**EM-CING-067-090121**

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**New Cingular Wireless PCS, LLC**
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

**Steven L. Levine**
Real Estate Consultant

HAND DELIVERED

ORIGINAL

January 21, 2009

RECEIVED
JAN 21 2009
CONNECTICUT
SITING COUNCIL

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

Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing tele-communications facility located at 107 Buck Road, Hebron (owner, Crown Castle)

Dear Chairman Caruso and Members of the Council:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile (GSM) communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modifications as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will be unaffected.

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than some enlarged equipment pads as may be noted in the attachments.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. Radio frequency power density may increase due to use of one or more GSM channel for UMTS transmissions. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, New Cingular Wireless respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7636 with questions concerning this matter. Thank you for your consideration.

Sincerely,

Steven L. Levine
Real Estate Consultant

Attachments

**NEW CINGULAR WIRELESS**
**Equipment Modification**

107 Buck Road, Hebron
Site Number 5867
Former AT&T cell site
Exempt Modification approved 7/02

**Tower Owner/Manager:** Crown Castle

**Equipment Configuration:** Monopine

**Current and/or Approved:** Three Allgon 7250 panel antennas @ 87 ft AGL
Six runs 7/8 inch coax cable
Concrete pad with outdoor equipment cabinets

**Planned Modifications:** Remove all existing antennas
Install low profile platform @ 87 ft
Install six Powerwave 7770 antennas (or equivalent) @ 87 ft
Install six TMA's and six diplexers @ 87 ft
Install six additional runs 7/8 inch coax
Remove one existing cabinet
Install one new outdoor cabinet for UMTS

**Power Density:**

Worst-case calculations for existing wireless operations at the site indicate a radio frequency electromagnetic radiation power density, measured at ground level beside the tower, of approximately 48.2 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density following proposed modifications would be approximately 61.1 % of the standard.

**Existing**

| Company | Centerline Ht (feet) | Frequency (MHz) | Number of Channels | Power Per Channel (Watts) | Power Density ($mW/cm^2$) | Standard Limits ($mW/cm^2$) | Percent of Limit |
|---|---|---|---|---|---|---|---|
| Other Users * | | | | | | | 43.40 |
| AT&T GSM * | 87 | 1900 Band | 4 | 250 | 0.0475 | 1.0000 | 4.75 |
| **Total** | | | | | | | **48.2%** |

* Per CSC records

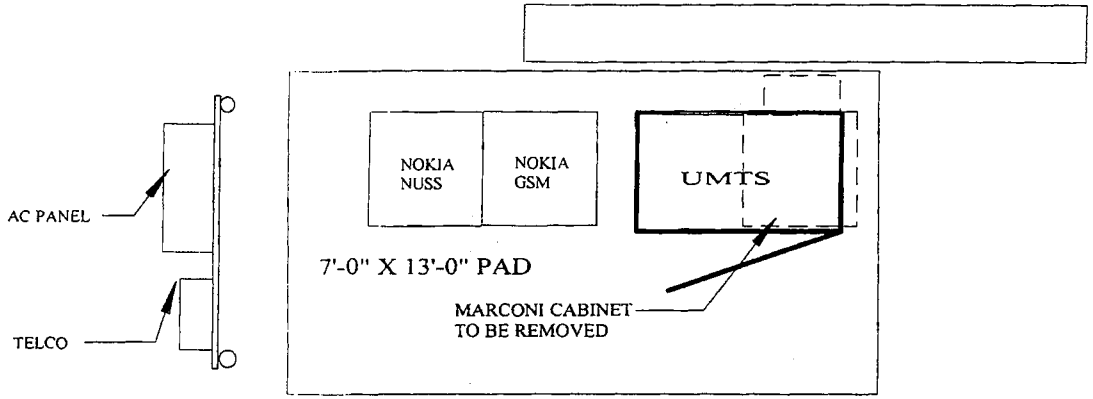
**Proposed**

| Company | Centerline Ht (feet) | Frequency (MHz) | Number of Channels | Power Per Channel (Watts) | Power Density ($mW/cm^2$) | Standard Limits ($mW/cm^2$) | Percent of Limit |
|---|---|---|---|---|---|---|---|
| Other Users * | | | | | | | 43.40 |
| AT&T UMTS | 87 | 880 - 894 | 1 | 500 | 0.0238 | 0.5867 | 4.05 |
| AT&T GSM | 87 | 1900 Band | 2 | 427 | 0.0406 | 1.0000 | 4.06 |
| AT&T GSM | 87 | 880 - 894 | 4 | 296 | 0.0562 | 0.5867 | 9.59 |
| **Total** | | | | | | | **61.1%** |

