

Dane County, Wisconsin
Telecommunications Site Review
New Support Structure

CityScape

C O N S U L T A N T S , I N C .

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October 17, 2019

Supervisor Jerry Bollig
Chair, Dane County Zoning & Land Regulation Committee
210 Martin Luther King Jr., Blvd
Madison, WI 53703

RE: Review of Dane County Conditional Use Permit Application #2481 by AT&T Mobility / Tillman Infrastructure Site # 11895 (the “Application”)

At your request, on behalf of Dane County, Wisconsin (“County”), CityScape Consultants, Inc. (“CityScape”), in its capacity as telecommunications consultant for the County, has considered the merits of the above-referenced application submitted by LCC Telecom Services on behalf of Tillman Infrastructure, a build-to-suit tower company, and AT&T Mobility (collectively, the “Applicant”) to construct a new two hundred sixty (260) foot wireless telecommunications support structure with a total elevation of two hundred sixty-nine (269) feet with attached lightning rod (the “Tower”), which together with a new ground compound comprises the “Facility”. The proposed Facility would be located approximately 600 feet to the east of the intersection of County Highway A and Interstate 39/90 in the NW 1/4 of section 4, town of Albion, Dane County Wisconsin, *see Figure (the “Subject Property”)*. The proposed Tower requires FAA approval, which has been obtained, and aviation obstruction lighting.

AT&T is currently providing its wireless services on an existing communications tower located less than 500 feet from the Subject Property on the north side of County Highway A. The applicant indicates in its Application that *“The proposed site was selected as a relocation from a nearby tower, owned by SBA Structures LLC. This relocation was necessary due to SBA Structures LLC setting rent at a level that has imposed a substantial economic burden on AT&T Mobility. To alleviate this unreasonable economic burden, LCC Telecom Services was charged with finding an alternative location for a tower within a 2,500’ search radius.”* The Applicant’s stated reason for submitting this Application is that it is economically burdensome for AT&T Mobility to remain as a tenant on the existing SBA Communications tower. The proposed Facility has been evaluated from the following perspectives:

- Whether the proposed Facility, as specified, is justified due to technological reasons and is essential for the Applicant to provide its telecommunications service; and,
- Whether the proposed Facility follows the guidelines of the Telecommunications Act of 1996 and subsequent federal legislation, and is compliant with the Dane County Ordinance and all other pertinent rules and regulations.

Site Justification and Coverage

For a new wireless communications facility to be justified, its need, location and height must be addressed. This application proposes to construct a new two hundred sixty-nine (269) foot *lattice type* tower, *see Appendix, Exhibit A*. The requested height exceeds the County ordinance limit of 195 feet. A variance from this limitation is requested. The proposed site is 404.8 feet at 189° (south) of the existing tower facility, *see Appendix, Exhibit B*.

The Application submittals were vague and lacked sufficient explanation and/or definition to enable CityScape to reasonably verify Applicant's claims. There are various brief statements in the Application regarding the need for the new Tower. As indicated in multiple instances throughout the Application, including the signed Applicant affidavit, the new tower is being proposed by Tillman Infrastructure as a cost-saving measure for AT&T. It is important to acknowledge the fact that, in late 2017, Tillman Infrastructure entered into joint agreements with both AT&T and Verizon Wireless, whereby Tillman would construct hundreds of build-to-suit towers for these two carriers across the country. AT&T has been very public about their motivation for entering into the agreement with Tillman in order to, "reduce operation costs" and develop "alternatives to the traditional tower leasing model with the large incumbents." (https://about.att.com/story/att_verizon_tillman_collaboration.html)

The Applicant states there are no useable existing towers in the area and that this new tower is needed to provide AT&T service to Dane County. This statement is, at best, misleading because AT&T has existing service propagating from the existing SBA tower facility located 405 feet north of the proposed new location (AT&T's equipment is mounted on this tower, which is 170 feet in height; CityScape could not find AT&T's specific height for their antennas). Also in the application are cellular coverage maps and a statement provided by an AT&T radio frequency (RF) engineer that no other tower candidates exist within the search ring. That statement is also misleading, given the fact that AT&T's equipment is currently mounted on the existing tower

located 405' away. Furthermore, on June 28th, 2019, CityScape was informed that AT&T had signed a lease amendment less than a year previously to upgrade their facilities on this same SBA tower and at no time requested changes in any terms including lease rate, see *Appendix, Figure C*, which directly conflicts with the Applicant's statement in its Application.

