



3800 Laverne Avenue North  
Lake Elmo, MN 55042

(651) 747-3900  
[www.lakeelmo.org](http://www.lakeelmo.org)

## NOTICE OF MEETING

The City of Lake Elmo  
Planning Commission will conduct a meeting on  
**Monday, April 28, 2014 at 7:00 p.m.**

## AGENDA

1. Pledge of Allegiance
2. Approve Agenda
3. Approve Minutes
  - a. April 14, 2014
4. Public Hearing
  - a. **CONDITIONAL USE PERMIT – VERIZON WIRELESS COMMUNICATIONS TOWER.** The Planning Commission will consider an application for a Conditional Use Permit to allow the construction of a 125-foot monopole wireless communications tower on property owned by the Stillwater Area School District at 820 Manning Avenue North (Oakland Junior High School). This request includes the construction of a 12' by 30' equipment shelter within a fenced compound on property to be leased from the school district. Washington County PID 36.029.21.11.0002.
5. Business Items
  - a. **ZONING TEXT AMENDMENT - SHORELAND ORDINANCE UPDATE – POSTPONED FROM 4/14/14 MEETING.** The Planning Commission is asked to review a draft ordinance that would update the City's Shoreland Management Ordinance. The proposed ordinance would add the recently adopted urban development districts to the City's Shoreland regulations and update other sections of this code.
  - b. **AUAR Update –** The Planning Commission will receive an update from Staff concerning the Village Area AUAR and the mandatory five-year update that is being prepared by the City.
6. Updates
  - a. City Council Updates – April 15, 2014 meeting: None

- b. Staff Updates
    - i. Density calculation discussion
    - ii. Upcoming Meetings:
      - May 12, 2014
      - May 28, 2014 (Wed due to Memorial Day)
  - c. Commission Concerns
7. Adjourn



**City of Lake Elmo  
Planning Commission Meeting  
Minutes of April 14, 2014**

Chairman Williams called to order the meeting of the Lake Elmo Planning Commission at 7:00 p.m.

**COMMISSIONERS PRESENT:** Williams, Dodson, Kreimer, Larson, Haggard, Yocum, Dorschner, and Lundgren

**COMMISSIONERS ABSENT:** Morreale

**STAFF PRESENT:** Community Development Director Klatt

**Approve Agenda:**

The agenda was accepted as presented.

**Approve Minutes:** March 24, 2014

M/S/P: Williams/Dodson, move to approve the minutes as amended, **Vote: 5-0, motion carried.** Yocum, Dorschner and Lundgren did not vote as they were not present.

**Public Hearing:** *Zoning Text Amendment – Commercial Wedding Venue*

Klatt started his presentation by giving some background on this item. Staff has made some modifications to previously presented versions based on feedback from the Planning Commission. The wedding venue would be considered an accessory use and would be regulated by an IUP with a set time frame. It would be allowed on land zoned AG or RT over 10 acres.

Public Hearing opened at 7:34 pm.

Tara Cadenhead, 12190 Marquess Lane, would like more clarification regarding the food and receptions. From a safety perspective there are concerns regarding more people back in that area of the bike path.

Sarah Ziemer, 12136 Marquess Lane, has numerous concerns due to previous events. Traffic is a concern and noise was an issue. The amplified noise is disruptive. Use of alcohol is also a concern. Is it a ceremony or is it a reception?

Mark Citsay, 12108 Marquess Lane, shared that it is disconcerting to think that every weekend their quiet can be violated for another person's profit. He is also concerned with the trail safety and the beer cans and activity by the pump-house in the area.

Chip Longacre, 12058 55<sup>th</sup> Street N, mentioned he only had 2 events last year and one was a friend's wedding. He acknowledged that he needs to be more sensitive to the noise and trash issues. Maybe the person holding event can make sure there is no trash in surrounding area from event.

Pam Chickett, 5711 Linden Ave, via email, is concerned about running any commercial business from a residential property. There have been issues with traffic from the past events. There is poor access to both of these properties and is especially concerned about emergency vehicles getting there in an emergency. She is concerned about the noise and traffic that could be generated if both properties held an event on the same day.

Public Hearing closed at 7:49 pm.

The Planning Commission had concerns with enforcement, food and alcohol, noise, frequency of events and traffic. They would like to see the initial IUP be for a 1-year trial period.

Motion was made by Dodson to recommend approval of the draft ordinance for commercial wedding venue. Motion failed for lack of second.

M/S/P: Larson/Dorschner, move to recommend approval of the draft ordinance for commercial wedding venue, with reconsideration in one year. There were the following friendly amendments made: 1) Change the word music to sound in regards to amplified sound and include the definitions for ceremony and reception 2) make traffic management a separate item 4) add the word ceremony to the general description 5) change profit to remuneration. **Vote: 7-0, motion carried unanimously.**

M/S/P: Williams/Lundgren, move to remove items #3 & #4 and substitute the sentence "service of food and beverages should be limited to during the ceremony only and must meet any applicable federal, state and local licensing requirements." **Vote: 5-2, motion carried, with Dorschner and Haggard voting no.**

M/S/P: Haggard/William, move to limit the length of ceremonies to a maximum of 3 hours and substitute the word ceremony for events. **Vote: 7-0, motion carried unanimously.**

M/S/P: Haggard/Dodson, to change the wording in item 13 from two days for tent removal, to one, **Vote: 4-3, motion carried, with Williams, Larson and Kreimer voting no.**



M/S/P: Haggard/Dodson, add language that no other commercial activity on the property, ***Vote: 6-1, motion carried, with Larson voting no.***

**Business Item:** Wildflower at Lake Elmo Sketch Plan

Klatt started his presentation with describing the location and specifics of the development. This development will have 143 single family homes and is located next to the Gonyea Homes development. Staff is recommending that a transportation engineer look at this development. Staff is recommending that the Planning Commission continue the discussion at a future meeting to resolve some of the outstanding issues.

Bob Engstrom gave a presentation regarding the development. He explained about the natural habitat area and why it is important.

The architect talked about the design of the homes and that they are mostly one story homes. They will be interesting and consistent and fit in with the streetscape. Landscaping will be a key issue and the sidewalks will be an integral part of the development. The space around the home will be maintained by the association.

Bob Engstrom responded to Planning Commission questions. He stated that there would be a master homeowner association with sub-associations for each courtyard. He stated that the 10 larger lot homes would not have City sewer because there is a steep slope. These lots are  $\frac{3}{4}$  of an acre, when the requirement is  $1\frac{1}{2}$  acres for private septic unless part of a development. The Wildflower Center would be a new building with a large open area. It would be a destination place with possibly an art center and coffee shop. Bob Engstrom would retain ownership.

John Holder, 11834 44<sup>th</sup> Street, lives in Fields II and represents them. They have had many discussions with Mr. Engstrom and they have 3 concerns: 1) the issue of drainage, especially in the drainage pond is critical, 2) the access road to Hwy 5 is a big safety concern and 3) they do not want any type of retail or commercial in the Wildflower Center.

M/S/P: Haggard/Kreimer, move to continue discussion of the Wildflower at Lake Elmo Sketch Plan at a future Planning Commission meeting. ***Vote: 7-0, motion carried unanimously.***

**Business Item:** *Zoning Text Amendment – Animal Therapy Ordinance*

Klatt started his presentation by reviewing the proposed ordinance for Animal Therapy.

He stated that in order to do Animal Therapy, you would need to have a CUP for a stable and then get an IUP for Animal Therapy. This use would be more of a medical one and would not fall under just the general stable use. There would be greater impacts than a stable would have.

Chip Longacre, 12058 55<sup>th</sup> Street N, stated that he started a 501c3 for this type of business. He is very excited about the opportunity for this in Lake Elmo. Equine therapy is a rapidly growing area. This therapy could be formal or informal and would be conducted by professionals in 1-2 hour sessions. He would like it to be equine therapy and equine learning so that not only could there be serious psychological therapy for youth and adults, but there could be corporate learning as well.

The majority of the Planning Commission felt that this use could be covered under the Commercial stable and should just be an allowed use. Haggard felt that it was different and more intense of a use that it should be regulated via an IUP as was suggested by staff. She wanted more information about what would be happening on the site and what impacts there would be before she was comfortable just allowing it as a use.

M/S/P: Dodson/Lundgren, move to recommend that the Animal Therapy Ordinance as presented is not necessary and this use should be allowed under a commercial stable.  
**Vote: 6-1, motion carried**, with Haggard voting no.

#### **Business Item:** *Zoning Text Amendment – Shoreland Ordinance Update*

M/S/P: Dorschner/Haggard, move to postpone consideration of the Shoreland District Ordinance to a future meeting, **Vote: 7-0, motion carried unanimously**.

Klatt mentioned that this item was a little time sensitive as the current code does not address the Urban districts and could limit development in the I-94 corridor. He asked the Planning Commission to review the draft and be prepared to discuss it at the next meeting.

#### **Updates and Concerns**

##### *Council Updates – April 1, 2014 Meeting*

1. CUP for 901 LE Ave Family Means passed.
2. Site Plan Review Ordinance passed.
3. Horning lot size variance passed.
4. Launch Properties CUP Concept Plan and Zoning Map Amendment passed.

*Staff Updates*

1. Upcoming Meetings
  - a. April 28, 2014
  - b. May 12, 2014

*Commission Concerns -*

Williams stated that he is concerned about the level of detail given in the minutes. He would like there to be more of a summary of the discussion vs. a detailed record.

Meeting adjourned at 10:54 pm

Respectfully submitted,

Joan Ziertman  
Planning Program Assistant



PLANNING COMMISSION  
DATE: 4/28/14  
AGENDA ITEM: 4A – PUBLIC HEARING  
CASE #2014-07

ITEM: Verizon Wireless Telecommunications Tower Conditional Use Permit

SUBMITTED BY: Kyle Klatt, Community Development Director

REVIEWED BY: Garrett Lysiak, P.E., OWL Engineering and EMC Test Labs, Inc.  
Nick Johnson, City Planner  
Rick Chase, Building Official

---

### **SUMMARY AND ACTION REQUESTED:**

The Planning Commission is being asked to consider a request from Faulk and Foster Real Estate, Inc. (c/o Blake Conklin) on behalf of Verizon Wireless Communications for a Conditional Use Permit to install a new 125-foot telecommunications tower on the site of the Oakland Junior High School in Lake Elmo. The proposed tower is the first new facility that has been submitted under the new Wireless Communications Ordinance that was adopted in 2009. As per the ordinance, the City has retained the services of a consulting engineer to review the plans for compliance with these requirements. With the recommendation from the City's consulting engineer, Staff is recommending approval of the Conditional Use Permit request.

---

### **GENERAL INFORMATION**

*Applicant:* Faulk and Foster Real Estate, Inc., 588 Three Mile Road NW, Suite 102, Grand Rapids, MI; on behalf of Verizon Wireless Communications

*Property Owners:* Stillwater Area Public Schools, 1875 Greeley Street, Stillwater, MN (Dennis Bloom, Director of Operations)

*Location:* 820 Manning Avenue, Oakland Junior High School. PID Number 36.029.21.11.0002

*Request:* Conditional Use Permit – Wireless Communications Facility

*Existing Land Use:* Public School and Related Accessory Uses

*Existing Zoning:* PF – Public Facility

*Surrounding Land Use:* Manufactured Home Park, Agricultural Fields, Rural Residential

*Surrounding Zoning:* MDR – Medium Density Residential, RT – Rural Transitional, and RR – Rural Residential

*Comprehensive Plan:* Public/Park

*Proposed Zoning:* No Change

*History:* Oakland Junior High School was constructed in the 1960's and the site has served as a junior high school for the Stillwater Area School District. The school serves children in the Lake Elmo/Stillwater area in grades seven through nine. The School has been expanded several times during its history, which has included ball fields, tennis courts, parking area, lighting, and other improvements.

*Deadline for Action:* Application Complete – 4/9/13  
60 Day Deadline – 6/9/13  
Extension Letter Mailed – No  
120 Day Deadline – 8/9/13

*Applicable Regulations:* 150.110 – Wireless Communications Facilities  
154.106 – Conditional Use Permits

---

## **REQUEST DETAILS**

The City of Lake Elmo has received a request from Verizon Wireless Communications, represented by Faulk and Foster Real Estate, for a Conditional Use Permit to construct a new 125-foot high wireless communications tower and related antenna equipment on the site of the Oakland Junior High School in Lake Elmo. The proposed tower would be located directly north of the school building and at the western edge of the school's northern parking lot. The tower site is located approximately 550 feet from Manning Avenue and over 700 feet from the 10<sup>th</sup> Street right-of-way, and would be situated in the middle portion of the school's property.

As part of its agreement with the Stillwater School District, the applicant would be leasing a 27 by 40 foot piece of land in the location described above. This space would provide room for the tower itself and an accessory building to house the equipment necessary to serve the facility. The site plan also calls for the creation of a small infiltration basin adjacent to the leased property in order to handle the additional storm water runoff from the proposed impervious surfaces. Access to the site would be gained via the existing parking area and connection to Manning Avenue.

The applicant has provided detailed drawings depicting the location of the tower and accessory equipment in addition to a statement concerning compliance with the City's Wireless Communications Facility ordinance. Because this statement of compliance includes nearly all of the text from the ordinance, Staff has not attached the City's regulations as a separate document for review by the Commission. Under the ordinance, the City may request assistance in reviewing the tower proposal by a third-party expert, which was done in this case. The City has hired Garrett Lysiak of OWL Engineering, which is a communications consulting engineering firm, to review the proposal for compliance with the City's requirements. The consultant's report is attached to this memorandum with his associated attachments and supporting documentation.

Please note that the consultant's report states that the applicant's written request and drawing details are in conflict with each other concerning the tower's proposed height (the narrative noted a 125-foot tower while the drawings depicted a 130-foot tower). The applicant agreed to revise the drawings to show a 125-foot tower, and the updated drawings are now reflected in the attached materials. This change is important because the ordinance would have required further documentation to support the additional height above 125 feet, which is the maximum height allowed across all of the City's zoning districts without such documentation.

---

## **BACKGROUND**

The City of Lake Elmo updated its wireless communications ordinance in 2009 partially in response to a request to build a new communications tower in a residential area. The revised ordinance was intended to place a much higher burden on an applicant to demonstrate the need for a new tower before the City would authorize the construction of any new facilities. In addition, the ordinance gives the City the ability to hire an outside expert knowledgeable in radio frequency engineering and communications services to review proposals for consistency with the City's requirements. In this case, the applicant has provided documentation concerning the need for the tower to fulfill gaps in wireless coverage in this portion of the City, and has conducted an analysis of existing facilities in the area to determine whether or not there is a suitable site near-by that could accommodate a new facility. Based on the applicant's submissions and review by the City's consultant, the applicant has adequately address the need for a new facility.

One of the key provisions in the Wireless Communications Facility ordinance is a section that establishes location requirements for new facilities, which also includes a site ranking analysis that must be observed. In order of preference, new facilities are encouraged to be located: 1) on existing towers, 2) on existing structures, 3) on existing buildings four stories or higher, 4) on utility poles over 75 feet in height, 5) on public lands and facilities, and finally 6) on private property in the City. The applicant has stated that options 1-4 are not feasible in this part of the City (and provided documentation to support this claim), and therefore has chosen to work with the School District to build a facility on property that would be considered public property under the code.

The proposed tower location, located in roughly the middle of the School District site, would be located over 600 feet from any existing or planned residential houses. It is also located in a portion of the Oakland school property that is occupied by buildings, light poles, accessory equipment, and other facilities, but out of any traffic movement areas, parking stalls, or other activity areas. While the tower will be visible from Manning Avenue and 10<sup>th</sup> Street, views of the tower will be screened from most sides by trees, buildings, or other obstructions.

The school district has worked with the applicant to site the tower in the least obtrusive portion of its property that also met the objectives and requirements of the City's wireless tower regulations. The tower would be replacing an existing light standard, which would be added back to the tower as an attachment the structure.

In accordance with the City Code, the tower has been designed to accommodate at least two additional carriers via mounting locations lower on the tower structure. Because there could be two additional service providers using this tower, Staff is recommending that the equipment building be designed to accommodate the needs of future users in addition to Verizon Wireless.

