

CASE FILE #PL201600185



APPROVED
ZONING REVIEW ONLY
NMJ 02/02/2017

SITE NAME: MIN SOUTHTOWN SC1

SITE NUMBER: 20141029022

LOCATION CODE: 289036

SITE TYPE: SMALL CELL

POLE TYPE: REPLACEMENT LIGHT POLE



1360 Energy Park Drive, Suite 210
St. Paul, MN 55108
651.225.0793 voice
www.buellconsulting.com



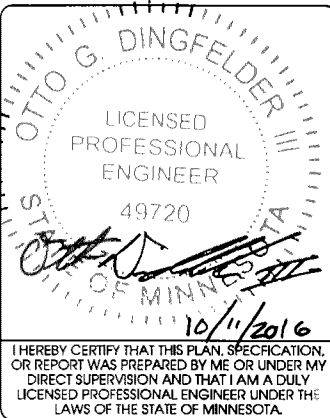
Edge
Consulting Engineers, Inc.

17645 Juniper Path, Suite 105
Lakeville, MN 55044
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

SITE INFORMATION	AREA MAP	PROJECT DESCRIPTION/SOW	SHEET INDEX																										
APPROXIMATE ADDRESS: 7803 PENN AVE. BLOOMINGTON, MN 55431 HENNEPIN COUNTY LATITUDE & LONGITUDE: LAT: 44°-51'-37.12"N LONG: 93°-18'-26.14"W GROUND ELEVATION: 830' AMSL (PER 1A CERTIFICATE) POLE HEIGHT: 36'-9" T.O.C. MAXIMUM APPURTENANCE HEIGHT: 40'-0" A.G.L.		• INSTALL (1) REPLACEMENT 36-FT 9-IN STEEL LIGHT POLE AND ASSOCIATED CONCRETE FOUNDATION • INSTALLATION OF PANEL ANTENNAS • INSTALLATION OF ERICSSON RRU'S AND POWER CONVERTERS • INSTALLATION OF LOAD CENTER/BREAKER BOX • INSTALLATION OF (4) COUPLERS • INSTALLATION OF HAND HOLE FOR FIBER AT POLE BASE, BY VERIZON • INSTALLATION OF HAND HOLE FOR ELECTRIC TO UTILIZE EXISTING CONDUIT, BY VERIZON • INSTALLATION OF CONDUIT FOR FIBER BETWEEN HAND HOLE AND POLE BASE (APPROX. 6'-6"), TO BE DIRECTIONALLY BORED BELOW GRADE, BY VERIZON • INSTALLATION OF CONDUIT FOR FIBER BETWEEN HAND HOLE AND ROW, (APPROX. 350'-0" IN LENGTH) TO BE DIRECTIONALLY BORED BELOW GRADE, BY VERIZON • INSTALLATION OF CONDUIT FOR ELECTRIC BETWEEN HAND HOLE AND POLE BASE (APPROX. 180'-0"), TO BE DIRECTIONALLY BORED BELOW GRADE, BY VERIZON • EXISTING ELECTRIC CONDUIT TO BE UTILIZED • INSTALLATION OF GROUND RING AROUND POLE FOUNDATION • ALL OTHER CONSTRUCTION RELATED ACTIVITIES TO BE COMPLETED BY OTHERS	<table><thead><tr><th>NO:</th><th>SHEET TITLE</th></tr></thead><tbody><tr><td>T-1</td><td>TITLE SHEET & PROJECT DATA</td></tr><tr><td>C-1</td><td>SITE PLAN</td></tr><tr><td>C-2</td><td>ENLARGED SITE PLAN</td></tr><tr><td>A-1</td><td>POLE ELEVATION</td></tr><tr><td>A-2</td><td>MOUNTING DETAILS</td></tr><tr><td>A-3</td><td>ANTENNA DETAILS</td></tr><tr><td>A-4</td><td>EQUIPMENT DETAILS</td></tr><tr><td>A-5</td><td>CABLE MOUNTING DETAILS</td></tr><tr><td>E-1</td><td>CABLING DETAILS</td></tr><tr><td>E-2</td><td>ELECTRICAL NOTES</td></tr><tr><td>G-1</td><td>GROUNDING PLAN</td></tr><tr><td>G-2</td><td>GROUNDING DETAILS</td></tr></tbody></table>	NO:	SHEET TITLE	T-1	TITLE SHEET & PROJECT DATA	C-1	SITE PLAN	C-2	ENLARGED SITE PLAN	A-1	POLE ELEVATION	A-2	MOUNTING DETAILS	A-3	ANTENNA DETAILS	A-4	EQUIPMENT DETAILS	A-5	CABLE MOUNTING DETAILS	E-1	CABLING DETAILS	E-2	ELECTRICAL NOTES	G-1	GROUNDING PLAN	G-2	GROUNDING DETAILS
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APPLICABLE CODES	LOCATION MAP	PROJECT DIRECTORY	11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED																										
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		LESSEE: VERIZON WIRELESS 10801 BUSH LAKE RD BLOOMINGTON, MN 55438 CONTACT: COURTNEY BEDNARZ PHONE: 952.946.4694 LESSOR: KRAUS-ANDERSON INC. 523 8TH ST. S. MINNEAPOLIS, MN 55404 PHONE: 612.332.7281 ENGINEERING COMPANY: EDGE CONSULTING ENGINEERS, INC. 17645 JUNIPER PATH SUITE 105 LAKEVILLE, MN 55044 CONTACT: OTTO DINGFELDER III, P.E. PHONE: 608.644.1449 SITE ACQUISITION: BUELL CONSULTING, INC. 1360 ENERGY PARK DRIVE SUITE 210 ST. PAUL, MN 55108 CONTACT: ROB VIERA PHONE: 651.225.0792	THESE SITE PLANS ADHERE TO ALL OF THE REQUIREMENTS CALLED OUT IN THE JURISDICTION PLANNING AND ZONING FOR ANTENNAS AND SUPPORT STRUCTURES WHERE SITE IS LOCATED. 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.																										
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			LIGHT POLE STRUCTURAL ANALYSIS TO BE COMPLETED BY OTHERS. CONTRACTOR TO REVIEW STRUCTURAL REPORT IN ITS ENTIRETY. ANY DISCREPANCIES OR DISAGREEMENTS BETWEEN THE REPORT AND THESE PLANS SHOULD BE RESOLVED PRIOR TO CONSTRUCTION.																										

PROJECT NO: 20141029022
EDGE PROJECT NO: 14969
DRAWN BY: NBT
CHECKED BY: OGD

REV.	DATE	DESCRIPTION	
A	08/15/2016	PRELIM SMALL CELL DWGS	TKB
0	08/30/2016	FINAL DWGS	TKB
1	10/11/2016	FINAL DWGS	NBT



MIN SOUTHTOWN SC1
BLOOMINGTON, MN
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
TITLE SHEET &
PROJECT DATA

SHEET NUMBER

T-1



AERIAL OVERVIEW

CASE FILE #PL201600185

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verizon



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APPROVED

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION,
OR REPORT WAS PREPARED BY ME OR UNDER MY
DIRECT SUPERVISION AND THAT I AM A DULY
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MIN SOUTHTOWN SC1
BLOOMINGTON, MN
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE

SITE PLAN

SHEET NUMBER

C-1

PENN AVE.

