear	337.589	Net Sect	48	25.53	381.402	364.000	815.624	337.589	906.249	0.000	0.000	0.000	0.000
0.000		0.000		Automatic	Member "14Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??											
15AP	6	15.633	L/r	18.063	Rupture	131	10.82	15.633	18.200	20.391	25.048	18.063	0.000	0.000	0.000	0.000
15AX	6	15.633	L/r	18.063	Rupture	131	10.82	15.633	18.200	20.391	25.048	18.063	0.000	0.000	0.000	0.000
15AXY	6	15.633	L/r	18.063	Rupture	131	10.82	15.633	18.200	20.391	25.048	18.063	0.000	0.000	0.000	0.000
15AY	6	15.633	L/r	18.063	Rupture	131	10.82	15.633	18.200	20.391	25.048	18.063	0.000	0.000	0.000	0.000
15BP	6	15.633	L/r	18.063	Rupture	131	10.82	15.633	18.200	20.391	25.048	18.063	0.000	0.000	0.000	0.000
15BX	6	15.633	L/r	18.063	Rupture	131	10.82	15.633	18.200	20.391	25.048	18.063	0.000	0.000	0.000	0.000

15BXY	6	15.633	L/r 18.063	Rupture	131	10.82	15.633	18.200	20.391	25.048	18.063	0.000	0.000	0.000	0.000
		0.000	Automatic												
15BY	6	15.633	L/r 18.063	Rupture	131	10.82	15.633	18.200	20.391	25.048	18.063	0.000	0.000	0.000	0.000
		0.000	Automatic												
16AP	7	14.303	L/r 18.125	Rupture	130	9.22	14.303	18.200	20.391	19.030	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
16AX	7	14.303	L/r 18.125	Rupture	130	9.22	14.303	18.200	20.391	19.030	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
16AXY	7	14.303	L/r 18.125	Rupture	130	9.22	14.303	18.200	20.391	19.030	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
16AY	7	14.303	L/r 18.125	Rupture	130	9.22	14.303	18.200	20.391	19.030	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
16BP	7	14.303	L/r 18.125	Rupture	130	9.22	14.303	18.200	20.391	19.030	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
16BX	7	14.303	L/r 18.125	Rupture	130	9.22	14.303	18.200	20.391	19.030	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
16BXY	7	14.303	L/r 18.125	Rupture	130	9.22	14.303	18.200	20.391	19.030	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
16BY	7	14.303	L/r 18.125	Rupture	130	9.22	14.303	18.200	20.391	19.030	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
17AP	8	39.613	L/r 45.066	Net Sect	100	10.00	39.613	45.500	67.969	45.066	60.417	0.000	0.000	0.000	0.000
		0.000	Automatic Member "17AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
17AX	8	39.613	L/r 45.066	Net Sect	100	10.00	39.613	45.500	67.969	45.066	60.417	0.000	0.000	0.000	0.000
		0.000	Automatic Member "17AX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
17AXY	8	39.613	L/r 45.066	Net Sect	100	10.00	39.613	45.500	67.969	45.066	60.417	0.000	0.000	0.000	0.000
		0.000	Automatic Member "17AXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
17AY	8	39.613	L/r 45.066	Net Sect	100	10.00	39.613	45.500	67.969	45.066	60.417	0.000	0.000	0.000	0.000
		0.000	Automatic Member "17AY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
17BP	8	39.613	L/r 45.066	Net Sect	100	10.00	39.613	45.500	67.969	45.066	60.417	0.000	0.000	0.000	0.000
		0.000	Automatic Member "17BP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
17BX	8	39.613	L/r 45.066	Net Sect	100	10.00	39.613	45.500	67.969	45.066	60.417	0.000	0.000	0.000	0.000
		0.000	Automatic Member "17BX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
17BXY	8	39.613	L/r 45.066	Net Sect	100	10.00	39.613	45.500	67.969	45.066	60.417	0.000	0.000	0.000	0.000
		0.000	Automatic Member "17BXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
17BY	8	39.613	L/r 45.066	Net Sect	100	10.00	39.613	45.500	67.969	45.066	60.417	0.000	0.000	0.000	0.000
		0.000	Automatic Member "17BY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
18AP	9	32.738	L/r 36.400	Shear	104	8.52	32.738	36.400	54.375	40.920	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic Member "18AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
18AX	9	32.738	L/r 36.400	Shear	104	8.52	32.738	36.400	54.375	40.920	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic Member "18AX" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
18AXY	9	32.738	L/r 36.400	Shear	104	8.52	32.738	36.400	54.375	40.920	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic Member "18AXY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
18AY	9	32.738	L/r 36.400	Shear	104	8.52	32.738	36.400	54.375	40.920	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic Member "18AY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??												
18BP	9	32.738	L/r 36.400	Shear	104	8.52	32.738	36.400	54.375	40.920	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic Member "18BP" will not be checked for block shear since more than one gage line exists (long edge												

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distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      18BX      9   32.738       L/r   36.400     Shear  104   8.52   32.738     36.400     54.375   40.920   42.647    0.000    0.000    0.000
0.000             0.000          Automatic  Member "18BX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
     18BXY      9   32.738       L/r   36.400     Shear  104   8.52   32.738     36.400     54.375   40.920   42.647    0.000    0.000    0.000
0.000             0.000          Automatic Member "18BXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      18BY      9   32.738       L/r   36.400     Shear  104   8.52   32.738     36.400     54.375   40.920   42.647    0.000    0.000    0.000
0.000             0.000          Automatic  Member "18BY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      19AP     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "19AP" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      19AX     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "19AX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
     19AXY     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic Member "19AXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      19AY     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "19AY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      19BP     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "19BP" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      19BX     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "19BX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
     19BXY     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic Member "19BXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      19BY     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "19BY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      20AP     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  105.729    0.000    0.000    0.000
0.000             0.000          Automatic  Member "20AP" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      20AX     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  105.729    0.000    0.000    0.000
0.000             0.000          Automatic  Member "20AX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
     20AXY     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  105.729    0.000    0.000    0.000
0.000             0.000          Automatic Member "20AXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      20AY     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  105.729    0.000    0.000    0.000
0.000             0.000          Automatic  Member "20AY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      20BP     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "20BP" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      20BX     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "20BX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
     20BXY     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic Member "20BXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      20BY     10   61.204       L/r   60.440  Net Sect   78   9.22   61.204     63.700    118.945   60.440  112.337    0.000    0.000    0.000
0.000             0.000          Automatic  Member "20BY" will not be checked for block shear since more than one gage line exists (long edge
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distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      21AP     11   44.335       L/r   45.962  Net Sect   96  10.60   44.335     54.600     81.562   45.962   72.500    0.000    0.000    0.000
0.000              0.000          Automatic  Member "21AP" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      21AX     11   44.335       L/r   45.962  Net Sect   96  10.60   44.335     54.600     81.562   45.962   72.500    0.000    0.000    0.000
0.000              0.000          Automatic  Member "21AX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
     21AXY     11   44.335       L/r   45.962  Net Sect   96  10.60   44.335     54.600     81.562   45.962   72.500    0.000    0.000    0.000
0.000              0.000          Automatic Member "21AXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      21AY     11   44.335       L/r   45.962  Net Sect   96  10.60   44.335     54.600     81.562   45.962   72.500    0.000    0.000    0.000
0.000              0.000          Automatic  Member "21AY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      21BP     11   44.335       L/r   45.962  Net Sect   96  10.60   44.335     54.600     81.562   45.962   72.500    0.000    0.000    0.000
0.000              0.000          Automatic  Member "21BP" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      21BX     11   44.335       L/r   45.962  Net Sect   96  10.60   44.335     54.600     81.562   45.962   72.500    0.000    0.000    0.000
0.000              0.000          Automatic  Member "21BX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
     21BXY     11   44.335       L/r   45.962  Net Sect   96  10.60   44.335     54.600     81.562   45.962   72.500    0.000    0.000    0.000
0.000              0.000          Automatic Member "21BXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      21BY     11   44.335       L/r   45.962  Net Sect   96  10.60   44.335     54.600     81.562   45.962   72.500    0.000    0.000    0.000
0.000              0.000          Automatic  Member "21BY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked.  ??
      22AP     12   30.985       L/r   36.400     Shear  126  12.25   30.985     36.400     54.375   41.087   44.391    0.000    0.000    0.000
0.000              0.000          Automatic
      22AX     12   30.985       L/r   36.400     Shear  126  12.25   30.985     36.400     54.375   41.087   44.391    0.000    0.000    0.000
0.000              0.000          Automatic
     22AXY     12   30.985       L/r   36.400     Shear  126  12.25   30.985     36.400     54.375   41.087   44.391    0.000    0.000    0.000
0.000              0.000          Automatic
      22AY     12   30.985       L/r   36.400     Shear  126  12.25   30.985     36.400     54.375   41.087   44.391    0.000    0.000    0.000
0.000              0.000          Automatic
      22BP     12   30.985       L/r   36.400     Shear  126  12.25   30.985     36.400     54.375   41.087   44.391    0.000    0.000    0.000
0.000              0.000          Automatic
      22BX     12   30.985       L/r   36.400     Shear  126  12.25   30.985     36.400     54.375   41.087   44.391    0.000    0.000    0.000
0.000              0.000          Automatic
     22BXY     12   30.985       L/r   36.400     Shear  126  12.25   30.985     36.400     54.375   41.087   44.391    0.000    0.000    0.000
0.000              0.000          Automatic
      22BY     12   30.985       L/r   36.400     Shear  126  12.25   30.985     36.400     54.375   41.087   44.391    0.000    0.000    0.000
0.000              0.000          Automatic
      23AP     13   22.542       L/r   27.300     Shear  147  14.07   22.542     27.300     40.781   40.925   38.516    0.000    0.000    0.000
0.000              0.000          Automatic
      23AX     13   22.542       L/r   27.300     Shear  147  14.07   22.542     27.300     40.781   40.925   38.516    0.000    0.000    0.000
0.000              0.000          Automatic
     23AXY     13   22.542       L/r   27.300     Shear  147  14.07   22.542     27.300     40.781   40.925   38.516    0.000    0.000    0.000
0.000              0.000          Automatic
      23AY     13   22.542       L/r   27.300     Shear  147  14.07   22.542     27.300     40.781   40.925   38.516    0.000    0.000    0.000
0.000              0.000          Automatic
      23BP     13   22.542       L/r   27.300     Shear  147  14.07   22.542     27.300     40.781   40.925   38.516    0.000    0.000    0.000
0.000              0.000          Automatic
      23BX     13   22.542       L/r   27.300     Shear  147  14.07   22.542     27.300     40.781   40.925   38.516    0.000    0.000    0.000
0.000              0.000          Automatic
     23BXY     13   22.542       L/r   27.300     Shear  147  14.07   22.542     27.300     40.781   40.925   38.516    0.000    0.000    0.000
0.000              0.000          Automatic
      23BY     13   22.542       L/r   27.300     Shear  147  14.07   22.542     27.300     40.781   40.925   38.516    0.000    0.000    0.000
0.000              0.000          Automatic
      24AP     14   21.431       L/r   27.300     Shear  174  17.45   21.431     27.300     40.781   41.087   36.250    0.000    0.000    0.000
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0.000 0.000 Automatic
24AX 14 21.431 L/r 27.300 Shear 174 17.45 21.431 27.300 40.781 41.087 36.250 0.000 0.000 0.000
0.000 0.000 Automatic
24AXY 14 21.431 L/r 27.300 Shear 174 17.45 21.431 27.300 40.781 41.087 36.250 0.000 0.000 0.000
0.000 0.000 Automatic
24AY 14 21.431 L/r 27.300 Shear 174 17.45 21.431 27.300 40.781 41.087 36.250 0.000 0.000 0.000
0.000 0.000 Automatic
24BP 14 21.431 L/r 27.300 Shear 174 17.45 21.431 27.300 40.781 41.087 36.250 0.000 0.000 0.000
0.000 0.000 Automatic
24BX 14 21.431 L/r 27.300 Shear 174 17.45 21.431 27.300 40.781 41.087 36.250 0.000 0.000 0.000
0.000 0.000 Automatic
24BXY 14 21.431 L/r 27.300 Shear 174 17.45 21.431 27.300 40.781 41.087 36.250 0.000 0.000 0.000
0.000 0.000 Automatic
24BY 14 21.431 L/r 27.300 Shear 174 17.45 21.431 27.300 40.781 41.087 36.250 0.000 0.000 0.000
0.000 0.000 Automatic
25AP 15 33.799 L/r 37.133 Net Sect 128 14.10 33.799 63.700 95.156 37.133 74.632 0.000 0.000 0.000
0.000 0.000 Automatic Member "25AP" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
25AX 15 33.799 L/r 37.133 Net Sect 128 14.10 33.799 63.700 95.156 37.133 74.632 0.000 0.000 0.000
0.000 0.000 Automatic Member "25AX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
25AXY 15 33.799 L/r 37.133 Net Sect 128 14.10 33.799 63.700 95.156 37.133 74.632 0.000 0.000 0.000
0.000 0.000 Automatic Member "25AXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
25AY 15 33.799 L/r 37.133 Net Sect 128 14.10 33.799 63.700 95.156 37.133 74.632 0.000 0.000 0.000
0.000 0.000 Automatic Member "25AY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
25BP 15 33.799 L/r 37.133 Net Sect 128 14.10 33.799 63.700 95.156 37.133 74.632 0.000 0.000 0.000
0.000 0.000 Automatic Member "25BP" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
25BX 15 33.799 L/r 37.133 Net Sect 128 14.10 33.799 63.700 95.156 37.133 74.632 0.000 0.000 0.000
0.000 0.000 Automatic Member "25BX" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
25BXY 15 33.799 L/r 37.133 Net Sect 128 14.10 33.799 63.700 95.156 37.133 74.632 0.000 0.000 0.000
0.000 0.000 Automatic Member "25BXY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
25BY 15 33.799 L/r 37.133 Net Sect 128 14.10 33.799 63.700 95.156 37.133 74.632 0.000 0.000 0.000
0.000 0.000 Automatic Member "25BY" will not be checked for block shear since more than one gage line exists (long edge
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??
26AP 16 4.044 L/r 18.125 Rupture 257 16.85 4.044 18.200 20.391 18.827 18.125 0.000 0.000 0.000
0.000 0.000 Automatic
26AX 16 4.044 L/r 18.125 Rupture 257 16.85 4.044 18.200 20.391 18.827 18.125 0.000 0.000 0.000
0.000 0.000 Automatic
26AXY 16 4.044 L/r 18.125 Rupture 257 16.85 4.044 18.200 20.391 18.827 18.125 0.000 0.000 0.000
0.000 0.000 Automatic
26AY 16 4.044 L/r 18.125 Rupture 257 16.85 4.044 18.200 20.391 18.827 18.125 0.000 0.000 0.000
0.000 0.000 Automatic
26BP 16 4.044 L/r 18.125 Rupture 257 16.85 4.044 18.200 20.391 18.827 18.125 0.000 0.000 0.000
0.000 0.000 Automatic
26BX 16 4.044 L/r 18.125 Rupture 257 16.85 4.044 18.200 20.391 18.827 18.125 0.000 0.000 0.000
0.000 0.000 Automatic
26BXY 16 4.044 L/r 18.125 Rupture 257 16.85 4.044 18.200 20.391 18.827 18.125 0.000 0.000 0.000
0.000 0.000 Automatic
26BY 16 4.044 L/r 18.125 Rupture 257 16.85 4.044 18.200 20.391 18.827 18.125 0.000 0.000 0.000
0.000 0.000 Automatic
27AP 17 6.420 L/r 24.887 Net Sect 265 19.19 6.420 36.400 54.375 24.887 48.333 0.000 0.000 0.000
0.000 0.000 Automatic
27AX 17 6.420 L/r 24.887 Net Sect 265 19.19 6.420 36.400 54.375 24.887 48.333 0.000 0.000 0.000

0.000		0.000	Automatic													
27AXY	17	6.420	L/r	24.887	Net Sect	265	19.19	6.420	36.400	54.375	24.887	48.333	0.000	0.000	0.000	
0.000		0.000	Automatic													
27AY	17	6.420	L/r	24.887	Net Sect	265	19.19	6.420	36.400	54.375	24.887	48.333	0.000	0.000	0.000	
0.000		0.000	Automatic													
27BP	17	6.420	L/r	24.887	Net Sect	265	19.19	6.420	36.400	54.375	24.887	48.333	0.000	0.000	0.000	
0.000		0.000	Automatic													
27BX	17	6.420	L/r	24.887	Net Sect	265	19.19	6.420	36.400	54.375	24.887	48.333	0.000	0.000	0.000	
0.000		0.000	Automatic													
27BXY	17	6.420	L/r	24.887	Net Sect	265	19.19	6.420	36.400	54.375	24.887	48.333	0.000	0.000	0.000	
0.000		0.000	Automatic													
27BY	17	6.420	L/r	24.887	Net Sect	265	19.19	6.420	36.400	54.375	24.887	48.333	0.000	0.000	0.000	
0.000		0.000	Automatic													
28AP	18	11.489	L/r	45.500	Shear	205	15.32	11.489	45.500	67.969	47.739	60.417	0.000	0.000	0.000	
0.000		0.000	Automatic	Member "28AP" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??																
28AX	18	11.489	L/r	45.500	Shear	205	15.32	11.489	45.500	67.969	47.739	60.417	0.000	0.000	0.000	
0.000		0.000	Automatic	Member "28AX" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??																
28AXY	18	11.489	L/r	45.500	Shear	205	15.32	11.489	45.500	67.969	47.739	60.417	0.000	0.000	0.000	
0.000		0.000	Automatic	Member "28AXY" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??																
28AY	18	11.489	L/r	45.500	Shear	205	15.32	11.489	45.500	67.969	47.739	60.417	0.000	0.000	0.000	
0.000		0.000	Automatic	Member "28AY" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??																
28BP	18	11.489	L/r	45.500	Shear	205	15.32	11.489	45.500	67.969	47.739	60.417	0.000	0.000	0.000	
0.000		0.000	Automatic	Member "28BP" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??																
28BX	18	11.489	L/r	45.500	Shear	205	15.32	11.489	45.500	67.969	47.739	60.417	0.000	0.000	0.000	
0.000		0.000	Automatic	Member "28BX" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??																
28BXY	18	11.489	L/r	45.500	Shear	205	15.32	11.489	45.500	67.969	47.739	60.417	0.000	0.000	0.000	
0.000		0.000	Automatic	Member "28BXY" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??																
28BY	18	11.489	L/r	45.500	Shear	205	15.32	11.489	45.500	67.969	47.739	60.417	0.000	0.000	0.000	
0.000		0.000	Automatic	Member "28BY" will not be checked for block shear since more than one gage line exists (long edge												
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??																
29AP	19	25.652	L/r	44.975	Net Sect	136	28.52	25.652	45.500	67.969	44.975	53.634	0.000	0.000	0.000	
0.000		0.000	Automatic													
29AX	19	25.652	L/r	44.975	Net Sect	136	28.52	25.652	45.500	67.969	44.975	53.634	0.000	0.000	0.000	
0.000		0.000	Automatic													
29AXY	19	25.652	L/r	44.975	Net Sect	136	28.52	25.652	45.500	67.969	44.975	53.634	0.000	0.000	0.000	
0.000		0.000	Automatic													
29AY	19	25.652	L/r	44.975	Net Sect	136	28.52	25.652	45.500	67.969	44.975	53.634	0.000	0.000	0.000	
0.000		0.000	Automatic													
29BP	19	25.652	L/r	44.975	Net Sect	136	28.52	25.652	45.500	67.969	44.975	53.634	0.000	0.000	0.000	
0.000		0.000	Automatic													
29BX	19	25.652	L/r	44.975	Net Sect	136	28.52	25.652	45.500	67.969	44.975	53.634	0.000	0.000	0.000	
0.000		0.000	Automatic													
29BXY	19	25.652	L/r	44.975	Net Sect	136	28.52	25.652	45.500	67.969	44.975	53.634	0.000	0.000	0.000	
0.000		0.000	Automatic													
29BY	19	25.652	L/r	44.975	Net Sect	136	28.52	25.652	45.500	67.969	44.975	53.634	0.000	0.000	0.000	
0.000		0.000	Automatic													
30AP	20a	9.100	Shear	7.024	Rupture	105	6.00	13.441	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic													
30AY	20a	9.100	Shear	7.024	Rupture	105	6.00	13.441	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic													
30BP	20a	9.100	Shear	7.024	Rupture	105	6.00	13.441	9.100	10.195	15.911	7.024	0.000	0.000	0.000	

0.000		0.000	Automatic												
30BX	20a	9.100	Shear 7.024	Rupture	105	6.00	13.441	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic												
31P	20	4.027	L/r 7.024	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic												
31Y	20	4.027	L/r 7.024	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic												
32P	20	4.027	L/r 7.432	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.432	0.000	0.000	0.000	
0.000		0.000	Automatic												
32X	20	4.027	L/r 7.432	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.432	0.000	0.000	0.000	
0.000		0.000	Automatic												
33P	20	4.027	L/r 7.024	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic												
33Y	20	4.027	L/r 7.024	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic												
34P	20	4.027	L/r 7.432	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.432	0.000	0.000	0.000	
0.000		0.000	Automatic												
34X	20	4.027	L/r 7.432	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.432	0.000	0.000	0.000	
0.000		0.000	Automatic												
35P	20	4.027	L/r 7.024	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic												
35Y	20	4.027	L/r 7.024	Rupture	210	6.00	4.027	9.100	10.195	15.911	7.024	0.000	0.000	0.000	
0.000		0.000	Automatic												
36P	36	16.800	Shear 14.864	Rupture	134	6.00	19.743	16.800	20.391	35.999	14.864	0.000	0.000	0.000	
0.000		0.000	Automatic												
36X	36	16.800	Shear 14.864	Rupture	134	6.00	19.743	16.800	20.391	35.999	14.864	0.000	0.000	0.000	
0.000		0.000	Automatic												
37AP	21	27.300	Shear 27.300	Shear	149	15.74	27.341	27.300	40.781	49.025	36.250	0.000	0.000	0.000	
0.000		0.000	Automatic												
37AY	21	27.300	Shear 27.300	Shear	149	15.74	27.341	27.300	40.781	49.025	36.250	0.000	0.000	0.000	
0.000		0.000	Automatic												
37BP	21	27.300	Shear 27.300	Shear	149	15.74	27.341	27.300	40.781	49.025	36.250	0.000	0.000	0.000	
0.000		0.000	Automatic												
37BX	21	27.300	Shear 27.300	Shear	149	15.74	27.341	27.300	40.781	49.025	36.250	0.000	0.000	0.000	
0.000		0.000	Automatic												
38AP	22	11.503	L/r 18.125	Rupture	193	9.57	11.503	18.200	20.391	31.139	18.125	0.000	0.000	0.000	
0.000		0.000	Automatic												
38AX	22	11.503	L/r 18.125	Rupture	193	9.57	11.503	18.200	20.391	31.139	18.125	0.000	0.000	0.000	
0.000		0.000	Automatic												
38AXY	22	11.503	L/r 18.125	Rupture	193	9.57	11.503	18.200	20.391	31.139	18.125	0.000	0.000	0.000	
0.000		0.000	Automatic												
38AY	22	11.503	L/r 18.125	Rupture	193	9.57	11.503	18.200	20.391	31.139	18.125	0.000	0.000	0.000	
0.000		0.000	Automatic												
38BP	22	11.503	L/r 18.125	Rupture	193	9.57	11.503	18.200	20.391	31.139	18.125	0.000	0.000	0.000	
0.000		0.000	Automatic												
38BX	22	11.503	L/r 18.125	Rupture	193	9.57	11.503	18.200	20.391	31.139	18.125	0.000	0.000	0.000	
0.000		0.000	Automatic												
38BXY	22	11.503	L/r 18.125	Rupture	193	9.57	11.503	18.200	20.391	31.139	18.125	0.000	0.000	0.000	
0.000		0.000	Automatic												
38BY	22	11.503	L/r 18.125	Rupture	193	9.57	11.503	18.200	20.391	31.139	18.125	0.000	0.000	0.000	
0.000		0.000	Automatic												
39AP	23	18.200	Shear 18.200	Shear	173	9.56	21.560	18.200	27.187	41.087	24.167	0.000	0.000	0.000	
0.000		0.000	Automatic												
39AX	23	18.200	Shear 18.200	Shear	173	9.56	21.560	18.200	27.187	41.087	24.167	0.000	0.000	0.000	
0.000		0.000	Automatic												
39AXY	23	18.200	Shear 18.200	Shear	173	9.56	21.560	18.200	27.187	41.087	24.167	0.000	0.000	0.000	
0.000		0.000	Automatic												
39AY	23	18.200	Shear 18.200	Shear	173	9.56	21.560	18.200	27.187	41.087	24.167	0.000	0.000	0.000	
0.000		0.000	Automatic												
39BP	23	18.200	Shear 18.200	Shear	173	9.56	21.560	18.200	27.187	41.087	24.167	0.000	0.000	0.000	

