# Dane County Conditional Use Permit Application

Application Date	C.U.P Number	
07/25/2018	DCPCUP-2018-02437	
Public Hearing Date		
09/17/2018		

OWN	IER INFORMATIO	)N		AGENT INFORM	IATION		
OWNER NAME JANE C LIESS		Phone with Area Code (608) 838-0131	AGENT NAME PETE SCHAU		Phone with Area Code (773) 919-5112		
BILLING ADDRESS (Number, 2660 US HIGHWAY 51	Street)		ADDRESS (Number, Street) P.O. BOX 578790				
(City, State, Zip) MCFARLAND, WI 5355	8		(City, State, Zip) Chicago, IL 60657				
E-MAIL ADDRESS janeliess@ao.com		il.	E-MAIL ADDRESS pschau@ton80rea	iltyservices.com			
ADDRESS/LC	CATION 1	ADDRESS/LC	DCATION 2	ADDRESS	S/LOCATION 3		
ADDRESS OR LOC	ATION OF CUP	ADDRESS OR LO	OCATION OF CUP	ADDRESS OR	LOCATION OF CUP		
2660 US Highway 51							
TOWNSHIP DUNN	SECTION 10	TOWNSHIP	SECTION	TOWNSHIP	SECTION		
PARCEL NUMBER	RS INVOLVED	PARCEL NUMB	ERS INVOLVED	PARCEL NUMBERS INVOLVED			
0610-103-	9190-6						
		CUP DES	CRIPTION				
130' Communication	Γower (extendab	le to 160')					
1027-107	DANE C	OUNTY CODE OF ORD	NANCE SECTION		ACRES		
10.194					0.23		
		DEED RESTRICTION REQUIRED?	Inspectors Initials	SIGNATURE:(Owner			
		Yes No	AMA1		at for Applicantis)		
		Applicant Initials		PRINT NAME:			
COMMENTS: 100' X 1	100' (10,000 SQF	FT.) CUP AREA.		PETER SCH	AU		
				DATE: 7/26/20	o1B		
					Form Version 01.00.03		

#### SBA EXCLUSIVE EASEMENT AREA

A part of the Southwest Quarter (SW1/4) of the Southwest Quarter (SW1/4) Section Ten (10), Township Six (6) North, Range Ten (10) East, Town of Dunn, Dane County, Wisconsin containing 10,000 square feet (0.230 acres) of land and being described by:

Commencing at the Southwest Corner of said Section 10; thence N01°-00'-09"E (Recorded as N00°-59'-58"E) 417.21 feet along the West line of the SW1/4 of said Section 10; thence S88°-59'-51"E (Recorded as N89°-21'-52"E) 59.20 feet to a point on the Easterly Right of Way line of U.S.H. 51 (Also being the Northwest Corner of Lot 1 of Certified Survey Map No. 6609, Volume 17313, Page 17, Document No. 2307030 of Dane County Records) thence N04°-25'-25"E (Recorded as N04°-25'-14"E) 80.87 feet along said Easterly Right of Way line; thence N86°-31'-22"E 467.90 feet to the point of beginning; thence continue N86°-31'-22"E 100.00 feet; thence S03°-28'-38"E 100.00 feet; thence S86°-31'-22"W 100.00 feet; thence N03°-28'-38"W 100.00 feet to the point of beginning, being subject to any and all easements and restrictions of record.



## Via: USPS Priority Mail

Mr. Majid Allen Senior Planner Dane County-Planning and Development Department 210 Martin Luther King Jr. Blvd., Room 116 Madison, WI 53703-3342

June 27, 2018

Re: Conditional Use Permit Application Submittal/ SBA Towers V, LLC-New Mobile Service Support Structure and Facilities/Jane Liess and Phyllis Dube Property located at 2660 Hwy 51, McFarland, WI 53558. Town of Dunn. Parcel ID #028/0610-103-9210-1 (Access Easement) & 028/0610-103-9190-6 (Access Easement and Compound).

Dear Mr. Allen.

On behalf of our client(s) SBA Towers V, LLC ("SBA") and Verizon Wireless, enclosed please find the required project information along with a completed Dane County Conditional Use Application form(s) and a check made payable to Dane County in the amount of \$3,000.00 for the applicable application and permit fees. This application and its corresponding submittal information have been prepared in accordance with the State of Wisconsin Mobile tower siting regulations found at Wis. Stat. Sect. 66.0404. The application procedures for a new wireless communications tower are found at Wis. Stat. Sect. 66.0404(2)(b) and list six (6) requirements for a completed application.

Below is a narrative on these six (6) requirements, including the specific project information. I have also enclosed a copy of the State of Wisconsin regulations for your reference as you review this submittal.

#### 1. The name and business address of, and the contact individual of, the applicant.

Applicant (s):
SBA Towers V, LLC
Attn: Jessica Ross
8051 Congress Avenue
Boca Raton, FL 33487-2797

Contact Individual:
Peter Schau
Ton 80 Realty Services, Inc.
P.O. Box 578790
Chicago, Il 60657

Verizon Wireless Personal Communications LP, d/b/a Verizon Wireless 1515 Woodfield Road Schaumburg, IL 60173

### 2. The location of the proposed support structure.

2660 US Hwy 51, McFarland, WI 53558 Parcel ID #: 028/0610-103-9190-6

PO Box 578790/Chicago, IL 60657 tel: (773) 919-5112/fax: (866) 684-3535



The location of the proposed 130' tall monopole tower structure (138' overall with lighting rod), which would be expandable to a 160' tall monopole tower structure (169' overall with lightning rod) as needed, is in the east half of the above referenced 5.35 acre parcel (Parcel ID #028/0610-103-9190-6 within a 100' x 100' lease area as depicted in the enclosed survey and construction drawings.

## 3. The location of the proposed mobile service facility.

2660 US Hwy 51, McFarland, WI 53558 Parcel ID #: 028/0610-103-9190-6

SBA proposes to construct an 130' tall monopole tower structure (138' overall with lighting rod), which would be expandable to a 160' tall monopole tower structure (169' overall with lightning rod) as needed, for the immediate use by Verizon Wireless Personal Communications LP d/b/a Verizon Wireless in the east half of the property at 2660 US Hwy 51, McFarland, WI 53558. This new tower structure will be located within a 100' x 100' ground lease area as depicted in the enclosed survey and construction drawings. Verizon Wireless will locate its antennas and equipment upon the tower at the 120' centerline, route its coax/cabling through the interior of the tower, and install an 8" x 9'4" concrete pad which will house the Verizon Wireless base station equipment and a separate 5' x 8' 6" concrete pad for its backup power generator both located near the base of the tower structure at grade all within the SBA ground lease area. Also, the monopole tower and compound are designed to accommodate at least two (2) additional wireless telecommunications equipment installations besides the one contemplated by Verizon Wireless.

### 4. If the application is to substantially modify an existing support structure...

The application is for a new 130' tall monopole tower structure (138' overall with lighting rod), which would be expandable to a 160' tall monopole tower structure (169' overall with lightning rod) as needed, therefore the submittal requirements of this section are not applicable.

5. If the application is to construct a new mobile service support structure, a construction plan which describes the proposed mobile services support structure and the equipment and network components, including antennas, transmitters, receivers, base stations, power supplies, cabling, and related equipment to be placed on or around the new mobile service support structure.

See the enclosed construction drawings depicting the proposed SBA and Verizon Wireless installations containing the above described information.

6. If the application is to construct a new mobile service support structure, an explanation as to why the application chose the proposed location and why the applicant did not choose collocation, including a sworn statement from an individual who has the responsibility over the placement of the mobile service support structure attesting that collocation within the applicant's search ring would not result in the same mobile service functionality, coverage, and capacity; is technically infeasible; or is economically burdensome to the mobile service provider.

The Verizon Wireless search ring is depicted in the enclosed Delorme Map labeled "Verizon Wireless Search Area Map: Exchange Site", where there are no existing structures of any kind within the defined search area available for collocation by Verizon Wireless. Enclosed in the application materials is a sworn statement from the Verizon Wireless Radio Frequency Engineer assigned to the site attesting to the

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fact that collocation is not feasible option for this site, as there are no existing structures of any kind which exist within the Verizon Wireless Search Area that could be utilized by Verizon Wireless for a collocation.

## **ADDITIONAL DISCUSSION**

This is a joint application for a proposed new communications tower facility which will be owned by SBA Towers V, LLC ("SBA"), a national owner and operator of wireless communications infrastructure; and an antenna and equipment installation upon this new communications tower facility by its proposed tenant, Verizon Wireless. It is not uncommon for wireless telecommunications service providers to engage the services of a tower company to construct, own, and operate the infrastructure upon which they desire locate their equipment. In this case, Verizon Wireless needs the site to meet its service needs for the defined search area, and has engaged SBA to participate as the tower developer/owner for the project.

As described above, the proposed project is for the construction, installation, and operation of an unmanned wireless tower communications facility upon the property located at 2660 Hwy 51, McFarland, WI 53558 in the Town of Dunn. This facility will consist of Verizon Wireless antennas and equipment to be mounted at the 120' centerline of a newly constructed SBA owned 130' tall monopole tower structure (138' overall with lighting rod), which would be expandable to a 160' tall monopole tower structure (169' overall with lightning rod) as needed, associated coaxial/hybrid cable runs down the interior of the tower, and an 8" x 9'4" concrete pad which will house the Verizon Wireless base station equipment and a separate 5' x 8' 6" concrete pad for its backup power generator near the base of the tower, all within a 65' x 65' fenced SBA compound area as shown in the enclosed plans. Also, a 30' foot wide access and utility easement will be utilized to serve the site, entering the property from the public way via the existing access point from US Hwy 51 to the west.

This Conditional Use Permit will provide a great benefit for the community, in that it will allow for the provision of the highest quality and most technologically advanced wireless communication services to the area. Besides the services which will be provided by Verizon Wireless, the tower facility has been designed so it will be available for at least two (2) other comparable antenna and equipment installations, and shall conform to all applicable ANSI/TIA 222-G, FCC, and FAA regulations and standards governing such facilities. Multiple company collocations on its infrastructure is the core of SBA's business, and SBA actively markets its portfolio of tower sites for collocation to all communication users nationwide and will do so for this site as well.

The proposed facility will not require any public participation or result in any public cost for public facilities and services which would be detrimental to the economic welfare of the community. In fact, the wireless communication services offered by Verizon Wireless are desired by both businesses and individuals alike, and will be an economic asset to the community. The enhanced E-911 services provided by facilities such as these will also assist in the protection of the public health, safety, and welfare of the community.

The equipment will operate continuously at this unmanned facility and will require no additional parking or facilities for employees. Verizon Wireless' cell site technicians will visit the site periodically, typically a couple hours once per month, for the testing and monitoring of the maintenance and security of its equipment. SBA Communications personnel will also visit the site periodically to monitor the maintenance and security of the facility. The facility will not generate any substantial traffic, and besides



the new tower structure, the remainder of the equipment has a minimal visual impact and generates very little noise.

This site is located in the A-2, Agricultural Zoning District and has been positioned upon the underlying 5.35 acre parcel in location to best conform with the current uses of the underlying property, and to maximize its distance from the closest neighboring properties and public way viewsheds to the west. The location of the proposed tower upon the property is setback from the nearest property line by little over 79' 6", a distance that is less than the maximum overall height of the proposed tower structure. However, enclosed please find a stamped engineering letter from Sabre Industries Towers and Poles, SBA's tower manufacturer, ensuring that that the tower will be designed to collapse within the subject property in the event of structural failure.

Besides the six (6) application requirements defined by Wis. Stat. Sect. 66.0404(2)(b), I have also enclosed the below listed items and provided additional narrative as requested by Dane County and agreed to by the applicant.

FAA Determination (see attached)
Fall Letter (see attached)
Site Plan (see attached which includes latitude/longitude and site elevation)
RF Propagation Maps (see attached Macro Cell site maps)
Tower Inventory 1.5 Mile Radius Map (see attached)
Google Earth Aerial and Street View Maps (see attached)
Ice Non-Hazard Statement (see below)
Visual Mitigation Statement (see below)

### **Ice Non-Hazard Statement**

Wireless communications structures do not pose any greater ice fall hazard than other elevated man made or natural structures. The proposed communications structure is a monopole, the design of which significantly minimizes the areas at which ice can form. It has no guy wires. Further, the proposed communications structure is located on a 5.35 acre privately owned parcel with an agricultural use, which greatly minimizes public contact with the communications structure. Further, Wisconsin Statute 66.0404 prohibits the governing body from considering this issue in deliberating a tower approval.

### **Visual Mitigation Statement**

As to minimizing visual impacts, the location chosen is the eastern most available upon the property maximizing its distance to the closest developed properties and public way to the west. It also utilizes proximity to the existing agricultural buildings upon the property to provide screening from those same westerly off-site views. The immediate surrounding area is mostly commercial properties and undeveloped land thus minimizing its visibility to the closest resident populations.

Finally, I believe the above information satisfies the applicable application requirements as defined by the Dane County Zoning Ordinance and as preempted by Wis. Stat. Sect. 66.0404; and is ready to be scheduled for consideration by the Dane County Zoning and Land Regulation Committee. I look forward to the public hearing for this request, and will be present at the meeting to address any remaining questions that the committee or members of the public may have regarding the application and proposed

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use of the site. As you know, a copy of this application and the enclosed materials have been previously submitted to Dunn Township ensuring they are aware of this submittal.

Should you have any additional information needs or questions regarding the application, the enclosed materials, or the proposed use of the site, please contact me directly at (773) 919-5112, or by e-mail at <a href="mailto:pschau@ton80realtyservices.com">pschau@ton80realtyservices.com</a>.

tel: (773) 919-5112/fax: (866) 684-3535

Sincerely,

# Peter Schau

Peter Schau
Ton 80 Realty Services, Inc.,
on behalf of SBA Towers V, LLC
and Verizon Wireless

Enclosures as described

CC: Ms. Erica Schmitz
Land Use Manager
Town of Dunn
4156 County Road B

McFarland, WI 53558

PO Box 578790/Chicago, IL 60657

### **Section 1269i.** 66.0404 of the statutes is created to read:

## 66.0404 Mobile tower siting regulations.

- (1) Definitions. In this section:
- (a) "Antenna" means communications equipment that transmits and receives electromagnetic radio signals and is used in the provision of mobile services.
- (b) "Application" means an application for a permit under this section to engage in an activity specified in sub. (2) (a) or a class 2 collocation.
- (c) "Building permit" means a permit issued by a political subdivision that authorizes an applicant to conduct construction activity that is consistent with the political subdivision's building code.
- (d) "Class 1 collocation" means the placement of a new mobile service facility on an existing support structure such that the owner of the facility does not need to construct a free standing support structure for the facility but does need to engage in substantial modification.
- (e) "Class 2 collocation" means the placement of a new mobile service facility on an existing support structure such that the owner of the facility does not need to construct a free standing support structure for the facility or engage in substantial modification.
- (f) "Collocation" means class 1 or class 2 collocation or both.
- (g) "Distributed antenna system" means a network of spatially separated antenna nodes that is connected to a common source via a transport medium and that provides mobile service within a geographic area or structure.
- (h) "Equipment compound" means an area surrounding or adjacent to the base of an existing support structure within which is located mobile service facilities.
- (i) "Existing structure" means a support structure that exists at the time a request for permission to place mobile service facilities on a support structure is filed with a political subdivision.
- (j) "Fall zone" means the area over which a mobile support structure is designed to collapse.
- (k) "Mobile service" has the meaning given in 47 USC 153 (33).
- (L) "Mobile service facility" means the set of equipment and network components, including antennas, transmitters, receivers, base stations, power supplies, cabling, and associated equipment, that is necessary to provide mobile service to a discrete geographic area, but does not include the underlying support structure.
- (m) "Mobile service provider" means a person who provides mobile service.
- (n) "Mobile service support structure" means a freestanding structure that is designed to support a mobile service facility.
- (o) "Permit" means a permit, other than a building permit, or approval issued by a political subdivision which authorizes any of the following activities by an applicant:
- 1. A class 1 collocation.
- 2. A class 2 collocation.
- 3. The construction of a mobile service support structure.
- (p) "Political subdivision" means a city, village, town, or county.
- (q) "Public utility" has the meaning given in s. 196.01 (5).
- (r) "Search ring" means a shape drawn on a map to indicate the general area within which a mobile service support structure should be located to meet radio frequency engineering

requirements, taking into account other factors including topography and the demographics of the service area.

- (s) "Substantial modification" means the modification of a mobile service support structure, including the mounting of an antenna on such a structure, that does any of the following:
- 1. For structures with an overall height of 200 feet or less, increases the overall height of the structure by more than 20 feet.
- 2. For structures with an overall height of more than 200 feet, increases the overall height of the structure by 10 percent or more.
- 3. Measured at the level of the appurtenance added to the structure as a result of the modification, increases the width of the support structure by 20 feet or more, unless a larger area is necessary for collocation.
- 4. Increases the square footage of an existing equipment compound to a total area of more than 2,500 square feet.
- (t) "Support structure" means an existing or new structure that supports or can support a mobile service facility, including a mobile service support structure, utility pole, water tower, building, or other structure.
- (u) "Utility pole" means a structure owned or operated by an alternative telecommunications utility, as defined in s. 196.01 (1d); public utility, as defined in s. 196.01 (5); telecommunications utility, as defined in s. 196.01 (10); political subdivision; or cooperative association organized under ch. 185; and that is designed specifically for and used to carry lines, cables, or wires for telecommunications service, as defined in s. 182.017 (1g) (cq); video service, as defined in s. 66.0420 (2) (y); for electricity; or to provide light.
- (2) New construction or substantial modification of facilities and support structures.
- (a) Subject to the provisions and limitations of this section, a political subdivision may enact a zoning ordinance under s. 59.69, 60.61, or 62.23 to regulate any of the following activities:
- 1. The siting and construction of a new mobile service support structure and facilities.
- 2. With regard to a class 1 collocation, the substantial modification of an existing support structure and mobile service facilities.
- (b) If a political subdivision regulates an activity described under par. (a), the regulation shall prescribe the application process which a person must complete to engage in the siting, construction, or modification activities described in par. (a). The application shall be in writing and shall contain all of the following information:
- 1. The name and business address of, and the contact individual for, the applicant.
- 2. The location of the proposed or affected support structure.
- 3. The location of the proposed mobile service facility.
- 4. If the application is to substantially modify an existing support structure, a construction plan which describes the proposed modifications to the support structure and the equipment and network components, including antennas, transmitters, receivers, base stations, power supplies, cabling, and related equipment associated with the proposed modifications.
- 5. If the application is to construct a new mobile service support structure, a construction plan which describes the proposed mobile service support structure and the equipment

and network components, including antennas, transmitters, receivers, base stations, power supplies, cabling, and related equipment to be placed on or around the new mobile service support structure.

- 6. If an application is to construct a new mobile service support structure, an explanation as to why the applicant chose the proposed location and why the applicant did not choose collocation, including a sworn statement from an individual who has responsibility over the placement of the mobile service support structure attesting that collocation within the applicant's search ring would not result in the same mobile service functionality, coverage, and capacity; is technically infeasible; or is economically burdensome to the mobile service provider.
- (c) If an applicant submits to a political subdivision an application for a permit to engage in an activity described under par. (a), which contains all of the information required under par. (b), the political subdivision shall consider the application complete. If the political subdivision does not believe that the application is complete, the political subdivision shall notify the applicant in writing, within 10 days of receiving the application, that the application is not complete. The written notification shall specify in detail the required information that was incomplete. An applicant may resubmit an application as often as necessary until it is complete.
- (d) Within 90 days of its receipt of a complete application, a political subdivision shall complete all of the following or the applicant may consider the application approved, except that the applicant and the political subdivision may agree in writing to an extension of the 90 day period:
- 1. Review the application to determine whether it complies with all applicable aspects of the political subdivision's building code and, subject to the limitations in this section, zoning ordinances.
- 2. Make a final decision whether to approve or disapprove the application.
- 3. Notify the applicant, in writing, of its final decision.
- 4. If the decision is to disapprove the application, include with the written notification substantial evidence which supports the decision.
- (e) A political subdivision may disapprove an application if an applicant refuses to evaluate the feasibility of collocation within the applicant's search ring and provide the sworn statement described under par. (b) 6.
- (f) A party who is aggrieved by the final decision of a political subdivision under par. (d) 2. may bring an action in the circuit court of the county in which the proposed activity, which is the subject of the application, is to be located.
- (g) If an applicant provides a political subdivision with an engineering certification showing that a mobile service support structure, or an existing structure, is designed to collapse within a smaller area than the set back or fall zone area required in a zoning ordinance, that zoning ordinance does not apply to such a structure unless the political subdivision provides the applicant with substantial evidence that the engineering certification is flawed.
- (h) A political subdivision may regulate the activities described under par. (a) only as

provided in this section.

- (i) If a political subdivision has in effect on the effective date of this subdivision .... [LRB inserts date], an ordinance that applies to the activities described under par. (a) and the ordinance is inconsistent with this section, the ordinance does not apply to, and may not be enforced against, the activity.
- (3) Collocation on existing support structures.
- (a) 1. A class 2 collocation is a permitted use under ss. 59.69, 60.61, and 62.23.

  2. If a political subdivision has in effect on the effective date of this subdivision .... [LRB inserts date], an ordinance that applies to a class 2 collocation and the ordinance is inconsistent with this section, the ordinance does not apply to, and may not be enforced against, the class 2 collocation.
- 3. A political subdivision may regulate a class 2 collocation only as provided in this section.
- 4. A class 2 collocation is subject to the same requirements for the issuance of a building permit to which any other type of commercial development or land use development is subject.
- (b) If an applicant submits to a political subdivision an application for a permit to engage in a class 2 collocation, the application shall contain all of the information required under sub. (2) (b) 1. to 3., in which case the political subdivision shall consider the application complete. If any of the required information is not in the application, the political subdivision shall notify the applicant in writing, within 5 days of receiving the application, that the application is not complete. The written notification shall specify in detail the required information that was incomplete. An applicant may resubmit an application as often as necessary until it is complete.
- (c) Within 45 days of its receipt of a complete application, a political subdivision shall complete all of the following or the applicant may consider the application approved, except that the applicant and the political subdivision may agree in writing to an extension of the 45 day period:
- 1. Make a final decision whether to approve or disapprove the application.
- 2. Notify the applicant, in writing, of its final decision.
- 3. If the application is approved, issue the applicant the relevant permit.
- 4. If the decision is to disapprove the application, include with the written notification substantial evidence which supports the decision.
- (d) A party who is aggrieved by the final decision of a political subdivision under par. (c) 1. may bring an action in the circuit court of the county in which the proposed activity, which is the subject of the application, is to be located.
- (4) Limitations. With regard to an activity described in sub. (2) (a) or a class 2 collocation, a political subdivision may not do any of the following:
- (a) Impose environmental testing, sampling, or monitoring requirements, or other compliance measures for radio frequency emissions, on mobile service facilities or

mobile radio service providers.

- (b) Enact an ordinance imposing a moratorium on the permitting, construction, or approval of any such activities.
- (c) Enact an ordinance prohibiting the placement of a mobile service support structure in particular locations within the political subdivision.
- (d) Charge a mobile radio service provider a fee in excess of one of the following amounts:
- 1. For a permit for a class 2 collocation, the lesser of \$500 or the amount charged by a political subdivision for a building permit for any other type of commercial development or land use development.
- 2. For a permit for an activity described in sub. (2) (a), \$3,000.
- (e) Charge a mobile radio service provider any recurring fee for an activity described in sub. (2) (a) or a class 2 collocation.
- (f) Permit 3rd party consultants to charge the applicant for any travel expenses incurred in the consultant's review of mobile service permits or applications.
- (g) Disapprove an application to conduct an activity described under sub. (2) (a) based solely on aesthetic concerns.
- (gm) Disapprove an application to conduct a class 2 collocation on aesthetic concerns.
- (h) Enact or enforce an ordinance related to radio frequency signal strength or the adequacy of mobile service quality.
- (i) Impose a surety requirement, unless the requirement is competitively neutral, nondiscriminatory, and commensurate with the historical record for surety requirements for other facilities and structures in the political subdivision which fall into disuse. There is a rebuttable presumption that a surety requirement of \$20,000 or less complies with this paragraph.
- (j) Prohibit the placement of emergency power systems.
- (k) Require that a mobile service support structure be placed on property owned by the political subdivision.
- (L) Disapprove an application based solely on the height of the mobile service support structure or on whether the structure requires lighting.
- (m) Condition approval of such activities on the agreement of the structure or mobile service facility owner to provide space on or near the structure for the use of or by the political subdivision at less than the market rate, or to provide the political subdivision other services via the structure or facilities at less than the market rate.

- (n) Limit the duration of any permit that is granted.
- (o) Require an applicant to construct a distributed antenna system instead of either constructing a new mobile service support structure or engaging in collocation.
- (p) Disapprove an application based on an assessment by the political subdivision of the suitability of other locations for conducting the activity.
- (q) Require that a mobile service support structure, existing structure, or mobile service facilities have or be connected to backup battery power.
- (r) Impose a setback or fall zone requirement for a mobile service support structure that is different from a requirement that is imposed on other types of commercial structures.
- (s) Consider an activity a substantial modification under sub. (1) (s) 1. or 2. if a greater height is necessary to avoid interference with an existing antenna.
- (t) Consider an activity a substantial modification under sub. (1) (s) 3. if a greater protrusion is necessary to shelter the antenna from inclement weather or to connect the antenna to the existing structure by cable.
- (u) Limit the height of a mobile service support structure to under 200 feet.
- (v) Condition the approval of an application on, or otherwise require, the applicant's agreement to indemnify or insure the political subdivision in connection with the political subdivision's exercise of its authority to approve the application.
- (w) Condition the approval of an application on, or otherwise require, the applicant's agreement to permit the political subdivision to place at or collocate with the applicant's support structure any mobile service facilities provided or operated by, whether in whole or in part, a political subdivision or an entity in which a political subdivision has a governance, competitive, economic, financial or other interest.
- (5) Applicability. If a county enacts an ordinance as described under sub. (2) the ordinance applies only in the unincorporated parts of the county, except that if a town enacts an ordinance as described under sub. (2) after a county has so acted, the county ordinance does not apply, and may not be enforced, in the town, except that if the town later repeals its ordinance, the county ordinance applies in that town.

# Section 1269k. 66.0406 of the statutes is created to read:

# 66.0406 Radio broadcast service facility regulations.

- (1) Definitions. In this section:
- (a) "Political subdivision" means any city, village, town, or county.
- (b) "Radio broadcast services" means the regular provision of a commercial or noncommercial service involving the transmission, emission, or reception of radio waves

for the transmission of sound or images in which the transmissions are intended for direct reception by the general public.

- (c) "Radio broadcast service facilities" means commercial or noncommercial facilities, including antennas and antenna support structures, intended for the provision of radio broadcast services.
- (2) Limitations on local regulation. Beginning on May 1, 2013, if a political subdivision enacts an ordinance, adopts a resolution, or takes any other action that affects the placement, construction, or modification of radio broadcast service facilities, the ordinance, resolution, or other action may not take effect unless all of the following apply:
- (a) The ordinance, resolution, or other action has a reasonable and clearly defined public health or safety objective, and reflects the minimum practical regulation that is necessary to accomplish that objective.
- (b) The ordinance, resolution, or other action reasonably accommodates radio broadcast services and does not prohibit, or have the effect of prohibiting, the provision of such services in the political subdivision.
- (3) Continued application of existing regulations. If a political subdivision has in effect on May 1, 2013, an ordinance or resolution that is inconsistent with the requirements that are specified in sub. (2) for an ordinance, resolution, or other action to take effect, the existing ordinance or resolution does not apply, and may not be enforced, to the extent that it is inconsistent with the requirements that are specified in sub. (2).
- (4) Denial of placement, construction, or modification of facilities. If a political subdivision denies a request by any person to place, construct, or modify radio broadcast service facilities in the political subdivision, the denial may be based only on the political subdivision's public health or safety concerns. The political subdivision must provide the requester with a written denial of the requester's request, and the political subdivision must provide the requester with substantial written evidence which supports the reasons for the political subdivision's action.



# **Conditional Use Application**

Application Fee: \$486 Mineral Extraction: \$1136 Cell Tower: \$3000

**Zoning Division** Room 116, City-County Building 210 Martin Luther King Jr. Blvd. Madison, Wisconsin 53703-3342 Phone: (608) 266-4266

Fax: (608) 267-1540

Items required to be submitted with application:

- Written Legal Description of Conditional Use Permit boundaries
- Scaled drawing of the property showing existing/proposed buildings, setback requirements, driveway, parking area, outside storage areas, location/type of exterior lighting, any natural features, and proposed signs.
- Scaled map showing neighboring area land uses and zoning districts
- Written operations plan describing the items listed below (additional items needed for mineral extraction sites)

Ow	ner SBA Towers V, LLC & V	Verizon Wireless ss and Phyllis Dube	Agent P	eter S	Schau, '	Ton 8	0 Real	ty Services, I
Add	dress 2660 Hwy. 51, McFarl	and, WI 53558	Address	P.O.	Box 57	8790,	Chica	go, IL 60657
Phone 608-838-0131  JaneLiess@aol.com  Email			Phone Email	773-919-5112				
				_pscl	nau@to	n80r	ealty	services.com
Par	cel numbers affected: 028/06	510-103-9210-1 510-103-9190-6	_ Town:_ — Propert		ss: 266	0 US	Section Hwy.	n <u>\$10,T6.R10</u> E 51
	sting/ Proposed Zoning District :	A-2 / No zonin	g chanc	<u>je</u>				
a washing	Type of Activity propos		municat	ions				
0	Type of Activity propos  Hours of Operation	ed: Wireless comm	municat	ions				
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0 0 0 0 0 0 0	Type of Activity propos  Hours of Operation Number of employees Anticipated customers Outside storage Outdoor activities Outdoor lighting Outside loudspeakers	ed: Wireless comm  24/7 0 0 No No No Yes, equipment	platfo	cm	ident	ific	ation	only

# Six Standards of a Conditional Use Permit

Provide an explanation on how the proposed land use will meet all six standards.

1. The establishment, maintenance or operation of the conditional use will not be detrimental to or endanger the public health, safety, comfort or general welfare.

The use will positively impact public health, safety, comfort and general welfare by providing the most technologically advanced wireless communications to the area including E911 enhanced emergency response capabilities.

The uses, values and enjoyment of other property in the neighborhood for purposes already permitted shall be in no foreseeable manner substantially impaired or diminished by establishment, maintenance or operation of the conditional use.

There will be no substantial impairment or diminishment to the current surrounding uses as the use will create essentially no additional traffic and will not be audible to surrounding neighbors.

3. That the establishment of the conditional use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district.

The use will have no adverse impact on the orderly development of surrounding uses currently agricultural, residential and commercial.

 That adequate utilities, access roads, drainage and other necessary site improvements have been or are being made.

Adequate services including utilities, access and drainage have all been accounted for in the proposed use.

Adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets.

Existing ingress/egress will be utilized for the use. Upon completion of construction traffic to the proposed site will average two-ten vehicles per month.

6. That the conditional use shall conform to all applicable regulations of the district in which it is located.

The use meets all applicable regulations as defined by WI State Statute 66.0404.

## COMMUNICATION TOWER INFORMATION FORM (CTIF)

CONTACTS												
Property Owner's N	Name							and Veriz				
Property Owner's Mailing Address		2660 1		wy. 5	51	]	McI	Farland City		WI State	535 ZI	
				( 60	8 ) 8	38-0	)13	1				
Agent's Name & A	Affiliatio	n		Pete	er Sch	nau,	Т	on 80 Rea	alty	Serv	ices,	Inc
Agent's Relationsh	ip to Pro	operty Owi	ner	Tena	ant's	age	nt					
Agent's Relationsh service provider, si							it∈	e Acquisi	tion	Spec	ciali	st
Agent's Mailing A	-	PO. I	3ox 5				C	Chicago City		IL State	606 ZI	
Agent's Phone Nur	nber				3 ) 9	19-5	511	•				
PROPOSED ACTI	ION											
Current Zoning		A	2			CUP	Acı	res	.23	3		
Proposed Zoning (o	only if re	ezoning)					Rezone Acres (if applic			cable)		
					nsor formally completed a binding attach a letter from the property			Yes	Tes No			
owner(s) consentin									Circle One			
If applicable, does	the <del>leas</del> e	e area coin	cide wit	th the pi	proposed CUP area?				Yes No		lo	
	ease									Circ	le One	
LOCATION												
Town					Dunn							
PLSS location (To	wnship,	Range, 1/4	¼ Secti	ion)	10/06/10 SW1/4SW1/6 and							
Parcel Number(s)			Lot 1 CSM 6609 028/0610-103-9210-1 and									
Street Address (or Proximity to Nearest Address)				028/0610-103-9190-6								
Street Address (or Proximity to Nearest Address)  2660 US Hwy. 51, McFarland, WI  Coordinates in Decimal Degrees (00.000000 Lat., - 00.000000 Long.)  42.991836 Lat, -89.305194 Long												
Is the subject prop	perty loc	cated in th			nitation Zoning Overlay District (HLZO), ional Airport (check with Zoning staff)?					Yes	Circle On	No ne

Applicant's Intended Purpose of Tower (e.g. coverage, capacity, other). Explain.  Type of Tower (e.g. monopole, self-support lattice, guyed lattice, etc.)  Monopole  Above Ground Level (AGL) Height (ft.) (i.e. maximum design potential).  Base/Ground Elevation (ft.)  Base/Ground Elevation (ft.)  What is the "fall-down radius" (ft.) of the proposed tower?  Technology to be Initially Sited on the Proposed Tower (e.g. Cellular, PCS, Radio, Television, Microwave, etc.) 4  Technology to be Initially Sited on the Proposed Tower (e.g. Cellular, PCS, Radio, Television, Microwave, etc.) 4  Sumber & elevation (Feet AGL) of Antenna Arrays to be Accommodated 120 150 160 2 3 4 5 6  Is the primary sponsor of this tower a wireless service provider, please include PCC license number.  To the best of the applicant's knowledge, will this tower be included a tower builder?  To the best of the applicant's knowledge, will this tower be included a tower builder?  To the best of the applicant's Nowledge, will this tower be included a tower builder?  To the best of the applicant's Nowledge, will this tower be included a tower builder?  To the best of the applicant's Nowledge, will this tower be included to the proposed tower will be lighted.  In a wireless service provider or a tower builder?  To the best of the applicant's Nowledge, will this tower be included to the proposed tower will be lighted.  In a wireless service provider or a tower will be lighted.  If applicable, please explain in the box below to the greatest extent known in what manner the tower will be lighted.  Are there any mitigation measures being taken to minimize the visual impact of this tower? If so, explain. Attach an additional page if necessary.  N/A per WI Stats Sec 66.0404(4)(g)  PRELIMINARY INFORMATION ON OPTIONS FOR COLLOCATION 5  What search area radius was used to determine the location of the proposed tower?  Are there any existing towers or other potentially suitable structures in excess of 80 feet in height within a 1.5 mile radius? If yes, how many st	TOWER DETAILS										
Above Ground Level (AGL) Height (ft.) (i.e. maximum design potential).  Base/Ground Elevation (ft.)  What is the "fall-down radius" (ft.) of the proposed tower?  Technology to be Initially Sited on the Proposed Tower (e.g. Cellular, PCS, Radio, Television, Microwave, etc.) 4  Number & elevation (Feet AGL) of Antenna Arrays to be Accommodated  Is the primary sponsor of this tower a wireless service provider or a tower builder?  To the best of the applicant's knowledge, will this tower be lighted?  Are there any mitigation measures being taken to minimize the visual impact of this tower? If so, explain. Attach an additional page if necessary.  N/A per WI Stats Sec 66.0404(4)(g)  PRELIMINARY INFORMATION ON OPTIONS FOR COLLOCATION 5  What search area radius was used to determine the location of the proposed tower?  Are there any existing towers or other potentially suitable structures in excess of 80 feet in height within a 1.5 mile radius? If yes, how many structures total are there?  Structures. If yes, please attach map showing the location of these structures in proximity to the proposed tower. N/A Per WI Stats 66.0404(4)(p)  Has the applicant examined each of the structures noted above to determine if an antenna array can or may be located on the structures?  To the best of the applicant examined each of the structures noted above to determine if an antenna array can or may be located on the structures?  Cellular, AWS, PCS, LTE  Cellular, AWS, PCS, LTE  Cellular, AWS, PCS, LTE  The determination of the proposed or the structures of the structures in proximity to the proposed tower?  Are there any existing towers or other potentially suitable structures in excess of 80 feet in height within a 1.5 mile radius? If yes, how many structures total are there?  Structures in proximity to the proposed tower. N/A Per WI Stats 66.0404(4)(p)  PRELIMINARY INFORMATION ON OPTIONS FOR COLLOGATION of the proposed tower. N/A Per WI Stats 66.0404(4)(p)  PRELIMINARY INFORMATION ON OPTIONS FOR COLLOGATION of the proposed tower. N/											
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Are there any mitigation measures being taken to minimize the visual impact of this tower? If so, explain. Attach an additional page if necessary.  N/A per WI Stats Sec 66.0404(4)(g)  PRELIMINARY INFORMATION ON OPTIONS FOR COLLOCATION <sup>5</sup> What search area radius was used to determine the location of the proposed tower?  Are there any existing towers or other potentially suitable structures in excess of 80 feet in height within a 1.5 mile radius? If yes, how many structures total are there? structures. If yes, please attach map showing the location of these structures in proximity to the proposed tower. N/A Per WI Stats 66.0404(4)(p)  Has the applicant examined each of the structures noted above to determine if an antenna array can or may be located on the structure?  Circle One  Yes No	knowledge, will this tower be			great	test extent known in what manner the tower will be						
an additional page if necessary.  N/A per WI Stats Sec 66.0404(4)(g)  PRELIMINARY INFORMATION ON OPTIONS FOR COLLOCATION <sup>5</sup> What search area radius was used to determine the location of the proposed tower?  Are there any existing towers or other potentially suitable structures in excess of 80 feet in height within a 1.5 mile radius? If yes, how many structures total are there? structures. If yes, please attach map showing the location of these structures in proximity to the proposed tower. N/A Per WI Stats 66.0404(4)(p)  Has the applicant examined each of the structures noted above to determine if an antenna array can or may be located on the structure?  Circle One	Lighting Configuration:										
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	Has the applicant examined ea array can or may be located on	ch of the	ire?							C:	

 $Hi \backslash Zoning \backslash Zoning \ Division \ Documentation \backslash Informational \ Materials \backslash Communication \ Towers \backslash Communication \ Tower \ Application \ Packet \ 09-2010. doc$ 

Note that this statement in itself does not necessarily preclude in the future the placement of alternative technologies on this structure.

Note that more detailed information regarding options for collocation and addressing s. 10.194(2) of the Dane County Code of Ordinances is required in the *Written Statement*.