MALL ACCESS RD.

PARKING LOT

PARKING LOT

PARKING LOT

PROPOSED 2" SCH 40 FIBER OPTIC CONDUIT TO
ROUTE TO PROPOSED PROVIDER MMHH, BY
FIBER PROVIDER. VERIFY FINAL LOCATION AND
ROUTE WITH PROVIDER.

PROPOSED HAND HOLE/DEMARC, BY FIBER
PROVIDER, VERIFY FINAL LOCATION PRIOR TO
CONSTRUCTION

EXISTING BREAKER PANEL TO BE UTILIZED
EXISTING BUILDING PENETRATION TO BE UTILIZED
EXISTING BUILDING

EXISTING UNDERGROUND ELECTRIC CONDUIT TO
LANDLORD POWER SOURCE, LANDLORD TO PROVIDE
FINAL SOURCE AND ROUTE PRIOR TO CONSTRUCTION.
(APPROX. 109'-0" IN LENGTH)

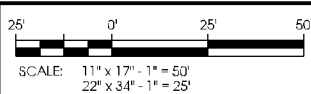
PROPOSED 6"x12" DOGHOUSE HAND HOLE, BY
VERIZON. VERIFY FINAL LOCATION PRIOR TO
CONSTRUCTION. TO BE PLACED OVER EXISTING
ELECTRICAL CONDUIT

PROPOSED 2" SCH 40 CONDUIT FOR ELECTRICAL SERVICE,
VERIFY FINAL SOURCE AND ROUTE PRIOR TO CONSTRUCTION,
BY VERIZON. (APPROX. 180'-0" IN LENGTH)

CAR CHARGING STATION

REPLACEMENT LIGHT POLE

PARKING LOT





AERIAL OVERVIEW



SITE OVERVIEW
[LOOKING NORTHEAST]

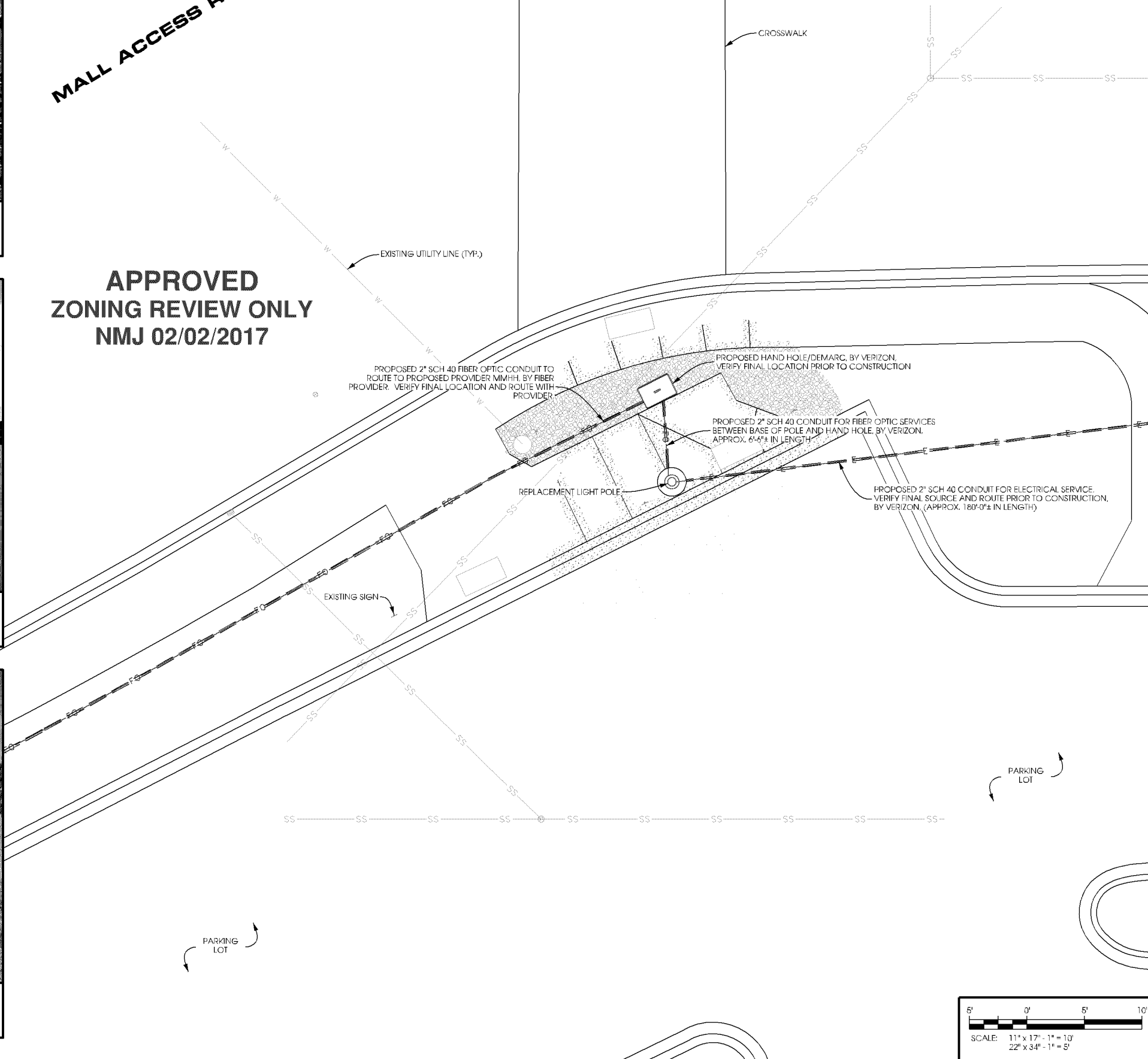


SITE OVERVIEW
[LOOKING SOUTHWEST]

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MALL ACCESS ROAD

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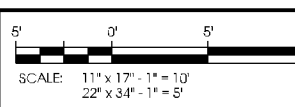
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MIN SOUTHTOWN SC1
BLOOMINGTON, MN
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
ENLARGED SITE
PLAN