Based on the Applicant's own submitted coverage maps, there is no substantial improvement in service or coverage between the Applicant's existing facility on the SBA tower and the proposed facility located approximately 405 feet to the north. CityScape believes these maps to be erroneous and are not based on standard cellular propagation mapping guidelines because such a height difference should show substantially increased coverage. Thus, the justification for the proposed Facility for service or coverage improvement fails, as further detailed below.

Tower Height Considerations

The Dane County Ordinance specifies that towers are to be no greater in height than one hundred ninety-five (195) feet; anything greater in height requires a variance, which must be supported by a showing that the particular facility has unique transmission conditions or problems which cannot be overcome by another location. The Applicant's response stated; "this application is necessary to provide the best possible coverage to the surrounding area," in addition, "to comply with the zoning ordinance, would result in a loss in coverage and insufficient service to customers."

There is nothing unique with AT&T's claim. Every user of frequency spectrum has the same desire to provide the best possible coverage. Greater height does increase coverage, but in the case of cellular and PCS service, wireless base station coverage is, by necessity, limited by: 1) a maximum capacity of subscriber connections that can be handled at one time; and 2) the danger of interference to nearby base stations, since cellular/PCS service has limited spectrum, so frequencies have to be "reused" by the provider's other base stations. It is for this very reason that many communities have tower height limits for mobile wireless service¹. AT&T is only stating the laws of physics applicable to every radio frequency operator and every tower site. Should the County approve a variance for this specific reason, under the Telecommunications Act of 1996

¹ This is not to say that, in communities without a statutory tower height limit, a wireless provider may build a tower of unlimited height. The Federal Aviation Administration's obstruction standards relative to navigable airspace as well as height limitations at the state level together would effectively restrict the height of an antenna structure in these communities.

(47 USC §332) every and all future personal service provider applicants could seek and would have to be granted similar height variances in order to comply with the non-discrimination provisions of federal law.

AT&T's claim that compliance with the County's tower height limitation provision would result in a loss of service is also, at best, misleading. Whenever a proponent of a new wireless tower site measures existing coverage against the coverage that the wireless provider would like to have by proposing a substantially increased antenna elevation, it is easy, although contradictory, to claim that the provider would incur a "loss of service" if it is denied that additional height. It is obvious that AT&T would not lose coverage if it continued to operate at the nearby SBA tower, either without modifications or making an improvement that would not require a height variance, such as would be allowed under the Tax Relief Act (which is subsequently discussed in this report). The Applicant has failed to identify any unique circumstances that would warrant a height variance. It has also failed to show that AT&T's existing service is inadequate so as to justify a new taller tower 405 feet away that exceeds the County's height limitation.

The Applicant has suggested additional support for its variance request pursuant to Wisconsin Statutes §66.0404(4)(p), which prohibits the County from disapproving an application for a new tower structure based on an assessment of the suitability of other locations for providing service. However, in this instance, the County is not assessing other *potential* locations for suitability for providing service but rather demonstrating that the Applicant already has existing service at an existing location a mere 405 feet from the proposed Facility. As such, the provisions of §66.0404(4)(p) are not applicable to this particular Application.

AT&T states in its Application that the ground elevation of the proposed new tower site stands at or near the highest ground elevation in the search ring, but omits the fact that the existing AT&T facility on the SBA tower located 405 feet north is within 5 feet ground elevation of the proposed Facility. The Applicant completely disregards the option to obtain greater antenna elevation without any required variances or exclusions from any laws or codes. Under the Middle Class Tax Relief and Job Creation Act of 2012 (47 USC §1455), an eligible facility, which includes the existing AT&T facility on the SBA tower, can be increased in height by 10% or 20 feet, whichever is greater, which the County "shall approve and may not deny" in accordance with Section 1455. Similar provisions are provided in §66.0404, referenced above. These laws would

allow the SBA tower to be increased in height to 190 feet, which would remain within compliance with all laws and codes and provide AT&T with its desired “improved coverage”.

The Applicant provided coverage maps were expanded to a sufficient level to properly ascertain potential improvements in service. However, the results were puzzling in that the maps do not depict any substantial improvement in service over the existing service. Despite the claims of the applicant that additional height is necessary so as to avoid a “major loss of coverage” (*see variance application*), CityScape cannot discern any substantial improvements based on the information provided by the Applicant. See existing service in *Appendix, Figure D*, and proposed service in *Appendix, Figure E*.

It was also difficult to identify the specific locations the Applicant stated would gain improved service from the increased higher antenna elevation of the proposed Facility’s antennas, which makes it complicated to identify the specific locations of increased coverage. An attempt was made by CityScape using the provided maps to identify existing collocation candidates in the areas of increased coverage. This analysis was the responsibility of the Applicant to conduct in order to comply with County codes and would eliminate the need for the requested variance.

