

EM-CLEARWIRE-011-100611

June 8, 2010

S. Derek Phelps, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RECEIVED
JUN 11 2010

CONNECTICUT
SITING COUNCIL

ORIGINAL

**Re: Notice of Exempt Modification
Clearwire Corporation Notice to make an Exempt Modification to an Existing
Facility at 30 Mountain Road (28 Brewer Street), Bloomfield, CT
Clearwire Site Number CT-HFD0020**

Dear Mr. Phelps,

Pursuant to Conn. Agency Regulations Sections 16-50j-73 and 16-50j-72(b), Clearwire Corporation (Clearwire) hereby gives notice to the Connecticut Siting Council (Council) and the Town of Bloomfield, CT. of Clearwire's intent to make an exempt modification to an existing monopole tower (tower) located at 30 Mountain Ave, AKA 28 Brewer Street, Bloomfield, CT. Specifically, Clearwire plans to add three (3) antennas to the tower, one (1) per sector and to add three (3) microwave dishes, one (1) per sector for backhaul at the 116' AGL. Pursuant to the Council's regulations, (Conn. Agency Regulations Section 16-50j-72(b)), Clearwire's plans do not constitute a modification subject to the Council's review because Clearwire will not change the height of the tower, will not extend the boundaries of the compound, will not increase the noise levels at the site and will not increase the total radio frequency electromagnetic radiation power density at the site to levels above applicable standards. A copy of this notice has been sent to the Town Manager of the Town of Bloomfield, CT.

Clearwire is currently developing a 4G wireless broadband network to provide high-speed wireless data and VoIP service within the State of Connecticut. Clearwire's 4G service leverages the WiMAX technology to enable enhanced wireless data communications. In order to accomplish the upgrade at this site, Clearwire plans to add three (3) WiMAX antennas, three (3) dishes and to install additional WiMAX related electronic equipment at the base of the tower.

The tower is a 120' monopole located at 30 Mountain Avenue (AKA 28 Brewer Street), Bloomfield, Connecticut (Latitude 41 50 6.6 N Longitude 72 44 28.2 W). The tower is owned by Crown Castle USA. Currently, T Mobile, Cingular, Verizon and AT&T are located on the tower, as well as a number of other public service antennas. Presently, Clearwire is not located at the site. Clearwire's base station equipment will be located on the ground next to the pole. A site plan with the tower elevations and site plan specifications is attached.

Clearwire will add three (3) antennas, one (1) to each sector, and mount three (3) microwave dishes, one (1) above each of those antennas. The center line for the microwave dishes will be 100'. Nine coaxial cables will be added to the structure, 2 per antenna and one per microwave dish. These cables will be inside the tower and bundled. To confirm that the tower

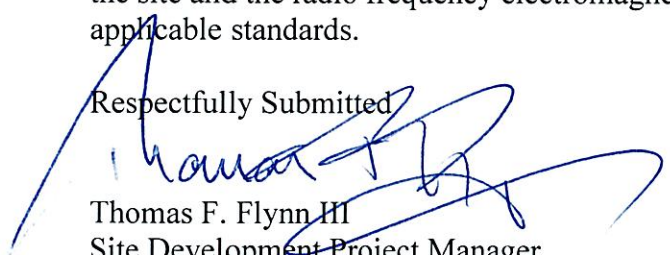
can support these changes, Clearwire commissioned GDP Associates to perform a structural analysis of the tower and the proposed changes. According to that structural dated May 27, 2010 and attached hereto, the structure is sufficient to support the proposed loading and will not need to be modified. The tower, with the additions and the modifications will be at less than 95.3% of its capacity.

Within the existing compound, Clearwire will install one (1) WiMAX radio and power cabinet on the existing pad at the site. The new equipment will be adjacent to the existing tower. Excluding brief, construction related noise during the addition of this equipment, the proposed changes to the tower will not increase noise levels at the site.

The addition of new WiMAX antennas and microwave dishes will not adversely impact the health and safety of the surrounding community or the people working on the tower. The total radio frequency exposure measured around the base of the tower will be well below the National Council on Radiation Protection and Measurements' (NCRP) standard adopted by the Federal Communications Commission (FCC). The worst case power density analysis for the WiMAX antennas and dishes, measured at the base of the tower, indicates that the WiMAX antennas and dishes will emit .0036% of the NCRP's standard for maximum permissible exposure. The cumulative power density analysis indicates that all the antennas on the structure will emit 30.2140% of the NCRP's standard for maximum permissible exposure. Therefore, the power density levels will be well below the FCC mandated radio frequency exposure limits in all locations around the base of the tower. The power density analysis is attached.