SHEET NUMBER
C-2



CASE FILE #PL201600185

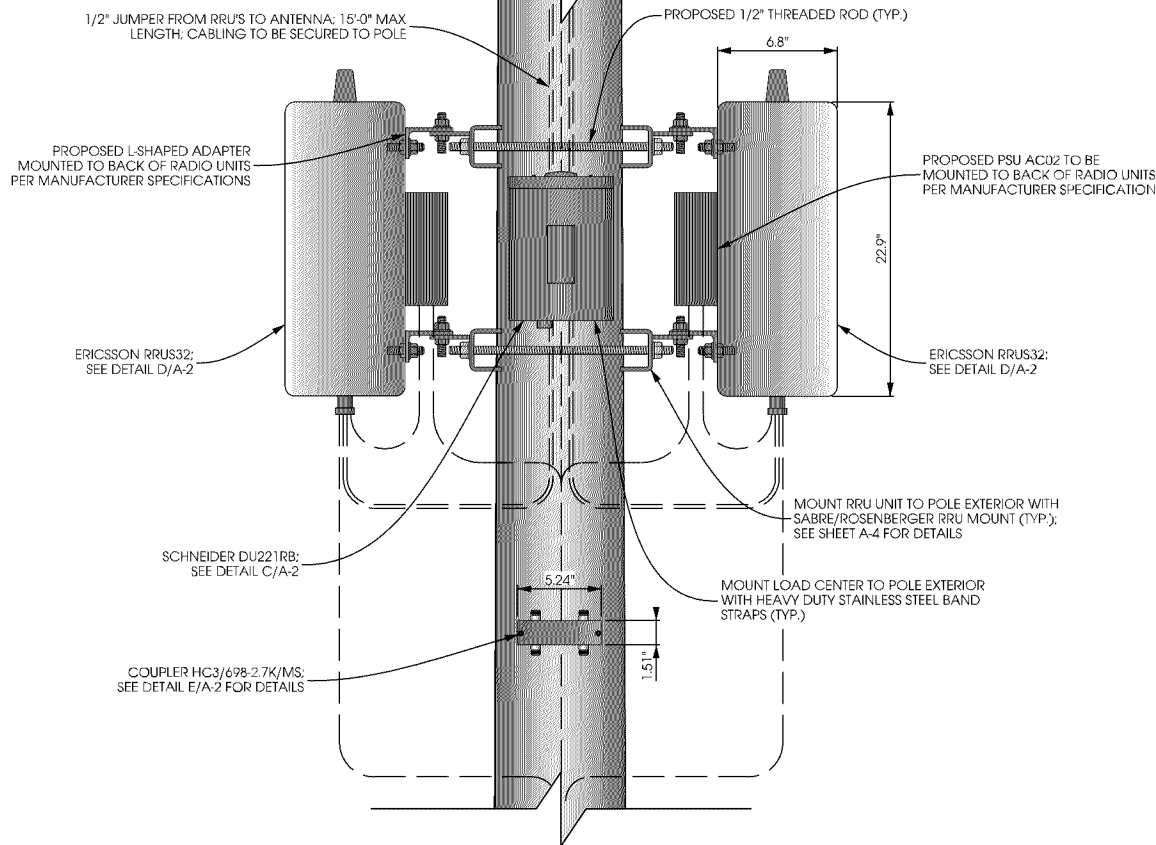
NODE INFO					RADIO					ANTENNA									
					Band	eNB ID	Model	DU#	DU Port#	AZIMUTH	POSITION	QTY	MFR.	MODEL	PORT	C/L	ADJ ELEC TILT	MECH TILT	
PCI:	Full Node Name: (Name SC1 Node#)				AWS	TBD	RRUS32 B66A	1	TBD	50	1.1	1	JMA Wireless	X7CQAP-FRO-260-V	+45	25	0	0	
	TBD	SOUTHTOWN SC1									1.2								
Coordinates				PCS	TBD	RRUS32 B2	1	TBD	195	1.1	1	JMA Wireless	X7CQAP-FRO-260-V	+45	25	0	0		
LATITUDE										44								51	37.12
LONGITUDE				93	18	26.14	1.3	1.4	1.5	1.6	1.1	1.2	1.3	1.4	1.5	1.6			
Ground Elevation:				830															
					RF Splitter: (4) ClearLink-HC3/698-2.7K/MS														
1A Coordinates 08-01-2016																			

NOTE:

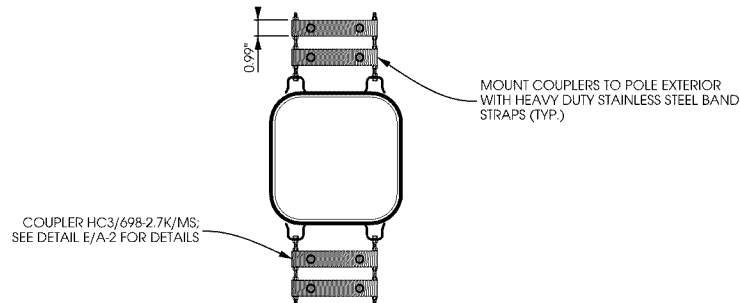
PAINT ALL ANTENNAS, OUTDOOR EQUIPMENT, AND MOUNTING HARDWARE TO MATCH THE PROPOSED LIGHT POLE

POLE SIZE AT RRU HEIGHT IS 7 1/2"

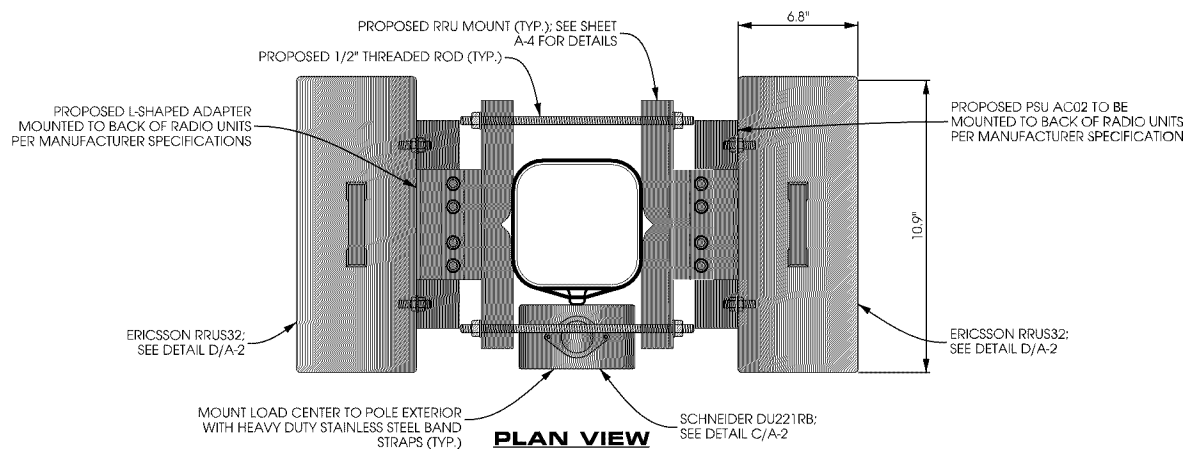
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ELEVATION VIEW



SPLITTER PLAN VIEW

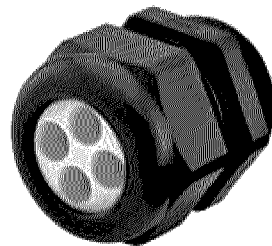


PLAN VIEW

A EQUIPMENT MOUNTING DETAIL

SCALE: 11 x 17 - 1" = 1'-0"
22 x 34 - 1" = 0'-6"

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NPT GLAND

THREE HOLE 1-1/2" NPT GLAND FOR TWO 5MM FIBER AND ONE 13.8MM POWER CABLE. INCLUDES LOCK NUT AND O-RING; ROSENBERGER MODEL #: CX-CD36X-XX2 OR APPROVED EQUIV.