* Per CSC records

## Structural information:

The attached structural analysis demonstrates that the tower and foundation will have adequate structural capacity to accommodate the proposed equipment modifications upon completion of recommended structural modifications to the tower. (GPD Group, 12/30/08)




at&t

SAI communications

SITE NUMBER
5867
SITE NAME
Hebron West

| | |
|---|---|
| TITLE: | EQUIPMENT PLAN |
| MISC. INFO: | |
| DWG. BY: | SGB |
| DATE: | 07/07/08 |
| SCALE: | N.T.S. |
| SHEET: | 1 OF 1 |

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**New Cingular Wireless PCS, LLC**
500 Enterprise Drive
Rocky Hill, Connecticut 06067-3900
Phone: (860) 513-7636
Fax: (860) 513-7190

**Steven L. Levine**
Real Estate Consultant

January 21, 2009

Jared S. A. Clark, Town Manager
Town of Hebron
Town Office Bldg., 15 Gilead Street
Hebron, CT 06248

Re: Telecommunications Facility – Buck Road

Dear Mr. Clark:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review AT&T's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes AT&T's proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (860) 513-7636 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Steven L. Levine
Real Estate Consultant

Enclosure

Date: **December 30, 2008**

GPD GROUP

John Eigenbrode
Crown Castle USA Inc.
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
704-405-6616

GPD Group
520 South Main Street, Suite 2531
Akron, OH 44311
330-572-2289
jstokes@gpdgroup.com

| | | |
|---|---|---|
| **Subject:** | **Revised Structural Analysis Report** | |
| ***Carrier Designation:*** | **AT&T Mobility Co-Locate** | |
| | **Carrier Site Name:** | Hebron - Buck Road |
| | **Carrier Site Number:** | 5867 |
| ***Crown Castle Designation:*** | **Crown Castle BU Number:** | 876387 |
| | **Crown Castle Site Name:** | South Hebron / Ned Ellis Prop. |
| | **Crown Castle JDE Job Number:** | 111865 |
| | **Crown Castle Work Order Number:** | 239349 |
| ***Engineering Firm Designation:*** | **GPD Group Project Number:** | 2008282.03 |
| ***Site Data:*** | **107 Buck Rd., Hebron, CT 06248, Tolland County** | |
| | **Latitude *41° 39' 16.02"*, Longitude *-72° 24' 39.11"*** | |
| | **119.5 Foot – Engineered Endeavors Inc. Monopine Tower** | |

Dear Mr. John Eigenbrode,

*GPD Associates* is pleased to submit this **"Revised Structural Analysis 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 the terms of Crown Castle Purchase Order Number 310183, in accordance with application 70510, revision 1.

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:

LC1: Existing + Reserved + Proposed Equipment **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 the Connecticut Building Code based upon a wind speed of 85 mph fastest mile.

**All modifications and equipment proposed in this report shall be installed in accordance with the attached drawings by GPD Associates (Project #: 2008282.56, dated 12/4/08, 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:

STATE OF CONNECTICUT ★ DAVID B. GRANGER, P.E. NO. 17557 LICENSED PROFESSIONAL ENGINEER ★

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

RISA Tower Report - version 5.3.0.1

## TABLE OF CONTENTS

## 1) INTRODUCTION

The existing monopole has 18 sides and is evenly tapered from 51" (flat-flat) at the base to 19" (flat-flat) at the top. It has three major sections connected by two slip joints. The structure is galvanized and has no tower lighting.

The tower was originally designed for Sprint PCS by Engineered Endeavors, Inc. of Mentor, Ohio for a 90 mph wind speed with 1/2" (25% reduction) radial ice in accordance with EIA/TIA-222-F.

Modifications designed by GPD Associates (Project #: 2008282.56, dated 12/4/08) consisted of installing stiffeners to the base plate. These modifications have been considered 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 85 mph with no ice, 74 mph with 0.5 inch ice thickness and 60 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 |
|---|---|---|---|---|---|---|---|
| 87 | 87 | 6 | Powerwave | 7770.00 | 6 | 7/8 | |
| | | 6 | Powerwave | LGP21401 TMA's | | | |
| | | 6 | Powerwave | LGP21901 Diplexers | | | |
| | | 3 | | 12' T-Arms | | | |

**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 |
|---|---|---|---|---|---|---|---|
| 117 | 117 | 6 | Decibel | DB980H90E-M | 6 | 1-5/8 | 2 |
| | | 3 | | 12' T-arms | | | |
| 114 | 114 | 1 | EEI | Artificial Branches (Large) | | | |
| 107 | 107 | 12 | Decibel | DB844H90 | 12 | 1-5/8 | |
| | | 3 | | 12' T-arms | | | |
| 104 | 104 | 1 | EEI | Artificial Branches (Large) | | | |
| 97 | 97 | 12 | Decibel | DB844H90 | 12 | 1-5/8 | |
| | | 3 | | 12' T-arms | | | |
| 94 | 94 | 1 | EEI | Artificial Branches (Large) | | | |
| 87 | 87 | 3 | Allgon | 7250.03 | 6 | 7/8 | 1 |
| | | 1 | | Tri-Bracket | | | |
| 84 | 84 | 1 | EEI | Artificial Branches (Large) | | | |
| 77 | 77 | 1 | EEI | Artificial Branches (Small) | | | |

Notes:
1) Installed feedlines to be reused for proposed antennas. All other equipment to be removed prior to installing proposed loading.
2) Both existing with reserved and MLA loading were considered. The MLA loading is controlling.

