



CITY OF DULUTH

Community Planning Division

411 W 1st St, Rm 208 * Duluth, Minnesota 55802-1197

Phone: 218/730.5580 Fax: 218/723-3559

File Number	PL 18-062, CUP	Contact	Steven Robertson, 218-730-5295	
Type	Concurrent Use Permit to Place Private Obstructions in Public Right of Way/Public Facilities (Utility Poles)	Planning Commission Date	June 12, 2018	
Deadline for Action	Application Date	May 8, 2018		
	Date Extension Letter Mailed	N/A	90 Days* (237.163)	August 6, 2018
Location of Subject	98 North 6 th Avenue West			
Applicant	Verizon Wireless	Contact		
Agent	Jaymes D Littlejohn	Contact		
Legal Description				
Site Visit Date	May 30, 2018	Sign Notice Date	May 25, 2018	
Neighbor Letter Date	N/A for Concurrent Use	Number of Letters Sent	N/A for Concurrent Use	

Proposal

The applicant is proposing to “own or control a wireless facility in the public right-of-way, including the replacement of the existing, city owned poles and foundations to the support the new facilities. The City will continue to own the replacement poles/foundations”.

The wireless facilities will not be stealthed or camouflaged; the equipment will be visibly attached to the exterior of the pole. The attachments will include 1 exterior mounted panel antenna, 2 power converters, and 2 radio units mounted approximately between at least 26 to 30 feet above the ground. The replacement poles will be 40 feet tall.

	Current Zoning	Existing Land Use	Future Land Use Map Designation
Subject	F-8	Public Right of Way	Central Business Primary
North	F-5	Government	Central Business Primary
South	F-8	Government/Library	Central Business Primary
East	F-8	Hotel	Central Business Primary
West	F-8	Parking Lot	Central Business Secondary

Summary of Code Requirements

UDC Section 50-37.7.C. The planning commission shall review the application, and council shall approve the application or approve it with modifications, if it determines that:

- 1) The proposed concurrent use will not harm or inconvenience the health, safety and general welfare of the city;
- 2) No portion of a public easement proposed of use is being physically occupied by the public.

Comprehensive Plan Governing Principle and/or Policies and Current History (if applicable):

Principle #4 - Support emerging economic growth sectors. Emerging economic sectors add economic, cultural and social diversity. These include higher education, medical, value-added manufacturing, commercial outdoor recreation, historic resources interpretation, arts and music, information technology and visitor services.

The installation falls with the provisions of Minnesota Statute 237.162 and 247.1643, as amended in 2017.

This application is one of three being present to the June 12, 2018 Planning Commission. The three applications are for four separate sites (Maple Grove Road, 6th Avenue West, Canal Park Drive, and Railroad Street). In 2016 the city issued a Special Use Permit for 3 small wireless facilities on utility poles on private property owned by St Scholastica, and in 2017 the city issued a concurrent use permit for 3 small wireless facilities on utility poles owned by Minnesota Power in city right of way.

Review and Discussion Items

1) Applicant is proposing to install small wireless facilities on existing city utility poles located within dedicated public rights-of-way. The proposed locations are located in rights-of-way near Maple Grove Road.

The wireless facilities will not be stealthed or camouflaged; the equipment will be visibly attached to the exterior of the pole. The attachments will include 1 exterior mounted panel antenna, 2 power converters, and 2 radio units mounted approximately between at least 26 to 30 feet above the ground. The replacement poles will be 40 feet.

2) Granting a concurrent use permit would give the applicant the ability to use dedicated public rights-of-way, with conditions, while preserving other existing public uses in the same right-of-way corridors. Concurrent use permits require a public hearing and recommendation by the Planning Commission, and is approved by the City Council via ordinance. Unlike street right-of-way vacations, concurrent use permits are not recorded at the County as they are voidable permits issued by the City to applicants who are private users of public rights-of-way.

3) Both small wireless facilities will be similar in general configuration. Ownership of the poles will remain with the City of Duluth, with the poles in dedicated public rights-of-way. Liability, maintenance, and operation of the small wireless facilities will remain the responsibility of the applicant. In the event of an accident, such as a vehicle hitting the utility pole, the city is not responsible for restoring or replacing any of the applicant's equipment.

4) The existing city utility poles will be replaced with new poles, as specified and approved by the City engineer. The new poles will have a structural analysis by the manufacturer to ensure that they can support the weight of the private small cell facilities and required public infrastructure. The poles will be embedded into the ground a distance of 15 feet.

5) Granting the proposed concurrent use permits will not harm or inconvenience the health, safety and general welfare of the city. The area proposed for the concurrent use permit will not take away from the public's ability to use the public right-of-way. The city will own the poles and continue to use them for utility purposes (lighting).

6) The UDC generally requires that new wireless facilities follow a location standard: first they should be collocated on existing towers or other structures on city owned properties first, and then existing towers or other structures on other (private) property, and so forth down the location standard list. As these small wireless facilities would be located on existing infrastructure in public right of way, and as per the recent change in state statute, the city is processing these applications as concurrent use permits and not special use permits, and the UDC's use-specific standards do not apply in this specific situation.

7) The city has the ability to regulate land use, however, the Federal Communications Commission preempts local review on the potential environmental effects of radio frequency (RF) emissions, with the presumption that the applicant and service provider is in compliance with the Commission's RF rules.

8) At the time that this memo was written, no written comments were received.



Staff Recommendation:

Based on the above findings, Staff recommends that the Planning Commission recommend approval of the two concurrent use permits subject to the following conditions:

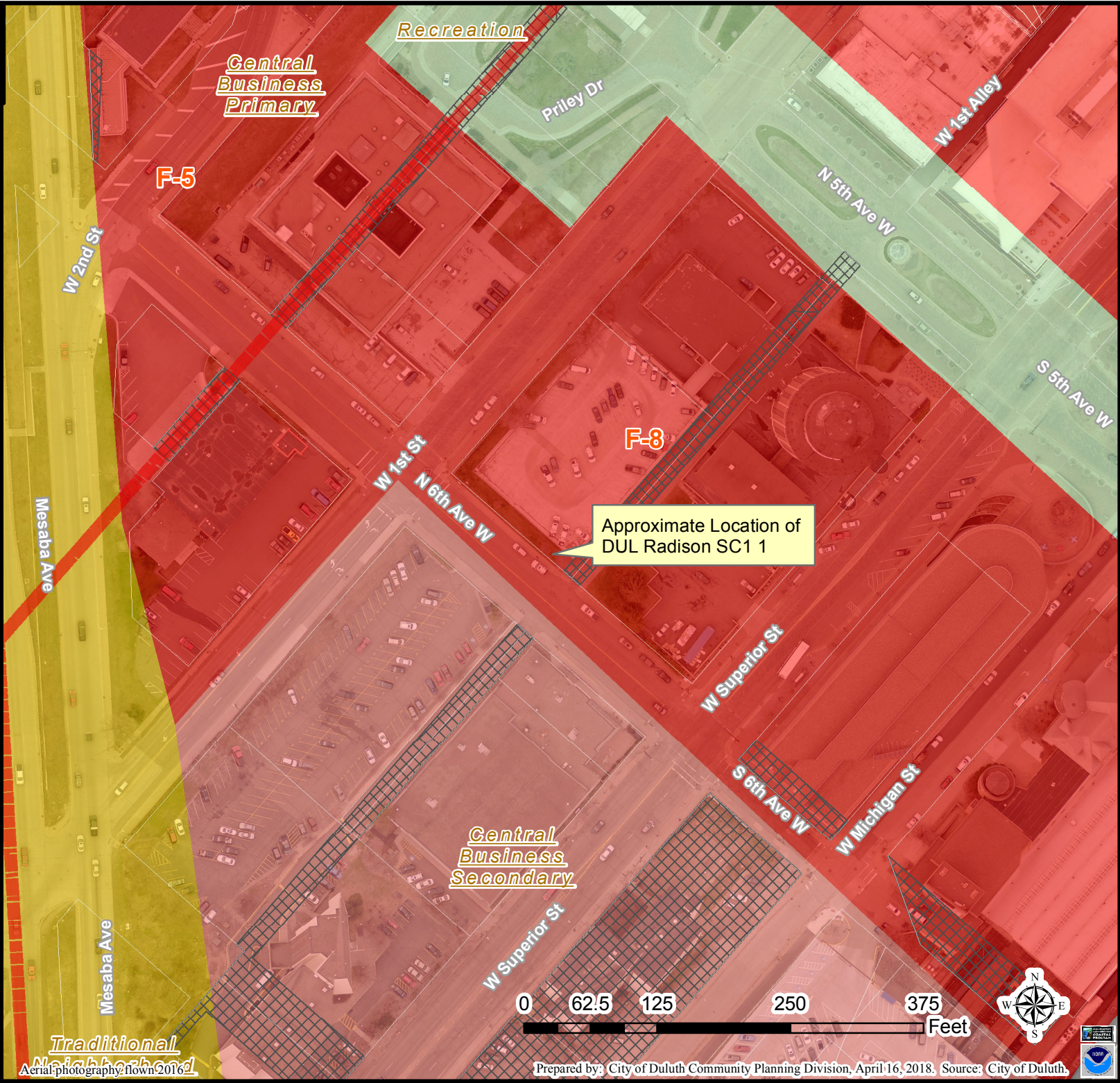
- 1) The project be limited to, constructed, and maintained according to construction drawings signed May 3, 2018, and included with this staff report, and as revised per the City Engineer's comments of May 29, 2018, updated June 5, 2018.
- 2) Applicant, or successor, shall remove the proposed obstructions at applicant's expense if directed to do so by the City with appropriate notice, as outlined with other conditions in the concurrent use permit ordinance to be approved by the City Council.
- 3) Any alterations to the approved plans that do not alter major elements of the plan may be approved by the Land Use Supervisor without further Planning Commission approval; however, all other changes must be approved by amending the City Council's approved ordinance.



