

# Memo

To: Plan Commission

Fr: Trevor Fuller, Planning and Zoning Administrator

Re: APPROVAL OF CONDITIONAL USE PERMIT FROM WIRELESS PLANNING, LLC FOR  
PLACEMENT OF 3 ADDITIONAL ANTENNAE ON THE PREVEA CLINIC AT 1821 S WEBSTER AVE

Date: May 23, 2014

Kelly Schmitz from Wireless Planning, LLC is petitioning for a Conditional Use Permit from the Village to place 3 additional antennae on the Prevea Clinic at 1821 S. Webster Avenue. The CUP and plans are attached. The plans have been reviewed and approved by Village staff.

Plan commission is asked to make a recommendation in regard to the Conditional Use Permit. Please come to the meeting prepared for a recommendation to the Village Board to approve, approve with conditions, or deny the petition.



# Wireless Planning, LLC

2310 Mill St, New London, WI 54961

Phone: 920-982-3286 Fax: 920-982-3485

## MEMO

**To:** Dan Coffey  
**From:** Kelly Schmitz  
**Date:** April 30, 2014  
**Re:** Existing telecommunications rooftop site – Prevea Webster

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Dan,

Enclosed please find the Petition for Conditional Use, drawings, structural and fee for the antenna addition at the rooftop site located at 1821 S Webster.

Proposal:

Install 3 additional antenna with related coax.

Please let me know the next step in the approval process. If you need additional information or have any questions please feel free to contact me.

Thanks,

Kelly

920-982-3286

Kellyschmitz@wirelessplanning.com

Preva

VILLAGE OF ALLOUEZ  
PETITION FOR CONDITIONAL USE

RECEIPT NUMBER \_\_\_\_\_ DATE PAID \_\_\_\_\_

Please complete this form. In cases where the complete legal description of the property under consideration is too lengthy to include in the space allowed in 3(a) below, please include it on a separate sheet with this application. Also, please attach the required map and/or drawing of the property to be considered. A fee of \$300.00 must accompany all petitions for conditional use.

PETITIONER'S NAME Cellcom PHONE NUMBER 920-982-3286  
ADDRESS 1821 S Webster

The above named hereby petitions the Village Board of Allouez as follows:

1. That petitioner's interest in the property is as telecommunications antennas & related equipment owners.
2. That record title to the property is presently in the name of Preva Health
3. That the legal description of the property under consideration is:  
Attached  
or a copy of the legal description is attached hereto.
4. That the size of the property is: \_\_\_\_\_
5. That a certified survey map, or a copy of the recorded plat on which the property is shown is attached hereto. Attached
6. That the premises are presently zoned as Class \_\_\_\_\_
7. That the petitioner seeks a conditional use for installing additional antennae

Dated this 30th day of April, 2014

(Signed)

Kelly Schmitz, agent for Cellcom  
(Petitioner)

\* (Signed)

(Owner, if other than Petitioner)

Ashok Rai, President & CEO of Preva Clinic, Inc.

Plan Commission Meets  
(Information Notice - Petitioner to be present)

Board accepts or rejects Plan Commission recommendation.  
Board may or may not schedule a hearing.

Date of hearing if one is scheduled  
(requires a Class II notice - Petitioner to be present)

ATTACHED STATEMENT OF CONDITIONAL USE  
MUST BE COMPLETED IN DETAIL BY PETITIONER

**STATEMENT OF CONDITIONAL USE**

Name of Petitioner(s) Cellcom Date 4-30-14  
Address 1821 S Webster  
Telephone: 970-982-3286 Home — Business —  
Address of property covered by this Conditional Use Request 1821 S Webster

**- DESCRIPTION OF PROPOSED USE -**

Describe the proposed use in detail giving the nature of the use, number of employees, and any physical changes such use will require relative to buildings and existing facilities. Include an accurately drawn site plan showing that portion of a property or structure involved in the requested use.

