

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

Internet: ct.gov/csc

Daniel F. Caruso

Chairman

April 16, 2007

H. Karina Fournier
Zoning Department
T-Mobile
35 Griffin Road South
Bloomfield, CT 06002

RE: **EM-T-MOBILE-014-070315** - Omnipoint Communications, Inc. (T-Mobile) notice of intent to modify an existing telecommunications facility located at 150 North Main Street, Branford, Connecticut.

Dear Ms. Fournier:

At a public meeting held on April 10, 2007, the Connecticut Siting Council (Council) acknowledged your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated March 15, 2007, including the placement of all necessary equipment and shelters within the tower compound. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

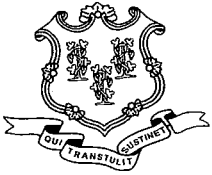
Thank you for your attention and cooperation.

Very truly yours,

Daniel F. Caruso
Chairman

DFC/MP/laf

- c: The Honorable Cheryl P. Morris, First Selectman, Town of Branford
- Justine K. Gillen, Zoning Enforcement Officer, Town of Branford
- Global Signal Inc.
- Thomas J. Regan, Esq., Brown Rudnick Berlack Israels, LLP
- Christopher B. Fisher, Esq., Cuddy & Feder, LLP
- Michele G. Briggs, New Cingular Wireless PCS, LLC



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Daniel F. Caruso
Chairman

March 16, 2007

The Honorable Cheryl P. Morris
First Selectman
Town of Branford
Town Hall
1019 Main Street
P.O. Box 150
Branford, CT 06405-0150

RE: **EM-T-MOBILE-014-070315** – Omnipoint Communications, Inc. (T-Mobile) notice of intent to modify an existing telecommunications facility located at 150 North Main Street, Branford, Connecticut.

Dear Ms. Morris:

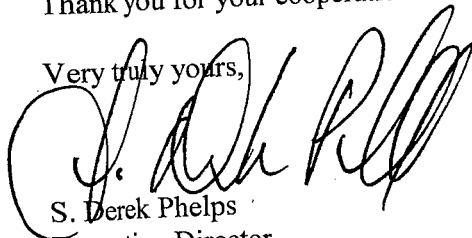
The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for April 10, 2007 at 1:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the Council by April 9, 2007.

Thank you for your cooperation and consideration.

Very truly yours,



S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Justine K. Gillen, Zoning Enforcement Officer, Town of Branford



EM-T-MOBILE-014-070315

35 Griffin Road South
Bloomfield, CT 06002
Karina.Fournier@T-mobile.com
860-796-3988

RECEIVED
MAR 15 2007

CONNECTICUT
SITING COUNCIL

March 15, 2007

BY HAND

Daniel F. Caruso, Chairman and
Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: **Notice of Exempt Modification**
 150 North Main Street Branford, CT
 Latitude: 41 17 19 / Longitude: 72 48 49

Dear Chairman Caruso and Members of the Siting Council:

Omnipoint Communications, Inc. a.k.a. T-Mobile (formerly Voicestream Wireless Corp.) hereby requests an order from the Connecticut Siting Council ("Council") to approve the proposed ("Global Cherry Hill"), in Branford, CT owned by Global Signal, Inc.

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).

Global Cherry Hill

The Global Cherry Hill facility consists of a one hundred forty seven (147') foot monopole ("Tower") owned and operated by Global Signal, Inc. T-Mobile proposes to locate antennas at a centerline mounting height of one hundred twenty five (125') feet. The equipment will be located within the compound at the base of the tower.

Global Cherry Hill

As shown on the enclosed plans prepared by including a site plan and tower elevation of the March 5, 2007, annexed hereto as Exhibit 1, T-Mobile proposes a shared use of the Facility by placing antennas on the tower and equipment needed to provide personal communications services ("PCS") within the existing site plan. T-Mobile will install six (6) panel antennas at the one hundred twenty five (125') foot level of the Tower. Three (3) associated unmanned equipment cabinets will be located at the base of the tower.

The proposed modification is structurally feasible. A structural analysis of the tower is attached as Exhibit 2. The structural analysis shows that the tower can safely accommodate the proposed T-Mobile installation.

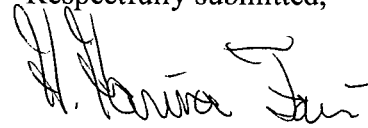
The planned modifications to this facility fall within the activities explicitly provided for in R.C.S.A. §16-50j-72(b)(2).

1. The proposed modification will not result in any increase in the overall height of the existing structure.
2. The proposed modification will not affect ground-mounted equipment and will not require the extension of the site boundaries.
3. The proposed modification will not increase noise levels at the facility by six decibels or more.
4. Operation of T-Mobile's antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the FCC and Connecticut Department of Health. The "worst case" exposure calculated for the operation of this facility for T-Mobile would be approximately 43.6108% of the standard. See Radio Frequency Memo annexed hereto as Exhibit 3.

Conclusion

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

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Karina Fournier". The signature is written in a cursive style with a large initial "K" and "F".

Karina Fournier
Zoning Dept.
T-Mobile
35 Griffin Road South
Bloomfield, CT 06002
(860) 796-3988

cc: Zoning Enforcement Officer, Philip Shook
First Selectmen, Cheryl P. Morris
Property Owner, Premier Realty Holdings Inc.

Exhibit 1

GLOBAL CHERRY HILL

148-160 N. MAIN ST.
BRANFORD, CT 06405

CTNH107A

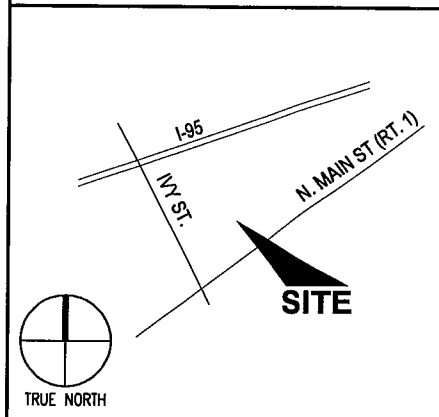
CO-LOCATION

GENERAL NOTES

- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE LESSEE/LICENSEE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE LESSEE/LICENSEE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESSEE/LICENSEE REPRESENTATIVE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL DIG-SAFE AT 1-888-DIG-SAFE (1-888-344-7233) A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.
- PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. LESSEE/LICENSEE IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BITS RADIO CABINETS. LESSEE/LICENSEE RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.

VICINITY MAP

1"=1000'



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	0
A-1	PLANS, ELEVATION, DETAILS AND NOTES	0
S-1	STRUCT. NOTES, PLANS, SECTIONS & DETAILS	0
E-1	ELEC. & GROUNDING NOTES, RISERS & DETAILS	0

PROJECT SUMMARY

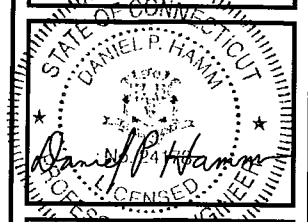
SITE NUMBER: CTNH107A
 SITE NAME: GLOBAL CHERRY HILL
 SITE ADDRESS: 148-160 N. MAIN ST. BRANFORD, CT 06405
 ASSESSOR'S PARCEL NO.: MAP D06, LOT 001.1
 ZONING DISTRICT: IG - GENERAL INDUSTRIAL
 CONSTRUCTION TYPE: CO-LOCATION
 PROPERTY OWNER: PREMIER REALTY HOLDINGS, LLC
 150 NORTH MAIN STREET
 BRANFORD, CT 06405
 TOWER OWNER: GLOBAL SIGNAL, INC.
 301 N. CATTLEMAN ROAD
 SARASOTA, FL 34232
 APPLICANT: OMNIPPOINT COMMUNICATIONS, INC.
 35 GRIFFIN RD, SOUTH
 BLOOMFIELD, CT 06002

OMNIPPOINT COMMUNICATIONS, INC.
A WHOLLY OWNED SUBSIDIARY OF
T-MOBILE USA, INC.

35 GRIFFIN RD. SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860)-692-7100
FAX: (860)-692-7159



46 BEECHWOOD DR. 11111 TEL: (978) 557-5553
N. ANDOVER, MA 01845 FAX: (978) 336-5586



APPROVALS

LEASING _____
 R.F. _____
 ZONING _____
 CONSTRUCTION _____
 A/E _____

PROJECT NO: CTNH107A

DRAWN BY: AT

CHECKED BY: DPH

SUBMITTALS

DATE	DESCRIPTION
03/05/07	CONSTRUCTION

THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF OMNIPPOINT COMMUNICATIONS, INC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

CTNH107A

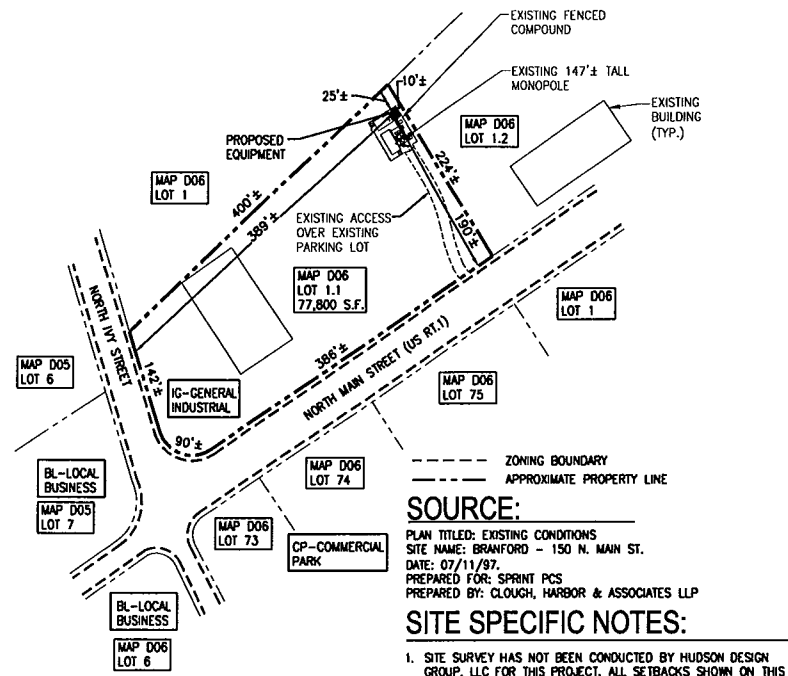
GLOBAL
CHERRY HILL

148-160 N. MAIN ST.
BRANFORD, CT 06405

TITLE SHEET

SHEET NUMBER

T-1



SOURCE:

PLAN TITLED: EXISTING CONDITIONS
 SITE NAME: BRANFORD - 150 N. MAIN ST.
 DATE: 07/11/97
 PREPARED FOR: SPRINT PCS
 PREPARED BY: CLOUGH, HARBOR & ASSOCIATES LLP

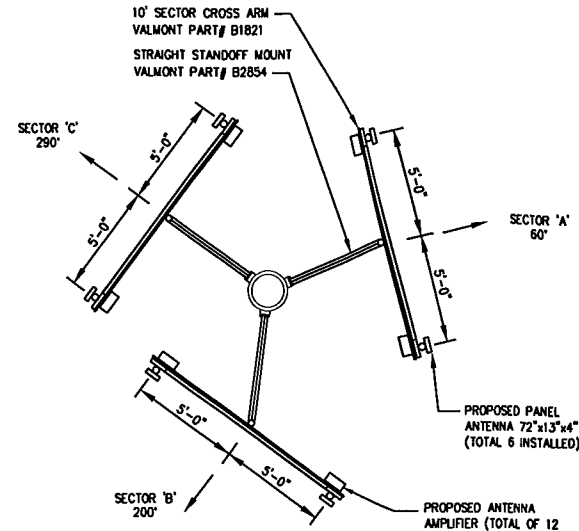
SITE SPECIFIC NOTES:

- SITE SURVEY HAS NOT BEEN CONDUCTED BY HUDSON DESIGN GROUP, LLC FOR THIS PROJECT. ALL SETBACKS SHOWN ON THIS PLAN IS BASED ON ABOVE REFERENCED DRAWINGS.
- SETBACKS DIMENSIONS ARE TAKEN FROM THE CLOSEST BTS CABINET.



SITE PLAN

SCALE: 1" = 100'



NOTES:

- CONTRACTOR TO VERIFY DIMENSIONS OF MONOPOLE PRIOR TO ORDERING ANTENNA MOUNTS.