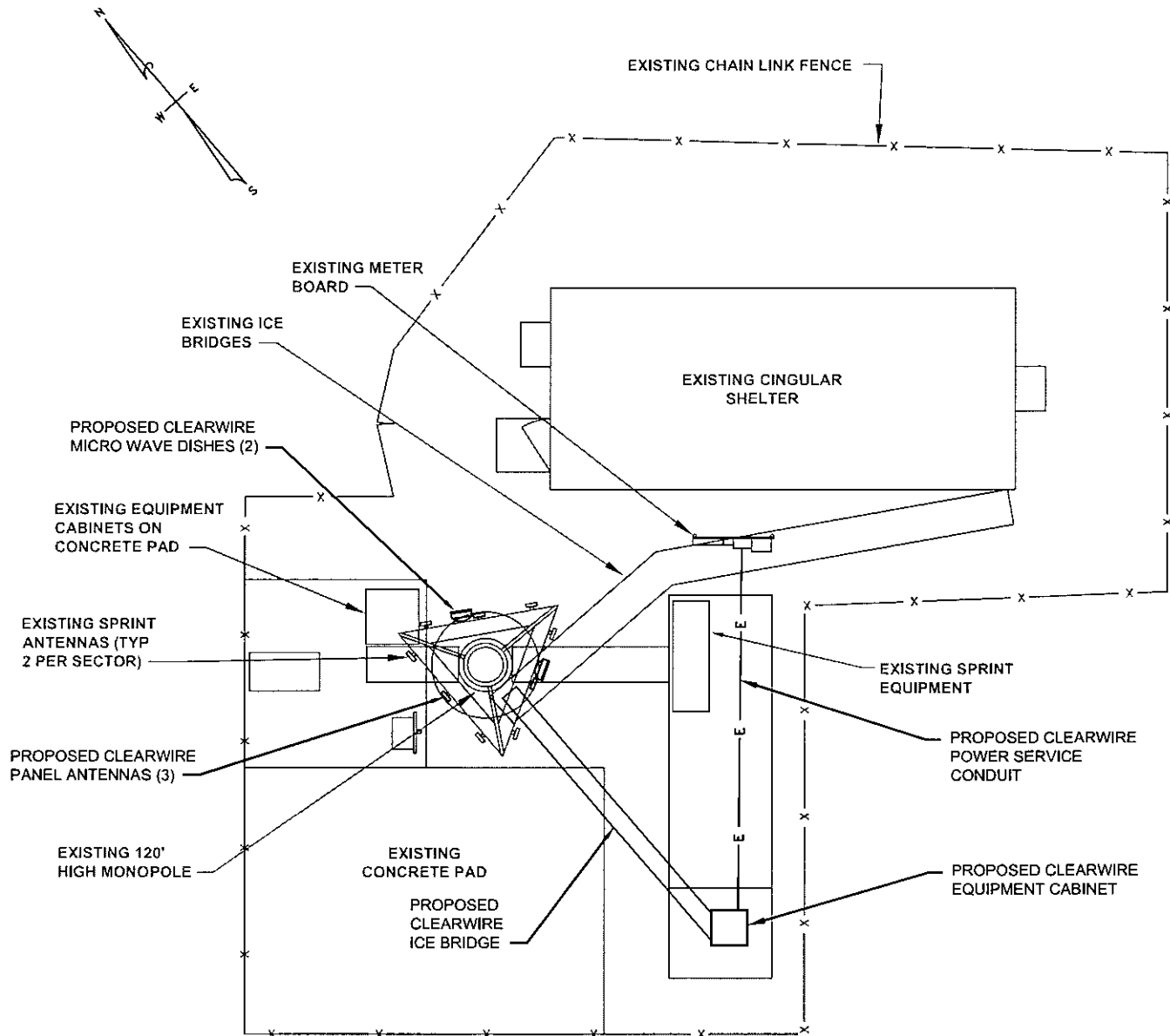
In conclusion, Clearwire's proposed plan to add three (3) WiMAX antennas, three (3) microwave dishes and the associated base station equipment does not constitute a modification subject to the Council's jurisdiction because Clearwire will not increase the height of the tower, will not extend the boundaries of the compound at the site, will not increase the noise levels at the site and the radio frequency electromagnetic radiation power density will stay within all applicable standards.

Respectfully Submitted



Thomas F. Flynn III
Site Development Project Manager
Maxton Technology Inc.
1296 Blue Hills Avenue
Bloomfield, CT 06002
508-821-6974
Tom.Flynn@maxtontech.com
Agent for Clearwire Corporation

Cc: Town Manager Louie Chapman
Town of Bloomfield



SITE PLAN

SCALE: NTS

ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO APPROVAL BY LESSEE/LICENSEE'S STRUCTURAL & RF ENGINEERS. LOCATION OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL BY UTILITIES COMPANIES.



clearwire®
CLEAR WIRELESS, LLC

4400 CARILLION POINT
KIRKLAND, WA 98033

PROJECT LOCATION:
BLOOMFIELD
CT-HFD0020A

30 MOUNTAIN AVENUE
BLOOMFIELD, CT

APPROVED BY:

SITE TYPE:
MONOPOLE
CO-LOCATION

PROJECT MANAGER:
PB

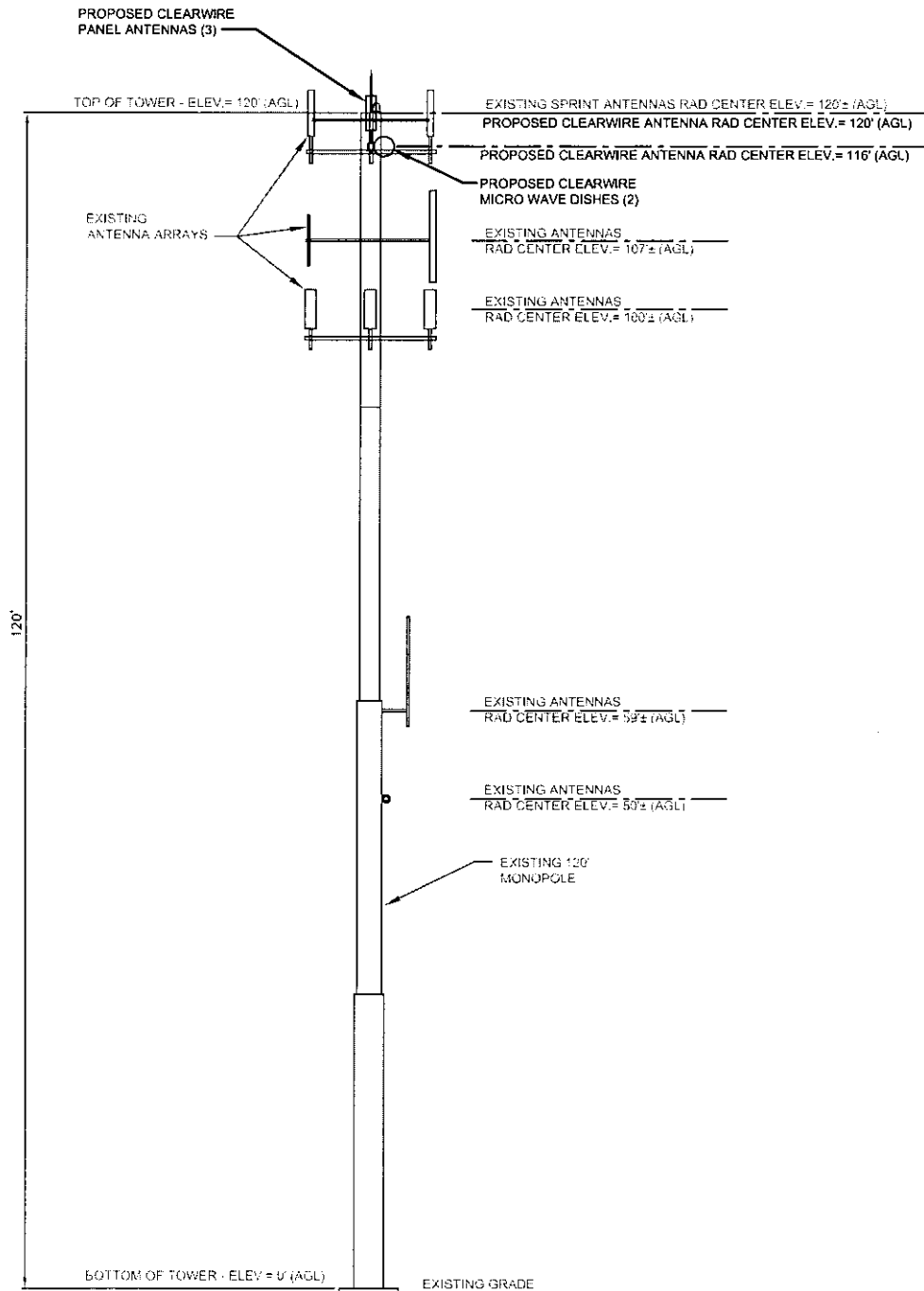
DRAWN BY:
ACG

DATE:
2/3/2010

REVISION:
1

DB PROJ. #:
09-083.16

L1



TOWER ELEVATION

SCALE: NTS

ALL EQUIPMENT LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO
APPROVAL BY LESSEE/LICENSEE'S STRUCTURAL & RF ENGINEERS.
LOCATION OF POWER & TELEPHONE FACILITIES ARE SUBJECT TO APPROVAL
BY UTILITIES COMPANIES.



clearwire®
CLEAR WIRELESS, LLC
4400 CARILLION POINT
KIRKLAND, WA 98033

PROJECT LOCATION:
BLOOMFIELD
CT-HFD0020A
30 MOUNTAIN AVENUE
BLOOMFIELD, CT
APPROVED BY:

SITE TYPE:
MONOPOLE
CO-LOCATION
PROJECT MANAGER:
PB
DATE:
2/3/2010
DRAWN BY:
ACG
REVISION:
1

DB PROJ. #:
09-083.16

L2

Date: May 27, 2010

Rose DeAngelo
Aero Solutions LLC, Inc.
5500 Flatiron Pkwy, Suite 100
Boulder, CO 80301
(720) 304-6882



GPD Associates
520 South Main St. Suite 2531
Akron, Ohio 44311
(216) 927-8648
bsmith@gpdgroup.com

Subject: Structural Modification Report

Carrier Designation: Clearwire Co-Locate
Carrier Site Number: CT03XC076

Crown Castle Designation: Crown Castle BU Number: 876329
Crown Castle Site Name: Mtn. View Cem. (Filley Park)
Crown Castle JDE Job Number: 129219

Engineering Firm Designation: GPD Associates Project Number: 2010111.41

Site Data: 28 Brewer Dr., Bloomfield, CT, Hartford County
Latitude 41° 50' 6.57", Longitude -72° 44' 28.2"
120 Foot – Modified Monopole Tower

Dear Rose DeAngelo,

GPD Associates is pleased to submit this "Structural Modification Report" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and in accordance with application 87969, revision 11.

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

LC4: Modified Structure w/ Existing + Reserved + Proposed

Sufficient Capacity

Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

The analysis has been performed in accordance with the TIA/EIA-222-F standard and all local code requirements based upon a wind speed of 80 mph fastest mile.

All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings by GPD Associates (Project #: 2010111.41, dated 5/27/10, see Appendix D) for the determined available structural capacity to be effective.

We at GPD Associates appreciate the opportunity of providing our continuing professional services to you and Crown Castle USA Inc. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:

David B. Granger, P.E.
Connecticut #: 17557

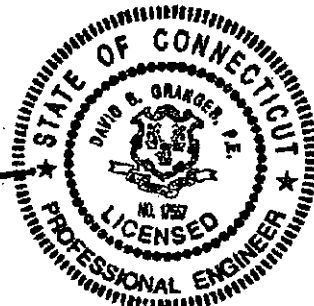


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Modification Design Drawings

1) INTRODUCTION

The existing monopole has a circular cross section and consists of four major sections, each with a constant diameter. It has a 36" Ø at the base and a 24" Ø at the top. The structure is galvanized and has no tower lighting.

