Robinson+Cole

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Also admitted in Massachusetts
and New York

May 7, 2021

Via Electronic Mail

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

Re: **Notice of Exempt Modification – Facility Modification**
1440 Litchfield Turnpike, New Hartford, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above-referenced property address (the "Property"). The facility consists of antennas and remote radio heads attached to a bell tower and related equipment on the ground, near the base of the bell tower. The bell tower and Cellco's use of the bell tower was approved by the Council in December of 2004 in Petition No. 687. A copy of Cellco's Petition No. 687 Decision and Order is included in Attachment 1.

Cellco now intends to modify its facility by replacing nine (9) of its existing antennas with three (3) Samsung 64T64RMMU antennas and six (6) NHH-65B-R2B antennas. Cellco will also install six (6) remote radio heads ("RRHs") on Cellco's existing antenna platform. A set of project plans showing Cellco's proposed facility modifications and the new antennas and RRHs specifications are included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to New Hartford's Chief Elected Official and Land Use Officer.

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 tower. Cellco's replacement antennas and RRHs will be installed on Cellco's existing antenna platform.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, 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 installation of Cellco's new antennas and RRHs will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A General Power Density table for the modified facility is included in Attachment 3. The modified facility will be capable of providing Cellco's 5G wireless service.

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

6. According to the attached Structural Analysis ("SA"), which includes the mount analysis, the existing bell tower structure, foundation and mounting assembly, with certain modifications, can support Cellco's proposed modifications. A copy of the SA is included in Attachment 4. Also included in Attachment 4 is a separate letter prepared by the consulting engineer responsible for the preparation of the SA verifying that the antenna model described in the SA, respectively, as a nL-Sub6 Antenna or License-Sub6 Antenna, is the Samsung 64T64R model antenna and RRH that will be installed on the tower.

A copy of the parcel map and Property owner information is included in Attachment 5. A Certificate of Mailing verifying that this filing was sent to municipal officials is included in Attachment 6.

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

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Daniel V. Jerram, New Hartford First Selectman
Michael Lucas, New Hartford Inland Wetlands/Zoning Enforcement Officer
Harvest Baptist Church Inc.
Aleksey Tyurin

ATTACHMENT 1

PETITION NO. 687 - Cellco Partnership d/b/a Verizon Wireless petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the establishment of a wireless telecommunications facility at the Harvest Baptist Church, 1440 Litchfield Turnpike (Route 202), New Hartford, Connecticut.	} } }	Connecticut Siting Council December 1, 2004

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the environmental effects associated with the construction, operation, and maintenance of a telecommunications facility at the Harvest Baptist Church, 1440 Litchfield Turnpike (Route 202), New Hartford, Connecticut are not significant and therefore are not sufficient reason to deny this petition.

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

1. The tower shall be constructed as specified in the petition, designed as a 125-foot bell tower placed on a platform within the Town approved pavilion structure. The bell tower shall not exceed 125 feet above the level of the pavilion platform. The pavilion platform shall not exceed a height of six feet above ground level.

2. The facility owner shall prepare a Development and Management (D&M) Plan for this site that complies with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of New Hartford for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction. The D&M shall include:

a. a final site plan(s) of site development, approved by a professional engineer, that includes specifications for the pavilion, bell tower, bell tower foundation, antennas, radio equipment, access road, utility line, and landscaping; and

b. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

3. The facility owner shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The facility owner shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the Council when circumstances in operation cause a change in power

density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The facility owner shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The facility owner shall provide reasonable space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.
7. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void. The facility owner shall remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
8. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and cease to function.
9. Any proposed modifications to this Decision and Order shall be served to all parties and intervenors and the Town of New Hartford as listed in the service list.

Pursuant to General Statutes **§** 16-50p, the Council hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in Hartford Courant and the Register Citizen.

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

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103
James J. Grustas Patricia A. Grustas 1460 Litchfield Turnpike New Hartford, CT 06057	

Silas Kinsey 98 Kinsey Road New Hartford, CT 06057	Jaime M. LaMere, Esq. Cramer & Anderson LLP 46 West Street P.O. Box 278 Litchfield, CT 06759-0278
Thomas Fabiaschi 43 Wood Land Road New Hartford, CT 06057	
Charles Yanavich 1474 Litchfield Turnpike New Hartford, CT 06057	
Marcia Wyman Kim Wyman P.O. Box 161 Harwinton, CT 06791	

ATTACHMENT 2

WIRELESS COMMUNICATIONS FACILITY

NEW HARTFORD W CT
1440 LITCHFIELD TURNPIKE
NEW HARTFORD, CT 06057

DRAWING INDEX

SITE DIRECTIONS

START: 20 ALEXANDER DRIVE
WALLINGFORD, CONNECTICUT 06492

END: 1440 LITCHFIELD TURNPIKE
NEW HARTFORD, CT 06057

1.	HEAD SOUTH TOWARDS ALEXANDER DRIVE	279 FT
2.	SLIGHT RIGHT TOWARDS ALEXANDER DRIVE	289 FT
3.	TURN RIGHT TOWARDS ALEXANDER DRIVE	167 FT
4.	TURN RIGHT ONTO ALEXANDER DRIVE	0.3 MI
5.	TURN RIGHT ONTO BARNES INDUSTRIAL RD S.	0.1 MI
6.	TURN LEFT ONTO CT-68 W	0.4 MI
7.	TURN RIGHT ONTO N. COLONY RD	0.5 MI
8.	TURN RIGHT TO MERGE ONTO CT-15 N	0.5 MI
9.	CONTINUE ONTO CT-15 N	3.1 MI
10.	TAKE EXIT 68 W TO I-691 W TOWARD MERIDEN/WATERBURY	7.9 MI
11.	TAKE EXIT 1 TO I-84 W TOWARD WATERBURY/DANBURY	1.0 MI
12.	MERGE ONTO I-84 W	7.7 MI
13.	TAKE EXIT 20 ONTO CT-8 N TOWARD TORRINGTON	9.2 MI
14.	CONTINUE ONTO CT-8 N	10.4 MI
15.	TAKE EXIT 44 FOR US-202 TOWARD DOWNTOWN TORRINGTON	0.2 MI
16.	TURN RIGHT ONTO US-202 E (DESTINATION WILL BE ON THE LEFT)	3.2 MI

LOCATION MAP
SCALE : 1" = 1000'-0"

SITE INFORMATION

VZ SITE NAME: NEW HARTFORD W CT
VZ PROJ FUZE I.D.: 16244635
VZ LOCATION CODE: 467556
VZ PROJECT CODE: 20202199086
LOCATION: 1440 LITCHFIELD TURNPIKE
NEW HARTFORD, CT 06057

PROJECT SCOPE: REFER TO NOTES ON C-1 FOR SCOPE OF WORK.

MAP/BLOCK/LOT: 007/024/018

ZONING DISTRICT: R-2 RESIDENTIAL

LATITUDE: 41° 49' 23.26" N (41.823128° N)
LONGITUDE: 73° 03' 18.60" W (73.055167° W)

SITE COORDINATES AND GROUND ELEVATION OBTAINED FROM GOOGLE EARTH.

GROUND ELEVATION: 975'± AMSL

PROPERTY OWNER: HARVEST BAPTIST CHURCH INC
624 TORRINGFORD WEST STREET
TORRINGTON, CT 06790

APPLICANT: CELLCO PARTNERSHIP
d/b/a VERIZON WIRELESS
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

LEGAL/REGULATORY COUNSEL: ROBINSON & COLE, LLP
KENNETH C. BALDWIN, ESQ.
280 TRUMBULL STREET
HARTFORD, CT 06103

ENGINEER CONTACT: ALL-POINTS TECHNOLOGY CORP., P.C.
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385
(860) 663-1697

Cellco Partnership d/b/a
verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CONSTRUCTION DOCUMENTS

NO	DATE	REVISION
0	02/02/21	FOR REVIEW: JRM
1	04/22/21	FOR CONSTRUCTION: JRM
2		
3		
4		
5		
6		

STATE OF CONNECTICUT
MICHAEL TRODDEN
33313
LICENSED
PROFESSIONAL ENGINEER

DESIGN PROFESSIONALS OF RECORD

PROF: MICHAEL S. TRODDEN P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXT. SUITE 311 WATERFORD, CT 06385

OWNER: HARVEST BAPTIST CHURCH INC.
ADDRESS: 624 TORRINGFORD WEST STREET TORRINGTON, CT 06790

NEW HARTFORD W CT

SITE ADDRESS: 1440 LITCHFIELD TURNPIKE NEW HARTFORD, CT 06057

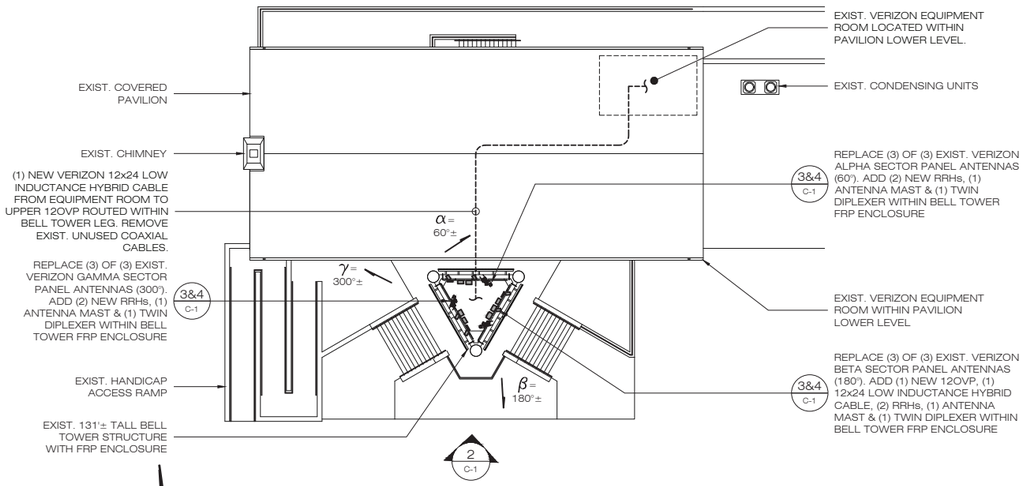
APT FILING NUMBER: CT141_11720

DRAWN BY: THK
DATE: 02/02/21 **CHECKED BY:** JRM

VZ PROJECT CODE: 20202199086
VZ LOCATION CODE: 467556
VZ FUZE ID: 16244635

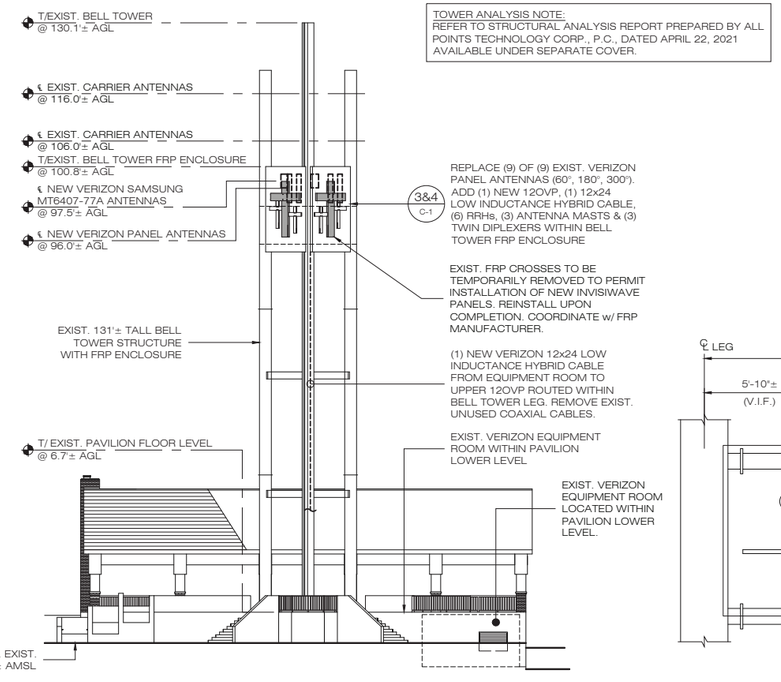
SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1



1 C-1 PARTIAL SITE PLAN
SCALE : 1/16" = 1'-0"

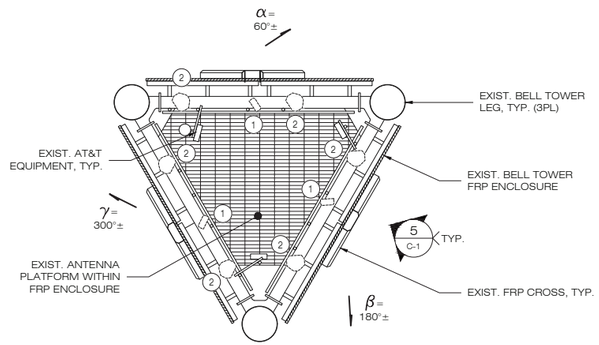
16'-0" 0 8'-0" 16'-0" 32'-0"
1/16" SCALE: 1 INCH= 16'-0"



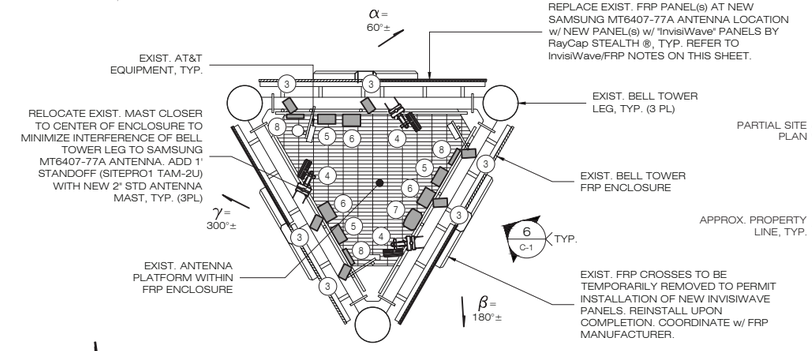
2 C-1 TOWER ELEVATION
SCALE : 1/16" = 1'-0"

16'-0" 0 8'-0" 16'-0" 32'-0"
1/16" SCALE: 1 INCH= 16'-0"

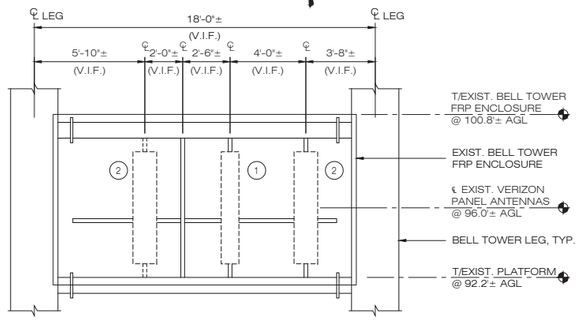
TOWER ANALYSIS NOTE:
REFER TO STRUCTURAL ANALYSIS REPORT PREPARED BY ALL POINTS TECHNOLOGY CORP., P.C., DATED APRIL 22, 2021 AVAILABLE UNDER SEPARATE COVER.



3 C-1 EQUIP. CONFIGURATION PLAN (EXIST.)
SCALE : 3/16" = 1'-0"



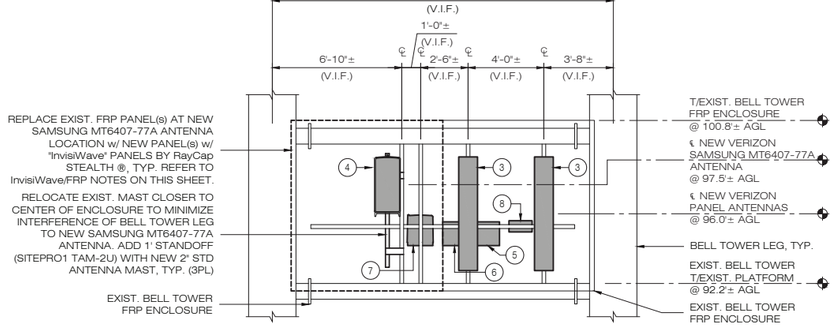
4 C-1 EQUIP. CONFIGURATION PLAN (NEW)
SCALE : 3/16" = 1'-0"



EXIST. ELEVATION (FRONT)

EXIST. AZIMUTHS	
ALPHA:	60°
BETA:	180°
GAMMA:	300°

5 C-1 EQUIP. MOUNTING CONFIG. (EXIST.)
SCALE : 1/4" = 1'-0"



NEW ELEVATION (FRONT)

NEW AZIMUTHS	
ALPHA:	60°
BETA:	180°
GAMMA:	300°

6 C-1 EQUIP. MOUNTING CONFIG. (NEW)
SCALE : 1/4" = 1'-0"

LOCATION PLAN
SCALE: 1" = 300'

NOTES:

1. REFER TO STRUCTURAL ANALYSIS REPORT PREPARED BY ALL POINTS TECHNOLOGY CORP., P.C, DATED APRIL 22, 2021 AVAILABLE UNDER SEPARATE COVER.
2. BASE MAPPING FROM FIELD MEASUREMENTS TAKEN BY ALL-POINTS TECH. CORP., P.C. ON 11/20/20.
3. PROJECT SCOPE INCLUDES THE FOLLOWING:
   - REPLACEMENT OF SIX (6) EXIST. PANEL ANTENNAS w/ SIX (6) NEW PANEL ANTENNAS.
   - REPLACEMENT OF THREE (3) EXIST. PANEL ANTENNAS w/ THREE (3) NEW SAMSUNG MT6407-77A ANTENNAS.
   - INSTALLATION OF ONE (1) NEW 12OVP.
   - INSTALLATION OF SIX (6) NEW DUAL BAND RRHs.
   - INSTALLATION OF THREE (3) NEW TWIN DIPLEXERS.
   - INSTALLATION OF ONE (1) NEW 1⅝" 12x24 LOW INDUCTANCE HYBRID FEED LINE CABLE.
4. ALL EXPOSED STEEL AND HARDWARE TO BE HOT DIP GALV. (HDG). PAINT TO MATCH EXIST. (WHERE APPLICABLE)
5. CAP & WEATHERPROOF ALL UN-USED CABLE ENTRY PORTS (WHERE APPLICABLE).
6. MOUNT & GROUND ALL NEW EQUIPMENT IN ACCORDANCE WITH NEC (NFPA-70), NESC AND MANUFACTURERS SPECIFICATION.
7. SECURE ALL NEW ANTENNA CABLES PER MANUFACTURER RECOMMENDATIONS.
8. BOND NEW ANTENNA MOUNTING PIPES TO ANTENNA SECTOR GROUND BAR w/ # 2 AWG, BCW, (WHERE APPLICABLE).

InvisiWave/FRP NOTES:

1. FRP MANUFACTURER SHALL BE RESPONSIBLE FOR DETERMINING InisiWave APERTURE SIZE WITHIN EXIST FPR PANELS AND SHALL BE RESPONSIBLE FOR VERIFING ALL FIELD CONDITIONS.
2. InvisiWave/FRP MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS (SIGNED/SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CONNECTICUT) FOR REVIEW AND APPROVAL BY ENGINEER OF RECORD PRIOR TO FABRICATION.
3. InvisiWave PANEL COLOR AND TEXTURE TO MATCH EXISTING FRP ENCLOSURES.
4. CONTRACTOR SHALL SUBMIT MOCK-UP SAMPLE OF InvisiWave MATERIAL FOR REVIEW AND APPROVAL BY ENGINEER OF RECORD AND OWNER PRIOR TO FABRICATION.

NOTES:

1. ANTENNA CONFIGURATIONS SHOWN HEREIN ARE FRONT ELEVATIONS.
2. ANTENNA SPACING DIMENSIONS ARE TO THE CENTER OF THE EXIST. ANTENNA AND NEW ANTENNA FACE.
3. REFER TO THE FINAL RFDS PROVIDED BY VERIZON FOR THE LATEST INFORMATION REGARDING EQUIPMENT MODELS, REQUIRED CABLING & DOWN-TILT INFORMATION.
4. APPLY 3M FILM OVER ALL EXPOSED mmWAVE ANTENNAS COLOR TO MATCH EXIST. STRUCTURE (WHERE APPLICABLE) COORDINATE WITH VERIZON CONSTRUCTION MANAGER AND LL.

