



Public Facilities Committee Agenda

City of Newton **In City Council**

Monday, May 20, 2019

6:30 PM – Please Note Early Start Time

Room 204

#116-19 **ExteNet Systems petition for wireless grant of location on Commonwealth Avenue**
EXTENET SYSTEMS, LLC petitioning for a grant of location to install a small cell wireless facility on an existing city-owned streetlight pole located in the right-of-way in the vicinity of 140 Commonwealth Avenue. The installation will include an antenna, radio equipment, an electric meter, and cabling for fiber and power to enhance wireless coverage in the area. (60-day action date: 06/02/19)

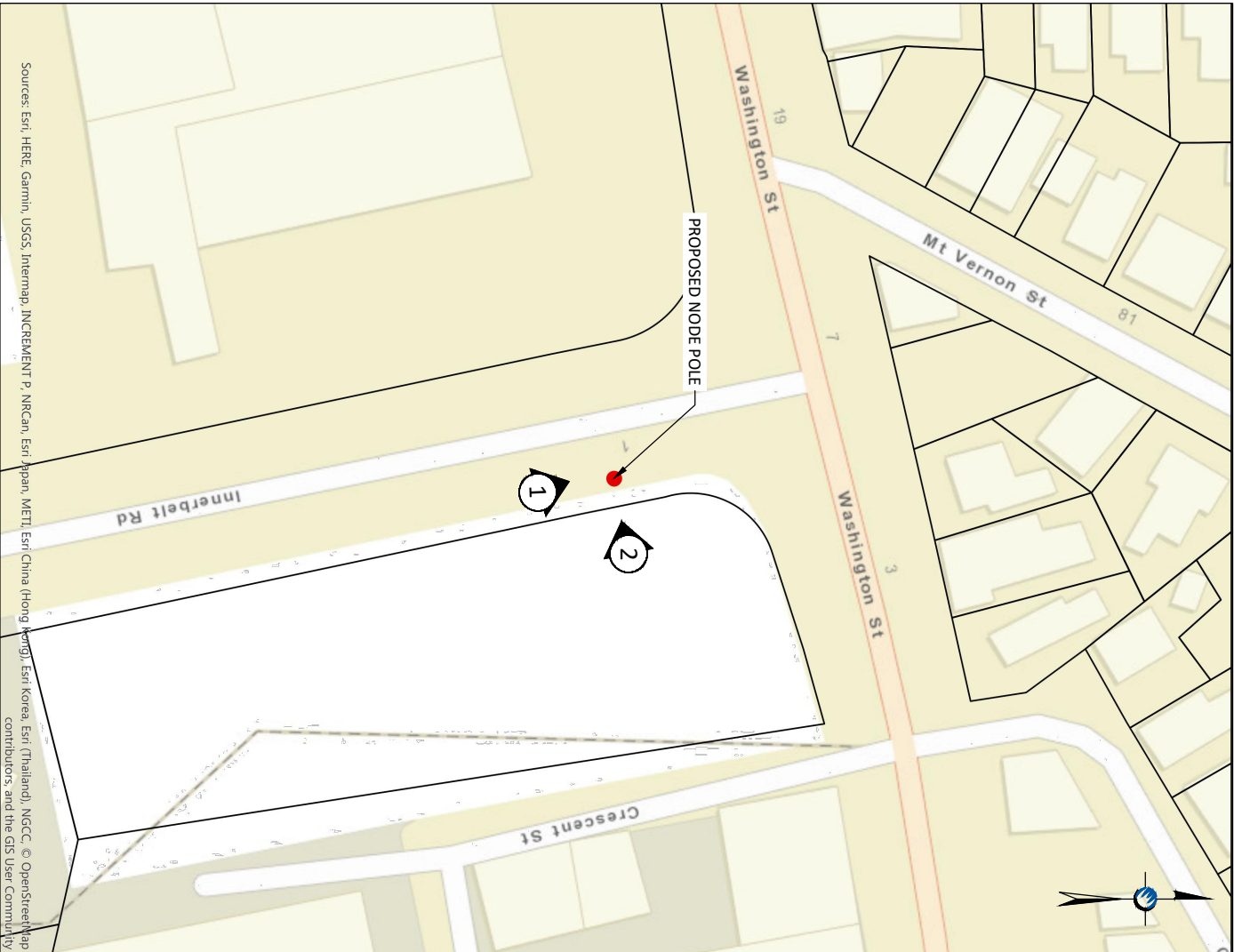
Respectfully submitted,

Deborah Crossley, Chair

The location of this meeting is accessible and reasonable accommodations will be provided to persons with disabilities who require assistance. If you need a reasonable accommodation, please contact the city of Newton's ADA Coordinator, Jini Fairley, at least two business days in advance of the meeting: jfairley@newtonma.gov or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.

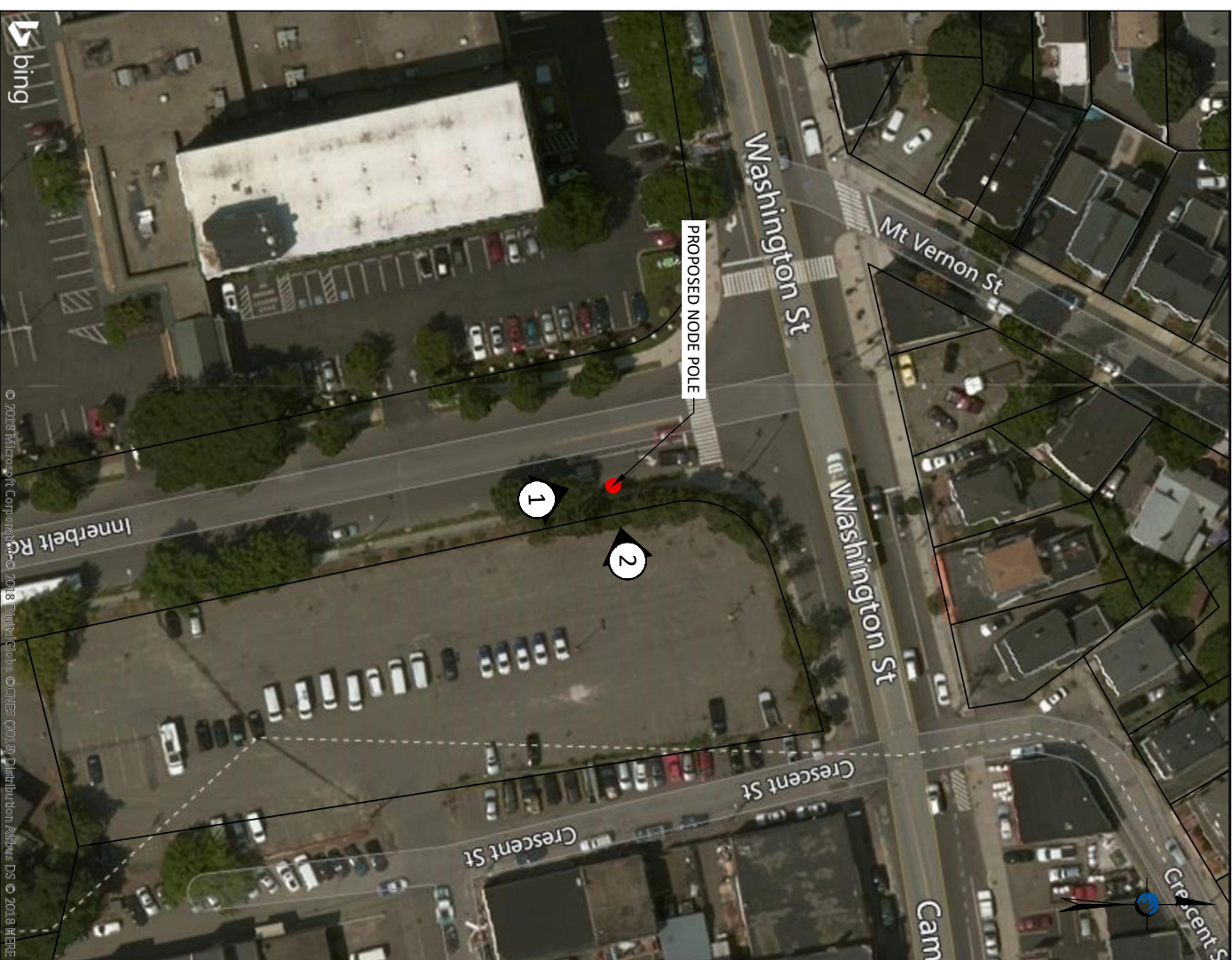
**EXTENET AT&T NODE ID #CRAN-RCTB-00006-01
INNER BELT SOMERVILLE, MA 02145
SITE MAPS**