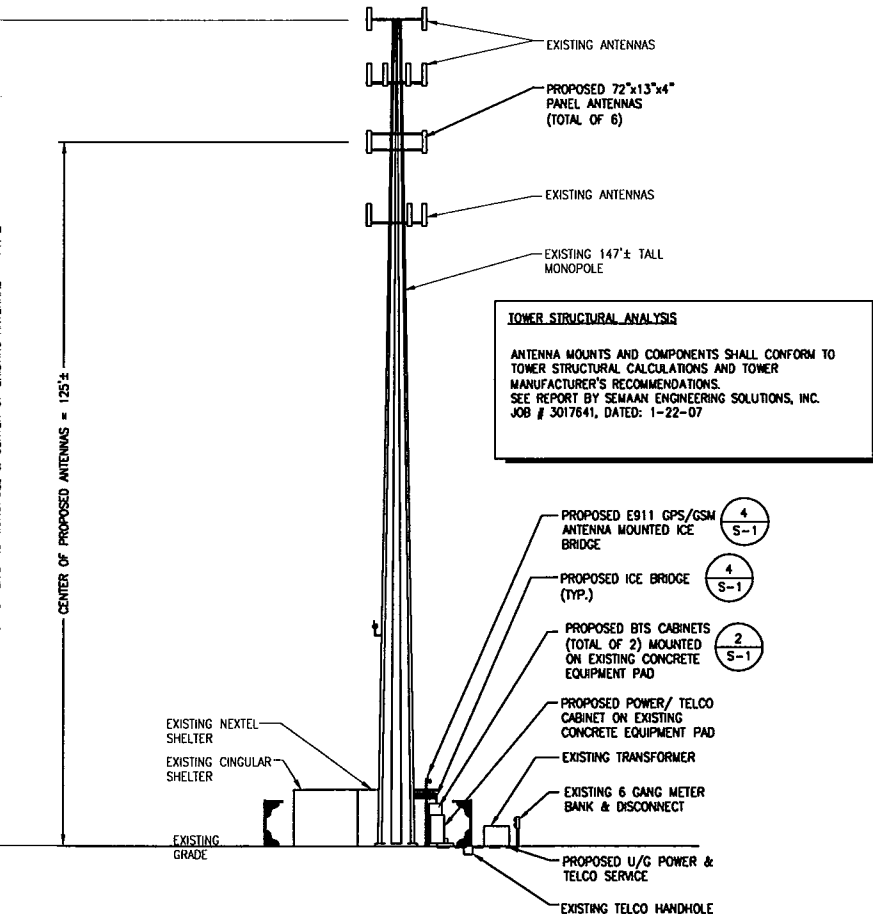
ANTENNA MOUNTING PLAN

SCALE: NOT TO SCALE



NOTES:

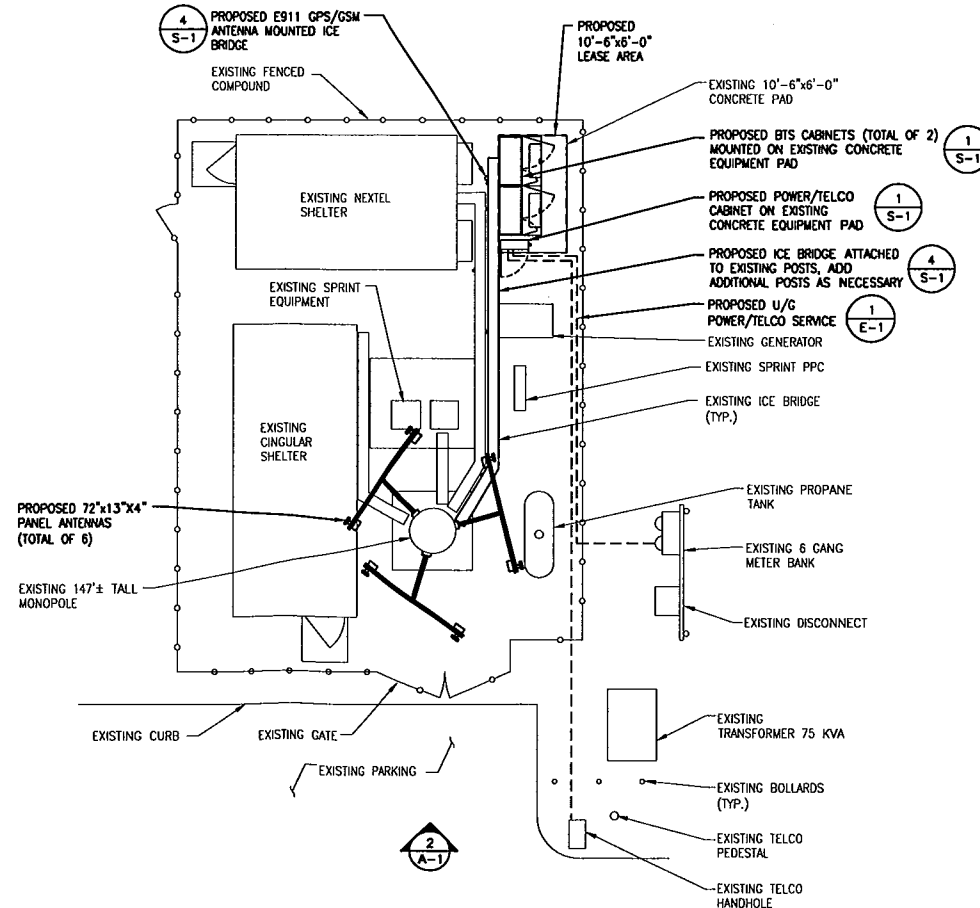
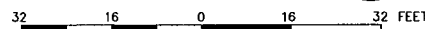
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS SHOWN HEREIN.
- ALL DIMENSIONS SHOWN AS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECT THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH PROJECT OWNER PRIOR TO CONSTRUCTION.
- NORTH ARROW SHOWN ON PLANS REFERS TO APPROXIMATE TRUE NORTH. CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL SURVEYOR TO VERIFY TRUE NORTH AND PROVIDE AS-BUILT ANTENNA AZIMUTH, ANTENNA MECHANICAL DOWN-TILT AND ANTENNA RADIATION CENTER HEIGHT (AGL). CERTIFICATIONS FOR ANTENNA AZIMUTHS MUST BE WITHIN 3 DEGREES OF THE SPECIFIED SECTOR ORIENTATION ON THE RF BUILD SHEET.
- THE CONTRACTOR AND OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.
- COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE PROJECT OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF PROJECT OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE EXHIBIT 3). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
- WHEN "PAINT TO MATCH" IS SPECIFIED FOR ANTENNA CONCEALMENT, PAINT PRODUCT FOR ANTENNA RADOME SHALL BE SHERWIN WILLIAMS COROTANE II. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PROJECT OWNER'S GUIDELINES.
- COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- ALL (E)ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
- ALL (E)ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF UTILITY COMPANY ENGINEERING.
- THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, DRIVEWAY OR GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED AND COVERED WITH MULCH UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES DURING CONSTRUCTION.
- PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. PROJECT OWNER'S IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. PROJECT OWNER RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED



TOWER STRUCTURAL ANALYSIS
 ANTENNA MOUNTS AND COMPONENTS SHALL CONFORM TO TOWER STRUCTURAL CALCULATIONS AND TOWER MANUFACTURER'S RECOMMENDATIONS. SEE REPORT BY SEMAAN ENGINEERING SOLUTIONS, INC. JOB # 3017641, DATED: 1-22-07

SOUTH ELEVATION

SCALE: 1/16" = 1'-0"



COMPOUND PLAN

SCALE: 1/8" = 1'-0"



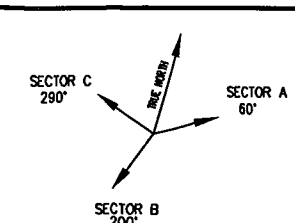
ABBREVIATIONS

ADJ	ADJUSTABLE	OC	ON CENTER
AGL	ABOVE GRADE LEVEL	OPP	OPPOSITE
APPROX	APPROXIMATE	SF	SQUARE FOOT
C	CONDUIT	SHT	SHEET
CONC	CONCRETE	SM	SIMILAR
CONT	CONTINUOUS	STL	STEEL
CJ	CONSTRUCTION JOINT	TOC	TOP OF CONCRETE
DIA	DIAMETER	TOM	TOP OF MASONRY
DWG	DRAWING	TYP	TYPICAL
EGB	EQUIPMENT GROUND BAR	VIF	VERIFY IN FIELD
EA	EACH	UG	UNDERGROUND
ELEC	ELECTRICAL	UN	UNLESS OTHERWISE NOTED
EL	ELEVATION	WNF	WELDED WIRE FABRIC
EO	EQUAL	W/	WITH
EQUIP	EQUIPMENT	BTS	BASE TRANSMISSION STATION
(E)	EXISTING	LNA	LOW NOISE AMPLIFIER
EXT	EXTERIOR	PCS	PERSONAL COMMUNICATIONS SERVICES
FCM	FIELD CONSTRUCTION MANAGER	A-1	ANTENNA MARK NO.
FF	FINISHED FLOOR		
FG	FINISHED GRADE		
GA	GAUGE		
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR		
LG	LONG		
MAX	MAXIMUM		
MECH	MECHANICAL		
MFR	MANUFACTURER		
MGB	MASTER GROUND BAR		
MIN	MINIMUM		
MTL	METAL		
NIC	NOT IN CONTRACT		
NTS	NOT TO SCALE		

SYMBOLS AND MATERIALS

	NEW ANTENNA		GROUT OR PLASTER
	EXISTING ANTENNAS		(E)JOBROCK
	ASPHALT		(E)MASONRY
	NEW ACCESS EASEMENT		CONCRETE
	CONCRETE		EARTH
	ELECTRIC BOX		GRAVEL
	LIGHT POLE		PLYWOOD
	FIN. MONUMENT		SAND
	SPOT ELEVATION		WOOD CONT.
	SET POINT		WOOD BLOCKING
	REVISION		STEEL
	GRID REFERENCE		CENTER LINE
	DETAIL REFERENCE		PROPERTY LINE
	ELEVATION		STEPPED FOOTING
	MATCH LINE		WORK POINT
	GROUND WIRE		COAXIAL CABLE

ANTENNA ORIENTATION KEY



OMNIPONT COMMUNICATIONS, INC.
 A WHOLLY OWNED SUBSIDIARY OF
 T-MOBILE USA, INC.
 35 GRIFFIN RD. SOUTH
 BLOOMFIELD, CT 06002
 OFFICE: (860)-692-7100
 FAX: (860)-692-7159



APPROVALS

LEASING _____

R.F. _____

ZONING _____

CONSTRUCTION _____

A/E _____

PROJECT NO: CTNH107A

DRAWN BY: AT

CHECKED BY: DPH

SUBMITTALS

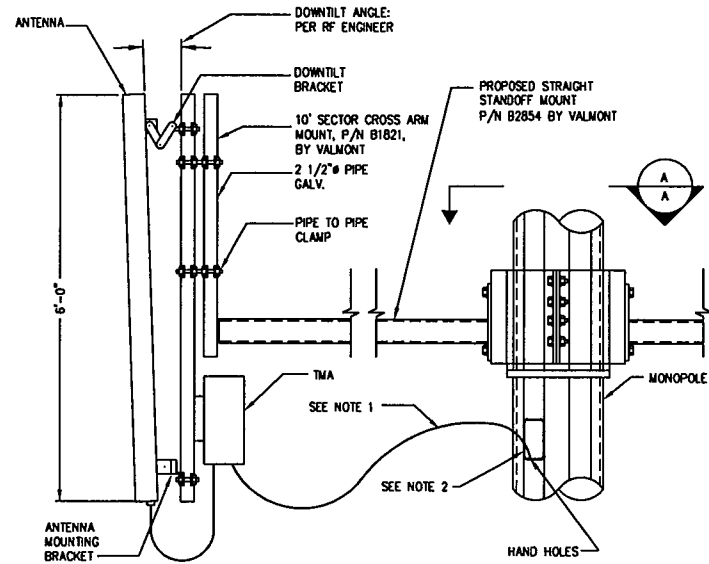
0	03/05/07	CONSTRUCTION
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CTNH107A
GLOBAL CHERRY HILL
 148-160 N. MAIN ST.
 BRANFORD, CT 06405

PLANS, ELEVATION DETAILS AND NOTES

SHEET NUMBER
A-1



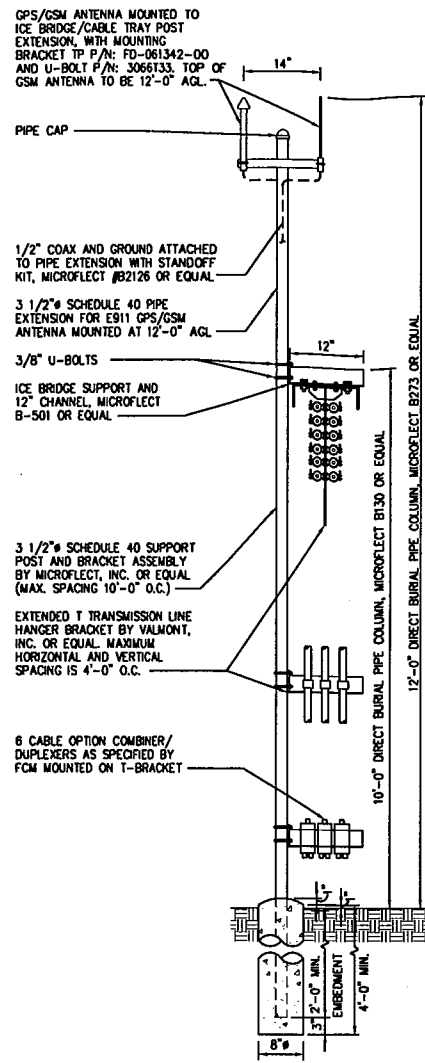
NOTES:

1. SECURE CABLES TO GRATING WITH TIE WRAPS AT 3'-0" O.C.
2. PROVIDE KELLOWS GRIP AROUND CABLES AND FASTEN TO EXISTING J-HOOKS INSIDE MONOPOLE.
3. ANTENNA MOUNTS AND COMPONENTS SHALL CONFORM TO TOWER STRUCTURAL CALCULATIONS AND TOWER MANUFACTURER'S RECOMMENDATIONS. SEE REPORT BY SEMAN ENGINEERING SOLUTIONS, INC. JOB # 3017841, DATED: 1-22-07 PREPARED FOR T-MOBILE

ANTENNA MOUNTING DETAIL

SCALE: N.T.S.

