

RECEIVED

2019 JUL 30 P 5:27

CITY CLERK'S OFFICE
MALDEN, MASS.

April 9, 2019

Malden City Council
Malden City Hall
110 Pleasant St.
Malden, MA 02148

RE: Petition of ExteNet Systems, Inc. for Grant of Location for Telecommunications Wires and Appurtenances

Dear Members of the City Council:

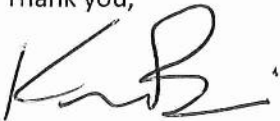
Pursuant to Massachusetts General Laws Chapter 166 section 22, please find enclosed the petition of ExteNet Systems, Inc. for grant of location for telecommunications wires and appurtenances to be attached to a street light pole within the City of Malden. Included with the petition are detailed plans that identify the location where ExteNet's proposed pole attachment will be placed.

ExteNet requests that the City schedule a public hearing on this petition, subject to the requirements of Massachusetts General Laws, Section 22. Those requirements prescribe that the City provide written notice to all owners of real estate, abutting that part of each street upon or across which, wires appurtenances are proposed to be located. It is my understanding that the City Assessor will be able to produce this list, and I will work with the City Clerk to ensure the letters are sent per the requirements of the Town.

For the convenience of the City Council, ExteNet has provided a proposed form of order.

Should you have any questions, or would like any additional information prior to the Public hearing please do not hesitate to contact me at (617) 680-5464. I will be present at the public hearing to answer any questions you may have as well.

Thank you,



Keenan Brinn

NB+C Contractor as agent for ExteNet Systems, Inc.

PETITION FOR LOCATIONS FOR TELECOMMUNICATIONS WIRES AND APPURTENANCES

To the CITY COUNCIL OF THE CITY OF MALDEN, MASSACHUSETTS

Pursuant to Massachusetts General Laws, Chapter 166 and the City Ordinance of the City of Malden, Massachusetts, EXTENET SYSTEMS, INC., requests that it be granted locations for and permission to construct and maintain telecommunications wires and appurtenances, including remote nodes and pole top antennas; to be attached to existing streetlight poles, located upon and along the following public ways within the City of Malden, as indicated on the attached plans.

Wherefore, Petitioner requests that, after due notice and hearing as provided by law, that it be granted locations for and permission to construct the telecommunications wires and appurtenances upon and along the public ways within the City of Malden, shown on the plan, filed herewith. ExteNet Systems, Inc. also submitted additional information in support of this petition.

Respectfully submitted,

ExteNet Systems, Inc.

By: Keenan Brinn
NB+C Consultant

REGULATORY STATUS OF EXTENET SYSTEMS, INC.

Description of ExteNet Services and Facilities

ExteNet's primary telecommunications service offering is point-to-point transport of Radio Frequency ("RF") signals for Wireless Service Provider (WSP) customers via ExteNet's antenna system networks which are generally constructed with a number of remote communications nodes that are located to meet the specified needs of one or more WSP customers and connected by fiber optic cabling to a network hub facility containing communications head-end equipment that, in turn, provides bi-directional RF-optical signal conversion and interconnectivity between the network and the WSP customers' base transceiver station or other equipment. These services can be deployed to address long-standing service coverage problems such as "dead spots" in WSPs' cellular and/or PCS networks, and to enhance the WSPs' call-handling capability in the same service areas. ExteNet's network services can also improve wireless access to emergency services.

ExteNet's network telecommunications facilities consist of three primary components:

1. remote communications nodes comprising low elevation, low power equipment (signal converters, transceivers and antennas), to transmit, receive and convert optical signals to RF signals and RF signals to optical signals bi-directionally, typically mounted on existing utility poles;
2. fiber optic cables also typically attached to existing utility poles, but sometimes placed underground in existing or new conduits; and
3. the network head-end equipment, which is typically housed in a hub facility located within or on premises leased from private parties or municipalities.

These primary network elements are supported by various items of ancillary equipment, e.g., primary and back-up power supplies, connectors, enclosures, mounting hardware, etc. Each of these components is integral to any given ExteNet network.

The network equipment employed by ExteNet is not dissimilar in size, weight or overall appearance to items routinely installed on utility poles by Verizon and other telecommunications and electric service providers. For example, ExteNet's communications nodes and battery back-up facilities attached to poles are not unlike power supply boxes attached to poles by cable providers and other providers of telecommunications services. Pole top appurtenances, such as pole top antennas and extenders, also have been installed from time to time by utilities. As discussed below, the combination of wired and wireless technology to transport and deliver telecommunications services has been employed by Verizon and other regulated telecommunications service providers to offer regulated intrastate telecommunications services.

ExteNet's Regulatory Status as a Telecommunications Service Provider

ExteNet is a Regulated Provider of Intrastate Telecommunications Services Subject to the Requirements of the Massachusetts Department of Telecommunications and Cable and not an Unregulated Provider of Wireless services.

ExteNet is registered with the Massachusetts Department of Telecommunications and Cable ("DTC"), formerly the Department of Telecommunications and Energy ("DTE") as a provider of intrastate telecommunications services. ExteNet has a tariff on file with the DTC. ExteNet is listed on the DTC website as a regulated provider of telecommunications services.

The DTC recognizes ExteNet and similar entities as regulated providers of telecommunications services, subject to its regulation under General Laws Chapters 159 and 166, and related rules and orders. For example, ExteNet is required to adhere to DTC requirements relating to the filing of tariffs. Enclosed is a letter from Michael Isenberg, Director of the DTC, which confirms that ExteNet is and remains subject to DTC jurisdiction as a provider of intrastate telecommunications services.

ExteNet also has been recognized as a regulated provider of intrastate telecommunications services in a number of other states. To date, ExteNet has been authorized to provide intrastate telecommunications services in neighboring states such as Connecticut and Rhode Island, as well as in New York, California and numerous states in all regions of the country.

As a regulated provider of intrastate telecommunications services, ExteNet is authorized under G.L.C.166, §21 to place its wires and related equipment in public ways.

Applicable State Law

Municipal Approval of the Construction and Placement of ExteNet's Wires and Related Pole Attachments is governed by Massachusetts General Laws Chapter 166, Sections 21-22.

As a regulated provider of intrastate telecommunications services, ExteNet is authorized under Chapter 166, Section 21 to construct lines and other facilities upon, along, under and across the public ways. Such construction must not incommode the public use of public ways.

In order to obtain municipal permission to construct its telecommunications facilities in public ways, ExteNet must file a written petition with the selectmen of a City or the City Council of alderman or like body of a Town, such as the Malden City Council, pursuant to Chapter 166, Section 22. This same process has been employed routinely by carriers in the case of Verizon, Eversource National Grid, in the case of poles, wires, conduits and related appurtenances. In carrying out the permit-granting authority conferred by the General Court, municipalities act as public officers under a delegation of power from the General Court and not as agents of the municipality. Municipalities may adopt reasonable regulations for the erection of facilities by telecommunications carriers having authority to place their facilities in or under public ways.

ExteNet stands ready, willing and able to comply with the reasonable requirements of the City under General Laws Chapter 166, Sections 21-22 and related requirements imposed by the City applicable to grants of location by the CityCity Council.



**COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND CABLE**

ONE SOUTH STATION
BOSTON, MA 02110
(617) 305-3580
www.mass.gov/dtc

DEVAL L. PATRICK
GOVERNOR

TIMOTHY P. MURRAY
LIEUTENANT GOVERNOR

DANIEL O'CONNELL
SECRETARY OF HOUSING AND
ECONOMIC DEVELOPMENT

DANIEL C. CRANE
DIRECTOR OF CONSUMER AFFAIRS
AND BUSINESS REGULATION

SHARON E. GILLET
COMMISSIONER

December 19, 2007

Aian D. Mandl, Esq.
Smith & Duggan LLP
Lincoln North
55 Old Bedford Road
Lincoln, MA 01773

Re: ExteNet Systems, Inc. Regulatory Status

Dear Mr. Mandl:

This letter verifies that ExteNet Systems, Inc. ("ExteNet") is an authorized provider of intrastate telecommunications services in Massachusetts, subject to state entry and tariffing requirements. ExteNet is duly registered with the Massachusetts Department of Telecommunications and Cable ("Department"). As required by M.G.L. c.159, §19 and the Department's entry policies, ExteNet has a valid registration statement and tariff on file with the Department, which permits it to conduct business in the Commonwealth.

Sincerely,

A handwritten signature in cursive script that reads "Michael Isenberg".

Michael Isenberg
Director
Competition Division

ADDITIONAL MATERIAL

PROJECT DESCRIPTION

The ExteNet Systems, Inc. open architecture antenna system will provide wireless voice and data transmission services for all Cellular and PCS Wireless Service Providers. The ExteNet system is an unobtrusive and aesthetically pleasing network architecture that supports all protocols (TDMA, CDMA, GSM, etc.) for all Wireless Service Providers.

Installed telecommunication facilities will include small remote nodes for transmitting RF signal, with an unobtrusive pole top antenna on light poles and utility poles.

The network will be installed using typical and commercially accepted methods. The proposed network will have two components for consideration.

The initial construction of the network deployment will be the actual node equipment installation. In each of the locations, there will be two primary components to each node installation. First, each location will have an antenna installed at the top of the pole. From each antenna installation, there will be two ½-inch diameter RF cables which will be attached to the utility pole using approved "U-Guard," which will carry the RF cable to the Radio and Power back-up modules, also mounted to the existing pole.

**PETITION OF EXTENET SYSTEMS, INC. FOR GRANT OF LOCATION TO INSTALL A
SMALL CELL WIRELESS TELECOMMUNICATIONS FACILITY**

To the **City Council of the City of MALDEN**, Massachusetts

Respectfully represents **EXTENET SYSTEMS, INC.** a company incorporated for the purpose of constructing and operating wireless communications systems that it desires to construct a small cell wireless telecommunications facility in the public way hereinafter specified.

WHEREFORE, your petitioner prays that, after due notice and hearing as provided by law, the City Council may by Order grant to your petitioner permission to construct, and a location for, such a small cell wireless telecommunications facility with necessary cables, said small cell wireless telecommunications facility to be located as shown on the plan made by **Network Building & Consulting** and filed herewith, on the following public way of said City:

In the public right-of-way at 319 Medford St., Malden, MA, Map 062, Block 210, Lot 018

W/O # _____

EXTENET SYSTEMS, INC.

BY _____
Keenan Brinn
Network Building & Consulting, LLC
Agent for Extenet Systems, Inc.

Dated this ____ day of _____, 2019

City of **MALDEN**, Massachusetts

Received and filed _____, 2019

**ORDER FOR GRANT OF LOCATION TO INSTALL A SMALL CELL WIRELESS
TELECOMMUNICATIONS FACILITY**

WHEREAS, **EXTENET SYSTEMS, INC.** has petitioned for permission to construct a small cell wireless telecommunications facility to be attached to a street light pole located on a public way of the City of Malden hereinafter specified, and notice has been given and a hearing held on said petition as required by law.

It is ORDERED that **EXTENET SYSTEMS, INC.** be and hereby is granted permission to construct and a location for, a wireless telecommunications facility with necessary wires and cables attached to a street light pole owned by National Grid, located in the public way at

319 Medford St., Malden, MA, Map 042, Block 210, Lot 018.

W/O # _____

All construction work under this Order shall be in accordance with the following conditions:

1. The small cell wireless telecommunications facility shall be located as shown on the plan made by **Network Building & Consulting Engineering Services** on file with said petition.
2. Said shall comply with the requirements of existing by-laws and such as may be adopted governing the construction and maintenance of such wireless telecommunications facilities.
3. All work shall be done to the satisfaction of the City Council or such officer or officers as it may appoint to supervise the work.

1 _____
2 _____
3 _____
4 _____
5 _____

City Council
City of Malden

CERTIFICATE

We hereby certify that the foregoing Order was adopted after due notice and a public hearing as prescribed by Section 22 of Chapter 166 of the General Laws and any additions thereto or amendments thereof, to wit: after written notice of the time and place of the hearing mailed at least seven days prior to the date of the hearing by the City Council to all owners of real estate abutting upon that part of the way or ways upon, along or across which the wireless telecommunications facility is to be constructed under said Order, as determined by the last preceding assessment for taxation, and a public hearing held on the ____ day of _____, 2019 at _____ in said City.

1 _____
2 _____
3 _____
4 _____
5 _____

City Council
City of Malden

CERTIFICATE

I hereby certify that the foregoing are true copies of the Order of the **City Council** of the City of **MALDEN**, Massachusetts, duly adopted on the ____ day of _____, 2019 and recorded with the records of location Orders of said City, Book _____, Page _____ and of the certificate of notice of hearing thereon required by Section 22 of Chapter 166 of the General Laws and any additions thereto or amendments thereof, as the same appear of record.

Attest: _____
Clerk of the City of **MALDEN**, Massachusetts



LATITUDE: 42.417712°
LONGITUDE: -71.077958°

NE-MA-BSTN2N01-TMO

NE-MA-BSTN2N01-02405 / NE2067BA_31LAB

PROPOSED SMALL CELL NODE

319 MEDFORD STREET, MALDEN, MA 02148
CITY OF MALDEN, MIDDLESEX COUNTY



Know what's below.
Call before you dig.