Assign a number to each of the existing structures noted above ar will not accommodate the proposed antenna array (e.g. structura etc.). Attach additional pages if necessary.						
1. N/A per WI Stats 66.0404(4)(p)						
2.						
3.						
4.						
SUBJECT PROPERTY AND SURROUNDING AREA						
What is the current, primary use of the subject property (e.g. residential, agricultural, commercial, etc.)?	AG, Commercial	, Resid	lential			
What are the current, primary uses of all properties adjacent to the subject property?	AG, Commercial	, Resid	ential			
What is the current zoning of all properties adjacent to the subject property?	N: A-1 E: A-1 S: A-1 W: A-1, A-2, C	C-2, C-2	2			
How far (in feet) is the proposed tower from the nearest structu (not on subject property)? What is the current use of the structure		670' Auto Re	epair			
Are there any small, private airports within a 3-mile radius of the give the name(s) and distance(s) in the box below.	Yes	No o One				
Name(s) and Distances of Private Airports:  Circle One						
, , , , , , , , , , , , , , , , , , ,						
If applicable, have the listed private airports within a 3-mile rac	lius of the proposed tower	Yes	No			
been notified of the petition?  Circle One						

# Town of Dunn Re-zone – Conditional Use Permit (CUP) APPLICATION FORM

Property Owner: SBAT	OHOLO TI LLO TOLLE	& Verizon Wireless as tenant(s) to Jane Liess and F
c/o: Pe	eter Schau, Ton 80 Rea	
Address: P.O. B	ox 578790, Chicago, I	L 60657
Email Address: pschar	u@ton80realtyservices	.com
Phone #: (773)	919-5112	_
Parcel #s: 028/0 (circle # with house)	610-103-9210-1 & 028	3/0610-103-9190-6
	ent Zoning	Re-Zone Requested None
Requesting re-zone of entire  Entire property	property or por Portion (attach n	tion of property? (check one)
Dane County Re-zone Appli	cation #: N/A	
(attach County Form)	Cation #	<u> </u>
(attach County Form)  Dane County CUP Applicat (attach County Form)  Installati	ion #:	ew Mobile Service Support Structure and Facilites c
(attach County Form)  Dane County CUP Applicat (attach County Form)  Installati	ion #:	
(attach County Form)  Dane County CUP Applicat (attach County Form)  Installati  Reason for request: a new 13	ion #: on and operation of n 80' (138' w/lightning re	od) tall monopole tower owned by SBA, expandable
(attach County Form)  Dane County CUP Applicat (attach County Form)  Installati Reason for request: a new 13 ing rod) with Verizon Wireless antennas of the tower, and an equipment platform	ion #: on and operation of n so' (138' w/lightning re s and equipment moun n cluster and backup	od) tall monopole tower owned by SBA, expandable nted at the 120' CL, associated coax/hybrid cable rur power generator installed at grade near the base of t
Dane County CUP Applicat (attach County Form)  Installati Reason for request: a new 13 ing rod) with Verizon Wireless antennas of the tower, and an equipment platform BA's 100' x 100' lease area, servied by a 3 The undersigned applicant as owner provided is true and accurate	ion #:  on and operation of n  o' (138' w/lightning re  and equipment moun  cluster and backup  o' wide accces and uti	od) tall monopole tower owned by SBA, expandable nted at the 120' CL, associated coax/hybrid cable rur power generator installed at grade near the base of the lity easement from Hwy 51 to the west. Int, does hereby attest that all the information
Dane County CUP Applicat (attach County Form)  Installati Reason for request: a new 13 ing rod) with Verizon Wireless antennas of the tower, and an equipment platform BA's 100' x 100' lease area, servied by a 3 The undersigned applicant as owner provided is true and accurate	ion #: on and operation of n 30' (138' w/lightning re s and equipment mous n cluster and backup 50' wide accces and uti er, or as owner's ager	od) tall monopole tower owned by SBA, expandable nted at the 120' CL, associated coax/hybrid cable rur power generator installed at grade near the base of the lity easement from Hwy 51 to the west. Int, does hereby attest that all the information
Dane County CUP Applicat (attach County Form)  Installati Reason for request: a new 13 ing rod) with Verizon Wireless antennas of the tower, and an equipment platform BA's 100' x 100' lease area, servied by a 3 The undersigned applicant as owner provided is true and accurate  A general county form)  A set tenar  Signature of Applicant	ion #: on and operation of n 30' (138' w/lightning re s and equipment mous n cluster and backup 50' wide accces and uti er, or as owner's ager	bd) tall monopole tower owned by SBA, expandable inted at the 120' CL, associated coax/hybrid cable rur power generator installed at grade near the base of the lity easement from Hwy 51 to the west. Int, does hereby attest that all the information
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Dane County CUP Applicat (attach County Form)  Installati Reason for request: a new 13 ing rod) with Verizon Wireless antennas of the tower, and an equipment platform BA's 100' x 100' lease area, servied by a 3 The undersigned applicant as owner provided is true and accurate  A gray as tenar Signature of Applicant  Office use only:  Re-zone	ion #: on and operation of notice of the solution of the solut	bd) tall monopole tower owned by SBA, expandable inted at the 120' CL, associated coax/hybrid cable rur power generator installed at grade near the base of the lity easement from Hwy 51 to the west. Int, does hereby attest that all the information
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Dane County CUP Applicat (attach County Form)  Installati Reason for request: a new 13 ing rod) with Verizon Wireless antennas of the tower, and an equipment platform BA's 100' x 100' lease area, servied by a 3 The undersigned applicant as owner provided is true and accurate  , as tenar Signature of Applicant  Office use only:  Re-zone Conditional Use Permit (CUP) Combined Re-zone and CUP	on and operation of n 30' (138' w/lightning research equipment mount of n cluster and backup 30' wide access and utiliser, or as owner's ager at to SBA & Verizon W  \$250 \$300 \$350	bod) tall monopole tower owned by SBA, expandable inted at the 120' CL, associated coax/hybrid cable run power generator installed at grade near the base of the lity easement from Hwy 51 to the west. Int, does hereby attest that all the information  Wireless    627/16   Date     Date received:
Dane County CUP Applicat (attach County Form)  Installati Reason for request: a new 13 ing rod) with Verizon Wireless antennas of the tower, and an equipment platform BA's 100' x 100' lease area, servied by a 3 The undersigned applicant as owner provided is true and accurate  A gray as tenar Signature of Applicant  Office use only:  Re-zone Conditional Use Permit (CUP)	ion #: on and operation of n 30' (138' w/lightning research and equipment mount of section of the section of th	bod) tall monopole tower owned by SBA, expandable inted at the 120' CL, associated coax/hybrid cable run power generator installed at grade near the base of the lity easement from Hwy 51 to the west. Int, does hereby attest that all the information  Wireless    G27/16   Date



Ms. Jane Liess Ms. Phyllis Dube 2660 Hwy. 51 McFarland, WI 53558

July 25, 2018

Re: SBA Towers V, LLC ("SBA")-New Mobile Service Support Structure and Facilities / Liess-Dube Property: 2660 Hwy. 51, McFarland, WI 53558.

Parcel ID #: 028/0610-103-9210-1 & 028/0610-103-9190-6

Dear Jane & Phyllis,

Please acknowledge this letter below as evidence of your consent for Ton 80 Realty Services, Inc. to file any and all necessary zoning, building, erosion control, and other governmental use applications required for the proposed use of a Mobile Service Support Structure and Facilities upon the property by SBA as your tenant, and Verizon Wireless as SBA's prospective subtenant, with Dane County and the Town of Dunn, on your behalf as the fee owner of the property.

Thank you for all of your time and assistance in the matter.

Best regards,

# Peter Schau

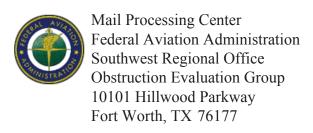
Peter Schau
On behalf of SBA Communications
and Verizon Wireless

Acknowledged this 21 day of June, 2018

Owner

PO Box 578790/Chicago, IL 60657

tel: (773) 919-5112/fax: (866) 684-3535



Issued Date: 04/14/2017

Clinton Papenfuss SBA Towers 8051 Congress Avenue Boca Raton, FL 33487-1310

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

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

Structure: Antenna Tower WI 15646-B

Location: McFarland, WI

Latitude: 42-59-30.61N NAD 83

Longitude: 89-18-18.70W

Heights: 856 feet site elevation (SE)

140 feet above ground level (AGL) 996 feet above mean sea level (AMSL)

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

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

	At least 10 days prior to start of construction (7460-2, Part 1)
X	Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 10/14/2018 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

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

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

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

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

If we can be of further assistance, please contact our office at (847) 294-7575. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-AGL-60-OE.

Signature Control No: 313894218-328432282 (DNE)

Vivian Vilaro Specialist

Attachment(s)
Frequency Data

cc: FCC

# Frequency Data for ASN 2017-AGL-60-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
698	806	MHz	1000	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W



June 12, 2018

Ms. Andrea Gassner SBA Network Services, Inc. 8051 Congress Avenue Boca Raton, FL 33487-1307

RE: Proposed 160' Sabre Monopole for #WI15656-B, McFarland 2, WI

Dear Ms. Gassner,

Upon receipt of order, we propose to design and supply the above referenced Sabre monopole for a Basic Wind Speed of 90 mph with no ice and 40 mph with 3/4" radial ice, Structure Class II, Exposure Category C and Topographic Category 1 in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. 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 upper portion of the monopole shaft. 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 upper portion of the monopole shaft. This is likely to result in the portion of the monopole above "folding over" onto the portion below, essentially collapsing on itself. *Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Towers & Poles*. In the unlikely event of total separation, this would result in the portion above collapsing within a radius of 79 feet.

Sincerely,

Keith J. Tindall, P.E. Vice President, Telecom Engineering

# SWORN STATEMENT OF CHRISTIAN JENNINGS IN SUPPORT OF NEW TOWER CONSTRUCTION PURSUANT TO WIS. STAT. §66.0404

WAUKESHA COUNTY	)
	)
STATE OF WISCONSIN	)

CHRISTIAN JENNINGS, being first duly sworn on oath, deposes and says that:

- 1. I am an adult resident of the State of Wisconsin and serve as RF Engineer at Verizon Wireless.
- 2. My job duties include responsibility over the placement of the mobile service support structure being proposed by SBA Towers V, LLC and Verizon Wireless Personal Communications LP ("Verizon Wireless") at the property commonly known as 2660 U.S. Hwy 51, McFarland, WI 53558 (the "Verizon Wireless Proposal").
  - 3. This sworn statement is made pursuant to Wis. Stat. §66.0404(2)(b)6.
- 4. The Verizon Wireless Proposal is being submitted because collocation within Verizon Wireless' search ring for the area covered by the Verizon Wireless Proposal is infeasible, as no existing structures of any kind currently exist which could be utilized for such collocation.

Christian Jennings

Subscribed and sworn to before me this day of June 22 2001

Notary Public, State of Wisconsi

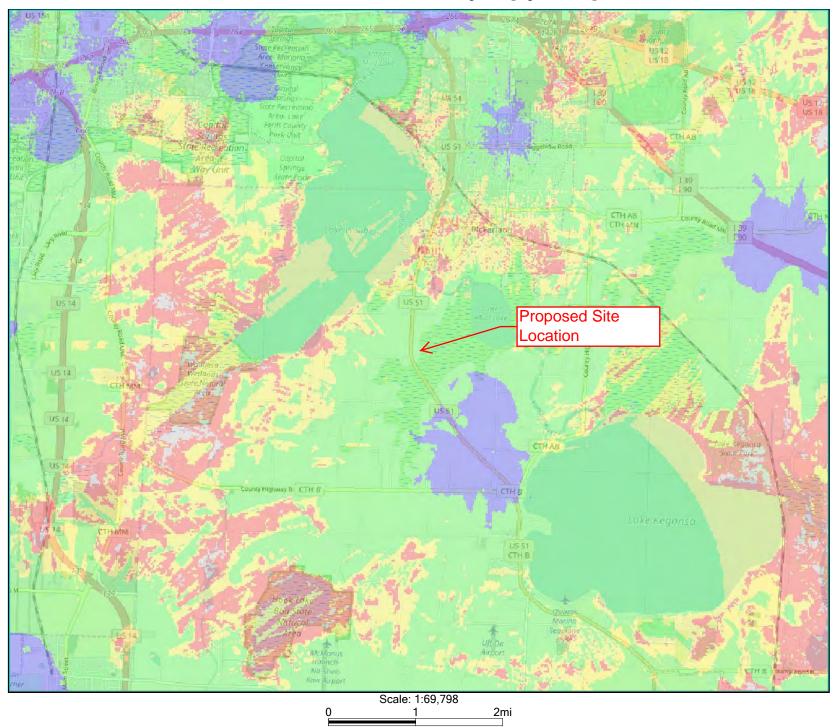
My commission: 11-15-20



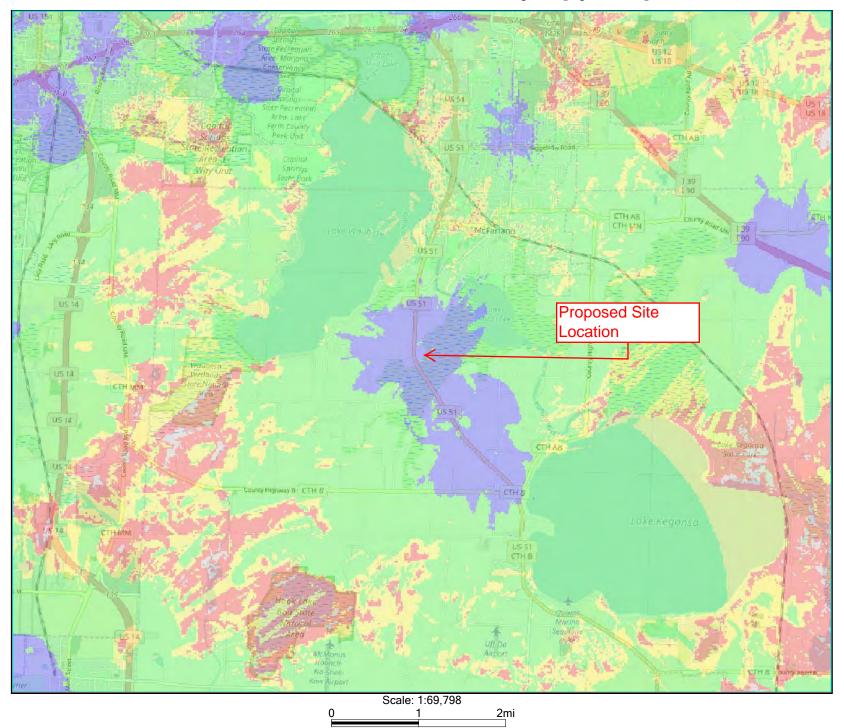
© DeLorme. DeLorme Street Atlas USA® 2014. www.delorme.com

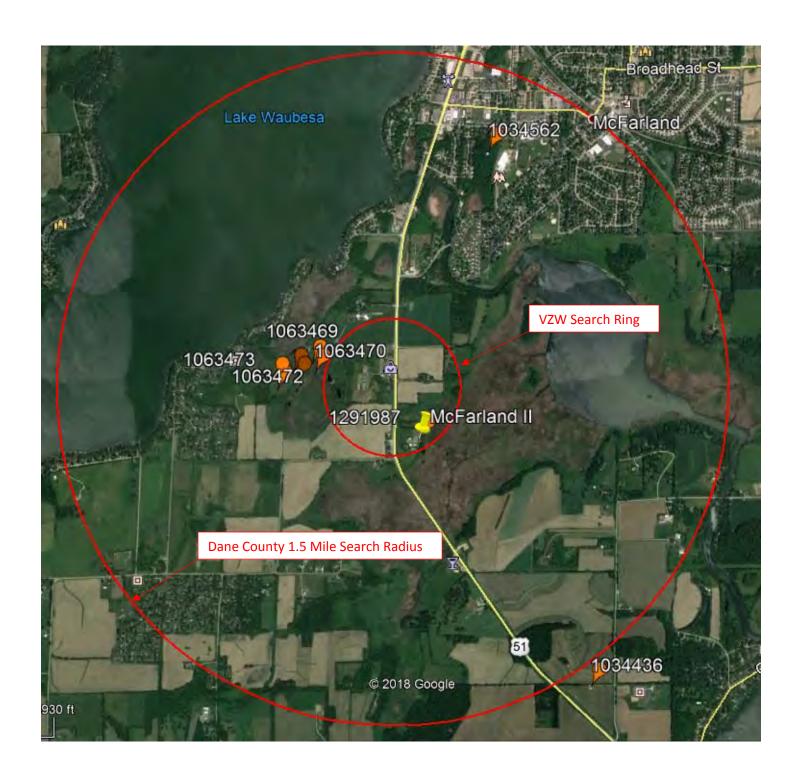


SBA: McFarland 2, WI /Verizon Wireless: Exchange-Propagation Map-Current



SBA: McFarland 2, WI /Verizon Wireless: Exchange-Propagation Map-Future





# Map Inset



# **ASR ANTENNA/TOWER REGISTRATION LEGEND:**

# **Inside VZW Search Ring:**

1291987: SBA McFarland II Site

# Outside VZW Search Ring:

1034562: Former Airadigm antenna array on water tank

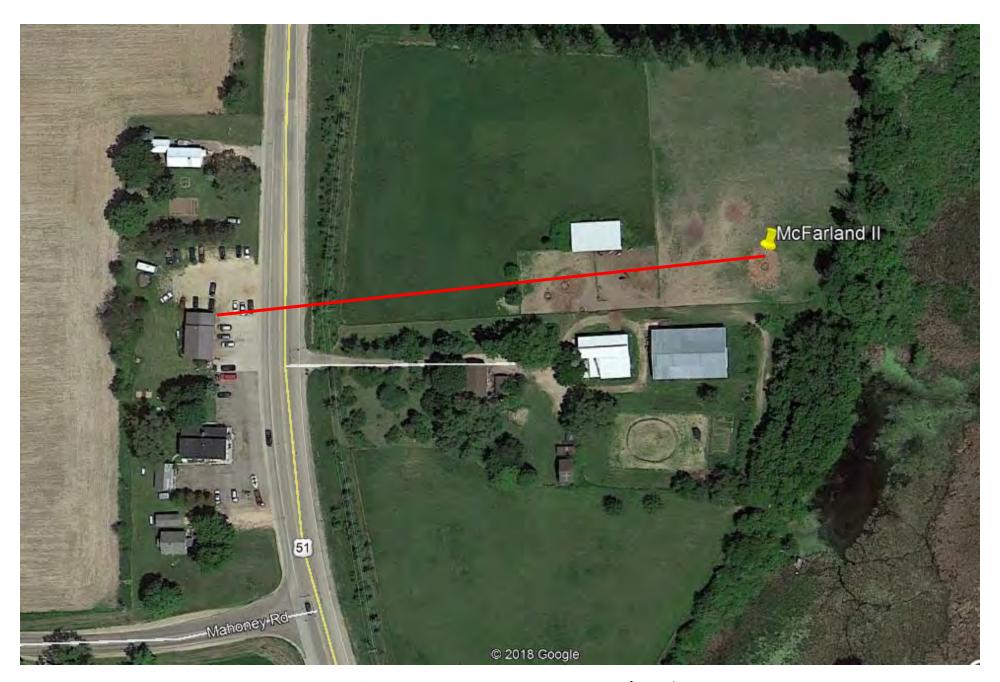
1063469 - 1063473: Vertical Bridge (former Clear Chanel AM Antenna Array; 6 x

256' guyed towers).

1034436: American Towers 281' Self-Support Tower.



**Aerial Search Ring with Proposed Tower Location Indicated** 



Aerial Indicating Nearest Neighbor at +/- 670'



View facing southeast from Hwy. 51 toward proposed tower site

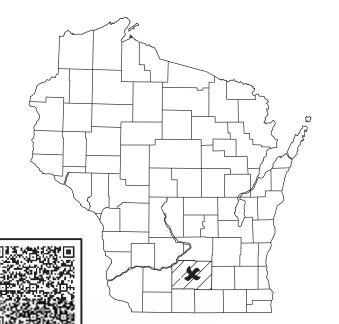
All tower depictions are approximated and not to scale.



View facing east from Hwy. 51 toward proposed tower site



View facing northeast from Hwy. 51 toward proposed tower site



# verizon SBA »)))



# **EXCHANGE** [#269139] MCFARLAND, WISCONSIN CONSTRUCTION DRAWINGS 130' MONOPOLE TOWER [EXTENDABLE TO 160']

# SITE LOCATION MAPS



COMPOUND PLAN	DIRECTOR
FENCE DETAILS	OUTNIT
CONSTRUCTION DETAILS	CLIENT: CHICAGO SMSA LIMITED PARTNERSH
GRADING PLAN	d/b/a VERIZON WIRELESS
SITE DETAILS	1515 E. WOODFIELD ROAD 10TH FLOOR
FENCE DETAILS	SCHAUMBURG, IL 60173
TOWER ELEVATION	real estate manager; dena ranie Phone: 630.640.4830
UTILITY PLAN	
UTILITY RACK DETAILS	ENGINEERING COMPANY: EDGE CONSULTING ENGINEERS, INC.
GROUNDING PLAN	624 WATER STREET

	C <del>-</del> /	FENCE DETAILS	
Z	A-1	TOWER ELEVATION	
1	E-1	UTILITY PLAN	
1	E-2	UTILITY RACK DETAILS	
Į	G-1	GROUNDING PLAN	
9	G-2	GROUNDING DETAILS	
i	SP-1	SPECIFICATIONS	
l,	SP-2	SPECIFICATIONS	
-			
į	VERIZON '	WIRELESS CONSTRUCTION SECTION	
ì	1-4	SURVEY *	
	VZW C-1	SITE PLAN	
ì	VZW C-2	COMPOUND PLAN	
	VZW C-3	ENLARGED COMPOUND PLAN	
	VZW S-1	EQUIPMENT DETAILS	
	VZW S-2	EQUIPMENT DETAILS	
,	VZW S-3	FOUNDATION DETAILS	
	VZW S-4	EQUIPMENT ELEVATIONS	
	VZW A-1	TOWER ELEVATION	
M	VZW A-2	ANTENNA CONFIGURATION	
	VZW A-3	ANTENNA CONFIGURATION	
	VZW A-4	ICE BRIDGE DETAILS	
	VZW A-5	ANTENNA/EQUIP, MOUNTING	
,	VZW E-1	UTILITY PLAN	
	VZW E-2	UTILITY DETAILS	
	VZW E-3	GENERATOR DETAILS	
	VZW E-4	GENERATOR DETAILS	
	VZW G-1	GROUNDING PLAN	
	VZW G-2	GROUNDING DETAILS	
	VZW G-3	GROUNDING DETAILS	
٩	VZW N-1	NOTICE TO CONTRACTOR *	
	VZW N-2	NOTICE TO CONTRACTOR *	
	VZW P-1	SITE PHOTOS	
	* COMPLETED BY OTHERS		

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING

DIMENSIONS/CONDITIONS ON SITE. IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY WORK OR BE RESPONSIBLE FOR THE SAME,

SHEET INDEX

SHEET TITLE

SBA TOWERS V, LLC. CONSTRUCTION SECTION

SITE PLAN

NO:

C-2 C-3

C-4

C-5

C-6

C-7

DIRECTORY
CLIENT: CHICAGO SMSA LIMITED PARTNERSHIP d/b/a VERIZON WIRELESS 1515 E. WOODFIELD ROAD 10TH FLOOR SCHAUMBURG, IL 60173 REAL ESTATE MANAGER: DENA RANIERI PHONE: 630.640.4830
ENGINEERING COMPANY: EDGE CONSULTING ENGINEERS, INC. 624 WATER STREET PRAIRIE DU SAC, WI 53578 CONTACT: PAUL MOLITOR PHONE: 608,644,1449
SITE ACQUISITION: TON 80 REALTY SERVICES, INC. 2331 W. SCHOOL STREET CHICAGO, IL 60618 CONTACT: PETE SCHAU PHONE: 773,919,5112
SURVEYOR: MERIDIAN SURVEYING, LLC. N9637 FRIENDSHIP DRIVE KAUKAUNA, WI 54130 CONTACT: CRAIG KEACH PHONE: 920.993.0881

SITE LOCATION: E911 ADDRESS TO BE DETERMINED 2660 U.S.H. 51 MCFARLAND, WI 53558 PROPERTY OWNER: JANE LIESS & PHYLLIS DUBE 2660 U.S.H. 51 MCFARLAND, WI 53558 TOWER OWNER! SBA 2012 TC ASSETS, LLC

PROJECT INFO

8051 CONGRESS AVENUE BOCA RATON, FL 33487 CONTACT: ANDREA GOMEZ PHONE: 561,226,9207 SITE NAME: MCFARLAND 2 SITE #: WI-15646-B

1A INFORMATION (NAD 1983/2011) -TOWER BASE-LAT: 42°-59'-30.61" LONG: 89°-18'-18.70" GROUND ELEVATION (NAVD 88): 856.4'

PLSS INFORMATION: PART OF SW1/4 OF THE SW1/4, SECTION 10, T,6N, R,10E, TOWN OF DUNN, DANE COUNTY WISCONSIN

TAX PARCEL NUMBER LEASE & EASEMENT, 0610-103-9190-6 EASEMENT: 0610-103-9210-1

A-2, AGRICULTURAL DISTRICT

# SCOPE OF WORK

PROJECT DESCRIPTION: PROJECT TYPE 130' MONOPOLE TOWER EQUIPMENT 8'-0" x 9'-4" EQUIPMENT PAD GENERATOR TERTIARY GENERATOR

RF DESCRIPTION (VERIFY WITH ECR) PRO: ANTENNA C/L: 120" ABOVE T.O.C.

ANTENNAS: (3) LTE/AWS ANTENNAS (3) LTE/AWS3 ANTENNAS (3) LTE/PCS ANTENNAS

CABLES (6) PRO. HYBRID CABLES

EQUIPMENT (6) PRO. SURGE PROTECTORS

(9) PRO. REMOTE RADIO UNITS

Edg

**WISCONSIN** 

DNA

MCFARL

[#269139]

EXCHANG

SHEEL	
PRELIMINARY DWGS:	INT:
CD 90's REV.6 - 10/26/16	APK
CD 90's REV.7 - 01/03/17	APK
CD 90's REV.8 - 06/07/18	CV
STAMPED PERMIT DWGS:	INT:
PERMIT CDs V.2 - 07/09/15	APK
STAMPED FINAL DWGS:	
CHECKED BY	

# **UTILITY INFO**

ELECTRIC PROVIDER:

PHONE: 608.877.1634 NAME: TBD FIBER OPTIC PROVIDER: CONTACT:

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN, CALL DIGGER'S HOTLINE

NAME: ALLIANT ENERGY CONTACT: BRADLEY NOACK

TOLL EDGE 1-800-242-8511 FAX A LOCATE 1-800-338-3860

WI STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

ENGINEER SEAL:

UNDER THE LAWS OF THE STATE OF WISCONSIN.

NOTE:

Slanature! Date:

HEREBY CERTIFY THAT THIS PLAN SET WAS
PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION OTHER THAN THE EXCEPTIONS
NOTED IN THE SHEET INDEX, AND THAT I AM
A DULV HOENGED DDOEEGGIONIAL ENGINEER

FIBER COORDINATION IS NOT COMPLETE (PENDING FIBER CONTACT). PRIOR TO CONSTRUCTION, CONTACT DESIGNER FOR UPDATE.

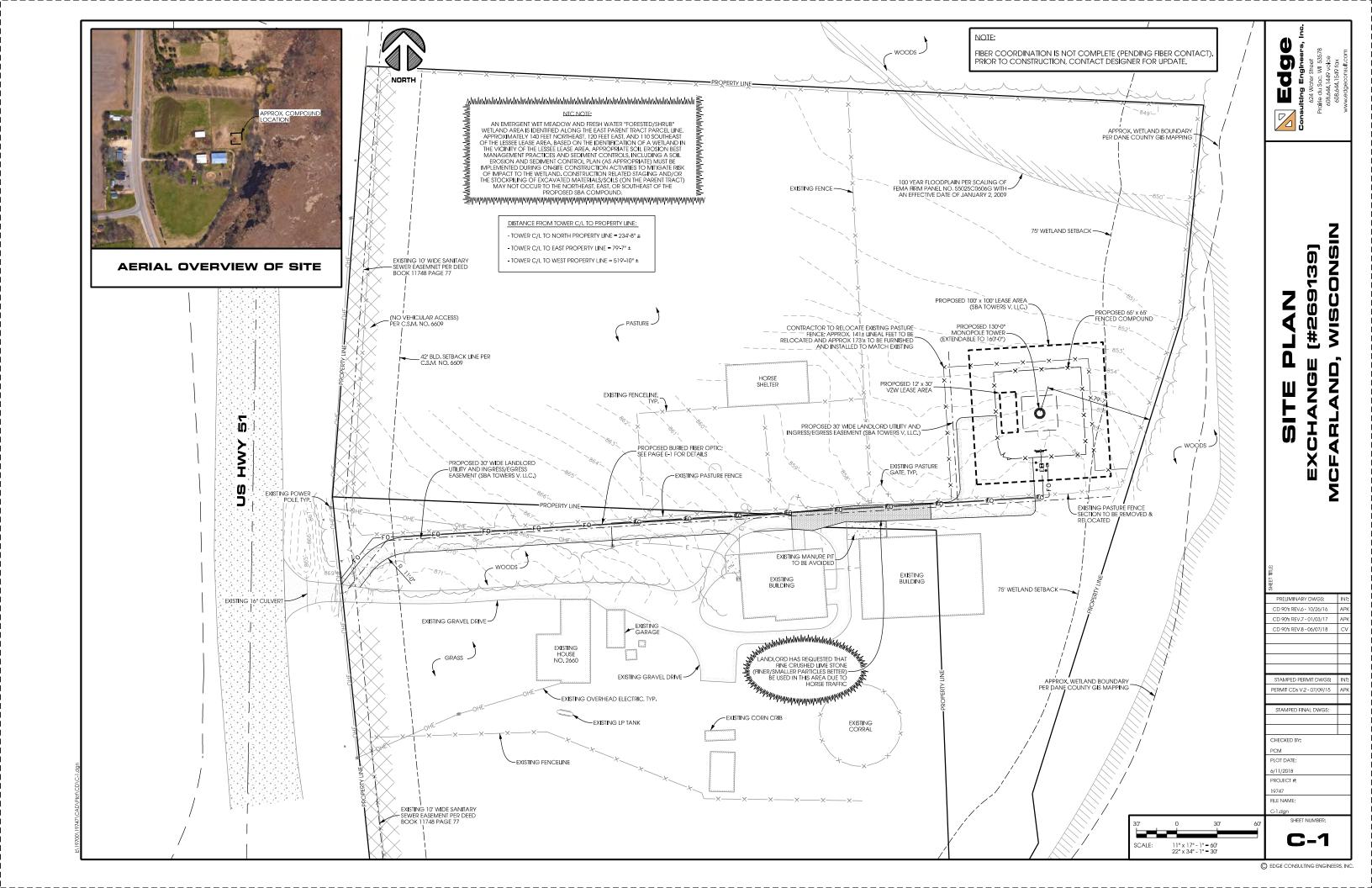
PCM

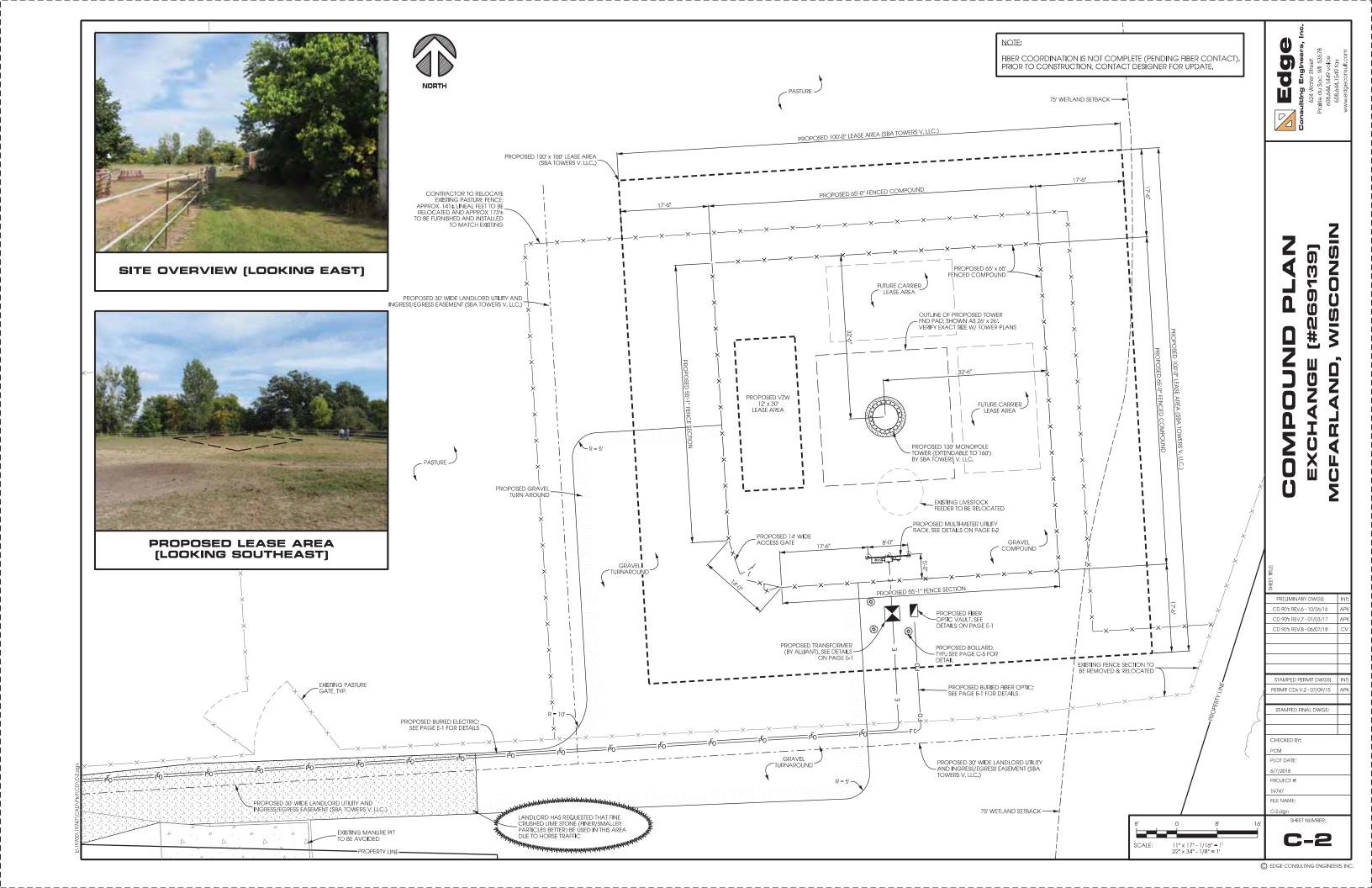
PLOT DATE

6/8/2018 PROJECT #:

FILE NAME

© EDGE CONSULTING ENGINEERS, INC





ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC USING GALVANIZED HOG-RING WIRE.

MUSHROOM ANCHOR AND PLUNGER REQUIRED FOR GATE. GENERAL CONTRACTOR RESPONSIBLE FOR SBA GATE LOCK.