3
S-1



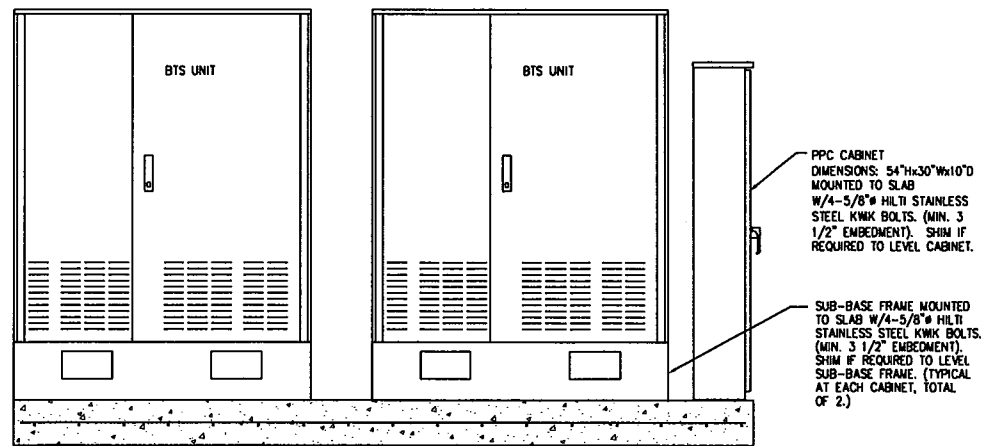
ICE BRIDGE DETAIL

SCALE: N.T.S.

4
S-1

STRUCTURAL NOTES

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, AWS/ASCE7, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL WIDE-FLANGE SHAPES SHALL CONFORM TO ASTM 992A. ALL OTHER SHAPES AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE NOTED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE A, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 5/8" DIA UN.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION. IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DII. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIATION OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8" x 1 5/8" x 12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-20 AND OR HY-150 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT II OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE AND ONE HALF (3 1/2) INCHES.
15. GRAVEL SUB BASE AND CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL.
16. CONCRETE FOR FENCE AND ICE BRIDGE SUPPORT SHALL BE 3000 PSI AIR ENTRAINED (4 1/2-6 %) NORMAL WEIGHT CONCRETE.
17. ALL CAST IN PLACE CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318 AND ACI 301.
18. THE FOLLOWING MINIMUM CONCRETE COVER OVER REINFORCING STEEL SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
 CONCRETE CAST AGAINST EARTH ... 3 INCHES.
 CONCRETE EXPOSED TO EARTH OR WATER
 #5 AND LARGER 2 INCHES
 #5 AND SMALLER 1 1/2 INCHES
 ALL EXPOSED EDGES SHALL BE PROVIDED WITH A 3/4"x3/4" CHAMFER UNLESS NOTED OTHERWISE.
19. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.

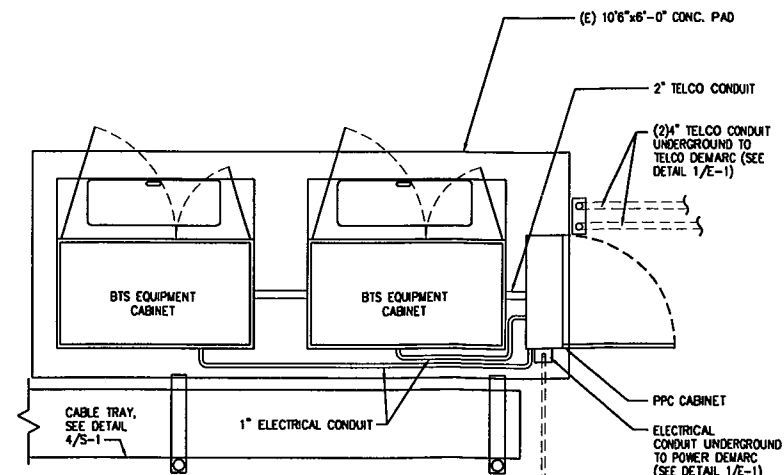


SECTION AT EQUIPMENT PAD

SCALE: 3/4"=1'-0"



2
S-1



PLAN AT EQUIPMENT PAD

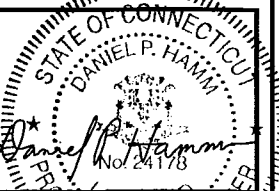
SCALE: 1/2"=1'-0"

1
S-1

OMNIPONT COMMUNICATIONS, INC.
A WHOLLY-OWNED SUBSIDIARY
OF T-MOBILE USA, INC.
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46 BEECHWOOD DR. TEL: (978) 557-5553
N. ANDOVER, MA 01845 FAX: (978) 336-5586



PROFESSIONAL ENGINEER
APPROVALS

LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: CTNH107A

DRAWN BY: AT

CHECKED BY: DPH

SUBMITTALS	
NO.	DESCRIPTION

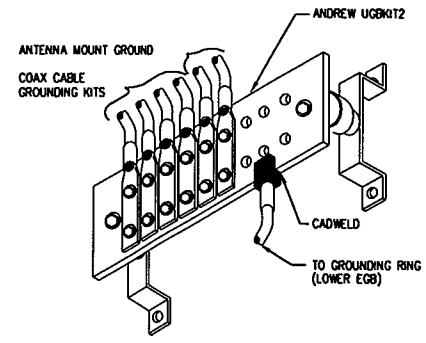
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CTNH107A
GLOBAL
CHERRY HILL
148-160 N. MAIN ST.
BRANFORD, CT 06405

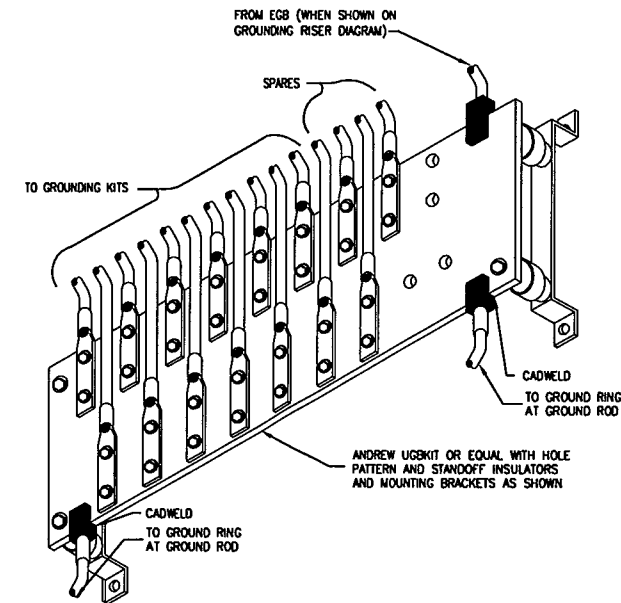
STRUCTURAL NOTES,
PLANS, SECTIONS
& DETAILS

SHEET NUMBER

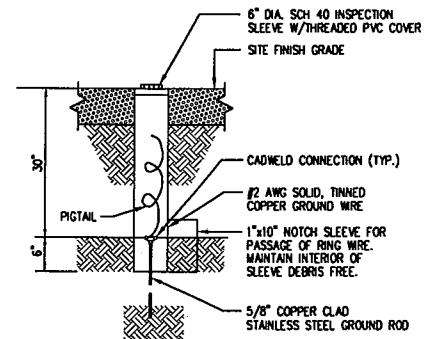
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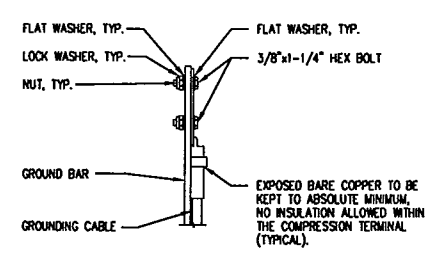
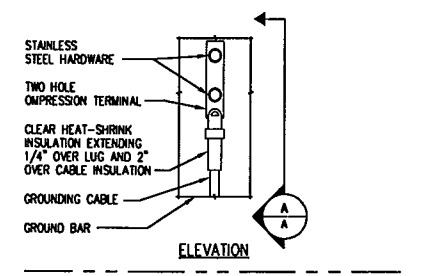
EQUIPMENT GROUND BAR (EGB)
SCALE: N.T.S.



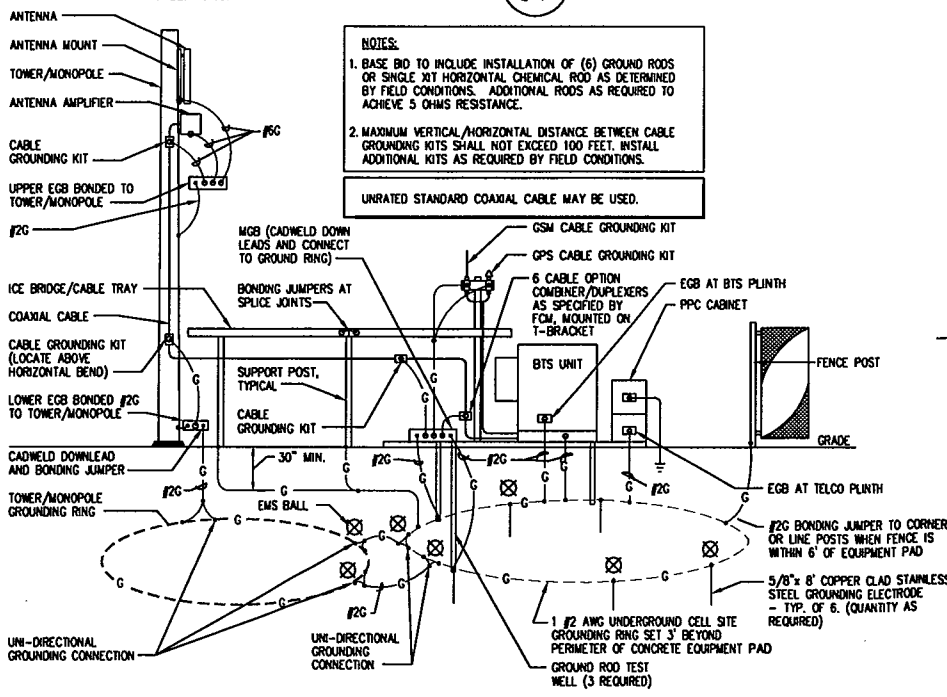
MASTER GROUND BAR (MGB)
SCALE: N.T.S.



GROUND ROD TEST WELL DETAIL
SCALE: N.T.S.

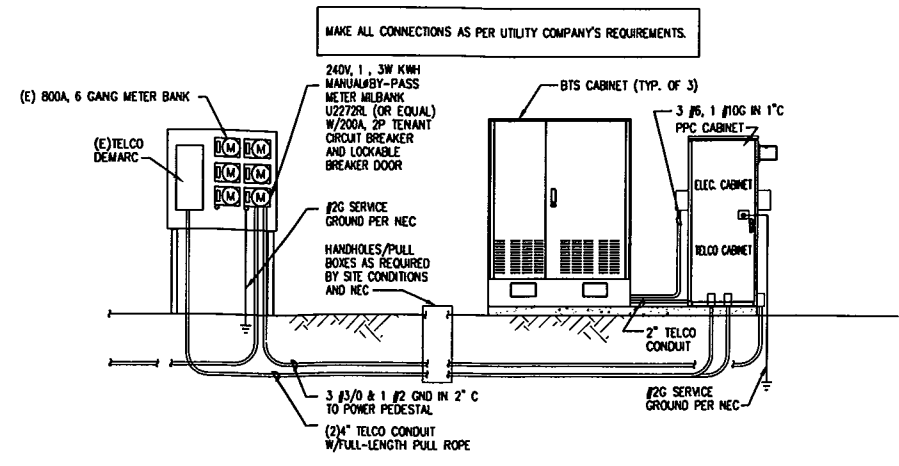


TYPICAL GROUND BAR CONNECTIONS DETAIL
SCALE: N.T.S.