ENGINEERING FIRM



APPLICANT



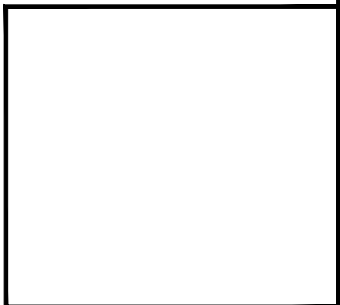
SITE INFORMATION

NE-MA-BSTN2N01-02405
TMO ID: NE2067BA_31LAB
319 MEDFORD STREET
MALDEN, MA 02148
MIDDLESEX COUNTY

DESIGN RECORD

REVISIONS			
REV	DATE	DESCRIPTION	BY
0	05/10/19	PRELIMINARY	CJL

PROFESSIONAL STAMP



ENGINEER

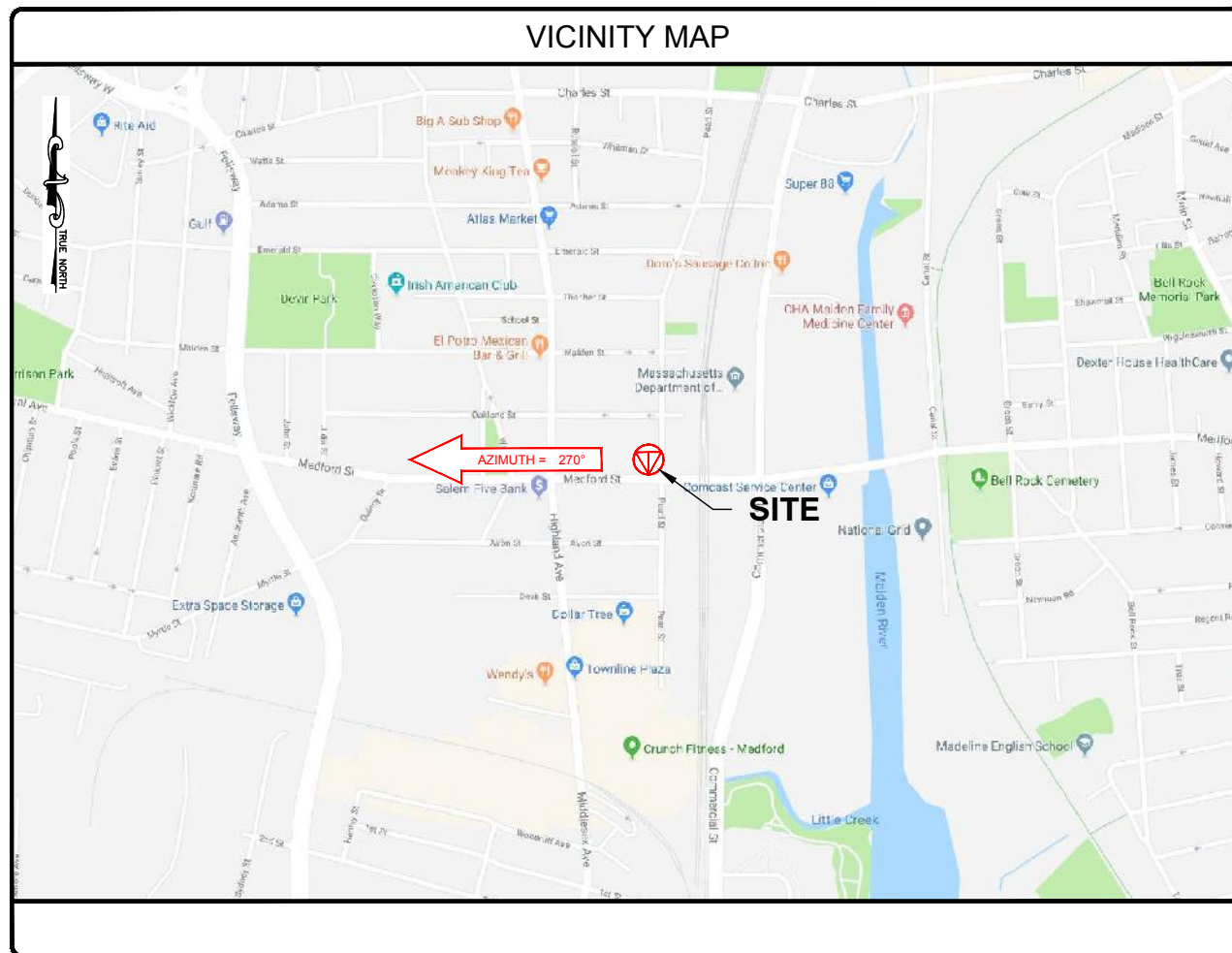
KRUPAKARAN KOLANDAIVELU, P.E.
MA PROFESSIONAL ENGINEER LIC. #50019

SHEET TITLE

TITLE SHEET

SHEET NUMBER

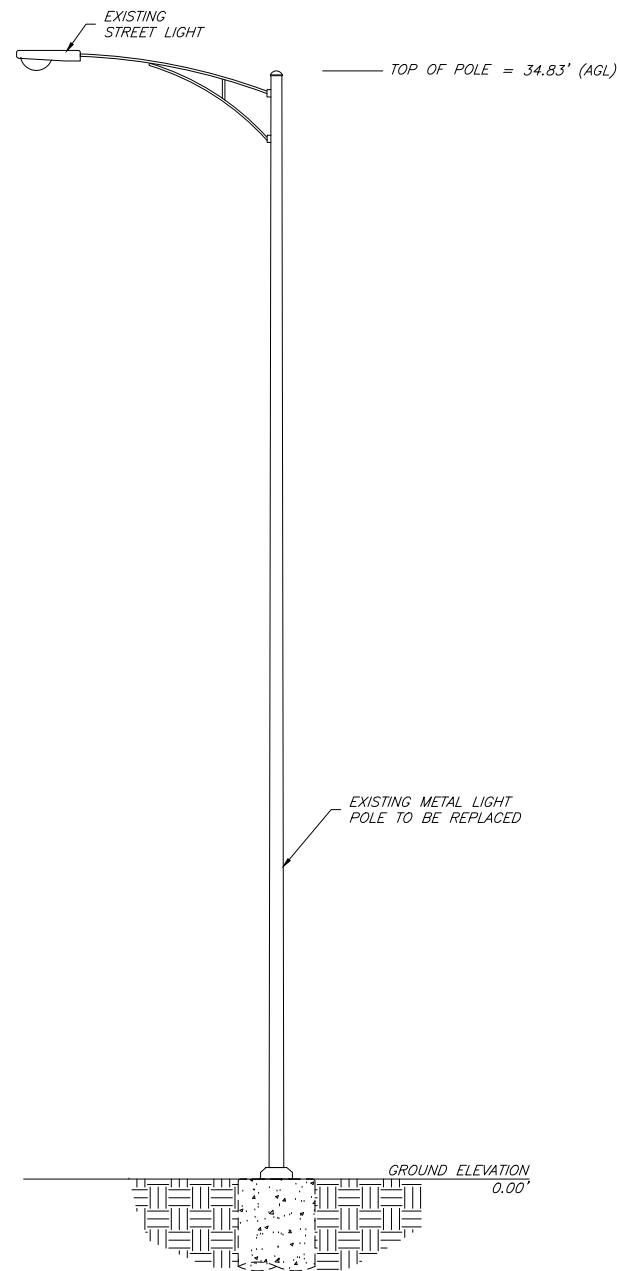
SHEET
01 OF 06



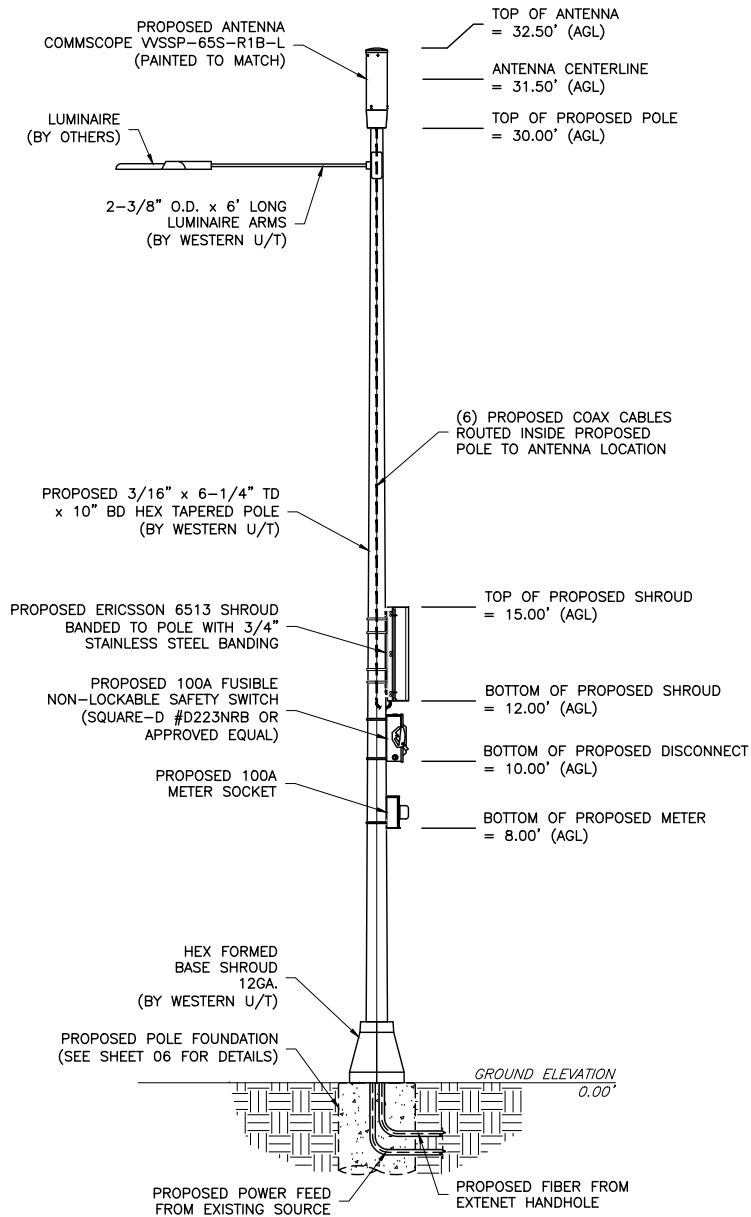
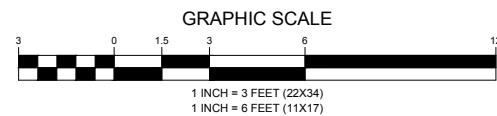
PROJECT INFORMATION	
PROJECT NAME:	NE-MA-BSTN2N01-TMO
POLE TAG:	17-907
	LATITUDE: 42.417712°
	LONGITUDE: -71.077958°
JURISDICTION:	CITY OF MALDEN MIDDLESEX COUNTY
EXTENET PROJECT MANAGER:	RICK ANGELINI 3030 WARRENVILLE RD, SUITE 340 LISLE, IL 60532 NOC: (866) 892-5327
HUB LOCATION:	HUB: NEH0004A 329 SECOND STREET EVERETT, MA 02149
ELECTRIC COMPANY:	NATIONAL GRID

CODE COMPLIANCE	
ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.	
<ul style="list-style-type: none"> 2015 INTERNATIONAL BUILDING CODE (MASSACHUSETTS AMENDED 9TH EDITION) 2017 NATIONAL ELECTRICAL CODE NFPA 1-2015 EDITION 2015 IFC - REFERENCE 527 CMR AMERICAN CONCRETE INSTITUTE AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL OF STEEL CONSTRUCTION 13TH EDITION 	<ul style="list-style-type: none"> ANSI/TIA-222-G TIA 607 INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEER 81 IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION TELECORDIA GR-1275 ANSI/T 311

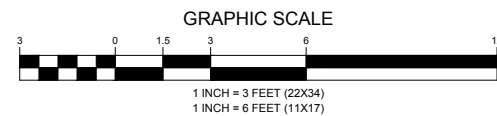
DRAWING INDEX	
01	TITLE SHEET
02	NOTES
03	ELEVATION
04	ANTENNA & EQUIPMENT DETAILS
05	ELECTRICAL & GROUNDING DETAILS
06	FOUNDATION DETAILS & NOTES



EXISTING ELEVATION (LOOKING WEST)



PROPOSED ELEVATION (LOOKING WEST)



EXISTING CONDITIONS

NOTES:

- ALL MATERIALS WILL MATCH CURRENTLY EXISTING MATERIALS AND WHERE NEEDED ANY RF FRIENDLY MATERIAL WILL BE PAINTED TO MATCH.
