Docket Number: #21/10986

Applicants:
Verizon Wireless, 10801 Bush Lake Road, Bloomington, MN, 55438 (Applicant/Lessee) with consent of Moeckly Family Farms, LLC (Titleholder) represented by Rob Viera of Buell Consulting, Inc., 229 Byrondale Avenue, Wayzata, MN 55391

Request:
The Applicants are requesting a Conditional Use Permit to construct a 125-foot tall monopole communication tower with Verizon Wireless equipment cabinets and an emergency generator to be located within a proposed 50-foot by 50-foot (2,500 square feet) fenced lease area on the subject property at 2131 NW 118th Avenue within Lincoln Township.

Subject Property / Surrounding Land Uses:
The subject property is located at 2131 NW 118th Avenue, Polk City, and is legally described as the West ½ of the SE ¼ of Section 33, Township 81 North, Range 24 West (Lincoln Township). The subject property is approximately 78.48-acres in size and is zoned “AG” Agricultural District. The site is owned by Moeckly Family Farms, LLC and is currently vacant agricultural land utilized for row crop production. See Attachment ‘A’ for an aerial vicinity map of the subject property and surrounding neighborhood. The site is approximately ¼ mile northwest of the City of Ankeny corporate limits, and approximately 2 ¼ miles west of Highway 69. Surrounding properties to the north, east and west are also zoned “AG” Agricultural District and primarily utilized in row crop production. These properties along with the subject property are designated as Agricultural classification within the Future Land Use Map. There are a few residential homes in the surrounding area, which appear to be located on existing area farming operations. The adjacent properties across NW 118th Avenue to the south are zoned “LDR” Low Density Residential and “MDR” Medium Density Residential and are currently vacant with agricultural land being utilized for row crop production. The Future Land Use Map designates them as the same classification of Low Density Residential and Medium Density Residential.

The subject property is located in an area of future growth for the City of Ankeny. The City of Ankeny staff have reviewed the request from the applicants and have also been given notice and the opportunity to comment on the Conditional Use Permit request. At this time no comments have been received from the City of Ankeny, other than the response provided to the Applicant and submitted with the application, indicating that the City will not be involved in any formal review.

Application:
The Polk County Zoning Ordinance, Article 4: Use Regulations, Division 2, Table 4.1, Table of Uses permits Communication Towers within the “AG” Agricultural District upon the granting of a Conditional Use Permit by the Polk County Board of Adjustment. Verizon Wireless is requesting a Conditional Use Permit to allow the construction of a monopole communication tower identified as Des North Ankeny on the subject property located at 2131 NW 118th Avenue. See Attachment ‘B’ at the end of this report for a copy of the application.

The proposed tower will provide enhanced coverage and capacity to the growing area of north Ankeny. The current cell site that covers this area is no longer able to properly provide the needed...
The proposed communication tower will provide the needed bandwidth with the ability to offload current wireless “traffic” from nearby cell sites that are at or near capacity for service in the surrounding area. Supporting documents submitted by the Applicant from the FCC and propagation maps indicate there are no other communication towers located within 1-mile of the proposed site. The tower is proposed to be a 125-foot monopole with a 9-foot lightning rod. The proposed communication tower is planned to be installed within a proposed 50’ x 50’ lease area in the southwest portion of the property with lease area meeting a 67-foot setback and the tower meeting an approximate 100-foot setback from the southern property line. Also proposed are three (3) equipment cabinets, a cable bridge and an emergency generator. A proposed 12-foot wide gravel access drive will connect the tower site to the proposed new entrance in the southwest corner of the property. Under Article 15, Construction Standard, of the Zoning Ordinance the tower drive may be a granular surface, but must maintain a durable and dust free surface. See Attachment ‘C’ at the end of this report for a copy of the draft site plan showing the proposed location of the tower and associated improvements on the subject property.