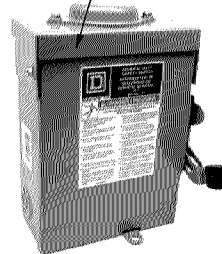
CONDUIT PIPE PRODUCTS, CO. 1-1/2" CONDUIT COUPLING OR APPROVED EQUIV. TO BE INSTALLED IN 2" FULL PIPE COUPLING WITH EPOXY

2" FULL PIPE (2-3/8" I.D.) TO BE INSTALLED BY LIGHT POLE MANUFACTURER TO ACCEPT NPT GLAND

B PENETRATION DETAIL

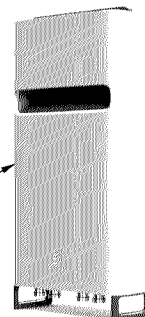
SCALE: NTS

SCHNEIDER ELECTRIC SQUARE D. DU221RB
NUMBER OF POLES: 2
MAX. CURRENT RATING: 30 A
VOLTAGE RATING: 240 VAC
DIMENSIONS: 9.36" x 7.25" x 3.75"
WEIGHT: 4.62 lbs
CONTRACTOR TO INSTALL LED LIGHT



SCHNEIDER DU221RB
30A AC DISCONNECT
WITH LED LIGHT

ERICSSON RRU32
- SINGLE-BAND 4Tx/4Rx
- 40MHz ISW
- UP TO 4 x 40W OUTPUT POWER
- SUPPORT 2 x 20MHz LTE
- 2 PORTS x 10 Gbps CPRI
DIMENSIONS: 22.9" x 10.9" x 6.3"
(W/OUT COVER)
WEIGHT: 46.3 LBS
(W/OUT COVER)



ERICSSON RRU32

*SHOWN WITH COVER

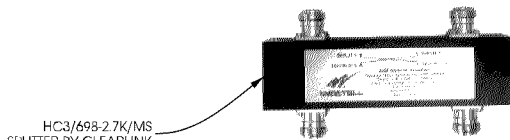
C LOAD CENTER DETAIL

SCALE: NTS

D RADIO DETAIL

SCALE: NTS

CLEARLINK HC3 COUPLER
- 200 WATTS AVG. POWER
- 1P45 COMPLIANT
- RoHS COMPLIANT
- 698-2700 MHz FREQUENCY RANGE
DIMENSIONS: 5.24" x 1.58" x 0.99"



HC3/698-2.7K/MS
SPLITTER BY CLEARLINK

E COUPLER DETAIL

SCALE: NTS

verizon



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MIN SOUTHTOWN SC1
BLOOMINGTON, MN
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
MOUNTING DETAILS

SHEET NUMBER
A-2

CASE FILE #PL201600185



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SITE NAME:

MIN SOUTHTOWN SC2

SITE NUMBER:

20151187111

LOCATION CODE:

320992

SITE TYPE:

SMALL CELL

POLE TYPE:

REPLACEMENT LIGHT POLE



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SITE INFORMATION

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BLOOMINGTON, MN 55431
HENNEPIN COUNTY

LATITUDE & LONGITUDE:
LAT: 44°-51'-34.77"N
LONG: 93°-18'-15.72"W
GROUND ELEVATION: 834' AMSL
(PER 1A CERTIFICATE)

POLE HEIGHT:
36'-9" I.O.C.

MAXIMUM APPURTENANCE HEIGHT:
40'-0" A.G.L.

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

LOCATION SCAN



AREA MAP



LOCATION MAP



PROJECT DESCRIPTION/SOW

- INSTALL (1) REPLACEMENT 36-FT 94IN STEEL LIGHT POLE AND ASSOCIATED CONCRETE FOUNDATION
- INSTALLATION OF PANEL ANTENNAS
- INSTALLATION OF ERICSSON RRU'S AND POWER CONVERTERS
- INSTALLATION OF LOAD CENTER/BREAKER BOX
- INSTALLATION OF (4) COUPLERS
- INSTALLATION OF HAND HOLE FOR FIBER AT POLE BASE, BY VERIZON
- INSTALLATION OF CONDUIT FOR FIBER BETWEEN HAND HOLE AND POLE BASE (APPROX. 2'-0"). TO BE TRENCHED BELOW GRADE, BY VERIZON
- INSTALLATION OF CONDUIT FOR FIBER BETWEEN HAND HOLE AND ROW, (APPROX. 533'-0" IN LENGTH) TO BE DIRECTIONALLY BORED BELOW GRADE, BY PROVIDER
- INSTALLATION OF CONDUIT FOR ELECTRIC BETWEEN POLE BASE AND POWER SOURCE, (APPROX. 502'-0" IN LENGTH) TO BE DIRECTIONALLY BORED BELOW GRADE, BY VERIZON
- INSTALLATION OF GROUND RING AROUND POLE FOUNDATION
- BUILDING PENETRATION REQUIRED FOR ELECTRIC SERVICE
- ALL OTHER CONSTRUCTION RELATED ACTIVITIES TO BE COMPLETED BY OTHERS

PROJECT DIRECTORY

LESSEE:
VERIZON WIRELESS
10801 BUSH LAKE RD
BLOOMINGTON, MN 55438
CONTACT: COURTNEY BEDNARZ
PHONE: 952.946.4694

LESSOR:
KRAUS-ANDERSON INC.
523 8TH ST. S.
MINNEAPOLIS, MN 55404
PHONE: 612.332.7281

ENGINEERING COMPANY:
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CONTACT: OTTO DINGFELDER III, P.E.
PHONE: 608.644.1449

RE ENGINEER:
VERIZON WIRELESS
10801 BUSH LAKE RD
BLOOMINGTON, MN 55438
CONTACT: MIHAELA OXLEY

SITE ACQUISITION:
BUELL CONSULTING, INC.
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CONTACT: ROB VIERA
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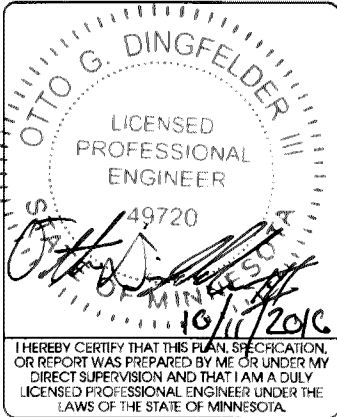
STRUCTURAL REVIEW

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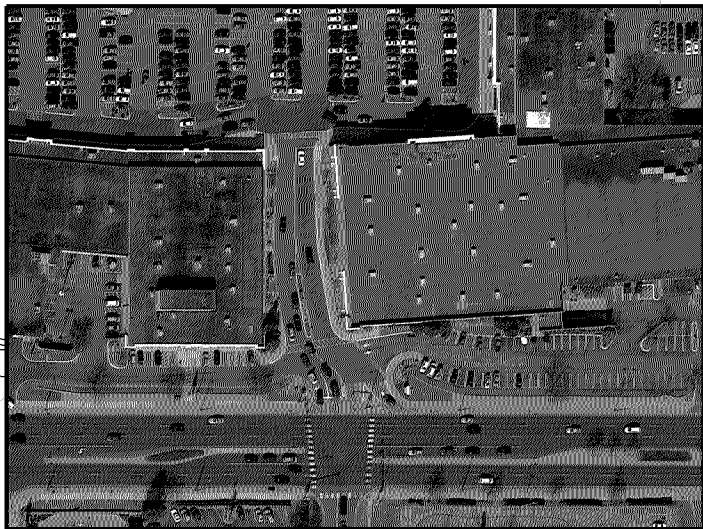
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SMALL CELL DRAWINGS