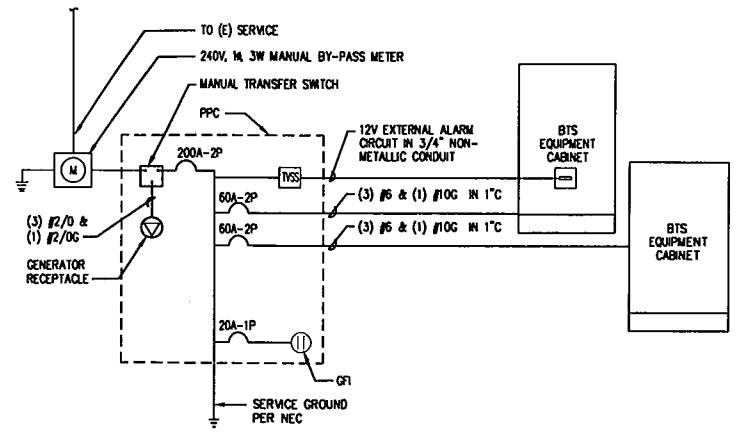


GROUNDING RISER DIAGRAM
SCALE: N.T.S.

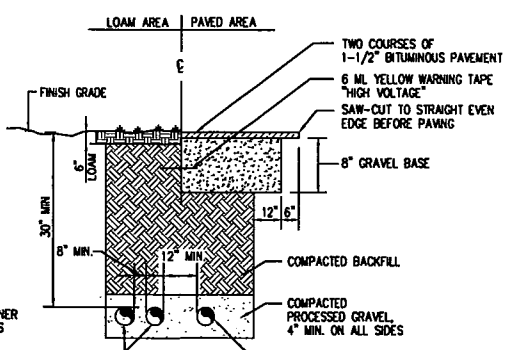
NOTES:
1. BASE BID TO INCLUDE INSTALLATION OF (6) GROUND RODS OR SINGLE KIT HORIZONTAL CHEMICAL ROD AS DETERMINED BY FIELD CONDITIONS. ADDITIONAL RODS AS REQUIRED TO ACHIEVE 5 OHMS RESISTANCE.
2. MAXIMUM VERTICAL/HORIZONTAL DISTANCE BETWEEN CABLE GROUNDING KITS SHALL NOT EXCEED 100 FEET. INSTALL ADDITIONAL KITS AS REQUIRED BY FIELD CONDITIONS.
UNRATED STANDARD COAXIAL CABLE MAY BE USED.



POWER RISER DIAGRAM
SCALE: N.T.S.



ONE LINE DIAGRAM
SCALE: N.T.S.



BURIED CONDUIT DETAIL
SCALE: N.T.S.

ELECTRICAL LEGEND

	NEW PANEL BOARD, SURFACE MOUNTED
	EXISTING PANEL BOARD, SURFACE MOUNTED
	DRY TYPE TRANSFORMER
	METER
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH, MOUNTED 54" A.F.F.
	FUSIBLE DISCONNECT SWITCH, MOUNTED 54" A.F.F.
	TRANSIENT VOLTAGE SURGE SUPPRESSOR WITH BUILT-IN FUSES, SURFACE MOUNTED
	DUPLEX OUTLET, SURFACE MOUNTED, 20 AMPS, 125 VOLTS, SINGLE PHASE
	JUNCTION BOX, SURFACE MOUNTED 18" A.F.F.
	EXPOSED WIRING
	HOME RUNS, MINIMUM 2#10 + 1#10G IN 3/4" CONDUIT U.O.R.
	A.F.F. ABOVE FINISHED FLOOR
	UNLESS OTHERWISE NOTED
	WEATHERPROOF
	GROUND FAULT INTERRUPTER
	AMPERE
	VOLT
	KILOWATT - HOUR
	CONDUIT
	GALVANIZED RIGID CONDUIT
	GROUND
	MASTER GROUND BAR
	EQUIPMENT GROUND BAR
	GROUND COPPER WIRE, SIZE AS NOTED
	EXPOSED WIRING
	COAXIAL CABLE
	5/8" COPPER CLAD STAINLESS STEEL GROUND ROD
	EXOTHERMIC (CADWELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION
	POWER PROTECTION CABINET
	OMNI-DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALL

ELECTRICAL AND GROUNDING NOTES

- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THHN, OR THHNS INSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH FULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH FULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREEN/LEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID THINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNOY HYDROGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXISTING TOWER/MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE-TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE-OUT.

OMNIPONT COMMUNICATIONS, INC.
A WHOLLY-OWNED SUBSIDIARY
OF T-MOBILE USA, INC.
35 GRIFFIN RD. SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860)-692-7100
FAX: (860)-692-7159



APPROVALS

LEASING _____

R.F. _____

ZONING _____

CONSTRUCTION _____

A/E _____

PROJECT NO: CTNH107A

DRAWN BY: AT

CHECKED BY: DPH

SUBMITTALS

0	03/05/07	CONSTRUCTION
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CTNH107A
GLOBAL
CHERRY HILL
148-160 N. MAIN ST.
BRANFORD, CT 06405

ELECTRICAL AND GROUNDING NOTES, RISERS AND DETAILS

SHEET NUMBER
E-1

Exhibit 2

CJN107A

1079 N. 204th Avenue
Elkhorn, NE 68022
Ph: 402-289-1888
Fax: 402-289-1861

SEMAAN ENGINEERING SOLUTIONS

**147 ft SUMMIT Monopole
Structural Analysis**

**Prepared for:
Crown Castle
301 North Cattleman Road
Suite 300
Sarasota, FL 34232**

**Site: 3017641 - CT03XC040
For T-Mobile
150 Main St.
Branford, CT**



January 22, 2007

Mr. Louis Belizaire
Crown Castle
301 North Cattleman Road
Suite 300
Sarasota, FL 34232

Re: Site Number CT03XC040 – 3017641 - 150 Main St. Branford, CT.

Dear Mr. Belizaire:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the TIA/EIA-222 Rev F standard and local building codes for the proposed antennae loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

Description of Structure:

The structure is a 147 ft SUMMIT Monopole.

Refer to SUMMIT job # 4516 dated March 15, 1999 for a detailed description of the structure.

Method of analysis:

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with **TIA/EIA-222 Rev F and local building codes for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed (fastest mile)**. This wind speed is equivalent to a 105 mph 3-second gust per the IBC 2003. This is in conformance with the IBC 2003: Section 1609.1.1, Exception (5) and Section 3108.4. Wind is applied to the structure, accessories and antennas.

Structure loading:

The following loads were used in the tower analysis:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
147.0	9	RR65-19-02DP	Low Profile platform	(9) 1 5/8"	Sprint
135.0	12	DB844H90	Low Profile platform	(15) 1 1/4"	Nextel
110.0	12	21401 TMA	Low Profile platform	(12) 1 5/8"	Cingular
	9	Allgon 7770			

Proposed Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
125.0	6	APX16DWV-16DWV-S-E-ACU	Low Profile Platform	(24) 1 5/8"	T-Mobile
	6	S20057A1 TMA			

All new access holes shall be reinforced with welded rims that are compatible with the pole and to be sized and supplied by pole manufacturer.

All transmission lines are assumed running inside of pole shaft.

Results of Analysis:

Refer to the attached Computer Summary sheets for detailed analysis results.

Structure:

The existing monopole is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 93.1%.

Foundation:

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	2,979.00	2,821.54	94.7
Shear (kips)	31.00	28.08	90.6

The analysis reactions are less than the design reactions therefore no foundation modifications are required.

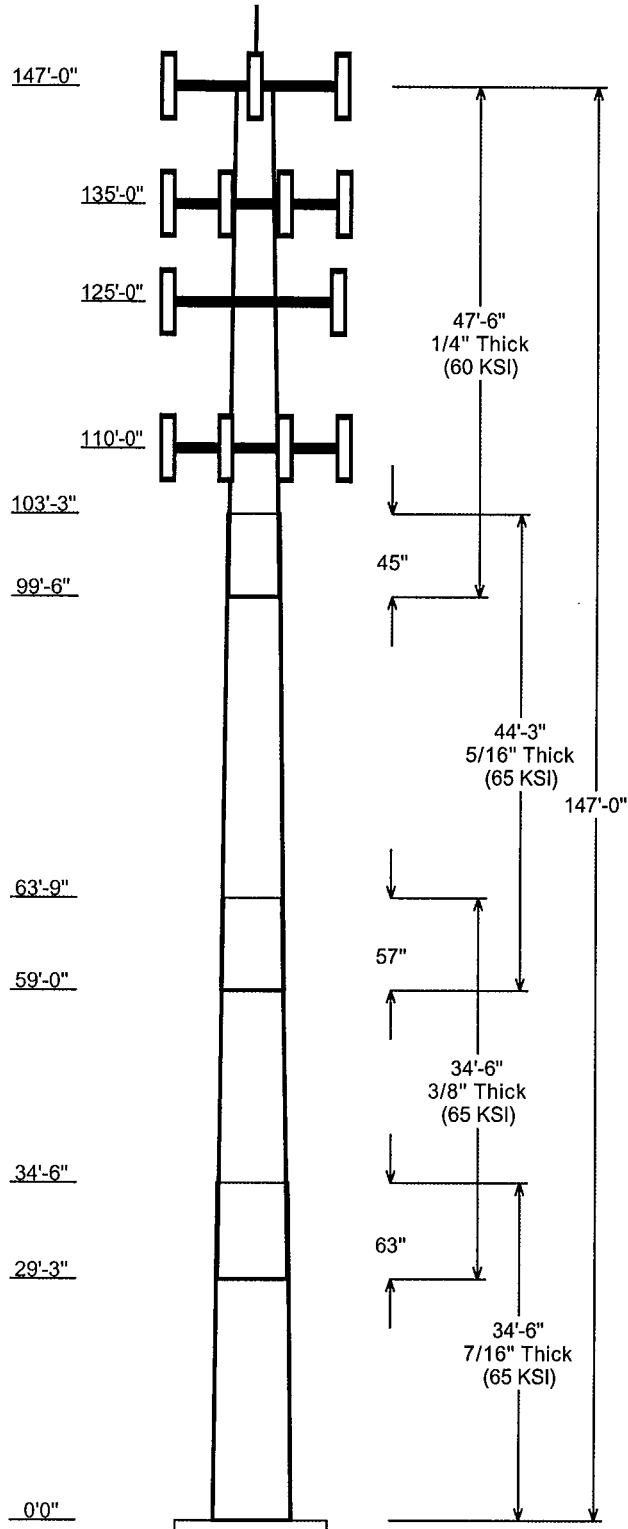
Review and Recommendations:

Based on the analysis results, the existing structure meets the requirements per the TIA/EIA-222 Rev F standards for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed. This wind speed is equivalent to a 105 mph 3-second gust.

SEMAAN ENGINEERING SOLUTIONS

1079 N.204th Avenue
 Elkhorn, NE 68022
 Phone: 402-289-1888
 Fax: 402-289-1861

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Job Information			
Pole :	CT03XC040	Code :	TIA/EIA-222 Rev F
Description :	Client : Crown Castle - FL		
Location :	3017641 - 150 Main St. Branford, CT		
Shape :	12 Sides	Base Elev (ft):	0.00
Height :	147.00 (ft)	Taper:	0.175000(in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
		Top	Bottom					
1	34.500	39.81	45.85	0.438		0.000	0.175000	65
2	34.500	35.44	41.48	0.375	Slip Joint	63.000	0.175000	65
3	44.250	29.15	36.90	0.313	Slip Joint	57.000	0.175000	65
4	47.500	22.00	30.31	0.250	Slip Joint	45.000	0.175000	60

