

ZONING COMMITTEE STAFF REPORT

1. **FILE NAME:** Verizon Wireless **FILE #** 17-017-675
 2. **APPLICANT:** Verizon Wireless **HEARING DATE:** March 30, 2017
 3. **TYPE OF APPLICATION:** Conditional Use Permit
 4. **LOCATION:** 1673 Grand Ave, NE corner at Cambridge
 5. **PIN & LEGAL DESCRIPTION:** 042823410012, Macalester Square Lots 4 And Lot 5
 6. **PLANNING DISTRICT:** 14 **PRESENT ZONING:** B2
 7. **ZONING CODE REFERENCE:** §65.310; §61.501, §66.431
 8. **STAFF REPORT DATE:** March 23, 2017 **BY:** Bill Dermody
 9. **DATE RECEIVED:** March 8, 2017 **60-DAY DEADLINE FOR ACTION:** May 7, 2017
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- A. **PURPOSE:** Conditional use permit for a small cell canister antenna on a light pole (33' total height)
- B. **PARCEL SIZE:** 5,662 square feet
- C. **EXISTING LAND USE:** Parking lot
- D. **SURROUNDING LAND USE:**
Vacant lot to the east, mixed use to the west and south across Grand Ave., dormitory to the north.
- E. **ZONING CODE CITATION:** §65.310 provides a definition and standards/conditions for cellular telephone antennas; §61.501 lists general conditions that must be met by all conditional uses; §66.431 provides dimensional standards for the B2 community business district.
- F. **HISTORY/DISCUSSION:** There is no recent zoning history for the site.
- G. **DISTRICT COUNCIL RECOMMENDATION:** As of this writing, the District 14 Council has not provided a recommendation.
- H. **FINDINGS:**
 1. The application requests conditional use permit approval to allow installation of a new 33' high light pole with cellular telephone antennas and associated equipment, including remote radio units. The antennas are of a small cell canister design.
 2. The proposed light pole would replace an existing light pole in a parking lot at 1673 Grand Ave., adjacent to and associated with a mixed use building at 1679 Grand Ave.
 3. §65.310 lists nine standards and conditions that apply to cellular telephone antennas, including the following that apply to the subject application:
 - a. *In residential, traditional neighborhood and business districts, a conditional use permit is required for cellular telephone antennas on a building less than 45 feet high or on a freestanding pole, except for existing utility poles. In residential and traditional neighborhood districts, existing utility poles to which cellular telephone antennas are attached shall be at least 60 feet high. Conditional use permit review for such antennas will take into account not only the request made by the application, but also any future eligible facility modifications allowed under 47 CFR §1.4.0001, such as antennas of a more obtrusive design or placement than the subject application. A conditional use permit is not required for any eligible facility modification allowed under 47 CFR §1.4.0001. This condition is met by the subject application and analysis included in the other findings. 47 CFR §1.4001 essentially allows any structure that supports cellular telephone antennas to be modified (regardless of zoning regulations) to accommodate additional future antennas and associated equipment so long as it does not constitute a "substantial change" in the structure's physical dimensions, and that it complies with conditions of the original antennas' siting approval. The regulation defines a "substantial change" as (applied to this case) a height increase of 20 feet plus the height of one additional antenna array, or a protrusion from the tower of more than 20 feet.*
 - c. *For antennas proposed to be located on a building less than 45 feet high in residential, traditional neighborhood, and business districts, or on a new freestanding pole in residential, traditional neighborhood, and business districts, the applicant shall demonstrate that the proposed antennas cannot be accommodated on an existing freestanding pole or an existing*

structure at least 45 feet high within ½ mile radius of the proposed antennas due to one or more of the following reasons:

- i. The planned equipment would exceed the structural capacity of the existing pole or structure.*
- ii. The planned equipment would cause interference with other existing or planned equipment on the pole or structure.*
- iii. The planned equipment cannot be accommodated at a height necessary to function reasonably.*
- iv. The owner of the existing pole, structure or building is unwilling to co-locate an antenna.*

This condition is met. The application states that the small cell antennas need to be located near the street level, rather than on taller buildings, in order function reasonably given the technology and the coverage objectives.

- d. In residential, traditional neighborhood and business districts, cellular telephone antennas to be located on a new freestanding pole are subject to the following standards and conditions:*
 - 1. The freestanding pole shall not exceed 75 feet in height, unless the applicant demonstrates that the surrounding topography, structures, or vegetation renders a 75-foot pole impractical. Freestanding poles may exceed the above height limit by 25 feet if the pole is designed to carry two (2) antennas. This condition is met. The requested 33' high pole plus future additions allowed by 47 CFR §1.4.0001 would equal 53' plus antenna height.*
 - 2. Antennas shall not be located in a required front or side yard and shall be set back one (1) times the height of the antenna plus 38 feet from the nearest residential building. This condition is met. The minimum front and side yard setbacks in the B2 district are 0'. The nearest residential building is approximately 140' to the northeast, as compared to a height of 53' plus antenna height for the proposal plus future additions allowed by 47 CFR §1.4.0001.*
 - 3. The antennas shall be designed where possible to blend into the surrounding environment through concealment elements such as the use of color and camouflaging architectural treatment. Drawings or photographic perspectives showing the pole and antennas shall be provided to the planning commission to determine compliance with this provision. This condition can be met so long as future additions are required to have a small cell canister design such as proposed by the subject application.*
 - 4. In residential and traditional neighborhood districts, the pole shall be on institutional use property at least one (1) acre in area. In the business districts, the zoning lot on which the pole is located shall be within contiguous property with OS or less restrictive zoning at least one (1) acre in area. This condition is met. The subject site's zoning lot is contiguous with property on both sides of Grand Avenue that is approximately 5.2 acres in area.*
- 4. §61.501 lists five standards that all conditional uses must satisfy:*
 - (a) The extent, location and intensity of the use will be in substantial compliance with the Saint Paul Comprehensive Plan and any applicable subarea plans which were approved by the city council. This condition is met. There are no plan policies specific to this application.*
 - (b) The use will provide adequate ingress and egress to minimize traffic congestion in the public streets. This condition is met. The use produces very minimal traffic in the form of an occasional service truck that can be accommodated by existing ingress and egress.*
 - (c) The use will not be detrimental to the existing character of the development in the immediate neighborhood or endanger the public health, safety and general welfare. This condition can be met if the design of the antennas (including any future additions) is small cell canister such as proposed.*

- (d) *The use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.* This condition is met. The proposed pole will not impede the development and improvement of surrounding property.
- (e) *The use shall, in all other respects, conform to the applicable regulations of the district in which it is located.* This condition is met. The proposal will conform to all other B2 regulations, as will be confirmed through building permit review and any site plan review.

I. **STAFF RECOMMENDATION:** Based on the above findings, staff recommends approval of the conditional use permit for a small cell canister antenna on a light pole (33' total height) subject to the following additional condition(s):

1. Final plans approved by the Zoning Administrator for this use shall be in substantial compliance with the plan submitted and approved as part of this application.
2. Antennas shall be of a small cell canister design similar to that presented in the application materials.

Attachments

1. Application
2. Drawings & Photosimulations
3. 47 CFR §1.40001
4. Maps



CONDITIONAL USE PERMIT APPLICATION

Department of Planning and Economic Development
Zoning Section
1400 City Hall Annex
25 West Fourth Street
Saint Paul, MN 55102-1634
(651) 266-6589

1679 Grand

Zoning office use only	
File #	17-017675
Fee	
Tentative Hearing Date	3-30-17

AD=14

#04282341 0012

APPLICANT

Name Verizon Wireless

Address 10801 Bush Lake Rd

City Bloomington St. MN Zip 55438 Daytime Phone 952-288-8130

Name of Owner (if different) Macalester College

Contact Person (if different) Karyn O'Brien Phone 952-288-8130

PROPERTY LOCATION

Address / Location Multiple locations, see attached

Legal Description Multiple descriptions, see attached

Current Zoning _____

(attach additional sheet if necessary)

TYPE OF PERMIT: Application is hereby made for a Conditional Use Permit under provisions of Chapter _____, Section 65, Paragraph 310 of the Zoning Code.