- IT IS ASSUMED THAT ALL PROPOSED UTILITIES WILL BE ROUTED BELOW GRADE TO THE PROPOSED INSTALLATION.
- EXTENET WILL PLACE SMALL PLACARD ON POLE IDENTIFYING OWNERSHIP/CONTACT INFORMATION.
- CONTRACTOR SHALL FIELD VERIFY SITE OR LAYOUT RESTRICTIONS, SITE CONDITIONS, DIMENSIONS, AND ELEVATIONS BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER OF RECORD PRIOR TO BEGINNING PROJECT. ALL WORK SHALL BE PERFORMED USING ACCEPTED CONSTRUCTION PRACTICES.
- NO FIELD MODIFICATIONS MAY BE MADE TO THE STRUCTURE WITHOUT THE EXPRESS WRITTEN CONSENT FROM THE ENGINEER OF RECORD. WESTERN UT, INC. AND ENGINEER OF RECORD ASSUME NO RESPONSIBILITY FOR THE STRUCTURE IF ALTERATIONS AND/OR ADDITIONS ARE MADE.
- THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH ALL LOCAL CODES, REGULATIONS, AND ORDINANCES AS WELL AS STATE DEPARTMENT OF INDUSTRIAL REGULATIONS AND DIVISION OF INDUSTRIAL SAFETY (OSHA) REQUIREMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT ALL WORK TO THE BEST OF HIS/HER ABILITY AND SKILL. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, AND SEQUENCES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL VERIFY, COORDINATE, AND PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR OTHER SUPPORTS FOR ALL ITEMS REQUIRING SAME, WHETHER SHOWN OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, FORMWORK, ETC., AND SHALL CONFORM TO ALL NATIONAL, STATE, AND LOCAL ORDINANCES AND CODES IN ORDER TO SAFELY EXECUTE ALL STAGES OF WORK TO COMPLETE THIS PROJECT.
- CONTRACTOR ASSUMES RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES. THIS REQUIREMENT APPLIES CONTINUOUSLY, AND IS NOT LIMITED TO NORMAL WORKING HOURS.
- CONTRACTOR TO HOLD ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN. THE CONTRACTOR IS FINANCIALLY RESPONSIBLE FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK ON THIS PROJECT.

ENGINEERING FIRM

NB+C
TOTALLY COMMITTED.

NB+C ENGINEERING SERVICES, LLC.
100 APOLLO DRIVE, SUITE 303
CHELMSFORD, MA 01824
(978) 856-8308

APPLICANT

extenet
SYSTEMS
YOUR NETWORK EVERYWHERE.

