

PROJECT DESCRIPTION:

THESE PLANS REPRESENT A PORTION OF A PROPOSED SMALL CELL BUILD INVOLVING THE INSTALLMENT OF AN ANTENNA AND RADIO EQUIPMENT ON AN EXISTING WOODEN UTILITY OR REPLACEMENT METAL STREETLIGHT POLES.

**EXTENET SYSTEMS
134 SUTHERLAND RD
BOSTON, MA 02135
(NORTHEAST INTERSECTION OF SUTHERLAND RD & LANARK RD)**

CRAN_RCTB_00014_07
NE-MA-ALBRD3M1-14007

PROJECT INFORMATION

INDEX:

1	COVER PAGE
2	SIDE PROFILE
3	REAR PROFILE
4	DETAILS - ANTENNA AND RADIOS
5	DETAILS - RADIO SHROUD
6	EXISTING PHOTO / WIRING DIAGRAM

POLE OWNER: EVERSOURCE

APPLICANT: RICK ANGELINI
3030 WARRENVILLE RD
SUITE 340
LISLE, IL 60532
NOC: (866) 892-5327

LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



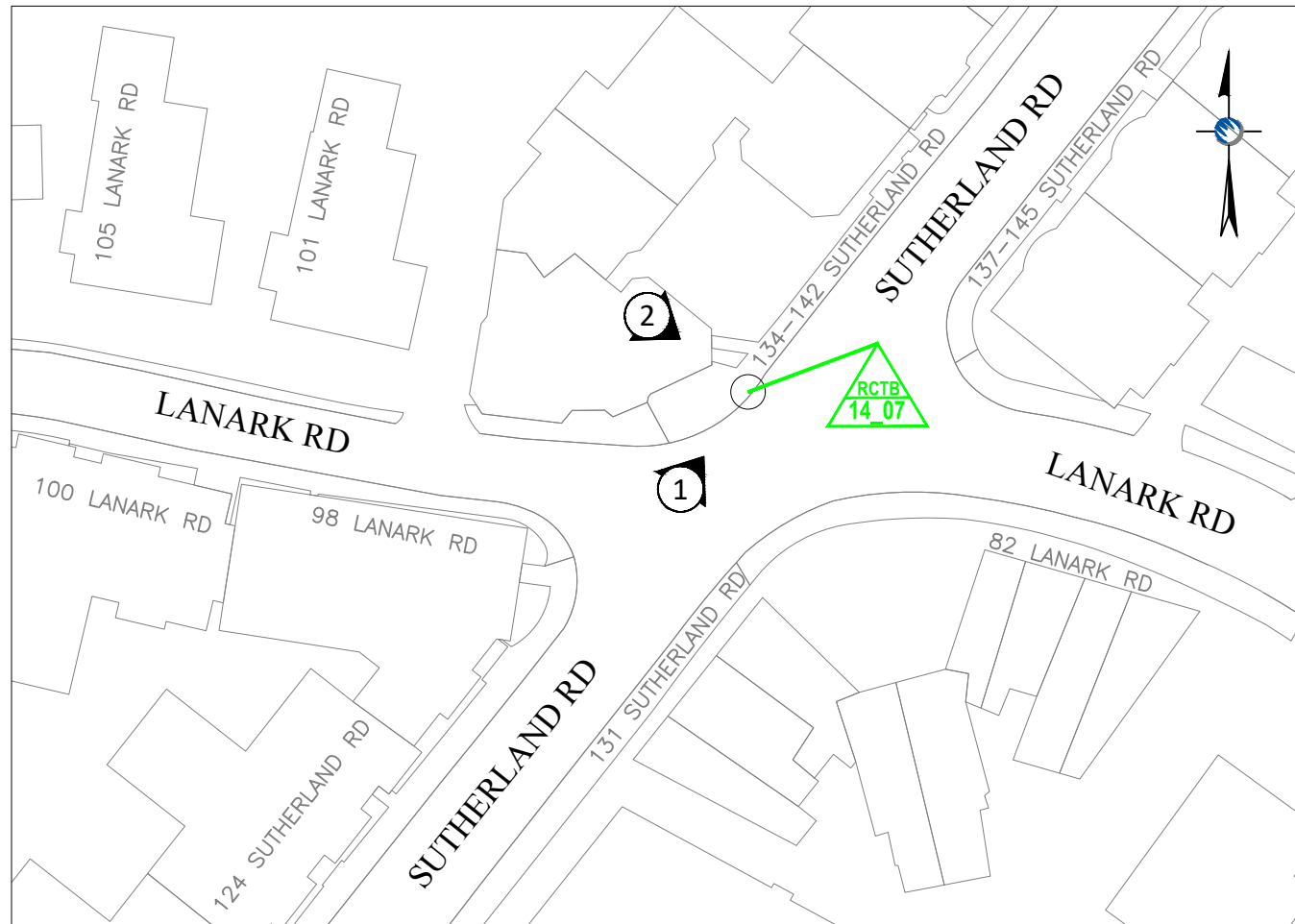
PREPARED BY:



NODE
RCTB-14_07
COVER PAGE

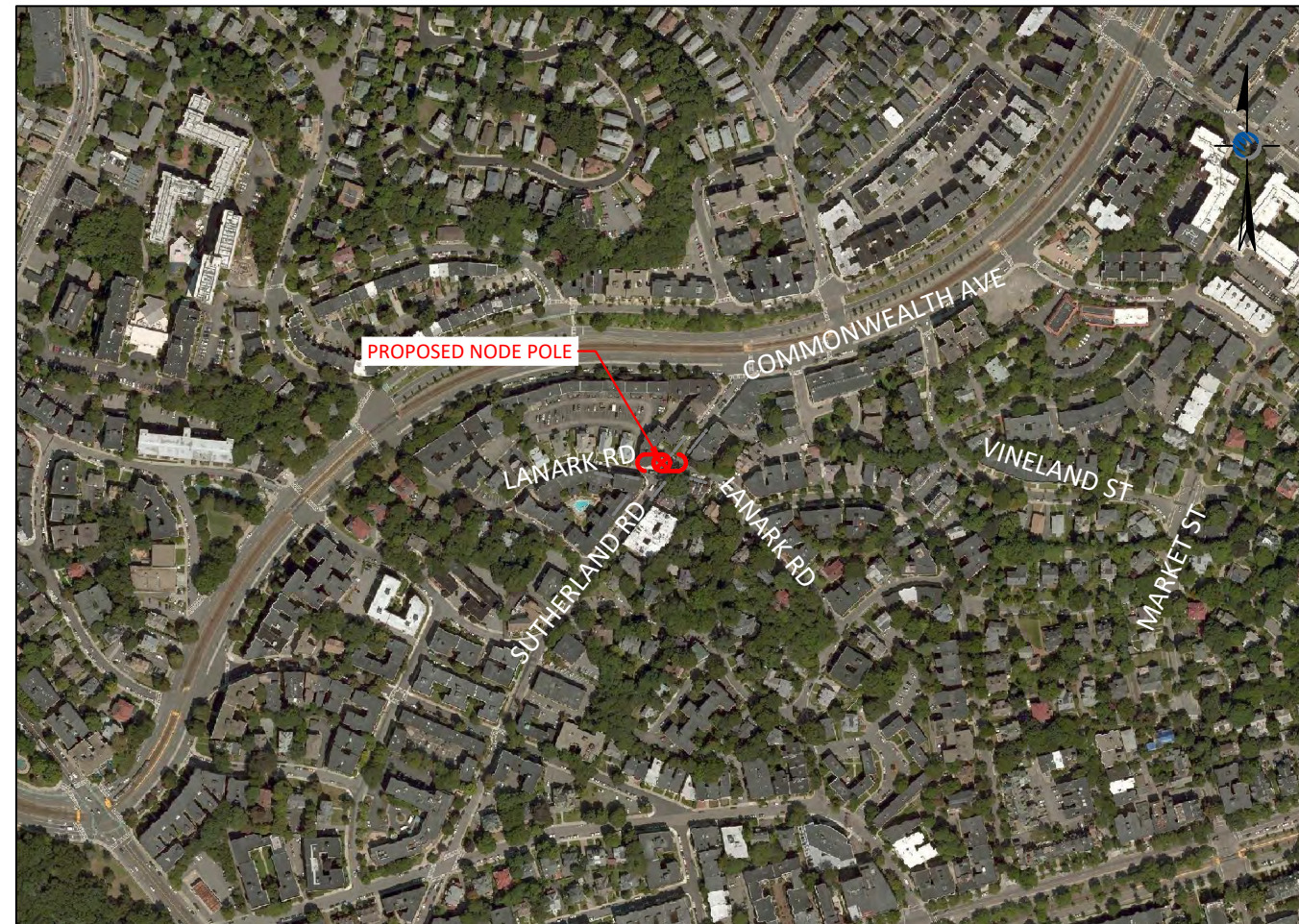
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REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/16/18

DRAFTER: MMS/SML
SCALE: AS SHOWN
ISSUE DATE: 02/16/18
INDEX NAME: RCTB-14_07
SHEET #: 1 OF 6



LOCATION MAP

LATITUDE: 42.340668° LONGITUDE: -71.147603°
ELEVATION: 134.48' AGL
SCALE: 1" = 50'



LOCUS MAP

PROJECT LOCATION - NODE RCTB-14_07
SCALE: 1" = 500'

FOR PERMITTING ONLY

NODE RCTB-14_07

134 SUTHERLAND RD, BOSTON, MA

SIDE PROFILE

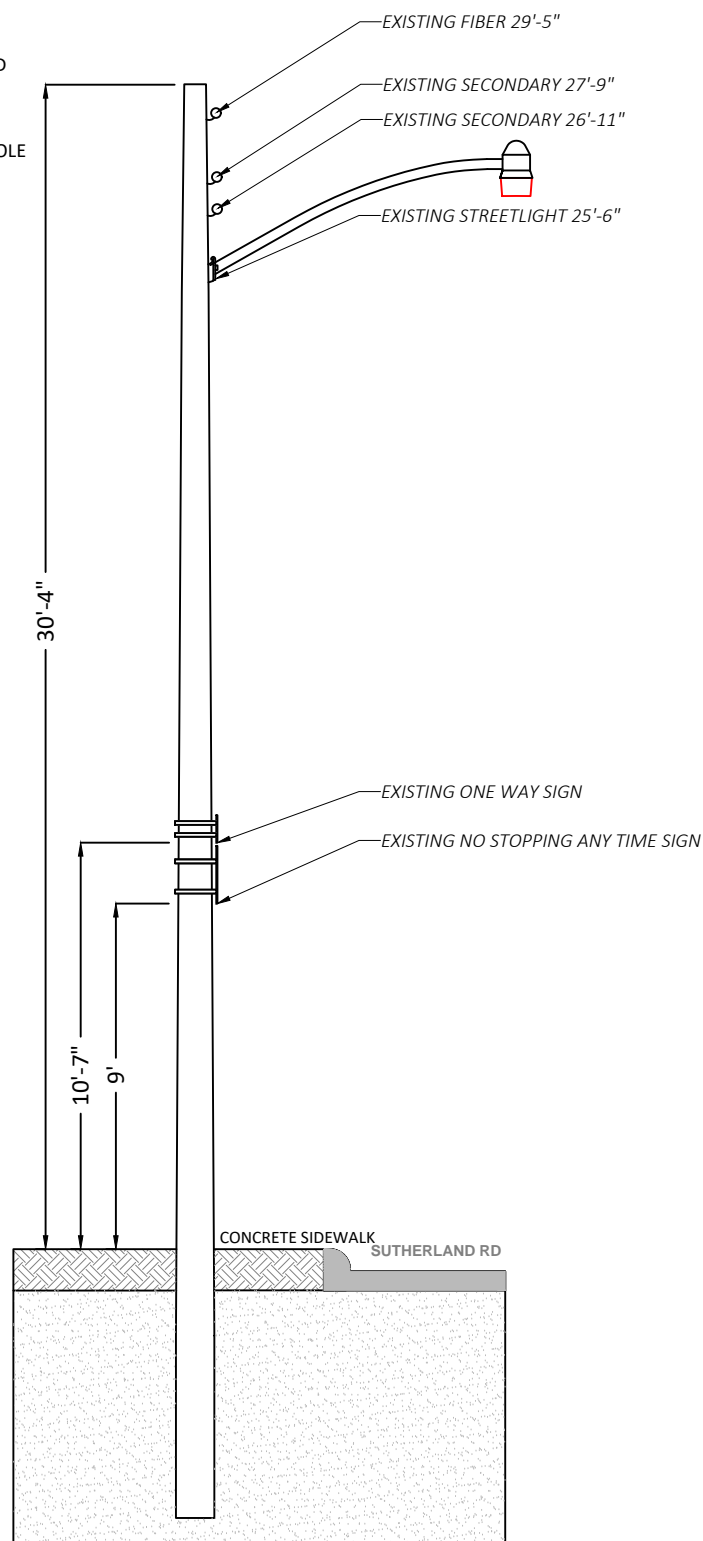
DRAWINGS NOTES:

NOTE 1:
40" MIN. WORKER SAFETY ZONE
BETWEEN LOWEST POWER & HIGHEST
COMMUNICATIONS CABLE
IN ACCORDANCE WITH NESC REGULATIONS

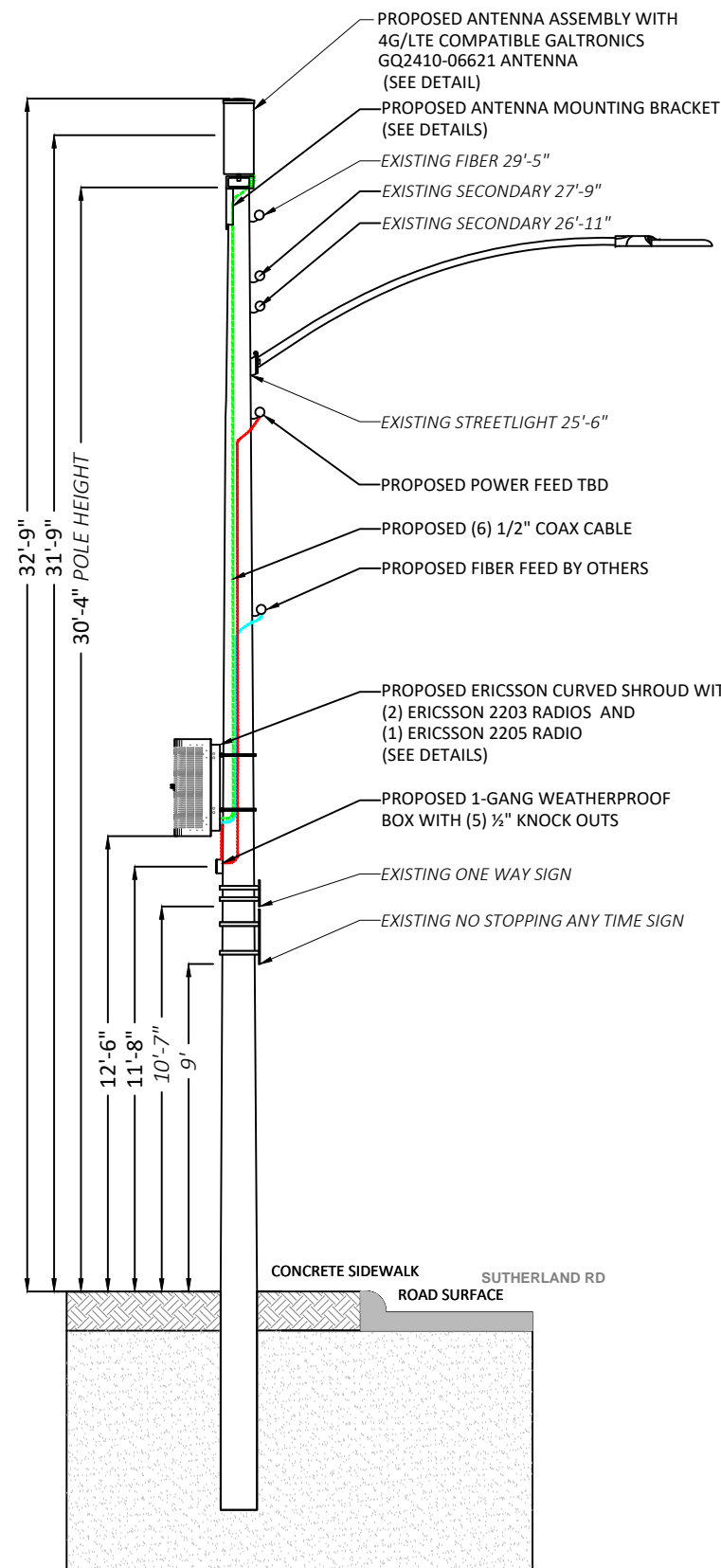
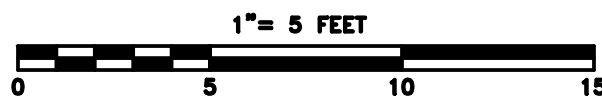
NOTE 2:
PROPOSED FIBER TO BE INSTALLED BY OTHERS

NOTE 3:
PROPOSED EQUIPMENT TO BE PAINTED TO BLEND
WITH POLE

NOTE 4:
FCC MANDATED SIGNAGE TO BE ATTACHED TO POLE



① EXISTING PROFILE - SIDE VIEW
LOOKING NORTHEAST ALONG SUTHERLAND RD
P. 12A SUTHERLAND RD



① PROPOSED PROFILE - SIDE VIEW
LOOKING NORTHEAST ALONG SUTHERLAND RD
P. 12A SUTHERLAND RD

LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
RCTB-14_07
SIDE PROFILE

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
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DRAFTER: MMS/SML
SCALE: SEE SCALE BAR
ISSUE DATE: 02/16/18
INDEX NAME: RCTB-14_07
SHEET #: 2 OF 6

NODE RCTB-14_07

134 SUTHERLAND RD, BOSTON, MA

REAR PROFILE

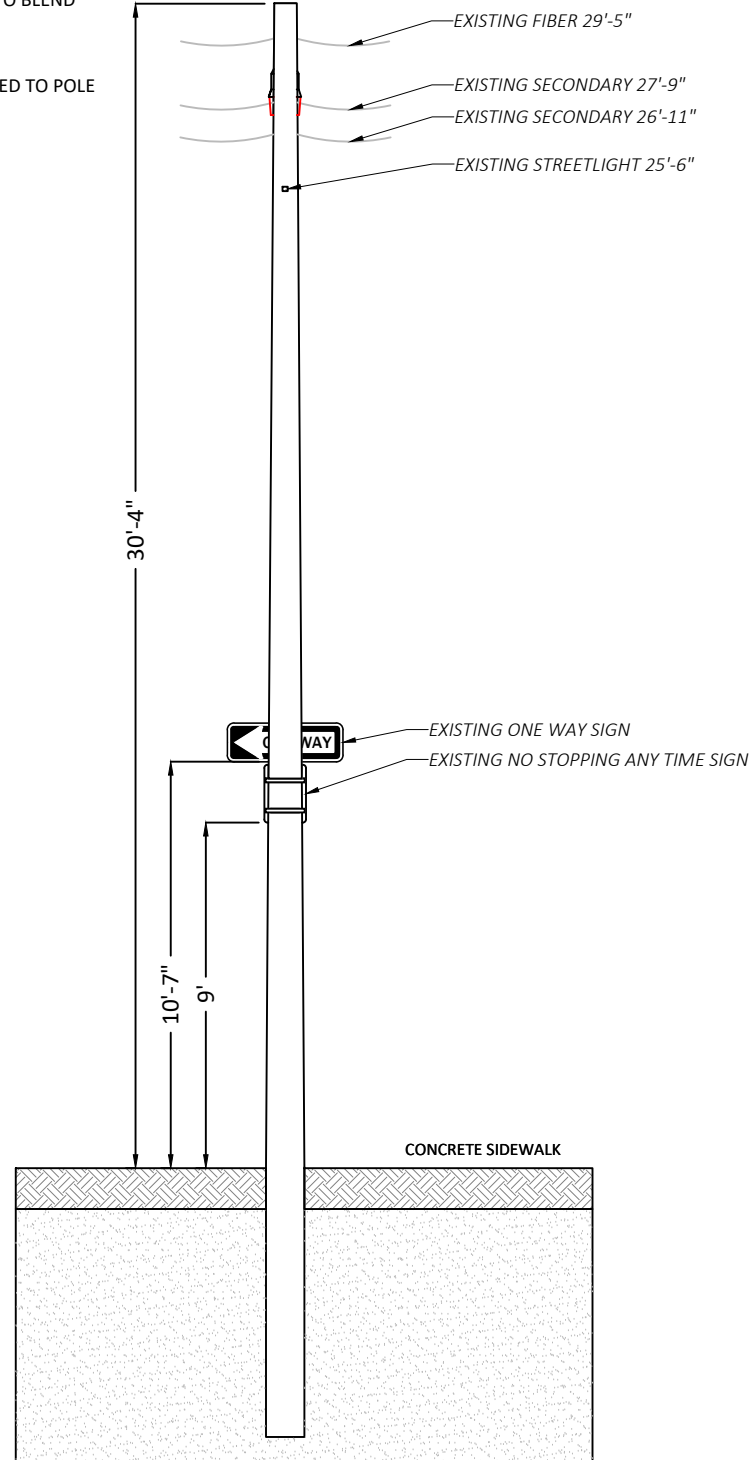
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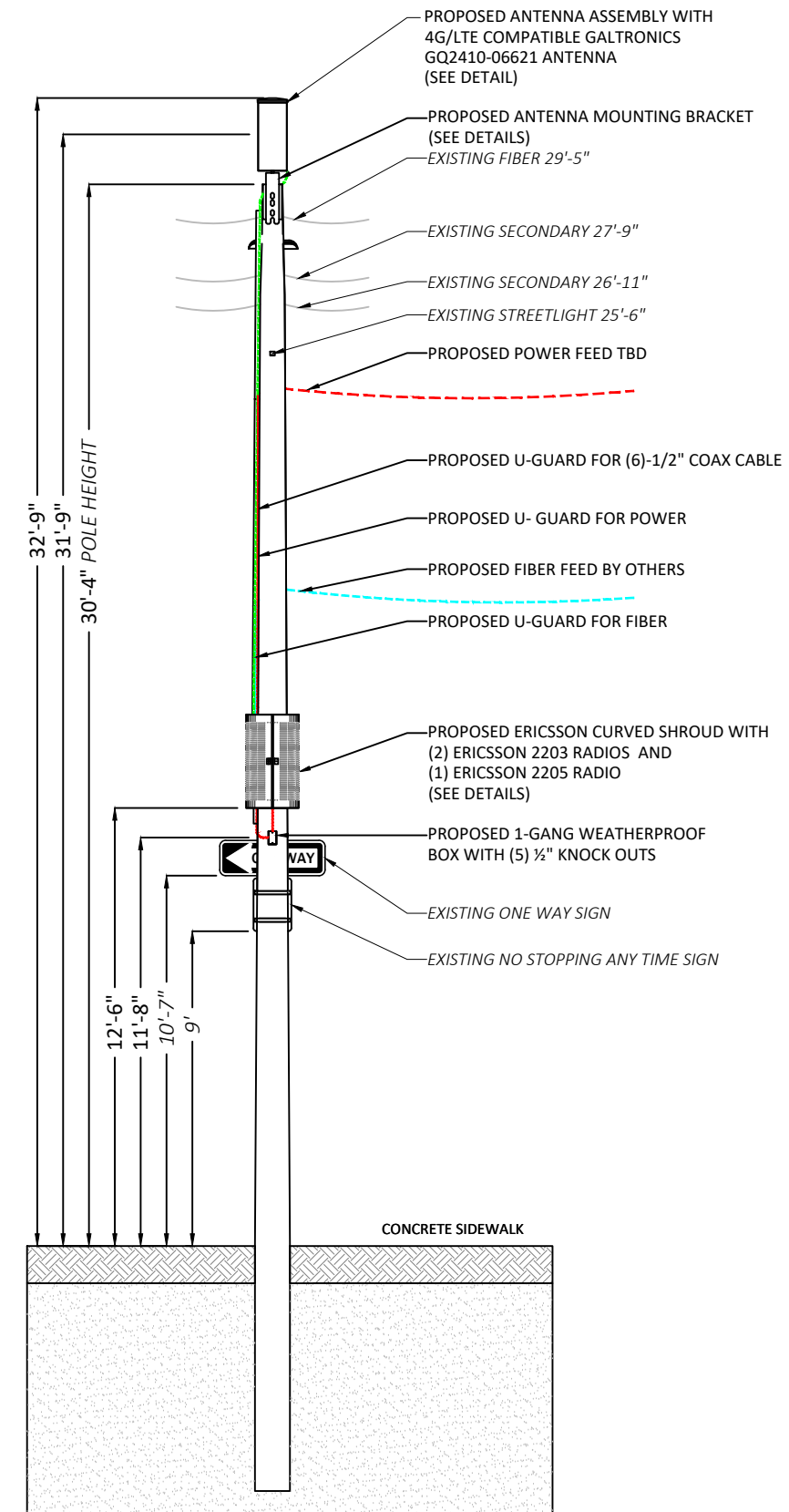
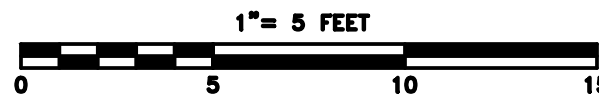
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② **EXISTING PROFILE - REAR VIEW**
LOOKING SOUTHEAST TOWARDS SUTHERLAND RD
P. 12A SUTHERLAND RD