Legend

-  Vacated ROW
-  Zoning Boundaries

The City of Duluth has tried to ensure that the information contained in this map or electronic document is accurate. The City of Duluth makes no warranty or guarantee concerning the accuracy or reliability. This drawing/data is neither a legally recorded map nor a survey and is not intended to be used as one. The drawing/data is a compilation of records, information and data located in various City, County and State offices and other sources affecting the area shown and is to be used for reference purposes only. The City of Duluth shall not be liable for errors contained within this data provided or for any damages in connection with the use of this information contained within.



Aerial photography: f1own2016d





Site Map

Legend

- Gas Main
- Water Main
- Hydrant

Sanitary Sewer Mains

- CITY OF DULUTH
- WLSSD; PRIVATE
- Sanitary Sewer Forced Main

Storage Basin

Pump Station

Storm Sewer Mains

- Storm Sewer Pipe
- Storm Sewer Catch Basin

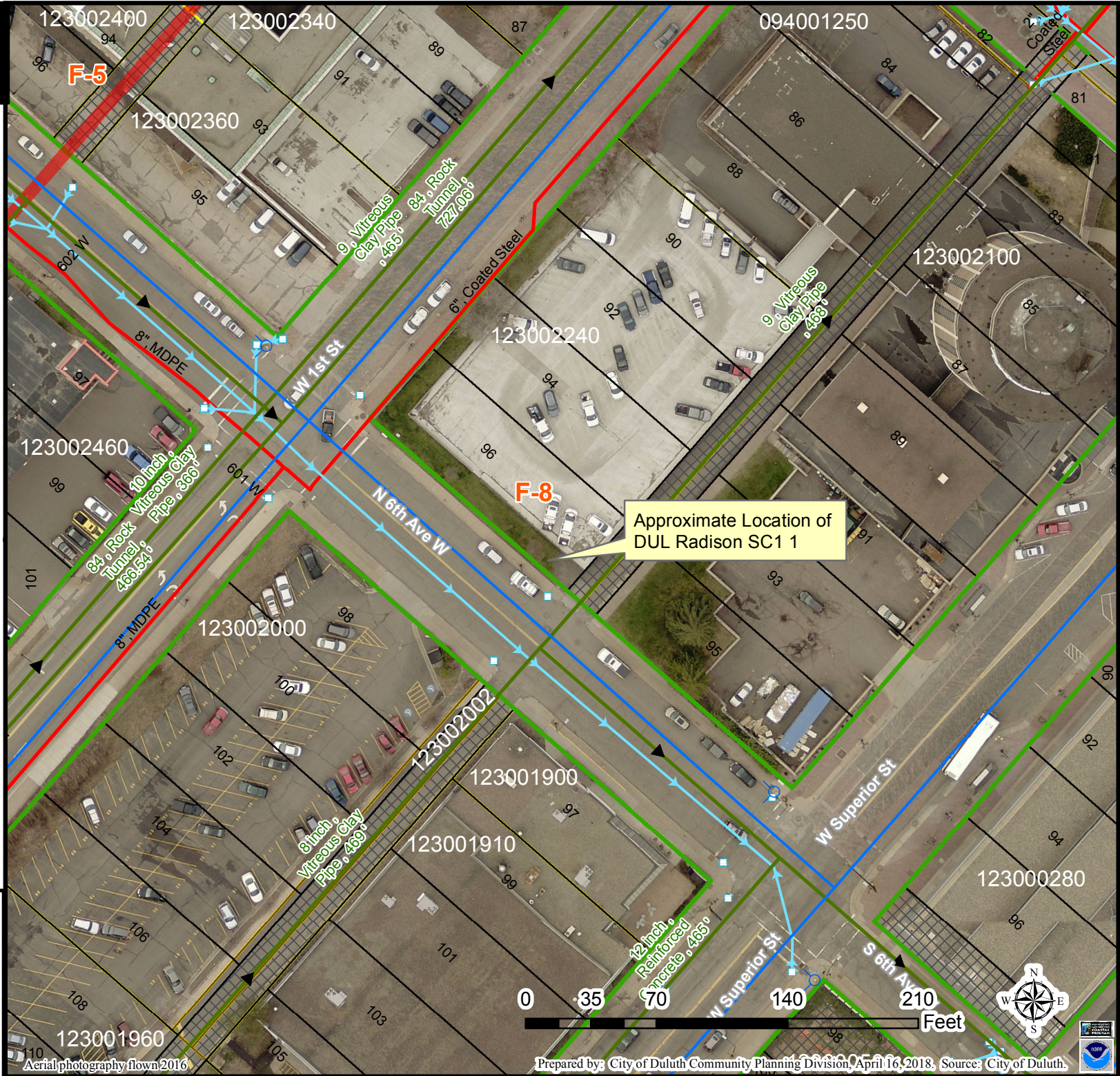
Boundary Lines

- <all other values>

Subtype, ROW_TYPE

- Lot Line
- Parcel Line
- ROW (Road)
- ROW (Not Road)
- Subdivision Line
- Water Line
- Survey Line
- Municipal Boundary
- Vacated ROW
- Zoning Boundaries

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Aerial photography flown 2016

Prepared by: City of Duluth Community Planning Division, April 16, 2018; Source: City of Duluth.



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04/27/2016

TITLE

AN ORDINANCE GRANTING VERIZON WIRELESS A CONCURRENT USE PERMIT FOR A SMALL WIRELESS TELECOMMUNICATION FACILITY ON CITY OF DULUTH UTILITY POLES IN THE PLATTED STREET RIGHT OF WAY NEAR 98 NORTH 6TH AVENUE WEST

BODY

The city of Duluth does ordain:

Section 1. Under the authority of Section 100 of the 1912 Home Rule Charter of the city of Duluth, as amended, and subject to the conditions, limitations and restrictions hereinafter set forth, permission is granted to Verizon Wireless and its successor(s) in interests, referred to herein as the permittee, to construct and maintain the following:

A small wireless telecommunication facility on a City of Duluth utility pole, midblock between West Superior Street and West First Street in the eastern side of the platted right of way of North 6th Avenue West, as shown by Attachment 1, and included in the engineering drawings signed by a professional engineer, and approved by the City Engineer.