This tower is a 120 ft Monopole tower designed by Rohn in October of 1996. The tower was originally designed for a wind speed of 85 mph per TIA/EIA-222-E.

Modifications designed by Semaan Engineering Solutions, Inc (Site #: CT03XC076, dated 10/21/03) consisted of the installation of channels to the pole from 0' - 70' and the installation of anchor rods brackets to the tower base. These modifications were included in this analysis.

Modifications designed by Tower Reinforcement, Inc (Job #: MR-709, dated 1/22/08) consisted of the installation of flat plates to the pole from 0' - 3', and from 67' - 81'. These modifications were included in this analysis.

Modifications designed by B & T Engineering (Project #: 79582, dated 9/24/08) consisted of the installation of modification channels to the pole from 30.5' - 36.5'. This modification was included in this analysis.

Modifications designed by GPD Associates (Project #: 2010111.41, dated 5/27/10, see Appendix D) consisted of the addition of modification channels from 0.5' - 22' and 36.5' - 41.5' and the installation of transition stiffeners to the tower base. These modifications were included in this analysis.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 69.3 mph with 0.5 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
116	120	3	Kathrein	840 10054	6 3	5/16 1/2	1
		1	Motorola	TIMING 2000			
		3	Samsung	WIMAX DAP HEAD			
	116	2	Dragonwave	A-ANT-18G-2-C			
		2	Dragonwave	Horizon Compact			

Notes:

1) See Appendix B for proposed coax layout.

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
116	120	6	EMS Wireless	RR90-17-00DP	6	1-5/8	
	116	1		Platform Mount [LP 502-1]			
107	107	1		Platform Mount [LP 712-1]	18	1-5/8	
		3	Andrew	Onebase Twin Dual Duplex TMA			
		3	Celwave	APX16DWV-16DWV-S-E-ACU			
		3	EMS Wireless	DR65-18-00DP			
97	100	6	ADC	DB800/1900 FB MSTHD	9	7/8	
		6	CSS	DUO1417-8686			
		3	Powerwave	7770.00	3	7/8	1
		6	Powerwave	LGP13519			
	97	1		Platform Mount [LP 502-1]			
87	87	3		Sector Mount [SM 801-1]	12	1-5/8	1
		6	Antel	LPA-185063/12CF			
		6	Antel	LPA-80063/4CFx5			
59	63	1	Decibel	DB536	1	1/2	
	59	1		Side Arm Mount [SO 701-1]			
50	50	1		GPS	1	1-5/8	

Notes:

1) Reserved Equipment

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
120	120	12		ALP9212	12	1-5/8
		1		Cellular Platform		
100	100	12		ALP9212	12	1-5/8
		1		Cellular Platform		

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Manufacturer Drawings	Rohn File #: 34738/SW, dated 10/23/96	Doc ID 2158527	Crown DMZ
Foundation Drawings	Rohn File #: 34738SW, dated 10/11/96	Doc ID # 1616549	Crown DMZ
Geotechnical Report	Dr. Clarence Welti, P.E., P.C., dated 8/9/96	Doc ID # 1529722	Crown DMZ
Previous Analysis	Paul J. Ford Project #: 37510-0214 R2, dated 4/26/10	Doc ID # 2638395	Crown DMZ
Modification Drawings	Semaan Site #: CT03XC076, dated 10/21/03	Doc ID# 1595477	Crown DMZ
Modification Drawings	TRI Job #: MR-709, dated 1/22/08	Doc ID # 2205450	Crown DMZ
Modification Drawings	B&T Engineering Project #: 79582, dated 9/24/08	Doc ID # 2343686	Crown DMZ
Modification Drawings	GPD Associates Project #: 2010111.41, dated 5/27/10	J. Cheronis	GPD

3.1) Analysis Method

RISATower (version 5.4.1.8), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.
- 5) Mount sizes, weights, and manufacturers are best estimates based on photos provided and determined without the benefit of a site visit by GPD.
- 6) The analysis and verification of the existing modification connection details is beyond the scope of this report. Therefore a review of those connection details was not provided in this analysis. We assume that the channel intermediate and end connections, bridge stiffener welds and anchor rod connections have been adequately designed to develop the forces created by the loading used this analysis. We also assume that Crown Castle has approved and accepted the previously installed modifications.
- 7) Existing channel and bridge stiffener reinforcing steel designed by Semaan Engineering Solutions has a yield strength of 50 ksi and unbraced length of 21" between intermediate welds.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	120 - 90	Pole	P24x1/4	1	-6.58	589.19	72.9	Pass
L2	90 - 80	Pole	P24x3/8	2	-9.09	934.94	72.2	Pass
L3	80 - 68	Pole & Reinf.	Mod P24x0.6268	3	-11.49	1546.07	85.5	Pass
L4	68 - 60	Pole & Reinf.	Mod P24x.6547	4	-13.23	1612.96	94.4	Pass
L5	60 - 45.25	Pole & Reinf.	Mod P30x.5773	5	-16.71	1792.53	90.4	Pass
L6	45.25 - 36.5	Pole & Reinf.	Mod P30x.7319	6	-19.13	2260.62	84.9	Pass
L7	36.5 - 30	Pole & Reinf.	Mod P30x.8912	7	-21.29	2737.66	78.7	Pass
L8	30 - 19	Pole & Reinf.	Mod P36x.642	8	-24.52	2395.53	90.9	Pass
L9	19 - 2	Pole & Reinf.	Mod P36x.8204	9	-30.35	3045.77	89.4	Pass
L10	2 - 0	Pole & Reinf.	Mod P36x.9445	10	-31.08	3494.13	83.2	Pass
							Summary	
						Pole (L4)	94.4	Pass
						Rating =	94.4	Pass

