



Dane County Planning & Development

Division of Zoning

Appeal No. 3696
Date Received 11/28/2018
Date of Public Hearing Jan 24, 2019

VARIANCE APPLICATION:

Owner: Village of DeForest, Wisconsin

Mailing Address: Attn: Kelli Bialkowski, Director of Public Services
120 South Stevenson Street, DeForest, Wisconsin 53532

Phone Number(s): (608) 846-6751

Email Address: bialkowski@vi.deforest.wi.us

Assigned Agent: Attorney Allen D. Reuter of Reuter, Whitish & Evans, S.C.

Mailing Address: 44 East Mifflin Street, Suite 306, Madison, Wisconsin 53703

Phone Number(s): (608) 250-9053

Email Address: areuter@rwelaw.net

To the Dane County Board of Adjustment:

Please take notice that the undersigned was refused a permit by the Dane County Zoning Division, Department of Planning and Development, for lands described below for the reason that the application failed to comply with provisions of the Dane County Code of Ordinances: Chapters 10 – Zoning, 11 – Shoreland, Shoreland-Wetland & Inland-Wetland, 17 – Floodplain Zoning, and/or 76 – Airport Height Regulations. The owner or assigned agent herewith appeals said refusal and seeks a variance.

Parcel Number: 0810-093-8581-4 Zoning District: C-2 Acreage: _____
Town: Burke Section: 9 1 / 4 SW 1 / 4 NW

Property Address: 4209 Anderson Road

CSM: 07441 Lot: 1 / Subdivision: _____ Block/Lot(s): _____

Shoreland: Y / **N** / Floodplain: Y / **N** / Wetland: Y / **N** / Water Body _____

Sanitary Service: **Public** / Private (Septic System)

Current Use: Municipal water tower and communications antennas

Proposal: Increase height variance to allow existing uses

NOTE: You are encouraged to provide a complete and detailed description of the existing use and your proposed project on an attached sheet.

REQUIRED BY ORDINANCE

Section	Description	Required	Proposed or Actual	Variance Needed
78.05	Limits the maximum height of structures located within three miles of the Airport Boundary	Elevation of 1006 feet	Elevation of 1082 feet	76 feet

PRESENTING YOUR CASE TO THE BOARD OF ADJUSTMENT:

An Area Variance may be authorized by the Dane County Board of Adjustment to vary one or more of the dimensional or physical requirements of the applicable ordinance in connection with some proposed construction.

The burden will be on you, as property owner or authorized agent, to provide information upon which the board may base its decision. At the hearing, any party may appear in person or may be represented by an agent or attorney. You or your agent must convince the zoning board to make a ruling in your favor. The board must make its decision based only on the evidence submitted to it at the time of the hearing, including the staff report. Unless you or your agent is present, the board may not have sufficient evidence to rule in your favor and may then deny your application.

Please answer the four questions below. You are encouraged to attach a separate sheet, labeling the answers (1) through (4), to provide enough detail to support your appeal.

(1) Describe alternatives to your proposal such as other locations, designs and construction techniques. Attach a site map showing alternatives you considered in each category below:

(A) Alternatives you considered that comply with existing standards: If you find such an alternative, you can move forward with this option with a regular permit. If you reject compliant alternatives, provide the reasons you rejected them.

Please see attached.

(B) Alternatives you considered that require a lesser variance: If you reject such alternatives, provide the reasons you rejected them.

Please see attached.

(2) Will there be an unnecessary hardship to the property owner to strictly comply with the ordinance?

Unnecessary hardship exists when compliance would unreasonably prevent the owner from using the property for a permitted purpose (leaving the property owner without any use that is permitted for the property) or would render conformity with such restrictions unnecessarily burdensome.

An applicant may not claim unnecessary hardship because of conditions which are self-imposed or created by a prior owner (for example, excavating a pond on a vacant lot and then arguing that there is no suitable location for a home or claiming that they need more outbuilding space than that permitted to store personal belongings). Courts have also determined that economic or financial hardship does not justify a variance. When determining whether unnecessary hardship exists, the property as a whole is considered rather than a portion of the parcel. The property owner bears the burden of proving unnecessary hardship.

Please see attached.

- (3) Do unique physical characteristics of your property prevent compliance with the ordinance? If yes, please explain. The required Site Plan and/or Survey submitted with your application must show these features.

Unique physical limitations of the property such as steep slopes or wetlands that are not generally shared by other properties must prevent compliance with the ordinance requirements. The circumstances of an applicant (growing family, need for a larger garage, etc.) are not a factor in deciding variances. Nearby ordinance violations, prior variances, or lack of objections from neighbors do not provide a basis for granting a variance.

Please see attached.

- (4) What would be the effect on this property, the community or neighborhood, and the general public interest if the variance were granted? Describe how negative impacts would be mitigated. The required Site Plan and/or Survey submitted with your application must show any proposed mitigation features.

These interests may be listed as objectives in the purpose statement of an ordinance and may include: Promoting and maintaining public health, safety and welfare; protecting fish and wildlife habitat; maintaining scenic beauty; minimizing property damages; ensuring provision of efficient public facilities and utilities; requiring eventual compliance for nonconforming uses, structures and lots; drainage; visual impact; fire safety and building code requirements; and any other public interest issues.

Please see attached.