NODE COORDS:
42.38176939
-71.08135963



LOCATION MAP

LATITUDE: 42.38176939° LONGITUDE: -71.08135963°
NTS



AERIAL MAP

LATITUDE: 42.38176939° LONGITUDE: -71.08135963°
NTS

LOCATION: INNER BELT ROAD
SOMERVILLE, MA 02145

NOTES:
EXISTING CITY STREET
LAMP
POLE#
E-NT/NT
T-NT/NT

PREPARED FOR:
extenet
YOUR NETWORK
EVERYWHERE
SYSTEMS

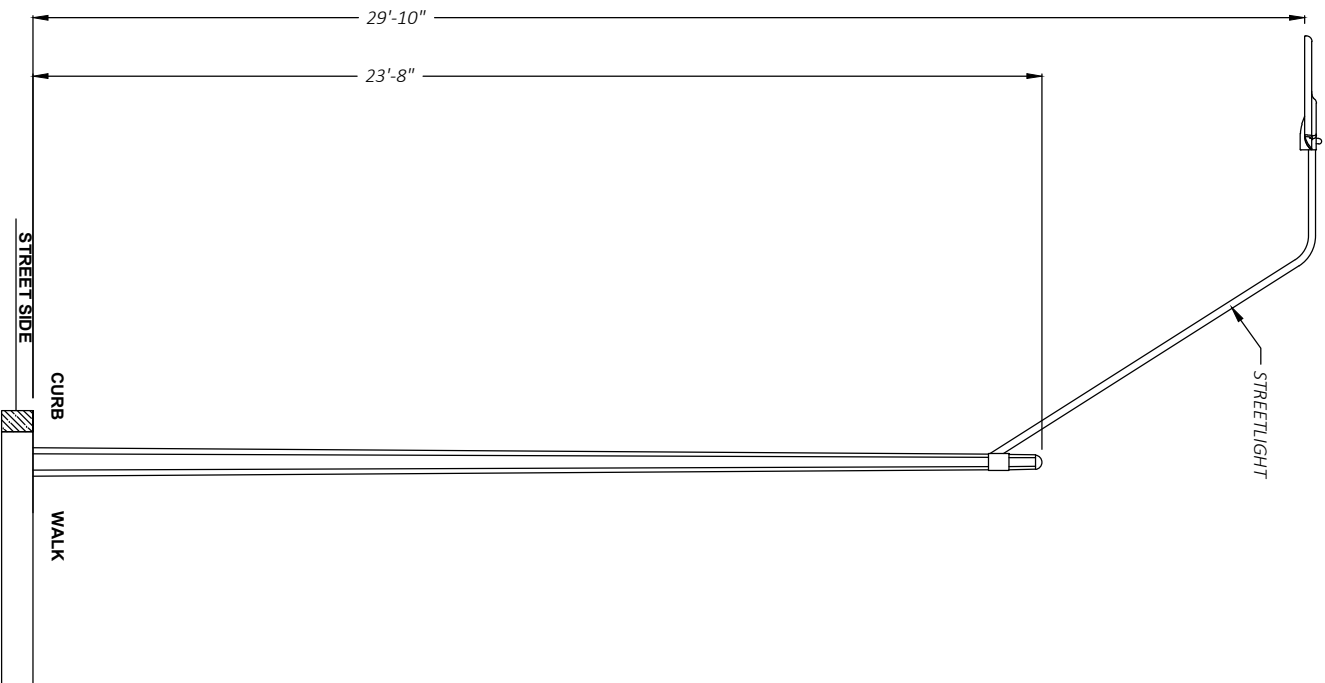


NODE ID#
CRAN-RCTB-00006-01
NE-MA-CMARD3M1-06001

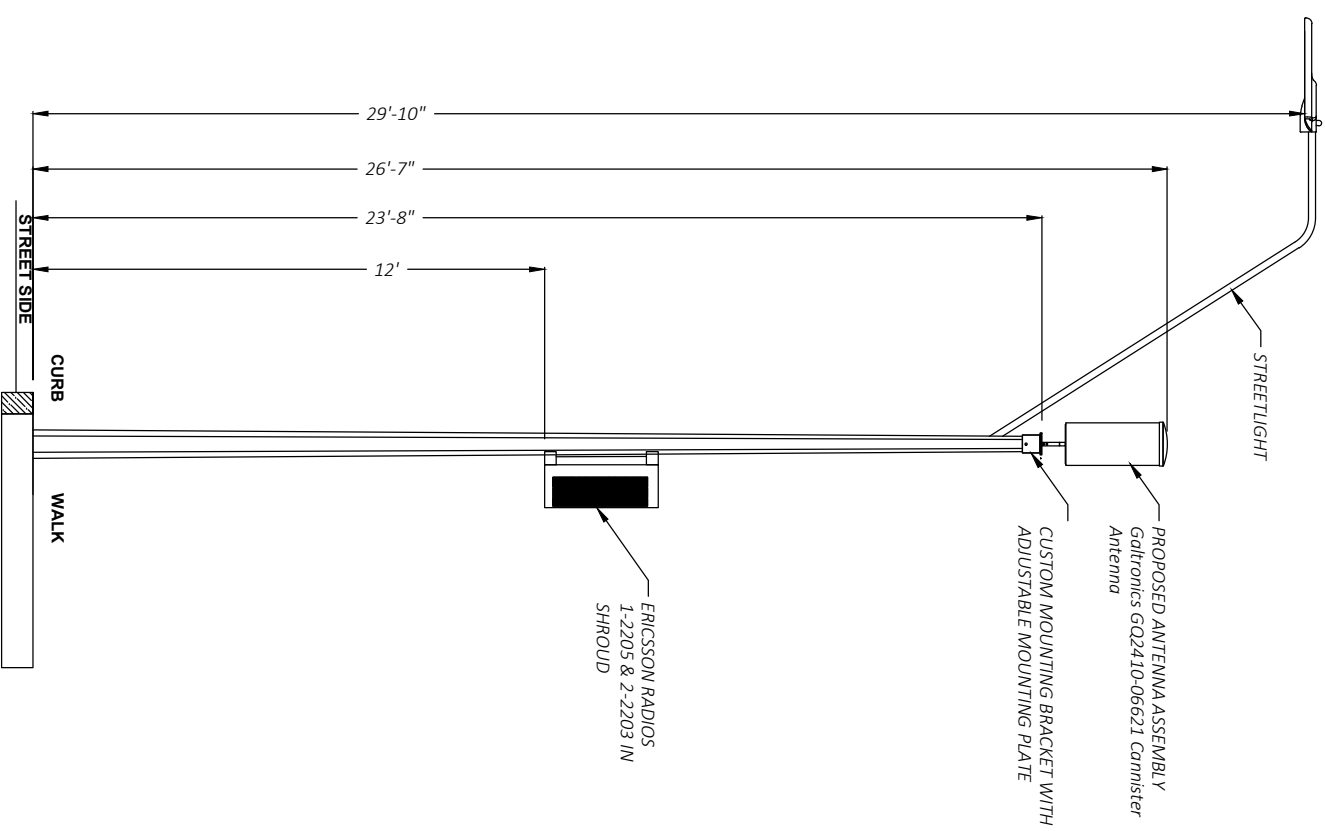
REV	REVISIONS	DATE
0	DESCRIPTION	

DRAFTER: BJA
SCALE: NTS
ISSUE DATE: 02/07/18
INDEX NAME:
SHEET #: 1 OF 5

INNER BELT ROAD
 AT&T NODE ID # CRAN-RCTB-00006-01
 SIDE VIEW
 DUAL OWNED EVERSOURCE/VERIZON
 E-NT/NT - T-NT/NT



1 EXISTING PROFILE - SIDE VIEW



1 PROPOSED PROFILE - SIDE VIEW

NODE COORDS:
 42.38176939
 -71.08135963

LOCATION:
 INNER BELT ROAD
 SOMERVILLE, MA 02145

NOTES:
 EXISTING CITY STREET
 LAMP
 POLE#
 E-NT/NT
 T-NT/NT

PREPARED FOR:
extenet
 YOUR NETWORK