② **PROPOSED PROFILE - REAR VIEW**
LOOKING SOUTHEAST TOWARDS SUTHERLAND RD
P. 12A SUTHERLAND RD

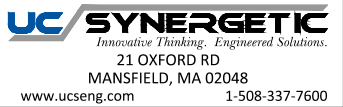
LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
RCTB-14_07
REAR PROFILE

REVISIONS		
REV	DESCRIPTION	DATE
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N:\Engineering\Extenet Systems\NE-MA-BOSTON\1-ATT\NPP\AUTOCAD\NPP\NODE CRAN_RCTB_00014_07.dwg 3/16/18



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

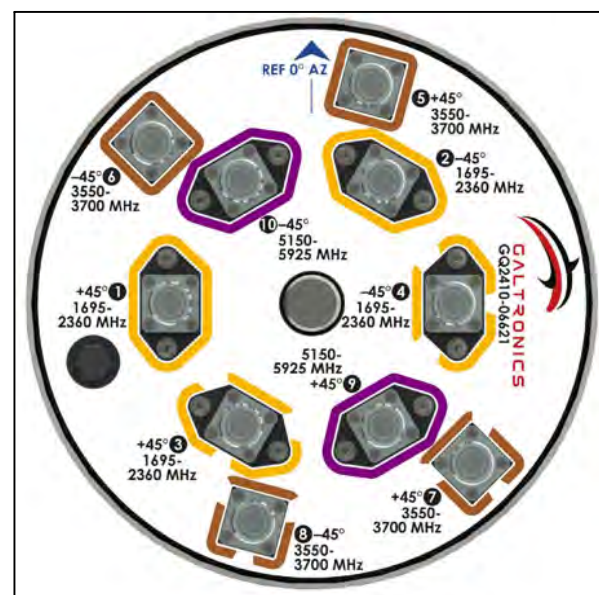
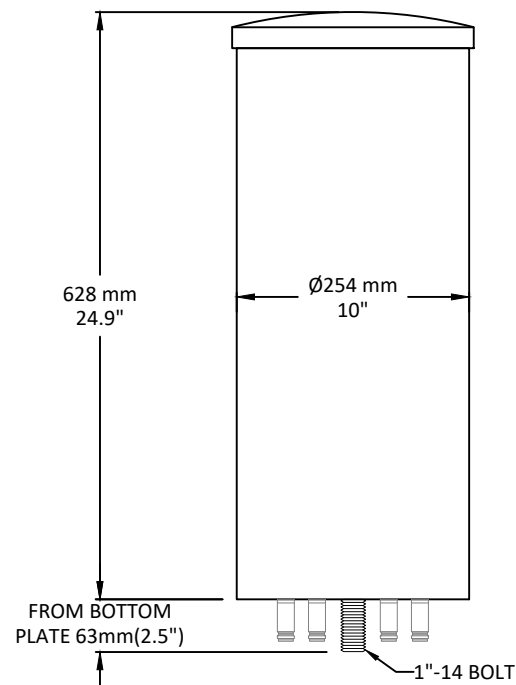
GQ2410-06621

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*

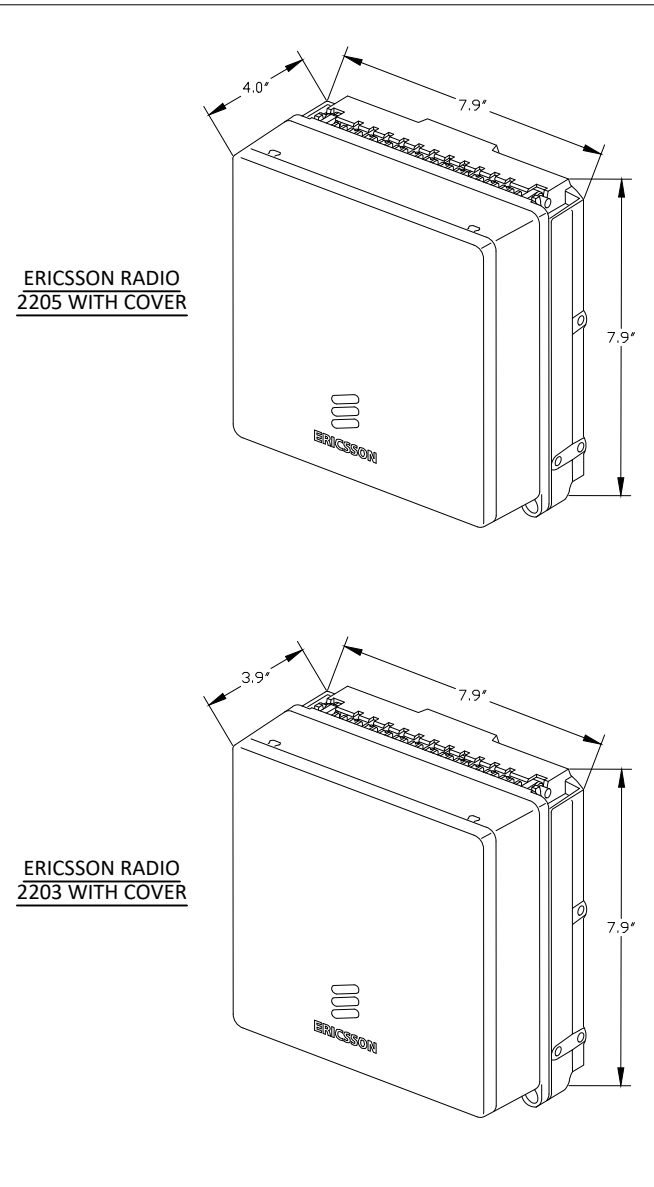


1695-2360, 3550-3700 and 5150-5925 MHz Pseudo Omni Canister Antenna



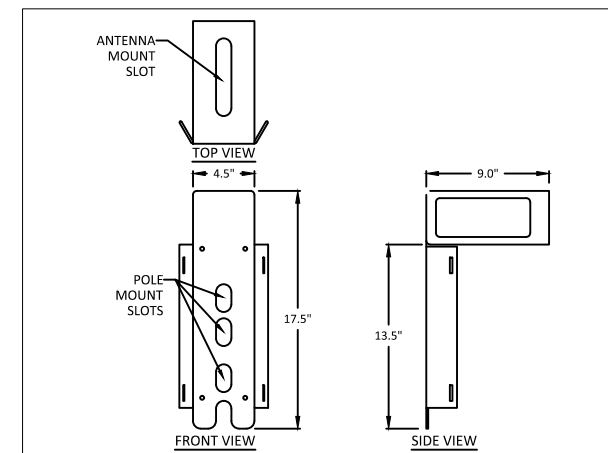
GALTRONICS GQ2410-06621 ANTENNA

SCALE: NTS



**ERICSSON 2203 & 2205 RADIOS WITH COVER
POLE MOUNT REMOTE UNIT**

SCALE: NTS



ANTENNA POLE TOP MOUNTING BRACKET

SCALE: NTS

LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:

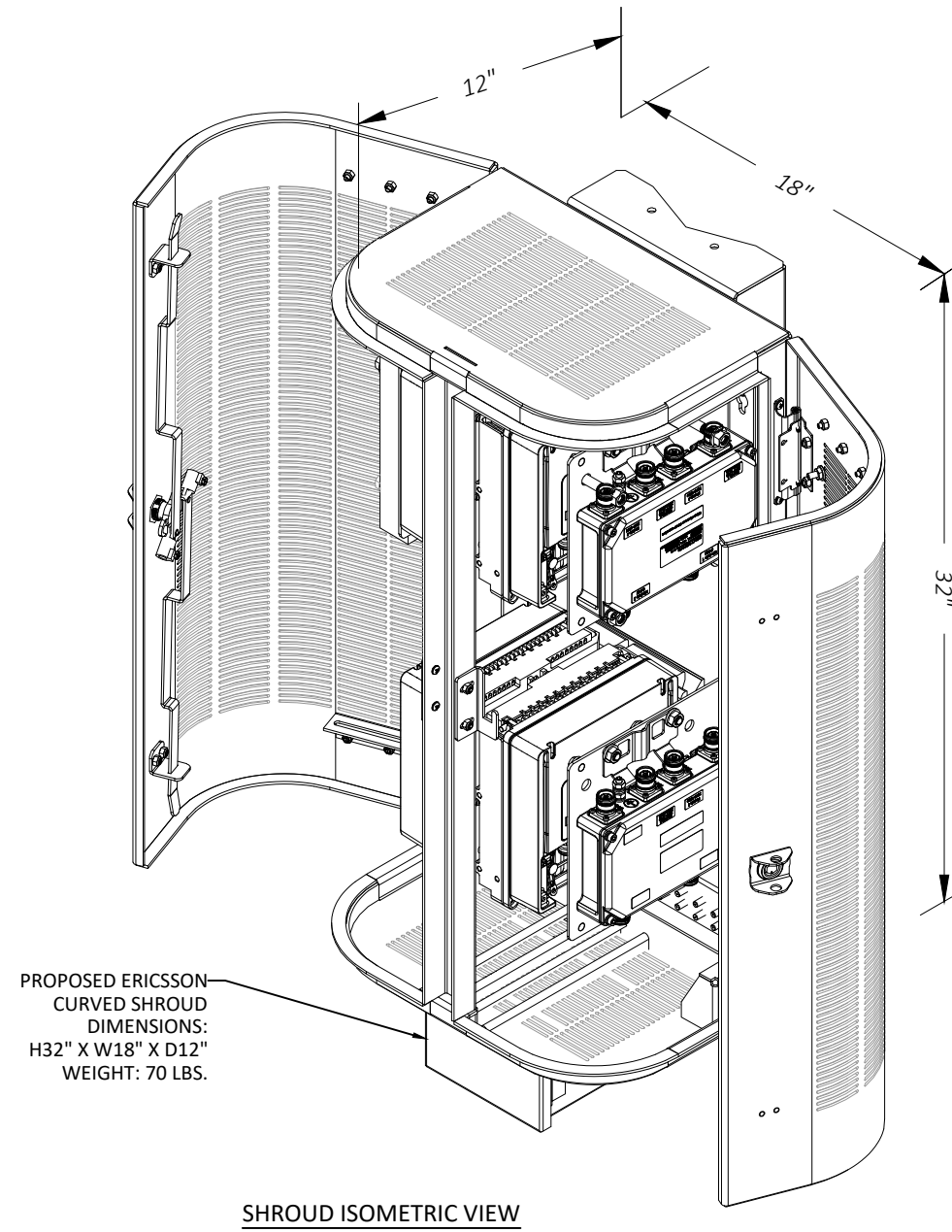
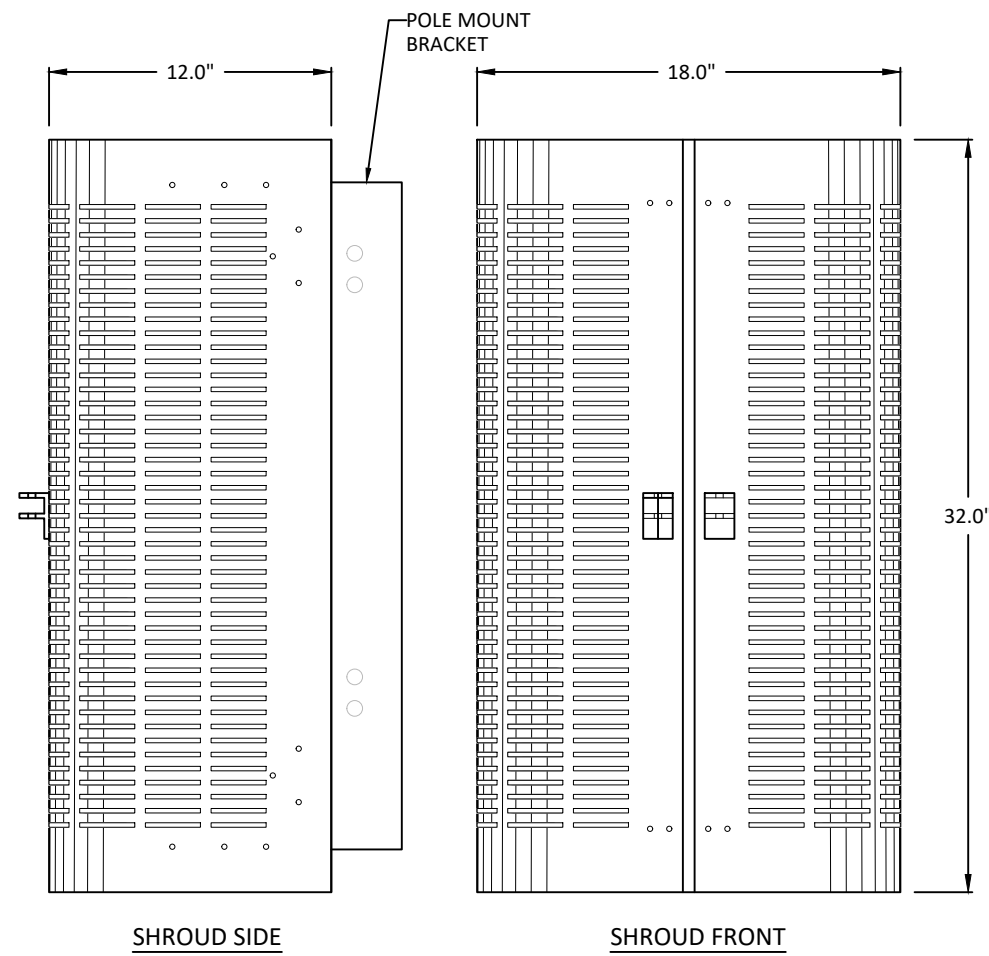


NODE
RCTB-14_07
DETAILS - ANTENNA AND RADIOS

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
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ERICSSON CURVED SHROUD
 3.8 CUBIC FEET
 SCALE: NTS

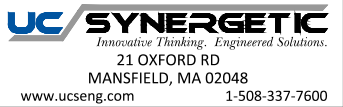
LOCATION:
 BOSTON, MA
 SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



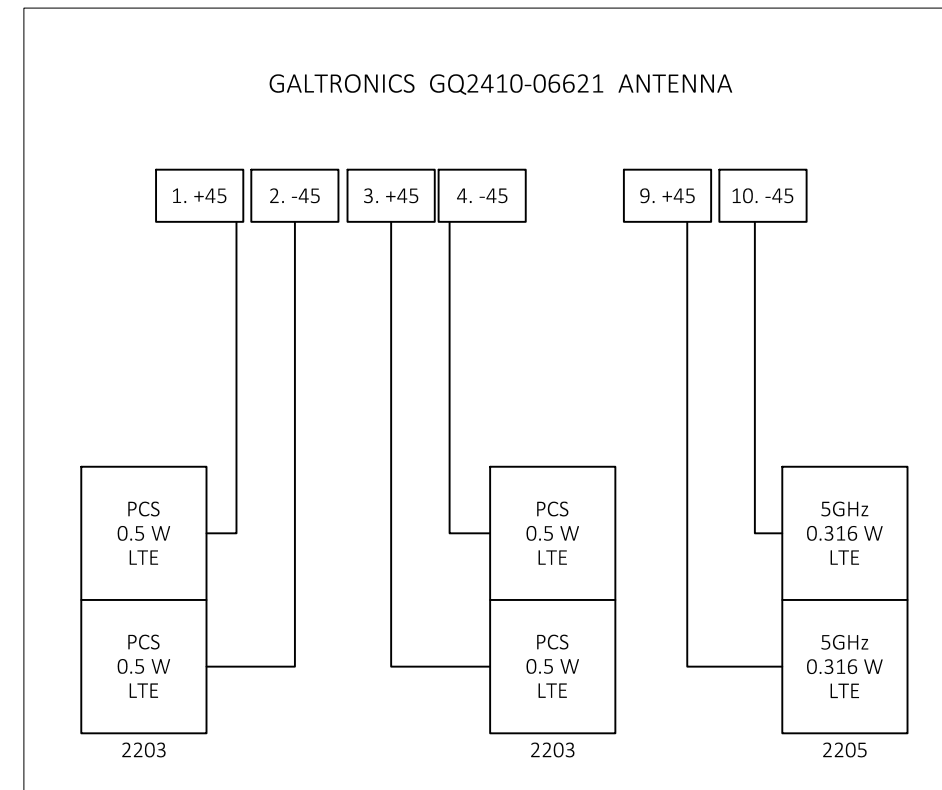
NODE
 RCTB-14_07
 DETAILS - RADIO SHROUD

REVISIONS		
REV	DESCRIPTION	DATE
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2	UPDATE PER EXTENET	03/16/18

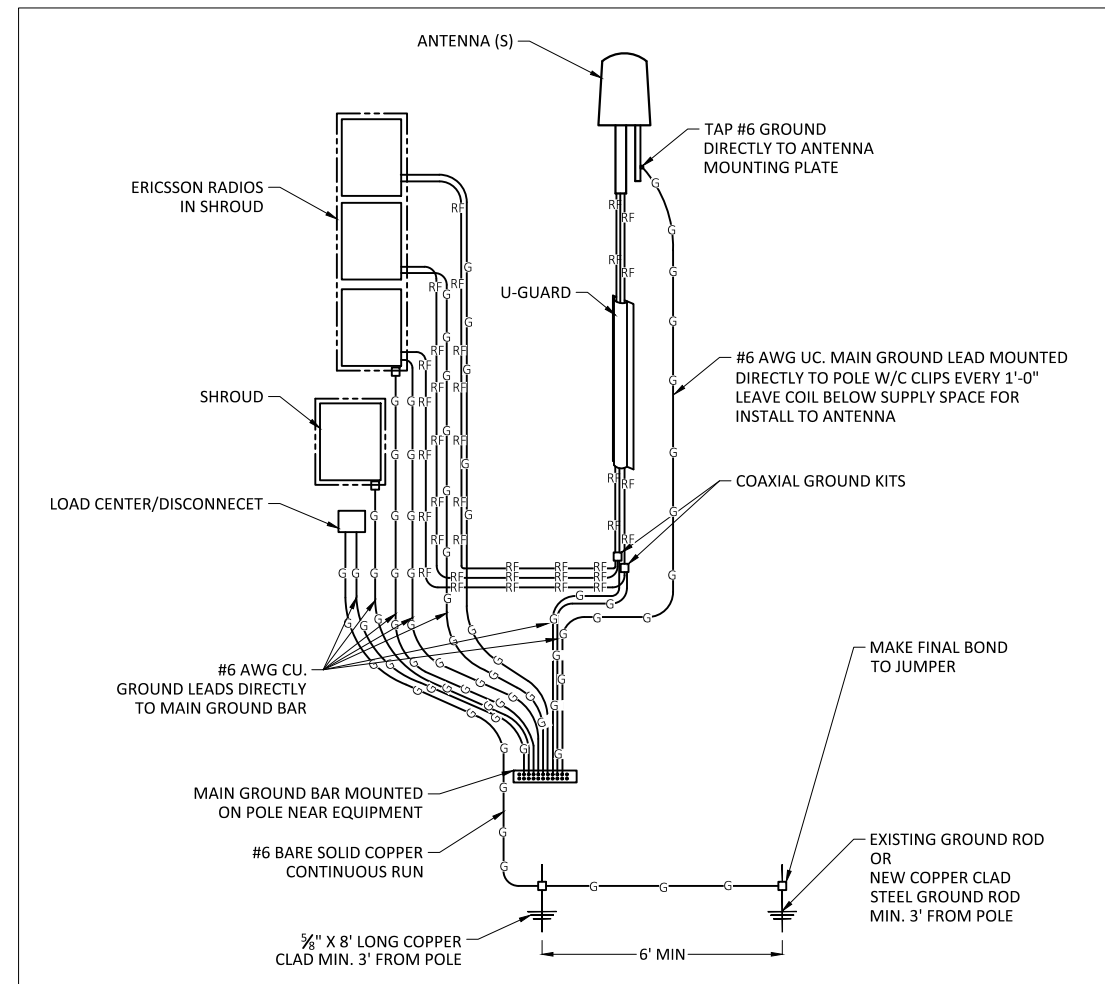
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 SCALE: NTS
 ISSUE DATE: 02/16/18
 INDEX NAME: RCTB-14_07
 SHEET #: 5 OF 6



EXISTING POLE
SCALE: NTS



WIRING DIAGRAM
SCALE: NTS



GROUNDING DIAGRAM
SCALE: NTS

LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
RCTB-14_07
EXISTING PHOTO/WIRING DIAGRAM

REVISIONS		
REV	DESCRIPTION	DATE
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PROJECT DESCRIPTION:

THESE PLANS REPRESENT A PORTION OF A PROPOSED SMALL CELL BUILD INVOLVING THE INSTALLMENT OF AN ANTENNA AND RADIO EQUIPMENT ON AN EXISTING WOODEN UTILITY OR REPLACEMENT METAL STREETLIGHT POLES.