REQUIRED PLANS AND SPECIFICATIONS:

In addition to providing the information required above, you must submit:

1. **Site Plan:** Complete and detailed plans of your lot or lots, drawn to a standard and easily readable scale. In most cases, a survey by a Registered Land Surveyor is needed. The Site Plan/Survey should include the following, as applicable, as well as any unique existing features of the lot and any proposed mitigation features, as described above:
 - ☐ Scale and North arrow
 - ☐ Road names and right-of-way widths
 - ☐ All lot dimensions
 - ☐ Existing buildings, wells, septic systems and physical features such as driveways, utility easements, sewer mains and the like, including neighboring properties and structures.
 - ☐ Proposed new construction, additions or structural alterations.
 - ☐ For property near lakes, rivers or streams:
 - ☐ Location of Ordinary High Water Mark (OHWM) Elevation
 - ☐ Location of Floodplain Elevation
 - ☐ For property near Wetlands, a Wetland Boundary determination by a qualified professional consultant may be required.
 - ☐ Topographic survey information may be desirable or necessary.
 - ☐ Setbacks from any existing or proposed structures (building) to lot lines, right-of-way lines, Ordinary High Water Mark, and/or Wetland Boundary, as applicable.
 - ☐ For setback from Ordinary High Water Mark Variance Appeals, the setbacks of the two neighboring structures from the OHWM may be required.

2. Floor Plans and Elevations: Professionally-prepared plans and elevations are not required, but the plans submitted must be drawn to a standard and easily readable scale, must show each story of the building or structure, and must include all parts of existing and proposed structures, including any balconies, porches, decks, stoops, fireplaces and chimneys. Exterior dimensions must be included. Show all exit door locations, including sliding doors, and any windows or other features that are pertinent to your appeal. The plans may be a preliminary version, but are expected to represent your actual proposal for the use of your lot.

Please consult with the Assistant Zoning Administrator regarding required plans for non-conventional structures such as signs, construction cranes, etc.

3. Town Acknowledgment: Obtain a signed, dated memo or letter from the Town Clerk or Administrator of the Town where the variance is needed, acknowledging that you have informed them of your intention to apply for the variance(s). You probably will need to appear before the Town Board and/or Plan Commission, which will provide advisory input requested by the Board of Adjustment.

APPLICANT SIGNATURE:

The undersigned hereby attests that all information provided is true and accurate, and further gives permission to Planning & Development staff and Board of Adjustment members to view the premises, in relation to the Appeal request made herein, during reasonable daylight hours.

Signature Required: Allen D. Reuter Date: 11/28/18

Print Name: ALLEN D. REUTER

Specify Owner or Agent: Agent - Village Attorney
Agent must provide written permission from the property owner

STAFF INFORMATION:

Date Zoning Division Refused Permit (if different from filing date)

Filing Date

Filing Materials Required:

Site Plan

Floor Plans

Elevations

Fee _____ Receipt No. _____

Town Acknowledgement Date

Notices Mailed Date

Class II Notices Published Dates

Site Visit Date

Town Action Received Date:

Public Hearing Date

Action by B.O.A. _____

Approved by: _____ Date: _____
Director, Division of Planning Operations, Department of Planning and Development

Background Information: The water tower that is the subject of this variance request is located within the three-mile boundary of the Dane County Regional Airport. Due to this location, the water tower is subject to the maximum height limitations of Section 78.05 of the Dane County Code of Ordinances (DCCO) and Dane County's Height Limitation Zoning Map. However, in 1993, prior to the construction of the water tower, the Dane County Board of Adjustment granted a variance (Variance #2428) to the Token Creek Sanitary District (the then-owner of the site) with respect to the applicable height limitation where the water tower is located. Variance #2428 granted a variance of 61 feet from the maximum height restriction under the ordinance (which was an elevation of 1009 feet at the time the variance was granted) for the water tower. Thus, Variance #2428 increased the height restriction to an elevation of 1,070 feet.

In 2006, the Dane County Zoning Committee granted Conditional Use Permit #2032, allowing the attachment of cellular antennas to the existing water tower. In 2014, the Village of DeForest reconditioned and repainted the tower. In connection with that project, the Village granted permission to AT&T to install a safety railing near the top of the tower and replaced the existing tower vent with a frost-proof vent as required by DNR regulations. The Village also installed a new aircraft warning beacon at the top of the water tower. Those improvements resulted in exceedances of the 1070' maximum height restriction by 0.6', 1.2' and 8.94' respectively. That same year, AT&T moved its antennas that were mounted directly on the water tower and reinstalled them onto the safety railing previously installed.

In 2015, Verizon Wireless obtained a zoning permit from the Dane County Zoning Department to construct and mount additional antennas to the water tower. The application showed the existing railing and AT&T antennas, and proposed installation of the new antennas at the same elevation, but no objection was raised by the Department. After completion of the project and inspection by the Zoning Inspector, the Department issued a Certificate of Compliance confirming that Verizon's construction and placement of its antennas complied with its permit and that its use complies with all provisions of the Dane County Zoning Ordinance. (*See* attached Exhibit A). After the Zoning Board approved Verizon's installation, the Village of DeForest installed its Supervisory Control and Data Acquisition ("SCADA") antenna and point-to-point antenna on the water tower without independently checking the applicable height restrictions. The SCADA system is necessary to provide real-time monitoring of water system wells, towers and other facilities. The point-to-point system provides wireless transmission of Village security camera and other data.

