QC Development
PO Box 916
Storrs, CT 06268
860-670-9068
Mark.Roberts@QCDevelopment.net

September 14, 2018

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

Notice of Exempt Modification – New Cingular Wireless PCS, LLC (AT&T) – CT1160
35 Wildwood Street, New Britain, CT 06051
N 41.66861111
W 72.75583333

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 114-foot level of the existing 110-foot Monopole Tower at 35 Wildwood Street, New Britain, CT. The tower is owned by AT&T and the property is owned by The City of New Britain. AT&T now intends to remove (3) existing Powerwave antennas and replace them with (3) new Kathrein 800-10798 antennas. AT&T will also install (3) Ericsson RRUS-32 and (3) 4426-B66 Remote Radio Units (RRU). These Antennas and Remote Radio Units (RRU) will also be installed at the 114-foot level of the tower.

This facility was proposed as a 110' monopole replacement of an existing 60' light stanchion and was approved by the City of New Britain on August 11, 2004. The Siting Council acknowledged the City's jurisdiction in Petition # 703 on March 3, 2005. Since no change is proposed to the overall tower height, this modification complies with the aforementioned approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Honorable Erin E. Stewart, Mayor of the City of New Britain, as elected official and property owner and to the new Britain Zoning Staff.

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

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

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

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

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

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

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

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

Please feel free to call me at (860) 670-9068 with any questions regarding this matter. Thank you for your consideration.

Sincerely,

Mark Roberts
QC Development
Consultant for AT&T

Attachments

cc: Mayor Erin E. Stewart - as Elected Official & Property Owner
David Zajac– Zoning Enforcement Officer

Power Density

Existing Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							12.81%
AT&T GSM	1	283	114	0.0087	880	0.5867	0.15%
AT&T GSM	2	875	114	0.0540	1900	1.0000	0.54%
AT&T UMTS	2	565	114	0.0348	880	0.5867	0.59%
AT&T UMTS	4	525	114	0.0647	1900	1.0000	0.65%
AT&T LTE	1	1313	114	0.0412	734	0.4893	0.84%
Site Total							15.58%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

Proposed Loading on Tower

Carrier	# of Channels	ERP/Ch (W)	Antenna Centerline Height (ft)	Power Density (mW/cm^2)	Freq. Band (MHz**)	Limit S (mW /cm^2)	%MPE
Other Carriers*							12.81%
AT&T UMTS	1	270	114	0.0083	850	0.5867	0.15%
AT&T UMTS	1	411	114	0.0127	1900	1.0000	0.13%
AT&T LTE	1	1476	114	0.0455	700	0.4667	0.98%
AT&T LTE / 5G	2	1000	114	0.0617	850	0.5667	1.09%
AT&T LTE	2	3664	114	0.2259	1900	1.0000	2.26%
AT&T LTE	1	3837	114	0.1183	2100	1.0000	1.18%
AT&T LTE	1	1285	114	0.0396	2300	1.0000	0.40%
Site Total							18.99%

*Per CSC Records (available upon request, includes calculation formulas)

** If a range of frequencies are used, such as 880-894, enter the lowest value, i.e. 880

PROJECT INFORMATION

SCOPE OF WORK:	ITEMS TO BE MOUNTED ON THE EXISTING MONOPOLE: • NEW AT&T ANTENNAS: (800-10798) MOUNTED @ POSITION 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS 32 (WCS) MOUNTED @ POSITION 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3). • NEW AT&T RRUS 4426 B66 (AWS) MOUNTED @ POSITION 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3). • EXISTING AT&T ANTENNAS: (AM-X-CD-17-65-00T-RET) MOUNTED @ POSITION 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3) TO BE RELOCATED @ POSITION 4. • EXISTING AT&T ANTENNAS: (7000) MOUNTED @ POSITION 4 (TYP. OF 1 PER SECTOR, TOTAL OF 3) TO BE REMOVED • INSTALL (1) SQUID • INSTALL (1) FIBER CABLE • INSTALL (2) DC CABLES • INSTALL (6) LOW BAND COMBINERS (DBC0061F1V51-2) ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION: • ADD (3) 850 4478 B5 RRH'S. WITH (12) SURGE PROTECTORS. • SWAP BBU WITH RBS5216. • ADD XMU. • ADD NEW POWER PLANT. • REPLACE GSM COMPONENTS WITH (DBC0061F1V51-2) LOW BAND COMBINERS. ITEMS TO REMAIN: • (6) ANTENNAS, (6) RRU'S, (6) TMA'S, (1) SURGE ARRESTOR, (12) COAX CABLES, (2) DC POWER & (1) FIBER. SQUID ALARMING (NOT TO BE DAISY CHAINED). • THE 1ST SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED RRH/RRU ON THE ALPHA SECTOR, IN THE EVENT THE ALARM CABLE CANNOT BE CONNECTED TO ALPHA IT WILL BE ACCEPTABLE TO ALARM TO THE CLOSEST PHYSICAL SECTOR ON AN EXCEPTION BASIS. • 2ND SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE BETA SECTOR. • 3RD SQUID INSTALLED WILL BE ALARMED TO THE LOWEST BAND (OR FIRST INSTALLED) RRH/RRU ON THE GAMMA SECTOR.
SITE ADDRESS:	WILDWOOD ST NEW BRITAIN, CT 06051
LATITUDE:	41.668186 N, 41° 40' 05.46" N
LONGITUDE:	72.755198 W, 72° 45' 18.71" W
TYPE OF SITE:	MONOPOLE / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	111'±
RAD CENTER:	113'± & 114'±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
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A-2	ANTENNA LAYOUTS & ELEVATION	1
A-3	DETAILS	1
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G-1	GROUNDING DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1

SITE NUMBER: CT1160

SITE NAME: NEW BRITAIN WILDWOOD ST

FA CODE:10050945

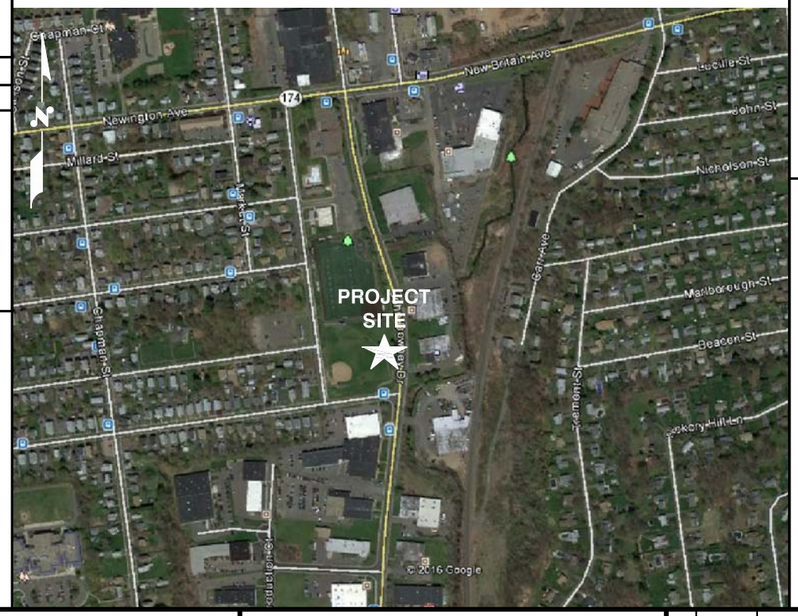
PACE ID: MRCTB031100, MRCTB031559, MRCTB031241

PROJECT: LTE 3C/4C/5C 2018 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITAL BLVD 0.3 MI. TURN LEFT ONTO CAPITAL BLVD 0.3 MI. TURN LEFT ONTO WEST ST 0.3 MI. TURN LEFT TO MERGE ONTO I-91 S TOWARD NEW HAVEN 1.8 MI. TAKE EXIT 22N TO MERGE ONTO CT-9 N TOWARD NEW BRITAIN 5.5 MI. TAKE EXIT 25 FOR ELLIS ST 0.3 MI. TURN RIGHT ONTO ELLIS ST 0.3 MI. TAKE THE 3RD LEFT ONTO EAST ST 0.6 MI. TURN RIGHT ONTO BELDEN ST 0.5 MI. TAKE THE 2ND LEFT ONTO WILDWOOD ST. DESTINATION WILL BE ON THE RIGHT.



GENERAL NOTES

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

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1160
SITE NAME: NEW BRITAIN WILDWOOD ST

WILDWOOD ST
NEW BRITAIN, CT 06051
HARTFORD COUNTY

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
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A	06/28/18	ISSUED FOR REVIEW	CF	AT	DJC

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

STATE OF CONNECTICUT · DEREK J. CREASEY · No. 23511 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
(LTE 3C/4C/5C)

SITE NUMBER	DRAWING NUMBER	REV
CT1160	T-1	1

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – SAI
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. APPLICABLE BUILDING CODES:
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: IBC 2012 WITH 2016 CT STATE BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS

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

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

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

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

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

ABBREVIATIONS

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1160
SITE NAME: NEW BRITAIN WILDWOOD ST

WILDWOOD ST
NEW BRITAIN, CT 06051
HARTFORD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

STATE OF CONNECTICUT · DEREK J. CREASER · No. 23581 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
(LTE 3C/4C/5C)

SITE NUMBER	DRAWING NUMBER	REV
CT1160	GN-1	1

NOTE:

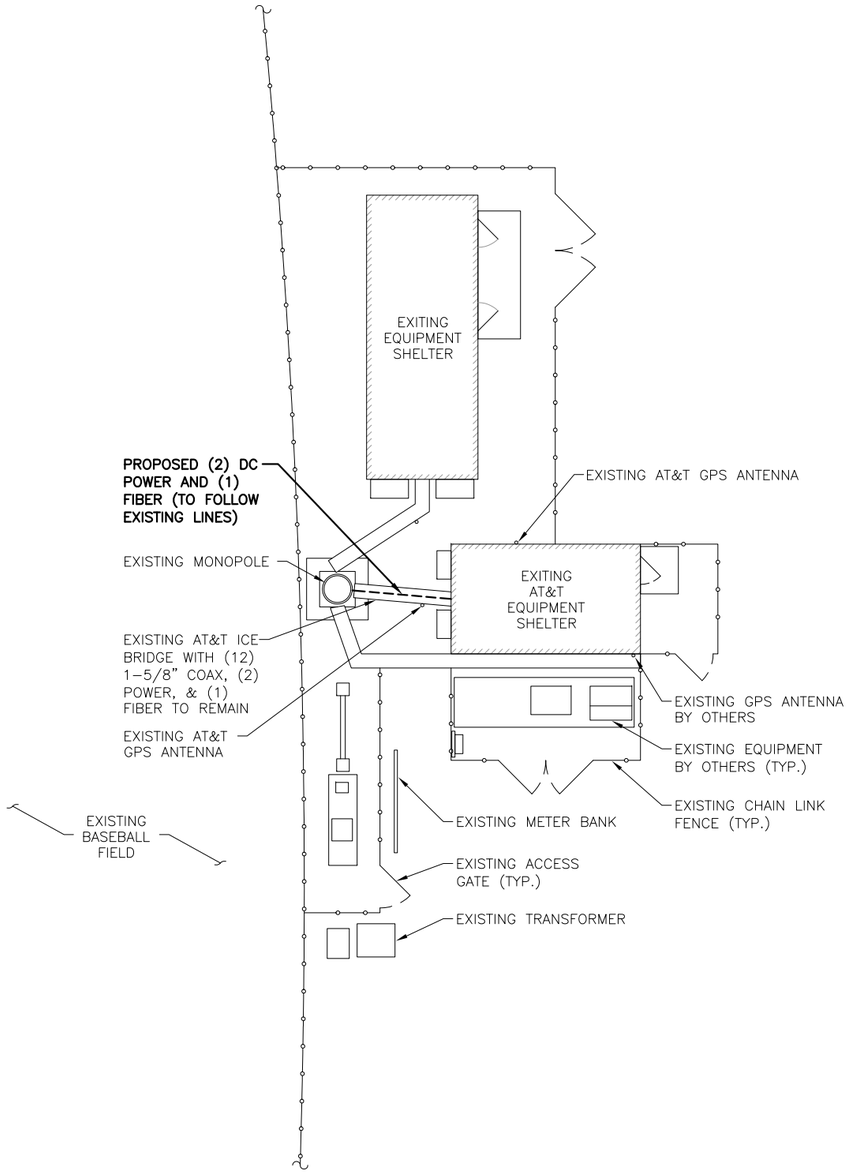
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

REFER TO STRUCTURAL ANALYSIS
BY: GPD GROUP
DATED: AUGUST 22, 2018,
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

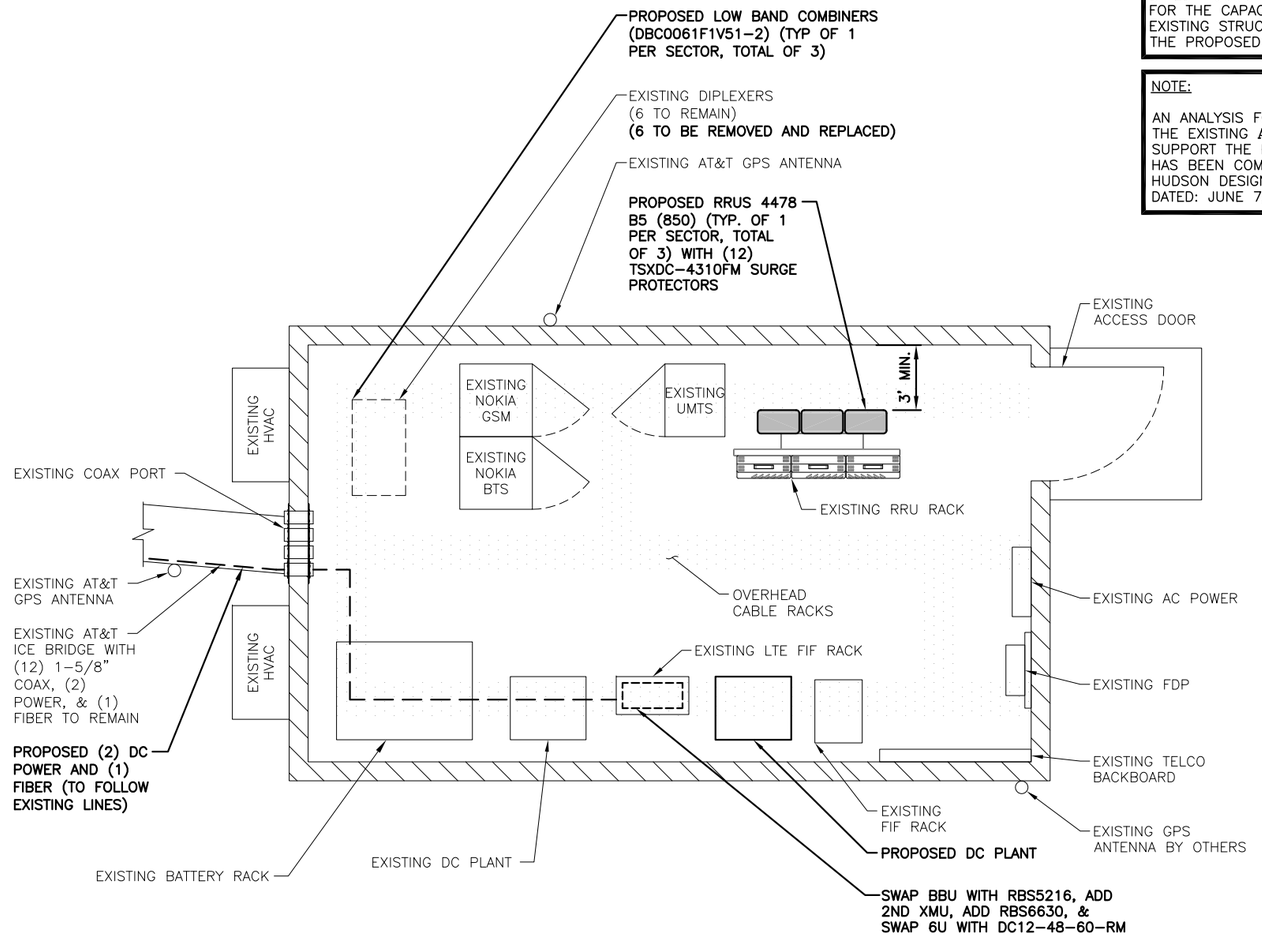
NOTE:

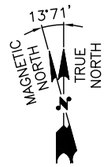
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: JUNE 7, 2018



COMPOUND PLAN (1 / A-1)
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-0"





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

0 1'-0" 2'-0" 4'-0" 6'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
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FAX: (978) 336-5586

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STATE OF CONNECTICUT
DEREK J. CREASER
No. 23511
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AT&T

COMPOUND & EQUIPMENT PLAN
(LTE 3C/4C/5C)

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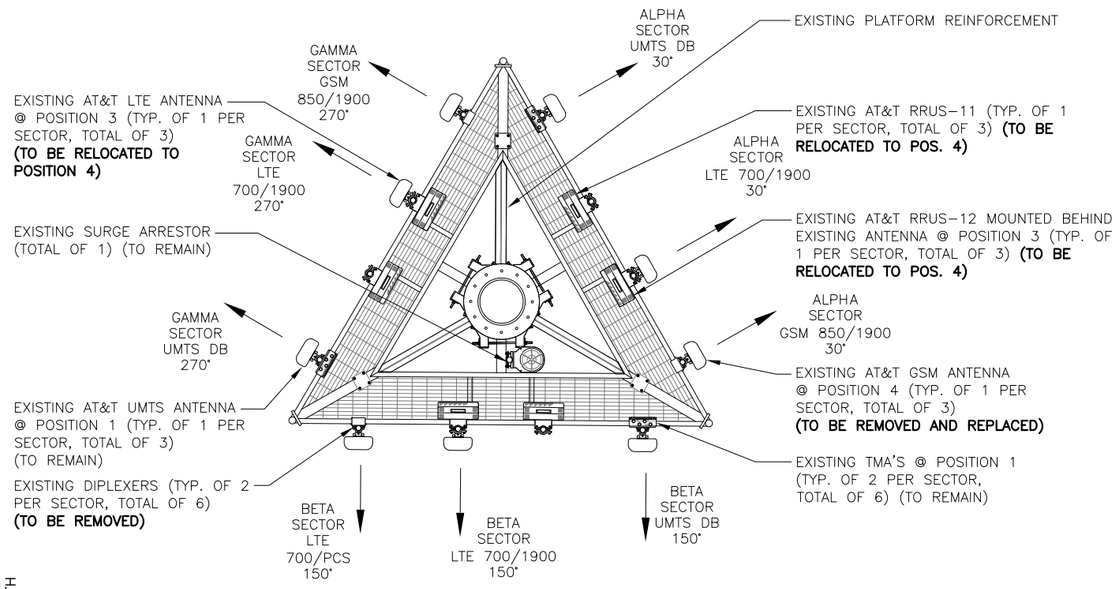
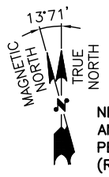
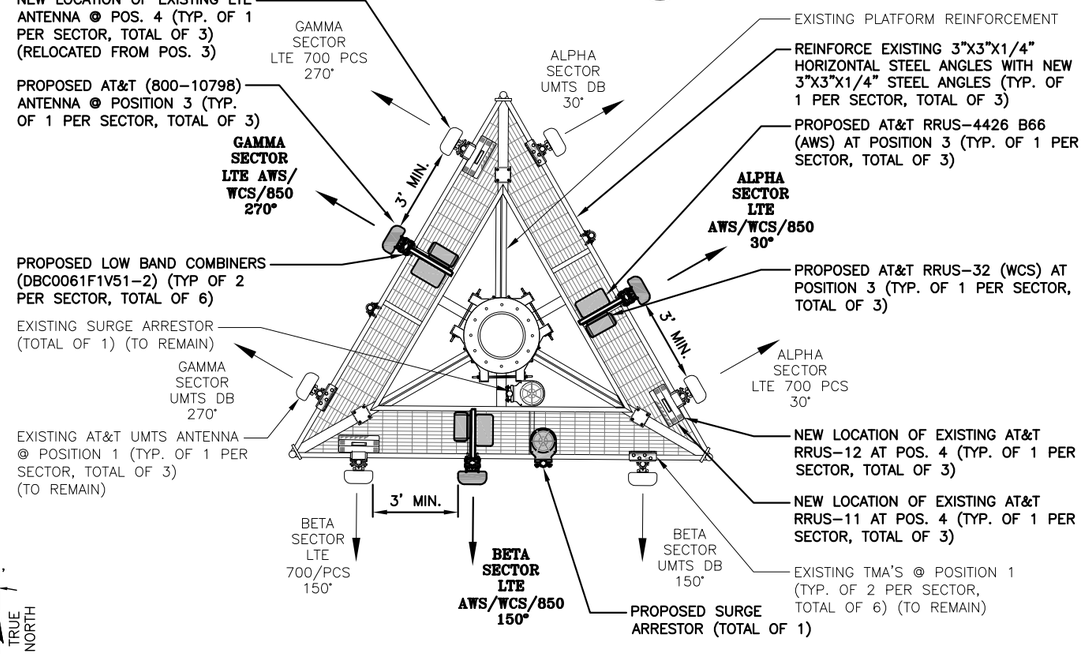


EXISTING ANTENNA LAYOUT

SCALE: N.T.S

1 A-2

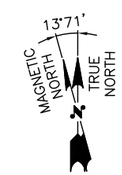


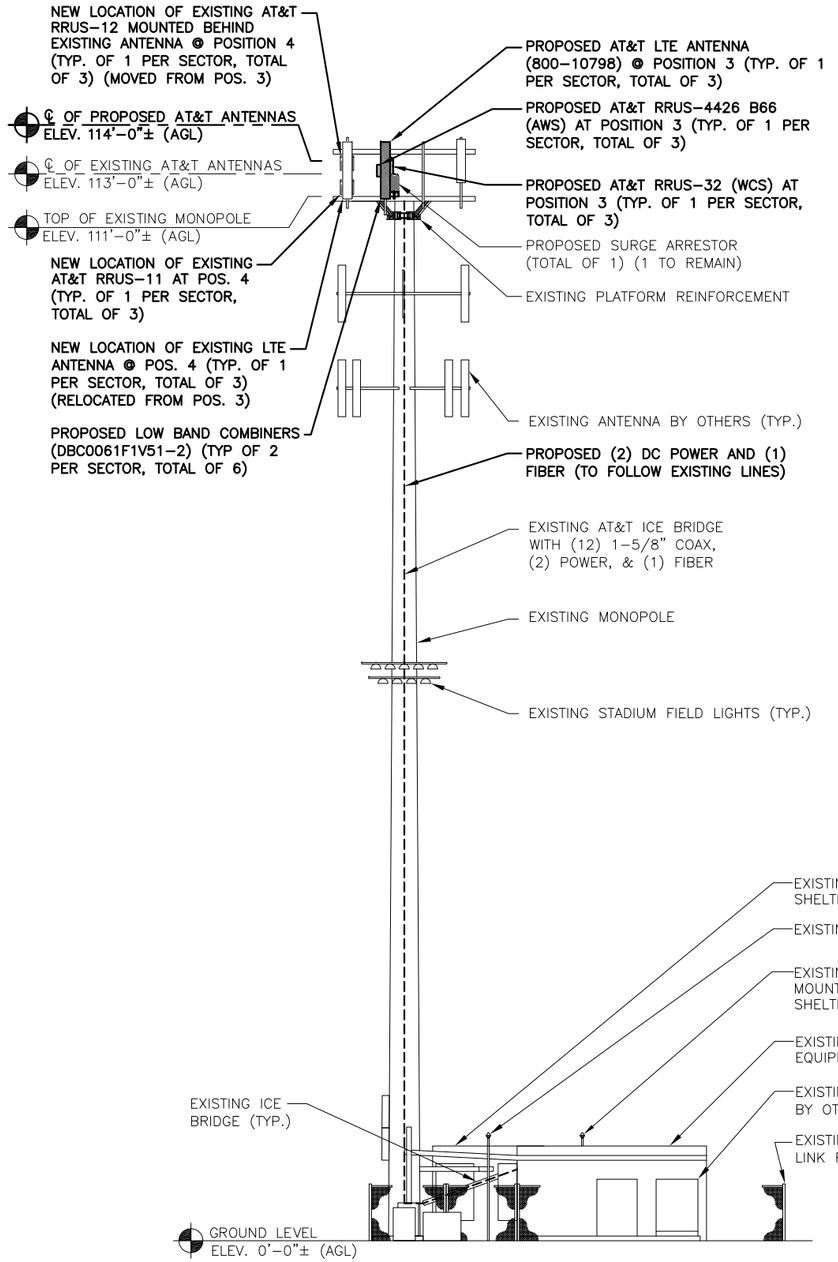


PROPOSED ANTENNA LAYOUT

SCALE: N.T.S

2 A-2





ELEVATION

22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

3 A-2

0 4'-0" 8'-0" 16'-0" 24'-0"

NOTE:

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

NOTE:

REFER TO STRUCTURAL ANALYSIS BY: GPD GROUP
DATED: AUGUST 22, 2018,
FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: JUNE 7, 2018

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

12 INDUSTRIAL WAY
SALEM, NH 03079

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

SITE NUMBER: CT1160
SITE NAME: NEW BRITAIN WILDWOOD ST

WILDWOOD ST
NEW BRITAIN, CT 06051
HARTFORD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	08/28/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	06/28/18	ISSUED FOR REVIEW	CF	AT	DJC

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

STATE OF CONNECTICUT · DEREK J. CREASER · NO. 25858 · LICENSED PROFESSIONAL ENGINEER

AT&T

ANTENNA LAYOUTS & ELEVATION
(LTE 3C/4C/5C)

SITE NUMBER	DRAWING NUMBER	REV
CT1160	A-2	1

NOTE:

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NOTE:

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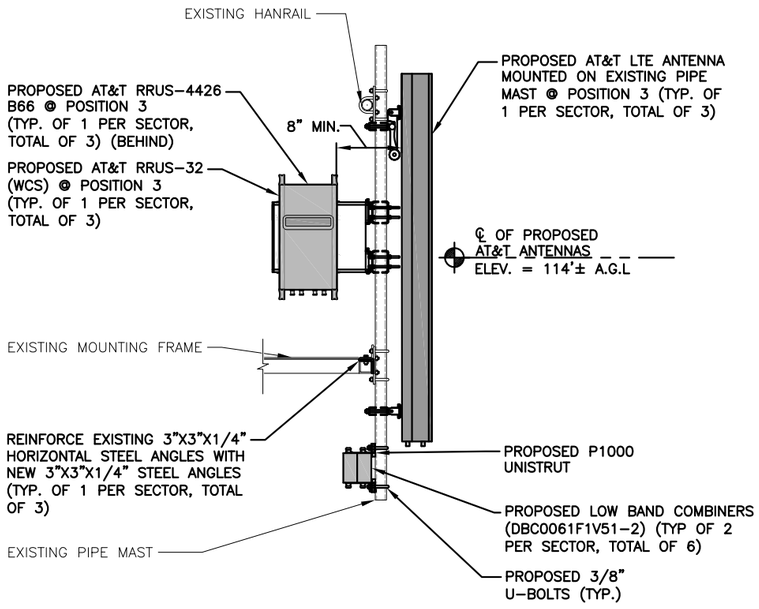
ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	UMTS DB	7770	55X11X5	±114'	30°	(E) (2) POWERWAVE LGP21401	–	–	(2) 1–5/8 COAX (LENGTH 170 FT ±)	(E) (1) RAYCAP DC6–48–60–18–8F
A2	–	–	–	–	–	–	–	–	–	–	
A3	**PROPOSED**	**LTE AWS/WCS/850**	**800–10798**	**78.5X14.8X6.7**	**±114'**	**30°**	**(P)(2) KAELUS DBC0061F1V51–2 (P)(1)(G) KAELUS DBC0061F1V51–2**	**(P) (1) (G) 4478 B5 (P) (1) 4426 B66 (P) (1) RRUS–32**	**15X13.2X7.4 15X13.2X7.4 27.2X12.1X7.0**	(2) 1–5/8 COAX (LENGTH 170 FT ±)	
A4	EXISTING	LTE 700 PCS	AM–X–CD–16–65–00T–RET	72X11.8X5.9	±113'	30°	––	(E) (1) RRUS–11 (E) (1) RRUS–12	–	–	
B1	EXISTING	UMTS 850	7770	55X11X5	±114'	150°	(E) (2) POWERWAVE LGP21401	–	–	(2) 1–5/8 COAX (LENGTH 170 FT ±)	(P) (1) RAYCAP DC6–48–60–18–8C
B2	–	–	–	–	–	–	–	–	–	–	
B3	**PROPOSED**	**LTE AWS/WCS/850**	**800–10798**	**78.5X14.8X6.7**	**±114'**	**150°**	**(P)(2) KAELUS DBC0061F1V51–2 (P)(1)(G) KAELUS DBC0061F1V51–2**	**(P) (1) (G) 4478 B5 (P) (1) 4426 B66 (P) (1) RRUS–32**	**15X13.2X7.4 15X13.2X7.4 27.2X12.1X7.0**	(2) 1–5/8 COAX (LENGTH 170 FT ±)	
B4	EXISTING	LTE 700 PCS	AM–X–CD–16–65–00T–RET	72X11.8X5.9	±113'	150°	–	(E) (1) RRUS–11 (E) (1) RRUS–12	–	–	
C1	EXISTING	UMTS 850	7770	55X11X5	±114'	270°	(E) (2) POWERWAVE LGP21401	–	–	(2) 1–5/8 COAX (LENGTH 170 FT ±)	SHARED
C2	–	–	–	–	–	–	–	–	–	–	
C3	**PROPOSED**	**LTE AWS/WCS/850**	**800–10798**	**78.5X14.8X6.7**	**±114'**	**270°**	**(P)(2) KAELUS DBC0061F1V51–2 (P)(1)(G) KAELUS DBC0061F1V51–2**	**(P) (1) (G) 4478 B5 (P) (1) 4426 B66 (P) (1) RRUS–32**	**15X13.2X7.4 15X13.2X7.4 27.2X12.1X7.0**	(2) 1–5/8 COAX (LENGTH 170 FT ±)	
C4	EXISTING	LTE 700 PCS	AM–X–CD–16–65–00T–RET	72X11.8X5.9	±113'	270°	–	(E) (1) RRUS–11 (E) (1) RRUS–12	–	–	

FINAL ANTENNA SCHEDULE (5 / A–3)
SCALE: N.T.S



PROPOSED LTE ANTENNA & RRH MOUNTING DETAIL (1 / A–3)
22x34 SCALE: 3/4"=1'–0"
11x17 SCALE: 3/8"=1'–0"

0 8" 1'–4" 2'–8" 4'–0"

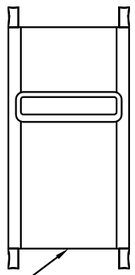
RRU CHART

QUANTITY	MODEL	L	W	D
3(E)	RRUS–11	19.7"	17.0"	7.2"
3(P)	RRUS–32	27.2"	12.1"	7.0"
3(E)	RRUS–12	20.4"	18.5"	7.5"
3(P)	4426 B66	15.0"	13.2"	7.4"
3(P)(G)	4478 B5	15.0"	13.2"	7.4"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:

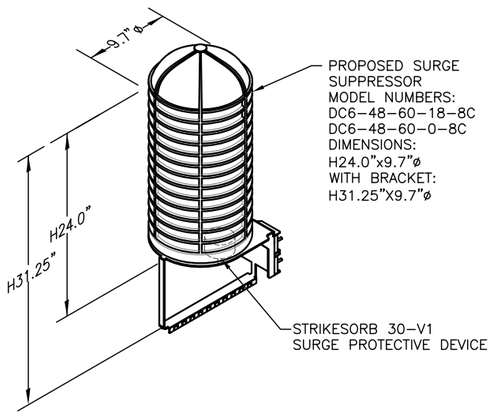
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



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

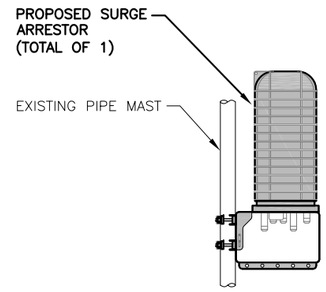
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (2 / A–3)
SCALE: N.T.S



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (3 / A–3)
SCALE: N.T.S



PROPOSED SURGE ARRESTOR MOUNTING DETAIL (4 / A–3)
SCALE: N.T.S

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
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SITE NUMBER: CT1160
SITE NAME: NEW BRITAIN WILDWOOD ST

WILDWOOD ST
NEW BRITAIN, CT 06051
HARTFORD COUNTY

at&t
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: CF

STATE OF CONNECTICUT · DEREK J. CRAM · 30,355 · LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS
(LTE 3C/4C/5C)

SITE NUMBER	DRAWING NUMBER	REV
CT1160	A–3	1

STRUCTURAL NOTES:

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

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

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

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

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

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

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

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

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

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
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12 INDUSTRIAL WAY
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SITE NUMBER: CT1160
SITE NAME: NEW BRITAIN WILDWOOD ST

WILDWOOD ST
NEW BRITAIN, CT 06051
HARTFORD COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

STATE OF CONNECTICUT
DEREK J. CREASEY
NO. 29551
LICENSED PROFESSIONAL ENGINEER

AT&T

STRUCTURAL NOTES
(LTE 3C/4C/5C)

SITE NUMBER	DRAWING NUMBER	REV
CT1160	SN-1	1

NOTE:

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NOTE:

REFER TO STRUCTURAL ANALYSIS
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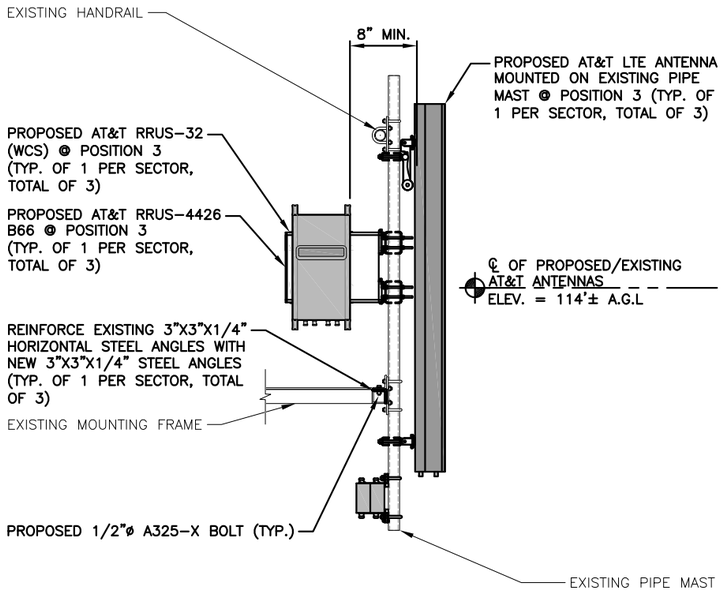
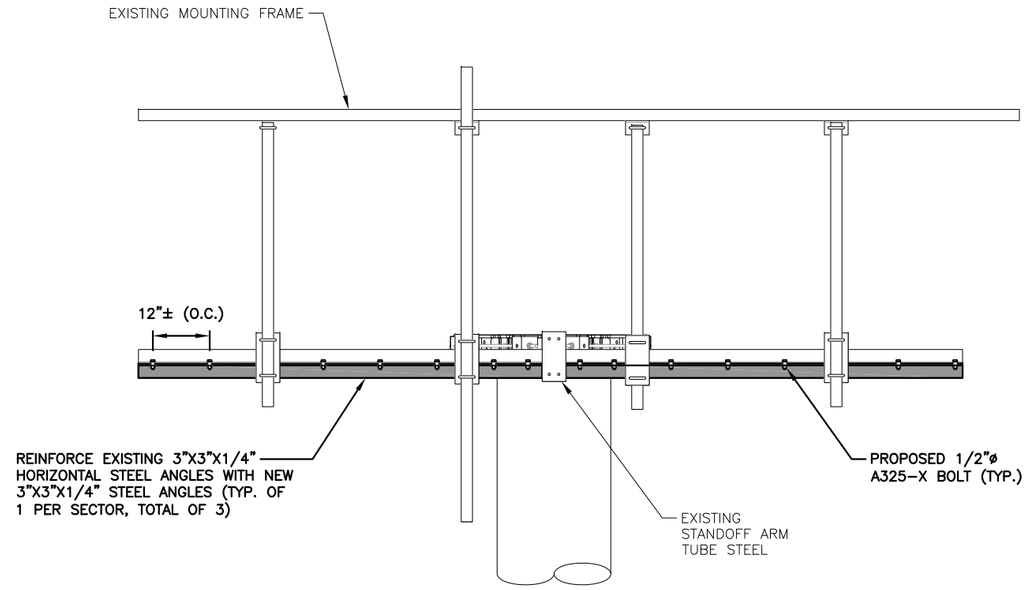
DATED: JUNE 7, 2018



PROPOSED LTE ANTENNA & RRH MOUNTING DETAIL (1 / S-1)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"
0 8" 1'-4" 2'-8" 4'-0"



PROPOSED ANTENNA MOUNT FACE MOUNT DETAIL (2 / S-1)
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"
0 8" 1'-4" 2'-8" 4'-0"

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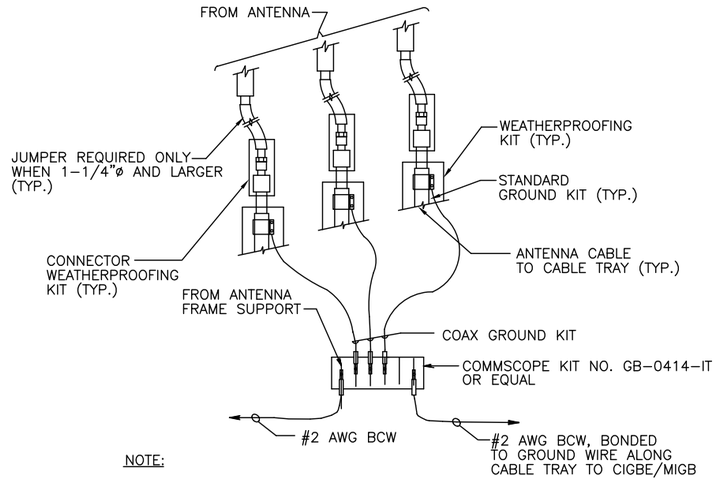
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: CF

STATE OF CONNECTICUT · DEREK J. CREASER · No. 23567 · LICENSED PROFESSIONAL ENGINEER

AT&T

MOUNT MODIFICATION DESIGN
(LTE 3C/4C/5C)

SITE NUMBER	DRAWING NUMBER	REV
CT1160	S-1	1



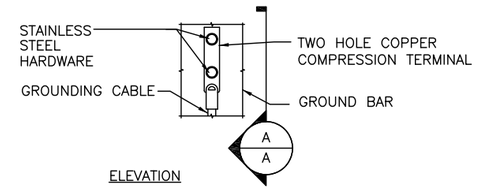
NOTE:

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

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

1 / G–1



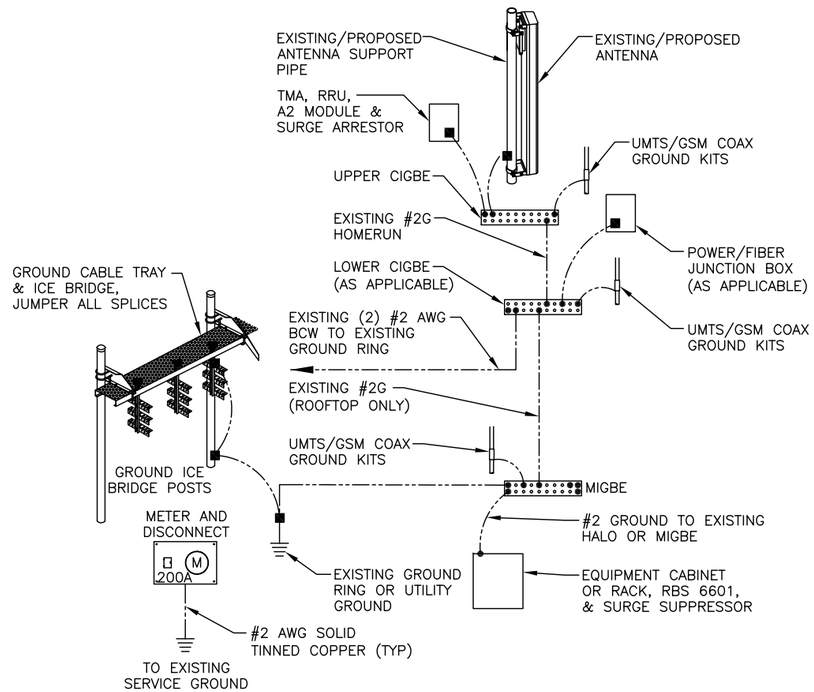
NOTE:

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

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G–1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G–1

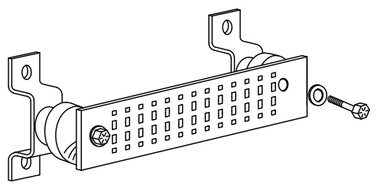
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

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

SECTION "A" – SURGE ABSORBERS

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



GROUND BAR - DETAIL

SCALE: N.T.S

4 / G–1

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

12 INDUSTRIAL WAY
SALEM, NH 03079

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

SITE NUMBER: CT1160
SITE NAME: NEW BRITAIN WILDWOOD ST

WILDWOOD ST
NEW BRITAIN, CT 06051
HARTFORD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	08/28/18	ISSUED FOR CONSTRUCTION	MR	AT	DJC
A	06/28/18	ISSUED FOR REVIEW	CF	AT	DJC

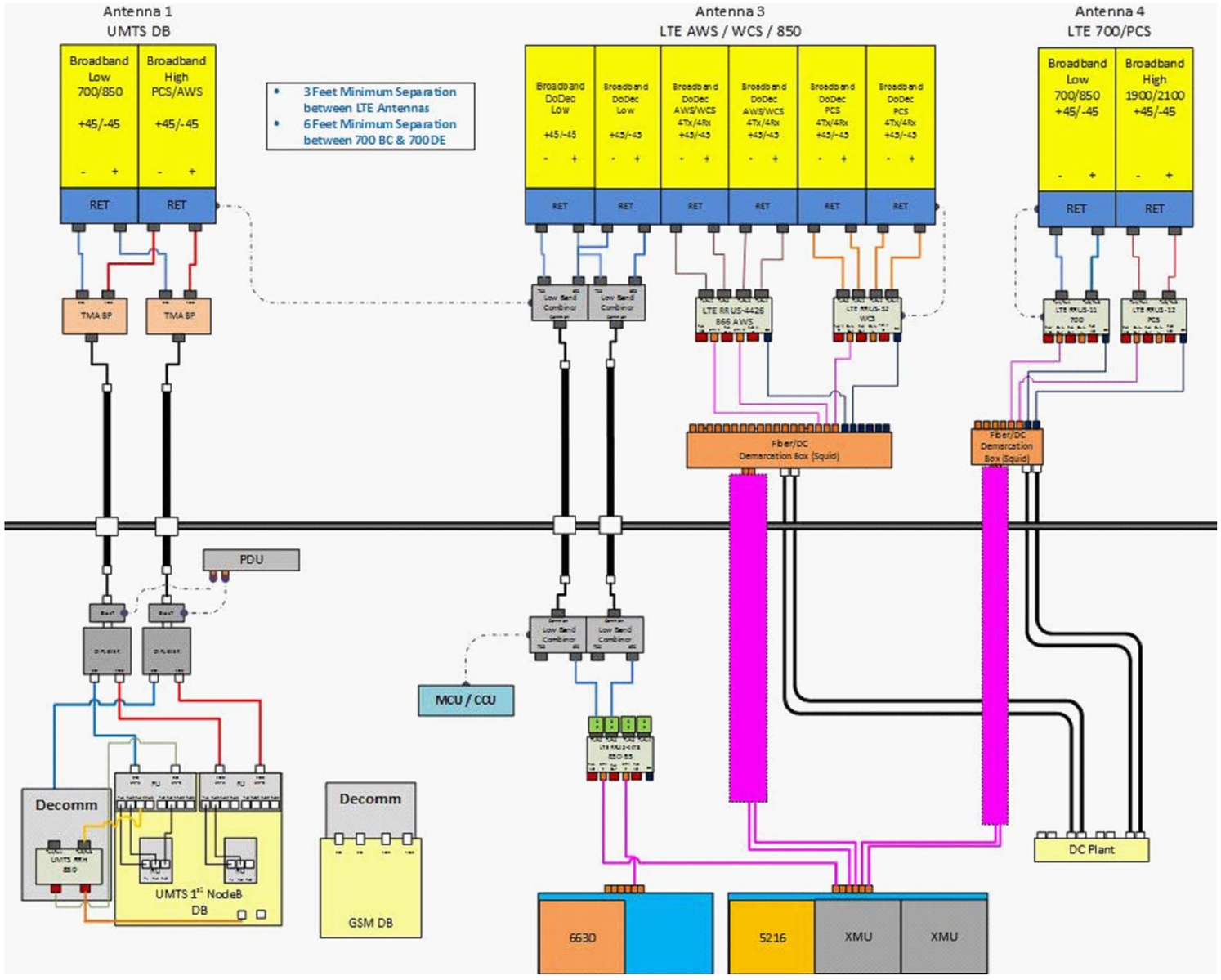
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: CF

STATE OF CONNECTICUT · DEREK J. CREASER · 28355 · LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS
(LTE 3C/4C/5C)

SITE NUMBER	DRAWING NUMBER	REV
CT1160	G–1	1



RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

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

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

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

12 INDUSTRIAL WAY
SALEM, NH 03079

SITE NUMBER: CT1160
SITE NAME: NEW BRITAIN WILDWOOD ST

WILDWOOD ST
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NO.	DATE	REVISIONS	BY	CHK	APP'D
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SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: CF

STATE OF CONNECTICUT · DEREK J. CREASER · NO. 28554 · LICENSED PROFESSIONAL ENGINEER

AT&T

RF PLUMBING DIAGRAM
(LTE 3C/4C/5C)

SITE NUMBER	DRAWING NUMBER	REV
CT1160	RF–1	1

SAI Communications, Inc.
12 Industrial Way
Salem, NH 03079
(860) 989-0001

GPD Engineering and Architecture
Professional Corporation
Kevin Fraleigh
520 South Main Street, Suite 2531
Akron, OH 44311
(330) 572-2191
kfraleigh@gpdgroup.com

GPD# 2018723.13.88241.03
August 22, 2018

RIGOROUS STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**88241**
	Site FA:	**10050945**
	Client #:	**CT1160**
	Site Name:	**NEW BRITAIN WILDWOOD STREET**
ANALYSIS CRITERIA:	**Codes:**	**TIA-222-G, 2012 IBC & 2016 CSBC** **125-mph Ultimate (3-second gust) with 0" ice** **97-mph Nominal (3-second gust) with 0" ice** **40-mph (3-second gust) with 1" ice**
SITE DATA:		**Wildwood Street, New Britain, CT 06051, Hartford County** **Latitude 41° 40' 5.47" N, Longitude 72° 45' 18.72" W** **Market: New England** **110' Penn Summit Monopole**

Mr. Tim Burks,

GPD is pleased to submit this Rigorous Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	98.2%	Pass
Foundation Ratio with Proposed Equipment:	63.2%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and SAI Communications, Inc. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,

Christopher J. Scheks, P.E.
Connecticut #: 0030026

8/22/2018

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by AT&T Mobility to SAI Communications, Inc. This report was commissioned by Mr. Tim Burks of SAI Communications, Inc.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 125 mph converted to a nominal 3-second gust wind speed of 97 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C and Risk Category II were used in this analysis.