Section 2. Before this ordinance shall be effective for any purpose whatsoever, the permittee shall file with the planning division a certification of insurance approved as to form by the city attorney evidencing that the permittee has in force a policy of insurance meeting the following requirements:

- (a) Comprehensive general liability insurance in an amount not less than \$1,500,000 for bodily injuries and in an amount not less than \$500,000 for property damage or \$1,500,000 single limit coverage; and
- (b) Insurance coverage shall include all permittee's activities occurring upon or within public right of way or easement occupied pursuant to this ordinance whether said activities are performed by the permittee or its agents or representatives; and
- (c) The insurance policy shall be approved by the city attorney; and
- (d) The policy shall contain a condition that it may not be canceled without 30 days written notice to the city of Duluth and directed to the attention of the city attorney; and
- (e) The city of Duluth shall be named as an additional insured; and
- (f) The certificate shall also reference this ordinance by its ordinance number.

Section 3. The permit granted by this ordinance may be terminated at any time by the city official exercising departmental authority of the public utility pole if the city of Duluth determines to use the area occupied by the permittee for any public purpose in accordance with the duly dedicated public easement or other lawful use.

Unless a shorter notice period is necessitated by emergency circumstances, or the violation of the conditions set forth in this ordinance, giving the permittee 30 days written notice delivered to the last known electronic address, facsimile number, or mailing address of the permittee shall be sufficient notice of termination.

Upon termination permittee shall cause all private improvements to be removed by the deadline provided in termination notice. Permittee shall be responsible for all costs incurred to remove the private improvements, including any costs associated with repairing damage caused to the public utility pole by the removal and without right to claim from the city of Duluth, or any of its officers, agents or servants, any compensation or reimbursement for damages of any kind whatsoever.

Section 4. By accepting the terms of this ordinance, the permittee agrees to hold to defend, indemnify, and hold harmless the city of Duluth from all liability or claims of liability for bodily injury or death to persons, or for property damage, in which the claim: A. alleges a negligent or otherwise wrongful act or omission of the permittee or its employee, agent, or independent contractor in installing, maintaining, or repairing the permittee's facilities; and alleges that the local government unit is liable, without alleging any independent negligent, or otherwise wrongful, act or omission on the part of the local government unit; or B. is based on the local government unit's negligent or otherwise wrongful act or omission in issuing the permit or in failing to properly or adequately inspect or enforce compliance with a term, condition, or purpose of the permit granted to the permittee.

Section 5. The permittee shall, at its expense, protect, support, temporarily disconnect, remove, or relocate from the public utility pole, or the private improvements, when required by city officials by reason of snow removal, traffic conditions, public safety, street vacation, freeway and street construction, change or establishment of street grade, sidewalks, installation of sewers, drains, water pipes, power lines, signal lines and tracks, the installation or repair of any type of structures or utility improvements by governmental agencies, when acting in a governmental or proprietary capacity.

Section 6. The concurrent use permit, and all rights thereunder, may not be sold, assigned, or transferred without the written consent of the city, such consent not to be unreasonably withheld, conditioned or delayed. Upon the sale or transfer of permittee's interest in the permit granted by this ordinance and written consent, the permittee shall provide written notice to the planning division within ten days of such transfer. The permittee's successor in interest shall file with the planning division within ten days of such transfer a duly executed and acknowledged written acceptance of the terms of this ordinance and the certificate of insurance required in Section 2 above.

Section 7. The permit granted by this ordinance is subject to termination by the city of Duluth upon permittee's failure to comply with any of the terms and conditions of this permit. Notice, delivered as provided in Section 3 above shall be sufficient notice of termination. Upon termination, permittee shall remove the private improvements. Permittee shall within 30 days after termination remove its equipment, conduits, fixtures and all personal property and restore all portions of the right-of-way to its original condition, reasonable wear and tear excepted. City

agrees and acknowledges that all of the equipment, conduits, fixtures and personal property of the applicant shall remain the personal property of the permittee and the permittee shall have the right to remove the same at any time during the term of the permit. All poles, underground conduit and pole boxes are and shall remain the property of the city. All rents paid prior to said termination date shall be retained by the city.

Section 8. Permittee shall not install a replacement pole or use any city light or signal poles unless structural analysis has been completed by a professional engineer licensed in the state of Minnesota indicating the sufficiency of the wireless support structure, or pole, to support the telecommunications equipment.

Section 9. The permittee shall observe the following conditions:

(a) Permittee's use of the public right of way or easement shall be limited to the designated area described in Section 1 above and further shown on the attached exhibit and engineering drawings; and

(b) Permittee agrees that the private improvements shall be constructed and maintained in such a manner so as in no way interfere with or damage any portion of any existing or future public improvement; and

(c) Permittee shall provide notice of work two working days in advance of any work permitted under this permit or any other permitted related to such work and shall schedule such work to coordinate with any required inspections. Permittee shall notify Earl Stewart at 218-730-4421 at least two working days prior to the installation of any telecommunication equipment or cabling so we can perform inspection of final installation; and

(d) Permittee shall obtain all other permits as may be required by the city, other governmental agencies and Minnesota Power, including, but not limited to obstruction, excavation, electrical, stormwater, etc; and

(e) Permittee shall not connect any permitted facilities to any power source owned, controlled, or paid for by the city. Permittee shall identify all power sources, and indicate connection and ownership of power source, providing evidence of approval by other entities besides the city when applicable. Indicate location of any new meters as may be required; and

(f) Permittee shall provide a contact name and telephone for our use in case of emergency. The phone number should be available 24 hours per day, 7 days a week. Permittee shall also provide contact and telephone number for non-emergency notifications, such as when the city needs to remove, or have the equipment relocated for capital projects or routine maintenance. City retains the right to shut off power to the antenna facilities at the source in any and all cases of emergency; to repair, maintain, alter or improve the right-of-way in connection with the city's operations including painting, reconditioning of the poles, or otherwise improve or repair the support structure in a substantial way, including excavation of any areas where conduit is associated with the facility. Except in cases of emergency, prior to commencing repair or maintenance or work in the right-of-way, the city shall provide the permittee not less than 30 days' prior written notice thereof. City will send notice to the address

provided at time of application. Permittee shall be solely responsible to protect or relocate their facilities to their satisfaction from any consequences of such maintenance activities; provided that nothing herein shall relieve permittee from the obligation to secure any permits required for such work. City reserves the right to require the permittee to remove or relocate or both any and all facilities from the pole for maintenance work. Permittee may request a mobile site on the right-of-way during the maintenance work. If the site will not accommodate mobile equipment, it shall be the permittee's responsibility to relocate to an auxiliary site; and

(g) Permittee will locate any underground items in accordance with Gopher State Once Call rules. The city will bear no responsibility for locating any facility related to the permittees concurrent use permit.

(h) Permittee must repair or replace at their expense any damage to anything in the right-of-way caused by the Permittee's permitted installation or operations to the city's reasonable satisfaction; and

(i) Permittee must submit record drawings within 30 days of activation of the small wireless facility installed on each permitted location, showing the actual location of any wiring or conduit runs below grade. Record drawings shall be in accordance with the city of Duluth Public Works and Utilities' "Engineering guidelines for Professional Services and Developments"; and

(j) Permittee after 30 day notice of termination as outline in section 3 above, shall remove its equipment, conduits, fixtures and all personal property and restore all portions of the right of way to its original condition at the permittee's expense, reasonable wear and tear excepted. City agrees and acknowledges that all of the equipment, conduits, fixtures and personal property of the Permittee shall remain the personal property of the Permittee and the Permittee shall have the right to remove the same at any time during the term of the permit. All underground conduit and pole related fixtures are and shall remain the property of the city; and

(k) Permittee shall implement all measures at the transmission site as required by FCC regulations, including but not limited to posting signs and markings. The city shall cooperate with the Permittee to fulfill its Radio Frequency exposure obligations. City agrees that in the event any future party causes the entire site to exceed FCC Radio Frequency radiation limits, city shall hold such future party liable for all such non-compliance issues caused by their installation. Permittee agrees to install only equipment of the type and operating frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to any equipment of the city or other users of the structure which exist on the structure prior to the date the permit was issued or to any equipment operated by the city. In the event any of the Permittee's equipment causes such interference, and after the city has notified Permittee in writing of such interference, the Permittee will take all steps necessary to eliminate the interference, including but not limited to the Permittee powering down its equipment for intermittent testing; and

(l) The permittee shall maintain the small wireless facility in a good and safe condition, and in compliance with all applicable fire, health, building or other codes or permits as applicable; and

(m) No open cutting shall be allowed on pavement that has been placed or installed within 15 years;

(n) The City bears no responsibility for accidents or damages to the Permittees above or below ground facilities, including the electric meter; and

(o) The Permittee will be the permittee on backhaul facilities installed by others.