0.000		0.000	Automatic												
39BX	23	18.200	Shear	18.200	Shear	173	9.56	21.560	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
39BXY	23	18.200	Shear	18.200	Shear	173	9.56	21.560	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
39BY	23	18.200	Shear	18.200	Shear	173	9.56	21.560	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
39C1P	23	18.200	Shear	18.200	Shear	62	2.21	44.853	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
39C1Y	23	18.200	Shear	18.200	Shear	62	2.21	44.853	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
F39C197P	23	18.200	Shear	18.200	Shear	62	2.21	44.853	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
F39C197Y	23	18.200	Shear	18.200	Shear	62	2.21	44.853	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
39C2P	23	18.200	Shear	18.200	Shear	62	2.21	44.853	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
39C2X	23	18.200	Shear	18.200	Shear	62	2.21	44.853	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
F39C2118P	23	18.200	Shear	18.200	Shear	62	2.21	44.853	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
F39C2118X	23	18.200	Shear	18.200	Shear	62	2.21	44.853	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic												
40P	24	13.386	L/r	18.200	Shear	234	13.53	13.386	18.200	27.187	49.187	25.677	0.000	0.000	0.000
0.000		0.000	Automatic	Member "40P" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
40X	24	13.386	L/r	18.200	Shear	234	13.53	13.386	18.200	27.187	49.187	25.677	0.000	0.000	0.000
0.000		0.000	Automatic	Member "40X" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
40XY	24	13.386	L/r	18.200	Shear	234	13.53	13.386	18.200	27.187	49.187	25.677	0.000	0.000	0.000
0.000		0.000	Automatic	Member "40XY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
40Y	24	13.386	L/r	18.200	Shear	234	13.53	13.386	18.200	27.187	49.187	25.677	0.000	0.000	0.000
0.000		0.000	Automatic	Member "40Y" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
41P	24	13.399	L/r	18.200	Shear	234	13.52	13.399	18.200	27.187	49.187	25.677	0.000	0.000	0.000
0.000		0.000	Automatic												
41X	24	13.399	L/r	18.200	Shear	234	13.52	13.399	18.200	27.187	49.187	25.677	0.000	0.000	0.000
0.000		0.000	Automatic												
41XY	24	13.399	L/r	18.200	Shear	234	13.52	13.399	18.200	27.187	49.187	25.677	0.000	0.000	0.000
0.000		0.000	Automatic												
41Y	24	13.399	L/r	18.200	Shear	234	13.52	13.399	18.200	27.187	49.187	25.677	0.000	0.000	0.000
0.000		0.000	Automatic												
42P AngleR		9.100	Shear	9.100	Shear	130	4.24	15.869	9.100	13.594	24.887	9.366	0.000	0.000	0.000
0.000		0.000	Automatic												
42X AngleR		9.100	Shear	9.100	Shear	130	4.24	15.869	9.100	13.594	24.887	9.366	0.000	0.000	0.000
0.000		0.000	Automatic												
42XY AngleR		9.100	Shear	9.100	Shear	130	4.24	15.869	9.100	13.594	24.887	9.366	0.000	0.000	0.000
0.000		0.000	Automatic												
42Y AngleR		9.100	Shear	9.100	Shear	130	4.24	15.869	9.100	13.594	24.887	9.366	0.000	0.000	0.000
0.000		0.000	Automatic												
43AP	26	12.587	L/r	13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic												
43AX	26	12.587	L/r	13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic												
43AXY	26	12.587	L/r	13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic												
43AY	26	12.587	L/r	13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic												

43BP	26	12.587	L/r 13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic											
43BX	26	12.587	L/r 13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic											
43BXY	26	12.587	L/r 13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic											
43BY	26	12.587	L/r 13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic											
43CP	26	12.587	L/r 13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic											
43CX	26	12.587	L/r 13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic											
43CXY	26	12.587	L/r 13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic											
43CY	26	12.587	L/r 13.170	Rupture	129	4.24	12.587	18.200	20.391	18.827	13.170	0.000	0.000	0.000
0.000		0.000	Automatic											
44P	27	16.678	L/r 18.125	Rupture	116	8.22	16.678	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44Y	27	16.678	L/r 18.125	Rupture	116	8.22	16.678	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44AP	27	16.678	L/r 18.125	Rupture	116	8.22	16.678	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44AY	27	16.678	L/r 18.125	Rupture	116	8.22	16.678	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44BP	27	14.533	L/r 18.125	Rupture	128	9.13	14.533	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44BY	27	14.533	L/r 18.125	Rupture	128	9.13	14.533	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44CP	27	14.533	L/r 18.125	Rupture	128	9.13	14.533	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44CY	27	14.533	L/r 18.125	Rupture	128	9.13	14.533	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44DP	27	16.678	L/r 18.125	Rupture	116	8.22	16.678	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44DY	27	16.678	L/r 18.125	Rupture	116	8.22	16.678	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44EP	27	16.678	L/r 18.125	Rupture	116	8.22	16.678	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
44EY	27	16.678	L/r 18.125	Rupture	116	8.22	16.678	18.200	20.391	19.030	18.125	0.000	0.000	0.000
0.000		0.000	Automatic											
45P	28	18.200	Shear 18.200	Shear	111	6.00	35.407	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic											
45AP	28	18.200	Shear 18.200	Shear	111	6.00	35.407	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic											
45BP	28	18.200	Shear 18.200	Shear	111	6.00	35.407	18.200	27.187	41.087	24.167	0.000	0.000	0.000
0.000		0.000	Automatic											
46P	29	7.736	L/r 13.577	Rupture	202	14.78	7.736	18.200	20.391	18.908	13.577	0.000	0.000	0.000
0.000		0.000	Automatic											
46X	29	7.736	L/r 13.577	Rupture	202	14.78	7.736	18.200	20.391	18.908	13.577	0.000	0.000	0.000
0.000		0.000	Automatic											
46XY	29	7.736	L/r 13.577	Rupture	202	14.78	7.736	18.200	20.391	18.908	13.577	0.000	0.000	0.000
0.000		0.000	Automatic											
46Y	29	7.736	L/r 13.577	Rupture	202	14.78	7.736	18.200	20.391	18.908	13.577	0.000	0.000	0.000
0.000		0.000	Automatic											
47P	30	5.767	L/r 13.577	Rupture	201	13.25	5.767	18.200	20.391	19.030	13.577	0.000	0.000	0.000
0.000		0.000	Automatic											
47Y	30	5.767	L/r 13.577	Rupture	201	13.25	5.767	18.200	20.391	19.030	13.577	0.000	0.000	0.000
0.000		0.000	Automatic											
47AP	30	5.486	L/r 15.209	Rupture	206	13.59	5.486	18.200	20.391	19.030	15.209	0.000	0.000	0.000
0.000		0.000	Automatic											

47AY	30	5.486	L/r 15.209	Rupture	206	13.59	5.486	18.200	20.391	19.030	15.209	0.000	0.000	0.000	0.000
		0.000	Automatic												
48P	31	8.465	L/r 18.125	Rupture	192	15.02	8.465	18.200	20.391	31.139	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
48Y	31	8.465	L/r 18.125	Rupture	192	15.02	8.465	18.200	20.391	31.139	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic												
48AP	31	8.140	L/r 14.801	Rupture	196	15.32	8.140	18.200	20.391	31.139	14.801	0.000	0.000	0.000	0.000
		0.000	Automatic												
48AY	31	8.140	L/r 14.801	Rupture	196	15.32	8.140	18.200	20.391	31.139	14.801	0.000	0.000	0.000	0.000
		0.000	Automatic												
49P	30	5.767	L/r 13.985	Rupture	201	13.25	5.767	18.200	20.391	19.030	13.985	0.000	0.000	0.000	0.000
		0.000	Automatic												
49Y	30	5.767	L/r 13.985	Rupture	201	13.25	5.767	18.200	20.391	19.030	13.985	0.000	0.000	0.000	0.000
		0.000	Automatic												
49AP	30	5.486	L/r 14.801	Rupture	206	13.59	5.486	18.200	20.391	19.030	14.801	0.000	0.000	0.000	0.000
		0.000	Automatic												
49AY	30	5.486	L/r 14.801	Rupture	206	13.59	5.486	18.200	20.391	19.030	14.801	0.000	0.000	0.000	0.000
		0.000	Automatic												
50P	32	18.200	Shear 18.125	Rupture	143	14.07	21.867	18.200	27.187	37.802	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "50P" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
50X	32	18.200	Shear 18.125	Rupture	143	14.07	21.867	18.200	27.187	37.802	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "50X" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
50XY	32	18.200	Shear 18.125	Rupture	143	14.07	21.867	18.200	27.187	37.802	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "50XY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
50Y	32	18.200	Shear 18.125	Rupture	143	14.07	21.867	18.200	27.187	37.802	18.125	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "50Y" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
50AP	32	18.200	Shear 18.200	Shear	122	6.00	27.975	18.200	27.187	39.417	21.146	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "50AP" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
50AY	32	18.200	Shear 18.200	Shear	122	6.00	27.975	18.200	27.187	39.417	21.146	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "50AY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
51P	33	32.661	L/r 34.020	Net Sect	111	11.64	32.661	36.400	54.375	34.020	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "51P" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
51Y	33	32.661	L/r 34.020	Net Sect	111	11.64	32.661	36.400	54.375	34.020	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "51Y" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
51AP	33	31.965	L/r 36.400	Shear	114	6.00	31.965	36.400	54.375	37.918	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "51AP" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
51AY	33	31.965	L/r 36.400	Shear	114	6.00	31.965	36.400	54.375	37.918	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "51AY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
51BP	33	27.300	Shear 27.300	Shear	107	5.62	33.416	27.300	40.781	34.800	31.985	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "51BP" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
51BY	33	27.300	Shear 27.300	Shear	107	5.62	33.416	27.300	40.781	34.800	31.985	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "51BY" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
51CP	33	33.416	L/r 36.400	Shear	107	5.63	33.416	36.400	54.375	38.683	42.647	0.000	0.000	0.000	0.000
		0.000	Automatic	Member "51CP" will not be checked for block shear since more than one gage line exists (long edge											
distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??															
51CY	33	33.416	L/r 36.400	Shear	107	5.63	33.416	36.400	54.375	38.683	42.647	0.000	0.000	0.000	0.000

0.000 0.000 Automatic Member "51CY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

52P 34 41.627 L/r 45.500 Shear 106 14.07 41.627 45.500 67.969 47.765 60.417 0.000 0.000 0.000 0.000 0.000 Automatic Member "52P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

52Y 34 41.627 L/r 45.500 Shear 106 14.07 41.627 45.500 67.969 47.765 60.417 0.000 0.000 0.000 0.000 0.000 Automatic Member "52Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

52AP 34 45.317 L/r 35.539 Rupture 91 6.00 45.317 45.500 67.969 52.721 35.539 0.000 0.000 0.000 0.000 0.000 Automatic Member "52AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

52AY 34 45.317 L/r 35.539 Rupture 91 6.00 45.317 45.500 67.969 52.721 35.539 0.000 0.000 0.000 0.000 0.000 Automatic Member "52AY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

52BP 34 42.220 L/r 45.500 Shear 104 6.88 42.220 45.500 67.969 51.718 71.078 0.000 0.000 0.000 0.000 0.000 Automatic Member "52BP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

52BY 34 42.220 L/r 45.500 Shear 104 6.88 42.220 45.500 67.969 51.718 71.078 0.000 0.000 0.000 0.000 0.000 Automatic Member "52BY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

52CP 34 42.220 L/r 48.043 Net Sect 104 6.88 42.220 54.600 81.562 48.043 63.970 0.000 0.000 0.000 0.000 0.000 Automatic Member "52CP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

52CY 34 42.220 L/r 48.043 Net Sect 104 6.88 42.220 54.600 81.562 48.043 63.970 0.000 0.000 0.000 0.000 0.000 Automatic Member "52CY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

53P 33 32.661 L/r 34.020 Net Sect 111 11.64 32.661 36.400 54.375 34.020 42.647 0.000 0.000 0.000 0.000 0.000 Automatic Member "53P" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

53Y 33 32.661 L/r 34.020 Net Sect 111 11.64 32.661 36.400 54.375 34.020 42.647 0.000 0.000 0.000 0.000 0.000 Automatic Member "53Y" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

53AP 33 31.965 L/r 36.400 Shear 114 6.00 31.965 36.400 54.375 40.925 42.647 0.000 0.000 0.000 0.000 0.000 Automatic Member "53AP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

53AY 33 31.965 L/r 36.400 Shear 114 6.00 31.965 36.400 54.375 40.925 42.647 0.000 0.000 0.000 0.000 0.000 Automatic Member "53AY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

53BP 33 27.300 Shear 27.300 Shear 107 5.62 33.416 27.300 40.781 35.356 31.985 0.000 0.000 0.000 0.000 0.000 Automatic Member "53BP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

53BY 33 27.300 Shear 27.300 Shear 107 5.62 33.416 27.300 40.781 35.356 31.985 0.000 0.000 0.000 0.000 0.000 Automatic Member "53BY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

53CP 33 33.416 L/r 36.400 Shear 107 5.63 33.416 36.400 54.375 38.237 42.647 0.000 0.000 0.000 0.000 0.000 Automatic Member "53CP" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

53CY 33 33.416 L/r 36.400 Shear 107 5.63 33.416 36.400 54.375 38.237 42.647 0.000 0.000 0.000 0.000 0.000 Automatic Member "53CY" will not be checked for block shear since more than one gage line exists (long edge distance (g) greater than zero); however, end, edge and spacing distances will be checked. ??

54P 35 8.154 L/r 9.100 Shear 169 6.00 8.154 9.100 10.195 22.067 9.629 0.000 0.000 0.000 0.000 0.000 Automatic

54X 35 8.154 L/r 9.100 Shear 169 6.00 8.154 9.100 10.195 22.067 9.629 0.000 0.000 0.000 0.000 0.000 Automatic

g99P Pwmnt 437.242 L/r 571.199 Net Sect 80 29.25 437.242 0.000 0.000 571.199 0.000 0.000 0.000 0.000 0.000 Automatic

g100P Pwmnt 535.971 L/r 571.199 Net Sect 41 15.00 535.971 0.000 0.000 571.199 0.000 0.000 0.000 0.000

0.000		0.000	Automatic												
g101P	Pwmnt	260.146	L/r 571.199	Net Sect	122	44.75	260.146	0.000	0.000	571.199	0.000	0.000	0.000	0.000	
0.000		0.000	Automatic												
g102P	Pwmnt	540.511	L/r 571.199	Net Sect	38	14.00	540.511	0.000	0.000	571.199	0.000	0.000	0.000	0.000	
0.000		0.000	Automatic												
g103P	Pwmnt	540.511	L/r 571.199	Net Sect	38	14.00	540.511	0.000	0.000	571.199	0.000	0.000	0.000	0.000	
0.000		0.000	Automatic												
g104P	Pwmnt	531.117	L/r 571.199	Net Sect	44	16.00	531.117	0.000	0.000	571.199	0.000	0.000	0.000	0.000	
0.000		0.000	Automatic												
g105P	Pwmnt	565.563	L/r 571.199	Net Sect	16	6.00	565.563	0.000	0.000	571.199	0.000	0.000	0.000	0.000	
0.000		0.000	Automatic												
g106P	**Plate**	**16.800**	**Shear 16.800**	**Shear**	**83**	**1.50**	**109.423**	**16.800**	**0.000**	**145.800**	**0.000**	**0.000**	**0.000**	**0.000**	
0.000		**0.000**	**Automatic**										**Unable to calculate**		
rupture capacity for member "g106P" because it has a long and short edge distance of 0. ??															
g107P	PMBR1	10.195	Bearing 10.195	Bearing	46	1.50	20.042	16.800	10.195	18.827	10.343	0.000	0.000	0.000	
0.000		0.000	Automatic												
g108P	PMBR1	10.195	Bearing 10.195	Bearing	46	1.50	20.044	16.800	10.195	18.827	10.343	0.000	0.000	0.000	
0.000		0.000	Automatic												
g109P	PMBR1	10.195	Bearing 10.195	Bearing	46	1.50	20.044	16.800	10.195	18.827	10.343	0.000	0.000	0.000	
0.000		0.000	Automatic												
g110P	BraceR	13.594	Bearing 13.594	Bearing	82	3.35	29.101	16.800	13.594	32.987	15.104	0.000	0.000	0.000	
0.000		0.000	Automatic												
g110X	BraceR	13.594	Bearing 13.594	Bearing	82	3.35	29.101	16.800	13.594	32.987	15.104	0.000	0.000	0.000	
0.000		0.000	Automatic												
g111P	PMBR2	10.195	Bearing 10.195	Bearing	81	3.35	22.126	16.800	10.195	25.048	11.328	0.000	0.000	0.000	
0.000		0.000	Automatic												
g111X	PMBR2	10.195	Bearing 10.195	Bearing	81	3.35	22.126	16.800	10.195	25.048	11.328	0.000	0.000	0.000	
0.000		0.000	Automatic												
g112P	PMBR2	10.195	Bearing 10.195	Bearing	81	3.35	22.127	16.800	10.195	25.048	11.328	0.000	0.000	0.000	
0.000		0.000	Automatic												
g112X	PMBR2	10.195	Bearing 10.195	Bearing	81	3.35	22.127	16.800	10.195	25.048	11.328	0.000	0.000	0.000	
0.000		0.000	Automatic												
g113P	PMBR2	10.195	Bearing 10.195	Bearing	81	3.35	22.127	16.800	10.195	25.048	11.328	0.000	0.000	0.000	
0.000		0.000	Automatic												
g113X	PMBR2	10.195	Bearing 10.195	Bearing	81	3.35	22.127	16.800	10.195	25.048	11.328	0.000	0.000	0.000	
0.000		0.000	Automatic												
g114P	PMBR3	10.195	Bearing 10.195	Bearing	162	8.07	11.823	16.800	10.195	31.139	11.328	0.000	0.000	0.000	
0.000		0.000	Automatic												
g115P	PMBR4	13.207	L/r 13.594	Bearing	191	11.07	13.207	16.800	13.594	49.187	15.104	0.000	0.000	0.000	
0.000		0.000	Automatic												
g116P	PMBR4	13.594	Bearing 13.594	Bearing	167	9.68	17.249	16.800	13.594	49.187	15.104	0.000	0.000	0.000	
0.000		0.000	Automatic												
g116X	PMBR4	13.594	Bearing 13.594	Bearing	167	9.68	17.249	16.800	13.594	49.187	15.104	0.000	0.000	0.000	
0.000		0.000	Automatic												
g117P	PMBR4	13.594	Bearing 13.594	Bearing	178	10.27	15.339	16.800	13.594	49.187	15.104	0.000	0.000	0.000	
0.000		0.000	Automatic												
g118P	**PMBR5**	**13.594**	**Bearing 13.594**	**Bearing**	**200**	**13.27**	**13.840**	**16.800**	**13.594**	**57.287**	**15.104**	**0.000**	**0.000**	**0.000**	
0.000		**0.000**	**Automatic**												
KL/R value of 200.30 exceeds maximum of 200.00 for member "g118P" ??															
g120P	PMBR5	13.594	Bearing 13.594	Bearing	186	12.34	16.004	16.800	13.594	57.287	15.104	0.000	0.000	0.000	
0.000		0.000	Automatic												
g120X	PMBR5	13.594	Bearing 13.594	Bearing	186	12.34	16.004	16.800	13.594	57.287	15.104	0.000	0.000	0.000	
0.000		0.000	Automatic												
g121P	Pwmnt	558.517	L/r 571.199	Net Sect	25	9.00	558.517	0.000	0.000	571.199	0.000	0.000	0.000	0.000	
0.000		0.000	Automatic												

The model contains 335 angle members.

Sum of Unfactored Dead Load and Drag Areas From Equipment, Input and Calculated:

Joint Label	Dead Load (kips)	X-Drag Area (ft^2)	Y-Drag Area (ft^2)
1P	0.117	5.752	4.127
2P	0.0615	3.558	2.426
3P	0.116	7.249	6.160
4P	0.213	10.554	9.179
5P	0.222	10.953	9.394
6P	0.315	12.098	10.143
7P	0.351	11.891	10.802
8P	0.433	14.318	13.381
15P	0.651	16.233	16.233
16P	0.114	7.054	2.102
17P	0.0621	2.786	2.354
18P	0.0805	3.740	2.381
19P	0.0621	2.786	2.354
20AP	0.39	20.837	17.520
20BP	0.403	17.907	21.056
21P	0.22	11.891	8.870
22P	0.22	8.870	11.891
23P	0.1	6.042	2.462
24P	0.15	8.339	2.688
25P	0.1	6.042	2.462
26P	0.053	2.813	1.250
27P	0.0705	3.724	1.250
28P	0.053	2.813	1.250
29P	0.725	15.539	15.539
30P	1.25	27.431	28.453
31P	1.59	34.533	34.802
32P	1.47	31.836	31.648
33P	0.707	15.500	15.312
34P	0.756	16.567	16.375
35P	0.571	12.325	12.375
36P	0.372	7.969	7.969
37P	0.223	4.781	4.781
1X	0.117	5.752	4.127
1XY	0.11	5.439	3.970
1Y	0.11	5.439	3.970
2X	0.0615	3.558	2.426
2XY	0.0615	3.558	2.426
2Y	0.0615	3.558	2.426
3X	0.117	7.249	6.224
3XY	0.117	7.249	6.224
3Y	0.116	7.249	6.160
4X	0.218	10.789	8.992
4XY	0.213	10.476	8.835
4Y	0.208	10.242	9.023
5X	0.222	10.953	9.482
5XY	0.222	10.953	9.482
5Y	0.222	10.953	9.394
6X	0.326	12.528	10.018
6XY	0.321	12.216	9.861
6Y	0.31	11.786	9.986
7X	0.352	11.891	10.866
7XY	0.352	11.891	10.866
7Y	0.351	11.891	10.802
8X	0.438	14.553	13.193

8XY	0.432	14.240	13.037
8Y	0.427	14.006	13.224
15X	0.651	16.233	16.233
15XY	0.651	16.233	16.233
15Y	0.651	16.233	16.233
16X	0.114	7.054	2.102
17Y	0.0621	2.786	2.354
18Y	0.0805	3.740	2.381
19Y	0.0621	2.786	2.354
20AY	0.407	20.837	18.125
20BX	0.403	17.907	21.056
21X	0.22	11.891	8.870
21XY	0.22	11.891	8.870
21Y	0.22	11.891	8.870
22X	0.22	8.870	11.891
22XY	0.261	10.831	12.509
22Y	0.261	10.831	12.509
26Y	0.053	2.813	1.250
27Y	0.0705	3.724	1.250
28Y	0.053	2.813	1.250
9S	0.404	12.387	12.387
10S	0.406	11.747	11.747
11S	0.518	14.852	14.852
12S	0.733	20.933	20.933
13S	0.605	12.807	12.807
14S	0.936	19.747	19.747
i0.50E129S	0.0385	1.012	1.375
i0.50E113S	0.0225	1.004	1.125
i0.50E99S	0.0225	1.000	1.125
i0.50E85S	0.0225	1.000	1.125
21XF0.50S	0.0444	0.920	1.498
22PF0.50S	0.0146	0.000	0.920
9X	0.404	12.387	12.387
9XY	0.404	12.387	12.387
9Y	0.404	12.387	12.387
10X	0.406	11.747	11.747
10XY	0.406	11.747	11.747
10Y	0.406	11.747	11.747
11X	0.518	14.852	14.852
11XY	0.518	14.852	14.852
11Y	0.518	14.852	14.852
12X	0.733	20.933	20.933
12XY	0.733	20.933	20.933
12Y	0.733	20.933	20.933
13X	0.605	12.807	12.807
13XY	0.605	12.807	12.807
13Y	0.605	12.807	12.807
14X	0.936	19.747	19.747
14XY	0.936	19.747	19.747
14Y	0.936	19.747	19.747
21XF0.50Y	0.0584	0.920	2.212
22PF0.50X	0.0146	0.000	0.920
Total	37	1148.254	1068.534