The mount modifications recommended in the mount analysis by Hudson Design Group (Project #: CT1160, dated 6/7/2018) are assumed to be installed with this project, and have been considered in this analysis.

The proposed coax shall be installed internal to the monopole in order for the analysis to be valid.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Monopole	98.2%	Pass
Anchor Rods	74.5%	Pass
Base Plate	84.0%	Pass
Foundation	63.2%	Pass

ANALYSIS METHOD

tnxTower (Version 8.0.2.1), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is based solely on this information and is being completed without the benefit of a detailed site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
Construction Drawings	SAI Site #: CT1160 Rev. A, dated 6/28/2018	SAI
RF Data Sheet	RFDS Name: CT1160 v1.00, dated 5/24/2018	SAI
Tower Design	PJF Job #: 29205-0027, dated 4/29/2005	AT&T
Foundation Design	Not Provided	N/A
Geotechnical Report	Not Provided	N/A
Previous Structural Analysis	GPD Project #: 2018723.01.88241.02, dated 6/21/2018	AT&T
Mount Analysis	Hudson Design Group Project #: CT1160, dated 6/7/2018	SAI

ASSUMPTIONS

This rigorous structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to $\pm 5'$ AGL, antenna size accurate to ± 3.3 sf, and coax equal to the number of existing antennas without reserve.
11. All existing loading was obtained from the previous structural analysis by GPD (Project #: 2018723.01.88241.02, dated 6/21/2018), the provided construction drawings, the RF Data Sheet and site photos and is assumed to be accurate.
12. The final loading configuration has been modeled to reflect that of the provided construction drawings and is assumed to be accurate.

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

DISCLAIMER OF WARRANTIES

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

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

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

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

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

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

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

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

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	NEW BRITAIN WILDWOOD STREET
Site Number	88241 (CT1160)
FA Number	10050945
Date of Analysis	8/22/2018
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	MP	
Tower Height (top of steel AGL)	110'	
Tower Manufacturer	Penn Summit	2005
Tower Model	n/a	
Tower Design	PJF Job # 29205-0027	4/29/2005
Foundation Design	n/a	
Geotech Report	n/a	
Tower Mapping	n/a	
Previous Structural Analysis	GPD Project #: 2018723.01.88241.02	6/21/2018
Mount Analysis	Hudson Design Group Project #: CT1160	6/7/2018

Design Parameters	
Design Codes Used	TIA-222-G, 2012 IBC & 2016 CSBC
Location of Tower (County, State)	Hartford, CT
Nominal Wind Speed (mph)	97 (3-second gust)
Ice Thickness (in)	1
Risk Category (I, II, III)	II
Exposure Category (B, C, D)	C
Topographic Category (1 to 5)	1

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	98.2%
Tower Base (%)	84.0%
Foundation (%)	63.2%
Foundation Adequate?	Yes

Steel Yield Strength (ksi)

Pole	65
Base Plate	50
Anchor Rods	75

The mount modifications recommended in the mount analysis by Hudson Design Group (Project #: CT1160, dated 6/7/2018) are assumed to be installed with this project, and have been considered in this analysis.

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Int/Ext
AT&T Mobility	110	114	6	Panel	Powerwave	7770.00	30/150/270	1	Unknown	LP Platform w/ Rails	12	Unknown	1-5/8"	Internal
AT&T Mobility	110	113	3	Panel	KMW	AM-X-CD-16-65-00T-RET	30/150/270			On The Same Mount	2	DC Power	3/4"	Internal
AT&T Mobility	110	113	6	TMA	Powerwave	LGP 21401				On The Same Mount	1	Fiber Cable	1/2"	Internal
AT&T Mobility	110	113	6	Diplexer	Powerwave	LGP 13519				On The Same Mount				
AT&T Mobility	110	113	3	RRU	Ericsson	RRUS 11				On The Same Mount				
AT&T Mobility	110	113	3	RRU	Ericsson	RRUS 12				On The Same Mount				
AT&T Mobility	110	110	1	Surge	Raycap	DC6-48-60-18-8F				Tower Mounted				
T-Mobile	100	100	3	Panel	Ericsson	AIR 21 B2A B4P	60/160/310	1	Unknown	Platform w/ Rails	11	Unknown	1-5/8"	Internal
T-Mobile	100	100	3	Panel	RFS	APXVARR24_43 U-NA20	60/160/310			On The Same Mount	3	Hybrid Cable	1-1/4"	Internal
T-Mobile	100	100	3	Panel	Ericsson	AIR 32 B66AaB2a				On The Same Mount				
T-Mobile	100	100	3	RRU	Ericsson	4449-B12+71				On The Same Mount				
Verizon	90	90	3	Panel	Antel	BXA-80063/4CF	0/120/240	3	Unknown	T-Arms	12	Unknown	1-5/8"	Internal
Verizon	90	90	3	Panel	Antel	BXA-171063-8BF	0/120/240			On The Same Mounts	6	Unknown	1-5/8"	External
Verizon	90	90	3	Panel	Antel	BXA-70063-6CF_2	0/120/240			On The Same Mounts				
Township	60	60	10	Lights	Unknown	Stadium Lights		1	Unknown	Stadium Light Rack				

Note: The existing (3) 7770.00 and (6) LGP 13519 at 110' shall be removed prior to the installation of the proposed loading. All remaining equipment shall be reused.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Int/Ext
AT&T Mobility	110	114	3	Panel	Kathrein	800 10798	30/150/270	3	Unknown	Toe Rail Reinforcement	2	DC Power	3/4"	Internal
AT&T Mobility	110	113	6	Diplexer	Kaelus	DBC0061F1V51-2				On The Existing Mount	1	Fiber Cable	1/2"	Internal
AT&T Mobility	110	113	3	RRU	Ericsson	RRUS 4478 B5				On The Existing Mount				
AT&T Mobility	110	113	3	RRU	Ericsson	RRUS 4426 B66				On The Existing Mount				
AT&T Mobility	110	113	3	RRU	Ericsson	RRUS 32				On The Existing Mount				
AT&T Mobility	110	110	1	Surge	Raycap	DC6-48-60-18-8C				Tower Mounted				

Note: The proposed loading is in addition to the remaining loading at the same elevation.
The proposed coax shall be installed internal to the monopole in order for the analysis to be valid.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Int/Ext

APPENDIX B

tnxTower Output File

Tower Input Data

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

Tower is located in Hartford County, Connecticut.
ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 97 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 40 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
Climbing Pegs	B	Surface Ar (CaAa)	110.00 - 8.00	1	1	0.000 0.000	0.1500		0.31
LDF7-50A (1-5/8 FOAM)	C	Surface Ar (CaAa)	90.00 - 8.00	6	6	0.000 0.000	1.9800		0.82

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
Safety Line (3/8")	B	No	CaAa (Out Of Face)	110.00 - 8.00	1	No Ice 1/2" Ice 1" Ice	0.04 0.14 0.24	0.22 0.75 1.28
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	110.00 - 8.00	12	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
3/4" DC Power Line	B	No	Inside Pole	110.00 - 8.00	4	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.33 0.33 0.33
1/2" Fiber Cable	B	No	Inside Pole	110.00 - 8.00	2	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.15 0.15 0.15
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	100.00 - 8.00	11	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82
1-1/4" Hybrid Cable	A	No	Inside Pole	100.00 - 8.00	3	No Ice	0.00	1.00

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
						1/2" Ice	0.00	1.00
						1" Ice	0.00	1.00
LDF7-50A (1-5/8 FOAM)	C	No	Inside Pole	90.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
						1" Ice	0.00	0.82

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Platform w/ Handrails	C	None		0.0000	110.00	No Ice	33.04	33.04	2.17
						1/2" Ice	43.38	43.38	2.68
						1" Ice	53.72	53.72	3.19
Kicker Kit	C	None		0.0000	109.00	No Ice	11.84	11.84	0.28
						1/2" Ice	16.96	16.96	0.30
						1" Ice	22.08	22.08	0.32
Toe Rail Reinforcement (L3x3x1/4)	A	From Centroid-Leg	4.00 0.00 0.00	30.0000	110.00	No Ice	3.99	0.07	0.07
						1/2" Ice	4.90	0.11	0.10
						1" Ice	5.81	0.16	0.15
Toe Rail Reinforcement (L3x3x1/4)	B	From Centroid-Leg	4.00 0.00 0.00	30.0000	110.00	No Ice	3.99	0.07	0.07
						1/2" Ice	4.90	0.11	0.10
						1" Ice	5.81	0.16	0.15
Toe Rail Reinforcement (L3x3x1/4)	C	From Centroid-Leg	4.00 0.00 0.00	30.0000	110.00	No Ice	3.99	0.07	0.07
						1/2" Ice	4.90	0.11	0.10
						1" Ice	5.81	0.16	0.15
Pipe Mount 6'x2.375"	A	From Centroid-Leg	4.00 0.00 3.00	30.0000	110.00	No Ice	1.43	1.43	0.03
						1/2" Ice	1.92	1.92	0.04
						1" Ice	2.29	2.29	0.05
Pipe Mount 6'x2.375"	B	From Centroid-Leg	4.00 0.00 3.00	30.0000	110.00	No Ice	1.43	1.43	0.03
						1/2" Ice	1.92	1.92	0.04
						1" Ice	2.29	2.29	0.05
Pipe Mount 6'x2.375"	C	From Centroid-Leg	4.00 0.00 3.00	30.0000	110.00	No Ice	1.43	1.43	0.03
						1/2" Ice	1.92	1.92	0.04
						1" Ice	2.29	2.29	0.05
7770.00 w/Mount Pipe	A	From Centroid-Leg	4.00 0.00 4.00	30.0000	110.00	No Ice	5.51	4.10	0.06
						1/2" Ice	5.87	4.73	0.11
						1" Ice	6.23	5.37	0.16
7770.00 w/Mount Pipe	B	From Centroid-Leg	4.00 0.00 4.00	30.0000	110.00	No Ice	5.51	4.10	0.06
						1/2" Ice	5.87	4.73	0.11
						1" Ice	6.23	5.37	0.16
7770.00 w/Mount Pipe	C	From Centroid-Leg	4.00 0.00 4.00	30.0000	110.00	No Ice	5.51	4.10	0.06
						1/2" Ice	5.87	4.73	0.11
						1" Ice	6.23	5.37	0.16
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Centroid-Leg	4.00 0.00 3.00	30.0000	110.00	No Ice	8.31	6.65	0.09
						1/2" Ice	8.85	7.68	0.16
						1" Ice	9.37	8.56	0.23
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Centroid-Leg	4.00 0.00 3.00	30.0000	110.00	No Ice	8.31	6.65	0.09
						1/2" Ice	8.85	7.68	0.16
						1" Ice	9.37	8.56	0.23
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Centroid-Leg	4.00 0.00 3.00	30.0000	110.00	No Ice	8.31	6.65	0.09
						1/2" Ice	8.85	7.68	0.16
						1" Ice	9.37	8.56	0.23
800 10798 w/ Mount Pipe	A	From	4.00	30.0000	110.00	No Ice	10.69	5.69	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		Centroid-Leg	0.00				1/2" Ice	11.19	6.18	0.14
			4.00				1" Ice	11.71	6.67	0.21
800 10798 w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	10.69	5.69	0.08
			4.00				1/2" Ice	11.19	6.18	0.14
							1" Ice	11.71	6.67	0.21
800 10798 w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	10.69	5.69	0.08
			4.00				1/2" Ice	11.19	6.18	0.14
							1" Ice	11.71	6.67	0.21
(2) LGP21401	A	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	1.10	0.21	0.01
			3.00				1/2" Ice	1.24	0.27	0.02
							1" Ice	1.38	0.35	0.03
(2) LGP21401	B	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	1.10	0.21	0.01
			3.00				1/2" Ice	1.24	0.27	0.02
							1" Ice	1.38	0.35	0.03
(2) LGP21401	C	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	1.10	0.21	0.01
			3.00				1/2" Ice	1.24	0.27	0.02
							1" Ice	1.38	0.35	0.03
(2) DBC0061F1V51-2	A	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	0.43	0.41	0.03
			3.00				1/2" Ice	0.51	0.50	0.03
							1" Ice	0.61	0.59	0.04
(2) DBC0061F1V51-2	B	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	0.43	0.41	0.03
			3.00				1/2" Ice	0.51	0.50	0.03
							1" Ice	0.61	0.59	0.04
(2) DBC0061F1V51-2	C	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	0.43	0.41	0.03
			3.00				1/2" Ice	0.51	0.50	0.03
							1" Ice	0.61	0.59	0.04
RRUS 11	A	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	2.78	1.19	0.05
			3.00				1/2" Ice	2.99	1.33	0.07
							1" Ice	3.21	1.49	0.10
RRUS 11	B	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	2.78	1.19	0.05
			3.00				1/2" Ice	2.99	1.33	0.07
							1" Ice	3.21	1.49	0.10
RRUS 11	C	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	2.78	1.19	0.05
			3.00				1/2" Ice	2.99	1.33	0.07
							1" Ice	3.21	1.49	0.10
RRUS 12	A	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	3.15	1.29	0.06
			3.00				1/2" Ice	3.36	1.44	0.08
							1" Ice	3.59	1.60	0.11
RRUS 12	B	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	3.15	1.29	0.06
			3.00				1/2" Ice	3.36	1.44	0.08
							1" Ice	3.59	1.60	0.11
RRUS 12	C	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	3.15	1.29	0.06
			3.00				1/2" Ice	3.36	1.44	0.08
							1" Ice	3.59	1.60	0.11
RRUS 4478 B5	A	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	1.84	1.06	0.06
			3.00				1/2" Ice	2.01	1.20	0.08
							1" Ice	2.19	1.34	0.09
RRUS 4478 B5	B	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	1.84	1.06	0.06
			3.00				1/2" Ice	2.01	1.20	0.08
							1" Ice	2.19	1.34	0.09
RRUS 4478 B5	C	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	1.84	1.06	0.06
			3.00				1/2" Ice	2.01	1.20	0.08
							1" Ice	2.19	1.34	0.09
RRUS 4426 B66	A	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	1.64	0.73	0.05
			3.00				1/2" Ice	1.80	0.84	0.06
							1" Ice	1.97	0.97	0.08
RRUS 4426 B66	B	From	4.00		30.0000	110.00	No Ice	1.64	0.73	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
		Centroid-Leg	0.00				1/2" Ice	1.80	0.84	0.06
			3.00				1" Ice	1.97	0.97	0.08
RRUS 4426 B66	C	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	1.64	0.73	0.05
			3.00				1/2" Ice	1.80	0.84	0.06
							1" Ice	1.97	0.97	0.08
RRUS 32	A	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	3.31	2.42	0.08
			3.00				1/2" Ice	3.56	2.64	0.10
							1" Ice	3.81	2.86	0.14
RRUS 32	B	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	3.31	2.42	0.08
			3.00				1/2" Ice	3.56	2.64	0.10
							1" Ice	3.81	2.86	0.14
RRUS 32	C	From Centroid-Leg	4.00	0.00	30.0000	110.00	No Ice	3.31	2.42	0.08
			3.00				1/2" Ice	3.56	2.64	0.10
							1" Ice	3.81	2.86	0.14
DC6-48-60-18-8F Surge Suppression Unit	C	From Leg	0.50	0.00	0.0000	110.00	No Ice	0.92	0.92	0.02
			0.00				1/2" Ice	1.46	1.46	0.04
			0.00				1" Ice	1.64	1.64	0.06
DC6-48-60-18-8C Surge Suppression Unit	B	From Leg	0.50	0.00	0.0000	110.00	No Ice	1.14	1.14	0.03
			0.00				1/2" Ice	1.79	1.79	0.05
			0.00				1" Ice	2.00	2.00	0.07
***										
Platform w/ Handrails	C	None			0.0000	100.00	No Ice	32.03	32.03	1.34
							1/2" Ice	38.71	38.71	1.80
							1" Ice	45.39	45.39	2.26
AIR 21 B2A/B4P w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	6.16	5.55	0.10
			0.00				1/2" Ice	6.60	6.30	0.16
							1" Ice	7.03	7.00	0.22
AIR 21 B2A/B4P w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	6.16	5.55	0.10
			0.00				1/2" Ice	6.60	6.30	0.16
							1" Ice	7.03	7.00	0.22
AIR 21 B2A/B4P w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	6.16	5.55	0.10
			0.00				1/2" Ice	6.60	6.30	0.16
							1" Ice	7.03	7.00	0.22
AIR32 B66Aa/B2A w/ 60" Mount Pipe	A	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	6.58	5.90	0.15
			0.00				1/2" Ice	6.97	6.56	0.21
							1" Ice	7.37	7.24	0.28
AIR32 B66Aa/B2A w/ 60" Mount Pipe	B	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	6.58	5.90	0.15
			0.00				1/2" Ice	6.97	6.56	0.21
							1" Ice	7.37	7.24	0.28
AIR32 B66Aa/B2A w/ 60" Mount Pipe	C	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	6.58	5.90	0.15
			0.00				1/2" Ice	6.97	6.56	0.21
							1" Ice	7.37	7.24	0.28
APXVARR24_43 U-NA20 w/ Mount Pipe	A	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	17.15	10.64	0.12
			0.00				1/2" Ice	17.77	12.07	0.24
							1" Ice	18.40	13.35	0.37
APXVARR24_43 U-NA20 w/ Mount Pipe	B	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	17.15	10.64	0.12
			0.00				1/2" Ice	17.77	12.07	0.24
							1" Ice	18.40	13.35	0.37
APXVARR24_43 U-NA20 w/ Mount Pipe	C	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	17.15	10.64	0.12
			0.00				1/2" Ice	17.77	12.07	0.24
							1" Ice	18.40	13.35	0.37
RRUS 4449-B12+71	A	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	1.65	1.16	0.07
			0.00				1/2" Ice	1.81	1.30	0.09
							1" Ice	1.98	1.45	0.10
RRUS 4449-B12+71	B	From Centroid-Leg	4.00	0.00	30.0000	100.00	No Ice	1.65	1.16	0.07
			0.00				1/2" Ice	1.81	1.30	0.09
							1" Ice	1.98	1.45	0.10

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
RRUS 4449-B12+71	C	From Centroid-Leg	4.00 0.00 0.00	30.0000	100.00	No Ice 1/2" Ice 1" Ice	1.65 1.81 1.98	1.16 1.30 1.45	0.07 0.09 0.10
***									
10' T-Arm - Round (GPD)	A	From Leg	1.50 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.90 4.30 4.70	2.33 2.96 3.60	0.25 0.30 0.35
10' T-Arm - Round (GPD)	B	From Leg	1.50 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.90 4.30 4.70	2.33 2.96 3.60	0.25 0.30 0.35
10' T-Arm - Round (GPD)	C	From Leg	1.50 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.90 4.30 4.70	2.33 2.96 3.60	0.25 0.30 0.35
BXA-80063-4CF w/ mount pipe	A	From Leg	3.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.58 3.88 4.20	3.66 4.21 4.77	0.03 0.06 0.10
BXA-80063-4CF w/ mount pipe	B	From Leg	3.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.58 3.88 4.20	3.66 4.21 4.77	0.03 0.06 0.10
BXA-80063-4CF w/ mount pipe	C	From Leg	5.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.58 3.88 4.20	3.66 4.21 4.77	0.03 0.06 0.10
BXA-171063-8BF w/ Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.18 3.56 3.93	3.35 3.97 4.60	0.03 0.06 0.10
BXA-171063-8BF w/ Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.18 3.56 3.93	3.35 3.97 4.60	0.03 0.06 0.10
BXA-171063-8BF w/ Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	3.18 3.56 3.93	3.35 3.97 4.60	0.03 0.06 0.10
BXA-70063-6CF-2 w/ Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.81 8.36 8.87	5.80 6.95 7.82	0.04 0.10 0.17
BXA-70063-6CF-2 w/ Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.81 8.36 8.87	5.80 6.95 7.82	0.04 0.10 0.17
BXA-70063-6CF-2 w/ Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	90.00	No Ice 1/2" Ice 1" Ice	7.81 8.36 8.87	5.80 6.95 7.82	0.04 0.10 0.17
***									
10' T-Arm - Round (GPD)	C	From Face	1.50 0.00 1.50	0.0000	60.00	No Ice 1/2" Ice 1" Ice	3.90 4.30 4.70	2.33 2.96 3.60	0.25 0.30 0.35
10' T-Arm - Round (GPD)	C	From Face	1.50 0.00 -1.50	0.0000	60.00	No Ice 1/2" Ice 1" Ice	3.90 4.30 4.70	2.33 2.96 3.60	0.25 0.30 0.35
***									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight K
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 -6.00 1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 -3.00 1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 0.00 1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 3.00 1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 6.00 1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 -6.00 -1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 -3.00 -1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 0.00 -1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 3.00 -1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00
Stadium Light (2')	C	Paraboloid w/o Radome	From Face	3.00 6.00 -1.50	0.0000		60.00	2.00	No Ice 1/2" Ice 1" Ice	3.14 3.41 3.68	0.08 0.02 0.00

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
110.00	Platform w/ Handrails	45	20.830	1.6005	0.0046	20057
109.00	Kicker Kit	45	20.498	1.5953	0.0046	20057
100.00	Platform w/ Handrails	45	17.527	1.5440	0.0046	10028
90.00	10' T-Arm - Round (GPD)	45	14.341	1.4609	0.0045	5304
61.50	Stadium Light (2')	45	6.699	1.0313	0.0035	2935
60.00	10' T-Arm - Round (GPD)	45	6.375	1.0044	0.0034	2867
58.50	Stadium Light (2')	45	6.062	0.9774	0.0033	2802

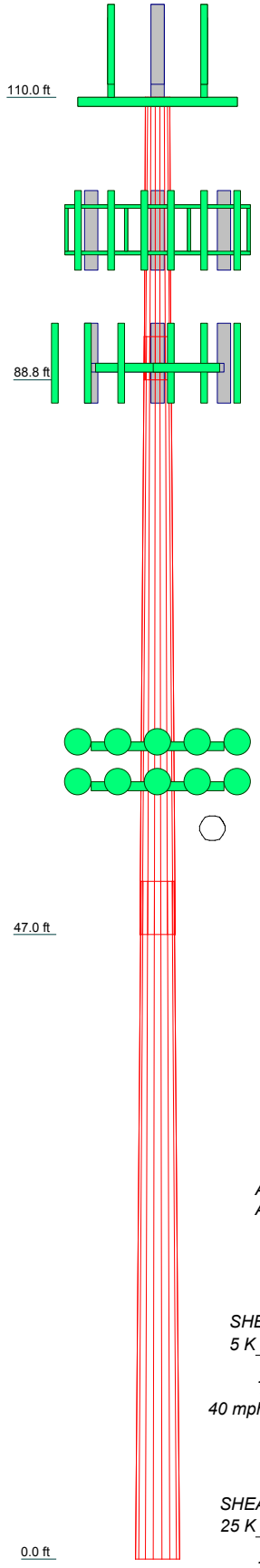
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	110 - 88.75	Pole	TP24.825x21x0.1875	1	-8.47	988.23	43.8	Pass
L2	88.75 - 47	Pole	TP31.9875x23.865x0.25	2	-17.16	1718.42	89.0	Pass
L3	47 - 0	Pole	TP39.93x30.7655x0.3125	3	-28.21	2723.90	98.2	Pass
							Summary	
						Pole (L3)	98.2	Pass
						RATING =	**98.2**	**Pass**

APPENDIX C

Tower Elevation Drawing

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	21.25	18	0.1875	3.25	21.0000	24.8250	A572-65	1.0
2	45.00	18	0.2500	4.00	23.8650	31.9875		3.4
3	51.00	18	0.3125		30.7655	39.9300		6.0
								10.4



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Platform w/ Handrails	110	Kicker Kit	109
Toe Rail Reinforcement (L3x3x1/4)	110	Platform w/ Handrails	100
Toe Rail Reinforcement (L3x3x1/4)	110	AIR 21 B2A/B4P w/ Mount Pipe	100
Toe Rail Reinforcement (L3x3x1/4)	110	AIR 21 B2A/B4P w/ Mount Pipe	100
Pipe Mount 6'x2.375"	110	AIR 21 B2A/B4P w/ Mount Pipe	100
Pipe Mount 6'x2.375"	110	AIR32 B66Aa/B2A w/ 60" Mount Pipe	100
Pipe Mount 6'x2.375"	110	AIR32 B66Aa/B2A w/ 60" Mount Pipe	100
7770.00 w/Mount Pipe	110	AIR32 B66Aa/B2A w/ 60" Mount Pipe	100
7770.00 w/Mount Pipe	110	APXVARR24_43 U-NA20 w/ Mount Pipe	100
7770.00 w/Mount Pipe	110		
AM-X-CD-16-65-00T-RET w/ Mount Pipe	110	APXVARR24_43 U-NA20 w/ Mount Pipe	100
AM-X-CD-16-65-00T-RET w/ Mount Pipe	110	APXVARR24_43 U-NA20 w/ Mount Pipe	100
AM-X-CD-16-65-00T-RET w/ Mount Pipe	110	RRUS 4449-B12+71	100
		RRUS 4449-B12+71	100
800 10798 w/ Mount Pipe	110	RRUS 4449-B12+71	100
800 10798 w/ Mount Pipe	110	10' T-Arm - Round (GPD)	90
800 10798 w/ Mount Pipe	110	10' T-Arm - Round (GPD)	90
(2) LGP21401	110	10' T-Arm - Round (GPD)	90
(2) LGP21401	110	BXA-80063-4CF w/ mount pipe	90
(2) LGP21401	110	BXA-80063-4CF w/ mount pipe	90
(2) DBC0061F1V51-2	110	BXA-80063-4CF w/ mount pipe	90
(2) DBC0061F1V51-2	110	BXA-171063-8BF w/ Mount Pipe	90
(2) DBC0061F1V51-2	110	BXA-171063-8BF w/ Mount Pipe	90
RRUS 11	110	BXA-171063-8BF w/ Mount Pipe	90
RRUS 11	110	BXA-70063-6CF-2 w/ Mount Pipe	90
RRUS 11	110	BXA-70063-6CF-2 w/ Mount Pipe	90
RRUS 12	110	BXA-70063-6CF-2 w/ Mount Pipe	90
RRUS 12	110	10' T-Arm - Round (GPD)	60
RRUS 12	110	10' T-Arm - Round (GPD)	60
RRUS 4478 B5	110	Stadium Light (2')	60
RRUS 4478 B5	110	Stadium Light (2')	60
RRUS 4478 B5	110	Stadium Light (2')	60
RRUS 4426 B66	110	Stadium Light (2')	60
RRUS 4426 B66	110	Stadium Light (2')	60
RRUS 4426 B66	110	Stadium Light (2')	60
RRUS 32	110	Stadium Light (2')	60
RRUS 32	110	Stadium Light (2')	60
RRUS 32	110	Stadium Light (2')	60
DC6-48-60-18-8F Surge Suppression Unit	110	Stadium Light (2')	60
DC6-48-60-18-8C Surge Suppression Unit	110		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 98.2%

ALL REACTIONS ARE FACTORED

AXIAL 59 K
SHEAR 5 K
MOMENT 468 kip-ft
TORQUE 1 kip-ft
40 mph WIND - 1.0000 in ICE

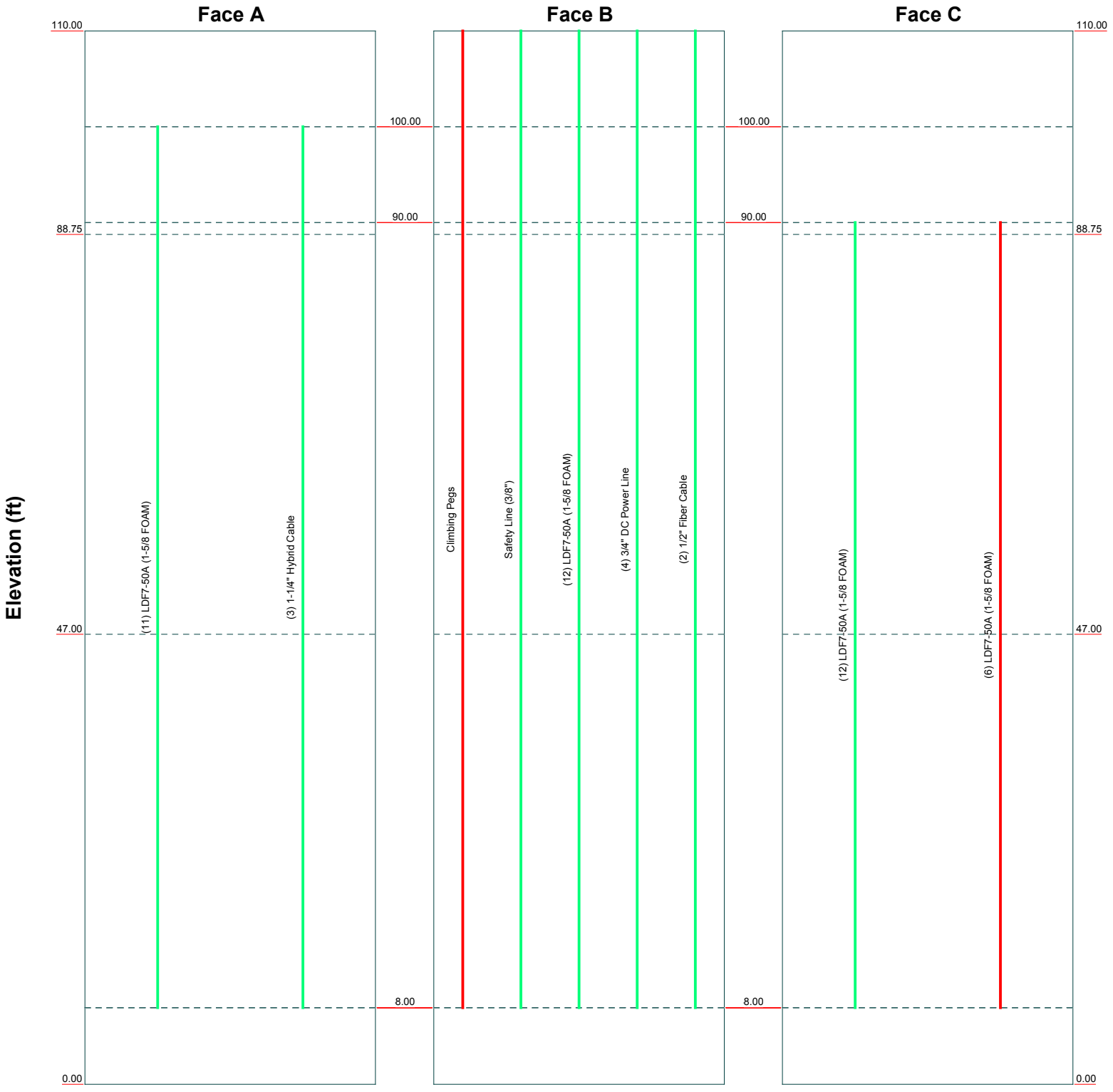
AXIAL 28 K
SHEAR 25 K
MOMENT 2155 kip-ft
TORQUE 4 kip-ft
REACTIONS - 97 mph WIND

GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (555) 555-1234
FAX: (555) 555-1235

Job: *88241 (CT1160) NEW BRITAIN WILDWOOD STREET*			
Project: *2018723.13.88241.03*			
Client: SAI Communications, Inc.	Drawn by: mschooley	App'd:	
Code: TIA-222-G	Date: 08/20/18	Scale: NTS	
Path: T:\ATandT\88241\06.2018723.13.88241.03.SAI SA\TNX\88241 (CT1160) NEW BRITAIN WILDWOOD STREET.eri		Dwg No. E-1	

Feed Line Distribution Chart
0' - 110'

Round | Flat | App In Face | App Out Face | Truss Leg



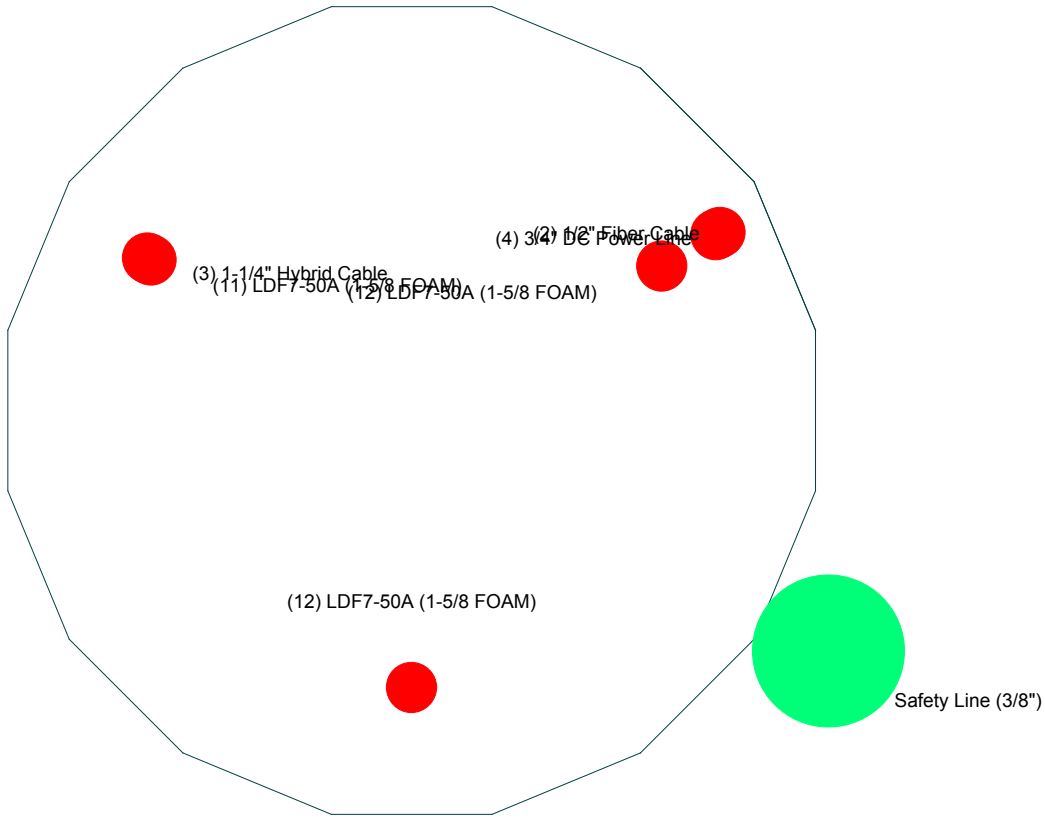
GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (555) 555-1234
FAX: (555) 555-1235

Job: ***88241 (CT1160) NEW BRITAIN WILDWOOD STREE***			
Project: ***2018723.13.88241.03***			
Client: SAI Communications, Inc.	Drawn by: mschooley	App'd:	
Code: TIA-222-G	Date: 08/20/18	Scale: NTS	
Path: T:\ATandT\88241\06.2018723.13.88241.03.SAI SAITNX\88241 (CT1160) NEW BRITAIN WILDWOOD STREET.eri		Dwg No. E-7	

Feed Line Plan
47'

Round Flat App In Face App Out Face

Section @ 47'



GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (555) 555-1234
FAX: (555) 555-1235

Job: 88241 (CT1160) NEW BRITAIN WILDWOOD STREET			
Project: 2018723.13.88241.03			
Client: SAI Communications, Inc.	Drawn by: mschooley	App'd:	
Code: TIA-222-G	Date: 08/20/18	Scale: NTS	
Path: T:\ATandT\88241\06.2018723.13.88241.03.SAI SA\TNX\88241 (CT1160) NEW BRITAIN WILDWOOD STREET.eri		Dwg No. E-7	

APPENDIX D

Anchor Rod and Base Plate Analysis

Anchor Rod and Base Plate Stresses, TIA-222-G-1

88241 (CT1160) NEW BRITAIN WILDWOOD STREET

2018723.13.88241.03

Overturning Moment =	2155.00	k*ft
Axial Force =	28.00	k
Shear Force =	25.00	k

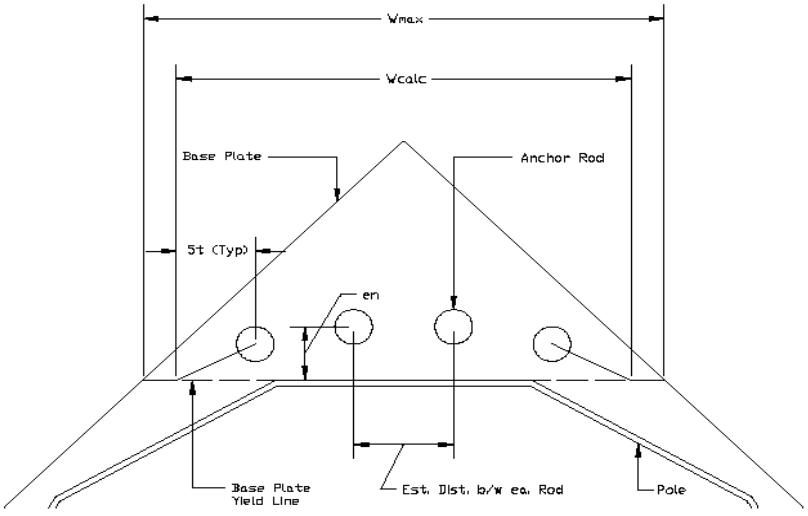
Acceptable Stress Ratio =	105.0%

Anchor Rods		
Pole Diameter =	39.93	in
Number of Rods =	12	
ϕ =	0.8	
Rod Ultimate Strength (F_u) =	100	ksi
Base Plate Detail Type* =	d	
Rod Circle =	46	in
Rod Diameter =	2.25	in
Net Tensile Area =	3.25	in^2
Max Tension on Rod =	184.83	kips
Max Compression on Rod =	189.50	kips
P_u =	189.50	kips
V_u =	2.08	kips
η =	0.50	
$P_u + V_u / \eta$ =	193.67	kips
φR_{nt} =	260.00	kips
Anchor Rod Capacity =	**74.5%**	**OK**

(Section 4.9.9, TIA-222-G-1)

Base Plate		
Plate Strength (Fy) =	50	ksi
ϕ =	0.9	
Plate Thickness =	2.5	in
Plate Width =	45	in
Est. Dist. b/w ea. Rod =	6	in
w_{calc} =	36.90	in
w_{max} =	23.71	in
w =	23.71	in
Z =	37.05	in^3
M_u =	1400.11	k-in
φM_n =	1667.08	k-in
Base Plate Capacity =	**84.0%**	**OK**

***This analysis assumes the clear distance from the top of the concrete to the bottom of the leveling nut is less than the diameter of the anchor rod. Notify GPD Group immediately if existing field conditions do not meet this assumption.**



APPENDIX E

Foundation Analysis

Mat Foundation Analysis
88241 (CT1160) NEW BRITAIN WILDWOOD STREET
2018723.13.88241.03

General Info	
Foundation Criteria	GPD
TIA Code	TIA-222-G
Soil Code	AASHTO 2012
Concrete Code	ACI 318-11
Seismic Design Category	B
Tower Height	110 ft
Bearing On	Soil
Foundation Type	Monopole Pad
Pier Type	Square
Reinforcing Known	Yes
Max Bearing Capacity	105%
Max Overturning Capacity	105%

Tower Reactions	
Moment, M	2155 k-ft
Axial, P	28 k
Shear, V	25 k

Pad & Pier Geometry	
Pier Width, ø	6 ft
Pad Length, L [y]	21.5 ft
Pad Width, W [x]	21.5 ft
Pad Thickness, t	3 ft
Depth, D	6 ft
Height Above Grade, HG	0.5 ft
Tower Centroid, X	10.75 ft
Tower Centroid, Y	10.75 ft
Tower Eccentricity	0.0000 ft

Pad & Pier Reinforcing	
Rebar Fy	60 ksi
Concrete F'c	3 ksi
Pier Reinforcing Clear Cover	3 in
Shear Rebar Type	Tie
Shear Rebar Size	# 4
Pad Reinforcing Clear Cover	3 in
Reinforced Top & Bottom?	Yes
Pad Reinforcing Size	# 8
Pad Quantity Per Layer	22
Pier Rebar Size	# 8
Pier Quantity of Rebar	36

Soil Properties	
Soil Type	Cohesive
Soil Unit Weight	100 pcf
Cohesion, Cu (ksf)	0
Base Friction Coeff. Provided in Geo?	Yes
Base Friction Coefficient, µ	0.3
Bearing Type	Gross
Ultimate Bearing	6 ksf
Water Table Depth	99 ft
Frost Depth	3.333 ft

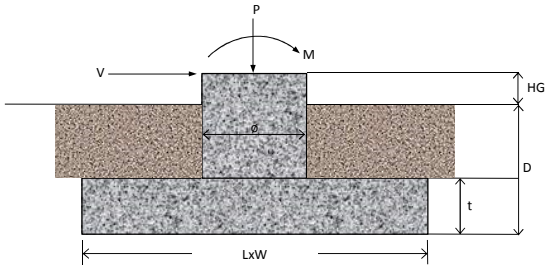
GPD Mat Foundation Analysis - V3.2

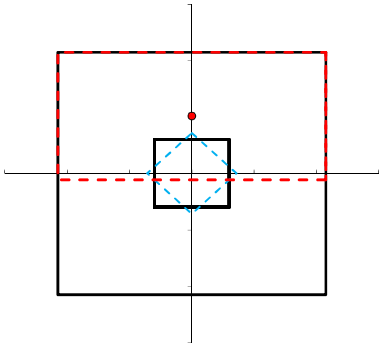
Bearing Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*	*Eccentricity*	*Load Case*
Qxmax	2.49 ksf	4.50 ksf	OK, <= 105%	L/4.2	1.2D+1.6W
Qymax	2.49 ksf	4.50 ksf	OK, <= 105%	W/4.2	1.2D+1.6W
Qmax @ 45°	2.41 ksf	4.50 ksf	OK, <= 105%	W/4.5	0.9D+1.6W
Controlling Capacity		**55.3%**	**Pass**		

Overturning Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Ovtx	2310.5 k-ft	4877.8 k-ft	63.2%	OK	0.9D+1.6W
Ovty	2310.5 k-ft	4877.8 k-ft	63.2%	OK	0.9D+1.6W
Ovtxy	1634.8 k-ft	3658.3 k-ft	44.7%	OK	0.9D+1.6W
Controlling Capacity		**63.2%**	**Pass**		

Sliding Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Slidingx	25.0 k	83.7 k	29.9%	OK	0.9D+1.6W
Slidingy	25.0 k	83.7 k	29.9%	OK	0.9D+1.6W
Controlling Capacity		**29.9%**	**Pass**		

Reinforcement Summary					
Component	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Pad Flexural Bending	42.3 k-ft	111.7 k-ft	37.9%	OK	0.9D+1.6W
One-Way Shear in Pad	155.9 k	667.7 k	23.3%	OK	0.9D+1.6W
Two-Way Shear in Pad	367.1 k	2142.9 k	17.1%	OK	0.9D+1.6W
Compression on Pier	50.7 k	17185.0 k	0.3%	OK	1.2D+1.6W
Moment on Pier	2242.5 k-ft	3784.1 k-ft	59.3%	OK	1.2D+1.6W
As Min Pad Met?	1.62 sq. in.	0.32 sq. in.	Yes		
As Min Pier Met?	28.44 sq. in.	25.92 sq. in.	Yes		
Controlling Capacity		**59.3%**	**Pass**		





June 7, 2018

SAI Communications
12 Industrial Way
Salem NH, 03079

RE:		
	Site Number:	CT1160 (LTE 3C/4C/5C)
	FA Number:	10050945
	PACE Number:	MRCTB031100
	PT Number:	2051A0GJ8C
	Site Name:	New Britain Wildwood Street
	Site Address:	Wildwood Street New Britain, CT 06051

To Whom It May Concern:

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

- (3) Powerwave 7770 Antennas (55.0"x11.0"x5.0" – Wt. = 35 lbs. /each)
- (3) AM-X-CD-16-65-00T-RET Antennas (72"x11.8"x5.9" – Wt. = 49 lbs. /each)
- (3) RRUS-11 RRH's (19.7"x17.0"x7.2" – Wt. = 51 lbs. /each)
- (3) RRUS-12 RRH's (20.4"x18.5"x7.5" – Wt. = 58 lbs. /each)
- (6) LGP21401 TMA's (14.4"x9.0"x2.7" – Wt. = 19 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)
- **(3) 800-10798 Antennas (86.5"x15.6"x8.3" – Wt. = 87 lbs. /each)**
- **(3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)**
- **(3) 4478 B5 RRH's (18.1"x13.4"x8.26" – Wt. = 60 lbs. /each)**
- **(3) 4426 B66 RRH's (15"x13.2"x7.4" – Wt. = 49 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7" Φ – Wt. = 33 lbs. /each)**
- **(6) DBC0061F1V51-2 Combiners (8.0"x6.2"x6.5" – Wt. = 19 lbs. /each)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mounts. Mount mapping data was provided by SAI Communications.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2012 with 2005 Connecticut Supplement with 2016 Amendments, and AT&T Mount Technical Directive – R7.

- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-G Annex B, the max basic wind speed for this site is equal to 105 mph with a max basic wind speed with ice of 50 mph. Per the AT&T Mount Technical Directive and Appendix N of the Connecticut State Building Code, an ultimate wind speed of 125 mph converted to a nominal wind speed of 97 mph was used for this analysis.

- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.

- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.

- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.

- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.

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

- **Reinforce existing 3"x3"x1/4" horizontal steel angles with new 3"x3"x1/4" steel angles (typ. of 1 per sector, total of 3).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing 3C/4C/5C Mount Rating	3	IC1	101%	**FAIL**
Modified 3C/4C/5C Mount Rating	10	LC2	74%	**PASS**

Reference Documents:

- Mount mapping data was provided by SAI Communications.

This determination was based on the following limitations and assumptions:

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

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

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Structural Dept. Head

Daniel P. Hamm, PE
Principal

FIELD PHOTOS:






p: 978.557.5553 f: 978.336.5586 a: 45 Beechwood Drive, N. Andover, MA 01845
p: 413.588.8139 f: 413.517.0590 a: 116 Pleasant Street, Ste 302, Easthampton, MA 01027






p: 978.557.5553 f: 978.336.5586 a: 45 Beechwood Drive, N. Andover, MA 01845
p: 413.588.8139 f: 413.517.0590 a: 116 Pleasant Street, Ste 302, Easthampton, MA 01027

HUDSON
Design Group LLC

Wind & Ice
Calculations

Date: 6/7/2018
Project Name: New Britain Wildwood Street
Project Number: CT1160
Designed By: AK **Checked By**: MSC

HUDSON Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

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

z=	114	(ft)
z_g=	1200	(ft)
α=	7.0	

K_z= 1.026

Kzmin ≤ Kz ≤ 2.01

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_e
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.4 Topographic Factor:

Table 2-5

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

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

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

K_{zt}= #DIV/0!

K_h=	#DIV/0!	
K_e=	0	(from Table 2-4)
K_t=	0	(from Table 2-5)
f=	0	(from Table 2-5)
z=	114	
H=	0	(Ht. of the crest above surrounding terrain)
K_{zt}=	1.00	
K_{iz} =	1.13	(from Sec. 2.6.8)

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

Category= 1

2.6.8 Design Ice Thickness

Max Ice Thickness = t_i = 1.00 in

$t_{iz} = 2.0*t_i*I*K_{iz}*(Kzt)^{0.35}$ t_{iz} = 2.26 in

Date: 6/7/2018
Project Name: New Britain Wildwood Street
Project Number: CT1160
Designed By: AK Checked By: MSC

HUDSON Design Group LLC

2.6.7 Gust Effect Factor

2.6.7.1 Self Supporting Lattice Structures

Gh = 1.0 Latticed Structures > 600 ft

Gh = 0.85 Latticed Structures 450 ft or less

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

h=	115	Gh=	0.85
2.6.7.2 Guyed Masts		Gh=	0.85
2.6.7.3 Pole Structures		Gh=	1.1
2.6.9 Appurtenances		Gh=	1.0

2.6.7.4 Structures Supported on Other Structures
(Cantilivered tubular or latticed spines, pole, structures on buildings (ht. : width ratio > 5)

Gh=	1.35	**Gh=**	**1.00**

2.6.9.2 Design Wind Force on Appurtenances

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

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

V_{asd} per the AT&T Mount Technical Directive and Connecticut State Building Code, Latest Edition.
Per TIA-222-G, V_{min} = 90 mph V_{max} = 105 mph

$F = q_z * Gh * (EPA)_A$

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

		K_z=	1.026
		K_{zt}=	1.0
q_z=	**23.39**	K_d=	0.95
$q_{z\,(ice)}$=	**6.24**	V_{asd}=	97 mph
$q_{z\,(30)}$=	**2.25**	$V_{max\,(ice)}$=	50 mph
		V_{30}=	30 mph
		I=	1.0

Table 2-2

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

Date: 6/7/2018
Project Name: New Britain Wildwood Street
Project Number: CT1160
Designed By: AK Checked By: MSC

HUDSON Design Group LLC

Determine Ca:

Table 2-8

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

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
(Aspect ratio is independent of the spacing between support points of a linear appurtenance,

Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **2.26** in **Angle = 0 (deg)** **Equivalent Angle = 180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	129	52	12
800-10798 Antenna	86.5	15.6	8.3	9.37	5.54	1.34	293	106	28
AM-X-CD-16-65-00T-RET Antenr	72.0	11.8	5.9	5.90	6.10	1.36	188	74	18
RRUS-32 RRH	27.2	12.1	7.0	2.29	2.25	1.20	64	27	6
RRUS-32 RRH (Shielded)	27.2	1.1	7.0	0.21	24.73	1.99	10	15	1
4478 B5 RRH	18.1	13.4	8.3	1.68	1.35	1.20	47	21	5
4478 B5 RRH (Shielded)	18.1	2.4	8.3	0.30	7.54	1.42	10	10	1
4426 B66 RRH	18.1	13.4	8.3	1.68	1.35	1.20	47	21	5
4426 B66 RRH (Shielded)	18.1	2.4	8.3	0.30	7.54	1.42	10	10	1
RRUS-11 RRH	19.7	17.0	7.2	2.33	1.16	1.20	65	27	6
RRUS-11 RRH (Shielded)	19.7	6.0	7.2	0.82	3.28	1.23	24	14	2
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.10	1.20	74	30	7
RRUS-12 RRH	20.4	7.5	7.5	1.06	2.72	1.21	30	16	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	6	6	1
3x3 Angle	3.0	12.0		0.25	0.25	2.00	12	11	1

Date: 6/7/2018

Project Name: New Britain Wildwood Street

Project Number: CT1160

Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 30 (deg)

Ice Thickness = 2.26 in.

Equivalent Angle = 210 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	129	68	114
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	293	177	264
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	188	109	168
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	58
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	34	39	36
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	43
4478 B5 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.19	1.21	1.20	24	29	25
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	43
4426 B66 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.19	1.21	1.20	24	29	25
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	56
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	33	28	31
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	74	30	63
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	30	30	30
WIND LOADS WITH ICE:												
Powerwave 7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	50	34	46
800-10798 Antenna	91.0	20.1	12.8	12.72	8.11	4.52	7.10	1.29	1.40	102	71	95
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	70	49	65
RRUS-32 RRH	31.7	16.6	11.5	3.66	2.54	1.91	2.75	1.20	1.21	27	19	25
RRUS-32 RRH (Shielded)	31.7	8.3	11.5	1.83	2.54	3.82	2.75	1.26	1.21	14	19	16
4478 B5 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	20
4478 B5 RRH (Shielded)	22.6	9.0	12.8	1.41	2.01	2.52	1.77	1.20	1.20	11	15	12
4426 B66 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	20
4426 B66 RRH (Shielded)	22.6	9.0	12.8	1.41	2.01	2.52	1.77	1.20	1.20	11	15	12
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	27	15	24
RRUS-11 RRH (Shielded)	24.2	10.8	11.7	1.81	1.97	2.25	2.07	1.20	1.20	14	15	14
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	30	16	26
RRUS-12 RRH	24.9	12.0	12.0	2.08	2.08	2.07	2.07	1.20	1.20	16	16	16
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
WIND LOADS AT 30 MPH:												
Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	7	11
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	28	17	25
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	18	10	16
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	3
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	4
4478 B5 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.19	1.21	1.20	2	3	2
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	4
4426 B66 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.19	1.21	1.20	2	3	2
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	5
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	3	3	3

Date: 6/7/2018

Project Name: New Britain Wildwood Street

Project Number: CT1160

Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	60	(deg)	Ice Thickness =	2.26	in.	Equivalent Angle =	240	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	129	68	84
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	293	177	206
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	188	109	128
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	45
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	49	39	42
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	34
4478 B5 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.19	1.20	1.20	35	29	31
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	34
4426 B66 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.19	1.20	1.20	35	29	31
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	37
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	49	28	33
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	74	30	41
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	30	30	30

WIND LOADS WITH ICE:

Powerwave 7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	50	34	38
800-10798 Antenna	91.0	20.1	12.8	12.72	8.11	4.52	7.10	1.29	1.40	102	71	79
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	70	49	54
RRUS-32 RRH	31.7	16.6	11.5	3.66	2.54	1.91	2.75	1.20	1.21	27	19	21
RRUS-32 RRH (Shielded)	31.7	12.5	11.5	2.75	2.54	2.54	2.75	1.20	1.21	21	19	20
4478 B5 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	17
4478 B5 RRH (Shielded)	22.6	13.4	12.8	2.11	2.01	1.68	1.77	1.20	1.20	16	15	15
4426 B66 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	17
4426 B66 RRH (Shielded)	22.6	13.4	12.8	2.11	2.01	1.68	1.77	1.20	1.20	16	15	15
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	27	15	18
RRUS-11 RRH (Shielded)	24.2	16.1	11.7	2.72	1.97	1.50	2.07	1.20	1.20	20	15	16
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	30	16	19
RRUS-12 RRH	24.9	12.0	12.0	2.08	2.08	2.07	2.07	1.20	1.20	16	16	16
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!

WIND LOADS AT 30 MPH:

Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	7	8
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	28	17	20
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	18	10	12
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	3
4478 B5 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.19	1.20	1.20	3	3	3
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	3
4426 B66 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.19	1.20	1.20	3	3	3
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	3	3	3

Date: 6/7/2018

Project Name: New Britain Wildwood Street

Project Number: CT1160

Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle =	90	(deg)	Ice Thickness =	2.26	in.	Equivalent Angle =	270	(deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	129	68	68
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	293	177	177
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	188	109	109
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	39
RRUS-32 RRH (Shielded)	27.2	1.1	7.0	0.21	1.32	24.73	3.89	1.99	1.26	10	39	39
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	29
4478 B5 RRH (Shielded)	18.1	2.4	8.3	0.30	1.04	7.54	2.19	1.42	1.20	10	29	29
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	29
4426 B66 RRH (Shielded)	18.1	2.4	8.3	0.30	1.04	7.54	2.19	1.42	1.20	10	29	29
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	28
RRUS-11 RRH (Shielded)	19.7	6.0	7.2	0.82	0.99	3.28	2.74	1.23	1.21	24	28	28
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	74	30	30
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	30	30	30

WIND LOADS WITH ICE:

Powerwave 7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	50	34	34
800-10798 Antenna	91.0	20.1	12.8	12.72	8.11	4.52	7.10	1.29	1.40	102	71	71
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	70	49	49
RRUS-32 RRH	31.7	16.6	11.5	3.66	2.54	1.91	2.75	1.20	1.21	27	19	19
RRUS-32 RRH (Shielded)	31.7	5.6	11.5	1.24	2.54	5.64	2.75	1.34	1.21	10	19	19
4478 B5 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	15
4478 B5 RRH (Shielded)	22.6	6.9	12.8	1.09	2.01	3.27	1.77	1.23	1.20	8	15	15
4426 B66 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	15
4426 B66 RRH (Shielded)	22.6	6.9	12.8	1.09	2.01	3.27	1.77	1.23	1.20	8	15	15
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	27	15	15
RRUS-11 RRH (Shielded)	24.2	10.5	11.7	1.77	1.97	2.30	2.07	1.20	1.20	13	15	15
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	30	16	16
RRUS-12 RRH	24.9	12.0	12.0	2.08	2.08	2.07	2.07	1.20	1.20	16	16	16
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!

WIND LOADS AT 30 MPH:

Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	7	7
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	28	17	17
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	18	10	10
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	1.1	7.0	0.21	1.32	24.73	3.89	1.99	1.26	1	4	4
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	3
4478 B5 RRH (Shielded)	18.1	2.4	8.3	0.30	1.04	7.54	2.19	1.42	1.20	1	3	3
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	3
4426 B66 RRH (Shielded)	18.1	2.4	8.3	0.30	1.04	7.54	2.19	1.42	1.20	1	3	3
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	3
RRUS-11 RRH (Shielded)	19.7	6.0	7.2	0.82	0.99	3.28	2.74	1.23	1.21	2	3	3
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	3
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	3	3	3

Date: 6/7/2018

Project Name: New Britain Wildwood Street

Project Number: CT1160

Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 120 (deg)

Ice Thickness = 2.26 in.

Equivalent Angle = 300 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	129	68	84
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	293	177	206
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	188	109	128
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	45
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	49	39	42
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	34
4478 B5 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.19	1.20	1.20	35	29	31
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	34
4426 B66 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.19	1.20	1.20	35	29	31
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	37
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	49	28	33
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	74	30	41
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	30	30	30

WIND LOADS WITH ICE:

Powerwave 7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	50	34	38
800-10798 Antenna	91.0	20.1	12.8	12.72	8.11	4.52	7.10	1.29	1.40	102	71	79
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	70	49	54
RRUS-32 RRH	31.7	16.6	11.5	3.66	2.54	1.91	2.75	1.20	1.21	27	19	21
RRUS-32 RRH (Shielded)	31.7	12.5	11.5	2.75	2.54	2.54	2.75	1.20	1.21	21	19	20
4478 B5 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	17
4478 B5 RRH (Shielded)	22.6	13.4	12.8	2.11	2.01	1.68	1.77	1.20	1.20	16	15	15
4426 B66 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	17
4426 B66 RRH (Shielded)	22.6	13.4	12.8	2.11	2.01	1.68	1.77	1.20	1.20	16	15	15
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	27	15	18
RRUS-11 RRH (Shielded)	24.2	16.1	11.7	2.72	1.97	1.50	2.07	1.20	1.20	20	15	16
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	30	16	19
RRUS-12 RRH	24.9	12.0	12.0	2.08	2.08	2.07	2.07	1.20	1.20	16	16	16
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!

WIND LOADS AT 30 MPH:

Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	7	8
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	28	17	20
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	18	10	12
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	3
4478 B5 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.19	1.20	1.20	3	3	3
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	3
4426 B66 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.19	1.20	1.20	3	3	3
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	4
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	3	3	3

Date: 6/7/2018

Project Name: New Britain Wildwood Street

Project Number: CT1160

Designed By: AK Checked By: MSC

HUDSON Design Group LLC

WIND LOADS

Angle = 150 (deg)

Ice Thickness = 2.26 in.

Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs) (normal)	Force (lbs) (side)	Force (lbs) (angle)
Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	129	68	114
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	293	177	264
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	188	109	168
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	64	39	58
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	34	39	36
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	43
4478 B5 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.19	1.21	1.20	24	29	25
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	47	29	43
4426 B66 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.19	1.21	1.20	24	29	25
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	65	28	56
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	33	28	31
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	74	30	63
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	30	30	30

WIND LOADS WITH ICE:

Powerwave 7770 Antenna	59.5	15.5	9.5	6.42	3.94	3.83	6.25	1.26	1.37	50	34	46
800-10798 Antenna	91.0	20.1	12.8	12.72	8.11	4.52	7.10	1.29	1.40	102	71	95
AM-X-CD-16-65-00T-RET Antenna	76.5	16.3	10.4	8.68	5.54	4.69	7.34	1.30	1.41	70	49	65
RRUS-32 RRH	31.7	16.6	11.5	3.66	2.54	1.91	2.75	1.20	1.21	27	19	25
RRUS-32 RRH (Shielded)	31.7	8.3	11.5	1.83	2.54	3.82	2.75	1.26	1.21	14	19	16
4478 B5 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	20
4478 B5 RRH (Shielded)	22.6	9.0	12.8	1.41	2.01	2.52	1.77	1.20	1.20	11	15	12
4426 B66 RRH	22.6	17.9	12.8	2.82	2.01	1.26	1.77	1.20	1.20	21	15	20
4426 B66 RRH (Shielded)	22.6	9.0	12.8	1.41	2.01	2.52	1.77	1.20	1.20	11	15	12
RRUS-11 RRH	24.2	21.5	11.7	3.62	1.97	1.13	2.07	1.20	1.20	27	15	24
RRUS-11 RRH (Shielded)	24.2	10.8	11.7	1.81	1.97	2.25	2.07	1.20	1.20	14	15	14
RRUS-12 RRH	24.9	23.0	12.0	3.99	2.08	1.08	2.07	1.20	1.20	30	16	26
RRUS-12 RRH	24.9	12.0	12.0	2.08	2.08	2.07	2.07	1.20	1.20	16	16	16
#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!

WIND LOADS AT 30 MPH:

Powerwave 7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	7	11
800-10798 Antenna	86.5	15.6	8.3	9.37	4.99	5.54	10.42	1.34	1.51	28	17	25
AM-X-CD-16-65-00T-RET Antenna	72.0	11.8	5.9	5.90	2.95	6.10	12.20	1.36	1.57	18	10	16
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	3
4478 B5 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	4
4478 B5 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.19	1.21	1.20	2	3	2
4426 B66 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.19	1.20	1.20	5	3	4
4426 B66 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.19	1.21	1.20	2	3	2
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	5
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-12 RRH	20.4	18.5	7.5	2.62	1.06	1.10	2.72	1.20	1.21	7	3	6
RRUS-12 RRH	20.4	7.5	7.5	1.06	1.06	2.72	2.72	1.21	1.21	3	3	3

Date: 6/7/2018
Project Name: New Britain Wildwood Street
Project Number: CT1160
Designed By: AK **Checked By:** MSC

HUDSON Design Group LLC

ICE WEIGHT CALCULATIONS

Thickness of ice: 1 in.
Density of ice: 56 pcf

7770 Antenna
Weight of ice based on total radial SF area:

Height (in):	55.0	
Width (in):	11.0	
Depth (in):	5.0	
Total weight of ice on object:		70 lbs
Weight of object:	35 lbs	
Combined weight of ice and object:		105 lbs

AM-X-CD-14-65-OOT-RET Antenna
Weight of ice based on total radial SF area:

Height (in):	72.0	
Width (in):	11.8	
Depth (in):	5.9	
Total weight of ice on object:		99 lbs
Weight of object:	49 lbs	
Combined weight of ice and object:		148 lbs

800-10798 Antenna
Weight of ice based on total radial SF area:

Height (in):	86.5	
Width (in):	15.6	
Depth (in):	8.3	
Total weight of ice on object:		157 lbs
Weight of object:	87 lbs	
Combined weight of ice and object:		244 lbs

RRUS-11 RRH
Weight of ice based on total radial SF area:

Height (in):	19.7	
Width (in):	17.0	
Depth (in):	7.2	
Total weight of ice on object:		45 lbs
Weight of object:	51 lbs	
Combined weight of ice and object:		96 lbs

RRUS-12 RRH
Weight of ice based on total radial SF area:

Height (in):	20.4	
Width (in):	18.5	
Depth (in):	7.5	
Total weight of ice on object:		50 lbs
Weight of object:	58 lbs	
Combined weight of ice and object:		108 lbs

RRUS-32 RRH
Weight of ice based on total radial SF area:

Height (in):	27.2	
Width (in):	12.1	
Depth (in):	7.0	
Total weight of ice on object:		45 lbs
Weight of object:	60 lbs	
Combined weight of ice and object:		105 lbs

4478 B5 RRH
Weight of ice based on total radial SF area:

Height (in):	18.1	
Width (in):	13.4	
Depth (in):	8.3	
Total weight of ice on object:		38 lbs
Weight of object:	60 lbs	
Combined weight of ice and object:		98 lbs

4426 B66 RRH
Weight of ice based on total radial SF area:

Height (in):	15.0	
Width (in):	13.2	
Depth (in):	7.4	
Total weight of ice on object:		31 lbs
Weight of object:	49 lbs	
Combined weight of ice and object:		80 lbs

LGP21401 TMA
Weight of ice based on total radial SF area:

Height (in):	14.4	
Width (in):	9.0	
Depth (in):	2.7	
Total weight of ice on object:		16 lbs
Weight of object:	19 lbs	
Combined weight of ice and object:		35 lbs

Squid Surge Arrestor
Weight of ice based on total radial SF area:

Depth (in):	24.0	
Diameter(in):	9.7	
Total weight of ice on object:		35 lbs
Weight of object:	33 lbs	
Combined weight of ice and object:		68 lbs

DBC0061F1V51-2 Combiner
Weight of ice based on total radial SF area:

Height (in):	8.0	
Width (in):	6.2	
Depth (in):	6.5	
Total weight of ice on object:		12 lbs
Weight of object:	19 lbs	
Combined weight of ice and object:		31 lbs

2" pipe
Per foot weight of ice:

diameter (in):	2.38	
Per foot weight of ice on object:		4 plf

HSS 4x4
Weight of ice based on total radial SF area:

Height (in):	4	
Width (in):	4	
Per foot weight of ice on object:		8 plf

L3x3x1/4 Angles
Weight of ice based on total radial SF area:

Thickness (in):	0.25	
Height (in):	3	
Width (in):	3	
Per foot weight of ice on object:		7 plf

HUDSON
Design Group LLC

Mount Calculations
(Unmodified 3C/4C/5C Configuration)

Bentley

Current Date: 6/7/2018 12:15 PM
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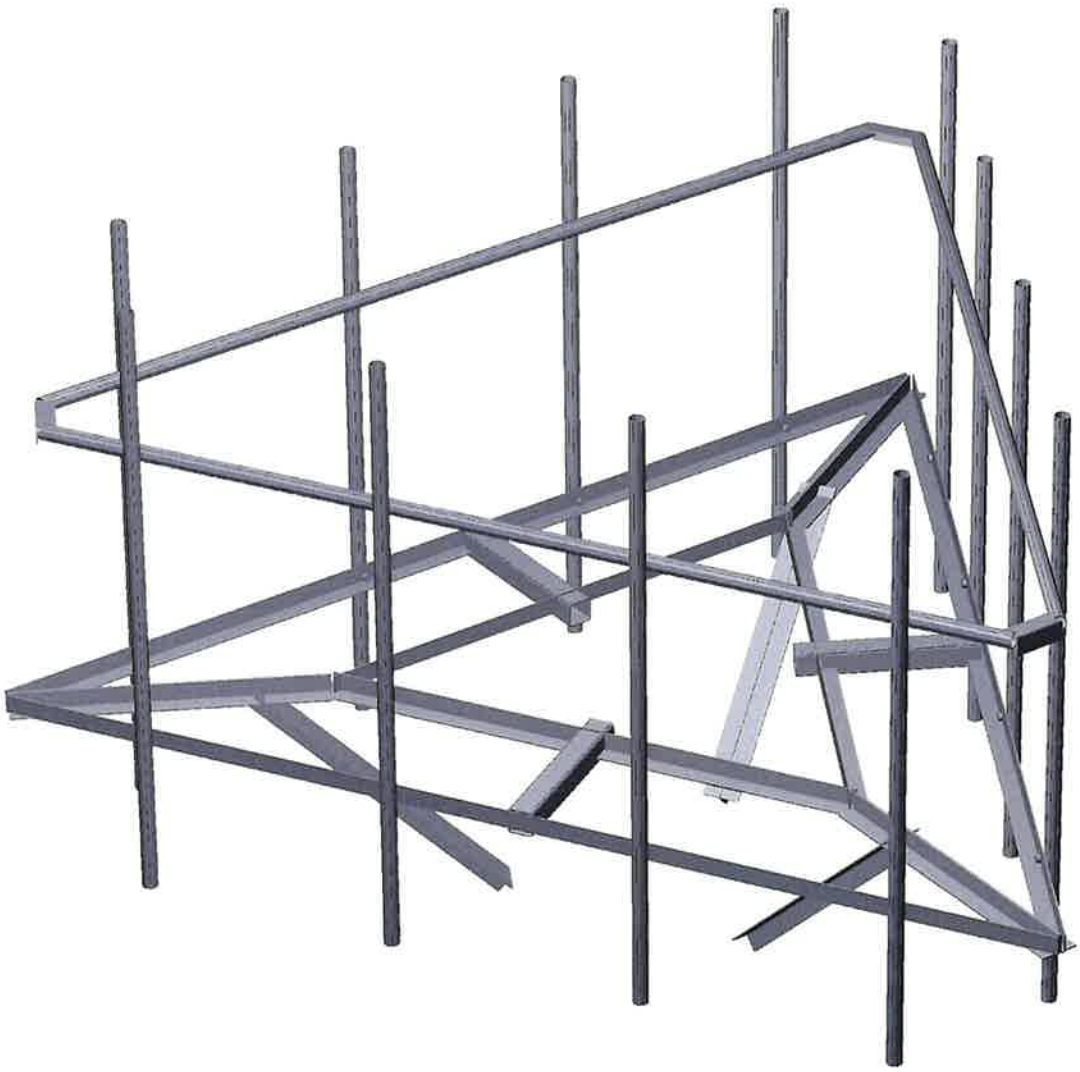

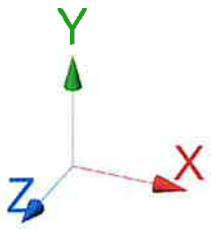

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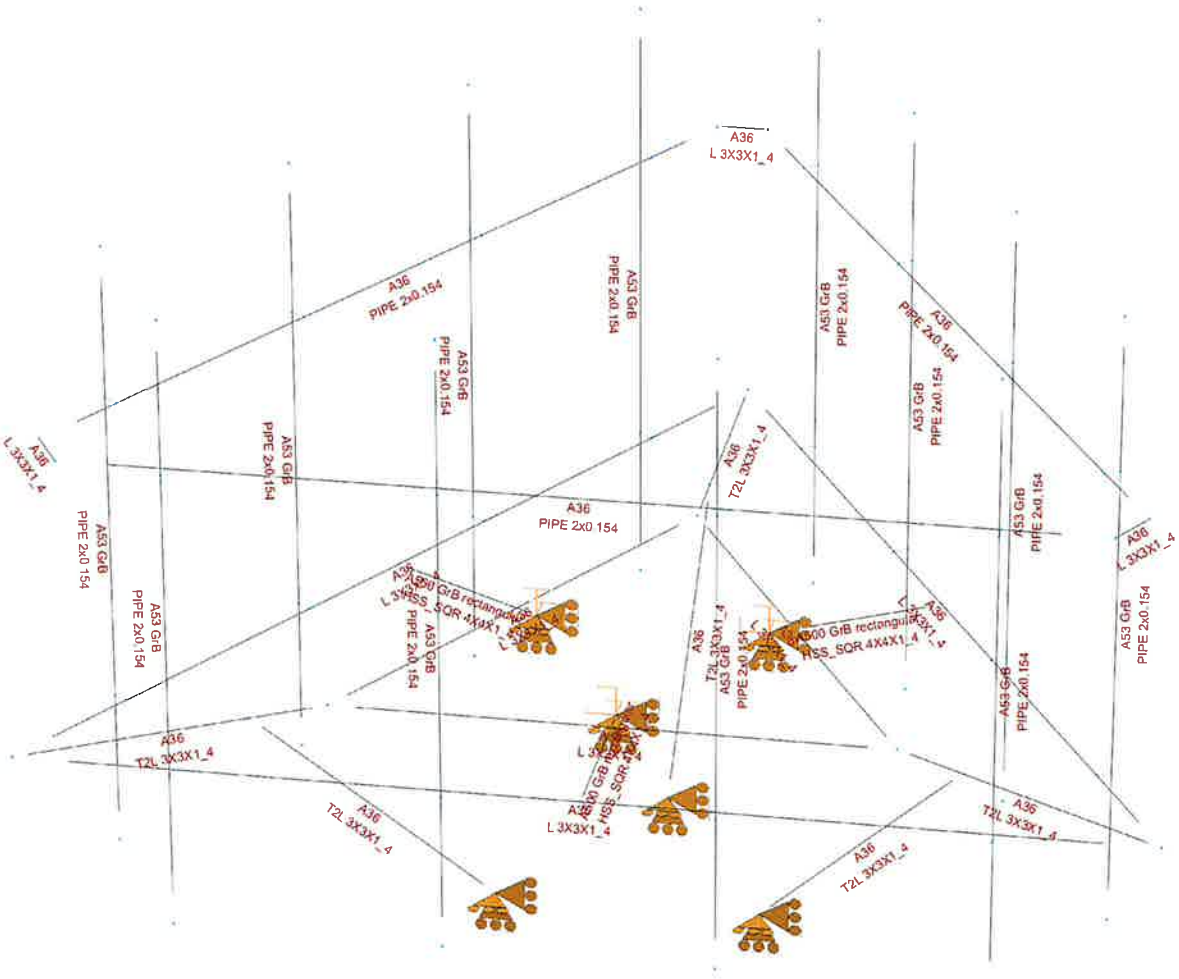

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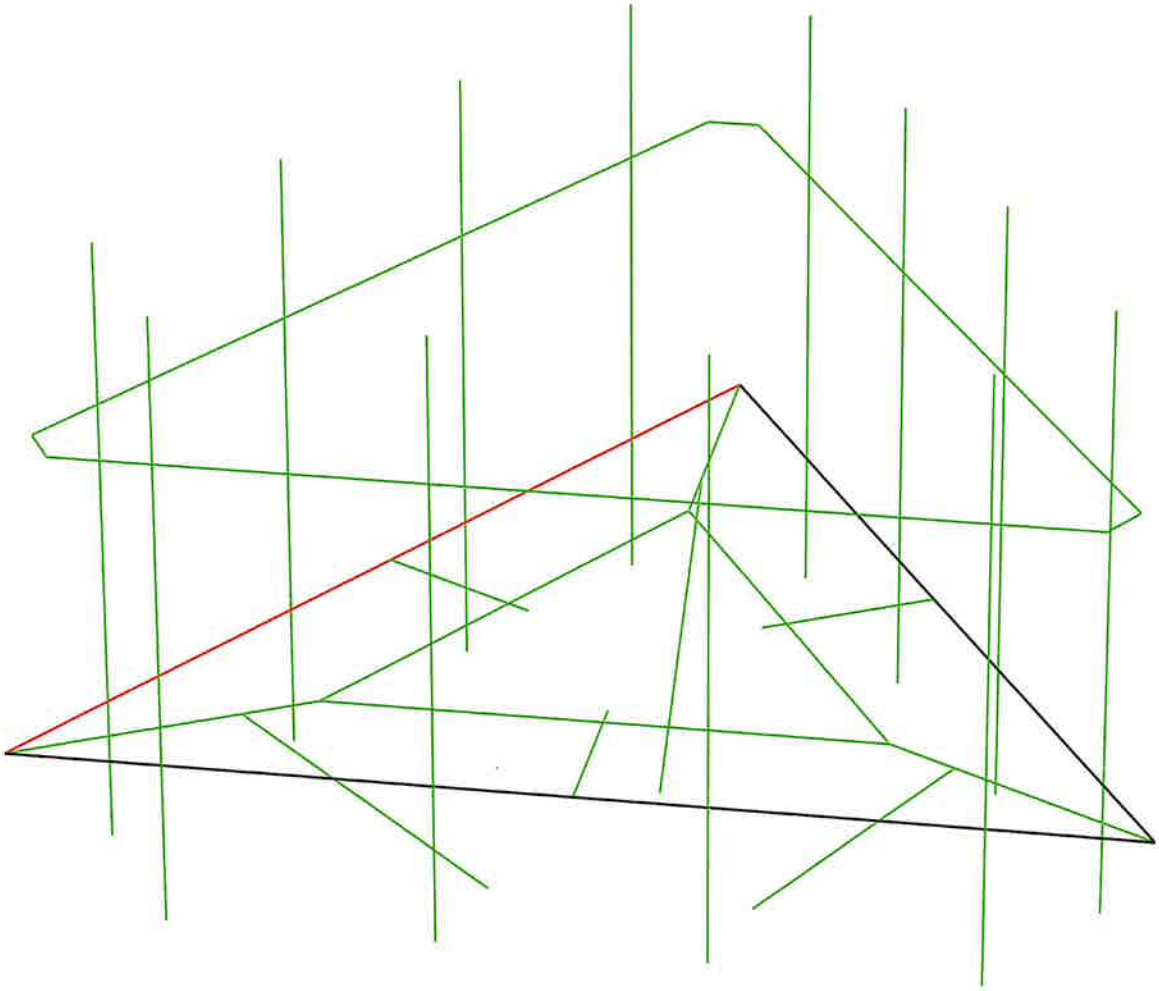
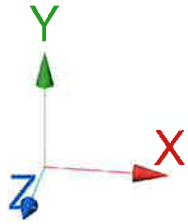
Design status

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





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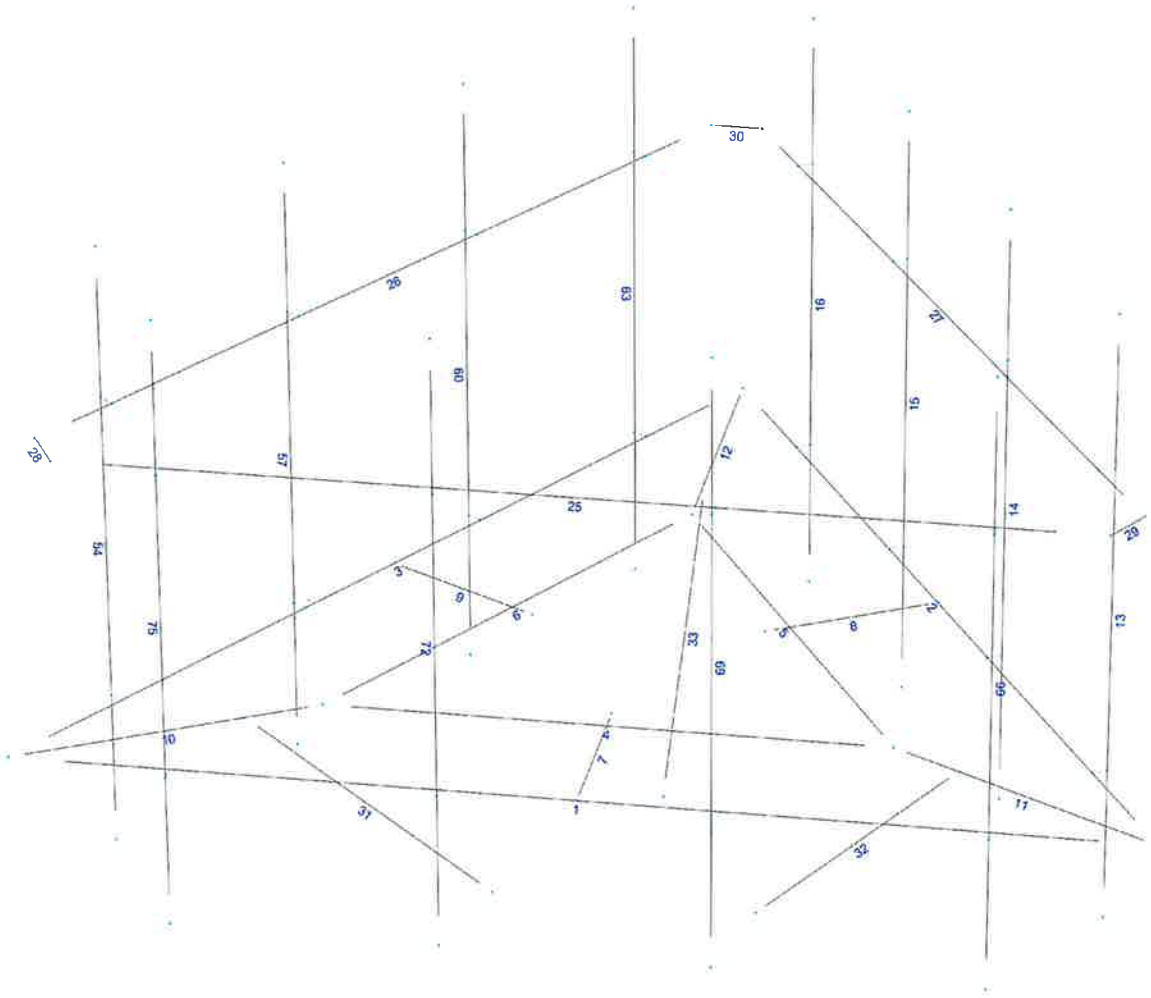

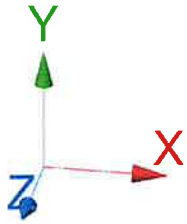

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Load data

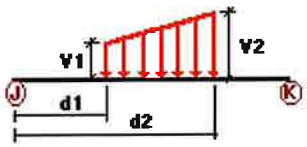
GLOSSARY

Comb : Indicates if load condition is a load combination

Load conditions

Condition	Description	Comb.	Category
DL	Dead Load	No	DL
W0	Wind Load 0/60/120 deg	No	WIND
W30	Wind Load 30/90/150 deg	No	WIND
Di	Ice Load	No	LL
Wi0	Ice Wind Load 0/60/120 deg	No	WIND
Wi30	Ice Wind Load 30/90/150 deg	No	WIND
WL0	WL 30 mph 0/60/120 deg	No	WIND
WL30	WL 30 mph 30/90/150 deg	No	WIND
LL1	250 lb Live Load Center of Mount	No	LL
LL2	250 lb Live Load End of Mount	No	LL
LLa1	500 lb Live Load on Antenna 1	No	LL
LLa2	500 lb Live Load on Antenna 2	No	LL
LLa3	500 lb Live Load on Antenna 3	No	LL
LLa4	500 lb Live Load on Antenna 4	No	LL
W180	-W0	Yes	
W210	-W30	Yes	
Wi180	-Wi0	Yes	
Wi210	-Wi30	Yes	
WL180	-WL0	Yes	
WL210	-WL30	Yes	

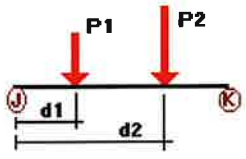
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
DL	4	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	5	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	6	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	7	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	8	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
	9	Y	-0.01	-0.01	0.00	Yes	100.00	Yes
W0	1	Z	-0.012	-0.012	0.00	Yes	100.00	Yes
	2	Z	-0.012	-0.012	0.00	Yes	100.00	Yes
	3	Z	-0.012	-0.012	0.00	Yes	100.00	Yes