**EXTENET SYSTEMS
1668 COMMONWEALTH AVE
BOSTON, MA 02135
(MEDIAN OF COMMONWEALTH AVE)**

**CRAN_RCTB_00014_10
NE-MA-ALBRD3M1-14010**

PROJECT INFORMATION

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4	DETAILS - ANTENNA AND RADIOS
5	DETAILS - RADIO SHROUD
6	DETAILS - CONCRETE FOUNDATION
7	EXISTING PHOTO / WIRING DIAGRAM

POLE OWNER: CITY OF BOSTON

CONTACT: RICK ANGELINI
3030 WARRENVILLE RD
SUITE 340
LISLE, IL 60532
NOC: (866) 892-5327

LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:

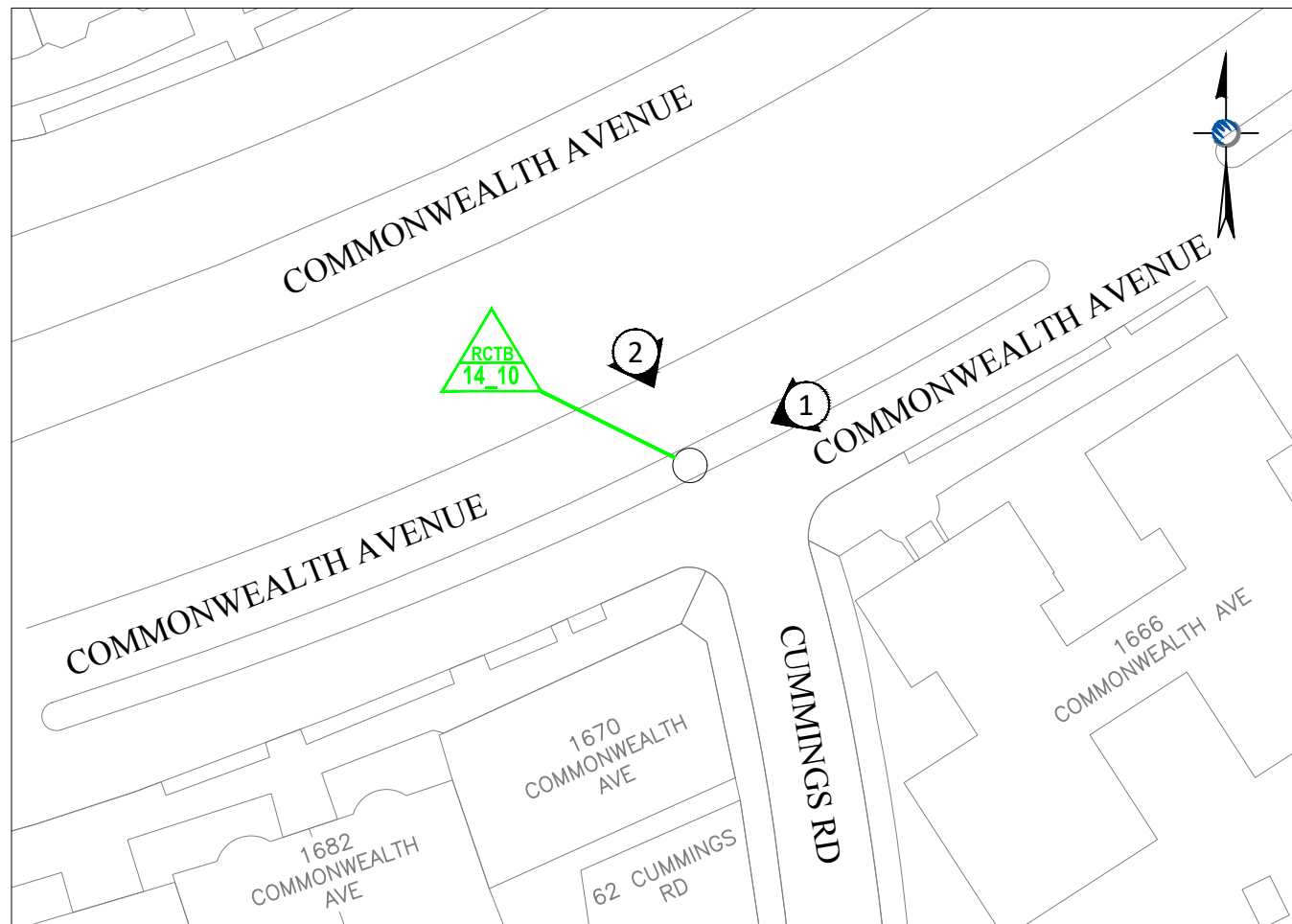


**NODE
RCTB-14_10
COVER PAGE**

REVISIONS		
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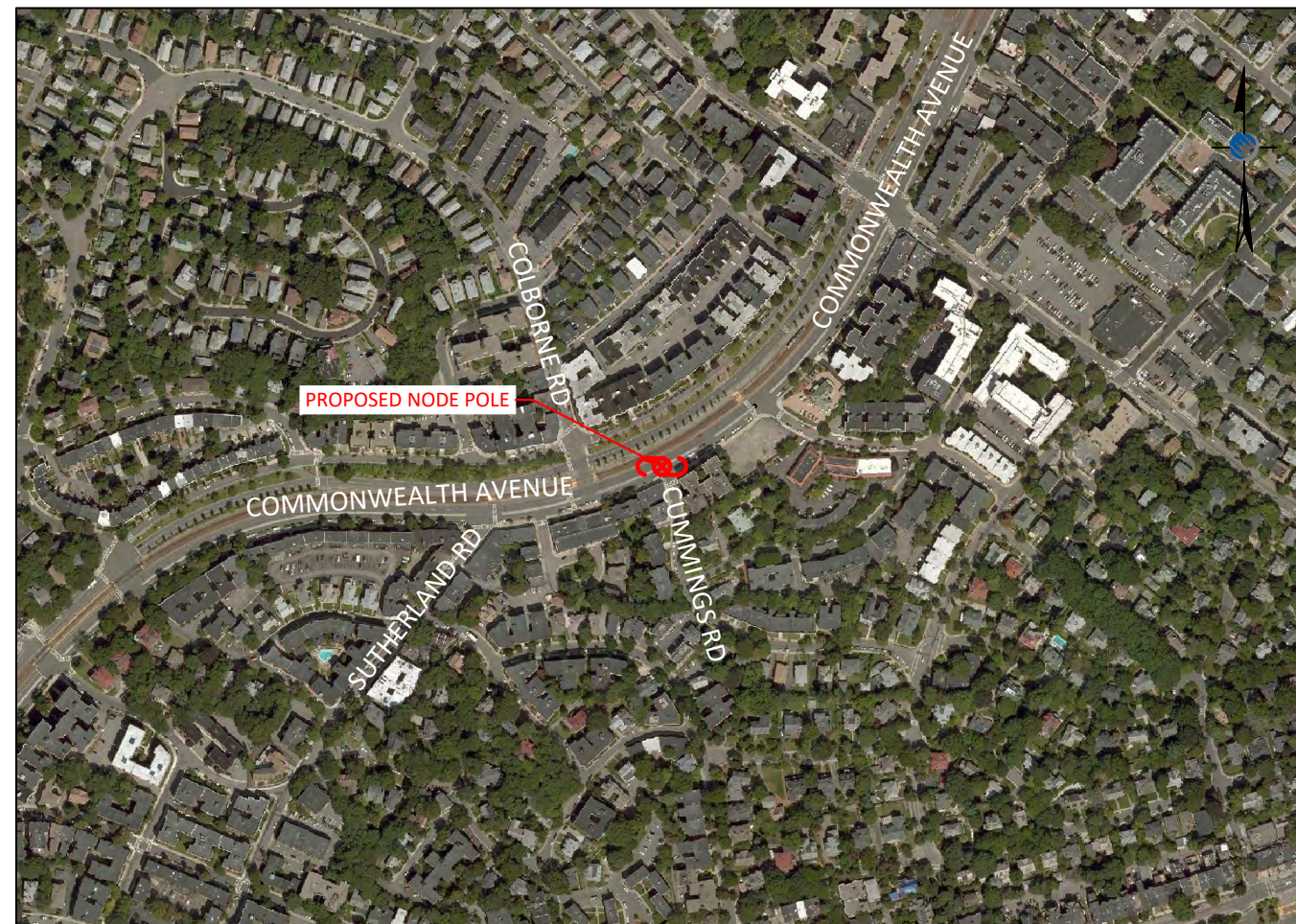
DRAFTER: MMS/MAC
SCALE: AS SHOWN
ISSUE DATE: 02/14/18
INDEX NAME: RCTB-14_10
SHEET #: 1 OF 7

1



LOCATION MAP

LATITUDE: 42.341761° LONGITUDE: -71.145064°
ELEVATION: 160.72' AGL
SCALE: 1" = 50'



LOCUS MAP

PROJECT LOCATION - NODE RCTB-14_10
SCALE: 1" = 500'

FOR PERMITTING ONLY

NODE RCTB-14_10

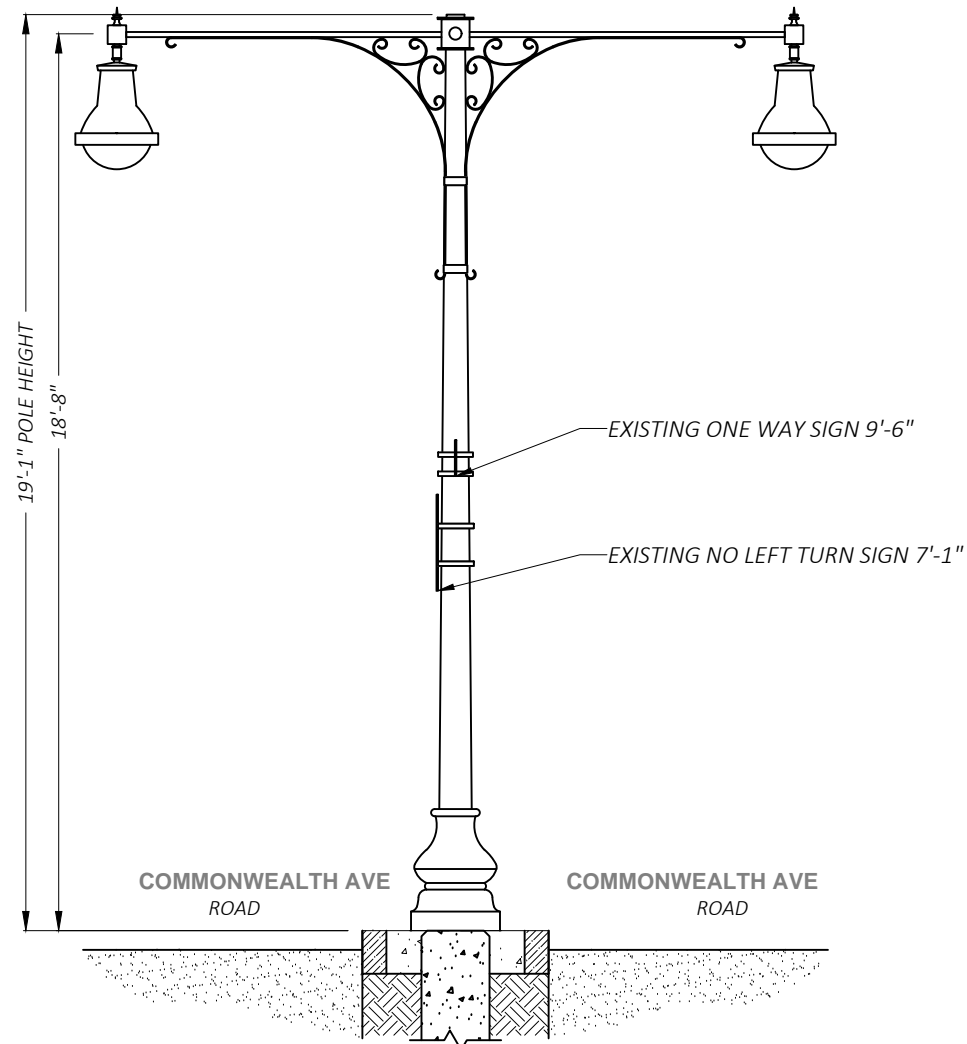
1668 COMMONWEALTH AVE, BOSTON, MA

SIDE PROFILE

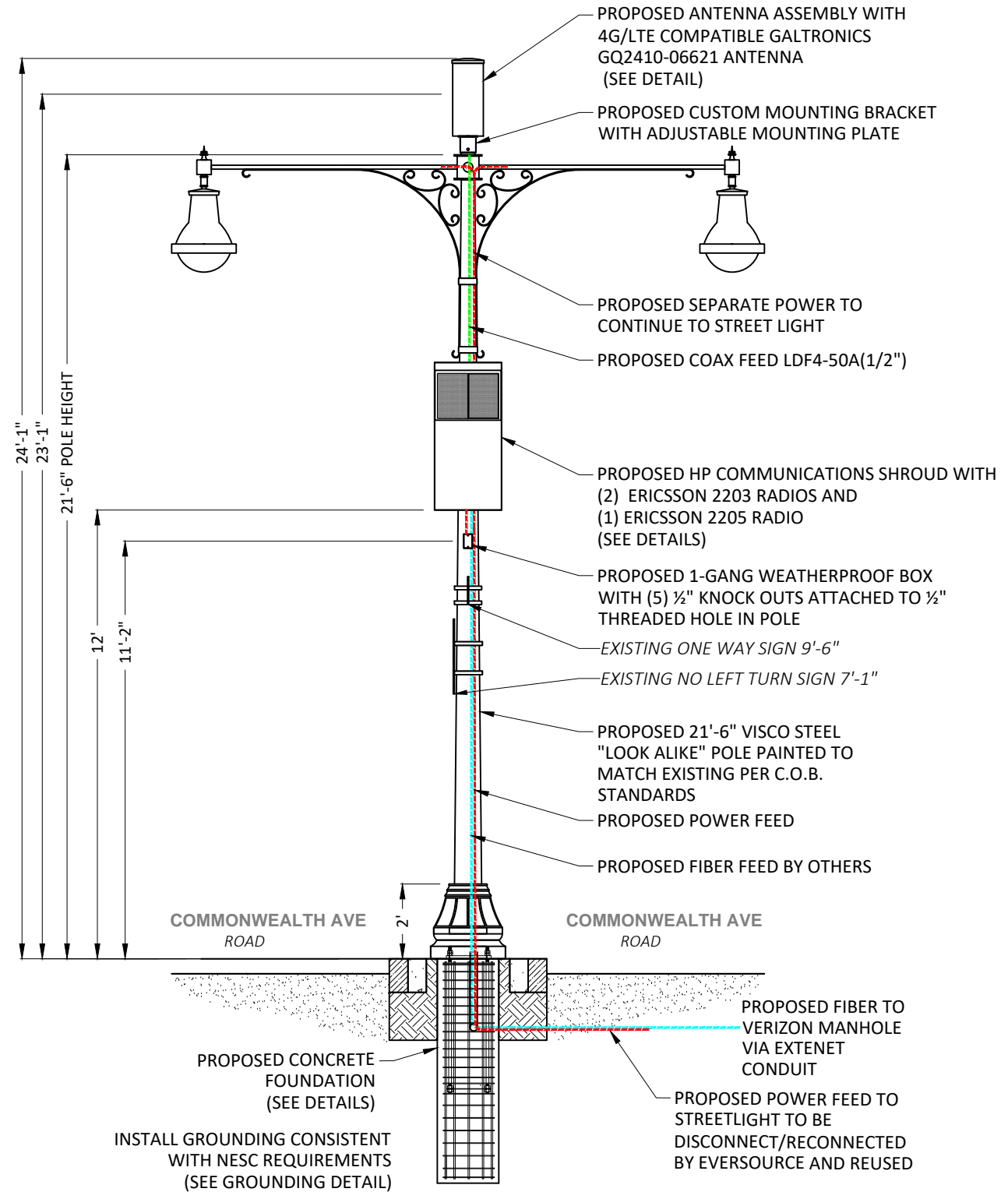
DRAWINGS NOTES:

NOTE 1:
PROPOSED EQUIPMENT TO BE
PAINTED TO BLEND WITH POLE

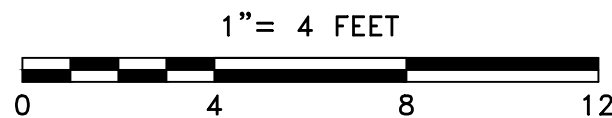
NOTE 2:
FCC MANDATED SIGNAGE TO BE
ATTACHED TO POLE



① EXISTING PROFILE - SIDE VIEW
LOOKING SOUTHWEST ALONG COMMONWEALTH AVENUE



① PROPOSED PROFILE - SIDE VIEW
LOOKING SOUTHWEST ALONG COMMONWEALTH AVENUE



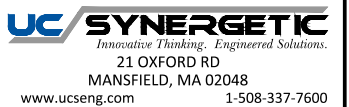
LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
RCTB-14_10
SIDE PROFILE

REVISIONS		
REV	DESCRIPTION	DATE
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INDEX NAME: RCTB-14_10
SHEET #: 2 OF 7

NODE RCTB-14_10

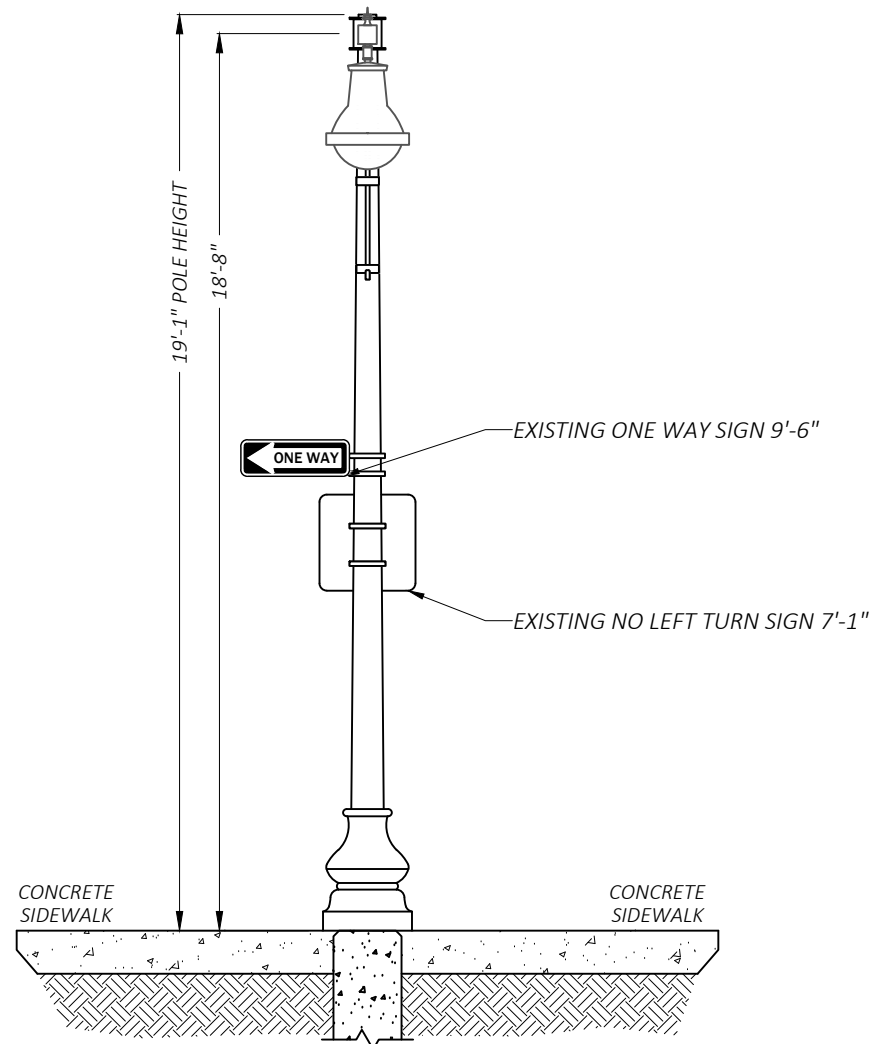
1668 COMMONWEALTH AVE, BOSTON, MA

REAR PROFILE

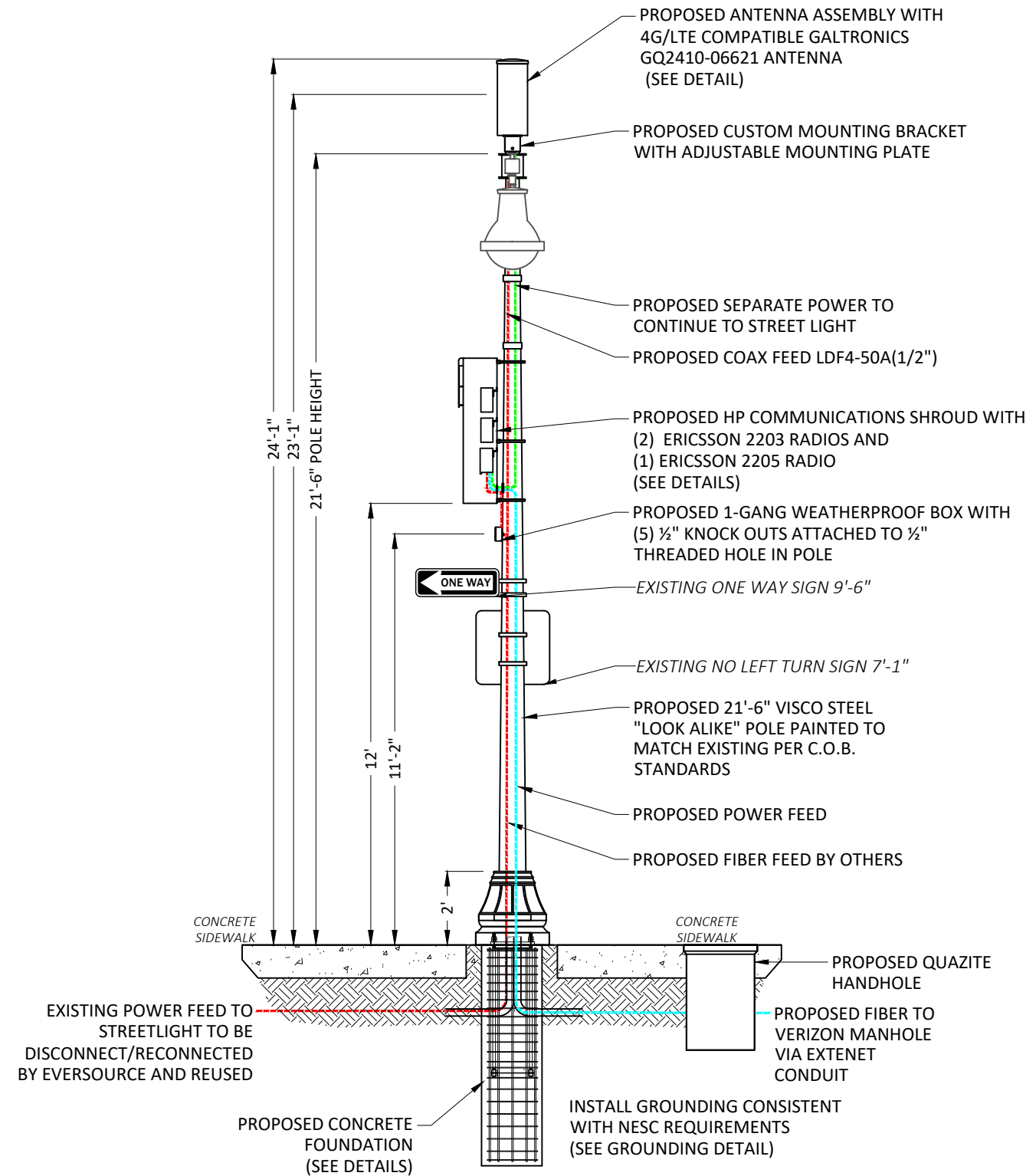
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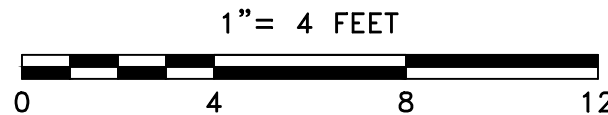
NOTE 2:
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② EXISTING PROFILE - REAR VIEW
LOOKING SOUTHEAST TOWARDS COMMONWEALTH AVENUE



② PROPOSED PROFILE - REAR VIEW
LOOKING SOUTHEAST TOWARDS COMMONWEALTH AVENUE



LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:
extenet YOUR NETWORK EVERYWHERE.
SYSTEMS

PREPARED BY:
UC SYNERGETIC
Innovative Thinking. Engineered Solutions.
21 OXFORD RD
MANSFIELD, MA 02048
www.uc seng.com 1-508-337-7600

NODE
RCTB-14_10
REAR PROFILE

REVISIONS		
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N:\Engineering\Extenet Systems\NE-MA-BOSTON\1-ATT\NPP\AUTOCAD\NPP\NODE CRAN_RCTB_00014_10.dwg 3/16/18



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

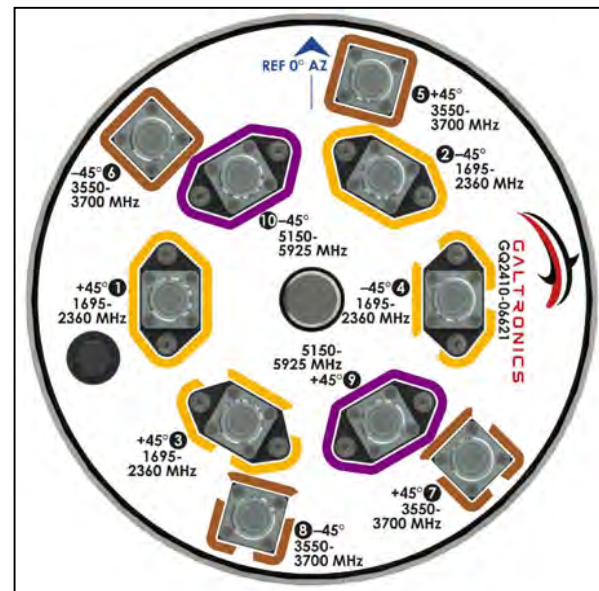
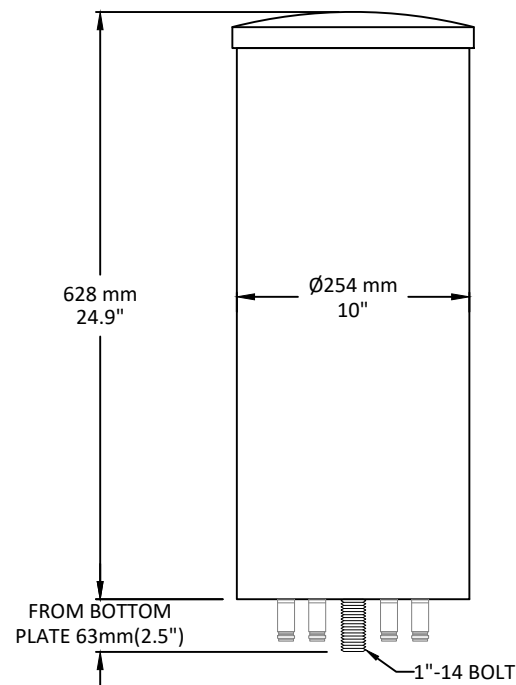
GQ2410-06621

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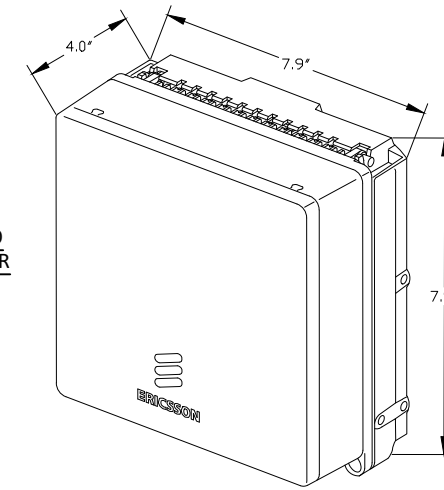
1695-2360, 3550-3700 and 5150-5925 MHz Pseudo Omni Canister Antenna