3030 WARRENVILLE ROAD, SUITE 340
LISLE, IL 60532
(630) 505-3800

SITE INFORMATION

NE-MA-BSTN2N01-02405
TMO ID: NE2067BA_31LAB
319 MEDFORD STREET
MALDEN, MA 02148
MIDDLESEX COUNTY

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
0	05/10/19	PRELIMINARY	CJI

PROFESSIONAL STAMP

ENGINEER

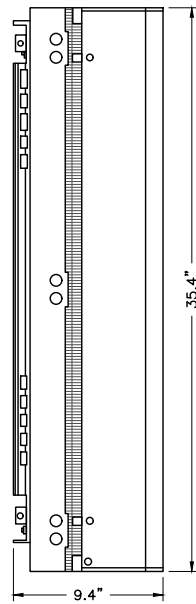
KRUPAKARAN KOLANDAIVELU, P.E.
MA PROFESSIONAL ENGINEER LIC. #50019

SHEET TITLE

ELEVATION

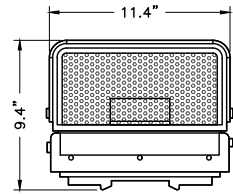
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SHEET
03 OF 06

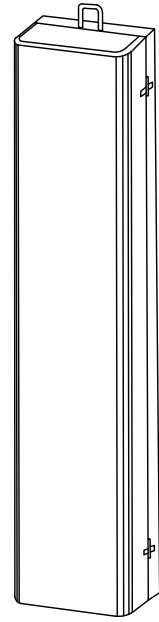


SIDE ELEVATION

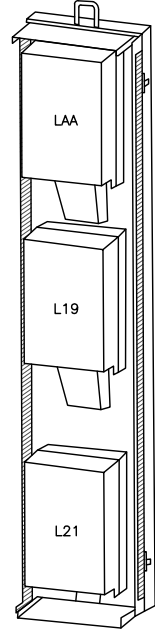
MECHANICAL SPECIFICATIONS
 ERICSSON PART# - ENCLOSURE 6513
 HEIGHT: 35.4 IN
 WIDTH: 11.4 IN
 DEPTH: 9.4 IN
 WEIGHT: 29.8 LBS (ENCLOSURE ONLY)
 WEIGHT: 71.4 LBS (FULLY EQUIPPED)



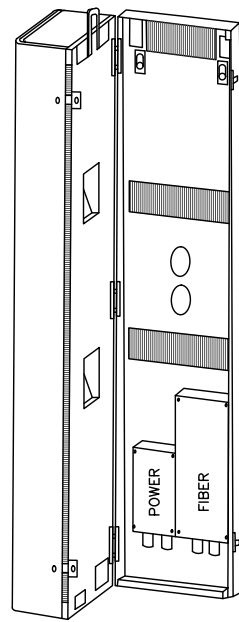
BOTTOM PLAN



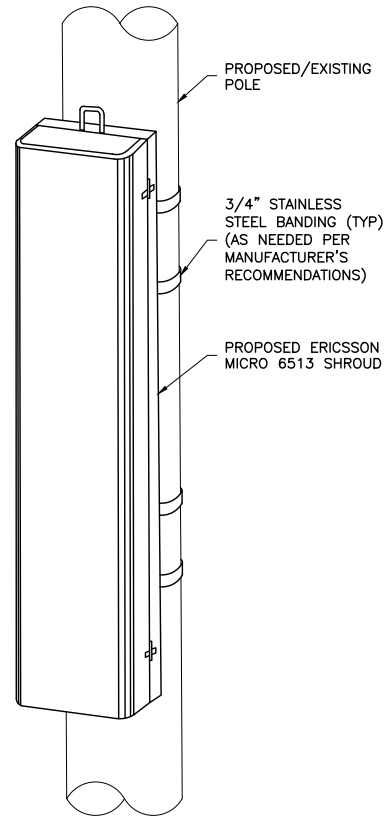
FRONT CLOSED ELEVATION



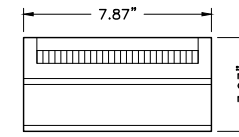
FRONT INTERIOR ELEVATION



BACK INTERIOR ELEVATION

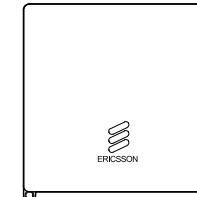


2 EQUIPMENT MOUNTING DETAIL
04 NTS

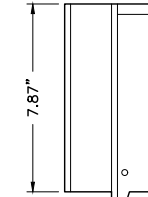


TOP VIEW

WEIGHT = 9.92LBS



FRONT ELEVATION

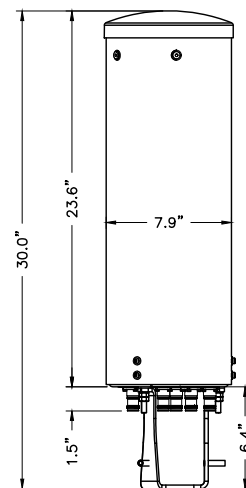


SIDE ELEVATION

ERICSSON RADIO				
2203 B66 & B25	AC: 100-250V	NORMAL VOLTAGE RANGE AT RADIO INPUT CONNECTOR DC: -36 TO -58.5	NOMINAL VOLTAGE: -48V DC	95W TYPICAL / 130W MAX
2205 B46	AC: 100-250V	NORMAL VOLTAGE RANGE AT RADIO INPUT CONNECTOR DC: -36 TO -58.5	NOMINAL VOLTAGE: -48V DC	75W TYPICAL / 130W MAX

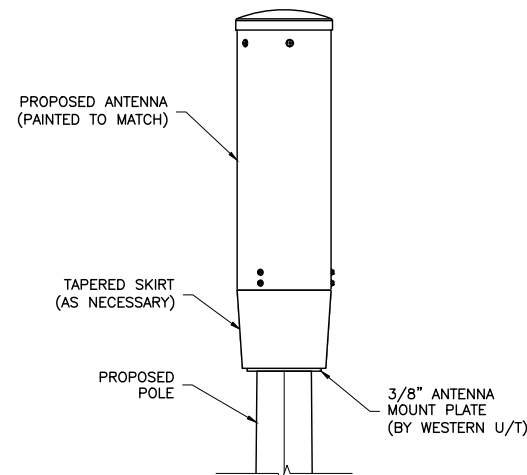
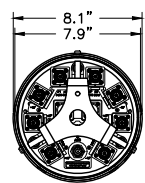
3 ERICSSON REMOTE RADIO UNIT (RRU)
04 NTS