**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) | Note |
|---|---|---|---|---|---|---|---|
| 117.5 | 117.5 | 12 | Dapa | 48000 | | | |
| | | 3 | | 12' T-Arms | | | |
| 107.5 | 107.5 | 12 | Dapa | 48000 | | | 1 |
| | | 3 | | 12' T-Arms | | | |
| 97.5 | 97.5 | 12 | Dapa | 48000 | | | 1 |
| | | 3 | | 12' T-Arms | | | |

Notes:
1) Future loading

## 3) ANALYSIS PROCEDURE

**Table 4 - Documents Provided**

| Document | Remarks | Reference | Source |
|---|---|---|---|
| Original Tower Drawings | Engineered Endeavors, Inc., Job #: 8058, dated 10/18/200 | Doc ID #:1613574 | Crown DMZ |
| Previous Analysis | Semaan Engineering, Site #: CT33XC560, dated 8/29/2002 | Doc ID #:1792515 | Crown DMZ |
| Geotechnical Report | Goodkind & O'Dea, Inc., Site #: CT33XC560, dated 8/2000 | Doc ID #:157932 | Crown DMZ |
| Modification Drawings | Project #: 2008282.56, dated 12/4/08 | J. Cheronis | GPD |

### 3.1) Analysis Method

RISATower (version 5.3.0.1), 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.

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 | 119.5 - 69.67 | Pole | TP33.02x19x0.3125 | 1 | -15.15 | 1618.94 | 77.2 | Pass |
| L2 | 69.67 - 42.25 | Pole | TP39.99x31.0839x0.375 | 2 | -20.83 | 2356.80 | 91.1 | Pass |
| L3 | 42.25 - 0 | Pole | TP51x37.7131x0.4375 | 3 | -33.76 | 3605.46 | 88.6 | Pass |
| | | | | | | | Summary | |
| | | | | | | Pole (L2) | 91.1 | Pass |
| | | | | | | Rating = | 91.1 | Pass |

**Table 6 - Tower Component Stresses vs. Capacity - LC1**

| Notes | Component | % Capacity | Pass / Fail |
|---|---|---|---|
| 1 | Anchor Rods | 84.1% | Pass |
| 1 | Base Plate | 63.3% | Pass |
| 1 | Base Foundation | 54.1% | Pass |

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

| **Structure Rating (max from all components) =** | **91.1%** |
|---|---|

### 4.1) Recommendations

The design of the existing tower and its foundations will be satisfactory for the proposed loading once the modifications by GPD Associates (Project #: 2008282.56, dated 12/4/08) are 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 owner's responsibility to determine the amount of ice accumulation, if any, that should be considered in the structural analysis.

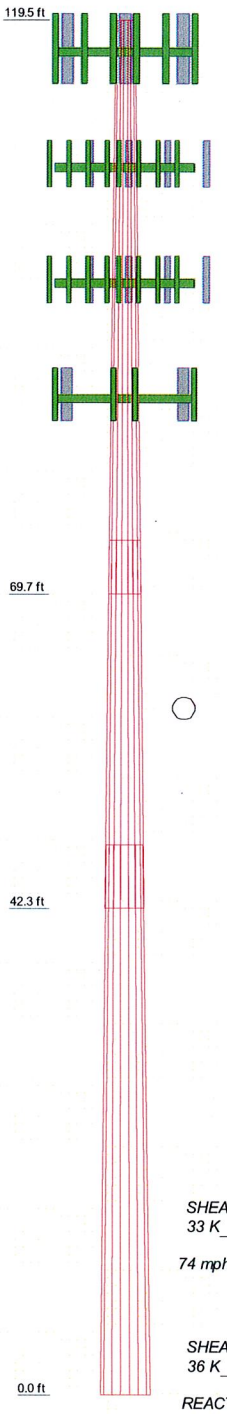
The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable 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.

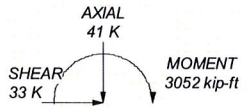
Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

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.