Because the Applicant failed to conduct this analysis, CityScape attempted to conduct same. This entailed partitioning off the existing coverage map and the projected coverage map and using the FCC Antenna Site Registration program to identify various existing towers in the general areas of the proposed coverage increase. Based on general propagation process using the Okumura-Hata Coverage Prediction program for the Cellular service (850 MHz) and the COST 231 Coverage Predictions for PCS service (1,800 MHz) our analysis found a total of forty-one (41) alternate tower sites. In the North sector there are 15 existing towers; in the Southeast sector there are 10 existing towers, and in the Southwest sector there are 16 existing towers, all having various heights. This is the standard method of analysis for cellular infrastructure deployment and the same standards currently used by other personal wireless service providers that do comply and are within the Dane County Ordinance requirements. It is extremely likely that the Applicant already has equipment and facilities operating on some of these forty-one (41) alternate sites within the County.

Wisconsin Law – Substantial Financial Burden

Section 66.0404(2)(b)(6) of the Wisconsin Statutes requires the Applicant to submit a sworn statement to the County attesting to the need for a new structure in lieu of collocation on the basis that collocation... “would not result in the same functionality, coverage or capacity, is technically infeasible, or economically burdensome...” to the Applicant. While the Applicant did furnish a sworn statement, the veracity of same is questionable given the facts established in this Application, to wit (1) the existing facility which already provides comparable coverage area could be “of right” increased in elevation to accommodate Applicant’s purported desire for greater coverage, thus providing a technically feasible manner to achieve the same functionality, coverage or capacity and (2) the Applicant recently extended and amended its relationship with the existing facility lessor, SBA Towers, which belies its claim of economic burden.

Furthermore, regarding the economic burden claim, Section 66.0404(2)(b)(6) now requires local governments to evaluate financial representations and make decisions on economic terms no local government or even a qualified expert could make. The cost of a tower, any tower, new or used, cannot be computed as if it was off the shelf. The cost of a tower has many variables and any knowledgeable person with minimal experience can compute the cost of a tower to fit almost any reasonable number. The design could be altered to fit differing models, and while there are set standards under ANSI/EIA/TIA, those standards do have allowed variances. In addition, the physical size, diameter, added “bells and whistles” attachments, classifications, number of future attachments, future collocations, future anticipated modifications, underlying ground conditions, selected type of foundation, tower base mounting design, the need or desire for tower lighting and many other variables all go into actual cost negotiation. CityScape has individuals that have designed, negotiated, constructed, and managed dozens of towers, and will certify this statement.

In addition, to evaluate a claim of economic burden based on a comparison of lease rates, i.e., the build-to-suit company’s rates versus those of the incumbent tower company is an impossible task for any governmental agency. This is not conjecture but based in fact. Two of CityScape’s management personnel has extensive experience in the design, purchasing, construction and management of wireless facility towers and will state on the record that no County anywhere has the ability to make a valid or qualified decision as to a potential economic burden, particularly since that term is not defined in the Wisconsin statute. It is fundamentally unfair for the State of Wisconsin to require local governments to evaluate a claim of economic burden when

there is no reasonable means by which a local government can evaluate the veracity of such claims. Even if it were feasible to conduct such an analysis, the carrier is usually forbidden by confidentiality agreements to disclose the lease rates for either the incumbent tower or the proposed new tower. Such is the case with the subject Tillman/AT&T Application. The County apparently has recognized this conundrum, as the pending revisions to the County Ordinance regulating wireless infrastructure include a provision that states “cost savings or increased profitability do not constitute an economic burden for the purposes of this Ordinance” in order to attempt to provide some clarity and guidance on this issue.

Should the County approve a permit for the Applicant’s proposed new wireless tower on the basis of a claim that the existing collocation lease costs constitute an “economic burden”, any and all future mobile communications service provider applicants wishing to cut their lease costs would also have to be granted the same consideration under the state economic burden provision in order to comply with the non-discrimination provision of the federal Telecommunications Act.

There’s a greater concern which the state obviously did not consider. It is generally the case that the longer any carrier has been on any tower, the higher the leasing costs are. What happens when escalations in monthly lease payments for the Tillman tower reach a point that a carrier elects to enter into a more favorable lease on another tower to reduce their economic burden? Under Wisconsin law, the process starts all over again and there could be a third tower in the immediate vicinity. Under the “equal treatment” federal law, this option must be available to all other wireless providers. Would it stop at two towers, three towers, four towers, or more?