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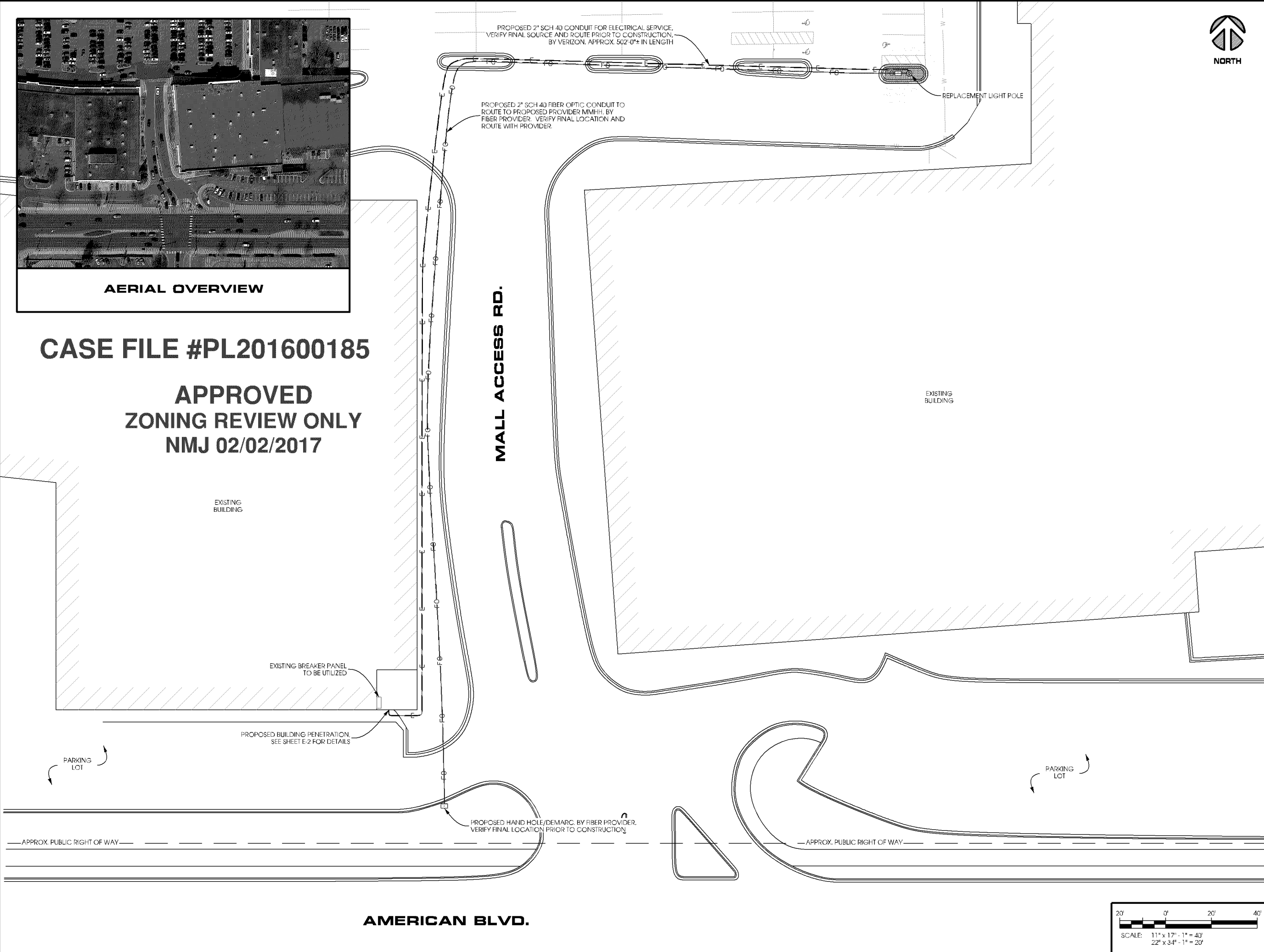
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BLOOMINGTON, MN
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE

SITE PLAN

SHEET NUMBER

C-1



AERIAL OVERVIEW



SITE OVERVIEW
[LOOKING WEST]



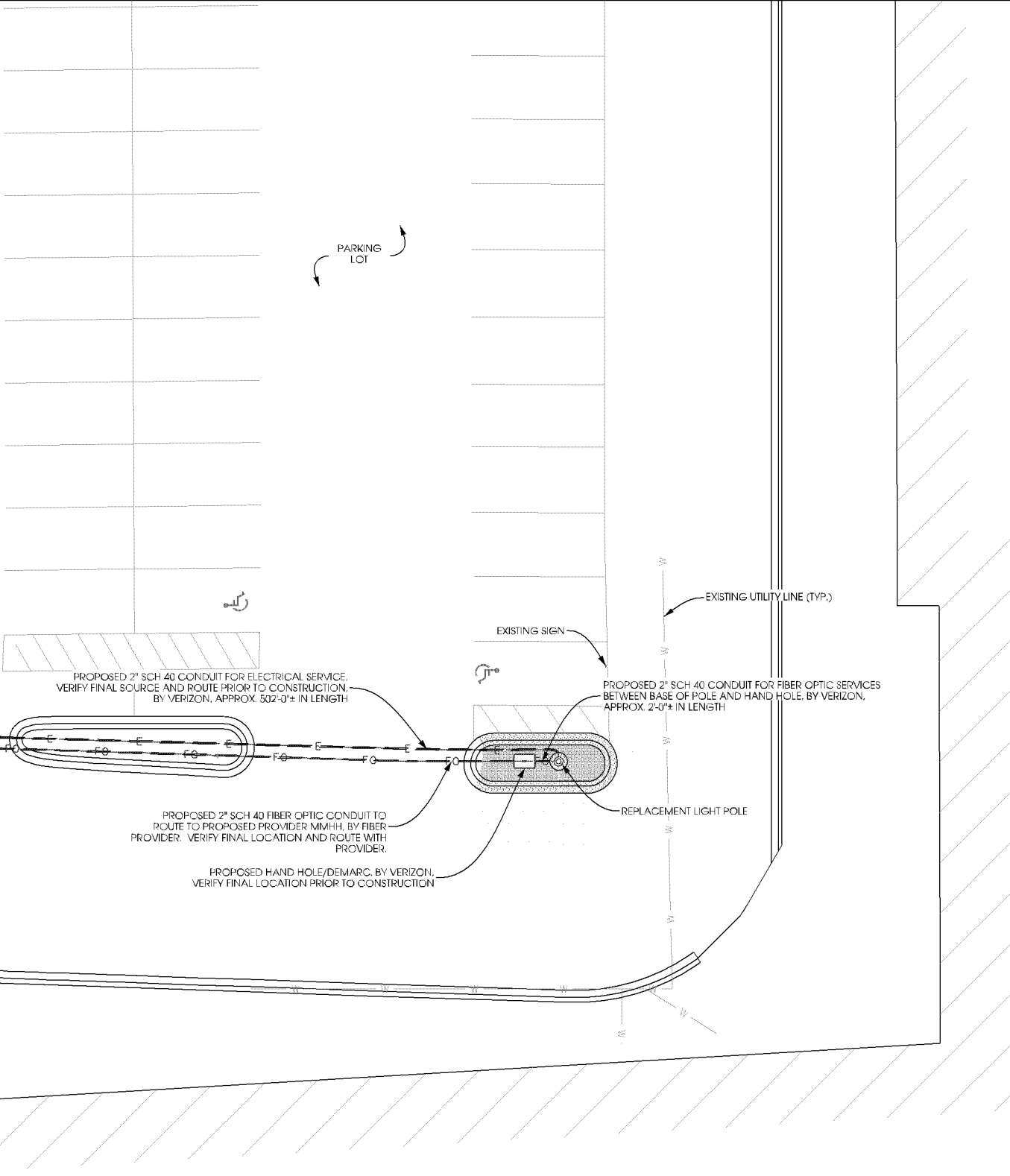
SITE OVERVIEW
[LOOKING NORTH]