Table 6 - Tower Component Stresses vs. Capacity - LC4

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods		93.9	Pass
1	Base Plate		78.3	Pass
1	Base Foundation		79.2	Pass
1	Base Foundation Soil Interaction		37.0	Pass
1	Flange Plates	90	75.1	Pass
1	Flange Bolts	90	47.3	Pass
1	Flange Bridge Stiffeners	30	95.3	Pass

Structure Rating (max from all components) =	95.3%
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Notes:

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

Table 7- Dish Twist/Sway Results for 50 mph Service Wind Speed

Elevation (ft)	Dish Model	Diameter (ft)	Beamwidth (deg)	Tilt-Sway Limit (deg)	Calculated Tilt-Sway (deg)
116	A-ANT-18G-2-C	2.175	2.1	1.6	1.5623

Notes:

- 1) Twist-Sway Limit calculated per Annex C of TIA/EIA-222-F.

4.1) Recommendations

The design of the modified tower and its foundation will be satisfactory for the proposed loading once the modifications by GPD Associates (Project #: 2010111.41, dated 5/27/10, see Appendix D) are properly installed.

5) DISCLAIMER OF WARRANTIES

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

The engineering services rendered by GPD ASSOCIATES in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

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

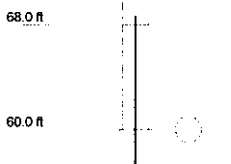
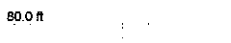
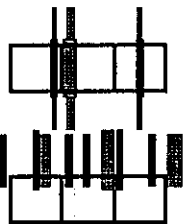
It is the owners responsibility to determine the amount of ice accumulation, if any, that should be considered in the structural analysis.

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

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

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

APPENDIX A
RISA TOWER OUTPUT



Section	10	9	8	7	6	5	4	3	2	1
Size	Mod P36x9445	Mod P35x8204	Mod P36x642	Mod P30x8912	Mod P30x7319	Mod P30x5773	Mod P24x6547	Mod P24x65268	P24x318	P24x114
Length (ft)	2.00	17.00	11.00	6.50	8.75	14.75	8.00	12.00	10.00	30.00
Grade							A53-B-42			
Weight (K)	211.07	5.2	2.7	1.8	2.0	2.7	1.3	1.9	0.9	1.9

DESIGNED APPURTENANCE LOADING

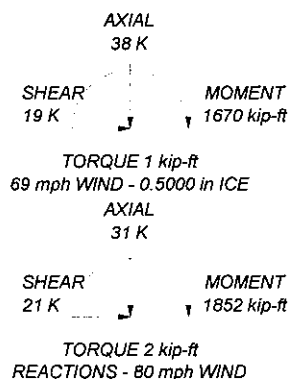
TYPE	ELEVATION	TYPE	ELEVATION
Platform Mount (LP 502-1)	116	DR65-18-00DP w/ mount pipe	107
(1) RR90-17-00DP w/ Mount Pipe	116	(1) DUO1417-8686 w/ Mount Pipe	97
(2) RR90-17-00DP w/ Mount Pipe	116	(2) DUO1417-8686 w/ Mount Pipe	97
(2) RR90-17-00DP w/ Mount Pipe	116	(2) DB800/1900 FB MSTDH	97
840 10054 w/ mount pipe	116	(1) DR800/1900 FR MSTDH	97
840 10054 w/ mount pipe	116	(2) DR800/1900 FR MSTDH	97
840 10054 w/ mount pipe	116	7770.00 w/ Mount Pipe	97
WIMAX DAP HEAD	116	7770.00 w/ Mount Pipe	97
WIMAX DAP HEAD	116	7770.00 w/ Mount Pipe	97
WIMAX DAP HEAD	116	(2) I GP13519	97
Horizon Comoad	116	(2) LGP13519	97
Horizon Compact	116	(2) I GP13519	97
TIMING 2000	116	Platform Mount LP 502-1	97
A-ANT-18G-2-C	116	(2) DUO1417-8686 w/ Mount Pipe	97
A-ANT-18G-2-C	116	Sector Mount ISM 801-1	87
DR65-18-00DP w/ mount pipe	107	(2) I PA-80063/4CFx5 w/ Mount Pipe	87
DR65-18-00DP w/ mount pipe	107	(2) I PA-80063/4CFx5 w/ Mount Pipe	87
DR65-18-00DP w/ mount pipe	107	(2) LPA-80063/4CFx5 w/ Mount Pipe	87
Mount Pipe	107	(2) I PA-185063/12CF w/ mount pipe	87
DR65-18-00DP w/ mount pipe	107	(2) I PA-185063/12CF w/ mount pipe	87
Mount Pipe	107	(2) LPA-185063/12CF w/ mount pipe	87
DR65-18-00DP w/ mount pipe	107	Sector Mount ISM 801-1	87
Mount Pipe	107	Sector Mount ISM 801-1	87
Onebase Twin Dual Duplex TMA	107	Side Arm Mount [SO 701-1]	59
Onebase Twin Dual Duplex TMA	107	DRF36	59
Onebase Twin Dual Duplex TMA	107	GPS	50
Platform Mount (LP 712-1)	107		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-42	42 ksi	63 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.



