

**PROJECT INFORMATION**

SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS  
 SITE ADDRESS: 33 TRAVELER STREET  
 BOSTON, MA 02118  
 LATITUDE: 42.34418330°  
 LONGITUDE: -71.06391800°  
 JURISDICTION: NATIONAL, STATE & LOCAL CODES OR ORDINANCES  
 CURRENT USE: TELECOMMUNICATIONS FACILITY  
 PROPOSED USE: TELECOMMUNICATIONS FACILITY  
 DESIGN GUIDELINE: 4SEC-793DBS INDOOR (EVOLVED FROM 3B)

**SITE NUMBER: 4BS0231A**  
**SITE NAME: BS231/PLANET SELF STORAGE**

33 TRAVELER STREET  
 BOSTON, MA 02118  
 SUFFOLK COUNTY

**DRAWING INDEX**

**REV**

**LOCUS MAP**

**GENERAL NOTES**

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- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

**SIGNATURES**

CONSTRUCTION \_\_\_\_\_ DATE \_\_\_\_\_  
 RF ENGINEERING \_\_\_\_\_ DATE \_\_\_\_\_  
 ZONING / SITE ACQ. \_\_\_\_\_ DATE \_\_\_\_\_  
 OPERATIONS \_\_\_\_\_ DATE \_\_\_\_\_  
 LANDLORD \_\_\_\_\_ DATE \_\_\_\_\_



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**UNDERGROUND SERVICE ALERT**



WELLMAN ASSOCIATES INC  
 64 CARPENTER STREET  
 ORANGE, MA 01364

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T-MOBILE NORTHEAST LLC  
 15 COMMERCE WAY, SUITE B  
 NORTON, MA 02766  
 OFFICE: (508) 286-2700  
 FAX: (508) 286-2893

NO.	DATE	REVISIONS	BY	CHK
0	01/25/18	ISSUED FOR REVIEW	DD	SNA
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2	02/07/18	UPDATES	JWH	SNA
3	02/20/18	UPDATES	JWH	SNA
4	02/22/18	UPDATES	JWH	SNA

TITLE SHEET

SHEET NO.

**T-1**



## GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.

2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.

3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE LESEE/LICENSEE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.

4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.

5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.

7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.

9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.

12. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.

13. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.

14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.

15. THE CONTRACTOR SHALL NOTIFY THE LESEE/LICENSEE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE LESEE/LICENSEE REPRESENTATIVE.

16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.

17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY: DIG SAFE SYSTEM (MA, ME, NH, RI, VT): 1-888-344-7233 CALL BEFORE YOU DIG (CT): 1-800-922-4455

18. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS SHOWN HEREIN.

19. ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECT THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH PROJECT OWNER PRIOR TO CONSTRUCTION.

20. NORTH ARROW SHOWN ON PLANS REFERS TO APPROXIMATE TRUE NORTH. PRIOR TO THE START OF CONSTRUCTION, ORDERING OR FABRICATING OF ANTENNA MOUNTS, CONTRACTOR SHALL CONSULT WITH PROJECT OWNER'S RF ENGINEER AND FIELD VERIFY ALL ANTENNA SECTOR LOCATIONS AND ANTENNA AZIMUTHS.

21. THE CONTRACTOR AND OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.

22. ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.

23. COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE PROJECT OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF PROJECT OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE EXHIBIT 3). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.

24. WHEN "PAINT TO MATCH" IS SPECIFIED FOR ANTENNA CONCEALMENT, PAINT PRODUCT FOR ANTENNA RADOME SHALL BE SHERWIN WILLIAMS COROTHANE II. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PROJECT OWNER'S GUIDELINE'S.

25. COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

26. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.

27. ALL (E)ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.

28. ALL (E)INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF UTILITY COMPANY ENGINEERING. THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, DRIVEWAY OR

29. GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED AND COVERED WITH MULCH UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES

30. DURING CONSTRUCTION. PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS

31. FOR WIRELESS COMMUNICATIONS SYSTEMS. PROJECT OWNER'S IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. PROJECT OWNER RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.

32. APPLICABLE BUILDING CODES: SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:

MASSACHUSETTS STATE BUILDING CODE 8TH EDITION  
ELECTRICAL CODE: MASSACHUSETTS 527 CMR 12:00 (NEC 2014)  
NFPA 780 2014

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G,  
STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

## ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.

2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.

3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.

7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION.

8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.