---

## **PLANNING AND ZONING ISSUES**

The City Code regulations concerning wireless communication facilities outline the requirements that must be met by an applicant in order to construct a new tower within the City. As part of the present applicant, the City's wireless communications consultant has reviewed the application materials and the ordinance for compliance with these requirements. The applicant has also provided detailed information, drawings, and diagrams to support the present request. The most significant issues that need to be considered by the Planning Commission include the following:

- **Permit Requirements.** A new wireless communications tower may only be allowed upon the issuance of a conditional use permit by the City. This type of request requires a public hearing to be conducted by the Planning Commission.
- **Proof of Need.** The applicant is required to submit a coverage/interference analysis and capacity analysis that demonstrates the need for a new facility, in addition to other information as noted in the ordinance. This documentation and analysis has been reviewed by the City's consultant, and his opinion is that the applicant has met the threshold for documenting the need for a new tower. The consultant's report is attached to this memorandum.
- **Location Requirements and Site Ranking.** As noted above, a new tower proposal must be reviewed for compliance with the City's site ranking requirements. Staff has determined that the need for service cannot be accommodated with any of the first four site preferences from the code. The applicant is placing the tower on public land, which is given preference over private property under the ordinance.
- **Prohibited Areas.** This section of the code prohibits towers from being located on smaller residential parcels, within open space or conservation easements, within airport impact zones, or in any open space preservation district. The proposed site does not fall within any of these prohibited areas.
- **Zoning Requirements.** The wireless communications ordinance specifies a maximum tower height and minimum area required for new facilities by zoning district. The proposal complies with these requirements.
- **Application and Review Procedures.** An applicant for a new tower must submit specific information as required by this section of the code. Of these requirements, the applicant has not presented a five-year plan for facilities in the community, and has not submitted a landscape plan that provides screening from the accessory equipment building. Staff is not recommending that either of these be required with the present application because Verizon is not planning for any additional facilities in the community at this time, and because the proposed site is located in the middle of existing accessory buildings and equipment that otherwise are not required to be screened under the City Code.
- **Expert Review.** The report from Garrett Lysiak is attached to this memorandum. Mr. Lysiak will be in attendance at the Planning Commission meeting and will be able to address questions from the Planning Commission or public at this time.
- **Tower Standards.** Under this section of the code, and applicant is required to address the design of the structure, adverse effects on adjacent properties, setbacks, height, lighting, landscaping, accessory buildings, and other requirements. Specific comments concerning some of these items are as follows:
  - **Design.** The proposed monopole design is required under the code, and will be constructed using a Cor-Ten weathering steel. This type of finish will take on a brownish color after a short period of time, which in Staff's opinion is preferable to a lighter blue or white color sometimes used for these facilities. A camouflage-type

design does not appear appropriate for this site given the lack of larger trees or other structures in the vicinity of the proposed tower.

- ***Adverse Effects.*** Although the tower will be visible to adjacent properties, it is located in the middle of the school district property and situated well away from any existing residential neighborhoods. There are other structures in this areas, including power poles, the Cimarron water tower, and light standards for the school ball fields that are already visible from surrounding properties.
- ***Landscaping.*** Although noted as part of the code, Staff is not recommending that landscaping be provided around the proposed site since it is located a fair distance from any adjacent properties. Because the tower is located on school district property, the school district should be able to make decisions about where screening or plantings would be appropriate around the applicant's site.
- ***Wireless Communications Tower Agreement.*** The applicant will need to enter into an agreement with the City concerning the proposed tower consistent with this section of the code. This agreement will be required before construction may begin.
- ***Minimum Conditions.*** The City Code includes several conditions as listed in the code that must be met by the applicant. Staff is recommending that these conditions be referenced as part of the Planning Commission recommendation to the City Council.

---

## REVIEW AND ANALYSIS

Staff is recommending that the Planning Commission recommend approval of the request for a conditional use permit to allow the construction of a new Verizon Wireless communications tower on the Oakland Junior High School property. The applicant has provided appropriate documentation that the proposed site is needed to provide adequate wireless communications service in the City, and has also documented that there are no other suitable alternatives to provide this coverage either on an existing facility or as part of another tower in the area. The location on school district property is preferred to a private site in accordance with wireless communications ordinance, and the proposed tower site is situated on a central portion of the school site and away from any existing or future residential subdivisions.

The proposed use will be subject to the recently revised required findings for conditional uses, which include the following:

- 1) The proposed use will not be detrimental to or endanger the public health, safety, comfort, convenience or general welfare of the neighborhood or the city.
- 2) The use or development conforms to the City of Lake Elmo Comprehensive Plan.
- 3) The use or development is compatible with the existing neighborhood.
- 4) The proposed use meets all specific development standards for such use listed in Article 7 of this Chapter.
- 5) If the proposed use is in a flood plain management or shoreland area, the proposed use meets all the specific standards for such use listed in Chapter 150, §150.250 through 150.257 (Shoreland Regulations) and Chapter 152 (Flood Plain Management).



- 6) The proposed use will be designed, constructed, operated and maintained so as to be compatible in appearance with the existing or intended character of the general vicinity and will not change the essential character of that area.
- 7) The proposed use will not be hazardous or create a nuisance as defined under this Chapter to existing or future neighboring uses.
- 8) The proposed use will be served adequately by essential public facilities and services, including streets, police and fire protection, drainage structures, refuse disposal, water and sewer systems and schools or will be served adequately by such facilities and services provided by the persons or agencies responsible for the establishment of the proposed use.
- 9) The proposed use will not create excessive additional requirements at public cost for public facilities and services and will not be detrimental to the economic welfare of the community.
- 10) The proposed use will not involve uses, activities, processes, materials, equipment and conditions of operation that will be detrimental to any persons, property or the general welfare because of excessive production of traffic, noise, smoke, fumes, glare or odors.
- 11) Vehicular approaches to the property, where present, will not create traffic congestion or interfere with traffic on surrounding public thoroughfares.
- 12) The proposed use will not result in the destruction, loss or damage of a natural or scenic feature of major importance.

In reviewing this list, Staff finds that the applicant will be able to comply with the required findings in order to issue a conditional use permit. Please note that the Staff recommendation includes the following conditions of approval:

- 1) The applicant shall enter into a wireless communications tower agreement with the City prior to the issuance of a building permit for the proposed facility.
- 2) The applicant shall abide by the minimum conditions as listed in Section 150.123 of the Lake Elmo City Code concerning wireless communications facilities.
- 3) All lighting associated with the facility shall comply with the City's lighting ordinance.
- 4) The applicant shall design the accessory equipment building to accommodate any additional equipment that may be needed by additional carriers on the tower.

---

## **DRAFT FINDINGS**

The Planning Commission should review the application for consistency with the Conditional Use Permit findings listed above and with the requirements of the Wireless Communication Ordinance.

---

## **RECCOMENDATION:**

Staff is recommending that the Planning Commission recommend approval of request from Faulk and Foster Real Estate, Inc. (c/o Blake Conklin) on behalf of Verizon Wireless Communications for a Conditional Use Permit to install a new 125-foot telecommunications tower on the site of the Oakland Junior High School in Lake Elmo. This recommendation includes the following conditions of approval:

- 1) The applicant shall enter into a wireless communications tower agreement with the City prior to the issuance of a building permit for the proposed facility.
- 2) The applicant shall abide by the minimum conditions as listed in Section 150.123 of the Lake Elmo City Code concerning wireless communications facilities.
- 3) All lighting associated with the facility shall comply with the City's lighting ordinance.
- 4) The applicant shall design the accessory equipment building to accommodate any additional equipment that may be needed by additional carriers on the tower.

Suggested motion:

***“Move to recommend approval of the request by Verizon Wireless Communications for a Conditional Use Permit to construct a new 125-foot high wireless communications tower and related antenna equipment on the site of the Oakland Junior High School in Lake Elmo***

#### **ATTACHMENTS:**

1. Report from OWL Engineering (Garrett Lysiak) with Attachments
2. Application Form
3. Legal Description
4. Application Narrative and Ordinance Review
5. Verizon Coverage Maps
6. Tower Photo Simulations
7. Co-Location Statement from Certified Engineer
8. Verizon PCS Broadband License Information
9. Letter of Authorization – Stillwater School District
10. Interference Letter from Verizon Wireless
11. Search Area Map
12. Detailed Plans and Specifications – Proposed Verizon Tower and Antenna

#### **ORDER OF BUSINESS:**

- Introduction.....Community Development Director
- Report by Staff.....Community Development Director
- Questions from the Commission..... Chair & Commission Members
- Open the Public Hearing .....Chair
- Close the Public Hearing.....Chair
- Discussion by the Commission ..... Chair & Commission Members
- Action by the Commission..... Chair & Commission Members



**CONSULTING COMMUNICATIONS ENGINEERS • EMC TEST LABORATORIES**

**5844 Hamline Avenue North, Shoreview, MN 55126  
651-784-7445 • Fax 651-784-7541**

**REPORT REGARDING CONSTRUCTION  
OF A VERIZON COMMUNICATIONS TOWER  
TOWN OF LAKE ELMO, MINNESOTA**

**PREPARED BY: GARRETT G. LYSIAK, P.E.**

**MARCH 15, 2014**

## **TABLE OF CONTENTS**

### **ENGINEERING STATEMENT**

|                 |                                   |
|-----------------|-----------------------------------|
| <b>FIGURE 1</b> | <b>SITE MAP</b>                   |
| <b>FIGURE 2</b> | <b>AERIAL VIEW</b>                |
| <b>FIGURE 3</b> | <b>FCC &amp; FAA TOWER SEARCH</b> |
| <b>FIGURE 4</b> | <b>EXISTING TOWERS MAP</b>        |
| <b>FIGURE 5</b> | <b>EXISTING COVERAGE</b>          |
| <b>FIGURE 6</b> | <b>PROPOSED COVERAGE</b>          |

## **ENGINEERING STATEMENT**

The application for a Conditional Use Permit that was submitted by Verizon Communications to Lake Elmo, Minnesota for the proposed tower at 820 Manning Avenue North (in N ½ of the NE ¼ Section 36, Township 29N, Range 21W), was reviewed for compliance with the technical requirements of the Lake Elmo Tower Ordinance. The site was located and plotted on a USGS 7.5 minute map (Figure 1 "Site Map"). In addition, an aerial photograph is included to show the proposed site location and the surrounding area (Figure 2 "Aerial View Map").

### **Initial Review**

My initial review of the application found several discrepancies. The application requested a 125-foot monopole that is proposed to be constructed on the school property. However, the drawings provided indicated a 130-foot tower (Sheet A3). Since the ordinance has a maximum allowable height of 125-feet and there was no request for a variance or any information showing the need for the increased allowable height, I requested additional information from Verizon. The changes were provided but there was no explanation concerning the added tower height. In several conversations with the applicant it was agreed that the initial height of 125-feet would be the desired height and the only change that would have to be made was to the construction drawings to show the requested 125-foot tower.

### **Existing Towers**

Searches of the FCC and FAA tower databases were performed and nearby towers within 5 miles were identified and are listed in Figure 3 ("FCC & FAA Tower Search") and all are greater than 2.4 miles from the proposed site and cannot be used to provide the required coverage. Figure 4 is a map showing the location of all of the nearby existing towers. As can be seen by these figures there are no existing towers that can supply the required coverage for the Verizon Wireless system.

### **Airspace Study**

The proposed tower site was examined for any impact on the local airspace and airports. The tower is proposed to be under 200-feet and is therefore not usually required to get FAA approval, unless it is located near an airport. The search showed that the closest public air facility is Lake Elmo (21D) which is located more than 2.4 miles from the proposed tower site and is only 40-feet and not capable of either



supporting a new antenna or providing the needed coverage. The proposed facility is not predicted to be impacted by this tower.

The FCC TOWAIR program was used to examine the proposed tower for any FAA notification. The results show that no FAA notification is required.

### **Coverage Study**

In reviewing the submitted data it was determined that additional information for nearby Verizon Communications sites was needed in order to make a signal coverage study determination. The requested information was provided and the data was analyzed. This analysis shows how Verizon Communications has designed its communications facilities in the Lake Elmo area with several surrounding sites providing area wide coverage.

The coverage study analysis was performed using parameters for signal levels that made the display easier to understand and the parameters were maintained in all of the different examples to ensure accuracy. Figure 5 shows the results of the coverage study analysis for the present Verizon system. The existing gap in coverage is identified in this exhibit.

The study was then repeated with the proposed site included in the analysis in order to determine if the gap in coverage is eliminated. It is shown in Figure 6 and that the coverage gap is eliminated.

The study was then repeated using lower heights to determine if using these lower heights could provide the required signal coverage. The results show that this tower location does not provide the coverage needed to eliminate the gap in coverage at reduced heights and still allow for future co-location use.

### **Site Construction**

The site construction documents show the tower that is planned for this project. In my review I noted that the plans did show compliance with the requirements of EIA-222 standard which requires loading for winds of 80 mph with radial ice loading.

The proposal does satisfy the requirements for setbacks from structures and property lines.

Since the tower is less than 200-feet there is no requirement for any lighting or marking requirements by the FAA.

The proposal shows that the tower is designed to accommodate three communications systems and therefore complies with the ordinance as a potential co-location site.

### **Interference Study**

A search was performed using the FCC frequency database to determine the frequency and location of any city or county public safety facilities within one-mile from the proposed tower location. Using all the identified frequencies utilized by the county an intermodulation (interference) study was performed to determine if any predicted interference products would be generated by the proposed Verizon Communications facility. The results of the study indicate that there are no interference products predicted to be generated that would cause interference to any of the identified protected frequencies.

### **RF Radiation Analysis**

Using the data submitted by Verizon Communications, I performed a "Worst-Case" radiation analysis to determine the amount of RF energy that would be present at the base of the tower. In making my calculations I assumed that all of the RF energy generated by the facility would be directed downward. This is not the real world situation since the antennas used by PCS systems are designed to radiate towards the horizon. However, using this analysis method I am able to determine that the maximum level of RF radiation reaching the ground at the tower base is less than 10 percent of the ANSI standard value and as such is not classified as an RF radiation hazard.

Additionally, I did a sample calculation inserting three additional users on the tower and determined that the increased potential RF radiation would still be within the FCC standards. This calculation would have to be repeated when additional carriers were installed on the tower to get an exact value.

### **Summary**

My review of the proposed Verizon Communications tower indicates that:

1. It would provide the required PCS system coverage to eliminate the present existing coverage gap in the Lake Elmo area.
2. The site is not predicted to cause any interference products to any protected frequency in the area and is not predicted to be an RF radiation hazard.
3. The tower is designed to accommodate additional communications systems.





# OWL ENGINEERING & EMC TEST LABS, INC.

CONSULTING COMMUNICATIONS ENGINEERS • EMC TEST LABORATORIES

5844 Hamline Avenue North, Shoreview, MN 55126  
651-784-7445 • Fax 651-784-7541

4. The proposal is in compliance with the structural and setback requirements of the ordinance.
5. The proposed tower is not predicted to impact any Public or Private airport in the immediate vicinity.
6. The proposal meets all of the technical requirements of the Lake Elmo Tower Ordinance.