Based on the current requirements of Section 78.05 of the DCCO and Dane County's Height Limitation Zoning Map, the applicable height restriction for the area where the water tower is located is an elevation of 1006 feet. In other words, pursuant to Section 78.05 of the DCCO, the maximum height of a structure at that specific location would be 56 feet tall. Variance #2428, which is currently in effect, granted a variance of 61 feet from the maximum height restriction (which was an elevation of 1009 feet at the time the variance was granted) for the water tower. Thus, in accordance with Variance #2428, a structure (i.e., the water tower) may be a maximum of 120 feet tall. However, the current height of the water tower and the equipment attached thereto exceed the maximum elevation height of 1,070 feet granted by Variance #2428. The tower,

including the attached antennas and other equipment, is approximately 129 feet tall, which equates an elevation of approximately 1,079 feet. (See attached Exhibit B, which is a diagram of the elevations of the communications antennas attached to the water tower). To allow for the existing facilities, the applicant is requesting a variance of 76 feet from the maximum height of structures as stated under Section 78.05 of the DCCO. With this variance, the maximum height allowed would be an elevation of 1,082 feet and would permit the continued maintenance of the safety railing, communications antennas, and an airport warning beacon on the existing municipal water tower. (See the site plans attached hereto as Exhibit C).

On October 29, 2018, the Dane County Zoning Department first raised a concern over the height of the tower appurtenances in a Notice of Violation sent to the Village. That notice contends that the antennas on the tower violate the height restrictions, as well as a separate condition contained in the CUP issued for antenna construction. The Village now seeks a variance to increase the permissible height of the structure, and also appeals the determination that it is in violation of the CUP. Section 66.0404 of the Wisconsin Statutes now makes cellular antenna collocation a permitted use, and any conditions contained in a conditional use permit are no longer enforceable.

Question 1: Alternatives Considered. The only two alternative options to the variance request would be to lower or remove the communications equipment currently attached to the water tower. Lowering the antennas would decrease their functionality. It is not known at this point whether an alternative vent could be installed on the tower to reduce the elevation to the current height limitation. Lowering the SCADA antenna or having to remove it would complicate the Village's ability to monitor the operations of its water system. The Village also relies on the current location of its point-to-point antenna in order to monitor its public safety cameras and other technological equipment located throughout the Village, and those functions would be compromised by relocation of the antennas.

Additionally, if the antennas are attached to the side of the water tower at a lower location, maintenance costs would significantly increase, as would the risk of injury or death to maintenance workers. Whereas maintenance workers can currently access the antennas through the tower pedestal and a roof access hatch, placing the antennas at a lower height on the tower would require the workers to use cranes and lifts, and work without the protection provided by the safety railing. As a result, large machinery would need to be hauled onto the tower site whenever simple adjustments or other maintenance work on the antennas is necessary.

Another alternative option, which is the most feasible, is the removal of the antennas and the construction of a separate mobile service support structure to support them. In order for the structure's antennas to provide an adequate level of signal strength and coverage so that there are no coverage gaps or areas of diminished service in Dane County, this support structure would have to be constructed within three-miles of the airport boundary, and logically would be located at the current water tower site. In other words, it is not technologically feasible for the antennas to operate without some encroachment on the airport height restrictions.

Furthermore, the height of the alternative mobile service support structure could well exceed the height limitation requested by this variance application. The water tower with the attached communications antennas is approximately 129 feet tall (an elevation of 1,079 feet), whereas a separate mobile support structure may be at least 200 feet tall (an elevation of 1,150 feet at the water tower's location) regardless of any county restrictions pursuant to Wis. Stat. § 66.0404. Section 66.0404(4) of the Wisconsin Statutes provides that a county may not limit the height of a mobile service support structure to anything under 200 feet. The statute also provides that a county may not disapprove a permit application for the construction or modification of a mobile support structure based solely on the height of the structure or based on the suitability of other locations for the structure. *See also*, Dane County Ordinance 10.194(5), which outlines the standards for issuance of a conditional use permit for a communication tower and contains a minimum height standard of 150 feet. Moreover, according to Federal Aviation Administration (FAA) standards, a structure located within three miles of an airport and whose height is less than 200 feet is not deemed an "obstruction" to air navigation or navigational and communication facilities. *See* 17 CFR Part 77, secs. 77.1 and 77.13. Consistent with that standard, the FAA has previously issued a determination that a structure at an elevation of 1082 feet on the tower site at issue does not exceed obstruction standards and would not be a hazard to air navigation. (*See* attached Exhibit D).

None of the alternative options discussed above would resolve the maximum height violation with respect to the water tower's vent. The vent, which is located at the top of the tower, is necessary to the functioning of the tower and is required by DNR regulations, and currently exceeds the applicable height limitation by 1.20'. Lowering or removing the vent could compromise the functionality of the water tower.

The construction of a separate tower structure that would not be subject to the County's height restrictions is not the Village's preferred option. The County zoning code reflects a strong preference for minimizing the number of cellular towers and encourages collocation on existing towers. It is not feasible for the water tower to be removed as that would eliminate water service to numerous customers. Therefore, we believe it makes perfect sense to maximize the use of the water tower rather than requiring the cellular service providers to construct an additional tower. The requested variance would avoid the need to resort to this undesirable option.

Question 2: Unnecessary Hardship. Strict compliance with Section 78.05 of DCCO and its Height Limitation Zoning Map creates an unnecessary hardship. The current placements of the Village's SCADA antenna and point-to-point antenna on top of the water tower are important to maximize the functionality of those systems. In addition, the antennas' current location on top of the water tower make them safely accessible by maintenance workers because they are located inside the safety railing attached to the water tower. Lowering the height of the antennas below the safety railing would require the installation of new mounts on the side of the water tower, which would compromise the integrity of the tower finish and impact the ability of workers to safely and easily access the antennas. If the antennas have to be attached to the side of the water tower, workers will have to use a large crane or lift in order to safely access the antennas.