Unadjusted Dead Load and Drag Areas by Section:

Section Label	Unfactored Dead Load (kips)	X-Drag Area All (ft^2)	Y-Drag Area All (ft^2)	X-Drag Area Face (ft^2)	Y-Drag Area Face (ft^2)

1	10.937	420.113	337.810	139.781	158.944
2	26.071	728.141	730.724	227.007	321.570
Total	37.007	1148.254	1068.534	366.789	480.514

Angle Member Weights and Surface Areas by Section:

Section Label	Unfactored Weight (kips)	Factored Weight (kips)	Unfactored Surface Area (ft^2)	Factored Surface Area (ft^2)
1	10.937	11.483	1715.817	1801.607
2	26.071	27.374	3034.480	3186.204
Total	37.007	38.858	4750.297	4987.812

Section Joint Information:

Section Label	Joint Label	Joint Elevation (ft)
1	1P	128.800
1	2P	124.300
1	1X	128.800
1	2X	124.300
1	1XY	128.800
1	2XY	124.300
1	1Y	128.800
1	2Y	124.300
1	3P	119.800
1	3X	119.800
1	3XY	119.800
1	3Y	119.800
1	4P	112.800
1	4X	112.800
1	4XY	112.800
1	4Y	112.800
1	5P	104.800
1	5X	104.800
1	5XY	104.800
1	5Y	104.800
1	6P	98.750
1	6X	98.750
1	6XY	98.750
1	6Y	98.750
1	7P	91.750
1	7X	91.750
1	7XY	91.750
1	7Y	91.750
1	8P	84.750
1	8X	84.750
1	8XY	84.750
1	8Y	84.750
1	i0.50E129S	128.800
1	i0.50E113S	112.800
1	i0.50E99S	98.750
1	i0.50E85S	84.750
1	28Y	84.750
1	28P	84.750

1	19Y	84.750
1	19P	84.750
1	27Y	98.750
1	27P	98.750
1	18Y	98.750
1	18P	98.750
1	26Y	112.800
1	26P	112.800
1	17Y	112.800
1	17P	112.800
1	16P	128.800
1	16X	128.800
1	23P	112.800
1	24P	98.750
1	25P	84.750
1	32P	84.750
1	33P	98.750
1	34P	112.750
1	35P	128.750
1	36P	134.750
1	37P	143.750
2	8P	84.750
2	9S	77.000
2	8X	84.750
2	9X	77.000
2	8XY	84.750
2	9XY	77.000
2	8Y	84.750
2	9Y	77.000
2	10S	69.250
2	10X	69.250
2	10XY	69.250
2	10Y	69.250
2	11S	61.500
2	11X	61.500
2	11XY	61.500
2	11Y	61.500
2	12S	51.580
2	12X	51.580
2	12XY	51.580
2	12Y	51.580
2	13S	40.000
2	13X	40.000
2	13XY	40.000
2	13Y	40.000
2	14S	25.000
2	14X	25.000
2	14XY	25.000
2	14Y	25.000
2	15P	0.000
2	15X	0.000
2	15XY	0.000
2	15Y	0.000
2	20AP	40.000
2	20AY	40.000
2	20BP	40.000
2	20BX	40.000
2	21P	25.000
2	21X	25.000
2	21XY	25.000

2	21Y	25.000
2	22P	25.000
2	22X	25.000
2	22XY	25.000
2	22Y	25.000
2	21XF0.50S	25.000
2	21XF0.50Y	25.000
2	22PF0.50S	25.000
2	22PF0.50X	25.000
2	29P	-4.250
2	30P	25.000
2	31P	40.000
2	32P	84.750

Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Tran. Face Top Width (ft)	Tran. Face Bot Width (ft)	Tran. Face Gross Area (ft^2)	Long. Face Top Width (ft)	Long. Face Bot Width (ft)	Long. Face Gross Area (ft^2)	
1	143.750	84.750	59	188	0.00	6.00	309.150	0.00	28.50	817.275	Problem calculating gross area of longitudinal face for section "1": width is zero at elevation 128.80 (ft) which is not the top of the section. ??
2	84.750	-4.250	52	147	6.00	0.00	1226.814	6.00	0.00	1226.814	Problem calculating gross area of longitudinal face for section "2": width is zero at elevation -4.25 (ft) which is not the top of the section. ??

*** Insulator Data

Clamp Properties:

Label	Stock Number	Holding Capacity (lbs)
C-EX1		5e+004

Clamp Insulator Connectivity:

Clamp Label	Structure And Tip Attach	Property Set	Min. Required Vertical Load (uplift) (lbs)
1	16X	C-EX1	No Limit
2	16P	C-EX1	No Limit
3	17P	C-EX1	No Limit
4	17Y	C-EX1	No Limit
5	18P	C-EX1	No Limit
6	18Y	C-EX1	No Limit
7	19P	C-EX1	No Limit
8	19Y	C-EX1	No Limit
9	23P	C-EX1	No Limit
10	24P	C-EX1	No Limit
11	25P	C-EX1	No Limit
12	2Y	C-EX1	No Limit
13	4Y	C-EX1	No Limit
14	6Y	C-EX1	No Limit
15	8Y	C-EX1	No Limit
16	10Y	C-EX1	No Limit
17	12Y	C-EX1	No Limit

18	13Y	C-EX1	No Limit
19	14Y	C-EX1	No Limit
20	30P	C-EX1	No Limit
21	31P	C-EX1	No Limit
22	32P	C-EX1	No Limit
23	33P	C-EX1	No Limit
24	34P	C-EX1	No Limit
25	35P	C-EX1	No Limit
26	36P	C-EX1	No Limit
27	37P	C-EX1	No Limit
28	10XY	C-EX1	No Limit
29	12XY	C-EX1	No Limit
30	13XY	C-EX1	No Limit
31	14XY	C-EX1	No Limit

*** Loads Data

Loads from file: j:\jobs\1600900.wi\003_cos cob (temp) struct no 1281\04_structural\backup documentation\pls tower\cl&p # 1281.lca

Insulator dead and wind loads are already included in the point loads printed below.

Loading Method Parameters:

Structure Height Summary (used for calculating wind/ice adjust with height):

Z of ground for wind height adjust	0.00 (ft)	and structure Z coordinate that will be put on the centerline ground profile in PLS-CADD.
Ground elevation shift	0.00 (ft)	
Z of ground with shift	0.00 (ft)	
Z of structure top (highest joint)	143.75 (ft)	
Structure height	148.00 (ft)	
Structure height above ground	143.75 (ft)	
Tower Shape	Rectangular	

Load distributed evenly among joints in section for section based load cases

Vector Load Cases:

Load Case Description	Dead Load Factor	Wind Area Factor	SF for Steel Tubular and Towers	SF for Poles Arms and Guys and Cables	SF for Insuls.	SF For Found.	Point Loads	Wind/Ice Model	Trans. Wind Pressure (psf)	Longit. Wind Pressure (psf)	Ice Thick. (in)	Ice Density (lbs/ft^3)	Temperature (deg F)	Joint Displ.
NESC Heavy	1.5000	2.5000	1.00000	1.0000	1.0000	1.0000	34 loads	Wind on Face	4	0	0.000	0.000	0.0	
NESC Extreme	1.0000	1.0000	1.00000	1.0000	1.0000	1.0000	34 loads	NESC 2007	31	0	0.000	0.000	0.0	

Point Loads for Load Case "NESC Heavy":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
16X	1148	9666	0	Shield Wire
16P	1148	9666	0	Shield Wire
17P	151	7276	7000	Conductor - Back
17Y	2275	7178	-7000	Conductor - Ahead
18P	151	7276	7000	Conductor - Back
18Y	2275	7178	-7000	Conductor - Ahead
19P	151	7276	7000	Conductor - Back
19Y	2275	7178	-7000	Conductor - Ahead
23P	2426	14454	0	Conductor
24P	2426	14454	0	Conductor
25P	2426	14454	0	Conductor
37P	6929	564	0	Sprint Antennas
36P	2494	1061	0	Verizon Antennas
37P	1035	99	0	Coax Cable on Powermount
35P	736	95	0	Coax Cable on Powermount
34P	1380	178	0	Coax Cable on Powermount
33P	1288	167	0	Coax Cable on Powermount
32P	2702	349	0	Coax Cable on Powermount
31P	2748	355	0	Coax Cable on Powermount
30P	2989	387	0	Coax Cable on Powermount

2Y	471	176	0	Coax Cable on Tower
4Y	588	219	0	Coax Cable on Tower
6Y	645	241	0	Coax Cable on Tower
8Y	678	253	0	Coax Cable on Tower
10Y	763	285	0	Coax Cable on Tower
12Y	673	251	0	Coax Cable on Tower
13Y	611	228	0	Coax Cable on Tower
14Y	1495	558	0	Coax Cable on Tower
10XY	200	31	0	AT&T Antennas North Leg
10Y	381	158	0	AT&T Antennas East Leg
10XY	153	66	0	AT&T Coax Cable on Tower
12XY	230	99	0	AT&T Coax Cable on Tower
13XY	199	86	0	AT&T Coax Cable on Tower
14XY	491	212	0	AT&T Coax Cable on Tower

Section Load Case Information (Standard) for "NESC Heavy":

Section Label	Z of Top (ft)	Z of Bottom (ft)	Ave. Elev. Above Ground (ft)	Res. Adj. Wind Pres. (psf)	Tran Adj. Wind Pres. (psf)	Tran Drag Coef	Tran Wind Load (lbs)	Long Adj. Wind Pres. (psf)	Long Drag Coef	Long Wind Load (lbs)	Ice Weight (lbs)	Total Weight (lbs)
1	143.75	84.75	114.25	10.00	10.00	3.350	5324.6	0.00	3.350	0.0	0	17225
2	84.75	-4.25	40.25	10.00	10.00	3.500	11254.9	0.00	3.500	0.0	0	41061

Point Loads for Load Case "NESC Extreme":

Joint Label	Vertical Load (lbs)	Transverse Load (lbs)	Longitudinal Load (lbs)	Load Comment
16X	333	5774	361	Shield Wire
16P	333	5774	361	Shield Wire
17P	64	5168	4571	Conductor - Back
17Y	968	4164	-3778	Conductor - Ahead
18P	64	5168	4571	Conductor - Back
18Y	968	4164	-3778	Conductor - Ahead
19P	64	5168	4571	Conductor - Back
19Y	968	4164	-3778	Conductor - Ahead
23P	1033	9332	793	Conductor
24P	1033	9332	793	Conductor
25P	1033	9332	793	Conductor
37P	3191	2276	0	Sprint Antennas
36P	1068	4127	0	Verizon Antennas
37P	281	283	0	Coax Cable on Powermount
35P	200	302	0	Coax Cable on Powermount
34P	374	565	0	Coax Cable on Powermount
33P	349	528	0	Coax Cable on Powermount
32P	733	1107	0	Coax Cable on Powermount
31P	746	1126	0	Coax Cable on Powermount
30P	811	1225	0	Coax Cable on Powermount
2Y	128	580	0	Coax Cable on Tower
4Y	159	722	0	Coax Cable on Tower
6Y	175	793	0	Coax Cable on Tower
8Y	184	834	0	Coax Cable on Tower
10Y	207	938	0	Coax Cable on Tower
12Y	183	827	0	Coax Cable on Tower
13Y	166	752	0	Coax Cable on Tower

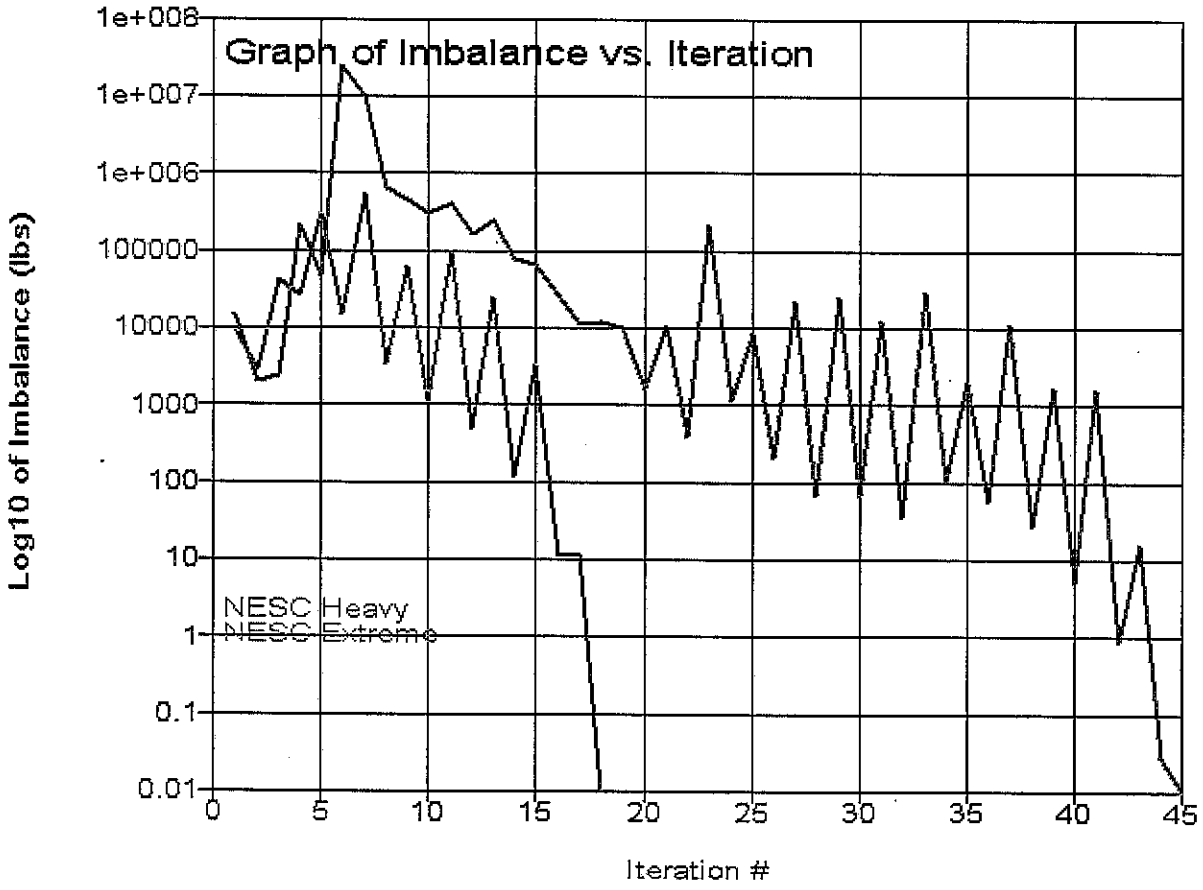
14Y	406	1838	0 Coax Cable on Tower
10XY	107	96	0 AT&T Antennas North Leg
10Y	198	513	0 AT&T Antennas East Leg
10XY	42	188	0 AT&T Coax Cable on Tower
12XY	62	283	0 AT&T Coax Cable on Tower
13XY	54	245	0 AT&T Coax Cable on Tower
14XY	133	603	0 AT&T Coax Cable on Tower

Section Load Case Information (Code) for "NESC Extreme":

Section Label	Z of Top (ft)	Z of Bottom (ft)	Ave. Elev. Above Ground (ft)	Res. Adj. Wind Pres. (psf)	Tran Adj. Wind Pres. (psf)	Tran Angle Face Area (ft^2)	Tran Round Face Area (ft^2)	Tran Gross Area (ft^2)	Tran Soli-dity Ratio	Tran Angle Drag Coef	Tran Round Drag Coef	Tran Wind Load (lbs)	Long Adj. Wind Pres. (psf)	Long Angle Face Area (ft^2)	Long Round Face Area (ft^2)	Long Gross Area (ft^2)	Long Soli-dity Ratio	Long Angle Drag Coef	Long Round Drag Coef	Long Wind Load (lbs)	Ice Weight (lbs)	Total Weight (lbs)
1	143.75	84.75	114.25	32.59	32.59	105.88	68.96	309.15	0.566	3.200	2.000	15534.6	0.00	153.76	0.00	817.27	0.188	3.200	2.000	0.0	0	11483
2	84.75	-4.25	40.25	32.59	32.59	272.41	113.48	1226.81	0.315	3.200	2.000	35800.1	0.00	272.41	0.00	1226.81	0.222	3.200	2.000	0.0	0	27374

*** Analysis Results:

Maximum element usage is 90.98% for Angle "3P" in load case "NESC Extreme"
Maximum insulator usage is 29.57% for Clamp "10" in load case "NESC Heavy"



Angle Forces For All Load Cases:
Positive for tension - negative for compression

Group Label	Angle Label	Max. Usage For All LC %	Max. Tens. For All LC (kips)	Max. Comp. For All LC (kips)	LC 1 (kips)	LC 2 (kips)
1	1P	23.90	0.000	-11.775	-10.562	-11.775
1	1X	23.38	11.331	0.000	10.259	11.331
1	1XY	21.35	10.348	0.000	8.837	10.348
1	1Y	21.39	0.000	-10.537	-9.535	-10.537

1	2P	24.76	0.000	-12.198	-11.217	-12.198
1	2X	22.28	10.800	0.000	9.557	10.800
1	2XY	20.72	10.043	0.000	8.163	10.043
1	2Y	22.47	0.000	-11.066	-10.704	-11.066
1	3P	90.98	0.000	-29.853	-26.038	-29.853
1	3X	73.56	26.775	0.000	23.155	26.775
1	3XY	72.39	26.349	0.000	21.727	26.349
1	3Y	86.24	0.000	-28.300	-27.174	-28.300
2	4P	59.43	0.000	-54.206	-51.658	-54.206
2	4X	48.89	49.120	0.000	47.679	49.120
2	4XY	50.16	50.387	0.000	45.477	50.387
2	4Y	58.12	0.000	-53.007	-53.007	-51.930
2	5P	84.60	0.000	-83.826	-83.826	-83.506
2	5X	77.37	77.724	0.000	77.724	74.711
2	5XY	78.83	79.193	0.000	74.983	79.193
2	5Y	87.73	0.000	-86.923	-86.923	-80.342
3	6P	50.32	0.000	-125.623	-125.623	-120.202
3	6X	50.05	117.971	0.000	117.971	107.501
3	6XY	48.90	115.255	0.000	114.854	115.255
3	6Y	51.64	0.000	-128.908	-128.908	-113.952
3	7P	66.80	0.000	-166.750	-166.750	-156.586
3	7X	66.97	157.846	0.000	157.846	139.715
3	7XY	65.21	153.695	0.000	153.695	150.072
3	7Y	68.57	0.000	-171.178	-171.178	-146.817
4	8P	63.56	0.000	-194.918	-194.918	-181.484
4	8X	62.82	183.309	0.000	183.309	159.004
4	8XY	61.56	179.651	0.000	179.651	171.673
4	8Y	64.97	0.000	-199.232	-199.232	-166.947
4	9P	68.43	0.000	-209.830	-209.830	-193.714
4	9X	67.09	195.772	0.000	195.772	168.577
4	9XY	65.76	191.900	0.000	191.900	181.553
4	9Y	69.38	0.000	-212.751	-212.751	-175.256
4	10P	71.64	0.000	-208.626	-208.626	-192.739
4	10X	65.91	191.938	0.000	191.938	164.633
4	10XY	64.47	187.723	0.000	187.723	176.728
4	10Y	72.74	0.000	-211.817	-211.817	-174.233
5	11P	62.92	0.000	-210.888	-210.888	-194.444
5	11X	57.26	193.318	0.000	193.318	167.364
5	11XY	56.28	189.997	0.000	189.997	181.250
5	11Y	63.48	0.000	-212.763	-212.763	-174.607
5	12P	59.12	0.000	-215.180	-215.180	-208.299
5	12X	51.90	175.217	0.000	175.217	143.203
5	12XY	48.77	164.640	0.000	164.640	147.977
5	12Y	61.65	0.000	-224.407	-224.407	-198.956
5	13P	60.29	0.000	-219.442	-219.442	-214.015
5	13X	48.74	164.552	0.000	164.552	131.057
5	13XY	45.96	155.143	0.000	155.143	138.582
5	13Y	62.19	0.000	-226.376	-226.376	-205.466
5	14P	60.68	0.000	-220.886	-220.886	-214.446
5	14X	50.55	170.648	0.000	170.648	136.989
5	14XY	48.90	165.083	0.000	165.083	155.259
5	14Y	63.01	0.000	-229.360	-229.360	-206.367
6	15AP	75.20	13.584	0.000	11.593	13.584
6	15AX	86.45	0.000	-13.515	-11.292	-13.515
6	15AXY	65.75	0.000	-10.280	-9.532	-10.280
6	15AY	59.39	10.728	0.000	10.366	10.728
6	15BP	9.80	1.771	0.000	0.845	1.771
6	15BX	21.77	0.000	-2.538	-1.310	-2.538
6	15BXY	10.34	0.012	-1.205	-1.205	0.012
6	15BY	3.75	0.678	0.000	0.678	0.358

7	16AP	63.92	11.586	0.000	8.599	11.586
7	16AX	85.43	0.000	-12.218	-9.097	-12.218
7	16AXY	74.02	0.000	-10.586	-10.278	-10.586
7	16AY	58.81	10.659	0.000	9.614	10.659
7	16BP	6.45	0.000	-0.858	-0.858	-0.611
7	16BX	3.03	0.550	0.000	0.550	0.014
7	16BXY	11.81	2.141	0.000	0.718	2.141
7	16BY	13.39	0.000	-1.781	-1.005	-1.781
8	17AP	49.96	22.516	0.000	22.516	19.014
8	17AX	57.37	0.000	-22.726	-22.726	-19.894
8	17AXY	53.38	0.000	-21.144	-21.144	-17.714
8	17AY	47.25	21.292	0.000	21.292	18.628
8	17BP	5.29	0.000	-1.548	-1.067	-1.548
8	17BX	2.02	0.908	-0.356	0.908	-0.356
8	17BXY	6.62	2.986	0.000	0.388	2.986
8	17BY	3.92	0.000	-1.146	-0.683	-1.146
9	18AP	49.25	17.928	0.000	17.928	16.299
9	18AX	55.10	0.000	-18.040	-18.040	-17.276
9	18AXY	60.32	0.000	-19.747	-19.747	-15.932
9	18AY	54.98	20.012	0.000	20.012	17.005
9	18BP	2.59	0.000	-0.614	-0.614	-0.167
9	18BX	5.11	0.278	-1.672	0.278	-1.672
9	18BXY	3.95	1.438	-0.105	-0.105	1.438
9	18BY	1.16	0.155	-0.275	-0.275	0.155
10	19AP	54.24	32.782	0.000	32.782	27.815
10	19AX	54.28	0.000	-33.224	-33.224	-28.829
10	19AXY	51.75	0.000	-31.671	-31.671	-25.659
10	19AY	51.74	31.272	0.000	31.272	26.401
10	19BP	5.71	3.451	0.000	3.451	2.243
10	19BX	9.54	0.000	-4.693	-2.737	-4.693
10	19BXY	6.53	0.000	-3.215	-3.215	-0.491
10	19BY	6.05	3.656	0.000	3.656	3.635
10	20AP	51.43	31.085	0.000	31.085	26.896
10	20AX	51.91	0.000	-31.768	-31.768	-28.990
10	20AXY	53.52	0.000	-32.759	-32.759	-25.625
10	20AY	52.60	31.794	0.000	31.794	26.914
10	20BP	16.12	0.000	-7.936	-7.936	-7.485
10	20BX	12.06	7.289	0.000	7.289	4.431
10	20BXY	14.55	8.795	0.000	6.854	8.795
10	20BY	15.70	0.000	-7.730	-7.730	-6.198
11	21AP	3.22	1.478	0.000	1.478	0.150
11	21AX	6.93	0.000	-3.072	-3.072	-1.665
11	21AXY	5.77	1.926	-2.446	-2.446	1.926
11	21AY	3.71	0.026	-1.645	0.026	-1.645
11	21BP	26.18	0.000	-11.095	-11.095	-9.819
11	21BX	23.65	10.869	0.000	10.869	9.147
11	21BXY	26.16	12.023	0.000	12.023	11.308
11	21BY	25.25	0.000	-10.697	-10.697	-9.976
12	22AP	2.27	0.827	0.000	0.827	0.457
12	22AX	3.94	0.000	-1.220	-1.220	-1.043
12	22AXY	1.51	0.348	-0.469	-0.469	0.348
12	22AY	5.79	0.062	-1.793	0.062	-1.793
12	22BP	10.42	3.793	0.000	3.793	3.775
12	22BX	16.00	0.000	-4.959	-4.959	-4.718
12	22BXY	13.39	0.000	-4.148	-4.148	-3.322
12	22BY	11.18	4.070	0.000	4.070	3.581
13	23AP	6.92	1.890	0.000	0.727	1.890
13	23AX	6.03	0.000	-1.359	-1.359	-0.921
13	23AXY	2.78	0.475	-0.627	-0.627	0.475
13	23AY	8.89	2.427	0.000	0.811	2.427