The proposed setbacks for the communication tower site includes an approximate 100-foot setback from the southern property line and an 80-foot setback from the western property line. The proposed tower base would need to meet a Maximum Fall Zone radius equal to 50% of the height of the tower (67-feet) as certified by the Design Engineer II with Sabre Industries, Inc. In addition to the draft site plan, the applicants have provided documentation indicating that they will obtain compliance with Federal Aviation Administration (FAA) and Federal Communications Commission (FCC). The proposed tower location meets the minimum nonresidential setback requirements for the “AG” Agricultural District. However, due to the height of the tower the applicants have also provided the required structural design report and collapse radius prepared by a licensed engineer certifying that the tower would collapse entirely on the subject property if there were a structural failure. See Attachment ‘D’ for the certified letter submitted with the CUP application. This is required because the proposed setbacks from adjacent property lines are less than the height of the tower. There is no height limit for communication towers within the “AG” Agricultural District so long as all other provisions can be met. If this Conditional Use Permit application is approved, the applicants are required to submit an engineered site plan to Polk County for review and approval prior to construction. The site plan is required to demonstrate compliance with the standards for commercial communication towers, including minimum setbacks, landscaping, and nonresidential performance standards within the “AG” Agricultural District. Following site plan approval, review of construction plans and issuance of a building permit is also required from Polk County Public Works prior to construction.

**Public Testimony**
Staff mailed out a total of seven (7) notices regarding this request, including the date and time of the public hearing, to surrounding property owners within the 500-foot notification boundary. To-date staff has received zero (0) responses regarding this application.

**Natural Resources / Environmental**
The subject property is not located within the 100 year floodplain and it does not contain other mapped environmental hazards or features. The topography of the subject property generally slopes towards the north with the lowest elevation of 976-feet located within the southwest and southeast portions of the property. The high point is located within the northeastern portion of the
property at an elevation of 1,000-feet. The proposed location of the tower is at an elevation of approximately 977-feet. Landscaping will be required to screen the communication tower and associated equipment.

**Roads/Utilities**
The subject property has approximately 1,330 feet of frontage to the south onto NW 118th Avenue. NW 118th Avenue is a two lane, paved roadway classified as a Major Collector and maintained by Polk County. The existing entrance to the site is located approximately 575-feet to the east of the western property line. The communication tower site will be accessed via a separate proposed entrance at the southwest corner of the property with the construction of a 12-foot wide gravel driveway extending north and east from the southwest corner of the property. Water service is available through Des Moines Water Works. The communication tower site will not require water or sanitary utilities.

**Analysis**
The Board of Adjustment in reviewing an application for a Conditional Use permit shall consider the proposal in terms of:

1. **Existing zoning and land use in the vicinity of the uses.**
   
The subject property and surrounding area to the north, east and west are zoned “AG” Agricultural District, and primarily dedicated to row crop production with a few rural residences. The adjacent property across NW 118th Avenue to the south is zoned “LDR” Low Density Residential District with the property to the southeast zoned as “MDR” Medium Density Residential District. The residential zoned properties are currently utilized for agricultural row crop production, and were designated as such to match the City of Ankeny’s future growth plans. The intent is that any future residential development of these properties were occur through annexation and development within Ankeny.

2. **Planned and proposed public and private development, which may be adversely affected by the proposed use.**
   
   There are no other known major public or private developments planned in the area of the subject property that would be affected by the proposed communication tower.

3. **Whether and to what extent the proposed use, at the particular location for which it is suggested, is necessary or desirable to provide a development which is in the interest of the public convenience or which will contribute to the general welfare of the area or Polk County.**
   
The proposed location at the subject property meets the needs of Verizon Wireless and the tower is required to be designed to accommodate up to three total cellular antenna systems benefiting other cellular phone customers. Also, the existing coverage map of the subject property tower site and surrounding area from Verizon Wireless shows limited capacity and coverage for growth in the area north of Ankeny. The coverage map of the subject property and surrounding area with the proposed communication tower shows the area with enhanced...
capacity and coverage. The subject property is currently vacant and fully utilized for agricultural row crop production.