GENERAL ABBREVIATION LIST:

ABP	ABOVE BASE PLATE
AGL	ABOVE GROUND LEVEL
AMSL	ABOVE MEAN SEA LEVEL
AWS	ADVANCED WIRELESS SERVICE
HDG	HOT DIP GALVANIZED
OVP	OVER VOLTAGE PROTECTION
RRH	REMOTE RADIO HEAD
V.I.F.	VERIFY IN FIELD
W.P.	WORK POINT
A.F.R.	ABOVE FINISH ROOF

SCOPE OF WORK (ALL) SECTORS

1. EXIST. ANTENNA (TO BE REPLACED) MODEL: ANTEL BXA-70063-6CF
2. EXIST. ANTENNA (TO BE REPLACED) MODEL: ANTEL LPA-80063/6CF
3. NEW ANTENNA MODEL: COMMSCOPE NHH-65B-R2B
4. NEW ANTENNA MODEL: SAMSUNG MT6407-77A ON 1' STAND OFF (SITEPRO1 TAM-2U) W/ NEW ANTENNA MAST
5. NEW DUAL BAND RRH MODEL: SAMSUNG B13/B5 RRH-BR04C (RFV01U-D2A)
6. NEW DUAL BAND RRH MODEL: SAMSUNG B66/B2A RRH-BR049 (RFV01U-D1A)
7. NEW 12OVP (BETA SECTOR ONLY) MODEL: RAYCAP RVZDC-6627-PF-48
8. NEW TWIN DIPLEXER MODEL: COMMSCOPE CHB626-43-2X

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LICENSED
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VZ LOCATION CODE: 467556
VZ FUZE ID: 16244635

SHEET TITLE:
PARTIAL SITE PLAN, TOWER ELEVATION, EQUIP. CONFIGURATION PLANS & ELEVATIONS

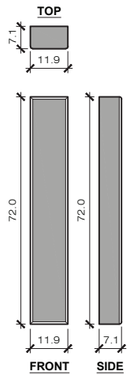
SHEET NUMBER:
C-1

EQUIPMENT DATA

EQUIPMENT SPECIFICATIONS

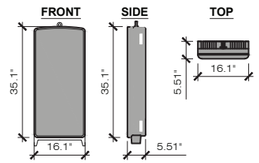
SECTOR	ANTENNA MAKE/MODEL	QTY	AZIMUTH	EQUIPMENT STATUS	HEIGHT (IN)	WIDTH (IN)	DEPTH (IN)	WEIGHT (LBS)
ALPHA	700/850/1900/2100: COMMSCOPE NHH-65B-R2B	1	60°	NEW	72.0	11.9	7.1	43.7(2)
	700/850/1900/2100/CDMA: COMMSCOPE NHH-65B-R2B	1	60°	NEW	72.0	11.9	7.1	43.7(2)
	SAMSUNG MT6407-77A	1	60°	NEW	35.1(5)	16.1(5)	5.51(5)	87.1(2)(5)
BETA	700/850/1900/2100: COMMSCOPE NHH-65B-R2B	1	180°	NEW	72.0	11.9	7.1	43.7(2)
	700/850/1900/2100/CDMA: COMMSCOPE NHH-65B-R2B	1	180°	NEW	72.0	11.9	7.1	43.7(2)
	SAMSUNG MT6407-77A	1	180°	NEW	35.1(5)	16.1(5)	5.51(5)	87.1(2)(5)
GAMMA	700/850/1900/2100: COMMSCOPE NHH-65B-R2B	1	300°	NEW	72.0	11.9	7.1	43.7(2)
	700/850/1900/2100/CDMA: COMMSCOPE NHH-65B-R2B	1	300°	NEW	72.0	11.9	7.1	43.7(2)
	SAMSUNG MT6407-77A	1	300°	NEW	35.1(5)	16.1(5)	5.51(5)	87.1(2)(5)
	APPURTENANCE MAKE/MODEL							
	COMMSCOPE CHB626-43-2X TWIN DIPLEXER	3	-	NEW	7.1	14.6	3.4	19.4
	SAMSUNG B2/B66A RRH-BR049 (RFV01U-D1A)	3	-	NEW	14.9	14.9	10.04	97.5
	SAMSUNG B5/B13 RRH-BR04C (RFV01U-D2A)	3	-	NEW	14.9	14.9	8.14	82.0
	RAYCAP RVZDC-6627-PF-48	1	-	NEW	29.5	16.5	12.6	32.0

(1) 'ETR' DENOTES EXIST. TO REMAIN
(2) WEIGHT WITHOUT MOUNTING BRACKET.
(3) ANTENNA DATA BASED ON RFDS DATED 01/20/21
(4) EQUIPMENT CONFIGURATION INDICATED ABOVE VIEWED FROM BEHIND.
(5) NOT TO EXCEED



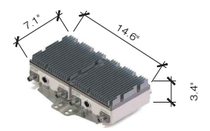
COMMSCOPE NHH-65B-R2B
HxWxD=72.0"x11.9"x7.1" 43.7 Lb

2 B-1 NEW ANTENNA DETAIL
SCALE : ½" = 1'-0"



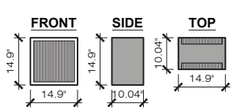
SAMSUNG MT6407-77A
HxWxD=35.1"x16.1"x5.51"
WT=87.1 Lbs
(NOT TO EXCEED)

3 B-1 NEW ANTENNA DETAIL
SCALE : ½" = 1'-0"

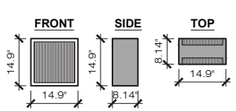


COMMSCOPE CHB626T-43-2X
TWIN DIPLEXER
HxWxD=7.1"x14.6"x3.4" (19.4 Lbs)

4 B-1 TWIN DIPLEXER
SCALE: 1" = 1'-0"



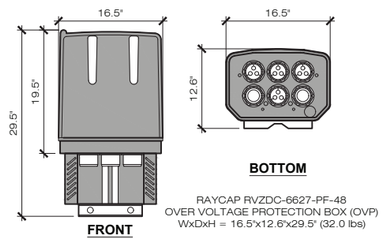
SAMSUNG DUAL HIGH BAND B2/B66A
RRH-BR049 (RFV01U-D1A)
RRH PCS/AWS
REMOTE RADIO HEAD (RRH)
WxDxH=14.9"x14.9"x10.04" (97.5 Lbs)



SAMSUNG DUAL HIGH BAND B5/B13
RRH-BR04C (RFV01U-D2A)
RRH 850/700
REMOTE RADIO HEAD (RRH)
WxDxH=14.9"x14.9"x8.14" (82.0 Lbs)

NOTE: WEIGHTS INCLUDE SOLAR SHEILD & MOUNTING BRACKET

5 B-1 RRH EQUIPMENT DETAILS
SCALE : ½" = 1'-0"



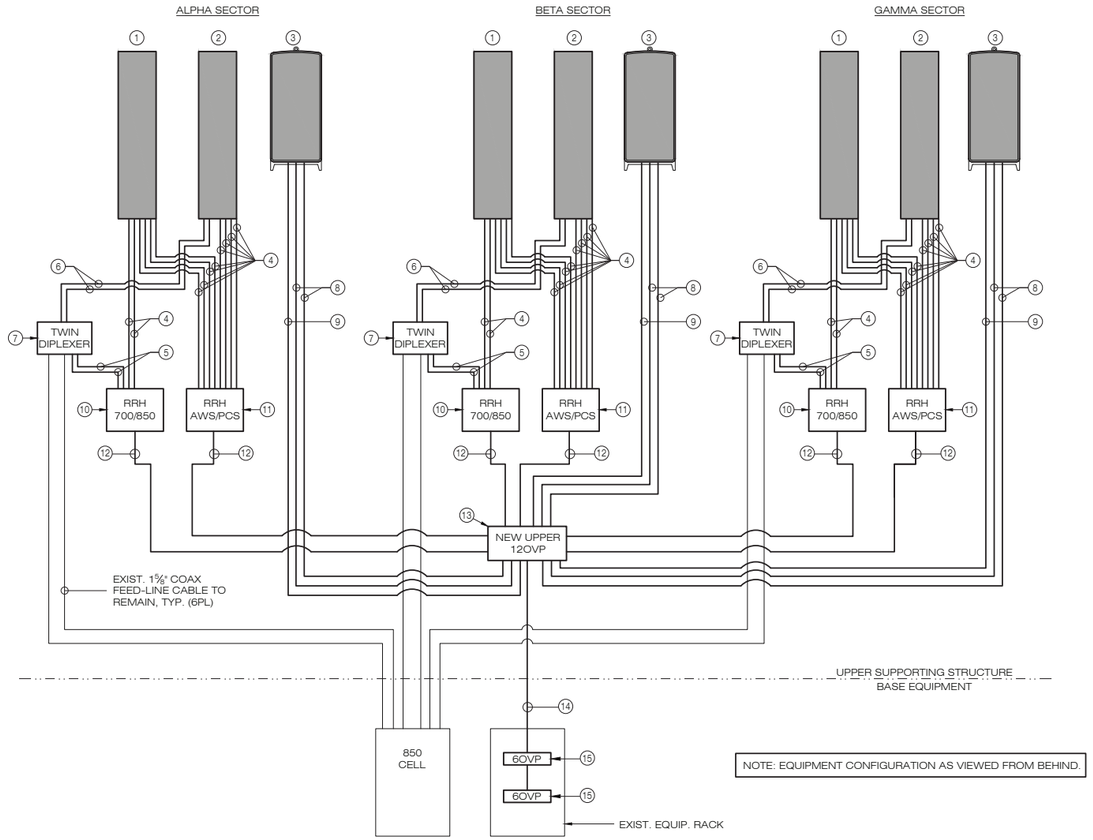
RAYCAP RVZDC-6627-PF-48
OVER VOLTAGE PROTECTION BOX (OVP)
WxDxH = 16.5"x12.6"x29.5" (32.0 lbs)

6 B-1 OVER VOLTAGE PROTECTION BOX (OVP)
SCALE : 1" = 1'-0"

BILL OF MATERIALS

		QUANTITY	LENGTH	COMMENTS
1	700/850/1900/2100	3		(COMMSCOPE NHH-65B-R2B) MOUNTED TO EXIST. ANTENNA MAST
2	700/850/1900/2100/CDMA	3		(COMMSCOPE NHH-65B-R2B) MOUNTED TO EXIST. ANTENNA MAST
3	SAMSUNG MT6407-77A	3		MOUNTED W/ NEW 1' STANDOFF (SITEPRO1 TAM-2U) & (1) P2.0 STD PIPE (2.375" O.D.)
4	1/2" JUMPER CABLE	30	15 FT	ROUTE FROM RRH TO ANTENNAS
5	1/2" JUMPER CABLE	6	6 FT	ROUTE FROM RRH TO DIPLEXER
6	1/2" JUMPER CABLE	6	15 FT	ROUTE FROM DIPLEXER TO ANTENNAS
7	TWIN DIPLEXER	3		COMMSCOPE CHB626-43-2X
8	ANTENNA LINK CABLES	6	15 M	ROUTE FROM UPPER OVP TO ANTENNAS
9	ANTENNA POWER CABLES	3	15 M	PROPRIETARY POWER CABLE FROM UPPER OVP TO ANTENNAS
10	700/850 RRH	3		SAMSUNG B5/B13 RRH-BR04C (RFV01U-D2A) MOUNTED TO EXIST. PIPE MAST
11	AWS/PCS RRH	3		SAMSUNG B2/B66 RRH-BR049 (RFV01U-D1A) MOUNTED TO EXIST. PIPE MAST
12	RRH CABLES	6	15M	PROPRIETARY POWER & FIBER CABLES
13	UPPER 12OVP	1		(RVZDC-6627-PF-48)
14	HYBRID CABLE	1	250'± FT	12x24 LOW INDUCTANCE HYBRID CABLE (1⅝"Ø)
15	LOWER 6OVP	2		RACK MOUNTED LOWER OVP

NOTES:
1. INFORMATION SHOWN HEREON IS FOR USE BY VERIZON EQUIPMENT OPERATIONS.
2. INFORMATION IS BASED ON RFDS DATED 01/20/21.
3. * DENOTES EQUIPMENT DESIGNATED "FOR LEASING ONLY" (WHERE APPLICABLE)
4. INSTALL ALARM BOARDS AT ALL OVPs WHERE REQUIRED. COORDINATE w/ VERIZON EQUIPMENT ENGINEERING.
5. INSTALL UP-CONVERTER(S) LOCATED AT BASE OVPs WHERE REQUIRED. COORDINATE w/ VERIZON EQUIPMENT ENGINEERING AS NECESSARY.
6. COORDINATE ANTENNA CABLING REQUIREMENTS WITH VERIZON ENGINEERING.



NOTE: EQUIPMENT CONFIGURATION AS VIEWED FROM BEHIND.

1 B-1 PLUMBING DIAGRAM
SCALE : ½" = 1'-0"

Cellco Partnership d/b/a
verizon
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385 PHONE: (860)-663-1697
WWW.ALLPOINTSTECH.COM FAX: (860)-663-0935

CONSTRUCTION DOCUMENTS

NO	DATE	REVISION
0	02/02/21	FOR REVIEW: JRM
1	04/22/21	FOR CONSTRUCTION: JRM
2		
3		
4		
5		
6		

STATE OF CONNECTICUT
MICHAEL TRODDEN
33313
LICENSED
PROFESSIONAL ENGINEER

DESIGN PROFESSIONALS OF RECORD

PROF: MICHAEL S. TRODDEN P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXT. SUITE 311 WATERFORD, CT 06385

OWNER: HARVEST BAPTIST CHURCH INC.
ADDRESS: 624 TORRINGFORD WEST STREET TORRINGTON, CT 06790

NEW HARTFORD W CT

SITE ADDRESS: 1440 LITCHFIELD TURNPIKE NEW HARTFORD, CT 06057

APT FILING NUMBER: CT141_11720

DRAWN BY: THK
DATE: 02/02/21 CHECKED BY: JRM

VZ PROJECT CODE: 20202199086
VZ LOCATION CODE: 467556
VZ FUZE ID: 16244635

SHEET TITLE:
RF BILL OF MATERIALS, MECHANICAL SPECIFICATIONS & EQUIPMENT DETAILS

SHEET NUMBER:
B-1

DESIGN BASIS:

GOVERNING CODES/DESIGN STANDARDS:

2015 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE
ASCE 7-10
TIA-222-G (TOWER)

DESIGN CRITERIA (TOWER):

STRUCTURE CLASS :	II	(TIA-222-G, TABLE 2-1 & ANNEX A.)
RISK CATEGORY:	II	(IBC 2015 TABLE 1604.5)

WIND LOADS:

ULTIMATE BASIC WIND SPEED, V_{ULT}: (3-SECOND GUST)	120 MPH	(2018 CSBC APPENDIX N)
NOMINAL BASIC WIND SPEED, V_{3S}: (3-SECOND GUST)	93 MPH	(2018 CSBC APPENDIX N)
EXPOSURE CATEGORY	C	(2015 IBC SEC. 1609.4.3)
WIND IMPORTANCE FACTOR, I_W:	1.0	(TIA-222G, TABLE 2-3)

ICE LOADS:

ICE THICKNESS, T_i:	0.75 IN	(TIA-222G, ANNEX B)
ICE THICKNESS IMPORTANCE FACTOR, I_i:	1.0	(TIA-222G, TABLE 2-3)
NOMINAL BASIC WIND SPEED W/ ICE, VI (3-SECOND GUST)	40 MPH	(TIA-222G, ANNEX B)
WIND LOAD W/ICE IMPORTANCE FACTOR, I_{WI}:	1.0	(TIA-222G, TABLE 2-3)

SEISMIC LOAD:

REFER TO SECTION 1613 OF THE 2015 IBC/2018 CONNECTICUT STATE BUILDING CODE FOR SEISMIC CLASSIFICATION AND LOADING DETERMINATION.

01 GENERAL:

ABBREVIATIONS USED IN THESE SPECIFICATIONS INCLUDE THE FOLLOWING:

ACI	AMERICAN CONCRETE INSTITUTE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWS	AMERICAN WELDING SOCIETY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN STANDARDS AND TESTING METHODS
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
ICC-ES	INTERNATIONAL CODE COUNCIL EVALUATION SERVICE
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
UL	UNDERWIRTERS LABORATORIES
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

EVERY INDIVIDUAL TRADE, DISCIPLINE, AND CONTRACTOR SHALL INCLUDE THESE GENERAL SPECIFICATIONS.

THE ENGINEER IS NOT RESPONSIBLE FOR NOR A GUARANTOR OF THE INSTALLING CONTRACTORS WORK, ADEQUACY OF ANY SITE COMPONENT, SUPERVISION OF ANY WORK, AND SAFETY IN, ON, OR ABOUT THE WORK SITE.

ANY REFERENCE HEREIN TO AN OR EQUAL ITEM, THAT EQUAL ITEM SHALL BE PRE-APPROVED BY THE CONSTRUCTION MANAGER BEFORE INSTALLATION

ALL TRADES SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES AND OTHER WORK AND CONDITIONS AS APNEWRIATE OR REQUIRED TO AVOID CONFLICTS. RESOLVE AND COORDINATE ALL CONFLICTS WITH ALL AFFECTED WORK AND SITE OPERATIONS. COORDINATION WITH THE SITE SHALL BE WITH THE OWNER, OR OWNER'S SPECIFIED REPRESENTATIVE, FOR EVERYTHING RELATED TO THE INSTALLATION OF THIS PROJECT.

ALL WORK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE EDITIONS OF ALL APPLICABLE CODES AND SHALL BE ACCEPTABLE TO ALL AUTHORITIES HAVING JURISDICTION (AHJ). WHERE A CONFLICT EXISTS BETWEEN CODES, PLANS, SPECIFICATIONS, AND/OR AHJ, THE MORE STRINGENT AUTHORITY SHALL APPLY. WHERE CONFLICT EXISTS BETWEEN PLANS AND SPECIFICATIONS, PLAN SHALL APPLY. WHERE CONFLICT EXISTS BETWEEN PLAN SHEETS, CONSTRUCTION MANAGER SHALL BE CONSULTED PRIOR TO COMMENCING ANY WORK.

CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND NEWERLY OPERATIVE AND USABLE SYSTEM THROUGHOUT AND AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN AND/OR OTHERWISE REQUIRED.

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, INSTALLATIONS, AND EQUIPMENT IN THE FIELD PRIOR TO BID, FABRICATION, AND INSTALLATION OF ANY WORK.

CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. THE ENGINEER SHALL BE NOTIFIED FOR INSPECTIONS PRIOR TO CLOSING PENETRATIONS AND OF ANY CONDITIONS WHICH PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CONTRACTOR SHALL VISIT THE SITE TO MANAGE AND GAIN APPROVAL FOR ALL TENANT DISRUPTIONS, POWER OUTAGES, WORK SCHEDULES, DEFINITION OF WORK AREA AND WORK STORAGE, NEWER BUILDING/SITE ACCESS, NOISE AND CLEANLINESS REQUIREMENTS WITH THE BUILDING/SITE MANAGEMENT PRIOR TO ALL WORK. ANY DISRUPTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE IMPLEMENTED ONLY UPON WRITTEN APPROVAL OF THE OWNER.

THE CONTRACTOR SHALL SAFEGUARD AGAINST CREATING ANY HAZARD AFFECTING TENANT EGRESS OR COMPROMISING SITE SECURITY MEASURES.

PRIOR TO ALL BELOW-GRADE WORK AND ANY SURFACE WORK IN A NEW AREA FOR STRUCTURES OR VEHICLES, CONTRACTOR SHALL ENGAGE A MARKOUT SERVICE TO IDENTIFY ANY UNDERGROUND STRUCTURES, CONDUITS, AND PIPELINES IN THE AREA. ALL EXISTING SEWER, WATER, GAS, ELECTRIC, FIBER OPTIC, AND OTHER UNDERGROUND UTILITIES IDENTIFIED OR ENCOUNTERED, SHALL BE PROTECTED AT ALL TIMES. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN DIGGING OR EXCAVATING IN ANY MANNER AROUND OR NEAR SUCH UTILITIES. CONTRACTOR IS RESPONSIBLE FOR REPAIRS, REPLACEMENT, AND ALL DAMAGES DUE TO DAMAGE OF UTILITIES BY HIS OPERATIONS.

ALL EXISTING AND NEW EQUIPMENT AND MATERIAL LOCATIONS, ROUTING, ORIENTATION, MOUNTING, SPECIFICATIONS AND GENERAL INSTALLED CHARACTERISTICS SHALL BE CONSIDERED DIAGRAMMATIC ON THE PLANS. EXACT CONDITIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO ANY INSTALLATION. ANY DIFFERENCES THAT MAY CAUSE SCHEDULE, COST, OR QUALITY SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO ANY WORK.