Respectfully submitted,

Garrett G. Lysiak, P.E.  
March 15, 2014



(WHITE BEAR  
LAKE EAST)

093° 12' 55.96" W  
045° 20' 34.05" N

(STILLWATER)

HUDSON QUADRANGLE  
MINNESOTA  
TOPOGRAPHIC SERIES

(SOMERSET  
SOUTH)

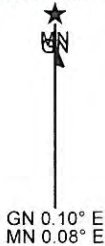
092° 31' 06.82" W  
045° 20' 34.05" N

(LAKE ELMO)

(Unavailable)

044° 34' 45.77" N  
093° 12' 55.96" W

Declination



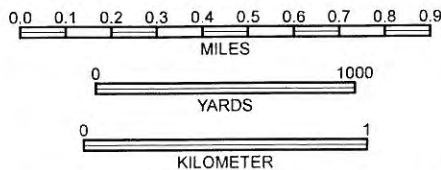
(ST PAUL PARK)

(PRESCOTT)

SCALE 1:24000

044° 34' 45.77" N  
092° 31' 06.82" W

(Unavailable)



CONTOUR INTERVAL 10 FEET  
NATIONAL GEODETIC VERTICAL DATUM 1929

HUDSON, MN  
1967

FIGURE 1 - SITE MAP





FIGURE 2 - AERIAL VIEW

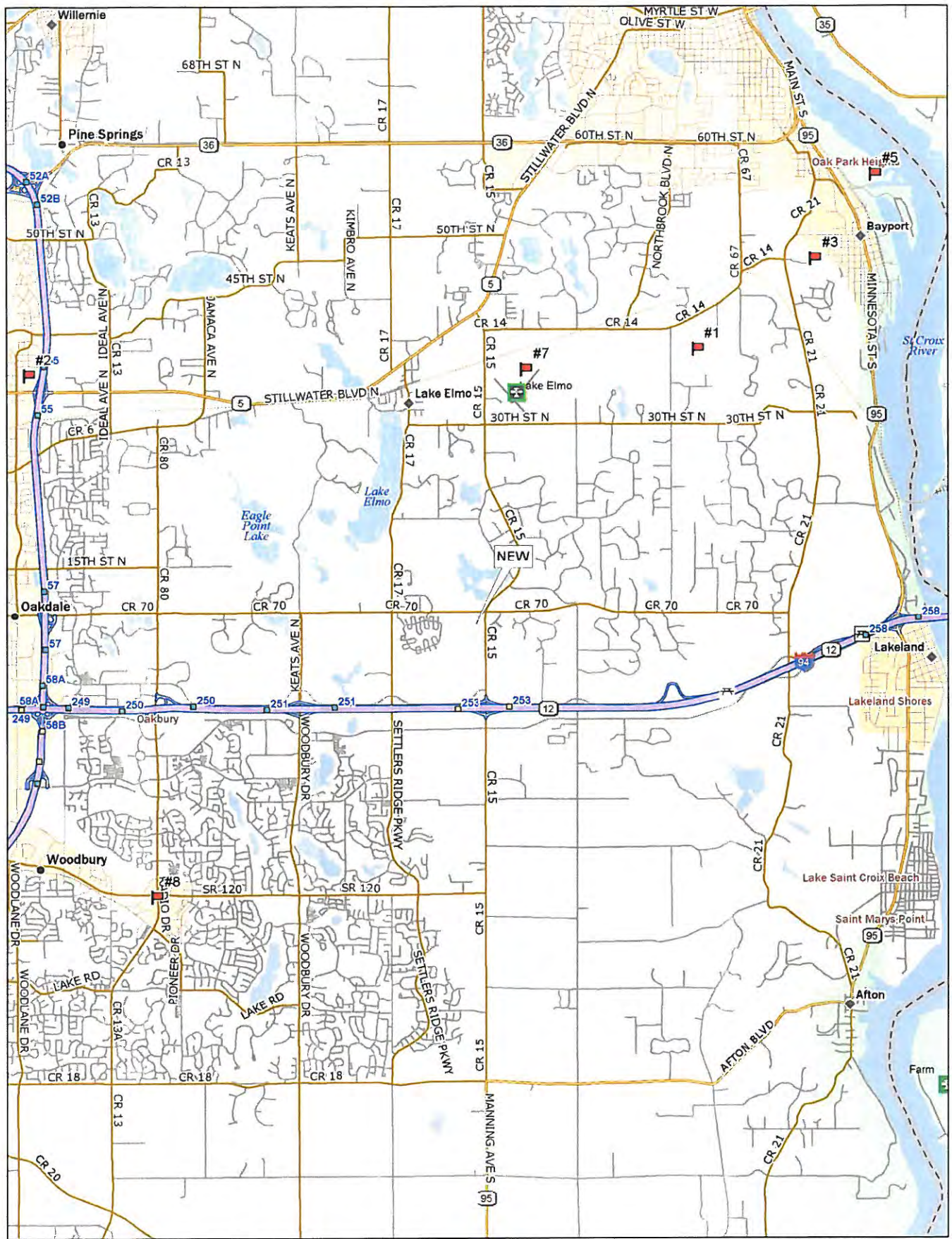
### FIGURE 3 - FCC & FAA TOWER SEARCH

#### Specified Search

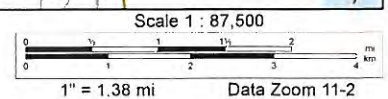
Latitude='44-57-41.7 N', Longitude='92-51-53.8 W', Radius=8 Kilometers

|   | Registration Number | Status      | File Number | Owner Name                      | Latitude/Longitude          | Structure City/State | Overall Height Above Ground (AGL) |
|---|---------------------|-------------|-------------|---------------------------------|-----------------------------|----------------------|-----------------------------------|
| 1 | 1004586             | Constructed | A0884146    | STC Five, LLC                   | 45-00-11.1N<br>092-49-03.0W | BAYTOWN, MN          | 33.2                              |
| 2 | 1009660             | Constructed | A0500917    | MINNESOTA, STATE OF             | 44-59-57.0N<br>092-57-46.0W | OAKDALE, MN          | 79.2                              |
| 3 | 1023182             | Constructed | A0853087    | Verizon Wireless (VAW) LLC      | 45-01-01.0N<br>092-47-31.0W | BAYTOWN, MN          | 50.9                              |
| 4 | 1023184             | Dismantled  | A0655215    | Verizon Wireless (VAW) LLC      | 44-54-59.0N<br>092-53-09.0W | WOODBURY, MN         | 47.5                              |
| 5 | 1024930             | Constructed | A0529189    | Xcel Energy Services Inc.       | 45-01-48.0N<br>092-46-44.0W | BAYPORT, MN          | 239.2                             |
| 6 | 1025302             | Dismantled  | A0452877    | 21ST CENTURY WIRELESS GROUP INC | 44-53-30.0N<br>092-53-03.0W | NEWPORT, MN          | 94.5                              |
| 7 | 1261231             | Constructed | A0618383    | Minnesota, State of             | 45-00-00.5N<br>092-51-17.5W | Lake Elmo, MN        | 11.3                              |
| 8 | 1272246             | Constructed | A0814444    | SBA 2012 TC Assets, LLC         | 44-55-07.2N<br>092-56-06.1W | Saint Paul, MN       | 46.6                              |





**FIGURE 4 - EXISTING TOWERS**





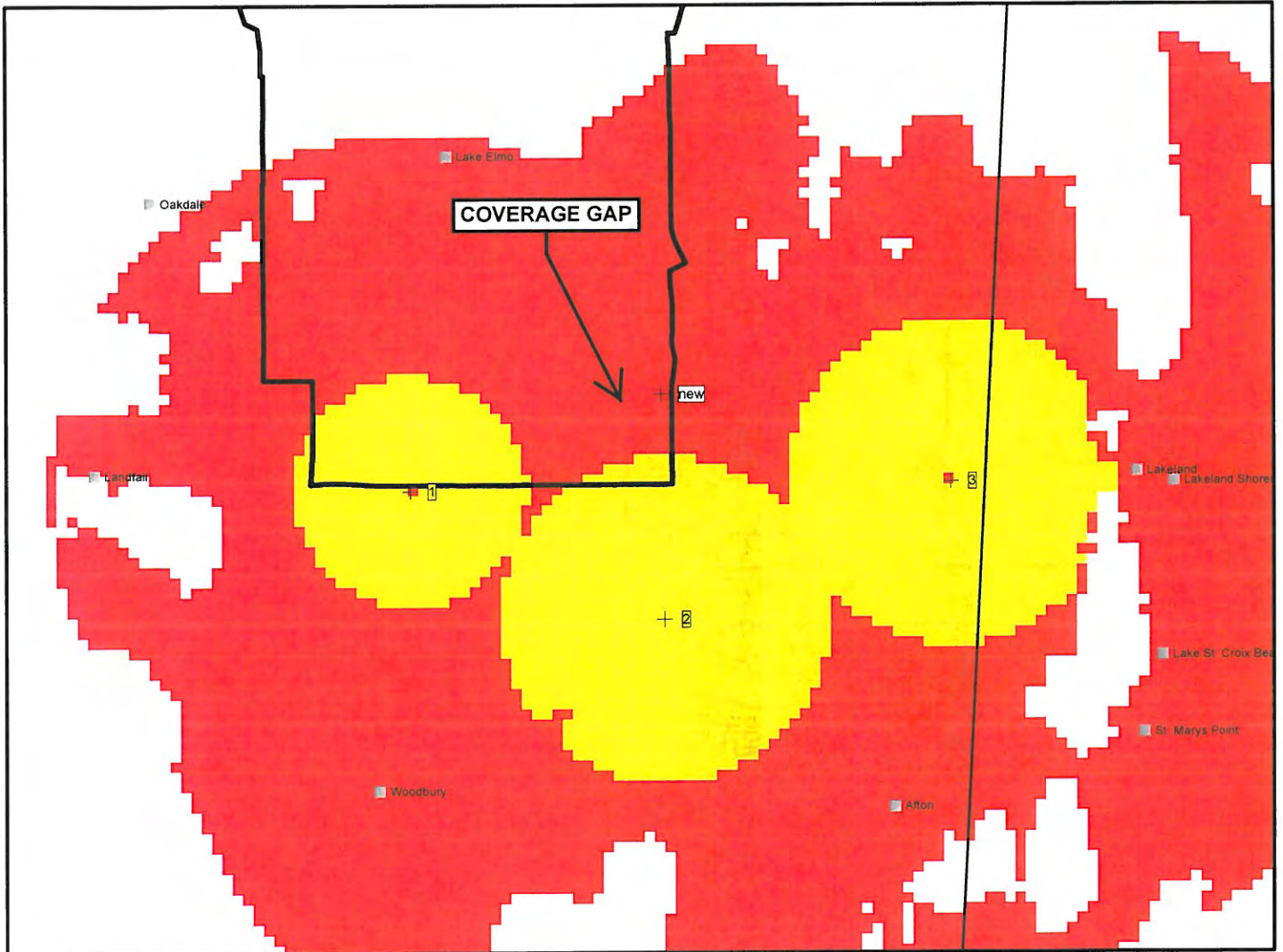


FIGURE 5 - EXISTING COVERAGE

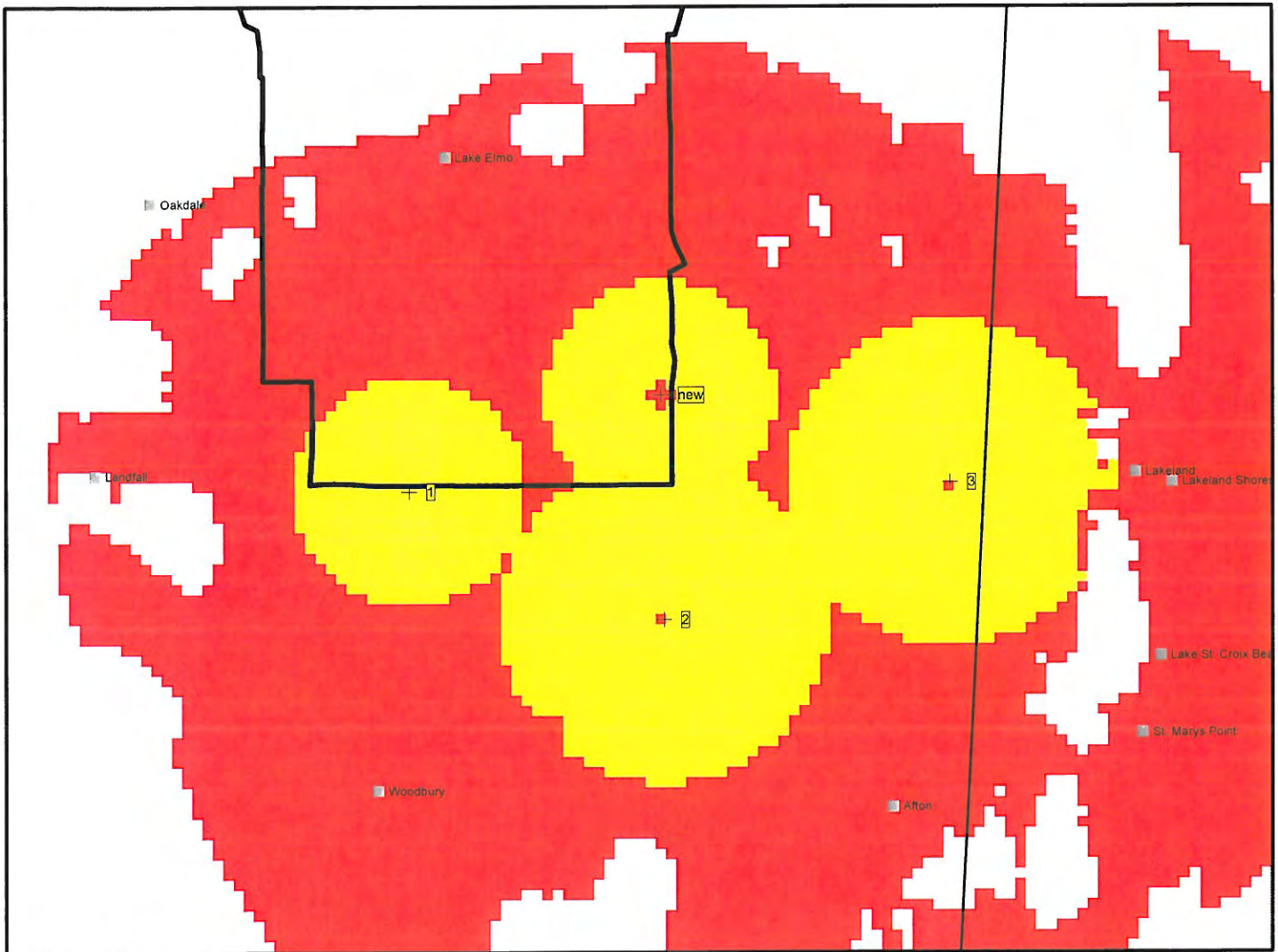


FIGURE 6 - PROPOSED COVERAGE

Date Received: \_\_\_\_\_  
Received By: \_\_\_\_\_  
Permit #: \_\_\_\_\_



651-747-3900  
3800 Laverne Avenue North  
Lake Elmo, MN 55042


## LAND USE APPLICATION

☐ Comprehensive Plan ☐ Zoning District Amend ☐ Zoning Text Amend ☐ Variance\*(see below) ☐ Zoning Appeal

☒ Conditional Use Permit (C.U.P.) ☐ Flood Plain C.U.P. ☐ Interim Use Permit (I.U.P.) ☐ Excavating/Grading

☐ Lot Line Adjustment ☐ Minor Subdivision

Applicant: Faulk and Foster Real Estate, Inc. o/b/o Verizon Wireless

Address: 588 Three Mile Road NW, Suite 102 Grand Rapids, Michigan 49544 

Phone # 616-647-3720 ext. 112

Email Address: blake.conklin@faulkandfoster.com

Fee Owner: Stillwater Area Public Schools c/o Dennis Bloom, Director of Operations

Address: 1875 Greeley St, Stillwater, MN 55082

Phone # 651-351-8379

Email Address: N/A

Property Location (Address and Complete (long) Legal Description: 820 Manning Ave N Lake Elmo, MN 55042

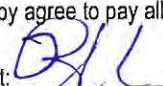
The East 666 feet of the said North Half of the Northeast Quarter and the West 234.9 feet of the East 900.9 feet of the South 891.8 feet, subject to public roads  
roads and utility easements containing 25 acres more or less

Detailed Reason for Request: Verizon Wireless is proposing a 125' communications tower with a 9' lightening rod. This site will serve to upgrade the  
wireless communications capabilities of the surrounding area.

\*Variance Requests: As outlined in Section 301.060 C. of the Lake Elmo Municipal Code, the applicant must demonstrate practical difficulties before a variance can be granted. The practical difficulties related to this application are as follows:

No variance requested

In signing this application, I hereby acknowledge that I have read and fully understand the applicable provisions of the Zoning ordinance and current administrative procedures. I further acknowledge the fee explanation as outlined in the application procedures and hereby agree to pay all statements received from the City pertaining to additional application expense.

Signature of applicant:  C. o/b/o Verizon Wireless Date: 1/17/14

### City Use Only

Planning: Zoning District: \_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Subject to the following conditions: \_\_\_\_\_

Engineering: Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Subject to the following conditions: \_\_\_\_\_



***QUALITY ABSTRACT, INC.***

7582 Currell Boulevard, Suite 111  
Woodbury, MN 55125  
Phone (651) 739-8597 Fax (651) 739-8492

December 27, 2013

Faulk & Foster  
588 Three Mile Road NW Suite 102  
Grand Rapids, MI 49544  
Attention: Blake Conklin

RE: Abstracter's Certificate

Legal Description: Part of the North ½ of the Northeast ¼ being the East 665 feet of said North ½ of the Northeast ¼ and the West 234.9 feet of the East 900.9 feet of the South 891.8 feet and subject to easements, all in Section 36, Township 29, Range 21, Washington County, Minnesota.

**QUALITY ABSTRACT, INC.** does hereby certify that it has made a search of the public record in Washington County, Minnesota and discloses the apparent owners and addresses of real estate within a 350 foot radius of the above referenced property and has shown them as Entries No. 1 to 17, inclusive, on Exhibit "A" attached hereto.

Dated this 27th day of December, 2013.

**QUALITY ABSTRACT, INC.**

By:   
Licensed Abstracter

A FULL SERVICE ABSTRACT COMPANY



## **Verizon Wireless Conditional Use Permit Application**

### **GENERAL INFORMATION**

**Verizon Site Name:** MIN Valley Ranch

**Project Overview:** Verizon Wireless proposes to place a 125' monopole tower with 9' lightning rod and associated 12' x 30' equipment shelter within a fenced compound on an 80' x 80' lease area. See enclosed drawings for details (Exhibit A)

**Parcel Address:** 820 Manning Avenue North Lake Elmo, MN 55042

**Legal Description:** The following parts of the N/2 of the NE/4 of Section 36, Township 29 North, Range Twenty One West described as follows: The East 666 feet of the said North Half of the NE/4 and the West 234.9 feet of the East 900.9 feet of the South 891.8 feet, subject to public roadways along the North and East side thereof and containing 25 acres more or less.