4. **Whether and to what extent all steps possible have been taken by the developer to minimize any adverse effects of the proposed use on the immediate vicinity and on the public health, safety and welfare in general.**

The communication tower is planned to be constructed in the southwestern area of the subject property with the lease area to be setback over 67-feet from the right-of-way and 67-feet from the western property line. If approved, the applicants are required to provide a fully engineered site plan to demonstrate compliance with the County’s siting requirements for communication towers. The applicants will be required to provide documentation regarding compliance with Federal Aviation Administration (FAA) and Federal Communications Commission (FCC). A fence enclosure will surround the tower and associated equipment securing the project from unauthorized entry. A structural design report prepared by a licensed engineer has been submitted certifying the collapse radius for the proposed communication tower to ensure that the tower will collapse within the boundaries of the property if a storm event damages the tower. Potential adverse impacts may include an illumination light at the top of the tower if their analysis determines that they are within vicinity of an air space.

**Findings**

The application shall be denied if the Board of Adjustment finds any of the following:

a. **The application and record fail to establish compliance with the standard made applicable to the proposed development by the provision of this Ordinance.**

The application will be in compliance with the granting of the Conditional Use Permit by the Polk County Board of Adjustment and satisfactory compliance and/or completion of the conditions identified in this staff recommendation and as may be adopted by the Polk County Board of Adjustment. Following approval of the Conditional Use Permit the applicants are required to provide an engineered site plan, as well as construction plans, for review and approval by Polk County, prior to any construction.

b. **The proposed use, developed in the proposed manner, and at the proposed location, would be inconsistent with the standards pursuant to the provisions of this Ordinance.**

The proposed use will be located in the “AG” Agricultural District which permits communication towers to be located on the subject property upon the granting of a Conditional Use Permit by the Polk County Board of Adjustment. Subject to staff’s recommended conditions of approval, the use will be in compliance with the standards and provisions of the Ordinance. Additionally, required site plan and building permit review will ensure compliance with all County requirements for the use.

c. **The adverse impacts on the overall public health, safety and welfare are not balanced by the public or private benefits of the proposal. The Board of Adjustment shall include in this**
balance, any proposals of the applicant and any conditions that it might impose on the
development, pursuant to the provisions of this Ordinance, to ameliorate problems
associated with the development.

The applicants will be required to submit and obtain site plan approval from the County and
meet the construction and operation permit requirements of the Polk County Air Quality
Division if a generator is added within the lease area. The closest residence is located over
1,100 feet from the proposed communication tower. The goal of constructing the
communication tower is to improve cell phone coverage and service for Verizon Wireless
customers. The proposed tower is required to accommodate three total antenna systems.
Traffic to the tower site is anticipated to be minimal for service personnel doing routine
maintenance on the tower and equipment. The Zoning Ordinance requires the communication
tower to be removed from the subject property at the end of the lease term or when the tower
is no longer needed. See staff’s recommended conditions of approval. Future site plan and
building permit review will ensure the established standards for communication towers are
met, with the intent of protecting the public health, safety and welfare.

In addition, no application for a Conditional Use Permit shall be approved unless the Board of
Adjustment specifically finds the proposed conditional use appropriate in the location for which
it is proposed. This finding shall be based on the following criteria:

A. The proposed use is not in harmony with the general purpose, goals, objectives, and
standards of the following:

1. Polk County Comprehensive Plan: The proposal is consistent with the goals and
policies of the 2030 Polk County Comprehensive Plan.

2. Polk County Zoning Ordinance: The proposed communication tower is allowed upon
approval of the Conditional Use Permit by the Polk County Board of Adjustment, and
pending the following: Future approval of an engineered site plan, building permit
review, issuance and inspections, as well as completion of all improvements and
issuance of a certificate of use by Polk County Public Works.

3. Other plan, program, map, or ordinance adopted, or under consideration pursuant to
official notice, by the County: The applicant will be required to meet the construction
and operation permit requirements of the Polk County Air Quality Division.