ALL REFERENCES HEREIN TO VERIFICATION OF ANY CONDITION OF SITE, FIELD, PLANS, OR SPECIFICATIONS PRIOR TO ANY WORK SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR. ANY AND ALL ADDITIONS, MODIFICATIONS, CHANGES, REPAIR, OR DEMOLITION AS A RESULT OF FAILURE TO BRING ANY EXISTING CONDITION NEWERLY TO THE ATTENTION OF THE OWNER OR ENGINEER SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR WITHOUT DELAY, COST, OR CHANGES IN QUALITY.

ALL NOTES THIS SHEET SHALL APPLY UNLESS SPECIFICALLY NOTED OTHERWISE ON THE INCLUDED DRAWINGS OR IN SEPARATE PROJECT SPECIFICATIONS AS APPLICABLE. ALL SPECIFICATIONS SHALL BE CONSIDERED REQUIRED UNLESS APPROVED EQUAL BY THE OWNER, CONSTRUCTION MANAGER, OR ENGINEER AS APPLICABLE.

THE WORDS "PROVIDE" OR "INSTALL" SHALL MEAN FURNISH AND INSTALL.

CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF HIS WORK. ANY PATCHING SHALL MATCH EXISTING SURROUNDING AREA IN ALL RESPECTS. ALL REMOVED MATERIAL SHALL BE REMOVED FROM THE PREMISES DAILY IN AN APPROVED SAFE MANNER.

ALL SURPLUS MATERIAL SHALL BE REMOVED FROM THE SITE PROMPTLY WHEN DEEMED TO BE SURPLUS.

EVERY CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS WORK AND NEWLY INSTALLED OR EXISTING WORK, INCLUDING PROTECTION OF THE SITE, ALL STRUCTURES, AND ALL OCCUPANTS. FURNISH, INSTALL, MAINTAIN, AND REMOVE AS APNEWRIATE, ALL APNEWRIATE BARRIERS, SAFETY GUARDS, SIGNAGE, AND SECURITY AS REQUIRED.

EVERY CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR RESPECTIVE FEES, PERMITS, INSPECTIONS, TESTING, CERTIFICATES, AND ALL MANAGEMENT OF SAME REQUIRED FOR COMPLETION OF AND LEGAL OCCUPANCY OF THE FINISHED PROJECT.

ALL CONTRACTORS SHALL PROVIDE ALL NECESSARY TOOLS, FIXTURES, SERVICES, MATERIALS, JOB AIDS, AND PERSONNEL REQUIRED FOR THE EXECUTION OF THEIR WORK.

EACH CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP BY THEM TO BE FREE OF DEFECTS AND MAINTAINED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE INSTALLATION BY THE OWNER AND ENGINEER.

ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS IN THE TRADE HAVING JURISDICTION.

ANY DEVIATION, MODIFICATION, ADDITION, OR CHANGE IN DESIGN SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE OWNER OR ENGINEER.

ALL CONTRACTORS SHALL SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION, AND SHALL NOT PROCEED UNTIL ENGINEER APPROVAL IN WRITING IS RETURNED. EACH CONTRACTOR SHALL MAINTAIN ON JOB SITE A COMPLETE SET OF SHOP DRAWINGS WITH ANY DEVIATIONS FROM THE ORIGINAL DESIGN SHALL BE NOTED.

ALL MATERIALS AND EQUIPMENT SHALL BE NEW, WITHOUT BLEMISH OR DEFECT, AND SUITABLE AND LISTED FOR THE INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS OR SPECIFICATIONS. ALL ITEMS OF EQUIPMENT OR MATERIAL THAT ARE OF ONE GENERIC TYPE SHALL BE ONE MANUFACTURER THROUGHOUT.

ALL MATERIALS, EQUIPMENT, TOOLS, AND ITEMS UNDER THE CONTRACTOR'S RESPONSIBILITY ON THE JOBSITE SHALL BE ADEQUATELY SECURED, MAINTAINED, AND PROTECTED, SO AS NOT TO BECOME DAMAGED OR CREATE ANY HAZARD TO PERSONNEL OR NEWERTY.

THE CONTRACTORS HOURS OF WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES AND BE APPROVED BY THE OWNER.

CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR ALL OF HIS CREW AND INSURE THAT EVERY CREW MEMBER FOLLOWS SAVE WORK PRACTICES. SAFETY TRAINING SHALL INCLUDE, BUT NOT BE LIMITED TO, FALL PROTECTION, CONFINED SPACE ENTRY, ELECTRICAL SAFETY, AND TRENCHING/EXCAVATION SAFETY WHERE SUCH WORK IS EXECUTED OR ENCOUNTERED.

ALL TEMPORARY WORK REQUIRED OR SPECIFIED AS A PART OF THIS WORK, SHALL MEET ALL OF THE SAME REQUIREMENTS AS PERMANENT INSTALLATIONS, SHALL MEET ALL APPLICABLE CODE REQUIREMENTS, AND SHALL BE COMPLETELY REMOVED AFTER ITS PURPOSES HAVE BEEN SERVED.

ANY EXISTING UTILITY, SERVICE, STRUCTURE, EQUIPMENT, OR FIXTURE OBSTRUCTING THE WORK SHALL BE REMOVED AND/OR RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER.

IF ASBESTOS IS ENCOUNTERED DURING WORK EXECUTION, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER AND CEASE ALL ACTIVITIES IN AFFECTED AREAS UNTIL NOTIFIED BY THE CONSTRUCTION TO RESUME OPERATIONS.

EXIST. ELECTRICAL AND MECHANICAL FIXTURES, PIPING, WIRING AND EQUIPMENT OBSTRUCTING THE WORK SHALL BE REMOVED AND/OR RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER. TEMPORARY SERVICE INTERRUPTIONS MUST BE COORDINATED WITH OWNER.

05 STEEL:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

MATERIALS:

WIDE FLANGE	ASTM A992, GR 50
TUBING	ASTM A500, GR B
PIPE	ASTM A53, GR B
BOLTS	ASTM A325
GRATING	TYPE GW-2 (1-1/4"x3/16" BARS)
EXISTING METALS	ASTM A36

PROVIDE CERTIFICATION THAT WELDERS TO BE USED IN WORK ARE LICENSED AND HAVE SATISFACTORILY PASSED AWS QUALIFICATION TEST UNDER THE PROVISIONS OF APPENDIX D, PARTS II AND III OF THE AWS CODE FOR WELDING IN BUILDING CONSTRUCTION.

ALL BUILDING CONNECTION POINTS TO BE CENTERED ON EXISTING STRUCTURAL BEARING POINTS AND THE LOCATIONS ARE TO BE VERIFIED IN FIELD PRIOR TO THE FABRICATION OF STEEL.

DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF AISC SPECIFICATION FOR *"THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS"*.

NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIAMETER GALVANIZED ASTM A 307 BOLTS UNLESS OTHERWISE NOTED.

ALL STEEL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIPPED GALVANIZED) COATINGS" ON IRON AND STEEL PRODUCTS WITH A COATING WEIGHT OF 2 OZ/SF.

ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE EXPOSED TO WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE."

DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY TOUCHING UP ALL DAMAGED GALVANIZED STEEL WITH COLD ZINC, "GALVANOX", "DRY GALV", OR "ZINC IT", IN ACCORDANCE WITH MANUFACTURERS GUIDELINES. TOUCH UP DAMAGED NON-GALVANIZED STEEL WITH SAME PAINT APPLIED IN SHOP OR FIELD.

THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW. FIELD CUTTING OF STRUCTURAL STEEL IS NOT PERMITTED EXCEPT WITH THE PRIOR APPROVAL OF THE ENGINEER.

CONTRACTOR TO REMOVE AND RE-INSTALL ALL FIRE PROOFING AS REQUIRED DURING CONSTRUCTION.

THE STEEL STRUCTURE SHALL BE DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER COMPLETION. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION.

ALL STEEL ELEMENTS SHALL BE INSTALLED PLUMB AND LEVEL.

TOWER MANUFACTURER'S DESIGNS SHALL PREVAIL FOR TOWER.

CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC *"MANUAL OF STEEL CONSTRUCTION"*. CONNECTIONS SHALL BE PROVIDED TO CONFORM TO THE REQUIREMENTS OF TYPE 2 CONSTRUCTION.

STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE MINIMUM 3/4" DIAMETER AND EACH CONNECTION SHALL HAVE MINIMUM TWO BOLTS. LOCK WASHERS ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES. IF TENSION CONTROL BOLTS ARE USED, CONNECTIONS SHALL BE DESIGNED FOR SLIP CRITICAL BOLT ALLOWABLE LOAD VALUES.

DESIGN CONNECTIONS AT BEAM ENDS FOR 10 KIPS (MIN).

ALL U-BOLTED CONNECTIONS SHALL BE COMPLETED WITH DOUBLE NUTS OR A LOCK WASHER.

CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS *"STANDARD QUALIFICATION PROCEDURES"*. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND SHALL CONFORM TO AISC AND D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE LARGER OF 1/4" FILLET OR MINIMUM SIZE PER TABLE J2.4 IN THE AISC *"MANUAL OF STEEL CONSTRUCTION"*. AT THE COMPLETION OF WELDING, ALL DAMAGE TO GALVANIZED COATING SHALL BE REPAIRED. SEE NOTE REGARDING DAMAGED GALVANIZED SURFACES.

ALL ARC AND GAS WELDING SHALL BE DONE BY A LICENSED AND CERTIFIED WELDER IN ACCORDANCE WITH AWS.

SEAL ALL PENETRATIONS AND SEAMS BETWEEN MASONRY AND STEEL WITH DOW CORNING 790 SILICONE BUILDING SEALANT OR EQUAL.

26 ELECTRICAL:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

ALL ELECTRICAL CONDUCTORS:
- INSULATION SHALL BE MINIMUM 600V TYPE THHN, THWN-2, OR XHHW.
- BRANCH CIRCUIT CONDUCTORS SHALL BE SOFT DRAWN 98% MINIMUM CONDUCTIVITY NEWERLY REFINED COPPER.
- FEEDER CIRCUIT CONDUCTORS SHALL BE EITHER COPPER OR ALUMINUM OF THE APNEWRIATE SIZE FOR THE APPLICATION, OR AS SPECIFICALLY NOTED.
- PERMANENTLY LABEL OR TAG ALL CONDUCTORS WITH THEIR CIRCUIT DESIGNATION AT ALL TERMINATION ENDS, SPLICES, AND VISIBLE AS PASS-THROUGH IN ALL ENCLOSURES.

ALL CONDUIT, RACEWAY, WIREWAYS, DUCTS, ETC. SHALL BE LISTED AND SUITABLE FOR THE APPLICATION. ONLY THE FOLLOWING CONDUITS AS APPROVED AND LISTED FOR THE APPLICATION SHALL BE ACCEPTABLE:
- ELECTRICAL METALLIC TUBING (EMT).
- COMPRESSION COUPLINGS AND CONNECTORS ONLY MADE UP WRENCH TIGHT.
- FLEXIBLE METAL CONDUIT (FMC) AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC).
- FINAL CONNECTIONS TO VIBRATING OR ADJUSTABLE EQUIPMENT INCLUDING, BUT NOT LIMITED TO, LIGHT FIXTURES, HVAC UNITS, TRANSFORMERS, MOTORS, ETC. OR WHERE EQUIPMENT IS PLACED UPON SLAB ON-GRADE.
- RIGID GALVANIZED STEEL (RGS).
- ALL FITTINGS, CONNECTORS, AND COUPLINGS SHALL BE THREADED MADE UP WRENCH TIGHT.
- RIGID POLYVINYL CHLORIDE (PVC) SCHEDULE 40 OR SCHEDULE 80.
- MAY BE USED FOR SERVICES, EXTERIOR, BELOW GRADE, AND WET LOCATIONS.
- SHALL NOT BE USED IN CONCRETE SLABS NOR EXPOSED WITHIN A BUILDING OR STRUCTURE.
- METAL-CLAD CABLE (MC)
- CONCEALED INSTALLATIONS ONLY.
- WITHIN A DUCT WITH SMOOTH OR CORRUGATED METAL JACKET AND NO OUTER COVERING OVER THE METAL JACKET.

IN FINISHED SPACES, ALL CONDUITS SHALL BE CONCEALED EXCEPT TO MAKE A FINAL CONNECTION TO EQUIPMENT NOT MOUNTED IN OR AGAINST FINISH MATERIAL.

ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE A SEPARATE NEWERLY SIZED AND MARKED GROUNDING CONDUCTOR, PER APPLICABLE CODES, THAT BONDS ALL ENCLOSURES, BOXES, ETC. CONDUIT SHALL NOT BE USED AS A GROUNDING OR BONDING CONDUCTOR.

IF EXISTING ELECTRIC SERVICE IS TO REMAIN, CONTRACTOR SHALL BE VERIFY THAT IT MEETS PROJECT REQUIREMENTS WITHOUT MODIFICATION. IF IT IS TO BE ADDED OR REPLACED AS A PART OF THIS WORK, CONTRACTOR SHALL ORDER FROM, COORDINATE WITH, AND GAIN APPROVAL FROM THE ELECTRICAL UTILITY. ALL ELECTRICAL EQUIPMENT SHALL BE AS SPECIFIED AND AS APPROVED BY THE LOCAL UTILITY WHERE APPLICABLE.

ALL EQUIPMENT, ENCLOSURES, ETC. SHALL BE SUITABLE FOR THE INSTALLED ENVIRONMENT, MINIMUM NEMA 3R FOR ALL EXTERIOR INSTALLATIONS.

WIRING DEVICES SHALL BE SPECIFICATION GRADE AND WIRING DEVICE COVER PLATES SHALL BE PLASTIC WITH ENGRAVING AS SPECIFIED. COLOR SHALL BE IVORY. ALL DEVICES AND COVER PLATES SHALL BE OF THE SAME MANUFACTURER.

ALL FIRE-RATED PENETRATIONS SHALL BE SEALED USING A SUITABLE AND LISTED FIRE SEALING DEVICE OR GROUT THAT WILL MAINTAIN THE FIRE RATING OF THE STRUCTURE PENETRATED.

PROVIDE PERMANENTLY AFFIXED ENGRAVED NAMEPLATES FOR ALL CODE REQUIRED LABELING AND ON ALL PANELS, METERING, DISCONNECTS, AND ELECTRICAL EQUIPMENT THAT IDENTIFIES EQUIPMENT SERVED, ELECTRICAL SOURCE WITH CIRCUIT IDENTIFICATION, AND VOLTAGES WITHIN.

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL FINAL TERMINATIONS TO ALL EQUIPMENT.

ALL ELECTRICAL APPURTENANCES THAT ARE DISCONNECTED SHALL BE COMPLETELY REMOVED WITH EXISTING STRUCTURES TO REMAIN, REPAIRED, FINISHED, FILLED, PAINTED, ETC. ALL PANEL SCHEDULES, EQUIPMENT LABELING, AND CODE-REQUIRED LABELING, SHALL BE VERIFIED AND NEWERLY COMPLETED TO MATCH THE INSTALLATION.

26 GROUNDING:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

GROUND ALL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH BEST INDUSTRY PRACTICE, THE REQUIREMENTS OF THE NFPA 70 NATIONAL ELECTRICAL CODE (NEC), AND ALL OTHER APPLICABLE CODES AND REGULATIONS.

ALL GROUNDING ELECTRODES PRESENT AT EACH SERVICE LOCATION SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM.

ALL EQUIPMENT ENCLOSURES, DEVICES, AND CONDUITS SHALL BE GROUNDED BY THE INSTALLATION OF A SEPARATE GROUNDING CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS THAT IS SIZED PER CODE OR IS OF THE SIZE INDICATED ON THE DRAWINGS, SHALL BE CONTINUOUS IN LENGTH, AND SHALL BE BONDED TO EACH ENCLOSURE PASSED THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING OR BONDING WIRE OR CIRCUIT.

BOND ALL METALLIC CONDUITS TOGETHER THAT ARE CONNECTED TO NON-METALLIC ENCLOSURES, IN-GROUND BOXES, AND TO AN ENCLOSURE WHERE A GROUND BUS IS SPECIFIED OR SUPPLIED. ACCOMPLISH THIS BOND WITH GROUNDING CONDUCTORS MINIMUM SIZED TO THE LARGEST GROUNDING CONDUCTOR PRESENT IN THE ENCLOSURE CONNECTED TO A GROUNDING TYPE BUSHING EQUALLY SIZED OR MAXIMUM GROUND WIRE ACCOMMODATION AVAILABLE IN STANDARD MANUFACTURE FOR THE CONDUIT SIZE, WHICHEVER IS LESS.

EQUIPMENT GROUNDING AND LOAD SIDE BONDING CONDUCTORS SHALL BE SIZED PER THE CIRCUIT'S OVER-CURRENT PROTECTIVE DEVICE (OCPD) SIZE. WHERE THE UNGROUNDED CONDUCTORS ARE INCREASED IN SIZE ABOVE THE STANDARD FOR THE CIRCUIT'S OCPD, INCREASE THE GROUNDING CONDUCTOR NEWORTIONATELY TO THE CROSS-SECTIONAL AREA OF THE UNGROUNDED CONDUCTORS.

SERVICE MAIN BONDING JUMPERS AND GROUNDING ELECTRODE CONDUCTORS SHALL BE SIZED AND INSTALLED PER THE MINIMUM OF ALL APPLICABLE CODES AND REGULATIONS.

26 LIGHTNING PROTECTION:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS AND THE GROUNDING SPECIFICATIONS HEREIN.

THE LIGHTNING PROTECTION GROUNDING SYSTEM (LPGS) SHALL CONSIST OF BONDING ALL EQUIPMENT AND CONDUCTIVE STRUCTURES TO LOCALIZED SINGLE-POINT GROUNDING CONNECTIONS (TYPICALLY GROUND BARS) WHICH ARE BONDED TOGETHER AND TO AN IN-GROUND SYSTEM. IF THE LPGS IS ON A BUILDING, IT SHALL BE EFFECTIVELY BONDED TO THE ELECTRICAL SERVICE MAIN BONDING JUMPER AND TO ADDITIONAL IN-GROUND ELECTRODES AS MAY BE REQUIRED OR INDICATED. IF THE LPGS IS ON A DEDICATED COMMUNICATION SITE, ALL EQUIPMENT AREAS AND TOWERS SHALL EACH HAVE THEIR OWN IN-GROUND RING WITH EVERY RING BONDED TOGETHER, AND ALL CONDUCTIVE STRUCTURES IN CLOSE PROXIMITY (FENCES, ICE BRIDGES, ISOLATED EQUIPMENT, ETC.) ALSO BONDED TO PROVIDE A COMMON ELECTRICAL EQUIPOTENTIAL SYSTEM FOR ALL CONDUCTIVE ELEMENTS AND STRUCTURES.

CONDUCTORS:
- MIN #2 AWG SOLID BARE TINNED COPPER (SBTC) FOR ALL IN-GROUND CONDUCTORS.
- MIN #2 AWG COPPER GREEN STRANDED FOR BONDING STRUCTURES, AND FOR INTER-SYSTEM BONDING OF INDIVIDUAL ELEMENTS SUCH AS GROUND BAR TO GROUND BAR.
- MIN #6 AWG COPPER GREEN STRANDED OR ALL EQUIPMENT BONDING.
- INSTALL ALL IN-GROUND CONDUCTORS IN THE SAME HORIZONTAL PLANE OR IN A DOWNWARD DIRECTION AWAY FROM THE TOWER AND EQUIPMENT AREAS.
- AVOID LONG RUNS. MAKE DIRECT RUNS AS MUCH AS POSSIBLE.
- PLACE THROUGH NON-METALLIC SLEEVES WHEN PASSING THROUGH FLOORS, WALLS, CEILINGS, AND SIMILAR STRUCTURES.
- MAKE ALL CONNECTIONS IN CONTACT WITH EARTH WITH EXOTHERMIC WELDING. MAKE ALL OTHER CONNECTIONS WITH EXOTHERMIC WELDING, IRREVERSIBLE COMPRESSION CONNECTORS, OR LISTED COMPRESSION TWO-HOLE LUGS.
- INSTALL ALL CONDUCTORS WITH A MINIMUM 18 INCH BEND RADIUS AND NO BEND LONGER THAN A 90 DEGREE ARC. ALL BENDS SHALL BE HORIZONTAL, OR DOWNWARD TOWARDS EARTH.
- ALL CONDUCTORS PASSING FROM ABOVE-GROUND TO IN-GROUND CONNECTIONS, WHERE EXPOSED, SHALL BE COVERED AND PROTECTED WITH A NON-METALLIC CONDUIT SEALED AT BOTH ENDS.
- IF 2 OR MORE IN-GROUND CONDUCTOS ARE IN THE SAME PATH (2 RINGS OVERLAPPING, BONDING FOLLOWING ANOTHER RING OR RADIAL, OR SIMILAR), COMBINE WITH A SHARED SINGLE CONDUCTOR.