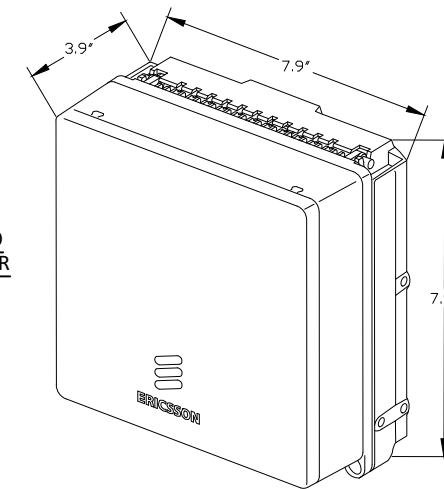
GALTRONICS GQ2410-06621 ANTENNA

SCALE: NTS

ERICSSON RADIO 2205 WITH COVER

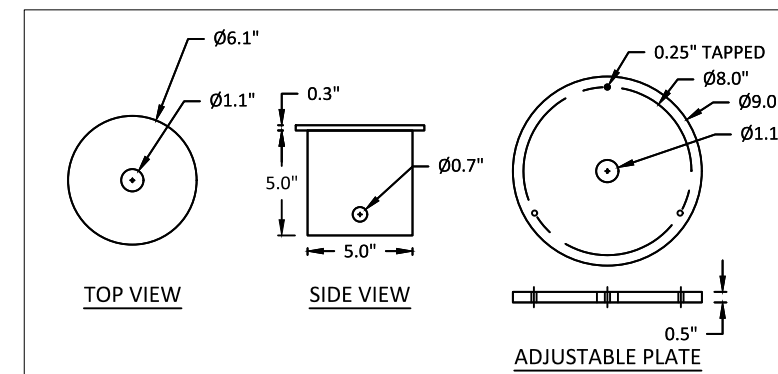


ERICSSON RADIO 2203 WITH COVER



**ERICSSON 2203 & 2205 RADIOS WITH COVER
POLE MOUNT REMOTE UNIT**

SCALE: NTS



CUSTOM ANTENNA MOUNTING BRACKET

SCALE: NTS

LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



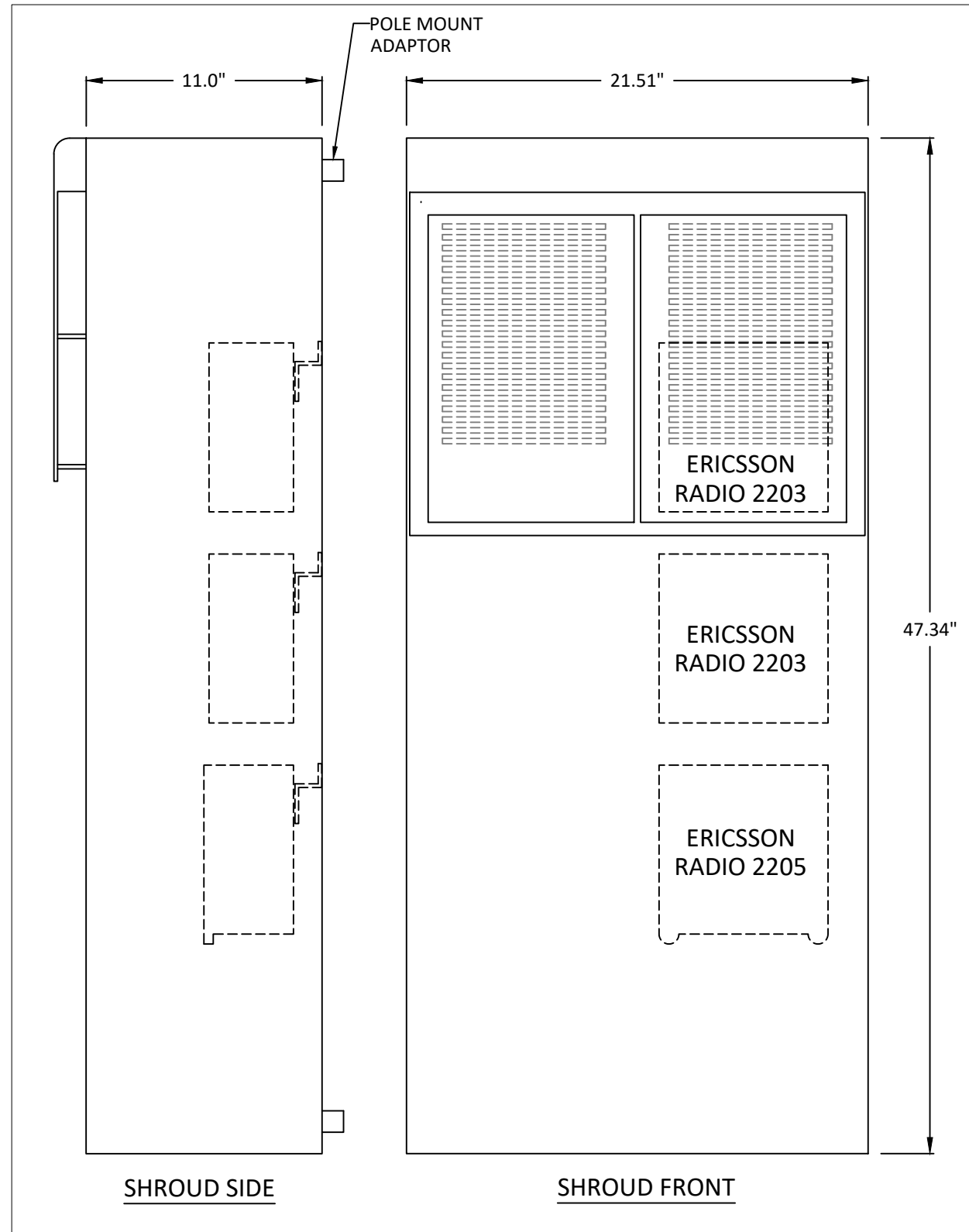
PREPARED BY:



NODE
RCTB-14_10
DETAILS - ANTENNA & RADIOS

REVISIONS		
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HP COMMUNICATIONS SHROUD
6.48 CUBIC FEET
 SCALE: NTS

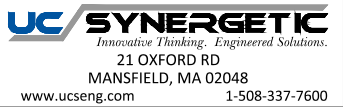
LOCATION: BOSTON, MA
 SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
 RCTB-14_10
 DETAILS - RADIO SHROUD

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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 1.1 CU. YDS.

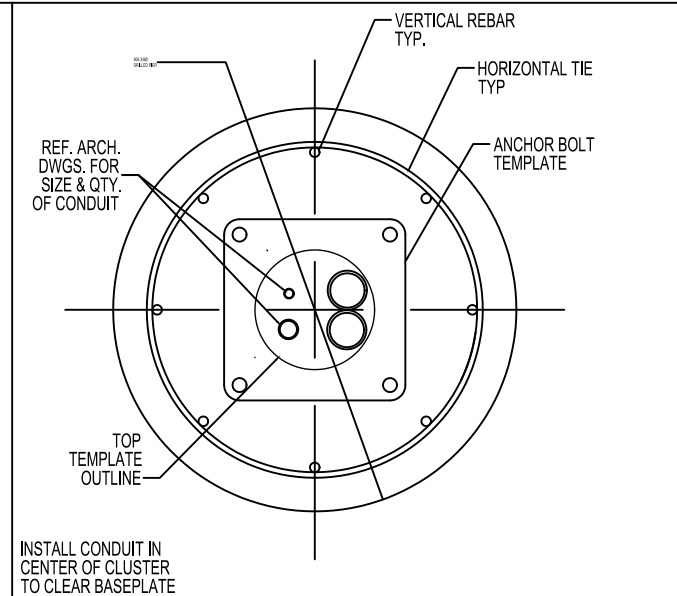
FACTORED BASE REACTIONS

MOMENT = 30.9 ft-kips
 SHEAR = 2.46 kips
 VERTICAL = 1.67 kips

SPECIAL INSPECTIONS

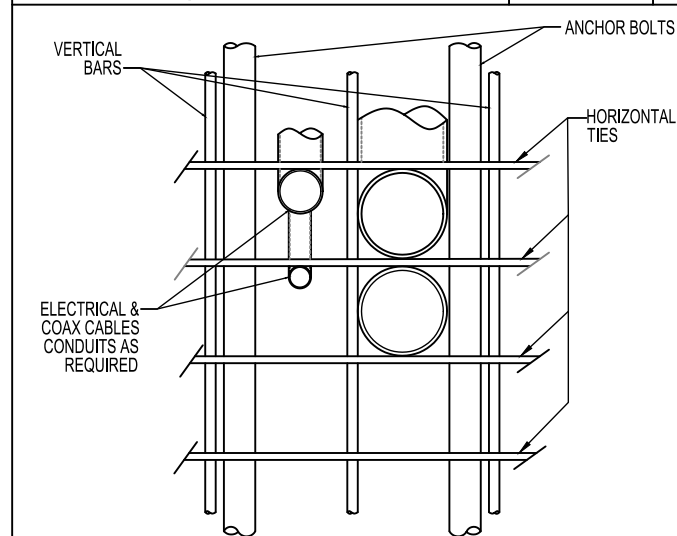
SPECIAL INSPECTION:
 THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTION PER 2009/2012 IBC, SECTION 1704

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



CONDUIT DETAIL @ PIER SECTION

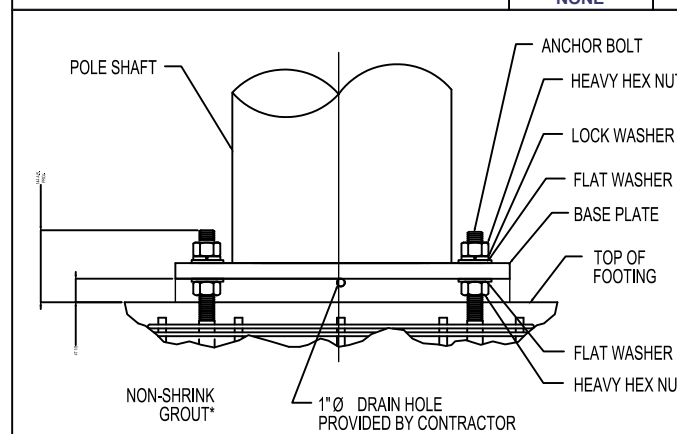
SCALE: NONE 1



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

CONDUIT DETAIL

SCALE: NONE 2

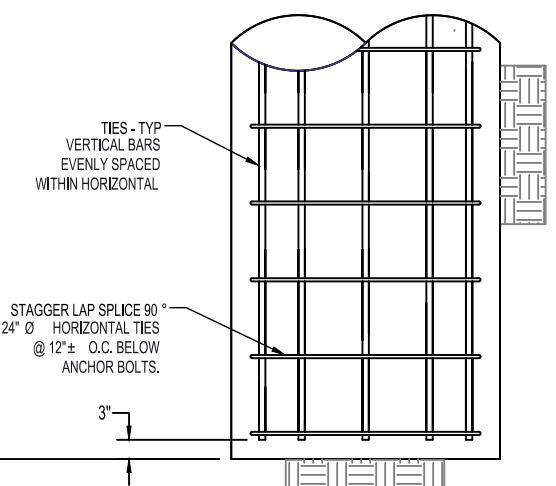
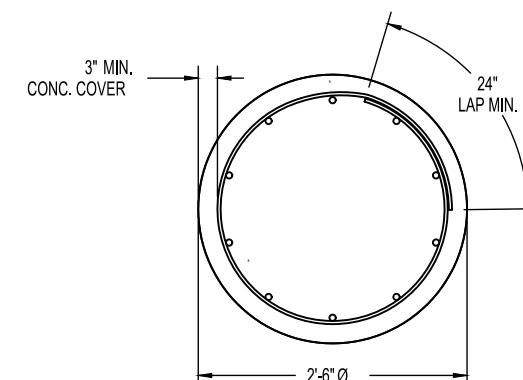
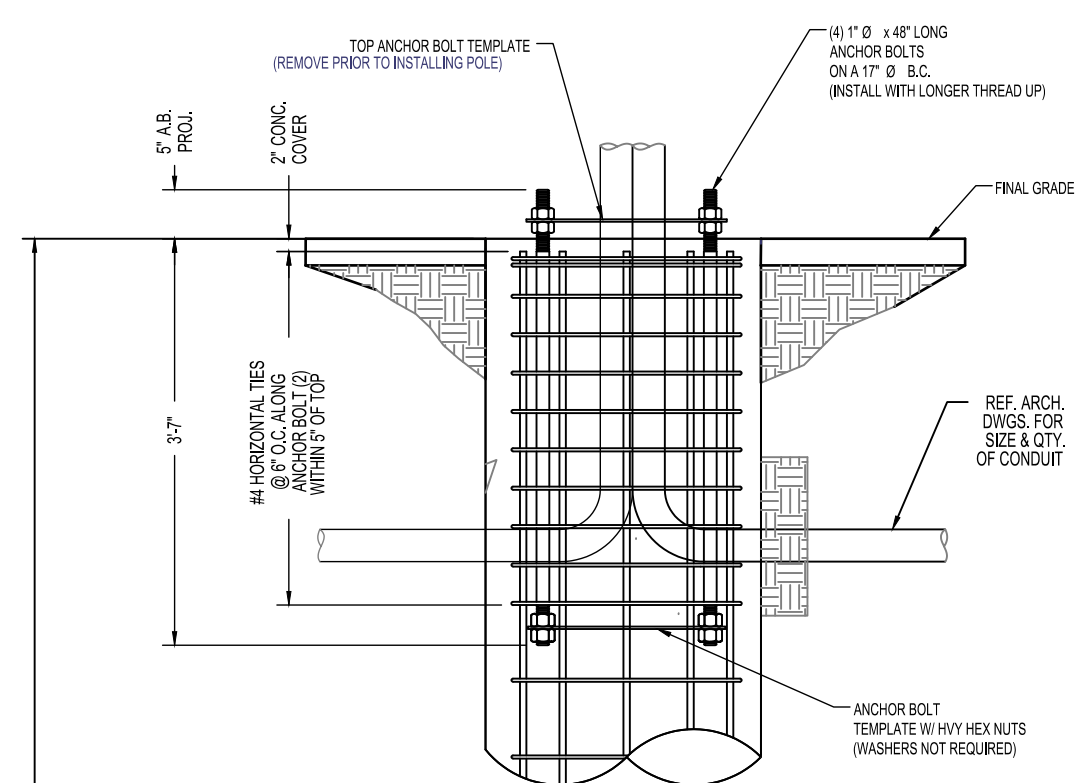


* NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI.

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

BASE GROUTING DETAIL

SCALE: NONE 3



PIER FOUNDATION INSTALLATION

DESCRIPTION	QTY.	SIZE	LENGTH	WEIGHT	OVERLAP
VERTICAL BARS	8	#6	5'-6"	66 LBS.	N/A
HORIZONTAL TIES	10	#4	8'-4"	55 LBS.	2'-0"

LOCATION:
 BOSTON, MA
 SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
 RCTB-14_10
 DETAILS - CONCRETE FOUNDATION

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/16/18

DRAFTER: MMS/MAC

SCALE: NTS

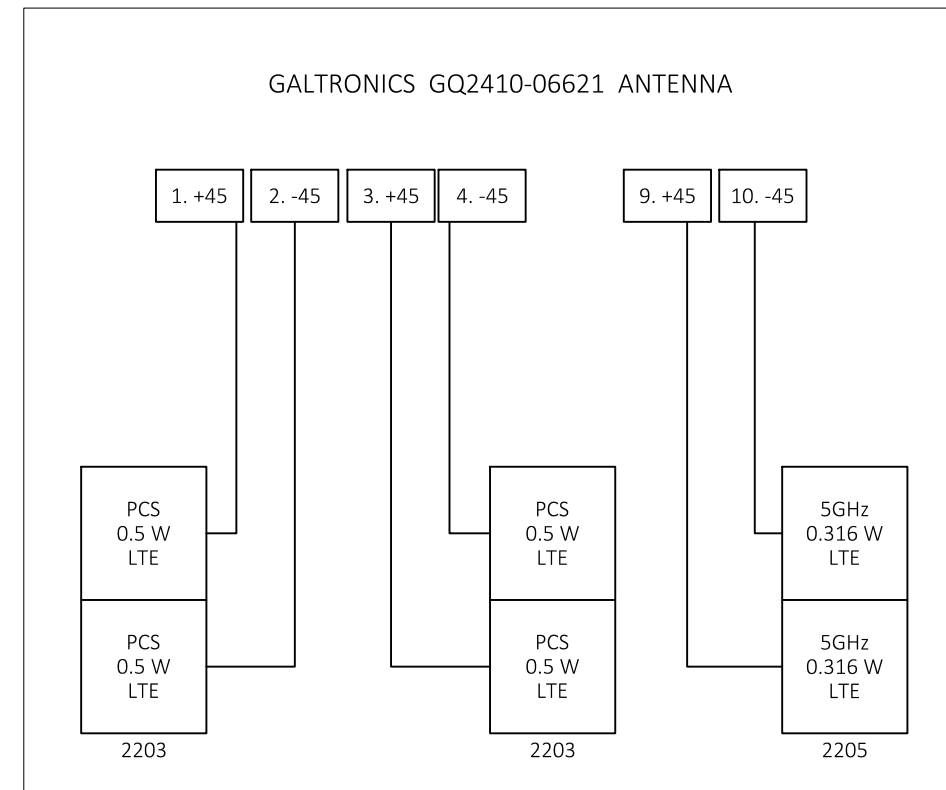
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INDEX NAME: RCTB-14_10

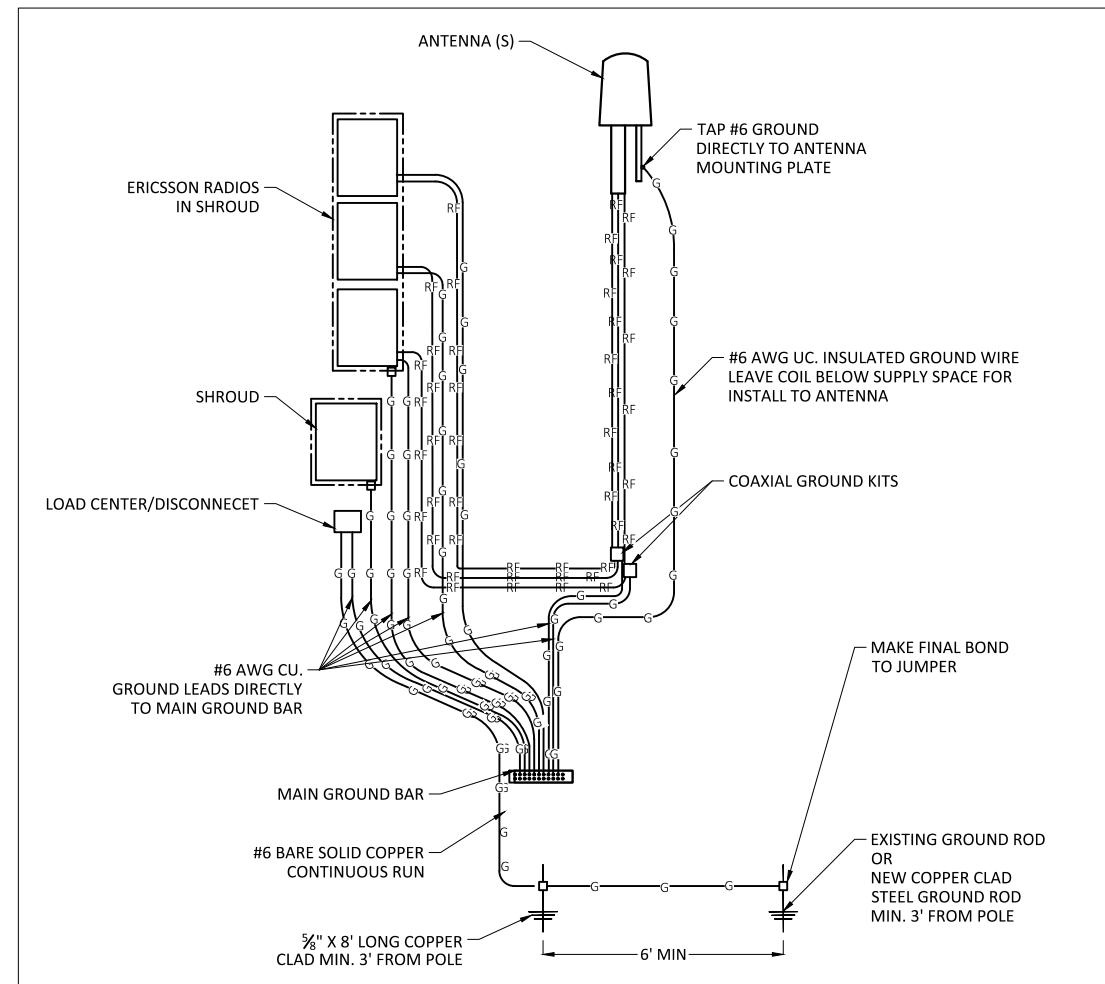
SHEET #: 6 OF 7



EXISTING POLE
SCALE: NTS



WIRING DIAGRAM
SCALE: NTS



GROUNDING DIAGRAM
SCALE: NTS

LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
RCTB-14_10
EXISTING PHOTO/WIRING DIAGRAM

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/16/18

DRAFTER: MMS/MAC
SCALE: NTS
ISSUE DATE: 02/14/18
INDEX NAME: RCTB-14_10
SHEET #: 7 OF 7

PROJECT DESCRIPTION:

THESE PLANS REPRESENT A PORTION OF A PROPOSED SMALL CELL BUILD INVOLVING THE INSTALLMENT OF AN ANTENNA AND RADIO EQUIPMENT ON AN EXISTING WOODEN UTILITY OR REPLACEMENT METAL STREETLIGHT POLES.