Section 10. The following events shall automatically cause the termination of the term of this ordinance:

(a) The failure by the permittee to file the required insurance certificate 60 days after this ordinance takes effect, as specified in Section 2; or

(b) The failure of the permittee to commence the improvements authorized by this ordinance within 180 days after this ordinance takes effect.

(c) The failure to pay rent, maintenance costs, or other applicable fees, as allowed by State Statute 237.163 or as established by the City Council.

Section 11. That this ordinance shall take effect and be in force 30 days from and after its passage and publication.

Statement of Purpose

This ordinance grants Verizon Wireless a concurrent use permit for a total of four small wireless facilities on new utility poles they are replacing existing older poles in approximate the same location. These poles will be subsequently owned and operated by the City of Duluth within the dedicated public right of way.

The wireless facilities will not be stealthed or camouflaged; the equipment will be visibly attached to the exterior of the pole. The attachments will include between 3 to 6 exterior mounted panel antennas or power converters mounted between at least 22 to 32 feet above the ground, with ground mounted electric meters and underground wire connections.

On June 12, 2018, the planning commission held a public hearing on the proposal as shown in Attachment 1, and voted x yeas, x nay, x abstentions, to recommend that the city council approve the request for a concurrent use of streets.

Petition received:

Action deadline:

Permittee: Verizon Wireless



SITE NAME: DUL RADISSON SC1 1

SITE NUMBER: 20171666349

LOCATION CODE: 473796

SITE TYPE: SMALL CELL

INSTALLATION TYPE: REPLACEMENT LIGHT POLE



Jacobs Engineering Group, Inc.
2727 Patton Road
Roseville, Minnesota 55113
www.jacobs.com



2101 Highway 13 W
Burnsville, MN 55337
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

PROJECT NO: 20171666349
LOCATION CODE: 473796
EDGE PROJECT NO: 16781
CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	03/02/2018	PRELIM SMALL CELL DWGS	ZRS
0	03/02/2018	FINAL DRAWINGS	ZRS
1	03/05/2018	FINAL DRAWINGS	ZRS
2	03/06/2018	FINAL DRAWINGS	ZRS
3	04/25/2018	FINAL DRAWINGS	MWH
4	05/03/2018	FINAL DRAWINGS	MWH
5	06/05/2018	FINAL DRAWINGS	RJK



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DUL RADISSON SC1 1
DULUTH, MN 55812
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
TITLE SHEET & PROJECT DATA

SHEET NUMBER
G-001

SITE INFORMATION

APPROXIMATE ADDRESS:
98 N. 6TH AVE W.
DULUTH, MN 55812
ST. LOUIS COUNTY

SITE COORDINATES:
LAT: 46°-46'-54.06"N
LONG: 92°-06'-22.55"W
GROUND ELEVATION: 666.9' AMSL
(PER 1A CERTIFICATE)



PROJECT DESCRIPTION/SOW

WORK PRODUCT	INSTALLED BY
PROPOSED STEEL LIGHT POLE	VERIZON
CONCRETE POLE FOUNDATION	VERIZON
GROUND RING AROUND POLE FOUNDATION	VERIZON
ELECTRICAL CONDUIT, BETWEEN POLE BASE AND POWER SOURCE	VERIZON
FIBER CONDUIT, BETWEEN HAND HOLE AND POLE BASE, TO BE TRENCHED/DIRECTIONALLY BORED BELOW GRADE	VERIZON
FIBER CONUIT, WITHIN RIGHT OF WAY, TO BE TRENCHED/DIRECTIONALLY BORED BELOW GRADE	FIBER PROVIDER
FIBER HAND HOLE AT POLE BASE	FIBER PROVIDER
DIPLEXERS	VERIZON
LOAD CENTER	VERIZON
ELECTRICAL METER	VERIZON
ERICSSON RRUS AND POWER CONVERTERS	VERIZON
PANEL ANTENNAS	VERIZON
REMOVE EXISTING FOUNDATION	VERIZON
REMOVE EXISTING LIGHT POLE AND DELIVER TO CITY OF DULUTH	VERIZON

SHEET INDEX

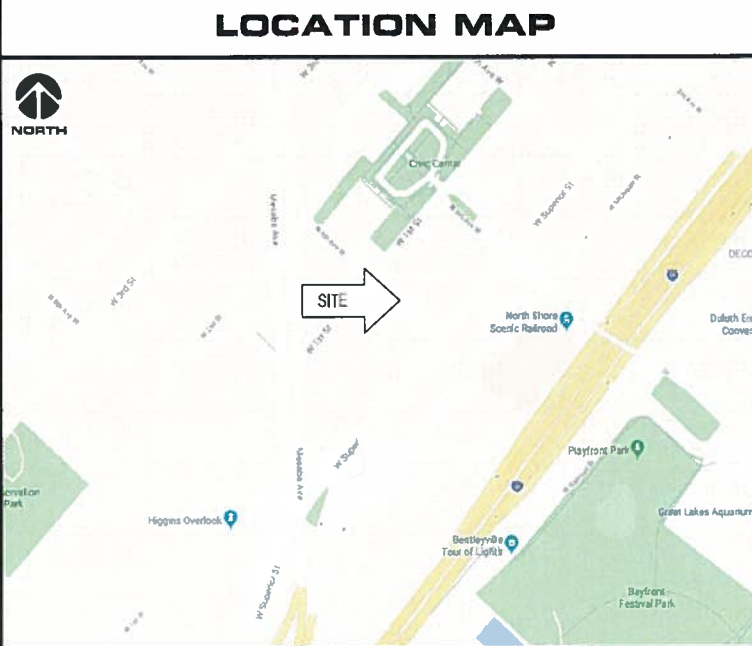
NO:	SHEET TITLE
G-001	TITLE SHEET & PROJECT DATA
G-002	GENERAL SPECIFICATIONS
G-003	GENERAL SPECIFICATIONS
N/A	SURVEY
C-101	SITE PLAN
C-501	TRAFFIC CONTROL PLAN
T-201	SITE ELEVATION
T-501	ANTENNA DETAILS
T-502	EQUIPMENT DETAILS
S-001	STRUCTURAL NOTES **
S-501	STRUCTURAL DETAILS **
E-101	UTILITY PLAN
E-102	UTILITY PLAN
E-103	GROUNDING PLAN
E-601	UTILITY DETAILS
E-602	GROUNDING DETAILS

* COMPLETED BY OTHERS
** REVIEWED AND APPROVED BY STRUCTURAL ENGINEER

APPLICABLE CODES

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:
- 2012 INTERNATIONAL BUILDING CODE
- 2014 NATIONAL ELECTRIC CODE
- TIA/EIA-222-G OR LATEST EDITION

IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL



PROJECT DIRECTORY

LESSEE:
VERIZON WIRELESS
10801 BUSH LAKE RD
BLOOMINGTON, MN 55438
CONTACT: RICK WENTA
PHONE: 952.946.4690

LESSOR:
CITY OF DULUTH
411 W 1st STREET
DULUTH, MN 55802
PHONE: 218.730.5000

ENGINEERING COMPANY:
EDGE CONSULTING ENGINEERS, INC.
2101 HIGHWAY 13 W
BURNSVILLE, MN 55337
CONTACT: OTTO DINGFELDER III, P.E.
PHONE: 608.644.1449

RE ENGINEER:
VERIZON WIRELESS
10801 BUSH LAKE RD
BLOOMINGTON, MN 55438
CONTACT: MICHAEL KOCH

SITE ACQUISITION:
JACOBS ENGINEERING GROUP, INC.
2727 PATTON ROAD
ROSEVILLE, MN 55113
CONTACT: AMY DRESCH
PHONE: 952.831.1043

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

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.