13	23BP	4.31	0.000	-0.971	-0.971	-0.847
13	23BX	4.22	1.152	0.000	1.152	0.686
13	23BXY	6.52	1.779	0.000	1.779	1.753
13	23BY	3.86	0.000	-0.870	-0.542	-0.870
14	24AP	2.95	0.805	0.000	0.805	0.659
14	24AX	14.96	0.000	-3.206	-1.518	-3.206
14	24AXY	18.11	0.000	-3.882	-1.915	-3.882
14	24AY	2.67	0.000	-0.572	-0.189	-0.572
14	24BP	5.71	0.000	-1.223	-1.223	-0.544
14	24BX	4.26	0.000	-0.914	-0.914	-0.854
14	24BXY	1.80	0.056	-0.386	-0.386	0.056
14	24BY	4.79	0.000	-1.026	-1.026	-0.866
15	25AP	44.96	16.696	0.000	1.134	16.696
15	25AX	26.66	9.899	-1.975	-1.975	9.899
15	25AXY	57.87	21.490	0.000	6.726	21.490
15	25AY	78.17	29.029	0.000	10.026	29.029
15	25BP	8.93	0.920	-3.020	0.920	-3.020
15	25BX	59.48	22.088	0.000	22.088	18.192
15	25BXY	57.78	21.455	0.000	21.455	17.172
15	25BY	11.60	0.000	-3.919	-0.179	-3.919
16	26AP	18.44	3.341	0.000	3.341	3.103
16	26AX	28.74	5.208	0.000	4.050	5.208
16	26AXY	15.81	2.866	0.000	2.866	2.826
16	26AY	7.59	0.000	-0.307	-0.307	0.000
16	26BP	12.72	2.305	0.000	0.039	2.305
16	26BX	41.26	7.477	0.000	6.556	7.477
16	26BXY	37.59	6.813	0.000	6.259	6.813
16	26BY	34.28	6.213	0.000	0.479	6.213
17	27AP	0.00	0.000	0.000	0.000	0.000
17	27AX	27.27	6.786	0.000	3.973	6.786
17	27AXY	65.57	16.318	0.000	8.157	16.318
17	27AY	0.00	0.000	0.000	0.000	0.000
17	27BP	0.00	0.000	0.000	0.000	0.000
17	27BX	22.54	5.609	0.000	5.609	1.205
17	27BXY	27.41	6.822	0.000	6.822	5.243
17	27BY	0.00	0.000	0.000	0.000	0.000
18	28AP	35.99	16.373	0.000	0.774	16.373
18	28AX	45.89	0.000	-5.272	-5.272	0.000
18	28AXY	0.00	0.000	0.000	0.000	0.000
18	28AY	63.43	28.862	0.000	6.892	28.862
18	28BP	0.00	0.000	0.000	0.000	0.000
18	28BX	26.43	12.025	0.000	12.025	9.658
18	28BXY	31.42	14.294	0.000	13.894	14.294
18	28BY	55.12	0.000	-6.332	0.000	-6.332
19	29AP	11.35	2.394	-2.911	-2.911	2.394
19	29AX	50.34	22.640	0.000	4.559	22.640
19	29AXY	76.25	34.293	0.000	10.242	34.293
19	29AY	3.28	0.000	-0.841	-0.671	-0.841
19	29BP	3.06	1.376	-0.371	-0.371	1.376
19	29BX	43.87	19.733	0.000	19.733	17.549
19	29BXY	48.90	21.995	0.000	21.372	21.995
19	29BY	6.33	0.013	-1.625	0.013	-1.625
20a	30AP	19.51	0.000	-1.776	-1.776	-0.870
20a	30AY	18.84	0.000	-1.715	-1.715	-0.165
20a	30BP	7.89	0.554	0.000	0.554	0.323
20a	30BX	3.33	0.234	-0.043	0.234	-0.043
20	31P	14.26	1.002	0.000	1.002	0.883
20	31Y	38.25	2.687	0.000	2.687	1.111
20	32P	16.03	1.191	0.000	1.191	1.168
20	32X	16.30	1.212	0.000	1.212	0.175

20	33P	20.87	1.466	0.000	1.466	1.137
20	33Y	51.30	3.603	0.000	3.603	1.401
20	34P	2.00	0.148	0.000	0.082	0.148
20	34X	24.18	1.797	0.000	1.797	0.758
20	35P	17.00	1.194	0.000	1.062	1.194
20	35Y	36.79	2.584	0.000	2.584	0.606
36	36P	67.24	0.000	-11.296	-11.296	-10.067
36	36X	84.81	12.606	0.000	12.606	10.882
21	37AP	27.63	0.145	-7.542	0.145	-7.542
21	37AY	53.92	0.000	-14.720	-5.032	-14.720
21	37BP	14.10	3.850	0.000	1.537	3.850
21	37BX	53.28	0.000	-14.544	-14.544	-11.858
22	38AP	36.07	0.000	-4.149	-3.172	-4.149
22	38AX	22.05	0.000	-2.537	-2.537	-1.962
22	38AXY	5.65	1.024	-0.467	-0.467	1.024
22	38AY	24.38	0.000	-2.804	-2.456	-2.804
22	38BP	21.82	0.000	-2.510	-1.192	-2.510
22	38BX	38.58	0.000	-4.438	-3.899	-4.438
22	38BXY	35.22	0.000	-4.051	-3.748	-4.051
22	38BY	38.32	0.000	-4.408	-1.376	-4.408
23	39AP	19.80	0.000	-3.604	-3.100	-3.604
23	39AX	4.50	0.819	-0.274	-0.274	0.819
23	39AXY	12.81	2.332	0.000	0.131	2.332
23	39AY	48.03	0.000	-8.742	-5.299	-8.742
23	39BP	2.52	0.459	0.000	0.284	0.459
23	39BX	16.81	0.000	-3.060	-3.060	-0.600
23	39BXY	20.00	0.000	-3.640	-3.640	-2.538
23	39BY	1.14	0.208	-0.109	-0.109	0.208
23	39C1P	29.97	5.455	0.000	0.567	5.455
23	39C1Y	18.45	3.358	-0.355	-0.355	3.358
23	F39C197P	26.10	4.750	0.000	0.533	4.750
23	F39C197Y	14.55	2.647	-0.378	-0.378	2.647
23	39C2P	15.45	2.812	0.000	0.074	2.812
23	39C2X	47.84	8.707	0.000	7.118	8.707
23	F39C2118P	15.58	2.836	0.000	0.074	2.836
23	F39C2118X	47.94	8.726	0.000	7.119	8.726
24	40P	3.22	0.586	-0.232	0.586	-0.232
24	40X	5.42	0.000	-0.726	-0.726	-0.005
24	40XY	28.24	0.000	-3.780	-1.682	-3.780
24	40Y	21.85	3.977	0.000	1.376	3.977
24	41P	5.43	0.989	-0.080	-0.080	0.989
24	41X	7.39	0.000	-0.990	-0.142	-0.990
24	41XY	2.31	0.000	-0.310	-0.076	-0.310
24	41Y	0.65	0.007	-0.087	-0.087	0.007
AngleR	42P	26.11	0.000	-2.376	-0.766	-2.376
AngleR	42X	37.80	3.440	0.000	0.743	3.440
AngleR	42XY	34.46	0.000	-3.136	-0.481	-3.136
AngleR	42Y	33.55	3.053	0.000	1.055	3.053
26	43AP	11.57	1.523	0.000	0.630	1.523
26	43AX	5.86	0.000	-0.738	-0.217	-0.738
26	43AXY	8.77	1.155	0.000	0.721	1.155
26	43AY	7.08	0.000	-0.891	-0.186	-0.891
26	43BP	1.49	0.000	-0.188	-0.141	-0.188
26	43BX	3.52	0.463	0.000	0.336	0.463
26	43BXY	4.06	0.000	-0.511	-0.259	-0.511
26	43BY	3.98	0.524	0.000	0.229	0.524
26	43CP	6.98	0.000	-0.879	-0.879	-0.208
26	43CX	3.61	0.475	0.000	0.475	0.097
26	43CXY	9.21	0.000	-1.160	-1.160	-0.519
26	43CY	2.63	0.347	0.000	0.347	0.255

27	44P	8.61	0.000	-1.437	-1.161	-1.437
27	44Y	7.15	0.000	-1.193	-1.193	-0.400
27	44AP	6.56	1.188	0.000	1.188	0.378
27	44AY	7.97	1.444	0.000	1.165	1.444
27	44BP	4.87	0.000	-0.707	-0.255	-0.707
27	44BY	2.57	0.465	-0.284	-0.284	0.465
27	44CP	3.05	0.317	-0.443	0.317	-0.443
27	44CY	4.07	0.738	0.000	0.292	0.738
27	44DP	3.24	0.000	-0.540	-0.166	-0.540
27	44DY	2.83	0.514	-0.195	-0.195	0.514
27	44EP	2.98	0.224	-0.497	0.224	-0.497
27	44EY	3.14	0.569	0.000	0.198	0.569
28	45P	37.58	6.839	0.000	6.839	4.142
28	45AP	37.32	6.793	0.000	6.793	4.071
28	45BP	33.75	6.142	0.000	6.142	3.510
29	46P	23.78	0.000	-1.840	-1.840	-0.762
29	46X	25.73	0.000	-1.991	-1.991	-1.121
29	46XY	24.53	0.000	-1.897	-1.897	-0.377
29	46Y	25.75	0.000	-1.992	-1.992	-0.712
30	47P	3.31	0.449	0.000	0.326	0.449
30	47Y	31.56	4.286	0.000	4.286	2.179
30	47AP	14.40	2.190	0.000	2.190	1.287
30	47AY	16.00	2.433	0.000	2.433	0.889
31	48P	3.50	0.635	0.000	0.573	0.635
31	48Y	31.65	5.737	0.000	5.737	2.883
31	48AP	20.65	3.056	0.000	3.056	0.935
31	48AY	22.09	3.270	0.000	3.270	1.964
30	49P	3.58	0.500	0.000	0.379	0.500
30	49Y	31.08	4.347	0.000	4.347	2.217
30	49AP	16.56	2.451	0.000	2.451	0.875
30	49AY	15.88	2.350	0.000	2.350	1.414
32	50P	37.17	6.737	0.000	6.737	2.986
32	50X	16.84	0.000	-3.065	-3.065	-2.854
32	50XY	17.67	0.000	-3.216	-3.216	-1.905
32	50Y	37.66	6.825	0.000	6.825	4.604
32	50AP	6.65	1.210	0.000	1.210	0.478
32	50AY	7.00	1.274	0.000	1.274	1.196
33	51P	28.71	0.000	-9.378	-9.378	-7.588
33	51Y	29.59	0.000	-9.664	-9.664	-4.225
33	51AP	3.61	0.000	-1.155	-1.102	-1.155
33	51AY	8.97	0.071	-2.868	-2.868	0.071
33	51BP	26.23	7.162	0.000	7.162	4.246
33	51BY	14.47	3.950	0.000	3.663	3.950
33	51CP	18.89	6.874	0.000	6.874	4.671
33	51CY	9.37	3.412	0.000	3.412	2.926
34	52P	24.56	0.000	-10.222	-10.222	-7.600
34	52Y	25.24	0.000	-10.506	-10.506	-4.898
34	52AP	3.23	0.000	-1.465	-1.465	-1.349
34	52AY	8.75	0.000	-3.966	-3.966	-0.719
34	52BP	15.38	6.996	0.000	6.996	3.885
34	52BY	7.65	3.483	0.000	2.124	3.483
34	52CP	13.62	6.542	0.000	6.542	4.304
34	52CY	4.43	2.128	0.000	1.710	2.128
33	53P	29.39	0.000	-9.599	-9.599	-7.230
33	53Y	29.34	0.000	-9.582	-9.582	-4.672
33	53AP	5.28	0.000	-1.688	-1.196	-1.688
33	53AY	9.80	0.000	-3.134	-3.134	-0.176
33	53BP	28.56	7.797	0.000	7.797	4.826
33	53BY	16.57	4.523	0.000	4.281	4.523
33	53CP	16.94	6.167	0.000	6.167	4.029

33	53CY	7.39	2.689	0.000	2.689	2.288
35	54P	20.02	0.189	-1.633	-1.633	0.189
35	54X	7.70	0.701	-0.328	0.701	-0.328
Pwmnt	g99P	7.56	0.000	-33.064	-33.064	-12.411
Pwmnt	g100P	5.20	0.000	-27.894	-27.894	-10.833
Pwmnt	g101P	8.70	0.000	-22.636	-22.636	-9.524
Pwmnt	g102P	3.27	0.000	-17.669	-17.669	-7.610
Pwmnt	g103P	2.84	0.000	-15.347	-15.347	-6.605
Pwmnt	g104P	2.43	0.000	-12.893	-12.893	-5.623
Pwmnt	g105P	2.01	0.000	-11.354	-11.354	-4.759
Plate	g106P	4.84	0.421	-0.813	0.421	-0.813
PMBR1	g107P	3.67	0.088	-0.374	0.088	-0.374
PMBR1	g108P	1.80	0.000	-0.183	-0.157	-0.183
PMBR1	g109P	2.80	0.000	-0.285	-0.285	-0.107
BraceR	g110P	44.87	6.100	0.000	2.743	6.100
BraceR	g110X	58.05	0.000	-7.891	-1.753	-7.891
PMBR2	g111P	32.68	0.000	-3.332	-0.507	-3.332
PMBR2	g111X	24.43	2.491	0.000	0.681	2.491
PMBR2	g112P	13.21	1.347	0.000	0.561	1.347
PMBR2	g112X	14.17	0.000	-1.444	-0.825	-1.444
PMBR2	g113P	5.75	0.586	0.000	0.398	0.586
PMBR2	g113X	13.65	0.000	-1.392	-1.216	-1.392
PMBR3	g114P	2.24	0.228	0.000	0.083	0.228
PMBR4	g115P	1.02	0.138	-0.135	0.138	-0.135
PMBR4	g116P	13.43	1.826	0.000	0.839	1.826
PMBR4	g116X	15.25	0.000	-2.073	-1.493	-2.073
PMBR4	g117P	2.34	0.000	-0.318	-0.013	-0.318
PMBR5	g118P	0.45	0.010	-0.061	0.010	-0.061
PMBR5	g120P	8.23	0.000	-1.119	-0.562	-1.119
PMBR5	g120X	8.07	1.097	-0.005	-0.005	1.097
Pwmnt	g121P	1.49	0.000	-8.298	-8.298	-3.588

*** Analysis Results for Load Case No. 1 "NESC Heavy" - Number of iterations in SAPS 45

Equilibrium Joint Positions and Rotations for Load Case "NESC Heavy":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
1P	-0.01286	0.7814	-0.05445	-0.8400	-0.0403	-0.0692	2.987	3.781	128.7
2P	-0.01052	0.7132	-0.05297	-0.9014	-0.0594	-0.0687	2.989	3.713	124.2
3P	-0.004911	0.6417	-0.05136	-0.8914	-0.0322	-0.0689	2.995	3.642	119.7
4P	-0.005221	0.5404	-0.04691	-0.7828	-0.0763	-0.0682	2.995	3.54	112.8
5P	0.00269	0.4333	-0.04229	-0.7340	0.0163	-0.0694	3.003	3.433	104.8
6P	0.0003198	0.3608	-0.03706	-0.6317	-0.0675	-0.0687	3	3.361	98.71
7P	0.008339	0.2862	-0.03275	-0.5851	-0.0044	-0.0710	3.008	3.286	91.72
8P	0.004541	0.2217	-0.02725	-0.4427	-0.0235	-0.0729	3.005	3.222	84.72
15P	0	0	0	0.0000	0.0000	0.0000	15.44	15.44	0
16P	0.004299	0.7857	-0.2739	-0.9367	-0.0379	-0.0689	0.004299	17.54	128.5
17P	0.008909	0.5409	-0.2111	-0.8149	-0.0766	-0.0883	3.009	14.79	112.6
18P	0.01647	0.3614	-0.2037	-0.6652	-0.0676	-0.0765	3.016	17.11	98.55
19P	0.01878	0.223	-0.1337	-0.5411	-0.0233	-0.0696	3.019	14.47	84.62
20AP	0.01479	0.03104	-0.001743	-0.0294	-0.0188	-0.0987	9.583	0.03104	40
20BP	0.02757	0.04399	-0.02979	-0.2162	-0.0298	-0.0929	0.02757	9.612	39.97
21P	-0.175	-0.007307	-0.03228	0.0000	0.0000	0.0000	11.6	2.201	24.97
22P	-0.008963	0.1557	0.01735	0.0000	0.0000	0.0000	2.199	11.93	25.02
23P	-0.02845	0.5488	0.1876	-0.8012	-0.0246	-0.0798	-0.02845	-13.7	113
24P	-0.02533	0.3687	0.1792	-0.6498	-0.0211	-0.0763	-0.02533	-16.38	98.93
25P	-0.01661	0.2291	0.114	-0.5295	-0.0189	-0.0761	-0.01661	-14.02	84.86
26P	0.0008233	0.5406	-0.1298	-0.8547	-0.0762	-0.0672	3.001	9.166	112.7
27P	0.00771	0.3611	-0.1218	-0.7170	-0.0674	-0.0634	3.008	10.24	98.63
28P	0.01182	0.2225	-0.07973	-0.5671	-0.0233	-0.0728	3.012	8.847	84.67
29P	0	0	0	0.0000	0.0000	0.0000	1.5	0	-4.25
30P	0.01251	0.0384	-0.00248	-0.0439	0.0169	-0.0345	1.513	0.0384	25
31P	0.01478	0.04233	-0.003542	-0.0294	-0.0006	-0.0432	1.515	0.04233	40
32P	0.001559	0.2235	-0.006479	-0.4787	-0.0222	-0.0535	1.502	0.2235	84.74
33P	-0.003525	0.363	-0.007802	-0.6620	-0.0223	-0.0581	1.496	0.363	98.74
34P	-0.009185	0.5419	-0.009491	-0.7794	-0.0257	-0.0613	1.491	0.5419	112.7
35P	-0.01642	0.7829	-0.01183	-1.0030	-0.0281	-0.0627	1.484	0.7829	128.7
36P	-0.01926	0.8943	-0.01304	-1.1071	-0.0284	-0.0628	1.481	0.8943	134.7
37P	-0.02355	1.073	-0.015	-1.1505	-0.0286	-0.0628	1.476	1.073	143.7
1X	-0.02026	0.7819	0.03497	-0.8415	-0.0356	-0.0761	2.98	-2.218	128.8
1XY	-0.02043	0.7892	0.0319	-0.8457	-0.0094	-0.0736	-3.02	-2.211	128.8
1Y	-0.01244	0.7887	-0.05717	-0.8575	-0.0310	-0.0754	-3.012	3.789	128.7
2X	-0.0182	0.7145	0.03454	-0.9004	0.0076	-0.0770	2.982	-2.286	124.3
2XY	-0.01827	0.7219	0.03159	-0.8909	-0.0672	-0.0717	-3.018	-2.278	124.3
2Y	-0.0107	0.7207	-0.05578	-0.8832	0.0101	-0.0771	-3.011	3.721	124.2
3X	-0.0197	0.642	0.03424	-0.8996	-0.0238	-0.0767	2.98	-2.358	119.8
3XY	-0.01257	0.6503	0.03141	-0.8926	-0.0291	-0.0713	-3.013	-2.35	119.8
3Y	-0.01225	0.6506	-0.05425	-0.8848	-0.0233	-0.0775	-3.012	3.651	119.7
4X	-0.01293	0.541	0.03167	-0.7849	0.0233	-0.0773	2.987	-2.459	112.8
4XY	-0.01333	0.5491	0.02904	-0.7860	-0.0751	-0.0694	-3.013	-2.451	112.8
4Y	-0.005613	0.5482	-0.04962	-0.7831	0.0238	-0.0795	-3.006	3.548	112.8
5X	-0.01448	0.4332	0.02879	-0.7311	-0.0640	-0.0758	2.986	-2.567	104.8
5XY	-0.005118	0.4411	0.02633	-0.7324	0.0158	-0.0676	-3.005	-2.559	104.8
5Y	-0.006855	0.4419	-0.04491	-0.7397	-0.0643	-0.0756	-3.007	3.442	104.8
6X	-0.007137	0.3613	0.02478	-0.6322	0.0208	-0.0761	2.993	-2.639	98.77
6XY	-0.007731	0.369	0.02248	-0.6347	-0.0652	-0.0647	-3.008	-2.631	98.77
6Y	0.0002975	0.3682	-0.03948	-0.6317	0.0210	-0.0743	-3	3.368	98.71