 EVERYWHERE
 SYSTEMS

PREPARED BY:
Waveguide

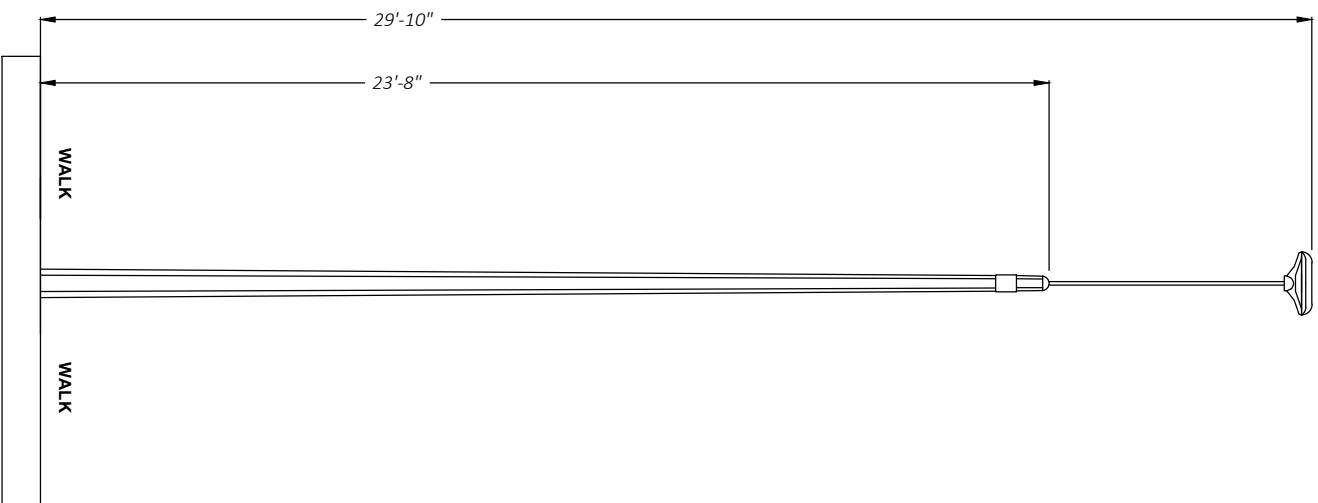
NODE ID#
 CRAN-RCTB-00006-01
 NE-MA-CMARD3M1-06001

REV	DESCRIPTION	DATE
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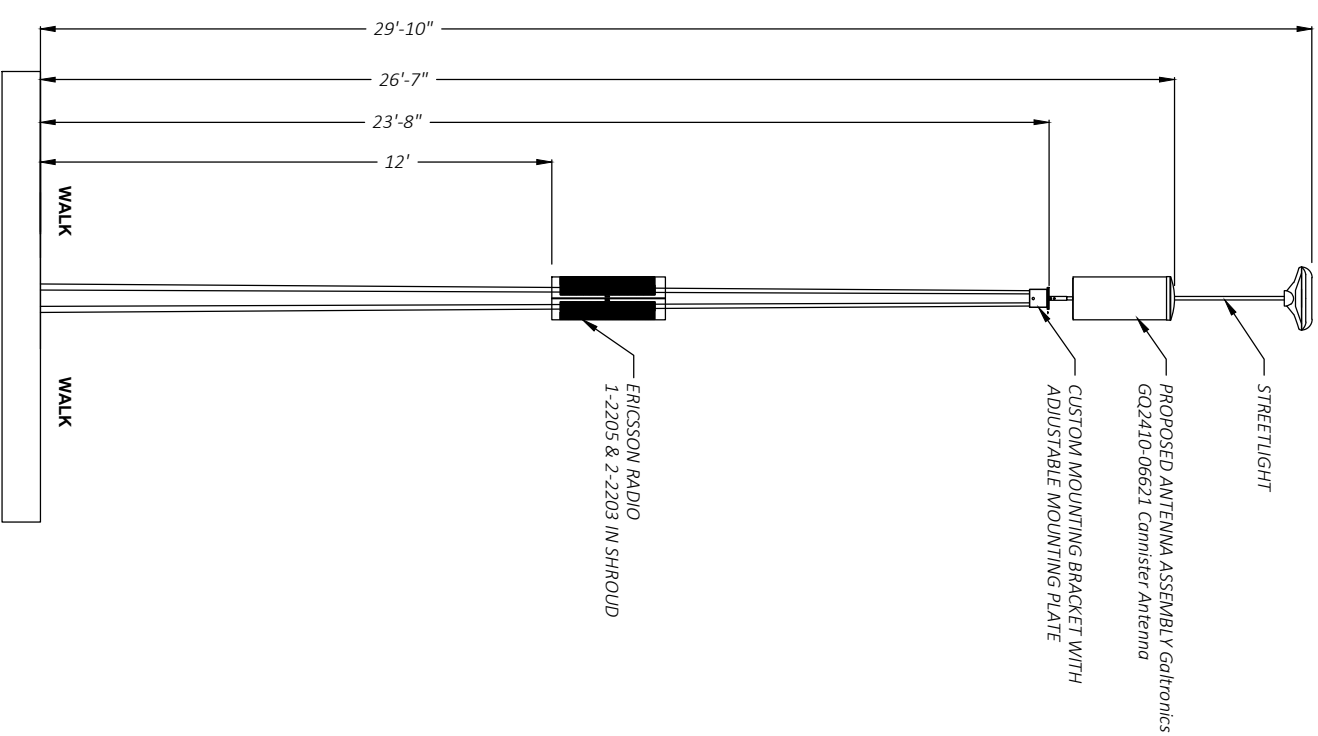
REVISIONS	DATE

DRAFTER: BJA
 SCALE: 1" = 4'
 ISSUE DATE: 02/07/18
 INDEX NAME:
 SHEET #: 2 OF 5

INNER BELT ROAD
 AT&T NODE ID # CRAN-RCTB-00006-01
 REAR VIEW
 DUAL OWNED EVERSOURCE/VERIZON
 E-NT/NT - T-NT/NT



2 EXISTING PROFILE - REAR VIEW



2 PROPOSED PROFILE - REAR VIEW

NODE COORDS:
 42.38176939
 -71.08135963

LOCATION:
 INNER BELT ROAD
 SOMERVILLE, MA 02145

NOTES:
 EXISTING CITY STREET
 LAMP
 POLE#
 E-NT/NT
 T-NT/NT

PREPARED FOR:
extene
 YOUR NETWORK
 EVERYWHERE
 SYSTEMS

PREPARED BY:

NODE ID#
 CRAN-RCTB-00006-01
 NE-MA-CMARD3M1-06001

REV	DESCRIPTION	DATE
0		

DRAFTER: BJA
 SCALE: 1" = 4'
 ISSUE DATE: 02/07/18
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 SHEET #: 3 OF 5