SUPPORTING INFORMATION: Explain how the use will meet all of the applicable standards and conditions. If you are requesting modification of any special conditions or standards for a conditional use, explain why the modification is needed and how it meets the requirements for modification of special conditions in Section 61.502 of the Zoning Code. Attach additional sheets if necessary.

Please refer to attached cover letter which identifies adherence to Sec. 65.310 to the zoning code, as well as deviating from the standards of the provisions due to inapplicability of code for the proposed technology.

Required site plan is attached

Applicant's Signature Date 2/3/17 City Agent
2/27/17



323 North Cedar Street
Chaska, MN 55318

Also included with this packet are:

- Conditional Use Permit Application Form
- A check in the amount of \$800.00 for the CUP application fee, per the City's fee schedule.
- Two (2) copies of a letter of no adverse effect from Minnesota State Historic Preservation Office (MN SHPO)

Regarding Sect. 65.310 (c) of the zoning code of ordinances which requires the applicant to demonstrate the proposed antennas cannot be accommodated on an existing freestanding pole or structure at least 45 feet in height and within ½ mile radius of proposed antennas, an explanation of circumstances is below:

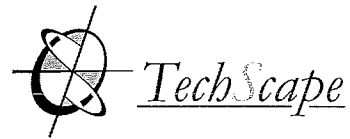
The small cell antennas cannot be accommodated on an existing freestanding pole or building within 1/2 mile and at least 45 feet in height due to:

- The nature, purpose and function of small cells, which are to provide much lower, street-level coverage and capacity for pedestrians and traffic. Placing the antennas higher than an approximate 30-foot antenna centerline would preclude Verizon from meeting the intended objective using this newer technology.
- The antennas are smaller and the distance of their radius/reach is much smaller than the larger-scale antennas for which most telecommunications codes were written. The radius for these antennas is only around 500', which is why we cannot affix to taller structures or meet the ½ mile search area required by code—the code, once again, was written with larger-scale antennas in mind, which was the standard technology available at the time it was codified.
- The antennas must be as close to the street as possible to alleviate the network bottlenecks that are caused by influx of traffic and pedestrians, especially during peak times.
- Aside from the taller buildings on the college campus, we could not identify any existing structures at least 45 feet in height within a ½ mile radius that either a) exist and/or b) placed where needed to service intended areas. Therefore, the planned equipment cannot be accommodated at a height necessary to function reasonably.

My understanding is the above items suffice to complete the application, and if there is anything else needed to aid in review please contact me at your earliest convenience.

Very sincerely,

Karyn O'Brien
kobrien@techscapewireless.com
952.288.8130



323 North Cedar Street
Chaska, MN 55318

February 8, 2017

City of Saint Paul
Department of Planning & Economic Development / Zoning Section
Attn: Bill Dermody
1400 City Hall Annex
25 West Fourth Street
Saint Paul, MN 55102-1634

RE: CUP Application for Verizon Wireless Small Cell Proposal – Macalester Campus

Dear Mr. Dermody,

Enclosed please find a Conditional Use Permit Application with applicable materials on behalf of Verizon Wireless. Verizon is planning to install five (5) small cell nodes located at the Macalester College. The five nodes with their assigned names are as follows:

- MIN STRICKER
 - Proposed 43'9" AGL light pole
 - Approximate address: 79 Snelling Avenue South
- MIN SCOTS
 - Replacement 41'-0" AGL light pole
 - Approximate address: 1577 Osceola Avenue
- MIN NEILL
 - Replacement 17' light pole
 - Approximate address: 130 South Macalester Street
- MIN KAGIN
 - Proposed rooftop panel antennas
 - Approximate address: 1576 Summit Avenue
- MIN GRAND 4
 - Replacement 30' light pole
 - Approximate address: 1679 Grand Avenue

Included with this application you will find two (2) copies of each of the following per node:

- Construction drawings
- Legal description with sketch plan
- Photo simulation
- Structural analysis

SITE NAME: MIN GRAND 4 STPL SC
SITE NUMBER: 20161387154
LOCATION CODE: 414777
SITE TYPE: SMALL CELL
POLE TYPE: REPLACEMENT 30' LIGHT POLE



PROJECT NO: 20161387154
 EDGE PROJECT NO: 14287
 DRAWN BY: NBT
 CHECKED BY: OGD

REV.	DATE	DESCRIPTION
A	10/24/2016	PRELIM SMALL CELL DWGS (16)
B	09/12/2016	PRELIM SMALL CELL DWGS (16)
0	11/04/2016	FINAL SMALL CELL DWGS (16)
1	12/09/2016	FINAL SMALL CELL DWGS (16)

PROFESSIONAL ENGINEER
 I HEREBY CERTIFY THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINTED NAME: Otto Dingfelder III
 SIGNATURE: [Signature]
 DATE: 11/16/16 LICENSE #: 42220

THESE PLANS ARE THE PROPERTY OF EDGE CONSULTING ENGINEERS, INC. AND ARE TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED IN THESE PLANS. ANY REUSE OR REPRODUCTION OF THESE PLANS WITHOUT THE WRITTEN PERMISSION OF EDGE CONSULTING ENGINEERS, INC. IS PROHIBITED.
 MIN GRAND 4 STPL SC
 ST. PAUL, MINNESOTA
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

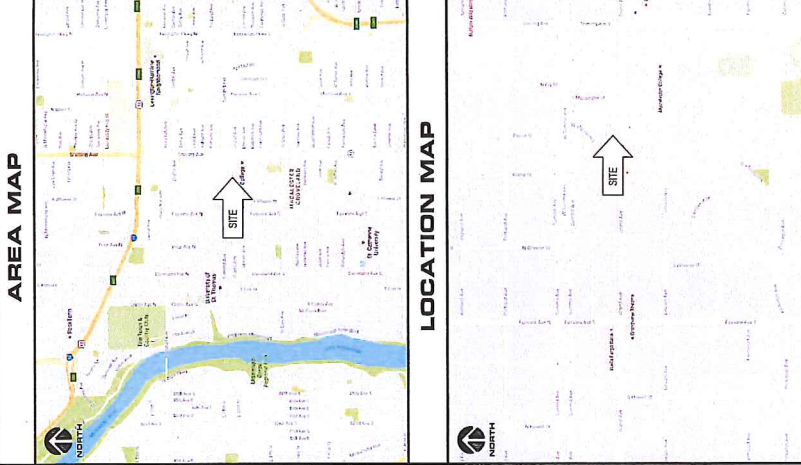
SHEET TITLE
TITLE SHEET & PROJECT DATA

SHEET NUMBER
T-1

NO:	SHEET TITLE
T-1	TITLE SHEET & PROJECT DATA
C-1	SITE PLAN
A-1	FOUNDATION
A-2	POLE FOUNDATION
A-3	ANTENNA DETAILS
A-4	EQUIPMENT DETAILS
A-5	CABLE MOUNTING DETAILS
E-1	CABLEING DETAILS
E-2	ELECTRICAL NOTES
G-1	GROUNDING PLAN
G-2	GROUNDING DETAILS

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED
 THESE PLANS ADHERE TO ALL OF THE REQUIREMENTS CALLED OUT IN THE JURISDICTION PLANNING AND ZONING FOR ANTENNAS AND SUPPORT STRUCTURES WHERE THE SITE IS LOCATED.
 CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS/CONDITIONS ON SITE IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING ANY WORK OR BE RESPONSIBLE FOR THE SAME.
ENGINEER OF RECORD
 EDGE CONSULTING ENGINEERS, INC.
 CONTACT: OTTO DINGFELDER III (PE # 49720 (MN))
 PHONE: 652.684.1449
STRUCTURAL ANALYSIS COMPLETED BY
 KGI
 PROJECT #: 14287
 DATE: 07/29/2016
 CONTRACTOR TO REVIEW STRUCTURAL REPORT IN ITS ENTIRETY. ANY DISCREPANCIES OR DISAGREEMENTS BETWEEN THE REPORT AND THESE PLANS SHOULD BE RESOLVED PRIOR TO CONSTRUCTION.