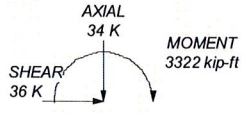
| Section | 1 | 2 | 3 |
|---|---|---|---|
| Length (ft) | 49.83 | 32.08 | 47.75 |
| Number of Sides | 18 | 18 | 18 |
| Thickness (in) | 0.3125 | 0.3750 | 0.4375 |
| Lap Splice (ft) | 4.66 | 5.50 | |
| Top Dia (in) | 19.0000 | 31.0839 | 37.7131 |
| Bot Dia (in) | 33.0200 | 39.9900 | 51.0000 |
| Grade | A572-65 | | |
| Weight (K) | 4.3 | 4.6 | 9.9 |

Total Weight: 18.8




74 mph WIND - 0.5000 in ICE




REACTIONS - 85 mph WIND

## DESIGNED APPURTENANCE LOADING

| TYPE | ELEVATION | TYPE | ELEVATION |
|---|---|---|---|
| 12' T-arms (3) | 117 | 2008282.03 Branches (Large) | 94 |
| (3) FV65-14-00NA2 (MLA) | 117 | (2) 7770.00 w/Mount Pipe | 87 |
| (3) FV65-14-00NA2 (MLA) | 117 | (2) LGP21401 | 87 |
| (3) FV65-14-00NA2 (MLA) | 117 | (2) LGP21401 | 87 |
| 2008282.03 Branches (Large) | 114 | (2) LGP21401 | 87 |
| (4) DB844H90 w/ Mount Pipe | 107 | (2) LGP219nn Diplexer | 87 |
| (4) DB844H90 w/ Mount Pipe | 107 | (2) LGP219nn Diplexer | 87 |
| (4) DB844H90 w/ Mount Pipe | 107 | (2) LGP219nn Diplexer | 87 |
| 12' T-arms (3) | 107 | 12' T-arms (3) | 87 |
| 2008282.03 Branches (Large) | 104 | (2) 7770.00 w/Mount Pipe | 87 |
| (4) DB844H90 w/ Mount Pipe | 97 | (2) 7770.00 w/Mount Pipe | 87 |
| (4) DB844H90 w/ Mount Pipe | 97 | 2008282.03 Branches (Large) | 84 |
| 12' T-arms (3) | 97 | 2008282.03 Branches (Small) | 77 |
| (4) DB844H90 w/ Mount Pipe | 97 | | |

## MATERIAL STRENGTH

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

## TOWER DESIGN NOTES

1. Tower is located in Tolland County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 60 mph wind.
5. TOWER RATING: 91.1%


GPD GROUP
Consulting Engineers

*GPD Associates*
520 South Main St. Suite 2531
Akron, Ohio
Phone: 330-572-2100
FAX: 330-572-2101


| | | | |
|---|---|---|---|
| Job: *S. Hebron/Ned Ellis Prop, BU #: 876387* | | | |
| Project: *GPD #: 2008282.03* | | | |
| Client: Crown Castle USA, Inc. | Drawn by: Mark Zilli | App'd: | |
| Code: TIA/EIA-222-F | Date: 11/11/08 | Scale: NTS | |
| Path: G:\Telecom\2008282\03\RISA\03RISA.eri | | Dwg No. E-1 | |