7X	-0.01003	0.2861	0.02151	-0.5856	-0.0362	-0.0769	2.99	-2.714	91.77
7XY	0.0003277	0.2936	0.01931	-0.5859	-0.0076	-0.0581	-3	-2.706	91.77
7Y	-0.002417	0.2942	-0.03508	-0.5857	-0.0394	-0.0680	-3.002	3.294	91.71
8X	-0.001342	0.2221	0.01689	-0.4399	-0.0213	-0.0780	2.999	-2.778	84.77
8XY	-0.00344	0.2296	0.01482	-0.4397	-0.0158	-0.0512	-3.003	-2.77	84.76
8Y	0.00643	0.2291	-0.02944	-0.4438	-0.0186	-0.0620	-2.994	3.229	84.72
15X	0	0	0	0.0000	0.0000	0.0000	15.44	-15.44	0
15XY	0	0	0	0.0000	0.0000	0.0000	-15.44	-15.44	0
15Y	0	0	0	0.0000	0.0000	0.0000	-15.44	15.44	0
16X	-0.03732	0.7882	0.238	-0.8588	-0.0228	-0.0681	-0.03732	-15.96	129
17Y	0.008084	0.5478	-0.2214	-0.8713	0.0245	-0.0466	-2.992	14.8	112.6
18Y	0.01565	0.3675	-0.2177	-0.7365	0.0215	-0.0463	-2.984	17.12	98.53
19Y	0.01804	0.2293	-0.1428	-0.5942	-0.0183	-0.0551	-2.982	14.48	84.61
20AY	0.01476	0.05631	-0.01073	-0.0294	-0.0554	-0.0870	-9.553	0.05631	39.99
20BX	0.001944	0.0442	0.01195	-0.1223	0.0140	-0.0934	0.001944	-9.524	40.01
21X	0.1353	0.005168	0.02003	0.0000	0.0000	0.0000	11.91	-2.203	25.02
21XY	-0.01322	0.02557	-0.00424	0.0000	0.0000	0.0000	-11.78	-2.182	25
21Y	0.08732	0.007923	-0.009262	0.0000	0.0000	0.0000	-11.68	2.216	24.99
22X	0.00217	0.1403	-0.005643	0.0000	0.0000	0.0000	2.21	-11.63	24.99
22XY	0.002751	0.04161	0.007777	-0.0448	0.0172	-0.0543	-2.205	-11.73	25.01
22Y	0.04611	0.04892	-0.01731	-0.0896	0.0024	-0.2279	-2.162	11.82	24.98
26Y	0.002662	0.548	-0.135	-0.8984	0.0241	-0.0736	-2.997	9.173	112.7
27Y	0.009339	0.3679	-0.1279	-0.7719	0.0213	-0.0663	-2.991	10.24	98.62
28Y	0.01248	0.2293	-0.08407	-0.6063	-0.0183	-0.0592	-2.988	8.854	84.67
9S	0.01475	0.1701	-0.0275	-0.3167	-0.0391	-0.0557	4.152	4.308	76.97
10S	0.01387	0.1291	-0.02746	-0.2597	-0.0147	-0.0434	5.289	5.404	69.22
11S	0.0208	0.09662	-0.02509	-0.1990	-0.0363	-0.0370	6.434	6.509	61.47
12S	0.02232	0.06432	-0.02298	-0.1606	-0.0288	-0.0297	7.891	7.933	51.56
13S	0.0272	0.03025	-0.01938	-0.1682	0.0563	-0.0180	9.596	9.599	39.98
14S	-0.0104	-0.008784	-0.02018	-0.0671	0.0955	0.0028	11.76	11.76	24.98
i0.50E129S	-0.01647	0.7851	-0.01309	-0.8495	-0.0243	-0.0707	-0.01647	0.7851	128.8
i0.50E113S	-0.009208	0.5447	-0.01006	-0.7732	-0.0225	-0.0814	-0.009208	0.5447	112.8
i0.50E99S	-0.003512	0.3647	-0.008132	-0.6164	-0.0226	-0.0716	-0.003512	0.3647	98.74
i0.50E85S	0.001581	0.2246	-0.006944	-0.4284	-0.0232	-0.0615	0.001581	0.2246	84.74
21XF0.50S	0.01233	0.0006912	-0.04866	-0.0438	0.3781	-0.2978	11.78	0.0006912	24.95
22PF0.50S	0.0213	0.1024	-0.343	0.0000	0.0000	0.0000	0.0213	11.87	24.66
9X	-0.006133	0.1701	0.01867	-0.3178	0.0083	-0.0631	4.131	-3.967	77.02
9XY	0.003203	0.1805	0.016	-0.3098	-0.0386	-0.0544	-4.134	-3.957	77.02
9Y	0.004224	0.181	-0.03024	-0.3103	-0.0020	-0.0667	-4.133	4.319	76.97
10X	-0.001656	0.1292	0.01976	-0.2587	-0.0283	-0.0471	5.274	-5.146	69.27
10XY	0.0003653	0.1432	0.01642	-0.2526	0.0009	-0.0568	-5.275	-5.132	69.27
10Y	0.01293	0.1428	-0.03086	-0.2503	-0.0276	-0.0661	-5.262	5.418	69.22
11X	-0.002135	0.09665	0.01897	-0.1984	0.0079	-0.0420	6.411	-6.316	61.52
11XY	0.002308	0.1131	0.01516	-0.1885	-0.0320	-0.0492	-6.41	-6.3	61.52
11Y	0.01363	0.114	-0.02899	-0.1929	-0.0035	-0.0583	-6.399	6.527	61.47
12X	-0.001213	0.06435	0.01787	-0.1637	-0.0123	-0.0320	7.868	-7.804	51.6
12XY	0.003163	0.08599	0.01312	-0.1466	-0.0096	-0.0455	-7.866	-7.783	51.59
12Y	0.02187	0.08442	-0.02786	-0.1471	-0.0270	-0.0543	-7.847	7.953	51.55
13X	0.0007541	0.03203	0.01656	-0.1296	-0.0050	-0.0259	9.569	-9.537	40.02
13XY	0.003086	0.05709	0.01142	-0.1353	-0.0104	-0.0317	-9.566	-9.512	40.01
13Y	0.028	0.05615	-0.02471	-0.1701	-0.0520	-0.0382	-9.541	9.625	39.98
14X	0.000693	0.00664	0.01254	-0.0495	0.0059	-0.0129	11.77	-11.76	25.01
14XY	0.003382	0.02649	0.008579	-0.0994	-0.0037	-0.0180	-11.77	-11.74	25.01
14Y	0.04621	0.007845	-0.02371	-0.1249	0.0229	-0.0128	-11.72	11.78	24.98
21XF0.50Y	0.01393	0.01706	-0.1958	-0.0446	-1.2602	0.1544	-11.76	0.01706	24.8
22PF0.50X	0.002338	0.09594	-0.002493	0.0000	0.0000	0.0000	0.002338	-11.67	25

Joint Support Reactions for Load Case "NESC Heavy":

Joint	X	X	Y	Y H-Shear	Z Comp.	Uplift	Result.	Result.	X	X-M.	Y	Y-M.	H-Bend-M	Z	Z-M.	Max.

Label	Force (kips)	Usage %	Force (kips)	Usage %	Usage %	Force (kips)	Usage %	Usage %	Force (kips)	Usage %	Moment (ft-k)	Usage %	Moment (ft-k)	Usage %	Usage %	Moment (ft-k)	Usage %	Usage %
15P	-32.08	0.0	-32.98	0.0	0.0	-220.23	0.0	0.0	224.99	0.0	-2.78	0.0	3.5	0.0	0.0	0.12	0.0	0.0
29P	-0.19	0.0	-1.19	0.0	0.0	-34.21	0.0	0.0	34.23	0.0	11.40	0.0	-3.5	0.0	0.0	0.84	0.0	0.0
15X	34.21	0.0	-29.68	0.0	0.0	187.35	0.0	0.0	192.75	0.0	-0.36	0.0	-0.2	0.0	0.0	0.01	0.0	0.0
15XY	-34.98	0.0	-31.90	0.0	0.0	188.28	0.0	0.0	194.14	0.0	1.41	0.0	-0.2	0.0	0.0	0.07	0.0	0.0
15Y	33.04	0.0	-33.01	0.0	0.0	-226.21	0.0	0.0	230.99	0.0	-1.71	0.0	-6.0	0.0	0.0	-0.37	0.0	0.0

Joint Displacements, Loads and Member Forces on Joints for Load Case "NESC Heavy":

Joint Label	X External Load (kips)	Y External Load (kips)	Z External Load (kips)	X Member Force (kips)	Y Member Force (kips)	Z Member Force (kips)	X Disp. (ft)	Y Disp. (ft)	Z Disp. (ft)
1P	0.0000	0.0000	-0.1848	0.0000	-0.0000	0.1848	-0.0129	0.7814	-0.0545
2P	0.0000	0.0000	-0.0969	-0.0000	0.0000	0.0969	-0.0105	0.7132	-0.0530
3P	0.0000	0.0000	-0.1835	-0.0000	-0.0000	0.1835	-0.0049	0.6417	-0.0514
4P	0.0000	0.0000	-0.3355	-0.0000	-0.0000	0.3355	-0.0052	0.5404	-0.0469
5P	0.0000	0.0000	-0.3493	0.0000	0.0000	0.3493	0.0027	0.4333	-0.0423
6P	0.0000	0.0000	-0.4956	-0.0000	-0.0000	0.4956	0.0003	0.3608	-0.0371
7P	0.0000	0.0000	-0.5534	0.0000	-0.0000	0.5534	0.0083	0.2862	-0.0327
8P	0.0000	0.0000	-0.6814	-0.0000	0.0000	0.6814	0.0045	0.2217	-0.0273
15P	0.0000	0.0000	-1.0248	32.0798	32.9790	-219.2062	0.0000	0.0000	0.0000
16P	0.0000	9.6660	-1.3281	0.0000	-9.6660	1.3281	0.0043	0.7857	-0.2739
17P	7.0000	7.2760	-0.2488	-7.0000	-7.2760	0.2488	0.0089	0.5409	-0.2111
18P	7.0000	7.2760	-0.2778	-7.0000	-7.2760	0.2778	0.0165	0.3614	-0.2037
19P	7.0000	7.2760	-0.2488	-7.0000	-7.2760	0.2488	0.0188	0.2230	-0.1337
20AP	0.0000	0.0000	-0.6136	0.0000	-0.0000	0.6136	0.0148	0.0310	-0.0017
20BP	0.0000	0.0000	-0.6343	-0.0000	-0.0000	0.6343	0.0276	0.0440	-0.0298
21P	0.0000	0.0000	-0.3466	-0.0000	0.0000	0.3466	-0.1750	-0.0073	-0.0323
22P	0.0000	0.0000	-0.3466	-0.0000	-0.0000	0.3466	-0.0090	0.1557	0.0174
23P	0.0000	14.5365	-2.5839	-0.0000	-14.5365	2.5839	-0.0284	0.5488	0.1876
24P	0.0000	14.5441	-2.6618	0.0000	-14.5441	2.6618	-0.0253	0.3687	0.1792
25P	0.0000	14.5365	-2.5839	0.0000	-14.5365	2.5839	-0.0166	0.2291	0.1140
26P	0.0000	0.0000	-0.0835	0.0000	-0.0000	0.0835	0.0008	0.5406	-0.1298
27P	0.0000	0.0000	-0.1110	0.0000	-0.0000	0.1110	0.0077	0.3611	-0.1218
28P	0.0000	0.0000	-0.0835	0.0000	-0.0000	0.0835	0.0118	0.2225	-0.0797
29P	0.0000	0.5439	-1.1425	0.1916	0.6416	-33.0649	0.0000	0.0000	0.0000
30P	0.0000	1.2098	-4.9616	0.0000	-1.2098	4.9616	0.0125	0.0384	-0.0025
31P	0.0000	1.4660	-5.2444	-0.0000	-1.4660	5.2444	0.0148	0.0423	-0.0035
32P	0.0000	1.4302	-5.0159	0.0000	-1.4302	5.0159	0.0016	0.2235	-0.0065
33P	0.0000	0.6653	-2.4008	-0.0000	-0.6653	2.4008	-0.0035	0.3630	-0.0078
34P	0.0000	0.7213	-2.5709	-0.0000	-0.7213	2.5709	-0.0092	0.5419	-0.0095
35P	0.0000	0.5043	-1.6351	0.0000	-0.5043	1.6351	-0.0164	0.7829	-0.0118
36P	0.0000	1.3280	-3.0799	-0.0000	-1.3280	3.0799	-0.0193	0.8943	-0.0130
37P	0.0000	0.8232	-8.3155	-0.0000	-0.8232	8.3155	-0.0236	1.0728	-0.0150
1X	0.0000	0.0775	-0.1848	-0.0000	-0.0775	0.1848	-0.0203	0.7819	0.0350
1XY	0.0000	0.0723	-0.1740	-0.0000	-0.0723	0.1740	-0.0204	0.7892	0.0319
1Y	0.0000	0.0000	-0.1740	0.0000	0.0000	0.1740	-0.0124	0.7887	-0.0572
2X	0.0000	0.0813	-0.0969	-0.0000	-0.0813	0.0969	-0.0182	0.7145	0.0345
2XY	0.0000	0.0813	-0.0969	-0.0000	-0.0813	0.0969	-0.0183	0.7219	0.0316
2Y	0.0000	0.1760	-0.5679	-0.0000	-0.1760	0.5679	-0.0107	0.7207	-0.0558
3X	0.0000	0.1527	-0.1842	-0.0000	-0.1527	0.1842	-0.0197	0.6420	0.0342
3XY	0.0000	0.1527	-0.1842	0.0000	-0.1527	0.1842	-0.0126	0.6503	0.0314
3Y	0.0000	0.0000	-0.1835	-0.0000	-0.0000	0.1835	-0.0122	0.6506	-0.0543
4X	0.0000	0.2091	-0.3433	-0.0000	-0.2091	0.3433	-0.0129	0.5410	0.0317
4XY	0.0000	0.2039	-0.3352	-0.0000	-0.2039	0.3352	-0.0133	0.5491	0.0290

4Y	0.0000	0.2190	-0.9154	-0.0000	-0.2190	0.9154	-0.0056	0.5482	-0.0496
5X	0.0000	0.2434	-0.3502	0.0000	-0.2434	0.3502	-0.0145	0.4332	0.0288
5XY	0.0000	0.2434	-0.3502	-0.0000	-0.2434	0.3502	-0.0051	0.4411	0.0263
5Y	0.0000	0.0000	-0.3493	-0.0000	0.0000	0.3493	-0.0069	0.4419	-0.0449
6X	0.0000	0.2387	-0.5133	-0.0000	-0.2387	0.5133	-0.0071	0.3613	0.0248
6XY	0.0000	0.2387	-0.5052	-0.0000	-0.2387	0.5052	-0.0077	0.3690	0.0225
6Y	0.0000	0.2410	-1.1325	-0.0000	-0.2410	1.1325	0.0003	0.3682	-0.0395
7X	0.0000	0.2859	-0.5541	0.0000	-0.2859	0.5541	-0.0100	0.2861	0.0215
7XY	0.0000	0.2859	-0.5541	-0.0000	-0.2859	0.5541	0.0003	0.2936	0.0193
7Y	0.0000	0.0000	-0.5534	0.0000	-0.0000	0.5534	-0.0024	0.2942	-0.0351
8X	0.0000	0.3125	-0.6891	-0.0000	-0.3125	0.6891	-0.0013	0.2221	0.0169
8XY	0.0000	0.3125	-0.6810	-0.0000	-0.3125	0.6810	-0.0034	0.2296	0.0148
8Y	0.0000	0.2530	-1.3512	-0.0000	-0.2530	1.3512	0.0064	0.2291	-0.0294
15X	0.0000	0.4392	-1.0248	-34.2131	29.2425	188.3774	0.0000	0.0000	0.0000
15XY	0.0000	0.4392	-1.0248	34.9789	31.4603	189.3077	0.0000	0.0000	0.0000
15Y	0.0000	0.0000	-1.0248	-33.0372	33.0080	-225.1900	0.0000	0.0000	0.0000
16X	0.0000	9.7364	-1.3281	0.0000	-9.7364	1.3281	-0.0373	0.7882	0.2380
17Y	-7.0000	7.1780	-2.3728	7.0000	-7.1780	2.3728	0.0081	0.5478	-0.2214
18Y	-7.0000	7.1780	-2.4018	7.0000	-7.1780	2.4018	0.0157	0.3675	-0.2177
19Y	-7.0000	7.1780	-2.3728	7.0000	-7.1780	2.3728	0.0180	0.2293	-0.1428
20AY	0.0000	0.0000	-0.6406	-0.0000	0.0000	0.6406	0.0148	0.0563	-0.0107
20BX	0.0000	0.6316	-0.6343	-0.0000	-0.6316	0.6343	0.0019	0.0442	0.0120
21X	0.0000	0.0000	-0.3466	-0.0000	-0.0000	0.3466	0.1353	0.0052	0.0200
21XY	0.0000	0.0000	-0.3466	0.0000	-0.0000	0.3466	-0.0132	0.0256	-0.0042
21Y	0.0000	0.0000	-0.3466	0.0000	0.0000	0.3466	0.0873	0.0079	-0.0093
22X	0.0000	0.3674	-0.3466	0.0000	-0.3674	0.3466	0.0022	0.1403	-0.0056
22XY	0.0000	0.3674	-0.4107	0.0000	-0.3674	0.4107	0.0028	0.0416	0.0078
22Y	0.0000	0.0000	-0.4107	0.0000	0.0000	0.4107	0.0461	0.0489	-0.0173
26Y	0.0000	0.0000	-0.0835	0.0000	0.0000	0.0835	0.0027	0.5480	-0.1350
27Y	0.0000	0.0000	-0.1110	0.0000	-0.0000	0.1110	0.0093	0.3679	-0.1279
28Y	0.0000	0.0000	-0.0835	0.0000	-0.0000	0.0835	0.0125	0.2293	-0.0841
9S	0.0000	0.0000	-0.6364	0.0000	0.0000	0.6364	0.0148	0.1701	-0.0275
10S	0.0000	0.0000	-0.6392	0.0000	0.0000	0.6392	0.0139	0.1291	-0.0275
11S	0.0000	0.0000	-0.8152	0.0000	-0.0000	0.8152	0.0208	0.0966	-0.0251
12S	0.0000	0.0000	-1.1543	0.0000	0.0000	1.1543	0.0223	0.0643	-0.0230
13S	0.0000	0.0000	-0.9523	0.0000	-0.0000	0.9523	0.0272	0.0302	-0.0194
14S	0.0000	0.0000	-1.4748	-0.0000	0.0000	1.4748	-0.0104	-0.0088	-0.0202
i0.50E129S	0.0000	0.0126	-0.0607	0.0000	-0.0126	0.0607	-0.0165	0.7851	-0.0131
i0.50E113S	0.0000	0.0042	-0.0355	0.0000	-0.0042	0.0355	-0.0092	0.5447	-0.0101
i0.50E99S	0.0000	0.0000	-0.0355	0.0000	0.0000	0.0355	-0.0035	0.3647	-0.0081
i0.50E85S	0.0000	0.0000	-0.0355	-0.0000	0.0000	0.0355	0.0016	0.2246	-0.0069
21XF0.50S	0.0000	0.0000	-0.0699	-0.0000	0.0000	0.0699	0.0123	0.0007	-0.0487
22PF0.50S	0.0000	0.0000	-0.0230	-0.0000	0.0000	0.0230	0.0213	0.1024	-0.3430
9X	0.0000	0.3307	-0.6364	-0.0000	-0.3307	0.6364	-0.0061	0.1701	0.0187
9XY	0.0000	0.3307	-0.6364	0.0000	-0.3307	0.6364	0.0032	0.1805	0.0160
9Y	0.0000	0.0000	-0.6364	0.0000	-0.0000	0.6364	0.0042	0.1810	-0.0302
10X	0.0000	0.3255	-0.6392	0.0000	-0.3255	0.6392	-0.0017	0.1292	0.0198
10XY	0.0000	0.4225	-0.9922	-0.0000	-0.4225	0.9922	0.0004	0.1432	0.0164
10Y	0.0000	0.4430	-1.7832	-0.0000	-0.4430	1.7832	0.0129	0.1428	-0.0309
11X	0.0000	0.4067	-0.8152	-0.0000	-0.4067	0.8152	-0.0021	0.0966	0.0190
11XY	0.0000	0.4067	-0.8152	0.0000	-0.4067	0.8152	0.0023	0.1131	0.0152
11Y	0.0000	0.0000	-0.8152	0.0000	-0.0000	0.8152	0.0136	0.1140	-0.0290
12X	0.0000	0.5742	-1.1543	0.0000	-0.5742	1.1543	-0.0012	0.0644	0.0179
12XY	0.0000	0.6732	-1.3843	0.0000	-0.6732	1.3843	0.0032	0.0860	0.0131
12Y	0.0000	0.2510	-1.8273	0.0000	-0.2510	1.8273	0.0219	0.0844	-0.0279
13X	0.0000	0.4040	-0.9523	0.0000	-0.4040	0.9523	0.0008	0.0320	0.0166
13XY	0.0000	0.4900	-1.1513	0.0000	-0.4900	1.1513	0.0031	0.0571	0.0114
13Y	0.0000	0.2280	-1.5633	0.0000	-0.2280	1.5633	0.0280	0.0561	-0.0247
14X	0.0000	0.6248	-1.4748	-0.0000	-0.6248	1.4748	0.0007	0.0066	0.0125
14XY	0.0000	0.8368	-1.9658	-0.0000	-0.8368	1.9658	0.0034	0.0265	0.0086

14Y	0.0000	0.5580	-2.9698	0.0000	-0.5580	2.9698	0.0462	0.0078	-0.0237
21XF0.50Y	0.0000	0.0000	-0.0919	-0.0000	0.0000	0.0919	0.0139	0.0171	-0.1958
22PF0.50X	0.0000	0.0322	-0.0230	0.0000	-0.0322	0.0230	0.0023	0.0959	-0.0025

Crossing Diagonal Check for Load Case "NESC Heavy" (RLOUT controls):

Comp. Member Label	Tens. Member Label	Connect Leg for Comp. Member	Force In Comp. Member (kips)	Force In Tens. Member (kips)	Original Supported L/R Cap. (kips)	RLX	RLY	RLZ	L/R	KL/R	Curve No.	Alternate Unsupported L/R Cap. (kips)	RLOUT	L/R	KL/R	Curve No.
15BX	15BXY	Long only	-1.31	-1.21	15.63	0.500	0.500	0.500	131.11	128.51	5	11.66	1.000	166.84	148.81	6
15BXY	15BX	Long only	-1.21	-1.31	15.63	0.500	0.500	0.500	131.11	128.51	5	11.66	1.000	166.84	148.81	6
16BP	16BY	Short only	-0.86	-1.01	14.30	0.500	0.500	0.500	129.55	127.32	5	13.31	1.000	139.51	132.00	6
16BY	16BP	Short only	-1.01	-0.86	14.30	0.500	0.500	0.500	129.55	127.32	5	13.31	1.000	139.51	132.00	6
17BP	17BY	Long only	-1.07	-0.68	39.61	0.500	0.750	0.500	100.45	105.33	2	29.26	1.000	133.93	128.57	6
17BY	17BP	Long only	-0.68	-1.07	39.61	0.500	0.750	0.500	100.45	105.33	2	29.26	1.000	133.93	128.57	6
18BP	18BY	Long only	-0.61	-0.28	32.74	0.500	0.750	0.500	104.34	108.25	2	23.74	1.000	139.11	131.75	6
18BY	18BP	Long only	-0.28	-0.61	32.74	0.500	0.750	0.500	104.34	108.25	2	23.74	1.000	139.11	131.75	6
19BX	19BXY	Long only	-2.74	-3.22	61.20	0.500	0.750	0.500	77.55	88.16	2	49.22	1.000	103.40	111.70	3
19BXY	19BX	Long only	-3.22	-2.74	61.20	0.500	0.750	0.500	77.55	88.16	2	49.22	1.000	103.40	111.70	3
20BP	20BY	Long only	-7.94	-7.73	61.20	0.500	0.750	0.500	77.55	88.16	2	49.22	1.000	103.40	111.70	3
20BY	20BP	Long only	-7.73	-7.94	61.20	0.500	0.750	0.500	77.55	88.16	2	49.22	1.000	103.40	111.70	3
21AXY	21AY	Short only	-2.45	0.03	44.33	0.580	0.580	0.580	95.79	101.84	2	42.37	1.000	95.79	107.89	3
21BP	21BY	Short only	-11.10	-10.70	44.33	0.580	0.580	0.580	95.79	101.84	2	42.37	1.000	95.79	107.89	3
21BY	21BP	Short only	-10.70	-11.10	44.33	0.580	0.580	0.580	95.79	101.84	2	42.37	1.000	95.79	107.89	3

Summary of Clamp Capacities and Usages for Load Case "NESC Heavy":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Usage %
1	9.827	50.00	50.00	19.65
2	9.757	50.00	50.00	19.51
3	10.100	50.00	50.00	20.20
4	10.303	50.00	50.00	20.61
5	10.100	50.00	50.00	20.20
6	10.310	50.00	50.00	20.62
7	10.100	50.00	50.00	20.20
8	10.303	50.00	50.00	20.61
9	14.764	50.00	50.00	29.53
10	14.786	50.00	50.00	29.57
11	14.764	50.00	50.00	29.53
12	0.595	50.00	50.00	1.19
13	0.941	50.00	50.00	1.88
14	1.158	50.00	50.00	2.32
15	1.375	50.00	50.00	2.75
16	1.837	50.00	50.00	3.67
17	1.844	50.00	50.00	3.69
18	1.580	50.00	50.00	3.16
19	3.022	50.00	50.00	6.04
20	5.107	50.00	50.00	10.21
21	5.445	50.00	50.00	10.89
22	5.216	50.00	50.00	10.43

23	2.491	50.00	50.00	4.98
24	2.670	50.00	50.00	5.34
25	1.711	50.00	50.00	3.42
26	3.354	50.00	50.00	6.71
27	8.356	50.00	50.00	16.71
28	1.078	50.00	50.00	2.16
29	1.539	50.00	50.00	3.08
30	1.251	50.00	50.00	2.50
31	2.137	50.00	50.00	4.27

*** Analysis Results for Load Case No. 2 "NESC Extreme" - Number of iterations in SAPS 18

Equilibrium Joint Positions and Rotations for Load Case "NESC Extreme":