ENGINEER OF RECORD

EDGE CONSULTING ENGINEERS, INC.
CONTACT: OTTO DINGFELDER III (PE # 49720 (MN))
PHONE: 608.644.1449

STRUCTURAL REVIEW

STRUCTURAL ANALYSIS COMPLETED BY:
EDGE CONSULTING ENGINEERS, INC.
PROJECT #: 16781
DATE: 03/02/2018

CONTRACTOR TO REVIEW STRUCTURAL REPORT IN ITS ENTIRETY. ANY DISCREPANCIES OR DISAGREEMENTS BETWEEN THE REPORT AND THESE PLANS SHOULD BE RESOLVED PRIOR TO CONSTRUCTION.



L:\2017\16781\CAD\Plot\CDR_G-001.dgn



verizon

JACOBS

Jacobs Engineering Group, Inc.
2727 Patton Road
Roseville, Minnesota 55113
www.jacobs.com

Edge
Consulting Engineers, Inc.

2101 Highway 13 W
Burnsville, MN 55337
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

PROJECT NO: 20171666349

LOCATION CODE: 473796

EDGE PROJECT NO: 16781

CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	03/02/2018	PRELIM SMALL CELL DWGS	ZRS
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3	04/25/2018	FINAL DRAWINGS	MWH
4	05/03/2018	FINAL DRAWINGS	MWH
5	06/05/2018	FINAL DRAWINGS	RJK

- APPROVED -
SEE SHEET G-001 FOR
ENGINEER SEAL

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

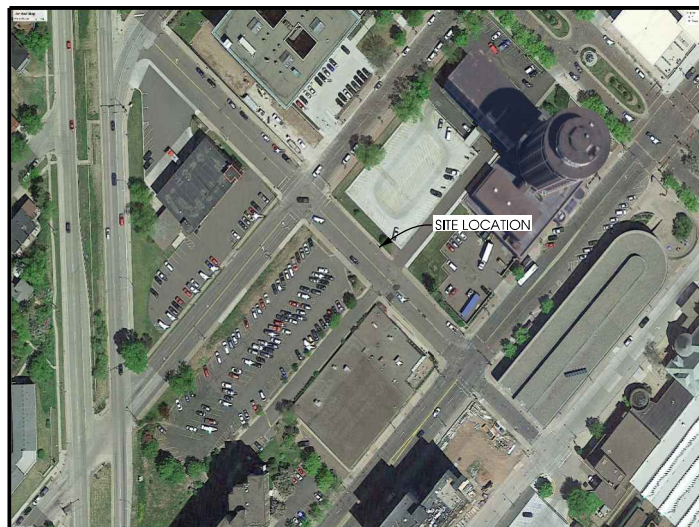
DUL RADISSON SC1 1
DULUTH, MN 55812
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE

SITE PLAN

SHEET NUMBER

C-101



A AERIAL OVERVIEW



B SITE OVERVIEW [LOOKING NORTHWEST]



C SITE OVERVIEW [LOOKING SOUTH]

NOTES:

CONTRACTOR TO COMPLETE A UTILITY LOCATE PRIOR TO COMMENCING ALL CONSTRUCTION ACTIVITIES.

CONTRACTOR TO RE-SEED ANY AND ALL DISTURBED GRASS AREAS. REFER TO THE LOCAL MUNICIPALITY FOR SEEDING SPECIFICATIONS.

MAKE NECESSARY PRECAUTIONS TO PROTECT NEW FACILITIES FROM EXISTING STEAM LINE

POWER AND FIBER ROUTING NOTE:

THE PROPOSED POWER AND FIBER ROUTES ARE PRELIMINARY, AND WILL BE CONFIRMED WITH THE LANDLORD AND FIBER PROVIDER PRIOR TO CONSTRUCTION. IF THE GENERAL CONTRACTOR NOTICES ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL SOURCES OF POWER AND FIBER, THE VERIZON CONSTRUCTION ENGINEER AND PROJECT ENGINEER ARE TO BE NOTIFIED PRIOR TO COMMENCING WORK.

QUALIFICATION OF WORKERS NOTE:

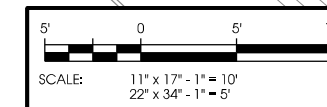
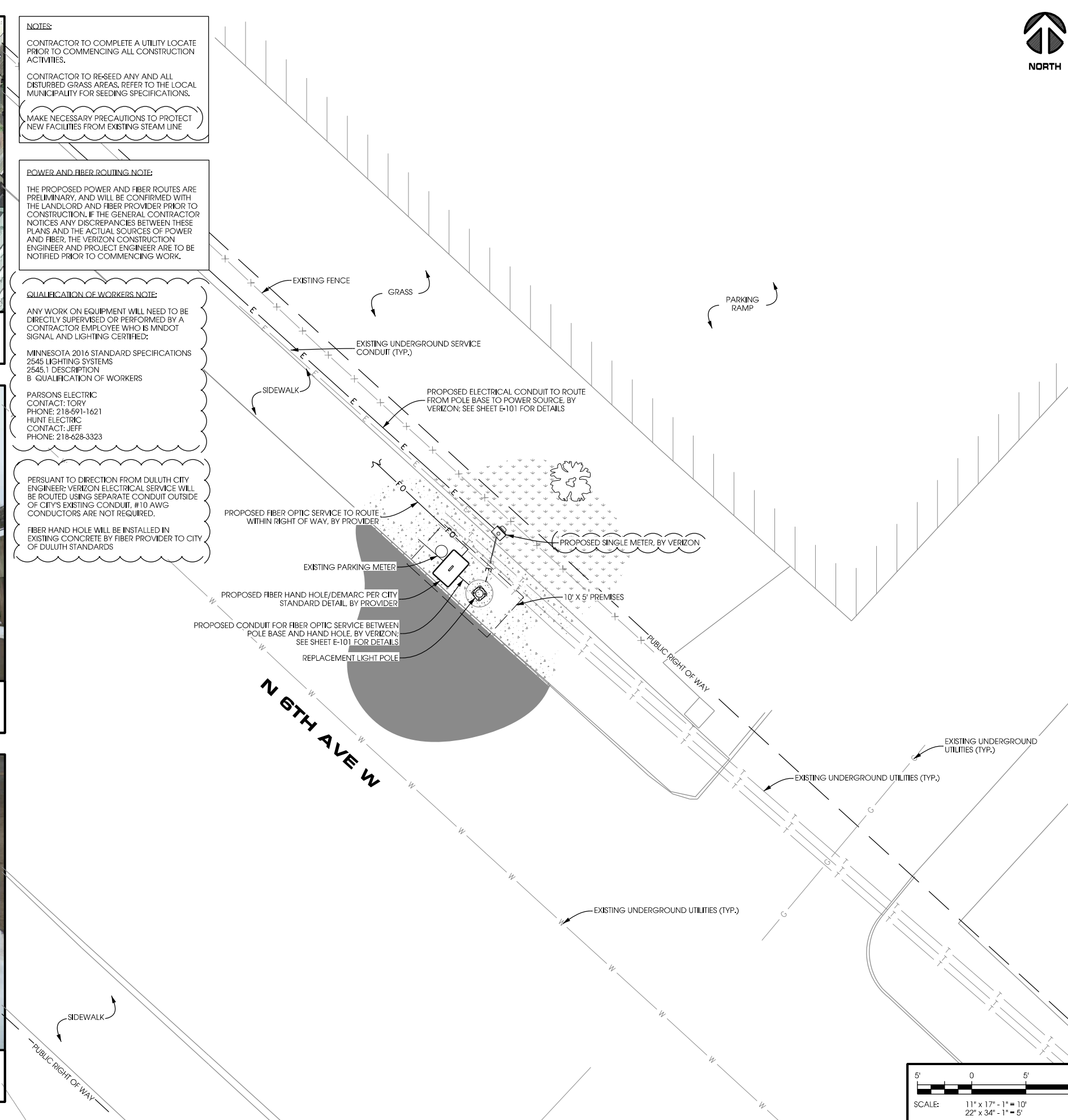
ANY WORK ON EQUIPMENT WILL NEED TO BE DIRECTLY SUPERVISED OR PERFORMED BY A CONTRACTOR EMPLOYEE WHO IS MNDOT SIGNAL AND LIGHTING CERTIFIED.