## APPENDIX D

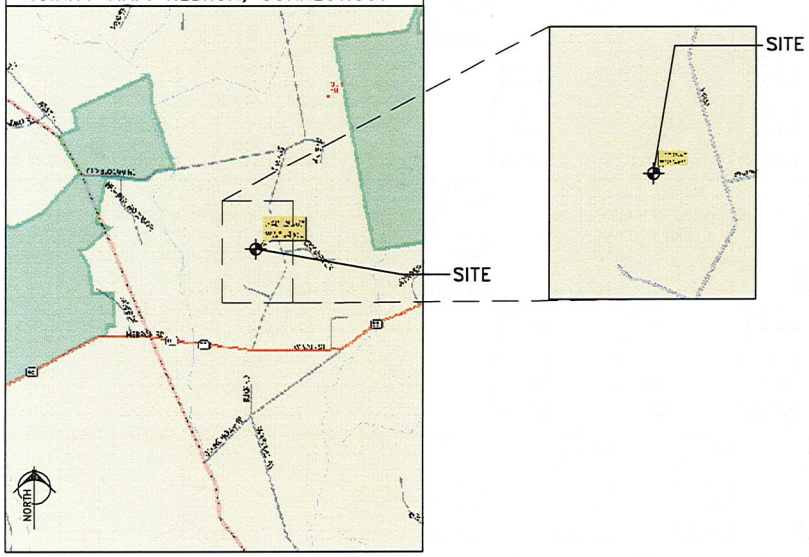
## MODIFICATION DESIGN DRAWINGS

# SOUTH HEBRON / NED ELLIS PROP.

# BU #: 876387

## EXISTING 119.5' EEI MONOPINE TOWER

VICINITY MAP: HEBRON, CONNECTICUT




| PROJECT SUMMARY | |
|---|---|
| TOWER OWNER: | CROWN CASTLE |
| TOWER TYPE: | MONOPOLE |
| GOVERNING CODE: | TIA/EIA-222-F & CONNECTICUT BUILDING CODE |
| SITE ADDRESS: | 107 BUCK ROAD<br>HEBRON, CT<br>06248 |
| LATTITUDE: | 41° 39' 16.02" |
| LONGITUDE: | 72° 24' 39.11" |
| OWNER CONTACT: | MR. JOHN EIGENBRODE<br>3530 TORINGDON WAY, SUITE 300<br>CHARLOTTE, NC 28277<br>(704) 405-6616 |

PROJECT OVERVIEW:
THE LISTED DRAWINGS REPRESENT REQUIRED MODIFICATIONS TO THE TOWER BY INSTALLING STIFFENERS TO THE BASE PLATE.

| DATE | REVISION | DRAWING INDEX |
|---|---|---|
| - | | TITLE SHEET |
| - | | N-1 PROJECT NOTES |
| - | | S-1 TOWER ELEVATION & MODIFICATION DETAILS |

TOWER OWNER

CROWN CASTLE INTERNATIONAL
2000 CORPORATE DRIVE, CANONSBURG, PA 15317
724-416-2000

ENGINEERS

GLAUS PYLE SCHOMER BURNS & DEHAVEN INC.
GPD ASSOCIATES
520 South Main Street, Suite 2531 Akron, Ohio 44311
330-572-2100 ; Fax 330-572-2102

SITE NAME:
SOUTH HEBRON / NED ELLIS PROP.

SITE NUMBER:
BU #: 876387

GPD JOB NUMBER:
2008282.56

DATE : 12/4/08

REVISION 0

## GENERAL NOTES

1. THE FOLLOWING DRAWINGS REPRESENT MODIFICATIONS TO THE EXISTING TOWER. THE MODIFICATIONS ARE BASED ON A GPD ASSOCIATES STRUCTURAL REPORT (PROJECT #: 2008282.03, DATED NOVEMBER 11, 2008). ALL MODIFICATIONS MUST BE INSTALLED TO BRING THE TOWER INTO CONFORMANCE WITH TIA/EIA-222-F & CSC.

2. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222-F, CSC, AWS, AND AISC. MATERIALS AND SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES AND THE CONTRACT SPECIFICATIONS.

3. ALL ORIGINAL TOWER INFORMATION WAS OBTAINED IN THE FORM OF ORIGINAL TOWER DRAWINGS BY ENGINEERED ENDEAVORS, INC. (JOB #: 8088, DATED OCTOBER 18, 2000).

4. THIS DESIGN ASSUMES THE TOWER AND FOUNDATIONS HAVE BEEN WELL MAINTAINED, IN GOOD CONDITION, AND ARE WITHOUT DEFECT. BENT MEMBERS, CORRODED MEMBERS, LOOSE BOLTS, CRACKED WELDS AND OTHER MEMBER DEFECTS HAVE NOT BEEN CONSIDERED. THE TOWER IS ASSUMED TO BE PLUMB AND THE SITE IS ASSUMED TO BE LEVEL. THIS DESIGN IS BEING PROVIDED WITHOUT THE BENEFIT OF A SITE VISIT BY GPD ASSOCIATES. SEE CONTRACTOR NOTES.

5. MANUFACTURER TOLERANCES, FIELD ADJUSTMENTS, INCORRECT STACKING, AND TEMPERATURE CAN CAUSE DIMENSION DISCREPANCIES. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING MATERIALS. ALL FIELD MEASUREMENTS MUST BE REPORTED TO ENGINEER.

6. ALL NEW STEEL SHALL BE HOT DIPPED GALVANIZED FOR FULL WEATHER PROTECTION. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.

7. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB INCLUDING AREAS UNDER AND BEHIND STIFFENER PLATES SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING BRUSH APPLIED PAINT (ZRC OR EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).

8. CAULKING SHALL BE PROVIDED AROUND PERIMETER OF ANY AND ALL STIFFENER PLATES TO ENSURE COMPLETE SEAL BETWEEN EXISTING STRUCTURE AND REINFORCING PLATES. SEALANT IS TO BE EXTERIOR GRADE, PAINTABLE SILICONE CAULKING AS MANUFACTURED BY DOW AND ACCEPTABLE TO GPD.