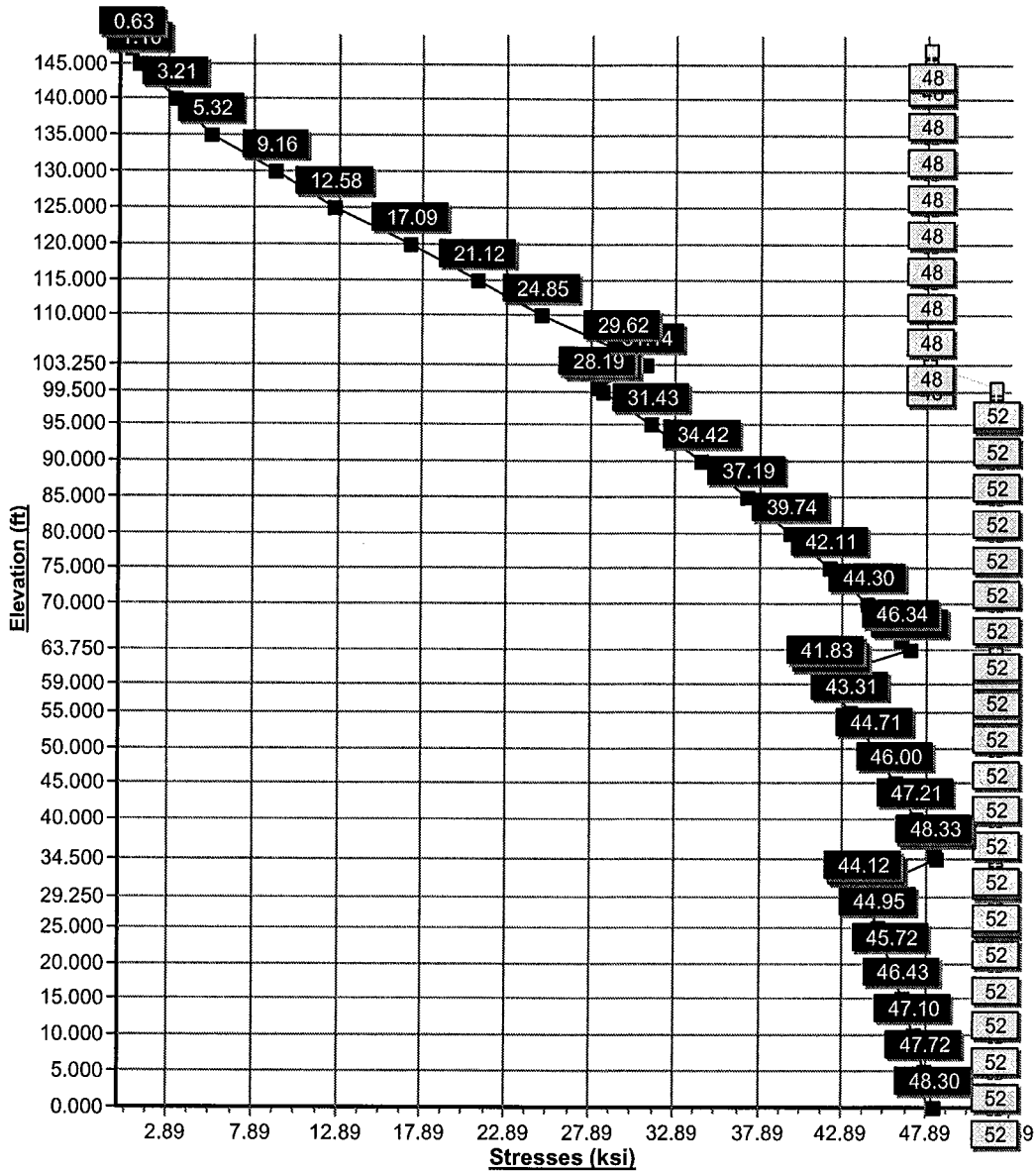
Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
147.000	147.000	1	Low Profile platform	
147.000	147.000	9	RR65-19-02DP	
147.000	150.500	1	Lightning Rod, 7'	
135.000	135.000	1	Low Profile platform	
135.000	135.000	12	DB844H90	
125.000	125.000	6	APX16DWV-16DWV-S-E-ACU	
125.000	125.000	1	Low Profile Platform	
125.000	125.000	6	S20057A1 TMA	
110.000	110.000	12	21401 TMA	
110.000	110.000	1	Low Profile platform	
110.000	110.000	9	Allgon 7770	

Linear Appurtenance				
Elev (ft)		Description	Exposed To Wind	
From	To			
0.000	110.0	1 5/8" Coax	No	
0.000	125.0	1 5/8" Coax	No	
0.000	135.0	1 1/4" Coax	No	
0.000	147.0	1 5/8" Coax	No	

Load Cases	
No Ice	85.00 mph Wind with No Ice
Ice	73.61 mph Wind with Ice

Reactions			
Load Case	Moment (Kip-ft)	Shear (Kips)	Axial (Kips)
No Ice	2821.54	28.08	35.39
Ice	2312.35	22.45	41.59

Load Case : No Ice
Max Stress 93.1% at 34.5ft

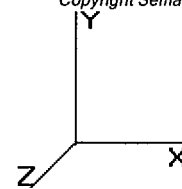


Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
 Base Dia : 45.85 (in)
 Top Dia : 22.00 (in)
 Taper : 0.175000 (in/ft)

Code: TIA/EIA-222 Rev F

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 1/22/2007 11:03:07 A
 Page: 1

Base Elev : 0.000 (ft)



Shaft Section Properties

Sect Num	Length (ft)	Thick (in)	Fv (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom				Top				Taper (in/ft)				
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)		Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio
1	34.500	0.4375	65		0.00	7,011	45.85	0.000	63.97	16839.9	25.94	104.8	39.81	34.50	55.47	10976.8	22.24	91.00	0.17500
2	34.500	0.3750	65	Slip Joint	63.00	5,399	41.48	29.25	49.64	10705.1	27.50	110.6	35.44	63.75	42.35	6647.0	23.18	94.52	0.17500
3	44.250	0.3125	65	Slip Joint	57.00	4,957	36.90	59.00	36.82	6290.5	29.50	118.0	29.15	103.2	29.02	3082.0	22.86	93.30	0.17500
4	47.500	0.2500	60	Slip Joint	45.00	3,371	30.31	99.50	24.20	2791.6	30.35	121.2	22.00	147.0	17.51	1057.2	21.44	88.00	0.17500
Shaft Weight						20,738													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	Vert Ecc (ft)
147.0	Low Profile platform	1	1642.00	24.830	1.00	2100.00	26.000	1.00	0.000	0.000
147.0	RR65-19-02DP	9	23.00	6.000	0.67	52.00	6.850	0.67	0.000	0.000
147.0	Lightning Rod, 7'	1	35.00	1.050	1.00	44.00	1.730	1.00	0.000	3.500
135.0	Low Profile platform	1	1642.00	24.830	1.00	2100.00	26.000	1.00	0.000	0.000
135.0	DB844H90	12	10.00	3.733	0.91	35.00	4.520	0.91	0.000	0.000
125.0	APX16DWV-16DWV-S-E-ACU	6	39.60	6.699	0.64	71.70	7.350	0.64	0.000	0.000
125.0	Low Profile Platform	1	1600.00	25.550	1.00	2100.00	27.320	1.00	0.000	0.000
125.0	S20057A1 TMA	6	11.00	0.820	0.74	16.41	1.020	0.74	0.000	0.000
110.0	21401 TMA	12	17.50	0.950	0.67	23.30	1.170	0.67	0.000	0.000
110.0	Low Profile platform	1	1642.00	24.830	1.00	2100.00	26.000	1.00	0.000	0.000
110.0	Allaon 7770	9	35.00	5.880	0.73	67.63	6.530	0.73	0.000	0.000
Totals		59	7716.60			10748.93				Number of Loadings : 11

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	No Ice Weight (lb/ft)	No Ice CaAa (sf/ft)	Ice Weight (lb/ft)	Ice CaAa (sf/ft)	Exposed To Wind
0.00	147.00	(9) 1 5/8" Coax	9.00	0.00	9.00	0.00	N
0.00	135.00	(15) 1 1/4" Coax	10.00	0.00	10.00	0.00	N
0.00	125.00	(24) 1 5/8" Coax	24.00	0.00	24.00	0.00	N
0.00	110.00	(12) 1 5/8" Coax	12.00	0.00	12.00	0.00	N
Total Weight			6,993.00 (lb)		6,993.00 (lb)		

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
 Base Dia : 45.85 (in)
 Top Dia : 22.00 (in)
 Taper : 0.175000 (in/ft)

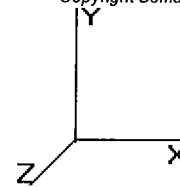
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Base Elev : 0.000 (ft)



Segment Properties (Max Len : 5 ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.4375	45.850	63.975	16.839.9	25.94	104.80	65	52	0.0
5.00		0.4375	44.975	62.742	15,885.2	25.40	102.80	65	52	1,078.0
10.00		0.4375	44.100	61.509	14,967.2	24.87	100.80	65	52	1,057.0
15.00		0.4375	43.225	60.277	14,085.2	24.33	98.80	65	52	1,036.0
20.00		0.4375	42.350	59.044	13,238.7	23.79	96.80	65	52	1,015.1
25.00		0.4375	41.475	57.811	12,426.7	23.26	94.80	65	52	994.1
29.25	Bot - Section 2	0.4375	40.731	56.764	11,763.2	22.80	93.10	65	52	828.5
30.00		0.4375	40.600	56.579	11,648.7	22.72	92.80	65	52	271.1
34.50	Top - Section 1	0.3750	40.562	48.526	10,003.2	26.84	108.17	65	52	1,608.2
35.00		0.3750	40.475	48.421	9,938.0	26.78	107.93	65	52	82.5
40.00		0.3750	39.600	47.364	9,301.6	26.15	105.60	65	52	814.8
45.00		0.3750	38.725	46.307	8,692.9	25.53	103.27	65	52	796.9
50.00		0.3750	37.850	45.251	8,111.3	24.90	100.93	65	52	778.9
55.00		0.3750	36.975	44.194	7,556.3	24.28	98.60	65	52	760.9
59.00	Bot - Section 3	0.3750	36.275	43.349	7,131.0	23.78	96.73	65	52	595.8
60.00		0.3750	36.100	43.138	7,027.2	23.65	96.27	65	52	272.1
63.75	Top - Section 2	0.3125	36.069	35.980	5,871.4	28.78	115.42	65	52	1,008.7
65.00		0.3125	35.850	35.759	5,764.3	28.60	114.72	65	52	152.6
70.00		0.3125	34.975	34.879	5,348.9	27.85	111.92	65	52	600.9
75.00		0.3125	34.100	33.998	4,954.0	27.09	109.12	65	52	585.9
80.00		0.3125	33.225	33.118	4,579.0	26.34	106.32	65	52	571.0
85.00		0.3125	32.350	32.238	4,223.4	25.59	103.52	65	52	556.0
90.00		0.3125	31.475	31.357	3,886.7	24.84	100.72	65	52	541.0
95.00		0.3125	30.600	30.477	3,568.4	24.09	97.92	65	52	526.0
99.50	Bot - Section 4	0.3125	29.812	29.684	3,297.2	23.42	95.40	65	52	460.6
100.0		0.3125	29.725	29.596	3,268.0	23.34	95.12	65	52	91.5
103.2	Top - Section 3	0.2500	29.656	23.672	2,612.7	29.64	118.62	60	48	588.5
105.0		0.2500	29.350	23.425	2,531.9	29.31	117.40	60	48	140.2
110.0		0.2500	28.475	22.721	2,310.3	28.38	113.90	60	48	392.6
115.0		0.2500	27.600	22.017	2,102.1	27.44	110.40	60	48	380.6
120.0		0.2500	26.725	21.312	1,906.7	26.50	106.90	60	48	368.6
125.0		0.2500	25.850	20.608	1,723.8	25.56	103.40	60	48	356.6
130.0		0.2500	24.975	19.903	1,553.0	24.62	99.90	60	48	344.6
135.0		0.2500	24.100	19.199	1,393.9	23.69	96.40	60	48	332.6
140.0		0.2500	23.225	18.495	1,246.1	22.75	92.90	60	48	320.7
145.0		0.2500	22.350	17.790	1,109.0	21.81	89.40	60	48	308.7
147.0		0.2500	22.000	17.509	1,057.2	21.44	88.00	60	48	120.1
										20,737.8

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
 Base Dia : 45.85 (in)
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 Taper : 0.175000 (in/ft)

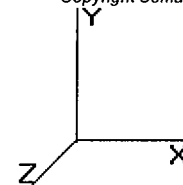
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Base Elev : 0.000 (ft)



Load Case: No Ice 85.00 mph Wind with No Ice 24 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Shaft Segment Forces