Further, due to specific engineering requirements associated with facilitating and providing a mature mobile network to the public in Dane County, Wisconsin, mobile service providers do not have the ability to select site locations or alter the height of communications equipment and antennas in a discretionary manner. The current location of the antennas on top of the water tower is essential for supporting the large volume of network traffic in the area. Relocating the antennas to a new site or lowering the height at which the antennas are attached to the water tower would create gaps in mobile coverage and diminish the strength of the antennas' mobile signals. Over time, coverage gaps and areas of diminished service become exacerbated where usage levels continue to increase with the evolution of technology, device demands, and user counts. Therefore, conformity with Section 78.05 of the DCCO and Height Limitation Zoning Map is unnecessarily burdensome, and the requested variance should be granted.

Because the existing facilities do not pose any danger to public safety and minimize negative aesthetic impacts, the additional hardship created by enforcement of the existing standards is unnecessary.

Question 3: Physical Characteristic of the Site. The water tower is located on a hill. Water towers such as this are typically constructed on hills in order to minimize costs and reduce relative obstruction height. The specific location of this water tower also makes the entire water system function better in an event of a fire or water main break. Because of the water tower's location on a hill, it makes the tower uniquely suited to act as a site for the collocation of antennas without needing to construct a separate structure nearby.

Question 4: Effects on Site, Neighborhood and Public Interest. Granting this variance will have no effect on the existing site as no change in the site is proposed. The surrounding area is either agricultural or industrial, and it is an appropriate location for a water tower and/or a separate mobile service support structure. Granting the variance would actually promote and maintain the public health, safety and welfare.

As previously mentioned, the current placement of the Village of DeForest's SCADA antenna and point-to-point antenna allow those programs to perform at an optimal level. If these antennas have to be lowered or removed, the functionality of these programs will decrease. Denying the variance will also be detrimental to worker safety as they would be required to work without the protection that the safety railing currently provides. Therefore, denying this variance request would negatively affect public safety and general welfare.

The current location of the communications antennas allows the public to have a dependable mobile network without large coverage gaps or areas of diminished service, which would be compromised if the antennas have to be relocated or lowered. For example, if Verizon's antennas have to be lowered on the water tower, that will reduce Verizon's network functionality by at least 40 to 50 percent. (See attached Exhibit E). Individuals will be less likely or unable to make or receive mobile calls when physically located in the service gaps created by the relocation

or lowering of the antennas. Moreover, these service gaps would negatively impact the efficiency and reliability of first responder and public safety services provided to the residents of Dane County, Wisconsin. Those considerations would certainly weigh in favor of a new free-standing tower in order to maintain the existing antenna elevations.

Notably, one of the providers with antennas located on the water tower, AT&T, participates in the First Responder Network Authority (FirstNet) established by Congress in 2012. FirstNet is a single, high-speed, nationwide wireless broadband network dedicated to public safety communications. This network will allow first responders and other public safety personnel to send and receive voice, data, video, images and text without concerns about network congestion. The FirstNet network is designed to guarantee priority and preemption when needed. Moving the current location of AT&T's antennas on the water tower will diminish the antennas' ability to provide a strong FirstNet network for Dane County's first responders and public safety officers when the network's installation is complete. As a result, FirstNet will be less effective in Dane County due to AT&T's inability to optimize their antennas' signal strength and coverage in Dane County.

Finally, the impact of the requested variance pales in comparison to the aesthetic effects that denial of the variance may cause. As noted above, the same site could be used for construction of an additional mobile service support structure at a height greater than the restrictions imposed by the DCCO. Moreover, the Village requires that antennae on the water tower be painted to match the color of the tower itself to minimize the visual contrast the antennas create. The granting of the variance to allow a modest increase in the permissible structure height is a common-sense solution to the needs of the affected parties as well as the public interest.



TOWN OF BURKE

5365 Reiner Road • Madison, WI 53718 • (608) 825-8420 • Fax (608) 825-8422

November 20, 2018

Dane County Planning & Development
Board of Adjustment
City County Building, Room 116
210 Martin Luther King Jr. Blvd.
Madison, Wisconsin 53703

Re: Variance Application for 4209 Anderson Road, Town of Burke

Dear Board of Adjustment:

Please accept this letter as the Town of Burke's acknowledgement that the Village of DeForest has informed the Town of its intention to apply for a variance for the water tower located at 4209 Anderson Road. Specifically, the Village of DeForest has informed the Town that it intends to apply for a variance from Section 78.05 of the Dane County Code of Ordinances and the maximum height of structures as shown on the Height Limitation Zoning Map to permit the attachment of a railing and telecommunication antennas to the water tower.

Sincerely,

Brenda Ayers
Administrator/Clerk/Treasurer
Town of Burke

cc: Village of DeForest



Dane County Planning & Development

Division of Zoning

VILLAGE OF DEFOREST
306 DEFOREST ST
DEFOREST, WI 53532

11/04/2015

Zoning Permit CERTIFICATE OF COMPLIANCE

- Parcel Number: 0810-093-8581-4
- Site Address: 4209 ANDERSON RD
- Permit Number: DCPZP-2015-00228
- Project Description: VERIZON WIRELESS NEW EQUIPMENT SHELTER AND ANTENNAE

Congratulations, Dane County Zoning has finished inspecting your property in order to confirm that your structure was built as authorized under permit number **DCPZP-2015-00228**.

These inspections verified that you completed construction in conformity with the permit specifications and that your use complies with all of the provisions of the Dane County Zoning Ordinance.