	25	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	26	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
	27	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
W30	2	X	-0.012	-0.012	0.00	Yes	100.00	Yes
	3	X	-0.012	-0.012	0.00	Yes	100.00	Yes
	26	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	27	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	66	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	69	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	72	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	75	X	-0.006	-0.006	0.00	Yes	100.00	Yes
Di	1	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	2	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	3	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	4	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	5	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	6	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	7	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	8	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	9	Y	-0.008	-0.008	0.00	Yes	100.00	Yes
	10	Y	-0.014	-0.014	0.00	Yes	100.00	Yes
	11	Y	-0.014	-0.014	0.00	Yes	100.00	Yes
	12	Y	-0.014	-0.014	0.00	Yes	100.00	Yes
	13	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	14	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	16	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	25	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	26	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	27	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	28	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	29	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	30	Y	-0.007	-0.007	0.00	Yes	100.00	Yes
	31	Y	-0.014	-0.014	0.00	Yes	100.00	Yes
	32	Y	-0.014	-0.014	0.00	Yes	100.00	Yes
	33	Y	-0.014	-0.014	0.00	Yes	100.00	Yes
	54	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	57	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	15	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	60	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	63	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	66	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	69	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	72	Y	-0.004	-0.004	0.00	Yes	100.00	Yes
	75	Y	-0.004	-0.004	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
DL	13	y	-0.025	6.25	No
		y	-0.025	1.75	No
		y	-0.051	5.00	No
		y	-0.058	2.00	No
	14	y	-0.044	6.85	No
		y	-0.044	1.15	No
		y	-0.06	3.00	No
		y	-0.06	1.00	No
		y	-0.049	5.00	No
		y	-0.019	3.00	No
	16	y	-0.018	5.54	No
		y	-0.018	2.46	No
		y	-0.019	4.00	No
	54	y	-0.018	5.54	No
		y	-0.018	2.46	No
		y	-0.019	4.00	No
	60	y	-0.044	6.85	No
		y	-0.044	1.15	No
		y	-0.06	3.00	No
		y	-0.06	1.00	No
		y	-0.049	5.00	No
		y	-0.019	3.00	No
	63	y	-0.025	6.25	No
		y	-0.025	1.75	No
		y	-0.051	5.00	No
		y	-0.058	2.00	No
	66	y	-0.018	5.54	No
		y	-0.018	2.46	No
		y	-0.019	2.00	No
	72	y	-0.044	6.85	No
		y	-0.044	1.15	No
		y	-0.06	3.00	No
		y	-0.06	1.00	No
		y	-0.049	5.00	No
		y	-0.033	4.00	No
	75	y	-0.049	6.25	No
		y	-0.049	1.75	No
		y	-0.051	5.00	No
		y	-0.058	5.00	No
		y	-0.033	4.00	No
W0	13	z	-0.065	6.25	No
		z	-0.065	1.75	No
		z	-0.033	5.00	No
		z	-0.03	2.00	No
	14	z	-0.103	6.85	No
		z	-0.103	1.15	No
		z	-0.042	3.00	No
		z	-0.031	1.00	No
		z	-0.031	5.00	No
	16	z	-0.042	5.54	No
		z	-0.042	2.46	No
	54	z	-0.042	5.54	No
		z	-0.042	2.46	No
	60	z	-0.103	6.85	No
		z	-0.103	1.15	No
		z	-0.042	3.00	No
		z	-0.031	1.00	No
		z	-0.031	5.00	No
	63	z	-0.065	6.25	No
		z	-0.065	1.75	No

		z	-0.033	5.00	No
		z	-0.03	2.00	No
	66	z	-0.065	5.54	No
		z	-0.065	2.46	No
	72	z	-0.147	6.85	No
		z	-0.147	1.15	No
		z	-0.01	3.00	No
		z	-0.01	1.00	No
		z	-0.01	5.00	No
	75	z	-0.094	6.25	No
		z	-0.094	1.75	No
		z	-0.024	5.00	No
		z	-0.03	5.00	No
W30	13	x	-0.084	6.25	No
		x	-0.084	1.75	No
		x	-0.031	5.00	No
		x	-0.03	2.00	No
	14	x	-0.132	6.85	No
		x	-0.132	1.15	No
		x	-0.036	3.00	No
		x	-0.025	1.00	No
		x	-0.025	5.00	No
	16	x	-0.057	5.54	No
		x	-0.057	2.46	No
	54	x	-0.057	5.54	No
		x	-0.057	2.46	No
	60	x	-0.132	6.85	No
		x	-0.132	1.15	No
		x	-0.036	3.00	No
		x	-0.025	1.00	No
		x	-0.025	5.00	No
	63	x	-0.084	6.25	No
		x	-0.084	1.75	No
		x	-0.031	5.00	No
		x	-0.03	2.00	No
	66	x	-0.035	5.54	No
		x	-0.035	2.46	No
	72	x	-0.089	6.85	No
		x	-0.089	1.15	No
		x	-0.039	3.00	No
		x	-0.029	3.00	No
		x	-0.029	3.00	No
	75	x	-0.055	6.25	No
		x	-0.055	1.75	No
		x	-0.028	3.00	No
		x	-0.03	2.00	No
Di	13	y	-0.05	6.25	No
		y	-0.05	1.75	No
		y	-0.045	5.00	No
		y	-0.05	2.00	No
	14	y	-0.079	6.85	No
		y	-0.079	1.15	No
		y	-0.045	3.00	No
		y	-0.038	1.00	No
		y	-0.031	5.00	No
		y	-0.012	3.00	No
	16	y	-0.035	5.54	No
		y	-0.035	2.46	No
		y	-0.016	4.00	No
	54	y	-0.035	5.54	No

		y	-0.035	2.46	No
		y	-0.016	4.00	No
	60	y	-0.079	6.85	No
		y	-0.079	1.15	No
		y	-0.045	3.00	No
		y	-0.038	1.00	No
		y	-0.031	5.00	No
		y	-0.012	3.00	No
	63	y	-0.05	6.25	No
		y	-0.05	1.75	No
		y	-0.045	5.00	No
		y	-0.05	2.00	No
	66	y	-0.035	5.54	No
		y	-0.035	2.46	No
		y	-0.016	2.00	No
	72	y	-0.079	6.85	No
		y	-0.079	1.15	No
		y	-0.045	3.00	No
		y	-0.038	1.00	No
		y	-0.031	5.00	No
		y	-0.035	4.00	No
	75	y	-0.05	6.25	No
		y	-0.05	1.75	No
		y	-0.045	5.00	No
		y	-0.05	5.00	No
		y	-0.035	4.00	No
Wi0	13	z	-0.028	6.25	No
		z	-0.028	1.75	No
		z	-0.016	5.00	No
		z	-0.016	2.00	No
	14	z	-0.04	6.85	No
		z	-0.04	1.15	No
		z	-0.02	3.00	No
		z	-0.015	1.00	No
		z	-0.015	1.00	No
	16	z	-0.019	5.54	No
		z	-0.019	2.46	No
	54	z	-0.019	5.54	No
		z	-0.019	2.46	No
	60	z	-0.04	6.85	No
		z	-0.04	1.15	No
		z	-0.02	3.00	No
		z	-0.015	1.00	No
		z	-0.015	1.00	No
	63	z	-0.028	6.25	No
		z	-0.028	1.75	No
		z	-0.016	5.00	No
		z	-0.016	2.00	No
	66	z	-0.027	5.54	No
		z	-0.027	2.46	No
	72	z	-0.053	6.85	No
		z	-0.053	1.15	No
		z	-0.015	3.00	No
		z	-0.01	1.00	No
		z	-0.01	5.00	No
	75	z	-0.037	6.25	No
		z	-0.037	1.75	No
		z	-0.014	5.00	No
		z	-0.016	5.00	No
Wi30	13	x	-0.033	6.25	No

		x	-0.033	1.75	No
		x	-0.014	5.00	No
		x	-0.016	2.00	No
	14	x	-0.048	6.85	No
		x	-0.048	1.15	No
		x	-0.016	3.00	No
		x	-0.012	1.00	No
		x	-0.012	1.00	No
	16	x	-0.024	5.54	No
		x	-0.024	2.46	No
	54	x	-0.024	5.54	No
		x	-0.024	2.46	No
	60	x	-0.048	6.85	No
		x	-0.048	1.15	No
		x	-0.016	3.00	No
		x	-0.012	1.00	No
		x	-0.012	1.00	No
	63	x	-0.033	6.25	No
		x	-0.033	1.75	No
		x	-0.014	5.00	No
		x	-0.016	2.00	No
	66	x	-0.017	5.54	No
		x	-0.017	2.46	No
	72	x	-0.036	6.85	No
		x	-0.036	1.15	No
		x	-0.019	2.00	No
		x	-0.015	2.00	No
		x	-0.015	2.00	No
	75	x	-0.025	6.25	No
		x	-0.025	1.75	No
		x	-0.015	2.00	No
		x	-0.016	2.00	No
WL0	13	z	-0.007	6.25	No
		z	-0.007	1.75	No
		z	-0.004	5.00	No
		z	-0.003	2.00	No
	14	z	-0.01	6.85	No
		z	-0.01	1.15	No
		z	-0.004	3.00	No
		z	-0.003	1.00	No
		z	-0.003	1.00	No
	16	z	-0.005	5.54	No
		z	-0.005	2.46	No
	54	z	-0.005	5.54	No
		z	-0.005	2.46	No
	60	z	-0.01	6.85	No
		z	-0.01	1.15	No
		z	-0.004	3.00	No
		z	-0.003	1.00	No
		z	-0.003	1.00	No
	63	z	-0.007	6.25	No
		z	-0.007	1.75	No
		z	-0.004	5.00	No
		z	-0.003	2.00	No
	66	z	-0.007	5.54	No
		z	-0.007	2.46	No
	72	z	-0.015	6.85	No
		z	-0.015	1.15	No
		z	-0.001	3.00	No
		z	-0.001	1.00	No

		z	-0.001	5.00	No
	75	z	-0.01	6.25	No
		z	-0.01	1.75	No
		z	-0.003	5.00	No
		z	-0.003	5.00	No
WL30	13	x	-0.009	6.25	No
		x	-0.009	1.75	No
		x	-0.004	5.00	No
		x	-0.003	2.00	No
	14	x	-0.013	6.85	No
		x	-0.013	1.15	No
		x	-0.004	3.00	No
		x	-0.003	1.00	No
		x	-0.003	1.00	No
	16	x	-0.006	5.54	No
		x	-0.006	2.46	No
	54	x	-0.006	5.54	No
		x	-0.006	2.46	No
	60	x	-0.013	6.85	No
		x	-0.013	1.15	No
		x	-0.004	3.00	No
		x	-0.003	1.00	No
		x	-0.003	1.00	No
	63	x	-0.009	6.25	No
		x	-0.009	1.75	No
		x	-0.004	5.00	No
		x	-0.003	2.00	No
	66	x	-0.004	5.54	No
		x	-0.004	2.46	No
	72	x	-0.009	6.85	No
		x	-0.009	1.15	No
		x	-0.004	2.00	No
		x	-0.003	2.00	No
		x	-0.003	2.00	No
	75	x	-0.006	6.25	No
		x	-0.006	1.75	No
		x	-0.003	2.00	No
		x	-0.003	2.00	No
LL1	1	y	-0.25	7.00	No
	2	y	-0.25	7.00	No
	3	y	-0.25	7.00	No
LL2	1	y	-0.25	0.00	No
	2	y	-0.25	0.00	No
	3	y	-0.25	0.00	No
LLa1	16	y	-0.50	4.00	No
	54	y	-0.50	4.00	No
	66	y	-0.50	4.00	No
LLa2	57	y	-0.50	4.00	No
	15	y	-0.50	4.00	No
	69	y	-0.50	4.00	No
LLa3	14	y	-0.50	4.00	No
	60	y	-0.50	4.00	No
	72	y	-0.50	4.00	No
LLa4	13	y	-0.50	4.00	No
	63	y	-0.50	4.00	No
	75	y	-0.50	4.00	No

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
DL	Dead Load	No	0.00	-1.00	0.00
W0	Wind Load 0/60/120 deg	No	0.00	0.00	0.00
W30	Wind Load 30/90/150 deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
Wi0	Ice Wind Load 0/60/120 deg	No	0.00	0.00	0.00
Wi30	Ice Wind Load 30/90/150 deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0/60/120 deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30/90/150 deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load on Antenna 4	No	0.00	0.00	0.00
W180	-W0	Yes	0.00	0.00	0.00
W210	-W30	Yes	0.00	0.00	0.00
Wi180	-Wi0	Yes	0.00	0.00	0.00
Wi210	-Wi30	Yes	0.00	0.00	0.00
WL180	-WL0	Yes	0.00	0.00	0.00
WL210	-WL30	Yes	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
DL	0.00	0.00	0.00
W0	0.00	0.00	0.00
W30	0.00	0.00	0.00
Di	0.00	0.00	0.00
Wi0	0.00	0.00	0.00
Wi30	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00
W180	0.00	0.00	0.00
W210	0.00	0.00	0.00
Wi180	0.00	0.00	0.00
Wi210	0.00	0.00	0.00
WL180	0.00	0.00	0.00
WL210	0.00	0.00	0.00

Bentley

Current Date: 6/7/2018 12:17 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1160\CT1160 (3C-4C-5C).etz\

Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

W180=-W0
W210=-W30
Wi180=-Wi0
Wi210=-Wi30
WL180=-WL0
WL210=-WL30
LC1=1.2DL+1.6W0
LC2=1.2DL+1.6W30
LC3=1.2DL-1.6W0
LC4=1.2DL-1.6W30
LC5=0.9DL+1.6W0
LC6=0.9DL+1.6W30
LC7=0.9DL-1.6W0
LC8=0.9DL-1.6W30
LC9=1.2DL+Di+Wi0
LC10=1.2DL+Di+Wi30
LC11=1.2DL+Di-Wi0
LC12=1.2DL+Di-Wi30
LC13=1.2DL
LC14=0.9DL
LC15=1.2DL+1.6LL1
LC16=1.2DL+1.6LL2
LC17=1.2DL+WL0+LLa1
LC18=1.2DL+WL30+LLa1
LC19=1.2DL-WL0+LLa1
LC20=1.2DL-WL30+LLa1
LC21=1.2DL+WL0+LLa2
LC22=1.2DL+WL30+LLa2
LC23=1.2DL-WL0+LLa2
LC24=1.2DL-WL30+LLa2
LC25=1.2DL+WL0+LLa3
LC26=1.2DL+WL30+LLa3
LC27=1.2DL-WL0+LLa3
LC28=1.2DL-WL30+LLa3
LC29=1.2DL+WL0+LLa4
LC30=1.2DL+WL30+LLa4
LC31=1.2DL-WL0+LLa4
LC32=1.2DL-WL30+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	**7**	LC1 at 0.00%	0.11	OK	Eq. H1-1b
			LC10 at 0.00%	**0.27**	**OK**	Eq. H1-1b
			LC11 at 0.00%	0.25	OK	Eq. H1-1b
			LC12 at 0.00%	0.25	OK	Eq. H1-1b
			LC13 at 0.00%	0.13	OK	Eq. H1-1b
			LC14 at 0.00%	0.10	OK	Eq. H1-1b
			LC15 at 0.00%	0.21	OK	Eq. H1-1b
			LC16 at 0.00%	0.14	OK	Eq. H1-1b
			LC17 at 0.00%	0.16	OK	Eq. H1-1b
			LC18 at 0.00%	0.17	OK	Eq. H1-1b
			LC19 at 0.00%	0.16	OK	Eq. H1-1b

	LC2 at 0.00%	0.24	OK	Eq. H1-1b
	LC20 at 0.00%	0.17	OK	Eq. H1-1b
	LC21 at 0.00%	0.22	OK	Eq. H1-1b
	LC22 at 0.00%	0.22	OK	Eq. H1-1b
	LC23 at 0.00%	0.22	OK	Eq. H1-1b
	LC24 at 0.00%	0.21	OK	Eq. H1-1b
	LC25 at 0.00%	0.22	OK	Eq. H1-1b
	LC26 at 0.00%	0.23	OK	Eq. H1-1b
	LC27 at 0.00%	0.22	OK	Eq. H1-1b
	LC28 at 0.00%	0.22	OK	Eq. H1-1b
	LC29 at 0.00%	0.17	OK	Eq. H1-1b
	LC3 at 0.00%	0.16	OK	Eq. H1-1b
	LC30 at 0.00%	0.18	OK	Eq. H1-1b
	LC31 at 0.00%	0.17	OK	Eq. H1-1b
	LC32 at 0.00%	0.17	OK	Eq. H1-1b
	LC4 at 0.00%	0.22	OK	Eq. H1-1b
	LC5 at 0.00%	0.08	OK	Eq. H1-1b
	LC6 at 0.00%	0.20	OK	Eq. H1-1b
	LC7 at 0.00%	0.12	OK	Eq. H1-1b
	LC8 at 0.00%	0.19	OK	Eq. H1-1b
	LC9 at 0.00%	0.24	OK	Eq. H1-1b
	W180 at 100.00%	0.02	OK	Eq. H1-1b
	W210 at 0.00%	0.08	OK	
	Wi180 at 100.00%	0.01	OK	Eq. H1-1b
	Wi210 at 0.00%	0.03	OK	
	WL180 at 100.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	
8	LC1 at 0.00%	0.22	OK	Eq. H1-1b
	LC10 at 0.00%	0.23	OK	Eq. H1-1b
	LC11 at 0.00%	0.25	OK	Eq. H1-1b
	LC12 at 0.00%	**0.25**	**OK**	Eq. H1-1b
	LC13 at 0.00%	0.12	OK	Eq. H1-1b
	LC14 at 0.00%	0.09	OK	Eq. H1-1b
	LC15 at 0.00%	0.20	OK	Eq. H1-1b
	LC16 at 0.00%	0.13	OK	Eq. H1-1b
	LC17 at 0.00%	0.16	OK	Eq. H1-1b
	LC18 at 0.00%	0.16	OK	Eq. H1-1b
	LC19 at 0.00%	0.15	OK	Eq. H1-1b
	LC2 at 0.00%	0.19	OK	Eq. H1-1b
	LC20 at 0.00%	0.15	OK	Eq. H1-1b
	LC21 at 0.00%	0.21	OK	Eq. H1-1b
	LC22 at 0.00%	0.21	OK	Eq. H1-1b
	LC23 at 0.00%	0.21	OK	Eq. H1-1b
	LC24 at 0.00%	0.21	OK	Eq. H1-1b
	LC25 at 0.00%	0.20	OK	Eq. H1-1b
	LC26 at 0.00%	0.20	OK	Eq. H1-1b
	LC27 at 0.00%	0.21	OK	Eq. H1-1b
	LC28 at 0.00%	0.21	OK	Eq. H1-1b
	LC29 at 0.00%	0.15	OK	Eq. H1-1b
	LC3 at 0.00%	0.21	OK	Eq. H1-1b
	LC30 at 0.00%	0.15	OK	Eq. H1-1b
	LC31 at 0.00%	0.16	OK	Eq. H1-1b
	LC32 at 0.00%	0.16	OK	Eq. H1-1b
	LC4 at 0.00%	0.22	OK	Eq. H1-1b
	LC5 at 0.00%	0.20	OK	Eq. H1-1b
	LC6 at 0.00%	0.16	OK	Eq. H1-1b
	LC7 at 0.00%	0.18	OK	Eq. H1-1b
	LC8 at 0.00%	0.19	OK	Eq. H1-1b
	LC9 at 0.00%	0.24	OK	Eq. H1-1b
	W180 at 0.00%	0.07	OK	
	W210 at 0.00%	0.07	OK	Eq. H1-1b
	Wi180 at 0.00%	0.02	OK	
	Wi210 at 0.00%	0.02	OK	Eq. H1-1b

		WL180 at 0.00%	0.01	OK	
		WL210 at 0.00%	0.01	OK	Eq. H1-1b
	9	LC1 at 0.00%	0.23	OK	Eq. H1-1b
		LC10 at 0.00%	0.24	OK	Eq. H1-1b
		LC11 at 0.00%	0.24	OK	Eq. H1-1b
		LC12 at 0.00%	0.23	OK	Eq. H1-1b
		LC13 at 0.00%	0.12	OK	Eq. H1-1b
		LC14 at 0.00%	0.09	OK	Eq. H1-1b
		LC15 at 0.00%	0.20	OK	Eq. H1-1b
		LC16 at 0.00%	0.13	OK	Eq. H1-1b
		LC17 at 0.00%	0.15	OK	Eq. H1-1b
		LC18 at 0.00%	0.16	OK	Eq. H1-1b
		LC19 at 0.00%	0.16	OK	Eq. H1-1b
		LC2 at 0.00%	0.21	OK	Eq. H1-1b
		LC20 at 0.00%	0.15	OK	Eq. H1-1b
		LC21 at 0.00%	0.21	OK	Eq. H1-1b
		LC22 at 0.00%	0.21	OK	Eq. H1-1b
		LC23 at 0.00%	0.21	OK	Eq. H1-1b
		LC24 at 0.00%	0.20	OK	Eq. H1-1b
		LC25 at 0.00%	0.21	OK	Eq. H1-1b
		LC26 at 0.00%	0.21	OK	Eq. H1-1b
		LC27 at 0.00%	0.21	OK	Eq. H1-1b
		LC28 at 0.00%	0.21	OK	Eq. H1-1b
		LC29 at 0.00%	0.16	OK	Eq. H1-1b
		LC3 at 0.00%	0.22	OK	Eq. H1-1b
		LC30 at 0.00%	0.15	OK	Eq. H1-1b
		LC31 at 0.00%	0.15	OK	Eq. H1-1b
		LC32 at 0.00%	0.16	OK	Eq. H1-1b
		LC4 at 0.00%	0.18	OK	Eq. H1-1b
		LC5 at 0.00%	0.21	OK	Eq. H1-1b
		LC6 at 0.00%	0.18	OK	Eq. H1-1b
		LC7 at 0.00%	0.19	OK	Eq. H1-1b
		LC8 at 0.00%	0.15	OK	Eq. H1-1b
		LC9 at 0.00%	**0.25**	**OK**	Eq. H1-1b
		W180 at 0.00%	0.07	OK	
		W210 at 0.00%	0.06	OK	Eq. H1-1b
		Wi180 at 0.00%	0.03	OK	Eq. H1-1b
		Wi210 at 0.00%	0.02	OK	Eq. H1-1b
		WL180 at 0.00%	0.01	OK	Eq. H1-1b
		WL210 at 0.00%	0.00	OK	Eq. H1-1b
L 3X3X1_4	1	LC1 at 48.96%	0.56	With warnings	Eq. H3-8
		LC10 at 48.96%	0.78	With warnings	Eq. H2-1
		LC11 at 48.96%	0.81	With warnings	Eq. H2-1
		LC12 at 48.96%	0.75	With warnings	Eq. H2-1
		LC13 at 48.96%	0.40	With warnings	Eq. H2-1
		LC14 at 48.96%	0.30	With warnings	Eq. H2-1
		LC15 at 48.96%	0.38	With warnings	Eq. H2-1
		LC16 at 48.96%	0.48	With warnings	Eq. H2-1
		LC17 at 0.00%	0.53	With warnings	Eq. H2-1
		LC18 at 0.00%	0.57	With warnings	Eq. H2-1
		LC19 at 0.00%	0.56	With warnings	Eq. H2-1
		LC2 at 0.00%	**0.96**	**With warnings**	Eq. H2-1
		LC20 at 0.00%	0.53	With warnings	Eq. H2-1
		LC21 at 50.00%	0.54	With warnings	Eq. H2-1
		LC22 at 50.00%	0.55	With warnings	Eq. H2-1
		LC23 at 50.00%	0.56	With warnings	Eq. H2-1
		LC24 at 50.00%	0.55	With warnings	Eq. H2-1
		LC25 at 48.96%	0.66	With warnings	Eq. H2-1
		LC26 at 48.96%	0.68	With warnings	Eq. H2-1
		LC27 at 48.96%	0.68	With warnings	Eq. H2-1
		LC28 at 48.96%	0.67	With warnings	Eq. H2-1
		LC29 at 48.96%	0.60	With warnings	Eq. H2-1

	LC3 at 48.96%	0.75	With warnings	Eq. H2-1
	LC30 at 48.96%	0.62	With warnings	Eq. H2-1
	LC31 at 48.96%	0.62	With warnings	Eq. H2-1
	LC32 at 48.96%	0.61	With warnings	Eq. H2-1
	LC4 at 100.00%	0.87	With warnings	Eq. H2-1
	LC5 at 48.96%	0.49	With warnings	Eq. H3-8
	LC6 at 0.00%	0.89	With warnings	Eq. H2-1
	LC7 at 48.96%	0.66	With warnings	Eq. H2-1
	LC8 at 100.00%	0.82	With warnings	Eq. H2-1
	LC9 at 48.96%	0.73	With warnings	Eq. H2-1
	W180 at 48.96%	0.41	With warnings	Eq. H2-1
	W210 at 100.00%	0.41	With warnings	Eq. H2-1
	Wi180 at 48.96%	0.13	With warnings	Eq. H2-1
	Wi210 at 100.00%	0.15	With warnings	Eq. H2-1
	WL180 at 48.96%	0.03	With warnings	Eq. H2-1
	WL210 at 100.00%	0.04	With warnings	Eq. H2-1
2	LC1 at 100.00%	**0.99**	**With warnings**	Eq. H2-1
	LC10 at 50.00%	0.75	With warnings	Eq. H2-1
	LC11 at 50.00%	0.78	With warnings	Eq. H2-1
	LC12 at 50.00%	0.83	With warnings	Eq. H2-1
	LC13 at 50.00%	0.41	With warnings	Eq. H2-1
	LC14 at 50.00%	0.30	With warnings	Eq. H2-1
	LC15 at 50.00%	0.38	With warnings	Eq. H2-1
	LC16 at 50.00%	0.49	With warnings	Eq. H2-1
	LC17 at 100.00%	0.52	With warnings	Eq. H2-1
	LC18 at 100.00%	0.50	With warnings	Eq. H2-1
	LC19 at 0.00%	0.50	With warnings	Eq. H2-1
	LC2 at 50.00%	0.60	With warnings	Eq. H3-8
	LC20 at 0.00%	0.51	With warnings	Eq. H2-1
	LC21 at 50.00%	0.50	With warnings	Eq. H2-1
	LC22 at 50.00%	0.48	With warnings	Eq. H2-1
	LC23 at 50.00%	0.49	With warnings	Eq. H2-1
	LC24 at 50.00%	0.50	With warnings	Eq. H2-1
	LC25 at 50.00%	0.73	With warnings	Eq. H2-1
	LC26 at 50.00%	0.71	With warnings	Eq. H2-1
	LC27 at 50.00%	0.72	With warnings	Eq. H2-1
	LC28 at 50.00%	0.73	With warnings	Eq. H2-1
	LC29 at 50.00%	0.64	With warnings	Eq. H2-1
	LC3 at 0.00%	0.59	With warnings	Eq. H2-1
	LC30 at 50.00%	0.63	With warnings	Eq. H2-1
	LC31 at 50.00%	0.63	With warnings	Eq. H2-1
	LC32 at 50.00%	0.65	With warnings	Eq. H2-1
	LC4 at 0.00%	0.94	With warnings	Eq. H2-1
	LC5 at 100.00%	0.94	With warnings	Eq. H2-1
	LC6 at 50.00%	0.53	With warnings	Eq. H3-8
	LC7 at 0.00%	0.54	With warnings	Eq. H2-1
	LC8 at 0.00%	0.88	With warnings	Eq. H2-1
	LC9 at 50.00%	0.81	With warnings	Eq. H2-1
	W180 at 100.00%	0.28	With warnings	Eq. H2-1
	W210 at 0.00%	0.45	With warnings	Eq. H2-1
	Wi180 at 100.00%	0.10	With warnings	Eq. H2-1
	Wi210 at 0.00%	0.15	With warnings	Eq. H2-1
	WL180 at 100.00%	0.02	With warnings	Eq. H2-1
	WL210 at 0.00%	0.04	With warnings	Eq. H2-1
3	LC1 at 0.00%	**1.01**	**N.G.**	Eq. H2-1
	LC10 at 50.00%	0.83	With warnings	Eq. H2-1
	LC11 at 50.00%	0.77	With warnings	Eq. H2-1
	LC12 at 50.00%	0.76	With warnings	Eq. H2-1
	LC13 at 50.00%	0.41	With warnings	Eq. H2-1
	LC14 at 50.00%	0.31	With warnings	Eq. H2-1
	LC15 at 50.00%	0.38	With warnings	Eq. H2-1
	LC16 at 50.00%	0.49	With warnings	Eq. H2-1

	LC17 at 100.00%	0.55	With warnings	Eq. H2-1
	LC18 at 100.00%	0.58	With warnings	Eq. H2-1
	LC19 at 100.00%	0.57	With warnings	Eq. H2-1
	LC2 at 100.00%	0.99	With warnings	Eq. H2-1
	LC20 at 100.00%	0.54	With warnings	Eq. H2-1
	LC21 at 50.00%	0.50	With warnings	Eq. H2-1
	LC22 at 50.00%	0.50	With warnings	Eq. H2-1
	LC23 at 50.00%	0.49	With warnings	Eq. H2-1
	LC24 at 50.00%	0.49	With warnings	Eq. H2-1
	LC25 at 50.00%	0.73	With warnings	Eq. H2-1
	LC26 at 50.00%	0.73	With warnings	Eq. H2-1
	LC27 at 50.00%	0.72	With warnings	Eq. H2-1
	LC28 at 50.00%	0.72	With warnings	Eq. H2-1
	LC29 at 50.00%	0.64	With warnings	Eq. H2-1
	LC3 at 100.00%	0.59	With warnings	Eq. H2-1
	LC30 at 50.00%	0.65	With warnings	Eq. H2-1
	LC31 at 50.00%	0.63	With warnings	Eq. H2-1
	LC32 at 50.00%	0.63	With warnings	Eq. H2-1
	LC4 at 50.00%	0.45	With warnings	Eq. H3-8
	LC5 at 0.00%	0.96	With warnings	Eq. H2-1
	LC6 at 100.00%	0.92	With warnings	Eq. H2-1
	LC7 at 100.00%	0.53	With warnings	Eq. H2-1
	LC8 at 50.00%	0.40	With warnings	Eq. H2-1
	LC9 at 50.00%	0.82	With warnings	Eq. H2-1
	W180 at 0.00%	0.29	With warnings	Eq. H2-1
	W210 at 50.00%	0.27	With warnings	Eq. H2-1
	Wi180 at 0.00%	0.11	With warnings	Eq. H2-1
	Wi210 at 100.00%	0.09	With warnings	Eq. H2-1
	WL180 at 0.00%	0.02	With warnings	Eq. H2-1
	WL210 at 100.00%	0.02	With warnings	Eq. H2-1
4	LC1 at 100.00%	0.09	OK	Eq. H2-1
	LC10 at 0.00%	0.28	OK	Eq. H2-1
	LC11 at 0.00%	0.25	OK	Eq. H2-1
	LC12 at 100.00%	0.25	OK	Eq. H2-1
	LC13 at 0.00%	0.12	OK	Eq. H2-1
	LC14 at 0.00%	0.09	OK	Eq. H2-1
	LC15 at 0.00%	0.12	OK	Eq. H2-1
	LC16 at 0.00%	0.25	OK	Sec. F1
	LC17 at 0.00%	0.20	OK	Eq. H2-1
	LC18 at 0.00%	0.22	OK	Eq. H2-1
	LC19 at 0.00%	0.21	OK	Eq. H2-1
	LC2 at 0.00%	**0.36**	**OK**	Eq. H2-1
	LC20 at 100.00%	0.20	OK	Eq. H2-1
	LC21 at 0.00%	0.13	OK	Eq. H2-1
	LC22 at 0.00%	0.15	OK	Eq. H2-1
	LC23 at 0.00%	0.14	OK	Eq. H2-1
	LC24 at 100.00%	0.13	OK	Eq. H2-1
	LC25 at 0.00%	0.13	OK	Eq. H2-1
	LC26 at 0.00%	0.15	OK	Eq. H2-1
	LC27 at 0.00%	0.14	OK	Eq. H2-1
	LC28 at 100.00%	0.13	OK	Eq. H2-1
	LC29 at 0.00%	0.20	OK	Eq. H2-1
	LC3 at 0.00%	0.23	OK	Eq. H2-1
	LC30 at 0.00%	0.22	OK	Eq. H2-1
	LC31 at 0.00%	0.21	OK	Eq. H2-1
	LC32 at 100.00%	0.20	OK	Eq. H2-1
	LC4 at 100.00%	0.34	OK	Eq. H2-1
	LC5 at 100.00%	0.10	OK	Eq. H2-1
	LC6 at 0.00%	0.33	OK	Eq. H2-1
	LC7 at 0.00%	0.20	OK	Eq. H2-1
	LC8 at 100.00%	0.31	OK	Eq. H2-1
	LC9 at 0.00%	0.20	OK	Eq. H2-1
	W180 at 100.00%	0.07	OK	Eq. H2-1

	W210 at 0.00%	0.21	OK	Eq. H2-1
	Wi180 at 100.00%	0.03	OK	Eq. H2-1
	Wi210 at 0.00%	0.08	OK	Eq. H2-1
	WL180 at 100.00%	0.01	OK	Eq. H2-1
	WL210 at 0.00%	0.02	OK	Eq. H2-1
5	LC1 at 100.00%	**0.36**	**OK**	Eq. H2-1
	LC10 at 100.00%	0.20	OK	Eq. H2-1
	LC11 at 0.00%	0.23	OK	Eq. H2-1
	LC12 at 0.00%	0.25	OK	Eq. H2-1
	LC13 at 0.00%	0.09	OK	Eq. H2-1
	LC14 at 0.00%	0.07	OK	Eq. H2-1
	LC15 at 0.00%	0.10	OK	Eq. H2-1
	LC16 at 0.00%	0.22	OK	Sec. F1
	LC17 at 100.00%	0.20	OK	Eq. H2-1
	LC18 at 100.00%	0.18	OK	Eq. H2-1
	LC19 at 0.00%	0.19	OK	Eq. H2-1
	LC2 at 0.00%	0.21	OK	Eq. H2-1
	LC20 at 0.00%	0.20	OK	Eq. H2-1
	LC21 at 100.00%	0.13	OK	Eq. H2-1
	LC22 at 100.00%	0.12	OK	Eq. H2-1
	LC23 at 0.00%	0.12	OK	Eq. H2-1
	LC24 at 0.00%	0.13	OK	Eq. H2-1
	LC25 at 100.00%	0.13	OK	Eq. H2-1
	LC26 at 100.00%	0.12	OK	Eq. H2-1
	LC27 at 0.00%	0.12	OK	Eq. H2-1
	LC28 at 0.00%	0.13	OK	Eq. H2-1
	LC29 at 100.00%	0.20	OK	Eq. H2-1
	LC3 at 100.00%	0.26	OK	Eq. H2-1
	LC30 at 100.00%	0.19	OK	Eq. H2-1
	LC31 at 0.00%	0.19	OK	Eq. H2-1
	LC32 at 0.00%	0.20	OK	Eq. H2-1
	LC4 at 0.00%	0.33	OK	Eq. H2-1
	LC5 at 100.00%	0.33	OK	Eq. H2-1
	LC6 at 0.00%	0.23	OK	Eq. H2-1
	LC7 at 100.00%	0.29	OK	Eq. H2-1
	LC8 at 0.00%	0.30	OK	Eq. H2-1
	LC9 at 100.00%	0.25	OK	Eq. H2-1
	W180 at 100.00%	0.23	OK	Eq. H2-1
	W210 at 0.00%	0.15	OK	Eq. H2-1
	Wi180 at 100.00%	0.08	OK	Eq. H2-1
	Wi210 at 0.00%	0.05	OK	Eq. H2-1
	WL180 at 100.00%	0.02	OK	Eq. H2-1
	WL210 at 0.00%	0.01	OK	Eq. H2-1
6	LC1 at 0.00%	0.35	OK	Eq. H2-1
	LC10 at 100.00%	0.28	OK	Eq. H2-1
	LC11 at 100.00%	0.26	OK	Eq. H2-1
	LC12 at 0.00%	0.19	OK	Eq. H2-1
	LC13 at 100.00%	0.12	OK	Eq. H2-1
	LC14 at 100.00%	0.09	OK	Eq. H2-1
	LC15 at 100.00%	0.12	OK	Eq. H2-1
	LC16 at 100.00%	0.25	OK	Eq. H2-1
	LC17 at 100.00%	0.20	OK	Eq. H2-1
	LC18 at 100.00%	0.22	OK	Eq. H2-1
	LC19 at 100.00%	0.22	OK	Eq. H2-1
	LC2 at 100.00%	**0.35**	**OK**	Eq. H2-1
	LC20 at 100.00%	0.19	OK	Eq. H2-1
	LC21 at 100.00%	0.13	OK	Eq. H2-1
	LC22 at 100.00%	0.15	OK	Eq. H2-1
	LC23 at 100.00%	0.15	OK	Eq. H2-1
	LC24 at 100.00%	0.13	OK	Eq. H2-1
	LC25 at 100.00%	0.13	OK	Eq. H2-1
	LC26 at 100.00%	0.15	OK	Eq. H2-1

	LC27 at 100.00%	0.15	OK	Eq. H2-1
	LC28 at 100.00%	0.13	OK	Eq. H2-1
	LC29 at 100.00%	0.20	OK	Eq. H2-1
	LC3 at 100.00%	0.26	OK	Eq. H2-1
	LC30 at 100.00%	0.22	OK	Eq. H2-1
	LC31 at 100.00%	0.22	OK	Eq. H2-1
	LC32 at 100.00%	0.20	OK	Eq. H2-1
	LC4 at 100.00%	0.19	OK	Eq. H2-1
	LC5 at 0.00%	0.33	OK	Eq. H2-1
	LC6 at 100.00%	0.32	OK	Eq. H2-1
	LC7 at 0.00%	0.28	OK	Eq. H2-1
	LC8 at 100.00%	0.22	OK	Eq. H2-1
	LC9 at 0.00%	0.25	OK	Eq. H2-1
	W180 at 0.00%	0.23	OK	Eq. H2-1
	W210 at 100.00%	0.20	OK	Eq. H2-1
	Wi180 at 0.00%	0.08	OK	Eq. H2-1
	Wi210 at 100.00%	0.07	OK	Eq. H2-1
	WL180 at 0.00%	0.02	OK	Eq. H2-1
	WL210 at 100.00%	0.02	OK	Eq. H2-1
28	LC1 at 100.00%	**0.67**	**OK**	Eq. H3-8
	LC10 at 100.00%	0.19	OK	Eq. H3-8
	LC11 at 100.00%	0.16	OK	Eq. H2-1
	LC12 at 0.00%	0.08	OK	Sec. F1
	LC13 at 100.00%	0.07	OK	Eq. H3-8
	LC14 at 100.00%	0.05	OK	Eq. H3-8
	LC15 at 100.00%	0.07	OK	Eq. H3-8
	LC16 at 100.00%	0.07	OK	Eq. H3-8
	LC17 at 0.00%	0.06	OK	Eq. H2-1
	LC18 at 0.00%	0.09	OK	Eq. H2-1
	LC19 at 100.00%	0.09	OK	Eq. H2-1
	LC2 at 0.00%	0.40	OK	Sec. F1
	LC20 at 100.00%	0.07	OK	Eq. H2-1
	LC21 at 0.00%	0.06	OK	Eq. H2-1
	LC22 at 0.00%	0.09	OK	Eq. H2-1
	LC23 at 100.00%	0.09	OK	Eq. H2-1
	LC24 at 100.00%	0.05	OK	Eq. H2-1
	LC25 at 100.00%	0.14	OK	Eq. H3-8
	LC26 at 100.00%	0.13	OK	Eq. H3-8
	LC27 at 100.00%	0.09	OK	Eq. H2-1
	LC28 at 100.00%	0.09	OK	Eq. H3-8
	LC29 at 100.00%	0.20	OK	Eq. H3-8
	LC3 at 0.00%	0.56	OK	Eq. H3-8
	LC30 at 100.00%	0.18	OK	Eq. H3-8
	LC31 at 100.00%	0.13	OK	Eq. H3-8
	LC32 at 100.00%	0.15	OK	Eq. H3-8
	LC4 at 0.00%	0.33	OK	Sec. F1
	LC5 at 100.00%	0.66	OK	Eq. H3-8
	LC6 at 0.00%	0.39	OK	Sec. F1
	LC7 at 0.00%	0.57	OK	Eq. H3-8
	LC8 at 0.00%	0.34	OK	Sec. F1
	LC9 at 100.00%	0.26	OK	Eq. H3-8
	W180 at 0.00%	0.38	OK	Eq. H3-8
	W210 at 0.00%	0.23	OK	Sec. F1
	Wi180 at 0.00%	0.15	OK	Eq. H3-8
	Wi210 at 0.00%	0.08	OK	Sec. F1
	WL180 at 0.00%	0.03	OK	Eq. H3-8
	WL210 at 0.00%	0.02	OK	Sec. F1
29	LC1 at 100.00%	0.23	OK	Eq. H3-8
	LC10 at 0.00%	0.10	OK	Eq. H3-8
	LC11 at 100.00%	0.13	OK	Eq. H2-1
	LC12 at 0.00%	0.19	OK	Eq. H2-1
	LC13 at 100.00%	0.04	OK	Eq. H2-1

	LC14 at 100.00%	0.03	OK	Eq. H2-1
	LC15 at 100.00%	0.04	OK	Eq. H2-1
	LC16 at 100.00%	0.05	OK	Eq. H2-1
	LC17 at 0.00%	0.07	OK	Eq. H2-1
	LC18 at 0.00%	0.06	OK	Eq. H2-1
	LC19 at 100.00%	0.08	OK	Eq. H2-1
	LC2 at 0.00%	0.43	OK	Sec. F1
	LC20 at 0.00%	0.10	OK	Eq. H2-1
	LC21 at 0.00%	0.07	OK	Eq. H2-1
	LC22 at 100.00%	0.05	OK	Eq. H2-1
	LC23 at 100.00%	0.08	OK	Eq. H2-1
	LC24 at 0.00%	0.09	OK	Eq. H2-1
	LC25 at 0.00%	0.07	OK	Eq. H2-1
	LC26 at 0.00%	0.07	OK	Eq. H3-8
	LC27 at 100.00%	0.08	OK	Eq. H2-1
	LC28 at 0.00%	0.09	OK	Eq. H2-1
	LC29 at 100.00%	0.08	OK	Eq. H2-1
	LC3 at 0.00%	0.29	OK	Eq. H3-8
	LC30 at 0.00%	0.10	OK	Eq. H3-8
	LC31 at 0.00%	0.10	OK	Eq. H3-8
	LC32 at 0.00%	0.09	OK	Eq. H2-1
	LC4 at 0.00%	**0.50**	**OK**	Sec. F1
	LC5 at 100.00%	0.24	OK	Eq. H3-8
	LC6 at 0.00%	0.44	OK	Sec. F1
	LC7 at 0.00%	0.29	OK	Eq. H3-8
	LC8 at 0.00%	0.49	OK	Sec. F1
	LC9 at 0.00%	0.08	OK	Eq. H2-1
	W180 at 0.00%	0.16	OK	Eq. H3-8
	W210 at 0.00%	0.29	OK	Sec. F1
	Wi180 at 0.00%	0.07	OK	Eq. H3-8
	Wi210 at 0.00%	0.11	OK	Sec. F1
	WL180 at 0.00%	0.01	OK	Eq. H3-8
	WL210 at 0.00%	0.03	OK	Sec. F1
30	LC1 at 0.00%	**0.43**	**OK**	Sec. F1
	LC10 at 0.00%	0.13	OK	Eq. H2-1
	LC11 at 100.00%	0.08	OK	Sec. F1
	LC12 at 0.00%	0.13	OK	Eq. H3-8
	LC13 at 100.00%	0.04	OK	Eq. H2-1
	LC14 at 100.00%	0.03	OK	Eq. H2-1
	LC15 at 100.00%	0.04	OK	Eq. H2-1
	LC16 at 100.00%	0.05	OK	Eq. H2-1
	LC17 at 0.00%	0.09	OK	Eq. H2-1
	LC18 at 0.00%	0.08	OK	Eq. H2-1
	LC19 at 0.00%	0.06	OK	Eq. H2-1
	LC2 at 100.00%	0.32	OK	Eq. H3-8
	LC20 at 100.00%	0.07	OK	Eq. H2-1
	LC21 at 0.00%	0.08	OK	Eq. H2-1
	LC22 at 0.00%	0.08	OK	Eq. H2-1
	LC23 at 100.00%	0.05	OK	Eq. H2-1
	LC24 at 100.00%	0.07	OK	Eq. H2-1
	LC25 at 56.25%	0.08	OK	Eq. H2-1
	LC26 at 0.00%	0.07	OK	Eq. H2-1
	LC27 at 0.00%	0.06	OK	Eq. H3-8
	LC28 at 0.00%	0.08	OK	Eq. H3-8
	LC29 at 100.00%	0.09	OK	Eq. H2-1
	LC3 at 0.00%	0.36	OK	Sec. F1
	LC30 at 100.00%	0.08	OK	Eq. H2-1
	LC31 at 0.00%	0.08	OK	Eq. H3-8
	LC32 at 0.00%	0.10	OK	Eq. H3-8
	LC4 at 0.00%	0.36	OK	Eq. H3-8
	LC5 at 0.00%	0.42	OK	Sec. F1
	LC6 at 100.00%	0.32	OK	Eq. H3-8
	LC7 at 0.00%	0.37	OK	Sec. F1

		LC8 at 0.00%	0.36	OK	Eq. H3-8
		LC9 at 0.00%	0.17	OK	Eq. H2-1
		W180 at 0.00%	0.25	OK	Sec. F1
		W210 at 0.00%	0.21	OK	Eq. H3-8
		Wi180 at 0.00%	0.10	OK	Sec. F1
		Wi210 at 0.00%	0.08	OK	Eq. H3-8
		WL180 at 0.00%	0.02	OK	Sec. F1
		WL210 at 0.00%	0.02	OK	Eq. H3-8
PIPE 2x0.154	**13**	LC1 at 25.00%	0.44	OK	Eq. H1-1b
		LC10 at 72.92%	0.09	OK	Eq. H1-1b
		LC11 at 72.92%	0.20	OK	Eq. H1-1b
		LC12 at 72.92%	0.17	OK	Eq. H1-1b
		LC13 at 72.92%	0.06	OK	Eq. H1-1b
		LC14 at 72.92%	0.04	OK	Eq. H1-1b
		LC15 at 72.92%	0.06	OK	Eq. H1-1b
		LC16 at 72.92%	0.07	OK	Eq. H1-1b
		LC17 at 25.00%	0.07	OK	Eq. H1-1b
		LC18 at 72.92%	0.06	OK	Eq. H1-1b
		LC19 at 72.92%	0.07	OK	Eq. H1-1b
		LC2 at 72.92%	0.26	OK	Eq. H1-1b
		LC20 at 72.92%	0.06	OK	Eq. H1-1b
		LC21 at 25.00%	0.04	OK	Eq. H1-1b
		LC22 at 72.92%	0.04	OK	Eq. H1-1b
		LC23 at 72.92%	0.07	OK	Eq. H1-1b
		LC24 at 72.92%	0.07	OK	Eq. H1-1b
		LC25 at 72.92%	0.06	OK	Eq. H1-1b
		LC26 at 72.92%	0.07	OK	Eq. H1-1b
		LC27 at 72.92%	0.11	OK	Eq. H1-1b
		LC28 at 72.92%	0.10	OK	Eq. H1-1b
		LC29 at 72.92%	0.11	OK	Eq. H1-1b
		LC3 at 72.92%	**0.45**	**OK**	Eq. H1-1b
		LC30 at 72.92%	0.10	OK	Eq. H1-1b
		LC31 at 72.92%	0.14	OK	Eq. H1-1b
		LC32 at 72.92%	0.14	OK	Eq. H1-1b
		LC4 at 72.92%	0.34	OK	Eq. H1-1b
		LC5 at 25.00%	0.44	OK	Eq. H1-1b
		LC6 at 72.92%	0.25	OK	Eq. H1-1b
		LC7 at 72.92%	0.44	OK	Eq. H1-1b
		LC8 at 72.92%	0.33	OK	Eq. H1-1b
		LC9 at 25.00%	0.15	OK	Eq. H1-1b
		W180 at 25.00%	0.26	OK	Eq. H1-1b
		W210 at 72.92%	0.17	OK	Eq. H1-1b
		Wi180 at 25.00%	0.10	OK	Eq. H1-1b
		Wi210 at 72.92%	0.06	OK	Eq. H1-1b
		WL180 at 25.00%	0.02	OK	Eq. H1-1b
		WL210 at 72.92%	0.02	OK	Eq. H1-1b
	14	LC1 at 72.92%	**0.59**	**OK**	Eq. H1-1b
		LC10 at 72.92%	0.36	OK	Eq. H1-1b
		LC11 at 72.92%	0.16	OK	Eq. H1-1b
		LC12 at 72.92%	0.17	OK	Eq. H1-1b
		LC13 at 72.92%	0.14	OK	Eq. H1-1b
		LC14 at 72.92%	0.09	OK	Eq. H1-1b
		LC15 at 72.92%	0.13	OK	Eq. H1-1b
		LC16 at 72.92%	0.17	OK	Eq. H1-1b
		LC17 at 72.92%	0.16	OK	Eq. H1-1b
		LC18 at 72.92%	0.16	OK	Eq. H1-1b
		LC19 at 72.92%	0.11	OK	Eq. H1-1b
		LC2 at 72.92%	0.54	OK	Eq. H1-1b
		LC20 at 72.92%	0.10	OK	Eq. H1-1b
		LC21 at 72.92%	0.16	OK	Eq. H1-1b
		LC22 at 72.92%	0.16	OK	Eq. H1-1b
		LC23 at 72.92%	0.11	OK	Eq. H1-1b