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load (lb)	Tot Dead Load (lb)
0.00		0.00	1.00 18.496	31.25 324.76	1.030	0.00	0.00	0.000	0.00	0.00	0.0	0.0	0.0
5.00		0.00	1.00 18.496	31.25 318.57	1.030	0.00	5.00	18.922	19.49	609.2	0.0	1,078.0	
10.00		0.00	1.00 18.496	31.25 312.37	1.030	0.00	5.00	18.557	19.11	597.5	0.0	1,057.0	
15.00		0.00	1.00 18.496	31.25 306.17	1.030	0.00	5.00	18.193	18.74	585.7	0.0	1,036.0	
20.00		0.00	1.00 18.496	31.25 299.97	1.030	0.00	5.00	17.828	18.36	574.0	0.0	1,015.1	
25.00		0.00	1.00 18.496	31.25 293.78	1.030	0.00	5.00	17.463	17.99	562.3	0.0	994.1	
29.25	Bot - Section 2	0.00	1.00 18.496	31.25 288.51	1.030	0.00	4.25	14.557	14.99	468.7	0.0	828.5	
30.00		0.00	1.00 18.496	31.25 287.58	1.030	0.00	0.75	2.588	2.67	83.3	0.0	271.1	
34.50	Top - Section 1	0.00	1.01 18.732	31.65 283.80	1.030	0.00	4.50	15.359	15.82	500.8	0.0	1,608.2	
35.00		0.00	1.01 18.810	31.78 289.11	1.030	0.00	0.50	1.688	1.74	55.3	0.0	82.5	
40.00		0.00	1.05 19.541	33.02 288.31	1.030	0.00	5.00	16.682	17.18	567.4	0.0	814.8	
45.00		0.00	1.09 20.210	34.15 286.72	1.030	0.00	5.00	16.318	16.81	574.0	0.0	796.9	
50.00		0.00	1.12 20.827	35.19 284.49	1.030	0.00	5.00	15.953	16.43	578.4	0.0	778.9	
55.00		0.00	1.15 21.402	36.17 281.73	1.030	0.00	5.00	15.588	16.06	580.8	0.0	760.9	
59.00	Bot - Section 3	0.00	1.18 21.836	36.90 279.18	1.030	0.00	4.00	12.208	12.57	464.0	0.0	595.8	
60.00		0.00	1.18 21.941	37.08 278.50	1.030	0.00	1.00	3.068	3.16	117.2	0.0	272.1	
63.75	Top - Section 2	0.00	1.20 22.325	37.72 275.82	1.030	0.00	3.75	11.374	11.72	442.0	0.0	1,008.7	
65.00		0.00	1.21 22.449	37.93 279.75	1.030	0.00	1.25	3.746	3.86	146.4	0.0	152.6	
70.00		0.00	1.24 22.929	38.75 275.83	1.030	0.00	5.00	14.755	15.20	588.9	0.0	600.9	
75.00		0.00	1.26 23.386	39.52 271.59	1.030	0.00	5.00	14.391	14.82	585.8	0.0	585.9	
80.00		0.00	1.28 23.821	40.25 267.07	1.030	0.00	5.00	14.026	14.45	581.6	0.0	571.0	
85.00		0.00	1.31 24.237	40.96 262.30	1.030	0.00	5.00	13.661	14.07	576.4	0.0	556.0	
90.00		0.00	1.33 24.636	41.63 257.30	1.030	0.00	5.00	13.297	13.70	570.2	0.0	541.0	
95.00		0.00	1.35 25.020	42.28 252.09	1.030	0.00	5.00	12.932	13.32	563.2	0.0	526.0	
99.50	Bot - Section 4	0.00	1.37 25.353	42.84 247.23	1.030	0.00	4.50	11.327	11.67	499.9	0.0	460.6	
100.0		0.00	1.37 25.389	42.90 246.68	1.030	0.00	0.50	1.261	1.30	55.7	0.0	91.5	
103.2	Top - Section 3	0.00	1.38 25.622	43.30 243.07	1.030	0.00	3.25	8.109	8.35	361.7	0.0	588.5	
105.0		0.00	1.39 25.745	43.51 245.27	1.030	0.00	1.75	4.303	4.43	192.8	0.0	140.2	
110.0	Appertunance(s)	0.00	1.41 26.090	44.09 239.55	1.030	0.00	5.00	12.047	12.41	547.1	0.0	392.6	
115.0		0.00	1.42 26.423	44.65 233.66	1.030	0.00	5.00	11.682	12.03	537.3	0.0	380.6	
120.0		0.00	1.44 26.747	45.20 227.63	1.030	0.00	5.00	11.318	11.66	526.9	0.0	368.6	
125.0	Appertunance(s)	0.00	1.46 27.060	45.73 221.47	1.030	0.00	5.00	10.953	11.28	515.9	0.0	356.6	
130.0		0.00	1.48 27.365	46.24 215.18	1.030	0.00	5.00	10.588	10.91	504.4	0.0	344.6	
135.0	Appertunance(s)	0.00	1.49 27.662	46.74 208.76	1.030	0.00	5.00	10.224	10.53	492.3	0.0	332.6	
140.0		0.00	1.51 27.951	47.23 202.23	1.030	0.00	5.00	9.859	10.16	479.7	0.0	320.7	
145.0		0.00	1.52 28.233	47.71 195.59	1.030	0.00	5.00	9.495	9.78	466.6	0.0	308.7	
147.0	Appertunance(s)	0.00	1.53 28.343	47.90 192.90	1.030	0.00	2.00	3.696	3.81	182.3	0.0	120.1	
Totals:								147.00			16,335.7	0.0	20,737.8

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
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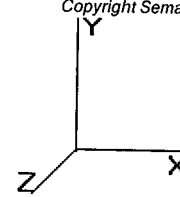
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Base Elev : 0.000 (ft)



Load Case: No Ice 85.00 mph Wind with No Ice 24 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

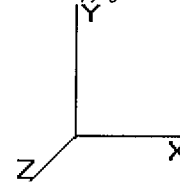
Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
110.0	21401 TMA	12	26.090	44.092	0.67	7.60	0.000	0.000	335.27	0.00	0.00	210.00
110.0	Low Profile platform	1	26.090	44.092	1.00	24.83	0.000	0.000	1,094.79	0.00	0.00	1,642.00
110.0	Allgon 7770	9	26.090	44.092	0.73	38.63	0.000	0.000	1,703.34	0.00	0.00	315.00
125.0	APX16DWV-16DWV-S-	6	27.060	45.732	0.64	25.72	0.000	0.000	1,176.42	0.00	0.00	237.60
125.0	Low Profile Platform	1	27.060	45.732	1.00	25.55	0.000	0.000	1,168.45	0.00	0.00	1,600.00
125.0	S20057A1 TMA	6	27.060	45.732	0.74	3.64	0.000	0.000	166.50	0.00	0.00	66.00
135.0	Low Profile platform	1	27.662	46.749	1.00	24.83	0.000	0.000	1,160.76	0.00	0.00	1,642.00
135.0	DB844H90	12	27.662	46.749	0.91	40.76	0.000	0.000	1,905.68	0.00	0.00	120.00
147.0	Low Profile platform	1	28.343	47.900	1.00	24.83	0.000	0.000	1,189.35	0.00	0.00	1,642.00
147.0	RR65-19-02DP	9	28.343	47.900	0.67	36.02	0.000	0.000	1,725.27	0.00	0.00	207.00
147.0	Lightning Rod, 7'	1	28.534	48.223	1.00	1.05	0.000	3.500	50.63	0.00	177.22	35.00
									11,676.46			7,716.60

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
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 Shape : 12 Sides
 Base Dia : 45.85 (in)
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Base Elev : 0.000 (ft)

Load Case: No Ice 85.00 mph Wind with No Ice 24 Iterations
 Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	609.21	1,352.97	0.00	0.00
10.00	597.47	1,332.00	0.00	0.00
15.00	585.73	1,311.03	0.00	0.00
20.00	573.99	1,290.05	0.00	0.00
25.00	562.25	1,269.08	0.00	0.00
29.25	468.69	1,062.23	0.00	0.00
30.00	83.34	312.35	0.00	0.00
34.50	500.80	1,855.70	0.00	0.00
35.00	55.28	109.97	0.00	0.00
40.00	567.45	1,089.83	0.00	0.00
45.00	574.04	1,071.86	0.00	0.00
50.00	578.37	1,053.88	0.00	0.00
55.00	580.75	1,035.90	0.00	0.00
59.00	464.04	815.78	0.00	0.00
60.00	117.16	327.12	0.00	0.00
63.75	442.00	1,214.98	0.00	0.00
65.00	146.37	221.32	0.00	0.00
70.00	588.92	875.92	0.00	0.00
75.00	585.80	860.94	0.00	0.00
80.00	581.59	845.96	0.00	0.00
85.00	576.37	830.98	0.00	0.00
90.00	570.22	816.00	0.00	0.00
95.00	563.22	801.02	0.00	0.00
99.50	499.89	708.11	0.00	0.00
100.0	55.74	119.04	0.00	0.00
103.2	361.66	767.21	0.00	0.00
105.0	192.82	236.48	0.00	0.00
110.0	3,680.49	2,834.56	0.00	0.00
115.0	537.32	595.58	0.00	0.00
120.0	526.92	583.60	0.00	0.00
125.0	3,027.31	2,475.21	0.00	0.00
130.0	504.38	439.63	0.00	0.00
135.0	3,558.73	2,189.64	0.00	0.00
140.0	479.70	365.66	0.00	0.00
145.0	466.61	353.67	0.00	0.00
147.0	3,147.59	2,022.11	0.00	177.22
Totals:	28,012.20	35,447.37	0.00	177.22

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
 Base Dia : 45.85 (in)
 Top Dia : 22.00 (in)
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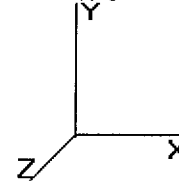
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Base Elev : 0.000 (ft)



Load Case: No Ice 85.00 mph Wind with No Ice 24 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-28.085	-35.389	0.000	0.000	0.000	-2,821.536	0.000	0.000	0.000	0.000
5.00	-27.611	-33.925	0.000	0.000	0.000	-2,681.116	-0.125	0.000	0.125	-0.232
10.00	-27.138	-32.486	0.000	0.000	0.000	-2,543.064	-0.493	0.000	0.493	-0.466
15.00	-26.667	-31.072	0.000	0.000	0.000	-2,407.375	-1.108	0.000	1.108	-0.702
20.00	-26.198	-29.682	0.000	0.000	0.000	-2,274.040	-1.969	0.000	1.969	-0.938
25.00	-25.721	-28.325	0.000	0.000	0.000	-2,143.052	-3.079	0.000	3.079	-1.175
29.25	-25.286	-27.221	0.000	0.000	0.000	-2,033.738	-4.217	0.000	4.217	-1.378
30.00	-25.254	-26.855	0.000	0.000	0.000	-2,014.775	-4.437	0.000	4.437	-1.415
34.50	-24.756	-24.962	0.000	0.000	0.000	-1,901.132	-5.875	0.000	5.875	-1.630
35.00	-24.760	-24.791	0.000	0.000	0.000	-1,888.755	-6.047	0.000	6.047	-1.655
40.00	-24.267	-23.609	0.000	0.000	0.000	-1,764.955	-7.920	0.000	7.920	-1.916
45.00	-23.757	-22.451	0.000	0.000	0.000	-1,643.621	-10.067	0.000	10.067	-2.177
50.00	-23.233	-21.317	0.000	0.000	0.000	-1,524.838	-12.486	0.000	12.486	-2.436
55.00	-22.688	-20.217	0.000	0.000	0.000	-1,408.674	-15.175	0.000	15.175	-2.694
59.00	-22.228	-19.375	0.000	0.000	0.000	-1,317.923	-17.519	0.000	17.519	-2.899
60.00	-22.135	-19.007	0.000	0.000	0.000	-1,295.695	-18.132	0.000	18.132	-2.951
63.75	-21.668	-17.770	0.000	0.000	0.000	-1,212.690	-20.525	0.000	20.525	-3.141
65.00	-21.563	-17.491	0.000	0.000	0.000	-1,185.605	-21.356	0.000	21.356	-3.206
70.00	-21.004	-16.550	0.000	0.000	0.000	-1,077.791	-24.862	0.000	24.862	-3.485
75.00	-20.439	-15.632	0.000	0.000	0.000	-972.773	-28.657	0.000	28.657	-3.758
80.00	-19.868	-14.738	0.000	0.000	0.000	-870.582	-32.732	0.000	32.732	-4.022
85.00	-19.293	-13.867	0.000	0.000	0.000	-771.244	-37.079	0.000	37.079	-4.277
90.00	-18.716	-13.020	0.000	0.000	0.000	-674.778	-41.686	0.000	41.686	-4.521
95.00	-18.135	-12.200	0.000	0.000	0.000	-581.198	-46.541	0.000	46.541	-4.751
99.50	-17.599	-11.505	0.000	0.000	0.000	-499.590	-51.108	0.000	51.108	-4.944
100.0	-17.548	-11.367	0.000	0.000	0.000	-490.791	-51.627	0.000	51.627	-4.966
103.2	-17.139	-10.605	0.000	0.000	0.000	-433.761	-55.050	0.000	55.050	-5.097
105.0	-16.951	-10.346	0.000	0.000	0.000	-403.769	-56.928	0.000	56.928	-5.164
110.0	-13.051	-7.819	0.000	0.000	0.000	-319.016	-62.442	0.000	62.442	-5.367
115.0	-12.480	-7.241	0.000	0.000	0.000	-253.760	-68.152	0.000	68.152	-5.544
120.0	-11.915	-6.684	0.000	0.000	0.000	-191.359	-74.033	0.000	74.033	-5.694
125.0	-8.663	-4.509	0.000	0.000	0.000	-131.785	-80.055	0.000	80.055	-5.815
130.0	-8.122	-4.112	0.000	0.000	0.000	-88.472	-86.186	0.000	86.186	-5.906
135.0	-4.357	-2.299	0.000	0.000	0.000	-47.864	-92.397	0.000	92.397	-5.968
140.0	-3.843	-1.984	0.000	0.000	0.000	-26.078	-98.658	0.000	98.658	-6.006
145.0	-3.342	-1.680	0.000	0.000	0.000	-6.862	-104.948	0.000	104.948	-6.025
147.0	-3.148	0.000	0.000	0.000	0.000	-0.177	-107.468	0.000	107.468	-6.026

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
 Base Dia : 45.85 (in)
 Top Dia : 22.00 (in)
 Taper : 0.175000 (in/ft)

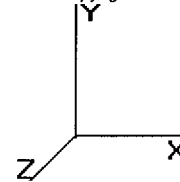
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Base Elev : 0.000 (ft)



Load Case: No Ice 85.00 mph Wind with No Ice 24 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Stresses