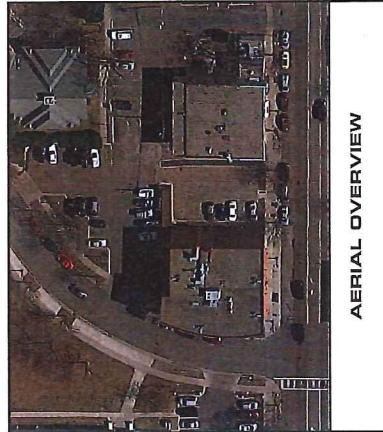
PROJECT DIRECTORY
 LESSOR:
 VERIZON WIRELESS
 10801 BUSH LAKE RD
 BLOOMINGTON, MN 55438
 PHONE: 952.946.4694
 LESSOR COMPANY:
 VERIZON WIRELESS
 10801 BUSH LAKE RD
 BLOOMINGTON, MN 55438
 PHONE: 952.946.4694
 REENGINEER:
 VERIZON WIRELESS
 10801 BUSH LAKE RD
 BLOOMINGTON, MN 55438
 CONTACT: JOHN WILLIAMS
 SITE ACQUISITION:
 KGI
 895 LAS CIMAS FAWY
 AUSTIN, TX 78745
 CONTACT: KARYN O'BRIEN
 PHONE: 952.288.8130



SITE INFORMATION
 APPROXIMATE ADDRESS:
 1679 GRAND AVE
 ST. PAUL, MN 55105
 RAMSEY COUNTY
 LATITUDE & LONGITUDE:
 LAT: 44°56'24.97"N
 LONG: 93°10'15.14"W
 GROUND ELEVATION: 927' AMSL
 (PER I.A. CERTIFICATE)
 POLE HEIGHT:
 30'-0" I.O.C.
 MAXIMUM APPLURTEANCE HEIGHT:
 33'-0" A.G.L.

APPLICABLE CODES
 ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:
 - 2012 INTERNATIONAL BUILDING CODE
 - IBC 1602.2(2)
 - IBC 1602.2(2) OR LATEST EDITION
 IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL

LOCATION SCAN



AERIAL OVERVIEW

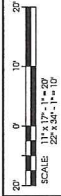
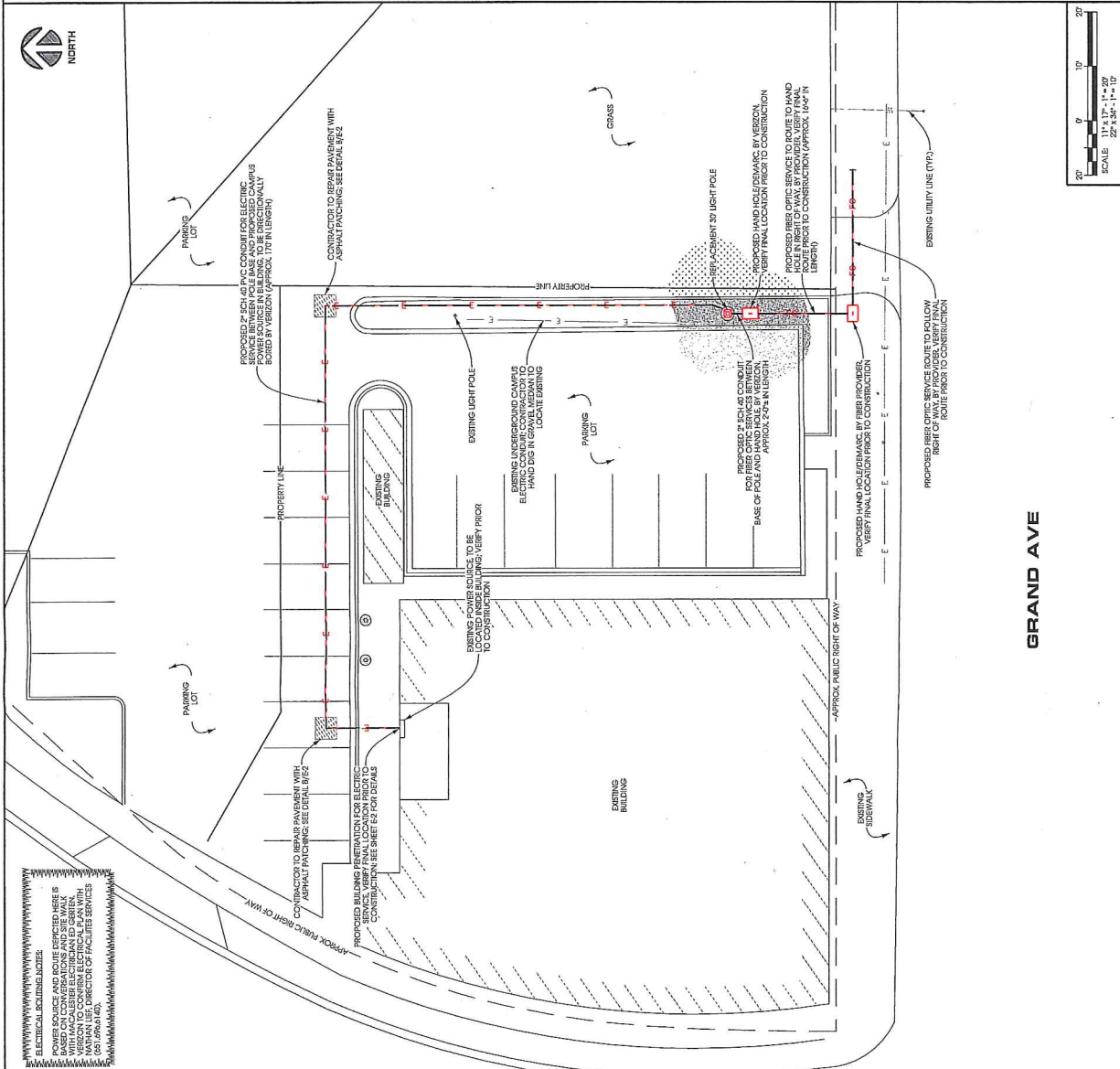


SITE OVERVIEW [LOOKING SOUTHEAST]



SITE OVERVIEW [LOOKING NORTH]

ELECTRICAL LOCATIONS LOCATED.
 POWER SOURCE AND ROUTE SPECIFIED HERE IS FOR INFORMATION ONLY. CONTRACTOR SHALL VERIFY WITH LOCAL UTILITY PROVIDERS FOR EXISTING ELECTRICAL SERVICES AND TO CORRECT ELECTRICAL SERVICES TO MEET LOCAL ELECTRICAL CODES AND REGULATIONS.



853 Los Chinos Parkway, Building Three, Suite 370
 512.245.2275 vcb@kgi.com
 www.kgiwireless.com

17100 Lakeville Blvd
 Lakeville, MN 55044
 651.464.1499 ext 400
 www.edgeconsulting.com

PROJECT NO: 20161587154
 EDGE PROJECT NO: 14287
 DRAWN BY: NBT
 CHECKED BY: OGD

REV.	DATE	DESCRIPTION
A	10/24/2016	PRELIM SMALL CELL DWGS (10)
B	10/17/2016	PRELIM SMALL CELL DWGS (NET)
0	11/04/2016	FINAL SMALL CELL DWGS (10)
1	11/29/2016	FINAL SMALL CELL DWGS (NET)

APPROVED

LEGEND: CENTER LINE PLAN, ASSOCIATION OR REPORT WAS PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

MIN GRAND 4-STPL 3C
 ST. PAUL, MINNESOTA
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