**EXTENET SYSTEMS
1875 COMMONWEALTH AVE
BOSTON, MA 02135
(NORTHEAST INTERSECTION OF COMMONWEALTH AVE
AND CHESTNUT HILL AVE)**

**CRAN_RCTB_00014_14
NE-MA-ALBRD3M1-14014**

PROJECT INFORMATION

INDEX:

1	COVER PAGE
2	SIDE PROFILE
3	REAR PROFILE
4	DETAILS - ANTENNA AND RADIOS
5	DETAILS - RADIO SHROUD
6	DETAILS - CONCRETE FOUNDATION
7	EXISTING PHOTO / WIRING DIAGRAM

POLE OWNER: CITY OF BOSTON

CONTACT: RICK ANGELINI
3030 WARRENVILLE RD
SUITE 340
LISLE, IL 60532
NOC: (866) 892-5327

LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



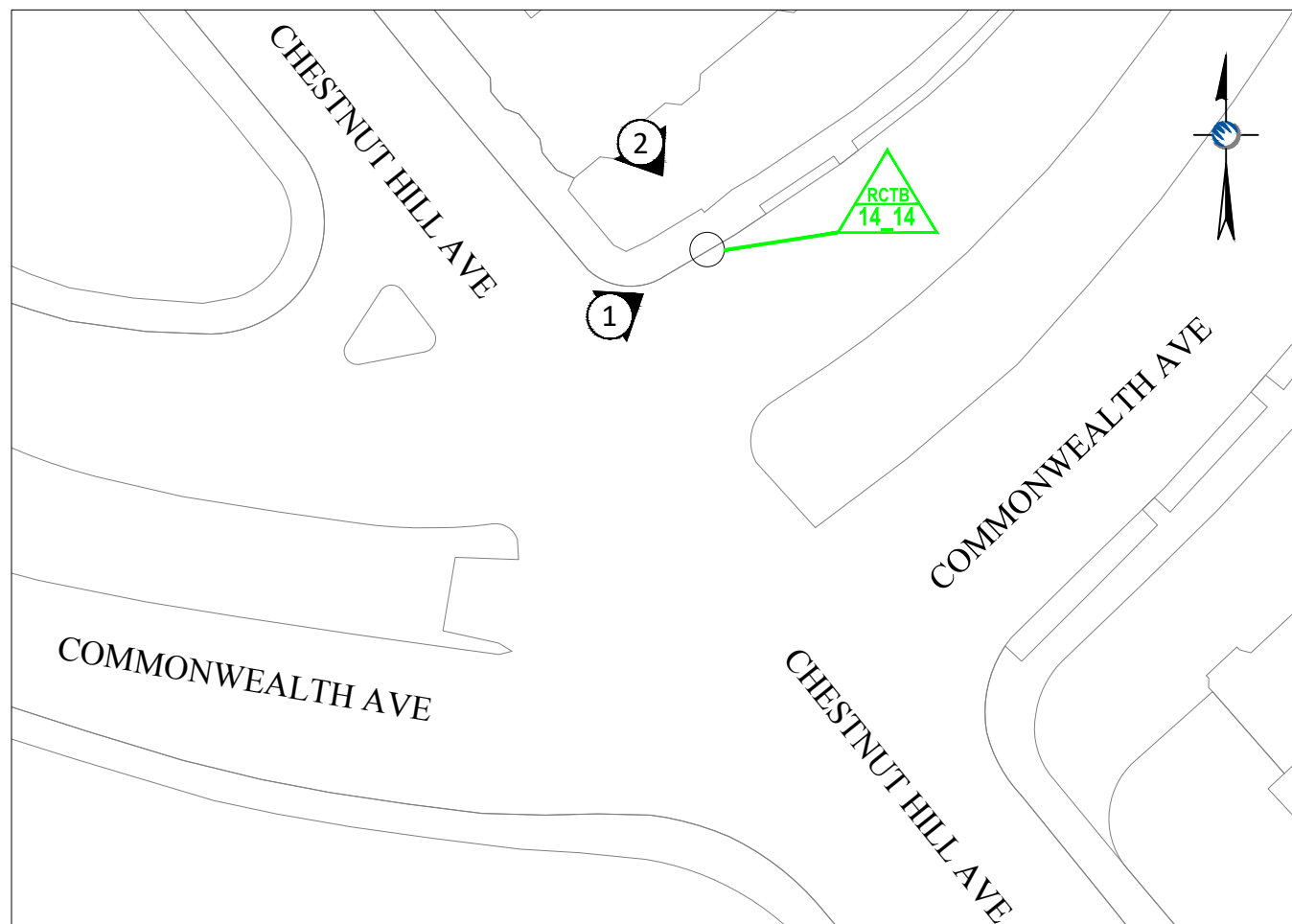
PREPARED BY:



**NODE
RCTB-14_14
COVER PAGE**

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS/SML
SCALE: AS SHOWN
ISSUE DATE: 02/15/18
INDEX NAME: RCTB-14_14
SHEET #: 1 OF 7



LOCATION MAP

LATITUDE: 42.338328° LONGITUDE: -71.153282°
ELEVATION: 141.04' AGL
SCALE: 1" = 50'



LOCUS MAP

PROJECT LOCATION - NODE RCTB-14_14
SCALE: 1" = 500'

FOR PERMITTING ONLY

NODE RCTB-14_14

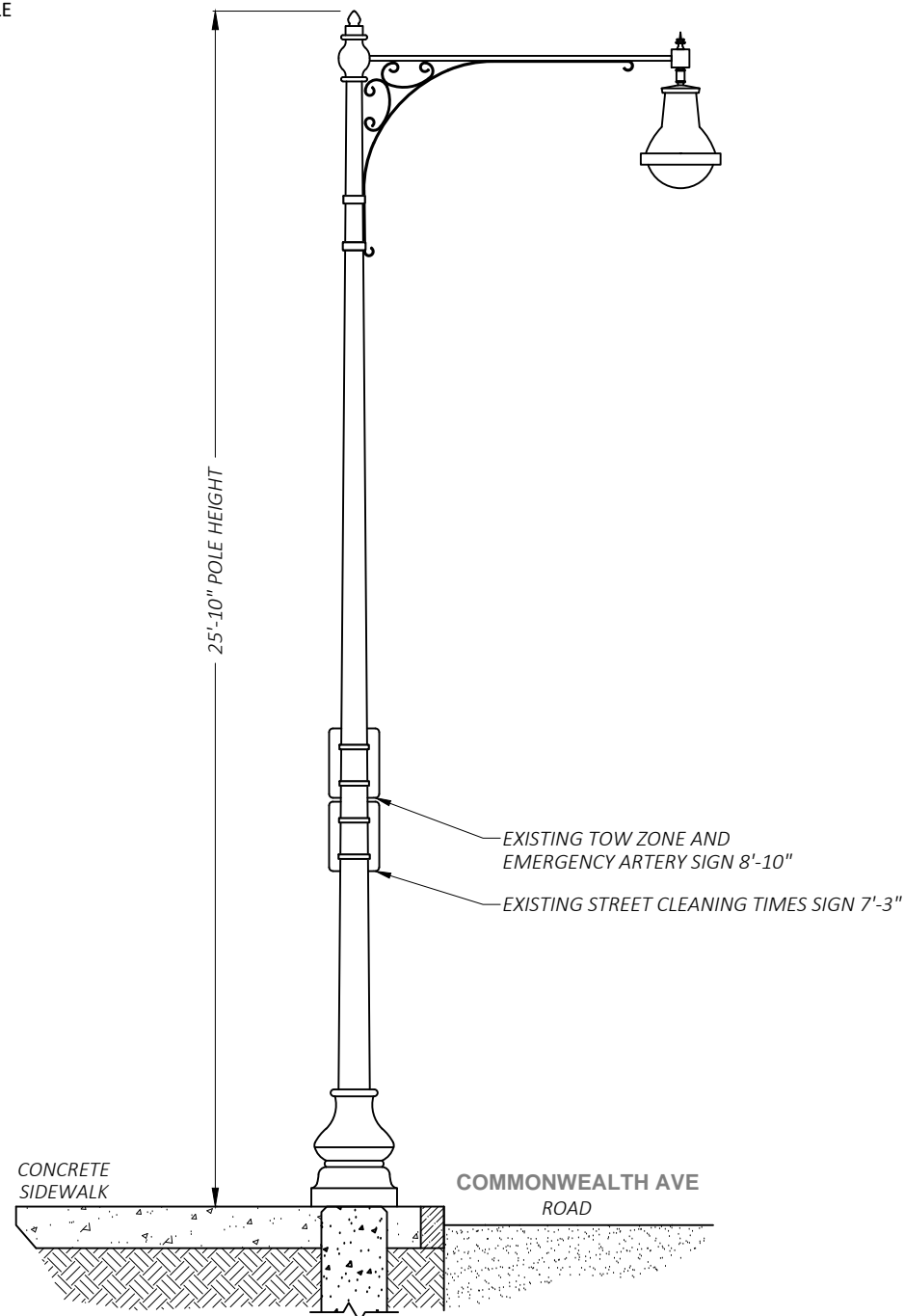
1875 COMMONWEALTH AVE, BOSTON, MA

SIDE PROFILE

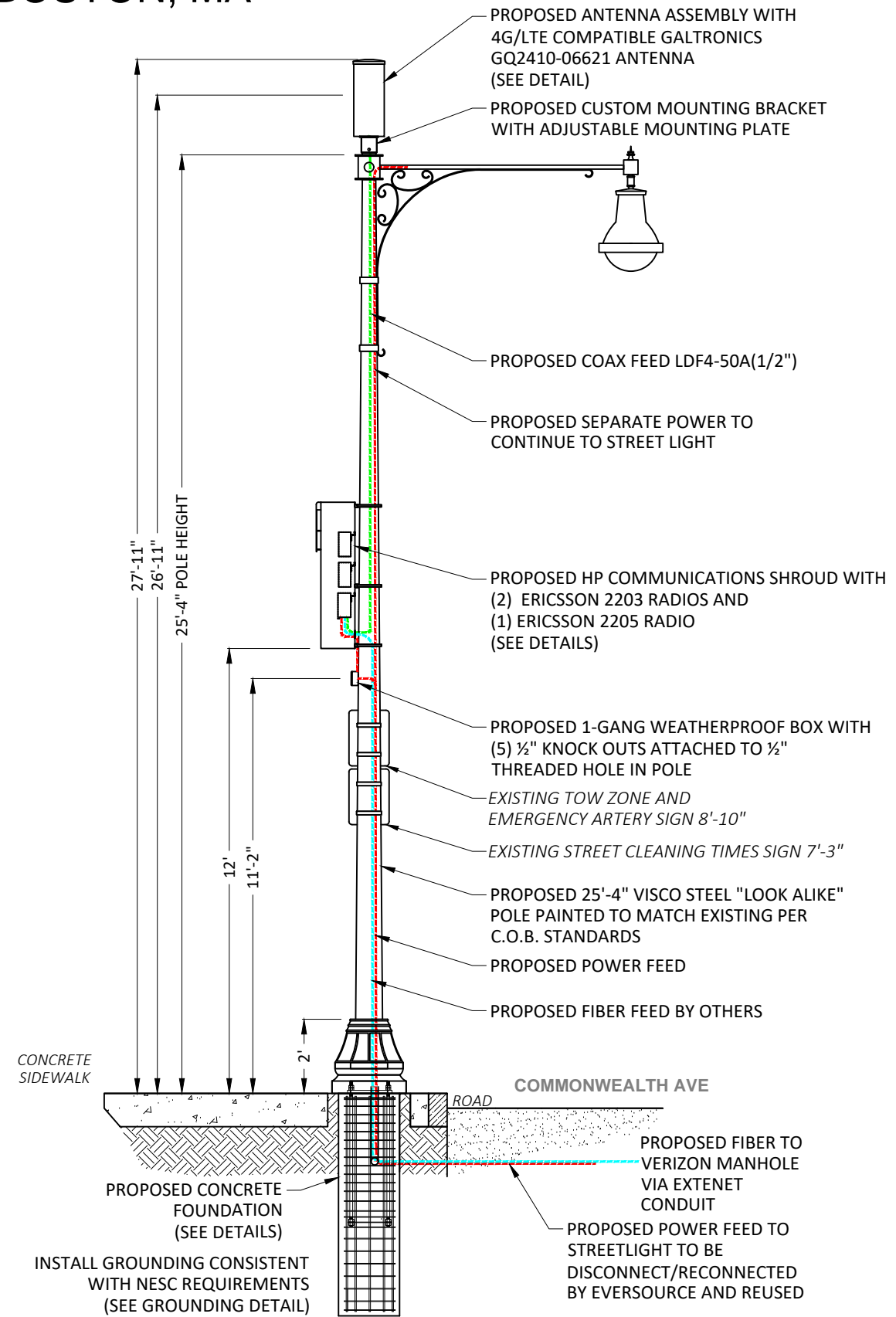
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NOTE 1:
PROPOSED EQUIPMENT TO BE PAINTED TO BLEND WITH POLE

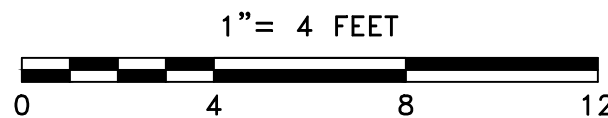
NOTE 2:
FCC MANDATED SIGNAGE TO BE ATTACHED TO POLE



1 EXISTING PROFILE - SIDE VIEW
LOOKING NORTHEAST ALONG COMMONWEALTH AVE



1 PROPOSED PROFILE - SIDE VIEW
LOOKING NORTHEAST ALONG COMMONWEALTH AVE



LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

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SYSTEMS

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Innovative Thinking. Engineered Solutions.
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MANSFIELD, MA 02048
www.uc seng.com 1-508-337-7600

NODE
RCTB-14_14
SIDE PROFILE

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS/SML
SCALE: SEE SCALE BAR
ISSUE DATE: 02/15/18
INDEX NAME: RCTB-14_14
SHEET #: 2 OF 7

N:\Engineering\Extenet Systems\NE-MA-BOSTON\1-ATT\NPP\AUTOCAD\NPP\NODE CRAN_RCTB_00014_14.dwg 3/19/18

NODE RCTB-14_14

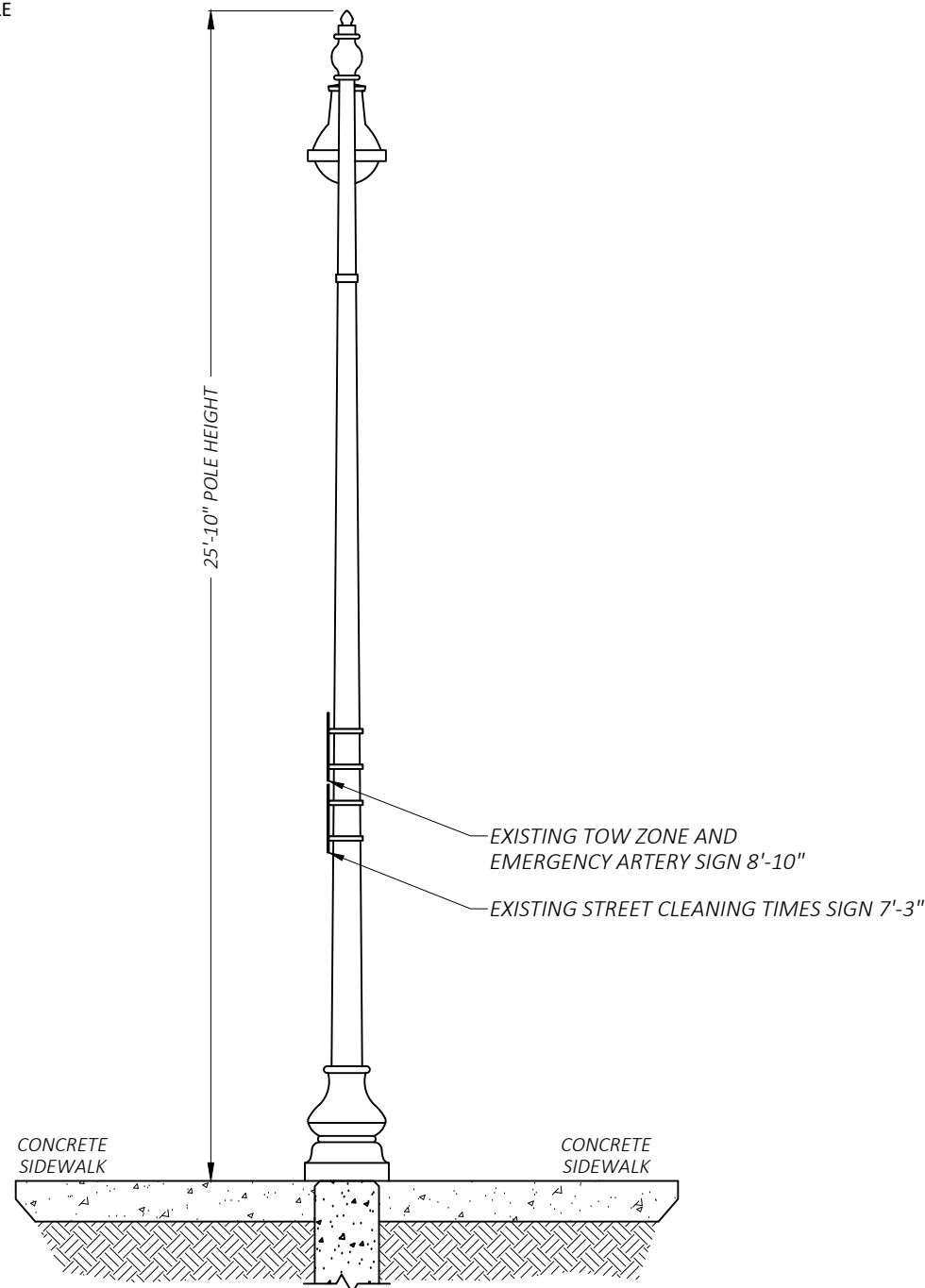
1875 COMMONWEALTH AVE, BOSTON, MA

REAR PROFILE

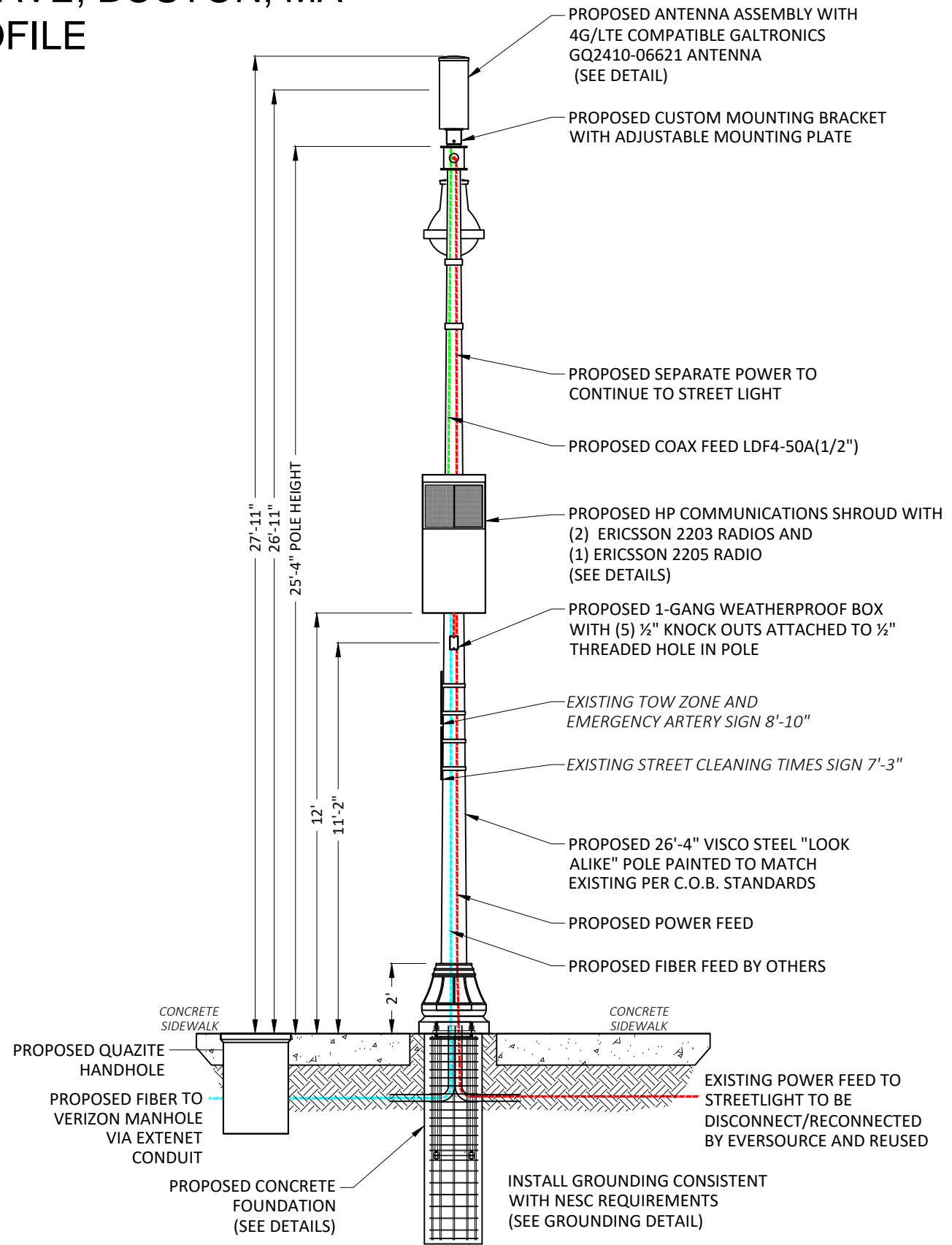
DRAWINGS NOTES:

NOTE 1:
PROPOSED EQUIPMENT TO BE PAINTED TO BLEND WITH POLE

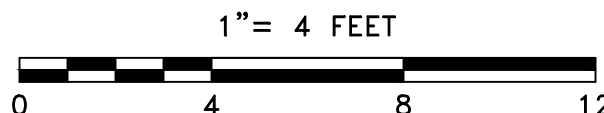
NOTE 2:
FCC MANDATED SIGNAGE TO BE ATTACHED TO POLE



② **EXISTING PROFILE - REAR VIEW**
LOOKING SOUTHEAST TOWARDS COMMONWEALTH AVE



② **PROPOSED PROFILE - REAR VIEW**
LOOKING SOUTHEAST TOWARDS COMMONWEALTH AVE



LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

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www.uc seng.com 1-508-337-7600

NODE RCTB-14_14
REAR PROFILE

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS/SML
SCALE: SEE SCALE BAR
ISSUE DATE: 02/15/18
INDEX NAME: RCTB-14_14
SHEET #: 3 OF 7

N:\Engineering\Extenet Systems\NE-MA-BOSTON\1-ATT\NPP\AUTOCAD\NPP\NODE CRAN_RCTB_00014_14.dwg 3/19/18



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

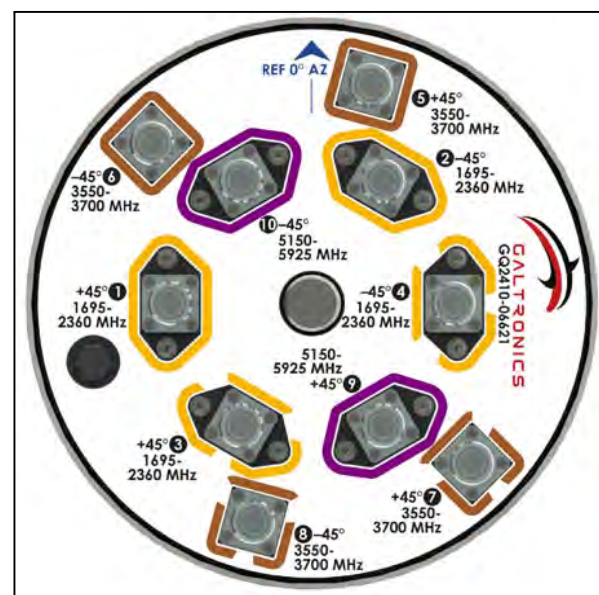
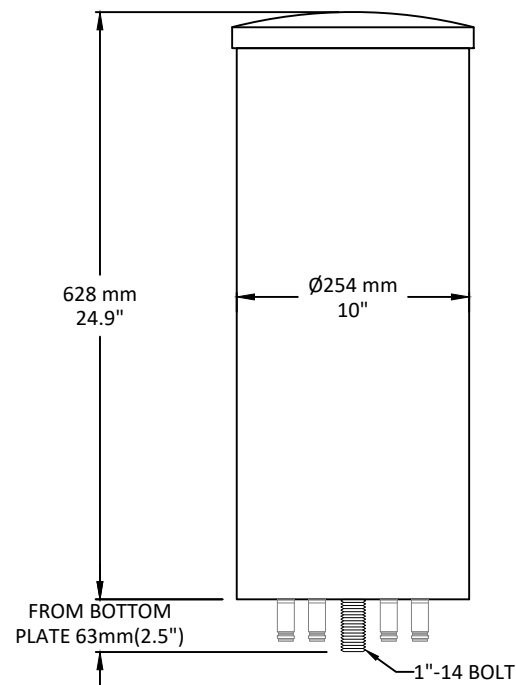
GQ2410-06621

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*



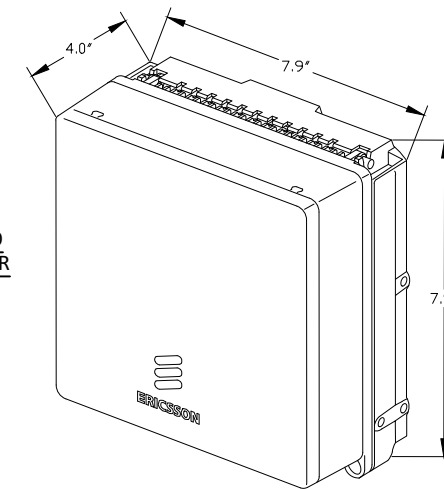
1695-2360, 3550-3700 and 5150-5925 MHz Pseudo Omni Canister Antenna