EQUIPMENT AND TOWER GROUND RINGS SHALL BE:
- BONDED TO ANY CONDUCTIVE OBJECT OR STRUCTURE WITHIN 5 FEET OF EQUIPMENT GROUND RINGS AND WITHIN 20 FEET OF TOWER GROUND RINGS.
- INSTALLED MINIMUM 18 INCHES FROM FOUNDATIONS, FOOTINGS, AND SIMILAR.

INSTALL ALL IN-GROUND RINGS, RADIALS, BONDS CONNECTING THEM, AND ALL SIMILAR GROUNDING:
- MIN 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE, WHICHEVER IS GREATER DEPTH.
- MIN 2 FEET FROM FOUNDATIONS, FOOTINGS, OTHER GROUNDING SYSTEMS, AND SIMILAR STRUCTURES, EXCEPT WHEN MAKING A BOND TO ANY OF THESE STRUCTURES. DO NOT BOND TO FOUNDATION INTERNAL REINFORCEMENT.

ALL EQUIPMENT GROUPED IN A COMMON AREA, COMPOUND, STRUCTURE, OR SIMILAR SHALL BE BONDED TO A SINGLE-POINT GROUND, PREFERABLY AN ISOLATED GROUND BAR. BOND THE GROUND BAR TO THE SYSTEM WITH MINIMUM SINGLE BONDING CONDUCTOR. IF BONDING TO AN IN-GROUND RING, INSTALL 2 BONDING CONDUCTORS MINIMUM WITH EACH CONDUCTOR INSTALLED DIRECTIONALLY AWAY FROM EACH OTHER AND PARALLEL TO THE IN-GROUND CONDUCTOR, WITH NO TEE CONNECTIONS.

TOWER GROUNDING:
- EACH TOWER LEG SHALL BE BONDED TO ITS RING. SINGLE-LEGGED TOWERS, OR MONOPOLES, SHALL HAVE 2 BONDS ON OPPOSITE SIDES.
- BOND TO TOWER BASE, NOT TO VERTICAL TOWER STRUCTURE, AWAY FROM TOWER MOUNTING HARDWARE.
- EACH BOND SHALL HAVE A CORRESPONDING GROUND ROD ON THE RING.
- EACH BOND SHALL CONSIST OF 2 CONDUCTORS FROM THE TOWER TO ITS RING WITH EACH CONDUCTOR DIRECTED IN OPPOSITE DIRECTIONS WITH A PARALLEL CONNECTION ON THE RING ON OPPOSITE SIDES OF THE GROUND ROD.

EQUIPMENT AREA GROUNDING:
- COMMUNICATION AREAS ON EARTH SHALL HAVE A GROUND RING.
- BOND ALL EQUIPMENT TO A SINGLE-POINT GROUND (GROUND BAR).
- BOND THE EQIPMENT SINGLE-POINT GROUND TO THE EQUIPMENT GROUND RING WITH MINIMUM 2 CONDUCTORS DIRECTED IN OPPOSITE DIRECTIONS WITH PARALLEL CONNECTIONS ON THE RING.
- IF EQUIPMENT IS ENCLOSED IN A SHELTER:
- IF THE SHELTER IS CONSIDERED TO BE EXPOSED TO A DIRECT LIGHTNING STRIKE, INSTALL A BUILDING LIGHTNING PROTECTION SYSTEM PER APPLICABLE VERSION OF NFPA 780.
- BOND ALL FIXED CONDUCTIVE BUILDING COMPONENTS TOGETHER AND TO THE BUILDING RING GROUND AT THE CORNERS. THIS IS TYPICALLY CALLED THE HALO GROUND. DO NOT BOND EQUIPMENT TO THE HALO GROUND.
- BOND ALL EQUIPMENT TOGETHER TO A SINGLE-POINT OR INTERIOR EQUIPMENT RING GROUND (IEGR). BOND THE SINGLE-POINT OR IEGR TO THE EXTERNAL EQUIPMENT RING GROUND.
- PLACE GROUND RODS AT THE EQUIPMENT GROUND RING CORNERS.

GROUND RODS:
- SEPARATION SPACE BETWEEN ANY 2 GROUND RODS SHALL BE NO CLOSER THAN THEIR DEPTH. THIS APPLIES TO ALL RODS IN THE COMPLETE SYSTEM.
- DRIVE VERTICALLY IN UNDISTURBED SOIL WITH THE TOP AT SAME DEPTH AS THE IN-GROUND CONDUCTOR. IF NOT POSSIBLE TO INSTALL VERTICALLY, PLACE AS CLOSE TO VERTICAL AS POSSIBLE AND IN A DIRECTION AWAY FROM THE NEAREST ABOVE-GROUND CONDUCTIVE ELEMENT (TOWER, EQUIPMENT, ETC.).

RADIALS (TYP. NEW DEDICATED COMMUNICATION SITES):
- WHERE FEASIBLE WITH ENOUGH SPACE AVAILABLE, INSTALL A MINIMUM OF 4, MAXIMUM 10 RING RADIALS.
- EACH RADIAL'S LENGTH SHALL BE MIN 20 FT, MAX 80 FT.
- EXTEND RADIALS PERPENDICULAR FROM RINGS IN AS STRAIGHT LINE AS POSSIBLE, AWAY FROM OTHER RING GROUNDS, RADIALS, BONDS, AND SIMILAR.
- A COMMON PRACTICE IS TO PLACE 4 RADIALS FROM THE TOWER RING TO THE 4 CORNERS OF THE AVAILABLE AREA.

AT A MINIMUM, BOND ALL COMPOUND CONDUCTIVE FENCE CORNER POSTS AND GATE POSTS TO THE LPGS. PREFERABLY, INSTALL A GROUND RING THAT FOLLOWS THE FENCE LINE, BONDING ALL POSTS TO THE RING.

27 ANTENNAS & CABLES:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRANSMISSION CABLES, JUMPERS, CONNECTORS, GROUNDING STRAPS, ANTENNAS, MOUNT AND HARDWARE. ALL MATERIALS SHALL BE INSPECTED BY THE CONTRACTOR FOR DAMAGE UPON DELIVERY. JUMPERS SHALL BE SUPPLIED AT ANTENNAS AND EQUIPMENT INSIDE SHELTER. COORDINATE LENGTH OF JUMPER CABLES WITH OWNER. COORDINATE AND VERIFY ALL OF THE MATERIALS TO BE PROVIDED WITH OWNER PRIOR TO SUBMITTING BID AND ORDERING MATERIALS.

AFTER INSTALLATION, THE TRANSMISSION LINE SYSTEM SHALL BE PIM / SWEEP TESTED FOR NEWER INSTALLATION AND DAMAGE WITH ANTENNAS CONNECTED. CONTRACTOR SHALL OBTAIN AND USE LATEST TESTING PROCEDURES FROM OWNER OR MANUFACTURER PRIOR TO BIDDING.

ANTENNA CABLES SHALL BE UNIQUELY COLOR-CODED AT THE ANTENNAS, BOTH SIDES OF EQUIPMENT SHELTER WALL, AND JUMPER CABLES AT THE EQUIPMENT.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONNECTORS, ASSOCIATED CABLE MOUNTING AND GROUNDING HARDWARE, WALL MOUNTS, STANDOFFS, AND ALL ASSOCIATED HARDWARE TO INSTALL ALL CABLES AND ANTENNAS TO THE MANUFACTURER'S AND OWNER'S SPECIFICATIONS.

ANTENNA CABLES SHALL BE FOAM DIELECTRIC COAXIAL CABLES AS FOLLOWS:
- BASE STATION ANTENNAS:
  - 7/8" DIAMETER FOR CABLE LENGTHS UP TO 100 FT.
  - 1-5/8" DIAMETER FOR CABLE LENGTHS GREATER THAN 100 FT.
  - GPS ANTENNAS:
  - 7/8" DIAMETER FOR CABLE LENGTHS UP TO 200 FT.
  - 1-5/8" DIAMETER FOR CABLE LENGTHS GREATER THAN 200 FT.

MINIMUM BENDING RADIUS FOR COAXIAL CABLES SHALL BE:
- 15 FT FOR 7/8" COAXIAL CABLES.
- 25 FT FOR 1-5/8" COAXIAL CABLES.

CABLE SHALL BE INSTALLED WITH A MINIMUM NUMBER OF BENDS WHERE POSSIBLE. CABLE SHALL NOT BE LEFT UNTERMINATED AND SHALL BE SEALED IMMEDIATELY AFTER BEING INSTALLED.

ALL EXTERIOR CABLE CONNECTIONS SHALL BE COVERED WITH A WATERPROOF SPLICING KIT.

CONTRACTOR SHALL VERIFY EXACT LENGTH AND DIRECTION OF TRAVEL IN FIELD PRIOR TO CONSTRUCTION.

CABLE SHALL BE FURNISHED AND INSTALLED WITHOUT SPLICES AND WITH CONNECTORS AT EACH END.

27 CABLE TRAY:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

CABLE TRAY SHALL BE MADE OF EITHER CORROSION RESISTANT METAL OR WITH A CORROSION RESISTANT FINISH.

CABLE TRAY SHALL BE OF LADDER TRAY TYPE WITH FLAT COVER CLAMPED TO SIDE RAILS.

CABLE LADDER SHALL BE SIZED TO FIT ALL CABLES IN ACCORDANCE WITH NEC AND NEMA 11-15-84.

CABLE LADDER TRAYS SHALL BE NEMA CLASS 12A BY PW INDUSTRIES, INC. OR EQUAL.

CABLE LADDER TRAY SHALL BE SUPPORTED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

ALL WORKMANSHIP SHALL CONFORM TO THESE REQUIREMENTS AND ALL LOCAL CODES AND STANDARDS TO ENSURE SAFE AND ADEQUATE GROUNDING SYSTEM.

Cellco Partnership d/b/a

verizon

20 ALEXANDER DRIVE
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ALL-POINTS TECHNOLOGY CORPORATION

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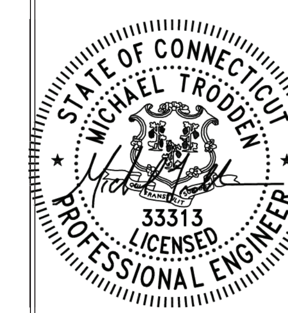
CONSTRUCTION DOCUMENTS

NO	DATE	REVISION
0	02/02/21	FOR REVIEW: JRM
1	04/22/21	FOR CONSTRUCTION: JRM
2		
3		
4		
5		
6		



DESIGN PROFESSIONALS OF RECORD

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NEW HARTFORD W CT

SITE ADDRESS: 1440 LITCHFIELD TURNPIKE NEW HARTFORD, CT 06057

APT FILING NUMBER: CT141_11720

DRAWN BY: THK

DATE: 02/02/21 **CHECKED BY:** JRM

VZ PROJECT CODE: 20202199086

VZ LOCATION CODE: 467556

VZ FUZE ID: 16244635

SHEET TITLE:

NOTES& SPECIFICATIONS

SHEET NUMBER:

N-1

SAMSUNG

Dual-Band Radio Unit
AWS/PCS (B66/B2)
RFV01U-D1A

Samsung's RFV01U-D1A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.

The RFV01U-D1A RU targets dual-band support across Band 66 (AWS) and Band 2 (PCS), making it an ideal product for broad coverage footprints across multiple common mid-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation
- Built-in Broadcast Auxiliary Services (BAS) filter ensures compliant AWS operation without impacting footprint

Key Technical Specifications

Duplex Type: FDD
Operating Frequencies:
    B66: DL(2,110-2,180MHz)/UL(1,710-1,780MHz)
    B2: DL(1,930-1,990MHz)/UL(1,850-1,910MHz)
Instantaneous Bandwidth:
    70MHz(B66) + 60MHz(B2)
RF Chain: 4T4R/2T4R/2T2R
Output Power: Total 320W
DU-RU Interface: CPRI (10Gbps)
Dimensions: 380 x 380 x 255mm (36.8L)
Weight: 38.3kg
Input Power: -48V DC
Operating Temp.: -40 - 55°(w/o solar load)
Cooling: Natural convection

SAMSUNG

Dual-Band Radio Unit
700/850MHz (B13/B5)
RFV01U-D2A

Samsung's RFV01U-D2A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.

The RFV01U-D2A RU targets dual-band support across Band 13 (700MHz) and Band 5 (850MHz), making it an ideal product for broad coverage footprints across multiple common low-end, long-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

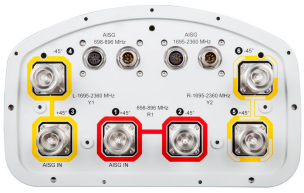
Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation

Key Technical Specifications

Duplex Type: FDD
Operating Frequencies:
B13: DL(746-756MHz)/UL(777-787MHz)
B5: DL(869-894MHz)/UL(824-849MHz)
Instantaneous Bandwidth: 10MHz(B13) + 25MHz(B5)
RF Chain: 4T4R/2T4R/2T2R
Output Power: Total 320W
DU-RU Interface: CPRI (10Gbps)
Dimensions: 380 x 380 x 207mm (29.9L)
Weight: 31.9kg
Input Power: -48V DC
Operating Temp.: -40 - 55°(w/o solar load)
Cooling: Natural convection

NHH-65B-R2B



6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 2x RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- Separate RS-485 RET input/output for low and high band
- One RET for low band and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Effective Projective Area (EPA), frontal	0.26 m^2 | 2.799 ft^2
Effective Projective Area (EPA), lateral	0.22 m^2 | 2.368 ft^2
Grounding Type	RF connector body grounded to reflector and mounting bracket
Performance Note	Outdoor usage | Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, low band	2
RF Connector Quantity, total	6

Remote Electrical Tilt (RET) Information, General

RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	2 female | 2 male

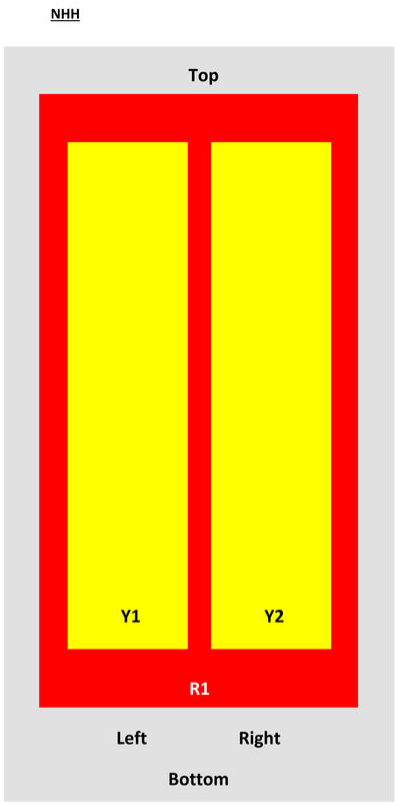
Dimensions

Width	301 mm | 11.85 in
Length	1828 mm | 71.969 in

NHH-65B-R2B

Depth	180 mm | 7.087 in

Array Layout



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-896	1-2	1	ANxxxxxxxxxxxxxxx1
Y1	1695-2360	3-4	2	ANxxxxxxxxxxxxxxx2
Y2	1695-2360	5-6		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Polarization	±45°
Total Input Power, maximum	900 W @ 50 °C

Remote Electrical Tilt (RET) Information, Electrical

Protocol	3GPP/AISG 2.0 (Single RET)
Power Consumption, idle state, maximum	2 W

NHH-65B-R2B

Power Consumption, normal conditions, maximum	13 W
Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 | Port 3
Internal RET	High band (1) | Low band (1)

Electrical Specifications

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**
Gain, dBi	14.9	15	17.7	17.9	18.4	18.7
Beamwidth, Horizontal, degrees	65	60	71	69	64	57
Beamwidth, Vertical, degrees	12.4	11.2	5.7	5.2	4.9	4.6
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	13	14	18	18	19	18
Front-to-Back Ratio at 180°, dB	30	29	31	30	29	31
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	30	30	30	30	30	30
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50° C, maximum, watts	300	300	300	300	300	300

Electrical Specifications, BASTA

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**
Gain by all Beam Tilts, average, dBi	14.5	14.5	17.3	17.7	18.1	18.5
Gain by all Beam Tilts Tolerance, dB	±0.6	±1.1	±0.4	±0.4	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0 ° | 14.4 7 ° | 14.6 14 ° | 14.3	0 ° | 14.7 7 ° | 14.7 14 ° | 14.1	0 ° | 17.2 4 ° | 17.3 7 ° | 17.3	0 ° | 17.6 4 ° | 17.7 7 ° | 17.7	0 ° | 18.0 4 ° | 18.2 7 ° | 18.1	0 ° | 18.3 4 ° | 18.5 7 ° | 18.6
Beamwidth, Horizontal Tolerance, degrees	±2	±2.1	±3	±4.1	±6.5	±2.9
Beamwidth, Vertical Tolerance, degrees	±0.7	±0.7	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	13	14	16	16	17	15
Front-to-Back Total Power at 180° ± 30°, dB	23	22	27	27	25	25
CPR at Boresight, dB	22	21	23	23	22	19

NHH-65B-R2B

CPR at Sector, dB	10	7	16	13	11	4

Mechanical Specifications

Wind Loading at Velocity, frontal	278.0 N @ 150 km/h | 63.6 lbf @ 150 km/h
Wind Loading at Velocity, lateral	230.0 N @ 150 km/h | 51.7 lbf @ 150 km/h
Wind Loading at Velocity, maximum	120.7 lbf @ 150 km/h | 537.0 N @ 150 km/h
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	409 mm | 16.102 in
Depth, packed	299 mm | 11.772 in
Length, packed	1952 mm | 76.85 in
Net Weight, without mounting kit	19.8 kg | 43.651 lb
Weight, gross	32.3 kg | 71.209 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant

Included Products

BSAMNT-3	—	Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

SAMSUNG

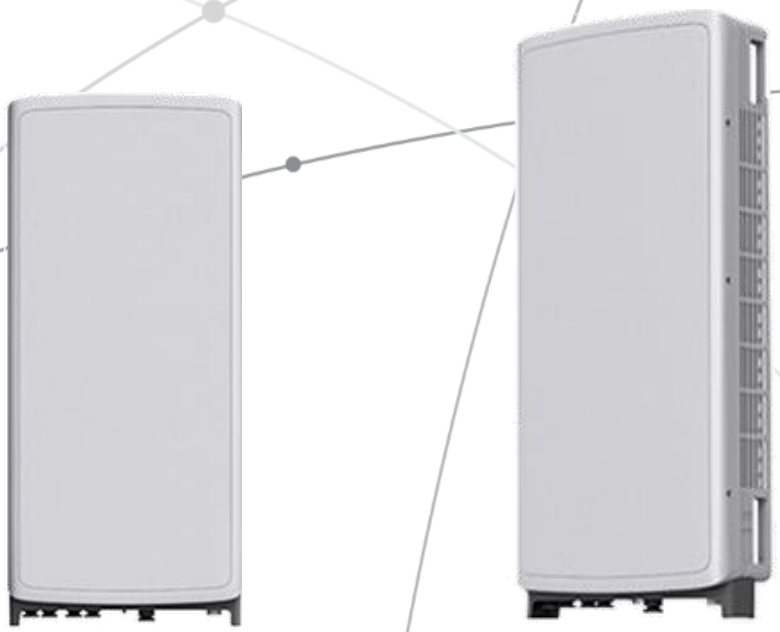
SAMSUNG

C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

Samsung C-Band 64T64R Massive MIMO Radio enables mobile operators to increase coverage range, boost data speeds and ultimately offer enriched 5G experiences to users in the U.S..

Model Code : MT6407-77A

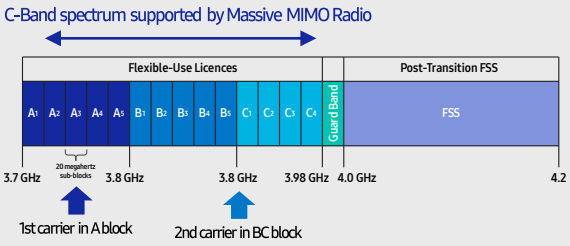


Points of Differentiation

Wide Bandwidth

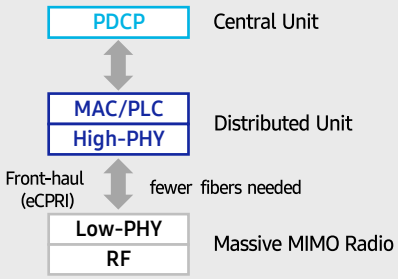
With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

Samsung C-Band massive MIMO Radio covers the entire C-Band 280 MHz spectrum, so it can meet the operator's needs in current A block and future B/C blocks



Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface.
It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.