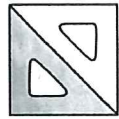
Existing telecommunication antennas w/ related ground equipment located on Pineda's rooftop, address: 1821 S Webster. Cellcom is proposing to install additional antenna at this location. Please see attached drawings.

**SPECIAL CONDITIONS AND STIPULATIONS  
REQUIRED BY THE VILLAGE BOARD**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Petitioner's Signature





# Edge

Consulting Engineers, Inc.

624 Water Street  
Prairie du Sac, Wisconsin 53578  
608.644.1449 Phone  
608.644.1549 Fax  
[www.edgeconsult.com](http://www.edgeconsult.com)

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## STRUCTURAL ANALYSIS REPORT

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PREPARED FOR:



**ROOFTOP ANTENNA INSTALLATION  
PREVEA WEBSTER  
GREEN BAY, WISCONSIN**

**EDGE PROJECT NUMBER:  
9040**

**AUGUST 8, 2013**

# STRUCTURAL ANALYSIS REPORT

**Project Information:**

Prevea Webster  
1821 S. Webster Ave.  
Green Bay, WI 54301

**Client:**

Nsighttel Wireless, LLC  
450 Security Blvd  
Green Bay, WI 54313  
Contact: Dave Pasch  
Phone: (920) 617-7046

**Consultant:**

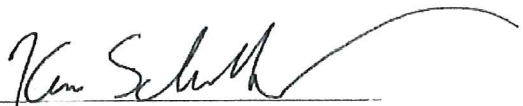
Edge Consulting Engineers  
624 Water Street  
Prairie du Sac, Wisconsin 53578  
Contact: Ken C. Baumgardt, P.E.  
Phone: (608) 644-1449

**Edge Project Number:**

9040

**Date:**

August 8, 2013

  
Kevin T. Scharenbroch, E.I.T.  
Structural Engineer

8/8/13  
Date

  
Brent P. Ballweg, P.E.  
Structural Engineer

8/8/13  
Date

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## **SECTION 1**

### **EXECUTIVE SUMMARY**

Site Name: Prevea Webster  
Site Location: Green Bay, Wisconsin  
Purpose: Antenna Installation  
Structure Type: Rooftop

We have completed a structural analysis for the above described site per your antenna installation request. No omnis are to be removed. The work called for the installation of three (3) Kathrein 800\_10511V01 LTE panel antennas at an elevation of 70 feet on proposed non-penetrating roof ballast frames.

Our analysis was performed in accordance with the current Wisconsin Commercial Building Code (IBC 2009), and all of its referenced standards.

The proposed non-penetrating roof ballast antenna frames will be structurally adequate to support the proposed antenna loading.

Please refer to the report which follows this summary for further information. Feel free to contact us if you have any questions or concerns.

## **SECTION 2 INTRODUCTION**

### **2.1 PROJECT OVERVIEW**

This report summarizes the results of a structural analysis conducted by Edge Consulting Engineers (Edge) for Cellcom, who is considering modifying the loading condition of an existing rooftop site.

### **2.2 PURPOSE OF REPORT**

The purpose of this report is to assess the adequacy of the existing rooftop structure and proposed antenna mounts to support the proposed antennas while considering appropriate loading criteria. This assessment was completed using background information provided by the client/local municipality and/or obtained in the field (where noted) and in conformance with current applicable codes, client directed protocols, and the judgment of the structural engineer.

### **2.3 SCOPE OF SERVICES**

The scope of services for this project included structural analysis of the building structure in accordance with client supplied information. No field investigations or evaluations were performed as part of this work.

This report summarizes the structural analysis results.

## **SECTION 3 ANALYSIS**

### **3.1 BACKGROUND INFORMATION**

The building in question is an existing four story health clinic. We were provided the following information at the project outset:

1. Partial building structural drawings: Marshall Erdman & Associates
2. Existing rooftop layout of equipment and antennas per Edge site visit dated 7/31/2013
3. Proposed antenna loading

The following information was not provided or available at the time of this analysis:

1. Complete building structural drawings
2. Information regarding the condition of building structure

### **3.2 ANALYSIS CRITERIA**

This analysis was performed in accordance with the current Wisconsin Commercial Building Code (IBC 2009). The basic wind speed for Brown County, Wisconsin is 90 mph and the design snow load is 40 psf.