B. The proposed location of the use is not consistent with policies or provisions of the following:

1. Comprehensive Plan: The proposed use is consistent with the goals and policies of the
2030 Polk County Comprehensive Plan.

2. Polk County Zoning Ordinance: Communication towers are allowed within the “AG”
Agricultural District, subject to approval of a Conditional Use by the Board of
Adjustment.
3. **Other plan, program, map, or ordinance adopted, or under consideration pursuant to official notice, by the County:** The applicant will be required to meet the Polk County Air Quality construction and operation permit requirements for the generator.

C. **The proposed use at the proposed location results in a substantial or undue adverse effect on any of the following either as they now exist or as they may in the future be developed as a result of the implementation of provisions and policies of the Comprehensive Plan, this Ordinance, or any other plan, program, map, or ordinance adopted, or under consideration pursuant to official notice, by the County or other governmental agency having jurisdiction to guide growth and development:**

1. **Adjacent property:** Adjacent properties are similarly zoned, and currently used agriculturally in row crop production. There are a few residences nearby, with the closest over 1,100 feet away from the proposed tower location. The lease area will setback 67-feet from the southern property line. Most of the residences appear to be located on active farming operations in the area and occupied by area farmers. Property owners within 500-feet were notified of this request, and no comments have been received to-date. Furthermore, there is no planned or proposed public or private development in this area that would be impacted by this proposal. The current zoning and future land use for the property is Agricultural. Adjacent properties across NW 118th Avenue are zoned Low Density Residential and Medium Density Residential with the same for the Future Land Use classification.

2. **Character of the neighborhood:** The primary use(s) of the property will continue be agricultural. The significant setback from the road and screening will limit the impact of the communication tower on the character of the neighborhood. All surrounding properties are existing agricultural fields and utilized in row crop production with the exception of a few sparse existing residences.

3. **Traffic conditions:** The subject property is adjacent to NW 118th Avenue, a paved Major Collector road. NW 118th Avenue is hard surfaced and maintained by Polk County. The proposed use will not generate any additional traffic.

4. **Parking:** The proposed use will not generate additional onsite or offsite parking.

5. **Public improvements:** No impact upon future public improvements is anticipated.

6. **Public sites or rights-of-way:** During construction of the drive, lease area and communication tower, the applicant will also be required to keep any dirt, mud and debris from accumulating on adjacent roads. There should be no impact to public sites and rights-of-way.

7. **Other matters affecting the public health, safety, and general welfare:** The applicant will be required to submit a signed detailed site plan and certification by an Iowa licensed engineer for stormwater requirements, and that the communication tower will meet the minimum safety requirements of the zoning ordinance. The tower must
also meet all applicable “FCC” Federal Communications Commission and “FAA” Federal Aviation Administration requirements.

D. The proposed use in the proposed area is not adequately served by or imposes an undue burden on any of the following.

1. Public improvements: Adequate for proposed use.
2. Public facilities: Adequate for proposed use.
4. Public services: Adequate for proposed use.

Recommendation
Staff recommends approval of the requested Conditional Use Permit for a proposed 125-foot high self-supported, monopole communications tower and associated utility cabinet and generator to be located on the subject property located at 2131 NW 118th Avenue, Lincoln Township. The following conditions shall apply:

1. The applicants shall submit a Major Site Plan drawing from an Iowa Licensed Engineer of the subject property and proposed tower design and associated improvements meeting the minimum safety requirements and use standards for communication towers as regulated by the Polk County Zoning Ordinance.
2. The applicant shall meet Polk County Air Quality Division construction and operation permit requirements for the generator planned within the lease area.
3. The applicant shall keep any dirt, mud and debris from accumulating on adjacent roads during and after construction of the drive, lease area and tower. Building and electrical permits shall also be obtained after the site plan drawing is approved.
4. The applicant shall submit evidence of meeting FCC and FAA requirements.
5. The applicant shall submit a copy of the actual signed lease agreement between the property owner and Verizon Wireless. The lease agreement shall include verbiage including the tower removal at the end of the lease agreement or when the tower is no longer used.
6. The Certificate of Use for the proposed communication tower project will not be provided to the applicant until all above items are addressed to the satisfaction of Polk County.
7. Building permits are required for the tower structure, equipment cabinet, emergency generator, including electrical permits and inspections.
Attachment 'A'