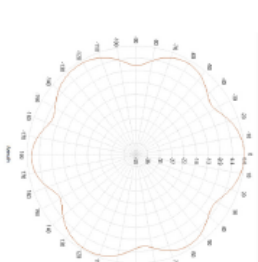


24" x 10" Pseudo Omni 10-Port Canister Antenna [1695-2360, 3550-3700 and 5150-5925 MHz]

GQ2410-06621

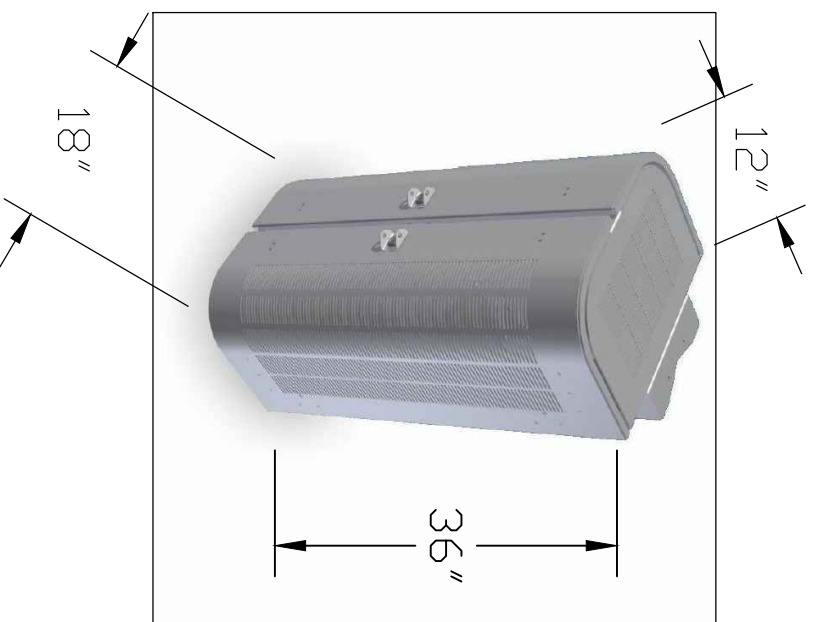
Description:

- Pseudo Omni Canister Antenna for Outdoor DAS and Small Cells.
- 4x ports for AWS/PCS/WCS Band 1695-2360 MHz
- 4x ports for CBRS Band 3550-3700 MHz
- 2x ports for UNII Band 5150-5925 MHz*



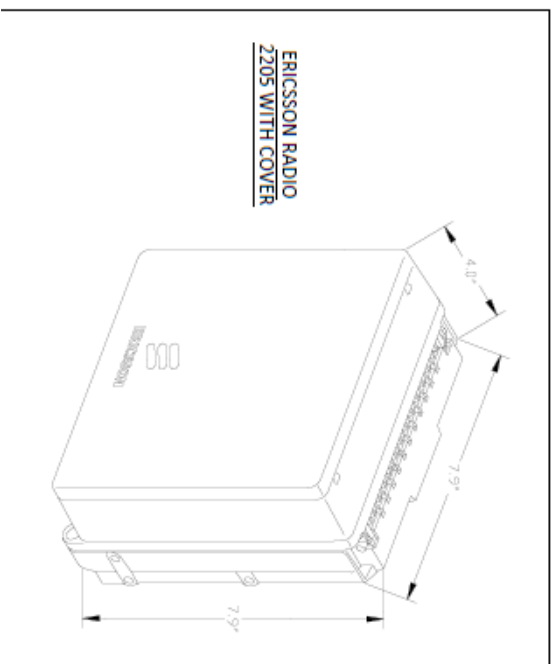
1695-2360, 3550-3700 and 5150-5925 MHz Pseudo Omni Canister Antenna

Mechanical Dimensions

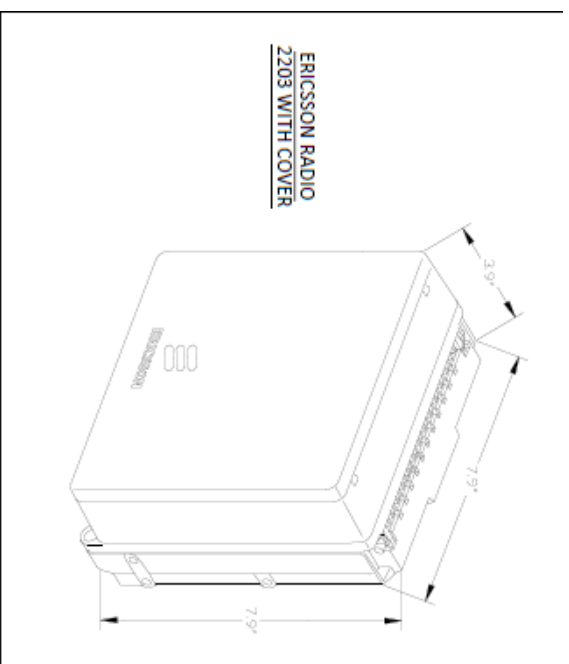


ERICSSON RADIOS (1) 2205 & (2) 2203 MOUNTED INSIDE OF ERICSSON CURVED SHROUD

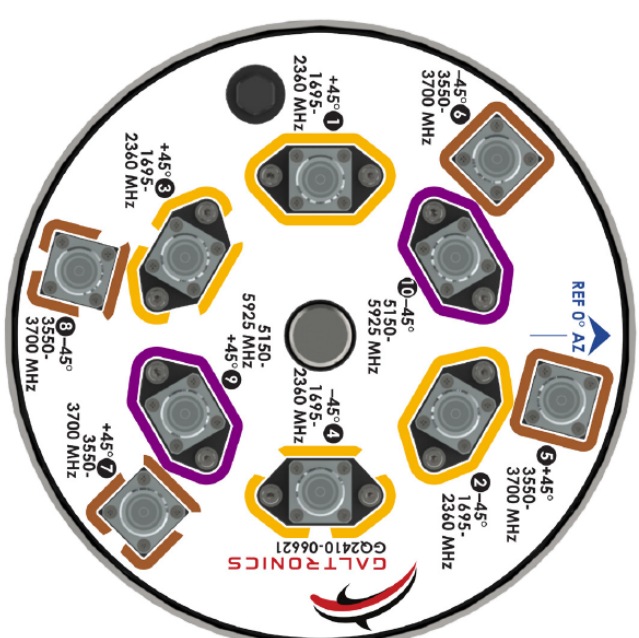
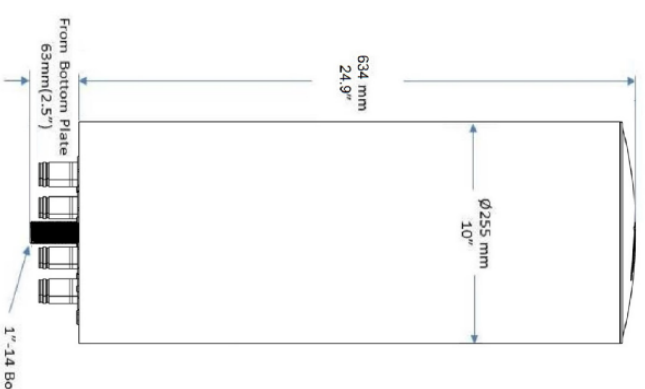
SCALE: NTS



ERICSSON RADIO 2205 WITH COVER



ERICSSON RADIO 2203 WITH COVER



Galtronics GQ2410-06621 Canister Antenna

SCALE: NTS

Pole Top Mounting Bracket (wind speed of 150 mph)		62-20-09
Bracket base attached directly to wood, metal and cement poles.		