PERMIT CDs V.2 - 07/09/15

STAMPED PERMIT DWGS:

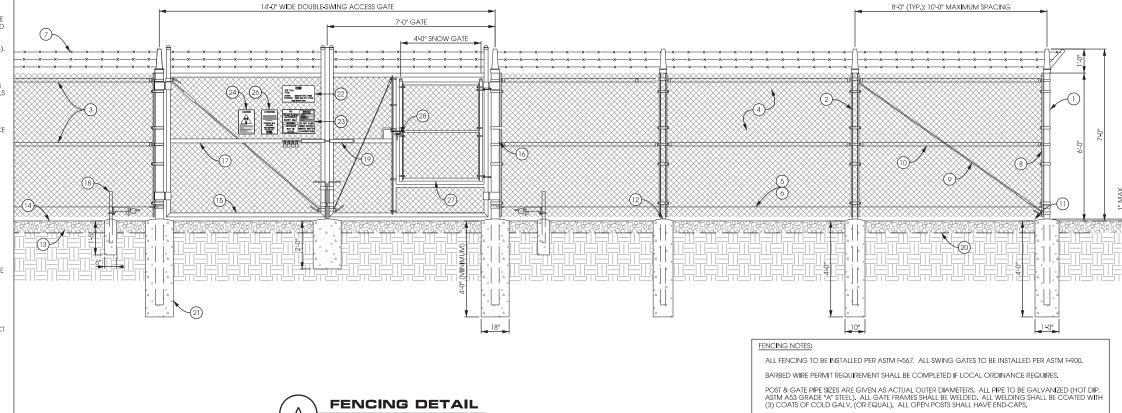
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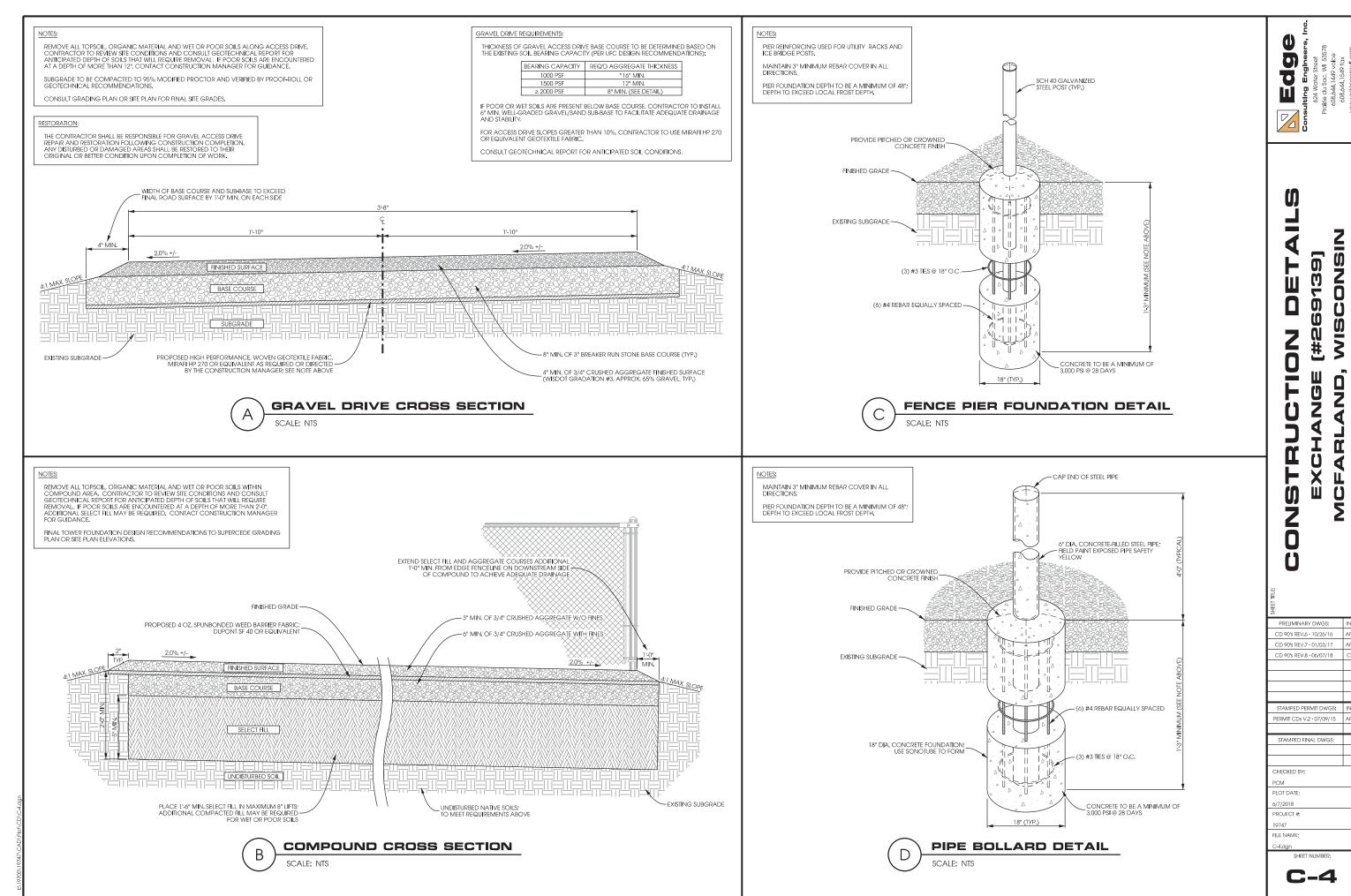
PLOT DATE: 6/7/2018

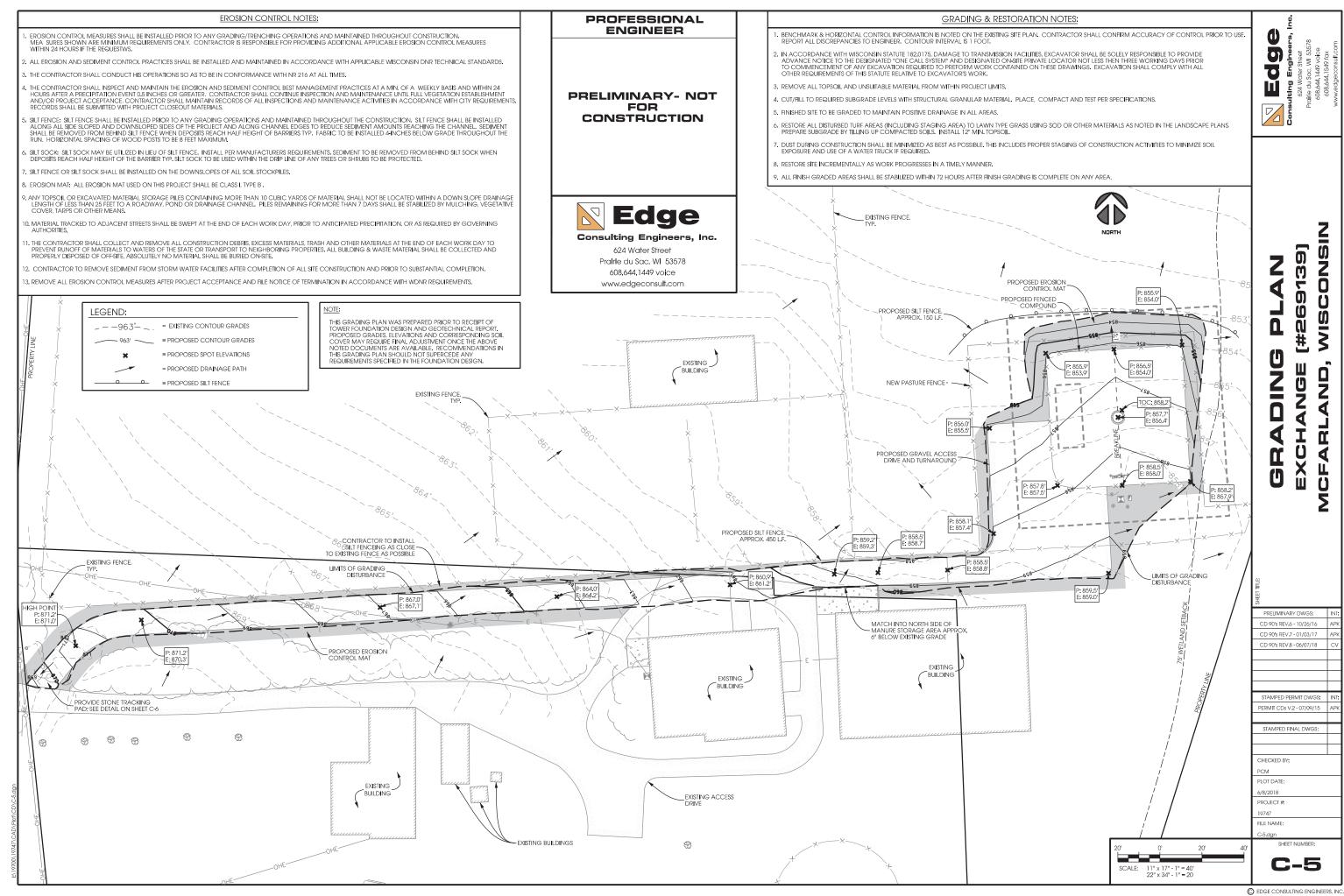
PROJECT #: FILE NAME:

# REFERENCE NOTES:

- $\bigcirc$  3.5" O.D. GALVANIZED STEEL, SCHEDULE 40 CORNER POSTS (PER ASTM-F1083).
- (2) 2.375" O.D. GALVANIZED STEEL, SCHEDULE 40 INTERMEDIARY LINE POSTS (PER ASTM-F1083). LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 10-0" O.C.
- 3 1.66" O.D. ROUND TOP RAIL & BRACE RAIL PIPE (PER ASTM-F1083).
- 9 GAUGE FABRIC CORE WIRE WITH 2" MESH (TO CONFORM TO ASTM-A392).
- (5) 9 GAUGE ALUMINUM TIE WIRE. PROVIDE HOG RING FABRIC TIES SPACED 12" O.C. FOR POSTS AND GATES AND 24" O.C. FOR RAILS AND WIRE.
- 6 9 GAUGE ALUMINUM TENSION WIRE.
- $\bigcirc$  3 STRANDS 14 GAUGE BARBED WIRE WITH 4 POINT BARBS. SPACE BARBS APPROXIMATELY 5" O.C..
- 8) 3/16" x 3/4" STRETCHER BAR; TO EXTEND FULL HEIGHT OF FENCE.
- (9) 3/8" DIAGONAL ROD WITH GALVANIZED STEEL TURNBUCKLE OR DIAGONAL THREADED ROD.
- (10) 1.66" O.D. CORNER POST BRACE (PER ASTM-F1083).
- (11) MAINTAIN A 1" MAXIMUM CLEARANCE FROM FINISHED GRADE.
- (12) PROVIDE CROWNED / PITCHED FINISH FOR FENCE POST PIER FOUNDATIONS; TO EXTEND 1" ABOVE GRADE.
- (13) 6" CRUSHED STONE (TYP.).
- (14) FINISH GRADE SHALL BE UNIFORM AND LEVEL.
- 1.9" O.D. GALVANIZED STEEL, SCHEDULE 40 WELDED GATE FRAME (PER ASTM-F1083).
- (16) 4" O.D. GALVANIZED STEEL SCHEDULE 40 GATE POSTS (PER ASTM-F1083).
- (17) 1.66" O.D. PIPE FOR GATE FRAME BRACE RAIL, PER ASTM-F1083.
- (18) DUCK BILL OPEN GATE HOLDER. CONTRACTOR TO VERIFY EXACT LOCATION PRIOR TO INSTALLATION.
- (19) STYMIE MULTIFENANT LOCKING DEVICE.
- 20) PROPOSED GEOTEXTILE FABRIC.
- CONCRETE PIER FOUNDATION; TO ACHIEVE A MINIMUM STRENGTH OF 3000 PSI AT 28 DAYS, CONCRETE DEPTH TO BE A MINIMUM OF 6"8 BELOW FROST LINE (48" MINIMUM, TYP.). SEE DETAIL FOR PROPOSED DIAMETER.
- (22) 12" x 24" SBA SITE INFORMATION SIGN.
- (23) 18" x 24" NO TRESPASSING SIGN.
- 24 18" x 12" RF CAUTION SIGN.
- 25) 18" x 12" KEEP GATE CLOSED SIGN
- (26) 18" x 12" ATTENTION SIGN
- (27) 4' WIDE SNOW GATE WITH DOUBLE SWING GATE
- (28) FORK LATCH WITH COMBINATION LOCK







# NOTES:

- 1. TRENCH SHALL BE A MINIMUM OF 4" WIDE AND 6" DEEP TO ACHIEVE ADEQUATE GEOTEXTILE FABRIC ANCHORAGE. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
- 2. WOOD POSTS SHALL BE 1" x 1" x 4"-0" MINIMUM AND CONSIST OF HICKORY OR OAK.

1" x 1" x 4'-0" WOODEN POS

ISOMETRIC VIEW

SCALE: 11" x 17" - 1/2" = 1'-0" 22" x 34" - 1" = 1'-0"

- 3. 8'-0" POST SPACING IS ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.
- 4. ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOIL CONDITIONS.

- SUPPORT CORD

- GEOTEXTILE FABRIC (TYP.)

DIRECTION OF FLOW

1" x 1" x 4'-0" WOODEN POSTS SPACED @ 3'-0" O.C. (MAXIMUM)

EXISTING SOILS

**ELEVATION VIEW** 

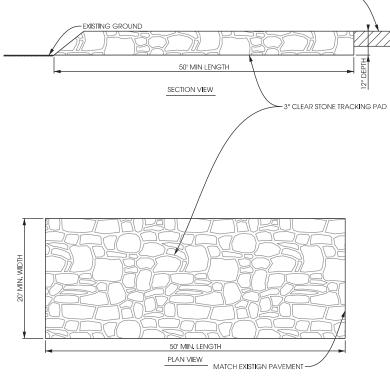
SCALE: 11" x 17" - 1" = 1'-0" 22" x 34" - 1" = 2'-0"

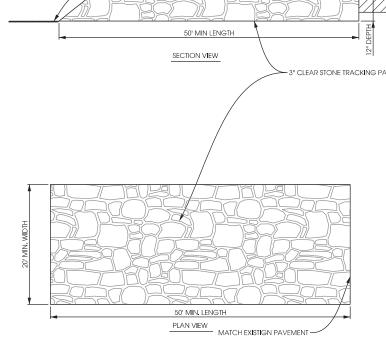
ATTACH GEOTEXTILE FABRIC TO - WOOD POSTS USING WIRE STAPLES OR WOODEN LATH AND NAILS

BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOILS

TRACKING PAD WILL BE UNDERLAIN WITH A GEOTEXTILE FABRIC IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1057

# EXISTING PAVEMENT -EXISTING GROUND 50' MIN LENGTH SECTION VIEW 50' MIN. LENGTH





SILT FENCE DETAIL SCALE: VARIES

ATTACH GEOTEXTILE FABRIC TO WOOD POSTS USING WIRE STAPLES OR WOODEN LATH AND NAILS

STONE TRACKING PAD SCALE: NTS

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**C-6** 

Edge

WISCONSIN

MCFARLAND,

EXCHANGE

PRELIMINARY DWGS: IN CD 90's REV.6 - 10/26/16 AP

CD 90's REV.7 - 01/03/17 AF

CD 90's REV.8 - 06/07/18

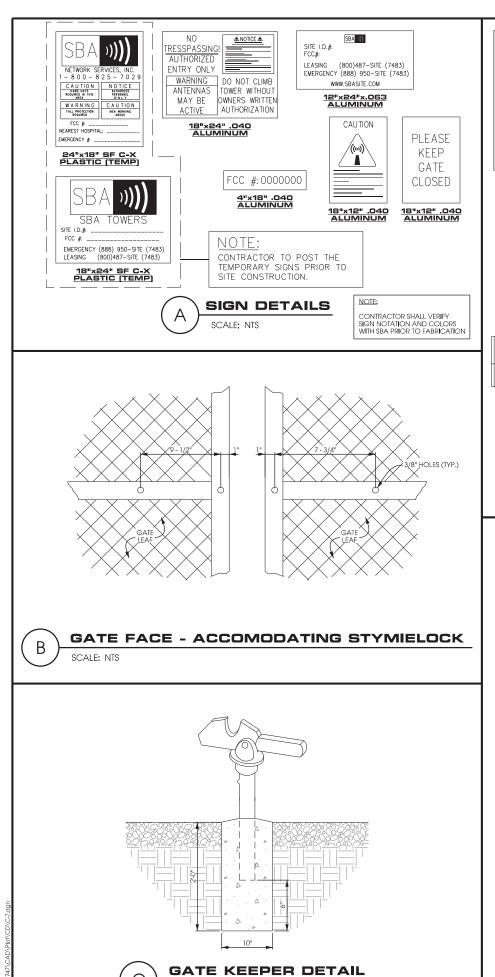
STAMPED PERMIT DWGS: IN PERMIT CDs V.2 - 07/09/15 STAMPED FINAL DWGS:

CHECKED BY: PCM PLOT DATE: 6/7/2018 PROJECT #:

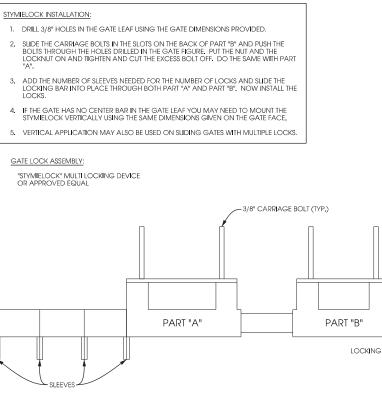
19747

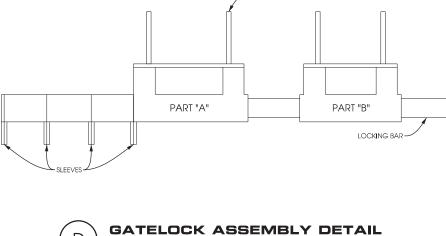
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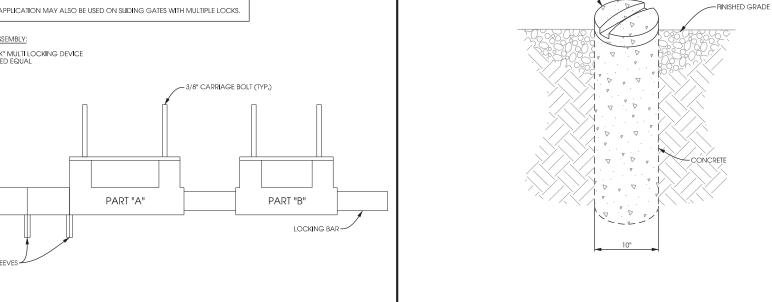
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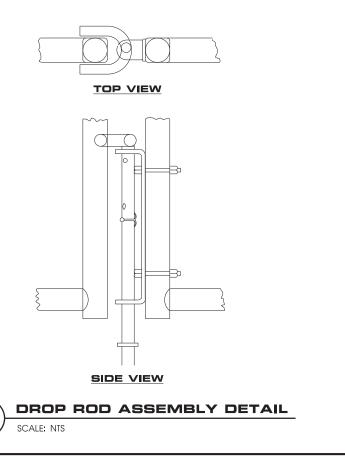




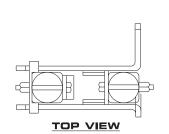


METAL MUSHROOM STOP. INSTALL WITH

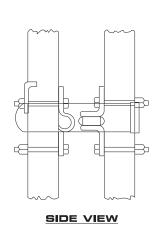
SLOT PARALLEL WITH CLOSED GATES



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**MUSHROOM STOP DETAIL** 



LATCH ASSEMBLY DETAIL G

# WISCONSIN [#269139] AIL MCFARLAND, EXCHANGE

PRELIMINARY DWGS: CD 90's REV.6 - 10/26/16 CD 90's REV.7 - 01/03/17 CD 90's REV.8 - 06/07/18

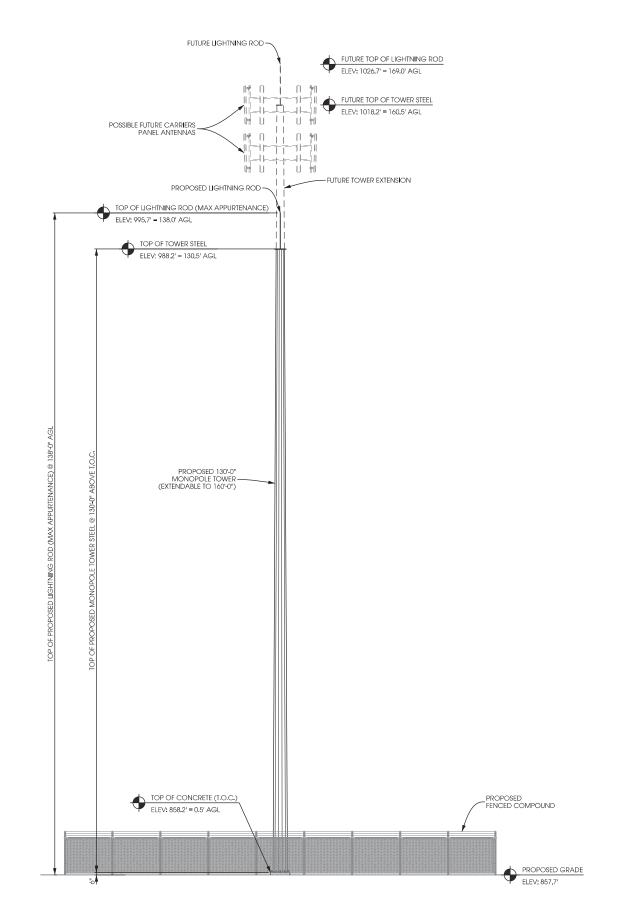
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CHECKED BY: PLOT DATE:

6/7/2018 PROJECT #: 19747

FILE NAME

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WISCONSIN ATION [#269139] MCFARLAND, EXCHANGE TOWER

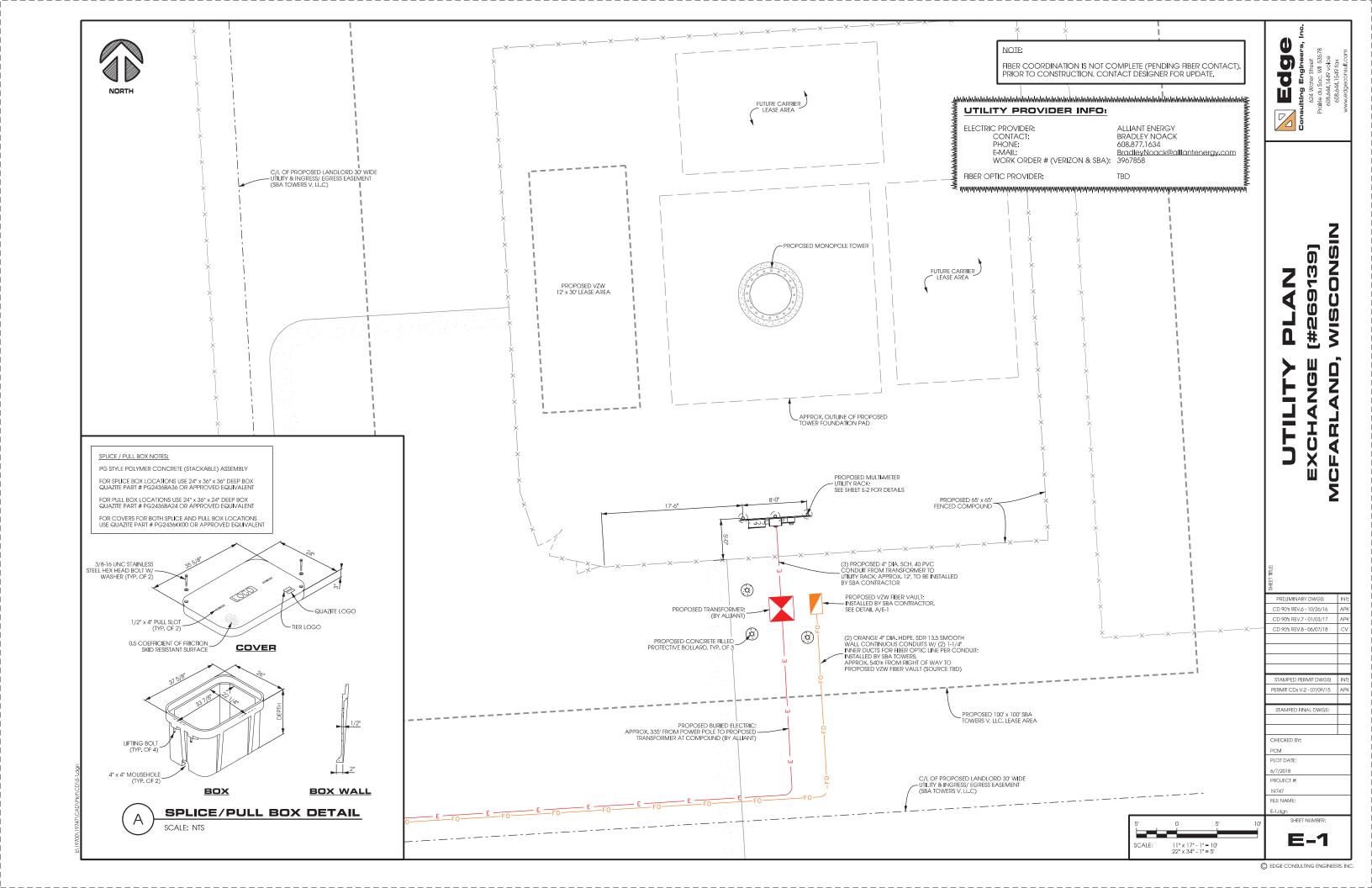
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PRELIMINARY DWGS:	INT:
CD 90's REV.6 - 10/26/16	APK
CD 90's REV.7 - 01/03/17	APK
CD 90's REV.8 - 06/07/18	CV
STAMPED PERMIT DWGS:	INT:
ERMIT CDs V.2 - 07/09/15	APK
STAMPED FINAL DWGS;	

CHECKED BY: PCM

PLOT DATE: 6/7/2018 PROJECT #:

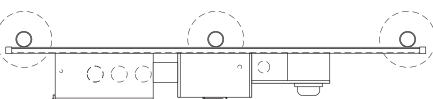
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3. AT MULTI GANGED METER INSTALLATIONS ROUTE A 3/0 GREEN THWN STRANDED COPPER CONDUCTER FROM THE NG CONNECTION POINT TO JUST ABOVE THE EARTH SURFACE, THIS CONDUCTOR SHALL BE ROUTED THROUGH PVC ABOVE FINISHED GRADE AND TO A MIN, DEPTH OF 24\* INTO THE EARTH TO AVOID THEFT AND BONDED TO AN APPROVED DRIVEN GROUND ROD.

CABINET MOUNT NOTE:

- ATTACH CABINETS W/ SPRING LOADED WASHERS TO UNISTRUTS



ALLIANT ENERGY REQUIREMENTS:

- CENTERLINE OF THE BOTTOM METER TO BE 30" FROM THE GROUND

- CENTERLINE OF TOP METER NOT TO EXCEED 6' FROM THE GROUND

-THE METERS MUST BE CLEARLY AND PERMANENTLY LABELED WITH ENGRAVED TAGS (NO MARKERS OR STICKERS) TO BE DESIGNATED AS FOLLOWS, IN ORDER FROM TOP TO BOTTOM, STAINING WITH THE FIRST SOCKET COLUMN ON THE LEFT: "A, B, C, D," ETC. WHEN A METER SOCKET BECOMES OCCUPIED, AN ADDITIONAL ENGRAVED TAG BEARTING THE NAME OF SERVICE OWNER IS TO BE ADDED. IN CASES WHERE THE TOWER HAS OBSTRUCTION LIGHTING, THE TOWER OWNER WILL OCCUPY THE FIRT METER SOCKET (SOCKET "A"), COLLOCATING WIRELESS CARRIERS ARE TO OCCUPY THE NEXT SUCCESSIVE METER SOCKETS

- ELECTRICIAN TO HAVE THEIR WORK PROPERLY INSPECTED AND THE RESULTS FURNISHED TO ALLIANT PRIOR TO REQUESTING ELECTRIC METERS BEING SET.

- ELECTRICIAN TO CALL 1-800-ALLIANT (1-800-255-4268) TO REQUEST ELECTRIC METER(S) TO BE SET AND SERVICE STARTED IN THE CLIENT'S NAME

- EITHER A TAYHOPE TYPE LOCK OR DAISY CHAIN MUST BE USED TO ALLOW ALLIANT ACCESS TO THE METER RACK

- ELECTRICIAN MUST TAKE CONDUIT TO THE TRANSFORMER

SHEET TITLE:

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PRELIMINARY DWGS: INT:
CD 90's REV.6 - 10/26/16 APK
CD 90's REV.7 - 01/03/17 APK
CD 90's REV.8 - 06/07/18 CV

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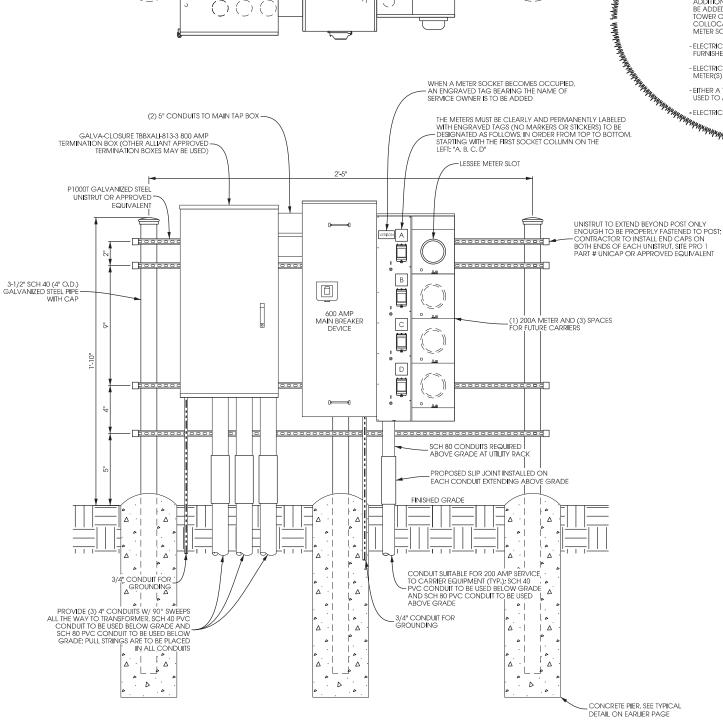
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6/7/2018 PROJECT #:

PROJECT #: 19747 FILE NAME:

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FRONT VIEW



MULTI-METER UTILITY RACK

# LEGEND Edg INSPECTION WELL - TOP OF EACH GROUND ROD SHALL EXTEND NO MORE THAN 6" ABOVE BOTTOM OF TRENCH 5/8" DIA. x 10'-0" LONG, STEEL CLAD W/ A PURE COPPER JACKET (10' MAX SEPARATION) NORTH EXOTHERMIC CONNECTION (CADWELD OR EQUIVALENT) MECHANICAL CONNECTION (BURNDY OR EQUIVALENT) ANY CONDUCTIVE UTILITY JUNCTION BOX OR ENCLOSURE SHALL BE BONDED TO THE EARTH GROUND SYSTEM W/ A #2 SOLID BARE TINNED COPPER GROUND LEAD GROUND LEAD 18" X 18" X .032" THK COPPER PLATE (10' MAX SEPARATION) \_---<del>|</del>-----**KEYED GROUNDING NOTES:** TOWER GROUND RING, #2 SOLID BARE-TINNED COPPER GROUND LEAD MIN. 4'-6' BURY (TYP.)OR 6" BELOW FROST WHICH EVER IS GREATER. GROUND RODS SPACED @ 8" O.C. 5/8" DIAMETER x 10'-0" LONG COPPER CLAD GROUND ROD WITH EXOTHERMIC CONNECTION, 8' SPACING, TYP. [#269139] OUTLINE OF PROPOSED TOWER FOUNDATION - PAD SHOWN AS 26' x 26'; VERIFY EXACT SIZE WITH TOWER FOUNDATION PLANS INSPECTION WELL (TYP.); SEE PAGE G-2 FOR DETAIL (4) GROUND LEADS FROM TOWER STEEL TO GROUND RING (USE GROUNDING TABS WHEN AVAILABLE) GATE GROUND LEAD, #2 SOLID BARE TINNED COPPER GROUND LEADS TO GATE POST, & BRAIDED STRAP CONNECTION FROM POST TO GATE ..→-----GROUND ELECTRIC METER TO (2) INDEPENDENT GROUND RODS, SPACED 10' O.C. WITH #2 SOLID BARE TINNED COPPER GROUND MULTI-METER CABINETS PERIPHERAL GROUND RING SHOULD BE INSTALLED 1' TO 2' INSIDE THE FENCED LINE; THE TOWER GROUND RING SHOULD BE INSTALLED A MINIMUM OF 2' OFF ANY STRUCTURE HANG FENCE CORNER GROUND LEAD, #2 SOLID BARE TINNED COPPER, CADWELD CONNECTION. GROUND FENCE POSTS WITHIN 6-FEET OF EQUIPMENT SKID AND 25-FEET OF TOWER 12' x 30' LEASE AREA FIBER OPTIC HAND HOLE $4^{\prime\prime}$ x 12" x 1/4" GROUND BAR INSIDE HAND HOLE; CONTRACTOR TO DRIVE 10' GROUND ROD & CLAMP TO GROUND BAR EXC ⊗. GROUNDING NOTE THIS GROUNDING PLAN WAS PREPARED PRIOR TO THE COMPLETION OF THE GEOTECHNICAL REPORT AND RECEIPT OF THE TOWER FOUNDATION DESIGN. THE LAYOUT OF RADIALS AND GROUND RODS ARE APPROXIMATE IN NATURE AND MAY REED TO BE ADJUSTED IN THE FIELD. GROUND RODS SHOULD NOT EXTEND THROUGH THE TOWER FOUNDATION OR OTHER STRUCTURAL ELEMENTS WITHOUT PRIOR APPROVAL FROM THE DESIGN ENGINEER. IN ADDITION, SOME ADJUSTIMENT TO THE GROUND METHOD MAY BE REQUIRED IN INSTANCES WHERE SHALLOW BEDROCK OR OTHER UNIQUE CIRCUMSTANCES ARE ENCOUNTERED. CONTRACTOR SHALL CONSULT GEOTECHNICAL REPORT FOR FURTHER DESIGN AND CONSTRUCTION RECOMMENDATIONS. PRELIMINARY DWGS: CD 90's REV.6 - 10/26/16 CD 90's REV.7 - 01/03/17 CD 90's REV.8 - 06/07/18 GROUNDING ELECTRODE SYSTEM NOTES: ALL CONNECTIONS SHALL BE EXOTHERMICALLY CONNECTED UNLESS NOTED OTHERWISE, CONTRACTOR TO FOLLOW ALL MANUFACTURER'S GUIDELINES & ALL ELECTRICAL AND MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTI-OXIDANT COMPOUND APPLIED TO CONNECTION. STAMPED PERMIT DWGS: PERMIT CDs V.2 - 07/09/15 \_PROPOSED 65' x 65' CHAIN- LINK FENCED COMPOUND FENCE/GATE: ENCL/GAIL: GROUND FENCE POSTS WITHIN 6-FEET OF ENCLOSURE AND 25-FEET OF TOWER. GROUND EACH GAITE POST AND CORNER POST. GROUND CONNECTIONS TO FENCE POSTS SHALL BE MADE BY THE EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES. 4. CONTRACTOR SHALL SUBMIT THE GROUND RESISTANCE TEST REPORT AS FOLLOWS: A. ONE (1) COPY TO THE OWNER REPRESENTATIVE B. ONE (1) COPY TO THE ENCINEER C. ONE (1) COPY TO KEEP INSIDE EQUIPMENT ENCLOSURE (0) PLOT DATE PROJECT #: - THE GROUNDING SHALL BE TESTED PRIOR TO FINAL BACKFILLING, DOCUMENTATION OF 5 OHM OR LESS RESISTANCE TO BE PROVIDED TO PROJECT MANAGER. FILE NAME PROPOSED 100' x 100' LEASE AREA (SBA TOWERS V, LLC.) ALL NON-INSULATED GROUND LEADS EXTENDING ABOVE GROUND LEVEL SHALL BE ENCASED IN 3/4" PVC & SEALED WITH SILICONE, PVC SHALL BE MIN. 16" INTO EARTH 8 EXTEND MIN. 6" ABOVE GROUND.

INSTALL 18" X 18" COPPER PLATES IN LIEU OF GROUND RODS WHEN INSTALLING OVER TOWER FOUNDATION OR WHERE DRIVING GROUND RODS IS NOT FEASIBLE.

SCALE:

11" x 17" - 1" = 10' 22" x 34" - 1" = 5'

**G-1** 

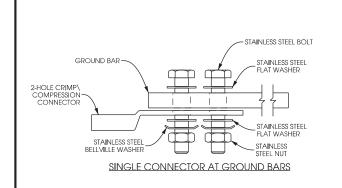
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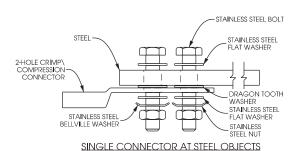
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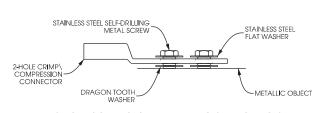
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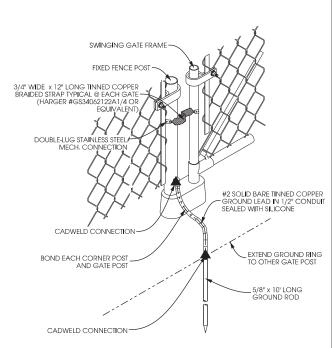




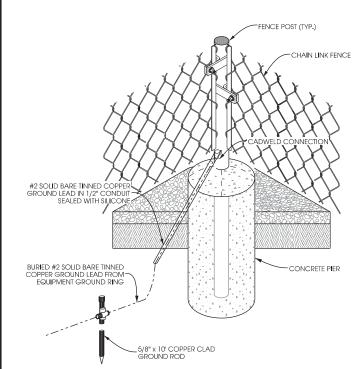
- ALL OUTDOOR HARDWARE (BOLTS, SCREWS, NUTS, WASHERS) SHALL BE 18-8 STAINLESS STEEL TYPE GRADE. INDOORS, GRADE 5 STEEL HARDWARE MAY BE USED.
- CHOOSE BOLT LENGTH TO ALLOW THE EXPOSURE OF AT LEAST TWO THREADS.
- BACK TO BACK LUG CONNECTIONS ARE AN ACCEPTABLE PRACTICE WHEN BONDED TO A GROUND BAR OR STEEL OBJECTS.
- $\bullet$  AT CONNECTIONS MADE TO STEEL OR ANY OTHER DISSIMILAR METALS, A DRAGON TOOTH WASHER MEETING VZW PRACTICES SHALL BE USED BETWEEN THE CONNECTOR AND STEEL.
- IF NOT USING DRAGON TOOTH WASHERS, THOROUGHLY REMOVE A SECTION OF PAINT OR COATING APPROXIMATELY THE SAME SIZE AS CONNECTOR, REMOVE THE PAINT FROM SURFACE USING A DREMEL TYPE
- USE AN APPROVED ANTI-OXIDATION COMPOUND ON ALL GROUNDING CONNECTIONS. A COPPER COSMOLINE GREASE BASED COMPOUND (NO OXID) SHALL BE USED ON ALL COPPER TO COPPER CONNECTIONS. A ZINC BASED (GREY COLORED) COMPOUND SHALL BE USED ON ALL COPPER TO STEEL CONNECTIONS.
- WHEN BONDING TO A METALLIC OBJECT WHERE ACCESS IS LIMITED TO ONLY ONE SURFACE, DRILLING & TAPPING OR SELF DRILLING SCREWS ARE THE PREFERRED AND ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED.



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS



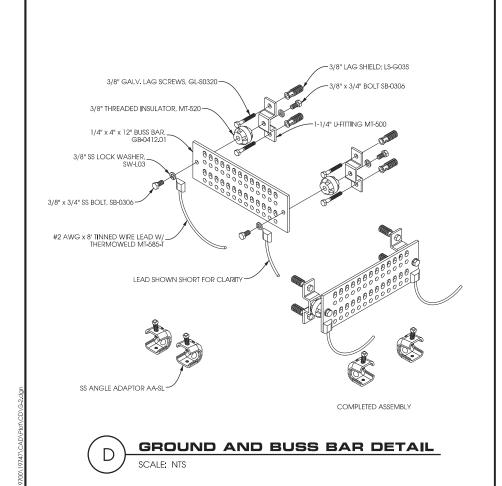


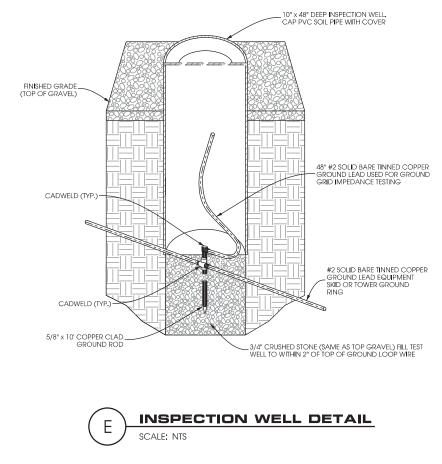


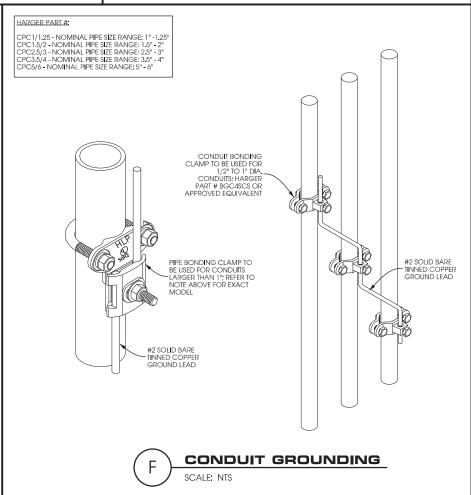
**FENCE POST GROUNDING DETAIL** 

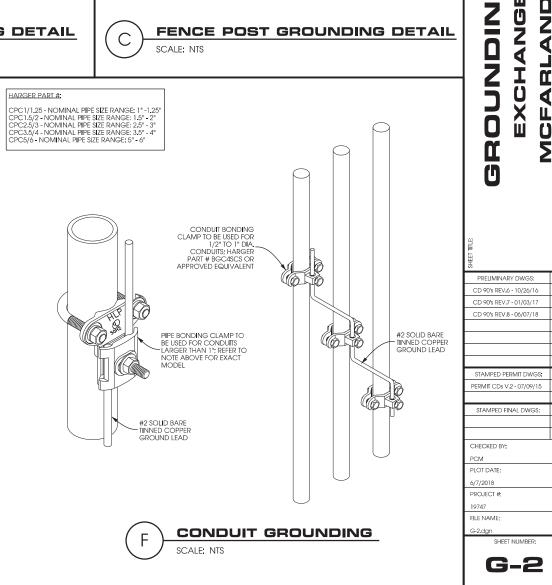


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# **DIVISION 1: GENERAL REQUIREMENTS**

# SECTION 01700 - PROJECT CLOSEOUT

- A. OBTAIN AND SUBMIT RELEASES ENABLING THE OWNER UNRESTRICTED USE OF THE WORK AND ACCESS TO SERVICES AND UTILITIES. INCLUDE OCCUPANCY PERMITS, OPERATING CERTIFICATES, AND SIMILAR RELEASES.
- B. SUBMIT RECORD DRAWINGS, DAMAGE, OR SETTLEMENT SURVEY, PROPERTY SURVEY, AND SIMILAR FINAL RECORD INFORMATION.
- C. COMPLETE FINAL CLEAN-UP REQUIREMENTS, INCLUDING TOUCH-UP PAINTING. TOUCH-UP AND OTHERWISE REPAIR AND RESTORED MARRED EXPOSED FINISHES.