This analysis utilized the following Exposure Criteria and Occupancy Category.

Exposure Criteria: C  
Occupancy Category: III

These criteria were selected based on the location and use of the building in question. Should the client have reason for selection of other criteria, they must contact the engineer.

Definitions of the different categories and criteria were taken from the ASCE 7-05 standard and are provided in Appendix A.

## **SECTION 4 RESULTS**

### **4.1 ANTENNA MOUNTS**

An evaluation was conducted on the ballast requirements for the proposed loading on the new non-penetrating rooftop ballast frames. From this analysis, it was determined that a total of 403 pounds is required to be present. Because the impact of this non-penetrating ballast frame load is less than the minimum roof load live load, it has been determined that both the proposed ballast frame and building in question will be adequate under the proposed loading.

### **4.2 RECOMMENDATIONS**

Based on the results of this analysis, it is our professional opinion that the non-penetrating rooftop ballast frames and rooftop structure will be adequate as analyzed under the proposed change in loading.

If the proposed loading is altered from that analyzed, this report shall be deemed obsolete and further analysis will be required.

## **SECTION 5**

### **LIMITATIONS AND RESTRICTIONS**

1. This report was prepared in accordance with generally accepted structural engineering practices common to the industry and makes no other warranties, either expressed or implied, as to the professional advice provided under the terms of the agreement between Engineer and Client. This report has not been prepared for uses or parties other than those specifically named, or for uses or applications other than those enumerated herein. The report may contain insufficient or inaccurate information for other purposes, applications, and/or other uses.
2. This report is intended for the use of the client, and cannot be utilized or relied upon by other parties without the written consent of Edge Consulting Engineers.
3. Edge Consulting Engineers is not responsible for any, and all, modifications completed prior to, or hereafter, which Edge Consulting Engineers was not, or will not, be directly involved.
4. The conclusions and recommendations contained within this report are based upon the supplied and attained information as described within the report. If it is known, or becomes known, that any item(s) are in conflict with what is described within this document, this report should be considered void and Edge Consulting Engineers should be contacted immediately.
5. Edge Consulting Engineers disclaims all liability for any information, conclusion, or recommendation that is not expressly stated or represented within this report.
6. Edge Consulting Engineers shall not be liable for any incidental, consequential, indirect, special or punitive damages arising out of any claim associated with the use of this report.
7. The scope of work performed for this analysis is limited to the items in which we were furnished complete and accurate information.
8. This analysis was performed under the assumption that all structural elements are in like new condition, free from rust and other deterioration. It is also assumed that everything was properly installed per construction documents. Edge Consulting Engineers cannot account for, nor be held responsible, if elements are deteriorated, damaged, and/or missing.
9. This analysis was performed based upon the antenna and equipment loading and placement as described within this report. Any alterations to the described loading or placement will require re-analysis, and the findings contained in this report are not valid.
10. The loading utilized for this analysis is based on information provided by the client, and readily available manufacturer/vendor information (antenna and mount projected areas, weight and shape factors). However, if the described loading criteria and design assumptions within this report are not accurate, are altered, or changed in any form, this analysis shall be considered void and an additional analysis must be performed.
11. It is the responsibility of the client and the building owner to thoroughly review the existing and proposed loading, and bring any discrepancy to the attention of Edge Consulting Engineers.



## **APPENDIX A**

### **ASCE 7-05 DEFINITIONS**

# ANALYSIS CRITERIA DEFINITIONS

## Exposure Criteria:

### Exposure B

Urban and suburban areas, wooded areas, or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger. Use of this exposure shall be limited to those areas for which terrain representative of Exposure B surrounds the structure in all directions for a distance of at least 2,630 ft. or ten times the height of the structure, whichever is greater.