CUSTOM ANTENNA MOUNTING BRACKET

SCALE: NTS

NODE COORDS:
42.38176939
-71.08135963

LOCATION: INNER BELT ROAD
SOMERVILLE, MA 02145

NOTES:
EXISTING CITY STREET
LAMP
POLE#
E-NT/NT
T-NT/NT

PREPARED FOR:
extenet
YOUR NETWORK
EVERYWHERE
SYSTEMS



PREPARED BY:
Waveguide

NODE ID#	CRAN-RCTB-00006-01	
REVISIONS	NE-MA-CMARD3M1-06001	
REV	DESCRIPTION	DATE
0		
DRAFTER: BJA		
SCALE: NTS		
ISSUE DATE: 02/07/18		
INDEX NAME:		
SHEET #: 4 OF 5		

NODE COORDS:

42.38176939
-71.08135963

LOCATION: INNER BELT ROAD
SOMERVILLE, MA 02145

NOTES:
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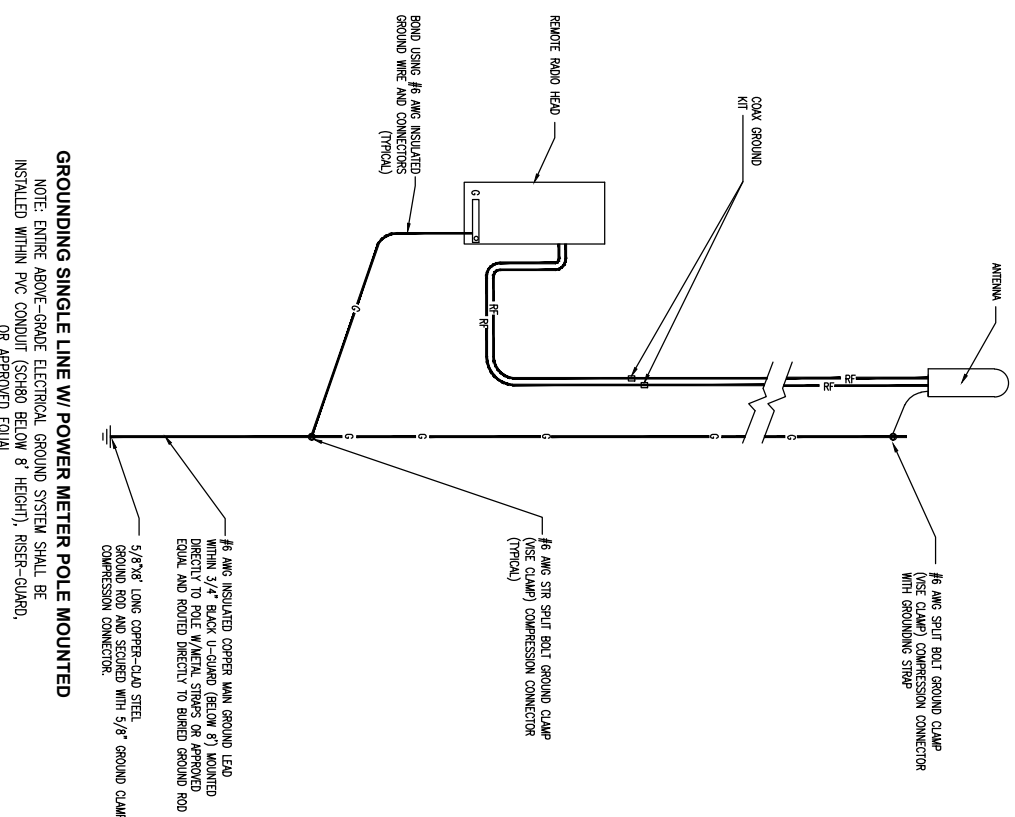
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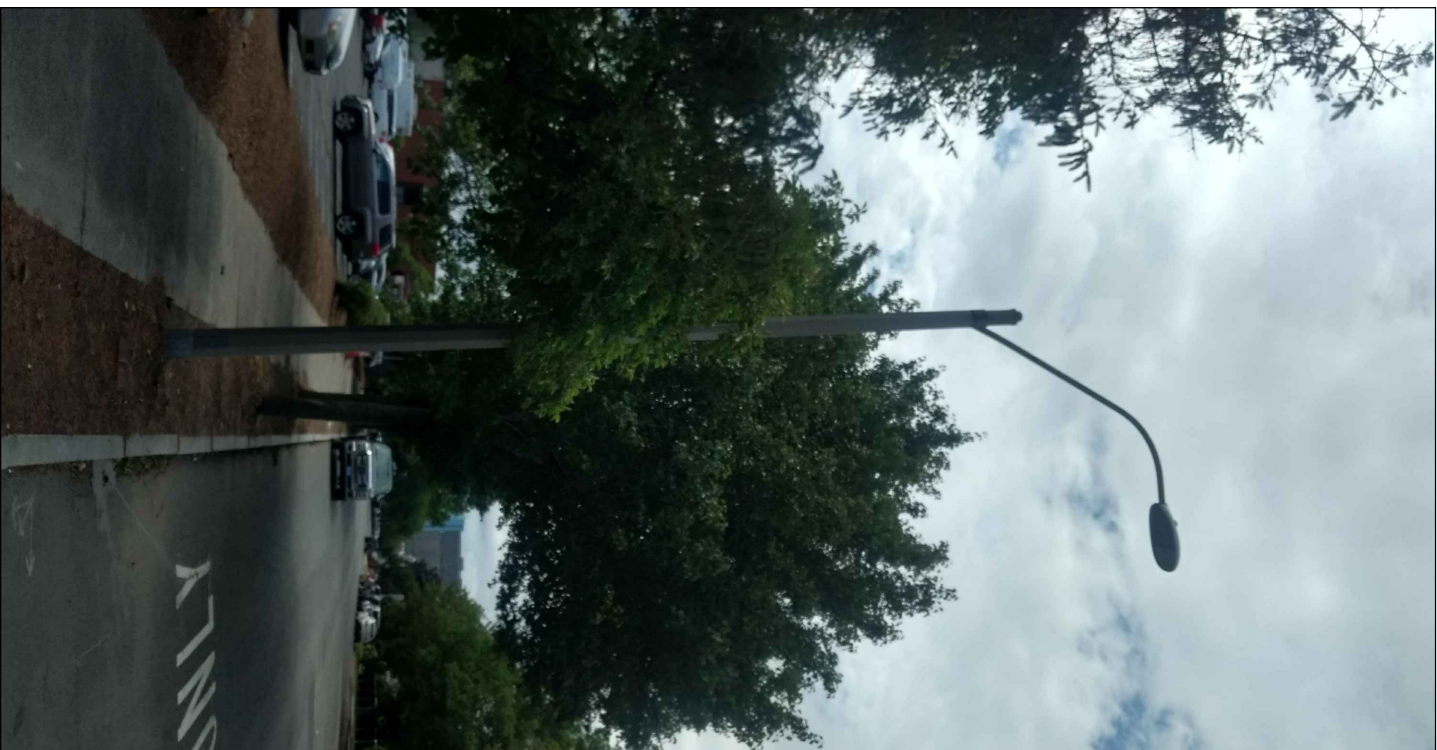
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NE-MA-CMARD3M1-06001

REV	DESCRIPTION	DATE
0		

DRAFTER: BJA
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INDEX NAME:
SHEET #: 5 OF 5



GROUNDING SINGLE LINE W/ POWER METER POLE MOUNTED
NOTE: ENTIRE ABOVE-GRADE ELECTRICAL GROUND SYSTEM SHALL BE INSTALLED WITHIN PVC CONDUIT (SCHED BELOW 8' HEIGHT), RISER-GUARD, OR APPROVED EQUAL



EXISTING LAMP POST
LOOKING WEST



STRUCTURAL DETAILS & FOUNDATION INSTALLATION

FOR A:

29"-0" HEXAGON ANTENNA / LIGHT POLE

LOCATED AT:

BOSTON NODE NETWORK

VARIOUS LOCATIONS
BOSTON, MA
SUFFOLK COUNTY



5032 SALEM DALLAS HWY
SALEM, OR 97304
Ph: 503-587-0101 Fax: 503-316-1864
WesternUtilityTelecom.com

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PROJECT NUMBER
18-0342

PROJECT
29"-0" HEXAGON ANTENNA / LIGHT POLE

LOCATION
BOSTON NODE NETWORK

VARIOUS LOCATIONS
BOSTON, MA
SUFFOLK COUNTY

ENGINEER SEAL



10-19-18

DRW BY: BS CHK BY: AM DATE: 10OCT18

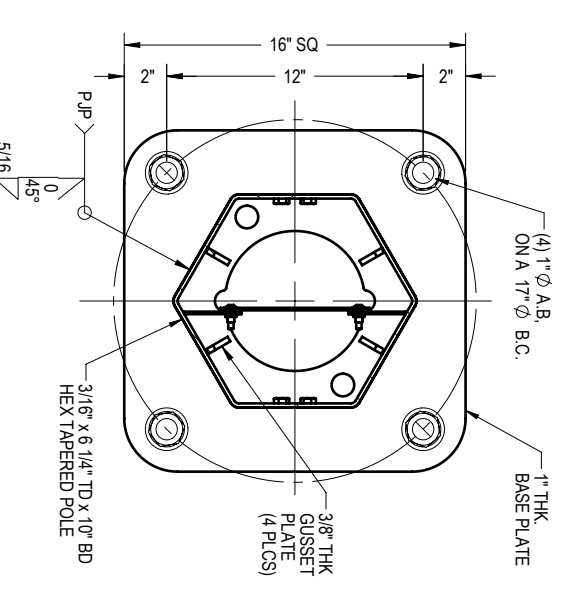
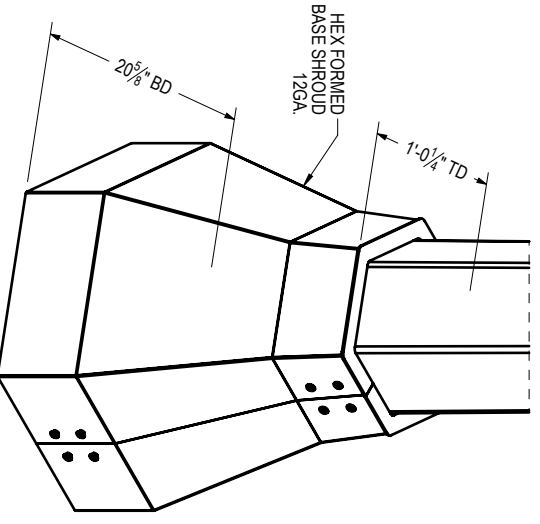
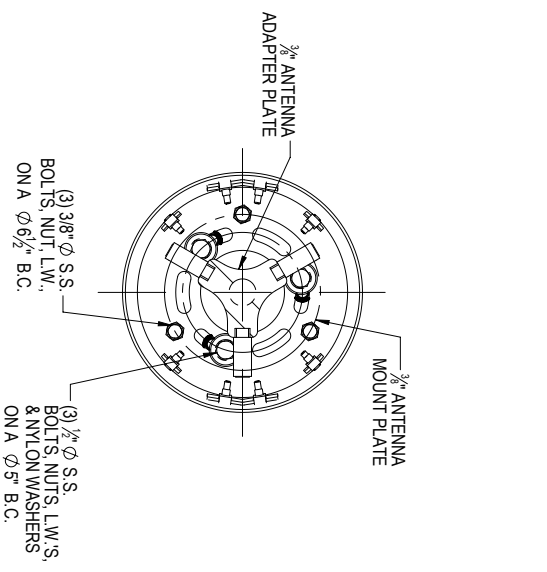
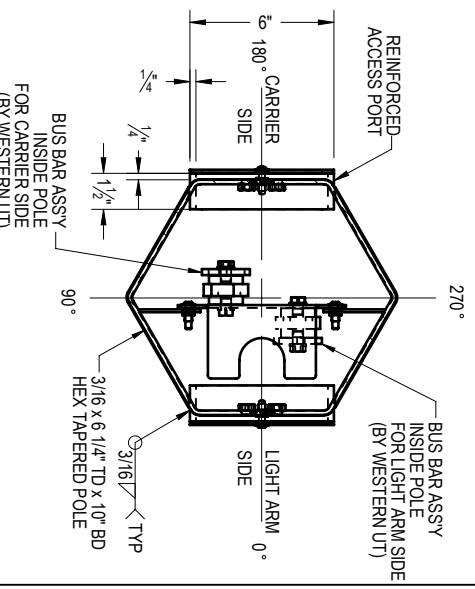
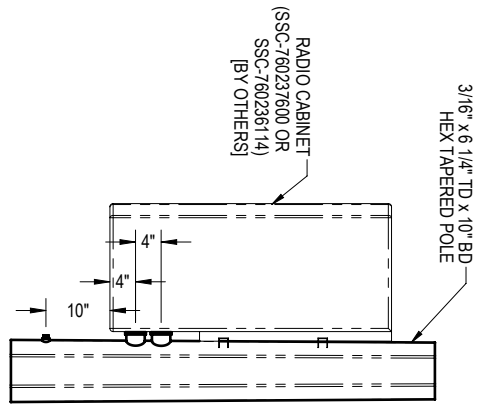
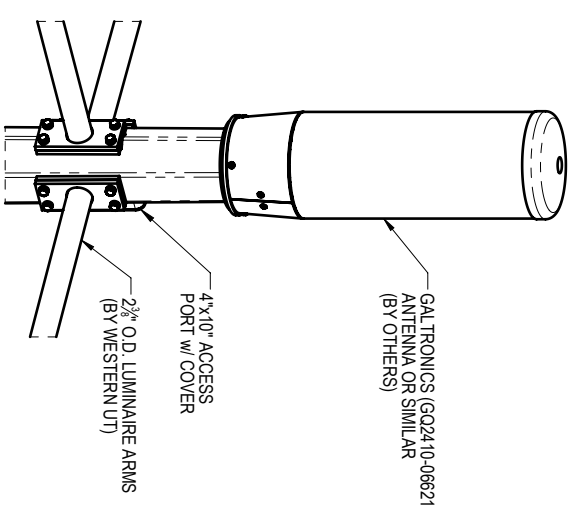
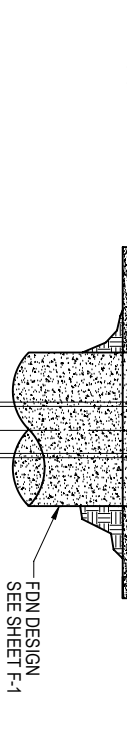
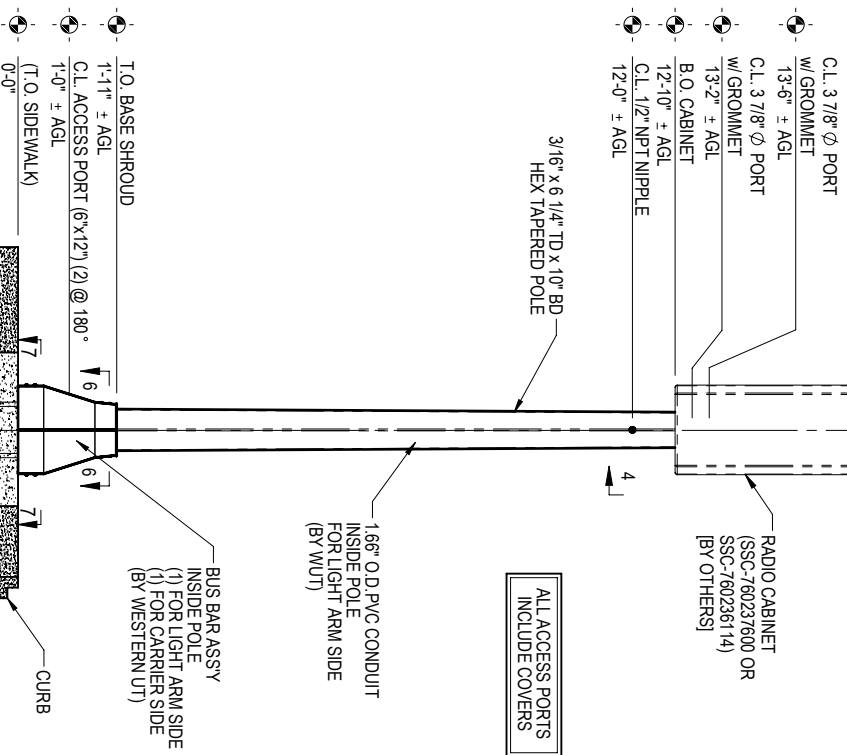
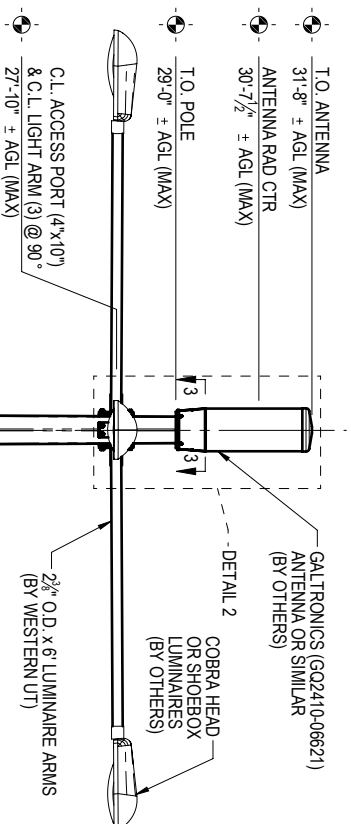
REV / CHANGES	REVISIONS	DATE	BY