Joint Label	X-Displ (ft)	Y-Displ (ft)	Z-Displ (ft)	X-Rot (deg)	Y-Rot (deg)	Z-Rot (deg)	X-Pos (ft)	Y-Pos (ft)	Z-Pos (ft)
1P	0.01969	0.6965	-0.0498	-0.7072	-0.0072	-0.0700	3.02	3.697	128.8
2P	0.0199	0.6412	-0.04838	-0.8106	-0.0326	-0.0746	3.02	3.641	124.3
3P	0.02339	0.5701	-0.04669	-0.8811	-0.0056	-0.0801	3.023	3.57	119.8
4P	0.01971	0.4793	-0.04184	-0.6880	-0.0410	-0.0879	3.02	3.479	112.8
5P	0.02409	0.3883	-0.03722	-0.6153	0.0352	-0.0932	3.024	3.388	104.8
6P	0.01952	0.3276	-0.03215	-0.5229	-0.0400	-0.0962	3.02	3.328	98.72
7P	0.02462	0.2669	-0.02814	-0.4733	0.0111	-0.0972	3.025	3.267	91.72
8P	0.01949	0.2152	-0.02307	-0.3465	-0.0091	-0.0980	3.019	3.215	84.73
15P	0	0	0	0.0000	0.0000	0.0000	15.44	15.44	0
16P	0.03492	0.6998	-0.2226	-0.7310	-0.0006	-0.0598	0.03492	17.45	128.6
17P	0.03862	0.4794	-0.1908	-0.6851	-0.0414	-0.1094	3.039	14.73	112.6
18P	0.04334	0.3279	-0.1734	-0.5178	-0.0402	-0.1079	3.043	17.08	98.58
19P	0.04144	0.2159	-0.1099	-0.3797	-0.0091	-0.1059	3.041	14.47	84.64
20AP	0.02558	0.07857	-0.007562	0.0394	0.0522	-0.1452	9.594	0.07857	39.99
20BP	0.04481	0.09766	-0.01819	-0.1700	-0.0082	-0.1417	0.04481	9.666	39.98
21P	-0.2942	0.02321	-0.03094	0.0000	0.0000	0.0000	11.48	2.231	24.97
22P	0.001695	0.3103	0.04547	0.0000	0.0000	0.0000	2.21	12.08	25.05
23P	-0.006129	0.4872	0.1686	-0.7512	0.0056	-0.0842	-0.006129	-13.76	113
24P	-0.01219	0.3353	0.1517	-0.5698	0.0002	-0.0878	-0.01219	-16.41	98.9
25P	-0.009552	0.223	0.09111	-0.4426	-0.0076	-0.1000	-0.009552	-14.03	84.84
26P	0.02832	0.4793	-0.12	-0.7943	-0.0410	-0.0943	3.028	9.104	112.7
27P	0.03077	0.3277	-0.1071	-0.6225	-0.0399	-0.0972	3.031	10.2	98.64
28P	0.03069	0.2156	-0.06931	-0.4816	-0.0090	-0.1165	3.031	8.841	84.68
29P	0	0	0	0.0000	0.0000	0.0000	1.5	0	-4.25
30P	0.01482	0.09925	-0.001093	-0.0958	0.0453	-0.0485	1.515	0.09925	25
31P	0.02554	0.09509	-0.001509	0.0394	0.0244	-0.0615	1.526	0.09509	40
32P	0.01476	0.2178	-0.002759	-0.3752	-0.0116	-0.0761	1.515	0.2178	84.75
33P	0.0143	0.3306	-0.003484	-0.5582	0.0015	-0.0801	1.514	0.3306	98.75
34P	0.01491	0.481	-0.004526	-0.6200	0.0018	-0.0821	1.515	0.481	112.7
35P	0.01611	0.6988	-0.006237	-1.1598	0.0051	-0.0818	1.516	0.6988	128.7
36P	0.01685	0.8395	-0.007959	-1.4742	0.0051	-0.0818	1.517	0.8395	134.7
37P	0.01801	1.085	-0.01138	-1.6026	0.0052	-0.0818	1.518	1.085	143.7
1X	0.01225	0.697	0.02997	-0.6550	0.0203	-0.0728	3.012	-2.303	128.8
1XY	0.01234	0.703	0.02989	-0.7041	0.0242	-0.0654	-2.988	-2.297	128.8
1Y	0.01964	0.7027	-0.04929	-0.6959	-0.0100	-0.0708	-2.98	3.703	128.8
2X	0.01231	0.642	0.02927	-0.8243	0.0354	-0.0780	3.012	-2.358	124.3
2XY	0.01233	0.6481	0.02928	-0.7912	-0.0344	-0.0694	-2.988	-2.352	124.3
2Y	0.01979	0.6476	-0.04799	-0.7930	0.0390	-0.0787	-2.98	3.648	124.3
3X	0.007412	0.5703	0.02885	-0.8864	0.0201	-0.0823	3.007	-2.43	119.8
3XY	0.01503	0.5792	0.02888	-0.8600	0.0094	-0.0748	-2.985	-2.421	119.8
3Y	0.01554	0.5791	-0.04645	-0.8539	0.0097	-0.0854	-2.984	3.579	119.8
4X	0.0104	0.4799	0.02561	-0.6631	0.0540	-0.0895	3.01	-2.52	112.8
4XY	0.01035	0.4896	0.0257	-0.6676	-0.0433	-0.0819	-2.99	-2.51	112.8
4Y	0.01933	0.4892	-0.04183	-0.6807	0.0463	-0.0966	-2.981	3.489	112.8
5X	0.005006	0.3882	0.02242	-0.6204	-0.0336	-0.0938	3.005	-2.612	104.8
5XY	0.01421	0.3983	0.02241	-0.6183	0.0417	-0.0856	-2.986	-2.602	104.8
5Y	0.01471	0.3984	-0.03738	-0.6165	-0.0382	-0.0977	-2.985	3.398	104.8
6X	0.009322	0.328	0.01846	-0.5174	0.0402	-0.0983	3.009	-2.672	98.77
6XY	0.009078	0.338	0.01818	-0.5159	-0.0370	-0.0872	-2.991	-2.662	98.77
6Y	0.01948	0.3377	-0.03249	-0.5209	0.0355	-0.0997	-2.981	3.338	98.72

7X	0.004357	0.2667	0.01538	-0.4747	-0.0151	-0.0994	3.004	-2.733	91.77	
7XY	0.01384	0.2772	0.01486	-0.4721	0.0122	-0.0829	-2.986	-2.723	91.76	
7Y	0.0149	0.2773	-0.02867	-0.4698	-0.0184	-0.0951	-2.985	3.277	91.72	
8X	0.01023	0.2155	0.01122	-0.3438	-0.0055	-0.1007	3.01	-2.785	84.76	
8XY	0.008425	0.2262	0.01037	-0.3377	-0.0019	-0.0785	-2.992	-2.774	84.76	
8Y	0.02118	0.2261	-0.02391	-0.3413	-0.0084	-0.0907	-2.979	3.226	84.73	
15X	0	0	0	0.0000	0.0000	0.0000	15.44	-15.44	0	
15XY	0	0	0	0.0000	0.0000	0.0000	-15.44	-15.44	0	
15Y	0	0	0	0.0000	0.0000	0.0000	-15.44	15.44	0	
16X	-0.0006972	0.7019	0.1978	-0.7099	0.0313	-0.0474	-0.0006972	-16.05	129	
17Y	0.03812	0.489	-0.1913	-0.6920	0.0466	-0.0795	-2.962	14.74	112.6	
18Y	0.04285	0.3376	-0.177	-0.5377	0.0357	-0.0860	-2.957	17.09	98.57	
19Y	0.04102	0.2266	-0.1118	-0.3896	-0.0085	-0.1014	-2.959	14.48	84.64	
20AY	0.0256	0.1153	-0.01801	0.0392	-0.1404	-0.1264	-9.542	0.1153	39.98	
20BX	0.006458	0.09773	0.001804	-0.0416	0.0372	-0.1401	0.006458	-9.47	40	
21X	0.1533	0.05278	0.01033	0.0000	0.0000	0.0000	11.92	-2.155	25.01	
21XY	-0.01243	0.08098	-0.0165	0.0000	0.0000	0.0000	-11.78	-2.127	24.98	
21Y	0.1032	0.06888	0.02038	0.0000	0.0000	0.0000	-11.67	2.277	25.02	
22X	0.002001	0.2069	-0.01755	0.0000	0.0000	0.0000	2.21	-11.56	24.98	
22XY	0.008055	0.1016	-0.003567	0.0707	-0.0073	-0.0257	-2.2	-11.67	25	
22Y	0.05862	0.1132	-0.01591	-0.0825	0.0491	-0.2959	-2.149	11.88	24.98	
26Y	0.02969	0.4891	-0.1199	-0.7986	0.0465	-0.1004	-2.97	9.114	112.7	
27Y	0.032	0.3377	-0.1084	-0.6381	0.0357	-0.1001	-2.968	10.21	98.64	
28Y	0.03099	0.2265	-0.07033	-0.4884	-0.0083	-0.1034	-2.969	8.851	84.68	
9S	0.02831	0.1757	-0.0222	-0.2334	-0.0335	-0.0799	4.166	4.313	76.98	
10S	0.02813	0.1447	-0.0211	-0.1795	-0.0133	-0.0645	5.303	5.42	69.23	
11S	0.03478	0.1225	-0.01776	-0.1364	-0.0360	-0.0567	6.448	6.535	61.48	
12S	0.03842	0.0991	-0.01456	-0.0909	-0.0414	-0.0458	7.907	7.968	51.57	
13S	0.04403	0.07795	-0.009238	-0.1572	0.0747	-0.0328	9.613	9.647	39.99	
14S	-0.002845	0.01889	-0.01451	-0.1742	0.1366	-0.0188	11.77	11.79	24.99	
i0.50E129S	0.01589	0.6998	-0.01386	-0.7739	-0.0079	-0.0611	0.01589	0.6998	128.8	
i0.50E113S	0.01487	0.4846	-0.006699	-0.6558	-0.0568	-0.1091	0.01487	0.4846	112.8	
i0.50E99S	0.01432	0.3328	-0.005359	-0.5079	-0.0670	-0.0945	0.01432	0.3328	98.74	
i0.50E85S	0.01477	0.2199	-0.004992	-0.3328	-0.0732	-0.0996	0.01477	0.2199	84.75	
21XF0.50S	0.01413	0.04579	-0.1012	-0.0954	0.8151	-0.4216	11.78	0.04579	24.9	
22PF0.50S	0.02091	0.4805	-0.1912	0.0000	0.0000	0.0000	0.02091	12.25	24.81	
9X	0.003958	0.1751	0.01172	-0.2318	0.0147	-0.0823	4.142	-3.962	77.01	
9XY	0.01246	0.1913	0.01001	-0.2146	-0.0265	-0.0795	-4.125	-3.946	77.01	
9Y	0.01916	0.1911	-0.02383	-0.2235	0.0027	-0.0921	-4.118	4.329	76.98	
10X	0.0066	0.1452	0.01167	-0.1869	-0.0187	-0.0654	5.282	-5.13	69.26	
10XY	0.008292	0.166	0.009105	-0.1774	0.0060	-0.0767	-5.267	-5.109	69.26	
10Y	0.0271	0.1653	-0.02365	-0.1637	-0.0268	-0.0905	-5.248	5.44	69.23	
11X	0.004814	0.121	0.01021	-0.1302	0.0115	-0.0564	6.418	-6.292	61.51	
11XY	0.009072	0.146	0.006825	-0.1129	-0.0254	-0.0683	-6.404	-6.267	61.51	
11Y	0.02898	0.1479	-0.02141	-0.1275	-0.0065	-0.0784	-6.384	6.561	61.48	
12X	0.004873	0.1014	0.007894	-0.0947	-0.0096	-0.0423	7.874	-7.767	51.59	
12XY	0.008461	0.1332	0.003151	-0.0725	-0.0048	-0.0630	-7.86	-7.736	51.58	
12Y	0.03729	0.1287	-0.01998	-0.0848	-0.0329	-0.0726	-7.832	7.998	51.56	
13X	0.005096	0.07985	0.005897	-0.0865	0.0069	-0.0369	9.574	-9.489	40.01	
13XY	0.007701	0.1162	0.0003766	-0.0959	-0.0130	-0.0416	-9.561	-9.452	40	
13Y	0.04616	0.1156	-0.01595	-0.1032	-0.0534	-0.0544	-9.522	9.684	39.98	
14X	0.0006584	0.05461	0.002791	-0.1220	0.0128	-0.0343	11.77	-11.72	25	
14XY	0.008506	0.0825	-0.00129	-0.1947	0.0034	-0.0079	-11.76	-11.69	25	
14Y	0.05868	0.0691	-0.01486	-0.2179	0.0574	0.0019	-11.71	11.84	24.99	
21XF0.50Y	0.01568	0.07698	-0.1486	-0.0965	-0.9774	0.1667	-11.75	0.07698	24.85	
22PF0.50X	0.002736	0.2414	-0.07724	0.0000	0.0000	0.0000	0.002736	-11.53	24.92	

Joint Support Reactions for Load Case "NESC Extreme":

Joint	X	X	Y	Y H-Shear	Z Comp.	Uplift	Result.	Result.	X	X-M.	Y	Y-M.	H-Bend-M	Z	Z-M.	Max.

Label	Force (kips)	Usage %	Force (kips)	Usage %	Usage %	Force (kips)	Usage %	Usage %	Force (kips)	Usage %	Moment (ft-k)	Usage %	Moment (ft-k)	Usage %	Usage %	Moment (ft-k)	Usage %	Usage %
15P	-29.55	0.0	-29.88	0.0	0.0	-207.29	0.0	0.0	211.51	0.0	-1.27	0.0	3.2	0.0	0.0	0.38	0.0	0.0
29P	-0.07	0.0	-2.53	0.0	0.0	-12.94	0.0	0.0	13.19	0.0	30.58	0.0	-2.6	0.0	0.0	1.16	0.0	0.0
15X	30.62	0.0	-33.84	0.0	0.0	168.73	0.0	0.0	174.79	0.0	4.46	0.0	0.2	0.0	0.0	0.74	0.0	0.0
15XY	-37.01	0.0	-42.78	0.0	0.0	200.63	0.0	0.0	208.45	0.0	6.85	0.0	-0.9	0.0	0.0	-0.61	0.0	0.0
15Y	30.53	0.0	-30.59	0.0	0.0	-204.80	0.0	0.0	209.31	0.0	4.44	0.0	-6.7	0.0	0.0	-1.35	0.0	0.0

Joint Displacements, Loads and Member Forces on Joints for Load Case "NESC Extreme":

Joint Label	X External Load (kips)	Y External Load (kips)	Z External Load (kips)	X Member Force (kips)	Y Member Force (kips)	Z Member Force (kips)	X Disp. (ft)	Y Disp. (ft)	Z Disp. (ft)
1P	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0197	0.6965	-0.0498
2P	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0199	0.6412	-0.0484
3P	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0234	0.5701	-0.0467
4P	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0197	0.4793	-0.0418
5P	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0241	0.3883	-0.0372
6P	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0195	0.3276	-0.0321
7P	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0246	0.2669	-0.0281
8P	0.0000	0.9518	-0.7211	-0.0000	-0.9518	0.7211	0.0195	0.2152	-0.0231
15P	0.0000	0.6885	-0.5264	29.5451	29.1875	-206.7639	0.0000	0.0000	0.0000
16P	0.3610	6.0373	-0.5276	-0.3610	-6.0373	0.5276	0.0349	0.6998	-0.2226
17P	4.5710	5.4313	-0.2586	-4.5710	-5.4313	0.2586	0.0386	0.4794	-0.1908
18P	4.5710	5.4313	-0.2586	-4.5710	-5.4313	0.2586	0.0433	0.3279	-0.1734
19P	4.5710	5.4313	-0.2586	-4.5710	-5.4313	0.2586	0.0414	0.2159	-0.1099
20AP	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0256	0.0786	-0.0076
20BP	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0448	0.0977	-0.0182
21P	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	-0.2942	0.0232	-0.0309
22P	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0017	0.3103	0.0455
23P	0.7930	9.5953	-1.2276	-0.7930	-9.5953	1.2276	-0.0061	0.4872	0.1686
24P	0.7930	9.5953	-1.2276	-0.7930	-9.5953	1.2276	-0.0122	0.3353	0.1517
25P	0.7930	9.5953	-1.2276	-0.7930	-9.5953	1.2276	-0.0096	0.2230	0.0911
26P	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0283	0.4793	-0.1200
27P	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0308	0.3277	-0.1071
28P	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0307	0.2156	-0.0693
29P	0.0000	0.6885	-0.5264	0.0741	1.8423	-12.4174	0.0000	0.0000	0.0000
30P	0.0000	1.9135	-1.3374	0.0000	-1.9135	1.3374	0.0148	0.0993	-0.0011
31P	0.0000	1.8145	-1.2724	-0.0000	-1.8145	1.2724	0.0255	0.0951	-0.0015
32P	0.0000	2.0588	-1.4541	0.0000	-2.0588	1.4541	0.0148	0.2178	-0.0028
33P	0.0000	0.7913	-0.5436	-0.0000	-0.7913	0.5436	0.0143	0.3306	-0.0035
34P	0.0000	0.8283	-0.5686	0.0000	-0.8283	0.5686	0.0149	0.4810	-0.0045
35P	0.0000	0.5653	-0.3946	0.0000	-0.5653	0.3946	0.0161	0.6988	-0.0062
36P	0.0000	4.3903	-1.2626	-0.0000	-4.3903	1.2626	0.0169	0.8395	-0.0080
37P	0.0000	2.8223	-3.6666	-0.0000	-2.8223	3.6666	0.0180	1.0846	-0.0114
1X	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0123	0.6970	0.0300
1XY	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0123	0.7030	0.0299
1Y	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0196	0.7027	-0.0493
2X	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0123	0.6420	0.0293
2XY	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0123	0.6481	0.0293
2Y	0.0000	0.8433	-0.3226	-0.0000	-0.8433	0.3226	0.0198	0.6476	-0.0480
3X	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0074	0.5703	0.0289
3XY	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0150	0.5792	0.0289
3Y	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0155	0.5791	-0.0464
4X	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0104	0.4799	0.0256
4XY	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0103	0.4896	0.0257

4Y	0.0000	0.9853	-0.3536	0.0000	-0.9853	0.3536	0.0193	0.4892	-0.0418
5X	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0050	0.3882	0.0224
5XY	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0142	0.3983	0.0224
5Y	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0147	0.3984	-0.0374
6X	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0093	0.3280	0.0185
6XY	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0091	0.3380	0.0182
6Y	0.0000	1.0563	-0.3696	-0.0000	-1.0563	0.3696	0.0195	0.3377	-0.0325
7X	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0044	0.2667	0.0154
7XY	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0138	0.2772	0.0149
7Y	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0149	0.2773	-0.0287
8X	0.0000	0.9518	-0.7211	-0.0000	-0.9518	0.7211	0.0102	0.2155	0.0112
8XY	0.0000	0.9518	-0.7211	-0.0000	-0.9518	0.7211	0.0084	0.2262	0.0104
8Y	0.0000	1.7858	-0.9051	-0.0000	-1.7858	0.9051	0.0212	0.2261	-0.0239
15X	0.0000	0.6885	-0.5264	-30.6206	33.1532	169.2547	0.0000	0.0000	0.0000
15XY	0.0000	0.6885	-0.5264	37.0124	42.0956	201.1535	0.0000	0.0000	0.0000
15Y	0.0000	0.6885	-0.5264	-30.5310	29.9047	-204.2704	0.0000	0.0000	0.0000
16X	0.3610	6.0373	-0.5276	-0.3610	-6.0373	0.5276	-0.0007	0.7019	0.1978
17Y	-3.7780	4.4273	-1.1626	3.7780	-4.4273	1.1626	0.0381	0.4890	-0.1913
18Y	-3.7780	4.4273	-1.1626	3.7780	-4.4273	1.1626	0.0428	0.3376	-0.1770
19Y	-3.7780	4.4273	-1.1626	3.7780	-4.4273	1.1626	0.0410	0.2266	-0.1118
20AY	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0256	0.1153	-0.0180
20BX	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0065	0.0977	0.0018
21X	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.1533	0.0528	0.0103
21XY	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	-0.0124	0.0810	-0.0165
21Y	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.1032	0.0689	0.0204
22X	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0020	0.2069	-0.0176
22XY	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0081	0.1016	-0.0036
22Y	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0586	0.1132	-0.0159
26Y	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0297	0.4891	-0.1199
27Y	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0320	0.3377	-0.1084
28Y	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0310	0.2265	-0.0703
9S	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0283	0.1757	-0.0222
10S	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0281	0.1447	-0.0211
11S	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0348	0.1225	-0.0178
12S	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0384	0.0991	-0.0146
13S	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0440	0.0780	-0.0092
14S	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	-0.0028	0.0189	-0.0145
i0.50E129S	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0159	0.6998	-0.0139
i0.50E113S	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0149	0.4846	-0.0067
i0.50E99S	0.0000	0.2633	-0.1946	0.0000	-0.2633	0.1946	0.0143	0.3328	-0.0054
i0.50E85S	0.0000	0.2633	-0.1946	-0.0000	-0.2633	0.1946	0.0148	0.2199	-0.0050
21XF0.50S	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0141	0.0458	-0.1012
22PF0.50S	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0209	0.4805	-0.1912
9X	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0040	0.1751	0.0117
9XY	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0125	0.1913	0.0100
9Y	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0192	0.1911	-0.0238
10X	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0066	0.1452	0.0117
10XY	0.0000	0.9725	-0.6754	-0.0000	-0.9725	0.6754	0.0083	0.1660	0.0091
10Y	0.0000	2.1395	-0.9314	0.0000	-2.1395	0.9314	0.0271	0.1653	-0.0237
11X	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0048	0.1210	0.0102
11XY	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0091	0.1460	0.0068
11Y	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0290	0.1479	-0.0214
12X	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0049	0.1014	0.0079
12XY	0.0000	0.9715	-0.5884	0.0000	-0.9715	0.5884	0.0085	0.1332	0.0032
12Y	0.0000	1.5155	-0.7094	0.0000	-1.5155	0.7094	0.0373	0.1287	-0.0200
13X	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0051	0.0799	0.0059
13XY	0.0000	0.9335	-0.5804	0.0000	-0.9335	0.5804	0.0077	0.1162	0.0004
13Y	0.0000	1.4405	-0.6924	-0.0000	-1.4405	0.6924	0.0462	0.1156	-0.0160
14X	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0007	0.0546	0.0028
14XY	0.0000	1.2915	-0.6594	0.0000	-1.2915	0.6594	0.0085	0.0825	-0.0013

14Y	0.0000	2.5265	-0.9324	0.0000	-2.5265	0.9324	0.0587	0.0691	-0.0149
21XF0.50Y	0.0000	0.6885	-0.5264	-0.0000	-0.6885	0.5264	0.0157	0.0770	-0.1486
22PF0.50X	0.0000	0.6885	-0.5264	0.0000	-0.6885	0.5264	0.0027	0.2414	-0.0772

Crossing Diagonal Check for Load Case "NESC Extreme" (RLOUT controls):

Comp. Member Label	Tens. Member Label	Connect Leg for Comp. Member	Force In Comp. Member (kips)	Force In Tens. Member (kips)	Original Supported L/R Cap. (kips)	RLX	RLY	RLZ	L/R	KL/R	Curve No.	Alternate Unsupported L/R Cap. (kips)	RLOUT	L/R	KL/R	Curve No.
15BX	15BXY	Long only	-2.54	0.01	15.63	0.500	0.500	0.500	131.11	128.51	5	11.66	1.000	166.84	148.81	6
16BP	16BY	Short only	-0.61	-1.78	14.30	0.500	0.500	0.500	129.55	127.32	5	13.31	1.000	139.51	132.00	6
16BY	16BP	Short only	-1.78	-0.61	14.30	0.500	0.500	0.500	129.55	127.32	5	13.31	1.000	139.51	132.00	6
17BP	17BY	Long only	-1.55	-1.15	39.61	0.500	0.750	0.500	100.45	105.33	2	29.26	1.000	133.93	128.57	6
17BY	17BP	Long only	-1.15	-1.55	39.61	0.500	0.750	0.500	100.45	105.33	2	29.26	1.000	133.93	128.57	6
19BX	19BXY	Long only	-4.69	-0.49	61.20	0.500	0.750	0.500	77.55	88.16	2	49.22	1.000	103.40	111.70	3
19BXY	19BX	Long only	-0.49	-4.69	61.20	0.500	0.750	0.500	77.55	88.16	2	49.22	1.000	103.40	111.70	3
20BP	20BY	Long only	-7.48	-6.20	61.20	0.500	0.750	0.500	77.55	88.16	2	49.22	1.000	103.40	111.70	3
20BY	20BP	Long only	-6.20	-7.48	61.20	0.500	0.750	0.500	77.55	88.16	2	49.22	1.000	103.40	111.70	3
21AX	21AP	Short only	-1.67	0.15	44.33	0.580	0.580	0.580	95.79	101.84	2	42.37	1.000	95.79	107.89	3
21BP	21BY	Short only	-9.82	-9.98	44.33	0.580	0.580	0.580	95.79	101.84	2	42.37	1.000	95.79	107.89	3
21BY	21BP	Short only	-9.98	-9.82	44.33	0.580	0.580	0.580	95.79	101.84	2	42.37	1.000	95.79	107.89	3