APPENDIX D
MODIFICATION DESIGN DRAWINGS

MTN. VIEW CEM. (FILLEY PARK)

BU# 876329

MODIFIED 120' MONOPOLE



PROJECT SUMMARY	
TOWER OWNER:	CROWN CASTLE
TOWER TYPE:	MONOPOLE
GOVERNING CODE:	TA/EA-222-F
SITE ADDRESS:	20 BARKER DRIVE BLOOMFIELD, CONNECTICUT 06002 HARTFORD COUNTY
LATITUDE:	41° 50' 5.6"
LONGITUDE:	-72° 44' 28.2"
OWNER CONTACT:	MS. ROSA DEANGELO CROWN CASTLE, SUITE 100 BOULDER, CO 80301 (720) 304-6882

PROJECT OVERVIEW:
THE LISTED DRAWINGS REPRESENT THE ADDITION OF MP3 CHANNELS TO
THE EXISTING TOWER SHFT.

DATE	REVISION	DRAWING	INDEX
-	-	TITLE SHEET	-
-	-	IN-1 PROJECT NOTES	-
-	-	IN-1 TOWER LOCATION, SCHEDULE, AND	-
-	-	DATA LAYOUT	-
-	-	IN-2 ADDITIONAL SECURITY DRAWINGS	-
-	-	IN-1 POST MODIFICATION INSPECTION	-
-	-	CHECKLIST	-
-	-		-
-	-		-
-	-		-



Robert P. Bandy

TOWER OWNER



ENGINEERS



GLAUS POLE SCHWENK BURNS & ORRICK INC.
GPD ASSOCIATES
520 South Main Street, Suite 2531 Akron, Ohio 44311
330-572-2100 • Fax 330-572-2102

PREPARED FOR



SITE NAME
MTN. VIEW CEM. (FILLEY PARK)

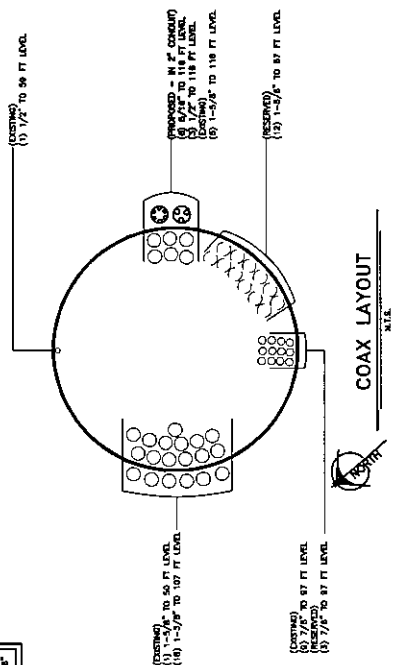
SITE NUMBER
BU# 876329

OPD JOB NUMBER
2010111.41

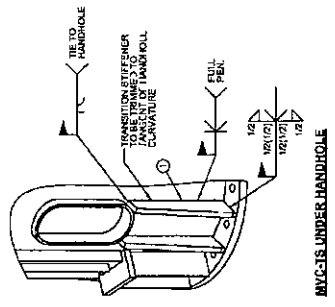
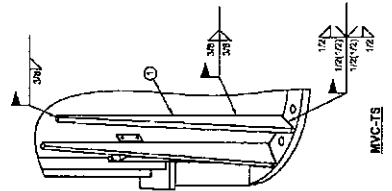
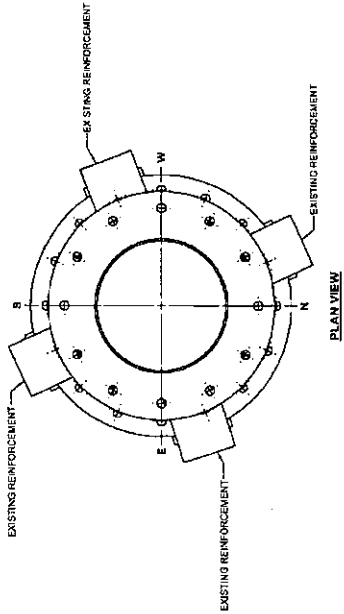
DATE : 05/27/10

REVISION

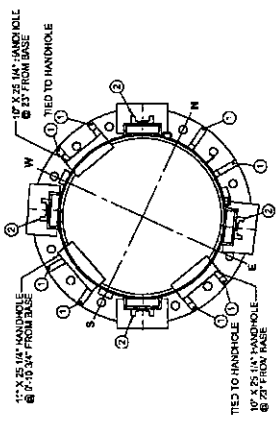
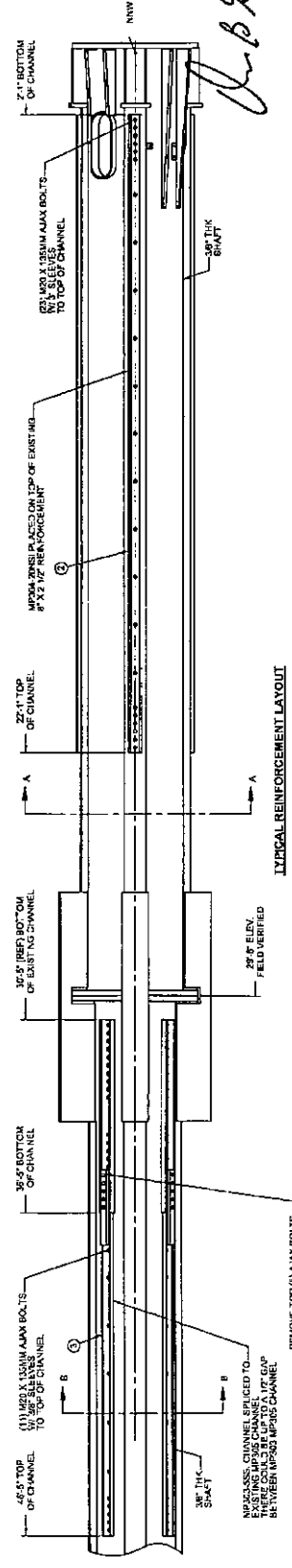
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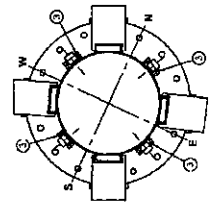
ITEM NO.	ITEM NAME	DESCRIPTION	UNIT	QTY	EXT. WGT.
1	MVC-TS	TRANSITION STEELER 1 1/4" THK X 6 1/2" X 1/2" X 6' 10"	AS2-GR66	70	860
2	MVC-TS	MOUNTING BRACE INDEPENDENT X 20" W/ 1 1/4"	AS2-GR66	281	1154
3	MVC-TS	MVC-TS SECTION INDEPENDENT X 10' 8" LG	AS2-GR66	149	588
TOTAL WEIGHT				298	