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio	
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.55	0.89	0.00	0.00	0.00	47.72	48.30	52.0	0.0	0.929
5.00	0.54	0.89	0.00	0.00	0.00	47.15	47.72	52.0	0.0	0.918
10.00	0.53	0.90	0.00	0.00	0.00	46.54	47.10	52.0	0.0	0.906
15.00	0.52	0.90	0.00	0.00	0.00	45.89	46.43	52.0	0.0	0.893
20.00	0.50	0.90	0.00	0.00	0.00	45.19	45.72	52.0	0.0	0.879
25.00	0.49	0.90	0.00	0.00	0.00	44.43	44.95	52.0	0.0	0.864
29.25	0.48	0.91	0.00	0.00	0.00	43.74	44.25	52.0	0.0	0.851
30.00	0.47	0.91	0.00	0.00	0.00	43.62	44.12	52.0	0.0	0.849
34.50	0.51	1.04	0.00	0.00	0.00	47.89	48.43	52.0	0.0	0.931
35.00	0.51	1.04	0.00	0.00	0.00	47.78	48.33	52.0	0.0	0.929
40.00	0.50	1.04	0.00	0.00	0.00	46.67	47.21	52.0	0.0	0.908
45.00	0.48	1.04	0.00	0.00	0.00	45.48	46.00	52.0	0.0	0.885
50.00	0.47	1.04	0.00	0.00	0.00	44.20	44.71	52.0	0.0	0.860
55.00	0.46	1.04	0.00	0.00	0.00	42.82	43.31	52.0	0.0	0.833
59.00	0.45	1.04	0.00	0.00	0.00	41.64	42.13	52.0	0.0	0.810
60.00	0.44	1.04	0.00	0.00	0.00	41.35	41.83	52.0	0.0	0.804
63.75	0.49	1.22	0.00	0.00	0.00	46.27	46.82	52.0	0.0	0.900
65.00	0.49	1.23	0.00	0.00	0.00	45.80	46.34	52.0	0.0	0.891
70.00	0.47	1.22	0.00	0.00	0.00	43.78	44.30	52.0	0.0	0.852
75.00	0.46	1.22	0.00	0.00	0.00	41.59	42.11	52.0	0.0	0.810
80.00	0.45	1.22	0.00	0.00	0.00	39.24	39.74	52.0	0.0	0.764
85.00	0.43	1.22	0.00	0.00	0.00	36.70	37.19	52.0	0.0	0.715
90.00	0.42	1.21	0.00	0.00	0.00	33.94	34.42	52.0	0.0	0.662
95.00	0.40	1.21	0.00	0.00	0.00	30.96	31.43	52.0	0.0	0.604
99.50	0.39	1.20	0.00	0.00	0.00	28.06	28.52	52.0	0.0	0.549
100.00	0.38	1.20	0.00	0.00	0.00	27.73	28.19	52.0	0.0	0.542
103.25	0.45	1.47	0.00	0.00	0.00	30.58	31.14	48.0	0.0	0.649
105.00	0.44	1.47	0.00	0.00	0.00	29.07	29.62	48.0	0.0	0.617
110.00	0.34	1.17	0.00	0.00	0.00	24.42	24.85	48.0	0.0	0.518
115.00	0.33	1.15	0.00	0.00	0.00	20.70	21.12	48.0	0.0	0.440
120.00	0.31	1.14	0.00	0.00	0.00	16.66	17.09	48.0	0.0	0.356
125.00	0.22	0.85	0.00	0.00	0.00	12.28	12.58	48.0	0.0	0.262
130.00	0.21	0.83	0.00	0.00	0.00	8.84	9.16	48.0	0.0	0.191
135.00	0.12	0.46	0.00	0.00	0.00	5.14	5.32	48.0	0.0	0.111
140.00	0.11	0.42	0.00	0.00	0.00	3.02	3.21	48.0	0.0	0.067
145.00	0.09	0.38	0.00	0.00	0.00	0.86	1.16	48.0	0.0	0.024
147.00	0.00	0.37	0.00	0.00	0.00	0.02	0.63	48.0	0.0	0.013

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
 Base Dia : 45.85 (in)
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 Taper : 0.175000 (in/ft)

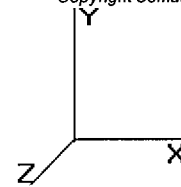
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Base Elev : 0.000 (ft)



Load Case: Ice

73.61 mph Wind with Ice

24 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Shaft Segment Forces

Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		0.00	1.00	13.871	23.44	281.25	1.030	0.50	0.00	0.000	0.00	0.0	0.0	
5.00		0.00	1.00	13.871	23.44	275.88	1.030	0.50	5.00	19.338	19.92	466.9	142.4	1,220.3
10.00		0.00	1.00	13.871	23.44	270.51	1.030	0.50	5.00	18.974	19.54	458.1	139.6	1,196.6
15.00		0.00	1.00	13.871	23.44	265.14	1.030	0.50	5.00	18.609	19.17	449.3	136.9	1,172.9
20.00		0.00	1.00	13.871	23.44	259.78	1.030	0.50	5.00	18.245	18.79	440.5	134.1	1,149.2
25.00		0.00	1.00	13.871	23.44	254.41	1.030	0.50	5.00	17.880	18.42	431.7	131.4	1,125.5
29.25	Bot - Section 2	0.00	1.00	13.871	23.44	249.85	1.030	0.50	4.25	14.911	15.36	360.0	109.7	938.2
30.00		0.00	1.00	13.871	23.44	249.04	1.030	0.50	0.75	2.651	2.73	64.0	19.7	290.8
34.50	Top - Section 1	0.00	1.01	14.048	23.74	245.77	1.030	0.50	4.50	15.734	16.21	384.7	115.7	1,723.9
35.00		0.00	1.01	14.106	23.84	250.37	1.030	0.50	0.50	1.730	1.78	42.5	12.8	95.3
40.00		0.00	1.05	14.655	24.76	249.68	1.030	0.50	5.00	17.099	17.61	436.2	125.5	940.4
45.00		0.00	1.09	15.156	25.61	248.30	1.030	0.50	5.00	16.734	17.24	441.5	122.8	919.7
50.00		0.00	1.12	15.620	26.39	246.37	1.030	0.50	5.00	16.370	16.86	445.1	120.1	898.9
55.00		0.00	1.15	16.051	27.12	243.98	1.030	0.50	5.00	16.005	16.49	447.2	117.3	878.2
59.00	Bot - Section 3	0.00	1.18	16.376	27.67	241.77	1.030	0.50	4.00	12.542	12.92	357.5	92.1	687.9
60.00		0.00	1.18	16.455	27.80	241.18	1.030	0.50	1.00	3.151	3.25	90.3	23.3	295.4
63.75	Top - Section 2	0.00	1.20	16.742	28.29	238.86	1.030	0.50	3.75	11.686	12.04	340.6	85.9	1,094.6
65.00		0.00	1.21	16.836	28.45	242.27	1.030	0.50	1.25	3.850	3.97	112.8	28.4	181.0
70.00		0.00	1.24	17.196	29.06	238.87	1.030	0.50	5.00	15.172	15.63	454.1	111.1	712.0
75.00		0.00	1.26	17.538	29.63	235.20	1.030	0.50	5.00	14.807	15.25	452.0	108.3	694.3
80.00		0.00	1.28	17.865	30.19	231.29	1.030	0.50	5.00	14.443	14.88	449.1	105.6	676.5
85.00		0.00	1.31	18.177	30.71	227.15	1.030	0.50	5.00	14.078	14.50	445.4	102.8	658.8
90.00		0.00	1.33	18.476	31.22	222.82	1.030	0.50	5.00	13.713	14.12	441.0	100.1	641.1
95.00		0.00	1.35	18.764	31.71	218.31	1.030	0.50	5.00	13.349	13.75	436.0	97.4	623.4
99.50	Bot - Section 4	0.00	1.37	19.013	32.13	214.10	1.030	0.50	4.50	11.702	12.05	387.3	85.4	546.0
100.0		0.00	1.37	19.041	32.17	213.62	1.030	0.50	0.50	1.303	1.34	43.2	9.6	101.2
103.2	Top - Section 3	0.00	1.38	19.215	32.47	210.50	1.030	0.50	3.25	8.380	8.63	280.3	61.4	649.8
105.0		0.00	1.39	19.308	32.63	212.40	1.030	0.50	1.75	4.448	4.58	149.5	32.7	172.9
110.0	Appertunance(s)	0.00	1.41	19.566	33.06	207.45	1.030	0.50	5.00	12.463	12.84	424.5	90.7	483.3
115.0		0.00	1.42	19.816	33.49	202.35	1.030	0.50	5.00	12.099	12.46	417.3	88.0	468.5
120.0		0.00	1.44	20.059	33.89	197.13	1.030	0.50	5.00	11.734	12.09	409.7	85.2	453.8
125.0	Appertunance(s)	0.00	1.46	20.294	34.29	191.79	1.030	0.50	5.00	11.370	11.71	401.6	82.5	439.1
130.0		0.00	1.48	20.523	34.68	186.34	1.030	0.50	5.00	11.005	11.34	393.1	79.8	424.4
135.0	Appertunance(s)	0.00	1.49	20.745	35.05	180.78	1.030	0.50	5.00	10.641	10.96	384.2	77.0	409.7
140.0		0.00	1.51	20.962	35.42	175.13	1.030	0.50	5.00	10.276	10.58	375.0	74.3	394.9
145.0		0.00	1.52	21.173	35.78	169.38	1.030	0.50	5.00	9.911	10.21	365.3	71.5	380.2
147.0	Appertunance(s)	0.00	1.53	21.256	35.92	167.05	1.030	0.50	2.00	3.862	3.98	142.9	28.2	148.3
Totals:								147.00			12,620.8	3,149.2	23,887.0	

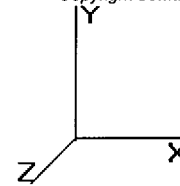
Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
 Base Dia : 45.85 (in)
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Base Elev : 0.000 (ft)

Load Case: Ice

73.61 mph Wind with Ice

24 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Discrete Appurtenance Segment Forces

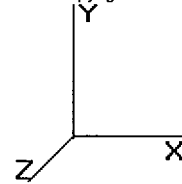
Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
110.0	21401 TMA	12	19.566	33.067	0.67	9.36	0.000	0.000	309.66	0.00	0.00	279.60
110.0	Low Profile platform	1	19.566	33.067	1.00	26.00	0.000	0.000	859.74	0.00	0.00	2,100.00
110.0	Allgon 7770	9	19.566	33.067	0.73	42.90	0.000	0.000	1,418.64	0.00	0.00	608.67
125.0	APX16DWV-16DWV-S-	6	20.294	34.297	0.64	28.22	0.000	0.000	968.00	0.00	0.00	430.20
125.0	Low Profile Platform	1	20.294	34.297	1.00	27.32	0.000	0.000	936.99	0.00	0.00	2,100.00
125.0	S20057A1 TMA	6	20.294	34.297	0.74	4.53	0.000	0.000	155.32	0.00	0.00	98.46
135.0	Low Profile platform	1	20.745	35.059	1.00	26.00	0.000	0.000	911.55	0.00	0.00	2,100.00
135.0	DB844H90	12	20.745	35.059	0.91	49.36	0.000	0.000	1,730.48	0.00	0.00	420.00
147.0	Low Profile platform	1	21.256	35.923	1.00	26.00	0.000	0.000	934.00	0.00	0.00	2,100.00
147.0	RR65-19-02DP	9	21.256	35.923	0.67	41.12	0.000	0.000	1,477.17	0.00	0.00	468.00
147.0	Lightning Rod, 7'	1	21.400	36.165	1.00	1.73	0.000	3.500	62.57	0.00	218.98	44.00
									9,764.10			10,748.93

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
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Base Elev : 0.000 (ft)

Load Case: Ice

73.61 mph Wind with Ice

24 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	466.94	1,495.33	0.00	0.00
10.00	458.13	1,471.62	0.00	0.00
15.00	449.33	1,447.91	0.00	0.00
20.00	440.53	1,424.20	0.00	0.00
25.00	431.72	1,400.49	0.00	0.00
29.25	360.04	1,171.94	0.00	0.00
30.00	64.01	332.00	0.00	0.00
34.50	384.75	1,971.40	0.00	0.00
35.00	42.48	122.80	0.00	0.00
40.00	436.19	1,215.37	0.00	0.00
45.00	441.50	1,194.65	0.00	0.00
50.00	445.08	1,173.94	0.00	0.00
55.00	447.18	1,153.22	0.00	0.00
59.00	357.51	907.88	0.00	0.00
60.00	90.25	350.43	0.00	0.00
63.75	340.58	1,300.84	0.00	0.00
65.00	112.82	249.77	0.00	0.00
70.00	454.13	986.97	0.00	0.00
75.00	452.04	969.25	0.00	0.00
80.00	449.12	951.53	0.00	0.00
85.00	445.43	933.81	0.00	0.00
90.00	441.04	916.09	0.00	0.00
95.00	436.00	898.38	0.00	0.00
99.50	387.30	793.51	0.00	0.00
100.0	43.18	128.66	0.00	0.00
103.2	280.29	828.57	0.00	0.00
105.0	149.51	269.18	0.00	0.00
110.0	3,012.53	3,746.54	0.00	0.00
115.0	417.34	683.55	0.00	0.00
120.0	409.72	668.82	0.00	0.00
125.0	2,461.96	3,282.76	0.00	0.00
130.0	393.15	519.38	0.00	0.00
135.0	3,026.27	3,024.65	0.00	0.00
140.0	374.95	439.93	0.00	0.00
145.0	365.29	425.21	0.00	0.00
147.0	2,616.65	2,778.29	0.00	218.98
Totals:	22,384.94	41,628.89	0.00	218.98