Des North Ankeny CUP
Conditional Use Permit Application

Conditional Uses are those uses which may have a special impact or uniqueness demanding closer scrutiny and analysis to the site and the surrounding environment. When such a use is proposed, a review and report by Planning Division staff of the location, design, configuration, and impact will be conducted, comparing the proposed use to fixed standards and presented to the Board of Adjustment for action at a public hearing. Notices of the request are mailed to all property owners located within 500 feet of the subject property.

Please complete the entire application, submit with fee and review the standards on page 3.

To: Polk County Board of Adjustment

1. The undersigned Petitioners request that the Board consider this application for a Conditional Use Permit for the following use: (Describe briefly the nature of the use.)

2. Subject Property Address: W 1/2 SE 1/4 - 33-81-24

3. Subject Property District and Parcel Number: AG/812433400001

4. Subject Property Legal Description (attach if necessary):

5. Filing Fee: - $413.00

6. Applicant(s) Information:

Verizon Wireless

Applicant (Print Name) Signature Date

Leasehold/Renter robertjviera@yahoo.com

Interest in Property (owner, renter, perspective buyer, etc.)

10801 Bush Lake Road, Bloomington, MN 55438 612.801.2228

Address, City, State and Zip Phone Fax

7. Applicant(s) Representative:
If the appeal is going to be represented by someone other than the applicant please provide that information below.

Rob Viera Buell Consulting, Inc

Applicant Representative (Print Name) Firm or Business Name

229 Byrondale Ave, Wayzata, MN 55391

Address, City, State and Zip

robertjviera@yahoo.com 612.801.2228

Email Phone Fax

8. Property Owner Consent:
The application must be signed by all the Tilleholders, Contract Purchasers, or Option Purchasers of the subject property. The application may also be signed by the Registered Agent for a corporation or other person with similar legal authority to sign for a property owner. (if additional signatures are needed please attach)

Print Name Signature Date

Print Name Date

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Conditional Use Permit Standards

Section 1. Review Standards

The review determines whether the proposed use should be permitted by weighing public need for and benefits to be derived from the use against the local impact which it may cause. The review shall consider the proposal in terms of:

(A) Existing zoning and land use in the vicinity of the use; and

(B) planned and proposed public and private developments which may be adversely affected by the proposed use; and

(C) whether and to what extent the proposed use, at the particular location for which it is suggested, is necessary or desirable to provide a development which is in the interest of the public or which will contribute to the general welfare of the area or Polk County; and

(D) whether and to what extent all steps possible have been taken by the developer to minimize any adverse effects of the proposed use on the immediate vicinity and on the public health, safety and welfare in general.

Section 2. General Standards

No application for a conditional use permit shall be approved unless the Board of Adjustment specifically finds the proposed conditional use appropriate in the location for which it is proposed. This finding shall be based on the following criteria:

The proposed use shall be in harmony with the general purpose, goals, objectives, and standards of the Polk County Comprehensive Plan, this Ordinance, or any other plan, program, map, or ordinance adopted, or under consideration pursuant to official notice, by the County.

(A) The proposed location and use shall be consistent with policies or provisions of the Comprehensive Plan, this Ordinance, or other plans or programs of the County.

(B) The proposed use at the proposed location shall not result in a substantial or undue adverse effect on adjacent property, the character of the neighborhood, traffic conditions, parking, public improvements, public sites or rights-of-way, or other matters affecting the public health, safety, and general welfare, either as they now exist or as they may in the future be developed as a result of the implementation of provisions and policies of the Comprehensive Plan, this Ordinance, or any other plan, program, map, or ordinance adopted, or under consideration pursuant to official notice, by the County or other governmental agency having jurisdiction to guide growth and development.