LOADINGS:

WIND LOADS:
FASTEST MILE WIND SPEED (PER: TIA/EIA-222-F & CSC) 85 MPH
(TOLLAND COUNTY, CONNECTICUT)

9. STRUCTURAL STEEL:

MATERIAL SPECIFICATIONS
LATEST EDITION OF AISC

MATERIAL

| | |
|---|---|
| STIFFENER PLATES | ASTM A572 (GR 50) |
| HOT DIPPED GALVANIZING | ASTM A123 |
| WELDS | E70XX |

10. ALL MATERIAL UTILIZED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZES AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING.

11. PROVIDE STRUCTURAL STEEL SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

12. THE ENGINEER (GPD ASSOCIATES) SHALL MAKE POST INSTALLATION OBSERVATION FOR TOWER. CONTRACTOR SHALL COORDINATE W/ENGINEER (GPD ASSOCIATES) 72 HOURS AFTER INSTALLATION OF MODIFICATIONS. INSTALLATION OF PROPOSED LOADING WITHOUT ENGINEER APPROVAL IS PROHIBITED.

## CONTRACTOR NOTES

1. ALL CONTRACTORS AND LOWER TIER CONTRACTORS MUST ACKNOWLEDGE IN WRITING TO CROWN CASTLE AND GPD ASSOCIATES THAT THEY HAVE OBTAINED, UNDERSTAND, AND WILL FOLLOW CROWN CASTLE STANDARDS OF PRACTICE, CONSTRUCTION GUIDELINES, ALL SITE AND TOWER SAFETY PROCEDURES, ALL PRODUCT LIMITATIONS AND INSTALLATION PROCEDURES USED ON SITE, AND PROPOSED MODIFICATIONS DESCRIBED. RECEIPT OF ACKNOWLEDGMENT MUST OCCUR PRIOR TO BEGINNING CONSTRUCTION OR CLIMBING. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THIS DOCUMENTATION FOR CROWN CASTLE AND GPD ASSOCIATES ON COMPANY LETTERHEAD AND THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN THIS DOCUMENTATION FROM LOWER TIER SUBCONTRACTORS (ON SUBCONTRACTOR LETTERHEAD) AND DELIVER IT TO CROWN CASTLE AND GPD ASSOCIATES.

2. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING; ANY PROBLEMS WITH ACCESS, INTERFERENCE, ETC. SHALL BE RESOLVED PRIOR TO MOBILIZATION. THE CONTRACTOR MUST VISIT THE SITE PRIOR TO ORDERING ANY MATERIAL AND MUST RESOLVE ALL ISSUES WITH THE OWNER PREVENTING A CONTINUOUS INSTALLATION. CONTRACTOR SHALL NOTE ALL ANTENNAS, MOUNTS, COAX, PORT HOLES, LIGHTING, CLIMBING SUPPORTS, STEP BOLTS, AND ANY OTHER TOWER APPURTENANCES IN THE REGION OF THE MODIFICATIONS. SEE GENERAL NOTES #4, AND #6, THIS SHEET.

3. CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY REMOVING ALL COAX, T-BRACKETS, ANTENNA MOUNTS, AND ANY OTHER TOWER APPURTENANCE THAT MAY INTERFERE WITH THE TOWER MODIFICATIONS. ALL TOWER APPURTENANCES MUST BE REPLACED AND/OR RESTORED TO ITS ORIGINAL LOCATION. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE TOWER OWNER IN WRITING.

4. SOME ATTACHMENTS MAY REQUIRE CUSTOM MODIFICATIONS TO PROPERLY FIT THE MODIFIED REGION OF THE STRUCTURE. THESE CUSTOMIZATIONS ARE DESIGNED BY OTHERS AND MUST BE APPROVED BY THE ENGINEER PRIOR TO REMOVING SUCH ATTACHMENTS. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE TOWER OWNER IN WRITING.

5. CONTRACTOR SHALL ONLY WORK WITHIN THE LIMITS OF THE TOWER OWNER'S PROPERTY AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS BY OTHERS NOT GPD.

6. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THEN 10-MPH). CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY LOCAL TOWER SHORING, TEMPORARY GLOBAL TOWER SHORING, AND ALL SHORING OF SURROUNDING BUILDINGS, PADS, AND OTHER OUTDOOR SITE OBSTRUCTIONS. ALL SHORING, TEMPORARY BRACING, AND TEMPORARY SUPPORTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

## WELD NOTES

1. ALL CUTTING AND WELDING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH THE LATEST CCUSA POLICY "CUTTING AND WELDING SAFETY PLAN" (DOC #: ENG-PLN-10015) ON AN ONGOING BASIS THROUGHOUT THE DURATION OF THE PROJECT.

2. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PERFORM A NONDESTRUCTIVE TEST ON THE EXISTING BASE PERIMETER WELD TO INSURE ITS STRUCTURAL INTEGRITY. IF ANY FLAWS ARE DISCOVERED, THE PROJECT SHALL BE PUT ON HOLD UNTIL REMEDIES TO CORRECT THE DEFICIENCIES ARE DESIGNED AND INSTALLED. CROWN AND THE ENGINEER SHALL BE CONTACTED IMMEDIATELY UPON A FAILING NONDESTRUCTIVE TESTING RESULT.

3. WELDING CERTIFICATES MUST BE PROVIDED PRIOR TO WELDING CONTRACTOR BEGINNING WORK ON SITE. CERTIFICATE WILL BE ASKED FOR AS PART OF INSPECTION PROCESS. ALL WELDING SHOULD BE PERFORMED BY AN AWS QUALIFIED WELDER WHO HAS EXPERIENCE WITH GALVANIZED SURFACES AND IN ACCORDANCE WITH ANSI/AWS D1.1 AND ANSI Z 49.1 OR LATEST EDITIONS.

4. OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED.

5. INSTALL 3000° (NFPA 701) FIRE BLANKET AROUND ALL COAX.

6. MORE SPLATTER AND SPARKS SHALL BE ANTICIPATED GIVEN THE PREVIOUSLY GALV. SURFACE.

7. COAX IS FLAMMABLE AND CAN CATCH FIRE IF PROPER PRECAUTIONS ARE NOT MADE TO SHIELD COAX FROM ALL WELDING PROCEDURES. ALL COAX SHALL BE SHIELDED AT AND BELOW EACH WELDING PROCEDURE AND ELEVATION.

8. WELDING ON A GALVANIZED SURFACE SHOULD BE DONE WITH EXTREME CAUTION. IF THE WELD MATERIAL IS CONTAMINATED WITH ZINC IT DOES NOT PROVIDE A STRUCTURAL WELD.

9. FUMES CREATED FROM WELDING ON A PREVIOUSLY GALV. SURFACE CAN BE HAZARDOUS.

10. PRIOR TO WELDING, ALL SURFACES SHALL BE PROPERLY GROUND TO REMOVE GALVANIZING.

11. ALL FIELD WELDS SHALL BE TOUCHED UP WITH A GALVANIZING PAINT REPAIR (ZRC OR EQUIVALENT).

GPD ASSOCIATES
300 North Main Street, Suite 201
Greer, South Carolina 29651
Greensboro, North Carolina 27408

BU# 876387

| REV. | DATE | DESCRIPTION |
|---|---|---|
| | | |

CROWN CASTLE
SOUTH HEBRON / NED ELLIS PROP.
HEBRON, CT 06248

PROJECT NOTES

| | DATE |
|---|---|
| DESIGNED: MS | 11/20/08 |
| DRAWN: MS | 11/21/08 |
| CHECKED: MPM | 11/24/08 |

PROJECT #
2008282.56

N-1

## ANTENNA SCHEDULE

| ELEVATION | STATUS | ANTENNA | MOUNT | COAX |
|---|---|---|---|---|
| 117' | EXISTING | (6) DB980H90E-M | (3) 12' T-ARMS | (6) 1-5/8" |
| 114' | EXISTING | ARTIFICIAL BRANCHES (LARGE) | | |
| 107' | EXISTING | (12) DB844H90 | (3) 12' T-ARMS | (12) 1-5/8" |
| 104' | EXISTING | ARTIFICIAL BRANCHES (LARGE) | | |
| 97' | EXISTING | (12) DB844H90 | (3) 12' T-ARMS | (12) 1-5/8" |
| 94' | EXISTING | ARTIFICIAL BRANCHES (LARGE) | | |
| 87' | REMOVED<br>PROPOSED<br>PROPOSED<br>PROPOSED | (3) 7250.03<br>(6) 7770.00<br>(6) LGP21401 TMA'S<br>(6) LGP21901 DIPLEXERS | (1) TRI-BRACKET<br>(3) 12' T-ARMS | (6) 7/8"<br>(6) 7/8" |
| 84' | EXISTING | ARTIFICIAL BRANCHES (LARGE) | | |
| 77' | EXISTING | ARTIFICIAL BRANCHES (LARGE) | | |

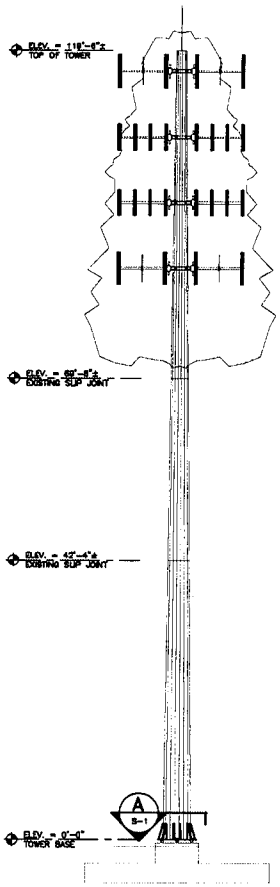
NOTE: BOLD TEXT INDICATES PROPOSED APPURTENANCES.