ISSUED FOR
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SHEET TITLE
TITLE SHEET

DRAWING NUMBER
18342-PD (1)

PAGE NUMBER
T1



GENERAL DESIGN NOTES

- DESIGN NOTES AND MATERIAL REQUIREMENTS:
 1) THE DESIGN CRITERIA FOR THIS STRUCTURE IS AS FOLLOW:
 A) STANDARDS AND DESIGN CODES:
 INDUSTRY STANDARDS: ANSI / TIA 222-G-2 & 2012/2015 IBC
 STEEL MANUAL: AISC 13TH EDITION
 CONCRETE CODE: ACI 318-14
 WELDING CODE: ANSI / AWS D1.1-10
 B) DESIGN:
 WIND: (V₅₀) = 110 MPH (3-SECOND GUST) PER ANSITIA 222-G & 2012/2015 IBC. (SECTION 1609.1.1, EXCEPT 5)
 CLASSIFICATION OF STRUCTURE: II
 TOPOGRAPHIC CATEGORY: C
 (V_{ULT}) = 142 MPH (3-SECOND GUST) PER 2012/2015 IBC. SECTION 1609.3.1
 SEISMIC: PER 2012/2015 IBC SECTION 1613, ASCE 7-09/7-10 SECTIONS 15.1.3 & 12.8
 C) DESIGN LOADING:
 (1) - GALTRONICS GQ2410-06621 ANT. RAD CTR. @ 30'-7 1/2" ± AGL
 (3) - 6" TALL x LONG BOX LT. ON 6" LT ARM. C.L. @ 27'-10" ± AGL
 (1) - 44" TALL x 21" CABINET. C.L. 20'-0" ± AGL
 (1) - 54" TALL x 24" WIDE BANNER ARM C.L. @ 14.7' ± AGL
 D) FACTORED BASE REACTIONS
 OVERTURNING MOMENT = 44.3 foot-kips
 BASE SHEAR = 2.86 kips
 VERTICAL = 1.44 kips
 2) GENERAL STRUCTURAL NOTES:
 A) ALL MATERIALS SHALL CONFORM TO THE FOLLOWING STANDARDS:
 POLE SHAFT: ASTM A572 GR 50
 BASE PLATE: ASTM A572 GR.50
 PLATES: ASTM A36
 PORTS: ASTM A36
 WELDS: E70XX ELECTRODES
 BOLTS: ASTM A325
 ANCHOR BOLTS: ASTM F1554 GR.55
 GALVANIZING: ASTM A123
 PAINT: GRAY (RAL# TBD)
 C) ALL WELDING TO BE PERFORMED BY WELDERS CERTIFIED IN ACCORDANCE WITH AWS D1.1. FIELD WELDING IS PROHIBITED.
 D) ALL STRUCTURAL BOLT SHALL BE TIGHTENED TO SNUG-TIGHT AS DEFINED BY AISC 13TH ED., PG. 16-2-46 PARAGRAPH 8.1

GENERAL NOTES

- 1) 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 WESTERN UT. INC. PRIOR TO BEGINNING PROJECT. ALL WORK SHALL BE PERFORMED USING ACCEPTED CONSTRUCTION PRACTICES.
 2) NO FIELD MODIFICATIONS MAY BE MADE TO MONOPOLE STRUCTURE WITHOUT THE EXPRESSES 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 TO THE DESIGN AS SHOWN IN THESE DRAWINGS.
 3) 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.
 4) 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.
 5) 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.
 6) IT IS THE INTENT OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION OF THE STRUCTURE SHOWN.
 7) 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.
 8) CONTRACTOR TO HOLD ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
 9) 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.

WESTERN UTILITY / TELECOM, INC.
 5032 SALEM DALLAS HWY
 SALEM, OR 97304
 Ph: 503-587-0101 FX: 503-316-1864
 WesternUtilityTelecom.com

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CLIENT _____

extenet SYSTEMS

PROJECT NUMBER 18-0342

PROJECT 29'-0" HEXAGON ANTENNA / LIGHT POLE
 LOCATION BOSTON NODE NETWORK

VARIOUS LOCATIONS
 BOSTON, MA
 SUFFOLK COUNTY

ENGINEER SEAL _____

ALVIN A. KRAFT
 REGISTERED PROFESSIONAL ENGINEER
 No. 38569

10-19-18

REV. CHANGES REVISIONS DATE BY

BS AM 100CT18

ISSUED FOR PERMIT OR APPROVAL

SHEET TITLE ELEVATION VIEW & STRUCTURE DETAILS

DRAWING NUMBER 18342-PD (1)

PAGE NUMBER S-1

CLIENT



PROJECT NUMBER
18-0342

PROJECT
29'-0" HEXAGON ANTENNA / LIGHT POLE

LOCATION
BOSTON NODE NETWORK

VARIOUS LOCATIONS
BOSTON, MA
SUFFOLK COUNTY



10-19-18

DRW BY: BS CHK BY: AM DATE: 10OCT18

REV / CHANGES	REVISIONS	DATE	BY

ISSUED FOR
PERMIT OR INSTALLATION

SHEET TITLE
DRILLED PIER FOUNDATION

DRAWING NUMBER
18342-PD (1)

PAGE NUMBER
F-1

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 2012/2015 IBC, TABLE 1806.2, CLASS 4 MATERIAL.
- TOTAL VOLUME OF CONCRETE REQUIRED FOR THIS FOUNDATION IS APPROXIMATELY 1.5 CU. YDS.