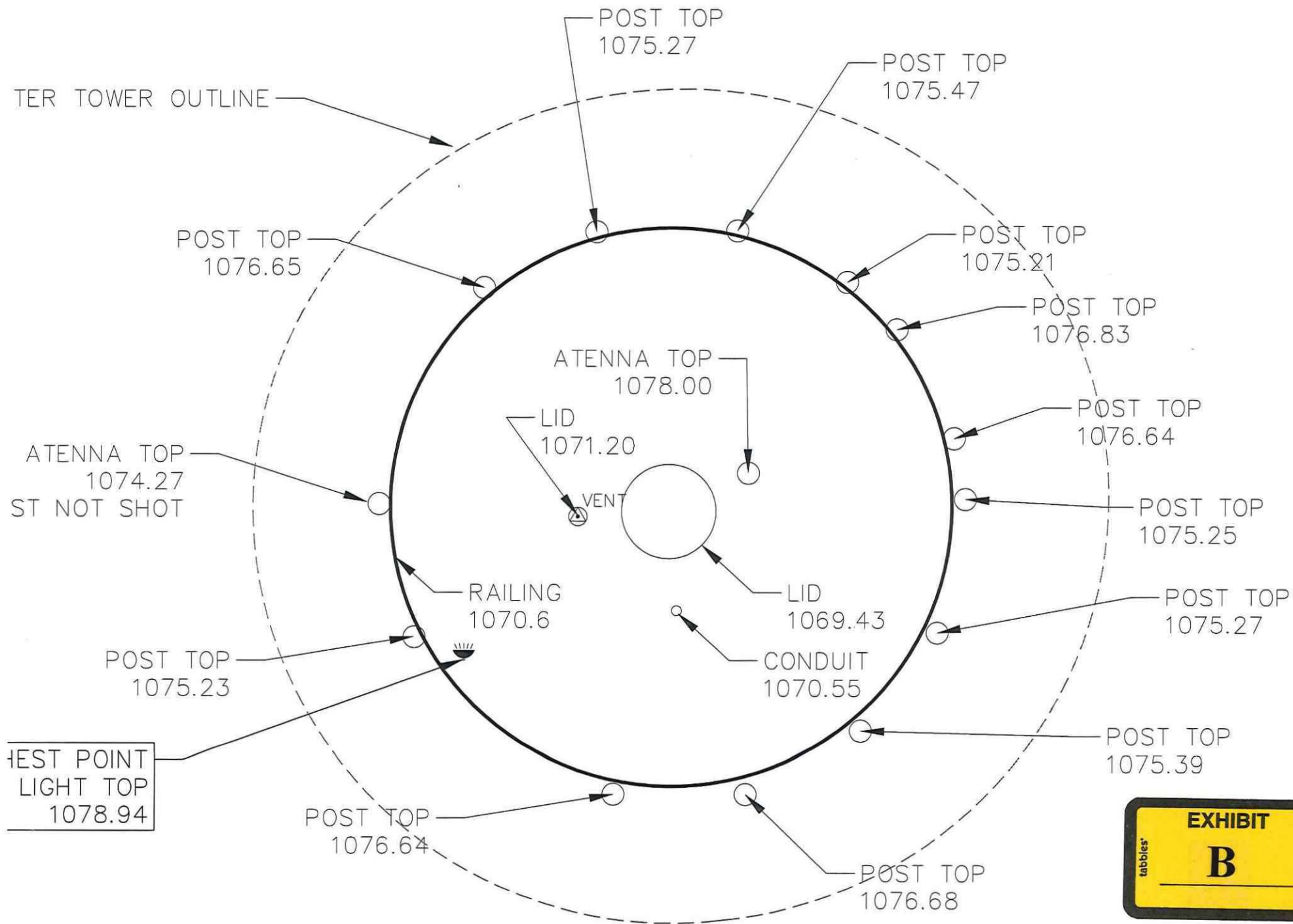
Dane County Zoning considers your project complete. There is no follow-up required on your part. Please keep a copy of this Certificate for your records.