MINNESOTA 2016 STANDARD SPECIFICATIONS 2545 LIGHTING SYSTEMS 2545.1 DESCRIPTION B QUALIFICATION OF WORKERS

PARSONS ELECTRIC
CONTACT: TORY
PHONE: 218-591-1621
HUNT ELECTRIC
CONTACT: JEFF
PHONE: 218-628-3323

PERSUANT TO DIRECTION FROM DULUTH CITY ENGINEER: VERIZON ELECTRICAL SERVICE WILL BE ROUTED USING SEPARATE CONDUIT OUTSIDE OF CITY'S EXISTING CONDUIT, #10 AWG CONDUCTORS ARE NOT REQUIRED.

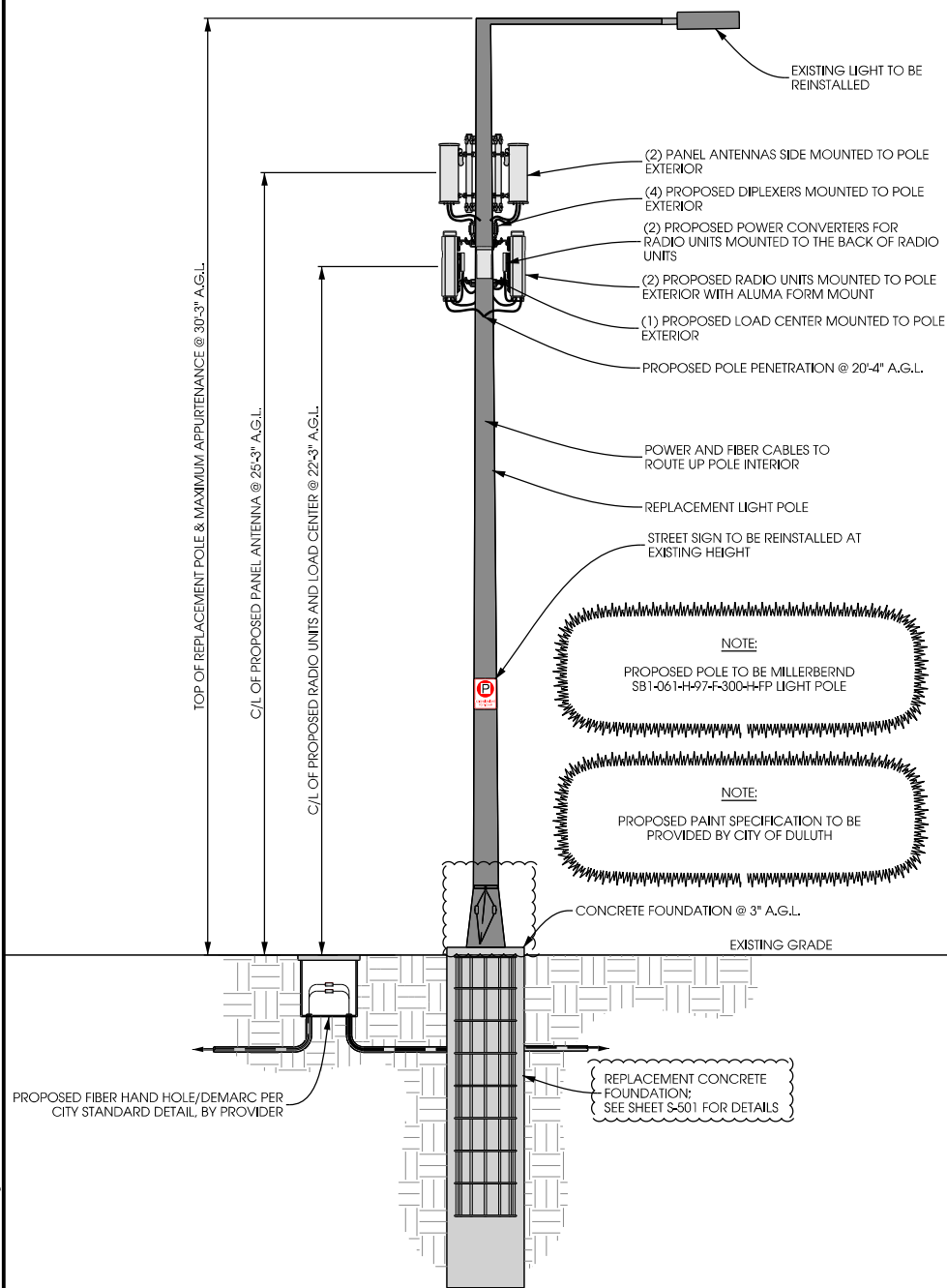
FIBER HAND HOLE WILL BE INSTALLED IN EXISTING CONCRETE BY FIBER PROVIDER TO CITY OF DULUTH STANDARDS



LA:16780N\16781\CAD\REF\CD\A\C-101.dgn

EXISTING POLE	
POLE HEIGHT:	30'-08" T.O.C.
MAXIMUM APPURTENANCE HEIGHT:	30'-08" A.G.L.
PROPOSED POLE	
POLE HEIGHT:	30'-00" T.O.C.
ANTENNA TIP HEIGHT:	26'-03" A.G.L.
MAXIMUM APPURTENANCE HEIGHT:	30'-03" A.G.L.

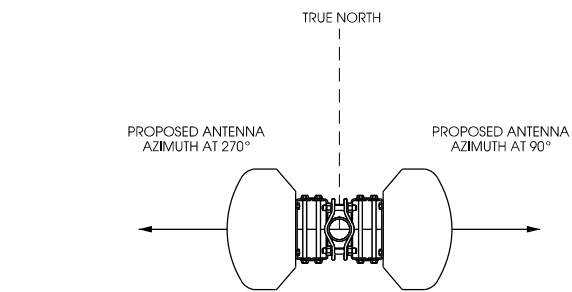
NOTES:
 TYPICAL INSTALLATION SHOWN.
 ALL ELEVATIONS ARE ASSUMED TO BE MEASURED FROM ABOVE GRADE LEVEL.
 ALL PROPOSED POLE-MOUNTED EQUIPMENT TO BE PAINTED TO MATCH POLE.



A POLE ELEVATION
 SCALE: 11" x 17" - 1" = 6'-0"
 22" x 34" - 1" = 3'-0"



B SITE ELEVATION



C ANTENNA ORIENTATION
 SCALE: NTS

ANTENNAS					
QUANTITY	MAKE	MODEL	CENTERLINE	TIP HEIGHT	AZIMUTH
2	JMA	X7CQAP-FRO-260	25'-03" AGL	26'-03" AGL	90° & 270°

EQUIPMENT			
QUANTITY	TYPE	MAKE	MODEL
2	RRU	ERICSSON	RRUS32 B66
2	PSU	EMERSON	PSU AC 08
4	DIPLEXER	COMMSCOPE	CBC1923T-4310 E11F13PO6

CABLING			
QUANTITY	TYPE	MAKE	MODEL
16	COAX	COMMSCOPE	LDF4-50

D ANTENNA AND CABLING
 SCALE: NTS



E RF WARNING SIGNS
 SCALE: NTS



PROJECT NO: 20171666349
 LOCATION CODE: 473796
 EDGE PROJECT NO: 16781
 CHECKED BY: OGD

REV.	DATE	DESCRIPTION	INT.
A	03/02/2018	PRELIM SMALL CELL DWGS	ZRS
0	03/02/2018	FINAL DRAWINGS	ZRS
1	03/05/2018	FINAL DRAWINGS	ZRS
2	03/06/2018	FINAL DRAWINGS	ZRS
3	04/25/2018	FINAL DRAWINGS	MWH
4	05/03/2018	FINAL DRAWINGS	MWH
5	06/05/2018	FINAL DRAWINGS	RJK