SHEET TITLE
SITE PLAN

SHEET NUMBER
C-1



806 East China Parkway, Building Three, Suite 370
St. Paul, MN 55108
612.252.0292 ext. 300
www.kgi.com



17645 Juniper Park, Suite 105
St. Paul, MN 55124
612.252.0292 ext. 300
www.edgeconsulting.com

PROJECT NO: 20161877154
EDGE PROJECT INC: 14287
DRAWN BY: NBT
CHECKED BY: OGD

REV	DATE	DESCRIPTION
A	08/24/2016	PRELIM SMALL CELL DWGS/INT
B	09/17/2016	PRELIM SMALL CELL DWGS/INT
C	11/04/2016	FINAL SMALL CELL DWGS/INT
D	12/09/2016	FINAL SMALL CELL DWGS/INT

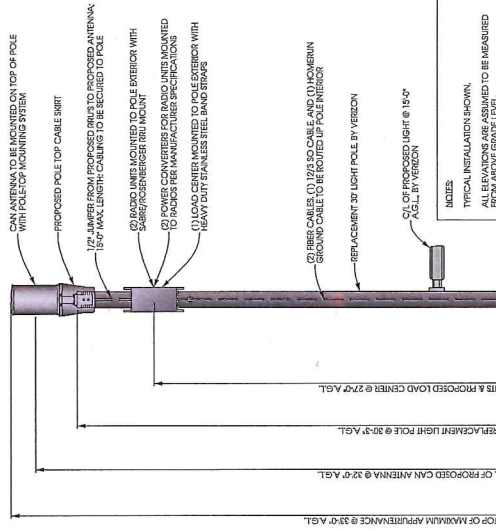
APPROVED

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MIN GRAND 4 SPL SC
ST. PAUL, MINNESOTA
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
POLE ELEVATION

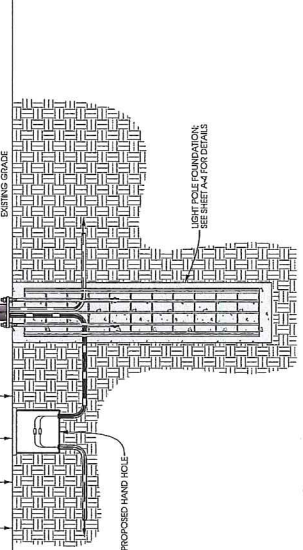
SHEET NUMBER
A-1



NOTES:
TYPICAL INSTALLATION SHOWN.
ALL ELEVATIONS ARE ASSUMED TO BE MEASURED FROM ABOVE GRADE LEVEL.
ALL ANTENNAS AND MOUNTING EQUIPMENT TO BE PAINTED TO MATCH POLE.
ALL PROPOSED ATTACHMENTS TO BE ATTACHED TO POLE EXTERIOR IN USE OF HEAVY DUTY STAINLESS STEEL BRACKETING AND HEAVY DUTY STAINLESS STEEL MOUNT, OR TOP MOUNTING SYSTEM.

NOTE:
PROPOSED LIGHT POLE TO BE A VALUANT POLE (02320-6003590-01)

NOTE:
PROPOSED PAINT SPECIFICATION:
BLACK (RUST) VALUANT, NO. 547534
VALUANT NO. PVC 87070203K



C LIGHT POLE ELEVATION
SCALE: 1/8" = 1'-0"
2 1/2" x 3 1/2" = 1' = 2'-0"

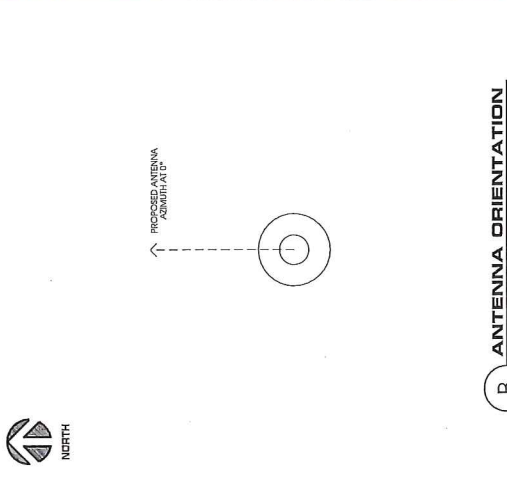
NODE INFO	BAND		MAGSI	DUP	DUI	DUI POWER	AZIMUTH	POSITION	QTY	MFR.	MODEL	ANTENNA			
	Band	enb1d										PORT	CL	ADD ELEC. TILT	MEDIA TILT
Full Node Name: Minnetonka SCL Node44	AVS						0	1.1	1	JMA	CR-37CAP-2-COND	445	31.5	0	0
Grand4 SPL SC	PCS						1.1	1.1				445	31.5		
Coordinates	W11	SEC					1.1	1.1				445	31.5		
UTM Zone	55	24	972				1.1	1.1				445	31.5		
Latitude	44	49	24.972				1.1	1.1				445	31.5		
Altitude Elevation	30	931	931				1.1	1.1				445	31.5		

QTY	TYPE	MFR.	MODEL	DIRECTIVE	DIA.	RAIN
1	Jumpet	Commisscope	LPD4-50	Foam	1/2"	TBD
1	Jumpet	Commisscope	LPD4-50	Foam	1/2"	TBD
1	Jumpet	Commisscope	LPD4-50	Foam	1/2"	TBD

A ANTENNA AND COAX
SCALE: NTS



LIGHT POLE ELEVATION



B ANTENNA ORIENTATION
SCALE: NTS





866 Lee China Parkway, Building Three, Suite 370
 St. Paul, MN 55108
 612.535.9794 vobp
 www.kgiengineers.com



PROJECT NO: 20161387154
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REV	DATE	DESCRIPTION
A	06/24/2016	PRELIM SMALL CELL DWGS/INT
B	09/17/2016	PRELIM SMALL CELL DWGS/INT
0	11/04/2016	FINAL SMALL CELL DWGS /IMM
1	12/09/2016	FINAL SMALL CELL DWGS /PER

APPROVED

LICENSED ELECTRICAL ENGINEER
 OR REPORT WAS PREPARED BY ME OR UNDER MY
 CLOSE PERSONAL SUPERVISION AND I AM A
 LICENSED PROFESSIONAL ENGINEER UNDER THE
 LAWS OF THE STATE OF MINNESOTA.

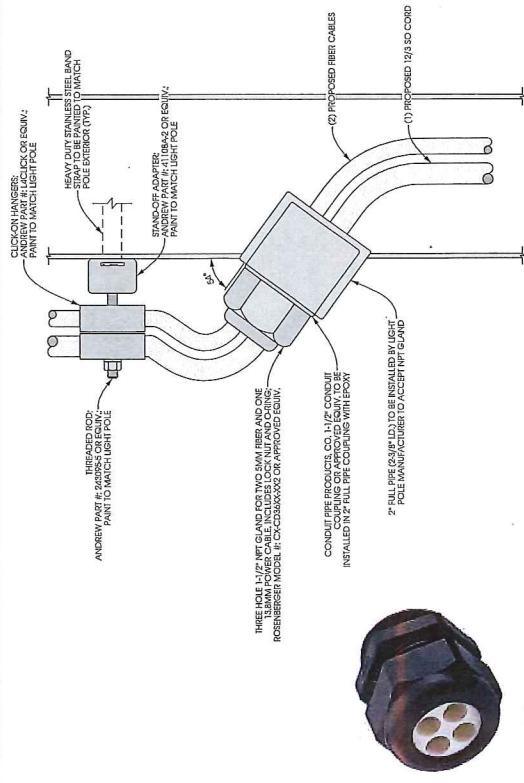
MIN GRAND A STPL SC
 ST. PAUL, MINNESOTA
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