Summary of Clamp Capacities and Usages for Load Case "NESC Extreme":

Clamp Label	Force (kips)	Input Holding Capacity (kips)	Factored Holding Capacity (kips)	Usage %
1	6.071	50.00	50.00	12.14
2	6.071	50.00	50.00	12.14
3	7.104	50.00	50.00	14.21
4	5.935	50.00	50.00	11.87
5	7.104	50.00	50.00	14.21
6	5.935	50.00	50.00	11.87
7	7.104	50.00	50.00	14.21
8	5.935	50.00	50.00	11.87
9	9.706	50.00	50.00	19.41
10	9.706	50.00	50.00	19.41
11	9.706	50.00	50.00	19.41
12	0.903	50.00	50.00	1.81
13	1.047	50.00	50.00	2.09
14	1.119	50.00	50.00	2.24
15	2.002	50.00	50.00	4.00
16	2.333	50.00	50.00	4.67
17	1.673	50.00	50.00	3.35
18	1.598	50.00	50.00	3.20
19	2.693	50.00	50.00	5.39
20	2.335	50.00	50.00	4.67
21	2.216	50.00	50.00	4.43
22	2.520	50.00	50.00	5.04
23	0.960	50.00	50.00	1.92
24	1.005	50.00	50.00	2.01
25	0.689	50.00	50.00	1.38

26	4.568	50.00	50.00	9.14
27	4.627	50.00	50.00	9.25
28	1.184	50.00	50.00	2.37
29	1.136	50.00	50.00	2.27
30	1.099	50.00	50.00	2.20
31	1.450	50.00	50.00	2.90

*** Overall summary for all load cases - Usage = Maximum Stress / Allowable Stress
Printed capacities do not include the strength factor entered for each load case.
The Group Summary reports on the member and load case that resulted in maximum usage
which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group	Group Label	Angle Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Usage Control	Max Use In Comp. %	Comp. Control Member	Comp. Force (kips)	Comp. Control Load Case	L/R Capacity (kips)	Comp. Connect. Shear Capacity (kips)	Comp. Connect. Bearing Capacity (kips)	RLX	RLY	RLZ	L/R
1	LEG1	SAE		3.5X3.5X0.25	36.0	90.98	Comp	90.98	3P	-29.853	NESC Ext	32.813	36.400	54.375	1.000	1.000	1.000	121.04
121.04 7.000	4	4																
2	LEG2	SAE		6X6X0.3125	36.0	87.73	Comp	87.73	5Y	-86.923	NESC Hea	99.083	109.200	203.906	1.000	1.000	1.000	60.50
60.50 6.050	1	12																
3	LEG3	SAE		8X8X0.5	36.0	68.57	Comp	68.57	7Y	-171.178	NESC Hea	249.636	254.800	380.624	1.000	1.000	1.000	52.83
52.83 7.000	1	14																
4	LEG4	SAE		8X8X0.625	36.0	72.74	Comp	72.74	10Y	-211.817	NESC Hea	306.646	291.200	543.749	1.000	1.000	1.000	60.12
60.12 7.915	1	16																
5	LEG5	SAE		8X8X0.75	36.0	63.48	Comp	63.48	11Y	-212.763	NESC Hea	335.162	0.000	0.000	1.000	1.000	1.000	76.95
76.95 10.131	1	0																
6	X1	SAE		2.5X2.5X0.1875	36.0	86.45	Comp	86.45	15AX	-13.515	NESC Ext	15.633	18.200	20.391	0.500	0.500	0.500	131.11
128.51 10.817	5	2																
7	X2	SAU		2.5X2X0.1875	36.0	85.43	Comp	85.43	16AX	-12.218	NESC Ext	14.303	18.200	20.391	0.500	0.500	0.500	129.55
127.32 9.220	5	2																
8	X3	SAU		4X3X0.25	36.0	57.37	Comp	57.37	17AX	-22.726	NESC Hea	39.613	45.500	67.969	0.500	0.750	0.500	100.45
105.33 10.000	2	5																
9	X4	SAU		3.5X2.5X0.25	36.0	60.32	Comp	60.32	18AXY	-19.747	NESC Hea	32.738	36.400	54.375	0.500	0.750	0.500	104.34
108.25 8.521	2	4																
10	X5	SAU		4X3.5X0.3125	36.0	54.28	Comp	54.28	19AX	-33.224	NESC Hea	61.204	63.700	118.945	0.500	0.750	0.500	77.55
88.16 9.220	2	7																
11	X6	SAU		5X3.5X0.25	36.0	26.18	Cross	26.18	21BP	-11.095	NESC Hea	42.374	54.600	81.562	1.000	0.580	0.580	95.79
107.89 10.597	3	6																
12	X7	SAU		4X3X0.25	36.0	16.00	Comp	16.00	22BX	-4.959	NESC Hea	30.985	36.400	54.375	0.560	0.560	0.560	126.41
124.92 12.246	5	4																
13	X8	SAU		3.5X3X0.25	36.0	8.89	Tens	6.03	23AX	-1.359	NESC Hea	22.542	27.300	40.781	0.550	0.550	0.550	147.17
140.74 14.070	5	3																
14	X9	SAU		5X3X0.25	36.0	18.11	Comp	18.11	24AXY	-3.882	NESC Ext	21.431	27.300	40.781	0.550	0.550	0.550	173.71
160.96 17.450	5	3																
15	D1	SAU		5X3X0.25	36.0	78.17	Tens	11.60	25BY	-3.919	NESC Ext	33.799	63.700	95.156	1.000	0.500	0.500	127.63
125.86 14.103	5	7																
16	D2	SAE		2X2X0.1875	36.0	41.26	Tens	7.59	26AY	-0.307	NESC Hea	4.044	18.200	20.391	0.500	0.500	0.500	256.65
224.16 16.853	5	2																
17	D3	SAU		3X2X0.25	36.0	65.57	Tens	0.00	27BXY	0.000		6.420	36.400	54.375	1.000	0.500	0.500	264.74
230.33 19.194	5	4																
18	D4	SAU		4X3X0.25	36.0	63.43	Tens	55.12	28BY	-6.332	NESC Ext	11.489	45.500	67.969	0.500	1.000	0.500	205.19
205.19 15.321	4	5																
19	D5	SAU		3.5X3X0.25	36.0	76.25	Tens	11.35	29AP	-2.911	NESC Hea	25.652	45.500	67.969	0.250	0.250	0.250	135.61

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131.93 28.523     5     5
     20            H1    SAE 1.75X1.75X0.1875     36.0 51.30  Tens  0.00     35Y    0.000             4.027    9.100   10.195 1.000 1.000 1.000 209.91
209.91  6.000     4     1
     21            H2    SAU       4X3.5X0.25     36.0 53.92  Comp 53.92     37AY  -14.720NESC Ext   27.341   27.300   40.781 1.000 0.500 0.500 148.70
137.65 15.738     6     3
     22            H3    SAE       3X3X0.1875     36.0 38.58  Comp 38.58     38BX   -4.438NESC Ext   11.503   18.200   20.391 1.000 1.000 1.000 192.66
164.68  9.569     6     2
     23            H4    SAU         5X3X0.25     36.0 48.03  Comp 48.03     39AY   -8.742NESC Ext   21.560   18.200   27.187 1.000 1.000 1.000 173.07
160.48  9.562     5     2
     24            H5    SAE     3.5X3.5X0.25     36.0 28.24  Comp 28.24     40XY   -3.780NESC Ext   13.386   18.200   27.187 1.000 1.000 1.000 233.97
190.09 13.531     6     2
     25           X10    SAE 1.75X1.75X0.1875     36.0  0.00        0.00           0.000             0.000    0.000    0.000 0.000 0.000 0.000   0.00
0.00  0.000     0     0
     26           X11    SAE       2X2X0.1875     36.0 11.57  Tens  9.21    43CXY  -1.160NESC Hea   12.587   18.200   20.391 1.000 1.000 1.000 129.22
127.06  4.243     5     2
     27           X12    SAU     2.5X2X0.1875     36.0  8.61  Comp  8.61     44P   -1.437NESC Ext   16.678   18.200   20.391 0.750 0.500 0.500 115.57
116.67  8.224     2     2
     28            H6    SAU         4X3X0.25     36.0 37.58  Tens  0.00     45BP    0.000           35.407   18.200   27.187 1.000 1.000 1.000 110.60
115.30  6.000     3     2
     29            D6    SAU       3X2X0.1875     36.0 25.75  Comp 25.75     46Y   -1.992NESC Hea    7.736   18.200   20.391 1.000 0.500 0.500 201.94
182.48 14.775     5     2
     30          HGR1    SAU     2.5X2X0.1875     36.0 31.56  Tens  0.00     49AY    0.000             5.486   18.200   20.391 1.000 0.500 0.500 205.58
205.58 13.585     4     2
     31          HGR2    SAE       3X3X0.1875     36.0 31.65  Tens  0.00     48AY    0.000             8.140   18.200   20.391 1.000 0.500 0.500 195.77
195.77 15.319     4     2
     32            A1    SAE         3X3X0.25     36.0 37.66  Tens 17.67     50XY   -3.216NESC Hea   21.867   18.200   27.187 0.500 0.500 0.500 142.64
137.29 14.073     5     2
     33            A2    SAU       3.5X3X0.25     36.0 29.59  Comp 29.59     51Y   -9.664NESC Hea   32.661   36.400   54.375 0.500 0.500 0.500 110.71
115.36 11.643     3     4
     34            A#    SAE         4X4X0.25     36.0 25.24  Comp 25.24     52Y  -10.506NESC Hea   41.627   45.500   67.969 0.500 0.500 0.500 106.21
113.11 14.073     3     5
     35            H7    SAU     2.5X2X0.1875     36.0 20.02  Comp 20.02     54P   -1.633NESC Hea    8.154    9.100   10.195 1.000 1.000 1.000 168.62
168.62  6.000     4     1
     36            H8    DAE 1.75X1.75X0.1875     36.0 84.81  Tens 67.24     36P  -11.296NESC Hea   19.743   16.800   20.391 1.000 1.000 1.000 134.08
134.08  6.000     4     1
  Pwmnt 12" Std. Pipe Pwmnt    Pipe 12" Std.     42.0  8.70  Comp  8.70   g101P  -22.636NESC Hea  260.146    0.000    0.000 1.000 1.000 1.000 122.32
122.32 44.750     4     0
  PMBR1     L2x2x3/16   SAE       2X2X0.1875     36.0  3.67  Comp  3.67   g107P   -0.374NESC Ext   20.042   16.800   10.195 1.000 1.000 1.000  45.71
82.86  1.501     3     1
  PMBR2 L2.5x2.5x3/16   SAE   2.5X2.5X0.1875     36.0 32.68  Comp 32.68   g111P   -3.332NESC Ext   22.126   16.800   10.195 1.000 1.000 1.000  81.32
100.66  3.354     3     1
  PMBR3     L3x3x3/16   SAE       3X3X0.1875     36.0  2.24  Tens  0.00   g114P    0.000           11.823   16.800   10.195 1.000 1.000 1.000 162.44
162.44  8.068     4     1
  PMBR4  L3.5x3.5x1/4   SAE     3.5X3.5X0.25     36.0 15.25  Comp 15.25   g116X   -2.073NESC Ext   17.249   16.800   13.594 1.000 1.000 1.000 167.46
167.46  9.685     4     1
  PMBR5      L4x4x1/4   SAE         4X4X0.25     36.0  8.23  Comp  8.23   g120P   -1.119NESC Ext   16.004   16.800   13.594 1.000 1.000 1.000 186.27
186.27 12.340     4     1 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize
moments): g118P  ??
    20a           H1    SAE 1.75X1.75X0.1875     36.0 19.51  Comp 19.51     30AP  -1.776NESC Hea   13.441    9.100   10.195 0.500 0.500 0.500 104.96
112.48  6.000     3     1
 AngleR      L2x2x1/4   SAE         2X2X0.25     36.0 37.80  Tens 34.46     42XY   -3.136NESC Ext   15.869    9.100   13.594 1.000 1.000 1.000 130.21
130.21  4.243     4     1
 BraceR  L2.5x2.5x1/4   SAE     2.5X2.5X0.25     36.0 58.05  Comp 58.05   g110X   -7.891NESC Ext   29.101   16.800   13.594 1.000 1.000 1.000  81.98
100.99  3.354     3     1 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize
moments): g110P  ??
  Plate    6"x3/4" PL   Bar             6x3/4     36.0  4.84  Comp  4.84   g106P   -0.813NESC Ext  109.423   16.800    0.000 1.000 1.000 1.000  83.19
101.59  1.501     3     1
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Group Summary (Tension Portion):

Group No.	Group Label	Angle Desc.	Angle Type	Angle Size	Steel Strength (ksi)	Max Usage %	Usage Control	Max Use In Tens. %	Tension Control Member	Tension Force (kips)	Tension Control Load Case	Net Section Capacity (kips)	Tension Connect. Shear Capacity (kips)	Tension Connect. Bearing Capacity (kips)	Tension Connect. Rupture Capacity (kips)	Length Tens. Member (ft)	No. Of Bolts	Hole Diameter Of Holes (in)
1	LEG1	SAE	3.5X3.5X0.25	36.0	90.98	Comp	73.56	3X	26.775	NESC Ext	48.465	36.400	54.375	60.417	7.000	4	0.6875	2.000
2	LEG2	SAE	6X6X0.3125	36.0	87.73	Comp	78.83	5XY	79.193	NESC Ext	100.462	109.200	203.906	226.562	6.050	12	0.6875	4.000
3	LEG3	SAE	8X8X0.5	36.0	68.57	Comp	66.97	7X	157.846	NESC Hea	235.687	254.800	380.624	422.916	7.000	14	0.6875	3.500
4	LEG4	SAE	8X8X0.625	36.0	72.74	Comp	67.09	9X	195.772	NESC Hea	291.819	0.000	0.000	0.000	7.915	0	0.6875	3.500
5	LEG5	SAE	8X8X0.75	36.0	63.48	Comp	57.26	11X	193.318	NESC Hea	337.589	0.000	0.000	0.000	10.131	0	0.6875	4.000
6	X1	SAE	2.5X2.5X0.1875	36.0	86.45	Comp	75.20	15AP	13.584	NESC Ext	25.048	18.200	20.391	18.063	10.817	2	0.6875	1.000
7	X2	SAU	2.5X2X0.1875	36.0	85.43	Comp	63.92	16AP	11.586	NESC Ext	19.030	18.200	20.391	18.125	9.220	2	0.6875	1.000
8	X3	SAU	4X3X0.25	36.0	57.37	Comp	49.96	17AP	22.516	NESC Hea	45.066	45.500	67.969	60.417	10.000	5	0.6875	1.740
9	X4	SAU	3.5X2.5X0.25	36.0	60.32	Comp	54.98	18AY	20.012	NESC Hea	40.920	36.400	54.375	42.647	8.521	4	0.6875	1.030
10	X5	SAU	4X3.5X0.3125	36.0	54.28	Comp	54.24	19AP	32.782	NESC Hea	60.440	63.700	118.945	112.337	9.220	7	0.6875	1.790
11	X6	SAU	5X3.5X0.25	36.0	26.18	Cross	26.16	21BXY	12.023	NESC Hea	45.962	54.600	81.562	72.500	10.597	6	0.6875	1.550
12	X7	SAU	4X3X0.25	36.0	16.00	Comp	11.18	22BY	4.070	NESC Hea	41.087	36.400	54.375	44.391	12.246	4	0.6875	1.000
13	X8	SAU	3.5X3X0.25	36.0	8.89	Tens	8.89	23AY	2.427	NESC Ext	40.925	27.300	40.781	38.516	14.070	3	0.6875	1.000
14	X9	SAU	5X3X0.25	36.0	18.11	Comp	2.95	24AP	0.805	NESC Hea	41.087	27.300	40.781	36.250	17.450	3	0.6875	1.000
15	D1	SAU	5X3X0.25	36.0	78.17	Tens	78.17	25AY	29.029	NESC Ext	37.133	63.700	95.156	74.632	14.103	7	0.6875	1.710
16	D2	SAE	2X2X0.1875	36.0	41.26	Tens	41.26	26BX	7.477	NESC Ext	18.827	18.200	20.391	18.125	16.853	2	0.6875	1.000
17	D3	SAU	3X2X0.25	36.0	65.57	Tens	65.57	27AXY	16.318	NESC Ext	24.887	36.400	54.375	48.333	19.194	4	0.6875	1.000
18	D4	SAU	4X3X0.25	36.0	63.43	Tens	63.43	28AY	28.862	NESC Ext	47.739	45.500	67.969	60.417	15.321	5	0.6875	1.260
19	D5	SAU	3.5X3X0.25	36.0	76.25	Tens	76.25	29AXY	34.293	NESC Ext	44.975	45.500	67.969	53.634	28.523	5	0.6875	1.000
20	H1	SAE	1.75X1.75X0.1875	36.0	51.30	Tens	51.30	33Y	3.603	NESC Hea	15.911	9.100	10.195	7.024	6.000	1	0.6875	1.000
21	H2	SAU	4X3.5X0.25	36.0	53.92	Comp	14.10	37BP	3.850	NESC Ext	49.025	27.300	40.781	36.250	15.738	3	0.6875	1.000
22	H3	SAE	3X3X0.1875	36.0	38.58	Comp	5.65	38AXY	1.024	NESC Ext	31.139	18.200	20.391	18.125	9.569	2	0.6875	1.000
23	H4	SAU	5X3X0.25	36.0	48.03	Comp	47.94	F39C2118X	8.726	NESC Ext	41.087	18.200	27.187	24.167	2.208	2	0.6875	1.000

24		H5	SAE	3.5X3.5X0.25	36.0	28.24	Comp	21.85	40Y	3.977NESC	Ext	49.187	18.200	27.187	25.677	13.531	2
1.000	0.6875																
25		X10	SAE	1.75X1.75X0.1875	36.0	0.00		0.00		0.000		0.000	0.000	0.000	0.000	0.000	0
0.000	0																
26		X11	SAE	2X2X0.1875	36.0	11.57	Tens	11.57	43AP	1.523NESC	Ext	18.827	18.200	20.391	13.170	4.243	2
1.000	0.6875																
27		X12	SAU	2.5X2X0.1875	36.0	8.61	Comp	7.97	44AY	1.444NESC	Ext	19.030	18.200	20.391	18.125	8.224	2
1.000	0.6875																
28		H6	SAU	4X3X0.25	36.0	37.58	Tens	37.58	45P	6.839NESC	Hea	41.087	18.200	27.187	24.167	6.000	2
1.000	0.6875																
29		D6	SAU	3X2X0.1875	36.0	25.75	Comp	0.00	46Y	0.000		18.908	18.200	20.391	13.577	14.775	2
1.000	0.6875																
30		HGR1	SAU	2.5X2X0.1875	36.0	31.56	Tens	31.56	47Y	4.286NESC	Hea	19.030	18.200	20.391	13.577	13.250	2
1.000	0.6875																
31		HGR2	SAE	3X3X0.1875	36.0	31.65	Tens	31.65	48Y	5.737NESC	Hea	31.139	18.200	20.391	18.125	15.022	2
1.000	0.6875																
32		A1	SAE	3X3X0.25	36.0	37.66	Tens	37.66	50Y	6.825NESC	Hea	37.802	18.200	27.187	18.125	14.073	2
1.590	0.6875																
33		A2	SAU	3.5X3X0.25	36.0	29.59	Comp	28.56	53BP	7.797NESC	Hea	35.356	27.300	40.781	31.985	5.625	3
2.000	0.6875																
34		A#	SAE	4X4X0.25	36.0	25.24	Comp	15.38	52BP	6.996NESC	Hea	51.718	45.500	67.969	71.078	6.875	5
2.000	0.6875																
35		H7	SAU	2.5X2X0.1875	36.0	20.02	Comp	7.70	54X	0.701NESC	Hea	22.067	9.100	10.195	9.629	6.000	1
1.000	0.6875																
36		H8	DAE	1.75X1.75X0.1875	36.0	84.81	Tens	84.81	36X	12.606NESC	Hea	35.999	16.800	20.391	14.864	6.000	1
1.000	0.6875																
Pwmnt	12" Std. Pipe	Pwmnt		Pipe 12" Std.	42.0	8.70	Comp	0.00	g121P	0.000		571.199	0.000	0.000	0.000	9.000	0
0.000	0																
PMBR1	L2x2x3/16		SAE	2X2X0.1875	36.0	3.67	Comp	0.87	g107P	0.088NESC	Hea	18.827	16.800	10.195	10.343	1.501	1
1.000	0.6875																
PMBR2	L2.5x2.5x3/16		SAE	2.5X2.5X0.1875	36.0	32.68	Comp	24.43	g111X	2.491NESC	Ext	25.048	16.800	10.195	11.328	3.354	1
1.000	0.6875																
PMBR3	L3x3x3/16		SAE	3X3X0.1875	36.0	2.24	Tens	2.24	g114P	0.228NESC	Ext	31.139	16.800	10.195	11.328	8.068	1
1.000	0.6875																
PMBR4	L3.5x3.5x1/4		SAE	3.5X3.5X0.25	36.0	15.25	Comp	13.43	g116P	1.826NESC	Ext	49.187	16.800	13.594	15.104	9.685	1
1.000	0.6875																
PMBR5	**L4x4x1/4**		**SAE**	**4X4X0.25**	**36.0**	**8.23**	**Comp**	**8.07**	**g120X**	**1.097NESC**	**Ext**	**57.287**	**16.800**	**13.594**	**15.104**	**12.340**	**1**
1.000	**0.6875 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): g118P**																
??																	
20a		H1	SAE	1.75X1.75X0.1875	36.0	19.51	Comp	7.89	30BP	0.554NESC	Hea	15.911	9.100	10.195	7.024	6.000	1
1.000	0.6875																
AngleR	L2x2x1/4		SAE	2X2X0.25	36.0	37.80	Tens	37.80	42X	3.440NESC	Ext	24.887	9.100	13.594	9.366	4.243	1
1.000	0.6875																
BraceR	**L2.5x2.5x1/4**		**SAE**	**2.5X2.5X0.25**	**36.0**	**58.05**	**Comp**	**44.87**	**g110P**	**6.100NESC**	**Ext**	**32.987**	**16.800**	**13.594**	**15.104**	**3.354**	**1**
1.000	**0.6875 A potentially damaging moment exists in the following members (make sure your system is well triangulated to minimize moments): g110P**																
??																	
Plate	6"x3/4" PL		Bar	6x3/4	36.0	4.84	Comp	2.51	g106P	0.421NESC	Hea	145.800	16.800	0.000	0.000	1.501	1
1.000	0.6875																

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type

NESC Heavy	87.73	5Y	Angle
NESC Extreme	90.98	3P	Angle

Summary of Insulator Usages:

Insulator Label	Insulator Type	Maximum Usage %	Load Case	Weight (lbs)
1	Clamp	19.65	NESC Heavy	0.0
2	Clamp	19.51	NESC Heavy	0.0
3	Clamp	20.20	NESC Heavy	0.0
4	Clamp	20.61	NESC Heavy	0.0
5	Clamp	20.20	NESC Heavy	0.0
6	Clamp	20.62	NESC Heavy	0.0
7	Clamp	20.20	NESC Heavy	0.0
8	Clamp	20.61	NESC Heavy	0.0
9	Clamp	29.53	NESC Heavy	0.0
10	Clamp	29.57	NESC Heavy	0.0
11	Clamp	29.53	NESC Heavy	0.0
12	Clamp	1.81	NESC Extreme	0.0
13	Clamp	2.09	NESC Extreme	0.0
14	Clamp	2.32	NESC Heavy	0.0
15	Clamp	4.00	NESC Extreme	0.0
16	Clamp	4.67	NESC Extreme	0.0
17	Clamp	3.69	NESC Heavy	0.0
18	Clamp	3.20	NESC Extreme	0.0
19	Clamp	6.04	NESC Heavy	0.0
20	Clamp	10.21	NESC Heavy	0.0
21	Clamp	10.89	NESC Heavy	0.0
22	Clamp	10.43	NESC Heavy	0.0
23	Clamp	4.98	NESC Heavy	0.0
24	Clamp	5.34	NESC Heavy	0.0
25	Clamp	3.42	NESC Heavy	0.0
26	Clamp	9.14	NESC Extreme	0.0
27	Clamp	16.71	NESC Heavy	0.0
28	Clamp	2.37	NESC Extreme	0.0
29	Clamp	3.08	NESC Heavy	0.0
30	Clamp	2.50	NESC Heavy	0.0
31	Clamp	4.27	NESC Heavy	0.0