Enhanced Performance

C-Band massive MIMO Radio creates sharp beams and extends networks' coverage on the critical mid-band spectrum using a large number of antenna elements and high output power to boost data speeds.

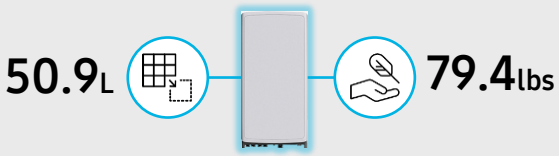
This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

Furthermore, as C-Band massive MIMO Radio supports MU-MIMO(Multi-user MIMO) , it enables to increase user throughput by minimizing interference.

Well Matched Design

Samsung C-Band Massive MIMO radio utilizes 64 antennas, supports up to 280MHz bandwidth, and delivers a 200W output power. despite the above advanced performance, the Radio has a compact size of 50.9L and 79.4lbs. This makes it easy to install the Radio.

It is designed to look solid and compact, with a low profile appearance so that, when installed, harmonizes well with the surrounding environment..



Technical Specifications

Item	Specification
Tech	NR
Band	n77
Frequency Band	3700 - 3980 MHz
EIRP	78.5dBm (53.0 dBm+25.5 dBi)
IBW/OBW	280 MHz / 200 MHz
Installation	Pole/Wall
Size/ Weight	16.06 x 35.06 x 5.51 inch (50.86L)/ 79.4 lbs

SAMSUNG

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

129 Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, Korea

ATTACHMENT 3

Site Name: ***NEW HARTFORD W CT***

Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure*	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm^2)	(mW/cm^2)	(%)
VZW 700	751	4	470	1880	92	0.0080	0.5007	1.60%
VZW Cellular CDMA	874	2	500	1000	92	0.0042	0.5827	0.73%
VZW Cellular LTE	874	4	481	1923	92	0.0082	0.5827	1.40%
VZW PCS	1975	4	1026	4103	92	0.0174	1.0000	1.74%
VZW AWS	2120	4	1138	4551	92	0.0193	1.0000	1.93%
VZW CBAND	3730.005	1	6531	6531	92	0.0278	1.0000	2.78%

Total Percentage of Maximum Permissible Exposure 10.18%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

**Calculation includes a -10 dB Off Beam Antenna Pattern Adjustment pursuant to Attachments B and C of the Siting Council's November 10, 2015 Memorandum for Exempt Modification filings

MHz = Megahertz

mW/cm^2 = milliwatts per square centimeter

ERP = Effective Radiated Power

Absolute worst case maximum values used.

ATTACHMENT 4

April 22, 2021

Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492

Attn: Mr. Andrew Leone

Re: Structural Analysis Report – Wireless Communications Modification
Verizon Wireless Site I.D.: New Hartford West CT
Harvard Baptist Church
New Hartford, CT 06057

Project/Location Code:	10202093652/467556
VZW FUZE I.D.:	16244635
APT Filing No.	CT14111720

Dear Mr. Leone,

All-Points Technology Corp. (APT), a professional engineering corporation licensed in the State of Connecticut, has been retained by Verizon Wireless (VZW) to assess the structural adequacy of the existing host structure to support the proposed equipment modification.

Details of the proposed antenna and appurtenance modification are included within the table on the following page. Reference is made to the Construction Drawings prepared by this office, marked Rev 1, dated April 22, 2021.

The following information was utilized in the preparation of this assessment:

- RFDS provided by Verizon Wireless, dated January 20, 2021.
- Geotechnical Study prepared by Dr. Clarence Welti, P.E., P.C., dated October 29, 2004.
- 125' Bell Tower Drawings prepared by Engineered Endeavors Incorporated, dated February 7, 2005.
- Design Calculations for a Spread Footing Foundation prepared by Engineered Endeavors Incorporated, dated February 15, 2005.
- FRP Cross Drawings prepared by Engineered Endeavors Incorporated, dated June 2, 2005.

The structural review has been prepared in accordance with the following design standards:

- ANSI/TIA-222-G-2009 - Structural Standards for Steel Antenna Towers and Antenna Supporting Structures
- AISC - American Institute of Steel Construction Manual of Steel Construction, 14th Ed.
- IBC 2015 - as amended by the 2018 Connecticut State Building Code.

The structural review has been prepared utilizing the following design criteria:

- 120mph (3-second gust), Ultimate Wind Speed (equivalent to 93mph Nominal)
- 50mph (3-second gust) Nominal Wind Speed with 1.00" Ice Thickness.
- Risk Category II
- Exposure Category C

The existing and proposed VZW antenna/appurtenance loading consists of the following equipment (proposed equipment indicated in **bold** text):

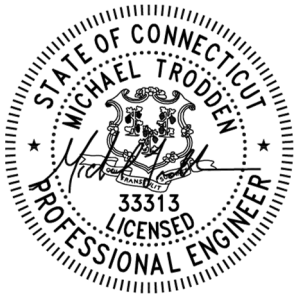
Antenna and Appurtenance Make/Model	Quantity	Status	Mount Type	Centerline
Samsung MT6407-77A panel antennas	**3**	**P**	Nine (9) existing single pipe mounts within Bell Tower FRP enclosure. **Add three (3) 1'-0" Standoffs (SitePro1 TAM-2U).**	97.5' ± AGL
Andrew NHH-65B-R2B panel antennas	**6**	**P**		96.0' ± AGL
Samsung B2/B66a RRH-BR049 (RFV01U-D1A) Remote Radio Heads (RRHs)	**3**	**P**		
Samsung B5/B13 RRH-BR04C (RFV01U-D2A) Remote Radio Heads (RRHs)	**3**	**P**		
Commscope CHB626-43-2X Twin Diplexers	**3**	**P**		
Raycap RVZDC-6627-PF-48 (12 OVP)	**1**	**P**		
12x24 Low Inductance Hybrid Cable	1	**P**	**n/a**	**n/a**
Coaxial Cables	6[4]	ETR	n/a	n/a

Notes:
1. ETR = Existing to Remain; ERL = Exist to be Relocated; P = Proposed; R = Removed.
2. Based upon RFDS provided by VZW dated 01/20/2021.
3. Three (3) existing Andrew BXA-70063/6CF antennas to be removed.
4. All unused coaxial cable feed-lines to be removed.

The findings of this review are based upon comparative review of the proposed equipment loading to the referenced design documentation and a rigorous mount analysis. Under the proposed loading as referenced above, the maximum usage of the existing mounting assembly is **57%** (mount framing). In conclusion, we find that the proposed modification will not adversely affect the structural integrity of the existing mount framing and host structure.

Sincerely,
All-Points Technology Corp. P.C.

Michael S. Trodden, P.E.
Sr. Structural Engineer



Appendix A

Design Criteria

(APPENDIX N) MUNICIPALITY - SPECIFIC STRUCTURAL DESIGN PARAMETERS												
				Wind Design Parameters								
Municipality	**Ground Snow Load**	**MCE Spectral Accelerations** (%g)		**Ultimate Design Wind Speeds, V_{ult}** (mph)			**Nominal Design Wind Speeds, V_{asd}** (mph)			**Wind-Borne Debris Regions[1]**		**Hurricane-Prone Regions**
		S_s	S_1	Risk Cat.I	Risk Cat.II	Risk Cat III-IV	Risk Cat. I	Risk Cat. II	Risk Cat. III-IV	Risk Cat. II & III except Occup I-2	Risk Cat III Occup I-2 & Risk Cat. IV	
Enfield	35	0.176	0.065	110	125	130	85	97	101			Yes
Essex	30	0.168	0.059	120	135	145	93	105	112		Type A	Yes
Fairfield	30	0.215	0.065	115	125	135	89	97	105		Type B	Yes
Farmington	35	0.183	0.064	115	125	135	89	97	105			Yes
Franklin	30	0.171	0.061	120	130	140	93	101	108		Type A	Yes
Glastonbury	30	0.180	0.063	115	125	135	89	97	105			Yes
Goshen	40	0.181	0.065	105	115	125	81	89	97			
Granby	35	0.176	0.065	110	120	130	85	93	101			Yes
Greenwich	30	0.259	0.070	110	120	130	85	93	101			Yes
Griswold	30	0.168	0.060	125	135	145	97	105	112		Type A	Yes
Groton	30	0.160	0.058	125	135	145	97	105	112	Type B	Type A	Yes
Guilford	30	0.176	0.061	120	130	140	93	101	108		Type B	Yes
Haddam	30	0.175	0.061	120	130	140	93	101	108			Yes
Hamden	30	0.185	0.063	115	125	135	89	97	105			Yes
Hampton	35	0.172	0.062	120	130	140	93	101	108			Yes
Hartford	30	0.181	0.064	115	125	135	89	97	105			Yes
Hartland	40	0.175	0.065	110	120	125	85	93	97			Yes
Harwinton	35	0.183	0.065	110	120	130	85	93	101			Yes
Hebron	30	0.177	0.063	120	130	140	93	101	108			Yes
Kent	40	0.188	0.065	105	115	120	81	89	93			
Killingly	40	0.171	0.062	120	130	140	93	101	108			Yes
Killingworth	30	0.173	0.061	120	130	140	93	101	108			Yes
Lebanon	30	0.173	0.062	120	130	140	93	101	108			Yes
Ledyard	30	0.163	0.059	125	135	145	97	105	112		Type A	Yes
Lisbon	30	0.169	0.061	125	135	145	97	105	112		Type A	Yes
Litchfield	40	0.184	0.065	110	120	125	85	93	97			Yes
Lyme	30	0.164	0.059	125	135	145	97	105	112		Type A	Yes
Madison	30	0.173	0.060	120	130	140	93	101	108		Type B	Yes
Manchester	30	0.178	0.064	115	125	135	89	97	105			Yes
Mansfield	35	0.173	0.062	120	130	140	93	101	108			Yes
Marlborough	30	0.177	0.062	120	130	140	93	101	108			Yes
Meriden	30	0.183	0.063	115	125	135	89	97	105			Yes
Middlebury	35	0.191	0.064	110	120	130	85	93	101			Yes
Middlefield	30	0.181	0.063	115	125	135	89	97	105			Yes
Middletown	30	0.180	0.063	115	130	135	89	101	105			Yes
Milford	30	0.194	0.063	115	125	135	89	97	105		Type B	Yes
Monroe	30	0.205	0.065	110	120	130	85	93	101			Yes
Montville	30	0.165	0.059	125	135	145	97	105	112		Type A	Yes
Morris	35	0.187	0.065	110	120	125	85	93	97			Yes
Naugatuck	30	0.190	0.064	110	125	135	85	97	105			Yes
New Britain	30	0.183	0.064	115	125	135	89	97	105			Yes
New Canaan	30	0.240	0.068	110	120	130	85	93	101			Yes
New Fairfield	35	0.212	0.067	105	115	125	81	89	97			
New Hartford	40	0.180	0.065	110	120	130	85	93	101			Yes

Appendix B

Mount & Global
Stability Analysis

Project ID:	CT141_11720
Site Name:	New Hartford W CT
Date:	4/22/2021

(Based on ANSI/TIA-222-G-2005)

Site Name:	New Hartford W CT
Site Address:	1440 Litchfield Turnpike New Hartford, CT 06057
Site County:	Litchfield

Design Criteria

Ultimate Basic Wind Speed, V_{ULT} =	120	mph	*2018 CSBC, Appendix N*
Nominal Basic Wind Speed, V_{ASD} =	93	mph	*2018 CSBC, Appendix N*
Basic Wind Speed with ice, V_i =	50	mph	
Basic Wind Speed, V_w =	15	mph	*For access/man combinations*
Design Ice Thickness, t_i =	1.00	in	
Type of Structure =	Monopole		
Structure Height =	130.1	ft, +/-	
Structure Class =	II		*Table 2-1*
Exposure Category =	C		*Section 2.6.5*
Importance Factor, I =	1.00		*Table 2-3*
Importance Factor with Ice, I_{wi} =	1.00		*Table 2-3*
Ice Thickness Importance Factor, I_{it} =	1.00		*Table 2-3*
z_g =	900		*Table 2-4*
α =	9.5		*Table 2-4*
K_{zmin} =	0.85		*Table 2-4*
K_{zt} =	1.00		*Section 2.6.6.4*
K_d =	0.95		*Table 2-2*
G_h =	1.10		*Section 2.6.7*
Mount G_h =	1.00		*Section 2.6.7*
q_z' =	**21.03**	**psf**	
q_{zi}' =	**6.08**	**psf**	*Excluding Kz*
q_{zw}' =	**0.55**	**psf**	

ALL-POINTS TECHNOLOGY CORPORATION

Project ID: CT141_11720
Site Name: New Hartford W CT
Date: 4/22/2021

(Based on ANSI/TIA-222-G-2005)

Design Criteria: *(From Previous Sheet)*

q_z' = **21.03 psf**
q_{zi}' = **6.08 psf**
q_{zw}' = **0.55 psf**
t_i = **1.00 in**

G_h = 1.00 *Section 2.6.7*
K_a = 1.00 *Section 2.6.9.2.2 - Section 2.6.9.2.4*

Description	#/Sector	Elev. z, ft	K_z	q_z, psf	Dimensions Height, in	Width, in	Depth, in	Wght., lbs	Flat Panel Front Coefficient Area, ft^2	Aspect Ratio	Ca	C_aA_a	Flat Panel Side Coefficient Area, ft^2	Aspect Ratio	Ca	C_aA_a	Front Wind Force, lbs	Side Wind Force, lbs	Weight, lbs
NHH-65B-R2B	2.0	96.0	1.255	26.39	72.0	11.9	7.1	57.0	5.95	6.051	1.33	7.91	3.550	10.142	1.50	5.342	209.0	142.0	57.0
MT6407-77A	1.0	97.5	1.259	26.48	35.1	16.1	5.5	87.1	3.93	2.181	1.20	4.71	1.344	6.374	1.34	1.802	125.0	48.0	87.1
RFV01U-D1A	1.0	96.0	1.255	26.39	14.9	14.9	10.0	97.5	1.54	1.000	1.20	1.85	1.039	1.484	1.20	1.247	49.0	33.0	97.5
RFV01U-D2A	1.0	96.0	1.255	26.39	14.9	14.9	8.1	82.0	1.54	1.000	1.20	1.85	0.842	1.830	1.20	1.011	49.0	27.0	82.0
RVZDC-6627-PF-48 (OVP)	1.0	96.0	1.255	26.39	19.5	16.5	12.6	32.0	2.23	1.182	1.20	2.68	1.706	1.548	1.20	2.048	71.0	55.0	32.0
CHB626-43-2X	1.0	96.0	1.255	26.39	14.6	7.1	3.4	19.4	0.72	2.056	1.20	0.86	0.345	4.294	1.27	0.436	23.0	12.0	19.4

Description	#/Sector	Elev.	K_z	q_{zi}, psf	Dimensions with Ice Ice Thick., t_{iz}, in	Height, in	Dc, in	Wght., lbs	Flat Panel Front Coefficient Area, ft^2	Aspect Ratio	Ca	C_aA_a	Flat Panel Side Coefficient Area, ft^2	Aspect Ratio	Ca	C_aA_a	Front Wind Force, lbs	Side Wind Force, lbs	Weight, lbs
NHH-65B-R2B	2.0	96.0	1.255	7.629	2.23	76.46	13.86	278.6	8.68	5.52	0.77	6.659	6.133	5.52	0.77	4.704	51.0	36.0	335.6
MT6407-77A	1.0	97.5	1.259	7.654	2.23	39.58	17.02	172.8	5.65	2.33	0.70	3.955	2.740	2.33	0.70	1.918	31.0	15.0	259.9
RFV01U-D1A	1.0	96.0	1.255	7.629	2.23	19.35	17.97	88.5	2.60	1.08	0.70	1.820	1.947	1.08	0.70	1.363	14.0	11.0	186.0
RFV01U-D2A	1.0	96.0	1.255	7.629	2.23	19.35	16.98	84.2	2.60	1.14	0.70	1.820	1.692	1.14	0.70	1.184	14.0	10.0	166.2
RVZDC-6627-PF-48 (OVP)	1.0	96.0	1.255	7.629	2.23	23.95	20.76	124.7	3.48	1.15	0.70	2.439	2.836	1.15	0.70	1.985	19.0	16.0	156.7
CHB626-43-2X	1.0	96.0	1.255	7.629	2.23	19.05	7.87	43.6	1.53	2.42	0.70	1.070	1.039	2.42	0.70	0.727	9.0	6.0	63.0

Description	#/Sector	Elev. z, ft	K_z	q_{zw}, psf	Dimensions Height, in	Width, in	Depth, in	Wght., lbs	Flat Panel Front Coefficient Area, ft^2	Aspect Ratio	Ca	C_aA_a	Flat Panel Side Coefficient Area, ft^2	Aspect Ratio	Ca	C_aA_a	Front Wind Force, lbs	Side Wind Force, lbs	Weight, lbs
NHH-65B-R2B	2.0	96.0	1.255	0.69	72.0	11.9	7.1	57.0	5.95	6.051	1.33	7.91	3.550	10.142	1.50	5.342	6.0	4.0	57.0
MT6407-77A	1.0	97.5	1.259	0.69	35.1	16.1	5.5	87.1	3.93	2.181	1.20	4.71	1.344	6.374	1.34	1.802	4.0	2.0	87.1
RFV01U-D1A	1.0	96.0	1.255	0.69	14.9	14.9	10.0	97.5	1.54	1.000	1.20	1.85	1.039	1.484	1.20	1.247	2.0	1.0	97.5
RFV01U-D2A	1.0	96.0	1.255	0.69	14.9	14.9	8.1	82.0	1.54	1.000	1.20	1.85	0.842	1.830	1.20	1.011	2.0	1.0	82.0
RVZDC-6627-PF-48 (OVP)	1.0	96.0	1.255	0.69	19.5	16.5	12.6	32.0	2.23	1.182	1.20	2.68	1.706	1.548	1.20	2.048	2.0	2.0	32.0
CHB626-43-2X	1.0	96.0	1.255	0.69	14.6	7.1	3.4	19.4	0.72	2.056	1.20	0.86	0.345	4.294	1.27	0.436	1.0	1.0	19.4

ALL-POINTS TECHNOLOGY CORPORATION

Project ID: CT141_11720
Site Name: New Hartford W CT
Date: 4/22/2021

(Based on ANSI/TIA-222-G-2005)

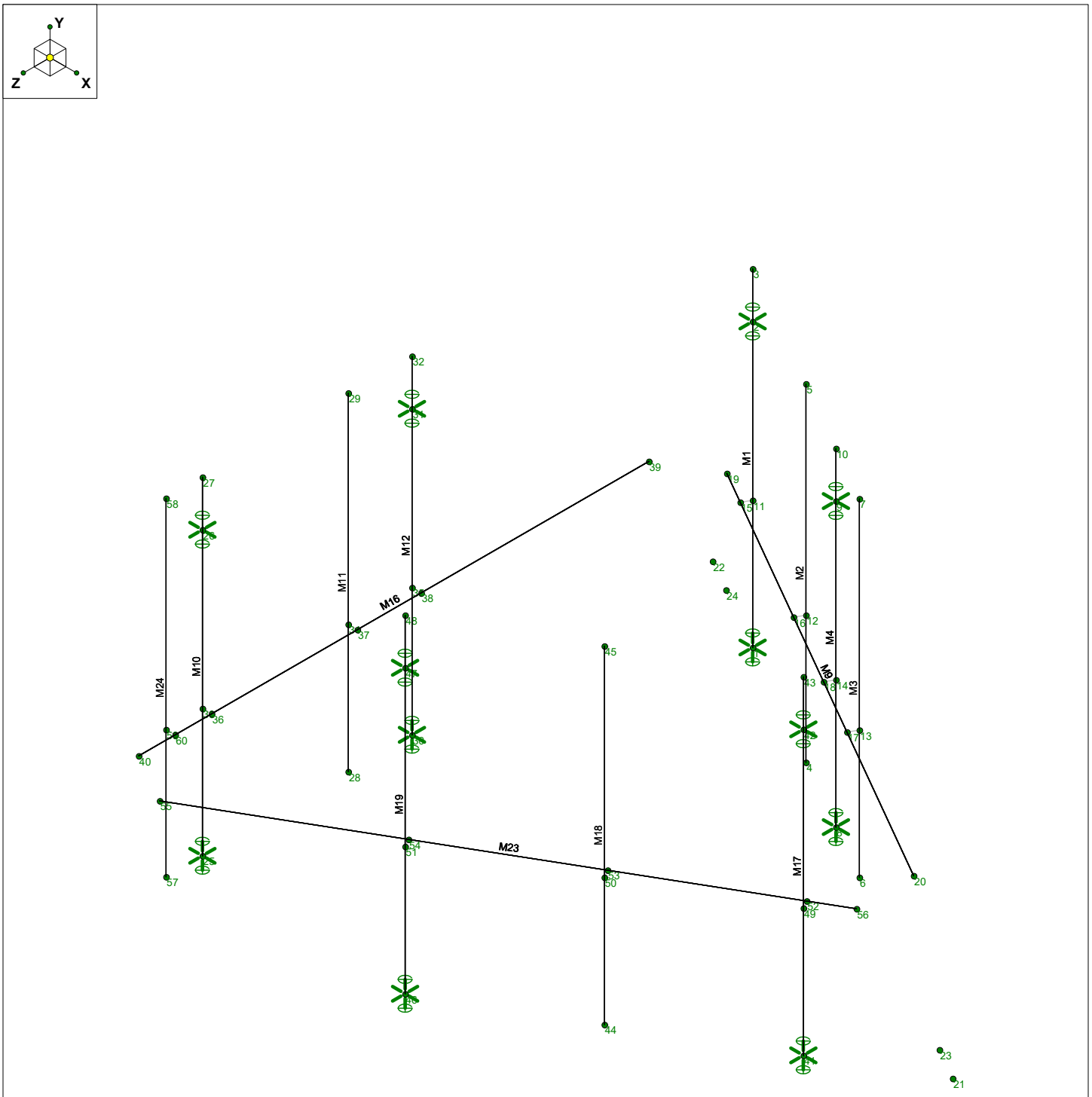
Design Criteria: *(From Previous Sheet)*

q_z' = **21.03** **psf**
q_{zi}' = **6.08** **psf**
q_{zw}' = **0.55** **psf**
t_i = **1.00** **in**