**Property Owner:** Stillwater Area Public Schools, Independent School District #834

**Zoning:** Public Facility

### **Contact Information**

**Applicant:**  
Faulk and Foster Real Estate, Inc.  
c/o Blake Conklin  
588 Three Mile Road NW, Suite 102  
Grand Rapids, Michigan 49544  
(616) 647-3720 ext. 112

**Property Owner:**  
Independent School District #834  
1875 Greeley Street  
Stillwater, MN 55082  
(651) 351-8379

**Architect:**  
Design 1 of Eden Prairie  
9973 Valley View Road  
Eden Prairie, MN 55344  
(952) 903-9299

**Surveyor:**  
Sunde Land Surveying  
9001 E. Bloomington Freeway,  
Suite 118  
Bloomington, MN 55420  
(952) 881-2455

### **ORDINANCE COMPLIANCE STATEMENT**

Verizon Wireless offers this Ordinance Compliance Statement in support of its application for a Conditional Use Permit for the above-described project. Our answers are highlighted in bold and section not requiring a response are redacted as noted:

## **WIRELESS COMMUNICATIONS FACILITIES**

### **§ 150.110 PURPOSE AND INTENT.**

The purpose of this subchapter is to allow for and regulate the design, location, placement, construction, maintenance, and removal of wireless communications towers and antennae and to:

- (A) Reasonably accommodate the provision of wireless telecommunication services to the general public;
- (B) Provide safety/emergency service through the use of wireless communications facilities;
- (C) Minimize adverse visual effects of wireless telecommunication towers, antennae, or accessory equipment through careful design and siting standards;
- (D) Strictly control the location and design of wireless communications facilities so that allowed facilities will not be obtrusive or visually unpleasant and in particular, to protect residential property and neighborhoods from visually intrusive tower installations where reasonably possible;
- (E) Provide clear standards governing all aspects of such facilities;
- (F) Avoid potential damage to adjacent properties from tower failures through structural standards and setback requirements;
- (G) Maximize the use of existing and approved towers, structures, and/or buildings for the location of new wireless telecommunication towers in order to reduce the number of the structures needed to accommodate wireless telecommunication services; and
- (H) Allow new facilities only when a documented proof of need satisfactory to the city can be shown.

**The proposed site will meet the communication needs of residents and business. The site will support the general welfare of the community by providing voice and data service that is an essential part of modern infrastructure. This service will support critical communications and fast emergency response to accidents, health emergencies, crimes, fires, storms and other events impacting public health and safety.**

### **§ 150.111 PERMIT REQUIREMENTS.**

(A) All new wireless communications facilities shall require a conditional use permit in accordance with the zoning district requirements specified in §150.115 with the exception of those facilities that are exempt from review under this chapter or that may be approved administratively with a wireless communications permit.

(1) A public hearing for a new wireless communications facility that requires a conditional use permit shall be preceded by 10 days mailed notice to record owners of property located within 1,000 feet of the parcel on which the tower will be located.

(B) *Exemptions.* The following are exempt from review under this chapter:

- (1) Television antennas, satellite dishes 1 meter (39 inches) in diameter or less;

- (2) Satellite dishes used commercially and 3 meters in diameter or less;
- (3) Receive only antennas;
- (4) Amateur radio facilities, subject to other City Code requirements;
- (5) Mobile services providing public information coverage of news events or of a temporary or emergency nature.

(C) *Administrative review.* The following shall be allowed as a permitted use subject to the issuance of a wireless communications permit in accordance with § 150.115 :

- (1) Satellite dishes more than 1 meter (39 inches) in diameter;
- (2) Ground mounted antennas not exceeding the maximum height allowed for structures in the underlying zoning district;
- (3) Building mounted antennas not exceeding 25 feet above the highest part of the building to which they are attached;
- (4) Utility pole mounted antennas not exceeding 25 feet above the highest part of the utility pole to which they are attached;
- (5) Antennas co-located on an existing wireless communications facility structure.

**Verizon Wireless is submitting a conditional-use permit application pursuant to this section.**

#### **§ 150.112 PROOF OF NEED.**

(A) As part of an application for a conditional use permit or wireless communications permit an applicant shall demonstrate proof of need by providing a coverage/interference analysis and capacity analysis, which indicates that the location and height of the tower or antennas as proposed is necessary to meet the frequency plus other spacing needs of the cellular communication system and/or to provide adequate portable radio coverage and capacity to areas which cannot be adequately served by locating the tower or antenna at another site. The proof of need for the tower or antennae must be demonstrated to the satisfaction of the city by providing the city an analysis from a qualified professional RF engineer with experience in radio frequency analysis work, which is subject to acceptance by the city prior to commencing the work.

(B) The cost of the city's review, including an analysis of the proof of need, is the applicant's responsibility. An escrow shall be established in an amount required by Council resolution for this purpose.

(C) The analysis and the material provided by the engineer shall include at least the following:

(1) *Structural capacity analysis.* Provide an analysis of the impact of the proposed facility on the tower's carrying capacity of at least 3 antenna arrays required (using a typical maximum facility) under the co-location provision of this subchapter.

(2) *Coverage/interference.* Provide an analysis for:

(a) City property and other public property with signal strength values (expressed in dBuy) for on street level, in vehicle, and in building level with said interference analysis indicating the protection afforded for all the frequencies in use or which could be in use by the city or other public safety agencies.

(b) Private property with signal strength values (expressed in dBuy) for on street level and in building level with said analysis indicating the protection afforded property within 1/2 mile of the proposed facility and site.

(3) *System capacity analysis.* If the system coverage analysis does not show a coverage need, provide a system capacity analysis.

(4) *Radio frequency radiation hazard analysis.* The analysis must address compliance with the most current FCC Bulletin OET 65 radiation standard.

(5) *Map of existing and proposed facilities.* A map showing the location of all existing and any proposed towers within 2 miles of the site being considered. Communications equipment and towers within this area shall be identified by type, function, ownership/users and height. The capacity of existing towers located within 2 miles (the study area) to carry additional facilities must be provided.

(6) *Map of existing buildings and structures.* A map showing the location of all existing buildings, water towers and structures 75 feet or more in height above the ground and within 2 miles of the site being considered. The potential and efforts undertaken to use these buildings and structures as a supporting base for an antenna or communications facility purpose must be described and analyzed.

(7) *Other information.* Any other information deemed necessary by the city in order to demonstrate the need for a new wireless communications facility.

(8) *Exception.* If the request is limited to adding an antenna array on an existing tower without increasing the height of the tower support structure or otherwise permitted after an administration review under § 150.111, the city may waive some or all of the proof of need requirements listed above.

**Verizon's proposed site will address both coverage and capacity objectives and allow Verizon to maintain adequate service levels in the area.**

**In terms of coverage, Exhibit B reflects Verizon's current coverage in the proposed area. The colors represent coverage as follows:**

- 1. Green = excellent coverage both in-building/vehicle and outdoors**
- 2. Yellow = excellent coverage outdoors, some in-building/in-vehicle coverage**
- 3. Red = mainly outdoor coverage**
- 4. White = poor and unreliable coverage**

**As you will notice, there are significant areas of red and white surrounding the proposed site. This includes the dense residential neighborhoods to the east and west as well as areas along Manning Avenue. Residents utilizing Verizon's network in their homes experience significantly degraded coverage in the "red area". With the increasing**



percentage of people replacing the traditional land line phone with a cell phone, network coverage inside residential homes is necessary.

Furthermore, there are numerous “white areas” reflecting coverage gaps along Manning Avenue where citizens will not receive adequate coverage even outside of their vehicles. Mobile phone coverage on heavily traveled roads is critical for emergency situations.

Exhibit C reflects the coverage remedy from the proposed site. As you will notice, the dense residential neighborhoods surrounding the school will begin to receive excellent cellular coverage. Additionally, Manning Avenue heading north will start receiving adequate coverage as well.

The proposed site will remedy capacity issues in the area as well. Briefly put, although other existing antenna sites were in the past able to serve this area, they can no longer do so efficiently because the number of customers has grown enormously over the past few years. This growth has led to “capacity issues” where there are too few antennas to accommodate the high volume of users. To illustrate the effect these capacity problems have had in the vicinity of the proposed site, Verizon has introduced before and after “best server” maps as Exhibit D and Exhibit E. The best server maps depict what antenna site provides the user with service in a particular area. As indicated on Exhibit D, users in the vicinity of the proposed site are served by a number of different antennas. This leads to inadequate service and an increase in dropped calls. The increase in usage and overcapacity problems at the existing sites led to this problem. As Exhibit E indicates, this problem will be remedied by the proposed installation.

#### **§ 150.113 LOCATION REQUIREMENTS AND SITE RANKING ANALYSIS.**

(A) *Location requirements for new facilities.* If a new wireless communications facility is needed based on the materials and studies submitted and reviewed by the city, the following preferences, listed in ranked order, shall be followed and each preference shall be analyzed to determine the most appropriate location:

(1) *Use of existing towers.* An existing tower may be used to support the proposed facility. If no existing tower has additional capacity, a determination must be made to show if and how towers in the study area can be modified to accommodate the proposed facility. The co-location requirements specified in § 150.114 shall be used to help determine whether or not an existing tower can be used to support a proposed facility. **There are no existing towers available that could accommodate Verizon’s proposed equipment as discussed below.**

(2) *Use of existing structures.* An existing structure over 35 feet high may be used. Preference shall be given to existing light poles, high voltage utility towers and water towers. **Verizon’s proposed tower is replacing an existing light pole.**

(3) *Use of existing building 4 or more stories in height.* Public and commercial buildings or structures 4 or more stories high which can more likely accommodate facilities without obstructing views or being obtrusive to scenic views shall be given preference over shorter buildings. **There are no buildings within a two mile radius that are greater than 4 stories in height that would provide feasible collocation potential. Attached as Exhibit F is a map of**

**the two-mile radius surrounding the proposed site. It is mostly agricultural and residential buildings in nature so they do not exceeding 4 stories in height.**

(4) Within an existing easement that contains utility poles over 75 feet in height or within 100 feet of said right-of-way. **There are no utility poles over 75 feet in the two-mile radius of the proposed site.**

(5) *Public land and facilities.* In situations in which one of the 4 options listed above is not feasible, land owned by the city or other public property shall have preference to private property. **Verizon Wireless has proposed its tower on public property.**

(6) Private property within the City of Lake Elmo subject to the location and zoning requirements of this chapter and the following criteria:

(a) Less restrictive zoning districts shall be given preference over more restrictive zoning districts. For example, proposed sites in commercial or industrial districts will be given preference over sites in residential, rural residential or agricultural zoning districts.

(b) Sites with the least visual impact on residential areas and which are the most consistent with the community's rural character shall be given preference.

(B) In cases where a lower ranked alternative is proposed, the applicant shall file a written analysis demonstrating that despite diligent efforts to adhere to the established hierarchy within the potential service area, as determined by a qualified radio frequency engineer, higher ranked options are not technologically feasible. An application for a lower-ranked site shall be considered incomplete without this written documentation.

(Ord. 08-019, passed 10-4-2009)

#### **§ 150.114 CO-LOCATION REQUIREMENTS.**

(A) In accordance with the location requirements and site preferential ranking found in this chapter, wireless communication services shall be located on existing towers or structures which exceed 35 feet in height and which are located within the potential service area for the site being proposed by the applicant. In the event that co-location is not possible, the applicant must demonstrate that a good faith effort to co-locate on existing towers and structures was made but an agreement could not be reached.

(B) *Exceptions to co-location requirements.* The City Council shall waive any or all of the co-location requirements if it is determined that:

(1) The antennae and/or tower accessory equipment would cause the structural capacity of an existing or approved tower or building to be exceeded, as documented by a qualified and licensed professional engineer, and the existing or approved tower or building cannot be reinforced, modified, or replaced to accommodate the antennae or tower accessory equipment at a reasonable cost;

(2) The antennae and/or tower accessory equipment would cause interference materially impacting the usability of existing antennae or tower accessory equipment as documented by a qualified radio frequency engineer and the interference cannot be prevented at a reasonable cost,

or would otherwise prevent the use of existing antennae or related accessory equipment and structures;

(3) Existing or approved towers and buildings within the applicant's search radius cannot or will not accommodate the antennae and/or tower accessory equipment at a height necessary to function reasonably as documented by a qualified radio frequency engineer; and/or

(4) Other unforeseen reasons make it infeasible to locate the antennae and/or tower accessory equipment upon an existing or approved tower or building.

**As detailed above, there are no suitable collocation opportunities on existing towers or buildings within a two-mile radius of the proposed site. Attached as Exhibit G is a copy of the FCC tower registry for a two-mile radius surrounding the proposed site. It shows no FCC registered towers. The origin website is <http://wireless.fcc.gov/antenna/>.**

#### **§ 150.115 PROHIBITED AREAS.**

Wireless telecommunication towers shall not be allowed in the following areas:

(A) Residentially zoned parcels (R-1, R-2, R-3, R-4, and RE zoning districts) of less than 2.5 acres or rural residential parcels of less than 5 acres unless the wireless telecommunication tower and ground facilities accessory thereto are located within an existing public utility power line right-of-way or other public right-of-way that contains utility poles over 75 feet in height or within 100 feet of said right-of-way;

(B) Open space easements or conservation easements;

(C) Airport impact zones without consent of the F.A.A.; and/or

(D) Open space preservation zoning districts.

**Verizon's proposed facility is located on a PF-Public Facility classified property, and is not located in an open space or conservation easement, an airport impact zone, or an open space preservation district. Therefore, this provision is satisfied.**

(Ord. 08-019, passed 11-4-2009)

#### **§ 150.116 ZONING REQUIREMENTS.**

(A) Wireless communications facilities that require a conditional use permit, including the installation of a new tower, shall be permitted in the following districts and subject to the following height restrictions provided they meet all other requirements of this subchapter.

| <i><b>Zoning District</b></i>     | <i><b>Maximum Height (in feet)</b></i> | <i><b>Minimum Parcel Area</b></i> |
|-----------------------------------|--|-----------------------------------|
| A- Agriculture                    | 125                                    | 10                                |
| RR - Rural Residential Zoning     | 125                                    | 5                                 |
| R-1, R-2, R-3 and R-4 Residential | 125                                    | 2.5                               |

|                           |     |      |
|---------------------------|-----|------|
| OP - Open Space           | 125 | 2.5  |
| RE - Residential Estates  | 125 | 2.5  |
| GB, LB, CB, HB - Business | 125 | 5    |
| BP - Business Park        | 125 | 5    |
| PF - Public Facility      | 125 | None |

(B) The City Council may increase the maximum height of a wireless communications facility by 25 feet in all residential and open space districts and 50 feet in agriculture, business and public facility districts provided that an applicant is able to demonstrate a need for a higher facility and/or that the additional height will serve a public interest in allowing fewer towers to serve a given area.

(C) Regardless of zoning district, new facilities may be allowed within an existing public utility power line right-of-way or other public right-of-way that contains utility poles over 75 feet in height or within 100 feet of said right-of-way.

(D) *Public land exemption.* A wireless communication facility may be located on any parcel that is owned by the city or another public entity regardless of the zoning district or size of the property.

**Verizon Wireless has complied with this section.**

#### **§ 150.117 APPLICATION AND REVIEW PROCEDURES.**

(A) *Wireless communications permit (administrative approval).* [REDACTED]

(B) *Conditional use permit.* Wireless communications facilities that require a conditional use permit are subject to the requirements specified in the zoning code in addition to all requirements of § 150.110. Applications shall be submitted on forms provided by the city and shall include the following information.

(C) A site plan drawn to scale acceptable to the Planning Director which illustrates:

- (1) The parcel on which the tower and accessory ground facilities will be located;
- (2) The existing and proposed buildings and structures on the tower parcel;
- (3) The buildings located within 200 feet of the perimeter of the tower parcel; and
- (4) Access easements as necessary to the tower parcel.

**Complete site plan and survey are attached as Exhibit A.**

(D) A scaled drawing of the exterior of the proposed wireless communications facility, clearly showing the method of fencing, coloration, materials, and camouflage techniques being used.

**Included in the drawings attached as Exhibit A.**



(E) Photo-simulated post construction renderings of the proposed wireless communications facilities, equipment enclosures, and ancillary structures as they would look after construction from locations at the periphery of the proposed site, which shall, at a minimum, include renderings from the vantage point of any adjacent roadways and residential neighborhoods. The renderings shall also include photo- simulations of the antenna supporting structure after it has been fully developed with antenna structures (the applicant may assume for the purpose of the simulation that other antenna structures on the facility will resemble their proposed structure size and design). A minimum of 2 such renderings shall be provided; additional renderings may be required if the city determines that additional views should be considered.

**Attached as Exhibit H.**

(F) Exterior paint or finish samples of the colors to be used in the construction of the wireless communication facility.