Collocation and the Evolution of Mobile Tower Law

As noted above, and as indicated by the Applicant for the subject tower, the Tillman/AT&T proposal to build new towers across the country is being pursued as a cost-saving measure for AT&T (and Verizon). The evidence of this effort is becoming increasingly visible on the landscape across the Midwest, as multiple new towers are being built immediately adjacent to existing towers. Many residents, beginning with those who attended standing-room-only public hearings across the state and nation, directed their locally-elected officials to justify the need for new structures. Common in the majority of ordinances is the requirement to minimize the number of towers. Needless to say, this presents a serious and immediate challenge to the integrity of a

majority of local government ordinances, including Dane County's, which seek to limit tower proliferation while promoting robust wireless infrastructure through collocation requirements.

In the early stages of cellular deployment, the general public raised serious concerns over the number of permit applications for towers, causing many local communities to revise their ordinances. Specifically, many communities put in place new restrictions and additional required submittals for new structure proposals. The wireless industry objected and requested guidance from the FCC. These events culminated in the Telecommunications Act of 1996 ("The Act") which is a federal law that was crafted to "[preserve] local zoning authority, but [clarify] when the exercise of local zoning authority may be preempted by the FCC." Within the Act, the FCC did concur that towers should be shared and that a local government has the right to fully justify the need for new support structures. The FCC released two different "Fact Sheets" intended to answer questions posed by local governments and the general public. As stated within these documents, the FCC concurred that collocation was a practical option for minimizing the total number of towers needed for a robust mobile wireless network. The following are direct quotes from Fact Sheet #2:

"9. How do personal wireless service providers approach state and local governments to request authorization to construct, place or modify their facilities?"

Answer: A personal wireless service provider may have an internal antenna facilities siting team which seeks potential sites for the company's own needs, or it may hire an independent contractor to seek potential sites. Some of these independent facilities-siting companies may be working on behalf of more than one Commission licensee at a time, or they may not be seeking sites for any Commission licensees at all. The local zoning authorities should therefore be aware that a facilities-siting company may not be seeking the sites that are of most interest to particular Commission licensees, but rather seek general sites on highly elevated locations in the hopes of leasing the sites, in turn, to Commission licensees."

To paraphrase this, the FCC clearly stated that local communities should carefully examine each application to assure that it is not speculative, but that it has a justifiable purpose; thus the local government has the right to evaluate each application according to a demonstrable need by a particular wireless provider (or providers), thereby controlling the overall number of towers that are built.

10. Can personal wireless service providers share common structures to house their transmitters?

Answer: Yes, it is possible for these entities to share structures. Sharing of structures by several wireless service providers is typically referred to as ‘collocation.’ The Commission encourages collocation of antenna structures to the extent technologically feasible, and recommends that local zoning authorities engage the parties in cooperative efforts to chart the potential overlap of desirable locations, in order to minimize the number of antenna structures to be sited...”

Clearly the FCC’s intent, as stated above and reflected in their laws, directly conflicts with the State of Wisconsin’s mobile tower statute.

Additional Information

CityScape and the County have received anecdotal information from other wireless service providers relative to certain difficulties in the relationships between such wireless service providers and SBA Towers, the current lessor of the Applicant, which potentially could provide a basis for justification of the proposed Facility. However, prior to any consideration of same, the Applicant would need to bring a bona fide complaint to the County, alleging violation by SBA Towers of the conditions of its permit for the existing facility and of the applicable provisions of the County Code, and an adjudication of that complaint against SBA Towers following a formal hearing. No such circumstances have as of yet been reported to the County which would give rise to such a process.

Conclusion

The Applicant did not provide the necessary NEPA and SHPO approvals required to construct the proposed Facility. The Applicant’s statement of justification for a tower height that is 38% higher than permitted by the County Code fails to meet the threshold requirements of said Code. The Applicant’s justification for exceeding the elevation limitation is not unique in any way, and is rebutted by the coverage maps attached that show the Applicant’s current facility already provides virtually the same coverage. Furthermore, the Applicant has not provided adequate justification for a new support structure in the same general area, given that the Applicant

has an existing facility within 405 feet of the proposed Facility and the Applicant has “of right” alternatives to increase their antenna height at their current facility. In our opinion, Applicant has failed to meet the variance requirements to justify a new two hundred sixty-nine (269) foot lattice support structure or any new support structure in the general area for the following reasons:

1. The Applicant between June 28, 2018 and June 28, 2019 had apparently accepted the working relationship with SBA Towers by signing an amendment with the Tower owner for upcoming modifications of their existing equipment; and,
 2. In late 2017 it was announced that this Applicant, AT&T and another personal wireless service provider, Verizon, had concluded arrangements with Tillman Structures to “build to suit” new support structures adjacent to existing support structures where either provider believed they could leverage advantageous lease rates; and,
 3. Should the County grant a permit for the proposed tower based on the Applicant’s claim that its current lease rates with SBA on the existing nearby tower constitute an “economic burden”, every future wireless service provider that makes the same claim under identical circumstances must be allowed to build a “replacement tower” in the same vicinity under the non-discrimination provision of the Telecommunications Act of 1996. This could lead to tower proliferation, as escalating lease rates induce carriers to engage a wireless infrastructure company to build them a tower that offers more favorable lease rates, thereby annulling the County’s stated purpose of its Tower Ordinance, that of “respect[ing] the rights and interests of towns, neighboring property owners, and existing land uses on adjoining properties in the decision making process” and “minimiz[ing] the number of transmission towers throughout the County” (Section 10.103 of the County Zoning Ordinance, (9)(a)2 and (9)(a)5 respectively); and
 4. The Applicant provided a sworn statement from Tim Brenner primarily regarding the rental costs associated with the SBA tower. The comments regarding current and on-going costs are standard with all major infrastructure developers. It is unknown if Tillman will continue such practices consistent with other tower companies. Regardless, the County justification clearly states there must be a showing of need, and since AT&T has operated from the SBA facility and recently signed a lease amendment to make modifications at the existing facility, is a reasonable assumption the Applicant was satisfied with the working arrangement, thus the Applicant’s economic claims to justify exceptions to the County tower
-

height limit are without merit. If the Applicant desires greater antenna elevation, it has the right to automatically increase the height of the existing SBA tower (where they are currently operating) under federal law and obtain such greater elevation. The Applicant should design their network under the same rules as all other personal wireless providers and not be afforded unlawful special exceptions; and,

5. The requested variance for a tower height above one hundred ninety-five (195) feet fails to provide any reasonable uniqueness that would separate AT&T's needs from any other personal wireless service provider. To state the necessity to obtain "the best possible coverage" via an increase in antenna height is common to every other entity that operates radio frequency spectrum and thus is not unique. Should the height be approved at this elevation for that reason, every future personal wireless service provider must be allowed to choose their own preferred tower height, thus abrogating in its entirety the elevation limitations of the Dane Ordinance.

I certify that, to the best of my knowledge, all the information included herein is accurate at the time of this report. CityScape only consults for public entities and has unbiased opinions. All recommendations are based on technical merits that meet all federal, state and local requirements, all recommendations are void of prejudice per prevailing laws and codes.