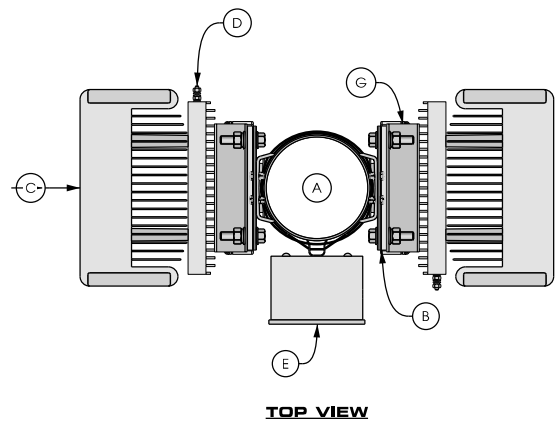
- APPROVED -
 SEE SHEET G-001 FOR
 ENGINEER SEAL

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DUL RADISSON SC1 1
 DULUTH, MN 55812
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

SHEET TITLE
SITE ELEVATION

SHEET NUMBER
T-201

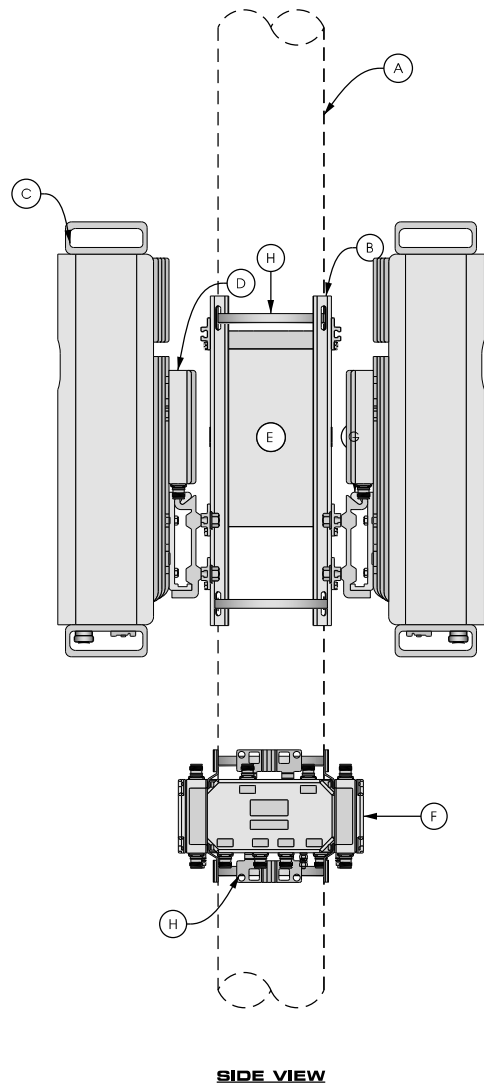


TOP VIEW

NOTE:
PAINT ALL ANTENNAS, OUTDOOR EQUIPMENT, CABLING, AND MOUNTING HARDWARE TO MATCH THE POLE

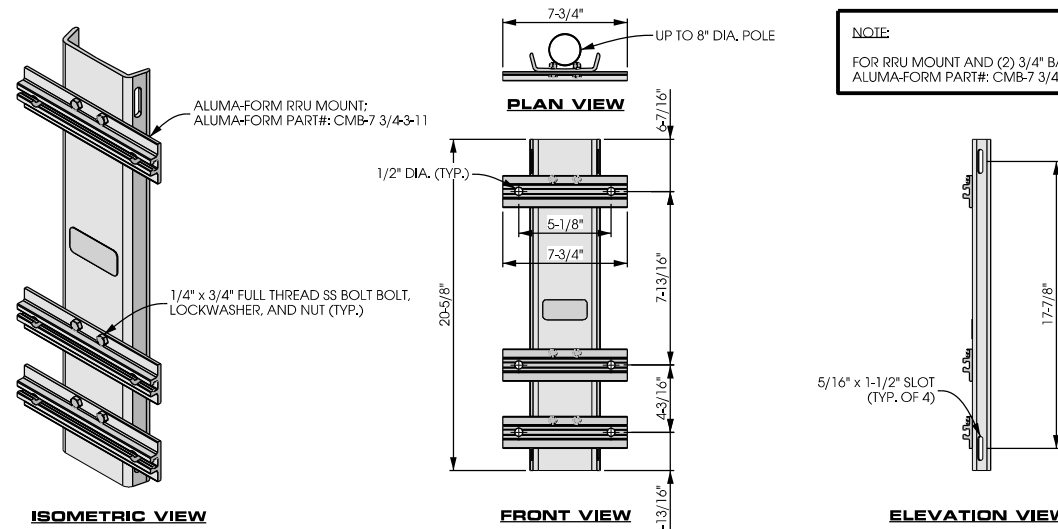
KEYED NOTES:

- A. UP TO 8" DIA. POLE
- B. REMOTE RADIO UNIT (TYP. OF 2); SEE DETAIL B THIS SHEET
- C. REMOTE RADIO UNIT (TYP. OF 2); SEE DETAIL C THIS SHEET
- D. POWER SUPPLY UNIT SECURED TO BACK OF REMOTE RADIO UNIT (TYP. OF 2); SEE DETAIL D THIS SHEET
- E. LOAD CENTER SECURED WITH HEAVY DUTY STAINLESS STEEL BAND STRAP; SEE DETAIL E THIS SHEET
- F. DIPLEXER SECURED WITH HEAVY DUTY STAINLESS STEEL BAND STRAP (TYP. OF 2); SEE DETAIL F THIS SHEET
- G. INSTALL RAIL
- H. HEAVY DUTY STAINLESS STEEL BAND STRAP (TYP.)



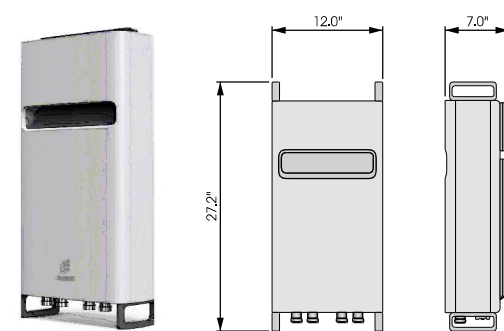
SIDE VIEW

A POLE ELEVATION
SCALE: 11" x 17" - 1/4" = 1'-0"
22" x 34" - 1/2" = 1'-0"



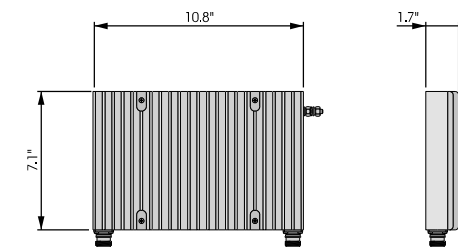
B EQUIPMENT MOUNTING
SCALE: NTS

NOTE:
FOR RRU MOUNT AND (2) 3/4" BANDSTRAPS ORDER:
ALUMA-FORM PART#: CMB-7 3/4-3-11 KIT



REMOTE RADIO UNIT:
ERICSSON PART # RRU32
DIMENSIONS: 27.2" x 12.0" x 7.0" (H x W x D)
WEIGHT: 60 LBS

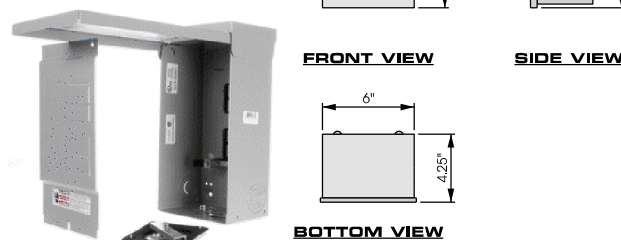
C REMOTE RADIO UNIT
SCALE: NTS



POWER SUPPLY UNIT:
ERICSSON PART # PSU AC-08
DIMENSIONS: 10.8" x 7.1" x 1.9" (H x W x D)
WEIGHT: 11.5 LBS

D POWER SUPPLY UNIT
SCALE: NTS

MANUFACTURER: SIEMENS
MODEL: W0408ML1125
DIMENSIONS: 12.25" x 6" x 4.25" (H x W x D)
WEIGHT: 6.8 LBS.
NUMBER OF POLES: 4 (EXPANDABLE TO 8)
MAX. CURRENT RATING: 125 A
VOLTAGE RATING: 240 VAC
CONTRACTOR TO INSTALL LED LIGHT