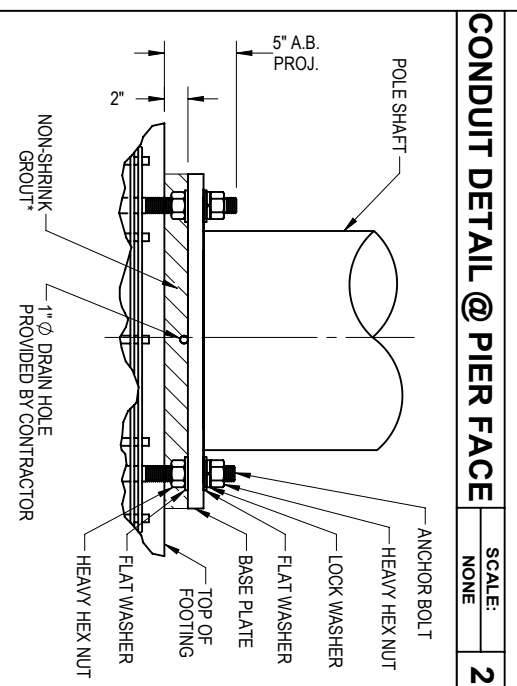
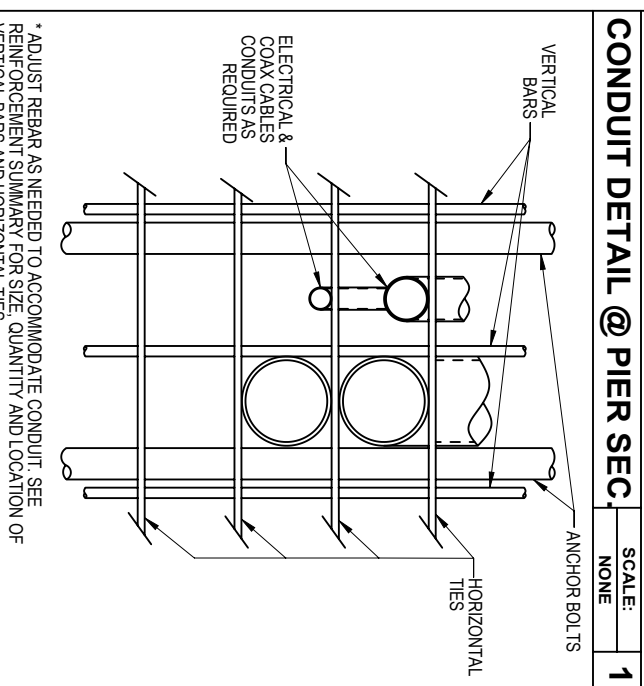
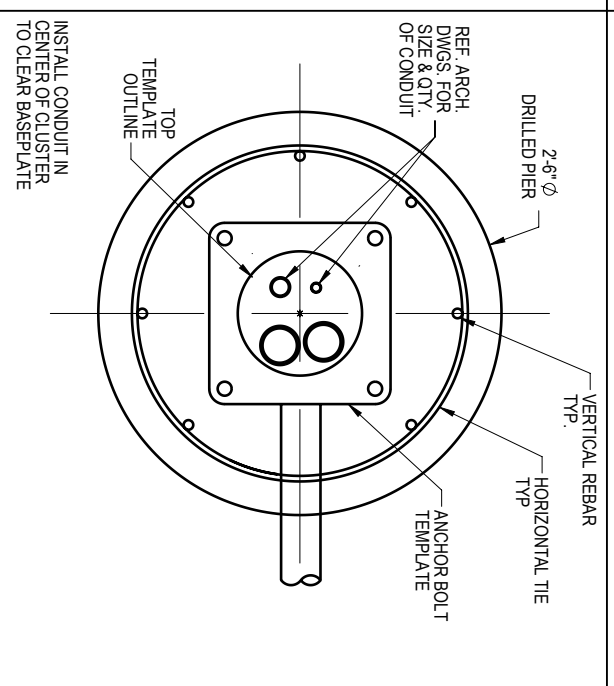
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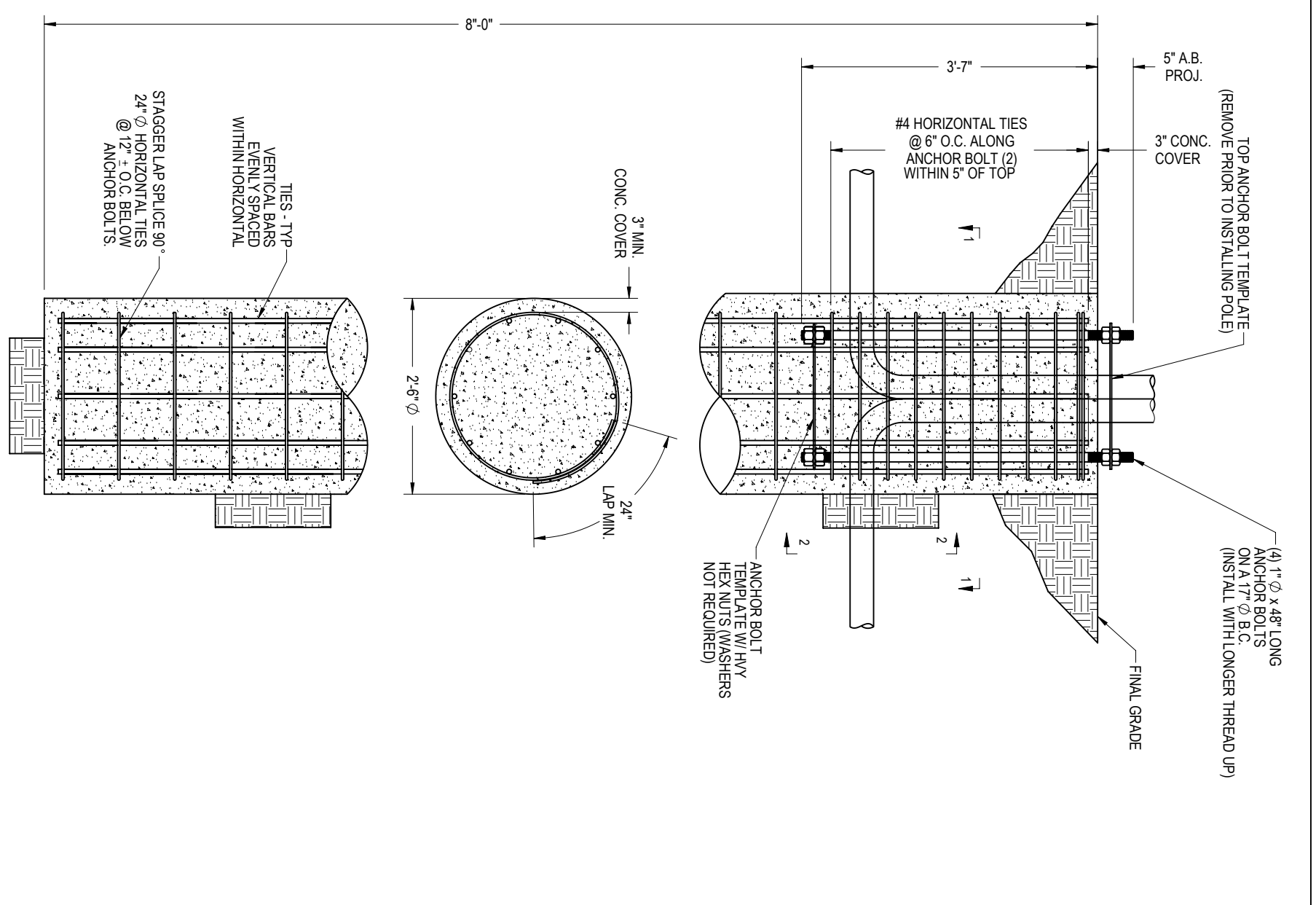
SPECIAL INSPECTIONS

SPECIAL INSPECTION: THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTION PER 2012/2015 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. 35
4	CONCRETE TEST SPECIMENS PLACEMENT OF CONCRETE	SPECIAL INSPECTOR	fc = 4,000 PSI TYPE II CEMENT



* 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.



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"