**Included in the drawings attached as Exhibit A.**

(G) A report from a qualified and licensed professional engineer which:

(1) Describes the wireless communication tower height and design including a cross-section and elevation;

(2) Certifies the wireless communication tower's compliance with structural and electrical standards;

(3) Documents the height above grade for the mounting positions, which can be used for co-location and the minimum separation distances between the co-location positions; and

(4) Describes the wireless communication tower's capacity to support antennae, including an example of the number and type of antennas that can be accommodated on the wireless communication tower.

**The drawings attached as Exhibit A as well as the letter attached as Exhibit I will satisfy this requirement.**

(H) In conjunction with the information required to demonstrate the proof of need for a new facility under this subchapter, the applicant shall submit a 5-year plan for wireless telecommunication facilities to be located within the city. The city acknowledges that the plans are fluid and in all likelihood will change depending upon market demands for the service. The city will maintain an inventory of all existing and reasonably anticipated cell site installations. The applicant shall provide the following written information in each 5-year plan and the plan must be updated with each submittal for a new wireless communication tower permit as necessary:

(1) A description of the radio frequencies to be used for each technology;

(2) A list of all existing sites to be upgraded or replaced, and proposed cell sites within the city for these services by the applicant; and

(3) A presentation size map of the city, which shows the 5-year plan for cell sites, or if individual properties are not known, the geographic service areas of the cell sites.

(I) An application fee in an amount prescribed from time to time by City Council resolution as necessary to reimburse the city for costs incurred to process the wireless communication tower permit application along with an escrow payment as prescribed by the City Council to cover the costs associated with the city's review of the permit.

**Because of the nature of wireless communications, the industry changes so quickly that it is not possible to supply a five year plan.**

(J) Confirmation that the applicant is properly licensed by the F.C.C., or is the authorized representative of a wireless communication provider properly licensed by the F.C.C.

**Verizon Wireless is properly licensed by the F.C.C. A copy of the license to operate one of the frequencies that will be operating at the proposed site is attached as Exhibit J.**

(K) Written authorization from the property owner describing the area which will be subject to the tower lease.

**Written authorization is attached as Exhibit K.**

(L) Documentation of the steps to be taken by applicant to avoid causing destructive interference to co-located previously established public safety communications facilities; and

**Attached as Exhibit L.**

(M) A detailed landscape plan, which indicates how tower accessory equipment will be screened.

**§ 150.118 EXPERT REVIEW. [REDACTED]**

**§ 150.119 CONSTRUCTION PERMITS. [REDACTED]**

**§ 150.120 TOWER STANDARDS.**

(A) Wireless communication towers shall comply with the following standards unless the City Council grants a variance as necessary to reasonably accommodate the wireless communication tower. Variance procedures shall be processed according to the zoning code.

(B) *Design.*

(1) To blend into the surrounding environment through the use of color; and architectural treatment and techniques that softens the visual impact of the wireless communication tower on the surrounding environment;

(2) To be of a monopole design unless the City Council determines that an alternative design would better blend into the surrounding environment;

(3) All proposed wireless communication tower shall be designed, structurally, electrically, and in all respects, to accommodate both the applicant's antennas and comparable antennas for at least 2 additional users if the tower is over 100 feet in height or for at least 1 additional user if the tower is less than 100 feet in height; provided that this standard may be waived or otherwise modified by the City Council as necessary to allow the applicant to construct a wireless communication tower that better blends into the surrounding environment; and

(4) Where possible, all proposed wireless communication towers must be designed to allow for future rearrangement of antennas upon the tower and to accept antennas mounted at various heights.

(5) All facilities shall be designed to minimize the visual impact to the greatest extent feasible by means of placement, screening, landscaping with native species, whenever feasible, and camouflage, and be compatible with existing architectural element, building materials, and other site characteristics. The applicant shall use the least visible antennas possible to accomplish the coverage objectives.

**Verizon Wireless has followed design standards to minimize visual effects. The tower height has been kept below a level where FAA required lighting is necessary. The use will be buffered towards the north and south by mature tree growth. Lastly, the tower's location in the middle of a large property will minimize view shed impacts on neighboring properties.**

*(C) Adverse effects on properties.*

(1) New wireless communications facilities shall be configured and located in a manner that shall minimize adverse effects, including visual impacts on adjacent properties. The applicant shall demonstrate that alternative locations, configurations, and facility types have been examined and shall address in narrative and graphic form the feasibility of any alternatives that may have fewer adverse effects on adjacent properties than the facility, configuration and location proposed.

(2) The following attributes shall be considered from vantage points at adjacent properties, roadways and occupied structures: height and location, mass and scale, materials and color, existing and proposed vegetation and intervening structures.

(3) An applicant shall demonstrate through the photo-simulation requirements under § 150.114 that the project design employs each of these attributes in a manner that minimizes adverse effects to the greatest extent possible.

(4) All facilities that have the potential for high visibility shall be sited in such a manner as to cause the least detriment to the view shed of adjoining properties.

**The proposed location is the best available location from a sitting perspective. Verizon's search area is dictated by the radio-frequency engineer's objectives. The attached Exhibit M depicts the area where Verizon needed to place new facilities in order to remedy the coverage and capacity objectives highlighted in § 150.112 above. As you will notice, the search area is mostly filled with residential parcels, a developed golf course, and an agricultural parcel. These were not suitable candidates for this installation because the landowner's were not interested, the parcel could not meet setbacks, or the visual impact would be greater. Additionally, § 150.113 requires applicants to consider and rule out public land, such as the school, prior to considering private land. As the only public land in the search area, the school is Verizon's only feasible candidate.**

(D) *Setbacks.*

(1) No communications tower shall be located in the required front, side or rear yard setback of any parcel.

(2) No freestanding communications tower shall be located closer than 125% of the tower height from any lot lines with the following exceptions:

(a) Towers in a side or rear yard that are adjacent to parcels zoned commercial, industrial or public facility.

**Verizon's tower meets all setback requirements.**

(3) Setbacks from buildings:

(a) In residential zoning districts, wireless communications towers shall be set back a minimum of 100% of the tower height from a residential dwelling except for dwellings on the subject property.

(b) In all other zoning districts, the minimum setback between structures as required by the Building Code shall be observed.

(4) Use of existing light poles, high voltage poles or towers and other existing structures are exempt from the setback requirements provided that such pole, tower or structure is not increased in height.

(5) Wireless communications towers located within an existing public utility power line right-of-way or other public right-of-way that contains utility poles over 75 feet in height or within 100 feet of said right-of-way shall be exempt from the setbacks as herein required.

(6) A required setback may be reduced or its location in relation to a public street varied upon providing the city with a licensed professional engineer's certification that the wireless communication tower is designed to collapse or fail within a distance or zone shorter than the required setback distance.

**Verizon's tower meets all setback from building requirements.**

(E) *Height.*

(1) The maximum height of a wireless communications tower shall be determined based on the underlying zoning district and will be the amount specified in § 150.117.

**Verizon's installation meets height requirements.**

(F) *Lighting.* At night, wireless communication towers shall not be illuminated by artificial means, unless otherwise required by the Federal Aviation Administration (F.A.A.).

(1) White strobe lighting is prohibited.

(2) The applicant shall document the need for lighting as part of a new wireless communications facility application.



(3) A site that requires lighting shall only be accepted when no other suitable alternative exists. A new tower may be rejected on the grounds that lighting will be a visual nuisance to surrounding properties.

**Verizon's proposed tower will not be lit.**

(G) *Landscaping and screening.* All wireless communications towers and related building facilities shall be landscaped and screened with natural vegetation to lessen the visual impact. The natural vegetation on the site shall be documented on the site plans. Suitable existing vegetation shall be retained to the maximum extent possible based on an analysis of the site. New landscaping shall be selected that includes coniferous and deciduous plants and trees that are hardy for conditions on the site without the use of augmented water.

**Verizon will screen and landscape the proposed tower as required by the City.**

(1) Landscaping shall include ground cover, lower story, mid-story and upper story plants. Plant density shall be sufficient to provide 80% opacity year round from the ground up to a distance of 5 feet high for 60% or more of the site with the planting to be located based on an analysis of the site in relation to the surrounding area. Greater or lesser amounts and percentages may be required or allowed based on the city's review.

(H) *Signs and advertising.* The use of any portion of a wireless communications tower for signs other than warning or equipment information is prohibited.

**There will be no signs except as required by applicable state and federal regulations.**

(I) *Interference with public safety communication.* No wireless communication facility shall interfere with public safety communications. All wireless communication towers/antennas shall comply with F.C.C. regulations and licensing requirements.

(J) *Accessory utility buildings.* All utility buildings and structures accessory to a tower shall be architecturally designed to blend in with the surrounding environment and compatible with adjacent buildings, and shall be permitted in addition to the number of accessory buildings otherwise allowed in each zoning district.

(1) Ground mounted equipment shall not be visible from beyond the boundaries of the site and shall be screened by a solid wall or fence and dense landscaping materials described in division (G) above.

(2) Accessory utility buildings shall observe the minimum setback requirements for accessory buildings in the underlying zoning district as well as all other applicable zoning and building requirements for accessory buildings.

(K) *Maintenance.* All buildings and structures on the premises of the wireless communications facility shall observe the city's property maintenance standards of the city code.

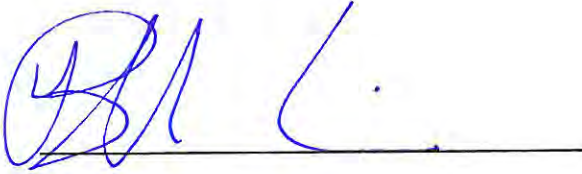
**Verizon Wireless agrees to comply with any required conditions and all provisions of this act.**

**§ 150.121 WIRELESS COMMUNICATIONS TOWER AGREEMENT. [REDACTED]**

§ 150.122 ABANDONMENT AND REMOVAL. [REDACTED]

§ 150.123 MINIMUM CONDITIONS. [REDACTED]

Respectfully Submitted,

A handwritten signature in blue ink, appearing to be 'B. Conklin', is written over a solid horizontal line.