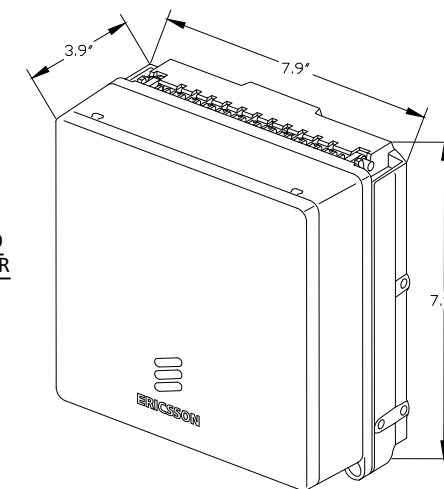
GALTRONICS GQ2410-06621 ANTENNA

SCALE: NTS

ERICSSON RADIO 2205 WITH COVER

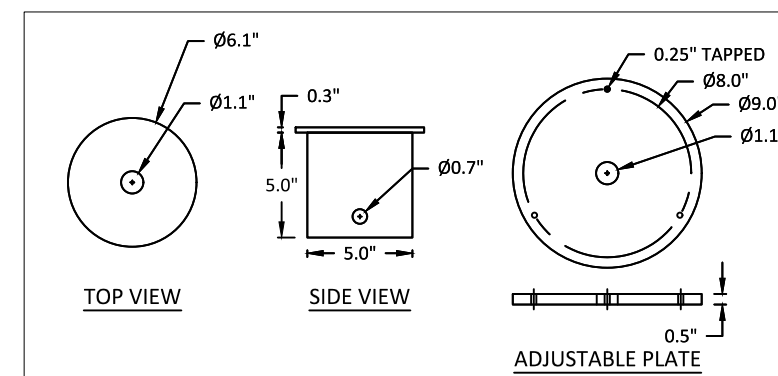


ERICSSON RADIO 2203 WITH COVER



**ERICSSON 2203 & 2205 RADIOS WITH COVER
POLE MOUNT REMOTE UNIT**

SCALE: NTS



CUSTOM ANTENNA MOUNTING BRACKET

SCALE: NTS

LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



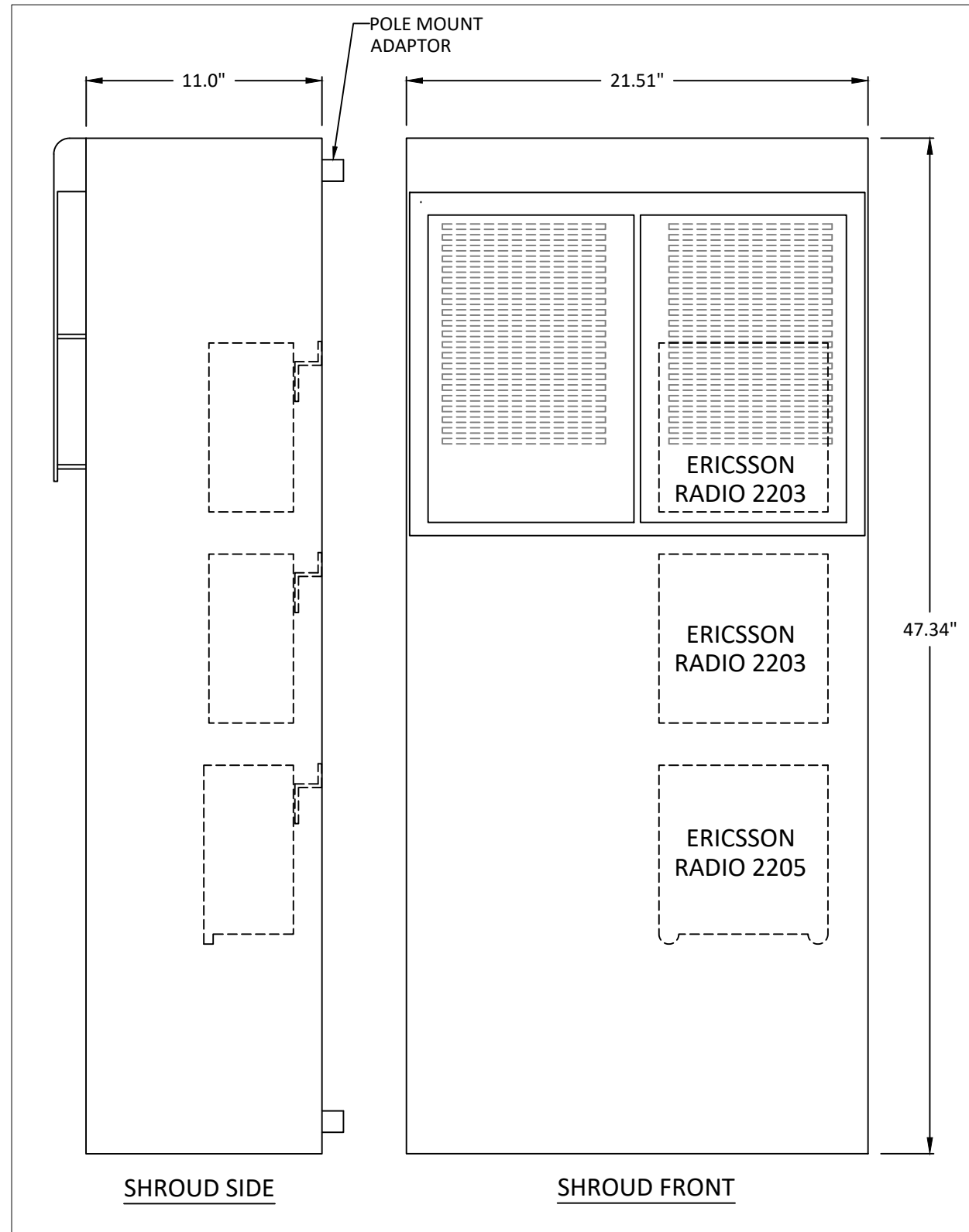
PREPARED BY:



NODE
RCTB-14_14
DETAILS - ANTENNA & RADIOS

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS/SML
SCALE: NTS
ISSUE DATE: 02/15/18
INDEX NAME: RCTB-14_14
SHEET #: 4 OF 7



HP COMMUNICATIONS SHROUD
6.48 CUBIC FEET
 SCALE: NTS

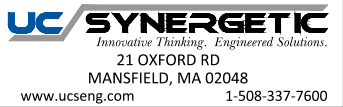
LOCATION: BOSTON, MA
 SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
 RCTB-14_14
 DETAILS - RADIO SHROUD

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS/SML
 SCALE: NTS
 ISSUE DATE: 02/15/18
 INDEX NAME: RCTB-14_14
 SHEET #: 5 OF 7

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CHECKING AREA FOR UNDERGROUND FACILITIES PRIOR TO EXCAVATING ANY MATERIALS.
2. CONTRACTOR SHALL INSPECT AND REMOVE ALL DEBRIS FROM BOTTOM OF EXCAVATION.
3. CONTRACTOR SHALL VERIFY ANCHOR BOLT LAYOUT PRIOR TO, AND IMMEDIATELY AFTER PLACING CONCRETE. ANCHOR BOLT LAYOUT IS CRITICAL FOR MONOPOLE INSTALLATION.
4. 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.
5. 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.
6. CONCRETE SHALL BE CONSOLIDATED USING VIBRATORY METHODS THROUGHOUT DEPTH OF FOUNDATION. VIBRATING LOWER DEPTHS MAY BE ACCOMPLISHED BY TOUCHING REBAR CAGE WITH VIBRATOR.
7. 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.
8. 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.
9. 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.
10. DRILLED PIER FOUNDATION DESIGN PER 2009/2012 IBC, TABLE 1806.2, CLASS 4 MATERIAL.
11. TOTAL VOLUME OF CONCRETE REQUIRED FOR THIS FOUNDATION IS APPROXIMATELY 1.1 CU. YDS.

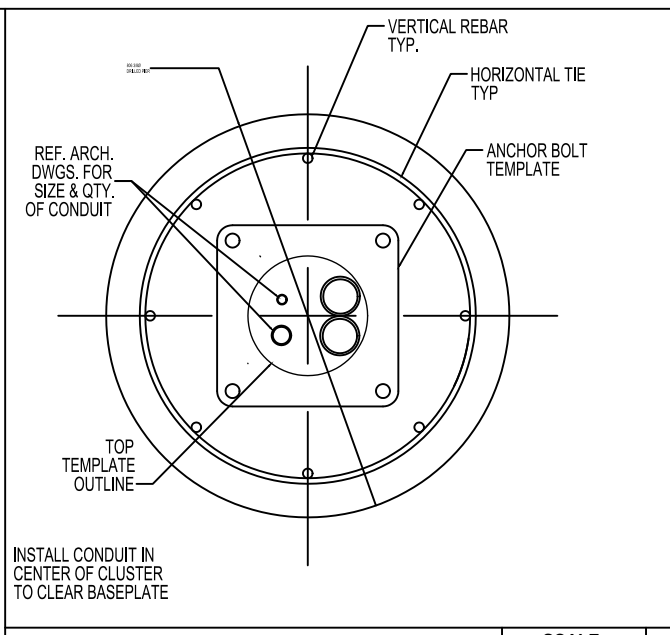
FACTORED BASE REACTIONS

MOMENT = 30.9 ft-kips
 SHEAR = 2.46 kips
 VERTICAL = 1.67 kips

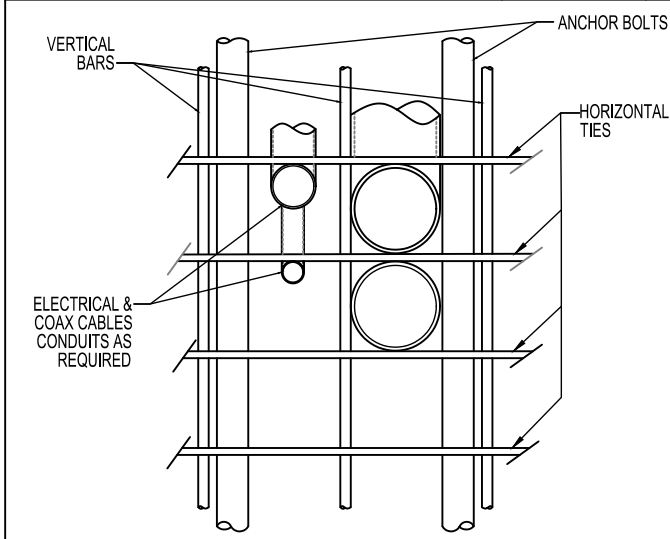
SPECIAL INSPECTIONS

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

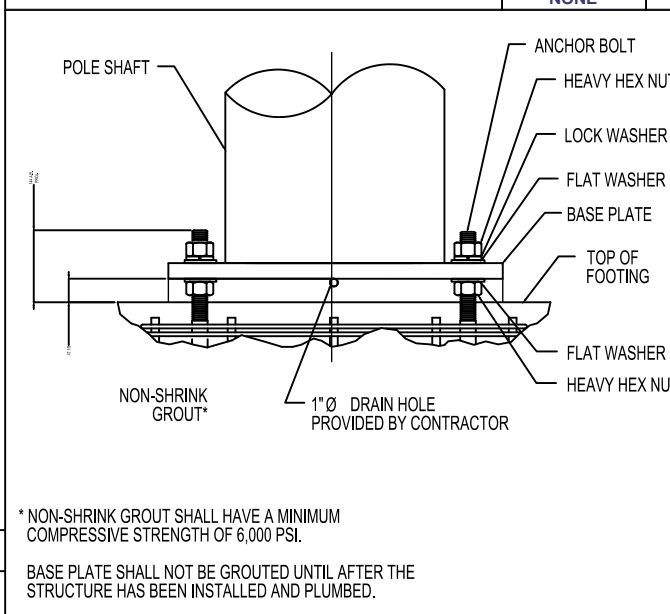


CONDUIT DETAIL @ PIER SECTION SCALE: NONE 1

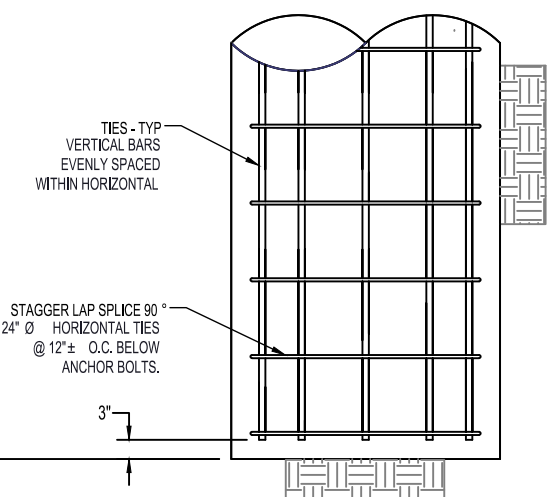
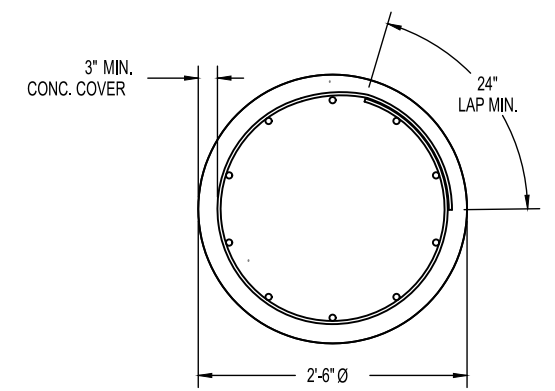
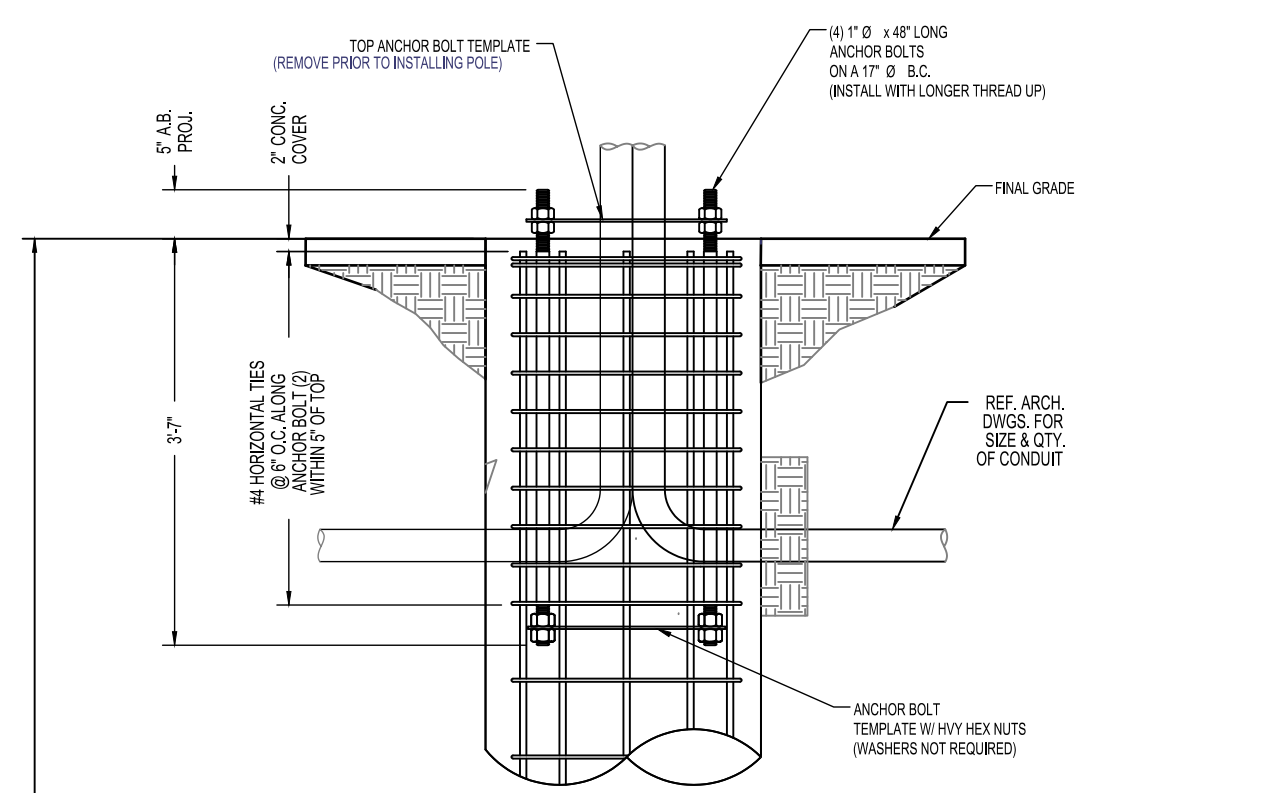


* ADJUST REBAR AS NEEDED TO ACCOMMODATE CONDUIT. SEE REINFORCEMENT SUMMARY FOR SIZE, QUANTITY AND LOCATION OF VERTICAL BARS AND HORIZONTAL TIES.

CONDUIT DETAIL SCALE: NONE 2



BASE GROUTING DETAIL SCALE: NONE 3



PIER FOUNDATION INSTALLATION

DESCRIPTION	QTY.	SIZE	LENGTH	WEIGHT	OVERLAP
VERTICAL BARS	8	#6	5'-6"	66 LBS.	N/A
HORIZONTAL TIES	10	#4	8'-4"	55 LBS.	2'-0"

LOCATION: BOSTON, MA
 SUFFOLK COUNTY

NOTES:

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 PREPARED BY:
 Innovative Thinking. Engineered Solutions.
 21 OXFORD RD
 MANSFIELD, MA 02048
 www.ucseeng.com 1-508-337-7600

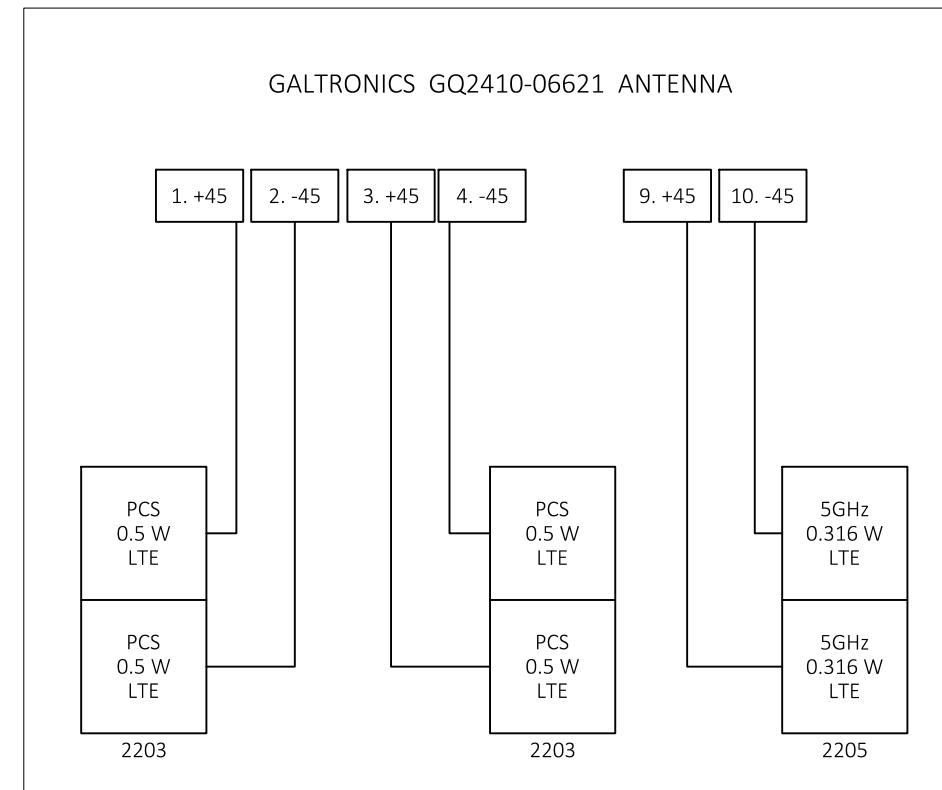
NODE
RCTB-14_14
 DETAILS - CONCRETE FOUNDATION

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/19/18

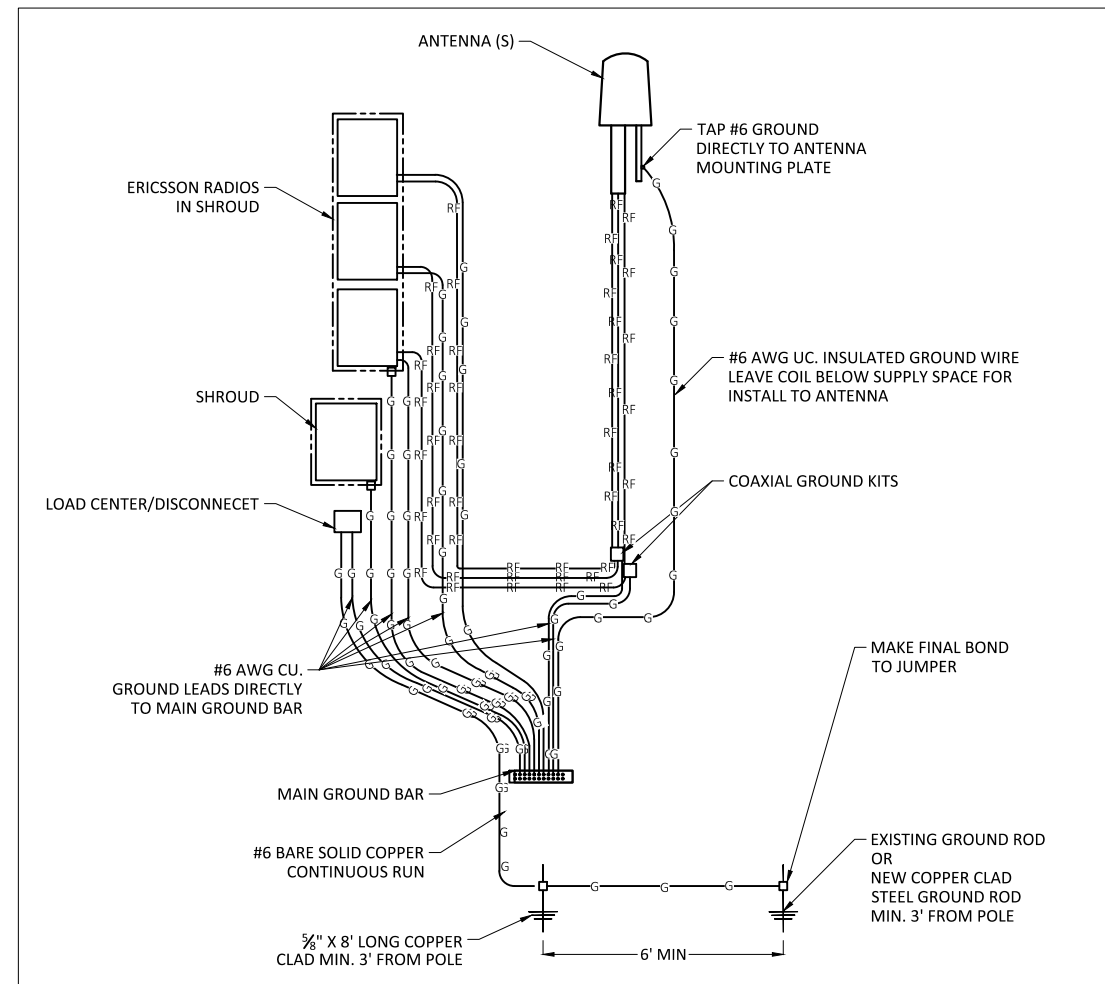
DRAFTER: MMS/SML
 SCALE: NTS
 ISSUE DATE: 02/15/18
 INDEX NAME: RCTB-14_14
 SHEET #: 6 OF 7



EXISTING POLE
SCALE: NTS



WIRING DIAGRAM
SCALE: NTS



GROUNDING DIAGRAM
SCALE: NTS

LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
RCTB-14_14
EXISTING PHOTO/WIRING DIAGRAM

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/13/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS/SML
SCALE: NTS
ISSUE DATE: 02/15/18
INDEX NAME: RCTB-14_14
SHEET #: 7 OF 7

N:\Engineering\Extenet Systems\NE-MA-BOSTD3M1-ATT\NPP\AUTOCAD\NPP\NODE CRAN_RCTB_00014_14.dwg 3/19/18

PROJECT DESCRIPTION:

THESE PLANS REPRESENT A PORTION OF A PROPOSED SMALL CELL BUILD INVOLVING THE INSTALLMENT OF AN ANTENNA AND RADIO EQUIPMENT ON AN EXISTING WOODEN UTILITY OR REPLACEMENT METAL STREETLIGHT POLES.