PART 2 - FINAL CLEANING/PROJECT CLOSEOU

- COMPLETE THE FOLLOWING OPERATIONS BEFORE REQUESTING INSPECTION FOR CERTIFICATE OF COMPLETION:
- A. CLEAN THE PROJECT SITE, YARD AND GROUNDS IN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, INCLUDING LANDSCAPE DEVELOPMENT, AREAS OF RUBBISH, WASTE MATERIALS, LITTER AND FOREIGN SUBSTANCES. SWEEP PAVED AREAS BROOM CLEAN, REMOVE PETRO-CHEMICAL SPILLS, STAINS AND OTHER FOREIGN DEPOSITS. RAKE GROUNDS THAT ARE NEITHER PLANTED NOR PAVED TO A SMOOTH, EVEN-TEXTURED SURFACE.
- B. REMOVE TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, AND SURPLUS MATERIAL FROM THE
- C. REMOVE SNOW AND ICE TO PROVIDE SAFE ACCESS TO THE SITE AND EQUIPMENT BUILDING.
- D. CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACED FINISHES TO A DIRT-FREE CONDITION, FREE OF STAINS, FLMS AND SIMILAR FOREIGN SUBSTANCES. AVOID DISTURBING NATURAL WEATHERING OF EXTERIORS SUFFACES.
- E. REMOVE DEBRIS FROM LIMITED ACCESS SPACES, INCLUDING ROOFS, EQUIPMENT BUILDING, MANHOLES AND SIMILAR SPACES.
- F. REMOVE LABELS THAT ARE NOT PERMANENT LABELS.
- G, TOUCH-UP AND OTHERWISE REPAIR AND RESTORE MARRED EXPOSED FINISHES AND SURFACES. REPLACE FINISHES AND SURFACES THAT CAN NOT BE SATISFACTORILY BE REPAIRED OR RESTORED, OR THAT SHOW EVIDENCE OF REPAIR OR RESTORATION. DO NO PAINT OVER "UL" AND SIMILAR LABELS, INCLUDING ELECTRICAL NAME PLATES.
- H. LEAVE THE PROJECT CLEAN AND READY FOR OCCUPANCY
- I. DUST OFF ALL EQUIPMENT, INCLUDING BATTERY PACKS, WITHIN EQUIPMENT BUILDING.
- J. GENERAL CONTRACTOR TO CLEAN AND APPLY STATIC-FREE WAX TO THE FLOORS ONCE FINAL SHELTER EQUIPMENT AND ACCESSORIES ARE COMPLETED.
- 2. REMOVAL OF PROTECTION

REMOVE TEMPORARY PROTECTION AND FACILITIES INSTALLED DURING CONSTRUCTION TO PROTECT PREVIOUSLY COMPLETED INSTALLATIONS DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.

# DIVISION 2: SITE WORK

# SECTION 02200 - EARTHWORK AND DRAINAGE

PART 1 - GENERAL

- ACCESS DRIVE WITH TURN-AROUND AREA, LEASE AREA, AND, IF APPLICABLE, UNDERGROUND UTILITY EASEMENTS ARE TO BE CONSTRUCTED TO PROVIDE A WELL-DRAINED, EASILY MAINTAINED, EVEN SURFACE FOR MATERIAL AND EQUIPMENT DELIVERES AND MAINTENANCE PERSONNEL ACCESS.
- A. APPLY SOIL STERILIZER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS (AS NEEDED).
- B. APPLY AND MAINTAIN GRASS SEED AS RECOMMENDED BY THE SEED PRODUCER (AS NEEDED).
- C. PLACE AND MAINTAIN VEGETATION LANDSCAPING, IF INCLUDED WITHIN THE CONTRACT, AS RECOMMENDED BY NURSERY INDUSTRY STANDARDS.
- A. CONFIRM SURVEY STAKES AND SET ELEVATIONS STAKES PRIOR TO ANY CONSTRUCTION.
- B, COMPLETELY GRUB THE ACCESS DRIVE WITH TURN-AROUND, UNDERGROUND UTILITY EASEMENTS (F APPLICABLE), AND LEASE AREA PRIOR TO FOUNDATION CONSTRUCTION, PLACEMENT OF BACKFLL AND SUB-ASSE MATERIAL
- C. CONSTRUCT TEMPORARY CONSTRUCTION AREA ALONG ACCESS DRIVE.
- D. BRING THE LEASE AREA AND ACCESS DRIVE WITH TURN-AROUND TO BASE COURSE ELEVATION PRIOR TO INSTALLING FOUNDATION.
- E. APPLY SOIL STERILIZER PRIOR TO PLACING BASE MATERIALS SUCH THAT THE STERILIZER ONLY COMES IN CONTACT WITH PROPOSED GRAVEL SURFACES
- F. GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION (INCLUDING UNDERGROUND UTILITY EASEMENTS) IMMEDIATELY AFTER BRINGING LEASE AND ACCESS DIRVE WITH TURNAR-OUND TO BASE COURSE ELEVATION, WAITER TO ENSURE GROWTH.
- G. REMOVE GRAVEL FROM TEMPORARY CONSTRUCTION ZONE TO AN AUTHORIZED AREA OR AS DIRECTED BY THE PROJECT MANAGER.
- H. AFTER APPLICATIONS OF FINAL SURFACES, APPLY SOIL STERILIZER TO STONE SURFACES.
- A. BEFORE CONSTRUCTION

  F LANDSCAPING IS APPLICABLE TO THE CONTRACT, SUBMIT TWO (2) COPIES OF THE
  LANDSCAPE PLAN UNDER NURSERY LETTERHEAD, IF LANDSCAPE ALLOWANCE WAS INCLUDED
  IN THE CONTRACT, PROVIDE AN ITEMEZED LISTING OF PROPOSED COSTS ON NURSERY
  LETTERHEAD, REFEET OF LANDS FOR LANDSCAPING REGUIREMENTS.
- G. PLACE FILL OR STONE IN SIX (6) INCH MAXIMUM LIFTS, AND COMPACT BEFORE PLACING NEXT
- 1. MANUFACTURER'S DESCRIPTION OF PRODUCT AND WARRANTY STATEMENT ON SOIL
- 2. MANUFACTURER'S DESCRIPTION OF PRODUCT ON GRASS SEED AND FERTILIZER.
- 3. LANDSCAPING WARRANTY STATEMENT.

- A. IN ADDITION TO THE WARRANTY ON ALL CONSTRUCTION COVERED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPAIR ALL DAMAGE AND RESTORE AREA AS CLOSE TO ORIGINAL CONDITION AS POSSIBLE AT SITE AND SURFOUNDINGS.
- B. SOIL STERILIZATION APPLICATION TO GUARANTEE VEGETATION FREE ROAD AND SITE AREAS FOR ONE YEAR FOM DATE OF FINAL INSPECTION.
- C. DISTURBED AREAS WILL REFLECT GROWTH OF NEW GRASS PRIOR TO FINAL INSPECTION.
- D. LANDSCAPING, IF INCLUDED WITHIN THE SCOPE OF THE CONTRACT, WILL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF FINAL INSPECTION.

# PART 2 - PRODUCTS

# MATERIALS

A. SOIL STERILIZER SHALL BE AN EPA REGISTERED, PRE-EMERGENCE LIQUID: TOTAL KILL PHASAR CORPORATION PRODUCT 910 P.O. BOX 5123 DEARBORN, MI 48128 313.653.8000 313.653.8000

AMBUSH HERBICIDE FRAMAR INDUSTRIAL PRODUCTS EPA REGISTERED 1435 MORRIS AVENUE UNION, NJ 07083

- B. ROAD AND SITE MATERIALS SHALL CONFORM TO DOT SPECIFICATIONS (UNLESS OTHERWISE NOTED). ACCEPTABLE SELECT FILL SHALL BE IN ACCORDANCE WITH STATE DEPARTMENT OF HIGHWAY AND TRANSPORTATION STANDARD SPECIFICATIONS.
- C. SOIL STABILIZED FABRIC SHALL BE MIRAFI 500X.

### PART 3 - EXECUTION

LOCAL BUILDING INSPECTORS SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, UNLESS OTHERWISE SPECIFIED BY THE LOCAL JURISDICTION.

## 2 PREPARATION

- A. CLEAR TREES, BRUSH AND DEBRIS FROM LEASE AREA, ACCESS DRIVE WITH TURN-AROUND, AND UNDERGROUND UTILITY EASEMENTS AS REQUIRED FOR CONSTRUCTION.
- B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION, GRUB ORGANIC MATERIAL TO A MINIMUM OF SIX (6) INCHES BELOW GRADE.
- C. UNLESS OTHERWISE INSTRUCTED BY LEASEE, TRANSPORT ALL REMOVED TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED LANDFILL.
- D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS. ROLL THE SOIL.
- E. WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, LINE THE AREAS WITH A STABILIZED MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.
- F. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, REMOVE SOFT SPOTS, PLACE SELECT FILL, AND COMPACT TO 95% MODIFIED PROCTOR.

# 3. INSTALLATION

- A. GRADE OR FILL THE LEASE AREA AND ACCESS DRIVE WITH TURN-AROUND AS REQUIRED IN ORDER THAT UPON DESTRIBUTION OF SPOILS RESULTING FROM EXCAVATIONS, THE RESULTING GRADE WILL CORRESPOND WITH SAID SUBBASE COURSE, ELEVATIONS ARE TO BE CALCULATED FROM BENCHMARK, FINISHED GRADES, OR INDICATED SLOPES.
- B. CLEAR EXCESS SPOILS, IF ANY, FROM JOB SITE AND DO NOT SPREAD BEYOND THE LIMITS OF PROJECT AREA UNLESS AUTHORIZED BY PROJECT MANAGER AND AGREED TO BY LANDOWNER.
- C. BRING THE ACCESS DRIVE WITH TURN-AROUND TO BASE COURSE ELEVATION TO FACILITATE CONSTRUCTION AND OBSERVATION DURING CONSTRUCTION OF THE SITE.
- D. AVOID CREATING DEPRESSIONS WHERE WATER MAY POND
- E. THE CONTRACT SHALL INCLUDE GRADING, BANKING, AND DITCHING, UNLESS OTHERWISE NOTED.
- F. WHEN IMPROVING AN EXISTING ACCESS DRIVE, GRADE THE EXISTING DRIVE TO REMOVE ANY ORGANIC MATTER AND SMOOTH THE SURFACE BEFORE PLACING FILL OR STONE.
- H. THE TOP SURFACE COURSE SHALL EXTEND A MINIMUM OF ONE (1) FOOT BEYOND THE SITE FENCE, UNLESS OTHERWISE NOTED, AND SHALL COVER THE AREA AS INDICATED.
- J. APPLY RIP-RAP TO THE SIDES OF DITCHES AND DRAINAGE SWALES WHERE INDICATED ON THE DRAWINGS.
- K. RIP-RAP ENTIRE DITCH FOR SIX (6) FEET IN ALL DIRECTIONS AT CULVERT OPENINGS. (WHEN APPLICABLE)
- L. APPLY SEED, FERTILIZER, AND STRAW COVER TO ALL OTHER DISTURBED AREAS, DITCHES, AND DRAINAGE SWALES, NOT OTHERWISE RIP-RAPPED.
- M. UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THAT THEY DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SHELTER OR EQUIPMENT. IF DESIGNS OR ELEVATIONS ARE IN CONFLICT WITH THIS, ADVISE CONSTRUCTION MANAGER IMMEDIATELY.
- N. IN DITCHES WITH SLOPES GREATER THAN 10%, MOUND DIVERSIONARY HEADWALLS IN THE DITCH AT AN ANGLE NO GREATER THAN 60° OFF THE DITCH LIBE. REPRAPT THE UPSTREAM SIDE OF THE HEADWALL AS WELL AST THE DITCH FOR SIX (6) FEET ABOVE THE CULVERT ENTRANCE.
- O. APPLY SEED AND FERTILIZER TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND LOOSEN THE SOIL.
- P. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED
- Q. ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS BY WATERING UP TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK THE BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

# 4. FIFLD QUALITY CONTROL

COMPACT SOILS TO MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557, AREAS C SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. INDICATE PERCENTAGE OF COMPACTION ACHIEVED ON AS-BUILT DRAWINGS.

- A. PROTECT SEEDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1-2 INCHES, STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET WILL BE AN ACCEPTABLE ALTERNATE.
- B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT WILL BE WRAPPED. TIED WITH HOSE PROTECTED WIRE, AND SECURED TO 2° x 2° x 4° 0° WOODEN STAKES EXTENDING TWO-FEET INTO THE GROUND ON FOUR SIDES OF THE TREE. C. PROTECT ALL EXPOSED AREAS AGAINST WASHOUTS AND SOIL EROSION. ALL EROSION CONTROL METHODS SHALL CONFORM TO APPLICABLE BUILDING CODE REQUIREMENTS,

# SECTION 02830 - CHAIN-LINK FENCING AND GATE(S)

SEE PLAN FOR SITE AND LOCATION OF FENCE AND GATE(S).

# 2 QUALITY ASSURANCE

ALL STEEL MATERIALS UTILIZED IN CONJUNCTION WITH THIS SPECIFICATION WILL BE GALVANIZED OR STAINLESS STEEL, WEIGHT OF ZINC COATING ON THE FABRIC SHALL NOT BE LESS THAN TWELVE (12) OUNCES PER SOUARE FOOT OF MATERIAL COVERED, POSTS SHALL BE HOT-DIPPED IN GRADE 'E' ZINC, EIGHTEEN (18) OUNCES PER SQUARE FOOT.

IF THE SITE AREA HAS BEEN BROUGHT UP TO SURFACE COURSE ELEVATION (PRIOR TO THE FENCE CONSTRUCTION), FENCE POST EXCAVATION SPOILS MUST BE CONTROLLED TO PRECLUDE CONTAMINATION OF SAID SURFACE COURSE.

- A. MANUFACTURER'S DESCRIPTIVE LITERATURE.
- B. CERTIFICATE OR STATEMENT OF COMPLIANCE WITH THE SPECIFICATIONS.

# PART 2 - PRODUCTS

A. ALL FABRIC WIRE, RAILS, HARDWARE, AND OTHER STEEL MATERIALS SHALL BE HOT-DIPPED GALVANIZED.

- B. FABRIC SHALL BE 9 GAUGE. THE FABRIC SHALL HAVE A KNUCKLED FINISH FOR THE TOP SELVAGES. FABRIC SHALL CONFORM TO THE SPECIFICATIONS OF ASTM A-392 CLASS 1.
- C. BARBED WIRE SHALL BE DOUBLE-STRAND, 12-1/2 GAUGE TWISTED WIRE, WITH 14-GAUGE, 4-POINT ROUND BARBS SPACED ON FIVE (5) INCH CENTERS.
- D. ALL POSTS SHALL BE SCHEDULE 40 MECHANICAL SERVICE PIPE AND SHALL BE PER ASTM-F1083 AND OF THE FOLLOWING ACTUAL OUTER DIAMETERS:
- LINE: 2.375" O.D. SCHEDULE 40
- CORNER: 2.875" O.D. SCHEDULE 40 (FOR FENCE FABRIC HEIGHT OF 6' OR LESS) 3.5" O.D. SCHEDULE 40 (FOR FENCE FABRIC HEIGHT OF 8' OR LESS)

# GATE: 4" O.D. SCHEDULE 40

- E. GATE POSTS SHALL BE EXTENDED TWELVE (12) INCHES, INCLUDING DOME CAP, TO PROVIDE FOR ATTACHMENT OF BARBED WIRE.
- F. ALL TOP AND BRACE RAILS SHALL BE 1.66" O.D. SCHEDULE 40 MECHANICAL-SERVICE PIPE
- G. GATE FRAMES AND BRACES SHALL BE 1.9° O.D. SCHEDULE 40 MECHANICAL-SERVICE PIPE. FRAMES SHALL HAVE WELDED CORNERS.
- H, GATE FRAMES SHALL HAVE A FULL-HEIGHT VERTICAL BRACE, AND A FULL-WIDTH HORIZONTAL BRACE, SECURED IN PLACE BY USE OF GATE BRACE CLAMPS.
- GATE HINGES SHALL BE MERCHANTS METAL MODEL 64386 HINGE ADAPTER WITH MODEL 6409, 180-DEGREE ATTACHMENT.
- J. THE GUIDE (LATCH ASSEMBLY) SHALL BE HEAVY INDUSTRIAL DOUBLE GATE LATCH. SEE DETAIL(S).
- K. LATCHES AND STOPS SHALL BE PROVIDED FOR ALL GATES L. PLUNGER ROD COMPLETE WITH RECEPTOR TO BE PROVIDED AT THE INACTIVE LEAF OF ALL DOUBLE GATE INSTALLATIONS.
- M. ALL STOPS SHALL HAVE KEEPERS CAPABLE OF HOLDING THE GATE LEAF IN THE OPEN POSITION
- N. A 9 GAUGE ALUMINUM TENSION WIRE SHALL BE USED AT THE BOTTOM OF THE FABRIC, TERMINATED WITH BAND CLIPS AT CORNER AND GATE POSTS.
- O. A SIX (6) INCH BY 1/2 INCH DIAMETER EYEBOLT TO HOLD TENSION WIRE SHALL BE PLACED AT LINE POSTS. (WHEN APPLICABLE)
- P. STRETCHER BARS SHALL BE 3/16 INCH BY 3/4 INCH OR HAVE EQUIVALENT CROSS-SECTIONAL AREA. Q. ALL CORNER GATE AND PANELS SHALL HAVE A 3/8 INCH TRUSS ROD WITH TURNBUCKLES
- R. ALL POSTS EXCEPT GATE POSTS SHALL HAVE A COMBINATION CAP AND BARBED WIRE SUPPORTING ARM. GATE POSTS SHALL HAVE A DOME CAP.
- OTHER HARDWARE INCLUDES, BUT MAY NOT BE LIMITED TO, TIE CLIPS, BAND CLIPS AND TENSION BAND CLIPS.
- T. BARBED WIRE GATE GUARDS SHALL BE FITTED WITH DOME CAPS U. BARBED WIRE SUPPORT ARMS SHALL BE PRESSED STEEL COMPLETE WITH SET BOLT AND LOCK WIRE IN THE ARM.
- V. ALL CAPS SHALL BE MALLEABLE IRON, DOME OR ACORN SHAPED AS REQUIRED BY PIPE SIZE
- W. WHERE THE USE OF CONCERTINA HAS BEEN SPECIFIED, 24INCH DIAMETERS COIL, BARBED TAPE, STANLESS STELL CYCLONE FENCE MODEL (68P TO TYPE III SHALL BE FURNISHE). IT SHALL BE SUPPORTED ABOVE THE TOP RAIL BY USE OF SIX (6) WIRE BARBED WIRE ARMS POSITIONED ATOP EACH LINE/CORNER POST.

TO CONFIRM PROPER DEPTH AND DIAMETER OF POST HOLE EXCAVATIONS, ALL POST HOLES WILL BE EXCAVATED AS PER CONSTRUCTION DOCUMENTS.

- A. FOUNDATIONS SHALL HAVE A MINIMUM SIX (6) INCH CONCRETE COVER UNDER POST.
- B. ALL FENCE POSTS SHALL BE VERTICALLY PLUMB WITHIN ONE QUARTER (1/4) INCH
- C. FABRIC SHALL BE TENSIONED PER MANUFACTURER'S RECOMMENDATIONS TO PRESENT A NEAT APPEARANCE.
- D. AT CORNER POSTS, GATE POSTS, AND SIDES OF GATE FRAME, FABRIC SHALL BE ATTACHED WITH STRETCHER AND TENSION BAND-CLIPS AT FIFTEEN (15) INCH INTERVALS.
- E. AT LINE POSTS, FABRIC SHALL BE ATTACHED WITH BAND-CLIPS AT FIFTEEN (15) INCH INTERVALS.
- F. FABRIC SHALL BE ATTACHED TO BRACE RAILS, TENSION WIRE AND TRUSS RODS WITH TIE-CLIPS AT TWO (2) FOOT INTERVALS. G. A MAXIMUM GAP OF ONE (1) INCH WILL BE PERMITTED BETWEEN TIE CHAIN LINE FABRIC AND THE
- H. GATE SHALL BE INSTALLED SO LOCKS ARE ACCESSIBLE FROM BOTH SIDES.
- I. GATE HINGE BOLTS SHALL HAVE THEIR THREADS PEENED OR WELDED TO PREVENT UNAUTHORIZED REMOVAL.

K. CONCRETE TO BE A MINIMUM OF 3,000 PSI AT 28 DAYS, CEMENT SHALL EXCEED ASTM C150, TYPE IIIA.

J. GATE POSTS SHALL NOT BE SHARED AS A CORNER POST.

- 3. PROTECTION
- UPON COMPLETION OF ERECTION, INSPECT FENCE MATERIAL AND PAINT FIELD CUTS OR GALVANIZING BREAKS WITH ZINC-BASED PAINT, COLOR TO MATCH THE GALVANIZED METAL.

TM-A53 SPECIFICATION FOR PIPE, STEEL BLACK AND HOT-DIPPED ZINC COATED (GALVANIZED) WELDED AND SEAMLESS, FOR ORDINARY USES.

ASTM-A123 ZINC (HOT-DIP GALVANIZED) COATING ON IRON AND STEEL PRODUCTS.

ASTM-A153 STANDARD SPECIFICATION FOR ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE.

ASTM-A392 SPECIFICATION FOR ZINC-COATED STEEL CHAIN LINK FENCE FABRIC

ASTM-A491 SPECIFICATION FOR ALUMINUM-COATED STEEL CHAIN LINK FENCE FABRIC ASTM-A525 STANDARD SPECIFICATION FOR STEEL SHEET ZINC COATED (GALVANIZED) BY THE HOT-DIPPED PROCESS.

ASTM-A570 SPECIFICATION FOR HOT-ROLLED CARBON STEEL SHEET AND STRIP, STRUCTURAL QUALITY,

ASTM-A535 SPECIFICATION FOR ALUMINUM COATED STEEL BARBED WIRE, FEDERAL SPECIFICATION RRF-191- FENCING, WIRE AND POST METAL AND GATES, CHAIN LINK FENCE FABRIC, AND ACCESSORIES.

ASTM-F1083 SPECIFICATION FOR PIPE, STEEL HOT-DIPPED ZINC-COATED (GALVANIZED) WELDED, FOR FENCE STRUCTURES.

# **DIVISION 3: CONCRETE**

# SECTION 03000 - BASIC CONCRETE MATERIALS AND METHODS

FORMWORK, REINFORCEMENT, ACCESSORIES, CAST-IN-PLACE CONCRETE, FINISHING, AND CURING

- A. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING BUILDING DEPARTMENT INSPECTIONS REQUIRED FOR HIS SCOPE OF WORK. B. ALL REINFORCING STEEL SHALL BE INSPECTED AND APPROVED BY THE LESSEE CONSTRUCTION MANAGER PRIOR TO PLACEMENT OF CONCRETE.
- C. THE LESSEE CONSTRUCTION MANAGER SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS.

# 3. QUALITY ASSURANCE

- A. CONSTRUCT AND ERECT CONCRETE FORMWORK IN ACCORDANCE WITH ACI 301 AND ACI 318.
- B. PERFORM CONCRETE REINFORCING WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ASTM A184.
- C. PERFORM CAST-IN-PLACE CONCRETE WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ACI 117-90

# D. OPEN FOUNDATION TRENCHES SHALL BE INSPECTED PRIOR TO CONCRETE INSTALLATION.

SUBMIT CONCRETE MIX AND REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL BY LESSEE CONSTRUCTION MANAGER/ENGINEER. THE SHOP DRAWINGS SHALL BE SUBMITTED IN THE FORM OF TWO (2) CONCRETE MIX DESIGN INFORMATION SHEETS AND TWO (2) BLUELINE DRAWINGS FOR REINFORCING STEEL.

# PART 2 - PRODUCTS

- A. REINFORCEMENT STEEL; ASTM A615, 60 KSI YIELD GRADE, DEFORMED BILLET STEEL BARS, PLAIN FINISH
- B. WELDED STEEL WIRE FABRIC; ASTM A185 PLAIN TYPE, IN FLAT SHEETS, PLAIN FINISH. C. CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS. SIZED AND SHAPED TO SUPPORT REINFORCING.
- D. FABRICATE CONCRETE REINFORCING IN ACCORDANCE WITH ACI 315, ACI 318, ASTM A184.
- B. FINE AND COURSE AGGREGATES: ASTM C33 MAXIMUM SIZE OF CONCRETE AGGREGATE SHALL NOT EXCEED ONE (1) INCH SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED OR ONE-THIRD (1/3) CLEAR DISTANCE BEHIND OR BETWEEN REINFORCHES.
- C. WATER: CLEAN AND NOT DETRIMENTAL TO CONCRETE.
- D. AIR ENTRAINING ADMIXTURE: ASTM C260
- E. BONDING AGENT: LATEX EMULSION FOR BONDING NEW TO OLD CONCRETE AS MANUFACTURED BY DAYTON SUPERIOR.
- F. NON-SHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICISING AGENTS.

- A. CONCRETE MATERIALS SHALL CONFORM TO THE APPROPRIATE A.C.I. REQUIREMENTS FOR EXPOSED STRUCTURAL CONCRETE.
- C. PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR LOCAL ANTICIPATED AGGRESSIVE ACTIONS. THE DURABLITY REQUIREMENTS OF ACI 318 CHAPTER A SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. PROVIDE CONCRETE AS FOLLOWS:

B. MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94, ALT, 3

- COMPRESSIVE STRENGTH: 3000 PSI AT 28 DAYS.
   (MIN. OR AS SPECIFIED IN STRUCTURAL DRAWINGS)
- 2. SLUMP: 4 INCHES 3. AIR ENTRAINMENT: 6%
- 1. INSERTS, EMBEDDED COMPONENTS AND OPENINGS A. THE CONTRACTOR SHALL COORDINATE AND CROSS-CHECK ARCHITECTURAL, BUILDING & ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, AND OTHER TEMS RELATED TO CONCRETE WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THE PROPER LOCATION BEFORE
- B. PROVIDE FORMED OPENINGS WHERE REQUIRED FOR WORK TO BE EMBEDDED IN AND PASSING THROUGH CONCRETE MEMBERS.
- C. COORDINATE WORK OF OTHER SECTIONS IN FORMING AND SETTING OPENING, SLOTS, RECESSES, CHASES, SLEEVES, BOLTS, ANCHORS, AND OTHER INSERTS.
- D. INSTALL CONCRETE ACCESSORIES STRAIGHT, LEVEL AND PLUMB.
- A. PLACE REINFORCEMENT, SUPPORTED AND SECURED AGAINST DISPLACEMENT
- B. ENSURE REINFORCING IS CLEAN, FREE OF LOOSE SCALE, DIRT, OR OTHER FOREIGN COATINGS.
- C. WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.

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CD 90's REV.7 - 01/03/17 CD 90's REV.8 - 06/07/18 STAMPED PERMIT DWGS: PERMIT CDs V.2 - 07/09/15 STAMPED FINAL DWGS:

PRELIMINARY DWGS:

CD 90's REV.6 - 10/26/16

HECKED BY: PLOT DATE:

PROJECT #:

FILE NAME

SHEET NUMBER

**SP-1** 

- D. MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE THREE (3) INCHES UNLESS OTHERWISE
- E. CONCRETE COVER FROM TOP OF FOUNDATION TO ENDS OF VERTICAL REINFORCEMENT SHALL NOT EXCEED THREE (3) INCHES NOR BE LESS THAN TWO (2) INCHES.
- A. VIBRATE ALL CONCRETE.
- B. ALL CONCRETE WORK SHALL ADHERE TO THE LATEST A.C.I, STANDARDS FOR WINTER POURING AND CURING PROCEDURES IF SEASONAL CONDITIONS APPLY.
- 4. CURING
- A. AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING.
- B. MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
- 5. PROVIDE HAND RUBBED SMOOTH FINISH TO ALL EXPOSED VERTICAL FORMED CONCRETE SURFACES.
- 6. FIELD QUALITY CONTROL
- A. SUBMIT THREE (3) CONCRETE TEST CYLINDERS TAKEN FOR EVERY FIFTEEN (15) CUBIC YARD OR LESS. SUBMIT CONCRETE TESTS TO THE PROJECT MANAGER IN ACCORDANCE WITH ASTM , C-31 AND C-39
- B. SUBMIT ONE (1) ADDITIONAL TEST CYLINDER TAKEN DURING COLD WEATHER POURS, AND CURED ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
- C. SUBMIT ONE (1) SLUMP TEST TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.
- MODIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LINES, DETAILS OR ELEVATIONS AT COST OF GC, AS DIRECTED BY ARCHITECT/ENGINEER.

# **DIVISION 5: METALS**

# SECTION 05000 - METALS

PART 1 - GENERAL

## 1. SECTION INCLUDES

STRUCTURAL STEEL FRAMING MEMBERS, BASE PLATES, PLATES, BARS AND GROUTING UNDER BASE PLATES.

SHOP DRAWINGS: INDICATE SIZES, SPACING, AND LOCATIONS OF STRUCTURAL MEMBERS, OPENINGS, CONNECTIONS, CAMBERS,

# 3. QUALITY ASSURANCE

- A. FABRICATE STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- B. PERFORM DESIGN UNDER DIRECT SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE.

# PART 2 - PRODUCTS

# 1. MATERIALS:

ASTM A572, GRADE 50 A. STRUCTURAL STEEL MEMBERS: B. STRUCTURAL TUBING: ASTM A500, GRADE B

D. BOLTS NUTS AND WASHERS: ASTM A325 E. ANCHOR BOLTS: ASTM A307

AWS D1.1, TYPE REQUIRED FOR MATERIALS BEING WELDED F. WELDING MATERIALS:

NON-SHRINK TYPE, PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICISING ADDITIVES, CAPABLE OF

DRING A MINIMUM COMPRESSIVE STRENGTH OF 7000 PSI AT 28 DAYS.

H. SHOP AND TOUCH-UP PRIMER:

SSPC 15, TYPE 1, RED OXIDE

ASTM A53, TYPE E OR S, GRADE B

- I. TOUCH-UP PRIMER FOR GALV. SURFACES: ZINC RICH TYPE
- 2. FABRICATION: CONTINUOUSLY SEAL JOINTED MEMBERS BY CONTINUOUS WELDS. GRIND EXPOSED

# 3. FINISH

- A. PREPARE STRUCTURAL COMPONENT SURFACES IN ACCORDANCE WITH SSPC SP-1 TO SP-10 PROCEDURES.
- B. STRUCTURAL STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED.

# PART 3 - EXECUTION

# 1. EXAMINATION AND PREPARATION

VERIFY THAT THE FIELD CONDITIONS ARE ACCEPTABLE.

- A. ALLOW FOR ERECTION LOADS. PROVIDE TEMPORARY BRACING TO MAINTAIN FRAMING IN ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRIDGING AND BRACING.
- B. FIELD WELD COMPONENTS INDICATED ON SHOP DRAWINGS.
- C. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE
- D. AFTER ERECTION, TOUCH-UP WELDS, ABRASIONS, AND SURFACES NOT SHOP PRIMED OR GALVANIZED WITH TOUCH-UP PRIMERS AS SPECIFIED UNDER SECTION 05000 METALS, PART 2 PRODUCTS, I & & L SURFACES TO BE IN CONTACT WITH CONCRETE NOT INCLUDED.
- 3. FIELD QUALITY CONTROL
- FIELD INSPECTION OF MEMBERS, CONNECTIONS, WELDS AND TORQUING.

# **DIVISION 16: ELECTRICAL**

# SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

- CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS PRIOR TO ORDERING THE ELECTRICAL EQUIPMENT AND STARTING THE ACTUAL CONSTRUCTION, CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT/ENGINEER LISTING ANY DISCREPANCIES OR CONFLICTING INFORMATION.
- 2. ELECTRICAL PLANS, DETAILS AND DIAGRAMS ARE DIAGRAMMATIC ONLY. VERIFY EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT WITH OWNER PRIOR TO INSTALLATION.
- 3. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, JUNCTION BOX, SWITCH BOX, ETC. THE TYPE OF TAGGING METHODS SHALL BE IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.).
- 4 ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN GOOD WORKING CONDITION. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN GOOD OVERING CONDITION WHEN INSTALLED AND SHALLED OF THE BEST GRADE AND IN GOOD OF THE SAME MANUFACTURER IT HROUGHOUT FOR EACH CLASS OF GROUP OF EQUIPMENT, METERIALS SHALL BE LISTED IT WHERE APPLICABLE MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURSDICTION, MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NEMP AND "AU" LISTED.
- 5. ALL CONDUIT SHALL HAVE A PULL CORD.
- 6 PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
- 7. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
- 8. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY UBC, NEC AND ALL APPLICABLE CODES.
- 9. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE
- 10. PLASTIC PLATES FOR ALL SWITCHES, RECEPTACLES, TELEPHONE AND BLANKED OUTLETS SHALL HAVE ENGRAVED LETTERING WHERE INDICATED ON THE DRAWINGS, WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA #WPD-8 LIFT COVERPLATES.

## SECTION 16400 - SERVICE AND DISTRIBUTION

- RE AND CABLE CONDUCTORS SHALL BE COPPER, 600V, TYPE THHN OR THWN, WITH A MIN. SIZE OF #12 AWG, COLOR CODED. ALL RECTIFIER DROPS SHALL BE STRANDED TO ACCEPT CRIMP CONNECTORS.
- 2. ALL CHEMICAL GROUND RODS SHALL BE "UL" APPROVED.
- 3. METER SOCKET AMPERES, VOLTAGE, NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS. MANUFACTURED BY MILBANK

- A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH GALVANIZED ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BULDING EXTERIOR, RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPED WITH HUNTS WRAP PROCESS NO. 3.
- B. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTING SHALL BE GLAND RING
- C. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITHINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE. ALL FLEXIBLE CONDUITS SHALL HAVE FULL LENGTH OR FOUND WIRE.
- D. ALL UNDERGROUND CONDUIT SHALL BE AS NOTED ON THE DRAWINGS AT A MINIMUM DEPTH OF 42" BELOW GRADE. IT IS REQUIRED AND WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO NOTIFY THE STATE "ONE-CALL" SYSTEM AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO DIGGING OR AS REQUIRED BY LOCATOR.
- 5. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. ALL COSTS TO BE PAID BY THE CONTRACTOR.
- 6. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC
  LABELS WITH WHITE ON BLUE BACKGROUND LETTERING (MINIMUM LETTER HEIGHT SHALL
  BE 1/4-INCH), NAMEPLATES SHALL BE FASTENED WITH STAINLESS STEEL SCREWS, NOT
  ADHESIVE.
- 7. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL, GROUNDING TISTS BY AN INDEPENDENT TESTING SERVICE ENGAGED BY THE CONTRACTOR, SUBMIT TEST REPORTS TO PROJECT MANAGER, LEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED

# 8. GROUNDING ELECTRODE SYSTEM

- PREPARATION

  1. SUPFACE PREPARATION ALL CONNECTIONS SHALL BE MADE TO BARE METAL, ALL PAINTED SUPFACES SHALL BE FIELD INSPECTED AND MODIFIED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A AGENT APPLIED PRIOR TO INSTALLATION.
- 2. GROUND BAR PREPARATION ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED
- SLEEVES ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS THROUGH EMT, BOTH EN OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.

# B. GROUND BARS

- GROUND BARS

  1. ALL GROUND BARS SHALL BE 1/4-INCH THICK TINNED COPPER PLATE AND OF SIZE INDICATED ON DRAWINGS.

  2. ALL CONNECTIONS TO THE GROUND BAR SHALL OBSERVE THE FOLLOWING SECUENCE

  4. BOYL-HEAD

  6. CHARD

  C. TINNED COPPER BUSS BAR

  D. STAR WASHER

  E. NUT

- C. EXTERNAL CONNECTIONS

  1. ALL BURIED GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, TEE'S, CROSSES, ETC. ALL CABLE TO GROUND RODS, GROUND ROD SPLICES AND LIGHTNING PROTECTION SYSTEMS ARE TO BE AS INDICATED, ALL MARTERIALS USED (MOLDS, WELDING METAL, TOOLS, ETC.), SHALL BE BY "CADWELD" AND INSTALLED PER MANUFACTURER'S RECOMMENDED PROCEDURES.
- 2. ALL ABOVE GRADE GROUNDING AND BONDING CONDUCTORS SHALL BE CONNECTED BY TWO HOLE CRIMP TYPE (COMPRESSION) CONNECTIONS (EXCEPT FOR THE ACEG AND GROUND ROD) MECHANICAL CONNECTIONS, ITTINISGS OR CONNECTIONS THAT DEPENS SOLELY ON SOLEDE SHALL NOT BE USED. ALL CABLE TO CABLE CONNECTIONS SHALL BE HIGH PRESSURE DOUBLE CRIMP TYPE CONNECTIONS.
- D. GROUND RODS ALL GROUND RODS SHALL BE 5/84NCH DIAMETER X 10'-0" LONG
  "COPPERWELD" OR APPROVED EQUAL. OF THE NUMBER AND LOCATIONS INDICATED.
  GROUND RODS SHALL BE DRIVEN FULL LENGTH VERTICAL IN UNDISTURBED EARTH.

## E GROUND CONDUCTORS

ALL GROUND CONDUCTORS SHALL BE STANDARD TINNED SOLID BARE COPPER ANNEALED, AND OF SIZE INDICATED ON DRAWINGS UNLESS NOTED OTHERWISE.

 LUGS SHALL BE 2-HOLE, LONG BARREL, STRAND COPPER UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS. LUGS SHALL BE THOMAS AND BETTS SERIES R EQUIVALENT BENDING.

	535 MCM DLO	54880B
	262 MCM DLO	54872B
	#1/0 DLO	54862B
),	#4/0 THWN AND BARE	54866E
	#2/0 THWN	54862B
	#2 THHN	54207B
è.	#6 DLO	54205B
-		- 12000

2. WHEN THE DIRECTION OF THE CONDUCTOR MUST CHANGE, IT SHALL BE DONE GRADUALLY. THE CURVATURE OF THE TURN SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING CHART:

# GROUNDING CONDUCTOR SIZE RADIUS TO INSIDE EDGE

NO. 6 AWG TO NO. 4 AWG	6 INCHES
NO. 2 AWG TO NO. 1/0 AWG	8 INCHES
NO. 2/0 AWG TO 4/0 MCM	12 INCHES
250 MCM TO 750 MCM	24 INCHES

## G. GROUND RING

- 1. THE EXTERNAL GROUND RING ENCIRCLING THE TOWER (IF APPLICABLE) AND THE EQUIPMENT SHELTER OR PLATFORM/SKID SHALL BE MINIMUM NO. 2 A.W.G. SOLID TINNED BARE COPPER CONDUCTOR IN DIRECT CONTACT WITH THE EARTH AT THE DEPTH INDICATED ON THE DRAWINGS. CONDUCTOR BENDS SHALL HAVE A MINIMUM BENDING RADIUS OF EIGHT (8) INCHES
- 2. ALL EXTERNAL GROUND RINGS ARE TO BE JOINED TOGETHER AND ALL CONNECTIONS MUST BE CADWELDED. NO LUGS OR CLAMPS WILL BE ACCEPTED.