Blake Conklin



Exhibit B

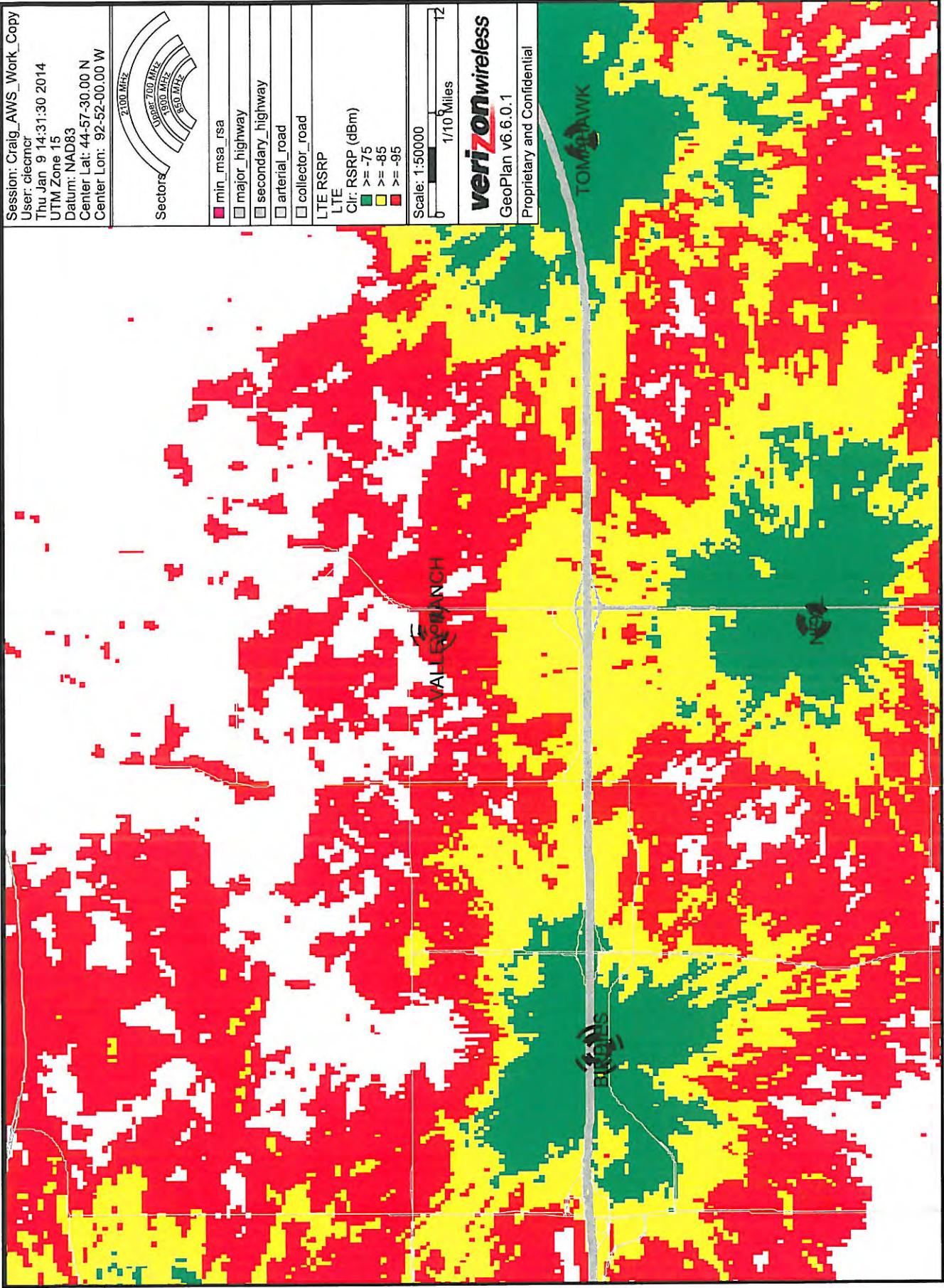




Exhibit C

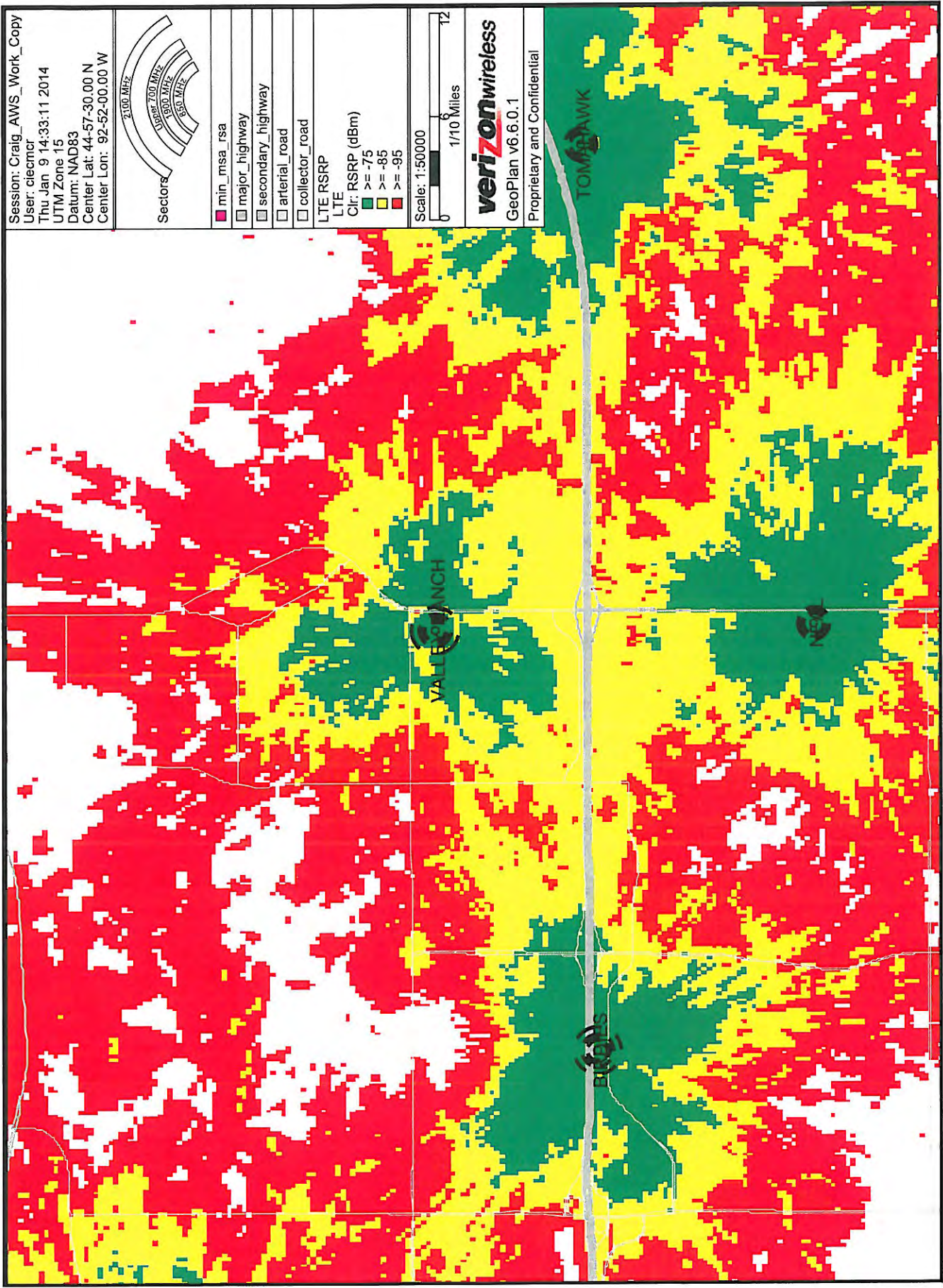




Exhibit D

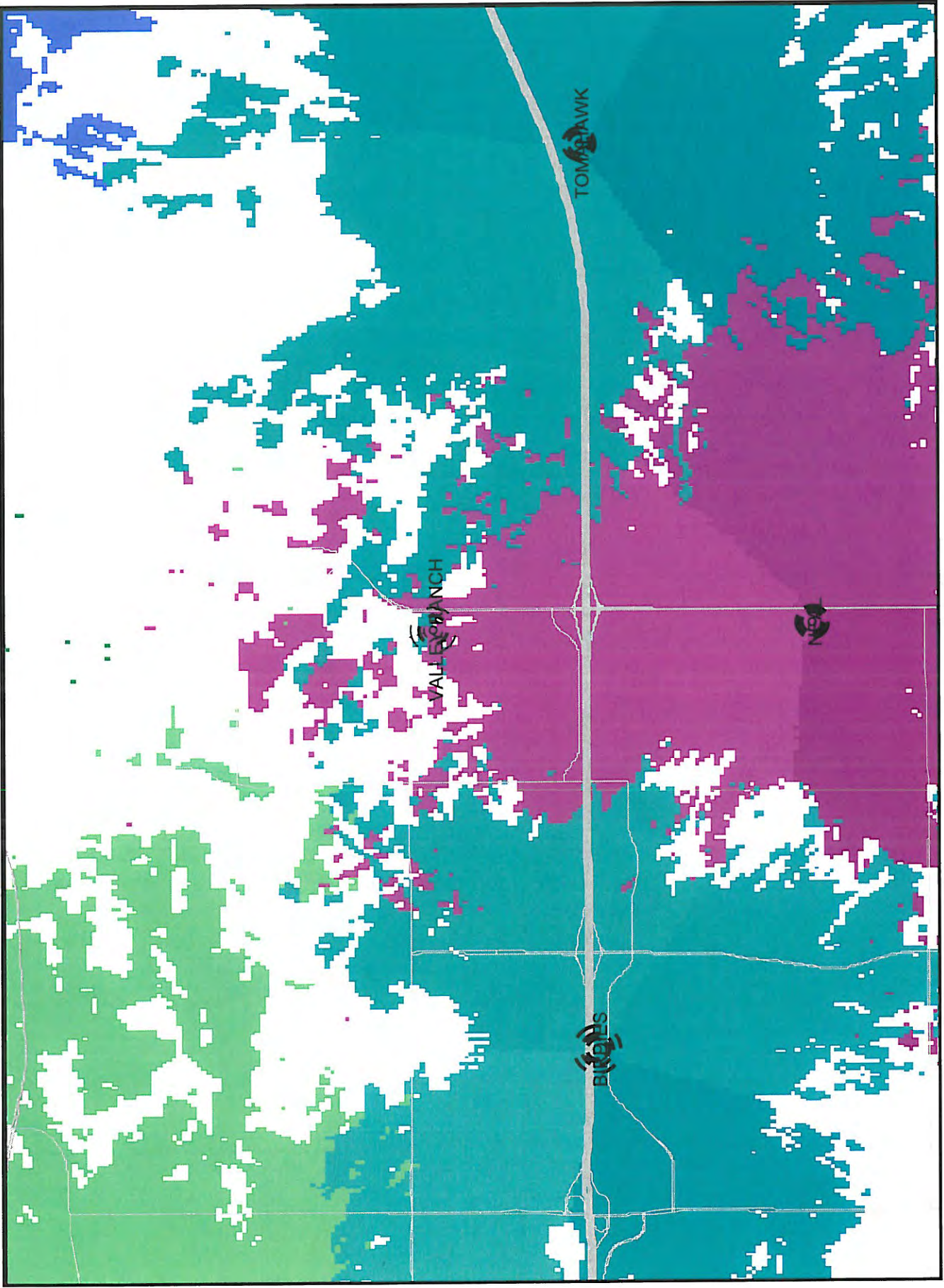
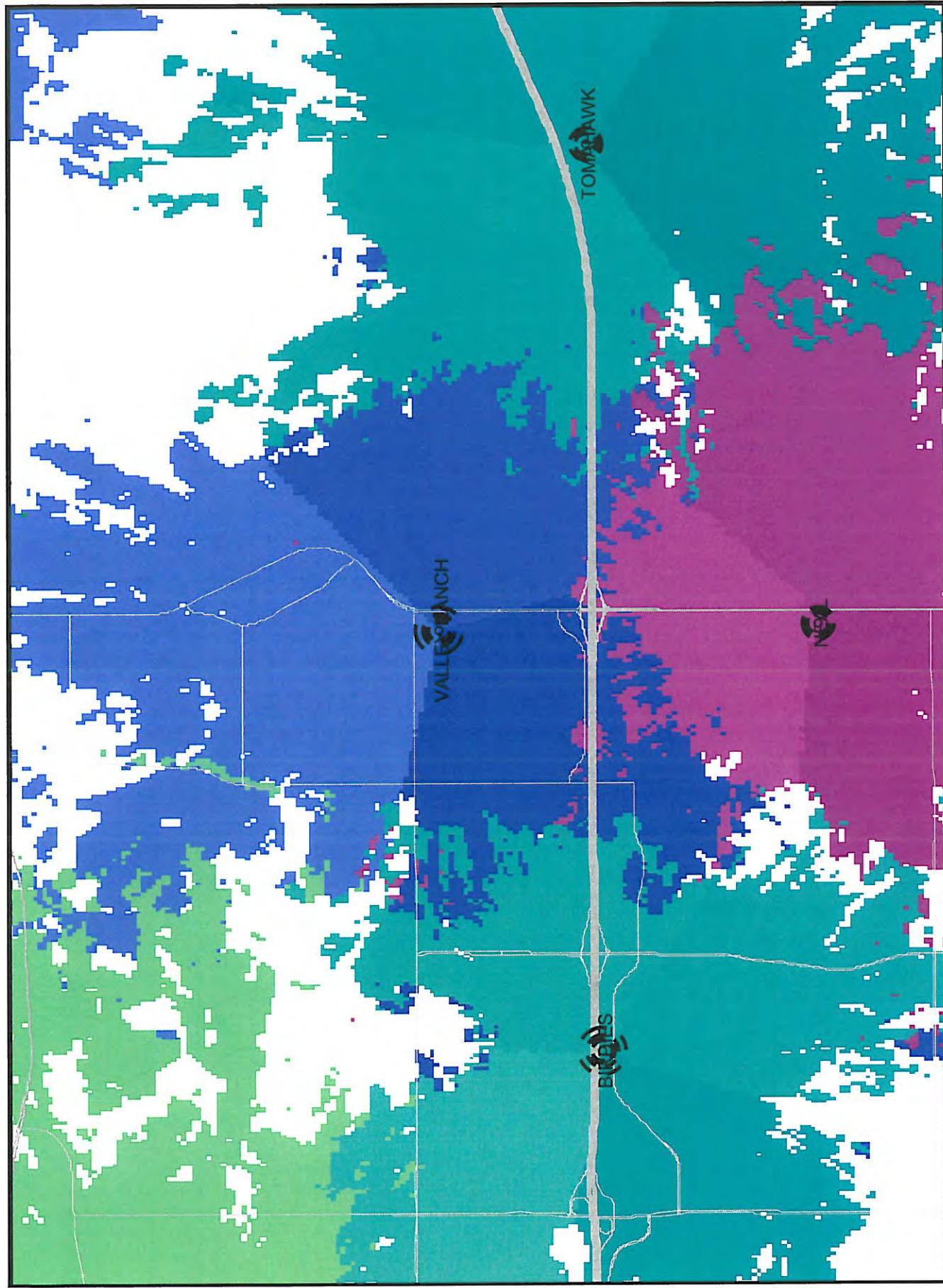




Exhibit E



ASR Registration Search

## Registration Search Results

Displayed Results

**No matches found****PA** = Pending Application(s)

To try again, you can perform a [new search](#) or [refine your existing search](#).

**Specified Search**

Latitude='44-57-40.7 N', Longitude='92-51-53.2 W', Radius=3.2 Kilometers

**CLOSE WINDOW**





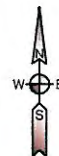
Bismark • Cedar Rapids • Denver • Detroit Lakes • Fargo • St. Paul • Sioux Falls  
4285 Lexington Ave. N.  
St. Paul, Minnesota 55126  
Phone: 651.415.3800 Fax: 651.415.2001  
Web: www.ulteig.com

## PHOTO SIMULATION

**SITE: MINC VALLEY RANCH**  
**CARRIER: VERIZON WIRELESS**  
**SITE ADDRESS: 820 MANNING AVENUE NORTH, LAKE ELMO, MN**



**SITE LOCATION MAP**  
**NOT TO SCALE**







**View Type:** Original Photograph - View 1  
**Site Address:** 820 Manning Avenue North  
**City:** Lake Elmo **State:** MN  
**Site Name:** MINC VALLEY RANCH  
**View Description:** Looking west at location of proposed monopole and equipment shelter.

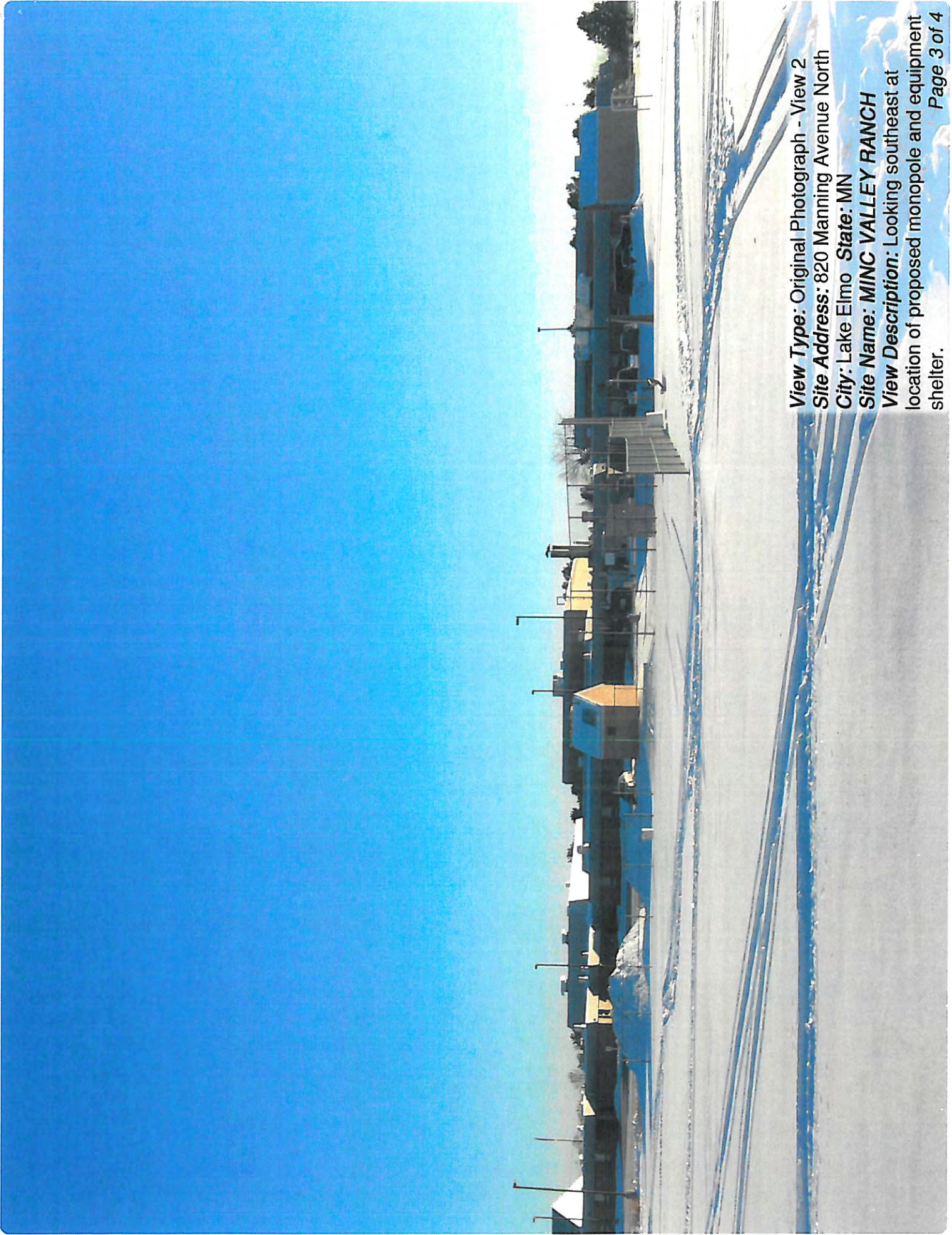




**View Type:** Simulated Photograph - View 1  
**Site Address:** 820 Manning Avenue North  
**City:** Lake Elmo **State:** MN  
**Site Name:** MINC VALLEY RANCH  
**View Description:** Looking west at location of proposed monopole and equipment shelter.

**Disclaimer:** This picture is an artist's rendition of the completed site layout prior to construction. The completed construction may vary in layout, dimension, and color from the above picture.





**View Type:** Original Photograph - View 2  
**Site Address:** 820 Manning Avenue North  
**City:** Lake Elmo **State:** MN  
**Site Name:** MINC VALLEY RANCH  
**View Description:** Looking southeast at location of proposed monopole and equipment shelter.





**View Type:** Simulated Photograph - View 2  
**Site Address:** 820 Manning Avenue North  
**City:** Lake Elmo **State:** MN  
**Site Name:** MINC VALLEY RANCH  
**View Description:** Looking southeast at location of proposed monopole and equipment shelter.

**Disclaimer:** This picture is an artist's rendition of the completed site layout prior to construction. The completed construction may vary in layout, dimension, and color from the above picture.



Exhibit I

# Sabre Industries™

Towers and Poles

January 14, 2014

Mr. Michael J. Scanlan  
Design 1  
9973 Valley View Road  
Eden Prairie, MN 55344

Re: Proposed 130 ft Sabre Monopole for MINC Valley Ranch, MN

Dear Mr. Scanlan,

Upon receipt order, we propose to design and supply the above referenced Sabre monopole for a Basic Wind Speed of 90 mph with no ice and 50 mph with 3/4", Structure Class II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas", while supporting the following equipment:

1. Verizon array at 125'
2. Future array at 110'
3. Future array at 95'


**PROFESSIONAL ENGINEER**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the Laws of the State of Minnesota.

Sincerely,

Robert E. Beacom, P.E.  
Design Engineer I

Print Name Robert E. Beacom

Signature 

Date 1/14/14 License #49156

ULS License

**PCS Broadband License - KNLH679 - Verizon Wireless (VAW) LLC****PA This license has pending applications: 0006015686**

Call Sign KNLH679 Radio Service CW - PCS Broadband

Status Active Auth Type Regular

**Market**

Market BTA298 - Minneapolis-St. Paul, MN Channel Block D

Submarket 7 Associated Frequencies (MHz) 001865.00000000-001870.00000000-001945.00000000-001950.00000000

**Dates**

Grant 07/23/2007 Expiration 06/27/2017

Effective 02/18/2011 Cancellation

**Buildout Deadlines**

1st 06/27/2002 2nd

**Notification Dates**

1st 07/08/2002 2nd

**Licenses**

FRN 0003800307 Type Limited Liability Company

**Licensee**Verizon Wireless (VAW) LLC P:(770)797-1070  
1120 Sanctuary Pkwy, #150 GASA5REG F:(770)797-1036  
Alpharetta, GA 30009-7630 E:LicensingCompliance@VerizonWireless.com  
ATTN Regulatory**Contact**Verizon Wireless P:(770)797-1070  
Licensing - Manager F:(770)797-1036  
1120 Sanctuary Pkwy, #150 GASA5REG E:LicensingCompliance@VerizonWireless.com  
Alpharetta, GA 30009-7630  
ATTN Regulatory**Ownership and Qualifications**

Radio Service Type Mobile

Regulatory Status Common Carrier Interconnected Yes

**Alien Ownership**

Is the applicant a foreign government or the representative of any foreign government? No

Is the applicant an alien or the representative of an alien? No

Is the applicant a corporation organized under the laws of any foreign government? No



Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country? **No**

Is the applicant directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? **Yes**

If the answer to the above question is 'Yes', has the applicant received a ruling(s) under Section 310(b)(4) of the Communications Act with respect to the same radio service involved in this application?