1 ERICSSON MICRO 6513 SHROUD DETAIL
04 NTS

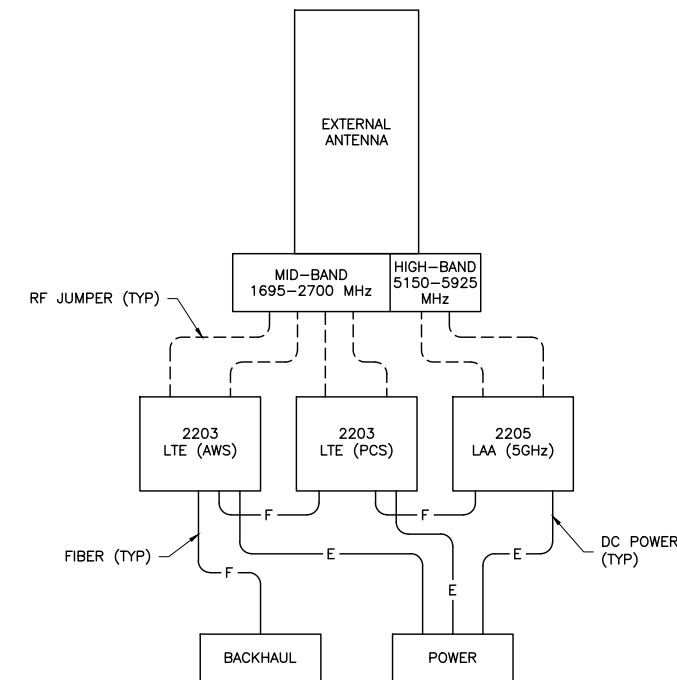


4 ANTENNA DETAIL
04 NTS

MECHANICAL SPECIFICATIONS
 COMMSCOPE PART# - WVSSP-65S-R1B-L
 HEIGHT: 23.6 IN
 WIDTH: 7.9 IN
 WEIGHT: 13.0 LBS (WITHOUT MOUNT)



5 ANTENNA MOUNT DETAIL
04 NTS



6 WIRING DIAGRAM
04 NTS

ENGINEERING FIRM

NB+C
 TOTALLY COMMITTED.
 NB+C ENGINEERING SERVICES, LLC.
 100 APOLLO DRIVE, SUITE 303
 CHELMSFORD, MA 01824
 (978) 856-8308

APPLICANT

extenet
 YOUR NETWORK. EVERYWHERE.
 SYSTEMS
 3030 WARRENVILLE ROAD, SUITE 340
 LISLE, IL 60532
 (630) 505-3800

SITE INFORMATION

NE-MA-BSTN2N01-02405
 TMO ID: NE2067BA_31LAB
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ENGINEER

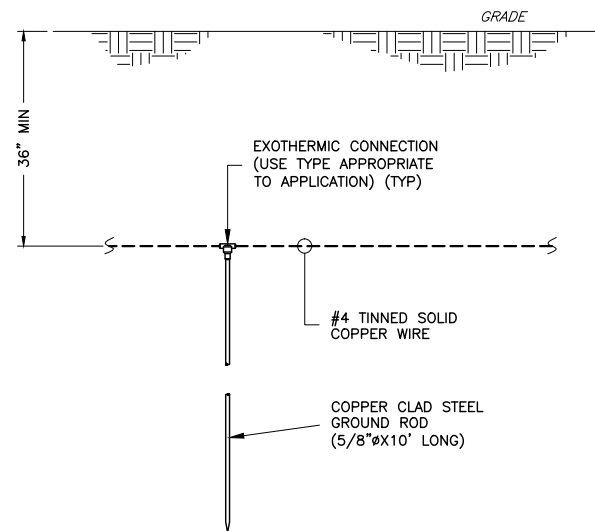
KRUPAKARAN KOLANDAIVELU, P.E.
 MA PROFESSIONAL ENGINEER LIC. #50019

SHEET TITLE

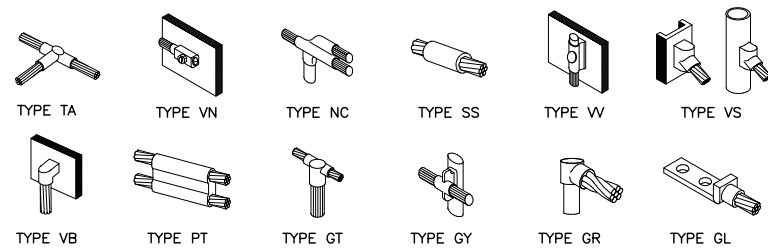
ANTENNA & EQUIPMENT DETAILS

SHEET NUMBER

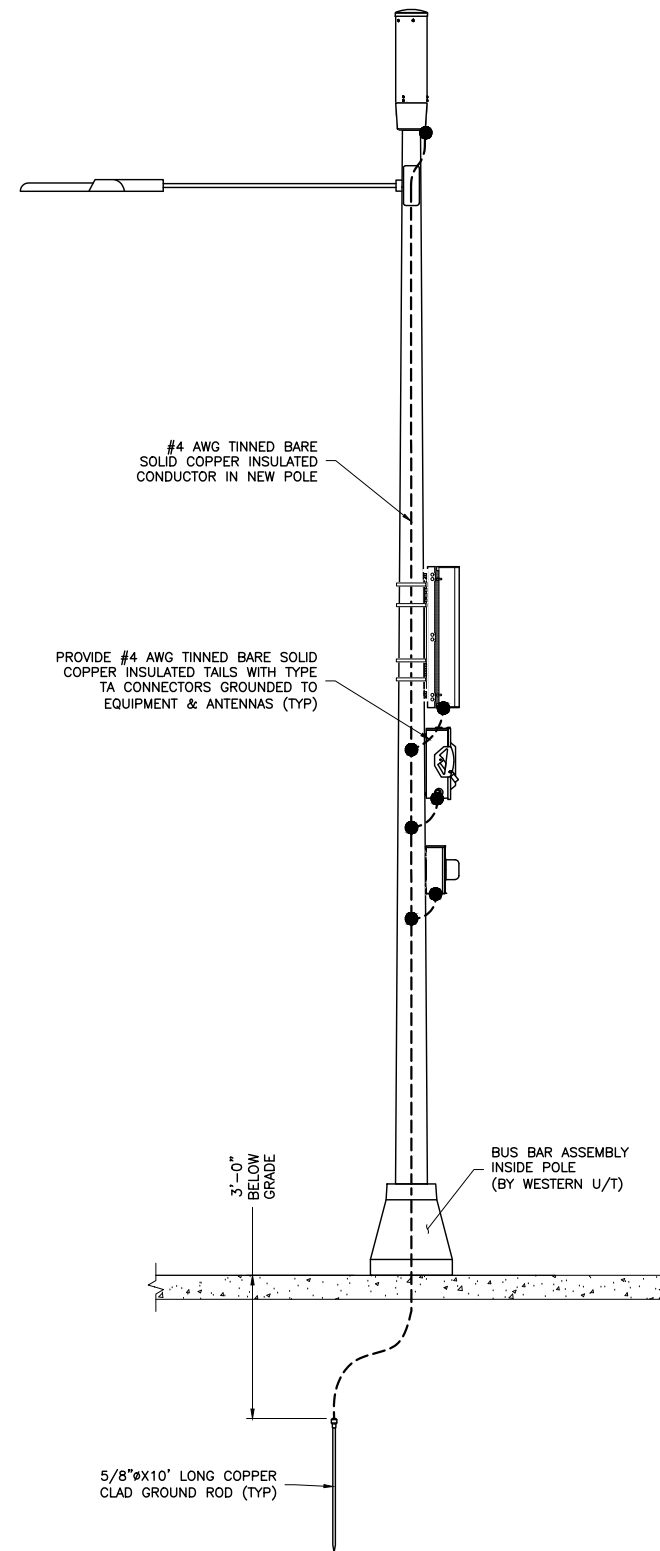
SHEET
04 OF 06



1 TYPICAL GROUND ROD DETAIL
05 NTS



2 GROUNDING CONNECTION DETAILS
05 NTS



3 ELECTRICAL & GROUNDING RISER DIAGRAM
05 NTS

NOTE:
EXISTING/PROPOSED UTILITY WIRES,
SIGNS, AND EXISTING EQUIPMENT
NOT SHOWN FOR CLARITY.