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
 Shape : 12 Sides
 Base Dia : 45.85 (in)
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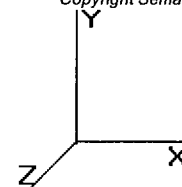
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Base Elev : 0.000 (ft)



Load Case: Ice

73.61 mph Wind with Ice

24 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-22.455	-41.591	0.000	0.000	0.000	-2,312.350	0.000	0.000	0.000	0.000
5.00	-22.119	-40.022	0.000	0.000	0.000	-2,200.079	-0.102	0.000	0.102	-0.191
10.00	-21.783	-38.480	0.000	0.000	0.000	-2,089.486	-0.405	0.000	0.405	-0.383
15.00	-21.447	-36.964	0.000	0.000	0.000	-1,980.573	-0.909	0.000	0.909	-0.576
20.00	-21.111	-35.473	0.000	0.000	0.000	-1,873.341	-1.616	0.000	1.616	-0.771
25.00	-20.765	-34.014	0.000	0.000	0.000	-1,767.791	-2.528	0.000	2.528	-0.966
29.25	-20.440	-32.814	0.000	0.000	0.000	-1,679.540	-3.465	0.000	3.465	-1.134
30.00	-20.429	-32.446	0.000	0.000	0.000	-1,664.210	-3.646	0.000	3.646	-1.164
34.50	-20.053	-30.449	0.000	0.000	0.000	-1,572.281	-4.829	0.000	4.829	-1.342
35.00	-20.071	-30.285	0.000	0.000	0.000	-1,562.254	-4.971	0.000	4.971	-1.363
40.00	-19.714	-29.007	0.000	0.000	0.000	-1,461.899	-6.513	0.000	6.513	-1.579
45.00	-19.342	-27.753	0.000	0.000	0.000	-1,363.333	-8.283	0.000	8.283	-1.795
50.00	-18.957	-26.524	0.000	0.000	0.000	-1,266.625	-10.278	0.000	10.278	-2.010
55.00	-18.553	-25.326	0.000	0.000	0.000	-1,171.840	-12.498	0.000	12.498	-2.224
59.00	-18.204	-24.400	0.000	0.000	0.000	-1,097.630	-14.434	0.000	14.434	-2.395
60.00	-18.142	-24.021	0.000	0.000	0.000	-1,079.426	-14.940	0.000	14.940	-2.438
63.75	-17.787	-22.704	0.000	0.000	0.000	-1,011.394	-16.919	0.000	16.919	-2.597
65.00	-17.719	-22.415	0.000	0.000	0.000	-989.162	-17.606	0.000	17.606	-2.651
70.00	-17.304	-21.381	0.000	0.000	0.000	-900.567	-20.507	0.000	20.507	-2.884
75.00	-16.882	-20.371	0.000	0.000	0.000	-814.048	-23.648	0.000	23.648	-3.112
80.00	-16.454	-19.384	0.000	0.000	0.000	-729.639	-27.025	0.000	27.025	-3.333
85.00	-16.021	-18.420	0.000	0.000	0.000	-647.370	-30.630	0.000	30.630	-3.547
90.00	-15.583	-17.480	0.000	0.000	0.000	-567.268	-34.453	0.000	34.453	-3.752
95.00	-15.139	-16.566	0.000	0.000	0.000	-489.354	-38.485	0.000	38.485	-3.945
99.50	-14.722	-15.779	0.000	0.000	0.000	-421.229	-42.281	0.000	42.281	-4.109
100.0	-14.687	-15.637	0.000	0.000	0.000	-413.868	-42.712	0.000	42.712	-4.127
103.2	-14.369	-14.810	0.000	0.000	0.000	-366.136	-45.558	0.000	45.558	-4.237
105.0	-14.230	-14.524	0.000	0.000	0.000	-340.991	-47.120	0.000	47.120	-4.294
110.0	-10.970	-10.988	0.000	0.000	0.000	-269.845	-51.708	0.000	51.708	-4.466
115.0	-10.525	-10.314	0.000	0.000	0.000	-214.996	-56.463	0.000	56.463	-4.615
120.0	-10.081	-9.661	0.000	0.000	0.000	-162.373	-61.362	0.000	61.362	-4.743
125.0	-7.364	-6.584	0.000	0.000	0.000	-111.967	-66.381	0.000	66.381	-4.845
130.0	-6.935	-6.092	0.000	0.000	0.000	-75.149	-71.493	0.000	71.493	-4.922
135.0	-3.661	-3.337	0.000	0.000	0.000	-40.476	-76.673	0.000	76.673	-4.975
140.0	-3.251	-2.930	0.000	0.000	0.000	-22.171	-81.895	0.000	81.895	-5.007
145.0	-2.850	-2.538	0.000	0.000	0.000	-5.919	-87.142	0.000	87.142	-5.023
147.0	-2.617	0.000	0.000	0.000	0.000	-0.219	-89.244	0.000	89.244	-5.025

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
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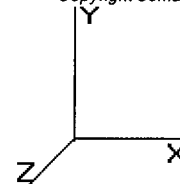
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Base Elev : 0.000 (ft)



Load Case: Ice

73.61 mph Wind with Ice

24 Iterations

Gust Response Factor : 1.69

Dead Load Factor : 1.00

Wind Load Factor : 1.00

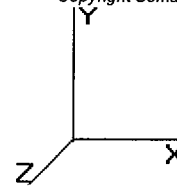
Calculated Stresses

Seg Elev (ft)	Applied Stresses							Combined (ksi)	Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)				
0.00	0.65	0.71	0.00	0.00	0.00	39.11	39.78	52.0	0.0	0.765
5.00	0.64	0.72	0.00	0.00	0.00	38.69	39.35	52.0	0.0	0.757
10.00	0.63	0.72	0.00	0.00	0.00	38.24	38.89	52.0	0.0	0.748
15.00	0.61	0.72	0.00	0.00	0.00	37.75	38.39	52.0	0.0	0.738
20.00	0.60	0.73	0.00	0.00	0.00	37.22	37.85	52.0	0.0	0.728
25.00	0.59	0.73	0.00	0.00	0.00	36.65	37.26	52.0	0.0	0.717
29.25	0.58	0.73	0.00	0.00	0.00	36.12	36.72	52.0	0.0	0.706
30.00	0.57	0.73	0.00	0.00	0.00	36.03	36.63	52.0	0.0	0.704
34.50	0.63	0.84	0.00	0.00	0.00	39.60	40.26	52.0	0.0	0.774
35.00	0.63	0.84	0.00	0.00	0.00	39.52	40.17	52.0	0.0	0.773
40.00	0.61	0.85	0.00	0.00	0.00	38.66	39.30	52.0	0.0	0.756
45.00	0.60	0.85	0.00	0.00	0.00	37.73	38.35	52.0	0.0	0.738
50.00	0.59	0.85	0.00	0.00	0.00	36.71	37.33	52.0	0.0	0.718
55.00	0.57	0.85	0.00	0.00	0.00	35.62	36.22	52.0	0.0	0.697
59.00	0.56	0.85	0.00	0.00	0.00	34.68	35.28	52.0	0.0	0.678
60.00	0.56	0.85	0.00	0.00	0.00	34.44	35.03	52.0	0.0	0.674
63.75	0.63	1.00	0.00	0.00	0.00	38.59	39.26	52.0	0.0	0.755
65.00	0.63	1.01	0.00	0.00	0.00	38.21	38.88	52.0	0.0	0.748
70.00	0.61	1.01	0.00	0.00	0.00	36.58	37.23	52.0	0.0	0.716
75.00	0.60	1.01	0.00	0.00	0.00	34.81	35.45	52.0	0.0	0.682
80.00	0.59	1.01	0.00	0.00	0.00	32.89	33.52	52.0	0.0	0.645
85.00	0.57	1.01	0.00	0.00	0.00	30.80	31.42	52.0	0.0	0.604
90.00	0.56	1.01	0.00	0.00	0.00	28.54	29.15	52.0	0.0	0.561
95.00	0.54	1.01	0.00	0.00	0.00	26.07	26.67	52.0	0.0	0.513
99.50	0.53	1.01	0.00	0.00	0.00	23.66	24.25	52.0	0.0	0.466
100.00	0.53	1.01	0.00	0.00	0.00	23.38	23.98	52.0	0.0	0.461
103.25	0.63	1.23	0.00	0.00	0.00	25.81	26.53	48.0	0.0	0.553
105.00	0.62	1.23	0.00	0.00	0.00	24.55	25.26	48.0	0.0	0.526
110.00	0.48	0.98	0.00	0.00	0.00	20.66	21.21	48.0	0.0	0.442
115.00	0.47	0.97	0.00	0.00	0.00	17.53	18.08	48.0	0.0	0.377
120.00	0.45	0.96	0.00	0.00	0.00	14.14	14.68	48.0	0.0	0.306
125.00	0.32	0.73	0.00	0.00	0.00	10.43	10.82	48.0	0.0	0.225
130.00	0.31	0.71	0.00	0.00	0.00	7.51	7.91	48.0	0.0	0.165
135.00	0.17	0.39	0.00	0.00	0.00	4.35	4.57	48.0	0.0	0.095
140.00	0.16	0.36	0.00	0.00	0.00	2.57	2.79	48.0	0.0	0.058
145.00	0.14	0.33	0.00	0.00	0.00	0.74	1.05	48.0	0.0	0.022
147.00	0.00	0.30	0.00	0.00	0.00	0.03	0.53	48.0	0.0	0.011

Pole : CT03XC040
 Location : 3017641 - 150 Main St. Branford, CT
 Height : 147.0 (ft)
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Base Elev : 0.000 (ft)

Analysis Summary

Load Case	Reactions						Combined Stress (ksi)	Max Stresses		
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)		Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	28.1	0.00	35.39	0.00	0.00	2821.54	48.43	52.0	34.50	0.931
Ice	22.5	0.00	41.59	0.00	0.00	2312.35	40.26	52.0	34.50	0.774

Exhibit 3

Technical Memo

To: Karina Fournier
From: Alex Murillo - Radio Frequency Engineer
cc: Jason Overbey
Subject: Power Density Report for CTNH107A
Date: March 8, 2007

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the T-Mobile PCS antenna installation on a Monopole at 148-160 North Main St, Branford, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

- 1) The emissions from T-Mobile transmitters are in the 1935-1945 MHz frequency band.
- 2) The antenna array consists of three sectors, with 2 antennas per sector.
- 3) The model number for each antenna is APX16PV-16PVLE.
- 4) The antenna center line height is 125 ft.
- 5) The maximum transmit power from any sector is 2143.48 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
- 6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
- 7) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 8) The average ground level of the studied area does not change significantly with respect to the transmitting location

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the T-Mobile PCS antenna installation on a Monopole at 148-160 North Main St, Branford, CT, is 0.03321 mW/cm². This value represents 3.321% of the Maximum Permissible Exposure (MPE) standard of 1 milliwatt per square centimeter (mW/cm²) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for T-Mobile will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.

The combined Power Density from other carriers is 40.29%. The combined Power Density for the site is 43.611% of the M.P.E. standard.

New England Market



Worst Case Power Density

Site:	CTNH107A
Site Address:	148-160 North Main St
Town:	Branford
Tower Height:	147 ft.
Tower Style:	Monopole
Base Station TX output	20 W
Number of channels	8
Antenna Model	APX16PV-16PVLE
Cable Size	1 5/8
Cable Length	175 ft.
Antenna Height	125.0 ft.
Ground Reflection	1.6
Frequency	1945.0 MHz
Jumper & Connector loss	4.50 dB
Antenna Gain	17.8 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	2.0300 dB
Total Attenuation	6.5300 dB
Total EIRP per Channel	54.28 dBm
(In Watts)	267.94 W
Total EIRP per Sector	63.31 dBm
(In Watts)	2143.48 W
nsg	11.2700
Power Density (S) =	0.033208 mW/cm²
T-Mobile Worst Case % MPE =	3.3208%

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power) 10^{(nsg/10)}}{4\pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total

Carrier	% of Standard
Cingular UMTS	1.4900 %
Sprint PCS	9.9900 %
Nextel	4.1700 %
AT&T	9.9900 %
Cingular TDMA	8.1100 %
Cingular 800	3.0000 %
Cingular 1900	2.5400 %
Pagenet	1.0000 %
Total Excluding T-Mobile	40.2900 %
T-Mobile	3.3208
Total % MPE for Site	43.6108%