	LC24 at 72.92%	0.11	OK	Eq. H1-1b
	LC25 at 72.92%	0.29	OK	Eq. H1-1b
	LC26 at 72.92%	0.29	OK	Eq. H1-1b
	LC27 at 72.92%	0.24	OK	Eq. H1-1b
	LC28 at 72.92%	0.24	OK	Eq. H1-1b
	LC29 at 72.92%	0.25	OK	Eq. H1-1b
	LC3 at 72.92%	0.56	OK	Eq. H1-1b
	LC30 at 72.92%	0.25	OK	Eq. H1-1b
	LC31 at 72.92%	0.20	OK	Eq. H1-1b
	LC32 at 72.92%	0.20	OK	Eq. H1-1b
	LC4 at 72.92%	0.29	OK	Eq. H1-1b
	LC5 at 72.92%	0.58	OK	Eq. H1-1b
	LC6 at 72.92%	0.50	OK	Eq. H1-1b
	LC7 at 72.92%	0.56	OK	Eq. H1-1b
	LC8 at 72.92%	0.31	OK	Eq. H1-1b
	LC9 at 72.92%	0.36	OK	Eq. H1-1b
	W180 at 72.92%	0.35	OK	Eq. H1-1b
	W210 at 72.92%	0.25	OK	Eq. H1-1b
	Wi180 at 72.92%	0.13	OK	Eq. H1-1b
	Wi210 at 72.92%	0.09	OK	Eq. H1-1b
	WL180 at 72.92%	0.03	OK	Eq. H1-1b
	WL210 at 72.92%	0.02	OK	Eq. H1-1b
16	LC1 at 72.92%	**0.43**	**OK**	Eq. H1-1b
	LC10 at 72.92%	0.08	OK	Eq. H1-1b
	LC11 at 25.00%	0.15	OK	Eq. H1-1b
	LC12 at 25.00%	0.14	OK	Eq. H1-1b
	LC13 at 25.00%	0.03	OK	Eq. H1-1b
	LC14 at 25.00%	0.02	OK	Eq. H1-1b
	LC15 at 25.00%	0.03	OK	Eq. H1-1b
	LC16 at 72.92%	0.09	OK	Eq. H1-1b
	LC17 at 72.92%	0.10	OK	Eq. H1-1b
	LC18 at 72.92%	0.09	OK	Eq. H1-1b
	LC19 at 72.92%	0.13	OK	Eq. H1-1b
	LC2 at 25.00%	0.30	OK	Eq. H1-1b
	LC20 at 72.92%	0.12	OK	Eq. H1-1b
	LC21 at 72.92%	0.07	OK	Eq. H1-1b
	LC22 at 72.92%	0.06	OK	Eq. H1-1b
	LC23 at 72.92%	0.03	OK	Eq. H1-1b
	LC24 at 70.83%	0.04	OK	Eq. H1-1b
	LC25 at 72.92%	0.04	OK	Eq. H1-1b
	LC26 at 72.92%	0.03	OK	Eq. H1-1b
	LC27 at 25.00%	0.06	OK	Eq. H1-1b
	LC28 at 25.00%	0.06	OK	Eq. H1-1b
	LC29 at 25.00%	0.07	OK	Eq. H1-1b
	LC3 at 72.92%	0.39	OK	Eq. H1-1b
	LC30 at 25.00%	0.07	OK	Eq. H1-1b
	LC31 at 25.00%	0.10	OK	Eq. H1-1b
	LC32 at 25.00%	0.10	OK	Eq. H1-1b
	LC4 at 25.00%	0.37	OK	Eq. H1-1b
	LC5 at 72.92%	0.43	OK	Eq. H1-1b
	LC6 at 25.00%	0.31	OK	Eq. H1-1b
	LC7 at 72.92%	0.40	OK	Eq. H1-1b
	LC8 at 25.00%	0.35	OK	Eq. H1-1b
	LC9 at 72.92%	0.12	OK	Eq. H1-1b
	W180 at 72.92%	0.25	OK	Eq. H1-1b
	W210 at 25.00%	0.20	OK	Eq. H1-1b
	Wi180 at 72.92%	0.10	OK	Eq. H1-1b
	Wi210 at 25.00%	0.08	OK	Eq. H1-1b
	WL180 at 72.92%	0.02	OK	Eq. H1-1b
	WL210 at 25.00%	0.02	OK	Eq. H1-1b
25	LC1 at 10.00%	0.47	OK	Eq. H1-1b
	LC10 at 63.75%	0.22	OK	Eq. H1-1b

	LC11 at 36.25%	0.21	OK	Eq. H1-1b
	LC12 at 11.25%	0.26	OK	Eq. H1-1b
	LC13 at 63.75%	0.07	OK	Eq. H1-1b
	LC14 at 63.75%	0.05	OK	Eq. H1-1b
	LC15 at 62.50%	0.07	OK	Eq. H1-1b
	LC16 at 63.75%	0.13	OK	Eq. H1-1b
	LC17 at 63.75%	0.13	OK	Eq. H1-1b
	LC18 at 63.75%	0.17	OK	Eq. H1-1b
	LC19 at 63.75%	0.16	OK	Eq. H1-1b
	LC2 at 88.75%	0.68	OK	Eq. H1-1b
	LC20 at 63.75%	0.13	OK	Eq. H1-1b
	LC21 at 10.00%	0.07	OK	Eq. H1-1b
	LC22 at 0.00%	0.08	OK	Eq. H1-1b
	LC23 at 36.25%	0.11	OK	Eq. H1-1b
	LC24 at 36.25%	0.10	OK	Eq. H1-1b
	LC25 at 37.50%	0.14	OK	Eq. H1-1b
	LC26 at 37.50%	0.14	OK	Eq. H1-1b
	LC27 at 37.50%	0.18	OK	Eq. H1-1b
	LC28 at 37.50%	0.18	OK	Eq. H1-1b
	LC29 at 11.25%	0.19	OK	Eq. H1-1b
	LC3 at 36.25%	0.55	OK	Eq. H1-1b
	LC30 at 10.00%	0.16	OK	Eq. H1-1b
	LC31 at 11.25%	0.20	OK	Eq. H1-1b
	LC32 at 11.25%	0.23	OK	Eq. H1-1b
	LC4 at 88.75%	**0.71**	**OK**	Eq. H1-1b
	LC5 at 10.00%	0.46	OK	Eq. H1-1b
	LC6 at 88.75%	0.68	OK	Eq. H1-1b
	LC7 at 36.25%	0.54	OK	Eq. H1-1b
	LC8 at 88.75%	0.71	OK	Eq. H1-1b
	LC9 at 10.00%	0.20	OK	Eq. H1-1b
	W180 at 36.25%	0.32	OK	Eq. H1-1b
	W210 at 88.75%	0.43	OK	Eq. H1-1b
	Wi180 at 36.25%	0.12	OK	Eq. H1-1b
	Wi210 at 88.75%	0.16	OK	Eq. H1-1b
	WL180 at 36.25%	0.03	OK	Eq. H1-1b
	WL210 at 88.75%	0.04	OK	Eq. H1-1b
26	LC1 at 90.00%	0.54	OK	Eq. H1-1b
	LC10 at 37.50%	0.24	OK	Eq. H1-1b
	LC11 at 62.50%	0.22	OK	Eq. H1-1b
	LC12 at 10.00%	0.21	OK	Eq. H1-1b
	LC13 at 90.00%	0.08	OK	Eq. H1-1b
	LC14 at 90.00%	0.06	OK	Eq. H1-1b
	LC15 at 90.00%	0.08	OK	Eq. H1-1b
	LC16 at 63.75%	0.12	OK	Eq. H1-1b
	LC17 at 63.75%	0.16	OK	Eq. H1-1b
	LC18 at 63.75%	0.15	OK	Eq. H1-1b
	LC19 at 63.75%	0.12	OK	Eq. H1-1b
	LC2 at 36.25%	**0.69**	**OK**	Eq. H1-1b
	LC20 at 63.75%	0.14	OK	Eq. H1-1b
	LC21 at 0.00%	0.07	OK	Eq. H1-1b
	LC22 at 36.25%	0.11	OK	Eq. H1-1b
	LC23 at 100.00%	0.08	OK	Eq. H1-1b
	LC24 at 10.00%	0.07	OK	Eq. H1-1b
	LC25 at 37.50%	0.15	OK	Eq. H1-1b
	LC26 at 37.50%	0.19	OK	Eq. H1-1b
	LC27 at 37.50%	0.16	OK	Eq. H1-1b
	LC28 at 37.50%	0.12	OK	Eq. H1-1b
	LC29 at 90.00%	0.17	OK	Eq. H1-1b
	LC3 at 11.25%	0.57	OK	Eq. H1-1b
	LC30 at 11.25%	0.20	OK	Eq. H1-1b
	LC31 at 11.25%	0.21	OK	Eq. H1-1b
	LC32 at 90.00%	0.16	OK	Eq. H1-1b
	LC4 at 36.25%	0.59	OK	Eq. H1-1b

	LC5 at 90.00%	0.53	OK	Eq. H1-1b
	LC6 at 36.25%	0.68	OK	Eq. H1-1b
	LC7 at 11.25%	0.56	OK	Eq. H1-1b
	LC8 at 36.25%	0.60	OK	Eq. H1-1b
	LC9 at 63.75%	0.22	OK	Eq. H1-1b
	W180 at 11.25%	0.33	OK	Eq. H1-1b
	W210 at 36.25%	0.39	OK	Eq. H1-1b
	Wi180 at 11.25%	0.12	OK	Eq. H1-1b
	Wi210 at 36.25%	0.15	OK	Eq. H1-1b
	WL180 at 11.25%	0.03	OK	Eq. H1-1b
	WL210 at 36.25%	0.04	OK	Eq. H1-1b
27	LC1 at 88.75%	**0.62**	**OK**	Eq. H1-1b
	LC10 at 62.50%	0.19	OK	Eq. H1-1b
	LC11 at 10.00%	0.19	OK	Eq. H1-1b
	LC12 at 63.75%	0.22	OK	Eq. H1-1b
	LC13 at 63.75%	0.07	OK	Eq. H1-1b
	LC14 at 63.75%	0.05	OK	Eq. H1-1b
	LC15 at 37.50%	0.06	OK	Eq. H1-1b
	LC16 at 63.75%	0.12	OK	Eq. H1-1b
	LC17 at 63.75%	0.13	OK	Eq. H1-1b
	LC18 at 63.75%	0.12	OK	Eq. H1-1b
	LC19 at 63.75%	0.15	OK	Eq. H1-1b
	LC2 at 36.25%	0.52	OK	Eq. H1-1b
	LC20 at 63.75%	0.16	OK	Eq. H1-1b
	LC21 at 36.25%	0.10	OK	Eq. H1-1b
	LC22 at 100.00%	0.07	OK	Eq. H1-1b
	LC23 at 0.00%	0.07	OK	Eq. H1-1b
	LC24 at 36.25%	0.09	OK	Eq. H1-1b
	LC25 at 37.50%	0.18	OK	Eq. H1-1b
	LC26 at 37.50%	0.14	OK	Eq. H1-1b
	LC27 at 37.50%	0.13	OK	Eq. H1-1b
	LC28 at 37.50%	0.17	OK	Eq. H1-1b
	LC29 at 11.25%	0.20	OK	Eq. H1-1b
	LC3 at 88.75%	0.57	OK	Eq. H1-1b
	LC30 at 11.25%	0.19	OK	Eq. H1-1b
	LC31 at 10.00%	0.16	OK	Eq. H1-1b
	LC32 at 11.25%	0.15	OK	Eq. H1-1b
	LC4 at 36.25%	0.58	OK	Eq. H1-1b
	LC5 at 88.75%	0.61	OK	Eq. H1-1b
	LC6 at 36.25%	0.53	OK	Eq. H1-1b
	LC7 at 88.75%	0.58	OK	Eq. H1-1b
	LC8 at 36.25%	0.57	OK	Eq. H1-1b
	LC9 at 37.50%	0.23	OK	Eq. H1-1b
	W180 at 88.75%	0.37	OK	Eq. H1-1b
	W210 at 36.25%	0.35	OK	Eq. H1-1b
	Wi180 at 88.75%	0.15	OK	Eq. H1-1b
	Wi210 at 36.25%	0.14	OK	Eq. H1-1b
	WL180 at 88.75%	0.03	OK	Eq. H1-1b
	WL210 at 36.25%	0.03	OK	Eq. H1-1b
54	LC1 at 25.00%	**0.46**	**OK**	Eq. H1-1b
	LC10 at 72.92%	0.10	OK	Eq. H1-1b
	LC11 at 72.92%	0.11	OK	Eq. H1-1b
	LC12 at 72.92%	0.11	OK	Eq. H1-1b
	LC13 at 25.00%	0.04	OK	Eq. H1-1b
	LC14 at 25.00%	0.03	OK	Eq. H1-1b
	LC15 at 25.00%	0.04	OK	Eq. H1-1b
	LC16 at 72.92%	0.09	OK	Eq. H1-1b
	LC17 at 72.92%	0.14	OK	Eq. H1-1b
	LC18 at 72.92%	0.11	OK	Eq. H1-1b
	LC19 at 72.92%	0.11	OK	Eq. H1-1b
	LC2 at 72.92%	0.30	OK	Eq. H1-1b
	LC20 at 72.92%	0.12	OK	Eq. H1-1b

	LC21 at 25.00%	0.03	OK	Eq. H1-1b
	LC22 at 72.92%	0.06	OK	Eq. H1-1b
	LC23 at 72.92%	0.07	OK	Eq. H1-1b
	LC24 at 72.92%	0.04	OK	Eq. H1-1b
	LC25 at 25.00%	0.07	OK	Eq. H1-1b
	LC26 at 25.00%	0.05	OK	Eq. H1-1b
	LC27 at 72.92%	0.04	OK	Eq. H1-1b
	LC28 at 25.00%	0.06	OK	Eq. H1-1b
	LC29 at 25.00%	0.11	OK	Eq. H1-1b
	LC3 at 25.00%	0.40	OK	Eq. H1-1b
	LC30 at 25.00%	0.09	OK	Eq. H1-1b
	LC31 at 25.00%	0.08	OK	Eq. H1-1b
	LC32 at 25.00%	0.10	OK	Eq. H1-1b
	LC4 at 72.92%	0.26	OK	Eq. H1-1b
	LC5 at 25.00%	0.45	OK	Eq. H1-1b
	LC6 at 72.92%	0.30	OK	Eq. H1-1b
	LC7 at 25.00%	0.40	OK	Eq. H1-1b
	LC8 at 72.92%	0.27	OK	Eq. H1-1b
	LC9 at 25.00%	0.17	OK	Eq. H1-1b
	W180 at 25.00%	0.27	OK	Eq. H1-1b
	W210 at 72.92%	0.17	OK	Eq. H1-1b
	Wi180 at 25.00%	0.10	OK	Eq. H1-1b
	Wi210 at 72.92%	0.06	OK	Eq. H1-1b
	WL180 at 25.00%	0.02	OK	Eq. H1-1b
	WL210 at 72.92%	0.02	OK	Eq. H1-1b
57	LC1 at 25.00%	0.52	OK	Eq. H1-1b
	LC10 at 25.00%	0.12	OK	Eq. H1-1b
	LC11 at 25.00%	0.13	OK	Eq. H1-1b
	LC12 at 72.92%	0.12	OK	Eq. H1-1b
	LC13 at 72.92%	0.03	OK	Eq. H1-1b
	LC14 at 72.92%	0.02	OK	Eq. H1-1b
	LC15 at 25.00%	0.03	OK	Eq. H1-1b
	LC16 at 72.92%	0.05	OK	Eq. H1-1b
	LC17 at 72.92%	0.13	OK	Eq. H1-1b
	LC18 at 72.92%	0.09	OK	Eq. H1-1b
	LC19 at 72.92%	0.09	OK	Eq. H1-1b
	LC2 at 25.00%	0.39	OK	Eq. H1-1b
	LC20 at 72.92%	0.12	OK	Eq. H1-1b
	LC21 at 72.92%	0.18	OK	Eq. H1-1b
	LC22 at 72.92%	0.14	OK	Eq. H1-1b
	LC23 at 72.92%	0.14	OK	Eq. H1-1b
	LC24 at 72.92%	0.17	OK	Eq. H1-1b
	LC25 at 72.92%	0.05	OK	Eq. H1-1b
	LC26 at 25.00%	0.09	OK	Eq. H1-1b
	LC27 at 25.00%	0.09	OK	Eq. H1-1b
	LC28 at 25.00%	0.05	OK	Eq. H1-1b
	LC29 at 72.92%	0.05	OK	Eq. H1-1b
	LC3 at 25.00%	**0.52**	**OK**	Eq. H1-1b
	LC30 at 25.00%	0.06	OK	Eq. H1-1b
	LC31 at 25.00%	0.06	OK	Eq. H1-1b
	LC32 at 72.92%	0.04	OK	Eq. H1-1b
	LC4 at 25.00%	0.34	OK	Eq. H1-1b
	LC5 at 25.00%	0.52	OK	Eq. H1-1b
	LC6 at 25.00%	0.38	OK	Eq. H1-1b
	LC7 at 25.00%	0.52	OK	Eq. H1-1b
	LC8 at 25.00%	0.35	OK	Eq. H1-1b
	LC9 at 72.92%	0.16	OK	Eq. H1-1b
	W180 at 25.00%	0.32	OK	Eq. H1-1b
	W210 at 25.00%	0.23	OK	Eq. H1-1b
	Wi180 at 25.00%	0.12	OK	Eq. H1-1b
	Wi210 at 25.00%	0.08	OK	Eq. H1-1b
	WL180 at 25.00%	0.03	OK	Eq. H1-1b
	WL210 at 25.00%	0.02	OK	Eq. H1-1b

15	LC1 at 25.00%	**0.50**	**OK**	Eq. H1-1b
	LC10 at 25.00%	0.09	OK	Eq. H1-1b
	LC11 at 72.92%	0.17	OK	Eq. H1-1b
	LC12 at 72.92%	0.13	OK	Eq. H1-1b
	LC13 at 72.92%	0.04	OK	Eq. H1-1b
	LC14 at 72.92%	0.03	OK	Eq. H1-1b
	LC15 at 72.92%	0.03	OK	Eq. H1-1b
	LC16 at 72.92%	0.06	OK	Eq. H1-1b
	LC17 at 72.92%	0.09	OK	Eq. H1-1b
	LC18 at 72.92%	0.10	OK	Eq. H1-1b
	LC19 at 72.92%	0.14	OK	Eq. H1-1b
	LC2 at 25.00%	0.41	OK	Eq. H1-1b
	LC20 at 72.92%	0.13	OK	Eq. H1-1b
	LC21 at 72.92%	0.14	OK	Eq. H1-1b
	LC22 at 72.92%	0.15	OK	Eq. H1-1b
	LC23 at 72.92%	0.19	OK	Eq. H1-1b
	LC24 at 72.92%	0.18	OK	Eq. H1-1b
	LC25 at 25.00%	0.09	OK	Eq. H1-1b
	LC26 at 25.00%	0.07	OK	Eq. H1-1b
	LC27 at 72.92%	0.06	OK	Eq. H1-1b
	LC28 at 25.00%	0.06	OK	Eq. H1-1b
	LC29 at 25.00%	0.06	OK	Eq. H1-1b
	LC3 at 25.00%	0.46	OK	Eq. H1-1b
	LC30 at 25.00%	0.05	OK	Eq. H1-1b
	LC31 at 72.92%	0.05	OK	Eq. H1-1b
	LC32 at 72.92%	0.04	OK	Eq. H1-1b
	LC4 at 25.00%	0.41	OK	Eq. H1-1b
	LC5 at 25.00%	0.50	OK	Eq. H1-1b
	LC6 at 25.00%	0.41	OK	Eq. H1-1b
	LC7 at 25.00%	0.47	OK	Eq. H1-1b
	LC8 at 25.00%	0.41	OK	Eq. H1-1b
	LC9 at 25.00%	0.15	OK	Eq. H1-1b
	W180 at 25.00%	0.30	OK	Eq. H1-1b
	W210 at 25.00%	0.25	OK	Eq. H1-1b
	Wi180 at 25.00%	0.12	OK	Eq. H1-1b
	Wi210 at 25.00%	0.09	OK	Eq. H1-1b
	WL180 at 25.00%	0.03	OK	Eq. H1-1b
	WL210 at 25.00%	0.02	OK	Eq. H1-1b
60	LC1 at 72.92%	0.39	OK	Eq. H1-1b
	LC10 at 72.92%	0.32	OK	Eq. H1-1b
	LC11 at 72.92%	0.39	OK	Eq. H1-1b
	LC12 at 72.92%	0.23	OK	Eq. H1-1b
	LC13 at 72.92%	0.14	OK	Eq. H1-1b
	LC14 at 72.92%	0.10	OK	Eq. H1-1b
	LC15 at 72.92%	0.14	OK	Eq. H1-1b
	LC16 at 72.92%	0.17	OK	Eq. H1-1b
	LC17 at 72.92%	0.11	OK	Eq. H1-1b
	LC18 at 72.92%	0.14	OK	Eq. H1-1b
	LC19 at 72.92%	0.17	OK	Eq. H1-1b
	LC2 at 72.92%	0.53	OK	Eq. H1-1b
	LC20 at 72.92%	0.13	OK	Eq. H1-1b
	LC21 at 72.92%	0.12	OK	Eq. H1-1b
	LC22 at 72.92%	0.15	OK	Eq. H1-1b
	LC23 at 72.92%	0.17	OK	Eq. H1-1b
	LC24 at 72.92%	0.13	OK	Eq. H1-1b
	LC25 at 72.92%	0.24	OK	Eq. H1-1b
	LC26 at 72.92%	0.28	OK	Eq. H1-1b
	LC27 at 72.92%	0.30	OK	Eq. H1-1b
	LC28 at 72.92%	0.26	OK	Eq. H1-1b
	LC29 at 72.92%	0.20	OK	Eq. H1-1b
	LC3 at 72.92%	**0.65**	**OK**	Eq. H1-1b
	LC30 at 72.92%	0.24	OK	Eq. H1-1b

	LC31 at 72.92%	0.26	OK	Eq. H1-1b
	LC32 at 72.92%	0.22	OK	Eq. H1-1b
	LC4 at 72.92%	0.49	OK	Eq. H1-1b
	LC5 at 72.92%	0.42	OK	Eq. H1-1b
	LC6 at 72.92%	0.52	OK	Eq. H1-1b
	LC7 at 72.92%	0.62	OK	Eq. H1-1b
	LC8 at 72.92%	0.49	OK	Eq. H1-1b
	LC9 at 72.92%	0.15	OK	Eq. H1-1b
	W180 at 72.92%	0.32	OK	Eq. H1-1b
	W210 at 72.92%	0.31	OK	Eq. H1-1b
	Wi180 at 72.92%	0.12	OK	Eq. H1-1b
	Wi210 at 72.92%	0.11	OK	Eq. H1-1b
	WL180 at 72.92%	0.03	OK	Eq. H1-1b
	WL210 at 72.92%	0.03	OK	Eq. H1-1b
63	LC1 at 72.92%	**0.47**	**OK**	Eq. H1-1b
	LC10 at 25.00%	0.13	OK	Eq. H1-1b
	LC11 at 72.92%	0.13	OK	Eq. H1-1b
	LC12 at 72.92%	0.15	OK	Eq. H1-1b
	LC13 at 72.92%	0.05	OK	Eq. H1-1b
	LC14 at 72.92%	0.04	OK	Eq. H1-1b
	LC15 at 72.92%	0.06	OK	Eq. H1-1b
	LC16 at 72.92%	0.07	OK	Eq. H1-1b
	LC17 at 72.92%	0.06	OK	Eq. H1-1b
	LC18 at 25.00%	0.08	OK	Eq. H1-1b
	LC19 at 72.92%	0.07	OK	Eq. H1-1b
	LC2 at 25.00%	0.35	OK	Eq. H1-1b
	LC20 at 72.92%	0.05	OK	Eq. H1-1b
	LC21 at 72.92%	0.07	OK	Eq. H1-1b
	LC22 at 25.00%	0.05	OK	Eq. H1-1b
	LC23 at 72.92%	0.05	OK	Eq. H1-1b
	LC24 at 72.92%	0.07	OK	Eq. H1-1b
	LC25 at 72.92%	0.10	OK	Eq. H1-1b
	LC26 at 72.92%	0.06	OK	Eq. H1-1b
	LC27 at 72.92%	0.06	OK	Eq. H1-1b
	LC28 at 72.92%	0.09	OK	Eq. H1-1b
	LC29 at 72.92%	0.14	OK	Eq. H1-1b
	LC3 at 72.92%	0.38	OK	Eq. H1-1b
	LC30 at 72.92%	0.11	OK	Eq. H1-1b
	LC31 at 72.92%	0.12	OK	Eq. H1-1b
	LC32 at 72.92%	0.13	OK	Eq. H1-1b
	LC4 at 25.00%	0.31	OK	Eq. H1-1b
	LC5 at 72.92%	0.46	OK	Eq. H1-1b
	LC6 at 25.00%	0.34	OK	Eq. H1-1b
	LC7 at 72.92%	0.38	OK	Eq. H1-1b
	LC8 at 25.00%	0.31	OK	Eq. H1-1b
	LC9 at 72.92%	0.19	OK	Eq. H1-1b
	W180 at 72.92%	0.26	OK	Eq. H1-1b
	W210 at 25.00%	0.21	OK	Eq. H1-1b
	Wi180 at 72.92%	0.10	OK	Eq. H1-1b
	Wi210 at 25.00%	0.08	OK	Eq. H1-1b
	WL180 at 72.92%	0.02	OK	Eq. H1-1b
	WL210 at 25.00%	0.02	OK	Eq. H1-1b
66	LC1 at 25.00%	0.14	OK	
	LC10 at 25.00%	0.18	OK	Eq. H1-1b
	LC11 at 31.25%	0.10	OK	Eq. H1-1b
	LC12 at 72.92%	0.13	OK	Eq. H1-1b
	LC13 at 25.00%	0.04	OK	Eq. H1-1b
	LC14 at 25.00%	0.03	OK	Eq. H1-1b
	LC15 at 25.00%	0.03	OK	Eq. H1-1b
	LC16 at 72.92%	0.09	OK	Eq. H1-1b
	LC17 at 72.92%	0.11	OK	Eq. H1-1b
	LC18 at 72.92%	0.13	OK	Eq. H1-1b

	LC19 at 72.92%	0.11	OK	Eq. H1-1b
	LC2 at 25.00%	**0.50**	**OK**	Eq. H1-1b
	LC20 at 72.92%	0.11	OK	Eq. H1-1b
	LC21 at 72.92%	0.04	OK	Eq. H1-1b
	LC22 at 25.00%	0.03	OK	Eq. H1-1b
	LC23 at 72.92%	0.05	OK	Eq. H1-1b
	LC24 at 72.92%	0.07	OK	Eq. H1-1b
	LC25 at 25.00%	0.04	OK	Eq. H1-1b
	LC26 at 25.00%	0.07	OK	Eq. H1-1b
	LC27 at 25.00%	0.05	OK	Eq. H1-1b
	LC28 at 72.92%	0.05	OK	Eq. H1-1b
	LC29 at 25.00%	0.08	OK	Eq. H1-1b
	LC3 at 31.25%	0.17	OK	Eq. H1-1b
	LC30 at 25.00%	0.11	OK	Eq. H1-1b
	LC31 at 25.00%	0.09	OK	Eq. H1-1b
	LC32 at 25.00%	0.07	OK	Eq. H1-1b
	LC4 at 72.92%	0.50	OK	Eq. H1-1b
	LC5 at 25.00%	0.14	OK	
	LC6 at 25.00%	0.49	OK	Eq. H1-1b
	LC7 at 31.25%	0.17	OK	Eq. H1-1b
	LC8 at 72.92%	0.50	OK	Eq. H1-1b
	LC9 at 72.92%	0.05	OK	Eq. H1-1b
	W180 at 25.00%	0.09	OK	
	W210 at 72.92%	0.30	OK	Eq. H1-1b
	Wi180 at 31.25%	0.03	OK	Eq. H1-1b
	Wi210 at 25.00%	0.11	OK	Eq. H1-1b
	WL180 at 31.25%	0.01	OK	Eq. H1-1b
	WL210 at 25.00%	0.03	OK	Eq. H1-1b
69	LC1 at 25.00%	0.12	OK	Eq. H1-1b
	LC10 at 72.92%	0.19	OK	Eq. H1-1b
	LC11 at 72.92%	0.08	OK	Eq. H1-1b
	LC12 at 25.00%	0.16	OK	Eq. H1-1b
	LC13 at 72.92%	0.04	OK	Eq. H1-1b
	LC14 at 72.92%	0.03	OK	Eq. H1-1b
	LC15 at 25.00%	0.03	OK	Eq. H1-1b
	LC16 at 72.92%	0.06	OK	Eq. H1-1b
	LC17 at 72.92%	0.11	OK	Eq. H1-1b
	LC18 at 72.92%	0.14	OK	Eq. H1-1b
	LC19 at 72.92%	0.11	OK	Eq. H1-1b
	LC2 at 25.00%	**0.56**	**OK**	Eq. H1-1b
	LC20 at 72.92%	0.09	OK	Eq. H1-1b
	LC21 at 72.92%	0.16	OK	Eq. H1-1b
	LC22 at 72.92%	0.19	OK	Eq. H1-1b
	LC23 at 72.92%	0.16	OK	Eq. H1-1b
	LC24 at 72.92%	0.14	OK	Eq. H1-1b
	LC25 at 25.00%	0.06	OK	Eq. H1-1b
	LC26 at 72.92%	0.06	OK	Eq. H1-1b
	LC27 at 25.00%	0.07	OK	Eq. H1-1b
	LC28 at 25.00%	0.09	OK	Eq. H1-1b
	LC29 at 25.00%	0.04	OK	Eq. H1-1b
	LC3 at 25.00%	0.13	OK	Eq. H1-1b
	LC30 at 72.92%	0.06	OK	Eq. H1-1b
	LC31 at 25.00%	0.05	OK	Eq. H1-1b
	LC32 at 25.00%	0.07	OK	Eq. H1-1b
	LC4 at 25.00%	0.55	OK	Eq. H1-1b
	LC5 at 25.00%	0.12	OK	Eq. H1-1b
	LC6 at 25.00%	0.56	OK	Eq. H1-1b
	LC7 at 25.00%	0.12	OK	Eq. H1-1b
	LC8 at 25.00%	0.55	OK	Eq. H1-1b
	LC9 at 72.92%	0.07	OK	Eq. H1-1b
	W180 at 25.00%	0.08	OK	Eq. H1-1b
	W210 at 25.00%	0.35	OK	Eq. H1-1b
	Wi180 at 25.00%	0.03	OK	Eq. H1-1b

	Wi210 at 25.00%	0.13	OK	Eq. H1-1b
	WL180 at 25.00%	0.01	OK	Eq. H1-1b
	WL210 at 25.00%	0.03	OK	Eq. H1-1b
72	LC1 at 72.92%	0.29	OK	Eq. H1-1b
	LC10 at 72.92%	0.16	OK	Eq. H1-1b
	LC11 at 72.92%	0.26	OK	Eq. H1-1b
	LC12 at 72.92%	0.42	OK	Eq. H1-1b
	LC13 at 72.92%	0.15	OK	Eq. H1-1b
	LC14 at 72.92%	0.10	OK	Eq. H1-1b
	LC15 at 72.92%	0.15	OK	Eq. H1-1b
	LC16 at 72.92%	0.18	OK	Eq. H1-1b
	LC17 at 72.92%	0.16	OK	Eq. H1-1b
	LC18 at 72.92%	0.12	OK	Eq. H1-1b
	LC19 at 72.92%	0.13	OK	Eq. H1-1b
	LC2 at 72.92%	0.56	OK	Eq. H1-1b
	LC20 at 72.92%	0.18	OK	Eq. H1-1b
	LC21 at 72.92%	0.16	OK	Eq. H1-1b
	LC22 at 72.92%	0.12	OK	Eq. H1-1b
	LC23 at 72.92%	0.15	OK	Eq. H1-1b
	LC24 at 72.92%	0.19	OK	Eq. H1-1b
	LC25 at 72.92%	0.29	OK	Eq. H1-1b
	LC26 at 72.92%	0.25	OK	Eq. H1-1b
	LC27 at 72.92%	0.27	OK	Eq. H1-1b
	LC28 at 72.92%	0.31	OK	Eq. H1-1b
	LC29 at 72.92%	0.25	OK	Eq. H1-1b
	LC3 at 72.92%	0.28	OK	Eq. H1-1b
	LC30 at 72.92%	0.21	OK	Eq. H1-1b
	LC31 at 72.92%	0.23	OK	Eq. H1-1b
	LC32 at 72.92%	0.27	OK	Eq. H1-1b
	LC4 at 72.92%	**0.74**	**OK**	Eq. H1-1b
	LC5 at 72.92%	0.25	OK	Eq. H1-1b
	LC6 at 72.92%	0.55	OK	Eq. H1-1b
	LC7 at 72.92%	0.27	OK	Eq. H1-1b
	LC8 at 72.92%	0.69	OK	Eq. H1-1b
	LC9 at 72.92%	0.32	OK	Eq. H1-1b
	W180 at 72.92%	0.15	OK	Eq. H1-1b
	W210 at 72.92%	0.36	OK	Eq. H1-1b
	Wi180 at 72.92%	0.05	OK	Eq. H1-1b
	Wi210 at 72.92%	0.13	OK	Eq. H1-1b
	WL180 at 72.92%	0.01	OK	Eq. H1-1b
	WL210 at 72.92%	0.03	OK	Eq. H1-1b
75	LC1 at 25.00%	0.16	OK	
	LC10 at 72.92%	0.24	OK	Eq. H1-1b
	LC11 at 72.92%	0.14	OK	Eq. H1-1b
	LC12 at 25.00%	0.16	OK	Eq. H1-1b
	LC13 at 72.92%	0.07	OK	Eq. H1-1b
	LC14 at 72.92%	0.05	OK	Eq. H1-1b
	LC15 at 72.92%	0.08	OK	Eq. H1-1b
	LC16 at 25.00%	0.08	OK	Eq. H1-1b
	LC17 at 72.92%	0.07	OK	Eq. H1-1b
	LC18 at 72.92%	0.09	OK	Eq. H1-1b
	LC19 at 25.00%	0.07	OK	Eq. H1-1b
	LC2 at 72.92%	**0.58**	**OK**	Eq. H1-1b
	LC20 at 72.92%	0.09	OK	Eq. H1-1b
	LC21 at 72.92%	0.08	OK	Eq. H1-1b
	LC22 at 72.92%	0.09	OK	Eq. H1-1b
	LC23 at 72.92%	0.08	OK	Eq. H1-1b
	LC24 at 72.92%	0.05	OK	Eq. H1-1b
	LC25 at 72.92%	0.10	OK	Eq. H1-1b
	LC26 at 72.92%	0.13	OK	Eq. H1-1b
	LC27 at 72.92%	0.10	OK	Eq. H1-1b
	LC28 at 72.92%	0.08	OK	Eq. H1-1b

		LC29 at 72.92%	0.14	OK	Eq. H1-1b
		LC3 at 25.00%	0.16	OK	
		LC30 at 72.92%	0.17	OK	Eq. H1-1b
		LC31 at 72.92%	0.14	OK	Eq. H1-1b
		LC32 at 72.92%	0.12	OK	Eq. H1-1b
		LC4 at 25.00%	0.47	OK	Eq. H1-1b
		LC5 at 25.00%	0.16	OK	
		LC6 at 72.92%	0.56	OK	Eq. H1-1b
		LC7 at 25.00%	0.16	OK	
		LC8 at 25.00%	0.47	OK	Eq. H1-1b
		LC9 at 72.92%	0.12	OK	Eq. H1-1b
		W180 at 25.00%	0.10	OK	
		W210 at 72.92%	0.31	OK	Eq. H1-1b
		Wi180 at 25.00%	0.04	OK	
		Wi210 at 72.92%	0.12	OK	Eq. H1-1b
		WL180 at 25.00%	0.01	OK	
		WL210 at 72.92%	0.03	OK	Eq. H1-1b
T2L 3X3X1_4	**10**	LC1 at 100.00%	0.21	OK	Eq. H1-1b
		LC10 at 100.00%	0.64	OK	Eq. H1-1b
		LC11 at 100.00%	0.63	OK	Eq. H1-1b
		LC12 at 100.00%	0.50	OK	Eq. H1-1b
		LC13 at 100.00%	0.30	OK	Eq. H1-1b
		LC14 at 100.00%	0.22	OK	Eq. H1-1b
		LC15 at 100.00%	0.32	OK	Eq. H1-1b
		LC16 at 25.00%	0.43	OK	Eq. H1-1b
		LC17 at 100.00%	0.50	OK	Eq. H1-1b
		LC18 at 100.00%	0.52	OK	Eq. H1-1b
		LC19 at 100.00%	0.50	OK	Eq. H1-1b
		LC2 at 100.00%	**0.65**	**OK**	Eq. H1-1b
		LC20 at 100.00%	0.48	OK	Eq. H1-1b
		LC21 at 100.00%	0.36	OK	Eq. H1-1b
		LC22 at 100.00%	0.39	OK	Eq. H1-1b
		LC23 at 100.00%	0.39	OK	Eq. H1-1b
		LC24 at 100.00%	0.36	OK	Eq. H1-1b
		LC25 at 100.00%	0.37	OK	Eq. H1-1b
		LC26 at 100.00%	0.40	OK	Eq. H1-1b
		LC27 at 100.00%	0.40	OK	Eq. H1-1b
		LC28 at 100.00%	0.37	OK	Eq. H1-1b
		LC29 at 100.00%	0.51	OK	Eq. H1-1b
		LC3 at 100.00%	0.58	OK	Eq. H1-1b
		LC30 at 100.00%	0.54	OK	Eq. H1-1b
		LC31 at 100.00%	0.54	OK	Eq. H1-1b
		LC32 at 100.00%	0.51	OK	Eq. H1-1b
		LC4 at 25.00%	0.25	OK	Eq. H1-1b
		LC5 at 100.00%	0.14	OK	Eq. H1-1b
		LC6 at 100.00%	0.58	OK	Eq. H1-1b
		LC7 at 100.00%	0.51	OK	Eq. H1-1b
		LC8 at 25.00%	0.34	OK	Eq. H1-1b
		LC9 at 100.00%	0.51	OK	Eq. H1-1b
		W180 at 100.00%	0.18	OK	Eq. H1-1b
		W210 at 25.00%	0.38	OK	Eq. H1-1b
		Wi180 at 100.00%	0.06	OK	Eq. H1-1b
		Wi210 at 25.00%	0.14	OK	Eq. H1-1b
		WL180 at 100.00%	0.02	OK	Eq. H1-1b
		WL210 at 25.00%	0.03	OK	Eq. H1-1b
	11	LC1 at 100.00%	0.16	OK	Eq. H1-1b
		LC10 at 100.00%	0.41	OK	Eq. H1-1b
		LC11 at 100.00%	0.52	OK	Eq. H1-1b
		LC12 at 100.00%	0.58	OK	Eq. H1-1b
		LC13 at 100.00%	0.25	OK	Eq. H1-1b
		LC14 at 100.00%	0.18	OK	Eq. H1-1b
		LC15 at 100.00%	0.27	OK	Eq. H1-1b

	LC16 at 25.00%	0.40	OK	Eq. H1-1b
	LC17 at 100.00%	0.44	OK	Eq. H1-1b
	LC18 at 100.00%	0.44	OK	Eq. H1-1b
	LC19 at 100.00%	0.47	OK	Eq. H1-1b
	LC2 at 25.00%	0.32	OK	Eq. H1-1b
	LC20 at 100.00%	0.47	OK	Eq. H1-1b
	LC21 at 100.00%	0.31	OK	Eq. H1-1b
	LC22 at 100.00%	0.30	OK	Eq. H1-1b
	LC23 at 100.00%	0.33	OK	Eq. H1-1b
	LC24 at 100.00%	0.34	OK	Eq. H1-1b
	LC25 at 100.00%	0.32	OK	Eq. H1-1b
	LC26 at 100.00%	0.31	OK	Eq. H1-1b
	LC27 at 100.00%	0.34	OK	Eq. H1-1b
	LC28 at 100.00%	0.35	OK	Eq. H1-1b
	LC29 at 100.00%	0.47	OK	Eq. H1-1b
	LC3 at 100.00%	0.50	OK	Eq. H1-1b
	LC30 at 100.00%	0.45	OK	Eq. H1-1b
	LC31 at 100.00%	0.48	OK	Eq. H1-1b
	LC32 at 100.00%	0.49	OK	Eq. H1-1b
	LC4 at 100.00%	**0.65**	**OK**	Eq. H1-1b
	LC5 at 34.38%	0.11	OK	Eq. H1-1b
	LC6 at 25.00%	0.39	OK	Eq. H1-1b
	LC7 at 100.00%	0.44	OK	Eq. H1-1b
	LC8 at 100.00%	0.59	OK	Eq. H1-1b
	LC9 at 100.00%	0.47	OK	Eq. H1-1b
	W180 at 100.00%	0.17	OK	Eq. H1-1b
	W210 at 100.00%	0.25	OK	Eq. H1-1b
	Wi180 at 100.00%	0.06	OK	Eq. H1-1b
	Wi210 at 100.00%	0.09	OK	Eq. H1-1b
	WL180 at 100.00%	0.01	OK	Eq. H1-1b
	WL210 at 100.00%	0.02	OK	Eq. H1-1b
12	LC1 at 100.00%	**0.63**	**OK**	Eq. H1-1b
	LC10 at 100.00%	0.51	OK	Eq. H1-1b
	LC11 at 100.00%	0.41	OK	Eq. H1-1b
	LC12 at 100.00%	0.48	OK	Eq. H1-1b
	LC13 at 100.00%	0.25	OK	Eq. H1-1b
	LC14 at 100.00%	0.18	OK	Eq. H1-1b
	LC15 at 100.00%	0.27	OK	Eq. H1-1b
	LC16 at 25.00%	0.40	OK	Eq. H1-1b
	LC17 at 100.00%	0.47	OK	Eq. H1-1b
	LC18 at 100.00%	0.45	OK	Eq. H1-1b
	LC19 at 100.00%	0.44	OK	Eq. H1-1b
	LC2 at 100.00%	0.35	OK	Eq. H1-1b
	LC20 at 100.00%	0.46	OK	Eq. H1-1b
	LC21 at 100.00%	0.34	OK	Eq. H1-1b
	LC22 at 100.00%	0.32	OK	Eq. H1-1b
	LC23 at 100.00%	0.30	OK	Eq. H1-1b
	LC24 at 100.00%	0.32	OK	Eq. H1-1b
	LC25 at 100.00%	0.35	OK	Eq. H1-1b
	LC26 at 100.00%	0.33	OK	Eq. H1-1b
	LC27 at 100.00%	0.31	OK	Eq. H1-1b
	LC28 at 100.00%	0.32	OK	Eq. H1-1b
	LC29 at 100.00%	0.49	OK	Eq. H1-1b
	LC3 at 25.00%	0.37	OK	Eq. H1-1b
	LC30 at 100.00%	0.48	OK	Eq. H1-1b
	LC31 at 100.00%	0.45	OK	Eq. H1-1b
	LC32 at 100.00%	0.47	OK	Eq. H1-1b
	LC4 at 100.00%	0.34	OK	Eq. H1-1b
	LC5 at 100.00%	0.57	OK	Eq. H1-1b
	LC6 at 100.00%	0.29	OK	Eq. H1-1b
	LC7 at 25.00%	0.44	OK	Eq. H1-1b
	LC8 at 100.00%	0.28	OK	Eq. H1-1b
	LC9 at 100.00%	0.58	OK	Eq. H1-1b