H. FENCE/GATE
GROUND EACH GATE POST, CORNER POST AND GATE AS INDICATED ON THE DRAWINGS.
GROUND CONNECTIONS TO FENCE POSTS AND ALL OTHER CONNECTIONS FOR THE
GROUND GRID SYSTEM SHALL BE MADE BY EXCITHERMIC WELD PROCESS, AND
INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES, AND
STANDARD WITH COUNT OF CANVAINEED PAINT

## 9. I.E.E.E. FALL POTENTIAL TESTS

1, GROUND TESTS SHALL BE PERFORMED AS INDICATED ON DRAWINGS, A BIDDLE GROUND OHMER OR THE METHOD OF USING TWO AUXILIARY GROUND RODS (AS DESCRIBED IN LEE,E. STANDARDS NO, 8 1–1983, PART 1) MAY BE USED. THE LEE,E. METHOD REQUIRES THE USE OF AN AC. TEST CURRENT, THE AUXILIARY TEST RODS MUST BE SUFFICIENTLY FAR AWAY FROM THE ROD UNDER TEST SO THAT THE REGIONS IN WHICH THER RESISTANCE IS LOCALIZED DO NOT OVERLAP. THE TEST POINT WILL BE THE GROUND ROD AND WILL CONSIST OF THE THREE POINT FALL OF POTENTIAL MEGGER TEST METHOD, USING THE BIDDLE NULL-BALANCE EARTH TESTER (MEGGER #250220-2, OR EQUIVALENT)

2. CONTRACTOR TO CONDUCT GROUND RESISTANCE TEST IN THE FORMAT AS FOLLOWS:

# B. EQUIPMENT PAD

1. FIRST TEST - SHALL BE WITH FOUR (4) GROUND RODS INSTALLED, ONE AT EACH CORNER OF THE PAD BUT NOT CONNECTED TO THE MAIN GROUNDING BUS, FURNISH WIRE TO CONNECT (TEMPORARY CLAMP) ALL FOUR (4) GROUND RODS TOGETHER TO MAKE A SYSTEM TEST AFTER EACH ROD IS INDIVIDUALLY TESTED. IF ANY INDIVIDUAL ROD TESTS 25 OHMS OR MORE, THE ELECTRICAL CONTRACTOR AND OWNER'S REPRESENTATIVE SHOULD BE NOTHER DS THAT THE ROD CAN BE DRIVEN DEEPER UNTIL ALL FOUR (4) RODS HAVE A RESISTANCE OF 10 OHMS OR LESS ON A DRY DAY.

2. SECOND TEST - SHALL BE WITH THE GROUND RODS CONNECTED, WITH DRY SOIL AND WHEN NO STANDING WATER HAS BEEN PRESENT FOR THE PAST TEN (10) DAYS. THE MAXIMUM ALLOWABLE READING IS 5 OHINS TO GROUND, IT THE RESISTANCE OF THE ENTIRE RYSTEM EXCEEDS 5 OHINS, NOTIFY THE CONTRACTOR AND OWNER'S REPRESENTATIVE SO THAT ADDITIONAL AND/OR DEEPER RODS CAN BE INSTALLED.

# C. TOWER

1. FIRST TEST - SHALL BE WITH THREE (3) GROUND RODS INSTALLED (MINIMUM), EQUALLY SPACED AROUND THE TOWER FOUNDATION, BUT NOT CONNECTED TO THE SHELTER/PLATFORM/SKID PAD EXTERNAL GROUND RIVE FURNISH WIRE TO CONNECT (TEMPORARY CLAMP) ALL THREE (3) GROUND RODS TOGETHEE TO MAKE A SYSTEM TEST AFTER EACH ROD ES INDIVIDUALLY TESTED. E ANY INDIVIDUAL ROD TESTS 25 OHMS OR MORE, NOTIFY THE CONTRACTOR AND OWNERS REPRESENTATIVE SO THAT THE ROD CAN BE DRIVEN DEEPER UNTIL ALL THREE (3) RODS HAVE A RESISTANCE OF 10 OHMS OR LESS ON A DRY DAY.

2. SECOND TEST - SHALL BE WITH THE GROUND RODS CONNECTED, WITH DRY SOIL AND WHEN NO STANDING WATER HAS BEEN PRESENT FOR THE PAST TEN (10) DAYS, THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND. IF THE RESTANCE OF THE ENTIRE SYSTEM EXCEEDS 5 OHMS, THE ELECTRICAL CONTRACTOR AND OWNERS REPRESENTATIVE SHOULD BE NOTHED SO THAT EITHER ADDITIONAL AND/OR DEEPER RODS CAN BE INSTALLED.

# D. EQUIPMENT PAD AND TOWER

1. AFTER THE EQUIPMENT PAD AND TOWER GROUND RESISTANCE TEST IS COMPLETED. CONTRACTOR SHALL TIE EQUIPMENT PAD EXTERNAL GROUND RING AND TOWER EXTERNAL GROUND RING TOGETHER. AFTER RIEST AND SECOND TEST CONTRACTOR WILL CONNECTIONS MUST BE MADE USING EXOTHERMIC WELD. NO LUGS OR CLAMPS WILL BE ACCEPTED.

2. AFTER ALL THE EXTERNAL GROUND RINGS ARE TIED TOGETHER, COMPLETE A MEGGER CHECK OF THE GROUND SYSTEM. THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND.

# 10. GROUNDING RESISTANCE TEST REPORT

UPON COMPLETION OF THE TESTING FOR EACH SITE, A TEST REPORT SHOWING RESISTANCE IN OHMS WITH AUXILIARY POTENTIAL ELECTRODES AT 5 FEET AND 10 FEET INTERVALS UNTIL THE AVERAGE RESISTANCE STARTS INCREASING AND ALSO NOTE THAT 10-15 PHOTOS MUST BE TAKEN TO PROOF ENTIRE EXTERNAL GROUND RING SYSTEM BEFORE BACKFILL TWO (2) SETS OF TEST DOCUMENTS ARE OF THE INDEPENDENT TESTING SERVICE TO BE BOUND AND SUBMITTED WITHIN ONE (1) WEEK OF WORK COMPLETION.

# SECTION 16503 - POLES, POSTS, AND STANDARDS

## 1. GENERAL

- A. LIGHTNING ROD AND EXTENSION PIPE INCLUDING ALL APPURTENANCES, TO BE FURNISHED BY OWNER, IF REQUIRED.
- B. PROVIDE TEMPORARY LIGHTING FOR TOWER AS PER FAA REGULATIONS DURING CONSTRUCTION, IF REQUIRED.

GROUND TOWER WITH A MINIMUM OF #2 AWG TINNED SOLID BARE COPPER CONDUCTOR CADWELDED TO THAS (IF PRESENT), TWO (2) GROUNDING LEADS PER TOWER, NO EXCHIERMIC WELDS SHALL BE ATTACHED DIRECTLY TO THE TOWER STEEL.

# SECTION 16745 - TELECOMMUNICATIONS WIRING COMPONENTS (COAXIAL ANTENNA CABLE)

- A. ALL MATERIALS, PRODUCTS OR PROCEDURES INCORPORATED INTO WORK SHALL BE NEW AND OF STANDARD COMMERCIAL QUALITY.
- B. CERTAIN MATERIALS AND PRODUCTS WILL BE SUPPLIED BY THE OWNER (REFER TO GENERAL CONDITIONS FOR THE LIST OF OWNER FURNISHED EQUIPMENT, MATERIALS AND SUPPLIES FOR THESE TIEMS). THE CONTRACTOR IS RESPONSIBLE FOR PICKUP AND DELIVERY OF ALL SUCH MATERIALS.
- C. ALL OTHER MATERIALS AND PRODUCTS SPECIFIED IN THE CONTRACT DOCUMENTS SHALL BE SUPPLIED BY THE CONTRACTOR.

- MATERIALS:
  A. COAMAL CABLE:
  1. INSTALL COAXIAL CABLE AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS WITH COAXIAL CABLES SUPPORTED AT NO MORE THAN 3-0" O.C. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT FER MANUFACTURERS' REQUIREMENTS. IFERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF EQUIPMENT LOCATION UNLESS OTHERWISE STATEN.
- OTHERWISE STATED. . ALL COAX RUNS SHALL BE 1-5/8" UNLESS OTHERWISE INDICATED.
- 3. ANTENNA AND COAXIAL CABLE GROUNDING
  A. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)
- 4. COAXIAL CABLE IDENTIFICATION
  A. TO PROVIDE EASY IDENTIFICATION AND UNIFORM MARKING OF ANTENNA
  CABLING, MARK CABLE:
  1. RIRST LOCATION IS AT THE END OF THE COAX NEAREST THE ANTENNA
  (WHERE THE COAXIAL CABLE AND JUMPER ARE CONNECTED).
- 2. SECOND LOCATION IS INSIDE THE EQUIPMENT SHELTER NEAR THE WAVEGUIDE ENTRY PORT OR BEFORE TERMINATION ON EXTERIOR SITES.

# 5. TESTING

IF REQUESTED BY CONSTRUCTION MANAGER, LESSEE SHALL PROVIDE AN INDEPENDENT TESTING AGENCY TO PERFORM THE COAXIAL SWEEP TEST & REPORT, THE CONTRACTOR SHALL PROVIDE ONE CLIMBER / QUALIFED PERSONNEL TO ASSIST IN ANY REPAIRS AND WEATHER PROOFING ONCE THE TEST IS COMPLETE. THE CONTRACTOR SHALL PROVIDE LESSEE WITH A MINIMUM OF FORTY-EIGHT (48) HOURS NOTICE PRIOR TO THE TIME OF THE SWEEP TEST.





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CD 90's REV.6 - 10/26/16 CD 90's REV.7 - 01/03/17 CD 90's REV.8 - 06/07/18 STAMPED PERMIT DWGS: 1 PERMIT CDs V.2 - 07/09/15 STAMPED FINAL DWGS: CHECKED BY:

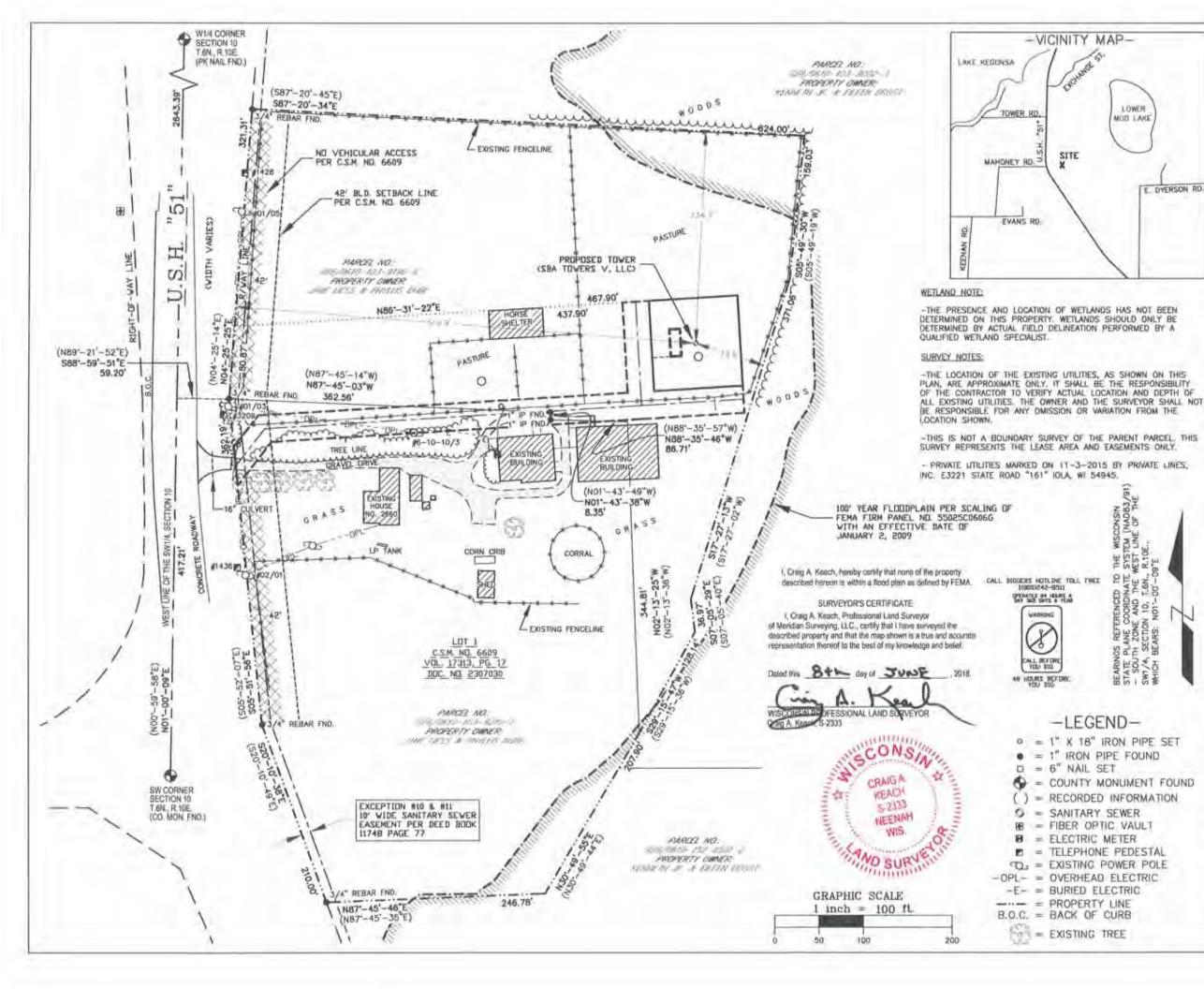
PRELIMINARY DWGS:

SP-2

C EDGE CONSULTING ENGINEERS, INC.

PLOT DATE: 6/7/2018 PROJECT #:

FILE NAME



SURVEYED FOR:

MUD LAKE

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E DYERSON RD.



Consulting Engineers, Inc.

624 Water Street Proide du Sac, Wi 53678 606,644,1449 voice 608.644.1549 fox www.edgeconsulf.com

SURVEYED FOR



1515 WOODFIELD ROAD **SUITE 1400** SCHAUMBURG, IL 60173

SURVEYING, LLC NB774 Firelane 1

Menasha, WI 54952 Fax

Office: 920-993-0881 Fax: 920-273-6037

SITE NAME:

**EXCHANGE** 

SITE NUMBER:

269139

SITE ADDRESS:

2660 U.S.H. "51" MCFARLAND, W 53558

PROPERTY OWNER: JANE LIESS & PHYLLIS DUBE

2660 U.S.H. "51" MCFARLAND, W 53558

PARCEL NO .:

0610-103-9190-6 LEASE AND EASEMENT 0610-103-9210-1 EASEMENT

ZONED: A-2, AGRICULTURAL DISTRICT

DEED: DOC. NO. 4378736 DOC. NO. 4386586

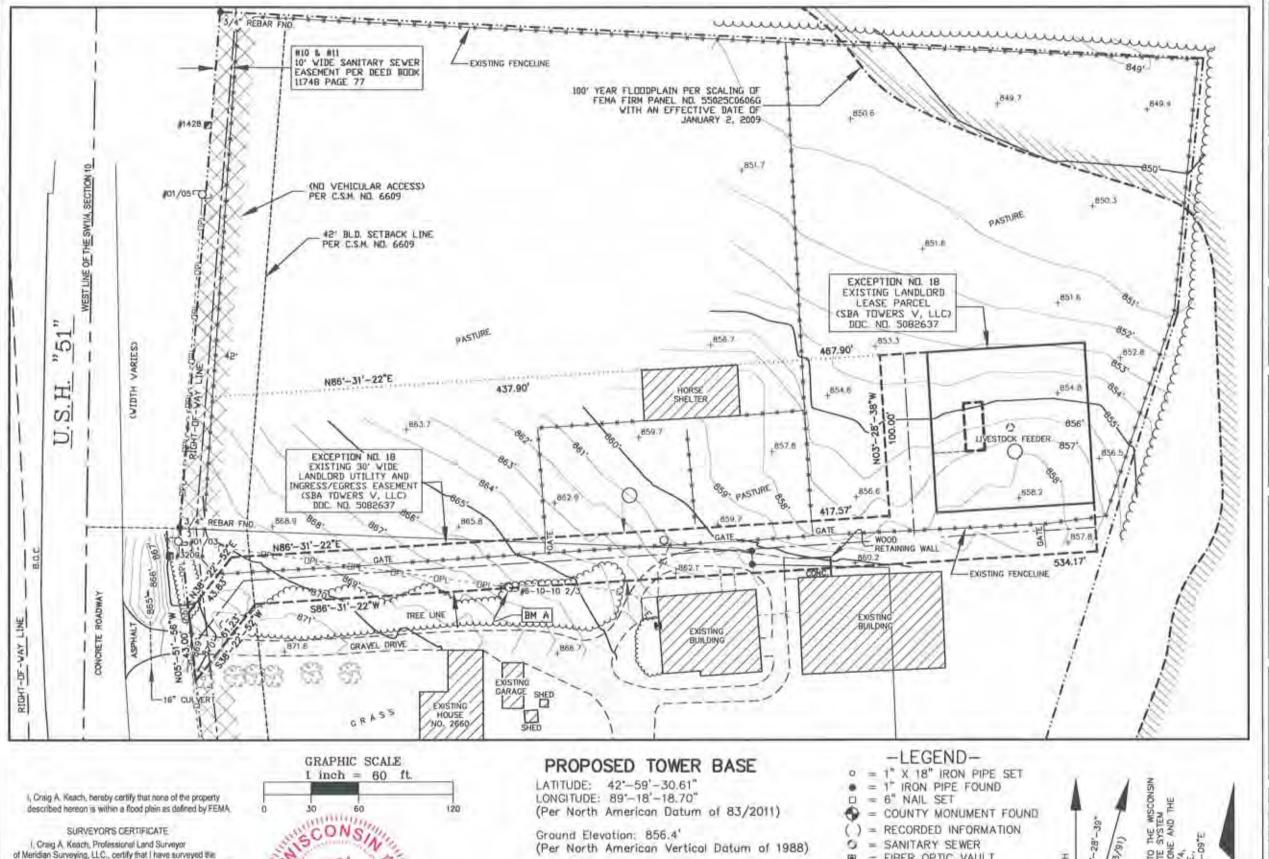
# LEASE EXHIBIT

VERIZON WIRELESS PERSONAL COMMUNICATIONS LP d/b/d VERIZON WIRELESS

BEING A PART OF THE SWI/4 OF THE SW1/4, SECTION 10, T.6N., R.10E., TOWN OF DUNN, DANE COUNTY, WISCONSIN

7	6-7-18	Revised Lease Parcel	J.B.
6	10-25-16	Revised Lease Parcel	J.D.
5	11-13-15	Added Utilities	J.B.
4	7-02-15	Revised Lease Parcel	J.D.
3	10-27-14	Revised Lease Parcel	J.D.
2	11-19-13	Added Title Report	J.B.
1.	10-09-13	Preliminary Survey	J.D.
NO.	DATE	DESCRIPTION	BY

DRAWN BY: J.D.	DATE: 9-19-13
CHECKED BY: C.A.K.	FIELD BOOK: M-28, PG. 31
JOB NO.: 7383-1484	SHEET 1 OF 4



SURVEYED FOR:



Consulting Engineers, Inc.

624 Water Street Protrie du Sac, WI 535/8 608:644 1/449 volce 608.644.1549 fox www.edgeconsulf.com

SURVEYED FOR:



SUITE 1400 SCHAUMBURG, IL 60173

SURVEYING, LLC

N8774 Firelane 1 Menasho, W 54952 Fox

Office 920-993-0881 920-273-6037

SITE NAME:

**EXCHANGE** 

SITE NUMBER:

269139

SITE ADDRESS:

2660 U.S.H. "51" MCFARLAND, W 53558

PROPERTY OWNER: JANE LIESS & PHYLLIS DUBE 2660 U.S.H. "51" MCFARLAND, WI 53558

PARCEL NO .:

0610-103-9190-6 LEASE AND EASEMENT 0610-103-9210-1 EASEMENT

ZONED: A-2, AGRICULTURAL DISTRICT

DEED: DOC. NO. 4378736 DOC. NO. 4386586

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NO.	DATE	DESCRIPTION	BY

DRAWN BY: J.D.	FIELD WORK 9-19-13
CHECKED BY: C.A.K.	FIELD BOOK: M-28, PG. 31
JOB NO.: 7383-1484	SHEET 2 OF 4

BENCHMARK INFORMATION SITE BENCHMARK: (BM A) SET 6" NAIL IN NORTH FACE OF POWER POLE #6-10-10 2/3; ±1' ABOVE GROUND LEVEL ELEVATION: 867.41"

CRAIGA

KEACH

5 7313

NEENAH

WIS.

NO SURVE

described property and that the map shown is a true and accumile

representation thereof to the best of my knowledge and belief.

ESSIONAL LAND SURV

Dated this S+ day of JUNE

= FIBER OPTIC VAULT

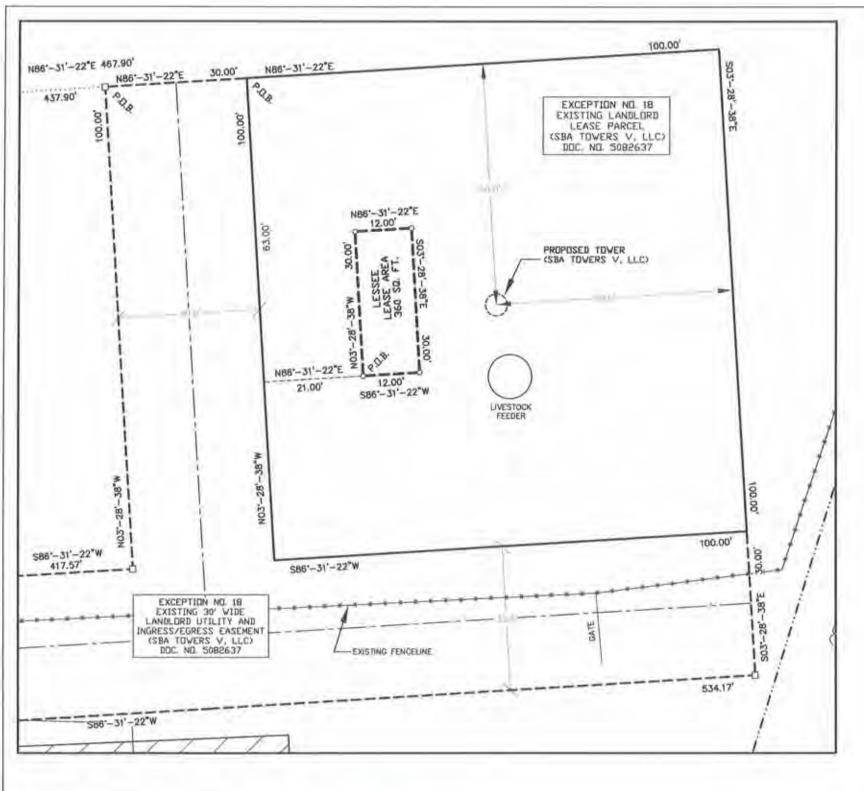
= ELECTRIC METER = TELEPHONE PEDESTAL

CO = EXISTING POWER POLE -OPL- = OVERHEAD ELECTRIC -E- = BURIED ELECTRIC

--- = PROPERTY LINE B.O.C. = BACK OF CURB

= EXISTING TREE

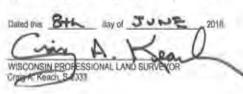
(Per North American Vertical Datum of 1988)



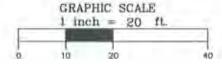
I, Craig A. Keach, hereby certify that none of the property described hereon is within a flood plain as defined by FEMA

# SURVEYOR'S CERTIFICATE

I, Craig A. Keach, Professional Land Surveyor of Meridian Surveying, LLC., certify that I have surveyed the described property and that the map shown is a line and accurate representation thereof to the best of my knowledge and belief







-LEGEND-

o = 1" X 18" IRON PIPE SET

= 1" IRON PIPE FOUND
 = 6" NAIL SET

= COUNTY MONUMENT FOUND

( ) = RECORDED INFORMATION

O = SANITARY SEWER

BE = FIBER OPTIC VAULT

# = ELECTRIC METER = TELEPHONE PEDESTAL

Co = EXISTING POWER POLE -OPL- = OVERHEAD ELECTRIC

-E- = BURIED ELECTRIC

--- = PROPERTY LINE B.O.C. = BACK OF CURB

= EXISTING TREE

SURVEYED FOR:



624 Water Street Prairie du Sac. WI 53578 608 844 1449 voice 608,644.1549 fax www.edgeconsult.com

SURVEYED FOR



SUITE 1400 SCHAUMBURG, IL 60173

SURVEYING, LLC

N8774 Firelane 1 Menasha, W 54952

Office: 920-993-0681 Fox: 920-273-6037

SITE NAME:

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ZONED: A-2, AGRICULTURAL DISTRICT

DEED: DOC. NO. 4378736 DOC. NO. 4386586

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VERIZON WIRELESS PERSONAL COMMUNICATIONS LP d/b/a VERIZON WIRELESS

BEING A PART OF THE SWL/4 OF THE SW1/4, SECTION 10, T.6N., R.10E., TOWN OF DUNN, DANE COUNTY, WISCONSIN

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1	10-09-13	Preliminary Survey	J.D.
NO.	DATE	DESCRIPTION	BY

DRAWN BY:	J.D.	FIELD DATE:	HENRY	9-15	9-13
CHECKED BY:	C.A.K.	FIELD	воок:	M-28.	PG. 31
JOB NO.: 738	3-1484	SHEET	3	OF	4

# LESSEE LEASE PARCEL

A part of the Southwest Quarter (SW1/4) of the Southwest Quarter (SW1/4) Section Ten (10), Township Six (6) North, Range Ten (10) East, Town of Dunn, Dane County, Wisconsin containing 360 square feet (0.008 acres) of land and being described by:

Commencing at the Southwest Corner of said Section 10; thence N01°-00'-09"E (Recorded as N00°-59'-58"E) 417.21 feet along the West line of the SW1/4 of said Section 10; thence S88°-59'-51"E (Recorded as N89°-21'-52"E) \$9.20 feet to a point on the Easterly Right of Way line of U.S.H. 51(Also being the Northwest Corner of Lot 1 of Certified Survey Map No. 6609, Volume 17313, Page 17, Document No. 2307030 of Dane County Records) thence N04°-25'-25"E (Recorded as N04°-25'-14"E) 80.87 feet along said Easterly Right of Way line; thence N86°-31'-22"E 467.90 feet, thence S03°-28'-38"E 63.00 feet, thence N86°-31'-22"E 21.00 feet to the point of beginning; thence N03"-28'-38"W 30.00 feet; thence N86"-31'-22"E 12.00 feet; thence S03"-28'-38"E 30.00 feet; thence S86°-31'-22"W 12.00 feet to the point of beginning, being subject to any and all easements and restrictions of record.

# LEASE PARCEL (SBA Towers V, LLC.)

A part of the Southwest Quarter (SW1/4) of the Southwest Quarter (SW1/4) Section Ten (10), Township Six (6) North, Range Ten (10) East, Town of Dunn, Dane County, Wisconsin containing 10,000 square feet (0,230 acres) of land and being described by:

Commencing at the Southwest Corner of said Section 10; thence N01°-00'-09"E (Recorded as N00°-59'-58"E) 417.21 feet along the West line of the SW1/4 of said Section 10, thence S88°-59'-51"E (Recorded as N89°-21'-52"E) 59.20 feet to a point on the Easterly Right of Way line of U.S.H. 51(Also being the Northwest Corner of Lot 1 of Certified Survey Map No. 6609, Volume 17313, Page 17, Document No. 2307030 of Dane County Records) thence N04°-25'-25"E (Recorded as N04°-25'-14"E) 80.87 feet along said Easterly Right of Way line; thence N86°-31'-22"E 467.90 feet to the point of beginning; thence continue N86°-31'-22"E 100.00 feet; thence \$03°-28'-38"E 100.00 feet; thence \$86°-31'-22"W 100.00 feet; thence \$03°-28'-38"W 100.00 feet to the point of beginning. being subject to any and all easements and restrictions of record-

# 30 FOOT WIDE LITILITY AND INGRESS/EGRESS EASEMENT (SBA Towers V, LLC.)

A part of Lot One (1) of Certified Survey Map No. 6609, Volume 17313, Page 17, Document No. 2307030 of Dane County Records and a part of the Southwest Quarter (SW1/4) of the Southwest Quarter (SW1/4) Section Ten (10), Township Six (6) North, Range Ten (10) East, Town of Dunn, Dane County, Wisconsin containing 20,802 square feet (0.478 acres) of land and being described by:

Commencing at the Southwest Corner of said Section 10; thence N01"-00'-09"E (Recorded as N00"-59'-58"E) 417.21 feet along the West line of the SW1/4 of said Section 10; thence S88"-59"-51"E (Recorded as N89"-21"-52"E) \$9.20 feet to a point on the Easterly Right of Way line of U.S.H. 51(Also being the Northwest Corner of Lot 1 of Certified Survey Map No. 6609, Volume 17313, Page 17. Document No. 2307030 of Dane County Records) thence N04°-25'-25"E (Recorded as N04°-25'-14"E) 80.87 feet along said Easterly Right of Way line; thence N86°-31'-22"E 437.90 feet to the point of beginning; thence continue N86°-31'-22"E 30.00 feet; thence S03°-28'-38"E 100.00 feet; thence N86°-31'-22"E 100.00 feet; thence S03°-28'-38"E 30.00 feet; thence S86°-31'-22"W 534.17 feet; thence S38°-22'-52"W 61.23 feet to a point on the Easterly Right of Way line of U.S.H. 51; thence N05°-51'-56"W 43.00 feet along said Easterly line; thence N38°-22'-52"E 43.83 feet; thence N86°-31'-22"E 417.57 feet; thence; thence N03°-28'-38"W 100.00 feet to the point of beginning, being subject to any and all easements and restrictions of record.

# PARENT PARCEL LEGAL DESCRIPTION, AS PROVIDED

An interest in land, said interest being over a portion of the following described parent parcel:

Lot One (1), Certified Survey Map No. 6609, recorded in Volume 32 of Certified Survey Maps, Pages 242, 243 and 244, as Document No. 2307030, in the Town of Dunn, Dane County, Wisconstri-

# Parcel B:

A part of the Southwest 1/4 of the Southwest 1/4 of Section 10, Township 6 North, Range 10 East, in the Town of Dunn, Dane County, Wisconsin, more fully described as follows:

Commencing at the Southwest corner of said Section 10; thence North 0°59'58" East along the West line of the said Southwest 1/4, 417.21 feet; thence North 89"21'52" East, 59:20 feet to the point of beginning; said point also being the Northwest corner of Lot 1, Certified Survey Map No. 6609; thence North 4°25'14" East along the Easterly Right of Way line of U.S. Highway "51", 321.31 feet; thence South 87"20'45" East, 624.00 feet; thence South 5"49'19" West, 159.03 feet; thence South 17" 27' 02" West, 371.06 feet; thence South 7"05'40" East, 36.97 feet; thence South 29°15'36" West, 128.14 feet; thence North 2°13'36" West, 344.81 feet; thence North 88°35'57" West, 86.71 feet; thence North 1°43'49" West, 8.35 feet; thence North 87°45'14" West, 362:56 feet to the point of beginning.

AND BEING a portion of the same property conveyed to Kimberly J. Krueger, as to 92.5% interest and Jane C. Liess, as to 7.5% interest from Marty Brewer and Connie Brewer by Warranty Deed dated March 17, 2000 and recorded March 21, 2000 in Instrument No. 3199200; AND FURTHER CONVEYED to Jane C. Liess from Kimberly J. Knieger by Warranty Deed dated July 02, 2002 and recorded July 10, 2002 in Instrument No. 3511998; AND FURTHER CONVEYED to Phyllis J. Dube, an undivided fifty percent interest from Jane C. Liess by Warranty Deed dated November 30, 2007 and recorded December 04, 2007 in Instrument No. 4378736 and corrected in Affidavit recorded in Instrument No. 4386586.

Tax Parcel No. 028-0610-103-9216-1, 028-0610-103-9190-6

# TITLE COMMITMENT REVIEW

Title Report: Fidelity National Title Immrance Company

Commitment No. 17512804

Effective Date: October 17, 2016

Fee Simple Title Vested In:

Jahe C. Liess, an undivided 50% interest and Phyllin J. Dube, an undivided 50% interest

NOTE: The Statement of Applicability refers to the Lease Site and any Easements pertinent Thereunto Where Specific Encombrances affect the Lease Site and/or a Pertinent Easement, they are identified as such.

Schedule B-II

- (1-7) These are General Statements and not Specific Encumbrances
- (8) Conveyance of Lands for Highway Purposes in favor of The State Highway Commission of Dane County, set forth in instrument recorded on 03/16/1967 in Instrument No. 1180288. This conveyance is included within the existing right of way of U.S.H. "51" which is plotted and shown.
- (9) Right of way Grant in favor of Michigan Wisconsin Pipe Line Company, a Delaware corporation, set forth in instrument recorded on 11/14/1969 in instrument No. 1254238. Does not apply.
- (10) Award of Damages in favor of Kegonsa Sanitary District, set forth in instrument recorded on 06/17/1988 in Instrument No. 2087766. Award of damages to place a sanitary sewer line upon the lands described in Exception 11. Applies to parent parcel and is plotted and shown.
- (11) Easement in favor of Kegonsa Sanitary District, set forth in instrument recorded on 07/28/1988 in Deed Book 11748, Page 77. This is a 10' wide sanitary sewer easement following the right of way of U.S.H. "51". Applies to ingress/egress and utility easement and is plotted and shown.
- (12) Terms, provisions, covenants, conditions, restrictions, reservations, easements, charges, assessments and liens provided in a Deed or Covenants, Conditions and Restrictions recorded in Instrument No. 2258094, but omitting any covenants or restrictions, if any, based upon race, color, religion, sex, sexual orientation, familial status, marital status, disability, handicap, national origin, ancestry, or source of income, as set forth in applicable state or federal laws, except to the extent that said covenant or restriction is permitted by applicable law. Does not apply.
- (13) Declaration of the Imposition of Certain Restrictions on Real Estate, dated 12/05/1991 and recorded 12/06/1991 in Deed Book 17313, Page 13. These restrictions apply to property North of the parent parcel. Does not apply.
- (14) Certified Survey Map No. 6609 recorded in Instrument No. 2307030. The Certified Survey Map boundary. easements and setbacks are plotted and shown.
- (15) Easement Assignment from Madison Gas and Electric Company, a Wisconsin corporation to American Transmission Company LLC, a Wisconsin limited liability company, recorded on 01/29/2001 in Instrument No. 3283453. Does not apply.
- (16) Mortgage from Jane C. Liess, a single person, Grantor(s), in favor of Metro Mortgage Co., Inc., dated 04/15/2003, and recorded 04/22/2003 in Instrument No. 3695599, in the original amount of \$243,500.00; Assignment of Mortgage to U.S. Bank, N.A., a national association recorded on 04/22/2003 in Instrument No. 3695600, Affidavil of Correction recorded on 08/13/2003 in Instrument No. 3784720. Applies to the parent parcel.
- (17) Notice of Internanicipal Cooperation Agreement dated 03/29/2005, by and between Town of Dunn and The Village of McFarland, recorded on 04/01/2005 in Instrument No. 4037294. This agreement depicts an area that cannot be annexed by the Village of McFarland until January 1, 2026. Applies to parent parcel.
- (18) Option and Easement Agreement in favor of SBA Towers V, LEC, a Florida limited liability company set forth in instrument recorded on 07/09/2014 in Document No. 5082637. Does apply and is plotted and shown,
- (19) Mortgage from Jane C Liess, Grantor(s), in favor of U.S. Bank N.A., dated 10/09/2015, and recorded 10/19/2015 in Instrument No. 5191434, in the original amount of \$175,700.00. Applies to the parent parcel.