**Basic Qualifications**

The Applicant answered "No" to each of the Basic Qualification questions.

**Tribal Land Bidding Credits**

This license did not have tribal land bidding credits.

Race

Ethnicity

Gender

LETTER OF AUTHORIZATION

City of Lake Elmo  
Department of Planning & Zoning  
3800 Laverne Avenue North  
Lake Elmo, Minnesota 55042

**Re: Authorization to File for Any Necessary Permits or Approvals  
Associated with a Verizon Wireless Communication Project on the Parcel.**

To whom it may concern:

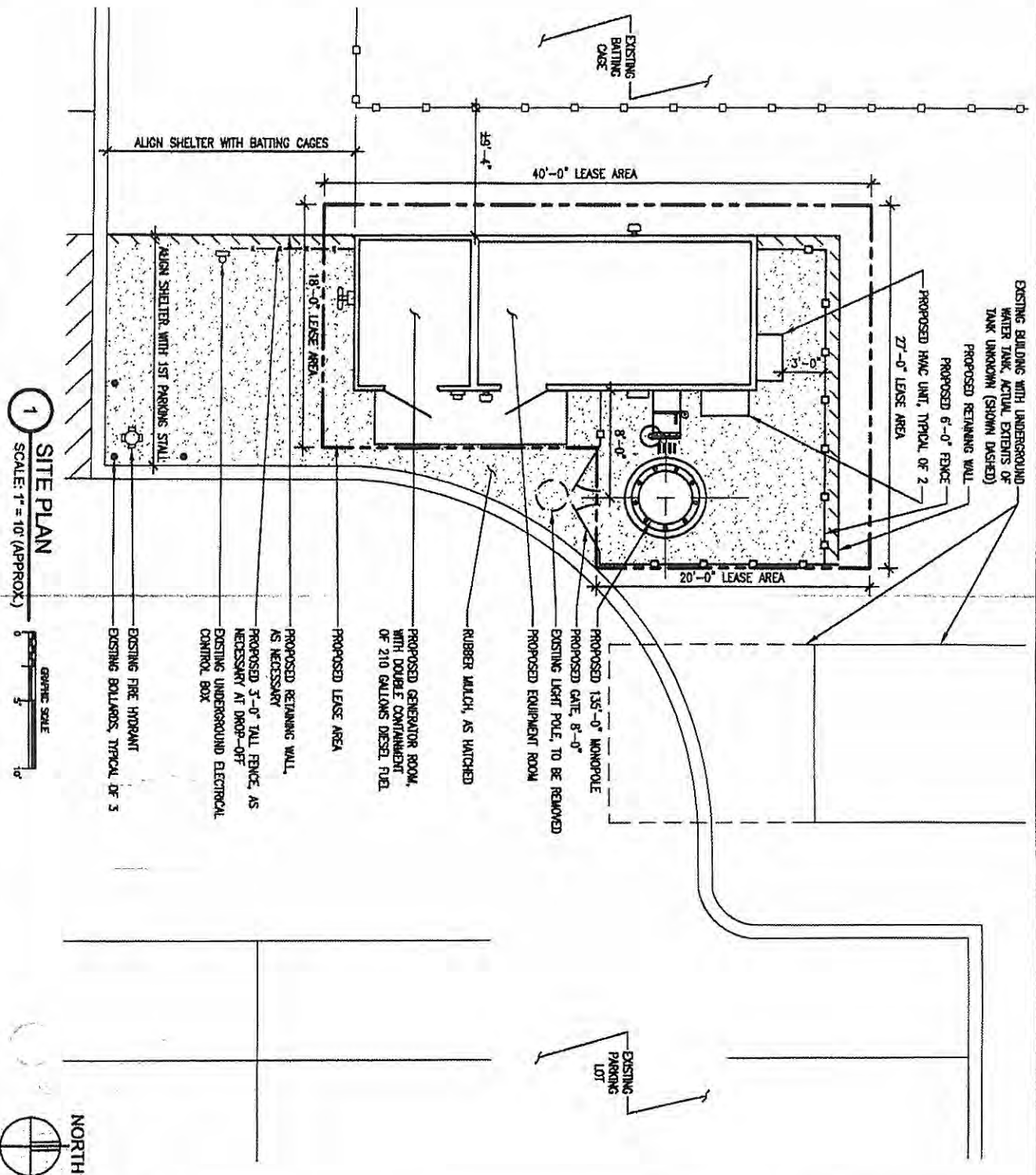
Stillwater Area Public Schools of Lake Elmo, Minnesota authorizes Faulk & Foster, its agents and employees, including but not limited to Blake Conklin and Joe Egge, to obtain any necessary permits or approvals associated with the proposal of a Verizon Wireless communication project as described on the attached Exhibit A.

Stillwater Area Public Schools

By:  \_\_\_\_\_

Its: Director of Finance

Date 12/23/13



# 1 SITE PLAN

SCALE: 1" = 10' (APPROX)



PROJECT:  
**MINC VALLEY RANCH**  
  
MANNING AVENUE NORTH  
LAKE ELMO, MN 55042

**VERIZON  
WIRELESS**

10801 BUSH LAKE ROAD  
BLOOMINGTON, MN 55438  
(612) 720-0030

**DESIGN 1**

8873 VALLEY VIEW ROAD  
EDEN PRAIRIE, MN 55344  
(952) 953-6299 FAX 952-9282

ROBERT J. DAVIS, AIA  
ARCHITECT

SS-2

REVISION 1/2  
DRAWN BY: MJS  
DATE: 07-02-13



December 18, 2013

City of Lake Elmo  
Department of Planning & Zoning  
3800 Laverne Avenue North  
Lake Elmo, Minnesota 55042

Re: Verizon Wireless Proposed 135' Monopole at **820 Manning Ave North**

To whom it may concern:

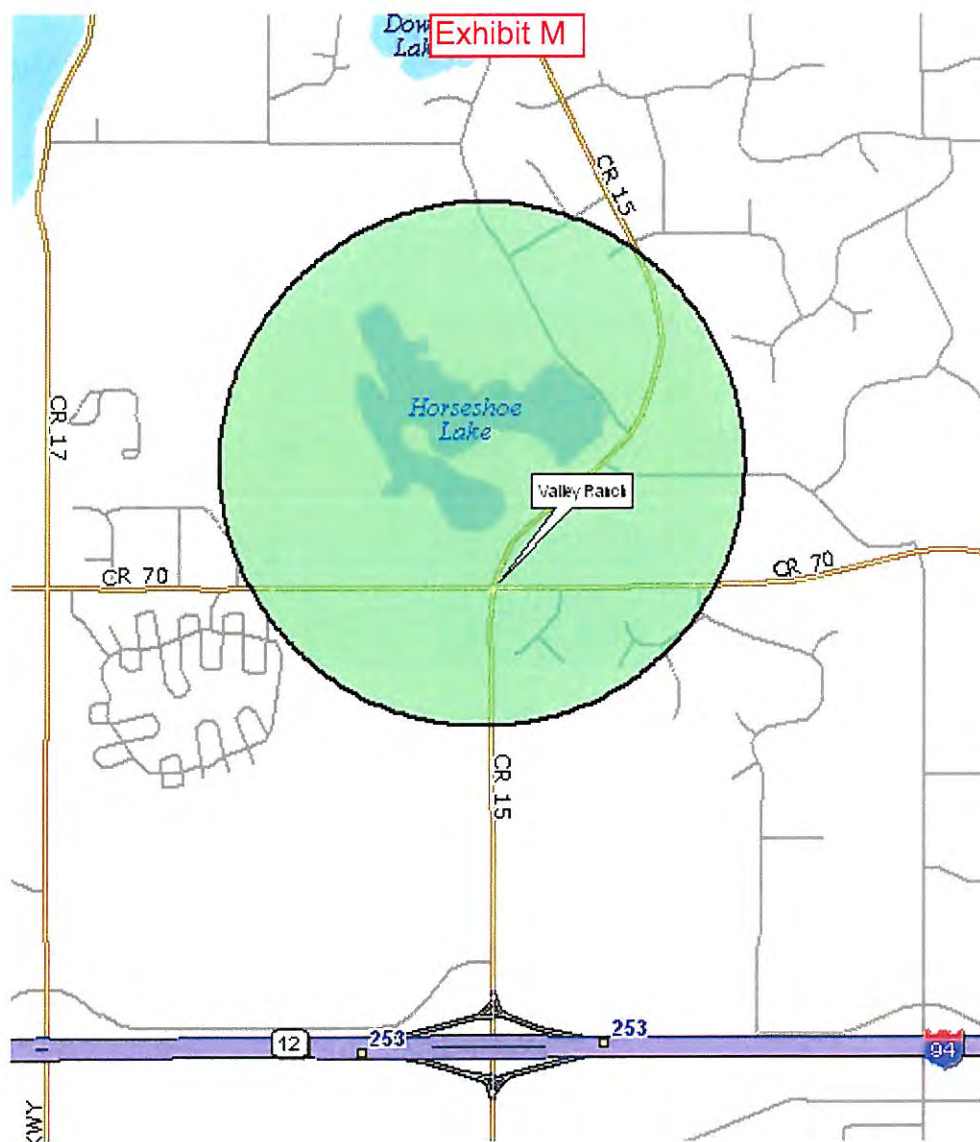
Verizon Wireless is aware of the interference issues that can arise while locating in proximity to other carriers; therefore, appropriate separation has been maintained between Verizon Wireless antennas and those of any other carrier to avoid any possibility of our frequency interfering with other equipment. In addition, Verizon Wireless has acquired an FCC license, which exclusively entitles the company to operate within an assigned frequency range. This in turn eliminates any interference issues from CB radios, electronic appliances, pacemakers, fire and police equipment as well as other carriers. In the highly unlikely event that interference does occur, Verizon Wireless agrees to fully cooperate with the entity experiencing interference to identify and correct, to the extent reasonably possible, any issues caused by its installation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Craig Ciecmerowski".

Craig Ciecmerowski  
RF Engineer  
Verizon Wireless







PLANNING COMMISSION  
DATE: 4/28/14  
AGENDA ITEM: 5B – BUSINESS ITEM  
CASE # 2014 - 20

ITEM: Zoning Text Amendment – Shoreland Ordinance Update

SUBMITTED BY: Nick Johnson, City Planner

REVIEWED BY: Kyle Klatt, Community Development Director

---

**SUMMARY AND ACTION REQUESTED:**

The Planning Commission is asked to review a draft Shoreland Ordinance intended to update the City's shoreland provisions in advance of upcoming sewer growth in the community. The Planning Commission postponed review of the ordinance at the last meeting on 4/14/14. The City will work with the DNR to review the draft ordinance in advance of a future public hearing.

---

**RECOMMENDATION:**

No formal action is required at this time. The Planning Commission is asked to provide initial feedback regarding the draft shoreland ordinance. This feedback, along with DNR review, will inform a future draft, at which time staff intends to hold a public hearing.

**ATTACHMENTS:**

1. Draft Shoreland Ordinance, dated 4/14/14

**ORDER OF BUSINESS:**

- Introduction .....Planning Staff
- Report by Staff .....Planning Staff
- Questions from the Commission ..... Chair & Commission Members
- Discussion by the Commission ..... Chair & Commission Members

## ARTICLE 17. SHORELAND MANAGEMENT OVERLAY DISTRICT

### §154.800 Shoreland Management Overlay District

#### §154.800 Shoreland Management Overlay District

- A. *Purpose.* The purpose of the Shoreland Management Overlay District is to preserve and enhance the quality of surface waters and conserve the economic and natural environmental values of shorelands through the following activities:
1. Regulate placement of sanitary and waste treatment facilities on shorelands of public waters to prevent pollution of public waters and public health hazards resulting from the facilities.
  2. Regulate alteration of shorelands of public waters to prevent excessive sediment pollution, increased water runoff and excessive nutrient runoff pollution.
  3. Preserve and enhance the unique aesthetic appearance and ecological value of the shoreland.
  4. Regulate the construction of buildings and changes of land use in shorelands to minimize property damage during periods of high water.
- B. Shoreland Management Overlay District
1. *Shoreland Classifications.* The public waters in Table 17-1 have been classified by the commissioner of natural resources as natural environment (NE), recreational development (RD) and tributary (T) shorelands. Where noted, riparian dedication is required by the City.

Table 17-1: Shoreland Classifications

| DNR ID # | Name                         | Location                          | Class | 150 FT <sup>a</sup><br>Riparian<br>Dedication<br>Required |
|----------|------------------------------|-----------------------------------|-------|---|
| 82011601 | Armstrong (north of CSAH 10) | Sec 28, T29, R21                  | NE    | No  |
| 82011602 | Armstrong (south of CSAH 10) | Sec 28, T29, R21                  | NE    | No  |
| 82010500 | Berschen's Pond              | Sec 10, T29, R21                  | NE    | No  |
| 82009900 | Clear                        | Sec 2 & 11, T29, R21              | NE    | No  |
| 82010100 | DeMontreville                | Sec 4, 5 & 9, T29, R21            | RD    | No  |
| 82011000 | Downs                        | Sec 24, T29, R21                  | NE    | No  |
| 82010900 | Eagle Point                  | Sec 22 & 27, T29, R21             | NE    | No  |
| 82010600 | Elmo                         | Sec 13, 14, 23, 24 & 26, T29, R21 | RD    | No  |
| 82010800 | Friedrich Pond               | Sec 15 & 22, T29, R21             | NE    | No  |
| 82011300 | Goose                        | Sec 27, 34 & 35, T29, R21         | NE    | Yes   |
| 82011100 | H.J. Brown Pond              | Sec 26, T29, R21                  | NE    | No  |
| 82007400 | Horseshoe                    | Sec 25, T29, R21                  | NE    | No  |
| 82010400 | Jane                         | Sec 9 & 10, T29, R21              | RD    | No  |



| DNR ID # | Name  | Location                   | Class | 150 FT <sup>a</sup><br>Riparian<br>Dedication<br>Required |
|----------|---|----------------------------|-------|---|
| 82011700 | Kramer  | Sec 35, T29, R21           | NE    | Yes   |
| 82041900 | Margaret  | Sec 26, T29, R21           | NE    | No  |
| 82010300 | Olson   | Sec 8 & 9, T29, R21        | RD    | No  |
| N/A      | Raleigh Creek North (to Eagle Point Lake)           | Sec 16, 21 & 22, T29, R21  | T     | No  |
| N/A      | Raleigh Creek South (Eagle Point Lake to Lake Elmo) | Sec 22, 23 & 227, T29, R21 | T     | No  |
| 82011200 | Rose  | Sec 25 & 36, T29, R21      | NE    | No  |
| 82010700 | Sunfish   | Sec 14, T29, R21           | NE    | No  |
| 82010000 | Unnamed   | Sec 4, T29, R21            | NE    | No  |
| N/A      | Unnamed to Wilmes Lake                              | Sec 33, T29, R21           | T     | No  |
| N/A      | Unnamed Tributary                                   | Sec 25, T29, R21           | T     | No  |

#### Classifications

RD = Recreational Development Lake Classification

NE = Natural Environment Lake Classification

T = Tributary River Classification

Notes to Table 17-1:

a. As measured from and perpendicular to the ordinary high water level (OHWL)

- Land Uses in Shoreland Districts. All uses of land shall be regulated by the applicable zoning district subject to applicable conditions. Notwithstanding the underlying zoning district, the following uses shall be regulated in shoreland districts as specified in Table 17-2:

**Table 17-2: Permitted, Conditional and Interim Uses, Shoreland Classifications**

| Land Uses                                    | Shoreland Classification |                     |                 |
|--|--------------------------|---------------------|-----------------|
|  | Recreational Development | Natural Environment | Tributary River |
| Residential                                  | P                        | P                   | P               |
| Commercial                                   | P                        | C                   | C               |
| Public and Civic Uses                        | P                        | C                   | C               |
| Outdoor Recreation <sup>a</sup>              | C                        | C                   | C               |
| Agricultural and Related Uses <sup>b</sup>   | P                        | P                   | P               |
| Industrial and Extractive Uses               | -                        | -                   | -               |
| Utilities, Transportation and Communications | C                        | C                   | C               |
| Accessory Uses                               | P                        | P                   | P               |

| Land Uses                   | Shoreland Classification |                     |                 |
|-----------------------------|--------------------------|---------------------|-----------------|
|                             | Recreational Development | Natural Environment | Tributary River |
| Planned Developments (PUDs) | C                        | C                   | C               |

Notes to Table 17-2:

- a. City owned parks and open space and any uses or structures accessory to such uses are permitted within shoreland areas.
- b. Vegetative clearing within shore and bluff impact zones and on steep slopes is not permitted.