MVC-TS UNDER HANDHOLE



SECTION A-A
MVC-TS PLACED ON TOP OF EXISTING
8\"/>



SECTION B-B
MVC-TS PLACED ON TOP OF EXISTING
8\"/>

- NOTES:
1. INSTALL POLE MAX CHANNEL SYSTEM AT (2) LOCATIONS PER PLAN VIEW.
 2. ALL CHANNELS AND BOLTS TO BE 1 1/4\"/>

15 ANY BOLTS REQUIRED

Aero Solutions Inc.
Engineering & Construction
www.aerosolutionsinc.com

DATE: 10/1/2010
REVISION: 1
2. 5/27/10 REVISED PER GPD

ENGINEER OF RECORD SEAL

SITE NO: GPD7329

DATE: 5/25/10

DESIGNED BY: GPD

CHECKED BY: GPD

PROJECT INFORMATION

MOUNTAIN VIEW CEMETARY
28 BURNER DRIVE
BELLINGHAM, CT

AEROSOLUTIONS INC. 03077

APPROVED

APPROVED

SWIFT NUMBER

S-2

DATE	NO. OF DAYS	

CROWN CASTLE
28 BREWER DRIVE
BLOOMFIELD, CONNECTICUT 06002

20101111.41	10.47.11
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PM-1

POST MODIFICATION INSPECTION NOTES:

POST-MODIFICATION CHECKLIST

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
PRE-CONSTRUCTION	
X	PHI CHECKLIST DRAWING
	EXHIBIT B: CROWN APPROVED AIR VENDOR AGREEMENT (REQUIRED FOR TURKEY PROJECTS)
X	BUILDING PERMIT (AS REQUIRED)
X	EGR APPROVED SHOP DRAWINGS
X	FABRICATION INSPECTION
	FABRICATOR WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
	FABRICATOR NDE INSPECTION
X	CONTRACTOR NDE REPORT OF MONOPOLE BASE PLATE
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
X	CONSTRUCTION INSPECTIONS
	FOUNDATION INSPECTIONS
	CONCRETE COMP. STRENGTH AND SLUMP TESTS
	POST INSTALLED ANCHOR ROD EPOXY/DROUT VERIFICATION
	BASE PLATE GROUT VERIFICATION
X	CONTRACTOR'S CERTIFIED WELD INSPECTION
	EARTHWORK: LIFT AND DENSITY
X	GALVANIZING VERIFICATION
X	REDLINE CONSTRUCTION DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
X	AS-BUILT/RECORD DRAWINGS (STAMPED)
	FOUNDATION INSPECTIONS
X	BASE LEVEL DRAWING (COAX PLACEMENT)
	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
	CERTIFICATE OF OCCUPANCY
X	PHOTOGRAPHS
	EXHIBIT C: CERTIFICATE OF COMPLIANCE (REQUIRED WHEN CROWN DOES NOT ISSUE A PD FOR PM)
X	PHI REPORT
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT

GENERAL

THE POST MODIFICATION INSPECTION (PMI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE PUI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE PUI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

ALL PM's SHALL BE CONDUCTED BY AN APPROVED ENGINEERING VENDOR (AEV) THAT IS APPROVED TO PERFORM ELEVATED WORK FOR CROWN.

TO ENSURE THAT THE REQUIREMENTS OF THE PMI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE PMI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR CROWN POINT CONTACT (FPOC).

REFER TO ENG-SOW-10007 : POST MODIFICATION INSPECTION SOW FOR FURTHER DETAILS AND REQUIREMENTS.

ENGINEER OF RECORD

THE EOR SHALL SUBMIT THIS PMI CHECKLIST IDENTIFYING ALL REQUIRED DOCUMENTS AND INSPECTIONS REQUIRED FOR THE ACCEPTANCE OF THE MODIFICATION INSTALLATION.

- FOR DESIGN-BID-BUILD (DBB) THE CHECKLIST SHALL BE SUBMITTED WITH THE MODIFICATION DRAWINGS.
- FOR TUNNEL PROJECTS THIS CHECKLIST SHALL BE SUBMITTED AS PART OF THE BID RESPONSE PACKAGE AND AS PART OF THE FINAL MODIFICATION DRAWING PACKAGE.

PMI INSPECTOR

THE PMI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE PMI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE PMI CHECKLIST
- BEGIN DEVELOPING A SCHEDULE TO CONDUCT ON-SITE PMI INSPECTIONS, INCLUDING FOUNDATION REPECTIONS

THE PMI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS FROM THE GC, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD PMI AND TO SUBMIT THE PMI REPORT TO CROWN.