**EXTENET SYSTEMS
24 SIDLAW RD
BOSTON, MA 02135
(WEST SIDE OF SIDLAW RD)**

**CRAN_RCTB_00014_20
NE-MA-ALBRD3M1-14020**

PROJECT INFORMATION

INDEX:

1	COVER PAGE
2	SIDE PROFILE
3	REAR PROFILE
4	DETAILS - ANTENNA AND RADIOS
5	DETAILS - RADIO SHROUD
6	DETAILS - CONCRETE FOUNDATION
7	EXISTING PHOTO / WIRING DIAGRAM

POLE OWNER: CITY OF BOSTON

CONTACT: RICK ANGELINI
3030 WARRENVILLE RD
SUITE 340
LISLE, IL 60532
NOC: (866) 892-5327

LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

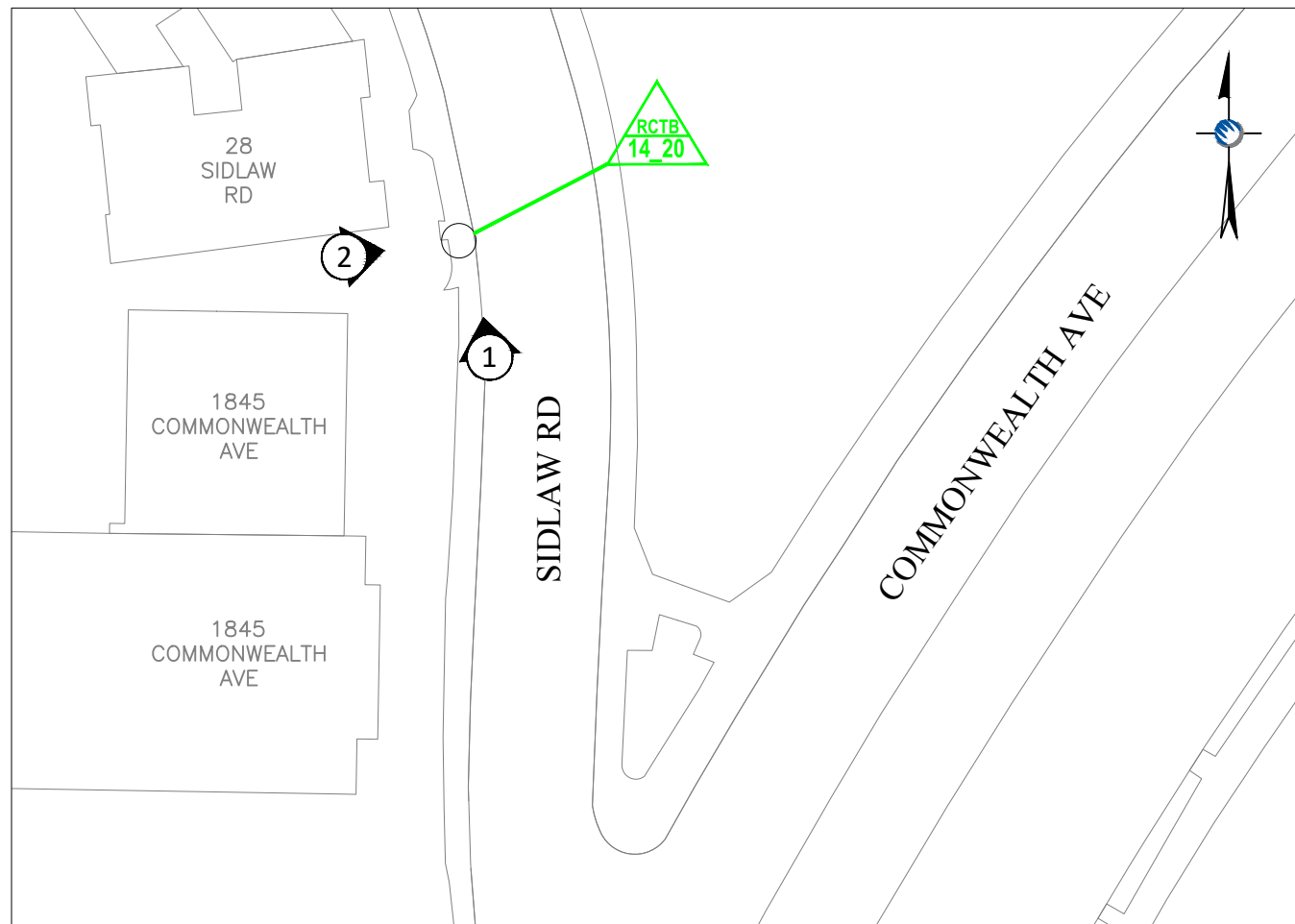
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SYSTEMS

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UC SYNERGETIC
Innovative Thinking. Engineered Solutions.
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MANSFIELD, MA 02048
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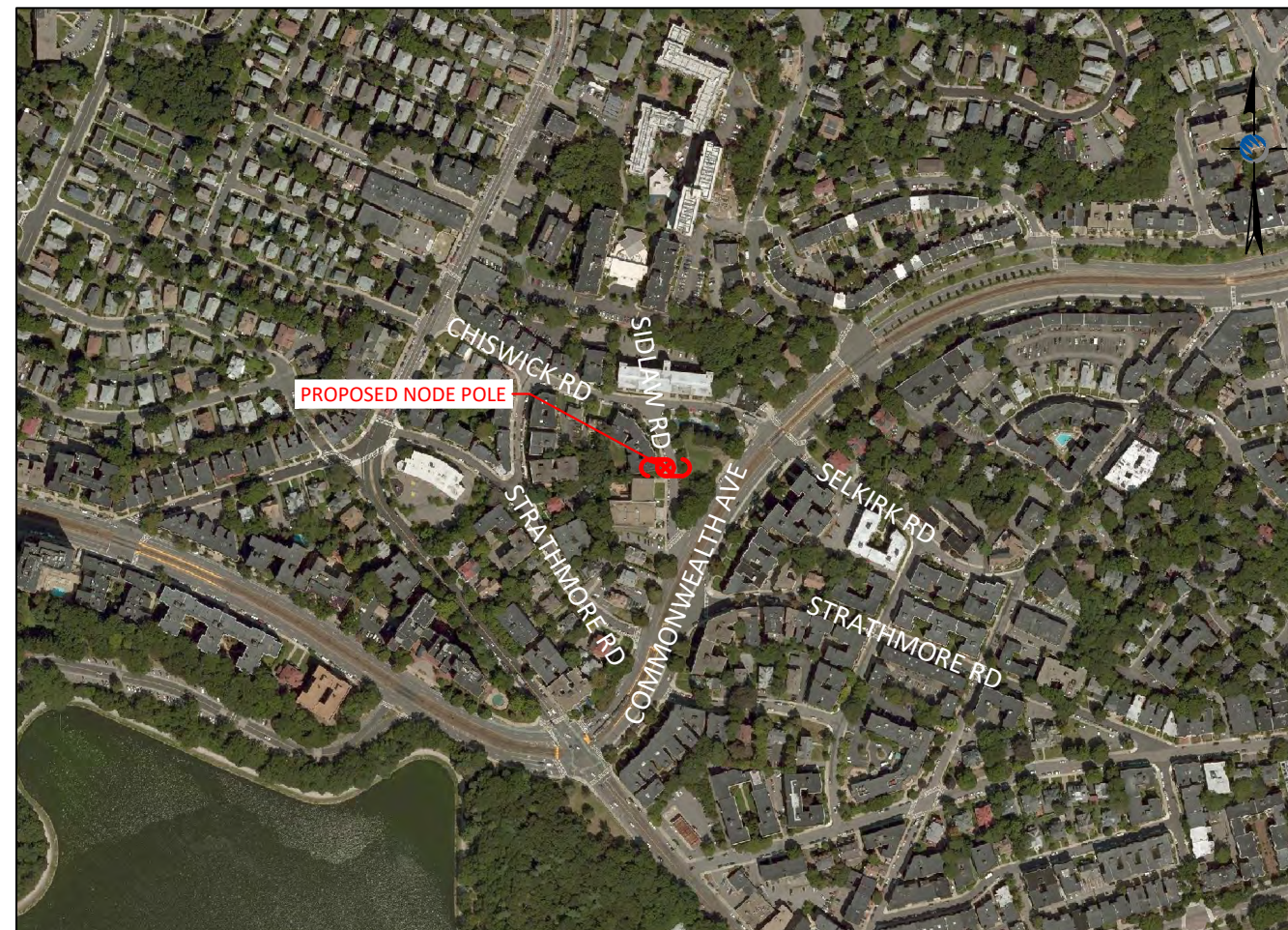
**NODE
RCTB-14_20
COVER PAGE**

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/14/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS
SCALE: AS SHOWN
ISSUE DATE: 02/20/18
INDEX NAME: RCTB-14_20
SHEET #: 1 OF 7



LOCATION MAP
LATITUDE: 42.340136° LONGITUDE: -71.152411°
ELEVATION: 134.48' AGL
SCALE: 1" = 50'



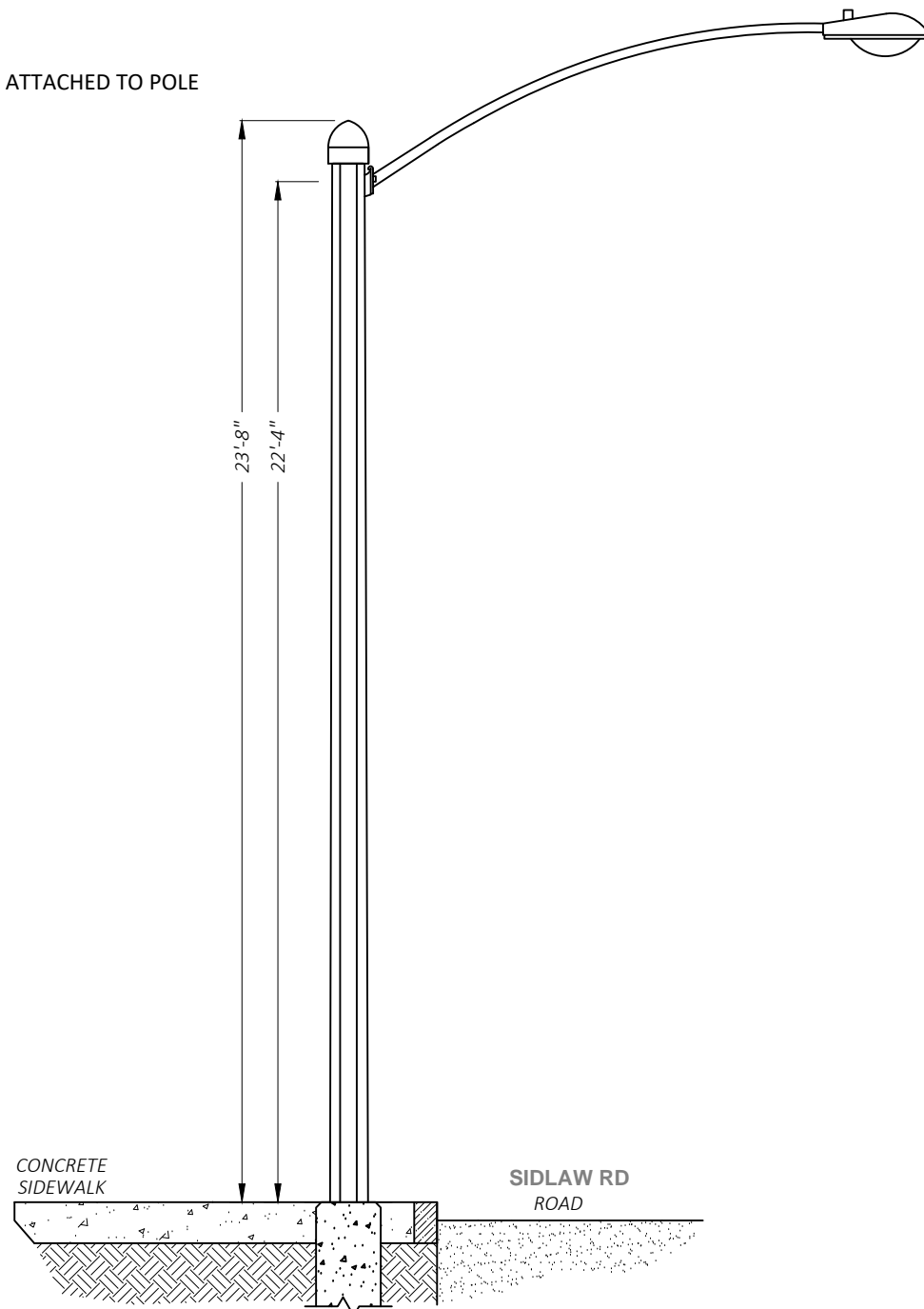
LOCUS MAP
PROJECT LOCATION - NODE RCTB-14_20
SCALE: 1" = 500'

FOR PERMITTING ONLY

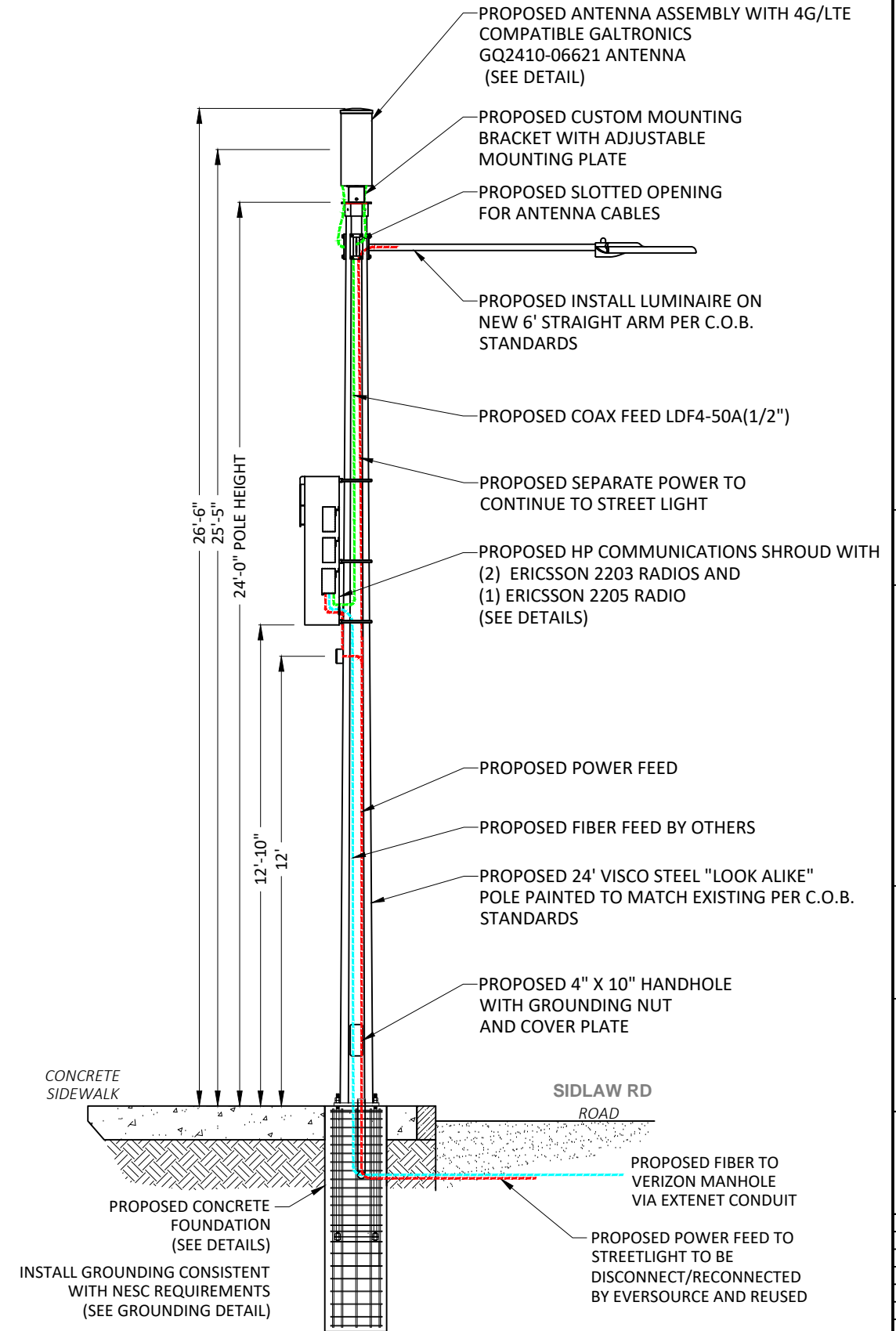
NODE RCTB-14_20 24 SIDLAW RD, BOSTON, MA SIDE PROFILE

DRAWINGS NOTES:

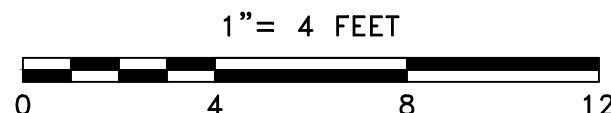
- NOTE 1:**
PROPOSED FIBER TO BE INSTALLED BY OTHERS
- NOTE 2:**
PROPOSED EQUIPMENT TO BE PAINTED TO BLEND WITH POLE
- NOTE 3:**
FCC MANDATED SIGNAGE TO BE ATTACHED TO POLE



① EXISTING PROFILE - SIDE VIEW
LOOKING NORTHWEST ALONG SIDLAW RD



① PROPOSED PROFILE - SIDE VIEW
LOOKING NORTHWEST ALONG SIDLAW RD



LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

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NODE
RCTB-14_20
SIDE PROFILE

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/14/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS
SCALE: SEE SCALE BAR
ISSUE DATE: 02/20/18
INDEX NAME: RCTB-14_20
SHEET #: 2 OF 7

N:\Engineering\Extenet Systems\NE-MA-BOSTON\1-ATT\NPP\AUTOCAD\NPP\NODE CRAN_RCTB_00014_20.dwg 3/13/18

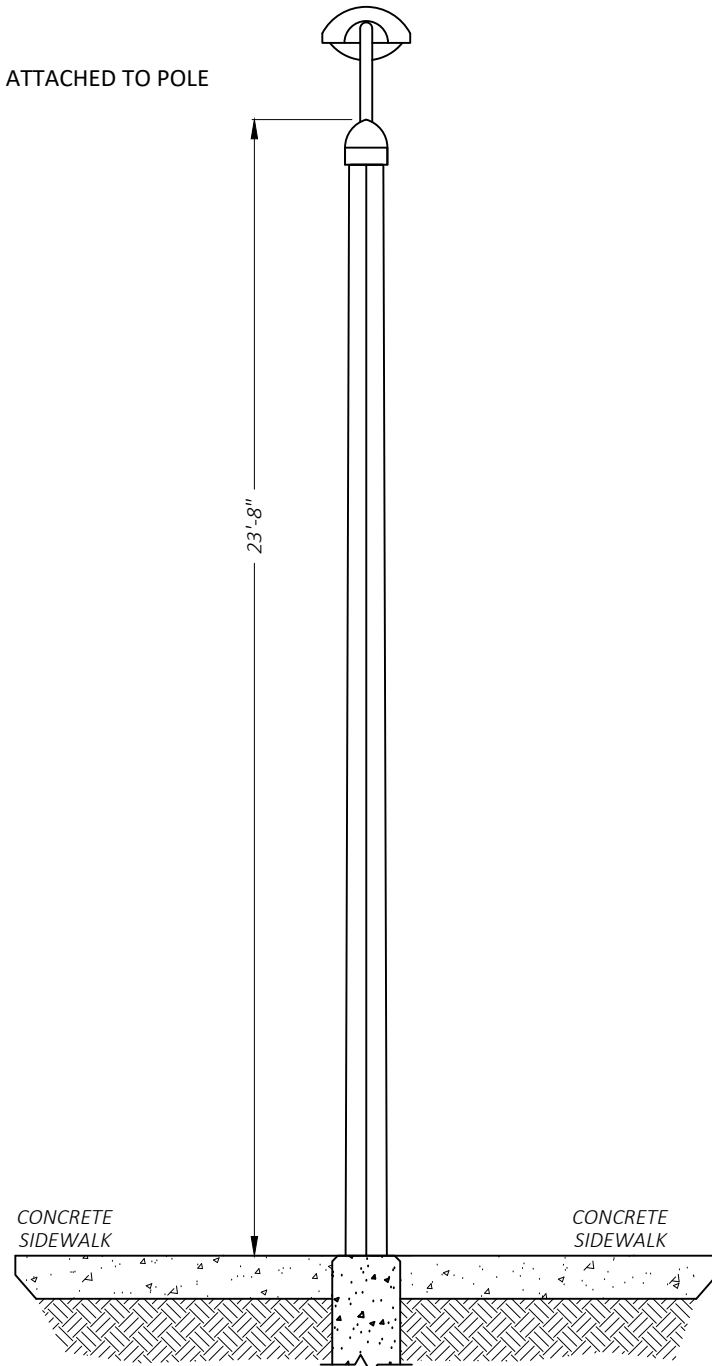
NODE RCTB-14_20 24 SIDLAW RD, BOSTON, MA SIDE PROFILE

DRAWINGS NOTES:

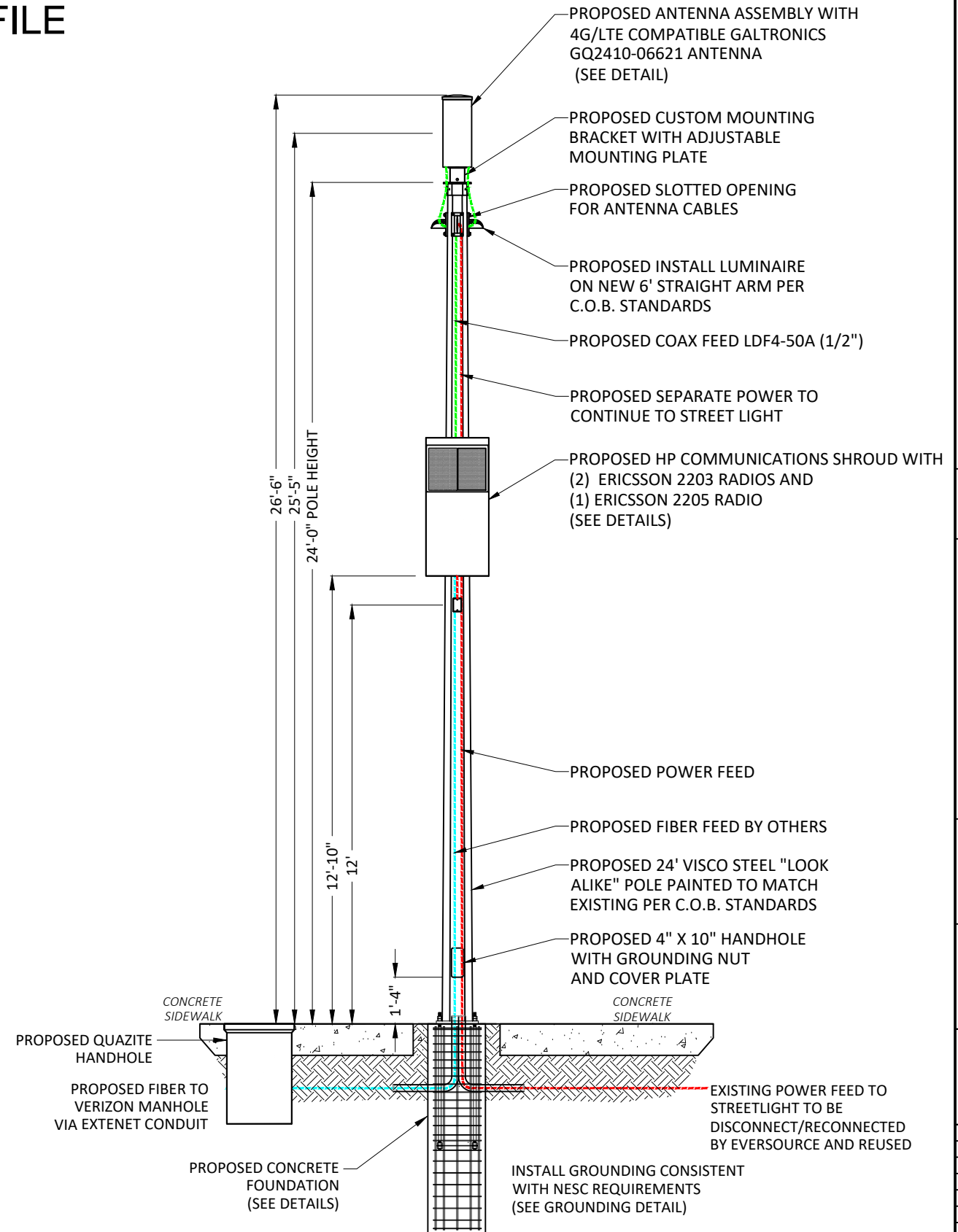
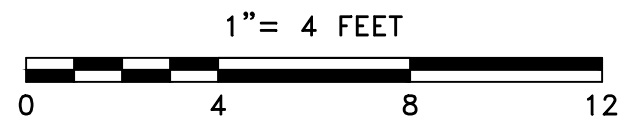
NOTE 1:
PROPOSED FIBER TO BE INSTALLED BY OTHERS

NOTE 2:
PROPOSED EQUIPMENT TO BE PAINTED TO BLEND WITH POLE

NOTE 3:
FCC MANDATED SIGNAGE TO BE ATTACHED TO POLE



② EXISTING PROFILE - REAR VIEW
LOOKING NORTHEAST TOWARDS SIDLAW RD



② PROPOSED PROFILE - REAR VIEW
LOOKING NORTHEAST TOWARDS SIDLAW RD

LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
RCTB-14_20
REAR PROFILE

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/14/18
2	UPDATE PER EXTENET	03/19/18

DRAFTER: MMS
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N:\Engineering\Extenet Systems\NE-MA-BOSTD3M1-ATT\NPPS\AUTOCAD\NPPS\NODE CRAN_RCTB_00014_20.dwg 3/13/18