	W180 at 25.00%	0.41	OK	Eq. H1-1b
	W210 at 100.00%	0.07	OK	Eq. H1-1b
	Wi180 at 25.00%	0.16	OK	Eq. H1-1b
	Wi210 at 100.00%	0.02	OK	Eq. H1-1b
	WL180 at 25.00%	0.04	OK	Eq. H1-1b
	WL210 at 100.00%	0.01	OK	Eq. H1-1b
31	LC1 at 0.00%	0.01	OK	Eq. H1-1b
	LC10 at 0.00%	0.41	OK	Eq. H1-1b
	LC11 at 0.00%	0.38	OK	Eq. H1-1b
	LC12 at 0.00%	0.27	OK	Eq. H1-1b
	LC13 at 0.00%	0.17	OK	Eq. H1-1b
	LC14 at 0.00%	0.13	OK	Eq. H1-1b
	LC15 at 0.00%	0.18	OK	Eq. H1-1b
	LC16 at 0.00%	0.36	OK	Eq. H1-1b
	LC17 at 0.00%	0.29	OK	Eq. H1-1b
	LC18 at 0.00%	0.32	OK	Eq. H1-1b
	LC19 at 0.00%	0.31	OK	Eq. H1-1b
	LC2 at 0.00%	**0.46**	**OK**	Eq. H1-1b
	LC20 at 0.00%	0.29	OK	Eq. H1-1b
	LC21 at 0.00%	0.19	OK	Eq. H1-1b
	LC22 at 0.00%	0.22	OK	Eq. H1-1b
	LC23 at 0.00%	0.21	OK	Eq. H1-1b
	LC24 at 0.00%	0.18	OK	Eq. H1-1b
	LC25 at 0.00%	0.19	OK	Eq. H1-1b
	LC26 at 0.00%	0.22	OK	Eq. H1-1b
	LC27 at 0.00%	0.21	OK	Eq. H1-1b
	LC28 at 0.00%	0.18	OK	Eq. H1-1b
	LC29 at 0.00%	0.30	OK	Eq. H1-1b
	LC3 at 0.00%	0.33	OK	Eq. H1-1b
	LC30 at 0.00%	0.32	OK	Eq. H1-1b
	LC31 at 0.00%	0.31	OK	Eq. H1-1b
	LC32 at 0.00%	0.29	OK	Eq. H1-1b
	LC4 at 0.00%	0.07	OK	Eq. H1-1b
	LC5 at 0.00%	0.02	OK	Eq. H1-1b
	LC6 at 0.00%	0.42	OK	Eq. H1-1b
	LC7 at 0.00%	0.29	OK	Eq. H1-1b
	LC8 at 0.00%	0.09	OK	Eq. H1-1b
	LC9 at 0.00%	0.30	OK	Eq. H1-1b
	W180 at 0.00%	0.10	OK	Eq. H1-1b
	W210 at 0.00%	0.10	OK	Eq. H1-1b
	Wi180 at 0.00%	0.04	OK	Eq. H1-1b
	Wi210 at 0.00%	0.04	OK	Eq. H1-1b
	WL180 at 0.00%	0.01	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
32	LC1 at 81.25%	0.02	OK	Eq. H1-1b
	LC10 at 100.00%	0.22	OK	Eq. H1-1b
	LC11 at 100.00%	0.33	OK	Eq. H1-1b
	LC12 at 100.00%	0.36	OK	Eq. H1-1b
	LC13 at 100.00%	0.14	OK	Eq. H1-1b
	LC14 at 100.00%	0.10	OK	Eq. H1-1b
	LC15 at 100.00%	0.15	OK	Eq. H1-1b
	LC16 at 100.00%	0.33	OK	Eq. H1-1b
	LC17 at 100.00%	0.26	OK	Eq. H1-1b
	LC18 at 100.00%	0.25	OK	Eq. H1-1b
	LC19 at 100.00%	0.28	OK	Eq. H1-1b
	LC2 at 100.00%	0.09	OK	Eq. H1-1b
	LC20 at 100.00%	0.29	OK	Eq. H1-1b
	LC21 at 100.00%	0.16	OK	Eq. H1-1b
	LC22 at 100.00%	0.15	OK	Eq. H1-1b
	LC23 at 100.00%	0.18	OK	Eq. H1-1b
	LC24 at 100.00%	0.18	OK	Eq. H1-1b
	LC25 at 100.00%	0.16	OK	Eq. H1-1b

	LC26 at 100.00%	0.15	OK	Eq. H1-1b
	LC27 at 100.00%	0.18	OK	Eq. H1-1b
	LC28 at 100.00%	0.19	OK	Eq. H1-1b
	LC29 at 100.00%	0.26	OK	Eq. H1-1b
	LC3 at 100.00%	0.30	OK	Eq. H1-1b
	LC30 at 100.00%	0.26	OK	Eq. H1-1b
	LC31 at 100.00%	0.28	OK	Eq. H1-1b
	LC32 at 100.00%	0.29	OK	Eq. H1-1b
	LC4 at 100.00%	**0.43**	**OK**	Eq. H1-1b
	LC5 at 100.00%	0.03	OK	Eq. H1-1b
	LC6 at 100.00%	0.11	OK	Eq. H1-1b
	LC7 at 100.00%	0.26	OK	Eq. H1-1b
	LC8 at 100.00%	0.40	OK	Eq. H1-1b
	LC9 at 100.00%	0.26	OK	Eq. H1-1b
	W180 at 100.00%	0.10	OK	Eq. H1-1b
	W210 at 100.00%	0.18	OK	Eq. H1-1b
	Wi180 at 100.00%	0.04	OK	Eq. H1-1b
	Wi210 at 100.00%	0.07	OK	Eq. H1-1b
	WL180 at 100.00%	0.01	OK	Eq. H1-1b
	WL210 at 100.00%	0.02	OK	Eq. H1-1b
33	LC1 at 0.00%	**0.45**	**OK**	Eq. H1-1b
	LC10 at 0.00%	0.29	OK	Eq. H1-1b
	LC11 at 0.00%	0.21	OK	Eq. H1-1b
	LC12 at 0.00%	0.29	OK	Eq. H1-1b
	LC13 at 0.00%	0.14	OK	Eq. H1-1b
	LC14 at 0.00%	0.10	OK	Eq. H1-1b
	LC15 at 0.00%	0.14	OK	Eq. H1-1b
	LC16 at 0.00%	0.33	OK	Eq. H1-1b
	LC17 at 0.00%	0.29	OK	Eq. H1-1b
	LC18 at 0.00%	0.27	OK	Eq. H1-1b
	LC19 at 0.00%	0.25	OK	Eq. H1-1b
	LC2 at 0.00%	0.14	OK	Eq. H1-1b
	LC20 at 0.00%	0.27	OK	Eq. H1-1b
	LC21 at 0.00%	0.18	OK	Eq. H1-1b
	LC22 at 0.00%	0.17	OK	Eq. H1-1b
	LC23 at 0.00%	0.15	OK	Eq. H1-1b
	LC24 at 0.00%	0.17	OK	Eq. H1-1b
	LC25 at 0.00%	0.18	OK	Eq. H1-1b
	LC26 at 0.00%	0.17	OK	Eq. H1-1b
	LC27 at 0.00%	0.15	OK	Eq. H1-1b
	LC28 at 0.00%	0.17	OK	Eq. H1-1b
	LC29 at 0.00%	0.29	OK	Eq. H1-1b
	LC3 at 0.00%	0.10	OK	Eq. H1-1b
	LC30 at 0.00%	0.27	OK	Eq. H1-1b
	LC31 at 0.00%	0.25	OK	Eq. H1-1b
	LC32 at 0.00%	0.27	OK	Eq. H1-1b
	LC4 at 0.00%	0.14	OK	Eq. H1-1b
	LC5 at 0.00%	0.42	OK	Eq. H1-1b
	LC6 at 0.00%	0.11	OK	Eq. H1-1b
	LC7 at 0.00%	0.12	OK	Eq. H1-1b
	LC8 at 0.00%	0.10	OK	Eq. H1-1b
	LC9 at 0.00%	0.37	OK	Eq. H1-1b
	W180 at 0.00%	0.11	OK	Eq. H1-1b
	W210 at 0.00%	0.00	OK	Eq. H1-1b
	Wi180 at 0.00%	0.04	OK	Eq. H1-1b
	Wi210 at 0.00%	0.00	OK	Eq. H1-1b
	WL180 at 0.00%	0.01	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b

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Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
2	0.00	0.00	-2.3333	0
3	-3.5359	0.00	-2.00	0
4	-7.00	0.00	0.00	0
5	-1.4793	0.00	-4.8955	0
6	-3.50	0.00	-6.0622	0
7	0.00	0.00	-8.1244	0
8	0.00	0.00	-12.1244	0
9	3.5359	0.00	-2.00	0
10	7.00	0.00	0.00	0
11	1.4793	0.00	-4.8955	0
12	3.50	0.00	-6.0622	0
14	6.1705	6.00	-1.8274	0
19	1.1705	6.00	-10.4876	0
41	1.1705	-2.00	-10.4876	0
44	6.1705	-2.00	-1.8274	0
53	4.5038	6.00	-4.7141	0
54	2.8372	6.00	-7.6009	0
63	2.8372	-2.00	-7.6009	0
64	4.5038	-2.00	-4.7141	0
69	-6.3333	4.00	0.00	0
71	-6.6667	4.00	-0.5774	0
73	6.3333	4.00	0.00	0

75	6.6667	4.00	-0.5774	0
77	0.3333	4.00	-11.547	0
79	-0.3333	4.00	-11.547	0
83	-1.6717	-3.00	-3.0763	0
84	1.6717	-3.00	-3.0763	0
86	0.00	-3.00	-5.9718	0
87	-4.4019	0.00	-1.50	0
88	4.4019	0.00	-1.50	0
89	0.00	0.00	-9.1244	0
91	0.00	0.00	0.00	0
93	5.9973	4.00	-1.7274	0
94	0.9973	4.00	-10.3876	0
95	4.3306	4.00	-4.6141	0
96	2.664	4.00	-7.5009	0
97	6.1705	4.00	-1.8274	0
98	1.1705	4.00	-10.4876	0
99	4.5038	4.00	-4.7141	0
100	2.8372	4.00	-7.6009	0
101	5.9973	0.00	-1.7274	0
102	6.1705	0.00	-1.8274	0
103	4.3306	0.00	-4.6141	0
104	4.5038	0.00	-4.7141	0
105	2.664	0.00	-7.5009	0
106	2.8372	0.00	-7.6009	0
107	0.9973	0.00	-10.3876	0
108	1.1705	0.00	-10.4876	0
133	-6.1705	6.00	-1.8274	0
134	-6.1705	-2.00	-1.8274	0
135	-5.9973	4.00	-1.7274	0
136	-6.1705	4.00	-1.8274	0
137	-5.9973	0.00	-1.7274	0
138	-6.1705	0.00	-1.8274	0
139	-4.5038	6.00	-4.7141	0
140	-4.5038	-2.00	-4.7141	0
141	-4.3306	4.00	-4.6141	0
142	-4.5038	4.00	-4.7141	0
143	-4.3306	0.00	-4.6141	0
144	-4.5038	0.00	-4.7141	0
145	-2.8372	6.00	-7.6009	0
146	-2.8372	-2.00	-7.6009	0
147	-2.664	4.00	-7.5009	0
148	-2.8372	4.00	-7.6009	0
149	-2.664	0.00	-7.5009	0
150	-2.8372	0.00	-7.6009	0
151	-1.1705	6.00	-10.4876	0
152	-1.1705	-2.00	-10.4876	0
153	-0.9973	4.00	-10.3876	0
154	-1.1705	4.00	-10.4876	0
155	-0.9973	0.00	-10.3876	0
156	-1.1705	0.00	-10.4876	0
157	5.00	6.00	0.20	0
158	5.00	-2.00	0.20	0
159	5.00	4.00	0.00	0
160	5.00	4.00	0.20	0
161	5.00	0.00	0.00	0
162	5.00	0.00	0.20	0
163	1.6667	6.00	0.20	0
164	1.6667	-2.00	0.20	0
165	1.6667	4.00	0.00	0
166	1.6667	4.00	0.20	0

167	1.6667	0.00	0.00	0
168	1.6667	0.00	0.20	0
169	-1.6667	6.00	0.20	0
170	-1.6667	-2.00	0.20	0
171	-1.6667	4.00	0.00	0
172	-1.6667	4.00	0.20	0
173	-1.6667	0.00	0.00	0
174	-1.6667	0.00	0.20	0
175	-5.00	6.00	0.20	0
176	-5.00	-2.00	0.20	0
177	-5.00	4.00	0.00	0
178	-5.00	4.00	0.20	0
179	-5.00	0.00	0.00	0
180	-5.00	0.00	0.20	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
2	1	1	1	1	1	1
5	1	1	1	1	1	1
11	1	1	1	1	1	1
83	1	1	1	0	0	0
84	1	1	1	0	0	0
86	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	4	10		L 3X3X1_4	A36	0.00	0.00	0.00
2	10	8		L 3X3X1_4	A36	0.00	0.00	0.00
3	8	4		L 3X3X1_4	A36	0.00	0.00	0.00
4	3	9		L 3X3X1_4	A36	0.00	0.00	0.00
5	9	7		L 3X3X1_4	A36	0.00	0.00	0.00
6	7	3		L 3X3X1_4	A36	0.00	0.00	0.00
7	2	91		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
8	11	12		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
9	5	6		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
10	3	4		T2L 3X3X1_4	A36	0.00	0.00	0.00
11	9	10		T2L 3X3X1_4	A36	0.00	0.00	0.00
12	7	8		T2L 3X3X1_4	A36	0.00	0.00	0.00
13	14	44		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
14	53	64		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
16	19	41		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	69	73		PIPE 2x0.154	A36	0.00	0.00	0.00
26	79	71		PIPE 2x0.154	A36	0.00	0.00	0.00
27	75	77		PIPE 2x0.154	A36	0.00	0.00	0.00
28	69	71		L 3X3X1_4	A36	0.00	0.00	0.00
29	73	75		L 3X3X1_4	A36	0.00	0.00	0.00
30	77	79		L 3X3X1_4	A36	0.00	0.00	0.00
31	87	83		T2L 3X3X1_4	A36	0.00	0.00	0.00

32	84	88	T2L 3X3X1_4	A36	0.00	0.00	0.00
33	89	86	T2L 3X3X1_4	A36	0.00	0.00	0.00
54	133	134	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	139	140	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
15	54	63	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
60	145	146	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
63	151	152	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
66	157	158	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
69	163	164	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
72	169	170	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
75	175	176	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	270.00	0	0.00	0.00	0.00
2	270.00	0	0.00	0.00	0.00
3	270.00	0	0.00	0.00	0.00
7	90.00	0	0.00	0.00	0.00
8	90.00	0	0.00	0.00	0.00
9	90.00	0	0.00	0.00	0.00
10	180.00	0	0.00	0.00	0.00
11	180.00	0	0.00	0.00	0.00
12	180.00	0	0.00	0.00	0.00
13	0.00	2	-0.50	0.00	-0.866
14	0.00	2	-0.50	0.00	-0.866
16	0.00	2	-0.50	0.00	-0.866
25	270.00	0	0.00	0.00	0.00
26	270.00	0	0.00	0.00	0.00
27	270.00	0	0.00	0.00	0.00
28	90.00	0	0.00	0.00	0.00
29	180.00	0	0.00	0.00	0.00
30	180.00	0	0.00	0.00	0.00
54	0.00	2	-0.50	0.00	0.866
57	0.00	2	-0.50	0.00	0.866
15	0.00	2	-0.50	0.00	-0.866
60	0.00	2	-0.50	0.00	0.866
63	0.00	2	-0.50	0.00	0.866

HUDSON
Design Group LLC

Mount Calculations
(Modified 3C/4C/5C Configuration)

Bentley

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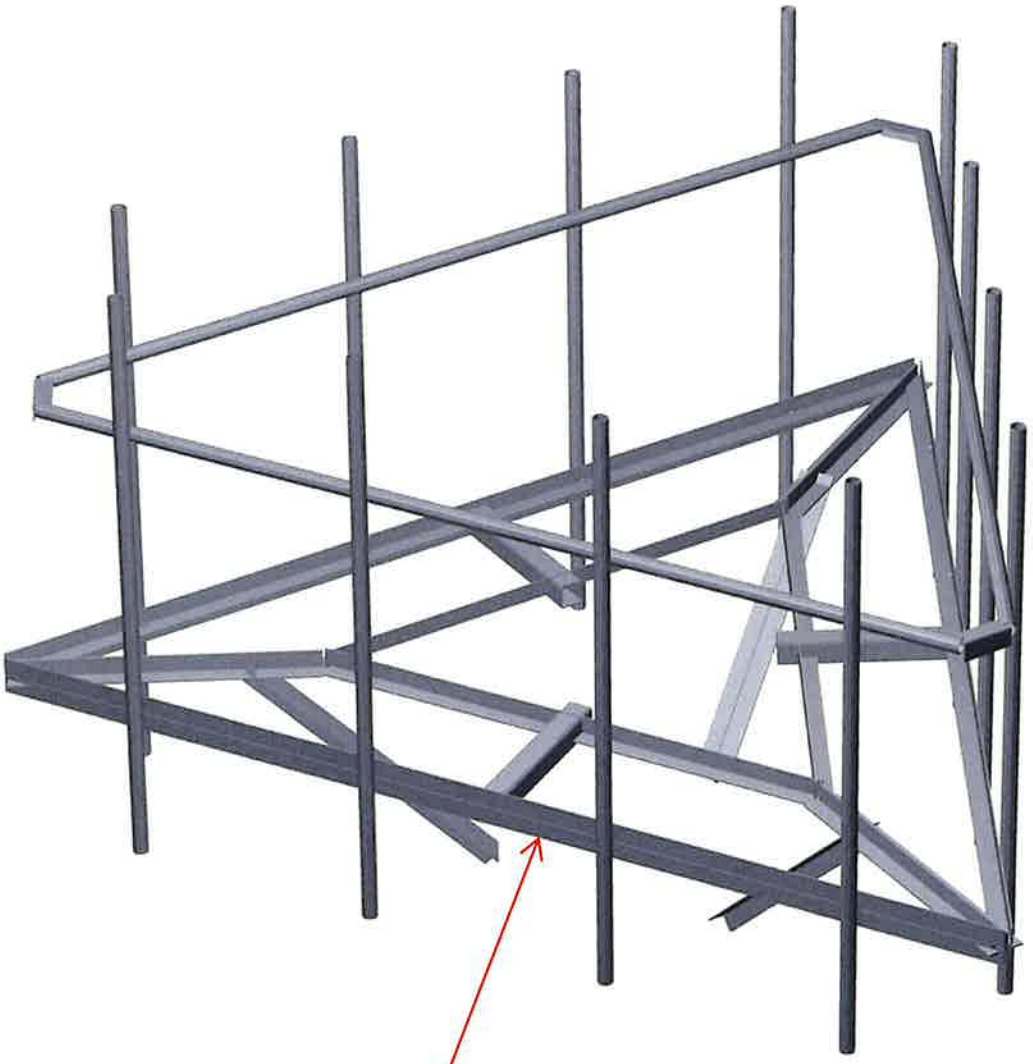
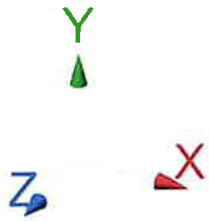


Reinforce existing 3"x3"x1/4" horizontal steel angles with new 3"x3"x1/4" steel angles (typ. of 1 per sector, total of 3).



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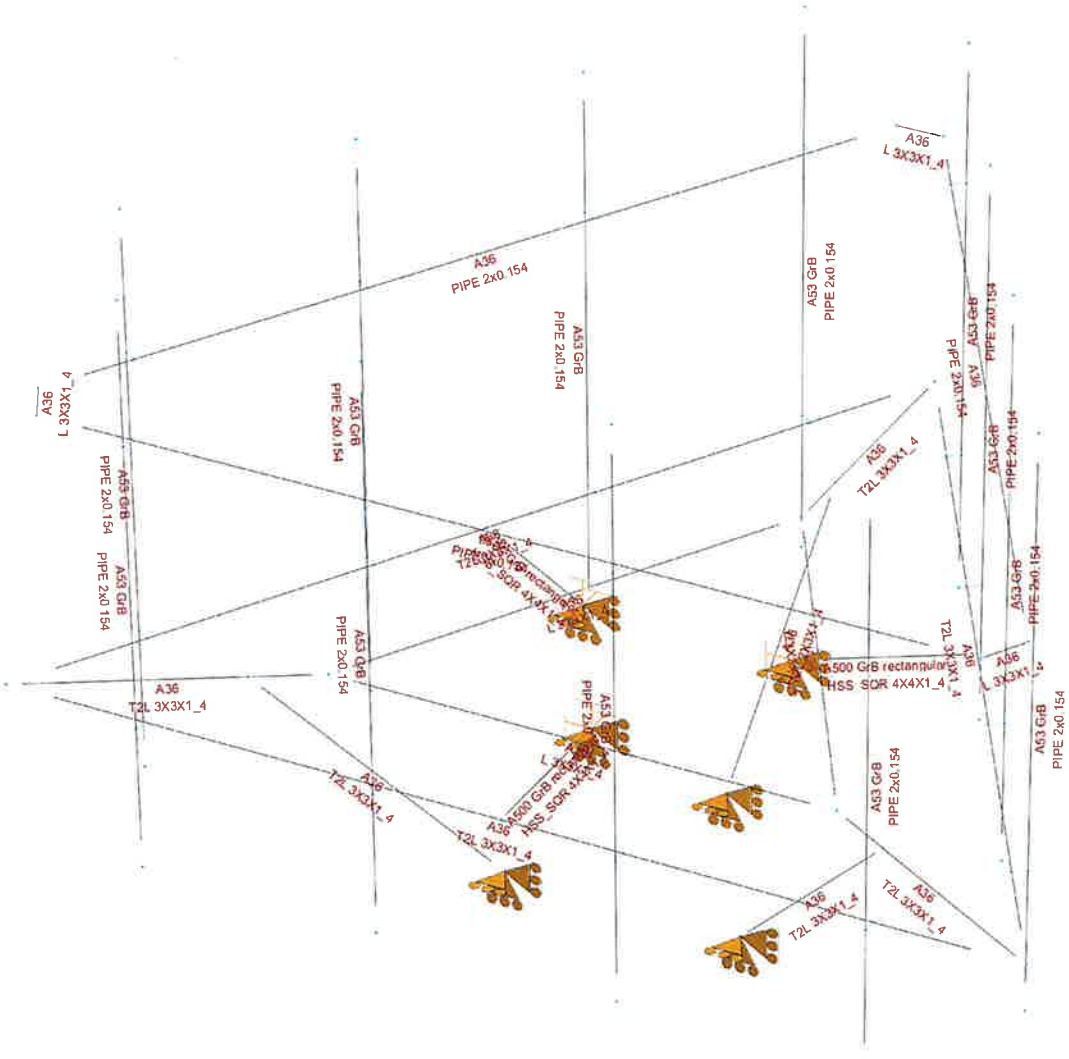

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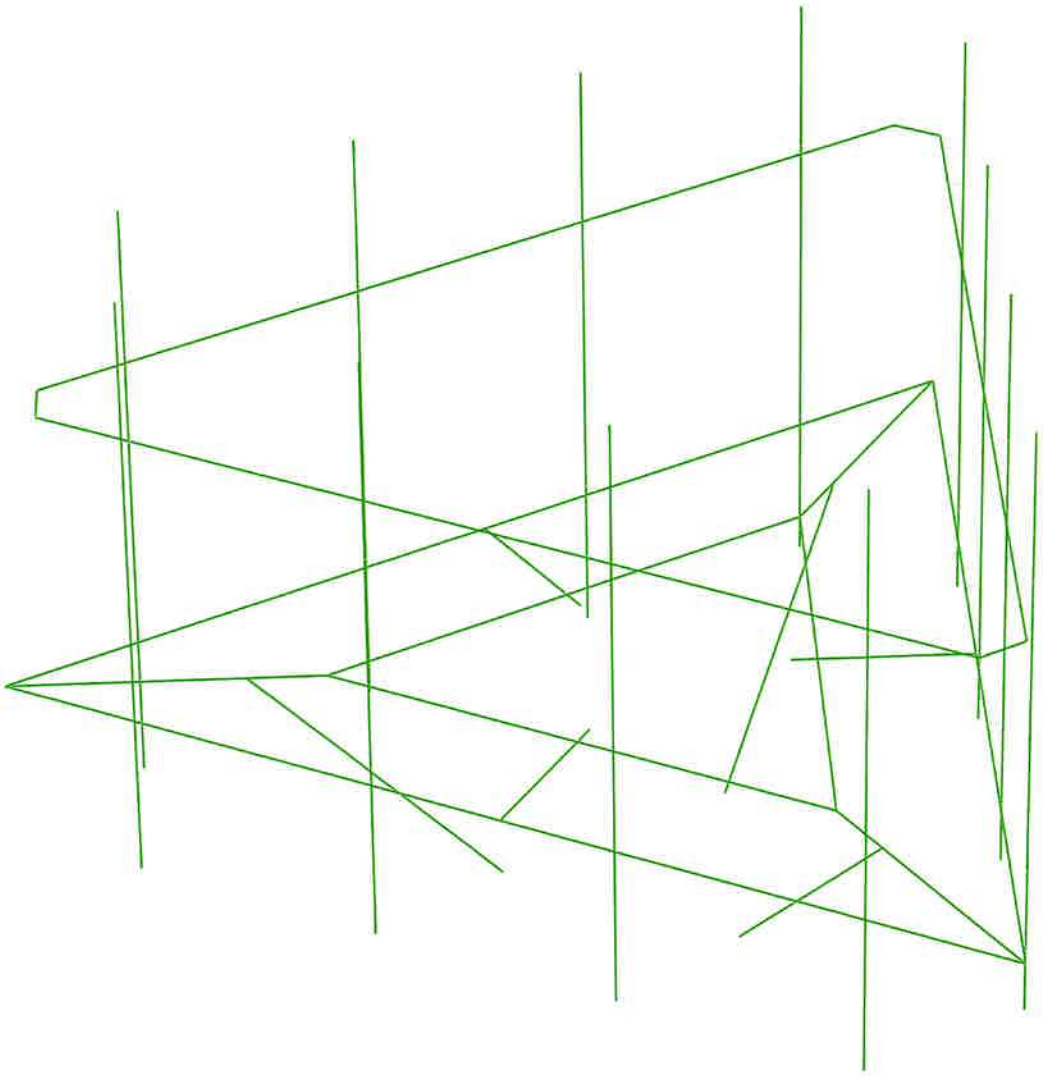
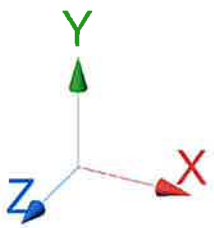
Design status

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





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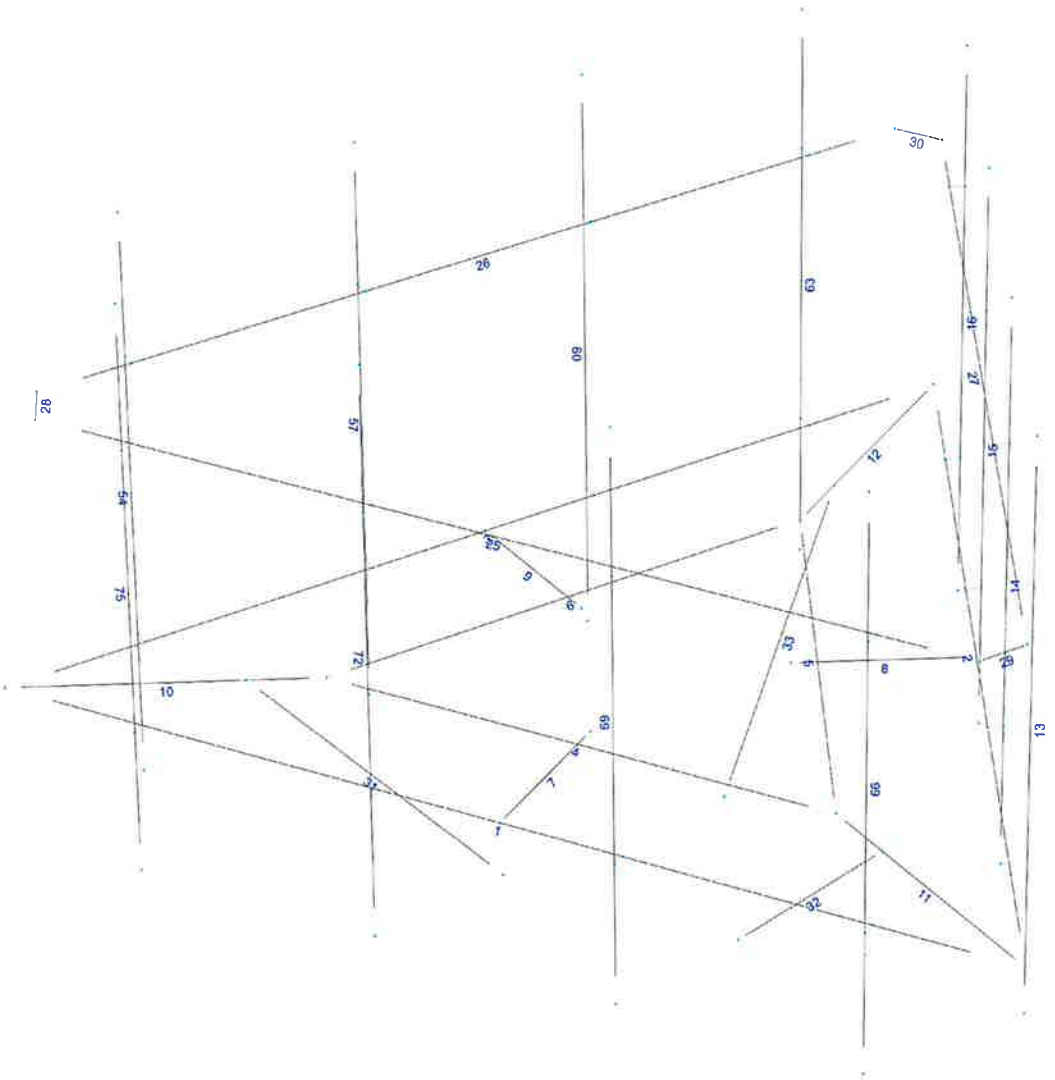

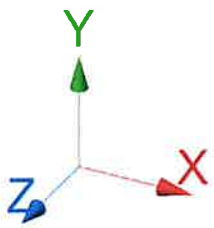

Bentley

Current Date: 6/7/2018 12:20 PM
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Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

W180=-W0
W210=-W30
Wi180=-Wi0
Wi210=-Wi30
WL180=-WL0
WL210=-WL30
LC1=1.2DL+1.6W0
LC2=1.2DL+1.6W30
LC3=1.2DL-1.6W0
LC4=1.2DL-1.6W30
LC5=0.9DL+1.6W0
LC6=0.9DL+1.6W30
LC7=0.9DL-1.6W0
LC8=0.9DL-1.6W30
LC9=1.2DL+Di+Wi0
LC10=1.2DL+Di+Wi30
LC11=1.2DL+Di-Wi0
LC12=1.2DL+Di-Wi30
LC13=1.2DL
LC14=0.9DL
LC15=1.2DL+1.6LL1
LC16=1.2DL+1.6LL2
LC17=1.2DL+WL0+LLa1
LC18=1.2DL+WL30+LLa1
LC19=1.2DL-WL0+LLa1
LC20=1.2DL-WL30+LLa1
LC21=1.2DL+WL0+LLa2
LC22=1.2DL+WL30+LLa2
LC23=1.2DL-WL0+LLa2
LC24=1.2DL-WL30+LLa2
LC25=1.2DL+WL0+LLa3
LC26=1.2DL+WL30+LLa3
LC27=1.2DL-WL0+LLa3
LC28=1.2DL-WL30+LLa3
LC29=1.2DL+WL0+LLa4
LC30=1.2DL+WL30+LLa4
LC31=1.2DL-WL0+LLa4
LC32=1.2DL-WL30+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 4X4X1_4	**7**	LC1 at 0.00%	0.11	OK	Eq. H1-1b
			LC10 at 0.00%	**0.28**	**OK**	Eq. H1-1b
			LC11 at 0.00%	0.27	OK	Eq. H1-1b
			LC12 at 0.00%	0.27	OK	Eq. H1-1b
			LC13 at 0.00%	0.14	OK	Eq. H1-1b
			LC14 at 0.00%	0.11	OK	Eq. H1-1b
			LC15 at 0.00%	0.22	OK	Eq. H1-1b
			LC16 at 0.00%	0.15	OK	Eq. H1-1b
			LC17 at 0.00%	0.18	OK	Eq. H1-1b
			LC18 at 0.00%	0.19	OK	Eq. H1-1b
			LC19 at 0.00%	0.18	OK	Eq. H1-1b

	LC2 at 0.00%	0.24	OK	Eq. H1-1b
	LC20 at 0.00%	0.18	OK	Eq. H1-1b
	LC21 at 0.00%	0.23	OK	Eq. H1-1b
	LC22 at 0.00%	0.23	OK	Eq. H1-1b
	LC23 at 0.00%	0.23	OK	Eq. H1-1b
	LC24 at 0.00%	0.23	OK	Eq. H1-1b
	LC25 at 0.00%	0.23	OK	Eq. H1-1b
	LC26 at 0.00%	0.23	OK	Eq. H1-1b
	LC27 at 0.00%	0.23	OK	Eq. H1-1b
	LC28 at 0.00%	0.22	OK	Eq. H1-1b
	LC29 at 0.00%	0.18	OK	Eq. H1-1b
	LC3 at 0.00%	0.19	OK	Eq. H1-1b
	LC30 at 0.00%	0.19	OK	Eq. H1-1b
	LC31 at 0.00%	0.18	OK	Eq. H1-1b
	LC32 at 0.00%	0.18	OK	Eq. H1-1b
	LC4 at 0.00%	0.23	OK	Eq. H1-1b
	LC5 at 0.00%	0.07	OK	Eq. H1-1b
	LC6 at 0.00%	0.21	OK	Eq. H1-1b
	LC7 at 0.00%	0.15	OK	Eq. H1-1b
	LC8 at 0.00%	0.19	OK	Eq. H1-1b
	LC9 at 0.00%	0.25	OK	Eq. H1-1b
	W180 at 0.00%	0.03	OK	Eq. H1-1b
	W210 at 0.00%	0.08	OK	
	Wi180 at 0.00%	0.01	OK	Eq. H1-1b
	Wi210 at 0.00%	0.03	OK	
	WL180 at 0.00%	0.00	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	
8	LC1 at 0.00%	0.24	OK	Eq. H1-1b
	LC10 at 0.00%	0.24	OK	Eq. H1-1b
	LC11 at 0.00%	0.25	OK	Eq. H1-1b
	LC12 at 0.00%	**0.26**	**OK**	Eq. H1-1b
	LC13 at 0.00%	0.13	OK	Eq. H1-1b
	LC14 at 0.00%	0.10	OK	Eq. H1-1b
	LC15 at 0.00%	0.20	OK	Eq. H1-1b
	LC16 at 0.00%	0.14	OK	Eq. H1-1b
	LC17 at 0.00%	0.17	OK	Eq. H1-1b
	LC18 at 0.00%	0.17	OK	Eq. H1-1b
	LC19 at 0.00%	0.17	OK	Eq. H1-1b
	LC2 at 0.00%	0.18	OK	Eq. H1-1b
	LC20 at 0.00%	0.17	OK	Eq. H1-1b
	LC21 at 0.00%	0.22	OK	Eq. H1-1b
	LC22 at 0.00%	0.22	OK	Eq. H1-1b
	LC23 at 0.00%	0.22	OK	Eq. H1-1b
	LC24 at 0.00%	0.22	OK	Eq. H1-1b
	LC25 at 0.00%	0.22	OK	Eq. H1-1b
	LC26 at 0.00%	0.21	OK	Eq. H1-1b
	LC27 at 0.00%	0.22	OK	Eq. H1-1b
	LC28 at 0.00%	0.22	OK	Eq. H1-1b
	LC29 at 0.00%	0.17	OK	Eq. H1-1b
	LC3 at 0.00%	0.21	OK	Eq. H1-1b
	LC30 at 0.00%	0.17	OK	Eq. H1-1b
	LC31 at 0.00%	0.17	OK	Eq. H1-1b
	LC32 at 0.00%	0.17	OK	Eq. H1-1b
	LC4 at 0.00%	0.25	OK	Eq. H1-1b
	LC5 at 0.00%	0.21	OK	Eq. H1-1b
	LC6 at 0.00%	0.15	OK	Eq. H1-1b
	LC7 at 0.00%	0.18	OK	Eq. H1-1b
	LC8 at 0.00%	0.21	OK	Eq. H1-1b
	LC9 at 0.00%	0.26	OK	Eq. H1-1b
	W180 at 0.00%	0.07	OK	Eq. H1-1b
	W210 at 0.00%	0.07	OK	Eq. H1-1b
	Wi180 at 0.00%	0.02	OK	Eq. H1-1b
	Wi210 at 0.00%	0.02	OK	Eq. H1-1b

		WL180 at 0.00%	0.01	OK	Eq. H1-1b
		WL210 at 0.00%	0.01	OK	Eq. H1-1b
	9	LC1 at 0.00%	0.25	OK	Eq. H1-1b
		LC10 at 0.00%	0.26	OK	Eq. H1-1b
		LC11 at 0.00%	0.26	OK	Eq. H1-1b
		LC12 at 0.00%	0.24	OK	Eq. H1-1b
		LC13 at 0.00%	0.13	OK	Eq. H1-1b
		LC14 at 0.00%	0.10	OK	Eq. H1-1b
		LC15 at 0.00%	0.21	OK	Eq. H1-1b
		LC16 at 0.00%	0.14	OK	Eq. H1-1b
		LC17 at 0.00%	0.17	OK	Eq. H1-1b
		LC18 at 0.00%	0.17	OK	Eq. H1-1b
		LC19 at 0.00%	0.17	OK	Eq. H1-1b
		LC2 at 0.00%	0.23	OK	Eq. H1-1b
		LC20 at 0.00%	0.17	OK	Eq. H1-1b
		LC21 at 0.00%	0.22	OK	Eq. H1-1b
		LC22 at 0.00%	0.22	OK	Eq. H1-1b
		LC23 at 0.00%	0.22	OK	Eq. H1-1b
		LC24 at 0.00%	0.21	OK	Eq. H1-1b
		LC25 at 0.00%	0.22	OK	Eq. H1-1b
		LC26 at 0.00%	0.22	OK	Eq. H1-1b
		LC27 at 0.00%	0.22	OK	Eq. H1-1b
		LC28 at 0.00%	0.21	OK	Eq. H1-1b
		LC29 at 0.00%	0.17	OK	Eq. H1-1b
		LC3 at 0.00%	0.22	OK	Eq. H1-1b
		LC30 at 0.00%	0.17	OK	Eq. H1-1b
		LC31 at 0.00%	0.17	OK	Eq. H1-1b
		LC32 at 0.00%	0.17	OK	Eq. H1-1b
		LC4 at 0.00%	0.17	OK	Eq. H1-1b
		LC5 at 0.00%	0.22	OK	Eq. H1-1b
		LC6 at 0.00%	0.20	OK	Eq. H1-1b
		LC7 at 0.00%	0.18	OK	Eq. H1-1b
		LC8 at 0.00%	0.14	OK	Eq. H1-1b
		LC9 at 0.00%	**0.26**	**OK**	Eq. H1-1b
		W180 at 0.00%	0.08	OK	Eq. H1-1b
		W210 at 0.00%	0.06	OK	Eq. H1-1b
		Wi180 at 0.00%	0.03	OK	Eq. H1-1b
		Wi210 at 0.00%	0.02	OK	Eq. H1-1b
		WL180 at 0.00%	0.01	OK	Eq. H1-1b
		WL210 at 0.00%	0.01	OK	Eq. H1-1b
L 3X3X1_4	**4**	LC1 at 100.00%	0.08	OK	Eq. H2-1
		LC10 at 0.00%	0.25	OK	Eq. H2-1
		LC11 at 0.00%	0.23	OK	Eq. H2-1
		LC12 at 100.00%	0.22	OK	Eq. H2-1
		LC13 at 0.00%	0.11	OK	Eq. H2-1
		LC14 at 0.00%	0.08	OK	Eq. H2-1
		LC15 at 0.00%	0.12	OK	Eq. H2-1
		LC16 at 0.00%	0.22	OK	Eq. H2-1
		LC17 at 0.00%	0.18	OK	Eq. H2-1
		LC18 at 0.00%	0.20	OK	Eq. H2-1
		LC19 at 0.00%	0.20	OK	Eq. H2-1
		LC2 at 0.00%	**0.32**	**OK**	Eq. H2-1
		LC20 at 100.00%	0.18	OK	Eq. H2-1
		LC21 at 0.00%	0.13	OK	Eq. H2-1
		LC22 at 0.00%	0.14	OK	Eq. H2-1
		LC23 at 0.00%	0.14	OK	Eq. H2-1
		LC24 at 100.00%	0.12	OK	Eq. H2-1
		LC25 at 0.00%	0.13	OK	Eq. H2-1
		LC26 at 0.00%	0.14	OK	Eq. H2-1
		LC27 at 0.00%	0.14	OK	Eq. H2-1
		LC28 at 0.00%	0.12	OK	Eq. H2-1
		LC29 at 0.00%	0.19	OK	Eq. H2-1

	LC3 at 0.00%	0.21	OK	Eq. H2-1
	LC30 at 0.00%	0.20	OK	Eq. H2-1
	LC31 at 0.00%	0.20	OK	Eq. H2-1
	LC32 at 0.00%	0.18	OK	Eq. H2-1
	LC4 at 100.00%	0.30	OK	Eq. H2-1
	LC5 at 50.00%	0.09	OK	Eq. H2-1
	LC6 at 0.00%	0.29	OK	Eq. H2-1
	LC7 at 0.00%	0.18	OK	Eq. H2-1
	LC8 at 100.00%	0.28	OK	Eq. H2-1
	LC9 at 0.00%	0.18	OK	Eq. H2-1
	W180 at 100.00%	0.06	OK	Eq. H2-1
	W210 at 0.00%	0.18	OK	Eq. H2-1
	Wi180 at 100.00%	0.02	OK	Eq. H2-1
	Wi210 at 0.00%	0.07	OK	Eq. H2-1
	WL180 at 100.00%	0.01	OK	Eq. H2-1
	WL210 at 0.00%	0.02	OK	Eq. H2-1
5	LC1 at 100.00%	**0.32**	**OK**	Eq. H2-1
	LC10 at 100.00%	0.18	OK	Eq. H2-1
	LC11 at 0.00%	0.21	OK	Eq. H2-1
	LC12 at 0.00%	0.22	OK	Eq. H2-1
	LC13 at 0.00%	0.09	OK	Eq. H2-1
	LC14 at 0.00%	0.07	OK	Eq. H2-1
	LC15 at 0.00%	0.10	OK	Eq. H2-1
	LC16 at 0.00%	0.20	OK	Sec. F1
	LC17 at 100.00%	0.18	OK	Eq. H2-1
	LC18 at 100.00%	0.17	OK	Eq. H2-1
	LC19 at 0.00%	0.17	OK	Eq. H2-1
	LC2 at 0.00%	0.18	OK	Eq. H2-1
	LC20 at 0.00%	0.18	OK	Eq. H2-1
	LC21 at 100.00%	0.12	OK	Eq. H2-1
	LC22 at 100.00%	0.11	OK	Eq. H2-1
	LC23 at 0.00%	0.12	OK	Eq. H2-1
	LC24 at 0.00%	0.12	OK	Eq. H2-1
	LC25 at 100.00%	0.12	OK	Eq. H2-1
	LC26 at 100.00%	0.11	OK	Eq. H2-1
	LC27 at 0.00%	0.12	OK	Eq. H2-1
	LC28 at 0.00%	0.12	OK	Eq. H2-1
	LC29 at 100.00%	0.18	OK	Eq. H2-1
	LC3 at 100.00%	0.22	OK	Eq. H2-1
	LC30 at 100.00%	0.17	OK	Eq. H2-1
	LC31 at 0.00%	0.18	OK	Eq. H2-1
	LC32 at 0.00%	0.18	OK	Eq. H2-1
	LC4 at 0.00%	0.29	OK	Eq. H2-1
	LC5 at 100.00%	0.29	OK	Eq. H2-1
	LC6 at 0.00%	0.21	OK	Eq. H2-1
	LC7 at 100.00%	0.25	OK	Eq. H2-1
	LC8 at 0.00%	0.27	OK	Eq. H2-1
	LC9 at 100.00%	0.23	OK	Eq. H2-1
	W180 at 100.00%	0.20	OK	Eq. H2-1
	W210 at 0.00%	0.13	OK	Eq. H2-1
	Wi180 at 100.00%	0.07	OK	Eq. H2-1
	Wi210 at 0.00%	0.05	OK	Eq. H2-1
	WL180 at 100.00%	0.02	OK	Eq. H2-1
	WL210 at 0.00%	0.01	OK	Eq. H2-1
6	LC1 at 0.00%	0.32	OK	Eq. H2-1
	LC10 at 100.00%	0.25	OK	Eq. H2-1
	LC11 at 100.00%	0.23	OK	Eq. H2-1
	LC12 at 0.00%	0.18	OK	Eq. H2-1
	LC13 at 100.00%	0.11	OK	Eq. H2-1
	LC14 at 100.00%	0.08	OK	Eq. H2-1
	LC15 at 100.00%	0.12	OK	Eq. H2-1
	LC16 at 100.00%	0.22	OK	Sec. F1