GENERAL CONTRACTOR

THE GC IS REQUIRED TO CONTACT THE PMI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE PMI CHECKLIST
- BEGIN DEVELOPING A SCHEDULE TO CONDUCT ON-SITE PMI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS

THE GC SHALL COORDINATE AND CONDUCT ALL CONSTRUCTION INSPECTIONS AND REPORTS AS IDENTIFIED IN THE PMI CHECKLIST AND SUBMIT SAID INSPECTIONS AND REPORTS TO THE PMI INSPECTOR.

RECOMMENDATIONS

RECOMMENDATIONS
IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE PMI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE PMI TO BE CONDUCTED.
THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A PMI REPORT:

- THE GC AND PM INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- THE GC AND PM INSPECTOR COORDINATE THE SCHEDULING OF INSPECTIONS TO AVOID THE SIMULTANEOUSLY FOR ANY CASE WHERE TENDERING OR RE-TENDERING OPERATIONS.
- IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND PM INSPECTOR(S) TO CONVINCE WITH THE GC.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND PM INSPECTOR ON-SITE DURING THE PM TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL PM. THEREFORE, THE GC SHOULD BE PRESENT AT ALL PM INSPECTIONS.
- IF THERE IS ANY DISCREPANCY BETWEEN THE GC AND PM INSPECTOR, THE GC'S DECISION ARE AT THEIR DISPOSAL WHEN THE PM INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED PMI

IF THE GC AND PMI INSPECTOR AGREE TO A DATE ON WHICH THE PMI WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, CROWN SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSSES OF PROFITS AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LOGGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.). EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

CORRECTION OF FAILING PMI'S

IF THE MODIFICATION INSTALLATION WOULD FAIL THE PMI ("REJECTED"), THE GC SHALL WORK WITH CROWN TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT PM.
- OR, WITH CROWN'S APPROVAL THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION

ALL ASSOCIATED COST FOR CORRECTING "REJECTED" PMI'S SHALL BE BORN BY THE GC.

PAYMENT

PAYMENT OF PMI INSPECTOR

- WHEN CROWN ISSUES A PD DIRECTLY TO AN ADV FOR PMI SERVICES, FULL PAYMENT FOR THE PMI SERVICES MAY BE RELEASED WHEN A PMI REPORT ADHERES TO THE REQUIREMENTS OF THE PMI CHECKLIST AND ENG-SOW-10007 : PMI SOW. EXCEPTIONS MAY BE MADE WHEN THE PMI INSPECTOR PERFORMED DUTY WHILE REQUESTING INSPECTION AND TESTING DOCUMENTATION FROM THE GC BUT WAS UNABLE TO OBTAIN.

PAYMENT OF GENERAL CONTRACTOR

- PAYMENT FOR THE GC INSTALLATION SERVICES MAY BE RELEASED UPON RECEIPT OF A "PASSING" OR A "PASS AS NOTED" PMI REPORT AND ALL CLOSE OUT MATERIALS.

PMI VERIFICATION INSPECTIONS

CROWN RESERVES THE RIGHT TO CONDUCT A PMI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED PMI INSPECTION(S) ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE
AS CONTAINED HEREIN AND THE CONTRACT DOCUMENTS.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT A/E/F FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING" OR "PASS AS NOTED" PFI REPORT FOR THE ORIGINAL PROJECT.

REJECTABLE INDICATIONS WILL BE RELAYED TO THE ORIGINAL PMI INSPECTOR AND THE GC. APPROPRIATE DISCIPLINARY ACTION MAY RESULT DEPENDENT UPON THE FREQUENCY AND THE LEVEL OF SEVERITY OF THE REJECTIONS.



Ch. B. B. B.

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To: Connecticut Siting Council
From: Frantz Pierre – Radio Frequency Engineer
Cc: Cameron Syme
Subject: Power Density Report for CT-HFD0020
Date: June 6, 2010

1. Introduction:

This report is the result of Electromagnetic Field Intensities (EMF – Power Densities) study for the Clearwire broadband antenna installation on a monopole Tower at 30 Mountain Avenue (aka 28 Brewer Street). 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 Clearwire transmitters are in the (2496 – 2960) Frequency Band
- 2) The emissions from the Clearwire Microwave dishes are in the 23 GHz Frequency Band
- 3) The model number for Clearwire Antenna is Argus LLPX310R
- 4) The model number for the Microwave dish is Andrew VHLP1-23 with 12" Diameter.
- 5) The Clearwire Panel antenna centerline is 120 feet.
- 6) The Clearwire Microwave dish centerline is 120 feet.
- 7) The Maximum Transmit power from any Clearwire panel antenna is 251 Watts Effective Isotropic Radiated Power (EIRP) assuming 2 channels per sector.
- 8) The Maximum Transmit power from any Clearwire Microwave Dish is 346 Watts Effective Isotropic Radiated Power (EIRP) assuming 1 channel per dish.
- 9) All antennas are simultaneously transmitting and receiving 24 hours per day.
- 10) 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 used with the above information to perform the calculations.

3: Conclusion:

Based on the above worst case assumptions, the power density calculation from the Clearwire antenna installation on a guyed roof top Tower at 345 North Main Street, West Hartford, CT is 0.0002278 mW/cm². This value represents 0.0030% 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 Clearwire 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 all other carriers is 30.2140%. The combined Power Density for this site is 30.2170% of the M.P.E. standard.