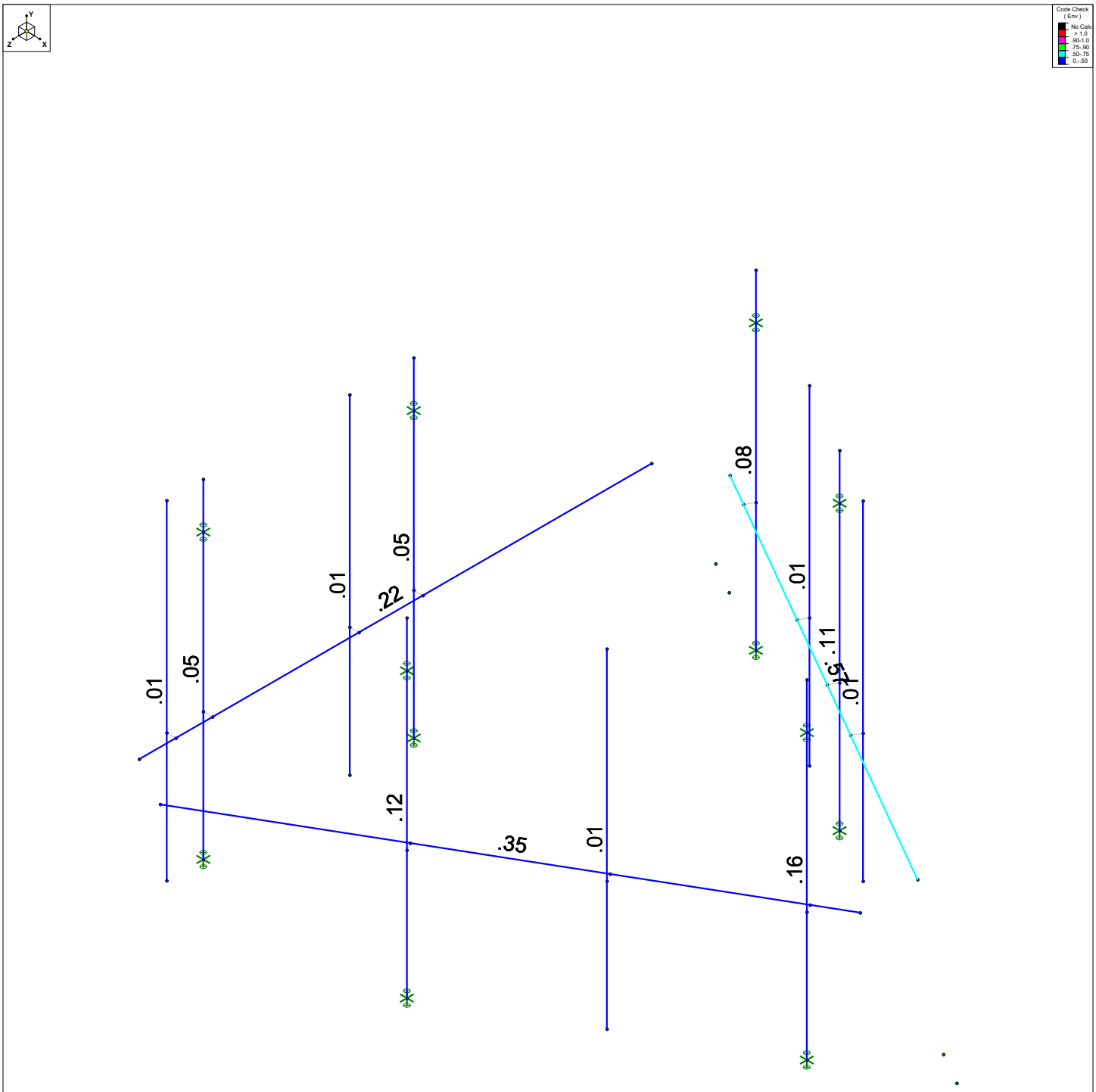
G_h = 1.00 *Section 2.6.9*
K_a = 1.00 *Section 2.6.9.2.2 - Section 2.6.9.2.4*

							Dimensions			Loading, No Ice			With Ice					Loading, Working		
Description	Elev. z, ft	K_z	q_z, psf	Ice Thick., t_{iz}, in	q_{zi}, psf	q_w, psf	Width or Dia, in	Depth, in	Weight, lbs/ft	Flat or Round	Ca	Wind, lbs/ft	Width or Dia, in	Dc, in	Weight, lbs/ft	Ca	Wind, lbs/ft	Flat or Round	Ca	Wind, lbs/ft
2.5" STD	96	1.255	26.39	2.23	7.63	0.69	2.875	2.875	5.79	Round	1.20	7.59	7.33	2.88	13.87	1.20	5.59	Round	1.20	0.20
TS 2x2x3/16	96	1.255	26.39	2.23	7.63	0.69	2.000	2.000	4.32	FLAT	2.00	8.80	6.45	2.83	13.74	1.20	4.92	FLAT	2.00	0.23
2.0" STD	96	1.255	26.39	2.23	7.63	0.69	2.375	2.375	3.66	Round	1.20	6.27	6.83	2.38	12.51	2.20	9.55	Round	1.20	0.16

- Member sizes have been assumed



APT		
MT	TYP SECTOR	
NEW HARTFORD W CT	NODE & MEMBER LABELS	Typ Sector.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

APT		
MT	EXISTING MOUNTS	
NEW HARTFORD W CT	BENDING STRESSES	Typ Sector.r3d

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 14th(360-10): ASD
Cold Formed Steel Code	AISI S100-12: ASD
Wood Code	AWC NDS-15: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-14
Masonry Code	ACI 530-13: ASD
Aluminum Code	AA ADM1-15: ASD - Building
	AISC 14th(360-10): ASD

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	3	1			2.5" STD	Column	Pipe	A53 Gr.B	Typical
2	M2	5	4			2.5" STD	Column	Pipe	A53 Gr.B	Typical
3	M3	7	6			2.5" STD	Column	Pipe	A53 Gr.B	Typical
4	M4	10	8			2.5" STD	Column	Pipe	A53 Gr.B	Typical
5	M5	11	15			RIGID	None	None	RIGID	Typical
6	M6	12	16			RIGID	None	None	RIGID	Typical
7	M7	14	18			RIGID	None	None	RIGID	Typical
8	M8	13	17			RIGID	None	None	RIGID	Typical
9	M9	20	19			HSS2x2x3/16	Beam	SquareTube	A500 Gr.B...	Typical
10	M10	27	25			2.5" STD	Column	Pipe	A53 Gr.B	Typical
11	M11	29	28			2.5" STD	Column	Pipe	A53 Gr.B	Typical
12	M12	32	30			2.5" STD	Column	Pipe	A53 Gr.B	Typical
13	M13	33	36			RIGID	None	None	RIGID	Typical
14	M14	35	38			RIGID	None	None	RIGID	Typical
15	M15	34	37			RIGID	None	None	RIGID	Typical
16	M16	39	40			HSS2x2x3/16	Beam	SquareTube	A500 Gr.B...	Typical
17	M17	43	41			2.5" STD	Column	Pipe	A53 Gr.B	Typical
18	M18	45	44			2.5" STD	Column	Pipe	A53 Gr.B	Typical
19	M19	48	46			2.5" STD	Column	Pipe	A53 Gr.B	Typical
20	M20	49	52			RIGID	None	None	RIGID	Typical
21	M21	51	54			RIGID	None	None	RIGID	Typical
22	M22	50	53			RIGID	None	None	RIGID	Typical
23	M23	55	56			HSS2x2x3/16	Beam	SquareTube	A500 Gr.B...	Typical
24	M24	58	57			2.5" STD	Column	Pipe	A53 Gr.B	Typical
25	M25	59	60			RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1						Yes	** NA **			None
2	M2						Yes	** NA **			None
3	M3						Yes	** NA **			None
4	M4						Yes	** NA **			None
5	M5						Yes	** NA **			None
6	M6						Yes	** NA **			None
7	M7						Yes	** NA **			None
8	M8						Yes	** NA **			None
9	M9						Yes				None
10	M10						Yes	** NA **			None
11	M11						Yes	** NA **			None
12	M12						Yes	** NA **			None
13	M13						Yes	** NA **			None
14	M14						Yes	** NA **			None
15	M15						Yes	** NA **			None
16	M16						Yes				None
17	M17						Yes	** NA **			None
18	M18						Yes	** NA **			None
19	M19						Yes	** NA **			None
20	M20						Yes	** NA **			None
21	M21						Yes	** NA **			None
22	M22						Yes	** NA **			None
23	M23						Yes				None
24	M24						Yes	** NA **			None
25	M25						Yes	** NA **			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torq...	Kyy	Kzz	Cb	Function
1	M1	2.5" STD	108									Lateral
2	M2	2.5" STD	108									Lateral
3	M3	2.5" STD	108									Lateral
4	M4	2.5" STD	108									Lateral
5	M9	HSS2x2x3/16	168	96	96	96	96	96				Lateral
6	M10	2.5" STD	108									Lateral
7	M11	2.5" STD	108									Lateral
8	M12	2.5" STD	108									Lateral
9	M16	HSS2x2x3/16	168	96	96	96	96	96				Lateral
10	M17	2.5" STD	108									Lateral
11	M18	2.5" STD	108									Lateral
12	M19	2.5" STD	108									Lateral
13	M23	HSS2x2x3/16	168	96	96	96	96	96				Lateral
14	M24	2.5" STD	108									Lateral

Load Combinations

	Description	S...	PDelta	S...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.2DL + 1.6WLX	Yes	Y		DL	1.2	WLX	1.6																
2	1.2DL + 1.6WLZ	Yes	Y		DL	1.2	WLZ	1.6																
3	1.2DL + 1.13(WLX + WLZ)	Yes	Y		DL	1.2	WLX	1.13	WLZ	1.13														
4	1.2DL + 1.6WL-X	Yes	Y		DL	1.2	WLX	-1.6																
5	1.2DL + 1.6WL-Z	Yes	Y		DL	1.2	WLZ	-1.6																
6	1.2DL + 1.13(WL-X + W...	Yes	Y		DL	1.2	WLX	-1....	WLZ	-1....														
7	1.2DL + DLi + WLXi	Yes	Y		DL	1.2	OL1	1	OL2	1														
8	1.2DL + DLi + WLZi	Yes	Y		DL	1.2	OL1	1	OL3	1														

Load Combinations (Continued)

	Description	S...	PDelta	S...	BLC	Fa...	BLC	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
9	1.2DL + DLi + 0.707(WL...	Yes	Y		DL	1.2	OL1	1	OL2	.707	OL3	.707												
10	1.2DL + DLi + WLXi	Yes	Y		DL	1.2	OL1	1	OL2	-1														
11	1.2DL + DLi + WLZi	Yes	Y		DL	1.2	OL1	1	OL3	-1														
12	1.2DL + DLi + 0.707(WL...	Yes	Y		DL	1.2	OL1	1	OL2	-.7...	OL3	-.7...												
13	DL	Yes	Y		DL	1																		

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	1	max	49.55	7	995.11	7	38.82	7	0	1	.38	7	0	1
2		min	15.1	13	258.03	13	12.87	13	0	1	-.04	1	0	1
3	2	max	-16.45	13	0	1	-13.74	13	0	1	.32	7	0	1
4		min	-51.49	7	0	1	-40.37	7	0	1	-.03	1	0	1
5	8	max	57.1	7	1805.18	7	55.59	7	0	1	.91	7	0	1
6		min	22.6	13	543.98	13	19.87	13	0	1	.31	13	0	1
7	9	max	-21.26	13	0	1	-19	13	0	1	.75	7	0	1
8		min	-55.16	7	0	1	-54.04	7	0	1	.25	13	0	1
9	25	max	12.89	7	1286.11	7	4.65	7	0	1	.33	7	0	1
10		min	5.14	13	354.13	13	-9.39	1	0	1	.22	13	0	1
11	26	max	-5.07	13	0	1	5.55	1	0	1	.28	7	0	1
12		min	-12.79	7	0	1	-9.37	7	0	1	.18	13	0	1
13	30	max	10.38	7	1351.08	7	34.37	7	0	1	-.45	13	0	1
14		min	3.34	13	415.88	13	12.33	13	0	1	-.65	7	0	1
15	31	max	-3.41	13	0	1	-9.13	13	0	1	-.37	13	0	1
16		min	-10.48	7	0	1	-29.66	7	0	1	-.54	7	0	1
17	41	max	-41.96	13	1215.35	7	62.24	7	0	1	4.34	7	0	1
18		min	-134.33	7	323.82	13	18.28	13	0	1	1.29	13	0	1
19	42	max	99.66	7	0	1	-12.21	13	0	1	3.58	7	0	1
20		min	31.38	13	0	1	-42.3	7	0	1	1.06	13	0	1
21	46	max	85.89	7	1234.88	7	-18.66	13	0	1	-1.45	13	0	1
22		min	25.66	13	394.42	13	-61.13	7	0	1	-4.64	7	0	1
23	47	max	-15.08	13	0	1	41.2	7	0	1	-1.19	13	0	1
24		min	-51.22	7	0	1	12.59	13	0	1	-3.82	7	0	1
25	Totals:	max	0	13	7887.71	7	0	13						
26		min	0	7	2290.25	13	0	7						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Che...	Loc[in]	LC	Shear Check	Loc[i...	Dir	LC	phi*Pnc ...	phi*Pnt [...	phi*Mn y-y...	phi*Mn z-z...	Cb	Eqn
1	M1	PIPE_2.5	.082	65.25	7	.004	15.75		7	26137.19	50715	3596.25	3596.25	1.59	H1-1b
2	M2	PIPE_2.5	.011	65.25	7	.000	0		7	26137.19	50715	3596.25	3596.25	1.54	H1-...
3	M3	PIPE_2.5	.013	65.25	7	.000	0		7	26137.19	50715	3596.25	3596.25	1.54	H1-...
4	M4	PIPE_2.5	.109	66.38	7	.005	66.38		7	26137.19	50715	3596.25	3596.25	1.57	H1-1b
5	M9	HSS2x2x3	.569	80.5	7	.131	80.5	y	7	15712.87	49266	2749.65	2749.65	1	H1-1b
6	M10	PIPE_2.5	.049	108	7	.001	15.75		7	26137.19	50715	3596.25	3596.25	1.58	H1-...
7	M11	PIPE_2.5	.011	65.25	7	.000	0		7	26137.19	50715	3596.25	3596.25	1.54	H1-...
8	M12	PIPE_2.5	.054	66.38	7	.003	66.38		7	26137.19	50715	3596.25	3596.25	1.58	H1-1b
9	M16	HSS2x2x3	.222	75.25	7	.106	145....	y	7	15712.87	49266	2749.65	2749.65	1	H1-1b
10	M17	PIPE_2.5	.161	66.38	7	.011	66.38		7	26137.19	50715	3596.25	3596.25	1.59	H1-1b
11	M18	PIPE_2.5	.011	65.25	7	.000	0		7	26137.19	50715	3596.25	3596.25	1.54	H1-...
12	M19	PIPE_2.5	.120	66.38	7	.008	66.38		7	26137.19	50715	3596.25	3596.25	1.74	H1-1b
13	M23	HSS2x2x3	.354	155.75	7	.080	155....	y	7	15712.87	49266	2749.65	2749.65	1	H1-1b
14	M24	PIPE_2.5	.011	65.25	7	.000	0		7	26137.19	50715	3596.25	3596.25	1.54	H1-...

ALL-POINTS TECHNOLOGY CORPORATION

Project ID: CT141_11720
Site Name: New Hartford W CT
Date: 2/2/2021

(Based on ASCE 7-10)

WIND LOADING

> Wind Loads: General Requirements - Chapter 26

Location =	New Hartford, CT		
Risk Category =	II		*Table 1.5-1*
V_{ult} =	120	mph	*2018 CSBC, Appendix N*
z =	85.1	ft, +/-	*Centerline of Sign*
Exposure =	C		*Section 26.7.3*
α =	9.5		*Table 26.9-1*
z_g =	900		*Table 26.9-1*
k_z =	1.22		*Table 27.3-1*
k_{zt} =	1.00		*Section 26.8*
k_d =	0.85		*Table 26.6-1*
q_z =	**38.33**	**psf**	

> Wind Loads on Other Structures & Building Appurtenances (MWRFS) - Chapter 29

G =	0.85	*Section 26.9*		
B =	16.00	ft	B/s =	0.889
s =	18.00	ft	s/h =	0.191
h =	94.08	ft		
Cf =	1.80	*Figure 29.4-1*		
P =	**58.73**	**psf**		
0.60 x P =	**35.24**	**psf < 50.8 psf *(Per EEI Design Calculations)***		

Since the design loading based upon current standards is less than the original design loading, it is safe to assume that the global stability of the existing sign structure will not be adversely affected by the proposed equipment modification.