SHEET TITLE

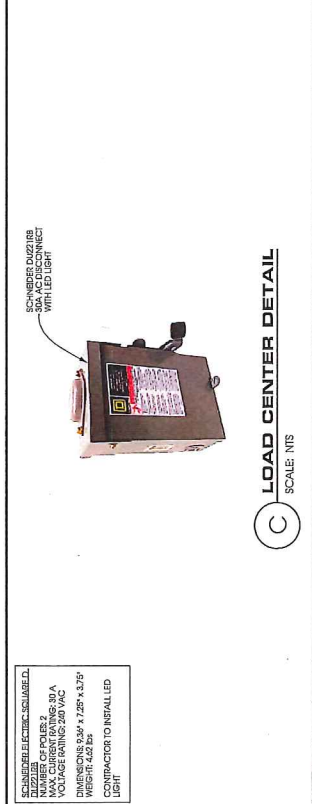
MOUNTING DETAILS

SHEET NUMBER

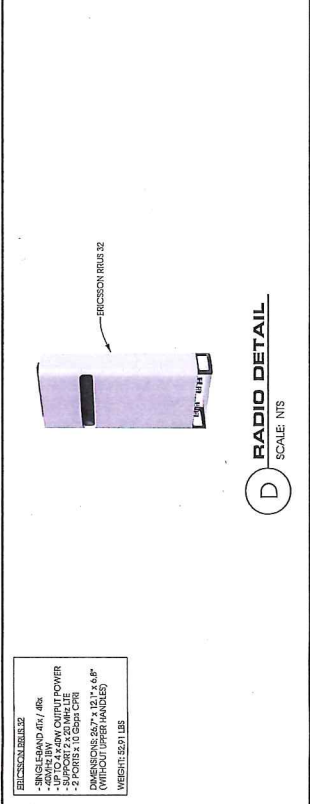
A-2



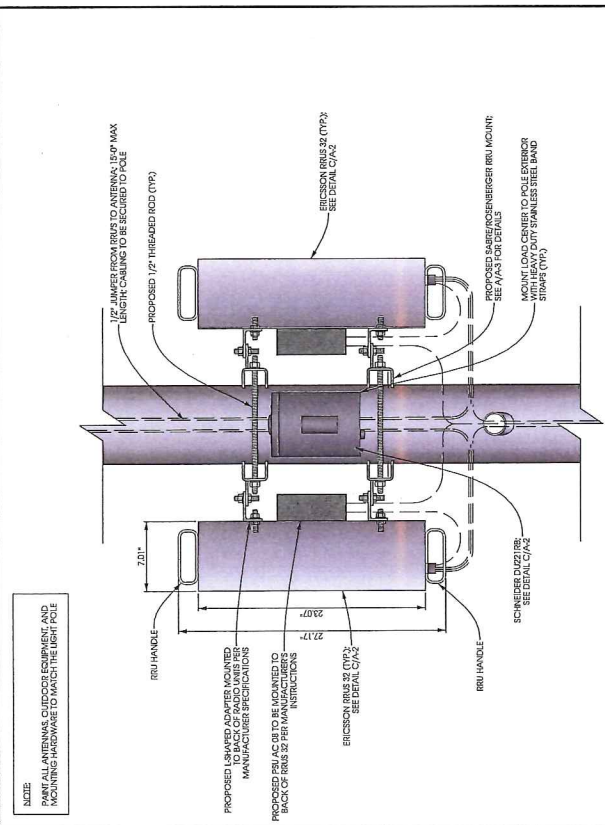
B PENETRATION DETAIL
 SCALE: NTS



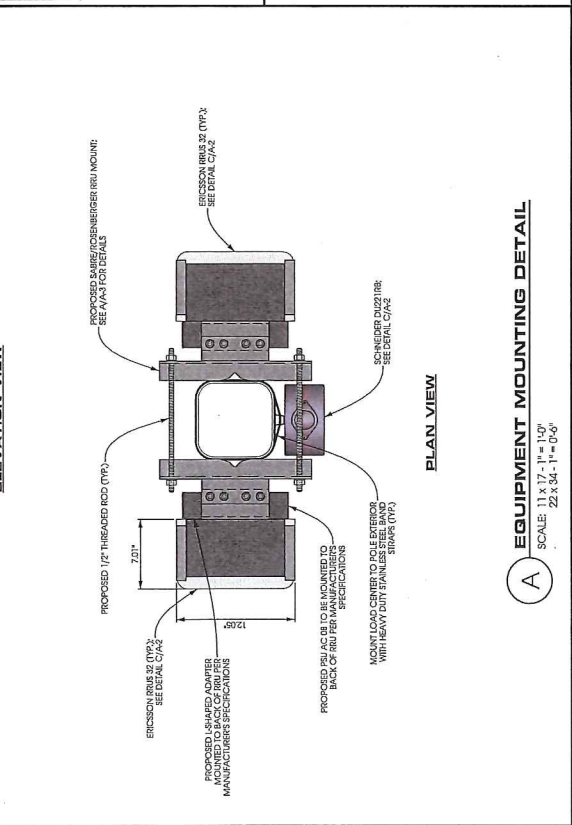
C LOAD CENTER DETAIL
 SCALE: NTS



D RADIO DETAIL
 SCALE: NTS



E ELEVATION VIEW



F PLAN VIEW

A EQUIPMENT MOUNTING DETAIL
 SCALE: 11 x 17 - 1/4\"/>

Antenna Systems Group

JMA WIRELESS

CYL-X7CAP-2

Small Cell Antenna, 698-998/1695-2, 180MHz, 2F T

- X-Pol Small Cell
- Internally Duplexed option
- Available for pole or mast mount
- Available for wall mount (NEMA-5)
- Internal Beam combiner
- Integrated Global Position System (GPS) option

Requires half the number of feeder cables

ELECTRICAL SPECIFICATIONS

Frequency Band, MHz	698-998	1695-2180
Polarization	+/-45°	+/-45°
Electrical Down Tilt	0°	0°
VSWR(Return Loss, dB, Maximum (Non-Duplexed))	1.5:1(14.0)	1.5:1(14.0)
VSWR(Return Loss, dB, Maximum (Duplexed))	1.8:1(12.8)	1.6:1(12.8)
Isolation Between Ports, dB, Minimum	24	28
Intermodulation (220MHz, IM3, dBc, Maximum)	-150	-150
Impedance, ohms	50	50
Maximum Power Per Connector, CW (W)	250	125

MECHANICAL SPECIFICATIONS

Dimensions, Height/Diameter: 24.9/15.1 in (619/384 mm)

Antenna RF Connector Type: 7/16 DIN Female

Antenna GF Connector Type: DIN 292-295 (84in (22.30) Nm)

GPS Connector Type: Mini DIN Female (4.1-5.5 per IEC 61189-4)

GPS Connector Torque: Mini-DIN 88.5 lbf-in (10 Nm)

Connector Location: Bottom

Roofing Material: PVC

Wind Speed: 150 mph (241 kmph)

Front Wind Load: 45.9 lbf (204.18N) @100mph

Equivalent Air Mass: 0.21 kg (0.45 lb)

ELECTRICAL SPECIFICATIONS (based on Antenna configuration)

Antenna Model	698-998	1695-1890	1695-1890	1695-1890	1695-1890	1695-1890	1695-1890
No. of Beams	1	3	3	3	3	3	3
Beam Configuration	1	3	3	3	3	3	3
Gain (dBi)	+30°	+30°	+30°	+30°	+30°	+30°	+30°
Gain (dB)	8.6	8.6	8.6	8.6	8.6	8.6	8.6
Gain (dB)	15'	15'	15'	15'	15'	15'	15'

MECHANICAL SPECIFICATIONS (based on Antenna configuration)

Antenna Model	CYL-X7CAP-2-C	ANTENNA WEIGHT
Beam Configuration	One Cover	24.8 lbs (11.3 kg)
Beam Configuration	Two Covers	33.0 lbs (15.0 kg)

Antenna with 4 DIN connectors Cover One pattern W/O Integrated Duplexer

A ANTENNA SPECIFICATIONS
SCALE: NTS

CONCEALFAB® UNIVERSAL POLE-TOP MOUNTING SYSTEM
Configurable for all Major Quasi-Omni Antennas

O-DAS and Small Cell Solutions
Universal Pole-Top Mounting System
Configurable for Quasi-Omni Antennas

ConcealFab's proven wireless concealment solutions are ideal complements to all infrastructure upgrades or retrofit projects; integrates any antenna and radio configuration, effortlessly blends into urban/suburban environments, and able to withstand severe weather conditions. This vendor agnostic, *Universal Pole-Top Mounting System* accommodates a variety of Quasi-Omni shapes, sizes, weights, and pole-top diameters providing flexibility by adapting to future hardware needs.