PARKING LOT

PARKING LOT



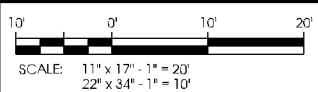
EXISTING BUILDING



CASE FILE #PL201600185

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ZONING REVIEW ONLY
NMJ 02/02/2017

EXISTING BUILDING



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1360 Energy Park Drive, Suite 210
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608.644.1549 fax
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PROJECT NO:	20151187111
EDGE PROJECT NO:	14970
DRAWN BY:	NBT
CHECKED BY:	OGD

REV.	DATE	DESCRIPTION	
A	08/15/2016	PRELIM SMALL CELL DWGS	TKB
U	08/30/2016	FINAL DWGS	TKB
1	10/11/2016	FINAL DWGS	NBT

APPROVED

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MIN SOUTHTOWN SC2
BLOOMINGTON, MN
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
ENLARGED SITE
PLAN

SHEET NUMBER

C-2

CASE FILE #PL201600185

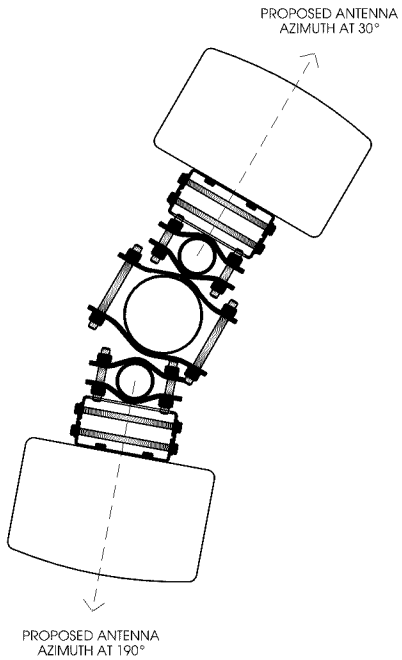
NODE INFO					RADIO					ANTENNA								
		Band	eNB ID	Model	DU#	DU Port#	AZ/MUTH	POSITION	QTY	MFR.	MODEL	PORT	C/L	ADJ ELEC TILT	MECH TILT			
PCI:	Full Node Name: (Name SC2 Node#)				AWS	TBD	RRUS32 B66A	1	TBD	30	1.1	1	JMA Wireless	X7CQAP-FRO-260-V	+45	35	0	0
TBD	SOUTHTOWN SC2									1.2	-45							
	Coordinates	DEG	MIN	SEC						1.3	+45							
	LATITUDE	44	51	34.77						1.4	-45							
	LONGITUDE	93	18	15.72						1.5	+45							
	Ground Elevation:	834								1.6	-45							
1A Coordinates 08-01-2016				PCS		TBD	RRUS32 B2	1	TBD	190	1.1	1	JMA Wireless	X7CQAP-FRO-260-V	+45	35	0	0
										1.2	-45							
										1.3	+45							
										1.4	-45							
										1.5	+45							
										1.6	-45							
				RF Splitter: (4) ClearLink-HC3/698-2.7K/MS														

RF Splitter: (4) ClearLink-HC3/698-2.7K/MS

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COAX						
QTY	TYPE	MFR.	MODEL	DIELECTRIC	DIA.	RUN
TERMINATE PORTS						
1	Jumper	Commscope	LFD4-50	Foam	1/2"	TBD
1	Jumper	Commscope	LFD4-50	Foam	1/2"	TBD
1	Jumper	Commscope	LFD4-50	Foam	1/2"	TBD
1	Jumper	Commscope	LFD4-50	Foam	1/2"	TBD
TERMINATE PORTS						
1	Jumper	Commscope	LFD4-50	Foam	1/2"	TBD
1	Jumper	Commscope	LFD4-50	Foam	1/2"	TBD
1	Jumper	Commscope	LFD4-50	Foam	1/2"	TBD
1	Jumper	Commscope	LFD4-50	Foam	1/2"	TBD