*Appendix **C***

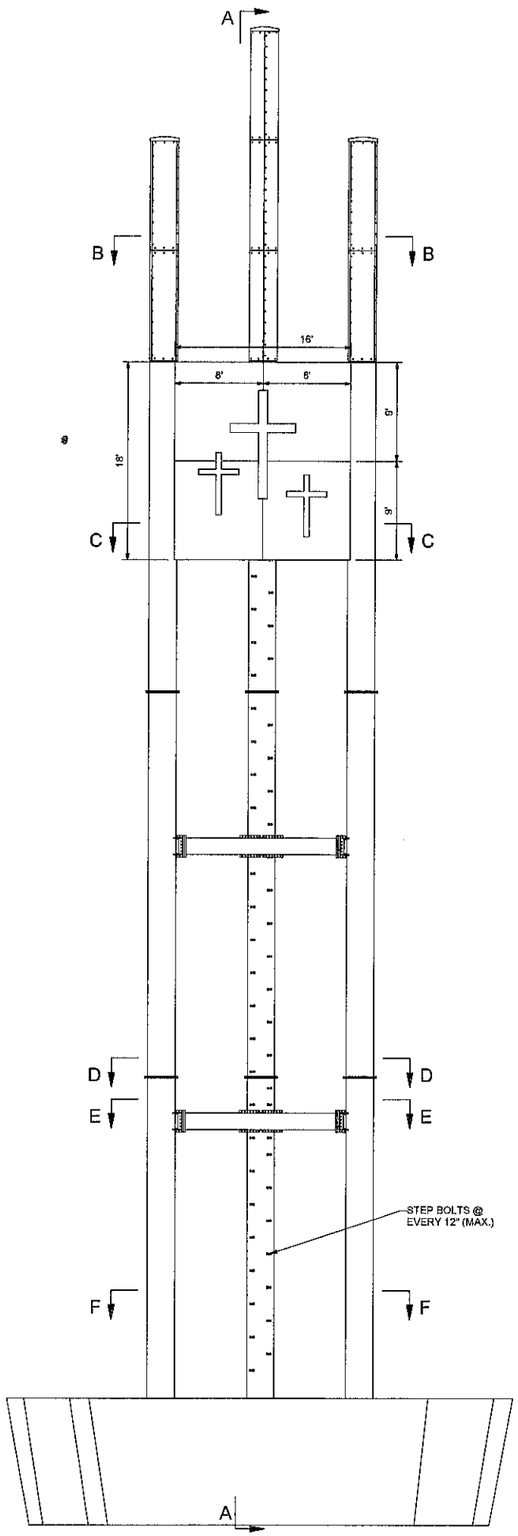
Reference Documents

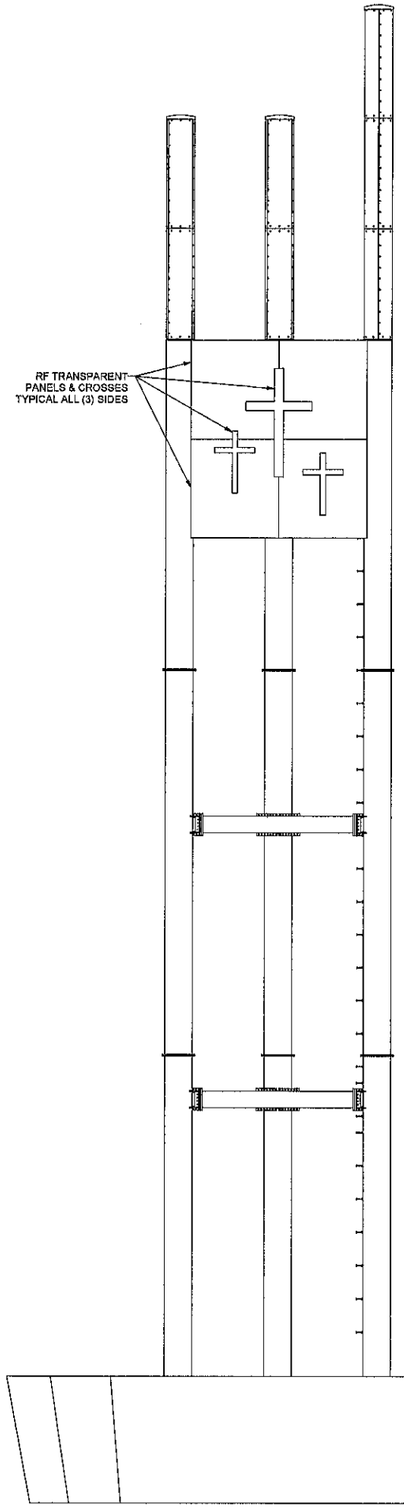
ENGINEERED
ENDEAVORS
INCORPORATED
The Experienced Point of View

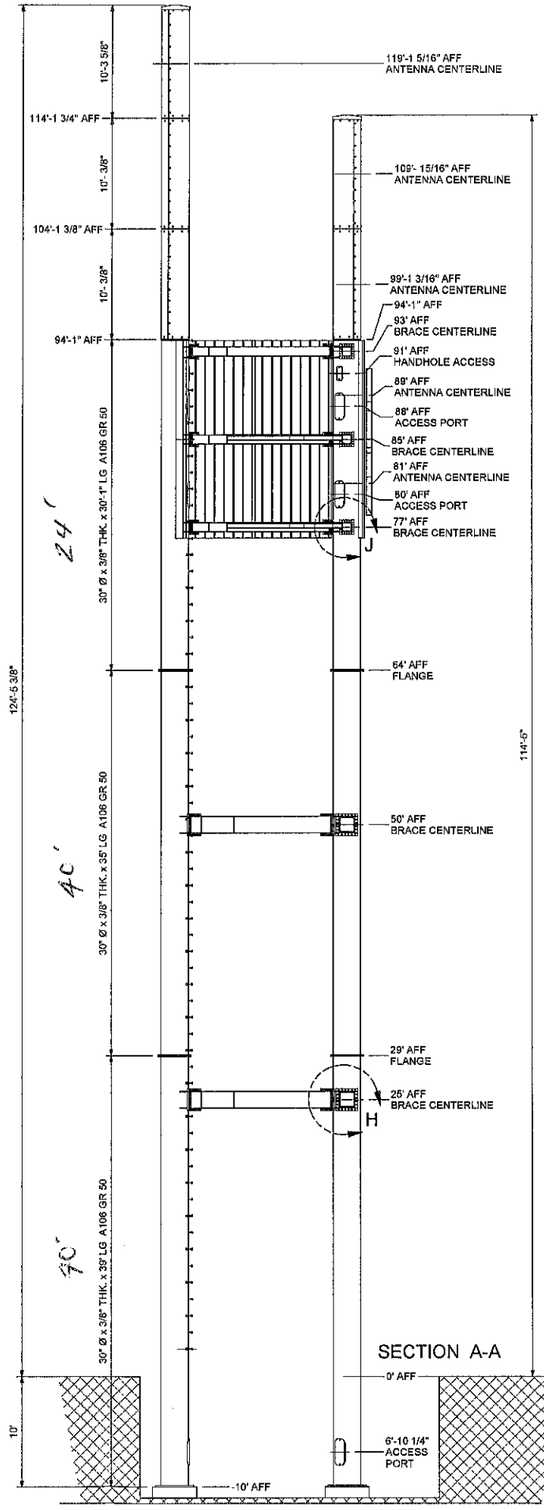
Tower design

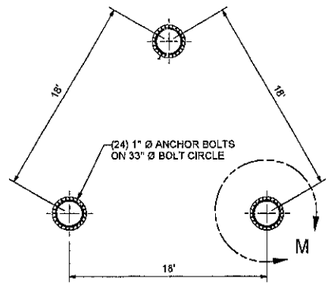
ENGINEERED ENDEAVORS, INC.

7610 Jenther Drive ■ Mentor, Ohio 44060
Telephone: (440) 918-1101 ■ Telefax: (440) 918-1108

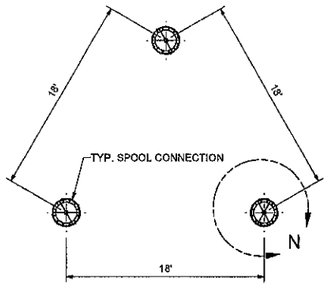








SECTION D-D



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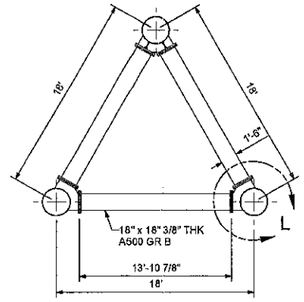

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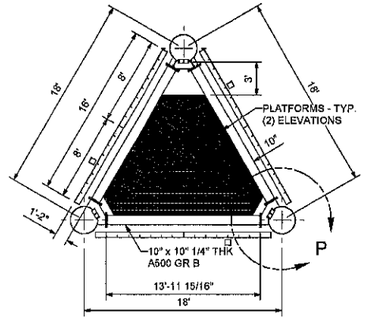

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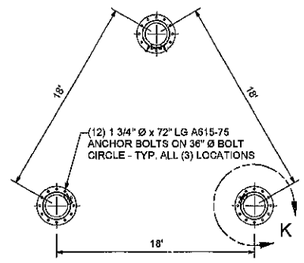


SECTION F-F

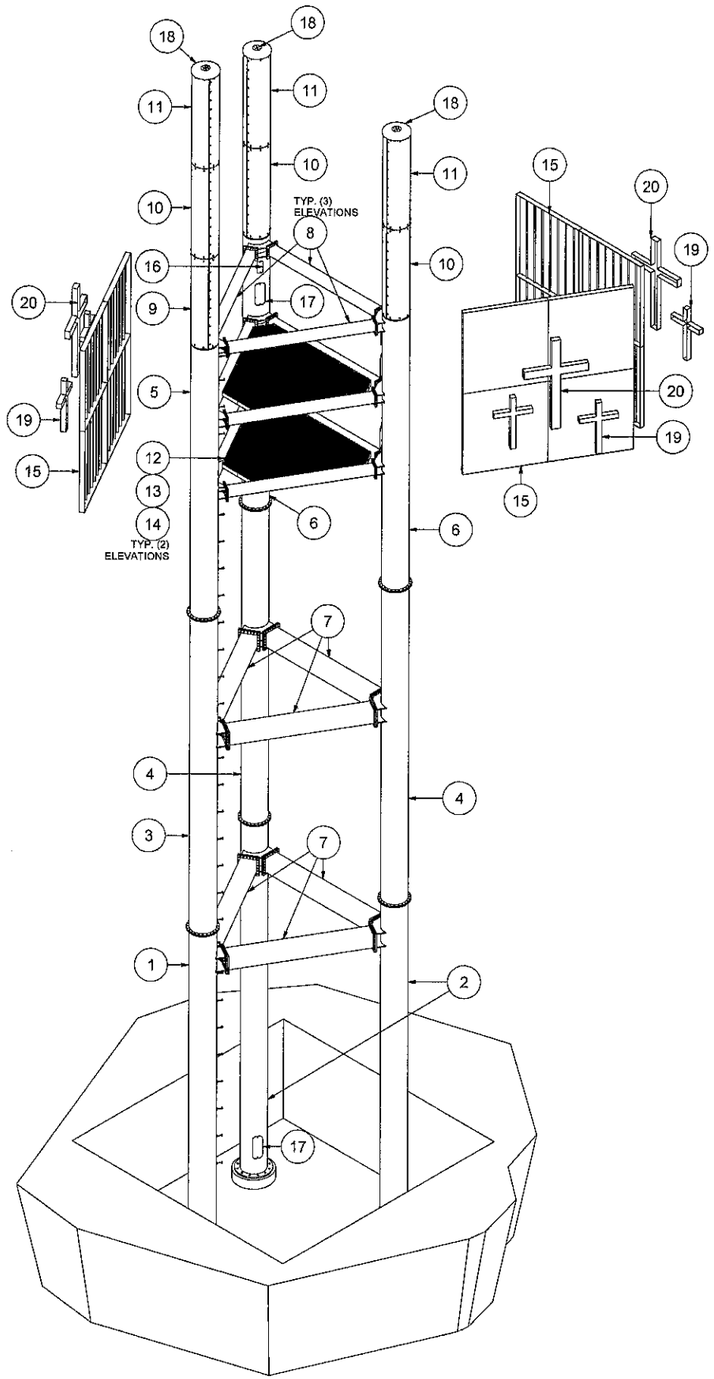
SECTION A-A

ENGINEERED
ENDEAVORS
INCORPORATED
The Experienced Point of View
7610 Jenther Drive * Mentor, OH 44060-4872
Ph: (440) 918-1101 * Ph: (888) 270-3855
Fx: (440) 918-1108 * www.engend.com

125' Bell Tower — URS
Harvest Baptist Church — New Hartford, CT
Bell Tower Elevation, Plan Views, & Side Section

DRAWN BY	CREATED	SHEET	PROJECT NUMBER	PART / DRAWING NUMBER
IRB	2/07/05	1 of 3	13141	GS55610

13141 Bell Tower.idw 2/16/2005 12:42



MATERIAL LIST					
ITEM	PART NUMBER	QTY	DESCRIPTION	WEIGHT (BLACK) - LB	GALV. WEIGHT - LBS
1	TUBE A LOWER SECTION	1	30" Ø TUBE ASSEMBLY	5713.090 lbmass	
2	TUBE B LOWER SECTION	2	30" Ø TUBE ASSEMBLY	5690.132 lbmass	
3	TUBE A MIDDLE SECTION	1	30" Ø TUBE ASSEMBLY	4882.378 lbmass	
4	TUBE B MIDDLE SECTION	2	30" Ø TUBE ASSEMBLY	4854.254 lbmass	
5	TUBE A UPPER SECTION	1	30" Ø TUBE ASSEMBLY	4561.033 lbmass	
6	TUBE B UPPER SECTION	2	30" Ø TUBE ASSEMBLY	4537.597 lbmass	
7	LOWER MAIN BRACE TUBE	6	18"x18"x3/8" THK. TUBE ASSEMBLY	1492.084 lbmass	
8	UPPER BRACE TUBE	9	10"x10"x1/4" THK. TUBE ASSEMBLY	544.221 lbmass	
9	SPOOL KIT 11669	1	30" Ø x 10'-0" LG HEAVY DUTY AMS SYSTEM	577.071 lbmass	
10	SPOOL KIT 11597	3	30" Ø x 10'-0" LG MEDIUM DUTY AMS SYSTEM	577.071 lbmass	
11	SPOOL KIT 11587	3	30" Ø x 10'-0" LG LIGHT DUTY AMS SYSTEM	631.521 lbmass	
12	PLATFORM SECTOR A	2	CHANNEL ASSEMBLY W/ GRATING	351.496 lbmass	
13	PLATFORM SECTOR B	2	CHANNEL ASSEMBLY W/ GRATING	351.496 lbmass	
14	PLATFORM SECTOR C	2	CHANNEL ASSEMBLY W/ GRATING	381.084 lbmass	
15	PANEL	12	RF TRANSPARENT PANEL	177.7991 lbmass	
16	K11097	3	6" x 12" HANDHOLE COVER PLATE	6.6991 lbmass	
17	K11098	9	9" x 24" ACCESS PORT COVER PLATE	22.5963 lbmass	
18	AMS-30-CAP-11455	3	30" Ø AMS SYSTEM II CAP	12.7775 lbmass	
19	SM CROSS	6	SMALL RF TRANSPARENT CROSS	24.1400 lbmass	
20	LG CROSS	3	LARGE RF TRANSPARENT CROSS	49.9918 lbmass	

GENERAL NOTES.

1. 135' BELL TOWER IS DESIGNED IN ACCORDANCE WITH EIA/TIA-222F FOR 90 mph (FASTEST MILE WIND) AND 2003 INTERNATIONAL BUILDING CODE FOR 105 mph 3-SECOND GUST WIND. THE DESIGN IS IN COMPLIANCE WITH CT BUILDING CODE, LATEST EDITION. THE ARCHITECHTIRAL DETAILS OF THE TOWER, PANELS, CROSSES, ELEVATIONS ARE PROVIDED BY URS CORPORATION, INC. (URS PROJECT 38021424, VERIZON JOB VZ1-057).

2. THE DRAWINGS DO NOT INDICATE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.

3. THE CONTRACTOR SHALL REVIEW ASSEMBLY DRAWINGS AND DESIGN PROCEDURES PRIOR TO INITIATING ANY WORK FOR INSTALLATION OF THE TOWER AND FOUNDATION.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PROGRAMS AND PRECAUTIONS IN CONNECTION WITH THE WORK.

5. MATERIAL.
   a. STRUCTURAL STEEL:
      1. TOWER LEG: A106 GR.50 (Fy=50 ksi) ROUND PIPE.
      2. HORIZONTAL BRACES: A500 GR. B (Fy=46 ksi).
      3. PLATFORMS: A36 STRUCTURAL SHAPES.
      4. PLATES AND FLANGES: A36 STEEL.
   b. BOLTS: A325 HIGH STRENGTH BOLTS UNLESS STATED OTHERWISE.
   c. RF-TRANSPARENT PANELS AND CROSSES ARE PROVIDED BY EEI. DECORATIVE DETAILS ON THE PANELS, CROSSES, ETC, TO BE DETERMINED BEFORE FABRICATION. LS.

6. ALL STEEL STRUCTURAL MEMBER SHALL BE GALVANIZED PER A123 AND THEN PAINTED PER CUSTOMER SPECIFICATIONS.

7. RF-TRANSPARENT PANELS AND CROSSES TO BE PAINTED PER CUSTOMER SPECIFICATIONS. RF-TRANSPARENT ANTENNA MOUNTING SPOOLS TO PAINTED PER CUSTOMER SPECIFICATION.

8. WELDING.
   a. WELDING MATERIAL SHALL CONFORM TO ASTM A-233. ALL WELDED CONNECTIONS SHALL USE E70xx ELECTRODES AND SHALL CONFORM TO THE LATEST EDITION OF AWS D.1.1. MINIMUM WELD SIZE SHALL COMPLY WITH THE ASD 9TH EDITION AND AWS D.1.1 UNLESS NOTED OTHERWISE.
   b. ALL WELDS SHALL BE DONE BY QUALIFIED WELDERS. ALL COMPLETE PENETRATION WELDS SHALL BE DONE BY CERTIFIED WELDERS AND ULTRASONICALLY TESTED. CERTIFICATION DOCUMENTS SHALL BE AVAILABLE FOR REVIEW.
   c. COMPLETE PENETRATION WELDS SHALL BE USED FOR ALL BASE PLATE AND FLANGE PLATE CONNECTIONS.
   d. WELDS NOT SHOWN ON FABRICATION DRAWINGS SHALL BE IN COMPLIANCE WITH ASD 9TH, SECTION J2.

9. CONNECTIONS NOT DETAILED ON THE DRAWING SHALL CONFORM TO THE ASD/LFD REQUIREMENTS AND SPECIFICATIONS. BOLT SIZE AND PITCH SHALL BE TAKEN FROM THE TABLES IN ASD/LRFD MANUALS.

10. MINIMUM 1/2"DIA A325 BOLTS SHALL BE USED UNLESS NOTED OTHERWISE. NON-STRUCTURAL CONNECTIONS SUCH AS GRATING AND LADDER ATTACHMENTS MAY USE A307 BOLTS OR SIMILAR.

11. WORKING PLATFORMS SHALL BE HEAVY-DUTY OR OPEN-STYLE GRATING AND CONFORM TO ASTM A-569.

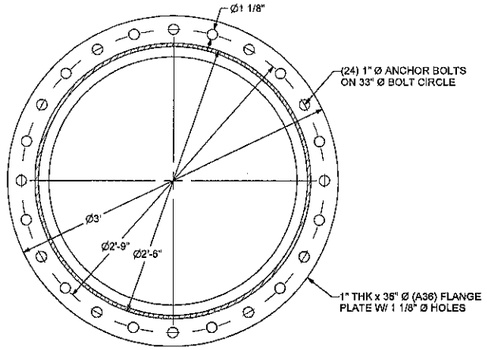
12. FOR FOUNDATION DESIGN AND CONSTRUCTION REFER TO EEI DRAWING 13141-FOUND.