Best Regards,

Dane County Zoning Inspector

cc: VERIZON WIRELESS
544 E OGDEN RD STE 700 #305
MILWAUKEE, WI 53202





EXHIBIT

B





REVISIONS			REVISIONS		
NO.	DATE	REMARKS	NO.	DATE	REMARKS

TOKEN CREEK WATER TOWER

EXISTING SITE PLAN

PLAN AND PROFILE

VILLAGE OF DEFOREST, WISCONSIN

vierbicher

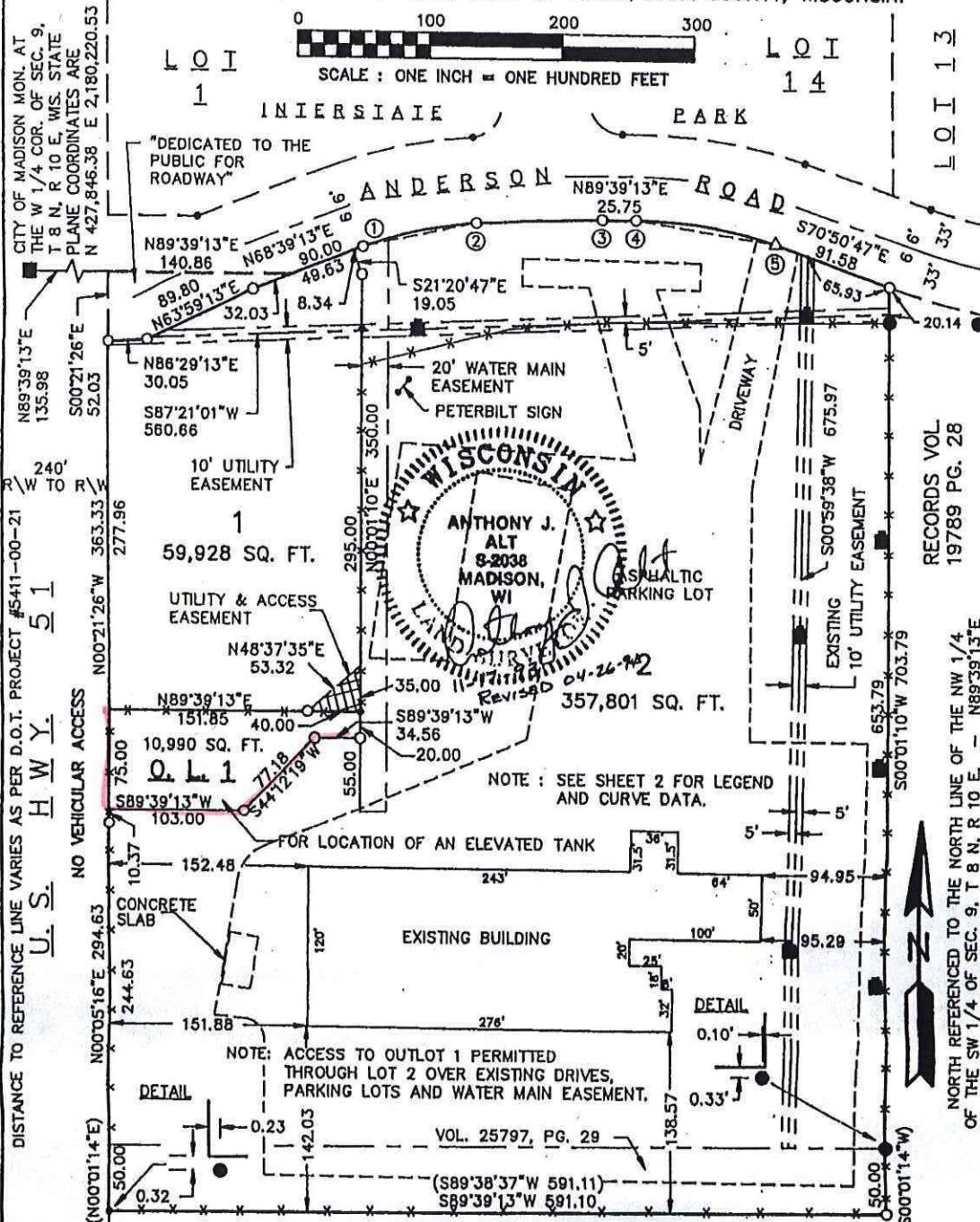
planners | engineers | advisors

REEDSBURG - MADISON - PRAIRIE DU CHIEN
40750-Dixie Road, Reedsburg, Wisconsin 53159
Phone: (608) 224-4448 Fax: (608) 224-6318

V27321P 30

CERTIFIED SURVEY MAP

LOCATED IN PART OF INTERSTATE PARK PLAT AND THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 8 NORTH, RANGE 10 EAST, TOWN OF BURKE, DANE COUNTY, WISCONSIN.



See affidavit of correction

12

V27321 P 31

CERTIFIED SURVEY MAP

LOCATED IN PART OF INTERSTATE PARK PLAT AND THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 9, TOWNSHIP 8 NORTH, RANGE 10 EAST, TOWN OF BURKE, DANE COUNTY, WISCONSIN.

CURVE DATA

CURVE	RADIUS/FT.	CHORD/FT.	ARC LENGTH/FT.	CHORD BEARING	CENTRAL ANGLE	TANGENT BEARING
1-2	290.73	87.95	88.29	N77°21'12"E	017°23'59"	2 N86°03'12"E
2-3	1511.65	94.97	94.99	N87°51'12"E	003°36'01"	
4-5	316.18	107.09	107.61	S80°35'47"E	019°30'00"	

OWNER'S CERTIFICATE

As owner, I hereby certify that I caused the land described to be surveyed, divided, mapped and dedicated as represented on this Certified Survey Map. I also certify that this Certified Survey Map is required by S.75.17(1)(a), Dane County Code of Ordinances to be submitted to the Dane County Zoning and Natural Resources Committee and the Town of Burke for approval. Witness the hands and seals of said owner this 4th day of April, 1994.

Darlene J. Bedken
Town of Burke

State of Wisconsin)
County of Dane) ss.

Personally came before me this 4th day of April, 1994, the above named DARLENE BEDKEN, Town of Burke to me known to be the person who executed the foregoing instrument and acknowledged the same.

Nancy L. Mayo
Notary Public

My Commission expires: 10/30/94

LEGEND

- 3/4" SOLID IRON ROD FOUND
- 1" IRON PIPE FOUND
- 1-1/4" X 30" SOLID IRON RE-ROD SET, MIN. WT. 4.30 lbs./ft. ALL OTHER LOT CORNERS MARKED BY A 3/4" X 24" SOLID IRON RE-ROD, MIN. WT. 1.50 lbs./ft.
- POWER POLE
- *- FENCE
- △ P.K. NAIL SET