Respectfully submitted,



B. Benjamin Evans
CityScape Consultants, Inc.

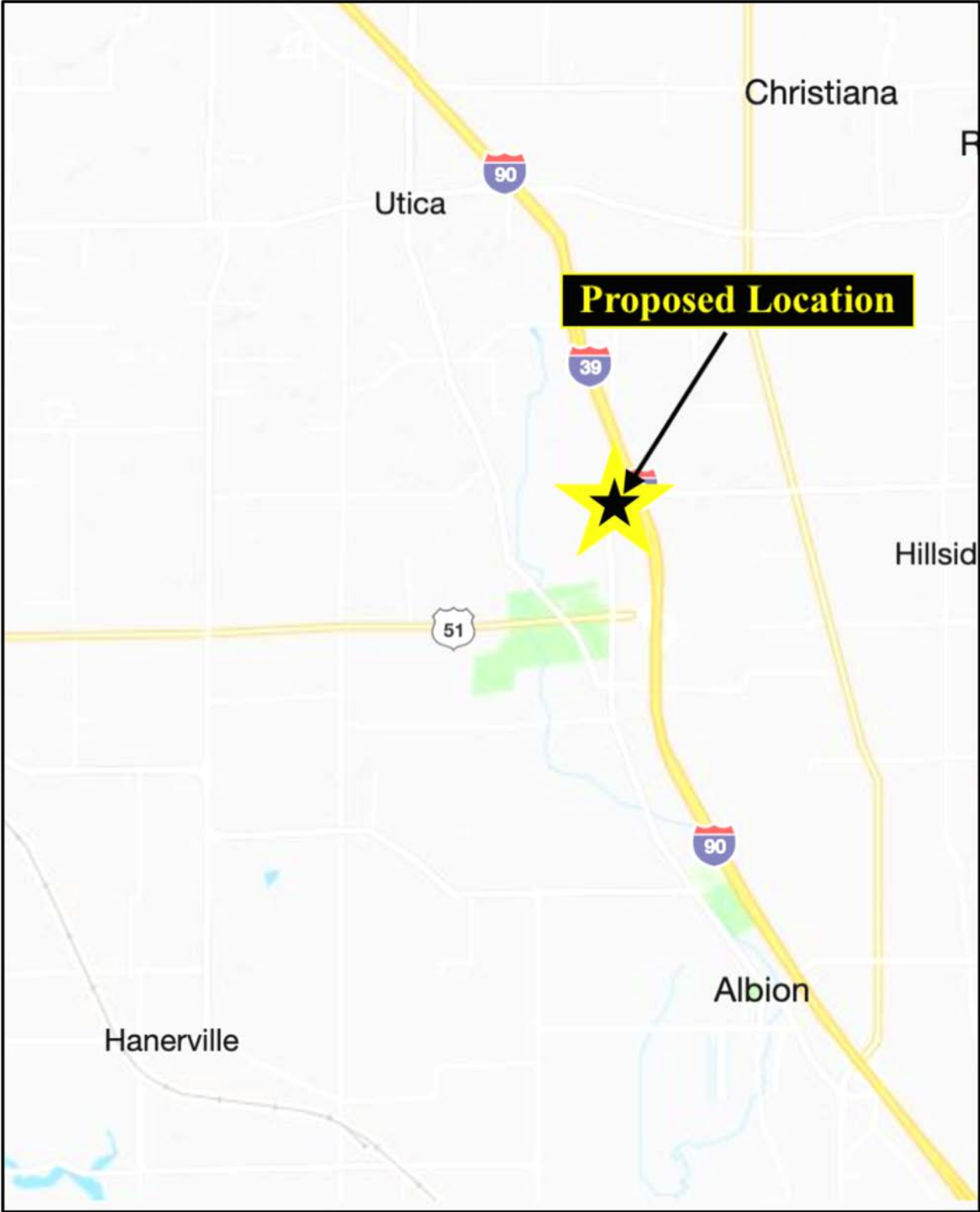


Figure 1 – Site Location

Appendix



Exhibit A - Proposed Support Structure

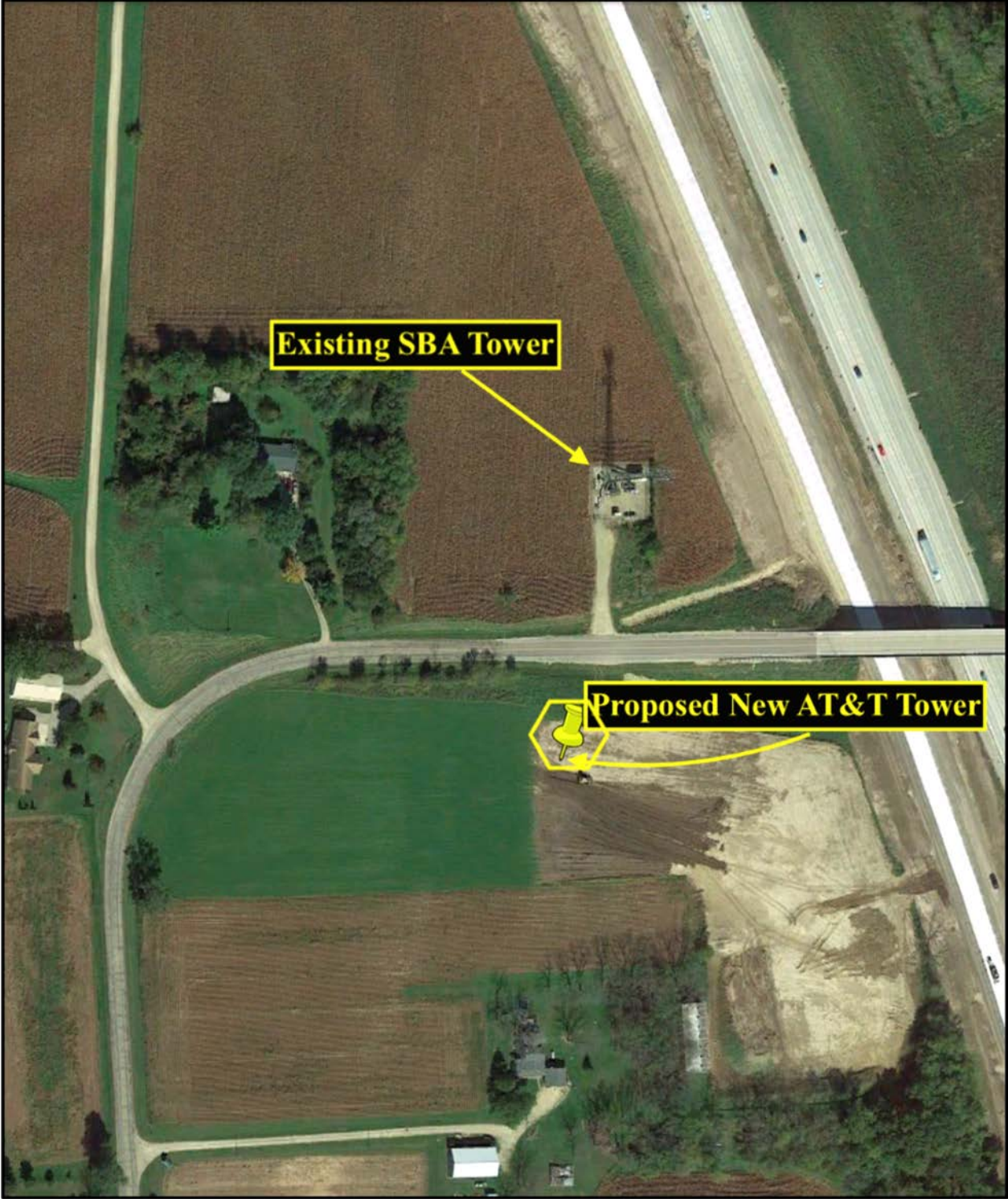


Exhibit B – Separation Between Existing and Proposed Towers



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sbasite.com

June 28, 2019

Ms. Susan Rabold
Project Manager
CityScape Consultants, Inc.

RE: SBA Telecommunications Tower Site W121150-A (Knickmeier Farms) located at County Road A & I-90 Egerton, WI 53534 ("Existing SBA Cell Tower")

Dear Ms. Rabold:

My name is Kent Meier, and I am the Site Marking Manager for SBA Communications Corporation ("SBA") in Wisconsin. I have been in this position for 9 years.

It is my job to interact with carriers, such as AT&T and I regularly discuss with carriers all tenant issues, including but not limited to new equipment, centerline placement of equipment on the cell tower and other related matters. Therefore, I maintain an open line of communication with AT&T for the Existing SBA Cell Tower. AT&T has been a tenant on the Existing SBA Cell Tower since October 2000. For almost 20 years we have worked with AT&T to effectuate any required network improvements at the Existing SBA Cell Tower including seven equipment amendment upgrades over the last 13 years. In fact, less than a year ago, AT&T signed a lease amendment to upgrade their equipment at the Existing SBA Cell Tower. At no time in those negotiations did AT&T ask for a reduction in rent. In fact, they accepted the increase in rent for the additional loading.

In reviewing my corporate records I have confirmed SBA can accommodate additional equipment for AT&T on the Existing SBA Cell Tower, including 5G and FirstNet equipment. As a matter of fact, the Existing SBA Cell Tower site is a self-support tower and it is designed to handle a very heavy load of equipment. Accordingly, the Existing SBA Cell Tower could handle more equipment, as it was constructed to house multiple tenants.

Lastly, I have reached out to AT&T as of the date of this letter to discuss their needs further. We look forward to continuing to work with AT&T and Dane County, WI to provide access to wireless networks via SBA's telecommunications infrastructure.