	LC17 at 100.00%	0.18	OK	Sec. F1
	LC18 at 100.00%	0.20	OK	Eq. H2-1
	LC19 at 100.00%	0.20	OK	Eq. H2-1
	LC2 at 100.00%	**0.32**	**OK**	Eq. H2-1
	LC20 at 100.00%	0.18	OK	Sec. F1
	LC21 at 100.00%	0.13	OK	Eq. H2-1
	LC22 at 100.00%	0.14	OK	Eq. H2-1
	LC23 at 100.00%	0.14	OK	Eq. H2-1
	LC24 at 100.00%	0.12	OK	Eq. H2-1
	LC25 at 100.00%	0.12	OK	Eq. H2-1
	LC26 at 100.00%	0.14	OK	Eq. H2-1
	LC27 at 100.00%	0.14	OK	Eq. H2-1
	LC28 at 100.00%	0.12	OK	Eq. H2-1
	LC29 at 100.00%	0.18	OK	Sec. F1
	LC3 at 100.00%	0.23	OK	Eq. H2-1
	LC30 at 100.00%	0.20	OK	Eq. H2-1
	LC31 at 100.00%	0.20	OK	Eq. H2-1
	LC32 at 100.00%	0.18	OK	Sec. F1
	LC4 at 100.00%	0.16	OK	Eq. H2-1
	LC5 at 0.00%	0.29	OK	Eq. H2-1
	LC6 at 100.00%	0.29	OK	Eq. H2-1
	LC7 at 0.00%	0.24	OK	Eq. H2-1
	LC8 at 100.00%	0.20	OK	Eq. H2-1
	LC9 at 0.00%	0.23	OK	Eq. H2-1
	W180 at 0.00%	0.20	OK	Eq. H2-1
	W210 at 100.00%	0.18	OK	Eq. H2-1
	Wi180 at 0.00%	0.07	OK	Eq. H2-1
	Wi210 at 100.00%	0.07	OK	Eq. H2-1
	WL180 at 0.00%	0.02	OK	Eq. H2-1
	WL210 at 100.00%	0.02	OK	Eq. H2-1
28	LC1 at 100.00%	**0.68**	**OK**	Eq. H3-8
	LC10 at 0.00%	0.14	OK	Eq. H2-1
	LC11 at 100.00%	0.15	OK	Eq. H2-1
	LC12 at 0.00%	0.05	OK	Sec. F1
	LC13 at 100.00%	0.04	OK	Eq. H2-1
	LC14 at 100.00%	0.03	OK	Eq. H2-1
	LC15 at 100.00%	0.04	OK	Eq. H2-1
	LC16 at 100.00%	0.05	OK	Eq. H2-1
	LC17 at 0.00%	0.05	OK	Eq. H2-1
	LC18 at 0.00%	0.07	OK	Eq. H2-1
	LC19 at 100.00%	0.07	OK	Eq. H2-1
	LC2 at 0.00%	0.37	OK	Sec. F1
	LC20 at 100.00%	0.04	OK	Eq. H2-1
	LC21 at 0.00%	0.05	OK	Eq. H2-1
	LC22 at 0.00%	0.08	OK	Eq. H2-1
	LC23 at 100.00%	0.08	OK	Eq. H2-1
	LC24 at 100.00%	0.05	OK	Eq. H2-1
	LC25 at 100.00%	0.09	OK	Eq. H3-8
	LC26 at 0.00%	0.08	OK	Eq. H2-1
	LC27 at 100.00%	0.08	OK	Eq. H2-1
	LC28 at 100.00%	0.05	OK	Eq. H2-1
	LC29 at 100.00%	0.11	OK	Eq. H3-8
	LC3 at 0.00%	0.63	OK	Eq. H3-8
	LC30 at 100.00%	0.09	OK	Eq. H3-8
	LC31 at 100.00%	0.07	OK	Eq. H2-1
	LC32 at 100.00%	0.06	OK	Eq. H3-8
	LC4 at 0.00%	0.31	OK	Sec. F1
	LC5 at 100.00%	0.67	OK	Eq. H3-8
	LC6 at 0.00%	0.36	OK	Sec. F1
	LC7 at 0.00%	0.63	OK	Eq. H3-8
	LC8 at 0.00%	0.32	OK	Sec. F1
	LC9 at 100.00%	0.21	OK	Eq. H3-8
	W180 at 0.00%	0.41	OK	Eq. H3-8

	W210 at 0.00%	0.21	OK	Sec. F1
	Wi180 at 0.00%	0.15	OK	Eq. H3-8
	Wi210 at 0.00%	0.08	OK	Sec. F1
	WL180 at 0.00%	0.04	OK	Eq. H3-8
	WL210 at 0.00%	0.02	OK	Sec. F1
29	LC1 at 100.00%	0.25	OK	Eq. H3-8
	LC10 at 0.00%	0.07	OK	Eq. H3-8
	LC11 at 100.00%	0.11	OK	Eq. H2-1
	LC12 at 0.00%	0.17	OK	Eq. H2-1
	LC13 at 12.50%	0.03	OK	Eq. H2-1
	LC14 at 12.50%	0.03	OK	Eq. H2-1
	LC15 at 12.50%	0.03	OK	Eq. H2-1
	LC16 at 0.00%	0.04	OK	Eq. H2-1
	LC17 at 0.00%	0.05	OK	Eq. H2-1
	LC18 at 100.00%	0.04	OK	Eq. H2-1
	LC19 at 100.00%	0.06	OK	Eq. H2-1
	LC2 at 0.00%	0.40	OK	Sec. F1
	LC20 at 0.00%	0.08	OK	Eq. H2-1
	LC21 at 0.00%	0.06	OK	Eq. H2-1
	LC22 at 100.00%	0.04	OK	Eq. H2-1
	LC23 at 100.00%	0.07	OK	Eq. H2-1
	LC24 at 0.00%	0.08	OK	Eq. H2-1
	LC25 at 0.00%	0.06	OK	Eq. H2-1
	LC26 at 0.00%	0.04	OK	Eq. H3-8
	LC27 at 100.00%	0.07	OK	Eq. H2-1
	LC28 at 0.00%	0.08	OK	Eq. H2-1
	LC29 at 0.00%	0.05	OK	Eq. H2-1
	LC3 at 0.00%	0.28	OK	Eq. H3-8
	LC30 at 0.00%	0.06	OK	Eq. H3-8
	LC31 at 0.00%	0.06	OK	Eq. H3-8
	LC32 at 0.00%	0.08	OK	Eq. H2-1
	LC4 at 0.00%	**0.47**	**OK**	Sec. F1
	LC5 at 100.00%	0.26	OK	Eq. H3-8
	LC6 at 0.00%	0.41	OK	Sec. F1
	LC7 at 0.00%	0.28	OK	Eq. H3-8
	LC8 at 0.00%	0.46	OK	Sec. F1
	LC9 at 0.00%	0.07	OK	Eq. H2-1
	W180 at 0.00%	0.17	OK	Eq. H3-8
	W210 at 0.00%	0.27	OK	Sec. F1
	Wi180 at 0.00%	0.07	OK	Eq. H3-8
	Wi210 at 0.00%	0.10	OK	Sec. F1
	WL180 at 0.00%	0.01	OK	Eq. H3-8
	WL210 at 0.00%	0.03	OK	Sec. F1
30	LC1 at 0.00%	**0.39**	**OK**	Sec. F1
	LC10 at 0.00%	0.11	OK	Eq. H2-1
	LC11 at 100.00%	0.06	OK	Sec. F1
	LC12 at 0.00%	0.11	OK	Eq. H3-8
	LC13 at 0.00%	0.03	OK	Eq. H2-1
	LC14 at 0.00%	0.02	OK	Eq. H2-1
	LC15 at 0.00%	0.03	OK	Eq. H2-1
	LC16 at 0.00%	0.04	OK	Eq. H2-1
	LC17 at 0.00%	0.07	OK	Eq. H2-1
	LC18 at 0.00%	0.06	OK	Eq. H2-1
	LC19 at 0.00%	0.04	OK	Eq. H2-1
	LC2 at 100.00%	0.34	OK	Eq. H3-8
	LC20 at 100.00%	0.06	OK	Eq. H2-1
	LC21 at 0.00%	0.07	OK	Eq. H2-1
	LC22 at 0.00%	0.07	OK	Eq. H2-1
	LC23 at 100.00%	0.04	OK	Eq. H2-1
	LC24 at 100.00%	0.06	OK	Eq. H2-1
	LC25 at 0.00%	0.07	OK	Eq. H2-1
	LC26 at 0.00%	0.07	OK	Eq. H2-1

		LC27 at 100.00%	0.04	OK	Eq. H2-1
		LC28 at 100.00%	0.06	OK	Eq. H2-1
		LC29 at 0.00%	0.07	OK	Eq. H2-1
		LC3 at 0.00%	0.34	OK	Sec. F1
		LC30 at 0.00%	0.07	OK	Eq. H2-1
		LC31 at 100.00%	0.05	OK	Eq. H2-1
		LC32 at 0.00%	0.06	OK	Eq. H3-8
		LC4 at 0.00%	0.36	OK	Eq. H3-8
		LC5 at 0.00%	0.39	OK	Sec. F1
		LC6 at 100.00%	0.34	OK	Eq. H3-8
		LC7 at 0.00%	0.35	OK	Sec. F1
		LC8 at 0.00%	0.36	OK	Eq. H3-8
		LC9 at 0.00%	0.15	OK	Sec. F1
		W180 at 0.00%	0.23	OK	Sec. F1
		W210 at 0.00%	0.22	OK	Eq. H3-8
		Wi180 at 0.00%	0.09	OK	Sec. F1
		Wi210 at 0.00%	0.08	OK	Eq. H3-8
		WL180 at 0.00%	0.02	OK	Sec. F1
		WL210 at 0.00%	0.02	OK	Eq. H3-8
PIPE 2x0.154	**13**	LC1 at 72.92%	0.43	OK	Eq. H1-1b
		LC10 at 72.92%	0.14	OK	Eq. H1-1b
		LC11 at 72.92%	0.16	OK	Eq. H1-1b
		LC12 at 72.92%	0.12	OK	Eq. H1-1b
		LC13 at 72.92%	0.05	OK	Eq. H1-1b
		LC14 at 72.92%	0.04	OK	Eq. H1-1b
		LC15 at 72.92%	0.04	OK	Eq. H1-1b
		LC16 at 72.92%	0.09	OK	Eq. H1-1b
		LC17 at 72.92%	0.09	OK	Eq. H1-1b
		LC18 at 72.92%	0.08	OK	Eq. H1-1b
		LC19 at 72.92%	0.06	OK	Eq. H1-1b
		LC2 at 72.92%	0.25	OK	Eq. H1-1b
		LC20 at 72.92%	0.07	OK	Eq. H1-1b
		LC21 at 72.92%	0.07	OK	Eq. H1-1b
		LC22 at 72.92%	0.06	OK	Eq. H1-1b
		LC23 at 72.92%	0.06	OK	Eq. H1-1b
		LC24 at 72.92%	0.05	OK	Eq. H1-1b
		LC25 at 72.92%	0.06	OK	Eq. H1-1b
		LC26 at 72.92%	0.05	OK	Eq. H1-1b
		LC27 at 72.92%	0.07	OK	Eq. H1-1b
		LC28 at 72.92%	0.07	OK	Eq. H1-1b
		LC29 at 72.92%	0.17	OK	Eq. H1-1b
		LC3 at 72.92%	**0.44**	**OK**	Eq. H1-1b
		LC30 at 72.92%	0.16	OK	Eq. H1-1b
		LC31 at 72.92%	0.13	OK	Eq. H1-1b
		LC32 at 72.92%	0.14	OK	Eq. H1-1b
		LC4 at 72.92%	0.29	OK	Eq. H1-1b
		LC5 at 72.92%	0.42	OK	Eq. H1-1b
		LC6 at 72.92%	0.24	OK	Eq. H1-1b
		LC7 at 72.92%	0.43	OK	Eq. H1-1b
		LC8 at 72.92%	0.28	OK	Eq. H1-1b
		LC9 at 72.92%	0.19	OK	Eq. H1-1b
		W180 at 72.92%	0.26	OK	Eq. H1-1b
		W210 at 72.92%	0.15	OK	Eq. H1-1b
		Wi180 at 72.92%	0.10	OK	Eq. H1-1b
		Wi210 at 72.92%	0.06	OK	Eq. H1-1b
		WL180 at 72.92%	0.02	OK	Eq. H1-1b
		WL210 at 72.92%	0.01	OK	Eq. H1-1b
	14	LC1 at 72.92%	0.54	OK	Eq. H1-1b
		LC10 at 72.92%	0.30	OK	Eq. H1-1b
		LC11 at 72.92%	0.20	OK	Eq. H1-1b
		LC12 at 72.92%	0.09	OK	Eq. H1-1b
		LC13 at 72.92%	0.10	OK	Eq. H1-1b

	LC14 at 72.92%	0.08	OK	Eq. H1-1b
	LC15 at 72.92%	0.10	OK	Eq. H1-1b
	LC16 at 72.92%	0.13	OK	Eq. H1-1b
	LC17 at 72.92%	0.12	OK	Eq. H1-1b
	LC18 at 72.92%	0.13	OK	Eq. H1-1b
	LC19 at 72.92%	0.08	OK	Eq. H1-1b
	LC2 at 72.92%	0.56	OK	Eq. H1-1b
	LC20 at 72.92%	0.07	OK	Eq. H1-1b
	LC21 at 72.92%	0.12	OK	Eq. H1-1b
	LC22 at 72.92%	0.12	OK	Eq. H1-1b
	LC23 at 72.92%	0.09	OK	Eq. H1-1b
	LC24 at 72.92%	0.07	OK	Eq. H1-1b
	LC25 at 72.92%	0.23	OK	Eq. H1-1b
	LC26 at 72.92%	0.23	OK	Eq. H1-1b
	LC27 at 72.92%	0.19	OK	Eq. H1-1b
	LC28 at 72.92%	0.18	OK	Eq. H1-1b
	LC29 at 72.92%	0.17	OK	Eq. H1-1b
	LC3 at 72.92%	**0.58**	**OK**	Eq. H1-1b
	LC30 at 72.92%	0.18	OK	Eq. H1-1b
	LC31 at 72.92%	0.13	OK	Eq. H1-1b
	LC32 at 72.92%	0.12	OK	Eq. H1-1b
	LC4 at 72.92%	0.38	OK	Eq. H1-1b
	LC5 at 72.92%	0.54	OK	Eq. H1-1b
	LC6 at 72.92%	0.54	OK	Eq. H1-1b
	LC7 at 72.92%	0.57	OK	Eq. H1-1b
	LC8 at 72.92%	0.40	OK	Eq. H1-1b
	LC9 at 72.92%	0.28	OK	Eq. H1-1b
	W180 at 72.92%	0.34	OK	Eq. H1-1b
	W210 at 72.92%	0.29	OK	Eq. H1-1b
	Wi180 at 72.92%	0.13	OK	Eq. H1-1b
	Wi210 at 72.92%	0.11	OK	Eq. H1-1b
	WL180 at 72.92%	0.03	OK	Eq. H1-1b
	WL210 at 72.92%	0.03	OK	Eq. H1-1b
16	LC1 at 72.92%	**0.40**	**OK**	Eq. H1-1b
	LC10 at 72.92%	0.06	OK	Eq. H1-1b
	LC11 at 72.92%	0.16	OK	Eq. H1-1b
	LC12 at 72.92%	0.14	OK	Eq. H1-1b
	LC13 at 72.92%	0.04	OK	Eq. H1-1b
	LC14 at 72.92%	0.03	OK	Eq. H1-1b
	LC15 at 72.92%	0.04	OK	Eq. H1-1b
	LC16 at 72.92%	0.08	OK	Eq. H1-1b
	LC17 at 72.92%	0.13	OK	Eq. H1-1b
	LC18 at 72.92%	0.13	OK	Eq. H1-1b
	LC19 at 72.92%	0.16	OK	Eq. H1-1b
	LC2 at 25.00%	0.30	OK	Eq. H1-1b
	LC20 at 72.92%	0.16	OK	Eq. H1-1b
	LC21 at 72.92%	0.04	OK	Eq. H1-1b
	LC22 at 72.92%	0.03	OK	Eq. H1-1b
	LC23 at 72.92%	0.04	OK	Eq. H1-1b
	LC24 at 72.92%	0.04	OK	Eq. H1-1b
	LC25 at 72.92%	0.03	OK	Eq. H1-1b
	LC26 at 72.92%	0.03	OK	Eq. H1-1b
	LC27 at 72.92%	0.06	OK	Eq. H1-1b
	LC28 at 72.92%	0.06	OK	Eq. H1-1b
	LC29 at 72.92%	0.05	OK	Eq. H1-1b
	LC3 at 72.92%	0.39	OK	Eq. H1-1b
	LC30 at 72.92%	0.05	OK	Eq. H1-1b
	LC31 at 72.92%	0.09	OK	Eq. H1-1b
	LC32 at 72.92%	0.08	OK	Eq. H1-1b
	LC4 at 25.00%	0.35	OK	Eq. H1-1b
	LC5 at 72.92%	0.40	OK	Eq. H1-1b
	LC6 at 25.00%	0.30	OK	Eq. H1-1b
	LC7 at 72.92%	0.39	OK	Eq. H1-1b

	LC8 at 25.00%	0.34	OK	Eq. H1-1b
	LC9 at 72.92%	0.09	OK	Eq. H1-1b
	W180 at 72.92%	0.25	OK	Eq. H1-1b
	W210 at 25.00%	0.20	OK	Eq. H1-1b
	Wi180 at 72.92%	0.10	OK	Eq. H1-1b
	Wi210 at 25.00%	0.07	OK	Eq. H1-1b
	WL180 at 72.92%	0.02	OK	Eq. H1-1b
	WL210 at 25.00%	0.02	OK	Eq. H1-1b
25	LC1 at 10.00%	0.50	OK	Eq. H1-1b
	LC10 at 63.75%	0.16	OK	Eq. H1-1b
	LC11 at 36.25%	0.18	OK	Eq. H1-1b
	LC12 at 11.25%	0.19	OK	Eq. H1-1b
	LC13 at 63.75%	0.05	OK	Eq. H1-1b
	LC14 at 63.75%	0.04	OK	Eq. H1-1b
	LC15 at 37.50%	0.04	OK	Eq. H1-1b
	LC16 at 63.75%	0.10	OK	Eq. H1-1b
	LC17 at 63.75%	0.09	OK	Eq. H1-1b
	LC18 at 63.75%	0.11	OK	Eq. H1-1b
	LC19 at 63.75%	0.10	OK	Eq. H1-1b
	LC2 at 88.75%	0.61	OK	Eq. H1-1b
	LC20 at 36.25%	0.08	OK	Eq. H1-1b
	LC21 at 11.25%	0.05	OK	Eq. H1-1b
	LC22 at 0.00%	0.07	OK	Eq. H1-1b
	LC23 at 36.25%	0.08	OK	Eq. H1-1b
	LC24 at 100.00%	0.08	OK	Eq. H1-1b
	LC25 at 37.50%	0.09	OK	Eq. H1-1b
	LC26 at 37.50%	0.09	OK	Eq. H1-1b
	LC27 at 37.50%	0.13	OK	Eq. H1-1b
	LC28 at 37.50%	0.13	OK	Eq. H1-1b
	LC29 at 11.25%	0.12	OK	Eq. H1-1b
	LC3 at 36.25%	0.48	OK	Eq. H1-1b
	LC30 at 63.75%	0.09	OK	Eq. H1-1b
	LC31 at 11.25%	0.11	OK	Eq. H1-1b
	LC32 at 11.25%	0.15	OK	Eq. H1-1b
	LC4 at 88.75%	**0.63**	**OK**	Eq. H1-1b
	LC5 at 10.00%	0.49	OK	Eq. H1-1b
	LC6 at 88.75%	0.61	OK	Eq. H1-1b
	LC7 at 10.00%	0.48	OK	Eq. H1-1b
	LC8 at 88.75%	0.62	OK	Eq. H1-1b
	LC9 at 10.00%	0.15	OK	Eq. H1-1b
	W180 at 10.00%	0.31	OK	Eq. H1-1b
	W210 at 88.75%	0.38	OK	Eq. H1-1b
	Wi180 at 10.00%	0.12	OK	Eq. H1-1b
	Wi210 at 88.75%	0.14	OK	Eq. H1-1b
	WL180 at 10.00%	0.03	OK	Eq. H1-1b
	WL210 at 88.75%	0.04	OK	Eq. H1-1b
26	LC1 at 90.00%	0.56	OK	Eq. H1-1b
	LC10 at 36.25%	0.21	OK	Eq. H1-1b
	LC11 at 62.50%	0.17	OK	Eq. H1-1b
	LC12 at 10.00%	0.18	OK	Eq. H1-1b
	LC13 at 62.50%	0.05	OK	Eq. H1-1b
	LC14 at 62.50%	0.04	OK	Eq. H1-1b
	LC15 at 90.00%	0.05	OK	Eq. H1-1b
	LC16 at 63.75%	0.09	OK	Eq. H1-1b
	LC17 at 63.75%	0.11	OK	Eq. H1-1b
	LC18 at 36.25%	0.10	OK	Eq. H1-1b
	LC19 at 63.75%	0.07	OK	Eq. H1-1b
	LC2 at 36.25%	0.63	OK	Eq. H1-1b
	LC20 at 63.75%	0.09	OK	Eq. H1-1b
	LC21 at 0.00%	0.07	OK	Eq. H1-1b
	LC22 at 36.25%	0.09	OK	Eq. H1-1b
	LC23 at 100.00%	0.07	OK	Eq. H1-1b

	LC24 at 10.00%	0.05	OK	Eq. H1-1b
	LC25 at 37.50%	0.10	OK	Eq. H1-1b
	LC26 at 37.50%	0.14	OK	Eq. H1-1b
	LC27 at 37.50%	0.11	OK	Eq. H1-1b
	LC28 at 37.50%	0.07	OK	Eq. H1-1b
	LC29 at 63.75%	0.09	OK	Eq. H1-1b
	LC3 at 11.25%	0.53	OK	Eq. H1-1b
	LC30 at 11.25%	0.12	OK	Eq. H1-1b
	LC31 at 11.25%	0.13	OK	Eq. H1-1b
	LC32 at 11.25%	0.09	OK	Eq. H1-1b
	LC4 at 10.00%	0.63	OK	Eq. H1-1b
	LC5 at 90.00%	0.56	OK	Eq. H1-1b
	LC6 at 10.00%	**0.63**	**OK**	Eq. H1-1b
	LC7 at 11.25%	0.53	OK	Eq. H1-1b
	LC8 at 10.00%	0.62	OK	Eq. H1-1b
	LC9 at 63.75%	0.17	OK	Eq. H1-1b
	W180 at 90.00%	0.32	OK	Eq. H1-1b
	W210 at 10.00%	0.38	OK	Eq. H1-1b
	Wi180 at 11.25%	0.12	OK	Eq. H1-1b
	Wi210 at 10.00%	0.14	OK	Eq. H1-1b
	WL180 at 90.00%	0.03	OK	Eq. H1-1b
	WL210 at 36.25%	0.04	OK	Eq. H1-1b
27	LC1 at 88.75%	0.58	OK	Eq. H1-1b
	LC10 at 62.50%	0.15	OK	Eq. H1-1b
	LC11 at 10.00%	0.15	OK	Eq. H1-1b
	LC12 at 63.75%	0.16	OK	Eq. H1-1b
	LC13 at 63.75%	0.05	OK	Eq. H1-1b
	LC14 at 63.75%	0.03	OK	Eq. H1-1b
	LC15 at 37.50%	0.04	OK	Eq. H1-1b
	LC16 at 63.75%	0.09	OK	Eq. H1-1b
	LC17 at 36.25%	0.09	OK	Eq. H1-1b
	LC18 at 88.75%	0.07	OK	Eq. H1-1b
	LC19 at 63.75%	0.10	OK	Eq. H1-1b
	LC2 at 90.00%	0.57	OK	Eq. H1-1b
	LC20 at 63.75%	0.11	OK	Eq. H1-1b
	LC21 at 36.25%	0.08	OK	Eq. H1-1b
	LC22 at 100.00%	0.06	OK	Eq. H1-1b
	LC23 at 0.00%	0.06	OK	Eq. H1-1b
	LC24 at 37.50%	0.07	OK	Eq. H1-1b
	LC25 at 37.50%	0.13	OK	Eq. H1-1b
	LC26 at 37.50%	0.09	OK	Eq. H1-1b
	LC27 at 37.50%	0.08	OK	Eq. H1-1b
	LC28 at 37.50%	0.12	OK	Eq. H1-1b
	LC29 at 11.25%	0.12	OK	Eq. H1-1b
	LC3 at 88.75%	0.55	OK	Eq. H1-1b
	LC30 at 11.25%	0.12	OK	Eq. H1-1b
	LC31 at 63.75%	0.08	OK	Eq. H1-1b
	LC32 at 36.25%	0.09	OK	Eq. H1-1b
	LC4 at 90.00%	**0.62**	**OK**	Eq. H1-1b
	LC5 at 88.75%	0.58	OK	Eq. H1-1b
	LC6 at 90.00%	0.57	OK	Eq. H1-1b
	LC7 at 88.75%	0.55	OK	Eq. H1-1b
	LC8 at 90.00%	0.61	OK	Eq. H1-1b
	LC9 at 37.50%	0.19	OK	Eq. H1-1b
	W180 at 88.75%	0.35	OK	Eq. H1-1b
	W210 at 90.00%	0.38	OK	Eq. H1-1b
	Wi180 at 88.75%	0.14	OK	Eq. H1-1b
	Wi210 at 90.00%	0.14	OK	Eq. H1-1b
	WL180 at 88.75%	0.03	OK	Eq. H1-1b
	WL210 at 36.25%	0.03	OK	Eq. H1-1b
54	LC1 at 25.00%	**0.43**	**OK**	Eq. H1-1b
	LC10 at 70.83%	0.07	OK	Eq. H1-1b

	LC11 at 72.92%	0.09	OK	Eq. H1-1b
	LC12 at 72.92%	0.12	OK	Eq. H1-1b
	LC13 at 72.92%	0.04	OK	Eq. H1-1b
	LC14 at 72.92%	0.03	OK	Eq. H1-1b
	LC15 at 72.92%	0.04	OK	Eq. H1-1b
	LC16 at 72.92%	0.09	OK	Eq. H1-1b
	LC17 at 72.92%	0.17	OK	Eq. H1-1b
	LC18 at 72.92%	0.14	OK	Eq. H1-1b
	LC19 at 72.92%	0.13	OK	Eq. H1-1b
	LC2 at 72.92%	0.27	OK	Eq. H1-1b
	LC20 at 72.92%	0.16	OK	Eq. H1-1b
	LC21 at 72.92%	0.05	OK	Eq. H1-1b
	LC22 at 72.92%	0.04	OK	Eq. H1-1b
	LC23 at 72.92%	0.04	OK	Eq. H1-1b
	LC24 at 72.92%	0.04	OK	Eq. H1-1b
	LC25 at 72.92%	0.06	OK	Eq. H1-1b
	LC26 at 72.92%	0.04	OK	Eq. H1-1b
	LC27 at 72.92%	0.03	OK	Eq. H1-1b
	LC28 at 72.92%	0.05	OK	Eq. H1-1b
	LC29 at 72.92%	0.09	OK	Eq. H1-1b
	LC3 at 25.00%	0.38	OK	Eq. H1-1b
	LC30 at 72.92%	0.06	OK	Eq. H1-1b
	LC31 at 72.92%	0.05	OK	Eq. H1-1b
	LC32 at 72.92%	0.08	OK	Eq. H1-1b
	LC4 at 72.92%	0.26	OK	Eq. H1-1b
	LC5 at 25.00%	0.42	OK	Eq. H1-1b
	LC6 at 72.92%	0.27	OK	Eq. H1-1b
	LC7 at 25.00%	0.39	OK	Eq. H1-1b
	LC8 at 72.92%	0.26	OK	Eq. H1-1b
	LC9 at 72.92%	0.18	OK	Eq. H1-1b
	W180 at 25.00%	0.26	OK	Eq. H1-1b
	W210 at 72.92%	0.16	OK	Eq. H1-1b
	Wi180 at 25.00%	0.10	OK	Eq. H1-1b
	Wi210 at 72.92%	0.06	OK	Eq. H1-1b
	WL180 at 25.00%	0.02	OK	Eq. H1-1b
	WL210 at 72.92%	0.02	OK	Eq. H1-1b
57	LC1 at 25.00%	**0.48**	**OK**	Eq. H1-1b
	LC10 at 25.00%	0.11	OK	Eq. H1-1b
	LC11 at 72.92%	0.13	OK	Eq. H1-1b
	LC12 at 72.92%	0.10	OK	Eq. H1-1b
	LC13 at 25.00%	0.02	OK	Eq. H1-1b
	LC14 at 25.00%	0.01	OK	Eq. H1-1b
	LC15 at 72.92%	0.02	OK	Eq. H1-1b
	LC16 at 72.92%	0.04	OK	Eq. H1-1b
	LC17 at 72.92%	0.08	OK	Eq. H1-1b
	LC18 at 72.92%	0.04	OK	Eq. H1-1b
	LC19 at 72.92%	0.05	OK	Eq. H1-1b
	LC2 at 25.00%	0.37	OK	Eq. H1-1b
	LC20 at 72.92%	0.08	OK	Eq. H1-1b
	LC21 at 72.92%	0.14	OK	Eq. H1-1b
	LC22 at 72.92%	0.10	OK	Eq. H1-1b
	LC23 at 72.92%	0.12	OK	Eq. H1-1b
	LC24 at 72.92%	0.14	OK	Eq. H1-1b
	LC25 at 72.92%	0.03	OK	Eq. H1-1b
	LC26 at 25.00%	0.06	OK	Eq. H1-1b
	LC27 at 25.00%	0.06	OK	Eq. H1-1b
	LC28 at 72.92%	0.03	OK	Eq. H1-1b
	LC29 at 72.92%	0.03	OK	Eq. H1-1b
	LC3 at 25.00%	0.48	OK	Eq. H1-1b
	LC30 at 25.00%	0.05	OK	Eq. H1-1b
	LC31 at 72.92%	0.05	OK	Eq. H1-1b
	LC32 at 72.92%	0.03	OK	Eq. H1-1b
	LC4 at 25.00%	0.34	OK	Eq. H1-1b

	LC5 at 25.00%	0.48	OK	Eq. H1-1b
	LC6 at 25.00%	0.36	OK	Eq. H1-1b
	LC7 at 25.00%	0.48	OK	Eq. H1-1b
	LC8 at 25.00%	0.34	OK	Eq. H1-1b
	LC9 at 25.00%	0.12	OK	Eq. H1-1b
	W180 at 25.00%	0.30	OK	Eq. H1-1b
	W210 at 25.00%	0.22	OK	Eq. H1-1b
	Wi180 at 25.00%	0.11	OK	Eq. H1-1b
	Wi210 at 25.00%	0.08	OK	Eq. H1-1b
	WL180 at 25.00%	0.03	OK	Eq. H1-1b
	WL210 at 25.00%	0.02	OK	Eq. H1-1b
15	LC1 at 25.00%	**0.47**	**OK**	Eq. H1-1b
	LC10 at 72.92%	0.10	OK	Eq. H1-1b
	LC11 at 72.92%	0.14	OK	Eq. H1-1b
	LC12 at 25.00%	0.09	OK	Eq. H1-1b
	LC13 at 72.92%	0.02	OK	Eq. H1-1b
	LC14 at 72.92%	0.01	OK	Eq. H1-1b
	LC15 at 72.92%	0.02	OK	Eq. H1-1b
	LC16 at 72.92%	0.04	OK	Eq. H1-1b
	LC17 at 72.92%	0.04	OK	Eq. H1-1b
	LC18 at 72.92%	0.05	OK	Eq. H1-1b
	LC19 at 72.92%	0.09	OK	Eq. H1-1b
	LC2 at 25.00%	0.37	OK	Eq. H1-1b
	LC20 at 72.92%	0.08	OK	Eq. H1-1b
	LC21 at 72.92%	0.11	OK	Eq. H1-1b
	LC22 at 72.92%	0.11	OK	Eq. H1-1b
	LC23 at 72.92%	0.15	OK	Eq. H1-1b
	LC24 at 72.92%	0.14	OK	Eq. H1-1b
	LC25 at 25.00%	0.07	OK	Eq. H1-1b
	LC26 at 72.92%	0.05	OK	Eq. H1-1b
	LC27 at 72.92%	0.04	OK	Eq. H1-1b
	LC28 at 25.00%	0.04	OK	Eq. H1-1b
	LC29 at 25.00%	0.05	OK	Eq. H1-1b
	LC3 at 72.92%	0.45	OK	Eq. H1-1b
	LC30 at 72.92%	0.04	OK	Eq. H1-1b
	LC31 at 72.92%	0.04	OK	Eq. H1-1b
	LC32 at 72.92%	0.03	OK	Eq. H1-1b
	LC4 at 25.00%	0.37	OK	Eq. H1-1b
	LC5 at 25.00%	0.47	OK	Eq. H1-1b
	LC6 at 25.00%	0.37	OK	Eq. H1-1b
	LC7 at 25.00%	0.45	OK	Eq. H1-1b
	LC8 at 25.00%	0.37	OK	Eq. H1-1b
	LC9 at 25.00%	0.13	OK	Eq. H1-1b
	W180 at 25.00%	0.29	OK	Eq. H1-1b
	W210 at 25.00%	0.23	OK	Eq. H1-1b
	Wi180 at 25.00%	0.11	OK	Eq. H1-1b
	Wi210 at 25.00%	0.08	OK	Eq. H1-1b
	WL180 at 25.00%	0.03	OK	Eq. H1-1b
	WL210 at 25.00%	0.02	OK	Eq. H1-1b
60	LC1 at 72.92%	0.45	OK	Eq. H1-1b
	LC10 at 72.92%	0.23	OK	Eq. H1-1b
	LC11 at 72.92%	0.33	OK	Eq. H1-1b
	LC12 at 72.92%	0.17	OK	Eq. H1-1b
	LC13 at 72.92%	0.11	OK	Eq. H1-1b
	LC14 at 72.92%	0.08	OK	Eq. H1-1b
	LC15 at 72.92%	0.10	OK	Eq. H1-1b
	LC16 at 72.92%	0.13	OK	Eq. H1-1b
	LC17 at 72.92%	0.08	OK	Eq. H1-1b
	LC18 at 72.92%	0.10	OK	Eq. H1-1b
	LC19 at 72.92%	0.14	OK	Eq. H1-1b
	LC2 at 72.92%	0.47	OK	Eq. H1-1b
	LC20 at 72.92%	0.10	OK	Eq. H1-1b

	LC21 at 72.92%	0.07	OK	Eq. H1-1b
	LC22 at 72.92%	0.11	OK	Eq. H1-1b
	LC23 at 72.92%	0.13	OK	Eq. H1-1b
	LC24 at 72.92%	0.09	OK	Eq. H1-1b
	LC25 at 72.92%	0.18	OK	Eq. H1-1b
	LC26 at 72.92%	0.22	OK	Eq. H1-1b
	LC27 at 72.92%	0.24	OK	Eq. H1-1b
	LC28 at 72.92%	0.21	OK	Eq. H1-1b
	LC29 at 72.92%	0.13	OK	Eq. H1-1b
	LC3 at 72.92%	**0.64**	**OK**	Eq. H1-1b
	LC30 at 72.92%	0.16	OK	Eq. H1-1b
	LC31 at 72.92%	0.19	OK	Eq. H1-1b
	LC32 at 72.92%	0.15	OK	Eq. H1-1b
	LC4 at 72.92%	0.51	OK	Eq. H1-1b
	LC5 at 72.92%	0.47	OK	Eq. H1-1b
	LC6 at 72.92%	0.47	OK	Eq. H1-1b
	LC7 at 72.92%	0.61	OK	Eq. H1-1b
	LC8 at 72.92%	0.50	OK	Eq. H1-1b
	LC9 at 72.92%	0.14	OK	Eq. H1-1b
	W180 at 72.92%	0.33	OK	Eq. H1-1b
	W210 at 72.92%	0.30	OK	Eq. H1-1b
	Wi180 at 72.92%	0.13	OK	Eq. H1-1b
	Wi210 at 72.92%	0.11	OK	Eq. H1-1b
	WL180 at 72.92%	0.03	OK	Eq. H1-1b
	WL210 at 72.92%	0.03	OK	Eq. H1-1b
63	LC1 at 72.92%	**0.43**	**OK**	Eq. H1-1b
	LC10 at 72.92%	0.17	OK	Eq. H1-1b
	LC11 at 72.92%	0.19	OK	Eq. H1-1b
	LC12 at 72.92%	0.12	OK	Eq. H1-1b
	LC13 at 72.92%	0.05	OK	Eq. H1-1b
	LC14 at 72.92%	0.04	OK	Eq. H1-1b
	LC15 at 72.92%	0.05	OK	Eq. H1-1b
	LC16 at 72.92%	0.09	OK	Eq. H1-1b
	LC17 at 72.92%	0.07	OK	Eq. H1-1b
	LC18 at 72.92%	0.09	OK	Eq. H1-1b
	LC19 at 72.92%	0.10	OK	Eq. H1-1b
	LC2 at 25.00%	0.34	OK	Eq. H1-1b
	LC20 at 72.92%	0.07	OK	Eq. H1-1b
	LC21 at 72.92%	0.05	OK	Eq. H1-1b
	LC22 at 72.92%	0.06	OK	Eq. H1-1b
	LC23 at 72.92%	0.07	OK	Eq. H1-1b
	LC24 at 72.92%	0.04	OK	Eq. H1-1b
	LC25 at 72.92%	0.07	OK	Eq. H1-1b
	LC26 at 72.92%	0.06	OK	Eq. H1-1b
	LC27 at 72.92%	0.06	OK	Eq. H1-1b
	LC28 at 72.92%	0.06	OK	Eq. H1-1b
	LC29 at 72.92%	0.14	OK	Eq. H1-1b
	LC3 at 72.92%	0.39	OK	Eq. H1-1b
	LC30 at 72.92%	0.17	OK	Eq. H1-1b
	LC31 at 72.92%	0.18	OK	Eq. H1-1b
	LC32 at 72.92%	0.14	OK	Eq. H1-1b
	LC4 at 25.00%	0.32	OK	Eq. H1-1b
	LC5 at 72.92%	0.42	OK	Eq. H1-1b
	LC6 at 25.00%	0.34	OK	Eq. H1-1b
	LC7 at 72.92%	0.38	OK	Eq. H1-1b
	LC8 at 25.00%	0.32	OK	Eq. H1-1b
	LC9 at 72.92%	0.15	OK	Eq. H1-1b
	W180 at 72.92%	0.25	OK	Eq. H1-1b
	W210 at 25.00%	0.20	OK	Eq. H1-1b
	Wi180 at 72.92%	0.10	OK	Eq. H1-1b
	Wi210 at 25.00%	0.07	OK	Eq. H1-1b
	WL180 at 72.92%	0.02	OK	Eq. H1-1b
	WL210 at 25.00%	0.02	OK	Eq. H1-1b

66	LC1 at 31.25%	0.14	OK	Eq. H1-1b
	LC10 at 72.92%	0.18	OK	Eq. H1-1b
	LC11 at 72.92%	0.10	OK	Eq. H1-1b
	LC12 at 72.92%	0.11	OK	Eq. H1-1b
	LC13 at 72.92%	0.04	OK	Eq. H1-1b
	LC14 at 72.92%	0.03	OK	Eq. H1-1b
	LC15 at 72.92%	0.04	OK	Eq. H1-1b
	LC16 at 72.92%	0.08	OK	Eq. H1-1b
	LC17 at 72.92%	0.14	OK	Eq. H1-1b
	LC18 at 72.92%	0.17	OK	Eq. H1-1b
	LC19 at 72.92%	0.15	OK	Eq. H1-1b
	LC2 at 72.92%	**0.48**	**OK**	Eq. H1-1b
	LC20 at 72.92%	0.12	OK	Eq. H1-1b
	LC21 at 72.92%	0.03	OK	Eq. H1-1b
	LC22 at 72.92%	0.05	OK	Eq. H1-1b
	LC23 at 72.92%	0.04	OK	Eq. H1-1b
	LC24 at 72.92%	0.05	OK	Eq. H1-1b
	LC25 at 72.92%	0.04	OK	Eq. H1-1b
	LC26 at 72.92%	0.06	OK	Eq. H1-1b
	LC27 at 72.92%	0.04	OK	Eq. H1-1b
	LC28 at 72.92%	0.03	OK	Eq. H1-1b
	LC29 at 72.92%	0.06	OK	Eq. H1-1b
	LC3 at 31.25%	0.19	OK	Eq. H1-1b
	LC30 at 72.92%	0.09	OK	Eq. H1-1b
	LC31 at 72.92%	0.07	OK	Eq. H1-1b
	LC32 at 72.92%	0.04	OK	Eq. H1-1b
	LC4 at 72.92%	0.47	OK	Eq. H1-1b
	LC5 at 31.25%	0.14	OK	Eq. H1-1b
	LC6 at 72.92%	0.48	OK	Eq. H1-1b
	LC7 at 31.25%	0.18	OK	Eq. H1-1b
	LC8 at 72.92%	0.47	OK	Eq. H1-1b
	LC9 at 72.92%	0.06	OK	Eq. H1-1b
	W180 at 31.25%	0.09	OK	Eq. H1-1b
	W210 at 72.92%	0.30	OK	Eq. H1-1b
	Wi180 at 31.25%	0.04	OK	Eq. H1-1b
	Wi210 at 72.92%	0.11	OK	Eq. H1-1b
	WL180 at 31.25%	0.01	OK	Eq. H1-1b
	WL210 at 72.92%	0.03	OK	Eq. H1-1b
69	LC1 at 25.00%	0.10	OK	Eq. H1-1b
	LC10 at 72.92%	0.15	OK	Eq. H1-1b
	LC11 at 25.00%	0.05	OK	Eq. H1-1b
	LC12 at 72.92%	0.14	OK	Eq. H1-1b
	LC13 at 25.00%	0.02	OK	Eq. H1-1b
	LC14 at 25.00%	0.01	OK	Eq. H1-1b
	LC15 at 25.00%	0.02	OK	Eq. H1-1b
	LC16 at 72.92%	0.04	OK	Eq. H1-1b
	LC17 at 72.92%	0.06	OK	Eq. H1-1b
	LC18 at 72.92%	0.09	OK	Eq. H1-1b
	LC19 at 72.92%	0.06	OK	Eq. H1-1b
	LC2 at 25.00%	0.52	OK	Eq. H1-1b
	LC20 at 72.92%	0.04	OK	Eq. H1-1b
	LC21 at 72.92%	0.13	OK	Eq. H1-1b
	LC22 at 72.92%	0.15	OK	Eq. H1-1b
	LC23 at 72.92%	0.12	OK	Eq. H1-1b
	LC24 at 72.92%	0.12	OK	Eq. H1-1b
	LC25 at 25.00%	0.04	OK	Eq. H1-1b
	LC26 at 72.92%	0.04	OK	Eq. H1-1b
	LC27 at 25.00%	0.05	OK	Eq. H1-1b
	LC28 at 25.00%	0.07	OK	Eq. H1-1b
	LC29 at 72.92%	0.03	OK	Eq. H1-1b
	LC3 at 25.00%	0.11	OK	Eq. H1-1b
	LC30 at 72.92%	0.04	OK	Eq. H1-1b

	LC31 at 25.00%	0.03	OK	Eq. H1-1b
	LC32 at 25.00%	0.05	OK	Eq. H1-1b
	LC4 at 72.92%	**0.53**	**OK**	Eq. H1-1b
	LC5 at 25.00%	0.10	OK	Eq. H1-1b
	LC6 at 25.00%	0.52	OK	Eq. H1-1b
	LC7 at 25.00%	0.10	OK	Eq. H1-1b
	LC8 at 72.92%	0.52	OK	Eq. H1-1b
	LC9 at 72.92%	0.05	OK	Eq. H1-1b
	W180 at 25.00%	0.06	OK	Eq. H1-1b
	W210 at 25.00%	0.32	OK	Eq. H1-1b
	Wi180 at 25.00%	0.02	OK	Eq. H1-1b
	Wi210 at 25.00%	0.13	OK	Eq. H1-1b
	WL180 at 25.00%	0.01	OK	Eq. H1-1b
	WL210 at 25.00%	0.03	OK	Eq. H1-1b
72	LC1 at 72.92%	0.32	OK	Eq. H1-1b
	LC10 at 72.92%	0.20	OK	Eq. H1-1b
	LC11 at 72.92%	0.16	OK	Eq. H1-1b
	LC12 at 72.92%	0.34	OK	Eq. H1-1b
	LC13 at 72.92%	0.11	OK	Eq. H1-1b
	LC14 at 72.92%	0.08	OK	Eq. H1-1b
	LC15 at 72.92%	0.11	OK	Eq. H1-1b
	LC16 at 72.92%	0.14	OK	Eq. H1-1b
	LC17 at 72.92%	0.12	OK	Eq. H1-1b
	LC18 at 72.92%	0.08	OK	Eq. H1-1b
	LC19 at 72.92%	0.10	OK	Eq. H1-1b
	LC2 at 72.92%	0.59	OK	Eq. H1-1b
	LC20 at 72.92%	0.14	OK	Eq. H1-1b
	LC21 at 72.92%	0.12	OK	Eq. H1-1b
	LC22 at 72.92%	0.09	OK	Eq. H1-1b
	LC23 at 72.92%	0.09	OK	Eq. H1-1b
	LC24 at 72.92%	0.14	OK	Eq. H1-1b
	LC25 at 72.92%	0.23	OK	Eq. H1-1b
	LC26 at 72.92%	0.19	OK	Eq. H1-1b
	LC27 at 72.92%	0.21	OK	Eq. H1-1b
	LC28 at 72.92%	0.25	OK	Eq. H1-1b
	LC29 at 72.92%	0.17	OK	Eq. H1-1b
	LC3 at 72.92%	0.21	OK	Eq. H1-1b
	LC30 at 72.92%	0.13	OK	Eq. H1-1b
	LC31 at 72.92%	0.15	OK	Eq. H1-1b
	LC32 at 72.92%	0.19	OK	Eq. H1-1b
	LC4 at 72.92%	**0.68**	**OK**	Eq. H1-1b
	LC5 at 72.92%	0.29	OK	Eq. H1-1b
	LC6 at 72.92%	0.57	OK	Eq. H1-1b
	LC7 at 72.92%	0.21	OK	Eq. H1-1b
	LC8 at 72.92%	0.64	OK	Eq. H1-1b
	LC9 at 72.92%	0.26	OK	Eq. H1-1b
	W180 at 72.92%	0.14	OK	Eq. H1-1b
	W210 at 72.92%	0.36	OK	Eq. H1-1b
	Wi180 at 72.92%	0.05	OK	Eq. H1-1b
	Wi210 at 72.92%	0.13	OK	Eq. H1-1b
	WL180 at 72.92%	0.01	OK	Eq. H1-1b
	WL210 at 72.92%	0.03	OK	Eq. H1-1b
75	LC1 at 25.00%	0.16	OK	
	LC10 at 72.92%	0.20	OK	Eq. H1-1b
	LC11 at 72.92%	0.13	OK	Eq. H1-1b
	LC12 at 72.92%	0.23	OK	Eq. H1-1b
	LC13 at 72.92%	0.07	OK	Eq. H1-1b
	LC14 at 72.92%	0.05	OK	Eq. H1-1b
	LC15 at 72.92%	0.06	OK	Eq. H1-1b
	LC16 at 72.92%	0.10	OK	Eq. H1-1b
	LC17 at 72.92%	0.10	OK	Eq. H1-1b
	LC18 at 72.92%	0.07	OK	Eq. H1-1b