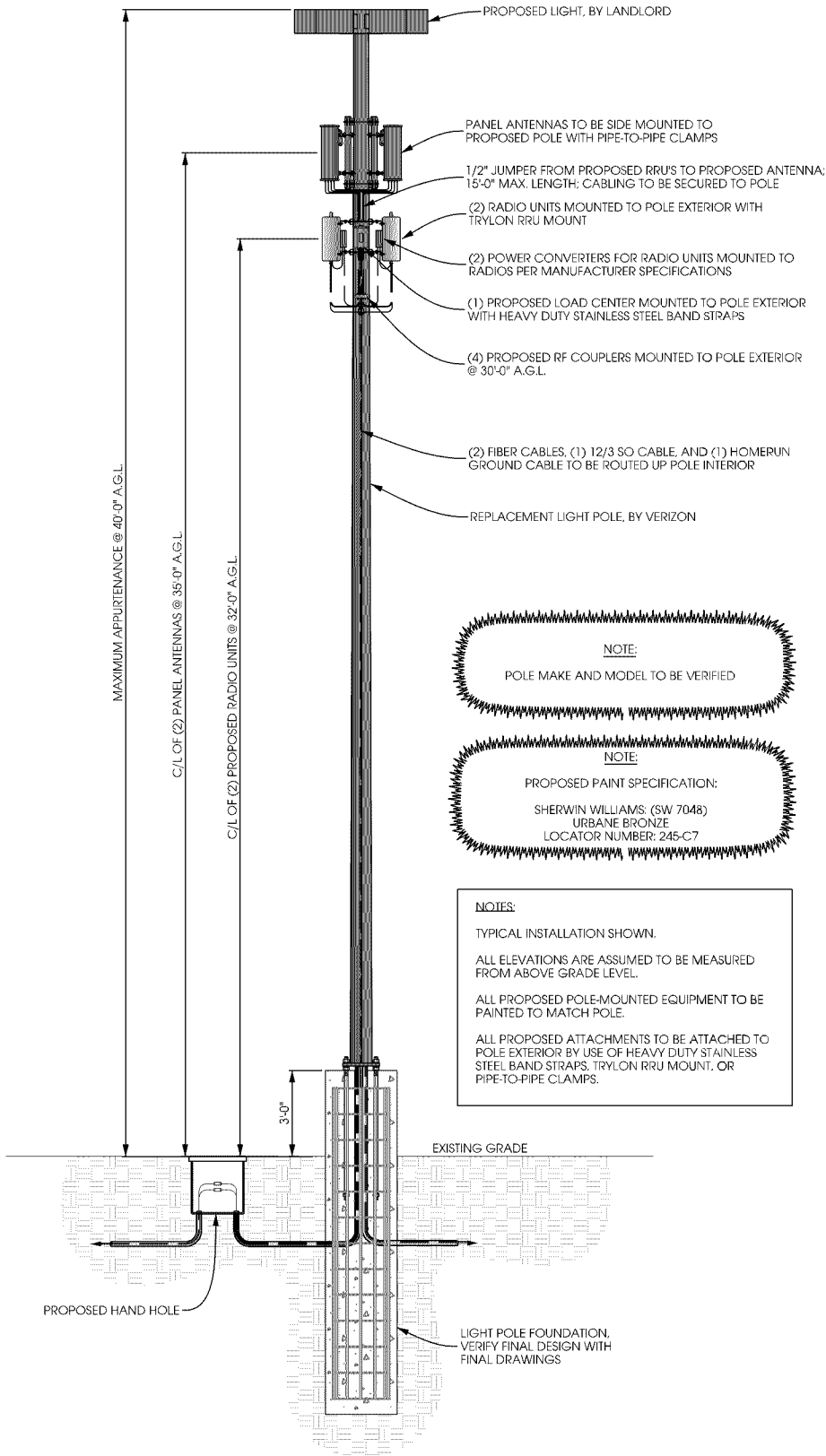
A ANTENNA AND COAX
SCALE: NTS



B ANTENNA ORIENTATION
SCALE: NTS



LIGHT POLE ELEVATION



C LIGHT POLE ELEVATION
SCALE: 11" x 17" - 1" = 5'-0"
22" x 34" - 1" = 2'-6"

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MIN SOUTHTOWN SC2
BLOOMINGTON, MN
REPLACEMENT LIGHT POLE
SMALL CELL DRAWINGS

SHEET TITLE
POLE ELEVATION

SHEET NUMBER

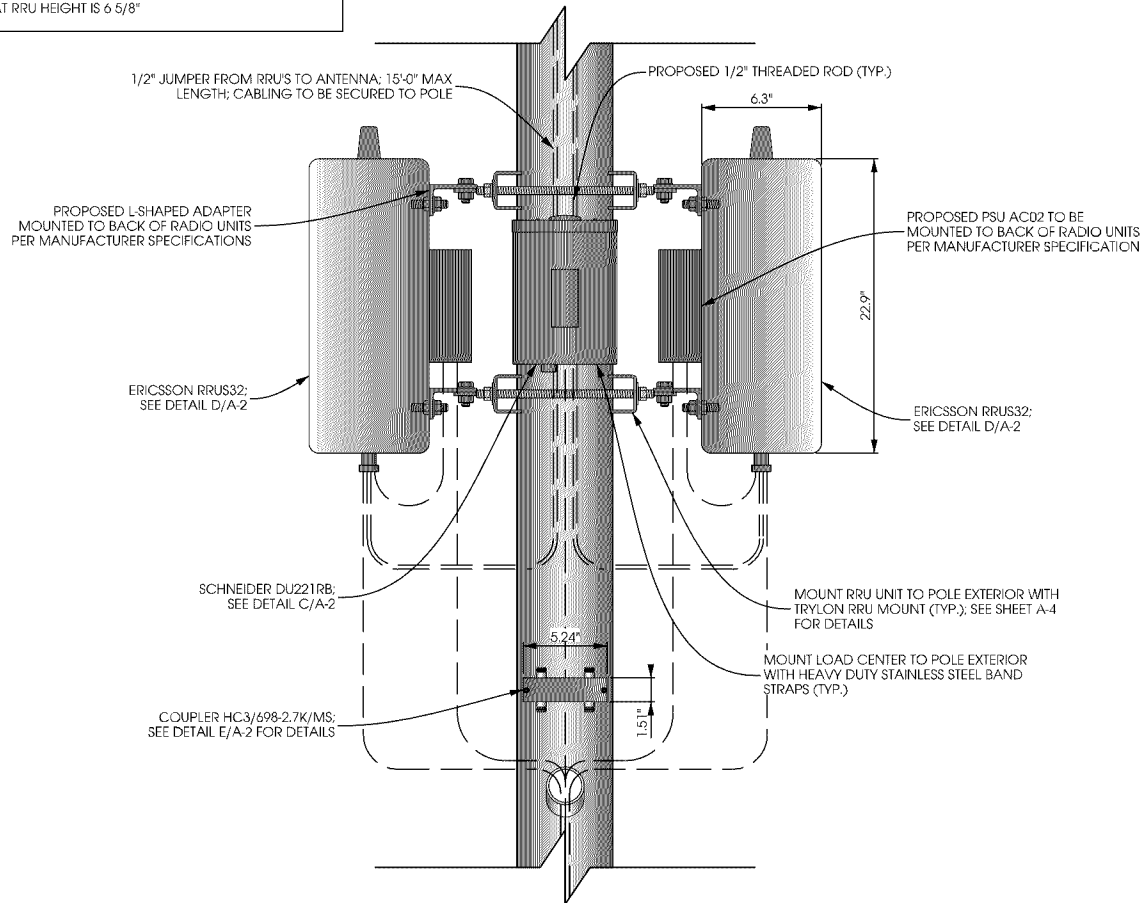
A-1

NOTE:

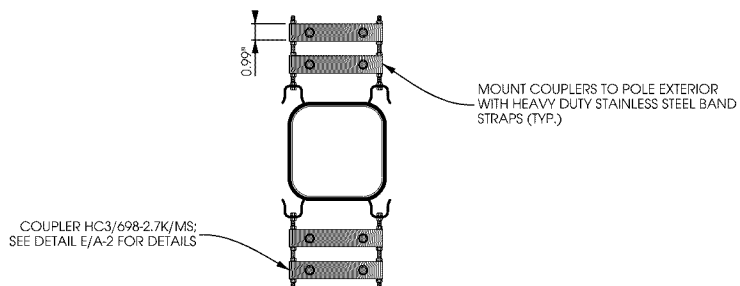
PAINT ALL ANTENNAS, OUTDOOR EQUIPMENT, AND MOUNTING HARDWARE TO MATCH THE PROPOSED LIGHT POLE

POLE SIZE AT RRU HEIGHT IS 6 5/8"