ENGINEERED ENDEAVORS INCORPORATED
The Experienced Point of View
7610 Jenther Drive * Mentor, OH 44060-4872
Ph: (440) 918-1101 * Ph: (888) 270-3855
Fx: (440) 918-1108 * www.engend.com

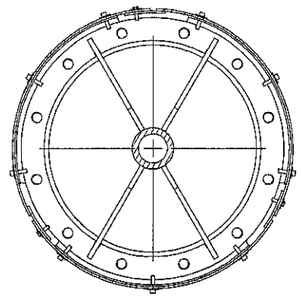
125' Bell Tower — URS
Harvest Baptist Church — New Hartford, CT
Assembly List & Exploded Isometric

DRAWN BY	SHEET	PROJECT NUMBER	PART / DRAWING NUMBER
IRB	2 of 3	13141	GS55610
CREATED 2/07/05			

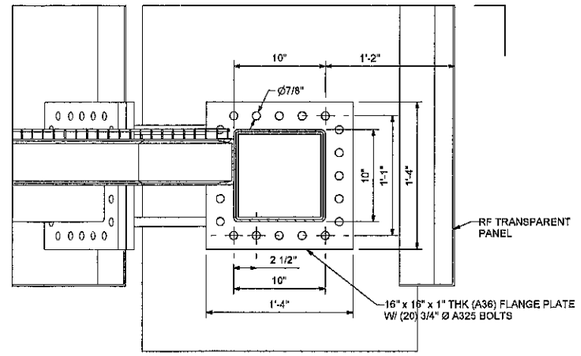
13141 Bell Tower.idw 2/16/2006 12:42



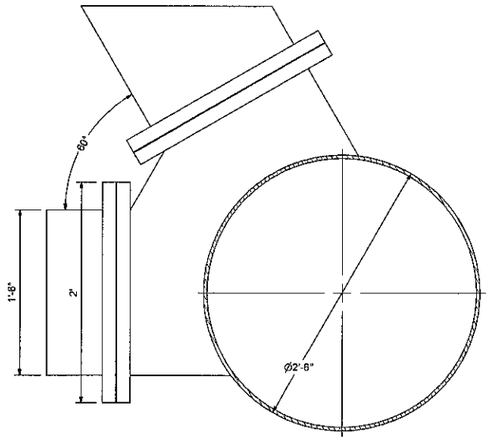
DETAIL M



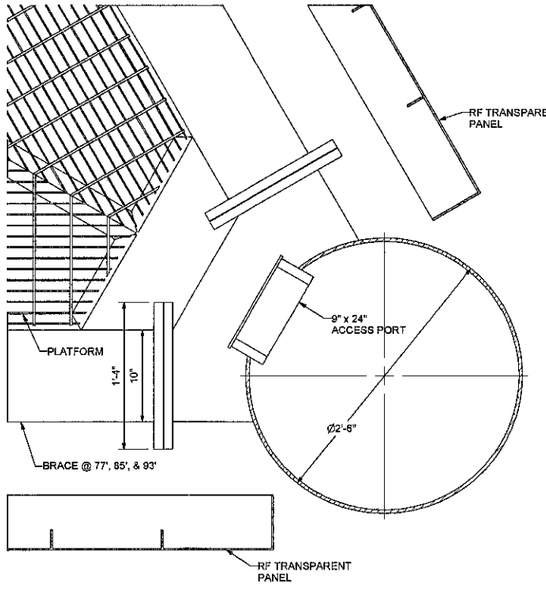
DETAIL N



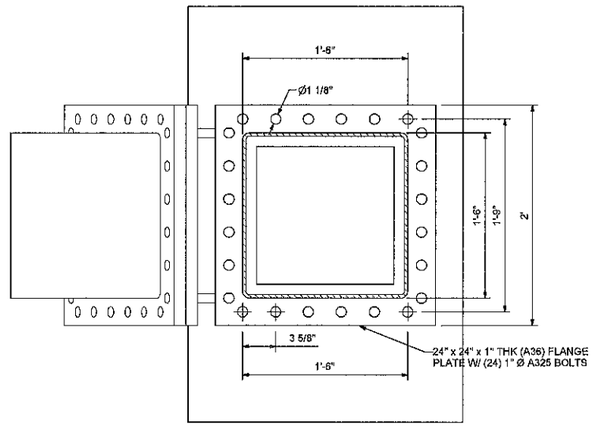
DETAIL J



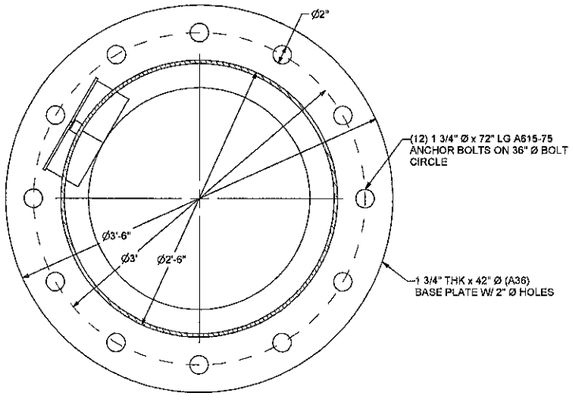
DETAIL L



DETAIL P



DETAIL H



DETAIL K

ENGINEERED ENDEAVORS INCORPORATED
The Experienced Point of View
7610 Jenther Drive * Mentor, OH 44060-4872
Ph: (440) 918-1101 * Ph: (888) 270-3855
Fx: (440) 918-1106 * www.engend.com

125' Bell Tower — URS
Harvest Baptist Church — New Hartford, CT
Plan & Section Details

DRAWN BY	SHEET	PROJECT NUMBER	PART / DRAWING NUMBER
IRB	3 of 3	13141	GS55610
CREATED 2/07/05			

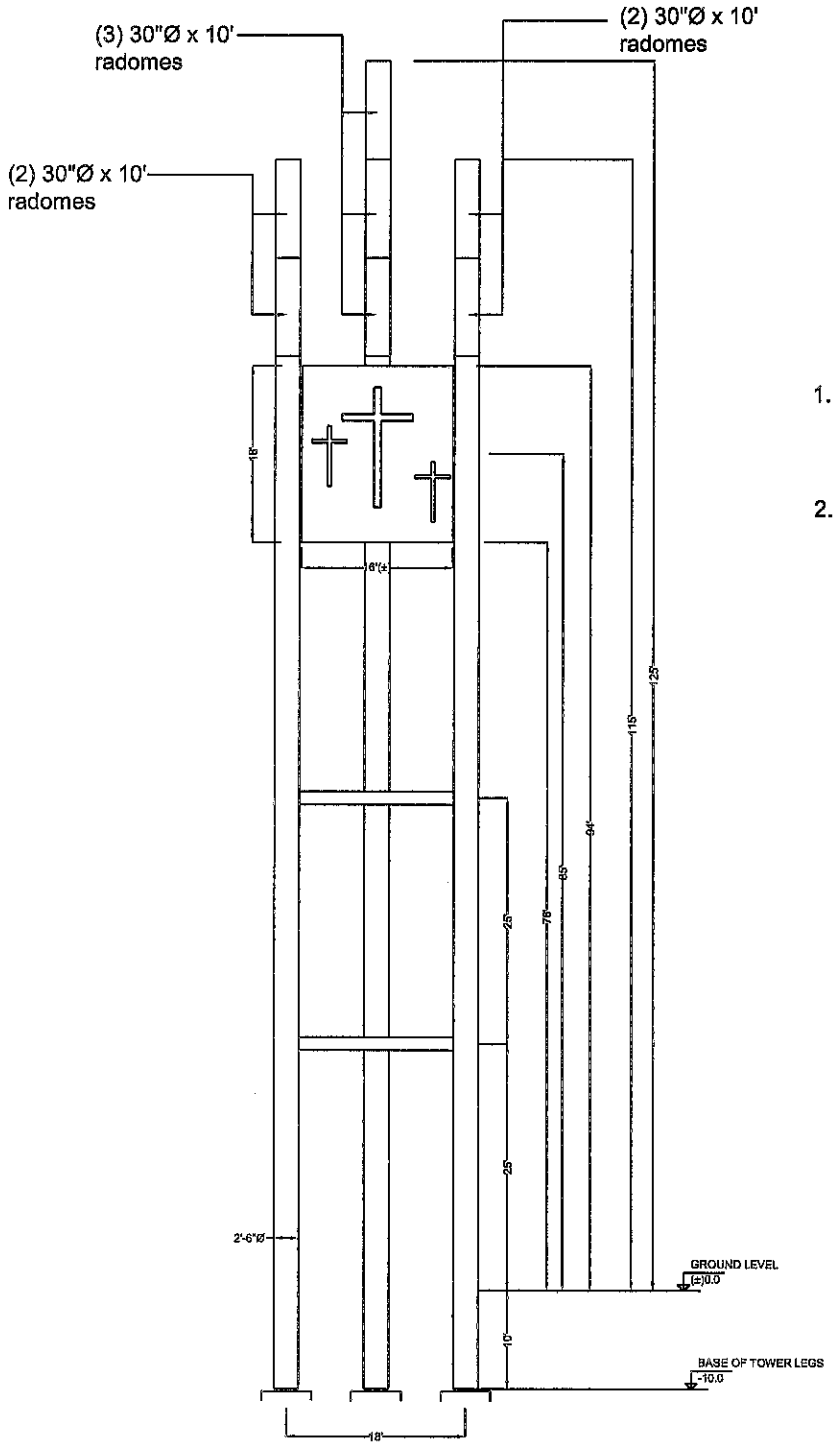
13141 Bell Tower.dw 2/18/2005 12:42

ENGINEERED ENDEAVORS INCORPORATED

Customer URS Corporation | By B.FAYMAN | 02/07/05 (Date)

Structure 125' tower | Checked | 13141 (Job/Quote No.)

SITE LOCATION -New Hartford, CT
SITE NAME - Harvest Baptist Church



DESIGN NOTES:

1. Tower is designed in accordance with CT Build Code, 2003 IBC, and TIA/EIA-222F.
   Design wind speed - 80 mph fastest mile wind and 100 mph 3-second gust
2. RF transparent panels are 16' wide x 18' tall. Each panels to have (1) large cross and (2) small crosses on the facade.

NOTE: IT IS THE RESPONSIBILITY OF THE PURCHASER TO VERIFY THAT THE WIND LOADS AND DESIGN CRITERIA SPECIFIED MEET THE REQUIREMENTS OF ALL LOCAL BUILDING CODES

ENGINEERED ENDEAVORS, INC.

7610 Jenther Drive * Mentor, Ohio 44060
Tel:(440) 918-1101*Fax:(440) 918-1108*www.engend.com

ENGINEERED
ENDEAVORS
INCORPORATED

Customer: URS Corp. Date: 2/7/05

Structure: 125' Bell Tower Job No.: 13141

1. DESIGN code : 2003 G Build Code — 100 mph 3-sec gust
2003 IBC
TIA/EIA-222F — 80 mph (fastest mile)

2. Wind pressure calculation. (TIA/EIA-222F)

$P = q_z G_h C_f$

2.a. TOWER MEMBERS

2.a.1. VERTICAL MEMBERS. 30" ϕ A106 GR.50

$q_z = 0.00256 \times \left(\frac{125'}{33'}\right)^{2/7} \times (80)^2 = 24.0$ PSF

$P = 24.0 \times 1.69 \times 1.2 = 48.7$ PSF

$G_h = 1.69$ - GUST FACTOR

$C_A = 1.2$ - DRAG FACTOR

OR $P_L = 48.7 \times \left(\frac{30"}{12"}\right) = 121.8$ #/LIN. FT

2.b.2. HORIZONTAL BRACES TS. 18x18", A500-B

$q_z = 0.00256 \times \left(\frac{50}{33}\right)^{2/7} \times 80^2 = 18.4$ PSF

$P = q_z \times 1.69 \times 1.8 = 56.1$ PSF

OR $P_L = 56.1 \times \left(\frac{18"}{12"}\right) = 84.2$ #/LIN. FT

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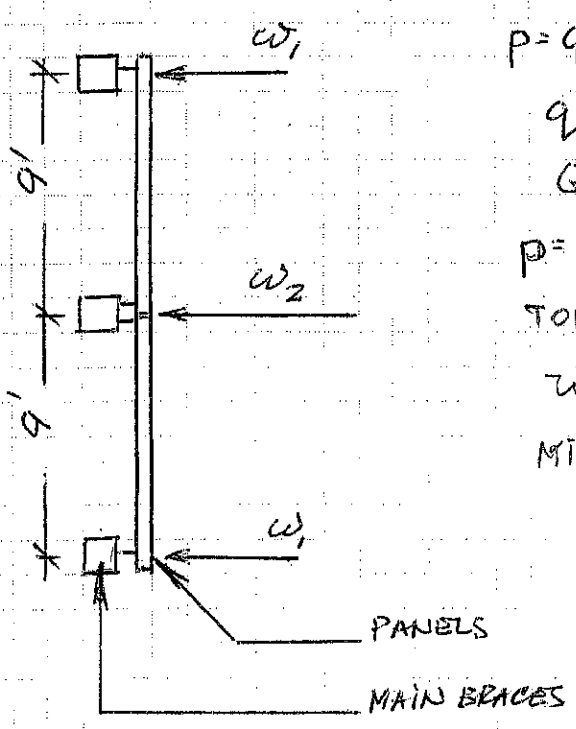
2.9.C. PANELS. PANELS ARE 18' TALL and 16' wide WITH MAID SUPPORT STRUCTURAL BRACES AT TOP, MID., and BOTTOM.

EACH INDIVIDUAL PANEL IS 9' TALL x 4'(±) WIDE.



$P = q_z G_h C_A$

$q_z = 0.00256 \times \left(\frac{85}{33}\right)^{2/9} \times 80^2 = 21.5$ PSF

$G_h = 1.69$ $C_A = 1.4$

$P = 21.5 \times 1.69 \times 1.4 = 50.8$ PSF

TOP (BOTTOM) BRACE

$w_1 = P \times \frac{9'}{2} = 229$ #/LIN FT

MIDDLE BRACE

$w_2 = P \times 9' = 458$ #/LIN FT

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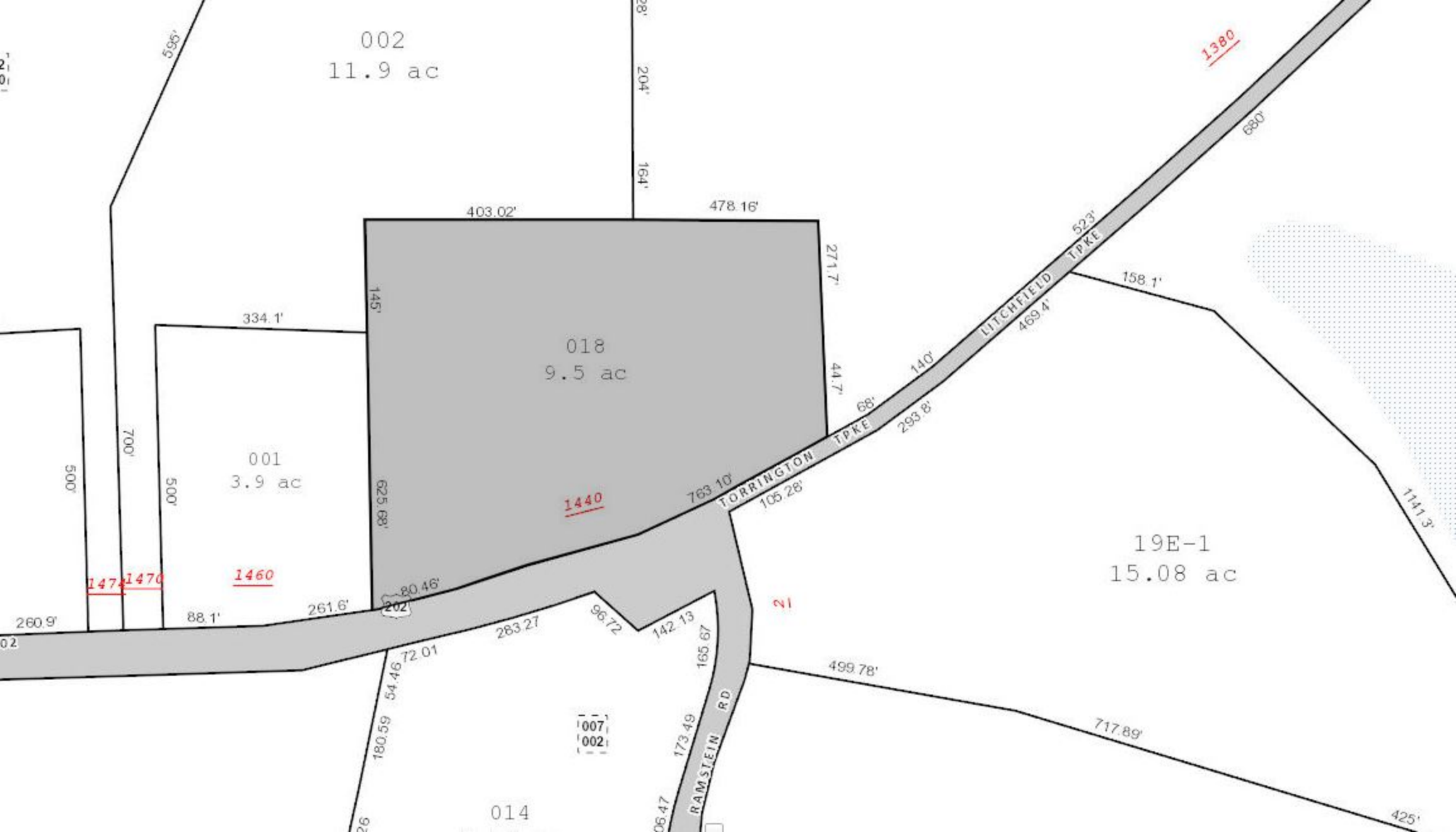
ATTACHMENT 5


002
11.9 ac
018
9.5 ac
001
3.9 ac
19E-1
15.08 ac
014
1440
1460
1470
1474
1380
LITCHFIELD TPKE
TORRINGTON TPKE
RAMSTEIN RD
403.02'
478.16'
271.7'
595'
204'
164'
680'
523'
158.1'
469.4'
140'
68'
293.8'
105.28'
763.10'
625.68'
145'
334.1'
700'
500'
500'
80.46'
261.6'
88.1'
260.9'
283.27'
96.72'
142.13'
165.67'
72.01'
54.49'
180.59'
173.49'
499.78'
717.89'
425'
1141.3'
21
007
002

Town of New Hartford, CT

Property Listing Report

Map Block Lot	007-024-018	Bldg #	1	Sec #	1	PID	3148	Account	00069600

Property Information

Property Location	1440 LITCHFIELD TPKE
Owner	HARVEST BAPTIST CHURCH INC
Co-Owner	na
Mailing Address	624 TORRINGFORD WEST ST TORRINGTON CT 06790
Land Use	9060 CHURCH
Land Class	E
Zoning Code	R2
Census Tract	3061

Neighborhood	D
Acreage	9.1
Utilities	Well,Septic
Lot Setting/Desc	Rural Level
Book / Page	
Fire District	4

Photo

Sketch

Primary Construction Details

Year Built	1999
Building Desc.	EXEMPT - MDL-94
Building Style	Churches
Building Grade	Average
Stories	1
Occupancy	1.00
Exterior Walls	Vinyl Siding
Exterior Walls 2	NA
Roof Style	Gable
Roof Cover	Asphalt
Interior Walls	Drywall
Interior Walls 2	NA
Interior Floors 1	Concrete
Interior Floors 2	Carpet

Heating Fuel	Oil
Heating Type	Hot Water
AC Type	Central
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	Commercial
Building Condition	G
Sprinkler %	NA
Heat / AC	HEAT/AC PKGS
Frame Type	STEEL
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & WALLS
Rooms / Prtns	AVERAGE
Wall Height	16.00
First Floor Use	NA
Foundation	NA

Report Created On 5/6/2021

Town of New Hartford, CT

Property Listing Report

Map Block Lot	007-024-018	Bldg #	1	Sec #	1	PID	3148	Account	00069600

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	1092300	764610
Extras	0	0
Improvements		
Outbuildings	83500	58450
Land	129200	90440
Total	1305000	913500

Outbuilding and Extra Features

Type	Description
Paving Asphalt	10000 S.F.
Open Porch Frame	3680 S.F.
Lights (2)	4 UNITS

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	6000	6000
Half Story, Finished	1248	749
Finished Lower Level	4752	4752
Porch, Open	896	0
Basement, Unfinished	1248	0
Total Area	14144	11501

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
HARVEST BAPTIST CHURCH INC	0161/0195		0

Report Created On 5/6/2021

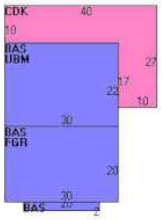
Town of New Hartford, CT

Property Listing Report

Map Block Lot	007-024-018	Bldg #	2	Sec #	1	PID	3148	Account	00069600

Photo

Sketch



Primary Construction Details

Year Built	1998
Building Desc.	Residential
Building Style	Ranch
Building Grade	Average
Stories	1
Occupancy	1.00
Exterior Walls	Vinyl Siding
Exterior Walls 2	NA
Roof Style	Gable
Roof Cover	Asphalt
Interior Walls	Drywall
Interior Walls 2	NA
Interior Floors 1	Hardwood
Interior Floors 2	Carpet

Heating Fuel	Gas
Heating Type	Forced Air
AC Type	Central
Bedrooms	2 Bedrooms
Full Bathrooms	1
Half Bathrooms	0
Extra Fixtures	0
Total Rooms	3
Bath Style	Average
Kitchen Style	Average
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(*Industrial / Commercial Details)

Building Use	CHURCH HSE
Building Condition	A
Sprinkler %	NA
Heat / AC	NA
Frame Type	NA
Baths / Plumbing	NA
Ceiling / Wall	NA
Rooms / Prtns	NA
Wall Height	NA
First Floor Use	NA
Foundation	NA

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	1300	1300
Composite Deck	570	0
Garage	600	0
Basement, Unfinished	660	0

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	3130	1300

Report Created On 5/6/2021

ATTACHMENT 6

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	3	3	neopost 05/07/2021 US POSTAGE $002.89⁰ ZIP 06103 041L1220[illegible]
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Daniel V. Jerram, First Selectman Town of New Hartford 530 Main Street New Hartford, CT 06057				
2.	Michael Lucas, Inland Wetlands/Zoning Enforcement Officer Town of New Hartford 530 Main Street New Hartford, CT 06057				
3.	Harvest Baptist Church Inc. 624 Torringford West Street Torrington, CT 06790				
4.					
5.					
6.					

ANN STREET STATION
MAY 07 2021
06103 USPS