General Features:

- Multiple Color Options
- Structurally rated for extreme exposure zones
- 360° Azimuth adjustment
- Optional Cables Concealment Skirt
- Adjustable to a variety of pole diameters
- Adapters available for all major antenna brands
- Built-in level indicator
- PIM reduction coating

Cable Concealment Skirt (Optional)

CONCEALFAB Corporation

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B ANTENNA MOUNTING DETAIL
SCALE: NTS

ANTENNA DETAILS

SHEET NUMBER
A-3

SHEET TITLE



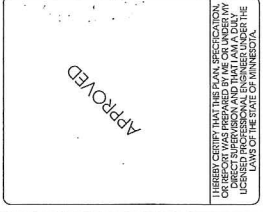
PROJECT NO: 2016138715A

EDGE PROJECT NO: 14287

DRAWN BY: NBT

CHECKED BY: OGD

REV.	DATE	DESCRIPTION
A	10/26/2016	PRELIM SMALL CELL DWGS (10)
B	10/27/2016	PRELIM SMALL CELL DWGS (10)
C	11/24/2016	FINAL SMALL CELL DWGS (14)
D	12/29/2016	FINAL SMALL CELL DWGS (14)



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PROJECT NO: 20101387154
 EDGE PROJECT NO: 14287
 DRAWN BY: KJG
 CHECKED BY: OGD

REV.	DATE	DESCRIPTION	BY
A	08/23/2018	PHOTO SIMULATION	KJG

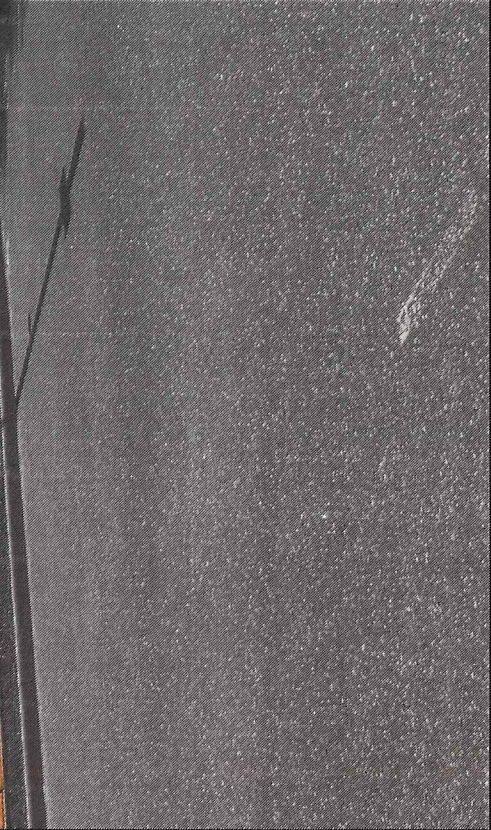
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 ST. PAUL MN
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 PHOTO SIMULATION

SHEET TITLE
PHOTO SIM 1

SHEET NUMBER
PS-1



ACTUAL PHOTOGRAPH BEFORE SIMULATION

PHOTO SIMULATION OF NEW INSTALLATION



ACTUAL PHOTOGRAPH BEFORE SIMULATION

PHOTO SIMULATION OF NEW INSTALLATION

(iii) Comparable equipment from pre-existing wireless deployments on the structure;

(3) The deployment will involve no new ground disturbance; and

(4) The deployment would otherwise require the preparation of an EA under paragraph (a)(4)(i) of this section solely because of the age of the structure; or

(B) The mounting of antennas (including associated equipment such as wiring, cabling, cabinets, or backup-power) on buildings or other non-tower structures where the deployment meets the following conditions:

(1) There is an existing antenna on the building or structure;

(2) One of the following criteria is met:

(i) *Non-Visible Antennas.* The new antenna is not visible from any adjacent streets or surrounding public spaces and is added in the same vicinity as a pre-existing antenna;

(ii) *Visible Replacement Antennas.* The new antenna is visible from adjacent streets or surrounding public spaces, provided that

(A) It is a replacement for a pre-existing antenna,

(B) The new antenna will be located in the same vicinity as the pre-existing antenna,

(C) The new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna,

(D) The new antenna is not more than 3 feet larger in height or width (including all protuberances) than the pre-existing antenna, and

(E) No new equipment cabinets are visible from the adjacent streets or surrounding public spaces; or

(iii) *Other Visible Antennas.* The new antenna is visible from adjacent streets or surrounding public spaces, provided that

(A) It is located in the same vicinity as a pre-existing antenna,

(B) The new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna,

(C) The pre-existing antenna was not deployed pursuant to the exclusion in this subsection

(§ 1.1307(a)(4)(ii)(B)(2)(iii)),

(D) The new antenna is not more than three feet larger in height or width (including all protuberances) than the pre-existing antenna, and

(E) No new equipment cabinets are visible from the adjacent streets or surrounding public spaces;

(3) The new antenna complies with all zoning conditions and historic preservation conditions applicable to existing antennas in the same vicinity

that directly mitigate or prevent effects, such as camouflage or concealment requirements;

(4) The deployment of the new antenna involves no new ground disturbance; and

(5) The deployment would otherwise require the preparation of an EA under paragraph (a)(4) of this section solely because of the age of the structure.

Note to paragraph (a)(4)(ii): A non-visible new antenna is in the "same vicinity" as a pre-existing antenna if it will be collocated on the same rooftop, façade or other surface. A visible new antenna is in the "same vicinity" as a pre-existing antenna if it is on the same rooftop, façade, or other surface and the centerpoint of the new antenna is within ten feet of the centerpoint of the pre-existing antenna. A deployment causes no new ground disturbance when the depth and width of previous disturbance exceeds the proposed construction depth and width by at least two feet.

* * * * *

■ 4. Add Subpart CC to part 1 to read as follows:

Subpart CC—State and Local Review of Applications for Wireless Service Facility Modification

§ 1.40001 Wireless Facility Modifications.

(a) *Purpose.* These rules implement section 6409 of the Spectrum Act (codified at 47 U.S.C. 1455), which requires a State or local government to approve any eligible facilities request for a modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station.

(b) *Definitions.* Terms used in this section have the following meanings.

(1) *Base station.* A structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network. The term does not encompass a tower as defined in this subpart or any equipment associated with a tower.

(i) The term includes, but is not limited to, equipment associated with wireless communications services such as private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(ii) The term includes, but is not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration (including Distributed Antenna Systems and small-cell networks).

(iii) The term includes any structure other than a tower that, at the time the relevant application is filed with the State or local government under this section, supports or houses equipment described in paragraphs (b)(1)(i) through (ii) of this section that has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, even if the structure was not built for the sole or primary purpose of providing such support.

(iv) The term does not include any structure that, at the time the relevant application is filed with the State or local government under this section, does not support or house equipment described in paragraphs (b)(1)(i)–(ii) of this section.

(2) *Collocation.* The mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.

(3) *Eligible facilities request.* Any request for modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station, involving:

(i) Collocation of new transmission equipment;

(ii) Removal of transmission equipment; or

(iii) Replacement of transmission equipment.

(4) *Eligible support structure.* Any tower or base station as defined in this section, provided that it is existing at the time the relevant application is filed with the State or local government under this section.

(5) *Existing.* A constructed tower or base station is existing for purposes of this section if it has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, provided that a tower that has not been reviewed and approved because it was not in a zoned area when it was built, but was lawfully constructed, is existing for purposes of this definition.

(6) *Site.* For towers other than towers in the public rights-of-way, the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site, and, for other eligible support structures, further restricted to that area in proximity to the structure and to other transmission equipment already deployed on the ground.

(7) *Substantial change.* A modification substantially changes the physical dimensions of an eligible

support structure if it meets any of the following criteria:

(i) For towers other than towers in the public rights-of-way, it increases the height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for other eligible support structures, it increases the height of the structure by more than 10% or more than ten feet, whichever is greater;

(A) Changes in height should be measured from the original support structure in cases where deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.