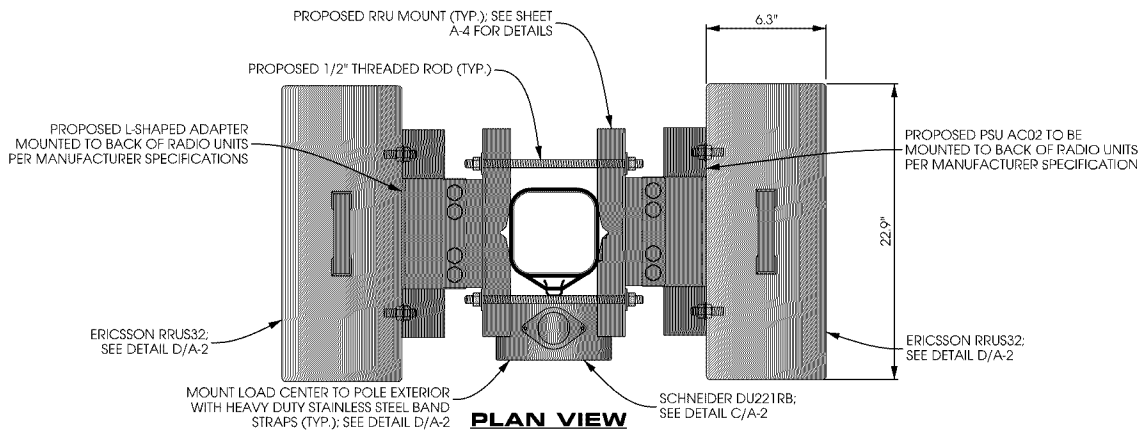
CASE FILE #PL201600185



ELEVATION VIEW



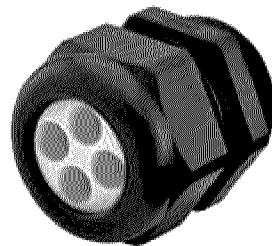
SPLITTER PLAN VIEW



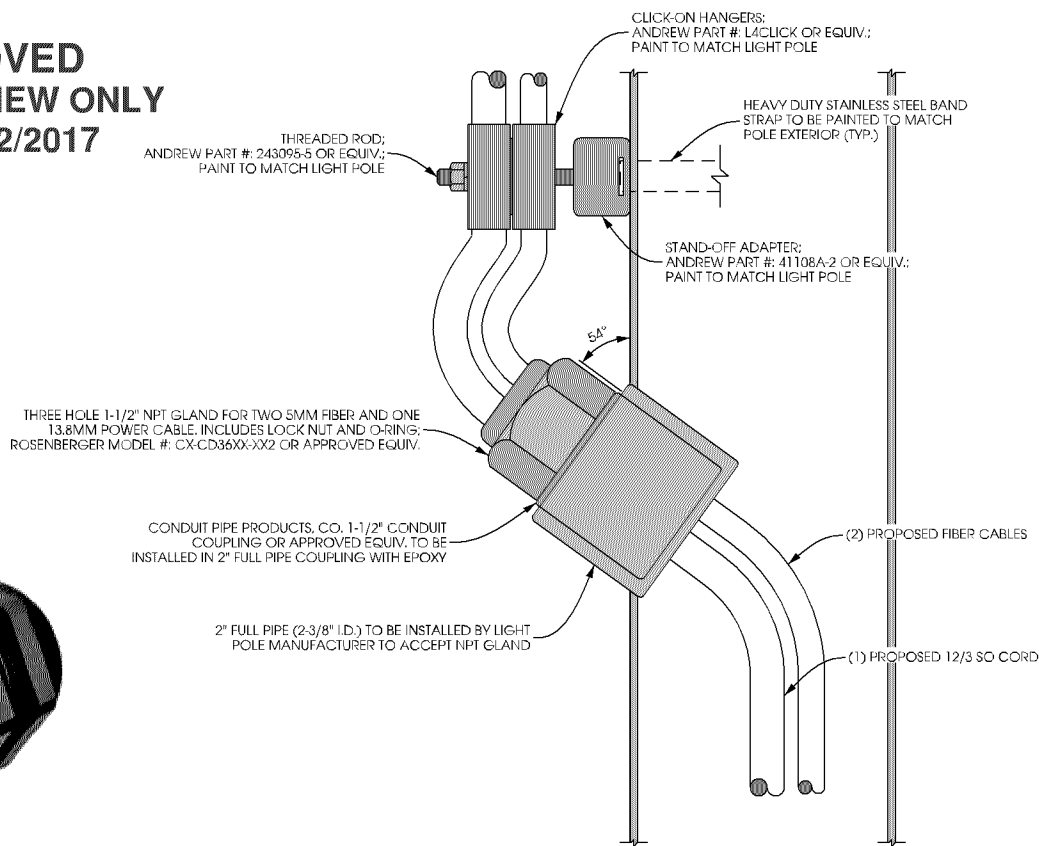
PLAN VIEW

A EQUIPMENT MOUNTING DETAIL
SCALE: 11 x 17 - 1" = 1'-0"
22 x 34 - 1" = 0'-6"

APPROVED ZONING REVIEW ONLY NMJ 02/02/2017

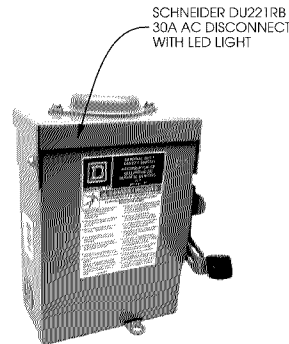


NPT GLAND



B PENETRATION DETAIL
SCALE: NTS

SCHNEIDER ELECTRIC SQUARE D:
DU221RB
NUMBER OF POLES: 2
MAX. CURRENT RATING: 30 A
VOLTAGE RATING: 240 VAC
DIMENSIONS: 9.36" x 7.25" x 3.75"
WEIGHT: 4.62 lbs
CONTRACTOR TO INSTALL LED LIGHT



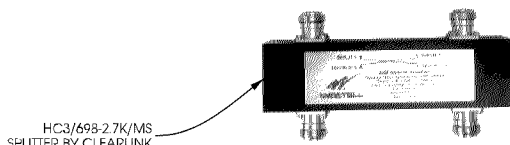
C LOAD CENTER DETAIL
SCALE: NTS

ERICSSON RRU32
- SINGLE-BAND 4Tx/4Rx
- 40MHz IBW
- UP TO 4 x 40W OUTPUT POWER
- SUPPORT 2 x 20MHz LTE
- 2 PORTS x 10 Gbps CPRI
DIMENSIONS: 22.9" x 10.9" x 6.3"
(W/OUT COVER)
WEIGHT: 46.3 LBS
(W/OUT COVER)



D RADIO DETAIL
SCALE: NTS

CLEARLINK HC3 SPLITTER
- 200 WATTS AVG. POWER
- 1P45 COMPLIANT
- RoHS COMPLIANT
- 698-2700 MHz FREQUENCY RANGE
DIMENSIONS: 5.24" x 1.58" x 0.99"



E COUPLER DETAIL
SCALE: NTS

verizon



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SHEET TITLE
MOUNTING DETAILS

SHEET NUMBER

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