SURVEYED FOR:



Consulting Engineers, Inc. 624 Water Street Prairie du Sac. WI 53578 606 644 1449 voice

> 608,644,1549 fcm www.edgeconsulf.com

SURVEYED FOR:



**SUITE 1400** SCHAUMBURG, IL 60173

# MERIDIAN

SURVEYING, LLC N8774 Firelone 1 Menosho, W 54952

Office: 920-993-0881 Fax: 920-273-6037

SITE NAME:

EXCHANGE

SITE NUMBER:

269139

SITE ADDRESS:

2660 U.S.H. "51" MCFARLAND, W 53558

PROPERTY OWNER: JANE LIESS & PHYLLIS DUBE 2660 U.S.H. "51" MCFARLAND, WI 53558

PARCEL NO.:

0610-103-9190-6 LEASE AND EASEMENT 0610-103-9210-1 EASEMENT

ZONED: A-2, AGRICULTURAL DISTRICT

DEED: DOC. NO. 4378736 DOC. NO. 4386586

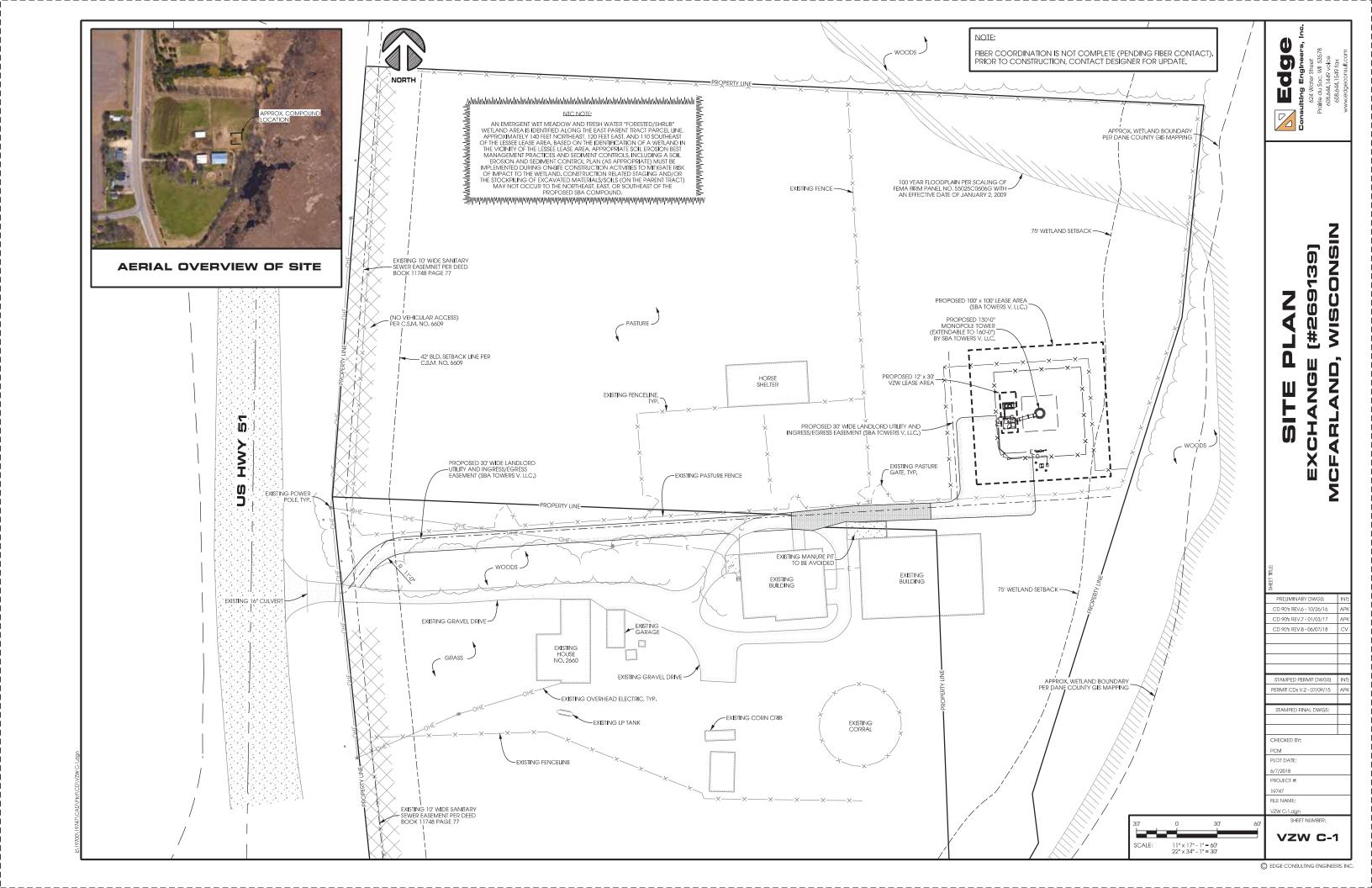
# LEASE EXHIBIT

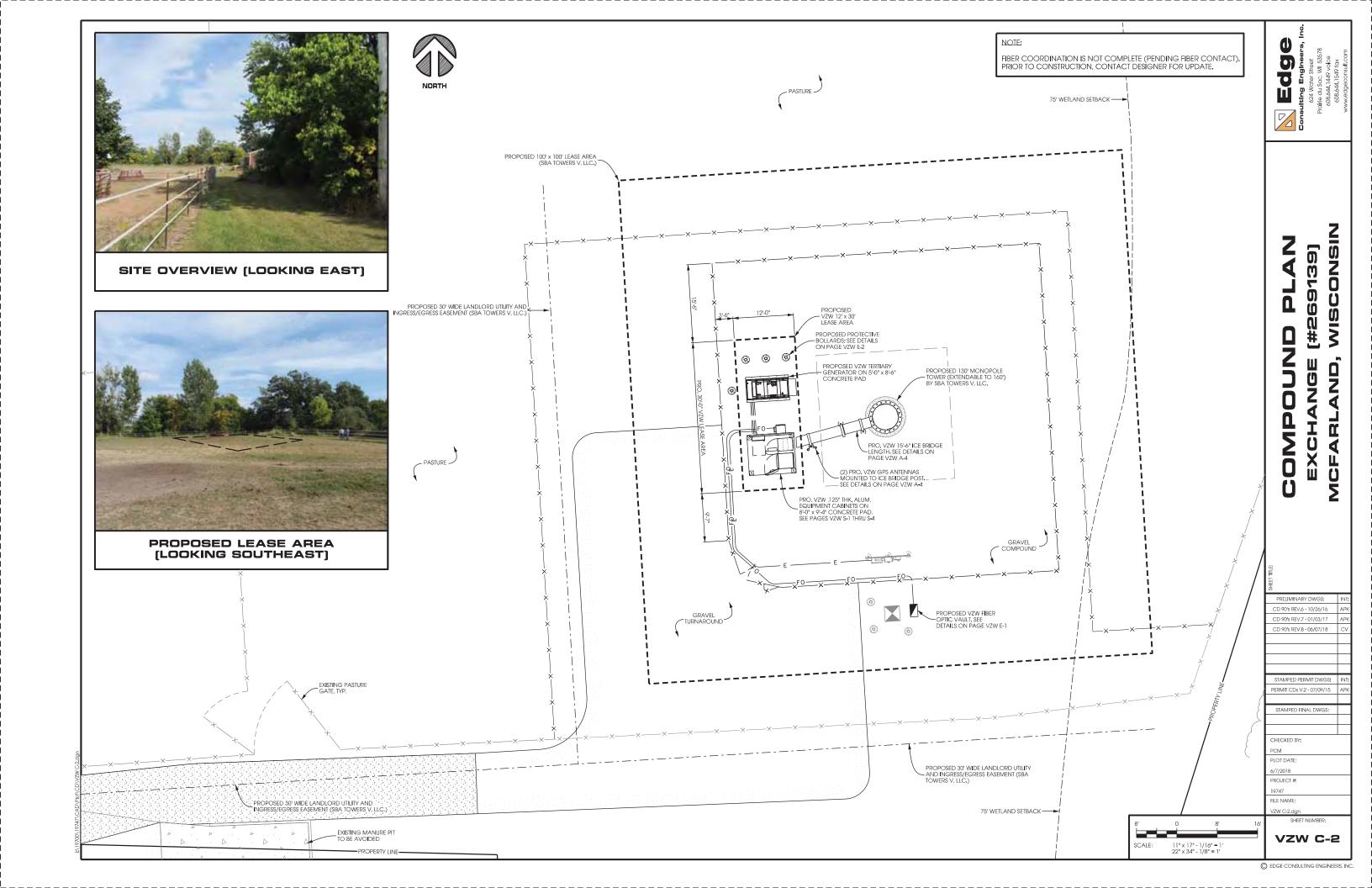
VERIZON WIRELESS PERSONAL COMMUNICATIONS LP d/b/o VERIZON WRELESS

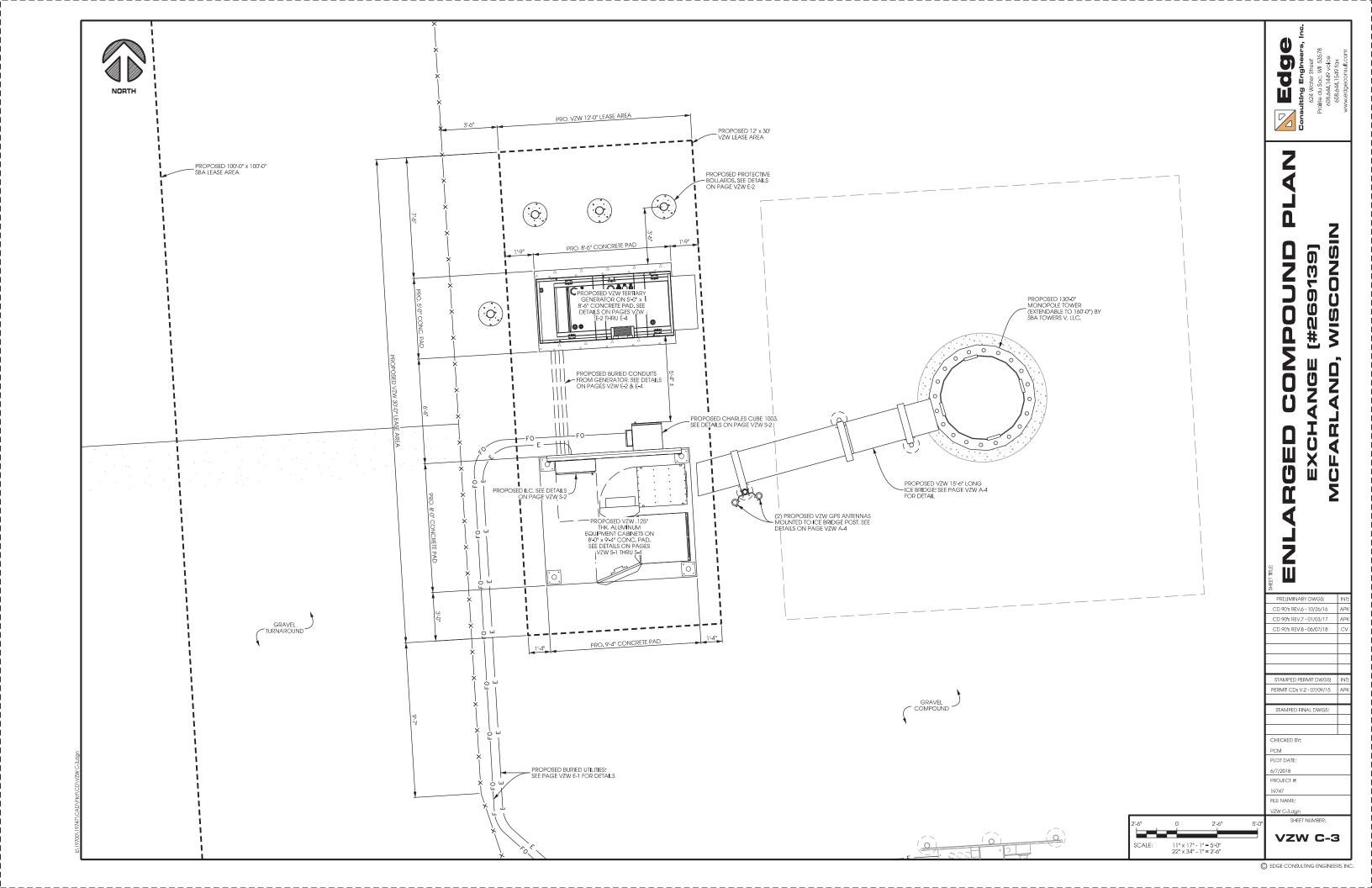
BEING A PART OF THE SWI/4 OF THE SWI/4, SECTION 10, T.6N., R.10E., TOWN OF DUNN, DANE COUNTY, WISCONSIN

7	6-7-18	Revised Lease Parcel	J.B.
6	10-25-16	Revised Lease Parcel	J.D.
5	11-13-15	Added Utilities	J.B.
4	7-02-15	Revised Lease Parcel	J.D.
3	10-27-14	Revised Lease Parcel	J.D.
2	11-19-13	Added Title Report	J.B.
1	10-09-13	Preliminary Survey	J.D.
NO.	DATE	DESCRIPTION	BY

DRAWN BY: J.D.	FIELD WORK 9-19-15
CHECKED BY: C.A.I	K. FIELD BOOK M-28, PG. 31
JOB NO.: 7383-146	84 SHEET 4 OF 4







RACK MOUNTED DISTRIBUTION SURGE PROTECTION FOR 12 RRH DC CIRCUITS

Edg

DETAIL

EQUIPMENT

WISCONSIN

MCFARLAND,

EXCHANGE

PRELIMINARY DWGS:

CD 90's REV.6 - 10/26/16 AF

CD 90's REV.7 - 01/03/17 AI CD 90's REV.8 - 06/07/18

STAMPED PERMIT DWGS: | PERMIT CDs V.2 - 07/09/15

CHECKED BY:

PLOT DATE: 6/7/2018 PROJECT #:

FILE NAME:

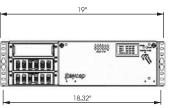
[#269139]

DIMENSIONS:  $5.18" \times 18.32" \times 15.80" (H \times W \times D)$ WEIGHT: 22.10 LBS

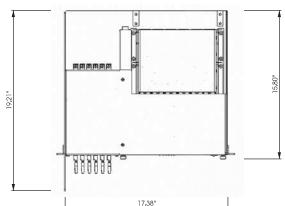




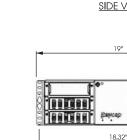
SIDE VIEW



FRONT VIEW







PLAN VIEW

**RACK MOUNTED SURGE PROTECTOR** 

© EDGE CONSULTING ENGINEERS, INC.

SHEET NUMBER: **VZW S-1** 

23" AND 19" EQUIPMENT RACK SPACE -48VDC POWER SYSTEM WITH CONTROLLER

3PT LATCHING PADLOCKABLE DOOR HANDLE

19K AIR CONDITIONER W/3000W HEATER

OPERATING TEMP. RANGE, OUTSIDE ENCLOSURE GFCI OUTLET GROUND\_ BLOCK

REAR

RADIO EQUIPMENT CABINET

**ERONI** PLAN VIEW

72 H X 30 W X 36 D 650 LBS AS SHIPPED

70" (40RU) SPACING

.125" WELDED ALUMINUM

PENTAIR #T531426G150P

GE INFINITY S: NES4824-23-AC5-PS-DC2E

2GA OUTSIDE ENCLOSURE

50F/10C -79F/26C

-40F/-40C -131F/55C

GRAY

2900W

REAR

CATEGORY DIMENSIONS AND WEIGHT

MAXIMUM HEAT DISSIPATION

19000 BTU AIR CONDITIONER WITH 3000W HEATER

BONDING AND GROUNDING

OPERATING TEMP. RANGE, INSIDE ENCLOSURE

ELECTRICAL OUTLET

CABLE ENTRANCE

COLOR

MATERIAL

FRONT ELEVATION VIEW

**COMMSCOPE RBA72-30** 

# 0

REAR ISOMETRIC VIEW

STAY BAR -

SOLAR SHIELD

(4) LIFTING BRACKETS -

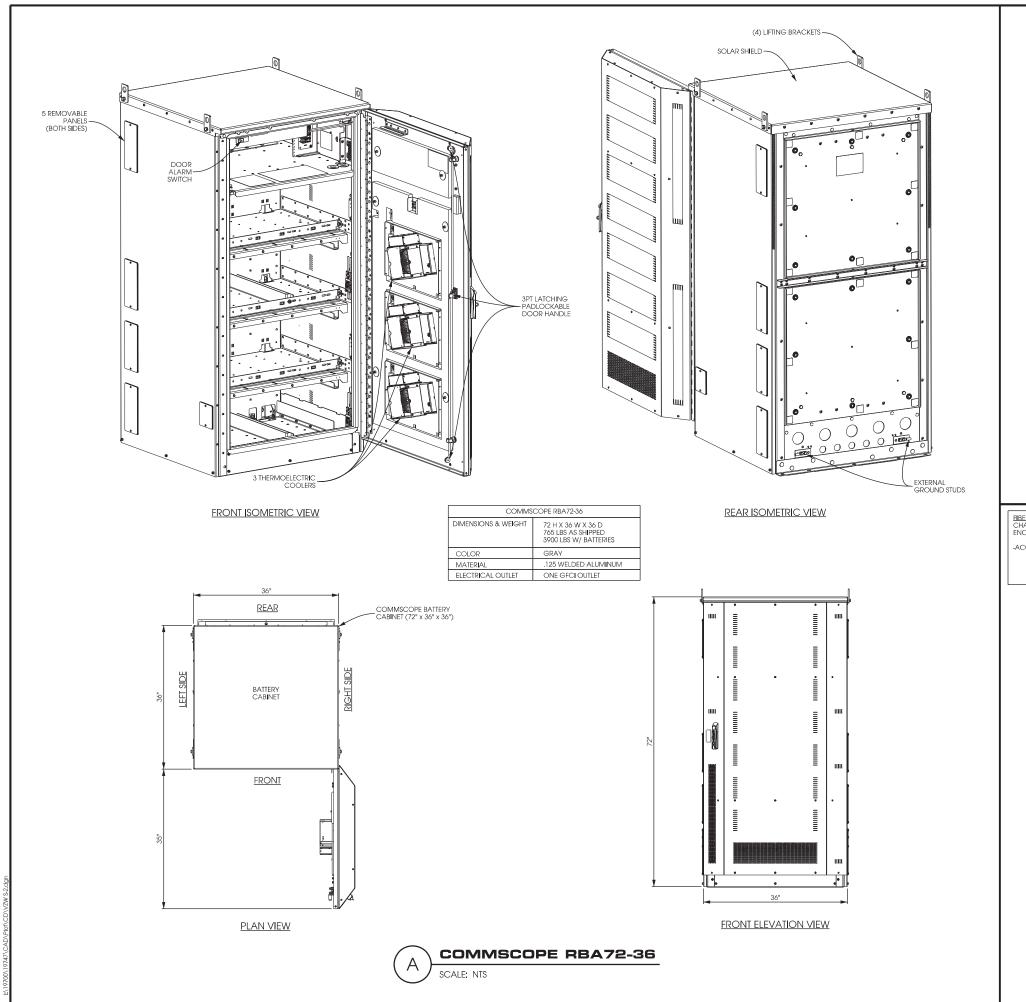
(4) 4" ENTRY PORTS

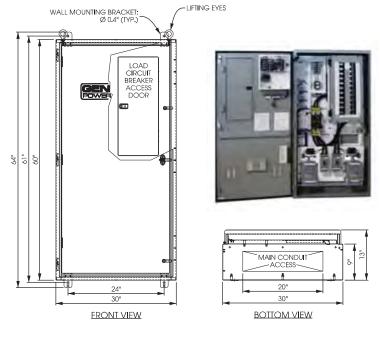
EXTERNAL GROUND STUDS

ALARM BLOCK

FRONT ISOMETRIC VIEW

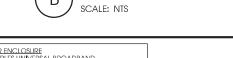
COMMSCOPE EQUIPMENT CABINET (73" x 36" x 30")



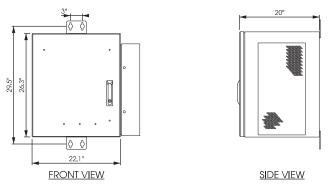


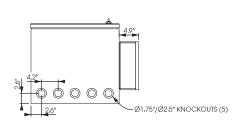
ILC RATED AMPS	VOLTAGE	PHASE	ENCLOSURE HEIGHT	ENCLOSURE WIDTH	ENCLOSURE DEPTH	WEIGHT (LBS)
200	120/240	1	60"	30"	10"	350
200	120/208	3	60"	30"	10"	350

**INTEGRATED LOAD CENTER** 









BOTTOM VIEW



EQUIPMENT DETAILS
EXCHANGE (#269139)
MCFARLAND, WISCONSIN

Edg

### PRELIMINARY DWGS: INT:

CD 90's REV.6 - 10/26/16 APK

CD 90's REV.8 - 06/07/18 CV

STAMPED PERMIT DWGS: INT:

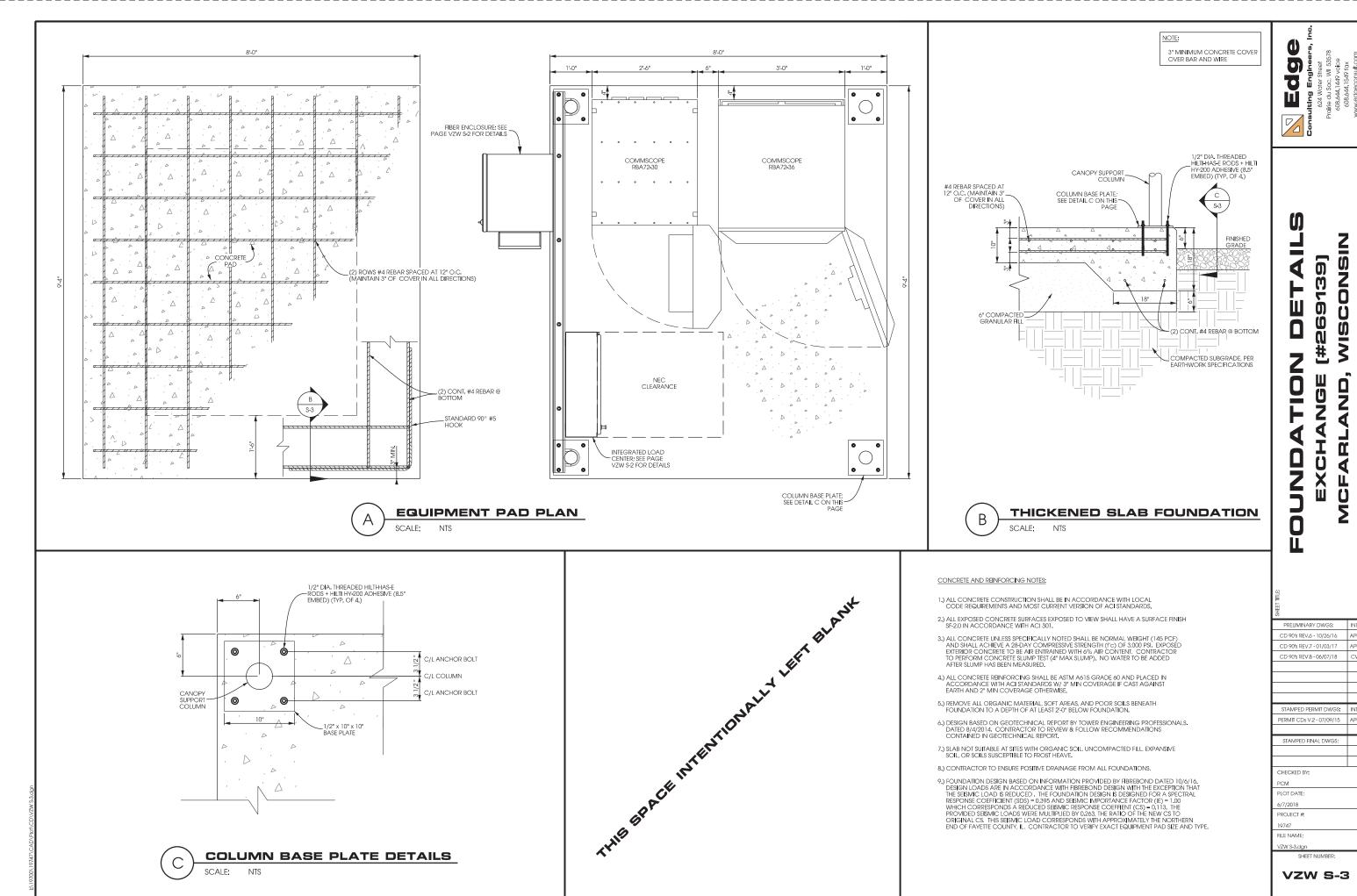
PERMIT CDs V.2 - 07/09/15 APK

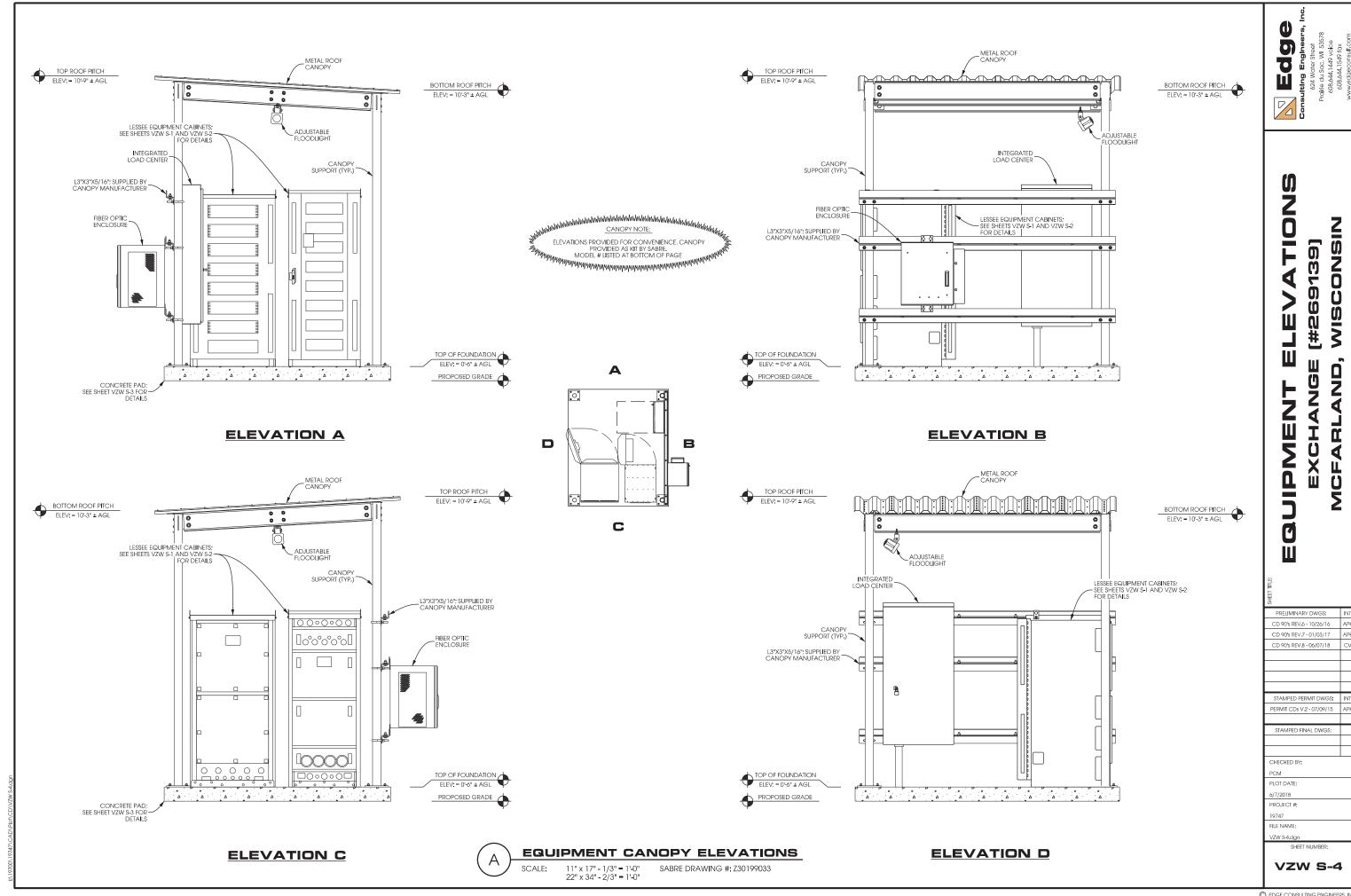
STAMPED FINAL DWGS:

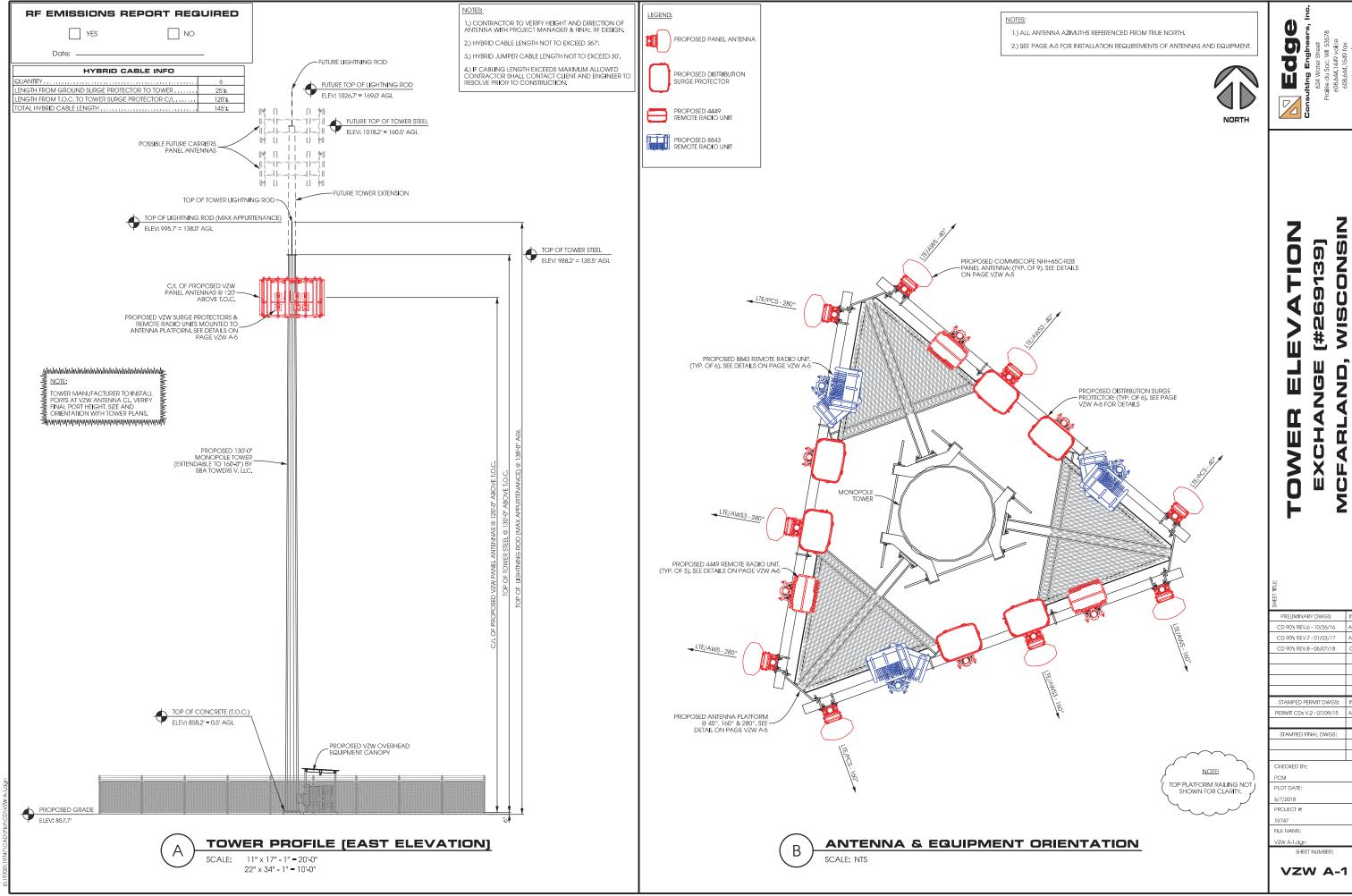
CHECKED BY:

PCM
PLOT DATE:
6/7/2018
PROJECT #:
19747
FILE NAME:

VZW S-2







			EQ	UIPMENT CHANGE	REQUEST FOR	RM - ECR				
	me n Num Reque		Exchange 269139 5/2/2018	RF Engineer Market	Chris Jennings New Berlin	Cell ID Address City/State/Zip		2660	9768 Hwy 51 land, Wl	
4			PRO	POSED CONFIGURATIO	N			Equipme	ent Layout Link	
		A	ntenna							
Sector	Pos	Port	RF Path	Antenna Manufacturer	Antenna Model	Centerline	Azim uth	Variable Tilt	Mechanical Tilt	Action
		HT	LTE AWS - Rx Tx0					1		
		HZ	LTE AWS - Rx Tx1							
	A1	LI	LTE C - RxTx0 LTE C - RxTx1	Commscope	NHH-65C-R2B	120	40	2	0	Add- Install
		HS	LTE AWS - RxTx2						1	
		Hid	LTE AWS - RxTx3	1				1.		
		H	LTE AWS3 - RxTx0					1		
	12	JG Lt	LTE AWS3 - RxTx1 Unused at this time			120		-		
	A2	LI	Unused at this time	Commscope	NHH-65C-R2B		40		0	Add-Install
æ		HI	LTE AWS3 - RxTx2					1		
Alpha		H4 HT	LTE AWS 3- RxTx3					-		
₹		H2	Unused at this time							
-	А3	Lt	Unused at this time							
	AJ	L2	Unused at this time						1	
		H3	Unused at this time Unused at this time						11	
	-	HI	LTE PCS - Rx Tx0		1					
		HS	LTE PCS - RxTx1					1		
	A4	4.1	LTE C - RxTx2	Commscope	NHH-65C-R2B	120	40	2	0	Add-Install
	-	HI	LTE C - RxTx3 LTE PCS - RxTx2					_		
		HE	LTE PCS - RxTx3					1		
		HT	LTE AWS - RxTx0							
		HI	LTE AWS - RxTx1	-				3.		
	Bt	4.1	LTE C - RxTx0	Commscope	NHH-65C-R2B	120	160	4	0	Add-Install
	-	12	LTE C - RxTx1	Облинасорс	11111-050-1125	120		7	2	ridd (rigida)
		H3 H4	LTE AWS - RxTx2 LTE AWS - RxTx3	-				1		
		.HT	LTE AWS3 - RxTx0					1		
		H2	LTE AWS3 - RxTx1				20 160	1		
	B2	- 11	Unused at this time	Commscope	NHH-65C-R2B	120			0	Add-Install
		HI -	Unused at this time LTE AWS3 - RxTx2	_						
Beta		314	LTE AWS 3- RxTx3					1		
n		141	Unused at this time	4						
		HI Lt	Unused at this time	_						
	B3	L2	Unused at this time							
		113	Unused at this time	1						
	_	H4	Unused at this time					-		
		HT.	LTE PCS - RxTx0 LTE PCS - RxTx1	_				1		
		L1	LTE C - RxTx2		MUUL SEC DOD	400	160	,	0	Add-Install
	B4	L2	LTE C - RxTx3	Commscope	NHH-65C-R2B	120	160	4	,	Add-Install
		H3 H4	LTE PCS - RxTx2	_				1		
			LTE PCS - RxTx3			-			-	
		H1 H2	LTE AWS - RxTx0 LTE AWS - RxTx1					1		
		L1	LTE C - RxTx0	610000000	AUUI OCO DOD	100	222		1 .	Add total
	G1	L2	LTE C - RxTx1	Commscope	NHH-65C-R2B	120	280	1	0	Add-Install
		H3	LTE AWS - RxTx2					1		
		H4	LTE AWS - RxTx3 LTE AWS3 - RxTx0						- 6	
		H2	LTE AWS3 - RXTx1					1		
	G2	L1	Unused at this time	Commscope	NHH-65C-R2B	120	280		0	Add-Install
<u></u>	16.6	L2 H3	Unused at this time	2-1/4/1998/199		3.55				The Wiley
camma		H3	LTE AWS3 - RxTx2 LTE AWS 3- RxTx3					1		
6		H1	Unused at this time							
٥		H2	Unused at this time							
	G3	L1 L2	Unused at this time							
		H3	Unused at this time Unused at this time							
		H4	Unused at this time							
	1	H1	LTE PCS - RxTx0					1		
	20.79	H2 L1	LTE PCS - RxTx1 LTE C - RxTx2			- 100				
	G4	L1	LTE C - RxTx2	Commscope	NHH-65C-R2B	120	280	1	0	Add-Install
		НЗ	LTE PCS - RxTx2					1		
		H4	LTE PCS - RxTx3							

NOTES:

RF DESIGN AND DETAIL ON THIS PAGE PROVIDED BY LESSEE AND ARE INCLUDED FOR CONVENIENCE. FINAL RF DESIGN TO BE VERIFIED WITH LESSEE. IF SIGNIFICANT CHANGES OR DISCREPANCIES ARE IDENTIFIED, CONTACT ENGINEER PRIOR TO INSTALLATION.

Edge Consulting For 1

# CONFIGURATION WISCONSIN EXCHANGE [#269139] MCFARLAND, WISCONS ANTENNA

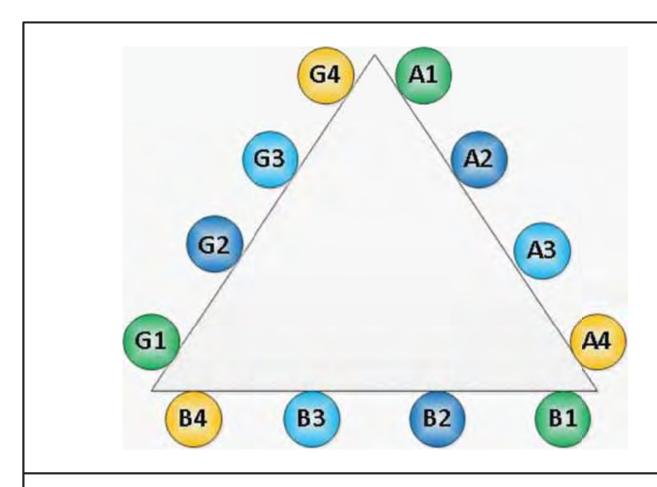
PRELIMINARY DWGS:	INT:
CD 90's REV.6 - 10/26/16	APK
CD 90's REV.7 - 01/03/17	APK
CD 90's REV.8 - 06/07/18	CV
STAMPED PERMIT DWGS:	INT:
STAMPED PERMIT DWGS: PERMIT CDs V.2 - 07/09/15	INT: APK
	-
	-
PERMIT CDs V.2 - 07/09/15	-
PERMIT CDs V.2 - 07/09/15	-

PLOT DATE:

6/7/2018 PROJECT #: 19747

FILE NAME: SHEET NUMBER:

**VZW A-2** 



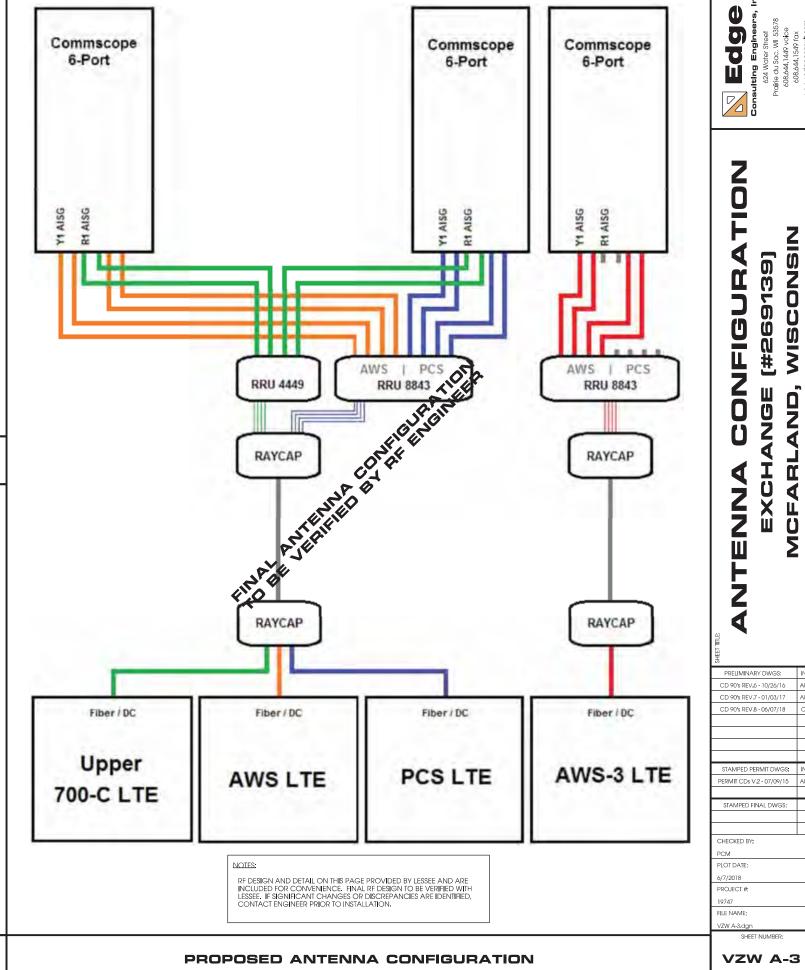
# **ANTENNA PLATFORM SCHEMATIC**

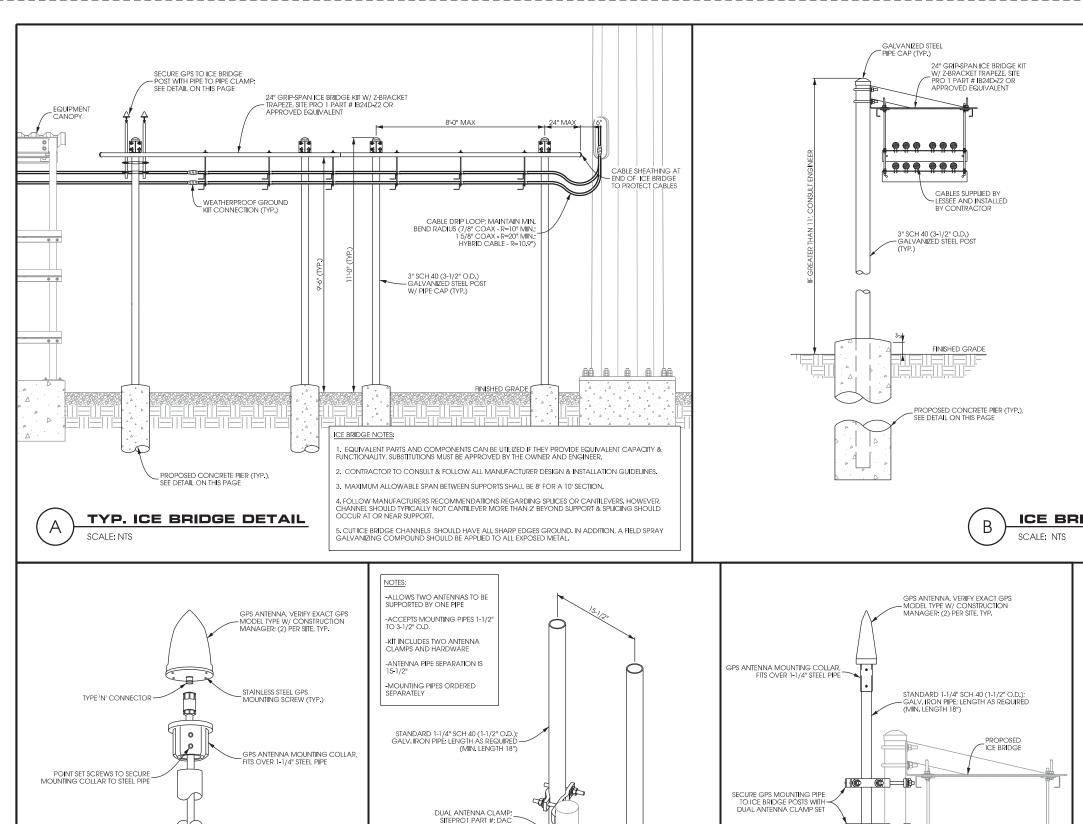
			Propos	ed		
Lo	ocation	Manufacturer	Component	Component Model Count	Count	Action
y To	op (Platform)					
To	op (Platform)					
F To	op (Platform)	Ericsson	RRU 44	49	3	Install
<u>₽</u> To	op (Platform)	Ericsson	RRU 88	43	6	Install
Components	op (Platform)					
	op (Platform)					
assive	op (Platform)	Raycap	RCMDC-3315-PF-48		6	Install
SE Bo	ottom (Shelter)	Raycap	RCMDC-3315-PF-48		6	Install
	ottom (Shelter)					
Во	ottom (Shelter)					
Se	ector	Coax Manufacturer	Туре	Size	Count	Action
× AI	lpha					
Se Be	eta					
Ga	amma					
Hv	ybrid	Andrew	HFT1206-24S49	1.5	6	Install

OTES:

RF DESIGN AND DETAIL ON THIS PAGE PROVIDED BY LESSEE AND ARE INCLUDED FOR CONVENIENCE. FINAL RF DESIGN TO BE VERIFIED WITH LESSEE. IF SIGNIFICANT CHANGES OR DISCREPANCIES ARE IDENTIFIED, CONTACT ENGINEER PRIOR TO INSTALLATION.