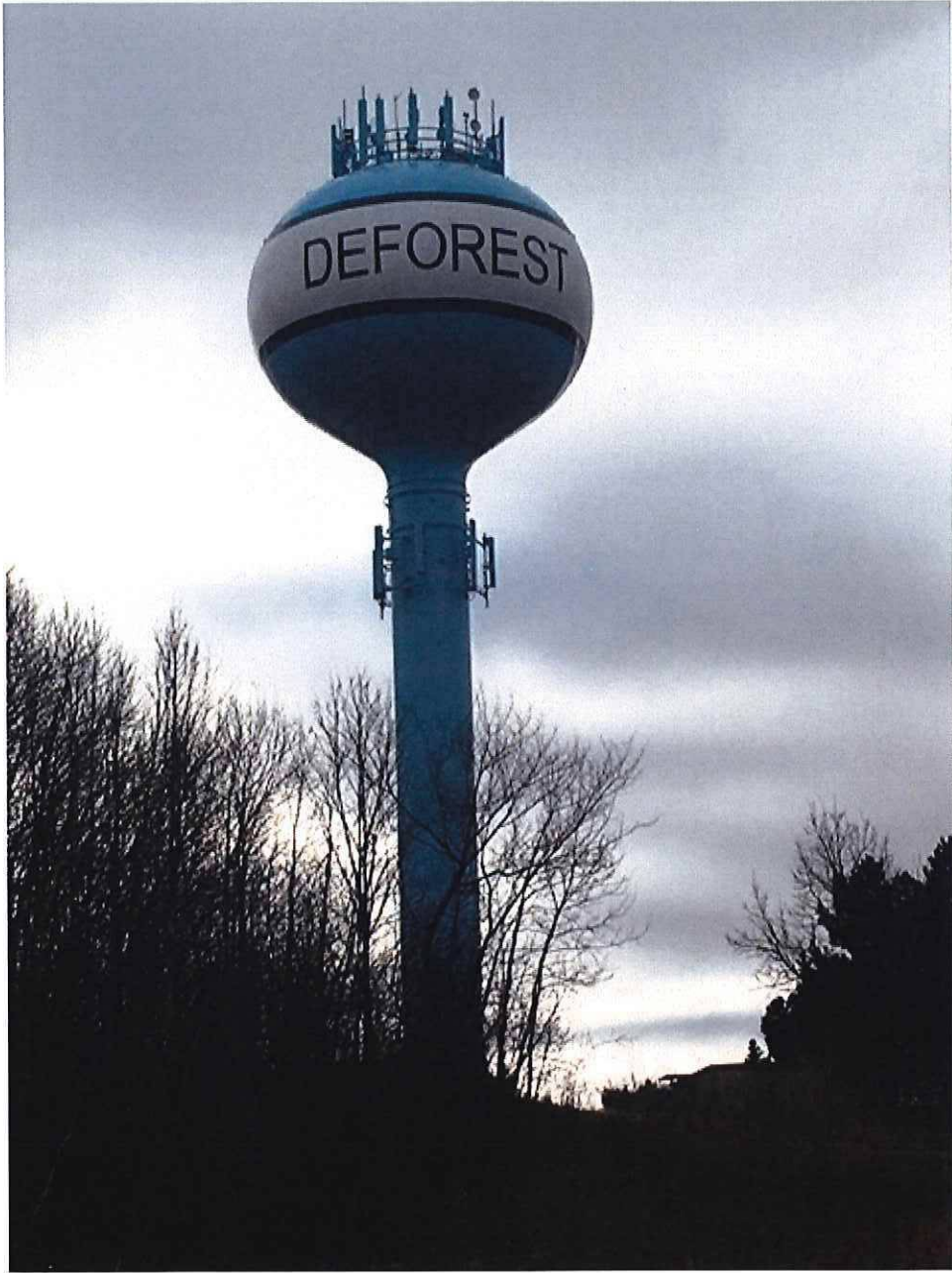


MAP NO. 7441

DOCUMENT NO. 2597792

VOLUME 38 PAGES 186

TC-07-88
SHEET 2 OF 7





Federal Aviation Administration
Great Lakes Regional Office
2300 East Devon Avenue-AGL-520
Des Plaines, IL 60018

Aeronautical Study No.
2001-AGL-8341-OE
Prior Study No.
1997-AGL-1511-OE

Issued Date: 12/28/2001

JAMES KOMMER
TELECORP PCS, INC.
115 SO 84TH ST., STE. 101
MILWAUKEE, WI 53214



**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has completed an aeronautical study under the provisions of 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: SIDE MOUNT ON EXISTING WATER TOWER, 1945-1950 MHZ, ERP 0.2 KW
Location: MADISON, WI
Latitude: 43-10-15.3 NAD 83
Longitude: 89-19-25.4
Heights: 132 feet above ground level (AGL)
1082 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure should continue to be marked and/or lighted utilizing red lights.

This determination expires on 6/28/2003 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor

of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (847)294 7566. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2001-AGL-8341-OE.

Signature Control No: 56452-70510

(DNE)

Bridgitt S. Arledge
Specialist



November 16, 2018

Dane County Board of Adjustment
Dane County-Planning and Development Department
210 Martin Luther King Jr. Blvd., Room 116
Madison, WI 53703-3342

**Re: Village of DeForest HLZO Variance and Conditional Use Applications-Village of DeForest Token Creek WT
Property-4209 Anderson Road / Parcel #0810-093-8581-4**

Dear Sir or Madame:

Please accept this letter and my signature below as my statement of the locational requirements pertaining to the above referenced application.

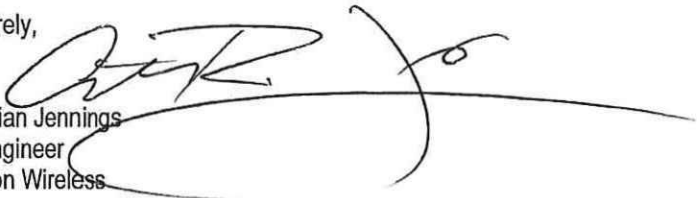
By way of introduction, my name is Christian Jennings and I serve as an RF Engineer at Verizon Wireless. My job duties include the responsibility over the local area network design and placement of Mobile Service Facilities throughout Dane County including the existing Verizon Wireless facilities located upon the above referenced City of DeForest Water Tower. I have also prepared the enclosed propagation maps which accompany this letter.