Loads At Insulator Attachments For All Load Cases:

Load Case	Insulator Label	Insulator Type	Structure Attach Label	Structure Attach Load X (kips)	Structure Attach Load Y (kips)	Structure Attach Load Z (kips)	Structure Attach Load Res. (kips)
NESC Heavy	1	Clamp	16X	0.000	9.736	1.328	9.827
NESC Heavy	2	Clamp	16P	0.000	9.666	1.328	9.757
NESC Heavy	3	Clamp	17P	7.000	7.276	0.249	10.100
NESC Heavy	4	Clamp	17Y	-7.000	7.178	2.373	10.303
NESC Heavy	5	Clamp	18P	7.000	7.276	0.278	10.100
NESC Heavy	6	Clamp	18Y	-7.000	7.178	2.402	10.310
NESC Heavy	7	Clamp	19P	7.000	7.276	0.249	10.100
NESC Heavy	8	Clamp	19Y	-7.000	7.178	2.373	10.303
NESC Heavy	9	Clamp	23P	0.000	14.536	2.584	14.764
NESC Heavy	10	Clamp	24P	0.000	14.544	2.662	14.786

NESC Heavy	11	Clamp	25P	0.000	14.536	2.584	14.764
NESC Heavy	12	Clamp	2Y	0.000	0.176	0.568	0.595
NESC Heavy	13	Clamp	4Y	0.000	0.219	0.915	0.941
NESC Heavy	14	Clamp	6Y	0.000	0.241	1.133	1.158
NESC Heavy	15	Clamp	8Y	0.000	0.253	1.351	1.375
NESC Heavy	16	Clamp	10Y	0.000	0.443	1.783	1.837
NESC Heavy	17	Clamp	12Y	0.000	0.251	1.827	1.844
NESC Heavy	18	Clamp	13Y	0.000	0.228	1.563	1.580
NESC Heavy	19	Clamp	14Y	0.000	0.558	2.970	3.022
NESC Heavy	20	Clamp	30P	0.000	1.210	4.962	5.107
NESC Heavy	21	Clamp	31P	0.000	1.466	5.244	5.445
NESC Heavy	22	Clamp	32P	0.000	1.430	5.016	5.216
NESC Heavy	23	Clamp	33P	0.000	0.665	2.401	2.491
NESC Heavy	24	Clamp	34P	0.000	0.721	2.571	2.670
NESC Heavy	25	Clamp	35P	0.000	0.504	1.635	1.711
NESC Heavy	26	Clamp	36P	0.000	1.328	3.080	3.354
NESC Heavy	27	Clamp	37P	0.000	0.823	8.316	8.356
NESC Heavy	28	Clamp	10XY	0.000	0.422	0.992	1.078
NESC Heavy	29	Clamp	12XY	0.000	0.673	1.384	1.539
NESC Heavy	30	Clamp	13XY	0.000	0.490	1.151	1.251
NESC Heavy	31	Clamp	14XY	0.000	0.837	1.966	2.137
NESC Extreme	1	Clamp	16X	0.361	6.037	0.528	6.071
NESC Extreme	2	Clamp	16P	0.361	6.037	0.528	6.071
NESC Extreme	3	Clamp	17P	4.571	5.431	0.259	7.104
NESC Extreme	4	Clamp	17Y	-3.778	4.427	1.163	5.935
NESC Extreme	5	Clamp	18P	4.571	5.431	0.259	7.104
NESC Extreme	6	Clamp	18Y	-3.778	4.427	1.163	5.935
NESC Extreme	7	Clamp	19P	4.571	5.431	0.259	7.104
NESC Extreme	8	Clamp	19Y	-3.778	4.427	1.163	5.935
NESC Extreme	9	Clamp	23P	0.793	9.595	1.228	9.706
NESC Extreme	10	Clamp	24P	0.793	9.595	1.228	9.706
NESC Extreme	11	Clamp	25P	0.793	9.595	1.228	9.706
NESC Extreme	12	Clamp	2Y	0.000	0.843	0.323	0.903
NESC Extreme	13	Clamp	4Y	0.000	0.985	0.354	1.047
NESC Extreme	14	Clamp	6Y	0.000	1.056	0.370	1.119
NESC Extreme	15	Clamp	8Y	0.000	1.786	0.905	2.002
NESC Extreme	16	Clamp	10Y	0.000	2.139	0.931	2.333
NESC Extreme	17	Clamp	12Y	0.000	1.515	0.709	1.673
NESC Extreme	18	Clamp	13Y	0.000	1.440	0.692	1.598
NESC Extreme	19	Clamp	14Y	0.000	2.526	0.932	2.693
NESC Extreme	20	Clamp	30P	0.000	1.913	1.337	2.335
NESC Extreme	21	Clamp	31P	0.000	1.814	1.272	2.216
NESC Extreme	22	Clamp	32P	0.000	2.059	1.454	2.520
NESC Extreme	23	Clamp	33P	0.000	0.791	0.544	0.960
NESC Extreme	24	Clamp	34P	0.000	0.828	0.569	1.005
NESC Extreme	25	Clamp	35P	0.000	0.565	0.395	0.689
NESC Extreme	26	Clamp	36P	0.000	4.390	1.263	4.568
NESC Extreme	27	Clamp	37P	0.000	2.822	3.667	4.627
NESC Extreme	28	Clamp	10XY	0.000	0.972	0.675	1.184
NESC Extreme	29	Clamp	12XY	0.000	0.971	0.588	1.136
NESC Extreme	30	Clamp	13XY	0.000	0.933	0.580	1.099
NESC Extreme	31	Clamp	14XY	0.000	1.291	0.659	1.450

Overturning Moments For User Input Concentrated Loads:

Moments are static equivalents based on central axis of 0,0 (i.e. a single pole).

Load Case	Total Tran.	Total Long.	Total Vert.	Transverse Overturning	Longitudinal Overturning	Torsional Moment

	Load (kips)	Load (kips)	Load (kips)	Moment (ft-k)	Moment (ft-k)	(ft-k)
NESC Heavy	112.174	0.000	46.731	11605.566	-38.940	-14.573
NESC Extreme	88.291	5.480	16.818	8855.018	551.181	-38.601

*** Weight of structure (lbs):
Weight of Angles*Section DLF: 38857.7
Total: 38857.7

*** End of Report

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Subject:	Anchor Bolt Analysis for CL&P Tower # 1281
Location:	Greenwich, CT
Rev. 0: 12/19/17	Prepared by: T.J.L. Checked by: C.F.C. Job No. 16009.03

Tower Anchor Bolt Analysis

Max Leg Reactions:

Uplift = Uplift := 200.63·kips (User Input)

Shear = Shear := 56.57·kips (User Input)

Compression = Compression := 226.21·kips (User Input)

Anchor Bolt Data:

Use ASTM A36 (Assumed Conservative Value - Actual Grade Unknown)

Number of Anchor Bolts = N := 4 (User Input)

Bolt Ultimate Strength = $F_u := 58ksi$ (User Input)

Bolt Yield Strength = $F_y := 36ksi$ (User Input)

Diameter of Bolts = D := 2.0in (User Input)

Threads per Inch = n := 4.5 (User Input)

Coefficient of Friction = $\mu := 0.55$ (User Input)

Anchor Bolt Area:

Gross Area of Bolt = $A_g := \frac{\pi}{4} \cdot D^2 = 3.142 \cdot in^2$

Net Area of Bolt = $A_n := \frac{\pi}{4} \cdot \left(D - \frac{0.9743 \cdot in}{n}\right)^2 = 2.498 \cdot in^2$ (AISC 13th Ed. pg. 7-83)

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Subject:	Anchor Bolt Analysis for CL&P Tower # 1281
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Check Tensile Force:

Maximum Tensile Force (Gross Area) =

$$F_{gross.area} := 1.0 \cdot \left(0.33 \cdot A_g \cdot F_u\right) = 60.1 \cdot kips$$

Maximum Tensile Force (Net Area) =

$$F_{net.area} := 1.0 \cdot \left(0.60 \cdot A_n \cdot F_y\right) = 54 \cdot kips$$

Allowable Tension =

$$AllowableTension := \begin{cases} F_{gross.area} & \text{if } F_{gross.area} < F_{net.area} \\ F_{net.area} & \text{if } F_{net.area} < F_{gross.area} \end{cases}$$

$$AllowableTension = 54 \cdot kips$$

Applied Tension =

$$MaxTension := \frac{Uplift}{N} = 50.16 \cdot kips$$

$$\frac{MaxTension}{F_{net.area}} = 93.0 \cdot \%$$

$$Condition1 := if\left(\frac{MaxTension}{F_{net.area}} \le 1.00, "OK", "Overstressed"\right)$$

$$Condition1 = "OK"$$

Check Anchor Bolt Area:

Based on the ASCE 10-97 Design of Latticed Steel Transmission Structures

Required Area =

$$A_{s1} := \frac{Uplift}{F_y} + \frac{Shear}{\mu \cdot .85 \cdot F_y} = 8.9 \cdot in^2$$

$$A_{s2} := \left[\frac{Shear - (0.3 \cdot Compression)}{\mu \cdot .85 \cdot F_y}\right] = -0.671 \cdot in^2$$

Provided Area =

$$A_{sprovided} := A_n \cdot N = 10 \cdot in^2$$

$$Condition2 := if\left(\frac{A_{s1}}{A_{sprovided}} \le 1.00, "OK", "Overstressed"\right)$$

$$Condition2 = "OK"$$

$$Condition3 := if\left(\frac{A_{s2}}{A_{sprovided}} \le 1.00, "OK", "Overstressed"\right)$$

$$Condition3 = "OK"$$

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Subject:	FOUNDATION ANALYSIS
Location:	Greenwich, CT
Rev. 0: 12/19/17	Prepared by: T.J.L. Checked by: C.F.C. Job No. 16009.03

Foundation:

Input Data:

Tower Data

Shear (Compression Leg) =	$Shear_{comp} := 46.7 \cdot 1.1 \cdot kips = 51.4 \cdot kips$		(User Input from PLS Tower)
Shear (Uplift Leg) =	$Shear_{up} := 56.6 \cdot 1.1 \cdot kips = 62.3 \cdot kips$		(User Input from PLS Tower)
Compression =	$Comp := 226.2 \cdot 1.1 \cdot kips = 248.8 \cdot kips$		(User Input from PLS Tower)
Uplift =	$Uplift := 200.6 \cdot 1.1 \cdot kips = 220.7 \cdot kips$		(User Input from PLS Tower)
Tower Height =	$H_t := 129 \cdot ft$		(User Input)

Footing Data:

Depth to Bottom of Footing =	$D_f := 8 \cdot ft$	(User Input)	
Length of Pier =	$L_p := 8.5 \cdot ft$	(User Input)	
Extension of Pier Above Grade =	$L_{pag} := 0.5 \cdot ft$	(User Input)	
Width of Pier =	$W_p := 5 \cdot ft$	(User Input)	
Depth of Soil =	$D_{soil} := 8 \cdot ft$	(User Input)	
Depth of Rock =	$D_{rock} := 12 \cdot ft$	(User Input)	

Material Properties:

Concrete Compressive Strength =	$f_c := 3500 \cdot psi$	(User Input)	
Steel Reinforcment Yield Strength =	$f_y := 60000 \cdot psi$	(User Input)	
Anchor Bolt Yield Strength =	$f_{ya} := 75000 \cdot psi$	(User Input)	
Internal Friction Angle of Soil =	$\Phi_s := 30 \cdot deg$	(User Input)	
Allowable Soil Bearing Capacity =	$q_s := 4000 \cdot psf$	(User Input)	
Allowable Rock Bearing Capacity =	$q_{rock} := 50000 \cdot psf$	(User Input)	
Unit Weight of Soil =	$\gamma_{soil} := 100 \cdot pcf$	(User Input)	
Unit Weight of Concrete =	$\gamma_{conc} := 150 \cdot pcf$	(User Input)	
Unit Weight of Rock =	$\gamma_{rock} := 160 \cdot pcf$	(User Input)	
Foundation Bouyancy =	$Bouyancy := 0$	(User Input)	(Yes=1 / No=0)
Depth to Neglect =	$n := 1.0 \cdot ft$	(User Input)	
Cohesion of Clay Type Soil =	$c := 0 \cdot ksf$	(User Input)	(Use 0 for Sandy Soil)
Seismic Zone Factor =	$Z := 2$	(User Input)	(UBC-1997 Fig 23-2)
Coefficient of Friction Between Concrete =	$\mu := 0.45$	(User Input)	

Rock Anchor Properties:

ASTM A615 Grade 60

Bolt Ultimate Strength =	$F_u := 90 \cdot ksi$	(User Input)	
Bolt Yield Strength =	$F_y := 60 \cdot ksi$	(User Input)	
Anchor Diameter =	$d_{ra1} := 1.128 \cdot in$	(User Input)	(1 # 9 and 1 # 11 per Rock Group)
Anchor Diameter =	$d_{ra2} := 1.41 \cdot in$	(User Input)	
Hole Diameter =	$d_{Hole} := 4 \cdot in$	(User Input)	
Grout Strength =	$\tau := 120 \cdot psi$	(User Input)	
Distance to Rock Anchor Group 1 =	$D_{a1} := 24 \cdot in$	(User Input)	
Number of Rock Anchors in Group 1 =	$N_{a1} := 6$	(User Input)	
Total Number of Rock Bolts =	$N_{atot} := 8$	(User Input)	

Check Uplift:

Adjusted Concrete Unit Weight = $\gamma_c := if(Bouyancy = 1, \gamma_{conc} - 62.4pcf, \gamma_{conc}) = 150 \cdot pcf$

Adjusted Soil Unit Weight = $\gamma_s := if(Bouyancy = 1, \gamma_{soil} - 62.4pcf, \gamma_{soil}) = 100 \cdot pcf$

Weight of Concrete = $WT_c := \left(W_p^{\,2} \cdot L_p\right) \cdot \gamma_c = 31.875 \cdot kip$

Base Area 1 of Resisting Pyramid = $B_1 := \left(D_{a1} \cdot 2\right)^2 = 16ft^2$

Base Area 2 of Resisting Pyramid = $B_2 := \left[\tan\left(\Phi_s\right) \cdot \left(D_{rock} \cdot 0.5\right) \cdot 2 + D_{a1} \cdot 2\right]^2 = 119.4ft^2$

Base Area 3 of Resisting Pyramid = $B_3 := \left[\tan\left(\Phi_s\right) \cdot \left(D_{rock} \cdot 0.5 + D_{soil}\right) \cdot 2 + D_{a1} \cdot 2\right]^2 = 406.7ft^2$

Weight of Soil = $WT_{soil} := \left[\frac{D_{soil}}{3} \cdot \left(B_2 + B_3 + \sqrt{B_2 \cdot B_3}\right) - W_p^{\,2} \cdot L_p\right] \cdot \gamma_s = 177.806 \cdot kip$

Weight of Rock = $WT_{rock} := \left[\frac{D_{rock} \cdot 0.5}{3} \cdot \left(B_1 + B_2 + \sqrt{B_1 \cdot B_2}\right)\right] \cdot \gamma_{rock} = 57.324 \cdot kip$

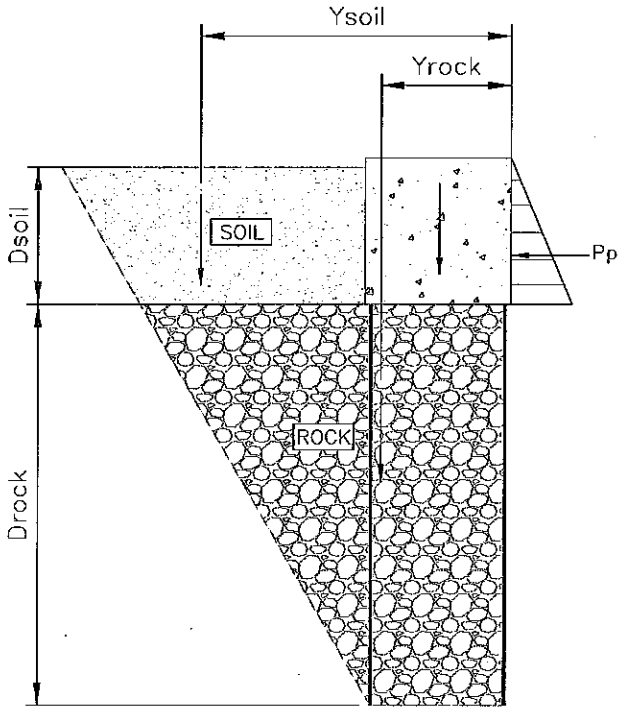
Total Resistance = $WT_{tot} := WT_c + WT_{rock} + WT_{soil} = 267 \cdot kips$

Factor of Safety Actual = $FS := \frac{WT_{tot}}{Uplift} = 1.21$

Factor of Safety Required = $FS_{req} := 1.0$

$Uplift\_Check := if(FS \geq FS_{req}, "Okay", "No\ Good")$

$Uplift\_Check = "Okay"$



Area 1 = $A1 := \frac{1}{2}\cdot\tan(\Phi_s)\cdot D_{soil}^{2} = 18.475\,ft^2$ sf

Area 2 = $A2 := \tan(\Phi_s)\cdot D_{rock}\cdot D_{soil} = 55.426\,ft^2$ sf

Distance to Centroid 1 = $Y1 := \tan(\Phi_s)\cdot D_{rock} + \frac{1}{3}\cdot\tan(\Phi_s)\cdot D_{soil} = 8.468\,ft$ ft

Distance to Centroid 2 = $Y2 := \frac{1}{2}\cdot\tan(\Phi_s)\cdot D_{rock} = 3.464\,ft$ ft

Distance from Toe to Centroid of Soil = $Y_{soil} := \frac{(A1\cdot Y1 + A2\cdot Y2)}{(A1 + A2)} + W_p = 9.72\,ft$ ft

Area 3 = $A3 := \frac{1}{2}\cdot\tan(\Phi_s)\cdot D_{rock}^{2} = 41.569\,ft^2$ sf

Area 4 = $A4 := W_p\cdot D_{rock} = 60\,ft^2$ sf

Distance to Centroid 3 = $Y3 := W_p + \frac{1}{3}\cdot\tan(\Phi_s)\cdot D_{rock} = 7.309\,ft$ ft

Distance to Centroid 4 = $Y4 := \frac{W_p}{2} = 2.5\,ft$ ft

Distance from Toe to Centroid of Rock = $Y_{rock} := \frac{(A3\cdot Y3 + A4\cdot Y4)}{(A3 + A4)} = 4.47\,ft$ ft

Check Oveturning:

Coefficient of Lateral Soil Pressure =

$$K_p := \frac{1 + \sin(\Phi_s)}{1 - \sin(\Phi_s)} = 3$$

Passive Pressure =

$$P_{top} := 0 = 0 \cdot ksf$$

$$P_{bot} := K_p \cdot \gamma_s \cdot D_f + c \cdot 2 \cdot \sqrt{K_p} = 2.4 \cdot ksf$$

$$P_{ave} := \frac{P_{top} + P_{bot}}{2} = 1.2 \cdot ksf$$

$$A_p := W_p \cdot (L_p - L_{pag}) = 40 ft^2$$

Ultimate Shear =

$$S_u := P_{ave} \cdot A_p = 48 \cdot kip$$

Weight of Concrete Pad =

$$WT_c := \left(W_p^2 \cdot L_p\right) \cdot \gamma_c = 31.875 \cdot kip$$

Weight of Soil Wedge at Back Face Corners =

$$WT_{s2} := 2 \cdot \left[(D_{soil})^3 \cdot \frac{\tan(\Phi_s)}{3} \right] \cdot \gamma_s = 19.707 \cdot kips$$

Total Weight of Soil =

$$WT_{Stot} := (A1 + A2) \cdot W_p \cdot \gamma_s + WT_{s2} = 56.7 \cdot kips$$

Total Weight of Rock =

$$WT_{Rtot} := (A3 + A4) \cdot W_p \cdot \gamma_{rock} = 81.3 \cdot kips$$

Resisting Moment =

$$M_r := (WT_c) \cdot \frac{W_p}{2} + S_u \cdot \frac{L_p}{3} + WT_{Stot} \cdot Y_{soil} + WT_{Rtot} \cdot Y_{rock} = 1129 \cdot kip \cdot ft$$

Overturning Moment =

$$M_{ot} := Uplift \cdot \frac{W_p}{2} + Shear_{up} \cdot L_p = 1081 \cdot kip \cdot ft$$

Factor of Safety Actual =

$$FS := \frac{M_r}{M_{ot}} = 1.04$$

Factor of Safety Required =

$$FS_{req} := 1.0$$

$$OverTurning\_Moment\_Check := if\left(FS \geq FS_{req}, "Okay", "No Good"\right)$$

OverTurning_Moment_Check = "Okay"

Check Bearing Pressure:

Area of the Pier = $A_{mat} := W_p^{\,2} = 25\,ft^2$

Section Modulus of Pier = $S := \frac{W_p^{\,3}}{6} = 20.83\,ft^3$

Maximum Bearing Pressure = $P_{max} := \frac{WT_c + Comp}{A_{mat}} + \frac{Shear_{comp} \cdot L_p}{S} = 32.187\,ksf$

$Max\_Pressure\_Check := if(P_{max} < q_{rock}, "Okay", "No Good")$

Max_Pressure_Check = "Okay"

Check Rock Anchors:

Rock Anchor Check:

Polar Moment of Inertia = $I_p := \left(D_{a1}^{\,2} \cdot N_{a1}\right) = 3456\,in^2$

Maximum Tension Force = $T_{Max} := \frac{Uplift}{N_{atot}} + \frac{Shear_{up} \cdot L_p \cdot D_{a1}}{I_p} - \frac{WT_c}{N_{atot}} = 67.7\,kips$

Gross Area of Bolt Group = $A_g := \frac{\pi}{4} \cdot \left(d_{ra1}^{\,2} + d_{ra2}^{\,2}\right) = 2.561\,in^2$

Allowable Tension = $T_{all} := A_g \cdot F_y = 153.6\,kips$

$\frac{T_{Max}}{T_{all}} = 44.1\,\%$

$Condition1 := if(T_{Max} < T_{all}, "OK", "NG")$

Condition1 = "OK"

Check Bond Strength:

Bond Strength = $Bond\_Strength := d_{Hole} \cdot \pi \cdot \left(D_{rock} \cdot 0.5\right) \cdot \tau = 109\,kips$

$\frac{T_{Max}}{Bond\_Strength} = 62.4\,\%$

$Condition2 := if(T_{Max} < Bond\_Strength, "OK", "NG")$

Condition2 = "OK"

Emissions Analysis

Carrier/ Transmission Mode	Centerline Height (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm^2)	Standard Limits (mW/cm^2)	Percent of Limit
Sprint	148	1900	4	693	0.0455	1.0000	4.55
Sprint	148	850	1	390	0.0064	0.5667	1.13
Verizon PCS	139	1970	1	1470	0.0274	1.0000	2.74
Verizon Cellular	139	869	9	290	0.0486	0.5793	8.38
Verizon AWS	139	2145	1	1750	0.0326	1.0000	3.26
Verizon 700	139	698	1	523	0.0097	0.4653	2.09
AT&T UMTS	70	800	1	500	0.0367	0.5867	6.25
AT&T LTE	70	700	1	500	0.0367	0.4667	7.86
AT&T LTE	70	1900	1	500	0.0367	1.0000	3.67
Total							39.95%

* Sprint and Verizon information obtained from Siting Council records.