### Exposure C

Open terrain with scattered obstructions having heights generally less than 30 ft. This category includes flat, open country, grasslands and shorelines in hurricane prone regions.

### Exposure D

Flat, unobstructed shorelines exposed to wind flowing over open water (excluding shorelines in hurricane prone regions) for a distance of at least 1 mile. Shorelines in Exposure D include inland waterways, lakes and non-hurricane coastal areas. Exposure D extends inland a distance of 660 ft. or ten times the height of the structure, whichever is greater. Smooth mud flats, salt flats and other similar terrain shall be considered as Exposure D.

## Occupancy Categories:

### Category I

Buildings and other structures that represent a low hazard to human life in the event of failure, including, but not limited to:

- Agricultural facilities
- Certain temporary facilities
- Minor storage facilities

### Category II

All buildings and other structures except those listed in Occupancy Categories I, III, and IV

### Category III

Buildings and other structures that represent a substantial hazard to human life in the event of failure, including, but not limited to:

- Buildings and other structures where more than 300 people congregate in one area
- Buildings and other structures with daycare facilities with a capacity greater than 150
- Buildings and other structures with elementary school or secondary school facilities with a capacity greater than 250
- Buildings and other structures with a capacity greater than 500 for colleges or adult education facilities
- Health care facilities with a capacity of 50 or more resident patients, but not having surgery or emergency treatment facilities
- Jails and detention facilities

Buildings and other structures, not included in Occupancy Category IV, with potential to cause a substantial economic impact and/or mass disruption of day-to-day civilian life in the event of failure, including, but not limited to:

- Power generating stations <sup>a</sup>
- Water treatment facilities
- Sewage treatment facilities
- Telecommunication centers

Buildings and other structures not included in Occupancy Category IV (including, but not limited to, facilities that manufacture, process, handle, store, use, or dispose of such substances as hazardous fuels, hazardous chemicals, hazardous waste, or explosives) containing sufficient quantities of toxic or explosive substances to be dangerous to the public if released.

Buildings and other structures containing toxic or explosive substances shall be eligible for classification as Occupancy Category II structures if it can be demonstrated to the satisfaction of the authority having jurisdiction by a hazard assessment as described in Section 1.5.2 that a release of the toxic or explosive substances does not pose a threat to the public.

#### Category IV

Buildings and other structures designated as essential facilities, including, but not limited to:

- Hospitals and other health care facilities having surgery or emergency treatment facilities
- Fire, rescue, ambulance, and police stations and emergency vehicle garages
- Designated earthquake, hurricane, or other emergency shelters
- Designated emergency preparedness, communication, and operation centers and other facilities required for emergency response
- Power generating stations and other public utility facilities required in an emergency
- Ancillary structures (including, but not limited to, communication towers, fuel storage tanks, cooling towers, electrical substation structures, fire water storage tanks or other structures housing or supporting water, or other fire suppression material or equipment) required for operation of Occupancy Category IV structures during an emergency
- Aviation control towers, air traffic control centers, and emergency aircraft hangars
- Water storage facilities and pump structures required to maintain water pressure for fire suppression
- Buildings and other structures having critical national defense functions

Buildings and other structures (including, but not limited to, facilities that manufacture, process, handle, store, use, or dispose of such substances as hazardous chemicals, or hazardous waste) containing highly toxic substances where the quantity of the material exceeds a threshold quantity established by the authority having jurisdiction.

Buildings and other structures containing highly toxic substances shall be eligible for classification as Occupancy Category II structures if it can be demonstrated to the satisfaction of the authority having jurisdiction by a hazard assessment as described in Section 1.5.2 that a release of the highly toxic substances does not pose a threat to the public. This reduced classification shall not be permitted if the buildings or other structures also function as essential facilities.

<sup>a</sup> Cogeneration power plants that do not supply power on the national grid shall be designated Occupancy Category II.