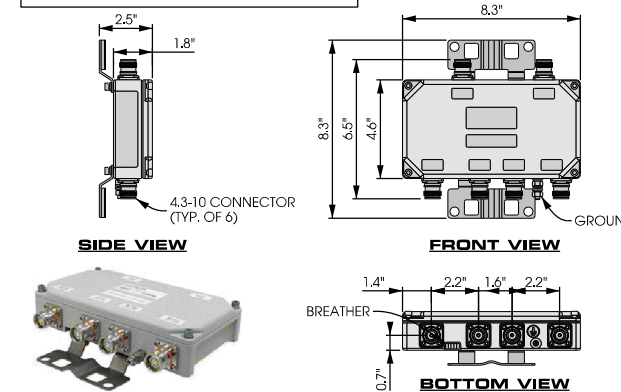


FRONT VIEW SIDE VIEW

BOTTOM VIEW

E LOAD CENTER
SCALE: NTS

MANUFACTURER: COMMSCOPE
MODEL #: CBC19231-4310 / E11F13P06
TWIN DIPLEXER PCS/AWS+WCS, DC BLOCK, 4.3-10
DIMENSIONS: 8.3" X 4.6" X 1.8"
WEIGHT: 4.4 LBS



SIDE VIEW

FRONT VIEW

BOTTOM VIEW

F DIPLEXER
SCALE: NTS



PROJECT NO:	20171666349
LOCATION CODE:	473796
EDGE PROJECT NO:	16781
CHECKED BY:	OGD

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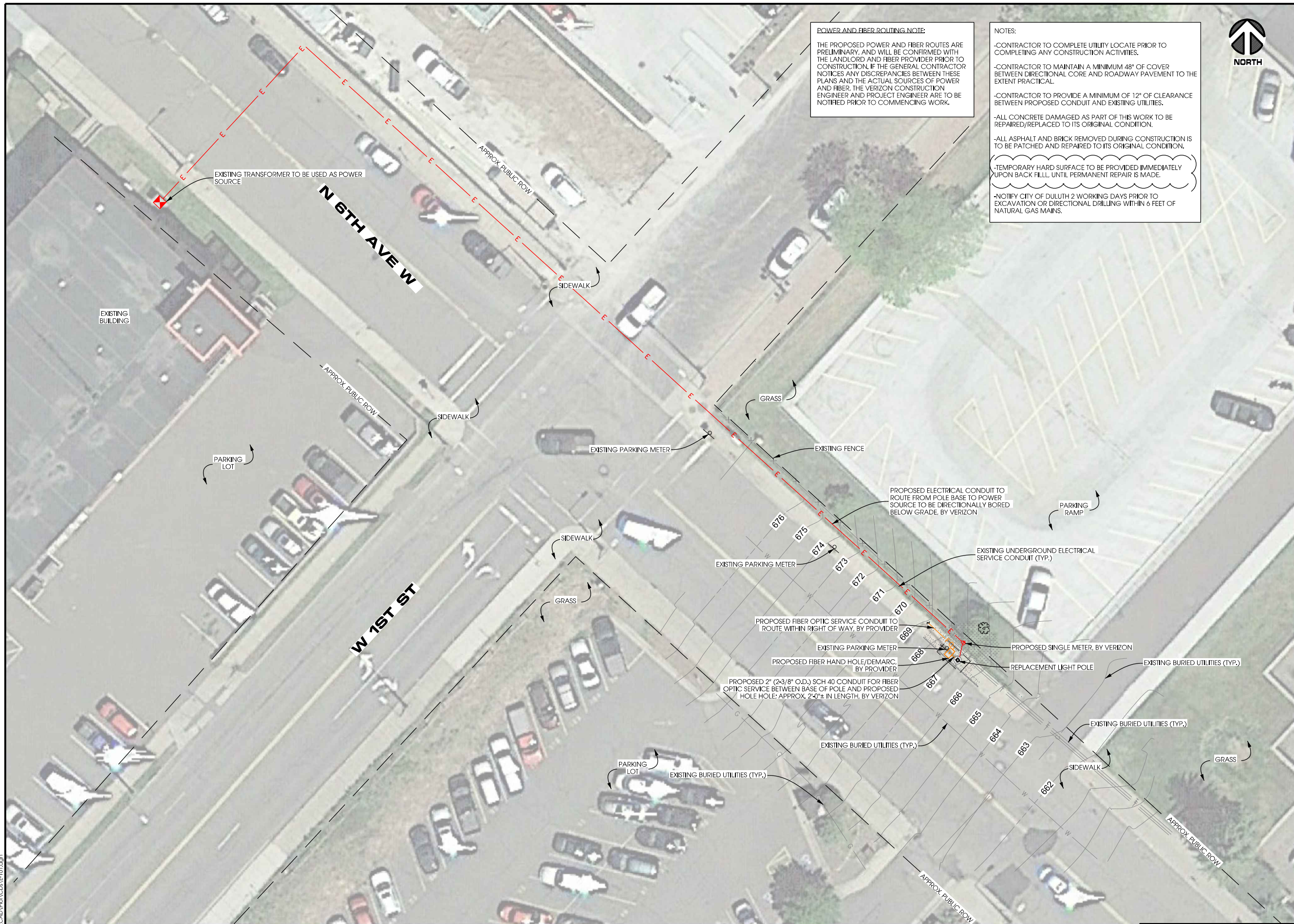
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DUL RADISSON SC1 1
DULUTH, MN 55812
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
**EQUIPMENT
DETAILS**

SHEET NUMBER
T-502



POWER AND FIBER ROUTING NOTE:
 THE PROPOSED POWER AND FIBER ROUTES ARE PRELIMINARY, AND WILL BE CONFIRMED WITH THE LANDLORD AND FIBER PROVIDER PRIOR TO CONSTRUCTION. IF THE GENERAL CONTRACTOR NOTICES ANY DISCREPANCIES BETWEEN THESE PLANS AND THE ACTUAL SOURCES OF POWER AND FIBER, THE VERIZON CONSTRUCTION ENGINEER AND PROJECT ENGINEER ARE TO BE NOTIFIED PRIOR TO COMMENCING WORK.

NOTES:
 -CONTRACTOR TO COMPLETE UTILITY LOCATE PRIOR TO COMPLETING ANY CONSTRUCTION ACTIVITIES.
 -CONTRACTOR TO MAINTAIN A MINIMUM 48" OF COVER BETWEEN DIRECTIONAL CORE AND ROADWAY PAVEMENT TO THE EXTENT PRACTICAL.
 -CONTRACTOR TO PROVIDE A MINIMUM OF 12" OF CLEARANCE BETWEEN PROPOSED CONDUIT AND EXISTING UTILITIES.
 -ALL CONCRETE DAMAGED AS PART OF THIS WORK TO BE REPAIRED/REPLACED TO ITS ORIGINAL CONDITION.
 -ALL ASPHALT AND BRICK REMOVED DURING CONSTRUCTION IS TO BE PATCHED AND REPAIRED TO ITS ORIGINAL CONDITION.
 -TEMPORARY HARD SURFACE TO BE PROVIDED IMMEDIATELY UPON BACK FILL, UNTIL PERMANENT REPAIR IS MADE.
 -NOTIFY CITY OF DULUTH 2 WORKING DAYS PRIOR TO EXCAVATION OR DIRECTIONAL DRILLING WITHIN 6 FEET OF NATURAL GAS MAINS.



PROJECT NO:	20171666349
LOCATION CODE:	473796
EDGE PROJECT NO:	16781
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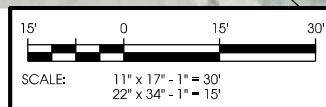
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DUL RADISSON SC1 1
 DULUTH, MN 55812
 REPLACEMENT LIGHT POLE
 SMALL CELL DRAWINGS

SHEET TITLE
UTILITY PLAN

SHEET NUMBER
E-101

A UTILITY PLAN



LA:16700N\16781\CAD\PE\VCDA\E-101.dwg