ENGINEERING FIRM

NB+C
TOTALLY COMMITTED.
NB+C ENGINEERING SERVICES, LLC.
100 APOLLO DRIVE, SUITE 303
CHELMSFORD, MA 01824
(978) 856-8308

APPLICANT

extenet
YOUR NETWORK
EVERYWHERE.
SYSTEMS
3030 WARRENVILLE ROAD, SUITE 340
LISLE, IL 60532
(630) 505-3800

SITE INFORMATION

NE-MA-BSTN2N01-02405
TMO ID: NE2067BA_31LAB
319 MEDFORD STREET
MALDEN, MA 02148
MIDDLESEX COUNTY

DESIGN RECORD

REVISIONS

REV	DATE	DESCRIPTION	BY
0	05/10/19	PRELIMINARY	CJI

PROFESSIONAL STAMP

ENGINEER

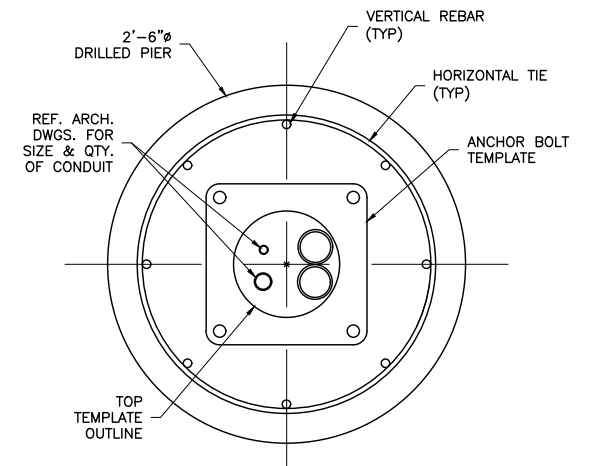
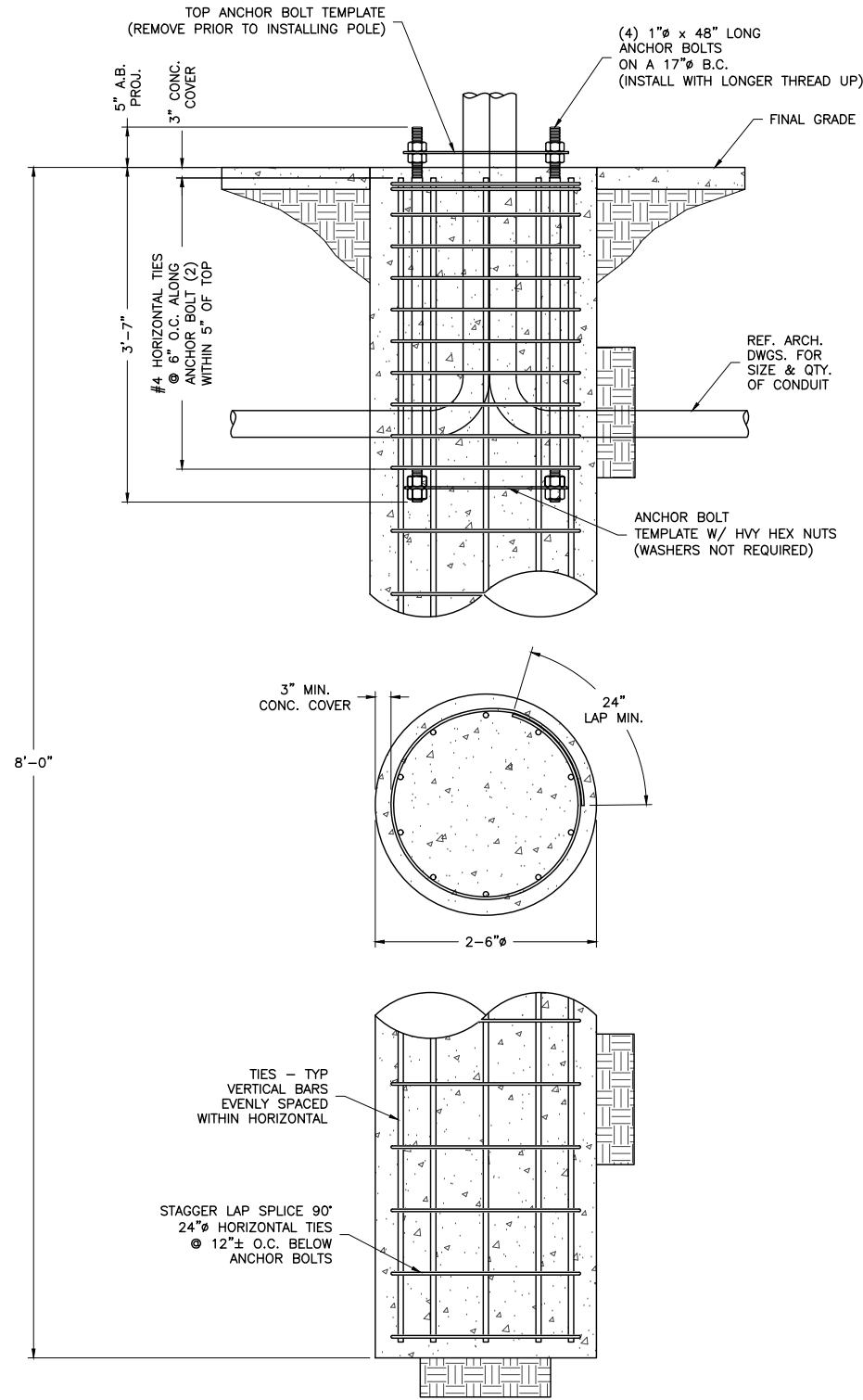
KRUPAKARAN KOLANDAIVELU, P.E.
MA PROFESSIONAL ENGINEER LIC. #50019