**APPENDIX B**

**STRUCTURAL CALCULATIONS**

## Antenna Wind Load Calculations

Project Name - Prevea Webster  
Green Bay, Wisconsin  
Edge #9040



Completed By: KTS  
Checked By: BPB

### Proposed Antenna [Kathrein 800\_10511V01]

Antenna Weight (P) = 44.10 lbs  
Antenna Height (H) = 78.70 in  
Antenna Width (W) = 12.70 in  
Antenna Depth (D) = 2.80 in  
Antenna Front Area ( $A_{front}$ ) = 6.94 ft<sup>2</sup>  
Antenna Side Area ( $A_{side}$ ) = 1.53 ft<sup>2</sup>

### Wind Force Calculations:

Elevation of Antennas (E) = 70.00 ft  
Exposure Category = C

$$F = q_z \cdot G \cdot C_f \cdot A_f$$

\*ASCE 7-05, Eq. 6-28, p.29

$$q_z = 0.00256 \cdot K_z \cdot K_{zt} \cdot K_d \cdot V^2 \cdot I$$

\*ASCE 7-05, Eq. 6-15, p.27

$K_z = 1.17$   
 $K_{zt} = 1$   
 $K_d = 0.85$   
 $V = 90$  mph  
 $I = 1.15$

\*ASCE 7-05, Table 6-3, p.79  
\*ASCE 7-05, Section 6.5.7.1, p.26  
\*ASCE 7-05, Table 6-4, p.80  
\*ASCE 7-05, Figure 6-1, p.32-33  
\*ASCE 7-05, Table 6-1, p.77

$q_z = 23.72$  lb/ft<sup>2</sup>

$G = 0.85$   
 $C_{f,front} = 1.4$   
 $C_{f,side} = 1.4$

\*ASCE 7-05, Section 6.5.8, p.26  
\*ASCE 7-05, Figure 6-21, p.74

$F_{front} = 195.9$  lbs  
 $F_{side} = 43.2$  lbs





624 Water Street  
Prairie du Sac, WI 53578  
608.644.1449 phone  
262.364.3000 fax

## Structural Calculations

### Ballast Mount Frame Calculations

<b>Client:</b> Cellcom	<b>Site Name:</b> Prevea Webster	<b>Client Site #:</b>	<b>Edge Site #:</b> 9040
<b>Calculated By:</b> KTS	<b>Date:</b> 8/8/13	<b>Checked By:</b> BPB	<b>Date:</b> 8/8/13

#### Variables

Variable	Item	Variable	Value
N	Number of Antennas	N =	1 antennas
A	Flat Area of One Antenna	A =	7.94 ft <sup>2</sup> Includes omni (1 ft <sup>2</sup> )
p	Design Wind Pressure (Based on Elevation)	p =	28.22 psf
H	CL of Antennas Above Roof	H =	6 ft. above roof
W	Weight of Ballast Required		

#### Calculations

Formula for determining weight of required ballast:

$$W = 0.150 \cdot p \cdot A \cdot N \cdot H$$

$$W = 202 \text{ lbs of ballast}$$

$$W_{Total} = W \cdot 2$$

$$W_{Total} = 403 \text{ lbs of ballast}$$

$$\text{Total Concrete Blocks Required} = 18 \text{ blocks required for ballast}$$

Note: A nominal 4x8x16 solid concrete block weighs 20-30 lb. Verify weight w/ supplier. Calculations above assume a 25 lb nominal weight.

Note: The total number of concrete blocks should be split between the front and back ballast trays

Note: Additional ballast will be needed if more antennas are added.

Antenna Weight =	44.1	lbs
Additional Equipment Weight =	160	lbs
Approximate Weight of Empty Ballast Frame =	450	lbs
Foot Print of Ballast Frame =	60	ft <sup>2</sup>
Total Ballast Weight =	450	lbs
Total SuperImposed Area Load =	18,402	psf

Diagram of Typical Ballast Frame