These maps have been prepared to illustrate the existing performance that the Verizon Wireless facilities provide from this location, and how they meet the very specific network engineering needs of this area. When reviewing the maps, please understand that it is imperative that the subject facilities are located in a central location between the nearest surrounding Verizon Wireless facility locations also shown on the map. This is necessary to prevent the overlapping of signal from those nearby existing sites which will lead to dropped and delayed calls and other service affecting issues. Secondly, this exact location also represents the best available option to provide the three-sector functionality needed to support the large volume of local network traffic coming from the I-39/I-90/I-94 and US 51 travel corridors, and the expanding daily user population brought to the area by the developing industry and commerce areas to the south.

As the maps depict, removing this location from service would create a large service hole in the Verizon Wireless local area network severely diminishing the level of service along these heavily traveled arterial roadways. In addition, lowering the tower mounted antenna/equipment heights would have the same incremental negative effect to the facilities functionality. If a location on top of this spheroid water tower at the 120' AGL centerline was no longer available, moving the equipment to the stem of the water tower at the next available estimated heights of 58' AGL or 68' AGL would reduce the network functionality by 40%-50% or greater, and result in newly created service gaps between the surrounding facility locations. These gap areas could render this location useless altogether, or result in necessitating the placement of additional facilities to the surrounding areas to fill those gap areas. This could potentially necessitate seeking additional mobile service support structures within the three-mile Airport boundary.

I am hoping that the maps and my statement are demonstrative of the locational needs and limitations for the Verizon Wireless facilities in this area that are currently being met by its installation upon the Token Creek Water Tower, and that this information will assist with your evaluation of the above referenced application(s).

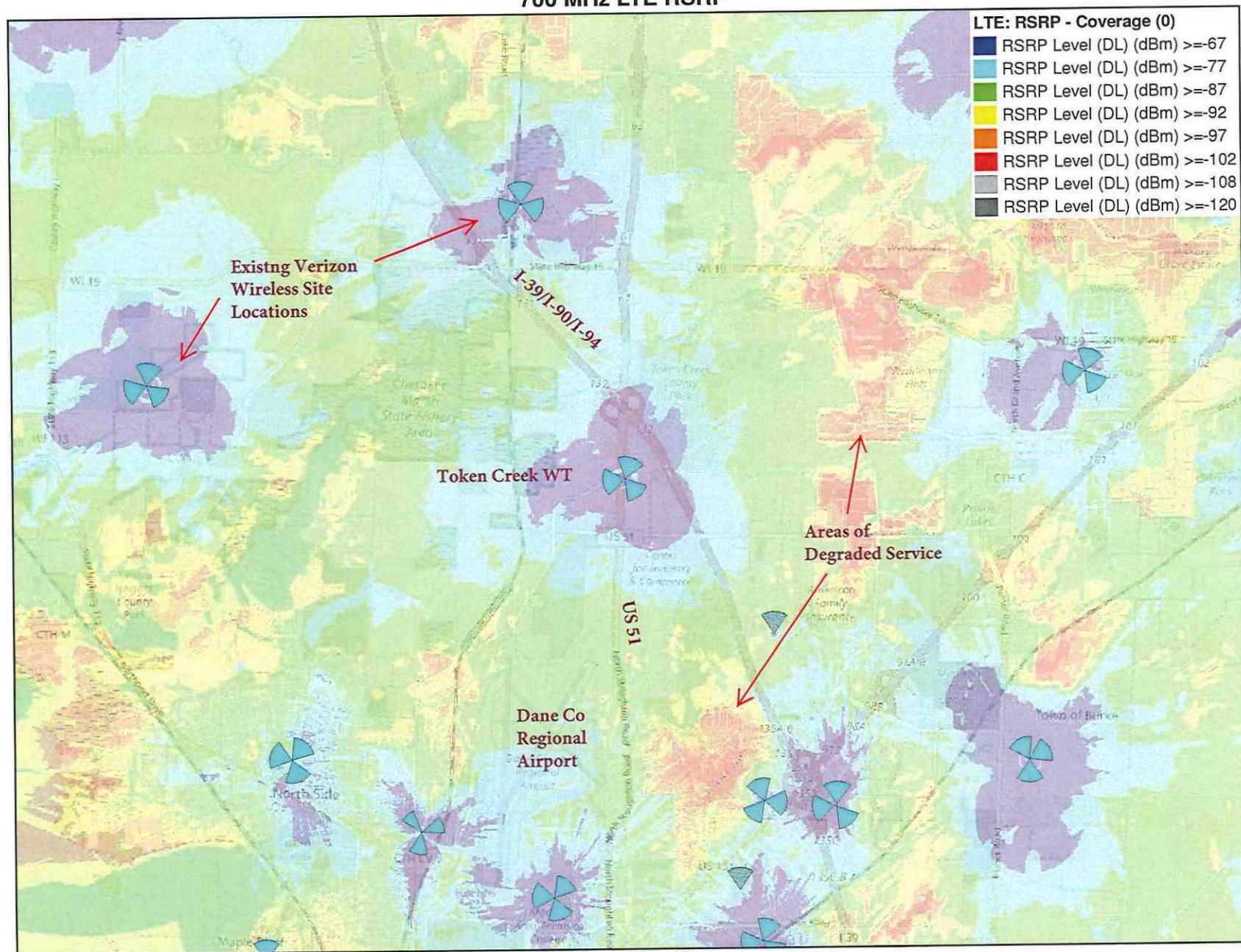
Sincerely,


Christian Jennings
RF Engineer
Verizon Wireless



Verizon Wireless: Token Creek WT-RF Propagation Map of Existing Site Performance

700 MHz LTE RSRP



Verizon Wireless: Token Creek WT-RF Propagation Map after Removal of Facilities

700 MHz LTE RSRP - OFF AIR