(ii) For towers other than towers in the public rights-of-way, it involves adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for other eligible support structures, it involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure by more than six feet;

(iii) For any eligible support structure, it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; or, for towers in the public rights-of-way and base stations, it involves installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure, or else involves installation of ground cabinets that are more than 10% larger in height or overall volume than any other ground cabinets associated with the structure;

(iv) It entails any excavation or deployment outside the current site;

(v) It would defeat the concealment elements of the eligible support structure; or

(vi) It does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in § 1.40001(b)(7)(i) through (iv).

(8) *Transmission equipment.*

Equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply. The term includes equipment associated with wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(9) *Tower.* Any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul, and the associated site.

(c) *Review of applications.* A State or local government may not deny and shall approve any eligible facilities request for modification of an eligible support structure that does not substantially change the physical dimensions of such structure.

(1) *Documentation requirement for review.* When an applicant asserts in writing that a request for modification is covered by this section, a State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation, including but not limited to documentation intended to illustrate the need for such wireless facilities or to justify the business decision to modify such wireless facilities.

(2) *Timeframe for review.* Within 60 days of the date on which an applicant submits a request seeking approval under this section, the State or local government shall approve the application unless it determines that the application is not covered by this section.

(3) *Tolling of the timeframe for review.* The 60-day period begins to run when the application is filed, and may be tolled only by mutual agreement or in cases where the reviewing State or local government determines that the application is incomplete. The timeframe for review is not tolled by a

moratorium on the review of applications.

(i) To toll the timeframe for incompleteness, the reviewing State or local government must provide written notice to the applicant within 30 days of receipt of the application, clearly and specifically delineating all missing documents or information. Such delineated information is limited to documents or information meeting the standard under paragraph (c)(1) of this section.

(ii) The timeframe for review begins running again when the applicant makes a supplemental submission in response to the State or local government's notice of incompleteness.

(iii) Following a supplemental submission, the State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. The timeframe is tolled in the case of second or subsequent notices pursuant to the procedures identified in this paragraph (c)(3). Second or subsequent notices of incompleteness may not specify missing documents or information that were not delineated in the original notice of incompleteness.

(4) *Failure to act.* In the event the reviewing State or local government fails to approve or deny a request seeking approval under this section within the timeframe for review (accounting for any tolling), the request shall be deemed granted. The deemed grant does not become effective until the applicant notifies the applicable reviewing authority in writing after the review period has expired (accounting for any tolling) that the application has been deemed granted.

(5) *Remedies.* Applicants and reviewing authorities may bring claims related to Section 6409(a) to any court of competent jurisdiction.

PART 17—CONSTRUCTION, MARKING, AND LIGHTING OF ANTENNA STRUCTURES

■ 5. The authority citation for part 17 continues to read as follows:

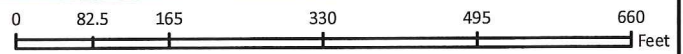
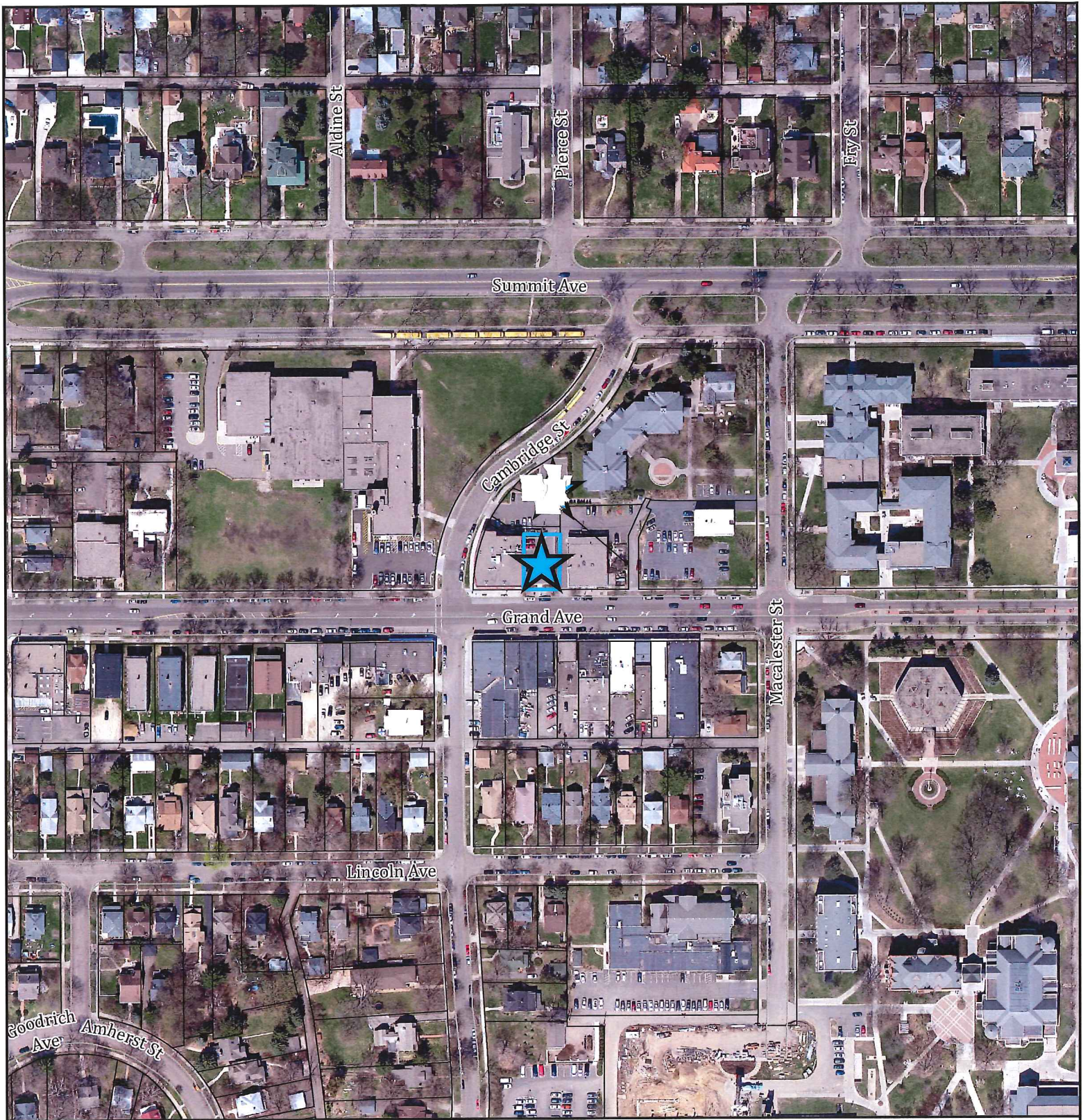
Authority: Sections 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply sections 301, 309, 48 Stat. 1081, 1085 as amended; 47 U.S.C. 301, 309.

■ 6. Amend § 17.4 by revising paragraphs (c)(1)(v) and (c)(1)(vi), and adding paragraph (c)(1)(vii) to read as follows:

§ 17.4 Antenna structure registration.