3. *Shoreland Standards.* The following standards in Table 17-3 shall apply within shoreland areas to principal, conditional and accessory uses and structures:

**Table 17-3: Shoreland Standards**

| Standards  | Shoreland Classification                           |                     |                         |
|--|--|---------------------|-------------------------|
|  | Recreational Development                           | Natural Environment | Tributary River         |
| Minimum structure setback from County, State or Federal road right-of-way            | 50 feet  | 50 feet             | 50 feet                 |
| Minimum structure setback from an unplatted cemetery or historical site <sup>a</sup> | 50 feet  | 50 feet             | 50 feet                 |
| Minimum structure setback from the Ordinary High Water Level (OHWL) <sup>b, c</sup>  |  |                     |                         |
| Riparian dedication required   | 200 feet   | 200 feet            | 200 feet                |
| Riparian dedication not required <sup>d</sup>  |  |                     |                         |
| Sewered  | 75 feet  | 100 feet            | 75 feet                 |
| Unsewered  | 100 feet   | 150 feet            | 100 feet                |
| Minimum structure setback from top of bluff  | 30 feet  | 30 feet             | 30 feet                 |
| Minimum septic system setback from OHWL  | 75 feet  | 150 feet            | 75 feet                 |
| Minimum low floor elevation above OHWL   | 2 feet   | 2 feet              | 2 feet                  |
| Maximum impervious lot coverage  |  |                     |                         |
| With riparian dedication   | 50%  | 50%                 | 50%                     |
| Without riparian dedication  |  |                     |                         |
| Sewered <sup>e</sup>   | 30%  | 30%                 | 30%                     |
| Unsewered  | 15% or 6,000 square feet (sf), whichever is larger |                     |                         |
| Minimum lot size <sup>f</sup> , riparian lots  |  |                     |                         |
| Riparian dedication required   | Same as zoning district                            |                     |                         |
| Riparian dedication not required, sewerd   |  |                     |                         |
| Single family detached   | 20,000 sf  | 40,000 sf           | Same as zoning district |
| Two-family or duplex   | 35,000 sf  | 70,000 sf           |                         |

|   |                         |           |                         |
|---|-------------------------|-----------|-------------------------|
| Riparian dedication not required, unsewered       |                         |           |                         |
| Single family detached                            | 40,000 sf               | 80,000 sf | Same as zoning district |
| Minimum lot size <sup>f</sup> , non-riparian lots |                         |           |                         |
| Riparian dedication required                      | Same as zoning district |           |                         |
| Riparian dedication not required, sewered         |                         |           |                         |
| Single family detached                            | 15,000 sf               | 20,000 sf | Same as zoning district |
| Two-family or duplex                              | 17,500 sf               | 26,000 sf |                         |
| Riparian dedication not required, unsewered       |                         |           |                         |
| Single family detached                            | 40,000 sf               | 80,000 sf | Same as zoning district |
| Minimum lot width <sup>f</sup>                    |                         |           |                         |
| Riparian dedication required                      | Same as zoning district |           |                         |
| Riparian dedication not required, sewered         |                         |           |                         |
| Single family detached                            | 80 feet                 | 125 feet  | 80 feet                 |
| Two-family or duplex                              | 135 feet                | 225 feet  | 115 feet                |

Notes to Table 17-3:

- a. Reduction of the required setback from a historic site is permitted with the approval of the office of the Minnesota State Archeologist.
- b. Where structures exist on both sides of a proposed building site, structure setbacks may be altered without a variance to conform to the adjoining setbacks from the Ordinary High Water Level (OHWL), provided the proposed building is not located in a shore impact zone or bluff impact zone.
- c. With the exception of public crossings of public waters, roads, driveways and parking areas shall meet the minimum structure setback. Where no alternative exists, such improvements may be placed within the required structure setbacks provided they are designed to adapt to the natural landscape, soil erosion is minimized and no construction shall occur in shore or bluff impact zones.
- d. Commercial and public and civic uses with public waters frontage shall be setback double the required setback or be substantially screened from the water by vegetation or topography, assuming summer, leaf-on conditions.
- e. The maximum amount of impervious surface allowed for sewer lots zoned Rural Single Family (RS) is 15% of lot area or 6,000 sf, whichever is larger.
- f. Minimum lot size and width requirements apply to residential uses only.

#### 4. Design Criteria for Structures

- a. *Water Oriented Accessory Structures.* Each lot may have one (1) water oriented accessory structure not meeting the normal structure setbacks if the structure complies with the following provisions:
  - i. *Structure Height.* The structure or facility must not exceed ten (10) feet in height, exclusive of safety rails, from the average grade of the structure to

the peak of the roof. Detached decks must not exceed eight (8) feet above grade at any point.

- ii. *Structure Size.* Water oriented accessory structures cannot occupy an area greater than two-hundred and fifty (250) square feet.
- iii. *Structure Setback.* The setback of the structure or facility landward from the Ordinary High Water Level (OHWL) must be at least ten (10) feet on a recreational development lake and fifty (50) feet on a natural environment lake.
- iv. *The structure or facility must be treated to reduce visibility as viewed from public waters and adjacent shorelands by vegetation, topography, increased setbacks or color, assuming summer, leaf-on conditions.*
- v. *The roof may be used as a deck with safety rails, but must not be enclosed or used as a storage area.*
- vi. The structure or facility must not be used for human habitation and must not contain water supply or sewage treatment facilities.
- vii. *Watercraft Storage Facilities.* As an alternative for recreational development water bodies, water oriented accessory structures used solely for watercraft storage, and including the storage of related boating and water oriented sporting equipment, may occupy up to four hundred (400) square feet provided the maximum width of the structure is twenty (20) feet as measured parallel to the configuration of the shoreline.

b. *Stairways, Lifts and Landings.* Stairways and lifts are the preferred alternative to major topographic alterations for achieving access up and down bluffs and steep slopes to shore areas. Stairways and lifts must meet the following design requirements:

- i. Stairways and lifts must not exceed four (4) feet in width. Wider stairways may be used for public open space or recreation properties.
- ii. Landings for stairways and lifts must not exceed thirty-two (32) square feet in area. Landings larger than thirty-two (32) square feet may be used for public open space or recreation properties.
- iii. Canopies or roofs are not allowed on stairways, lifts or landings.
- iv. Stairways, lifts and landings may be either constructed above ground on posts or pilings or placed into the ground, provided that they are designed and built in a manner that ensures control of soil erosion.
- v. Stairways, lifts and landing must be located in the most visually inconspicuous portions of lots, as viewed from the surface of the public water assuming summer, leaf-on conditions, whenever practical.
- vi. Facilities such as ramps, lifts or mobility paths for physically handicapped persons are also allowed for achieving access to shore areas, provided that the dimensional and performance standards of subsections (i) through (v) above are satisfied.

5. *Subdivision Standards.* The following standards shall apply to subdivisions in shoreland areas:

- a. Each lot created through subdivision must be suitable in its natural state for the proposed use with minimal alteration. In determining suitability the City will consider susceptibility to flooding, existence of wetlands, soil and rock formations with severe limitations for development, severe erosion potential, steep topography, inadequate water supply or sewage treatment capabilities, near-shore aquatic conditions unsuitable for water-based recreation, important fish and wildlife habitat, presence of



significant historic sites, or any other feature of the natural land likely to be harmful to the health, safety, or welfare of future residents of the proposed subdivision, or of the community at large.

- b. Subdivisions must conform to all other official controls adopted by the City of Lake Elmo. Subdivisions will not be approved that are designed so variances from one or more standards in official controls would be needed to use the lots for their intended purpose.
  - c. If, in a group of two or more contiguous lots under the same ownership, any individual lot does not meet the requirements of this section, the lot must not be considered as a separate parcel of land for the purposes of sale or development. The lot must be combined with the one or more contiguous lots so they equal one or more parcels of land, each meeting the requirement of this section as much as possible.
6. *Agricultural Activities.* The following standards shall apply to agricultural activities in shoreland areas:
- a. The shore impact for parcels with permitted agricultural uses is equal to a line parallel to and 50 feet from the OHWL.
  - b. General cultivation farming, grazing, nurseries, horticulture, truck farming, sod farming, and wild crop harvesting are permitted uses if steep slopes and shore impact zones are maintained in permanent vegetation or operated under an approved conservation plan (resource management systems) consistent with the field office technical guides of the local soil and water conservation district or the USDA Natural Resources Conservation Service.
  - c. Feedlots and manure storage are not permitted within the shoreland of watercourses or in bluff impact zones, and must meet a minimum setback of 300 feet from the ordinary high water level of all public water basins identified in subsection (1).
  - d. The use of pesticides, fertilizers or animal wastes within shoreland areas shall be done in such a way as to minimize impacts on shore impact zones by proper application or use of earth or vegetation.
7. *Shoreland Alterations.* The purpose of this section is to prevent erosion into public waters, fix nutrients, preserve shoreland aesthetics, preserve historic values, prevent back slumping and protect fish and wildlife habitat. Shoreland alterations shall be allowed in accordance with the following standards:
- a. No principal or accessory structure or use shall be placed within bluff or shore impact zones other than agricultural activities as permitted by subsection (5)(b).
  - b. Shore impact zones shall be maintained in permanent vegetation or operated under an approved conservation plan consistent with the field office technical guides of the local soil and water conservation district.
  - c. *Intensive Vegetative Clearing.* Intensive vegetation clearing within shore and bluff impact zones and/or steep slopes is not permitted. Intensive clearing within shoreland areas outside of bluff or shore impact zones and steep slope areas is permitted subject to City approval of an erosion and sedimentation control plan that is consistent with the City's Storm Water and Erosion and Sediment Control Ordinance (§150.270).
  - d. *Limited Tree Clearing.* Limited clearing of trees and shrubs and the cutting, pruning and trimming of trees within bluff and shore impact zones or steep slopes to accommodate picnic areas, trails and water access and to provide a view to the water from a principal dwelling site shall be permitted provided the screening of structures, as viewed from the water, is not substantially reduced. These provisions do not apply to the removal of tree limbs or branches that are dead or pose a safety hazard.

- e. *Grading in Shoreland Areas.* Any grading or filling on steep slopes or within shore or bluff impact zones involving the movement of ten (10) or more cubic yards of material or involving more than fifty (50) cubic yards of material elsewhere in a shoreland area shall require the submission of a Grading Permit. Approval shall be granted only if the following conditions are met:
    - i. Any filling or grading in any Type 2, 3, 4, 5, 6, 7 or 8 wetland shall be in conformance with the Wetland Conservation Act of 1991 and shall require consideration of how extensively the proposed activity will affect the following functional qualities of the wetland:
      - a) Sediment and pollution trapping and retention
      - b) Storage of surface runoff to prevent or reduce flood damage
      - c) Fish and wildlife habitat and endangered plants and animals
      - d) Recreational use
      - e) Shoreline or bank stabilization
      - f) Historical significance
    - ii. The smallest amount of bare ground is exposed for the shortest time possible;
    - iii. Ground cover such as mulch is used for temporary bare soil coverage and permanent ground cover, such as sod, is established;
    - iv. Methods to prevent erosion and trap sediment during construction are employed;
    - v. Altered areas are stabilized to accepted erosion control standards;
    - vi. Fill is not placed so as to create unstable slopes;
    - vii. Plans to place fill or excavated material on steep slopes are certified by qualified professionals as to slope stability;
    - viii. Alterations below the OHWL are authorized by the Commissioner of the Minnesota Department of Natural Resources per Minn. Stats. § 103G.245;
    - ix. Placement of natural rock riprap, including associated grading of the shoreline and placement of a filter blanket, is permitted if the finished slope does not exceed three feet horizontal to one foot vertical, the landward extent of the riprap is within ten feet of the OHWL and the height of the riprap above the OHWL does not exceed three feet; and
    - x. Alterations of topography shall only be permitted if accessory to a permitted or conditional use.
  - f. *Dedicated Riparian Areas.* Riparian areas dedicated to the City shall be protected from intensive development. Permitted uses include passive open space, pedestrian trails, public parks and park-related structures, facilities for public water access, fishing piers, parking lots for park users, and stormwater treatment ponds. Unless being used for active park purposes, the riparian areas shall be maintained in permanent natural vegetation.
8. *Sand and Gravel Extraction.* The following standards shall apply to sand and gravel extraction uses:
- a. Processing machinery shall be located consistent with setback standards for structures.
  - b. A site development and restoration plan shall be developed by the owner for approval by the city which addresses dust, noise, possible pollutant discharges, hours and

duration of operation and anticipates vegetation and topography alterations. It shall identify actions to be taken to mitigate adverse environmental impacts and measures to be employed to restore the site after excavation.

9. *Stormwater Management.* Stormwater management shall be in accordance with the City's Storm Water and Erosion and Sediment Control Ordinance (§150.270). In addition, the Minnesota Pollution Control Agency's Minnesota Stormwater Manual shall be used as guidance. Within shoreland areas, the following standards also apply:
  - a. Existing natural drainage ways, wetlands and vegetated soil surfaces must be used to convey, store, filter and retain storm water before discharge to public waters.
  - b. Development must be planned and conducted in a manner that will minimize the extent of disturbed areas, runoff velocities, erosion potential and reduce and delay runoff volumes. Disturbed areas must be stabilized and protected as soon as grading is complete and facilities or methods used to retain sediment on the site are removed.
  - c. Use of fertilizers, pesticides or animal wastes within shoreland areas must be done in a way to minimize impact on the shore impact zone or public water by proper application.
  - d. New constructed storm water outfalls to public waters must provide for filtering or settling of suspended solids and skimming of surface debris before discharge.
10. *Private Utilities.* The following provisions shall apply in shoreland areas:
  - a. Private subsurface sewage treatment systems shall meet applicable City and County requirements and Minnesota Pollution Control Agency's Chapter 7080 standards. Publicly owned sewer systems shall be used where available.
  - b. Any private water supply to be used for domestic purposes shall meet quality standards established by the Minnesota Department of Health and the Minnesota Pollution Control Agency.
11. *Planned Unit Developments.* Residential planned unit developments shall be permitted in shoreland areas subject to the requirements of Article XVI of this chapter.
  - a. Design criteria for planned unit developments within shoreland areas:
    - i. At least 50 percent of the total project area shall be preserved as open space. The open space computation shall not include road rights-of-way, or land covered by roads, structures or parking surfaces.
    - ii. Open space shall include areas having physical characteristics that are unsuitable for development in their natural state and areas containing significant historic sites or unplatted cemeteries.
    - iii. Open space may contain outdoor recreational facilities for use by the owners of residential units or the public.
    - iv. The appearance of open space areas, including topography, vegetation and allowable uses, shall be preserved.
    - v. PUDs shall be connected to public water supply and sewer systems.
    - vi. Before final approval of a PUD is granted, the developer/owner shall provide for the preservation and maintenance, in perpetuity, of open space and the continuation of the development as a community.
12. *Nonconformities.* Nonconformities, substandard lots and structures, and nonconforming on-site sewage treatment systems within shoreland areas shall meet the requirements specified in Article IV of this chapter.

- a. The expansion or enlargement of a riparian substandard structure shall meet the shoreland development standards set forth in subsection (3) except as follows:
  - i. The extension, enlargement or alteration of a riparian substandard structure or sanitary facility may be permitted on the side of the structure or facility facing away from the OHWL without following the variance process.
  - ii. An improvement to a riparian substandard structure or sanitary facility may be allowed to extend laterally by a conditional use permit (parallel to the OHWL) when the improvement is in compliance with the other dimensional standards of this chapter. In no case shall the improvement extend closer to the OHWL than the existing structure.
  - iii. Decks may be allowed without a variance where riparian dedication is not required, provided as follows:
    - a) A thorough evaluation of the property and structure reveals no reasonable location for a deck meeting or exceeding the existing OHWL setback of the structure;
    - b) The deck encroachment toward the OHWL does not exceed 15 percent of the existing shoreline setback of the structure from the OHWL or does not encroach closer than 30 feet, whichever is more restrictive; and
    - c) The deck is constructed primarily of wood, and is not roofed or screened.
  - iv. If a riparian substandard structure is demolished, replacement shall comply with the dimensional standards of this section.
- C. *Required Notice to the Department of Natural Resources.* The zoning administrator shall send copies of notices of any public hearings to consider variances, plats, ordinance amendments, PUDs or conditional uses under local shoreland management controls to the commissioner of the department of natural resources or his designee at least ten days prior to the hearings. In addition, a copy of the approved amendments, plats, variances and conditional uses shall be sent to the commissioner or his designee within ten days of the final decision.