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

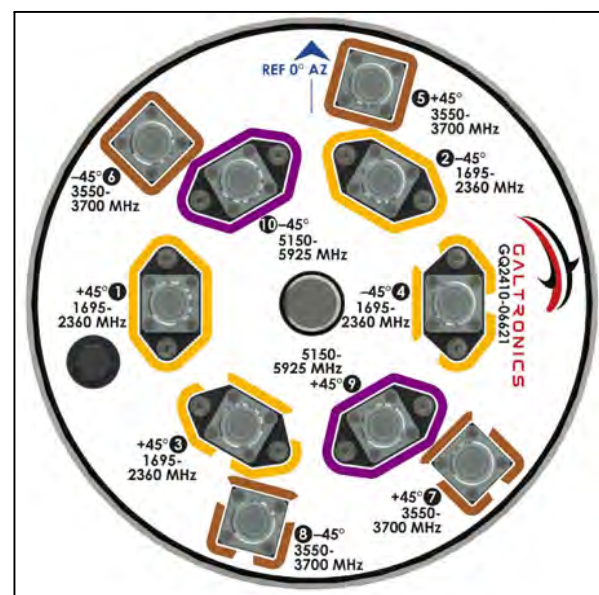
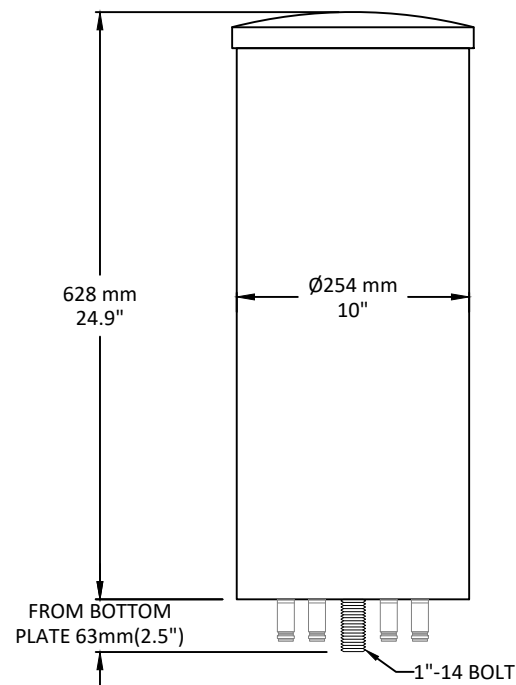
GQ2410-06621

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*



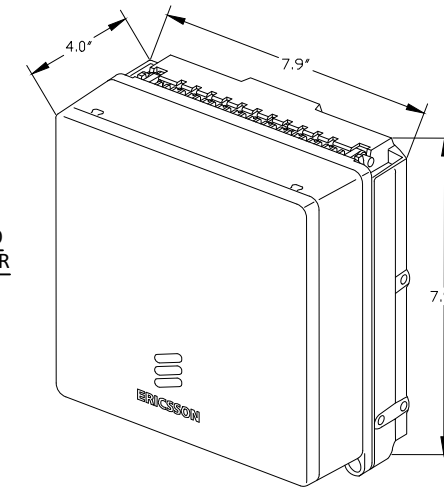
1695-2360, 3550-3700 and 5150-5925 MHz Pseudo Omni Canister Antenna



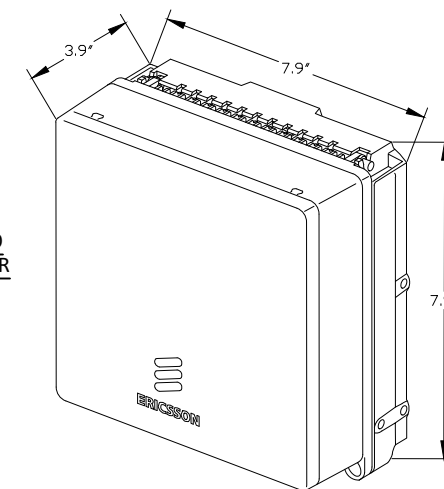
GALTRONICS GQ2410-06621 ANTENNA

SCALE: NTS

ERICSSON RADIO 2205 WITH COVER

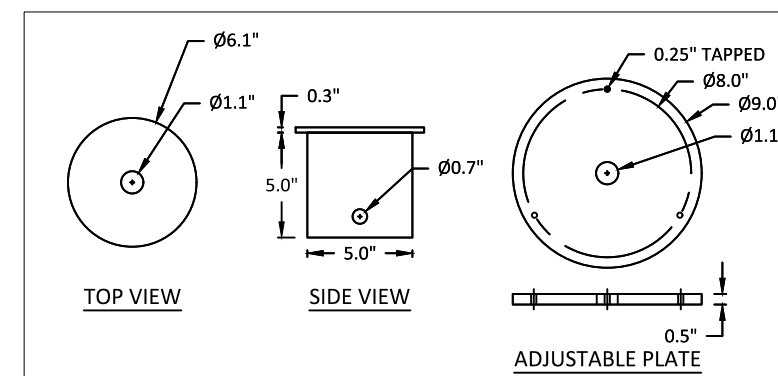


ERICSSON RADIO 2203 WITH COVER



**ERICSSON 2203 & 2205 RADIOS WITH COVER
POLE MOUNT REMOTE UNIT**

SCALE: NTS



CUSTOM ANTENNA MOUNTING BRACKET

SCALE: NTS

LOCATION:
BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:

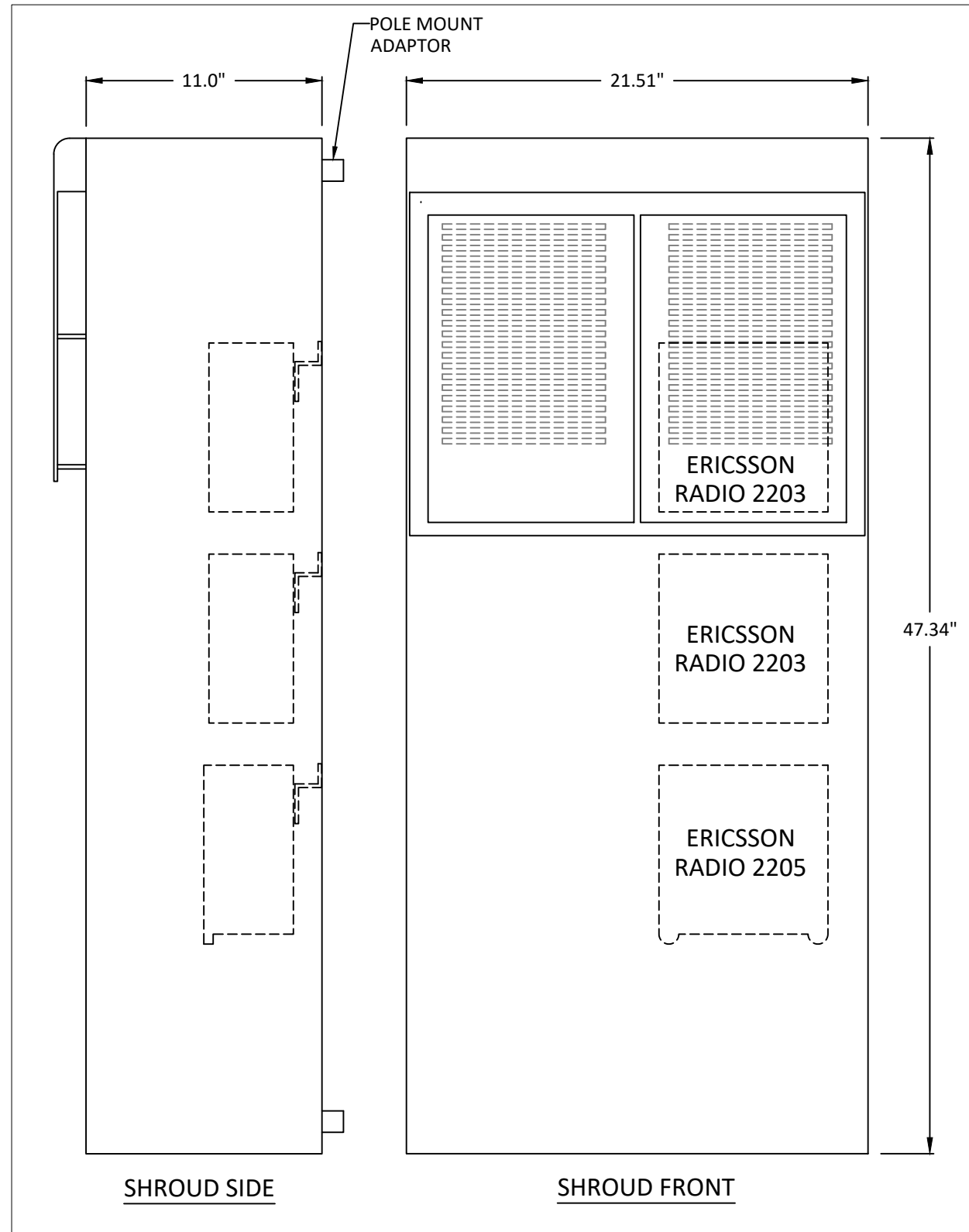


NODE
RCTB-14_20
DETAILS - ANTENNA AND RADIOS

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/14/18
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HP COMMUNICATIONS SHROUD
 6.48 CUBIC FEET
 SCALE: NTS

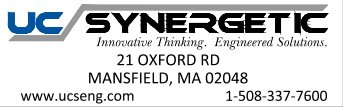
LOCATION: BOSTON, MA
 SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
 RCTB-14_20
 DETAILS - RADIO SHROUD

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/14/18
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GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR CHECKING AREA FOR UNDERGROUND FACILITIES PRIOR TO EXCAVATING ANY MATERIALS.
2. CONTRACTOR SHALL INSPECT AND REMOVE ALL DEBRIS FROM BOTTOM OF EXCAVATION.
3. CONTRACTOR SHALL VERIFY ANCHOR BOLT LAYOUT PRIOR TO, AND IMMEDIATELY AFTER PLACING CONCRETE. ANCHOR BOLT LAYOUT IS CRITICAL FOR MONOPOLE INSTALLATION.
4. 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.
5. 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.
6. CONCRETE SHALL BE CONSOLIDATED USING VIBRATORY METHODS THROUGHOUT DEPTH OF FOUNDATION. VIBRATING LOWER DEPTHS MAY BE ACCOMPLISHED BY TOUCHING REBAR CAGE WITH VIBRATOR.
7. 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.
8. 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.
9. 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.
10. DRILLED PIER FOUNDATION DESIGN PER 2009/2012 IBC, TABLE 1806.2, CLASS 4 MATERIAL.
11. TOTAL VOLUME OF CONCRETE REQUIRED FOR THIS FOUNDATION IS APPROXIMATELY 1.1 CU. YDS.

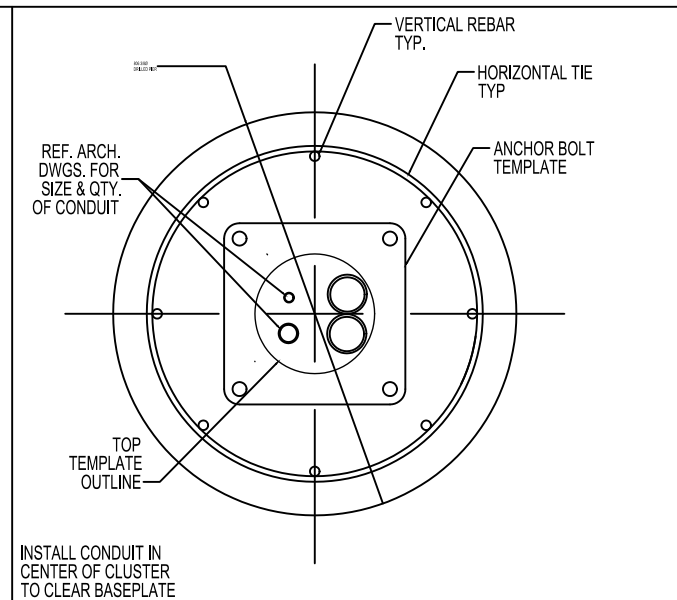
FACTORED BASE REACTIONS

MOMENT = 30.9 ft-kips
 SHEAR = 2.46 kips
 VERTICAL = 1.67 kips

SPECIAL INSPECTIONS

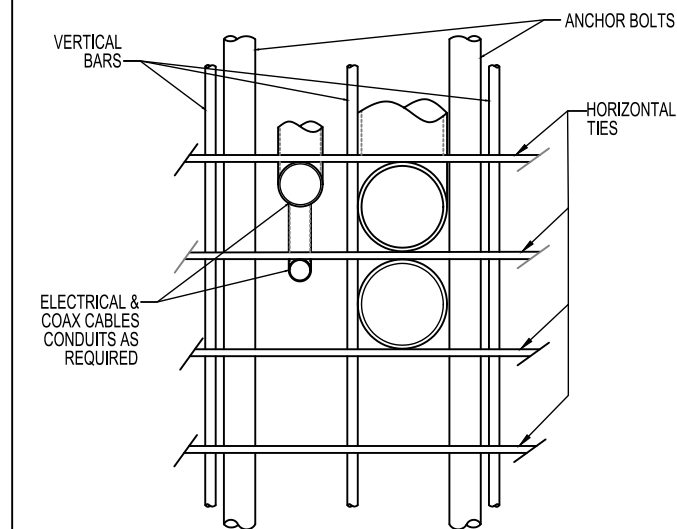
SPECIAL INSPECTION:
 THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTION PER 2009/2012 IBC, SECTION 1704

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



CONDUIT DETAIL @ PIER SECTION

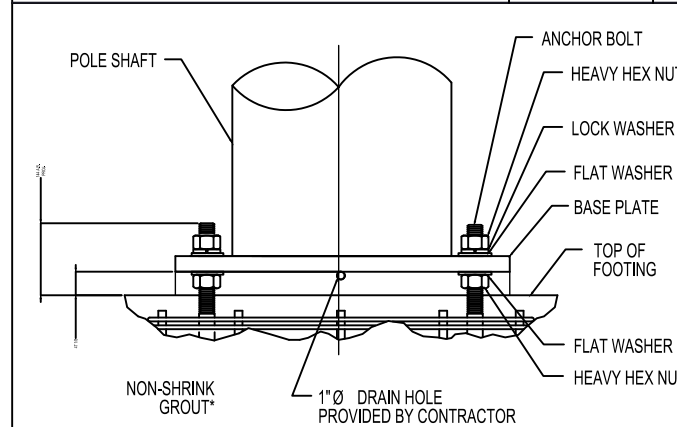
SCALE: NONE 1



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

CONDUIT DETAIL

SCALE: NONE 2

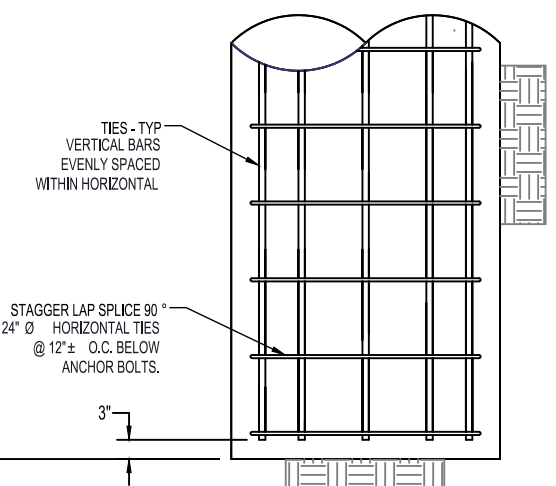
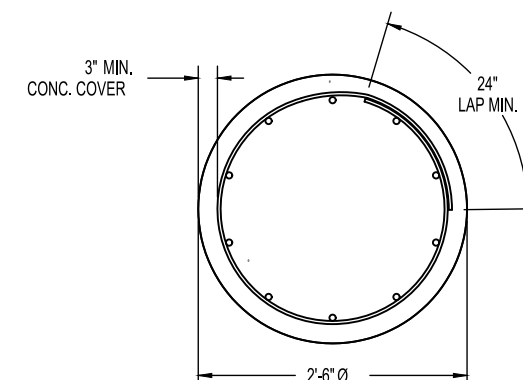
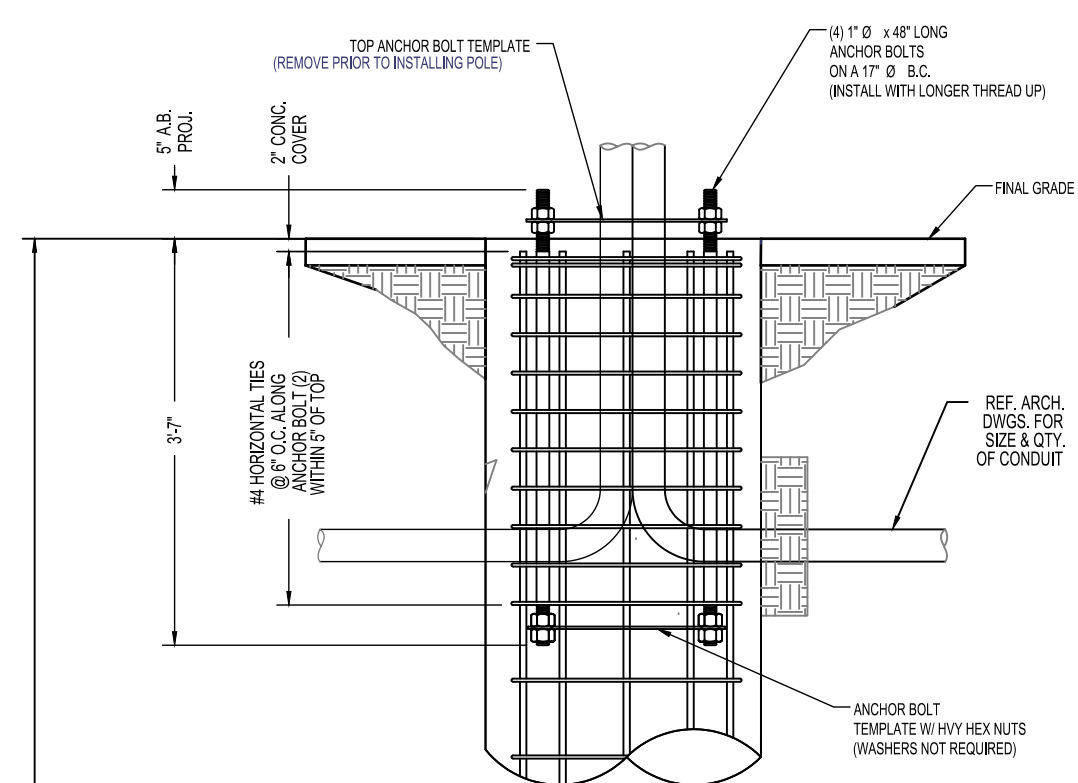


* NON-SHRINK GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 6,000 PSI.

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

BASE GROUTING DETAIL

SCALE: NONE 3



PIER FOUNDATION INSTALLATION

DESCRIPTION	QTY.	SIZE	LENGTH	WEIGHT	OVERLAP
VERTICAL BARS	8	#6	5'-6"	66 LBS.	N/A
HORIZONTAL TIES	10	#4	8'-4"	55 LBS.	2'-0"

LOCATION:
 BOSTON, MA
 SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



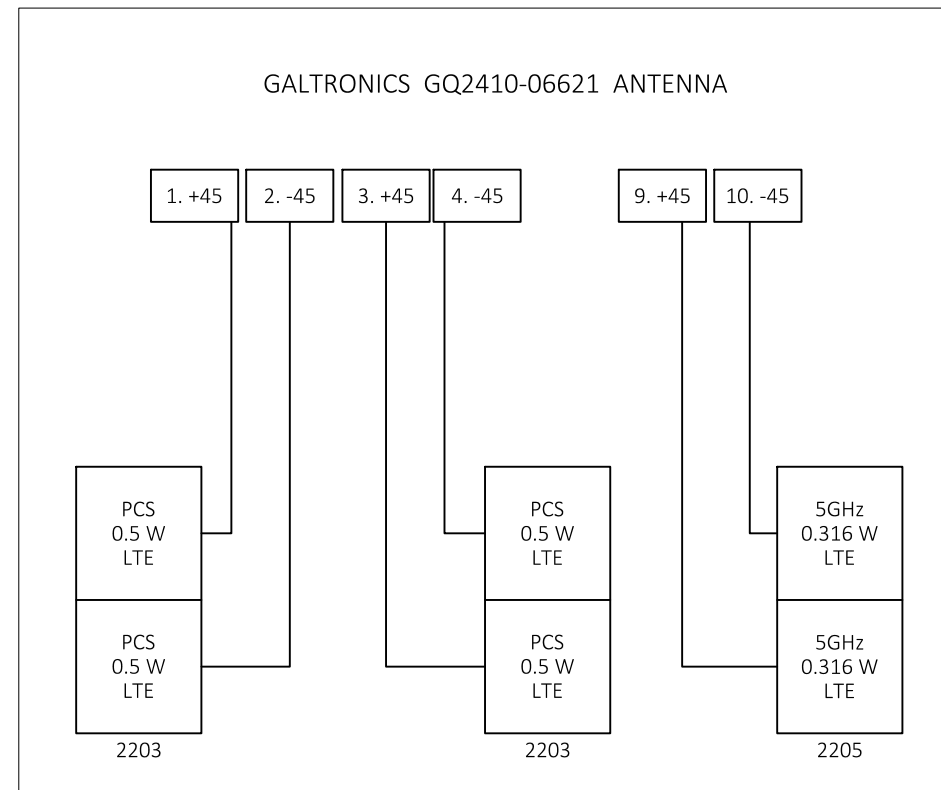
NODE
 RCTB-14_20
 DETAILS - CONCRETE FOUNDATION

REVISIONS		
REV	DESCRIPTION	DATE
1	UPDATED EQUIPMENT & INFO	03/14/18
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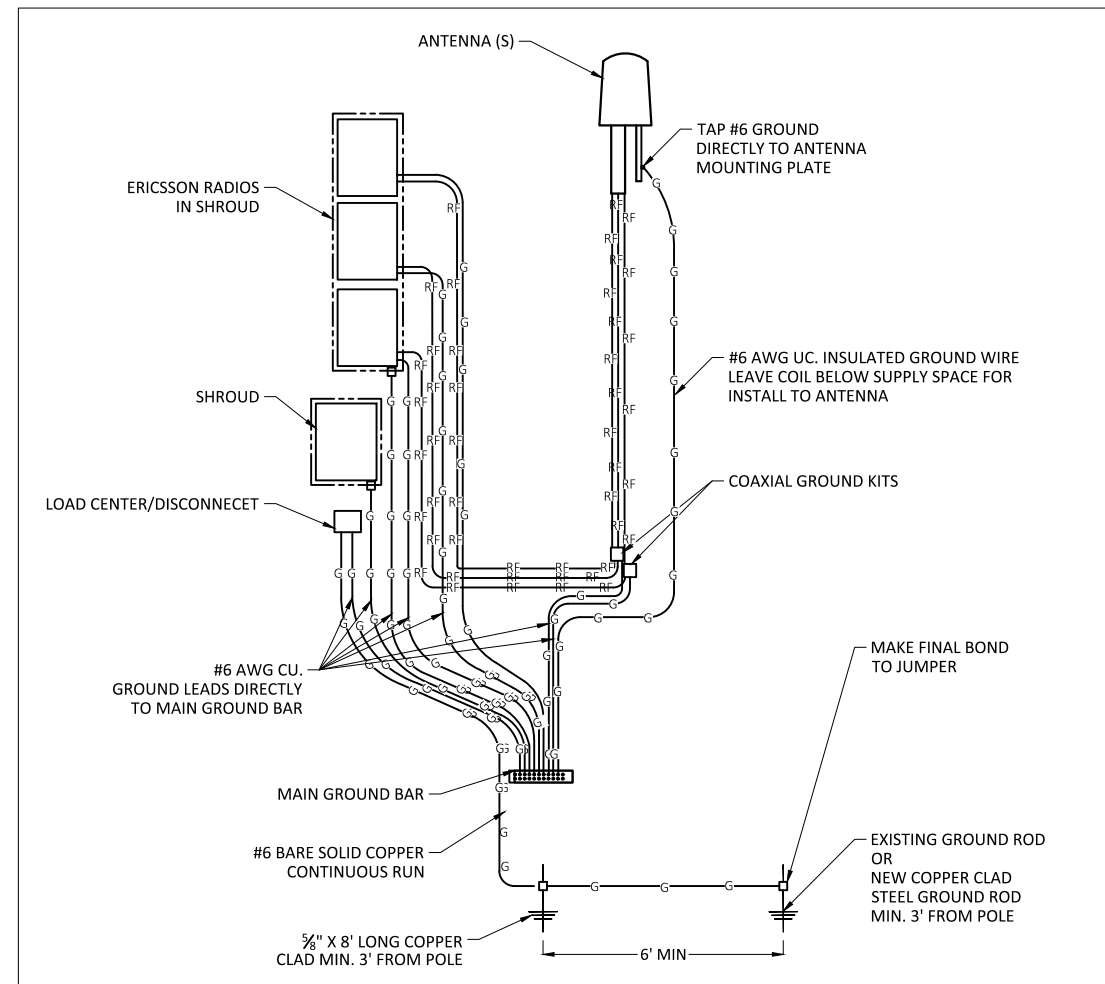
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EXISTING POLE
SCALE: NTS



WIRING DIAGRAM
SCALE: NTS



GROUNDING DIAGRAM
SCALE: NTS

LOCATION: BOSTON, MA
SUFFOLK COUNTY

NOTES:

PREPARED FOR:



PREPARED BY:



NODE
RCTB-14_20
EXISTING PHOTO / WIRING DIAGRAM

REVISIONS		
REV	DESCRIPTION	DATE
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