* * * * *

(c) * * *



FILE NAME: Verizon Wireless

Aerial

APPLICATION TYPE: CUP

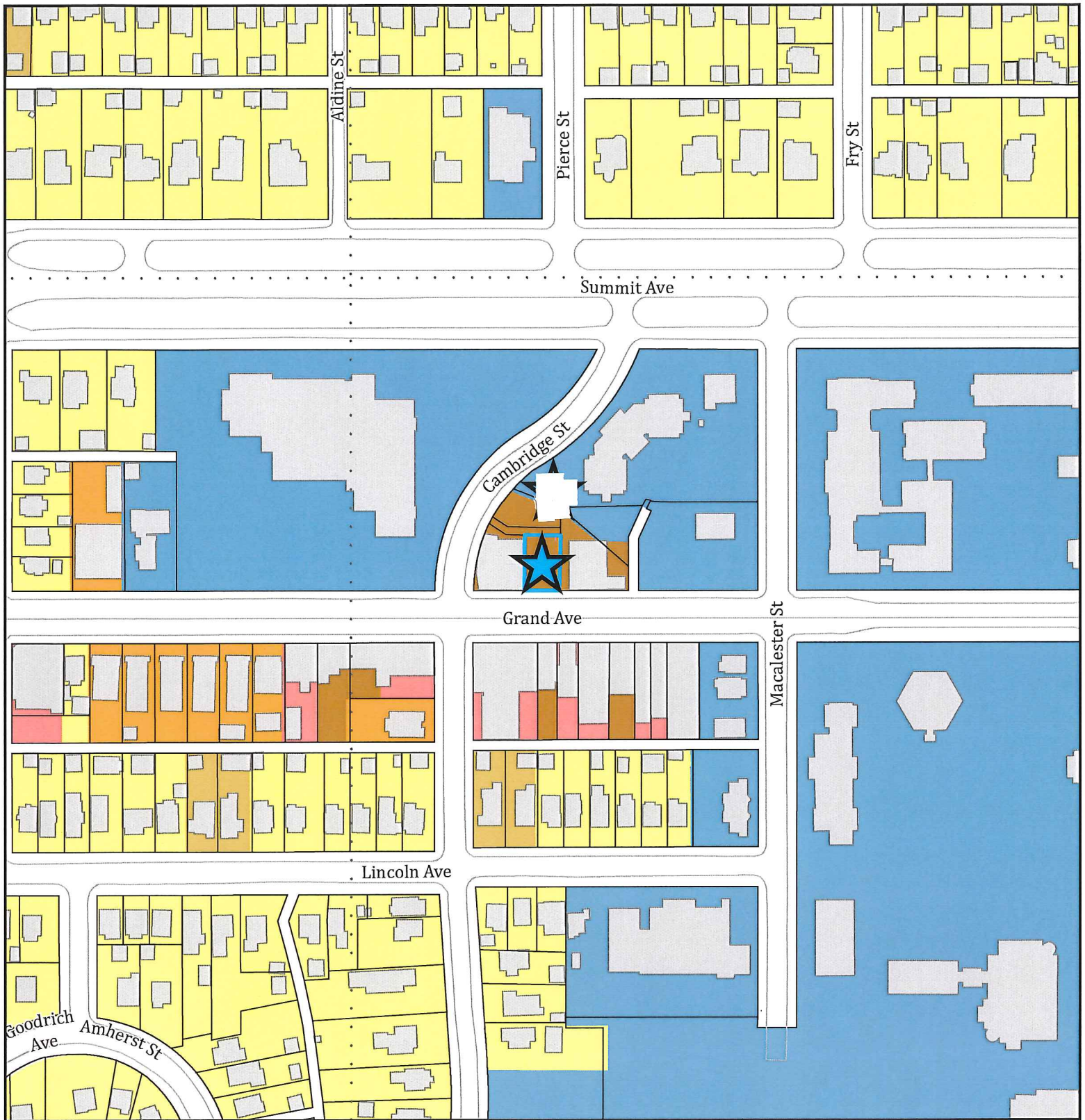
 Subject Parcels

FILE #: 17-017675 DATE: 3/21/2017

PLANNING DISTRICT: 14

ZONING PANEL: 14





FILE NAME: Verizon Wireless

APPLICATION TYPE: CUP

FILE #: 17-017675 DATE: 3/21/2017

PLANNING DISTRICT: 14

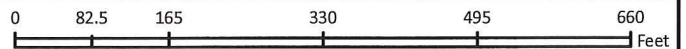
ZONING PANEL: 14

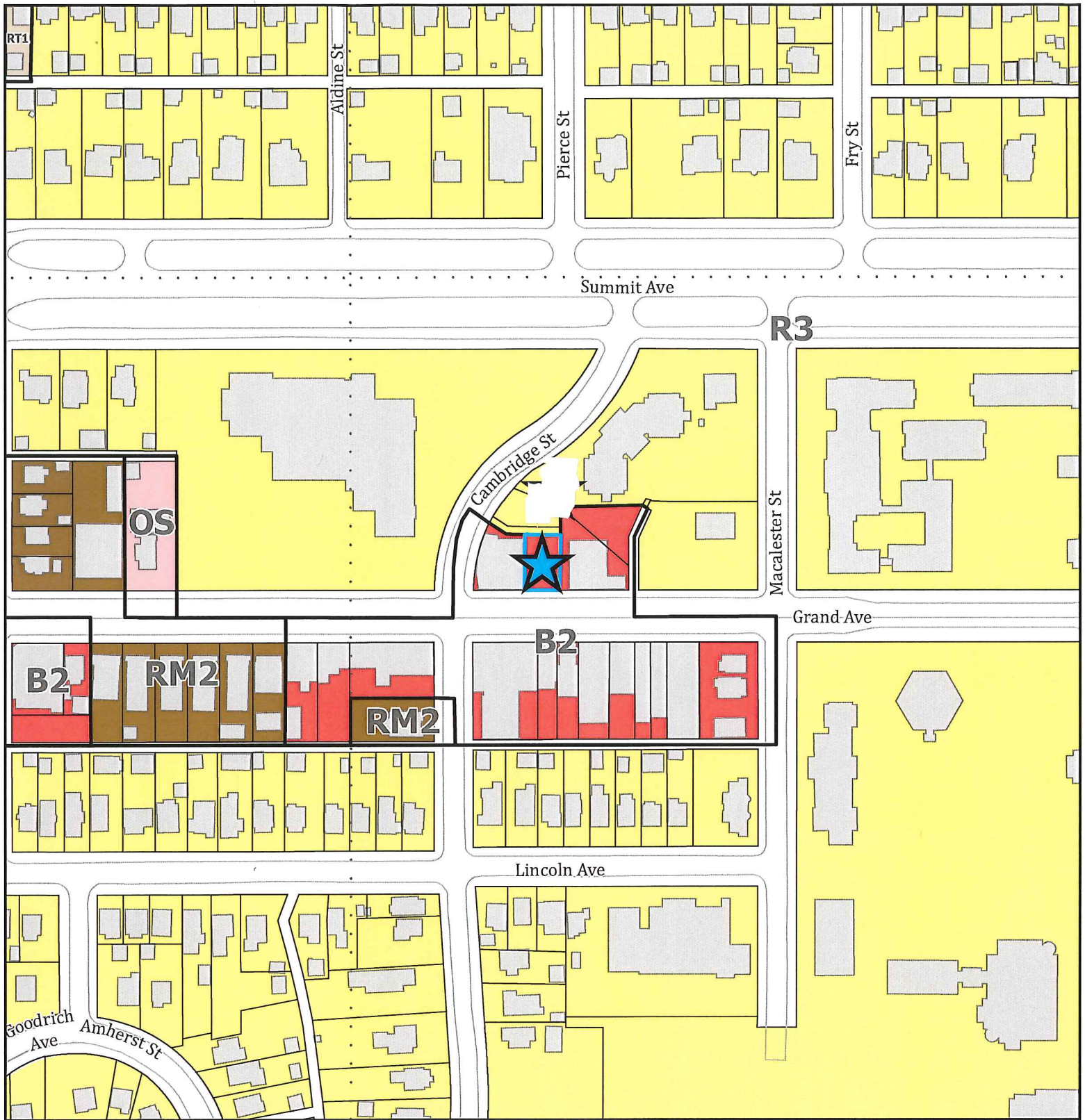
Land Use

- Single Family Detached
- Single Family Attached
- Multifamily
- Retail and Other Commercial
- Mixed Use Residential
- Institutional
- Park, Recreational or Preserve

Subject Parcels

Section Lines





FILE NAME: Verizon Wireless








APPLICATION TYPE: CUP

FILE #: 17-017675 DATE: 3/21/2017

PLANNING DISTRICT: 14

ZONING PANEL: 14

Zoning

-  Subject Parcels
-  Section Lines
-  R3 One-Family
-  RT1 Two-Family
-  RM2 Multiple-Family
-  OS Office-Service
-  B2 Community Business