COMBINER CABLE DATA INFORMATION





ICE BRIDGE POST -

D

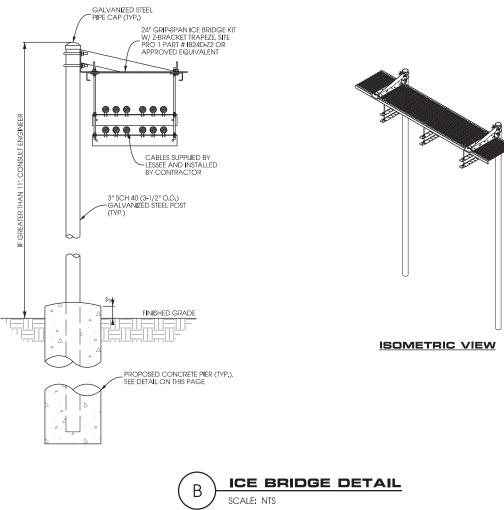
**GPS ANTENNA MOUNTING** 

STANDARD 1-1/4" SCH 40 (1-1/2" O.D.); GALV. IRON PIPE; LENGTH AS REQUIRED -(MIN. LENGTH 18")

GPS CARLE TO

**GPS ANTENNA** 

EQUIPMENT PLATFORM



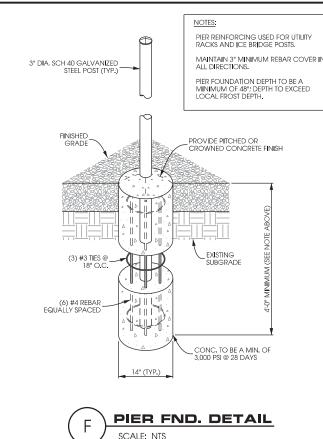
PROPOSED UNIVERSAL GROUNDING CLAMP, HARGER PART # UPC2.5/3 – OR APPROVED EQUIVALENT

#2 STRANDED INSULATED COPPER GROUND LEAD FROM GPS PIPE -MOUNT TO ICE BRIDGE POST

PROPOSED UNIVERSAL GROUNDING CLAMP, HARGER PART # UPC.75/1.25 -OR APPROVED EQUIVALENT

ICE BRIDGE POST

**GPS ICE BRIDGE POST MOUNT** 





Edg

A

SHEET NUMBER:

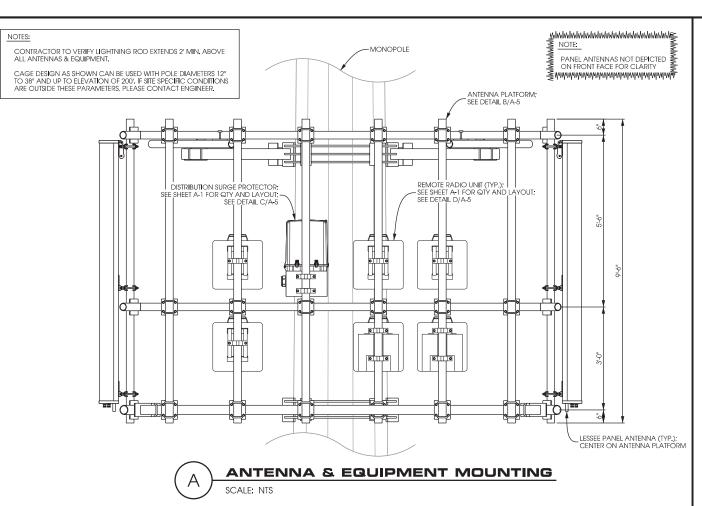
**VZW A-4** 

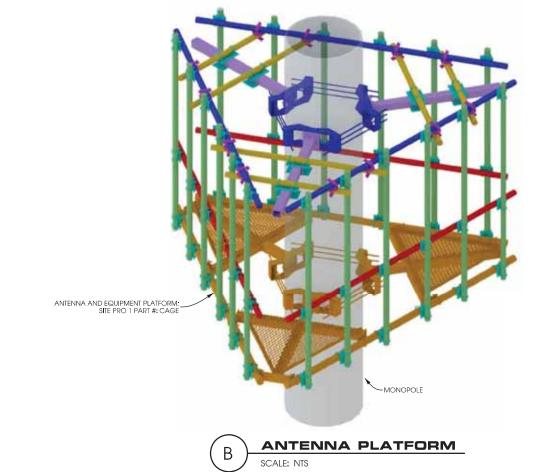
PLOT DATE:

PROJECT #:

FILE NAME

6/7/2018





DISTRIBUTION SURGE PROTECTOR:

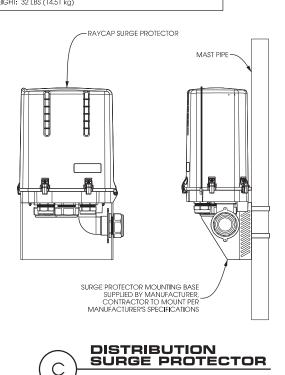
RAYCAP PART # RCMDC-3315-PF-48

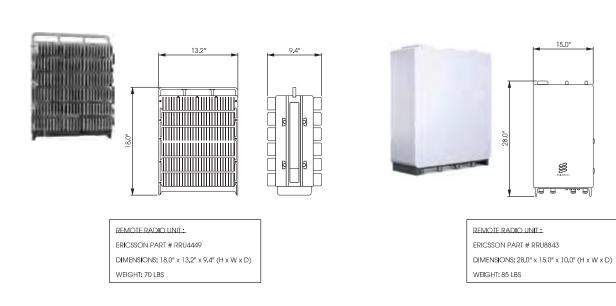
DC SURGE PROTECTION FOR RRH/INTEGRATED ANTENNA RADIO HEAD

TOWER, BASE, ROOFTOP, & ROOFTOP DISTRIBUTION MODELS

DIMENSIONS: 19.18" x 15.73" x 10.25" (H x W x D)

WEIGHT: 32 LBS (14.51 kg)







# MOUNTING WISCONSIN [#269139] EXCHANGE ARLAND MCF PRELIMINARY DWGS:

CD 90's REV.6 - 10/26/16 AI CD 90's REV.7 - 01/03/17 AI CD 90's REV.8 - 06/07/18

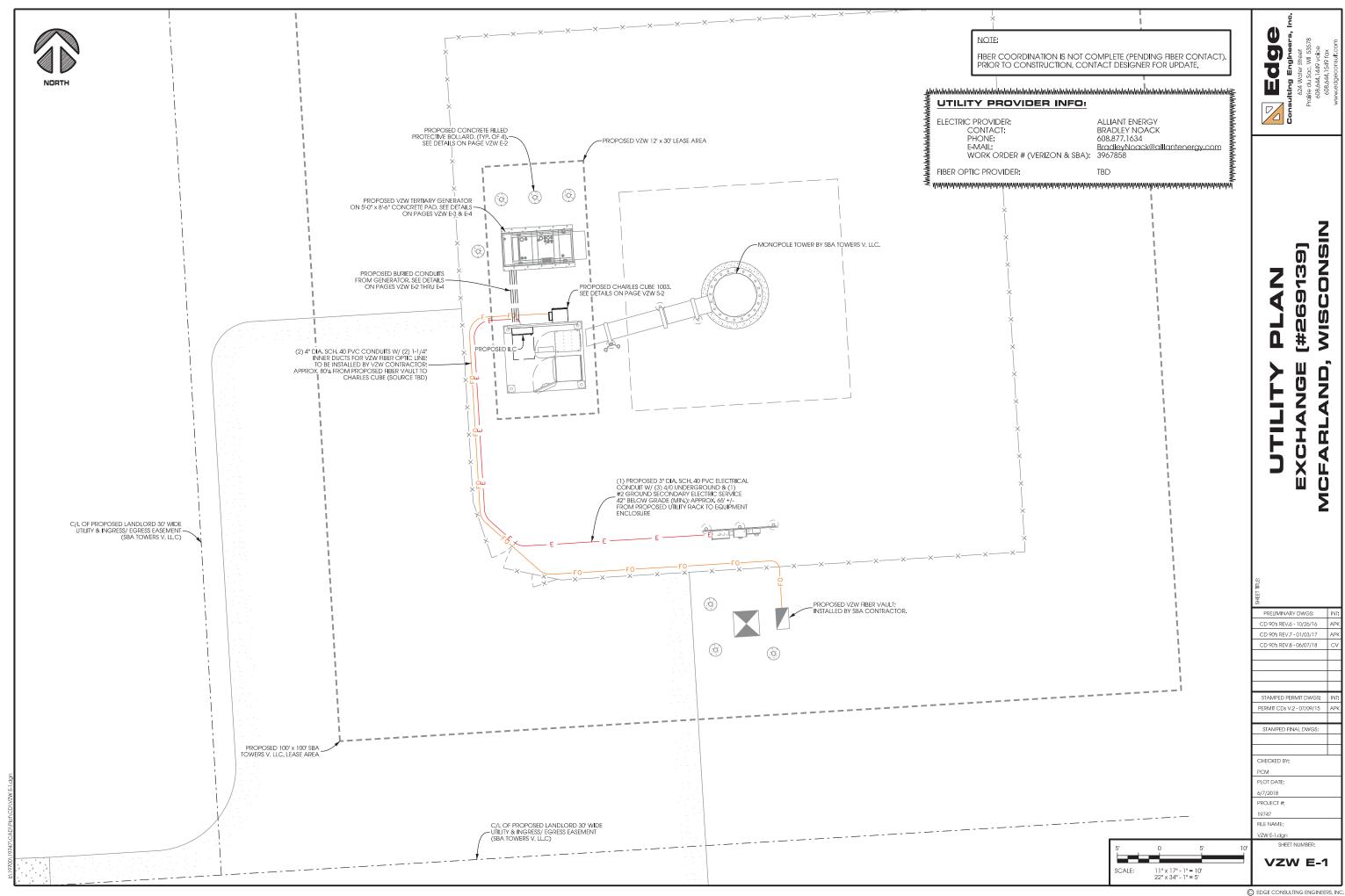
STAMPED PERMIT DWGS: IN PERMIT CDs V.2 - 07/09/15

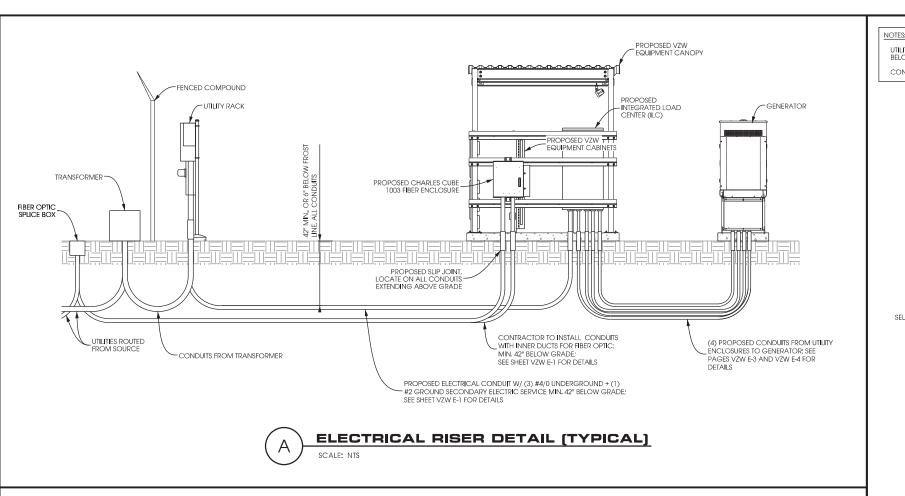
PLOT DATE: 6/7/2018 PROJECT #: FILE NAME

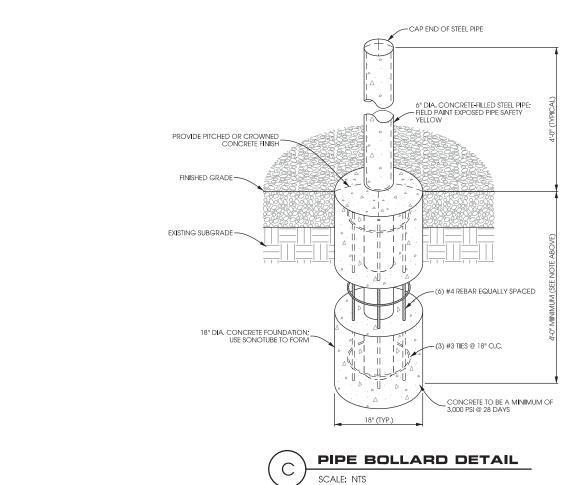
Edg

SHEET NUMBER:

**VZW A-5** 



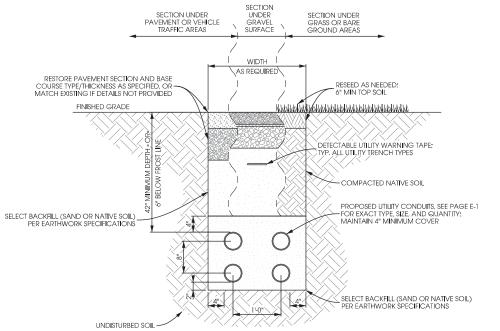




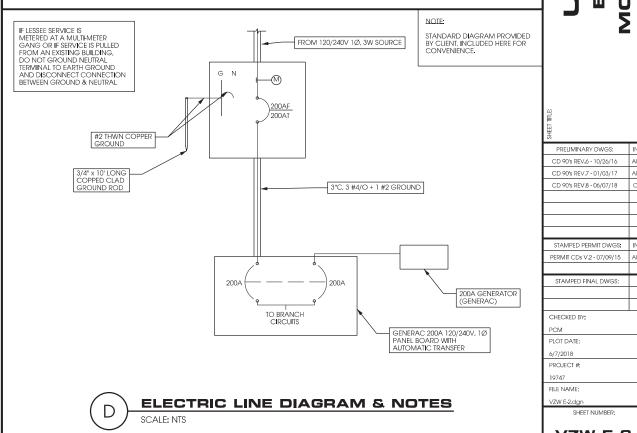
MAINTAIN 3" MINIMUM REBAR COVER IN ALL DIRECTIONS.

PIER FOUNDATION DEPTH TO BE A MINIMUM OF 48"; DEPTH TO EXCEED LOCAL FROST DEPTH.

UTILITY CONDUITS TO BE BURIED A MINIMUM DEPTH OF 42" BELOW GROUND LEVEL OR 6" BELOW THE FROST LINE.



**UTILITY TRENCH DETAIL** SCALE: NTS



WISCONSIN [#269139] EXCHANGE AND MCFARL

PRELIMINARY DWGS:

CD 90's REV.8 - 06/07/18

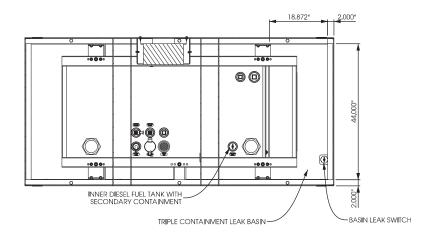
STAMPED PERMIT DWGS: IN PERMIT CDs V.2 - 07/09/15

CHECKED BY:

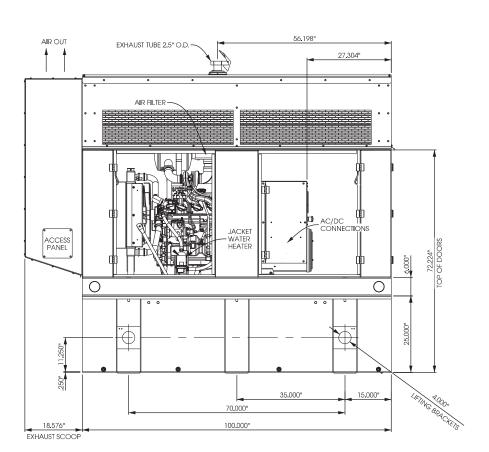
Edg

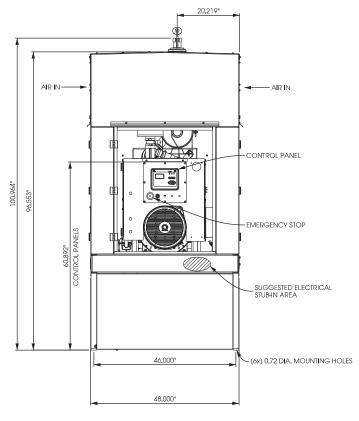
SHEET NUMBER:

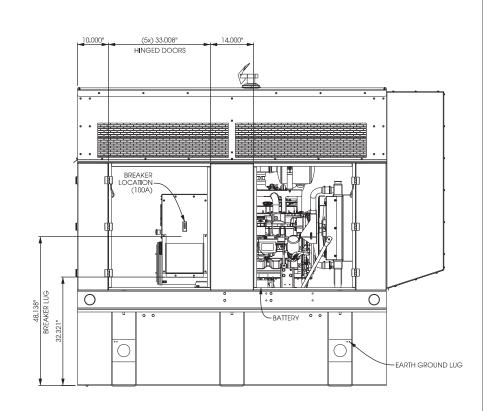
- APPROXIMENT WEIGHT (WET): 3920#
   FUEL TANK: UL LISTED DOUBLE WALL WITH 125% CONTAINMENT
   FUEL TANK CAPACITY: 210 GALLONS
   A. ENCLOSURE: SINGLE SIDE SERVICE RIGHT SIDE, STEEL, 190 MPH WIND RATED
   SOUND LEVEL: dg(A) AT m
   C. VERIZON PART NUMBER: DG03RJ096V1M22



# **TOP OR PLAN VIEW**







**LEFT SIDE VIEW** 

**REAR VIEW** 

**RIGHT SIDE VIEW** 



**ONSITE ENERGY GENERATOR - 30KW** 

SCALE: NTS

# WISCONSIN DETAIL [#269139] HOP EXCHANGE MCFARLAND, GENERA

PRELIMINARY DWGS: CD 90's REV.7 - 01/03/17

CD 90's REV.8 - 06/07/18

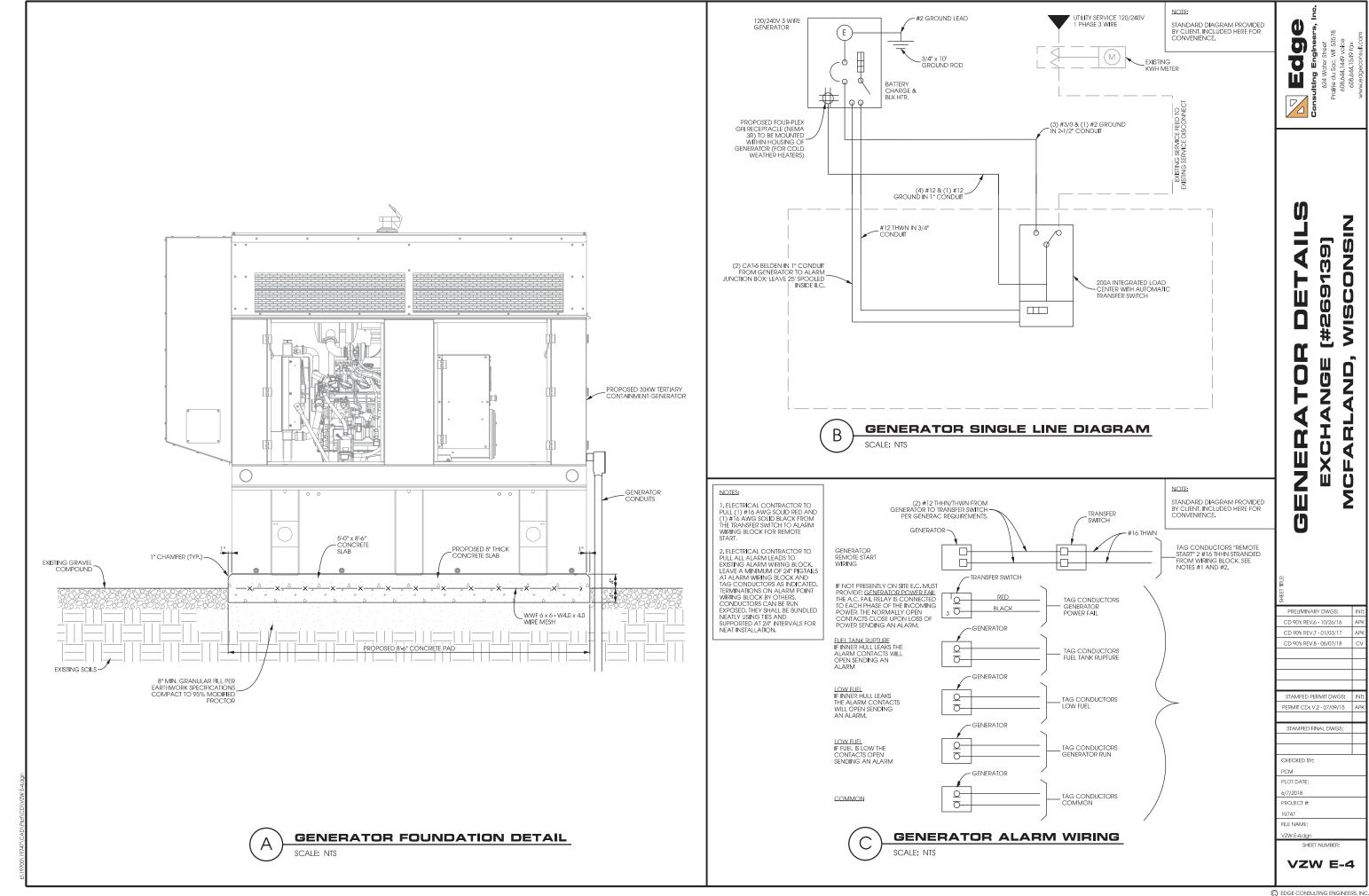
**Edge** 

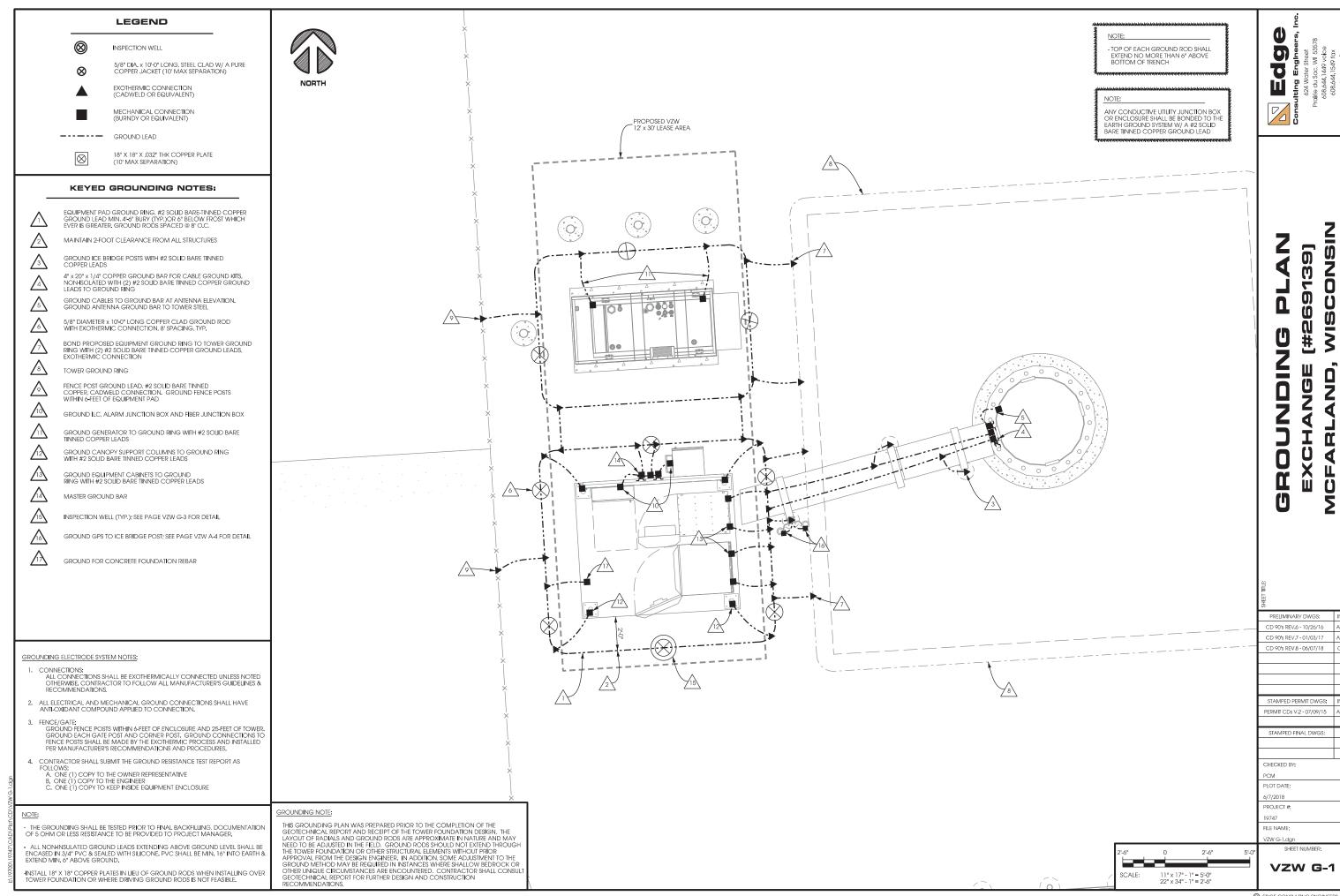
**VZW E-3** © EDGE CONSULTING ENGINEERS, INC.

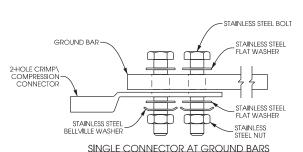
SHEET NUMBER:

PLOT DATE: 6/7/2018

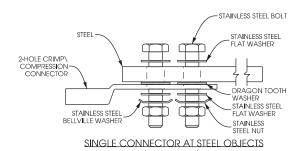
PROJECT #: FILE NAME:





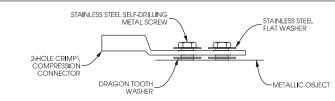


### SINGLE CONNECTOR AT GROUND BARS



### NOTES

- ALL OUTDOOR HARDWARE (BOLTS, SCREWS, NUTS, WASHERS) SHALL BE 18-8 STAINLESS STEEL TYPE GRADE. INDOORS, GRADE 5 STEEL HARDWARE MAY BE USED.
- CHOOSE BOLT LENGTH TO ALLOW THE EXPOSURE OF AT LEAST TWO THREADS.
- BACK TO BACK LUG CONNECTIONS ARE AN ACCEPTABLE PRACTICE WHEN BONDED TO A GROUND BAR OR STEEL OBJECTS.
- AT CONNECTIONS MADE TO STEEL OR ANY OTHER DISSIMILAR METALS, A DRAGON TOOTH WASHER MEETING VZW PRACTICES SHALL BE USED BETWEEN THE CONNECTOR AND STEEL.
- IF NOT USING DRAGON TOOTH WASHERS, THOROUGHLY REMOVE A SECTION OF PAINT OR COATING APPROXIMATELY THE SAME SIZE AS CONNECTOR, REMOVE THE PAINT FROM SURFACE USING A DREMEL TYPE
- USE AN APPROVED ANTHOXIDATION COMPOUND ON ALL GROUNDING CONNECTIONS. A COPPER COSMOCINE GREASE BASED COMPOUND (NO OXID) SHALL BE USED ON ALL COPPER TO COPPER CONNECTIONS. A ZINC BASED (GREY COLORED) COMPOUND SHALL BE USED ON ALL COPPER TO STEEL CONNECTIONS.
- $\bullet \text{ WHEN BONDING TO A METALLIC OBJECT WHERE ACCESS IS LIMITED TO ONLY ONE SURFACE, DRILLING \& TAPPING OR SELF DRILLING SCREWS ARE THE PREFERRED AND ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED.$

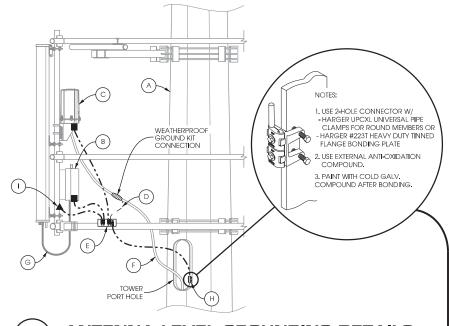


### SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS



### **KEYED GROUNDING NOTES:**

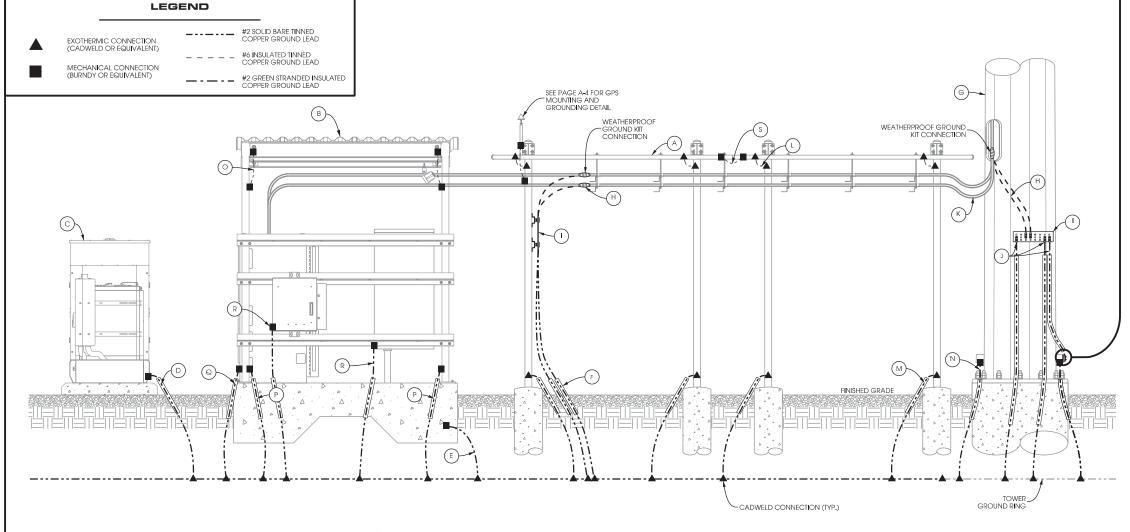
- MONOPOLE TOWER
- REMOTE RADIO UNIT; GROUND WITH #2 STRANDED INSULATED GROUND LEAD
- DISTRIBUTION SURGE PROTECTOR; GROUND WITH #2 STRANDED INSULATED GROUND LEAD
- # 6 INSULATED TINNED COPPER CABLE GROUND KITS TO GROUND BAR; COMMSCOPE PART # UG12158-15B4-T OR APPROVED EQUIVELANT
- UPPER ANTENNA GROUND BAR; MOUNT GROUND BAR DIRECTLY TO TOWER STEEL
- CABLE, MAINTAIN MINIMUM BEND RADIUS
- JUMPER, MAINTAIN MINIMUM BEND RADIUS
- CLAMP #2 STRANDED INSULATED COPPER GROUND LEAD TO TOWER STEEL W/ HARGERS HEAVY DUTY TINNED FLANCE BONDING PLANT(P/N# 223T), OR APPROVED EQUIVALENT
- CADWELD #2 STRANDED INSULATED COPPER GROUND LEAD TO ANTENNA MAST PIPE
- \*\*ALL GROUND LEADS TO BE ROUTED IN A DOWNWARD FASHION.



**ANTENNA LEVEL GROUNDING DETAILS** 

### **KEYED GROUNDING NOTES:**

- (A) ICE BRIDGE
- EQUIPMENT CANOPY
- BACKUP GENERATOR
- (2) #2 SOLID BARE TINNED COPPER GROUND LEADS BETWEEN TOR AND EQUIPMENT GROUND RING THROUGH SEALED 1/2"
- GROUND FOR FOUNDATION REBAR; SEE PAGE VZW G-3 FOR DETAIL
- 1/2" DIA. PVC CONDUIT; EXTEND PVC CONDUIT 24" BELOW GRADE AND FILL WITH SILICONE (TYP.)
- # 6 INSULATED TINNED COPPER CABLE GROUND KITS TO GROUND BAR; COMMSCOPE PART # UG 12158-1584-T OR APPROVED EQUIVELANT
- 4" x 20" x 1/4" TINNED, INSULATED, NON-ISOLATED COPPER GROUND BAR FOR GROUND KITS
- PROVIDE (2) #2 SOLID BARE TINNED COPPER GROUND LEADS FROM LOWER TOWER GROUND BAR TO TOWER GROUND RING AND (1) #2 SOLID BARE TINNED COPPER GROUND LEAD FROM LOWER TOWER GROUND BAR TO TOWER STEEL; ALL LEADS TO BE ENCASED IN 1/2" SEALED CONDUIT
- CABLES WITH DRIPLOOP INSTALLED BY ANTENNA CONTRACTOR, MAINTAIN MINIMUM BEND RADIUS
- #2 SOLID BARE TINNED COPPER GROUND JUMPER BETWEEN ICE BRIDGE AND STEEL SUPPORT POST BY ANTENNA CONTRACTOR; ORIENT WITH HIGH SIDE TOWARDS TOWER
- #2 SOLID BARE TINNED COPPER GROUND LEADS TO ICE BRIDGE POSTS IN 1/2" PVC CONDUIT
- IF APPLICABLE: #2 SOLID BARE TINNED COPPER GROUND LEADS (4) FROM TOWER STEEL TO GROUND RING; USE GROUNDING TABS WHEN AVAILABLE
- #2 TINNED COPPER GROUND LEAD BETWEEN EQUIPMENT CANOPY AND STEEL SUPPORT POST
- #2 TINNED COPPER GROUND LEAD BETWEEN SUPPORT COLUMN AND EQUIPMENT GROUND RING THROUGH SEALED 1/2" CONDUIT
- EQUIPMENT CABINET GROUNDING; EXTEND (2) #2 SOLID BARE TINNED COPPER GROUND LEADS TO GROUND RING THROUGH SEALED 1/2" (Q) PVC CONDUITS
- #2 TINNED COPPER GROUND LEAD BETWEEN UTILITY ENCLOSURES AND EQUIPMENT GROUND RING THROUGH SEALED 1/2" CONDUIT
- #2 GREEN STRANDED INSULATED COPPER GROUND LEAD WITH 2-HOLE LUGS BETWEEN ICE BRIDGE SECTIONS



**GROUND LEVEL GROUNDING DETAILS** 

SCALE: NTS

O EDGE CONSULTING ENGINEERS, INC.