(C) The proposed use in the proposed area will be adequately served by, and will not impose an undue burden on, any public improvements, facilities, utilities, and services. Where any such improvements, facilities, utilities, or services are not available or adequate to service the proposed use in the proposed location, the applicant shall, as part of the application and a condition to approval of the proposed conditional use permit, be responsible for establishing ability, willingness, and binding commitment to provide such improvements, facilities, utilities, and services in sufficient time, and in a manner consistent with the Comprehensive Plan, this Ordinance, and other plans, programs, maps, and ordinances adopted by Polk County to service the development. The approval of the conditional use permit shall be conditioned upon such improvements, facilities, utilities, and services being provided and guaranteed by the applicant.
October 18, 2021

Brian McDonough - Polk County Public Works - Land Use Planning Coordinator
5885 NE 14th Street, Des Moines, IA 50313

Brian:

Please find enclosed Verizon Wireless’ application for a Conditional Use Permit to construct a 125’ (134’ w/ the 9’ lighting rod) monopole within a 50’ x 50’ lease area in Polk Co, IA. I’ve enclosed the completed/signed application, check for $413, 6 sets of 11” x 17” detailed construction drawings, 6 copies of the full survey, propagation maps from Verizon’s RF Engineer describing the objective and depicting the site turned “on” and “off,” email from the city of Ankeny after they reviewed our proposal/drawings, FCC study confirming there are no existing towers w/in 1 mile on which we could collocate, document from Sabre addressing tower collapse radius and the tower’s ability to accommodate future wireless providers’ antennas, and a document addressing the county’s code requirements (L. Communication Towers).

We filed with the FAA to have a study performed on our proposed tower location back in August. The FAA has been very slow to respond and we’re yet to receive a definitive determination. The current results of the study (“In Progress”) are contained herein. I ask that you allow us to proceed with our application and, if approved, we’ll provide the FAA Determination prior to obtaining a building permit.

As Verizon’s RF Engineer explains within the coverage/capacity maps that are contained within this application, this new monopole is needed in order to provide enhanced coverage/capacity to this growing area of north Ankeny. The current cell site that covers this area is no longer able to properly provide the needed bandwidth to the area. All encompassing cell sites are at/near capacity and this new monopole is needed to provide relief (by offloading current wireless “traffic” from nearby cell sites as well as add coverage/capacity to this growing area of north Ankeny/Polk Co) to the existing network. This is a current issue for Verizon’s network and will only continue to worsen as this area is further developed, unless additional network infrastructure is deployed. Thus, we are asking for approval to construct this monopole to add capacity and ease network congestion.

It should be mentioned that this monopole will be engineered to accommodate at least 2 other providers’ antenna loading; thus, eliminating the need for additional towers in this area. Verizon’s lease area is large enough to accommodate 2 others’ equipment cabinets in order for them to operate their systems.

Please feel free to contact me with any questions or if you’ll require additional information.

Sincerely,

Rob Viera
Buell Consulting
612.801.2228; robertjviera@yahoo.com
October 18, 2021

Travis Rosenwald
Design 1 of Eden Prairie
9973 Valley View Road
Eden Prairie, MN 55344

RE: Proposed 125' Sabre Monopole for Des North Ankeny, IA

Dear Mr. Rosenwald,

Upon receipt of order, we propose to design and supply the above-referenced Sabre monopole for an Basic Wind Speed of 110 mph without ice and 40 mph with 1.5" ice, Structure Classification II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA 222-G-2005 “Structural Standard for Antenna Supporting Structures and Antennas”. The monopole will be designed for (2) additional carriers.

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft. This is likely to result in the portion of the monopole above leaning over and remaining in a permanently deformed condition. This would effectively result in a fall radius of 50% of the pole height. Please note that this letter only applies to the above-referenced monopole designed and manufactured by Sabre Industries.

Sincerely,

David Hill, P.E.
Design Engineer II

David Hill, P.E.
Design Engineer II

10/18/21