## TOWER GEOMETRY

| SECTION | LENGTH | THICKNESS | SLIP | BOTTOM DIAMETER | TOP DIAMETER |
|---|---|---|---|---|---|
| 1 | 49'-10" | 0.3125" | 4'-8" | 33.0200" | 19.0000" |
| 2 | 32'-1" | 0.3750" | 5'-6" | 39.8900" | 31.0839" |
| 3 | 47'-9" | 0.4375" | | 51.0000" | 37.7131" |

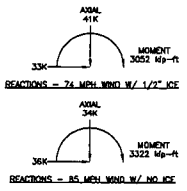
## TOWER MODIFICATION SCHEDULE

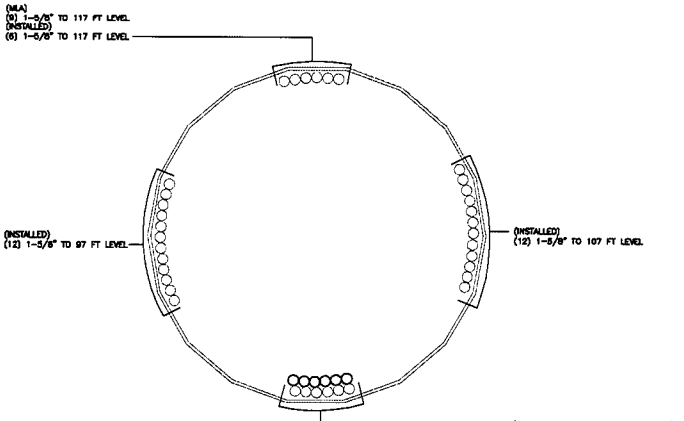
| ELEVATION | NOTES |
|---|---|
| 0'-0" | INSTALL NEW STIFFENER PLATES (TYP. OF 16) TO THE BASE PLATE. REFER TO SECTION A/S-1 FOR MODIFICATION DETAILS. |



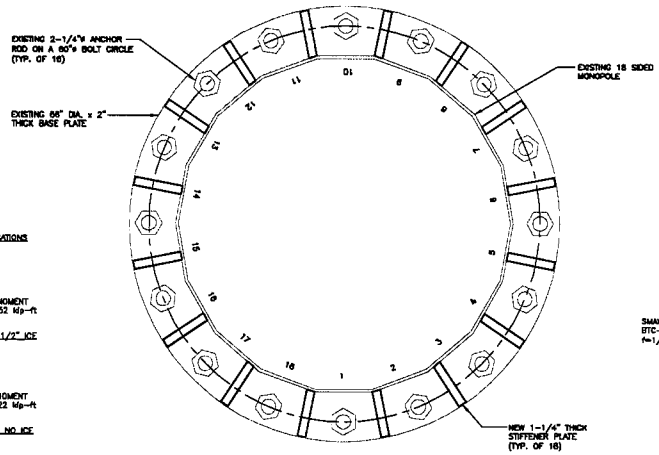

TOWER ELEVATION
1/8" = 1'-0"

BASE REACTIONS AFTER MODIFICATIONS

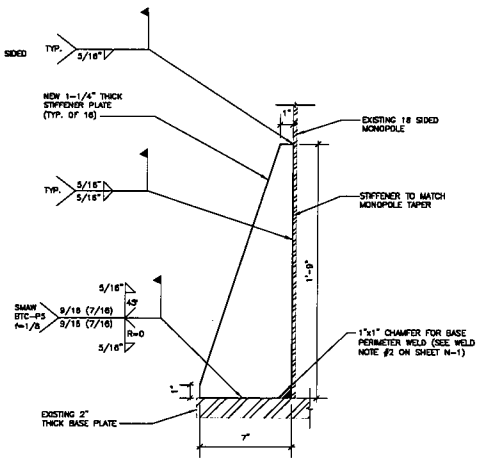



COAX LAYOUT
N.T.S.




SECTION A
1-1/2"=1'-0"




SECTION B
3"=1'-0"

GPD ASSOCIATES
BU# 876387

| REV. | DATE | DESCRIPTION |
|---|---|---|
| | | |

CROWN CASTLE
SOUTH HEBRON / NED ELLIS PROP.
HEBRON, CT 06248

TOWER ELEVATIONS & MODIFICATION DETAILS

| | |
|---|---|
| DRAWN BY: | LMT |
| CHECKED BY: | MS |
| APPROVED BY: | MJ |
| DATE: | 12/20/08 |

2008282.56

S-1