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PRELIMINARY DWGS: CD 90's REV.7 - 01/03/17 CD 90's REV.8 - 06/07/18

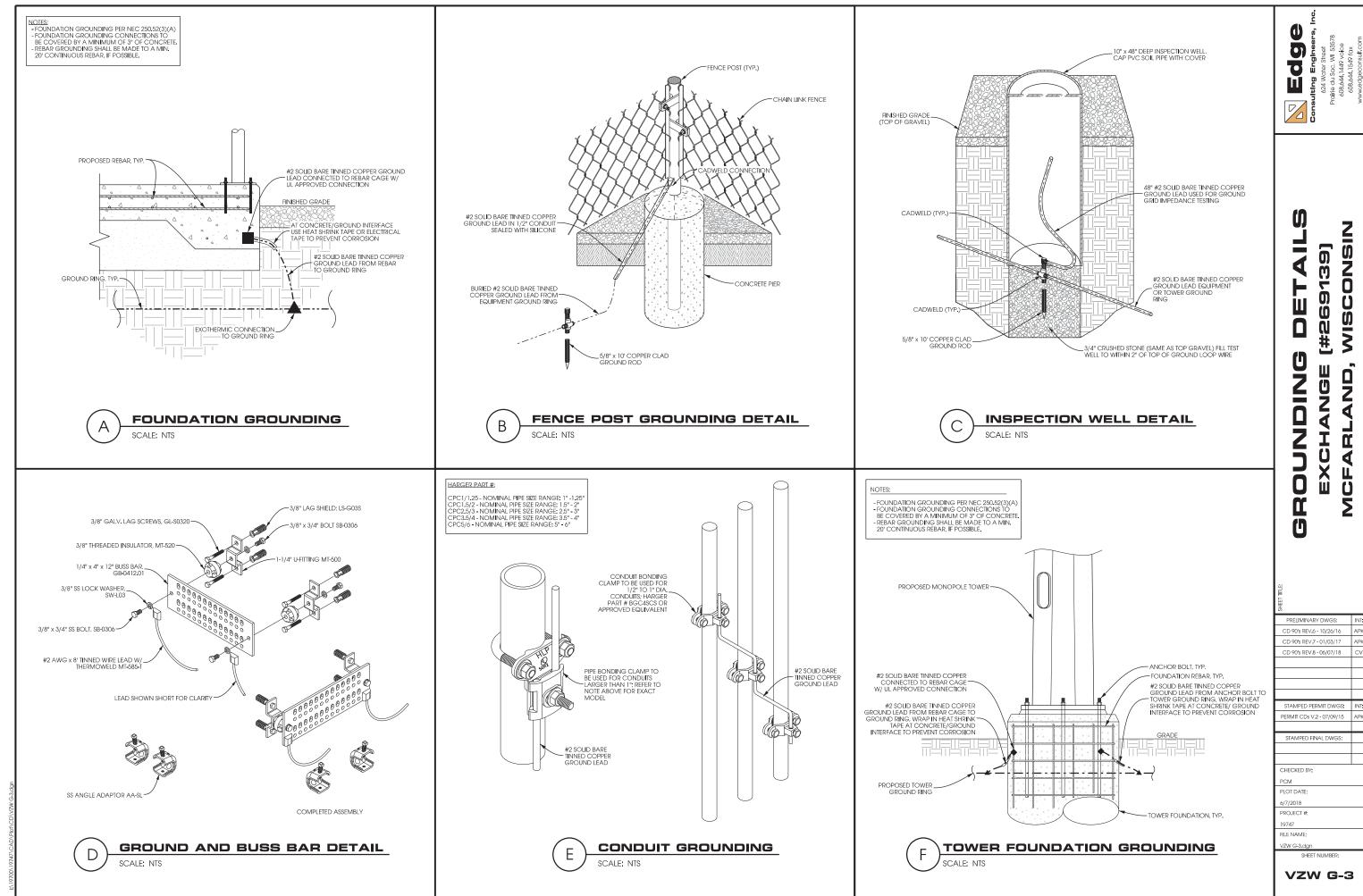
STAMPED PERMIT DWGS: ERMIT CDs V.2 - 07/09/15

HECKED BY: PLOT DATE

5/7/2018 PROJECT #:

FILE NAME

SHEET NUMBER: VZW G-2



### Attachment A

# NOTICE TO CONTRACTOR – ENVIRONMENTAL CONDITIONS/RESTRICTIONS AT (Exchange/269139) ILWI

Note: Verizon Wireless makes no representation or warranty as to the accuracy or completeness of the information below. Company is fully responsible for its own compliance with all applicable laws and regulations. To the extent that Company becomes aware of any additional environmental conditions, it agrees to immediately inform Verizon Wireless.

The Company's response to this construction bid shall constitute the Company's acknowledgement and acceptance of the stated conditions and restrictions at the site.

The following environmental conditions have been identified at the project site:

Environmental Condition	Description and Location of Contaminant	
Check All That Apply		
☐ Contaminated soil		
☐ Contaminated groundwater		
☐ Presence of asbestos		
☐ Presence of lead-based paint		
Other: Vicinity surface water body	Vicinity Surface Water Body An emergent wet meadow and freshwater "forested/shrub" wetland area is identified along the east parent tract parcel line, approximately 140 feet northeast, 120 feet east, and 110 feet southeast of the Verizon Wireless lease area  Please see the below attached Figure 6 – Wetland Map provided by Ramaker & Associates	

Applicable legal requirements or Verizon Wireless policies and procedures may require that these conditions be communicated to all parties involved in the construction activities at the project site. To the extent that the scope of the project work includes measures to address these conditions, details of the work to be performed shall be as specified in the project documents and/or the Authorization Letter.

### Environmental conditions affecting scope of work:

(see project documents for detailed specifications)

Soil Erosion and Sediment Control – Based on the identification of a wetland in the vicinity of the Verizon Wireless lease area, appropriate soil erosion best management practices and sedimentation controls, including a Soil Erosion and Sediment Control Plan (as appropriate) must be implemented during on-site construction activities to mitigate the risk of impact to the wetland.

Construction related staging and/or the stockpiling of excavated materials/soil (on the parent tract) may not occur to the northeast, east, or southeast of the proposed SBA compound.

Company is required to comply fully with all applicable environmental, industrial hygiene, and worker health and safety laws and regulations; Verizon Wireless' directions and/or instructions contained in this Notice To Contractors. Company shall retain qualified, appropriately specialized (and/or licensed, as required) and adequately insured\_environmental firms for the completion of specialized work as applicable. Company shall evaluate whether a Health and Safety Plan (HASP) is warranted. Verizon Wireless shall have the final authority to approve the selection of

"Evaluation Summary"/Page 3

Site Restrictions

City: McFarland

Check All That Apply

such environmental firms performing services on its behalf. The construction bid package shall include qualifications of proposed firms with respect to the following required services:

Env	ironmental Services Required
	Check All That Apply
	Asbestos abatement
	Lead based paint abatement
	Hazardous or special waste transportation and disposal.
	Excavation, drilling or advancement through and staging/stockpiling of contaminated media.
$\boxtimes$	Other: Implementation of appropriate soil E&S control measures during construction
	activities to mitigate the risk of impact to the identified wetland.

Company shall ensure at all times that only appropriately trained qualified, and licensed workers perform the required environmental services. It is the responsibility of Company to adhere to the following restrictions in response to the above environmental conditions:

An outside environmental "oversight" consultant is required if transportation and disposal of wastes is carried out in accordance with applicable laws, regulations and the Verizon Wireless Environmental Compliance Program. THE USE OF SUCH CONSULTANT IS MANDATORY.

	and/or the	ns on excavations/construction methods. Description: Construction related staging stockpiling of excavated materials/soil on the parent tract may not occur to the east, or southeast of the SBA compound.
	Diesel fue	I prohibited at construction site except in fuel tank of vehicle.
	Gasoline	prohibited at construction site except in fuel tank of vehicle
$\boxtimes$	Other: Int	ernal generator required (if future Verizon Wireless generator is powered by diese
	t Name:	
1,3,000		
Site	Name:	Exchange/269139
Site	Address:	2660 U.S.H. 51

NOTE: This signed original is to be returned to Area Compliance along with the EES Closeout Report.

State: Wisconsin

IOTICE TO CONTRACTOR
EXCHANGE [#269139]
MCFARLAND, WISCONSIN

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CD 90's REV.7 - 01/03/17 CD 90's REV.8 - 06/07/18

STAMPED PERMIT DWGS:

PERMIT CDs V.2 - 07/09/15

STAMPED FINAL DWGS:

PRELIMINARY DWGS: CD 90's REV.6 - 10/26/16

CHECKED BY:

PCM
PLOT DATE:
6/7/2018

PROJECT #: 19747 FILE NAME:

> W N-1.dgn SHEET NUMBER

**VZW N-1** 

# "Evaluation Summary"/Page 4

### EXCHANGE (269139)





FIGURE 6 - WETLAND MAP 2660 U.S.H. 51

MCFARLAND (TOWN OF DUNN), WISCONSIN 53588 DANE COUNTY



# CONTRACTOR **WISCONSIN** EXCHANGE [#269139] MCFARLAND, NOTICE

Edge Management

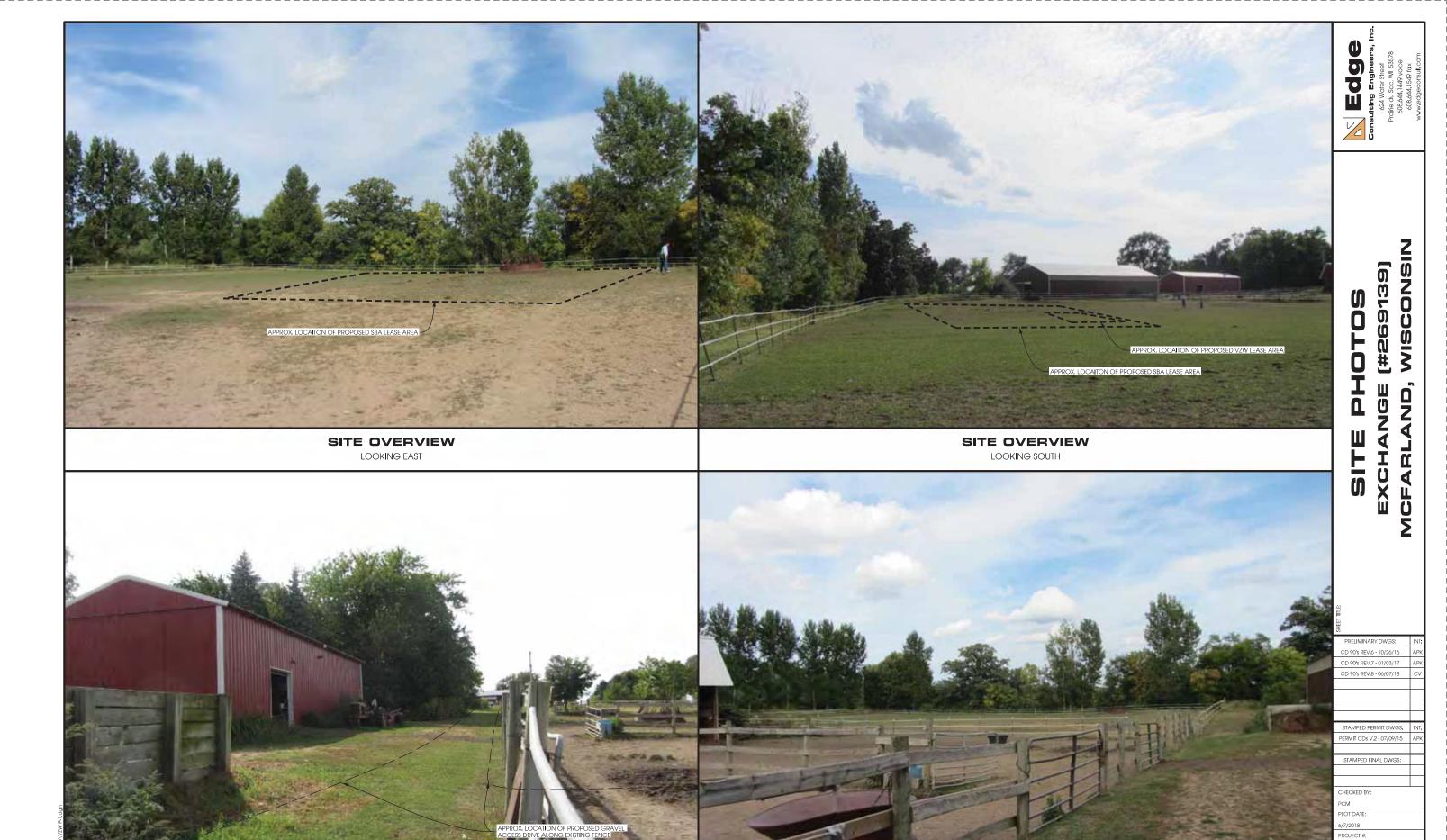
PRELIMINARY DWGS: INT CD 90's REV.6 - 10/26/16 AP CD 90's REV.7 - 01/03/17 AI CD 90's REV.8 - 06/07/18 STAMPED PERMIT DWGS: IN

PERMIT CDs V.2 - 07/09/15

PLOT DATE: 6/7/2018

PROJECT #:

FILE NAME:



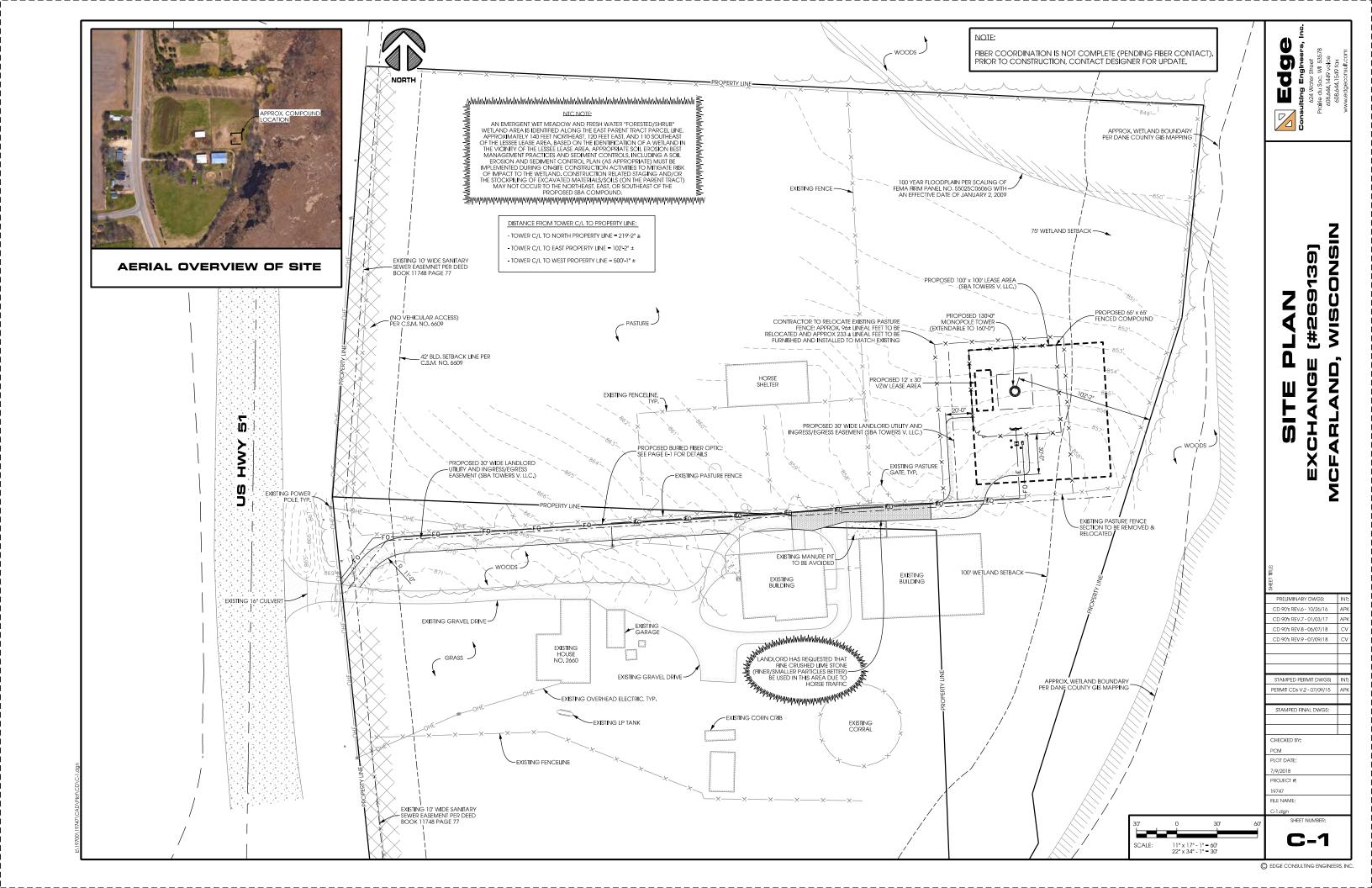
PROPOSED ACCESS DRIVE

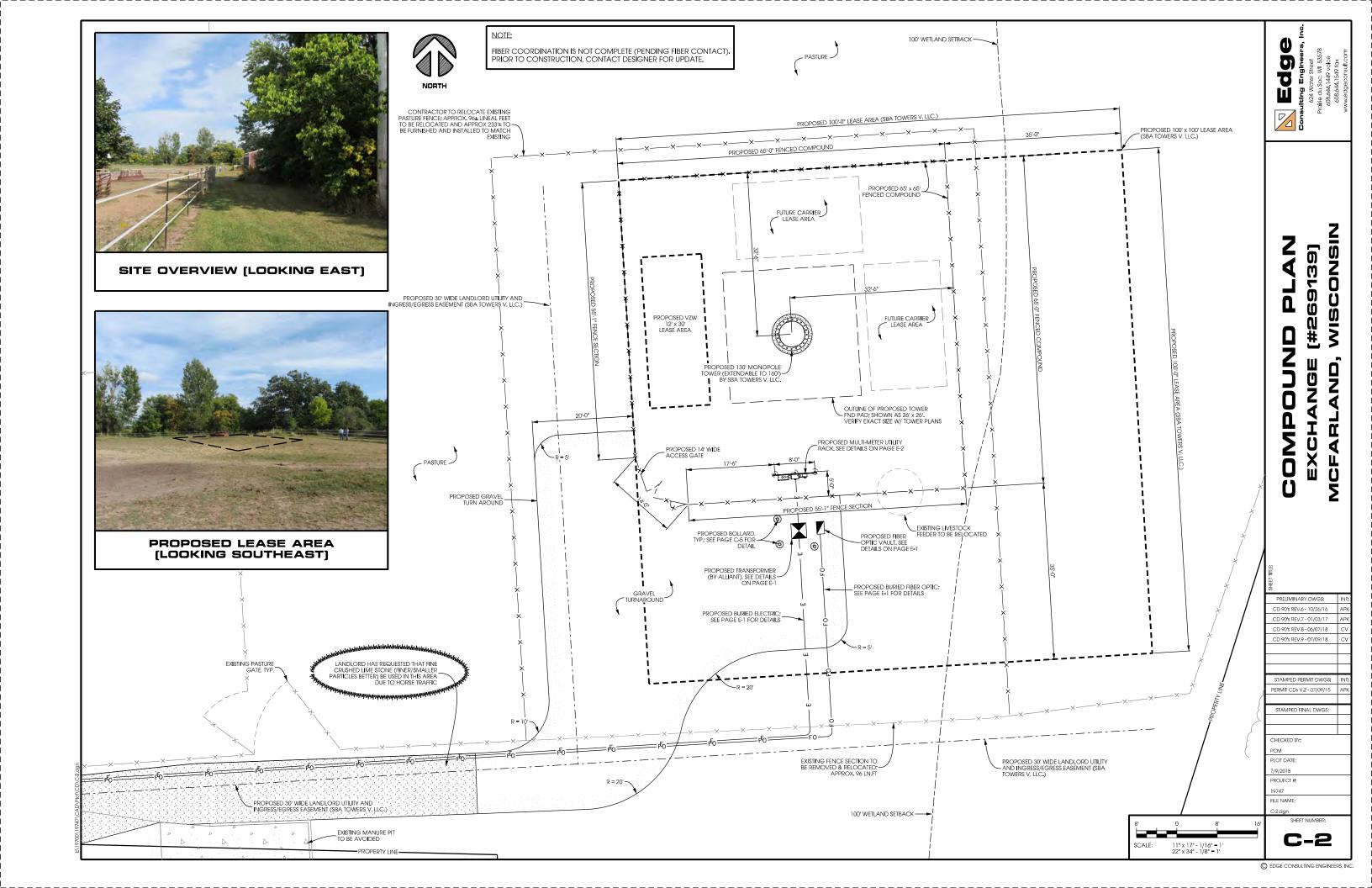
LOOKING WEST

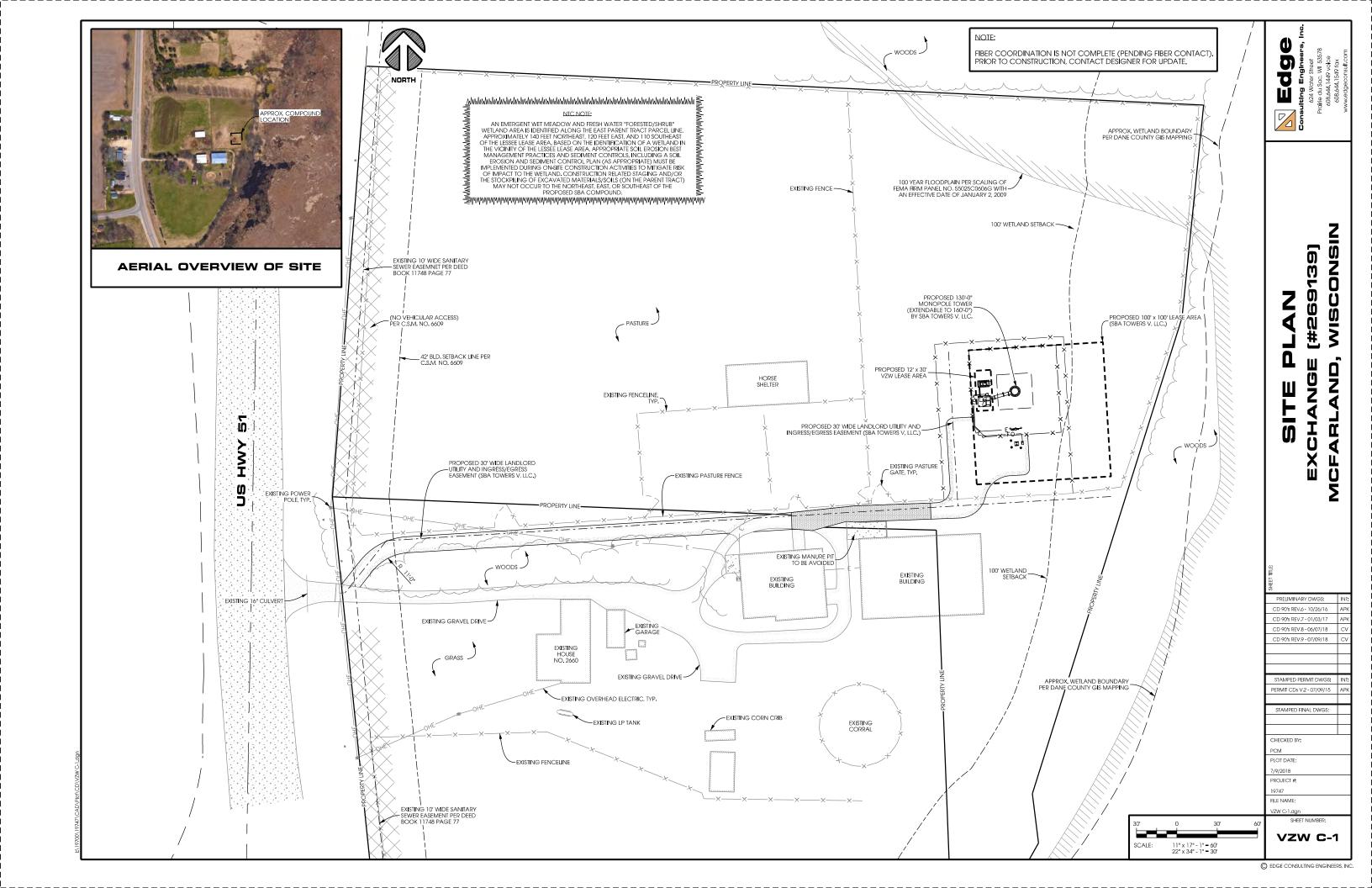
SITE OVERVIEW

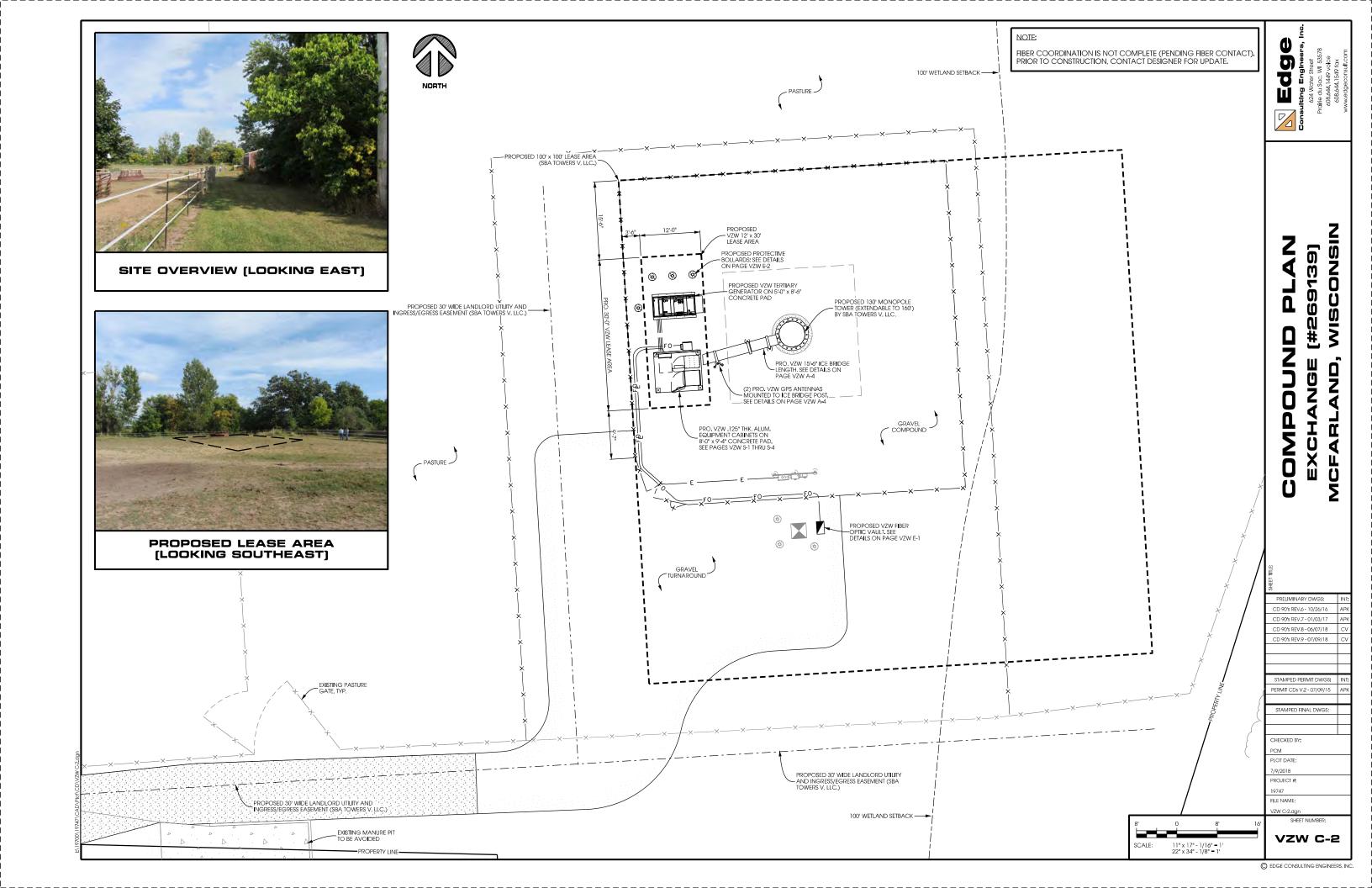
LOOKING NORTHEAST

VZW P-1

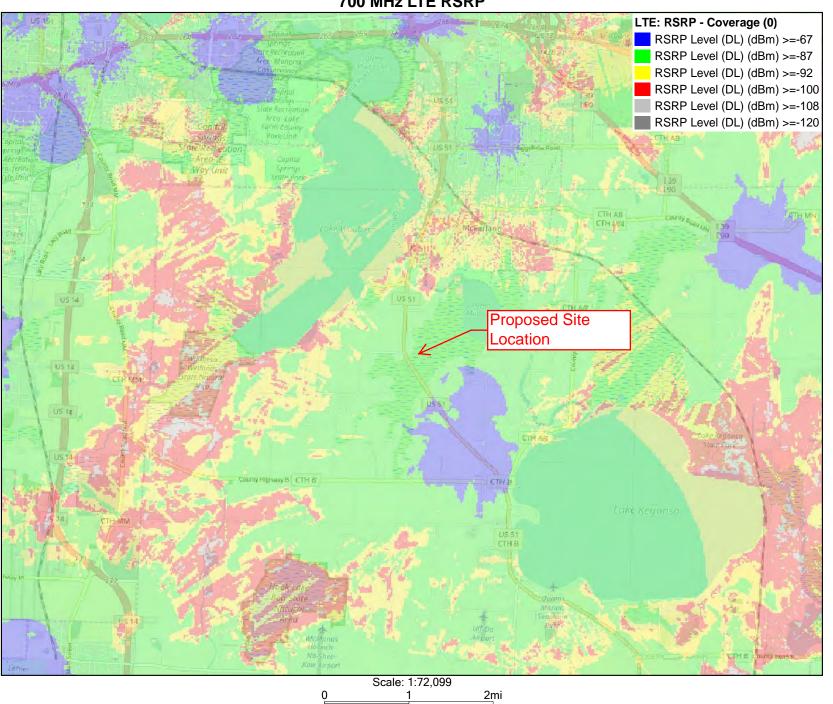




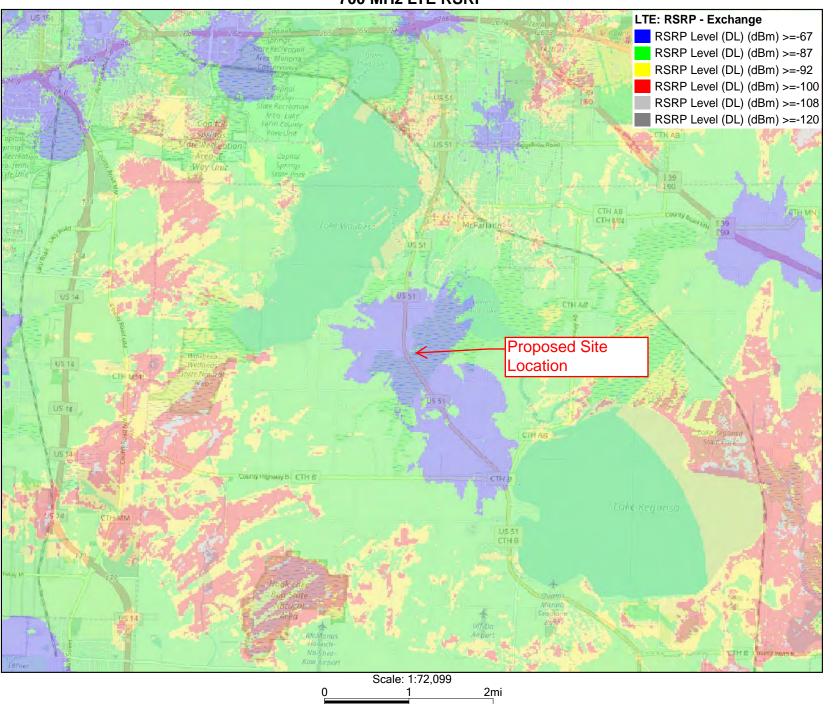




# 700 MHz LTE RSRP



# 700 MHz LTE RSRP



Prepared by and Return to: SBA Network Services, LLC Attn: Denise Scherer 8051 Congress Avenue Boca Raton, FL 33487 561-226-9538

[Recorder's Use Above This Line]

STATE OF WISCONSIN

COUNTY OF DANE

Parcel ID Number:

028/0610-103-9210-1 &

028/0610-103-9190-6

# SECOND AMENDMENT TO OPTION AND EASEMENT AGREEMENT

This Second Amendment to Option and Easement Agreement ("Second Amendment") dated as of January 20, 2018 ("Effective Date") by and among Jane Liess, a single woman, and Phyllis Dube, a single woman (together, "Grantor") with an address of 2660 US Hwy 51, McFarland, WI 53558, and SBA Towers IX, LLC, a Delaware limited liability company, with an address of 8051 Congress Avenue, Boca Raton, FL 33487 ("Grantee").

WHEREAS, Grantor and Grantee, successor in interest to SBA Towers V, LLC, a Florida limited liability company, entered into that certain Option and Easement Agreement, dated July 7, 2014, and recorded July 9, 2014, as Document #5082637, and amended pursuant to that certain first Amendment to Option and Easement Agreement dated January 20, 2017, and recorded February 28, 2017, as Document #5308936; both recordings of the Register of Deeds of Dane County, Wisconsin (the "Agreement"), whereby Grantor granted to Grantee Easements over certain lands owned by the Grantor and described on Exhibit "A"; and

WHEREAS, Grantor and Grantee desire and intend to amend the Agreement by providing for an extension of the Option Period, as defined therein.

00265482 - v1

Site ID: WI15646-B / McFarland 2, WI

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto covenant, agree and bind themselves to the following modifications to the Agreement:

1. Section 1 (a), <u>Grant of Option</u> of the Agreement is hereby amended by adding the following language to the end of Section 1 (a):

2. <u>Full Force and Effect</u>. Except as specifically set forth in this Second Amendment, the Agreement, as it has been previously amended, is unmodified and in full force and effect, and is ratified and reaffirmed. In the event of any inconsistencies between the Easement, as it has been previously amended, and this Second Amendment, this Second Amendment takes precedence

[The remainder of this page is intentionally left blank. Signatures to follow.]

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the dates written below.

WITNESSES:	GRANTOR:
Hattryn Sillesond Print Name: HATHRYN LilleSAND	Jane Liess
Luen Freiberg Print Name: Gwen Freiberg	
STATE OF WISCONSIN	
COUNTY OF Dane	
The instrument was acknowledged before me this by Jane Liess, who is personally known to me or	has produced as identification.
	Notary Public Print Name: KATHY WILSON
(NOTARY SEAL)	My Commission Expires: $\frac{6}{5}$

## WITNESSES:

## **GRANTOR:**

Kalhr	yn Del	lesone
Print Name:	PATRIZYN	Lillesant
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Gluer	Freib Gwen Fr	eleg
Print Name:	Gwen Fr	cibera

STATE OF WISCONSIN

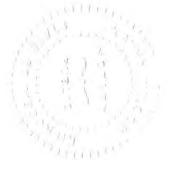
COUNTY OF	Lare	
COOMITO	A Porto	

The instrument was acknowledged before me this	12th, day of March , 20 18
by Phyllis Dube, who is personally known tidentification.	
	Hotel Wiles

Notary Pu	blic
Print Nan	e: KATHY WILSON
My Comm	nission Expires: 6/5/2/

Phyllis Dube

(NOTARY SEAL)



### WITNESSES:

### **GRANTEE:**

SBA Towers IX, LLC, a Delaware limited liability company

Print Name: Tay and Save

By: \_\_\_\_\_\_
Thomas P. Hunt

Executive Vice President & General Counsel

Olyme MSCherer Print Name: DENISE M. SCHER

STATE OF FLORIDA

### COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me April 19, 2011 by Thomas P. Hunt, the Executive Vice President & General Counsel of SBA Towers IX, LLC, a Delaware limited liability company, on behalf of the company, who is personally known to me.



Kaela Feliciano Commission # GG023862 Expires: August 23, 2020 Bonded thru Aaron Notary

Notary Public Print Name:

My Commission Expires:

(NOTARY SEAL)

### EXHIBIT 'A'

# PROPOSED PARENT PARCEL LEGAL DESCRIPTION:

An interest in land, said interest being over a portion of the following described parent parcel:

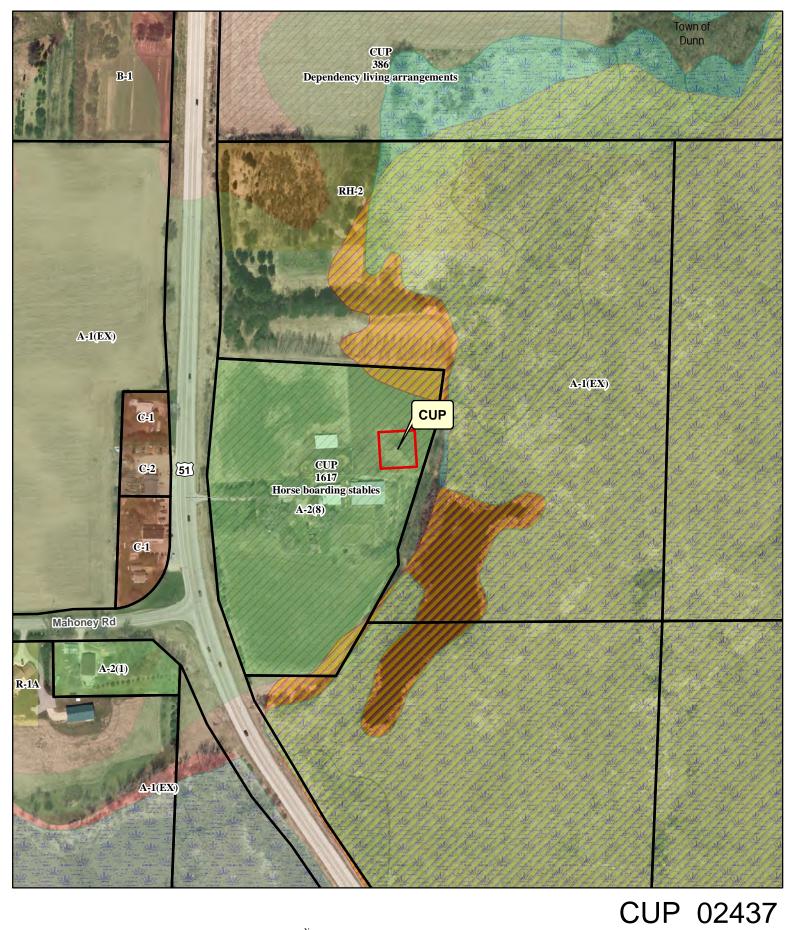
A part of the Southwest 1/4 of the Southwest 1/4 of Section 10, Township 6 North, Range 10 East, in the Town of Dunn, Dane County, Wisconsin, more fully described as follows: Commencing at the Southwest corner of said Section 10; thence North 0°59'58" East along the West line of the said Southwest 1/4, 417.21 feet; thence North 89°21'52" East, 59.20 feet to the point of beginning; said point also being the Northwest corner of Lot 1, Certified Survey Map No. 6609; thence North 4°25'14" East along the Easterly Right of Way line of U.S. Highway "51", 321.31 feet; thence South 87°20'45" East, 624.00 feet; thence South 5°49'19" West, 159.03 feet; thence South 17°27'02" West, 371.06 feet; thence South 7°05'40" East, 36.97 feet; thence South 29°15'36" West, 128.14 feet; thence North 2°13'36" West, 344.81 feet; thence North 88°35'57" West, 86.71 feet; thence North 1°43'49" West, 8.35 feet; thence North 87°45'14" West, 362.56 feet to the point of beginning.

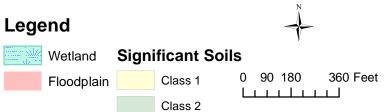
AND BEING a portion of the same property conveyed to Kimberly J. Krueger, as to 92.5% interest and Jane C. Liess, as to 7.5% interest from Marty Brewer and Connie Brewer by Warranty Deed dated March 17, 2000 and recorded March 21, 2000 in Instrument No. 3199200; AND FURTHER CONVEYED to Jane C. Liess from Kimberly J. Krueger by Warranty Deed dated July 02, 2002 and recorded July 10, 2002 in Instrument No.

3511998; AND FURTHER CONVEYED to Phyllis J. Dube, an undivided fifty percent interest from Jane C. Liess

by Warranty Deed dated November 30, 2007 and recorded December 04, 2007 in Instrument No. 4378736 and corrected in Affidavit recorded in Instrument No. 4386586.

Tax Parcel No. 028-0610-109-9190-6





CUP 02437 JANE C LIESS