SHEET TITLE

**ELECTRICAL
& GROUNDING
DETAILS**

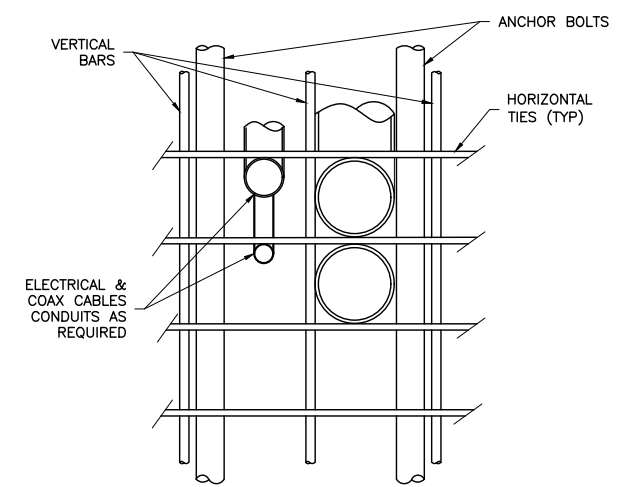
SHEET NUMBER

SHEET
05 OF 06



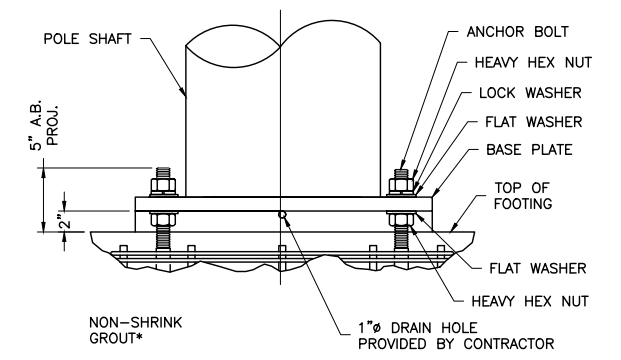
INSTALL CONDUIT IN CENTER OF CLUSTER TO CLEAR BASEPLATE

1 CONDUIT DETAIL @ PIER SEC.
06 NTS



ADJUST REBAR AS NEEDED TO ACCOMMODATE CONDUIT. SEE REINFORCEMENT SUMMARY FOR SIZE, QUANTITY AND LOCATION OF VERTICAL BARS AND HORIZONTAL TIES.

2 CONDUIT DETAIL
06 NTS



*NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI.

BASE PLATE SHALL NOT BE GROUTED UNTIL AFTER THE STRUCTURE HAS BEEN INSTALLED AND PLUMBED.

3 BASE GROUNDING DETAIL
06 NTS

GENERAL NOTES

- CONTRACTOR IS RESPONSIBLE FOR CHECKING AREA FOR UNDERGROUND FACILITIES PRIOR TO EXCAVATING ANY MATERIALS.
- CONTRACTOR SHALL INSPECT AND REMOVE ALL DEBRIS FROM BOTTOM OF EXCAVATION.
- CONTRACTOR SHALL VERIFY ANCHOR BOLT LAYOUT PRIOR TO, AND IMMEDIATELY AFTER PLACING CONCRETE. ANCHOR BOLT LAYOUT IS CRITICAL FOR MONOPOLE INSTALLATION.
- CONTRACTOR SHALL USE AND PROVIDE DEFORMED REINFORCING BARS CONFORMING TO ASTM A615 GR. 60 (60,000 PSI MIN. YIELD). CONTRACTOR SHALL USE STEEL WIRE TO HOLD REINFORCING BARS TOGETHER. IF WELDING REBAR IS PREFERRED, SUBSTITUTE USING A706 GR. 60 DEFORMED BARS.
- CONTRACTOR SHALL USE AND PROVIDE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI. CONCRETE SHALL USE 1" MAXIMUM STONE AGGREGATE MIX DESIGN: 6 1/2 SACKS OF CEMENT MINIMUM PER CUBIC YARD. 5" MINIMUM AND 7" MAXIMUM CONCRETE SLUMP.
- CONCRETE SHALL BE CONSOLIDATED USING VIBRATORY METHODS THROUGHOUT DEPTH OF FOUNDATION. VIBRATING LOWER DEPTHS MAY BE ACCOMPLISHED BY TOUCHING REBAR CAGE WITH VIBRATOR.
- CONTRACTOR SHOULD ANTICIPATE THE USE OF A FULL-LENGTH TEMPORARY CASING TO STABILIZE THE EXCAVATION. THE CASING SHALL BE WITHDRAWN DURING THE PLACEMENT OF CONCRETE IN THE EXCAVATED HOLE. CONCRETE SHALL BE PLACED USING CONVENTIONAL METHODS TO MINIMIZE SEGREGATION OF CONCRETE AND AGGREGATE. CONCRETE SHALL NOT FREE FALL MORE THAN 5 FT. CONCRETE MAY BE PLACED BELOW WATER USING TREMIE METHODS.
- CONCRETE SHALL BE PLACED TO THE DEPTH INDICATED, AND THE ABOVE GRADE PORTION SHALL BE FORMED. THE REBAR CAGE, ANCHOR BOLTS, AND CONCRETE SHALL BE PLACED WITHIN 24 HOURS OF COMPLETING THE EXCAVATION. COLD JOINTS ARE NOT ALLOWED.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ADEQUATE CONCRETE COVERAGE OVER REINFORCING BARS TO MINIMIZE CORROSION POTENTIAL. UNLESS OTHERWISE NOTED, CONTRACTOR SHALL USE 3" CONCRETE COVER OVER REBAR. TOP OF FOOTING SHALL BE TROWELLED LEVEL AND SMOOTH.
- DRILLED PIER FOUNDATION DESIGN PER 2009/2012 IBC, TABLE 1806.2, CLASS 4 MATERIAL.
- TOTAL VOLUME OF CONCRETE REQUIRED FOR THIS FOUNDATION IS APPROXIMATELY 1.5 CU. YDS.

FACTORED BASE REACTIONS

MOMENT	=	44.3 ft-kips
SHEAR	=	2.86 kips
VERTICAL	=	1.44 kips



SPECIAL INSPECTIONS

SPECIAL INSPECTION: THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTION PER 2009/2012 IBC, SECTION 1704

ITEM DESCRIPTION	INSPECTION BY	MATERIAL
1. PIER EXCAVATION LATERAL BEARING CAPACITY	SOILS ENGINEER	300 PSF/FT LATERAL
2. PIER CONSTRUCTION REINFORCING STEEL BAR SIZES AND INSTALLATION	SPECIAL INSPECTOR	ASTM A615 GR. 60
3. ANCHOR BOLTS BOLT SIZE AND LENGTHS INSTALLATION	SPECIAL INSPECTOR	ASTM F1554 GR. 55
4. CONCRETE TEST SPECIMENS PLACEMENT OF CONCRETE	SPECIAL INSPECTOR	f'c=4,000 PSI TYPE II CEMENT

FOUNDATION DESIGN PREPARED BY WESTERN UTILITY/TELECOM, INC.

DESCRIPTION	QTY.	SIZE	LENGTH	WEIGHT	OVERLAP
VERTICAL BARS	8	#6	7'-6"	90 LBS.	N/A
HORIZONTAL TIES	12	#4	8'-4"	67 LBS.	2'-0"

ENGINEERING FIRM	 TOTALLY COMMITTED. <small>NB+C ENGINEERING SERVICES, LLC. 100 APOLLO DRIVE, SUITE 303 CHELMSFORD, MA 01824 (978) 856-8308</small>								
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ENGINEER	<p>KRUPAKARAN KOLANDAIVELU, P.E. MA PROFESSIONAL ENGINEER LIC. #50019</p>								
SHEET TITLE	<p>FOUNDATION DETAILS & NOTES</p>								
SHEET NUMBER	<p>SHEET 06 OF 06</p>								