		LC19 at 72.92%	0.10	OK	Eq. H1-1b
		LC2 at 72.92%	**0.55**	**OK**	Eq. H1-1b
		LC20 at 72.92%	0.11	OK	Eq. H1-1b
		LC21 at 72.92%	0.07	OK	Eq. H1-1b
		LC22 at 72.92%	0.08	OK	Eq. H1-1b
		LC23 at 72.92%	0.07	OK	Eq. H1-1b
		LC24 at 72.92%	0.09	OK	Eq. H1-1b
		LC25 at 72.92%	0.06	OK	Eq. H1-1b
		LC26 at 72.92%	0.09	OK	Eq. H1-1b
		LC27 at 72.92%	0.06	OK	Eq. H1-1b
		LC28 at 72.92%	0.08	OK	Eq. H1-1b
		LC29 at 72.92%	0.17	OK	Eq. H1-1b
		LC3 at 25.00%	0.18	OK	
		LC30 at 72.92%	0.15	OK	Eq. H1-1b
		LC31 at 72.92%	0.17	OK	Eq. H1-1b
		LC32 at 72.92%	0.20	OK	Eq. H1-1b
		LC4 at 72.92%	0.51	OK	Eq. H1-1b
		LC5 at 25.00%	0.16	OK	
		LC6 at 72.92%	0.54	OK	Eq. H1-1b
		LC7 at 25.00%	0.17	OK	
		LC8 at 72.92%	0.49	OK	Eq. H1-1b
		LC9 at 72.92%	0.11	OK	Eq. H1-1b
		W180 at 25.00%	0.11	OK	
		W210 at 72.92%	0.31	OK	Eq. H1-1b
		Wi180 at 25.00%	0.04	OK	
		Wi210 at 72.92%	0.12	OK	Eq. H1-1b
		WL180 at 25.00%	0.01	OK	
		WL210 at 72.92%	0.03	OK	Eq. H1-1b
T2L 3X3X1_4	**1**	LC1 at 48.96%	0.30	OK	Eq. H1-1b
		LC10 at 48.96%	0.25	OK	Eq. H1-1b
		LC11 at 48.96%	0.26	OK	Eq. H1-1b
		LC12 at 48.96%	0.24	OK	Eq. H1-1b
		LC13 at 48.96%	0.13	OK	Eq. H1-1b
		LC14 at 48.96%	0.10	OK	Eq. H1-1b
		LC15 at 0.00%	0.12	OK	Eq. H1-1b
		LC16 at 48.96%	0.19	OK	Eq. H1-1b
		LC17 at 48.96%	0.19	OK	Eq. H1-1b
		LC18 at 48.96%	0.19	OK	Eq. H1-1b
		LC19 at 50.00%	0.18	OK	Eq. H1-1b
		LC2 at 0.00%	0.25	OK	Eq. H1-1b
		LC20 at 50.00%	0.19	OK	Eq. H1-1b
		LC21 at 50.00%	0.17	OK	Eq. H1-1b
		LC22 at 50.00%	0.17	OK	Eq. H1-1b
		LC23 at 50.00%	0.17	OK	Eq. H1-1b
		LC24 at 50.00%	0.17	OK	Eq. H1-1b
		LC25 at 48.96%	0.20	OK	Eq. H1-1b
		LC26 at 48.96%	0.19	OK	Eq. H1-1b
		LC27 at 48.96%	0.18	OK	Eq. H1-1b
		LC28 at 48.96%	0.19	OK	Eq. H1-1b
		LC29 at 48.96%	0.22	OK	Eq. H1-1b
		LC3 at 48.96%	**0.35**	**OK**	Eq. H1-1b
		LC30 at 48.96%	0.21	OK	Eq. H1-1b
		LC31 at 48.96%	0.20	OK	Eq. H1-1b
		LC32 at 48.96%	0.21	OK	Eq. H1-1b
		LC4 at 100.00%	0.22	OK	Eq. H1-1b
		LC5 at 48.96%	0.27	OK	Eq. H1-1b
		LC6 at 0.00%	0.23	OK	Eq. H1-1b
		LC7 at 48.96%	0.32	OK	Eq. H1-1b
		LC8 at 100.00%	0.20	OK	Eq. H1-1b
		LC9 at 48.96%	0.28	OK	Eq. H1-1b
		W180 at 48.96%	0.15	OK	Eq. H1-1b
		W210 at 100.00%	0.09	OK	Eq. H1-1b
		Wi180 at 48.96%	0.05	OK	Eq. H1-1b

	Wi210 at 85.42%	0.04	OK	Eq. H1-1b
	WL180 at 48.96%	0.01	OK	Eq. H1-1b
	WL210 at 85.42%	0.01	OK	Eq. H1-1b
2	LC1 at 100.00%	0.23	OK	Eq. H1-1b
	LC10 at 50.00%	0.27	OK	Eq. H1-1b
	LC11 at 50.00%	0.26	OK	Eq. H1-1b
	LC12 at 50.00%	0.26	OK	Eq. H1-1b
	LC13 at 50.00%	0.13	OK	Eq. H1-1b
	LC14 at 50.00%	0.10	OK	Eq. H1-1b
	LC15 at 50.00%	0.11	OK	Eq. H1-1b
	LC16 at 50.00%	0.18	OK	Eq. H1-1b
	LC17 at 50.00%	0.18	OK	Eq. H1-1b
	LC18 at 50.00%	0.19	OK	Eq. H1-1b
	LC19 at 50.00%	0.19	OK	Eq. H1-1b
	LC2 at 50.00%	0.30	OK	Eq. H1-1b
	LC20 at 50.00%	0.18	OK	Eq. H1-1b
	LC21 at 50.00%	0.15	OK	Eq. H1-1b
	LC22 at 50.00%	0.16	OK	Eq. H1-1b
	LC23 at 50.00%	0.16	OK	Eq. H1-1b
	LC24 at 50.00%	0.15	OK	Eq. H1-1b
	LC25 at 50.00%	0.20	OK	Eq. H1-1b
	LC26 at 50.00%	0.21	OK	Eq. H1-1b
	LC27 at 50.00%	0.20	OK	Eq. H1-1b
	LC28 at 50.00%	0.19	OK	Eq. H1-1b
	LC29 at 50.00%	0.21	OK	Eq. H1-1b
	LC3 at 0.00%	0.24	OK	Eq. H1-1b
	LC30 at 50.00%	0.22	OK	Eq. H1-1b
	LC31 at 50.00%	0.22	OK	Eq. H1-1b
	LC32 at 50.00%	0.21	OK	Eq. H1-1b
	LC4 at 50.00%	**0.35**	**OK**	Eq. H1-1b
	LC5 at 100.00%	0.21	OK	Eq. H1-1b
	LC6 at 50.00%	0.27	OK	Eq. H1-1b
	LC7 at 0.00%	0.22	OK	Eq. H1-1b
	LC8 at 50.00%	0.32	OK	Eq. H1-1b
	LC9 at 50.00%	0.23	OK	Eq. H1-1b
	W180 at 0.00%	0.10	OK	Eq. H1-1b
	W210 at 50.00%	0.15	OK	Eq. H1-1b
	Wi180 at 0.00%	0.04	OK	Eq. H1-1b
	Wi210 at 50.00%	0.05	OK	Eq. H1-1b
	WL180 at 0.00%	0.01	OK	Eq. H1-1b
	WL210 at 50.00%	0.01	OK	Eq. H1-1b
3	LC1 at 50.00%	0.25	OK	Eq. H1-1b
	LC10 at 50.00%	0.26	OK	Eq. H1-1b
	LC11 at 50.00%	0.26	OK	Eq. H1-1b
	LC12 at 50.00%	0.28	OK	Eq. H1-1b
	LC13 at 50.00%	0.13	OK	Eq. H1-1b
	LC14 at 50.00%	0.10	OK	Eq. H1-1b
	LC15 at 50.00%	0.11	OK	Eq. H1-1b
	LC16 at 50.00%	0.19	OK	Eq. H1-1b
	LC17 at 50.00%	0.18	OK	Eq. H1-1b
	LC18 at 50.00%	0.18	OK	Eq. H1-1b
	LC19 at 50.00%	0.19	OK	Eq. H1-1b
	LC2 at 50.00%	**0.31**	**OK**	Eq. H1-1b
	LC20 at 50.00%	0.19	OK	Eq. H1-1b
	LC21 at 50.00%	0.16	OK	Eq. H1-1b
	LC22 at 50.00%	0.15	OK	Eq. H1-1b
	LC23 at 50.00%	0.16	OK	Eq. H1-1b
	LC24 at 50.00%	0.17	OK	Eq. H1-1b
	LC25 at 50.00%	0.20	OK	Eq. H1-1b
	LC26 at 50.00%	0.20	OK	Eq. H1-1b
	LC27 at 50.00%	0.21	OK	Eq. H1-1b
	LC28 at 50.00%	0.21	OK	Eq. H1-1b

	LC29 at 50.00%	0.21	OK	Eq. H1-1b
	LC3 at 50.00%	0.21	OK	Eq. H1-1b
	LC30 at 50.00%	0.21	OK	Eq. H1-1b
	LC31 at 50.00%	0.22	OK	Eq. H1-1b
	LC32 at 50.00%	0.23	OK	Eq. H1-1b
	LC4 at 50.00%	0.30	OK	Eq. H1-1b
	LC5 at 50.00%	0.23	OK	Eq. H1-1b
	LC6 at 50.00%	0.29	OK	Eq. H1-1b
	LC7 at 50.00%	0.17	OK	Eq. H1-1b
	LC8 at 50.00%	0.26	OK	Eq. H1-1b
	LC9 at 50.00%	0.25	OK	Eq. H1-1b
	W180 at 50.00%	0.12	OK	Eq. H1-1b
	W210 at 50.00%	0.18	OK	Eq. H1-1b
	Wi180 at 50.00%	0.04	OK	Eq. H1-1b
	Wi210 at 50.00%	0.05	OK	Eq. H1-1b
	WL180 at 50.00%	0.01	OK	Eq. H1-1b
	WL210 at 50.00%	0.01	OK	Eq. H1-1b
10	LC1 at 100.00%	0.22	OK	Eq. H1-1b
	LC10 at 100.00%	0.72	OK	Eq. H1-1b
	LC11 at 100.00%	0.68	OK	Eq. H1-1b
	LC12 at 100.00%	0.54	OK	Eq. H1-1b
	LC13 at 100.00%	0.34	OK	Eq. H1-1b
	LC14 at 100.00%	0.26	OK	Eq. H1-1b
	LC15 at 100.00%	0.39	OK	Eq. H1-1b
	LC16 at 100.00%	0.51	OK	Eq. H1-1b
	LC17 at 100.00%	0.55	OK	Eq. H1-1b
	LC18 at 100.00%	0.57	OK	Eq. H1-1b
	LC19 at 100.00%	0.57	OK	Eq. H1-1b
	LC2 at 100.00%	**0.74**	**OK**	Eq. H1-1b
	LC20 at 100.00%	0.53	OK	Eq. H1-1b
	LC21 at 100.00%	0.43	OK	Eq. H1-1b
	LC22 at 100.00%	0.45	OK	Eq. H1-1b
	LC23 at 100.00%	0.45	OK	Eq. H1-1b
	LC24 at 100.00%	0.41	OK	Eq. H1-1b
	LC25 at 100.00%	0.43	OK	Eq. H1-1b
	LC26 at 100.00%	0.46	OK	Eq. H1-1b
	LC27 at 100.00%	0.44	OK	Eq. H1-1b
	LC28 at 100.00%	0.42	OK	Eq. H1-1b
	LC29 at 100.00%	0.55	OK	Eq. H1-1b
	LC3 at 100.00%	0.61	OK	Eq. H1-1b
	LC30 at 100.00%	0.58	OK	Eq. H1-1b
	LC31 at 100.00%	0.57	OK	Eq. H1-1b
	LC32 at 100.00%	0.54	OK	Eq. H1-1b
	LC4 at 25.00%	0.16	OK	Eq. H1-1b
	LC5 at 100.00%	0.13	OK	Eq. H1-1b
	LC6 at 100.00%	0.65	OK	Eq. H1-1b
	LC7 at 100.00%	0.53	OK	Eq. H1-1b
	LC8 at 25.00%	0.25	OK	Eq. H1-1b
	LC9 at 100.00%	0.60	OK	Eq. H1-1b
	W180 at 100.00%	0.18	OK	Eq. H1-1b
	W210 at 25.00%	0.32	OK	Eq. H1-1b
	Wi180 at 100.00%	0.06	OK	Eq. H1-1b
	Wi210 at 25.00%	0.12	OK	Eq. H1-1b
	WL180 at 100.00%	0.02	OK	Eq. H1-1b
	WL210 at 25.00%	0.03	OK	Eq. H1-1b
11	LC1 at 100.00%	0.15	OK	Eq. H1-1b
	LC10 at 100.00%	0.47	OK	Eq. H1-1b
	LC11 at 100.00%	0.61	OK	Eq. H1-1b
	LC12 at 100.00%	0.64	OK	Eq. H1-1b
	LC13 at 100.00%	0.29	OK	Eq. H1-1b
	LC14 at 100.00%	0.22	OK	Eq. H1-1b
	LC15 at 100.00%	0.33	OK	Eq. H1-1b

	LC16 at 100.00%	0.45	OK	Eq. H1-1b
	LC17 at 100.00%	0.49	OK	Eq. H1-1b
	LC18 at 100.00%	0.48	OK	Eq. H1-1b
	LC19 at 100.00%	0.51	OK	Eq. H1-1b
	LC2 at 25.00%	0.23	OK	Eq. H1-1b
	LC20 at 100.00%	0.52	OK	Eq. H1-1b
	LC21 at 100.00%	0.37	OK	Eq. H1-1b
	LC22 at 100.00%	0.36	OK	Eq. H1-1b
	LC23 at 100.00%	0.39	OK	Eq. H1-1b
	LC24 at 100.00%	0.40	OK	Eq. H1-1b
	LC25 at 100.00%	0.37	OK	Eq. H1-1b
	LC26 at 100.00%	0.36	OK	Eq. H1-1b
	LC27 at 100.00%	0.39	OK	Eq. H1-1b
	LC28 at 100.00%	0.40	OK	Eq. H1-1b
	LC29 at 100.00%	0.49	OK	Eq. H1-1b
	LC3 at 100.00%	0.54	OK	Eq. H1-1b
	LC30 at 100.00%	0.49	OK	Eq. H1-1b
	LC31 at 100.00%	0.52	OK	Eq. H1-1b
	LC32 at 100.00%	0.52	OK	Eq. H1-1b
	LC4 at 100.00%	**0.70**	**OK**	Eq. H1-1b
	LC5 at 93.75%	0.08	OK	Eq. H1-1b
	LC6 at 25.00%	0.30	OK	Eq. H1-1b
	LC7 at 100.00%	0.47	OK	Eq. H1-1b
	LC8 at 100.00%	0.63	OK	Eq. H1-1b
	LC9 at 100.00%	0.51	OK	Eq. H1-1b
	W180 at 100.00%	0.16	OK	Eq. H1-1b
	W210 at 100.00%	0.27	OK	Eq. H1-1b
	Wi180 at 100.00%	0.06	OK	Eq. H1-1b
	Wi210 at 100.00%	0.10	OK	Eq. H1-1b
	WL180 at 100.00%	0.01	OK	Eq. H1-1b
	WL210 at 100.00%	0.02	OK	Eq. H1-1b
12	LC1 at 100.00%	**0.71**	**OK**	Eq. H1-1b
	LC10 at 100.00%	0.56	OK	Eq. H1-1b
	LC11 at 100.00%	0.46	OK	Eq. H1-1b
	LC12 at 100.00%	0.56	OK	Eq. H1-1b
	LC13 at 100.00%	0.29	OK	Eq. H1-1b
	LC14 at 100.00%	0.21	OK	Eq. H1-1b
	LC15 at 100.00%	0.33	OK	Eq. H1-1b
	LC16 at 100.00%	0.45	OK	Eq. H1-1b
	LC17 at 100.00%	0.52	OK	Eq. H1-1b
	LC18 at 100.00%	0.50	OK	Eq. H1-1b
	LC19 at 100.00%	0.48	OK	Eq. H1-1b
	LC2 at 100.00%	0.36	OK	Eq. H1-1b
	LC20 at 100.00%	0.50	OK	Eq. H1-1b
	LC21 at 100.00%	0.40	OK	Eq. H1-1b
	LC22 at 100.00%	0.38	OK	Eq. H1-1b
	LC23 at 100.00%	0.36	OK	Eq. H1-1b
	LC24 at 100.00%	0.38	OK	Eq. H1-1b
	LC25 at 100.00%	0.40	OK	Eq. H1-1b
	LC26 at 100.00%	0.38	OK	Eq. H1-1b
	LC27 at 100.00%	0.36	OK	Eq. H1-1b
	LC28 at 100.00%	0.38	OK	Eq. H1-1b
	LC29 at 100.00%	0.52	OK	Eq. H1-1b
	LC3 at 25.00%	0.27	OK	Eq. H1-1b
	LC30 at 100.00%	0.50	OK	Eq. H1-1b
	LC31 at 100.00%	0.48	OK	Eq. H1-1b
	LC32 at 100.00%	0.51	OK	Eq. H1-1b
	LC4 at 100.00%	0.36	OK	Eq. H1-1b
	LC5 at 100.00%	0.64	OK	Eq. H1-1b
	LC6 at 100.00%	0.29	OK	Eq. H1-1b
	LC7 at 25.00%	0.34	OK	Eq. H1-1b
	LC8 at 100.00%	0.29	OK	Eq. H1-1b
	LC9 at 100.00%	0.64	OK	Eq. H1-1b

	W180 at 25.00%	0.35	OK	Eq. H1-1b
	W210 at 100.00%	0.05	OK	Eq. H1-1b
	Wi180 at 25.00%	0.13	OK	Eq. H1-1b
	Wi210 at 100.00%	0.01	OK	Eq. H1-1b
	WL180 at 25.00%	0.03	OK	Eq. H1-1b
	WL210 at 100.00%	0.00	OK	Eq. H1-1b
31	LC1 at 0.00%	0.03	OK	Eq. H1-1b
	LC10 at 0.00%	0.37	OK	Eq. H1-1b
	LC11 at 0.00%	0.34	OK	Eq. H1-1b
	LC12 at 0.00%	0.26	OK	Eq. H1-1b
	LC13 at 0.00%	0.17	OK	Eq. H1-1b
	LC14 at 0.00%	0.12	OK	Eq. H1-1b
	LC15 at 0.00%	0.18	OK	Eq. H1-1b
	LC16 at 0.00%	0.32	OK	Eq. H1-1b
	LC17 at 0.00%	0.27	OK	Eq. H1-1b
	LC18 at 0.00%	0.29	OK	Eq. H1-1b
	LC19 at 0.00%	0.29	OK	Eq. H1-1b
	LC2 at 0.00%	**0.41**	**OK**	Eq. H1-1b
	LC20 at 0.00%	0.27	OK	Eq. H1-1b
	LC21 at 0.00%	0.19	OK	Eq. H1-1b
	LC22 at 0.00%	0.21	OK	Eq. H1-1b
	LC23 at 0.00%	0.20	OK	Eq. H1-1b
	LC24 at 0.00%	0.18	OK	Eq. H1-1b
	LC25 at 0.00%	0.19	OK	Eq. H1-1b
	LC26 at 0.00%	0.21	OK	Eq. H1-1b
	LC27 at 0.00%	0.20	OK	Eq. H1-1b
	LC28 at 0.00%	0.18	OK	Eq. H1-1b
	LC29 at 0.00%	0.27	OK	Eq. H1-1b
	LC3 at 0.00%	0.30	OK	Eq. H1-1b
	LC30 at 0.00%	0.30	OK	Eq. H1-1b
	LC31 at 0.00%	0.29	OK	Eq. H1-1b
	LC32 at 0.00%	0.27	OK	Eq. H1-1b
	LC4 at 0.00%	0.04	OK	Eq. H1-1b
	LC5 at 31.25%	0.01	OK	Eq. H1-1b
	LC6 at 0.00%	0.37	OK	Eq. H1-1b
	LC7 at 0.00%	0.26	OK	Eq. H1-1b
	LC8 at 0.00%	0.07	OK	Eq. H1-1b
	LC9 at 0.00%	0.28	OK	Eq. H1-1b
	W180 at 0.00%	0.08	OK	Eq. H1-1b
	W210 at 0.00%	0.09	OK	Eq. H1-1b
	Wi180 at 0.00%	0.03	OK	Eq. H1-1b
	Wi210 at 0.00%	0.03	OK	Eq. H1-1b
	WL180 at 0.00%	0.01	OK	Eq. H1-1b
	WL210 at 0.00%	0.01	OK	Eq. H1-1b
32	LC1 at 50.00%	0.01	OK	Eq. H1-1b
	LC10 at 100.00%	0.21	OK	Eq. H1-1b
	LC11 at 100.00%	0.30	OK	Eq. H1-1b
	LC12 at 100.00%	0.33	OK	Eq. H1-1b
	LC13 at 100.00%	0.14	OK	Eq. H1-1b
	LC14 at 100.00%	0.10	OK	Eq. H1-1b
	LC15 at 100.00%	0.15	OK	Eq. H1-1b
	LC16 at 100.00%	0.29	OK	Eq. H1-1b
	LC17 at 100.00%	0.24	OK	Eq. H1-1b
	LC18 at 100.00%	0.24	OK	Eq. H1-1b
	LC19 at 100.00%	0.26	OK	Eq. H1-1b
	LC2 at 100.00%	0.06	OK	Eq. H1-1b
	LC20 at 100.00%	0.26	OK	Eq. H1-1b
	LC21 at 100.00%	0.16	OK	Eq. H1-1b
	LC22 at 100.00%	0.15	OK	Eq. H1-1b
	LC23 at 100.00%	0.17	OK	Eq. H1-1b
	LC24 at 100.00%	0.18	OK	Eq. H1-1b
	LC25 at 100.00%	0.16	OK	Eq. H1-1b

	LC26 at 100.00%	0.15	OK	Eq. H1-1b
	LC27 at 100.00%	0.17	OK	Eq. H1-1b
	LC28 at 100.00%	0.18	OK	Eq. H1-1b
	LC29 at 100.00%	0.24	OK	Eq. H1-1b
	LC3 at 100.00%	0.27	OK	Eq. H1-1b
	LC30 at 100.00%	0.24	OK	Eq. H1-1b
	LC31 at 100.00%	0.26	OK	Eq. H1-1b
	LC32 at 100.00%	0.27	OK	Eq. H1-1b
	LC4 at 100.00%	**0.38**	**OK**	Eq. H1-1b
	LC5 at 100.00%	0.02	OK	Eq. H1-1b
	LC6 at 100.00%	0.08	OK	Eq. H1-1b
	LC7 at 100.00%	0.23	OK	Eq. H1-1b
	LC8 at 100.00%	0.35	OK	Eq. H1-1b
	LC9 at 100.00%	0.24	OK	Eq. H1-1b
	W180 at 100.00%	0.08	OK	Eq. H1-1b
	W210 at 100.00%	0.15	OK	Eq. H1-1b
	Wi180 at 100.00%	0.03	OK	Eq. H1-1b
	Wi210 at 100.00%	0.06	OK	Eq. H1-1b
	WL180 at 100.00%	0.01	OK	Eq. H1-1b
	WL210 at 100.00%	0.01	OK	Eq. H1-1b
33	LC1 at 0.00%	**0.40**	**OK**	Eq. H1-1b
	LC10 at 0.00%	0.27	OK	Eq. H1-1b
	LC11 at 0.00%	0.21	OK	Eq. H1-1b
	LC12 at 0.00%	0.27	OK	Eq. H1-1b
	LC13 at 0.00%	0.14	OK	Eq. H1-1b
	LC14 at 0.00%	0.10	OK	Eq. H1-1b
	LC15 at 0.00%	0.15	OK	Eq. H1-1b
	LC16 at 0.00%	0.29	OK	Eq. H1-1b
	LC17 at 0.00%	0.26	OK	Eq. H1-1b
	LC18 at 0.00%	0.25	OK	Eq. H1-1b
	LC19 at 0.00%	0.24	OK	Eq. H1-1b
	LC2 at 0.00%	0.14	OK	Eq. H1-1b
	LC20 at 0.00%	0.25	OK	Eq. H1-1b
	LC21 at 0.00%	0.18	OK	Eq. H1-1b
	LC22 at 0.00%	0.16	OK	Eq. H1-1b
	LC23 at 0.00%	0.15	OK	Eq. H1-1b
	LC24 at 0.00%	0.16	OK	Eq. H1-1b
	LC25 at 0.00%	0.18	OK	Eq. H1-1b
	LC26 at 0.00%	0.16	OK	Eq. H1-1b
	LC27 at 0.00%	0.15	OK	Eq. H1-1b
	LC28 at 0.00%	0.16	OK	Eq. H1-1b
	LC29 at 0.00%	0.27	OK	Eq. H1-1b
	LC3 at 0.00%	0.07	OK	Eq. H1-1b
	LC30 at 0.00%	0.25	OK	Eq. H1-1b
	LC31 at 0.00%	0.24	OK	Eq. H1-1b
	LC32 at 0.00%	0.25	OK	Eq. H1-1b
	LC4 at 0.00%	0.13	OK	Eq. H1-1b
	LC5 at 0.00%	0.37	OK	Eq. H1-1b
	LC6 at 0.00%	0.10	OK	Eq. H1-1b
	LC7 at 0.00%	0.09	OK	Eq. H1-1b
	LC8 at 0.00%	0.10	OK	Eq. H1-1b
	LC9 at 0.00%	0.33	OK	Eq. H1-1b
	W180 at 0.00%	0.10	OK	Eq. H1-1b
	W210 at 0.00%	0.00	OK	Eq. H1-1b
	Wi180 at 0.00%	0.04	OK	Eq. H1-1b
	Wi210 at 0.00%	0.00	OK	Eq. H1-1b
	WL180 at 0.00%	0.01	OK	Eq. H1-1b
	WL210 at 0.00%	0.00	OK	Eq. H1-1b

Bentley

Current Date: 6/7/2018 12:20 PM
Units system: English
File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT1160\CT1160 (3C-4C-5C) (mod).etz\

Geometry data

GLOSSARY

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

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
2	0.00	0.00	-2.3333	0
3	-3.5359	0.00	-2.00	0
4	-7.00	0.00	0.00	0
5	-1.4793	0.00	-4.8955	0
6	-3.50	0.00	-6.0622	0
7	0.00	0.00	-8.1244	0
8	0.00	0.00	-12.1244	0
9	3.5359	0.00	-2.00	0
10	7.00	0.00	0.00	0
11	1.4793	0.00	-4.8955	0
12	3.50	0.00	-6.0622	0
14	6.1705	6.00	-1.8274	0
19	1.1705	6.00	-10.4876	0
41	1.1705	-2.00	-10.4876	0
44	6.1705	-2.00	-1.8274	0
53	4.5038	6.00	-4.7141	0
54	2.8372	6.00	-7.6009	0
63	2.8372	-2.00	-7.6009	0
64	4.5038	-2.00	-4.7141	0
69	-6.3333	4.00	0.00	0
71	-6.6667	4.00	-0.5774	0
73	6.3333	4.00	0.00	0

75	6.6667	4.00	-0.5774	0
77	0.3333	4.00	-11.547	0
79	-0.3333	4.00	-11.547	0
83	-1.6717	-3.00	-3.0763	0
84	1.6717	-3.00	-3.0763	0
86	0.00	-3.00	-5.9718	0
87	-4.4019	0.00	-1.50	0
88	4.4019	0.00	-1.50	0
89	0.00	0.00	-9.1244	0
91	0.00	0.00	0.00	0
93	5.9973	4.00	-1.7274	0
94	0.9973	4.00	-10.3876	0
95	4.3306	4.00	-4.6141	0
96	2.664	4.00	-7.5009	0
97	6.1705	4.00	-1.8274	0
98	1.1705	4.00	-10.4876	0
99	4.5038	4.00	-4.7141	0
100	2.8372	4.00	-7.6009	0
101	5.9973	0.00	-1.7274	0
102	6.1705	0.00	-1.8274	0
103	4.3306	0.00	-4.6141	0
104	4.5038	0.00	-4.7141	0
105	2.664	0.00	-7.5009	0
106	2.8372	0.00	-7.6009	0
107	0.9973	0.00	-10.3876	0
108	1.1705	0.00	-10.4876	0
133	-6.1705	6.00	-1.8274	0
134	-6.1705	-2.00	-1.8274	0
135	-5.9973	4.00	-1.7274	0
136	-6.1705	4.00	-1.8274	0
137	-5.9973	0.00	-1.7274	0
138	-6.1705	0.00	-1.8274	0
139	-4.5038	6.00	-4.7141	0
140	-4.5038	-2.00	-4.7141	0
141	-4.3306	4.00	-4.6141	0
142	-4.5038	4.00	-4.7141	0
143	-4.3306	0.00	-4.6141	0
144	-4.5038	0.00	-4.7141	0
145	-2.8372	6.00	-7.6009	0
146	-2.8372	-2.00	-7.6009	0
147	-2.664	4.00	-7.5009	0
148	-2.8372	4.00	-7.6009	0
149	-2.664	0.00	-7.5009	0
150	-2.8372	0.00	-7.6009	0
151	-1.1705	6.00	-10.4876	0
152	-1.1705	-2.00	-10.4876	0
153	-0.9973	4.00	-10.3876	0
154	-1.1705	4.00	-10.4876	0
155	-0.9973	0.00	-10.3876	0
156	-1.1705	0.00	-10.4876	0
157	5.00	6.00	0.20	0
158	5.00	-2.00	0.20	0
159	5.00	4.00	0.00	0
160	5.00	4.00	0.20	0
161	5.00	0.00	0.00	0
162	5.00	0.00	0.20	0
163	1.6667	6.00	0.20	0
164	1.6667	-2.00	0.20	0
165	1.6667	4.00	0.00	0
166	1.6667	4.00	0.20	0

167	1.6667	0.00	0.00	0
168	1.6667	0.00	0.20	0
169	-1.6667	6.00	0.20	0
170	-1.6667	-2.00	0.20	0
171	-1.6667	4.00	0.00	0
172	-1.6667	4.00	0.20	0
173	-1.6667	0.00	0.00	0
174	-1.6667	0.00	0.20	0
175	-5.00	6.00	0.20	0
176	-5.00	-2.00	0.20	0
177	-5.00	4.00	0.00	0
178	-5.00	4.00	0.20	0
179	-5.00	0.00	0.00	0
180	-5.00	0.00	0.20	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
2	1	1	1	1	1	1
5	1	1	1	1	1	1
11	1	1	1	1	1	1
83	1	1	1	0	0	0
84	1	1	1	0	0	0
86	1	1	1	0	0	0

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	lg factor
1	4	10		T2L 3X3X1_4	A36	0.00	0.00	0.00
2	10	8		T2L 3X3X1_4	A36	0.00	0.00	0.00
3	8	4		T2L 3X3X1_4	A36	0.00	0.00	0.00
4	3	9		L 3X3X1_4	A36	0.00	0.00	0.00
5	9	7		L 3X3X1_4	A36	0.00	0.00	0.00
6	7	3		L 3X3X1_4	A36	0.00	0.00	0.00
7	2	91		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
8	11	12		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
9	5	6		HSS_SQR 4X4X1_4	A500 GrB rectangular	0.00	0.00	0.00
10	3	4		T2L 3X3X1_4	A36	0.00	0.00	0.00
11	9	10		T2L 3X3X1_4	A36	0.00	0.00	0.00
12	7	8		T2L 3X3X1_4	A36	0.00	0.00	0.00
13	14	44		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
14	53	64		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
16	19	41		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
25	69	73		PIPE 2x0.154	A36	0.00	0.00	0.00
26	79	71		PIPE 2x0.154	A36	0.00	0.00	0.00
27	75	77		PIPE 2x0.154	A36	0.00	0.00	0.00
28	69	71		L 3X3X1_4	A36	0.00	0.00	0.00
29	73	75		L 3X3X1_4	A36	0.00	0.00	0.00
30	77	79		L 3X3X1_4	A36	0.00	0.00	0.00
31	87	83		T2L 3X3X1_4	A36	0.00	0.00	0.00

32	84	88	T2L 3X3X1_4	A36	0.00	0.00	0.00
33	89	86	T2L 3X3X1_4	A36	0.00	0.00	0.00
54	133	134	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	139	140	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
15	54	63	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
60	145	146	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
63	151	152	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
66	157	158	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
69	163	164	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
72	169	170	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
75	175	176	PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	90.00	0	0.00	0.00	0.00
2	90.00	0	0.00	0.00	0.00
3	90.00	0	0.00	0.00	0.00
7	90.00	0	0.00	0.00	0.00
8	90.00	0	0.00	0.00	0.00
9	90.00	0	0.00	0.00	0.00
10	180.00	0	0.00	0.00	0.00
11	180.00	0	0.00	0.00	0.00
12	180.00	0	0.00	0.00	0.00
13	0.00	2	-0.50	0.00	-0.866
14	0.00	2	-0.50	0.00	-0.866
16	0.00	2	-0.50	0.00	-0.866
25	270.00	0	0.00	0.00	0.00
26	270.00	0	0.00	0.00	0.00
27	270.00	0	0.00	0.00	0.00
28	90.00	0	0.00	0.00	0.00
29	180.00	0	0.00	0.00	0.00
30	180.00	0	0.00	0.00	0.00
54	0.00	2	-0.50	0.00	0.866
57	0.00	2	-0.50	0.00	0.866
15	0.00	2	-0.50	0.00	-0.866
60	0.00	2	-0.50	0.00	0.866
63	0.00	2	-0.50	0.00	0.866

35 WILDWOOD ST

Location	35 WILDWOOD ST	**Mblu**	A8B/ 1/ / /
Acct#	91200035	**Owner**	NEW BRITAIN CITY OF - PARK
Assessment	$1,128,330	**Appraisal**	$1,611,900
PID	1830	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2012	$926,900	$685,000	$1,611,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2012	$648,830	$479,500	$1,128,330

Owner of Record

Owner	NEW BRITAIN CITY OF - PARK	**Sale Price**	$0
Co-Owner	CHESLEY PARK	**Certificate**	
Address	27 WEST MAIN ST NEW BRITAIN, CT 06051	**Book & Page**	
		Sale Date	01/01/1900

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
NEW BRITAIN CITY OF - PARK	$0			01/01/1900

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	

Building Photo

Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Central Heat Sys	
AC Type	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs	
Total Rooms	
Bath Style	
Kitchen Style	
Whirlpool Tub	
Fireplaces	
Rec Room Finish	
Rec Room Qual	
Bsmt Garages	
Bldg Nbhd	

(http://images.vgsi.com/photos/NewBritainCTPhotos//\00\02\14/61.JPG)

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	903A
Description	Mun Park MDL-00
Zone	T
Neighborhood	107
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	11.85
Depth	
Assessed Value	$479,500
Appraised Value	$685,000

Outbuildings

Outbuildings	Legend

Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
TEN1	Tennis Crt Asp			4 Units	$96,600	1
PAV1	Paving Asphalt			50000 S.F.	$48,000	1
FN5	Fence-10' Chai			888 L.F.	$13,600	1
TR2	RestRoom stone			2697 S.F.	$354,000	1
TR2	RestRoom stone			1875 S.F.	$246,100	1
FN1	Fence - Chain			4000 L.F.	$28,600	1
CAN4	Canopy rf/slb			800 S.F.	$9,600	1
CB3	PreCastConcCel			240 S.F.	$55,400	1
FN1	Fence - Chain			100 L.F.	$700	1
CB4	PreCastConcCel			360 S.F.	$74,300	1

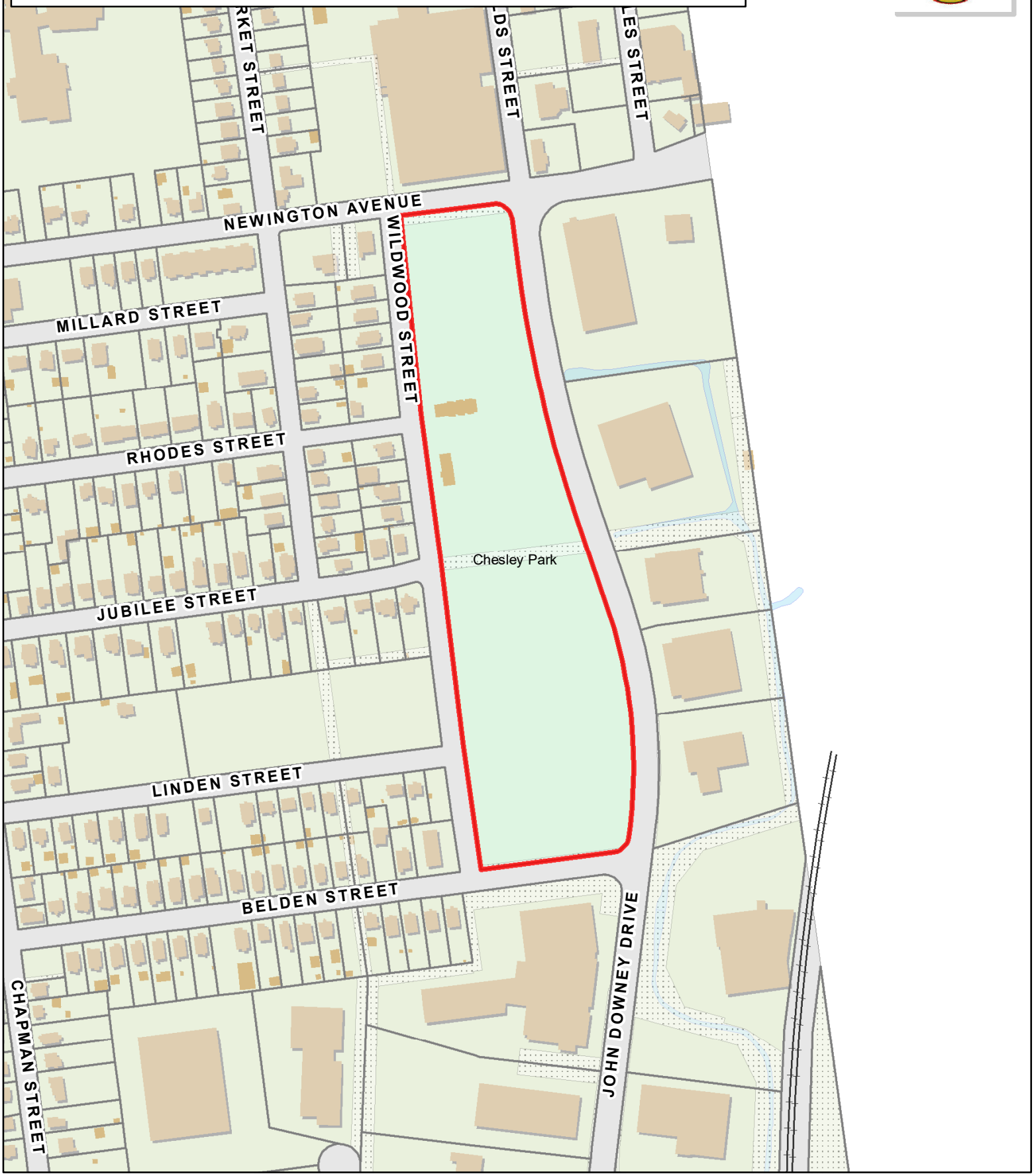
Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,646,900	$685,000	$2,331,900
2014	$1,646,900	$685,000	$2,331,900
2013	$1,646,900	$685,000	$2,331,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,152,830	$479,500	$1,632,330
2014	$1,152,830	$479,500	$1,632,330
2013	$1,152,830	$479,500	$1,632,330

City of New Britain, Connecticut - Assessment Parcel Map

MBL: A8B 1 **Address:** 35 WILDWOOD ST

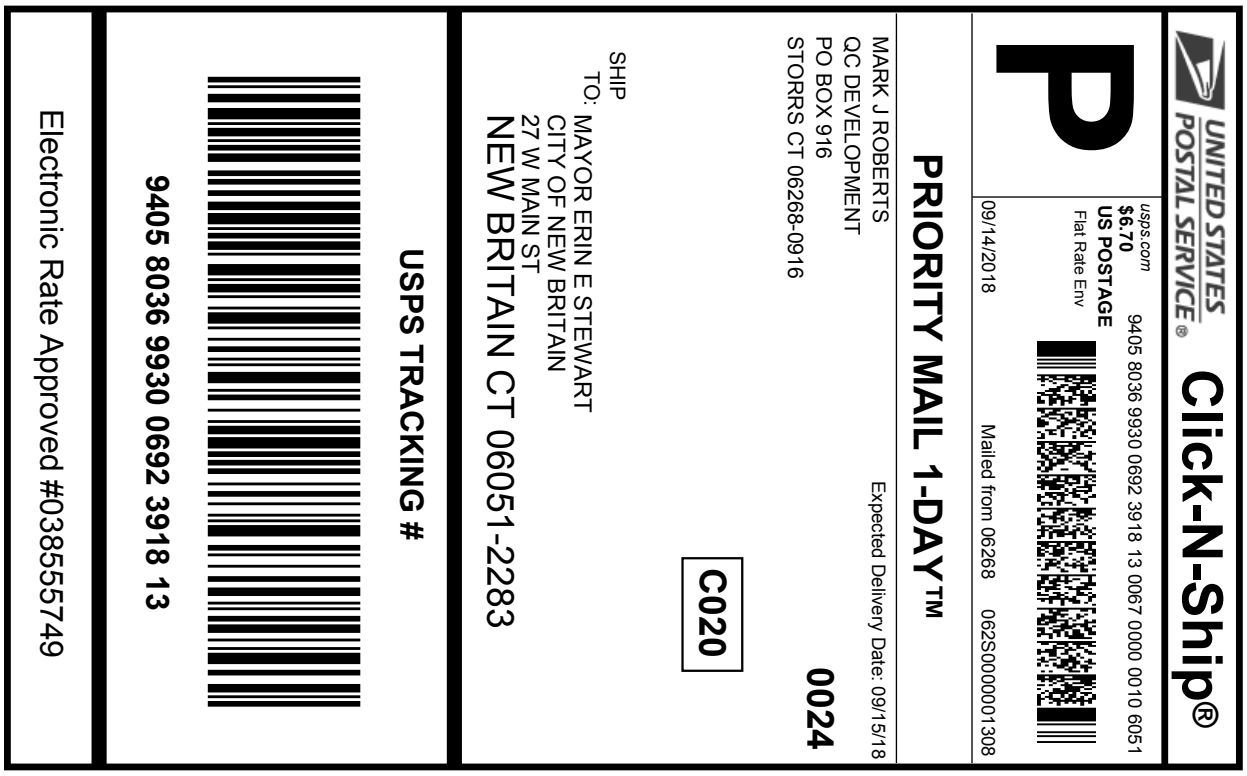


Approximate Scale:

1 inch = 300 feet

Disclaimer:
This map is for informational purposes only.
All information is subject to verification by any user.
The City of New Britain and its mapping contractors
assume no legal responsibility for the information contained herein.

Map Produced Feb 2017



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5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # / Insurance Number:
9405 8036 9930 0692 3918 13

Trans. #:	443940284
Print Date:	09/12/2018
Ship Date:	09/14/2018
Expected Delivery Date:	09/15/2018
Insured Value:	$50.00

Priority Mail® Postage:	**$6.70**
Insurance Fee	**$0.00**
Total	**$6.70**

From: MARK J ROBERTS
QC DEVELOPMENT
PO BOX 916
STORRS CT 06268-0916

To: MAYOR ERIN E STEWART
CITY OF NEW BRITAIN
27 W MAIN ST
NEW BRITAIN CT 06051-2283

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