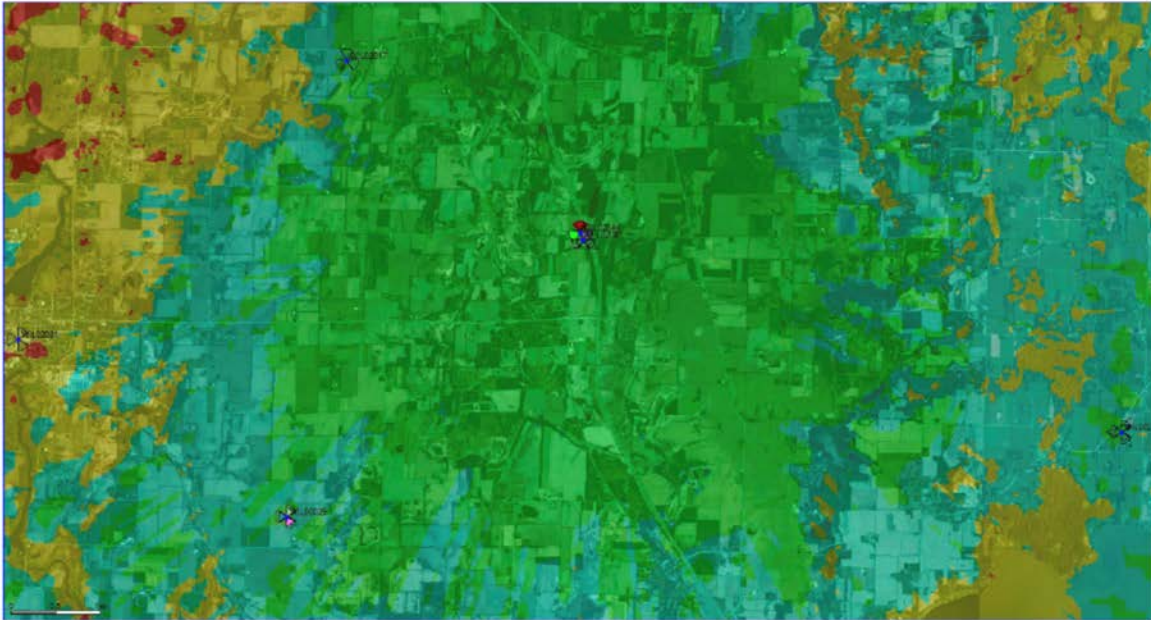
Sincerely,

A handwritten signature in black ink, appearing to read "Kent Meier".

Kent Meier
Site Marketing Manager, Wisconsin

Exhibit C – Letter from SBA Towers

Current site

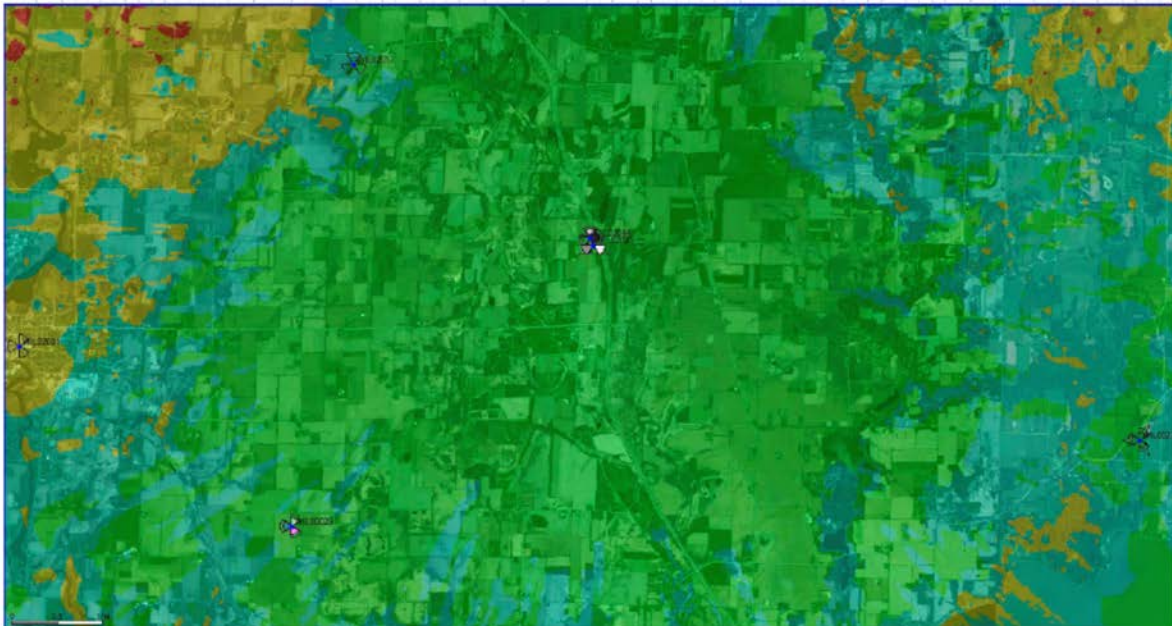


Coverage by Signal Level (DL) 0

- Best Signal Level (dBm) ≥ -75
- Best Signal Level (dBm) ≥ -85
- Best Signal Level (dBm) ≥ -95
- Best Signal Level (dBm) ≥ -110

Exhibit D – Current AT&T Coverage from Existing Facility

WIL02043



Coverage by Signal Level (DL) 0

- Best Signal Level (dBm) ≥ -75
- Best Signal Level (dBm) ≥ -85
- Best Signal Level (dBm) ≥ -95
- Best Signal Level (dBm) ≥ -110

Exhibit E – Proposed AT&T Increased Service