9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE AND GREENLEE CONDUIT MEASURING TAPE IN EACH INSTALLED TELCO CONDUIT.

10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.

11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.

12. PPC SUPPLIED BY PROJECT OWNER.

13. GROUNDING SHALL COMPLY WITH NEC ART. 250.

14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.

**ADDITIONAL NOTE:**  
GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".

15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.

16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.

17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.

18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

20. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.

21. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXISTING TOWER/ (E) MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.

22. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MAXIMUM RESISTANCE REQUIRED.

23. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.



## ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	(P)	PROPOSED/NEW	TBR	TO BE REMOVED
(E)	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE		
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL
(F)	FUTURE				



WELLMAN ASSOCIATES INC  
64 CARPENTER STREET  
ORANGE, MA 01364

**SITE NUMBER: 4BS0231A**  
**SITE NAME: BS231/PLANET SELF STORAGE**  
33 TRAVELER STREET  
BOSTON, MA 02118  
SUFFOLK COUNTY

T-MOBILE NORTHEAST LLC  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766  
OFFICE: (508) 286-2700  
FAX: (508) 286-2893

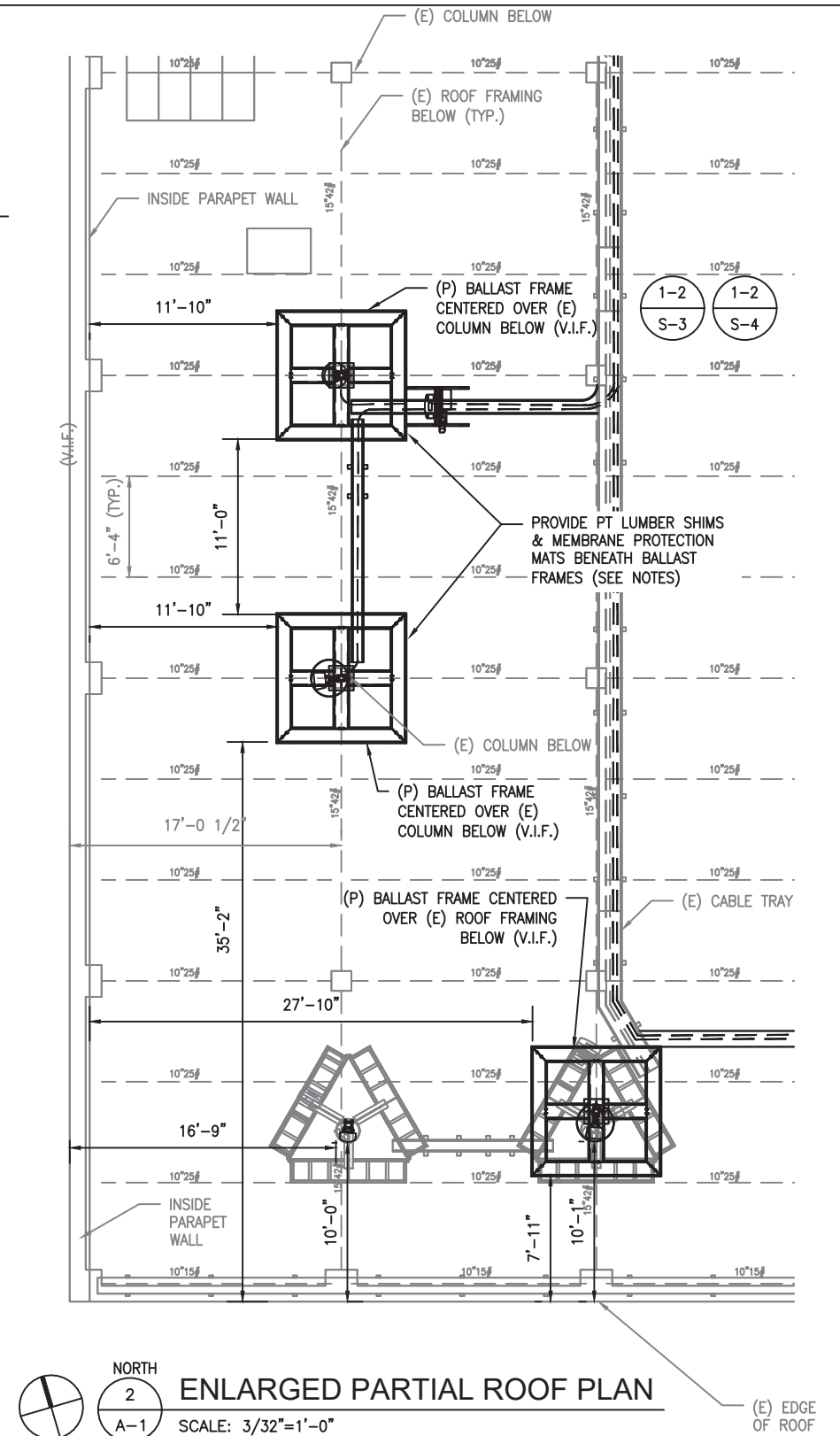
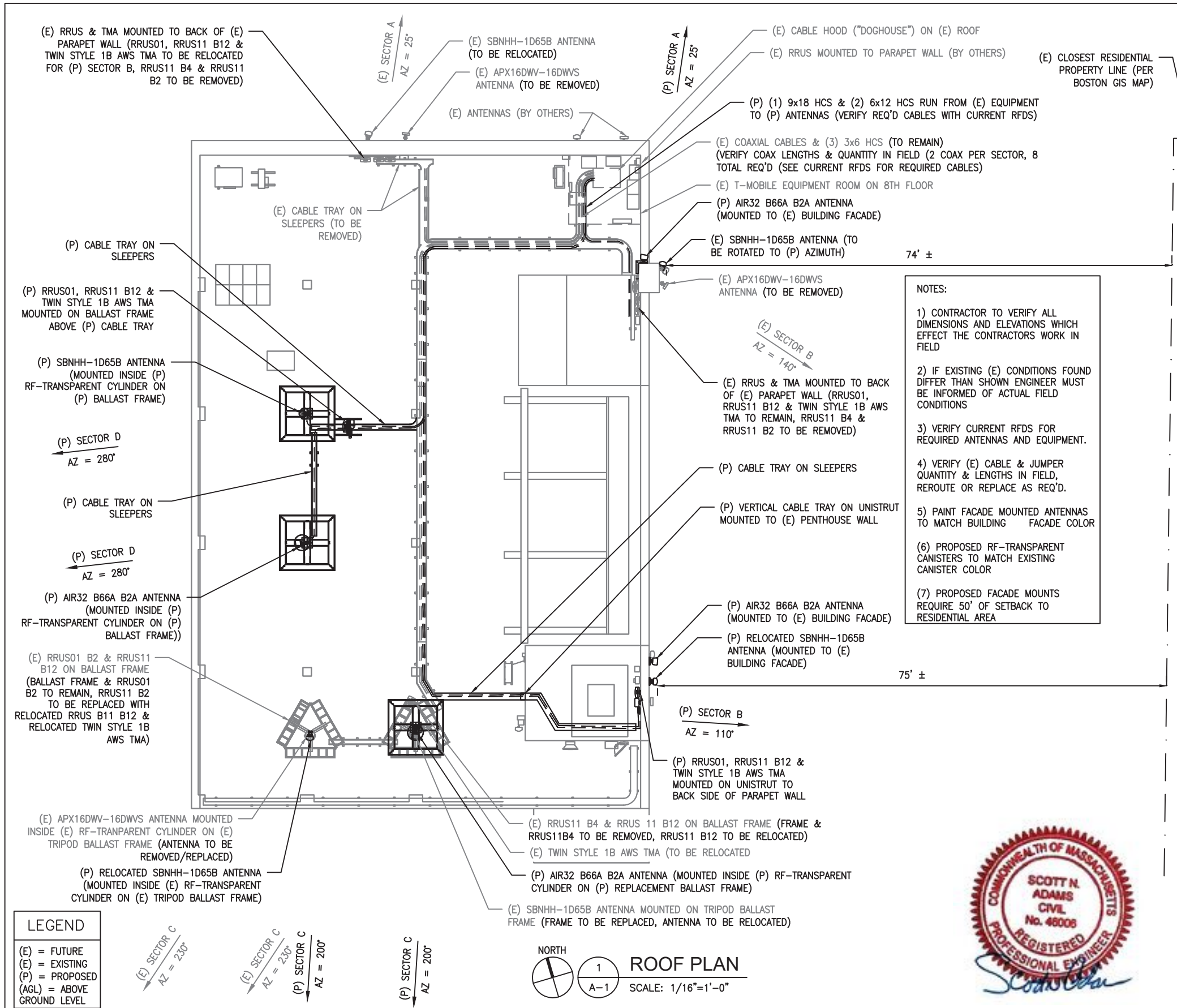
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GENERAL NOTES

SHEET NO.

**GN-1**





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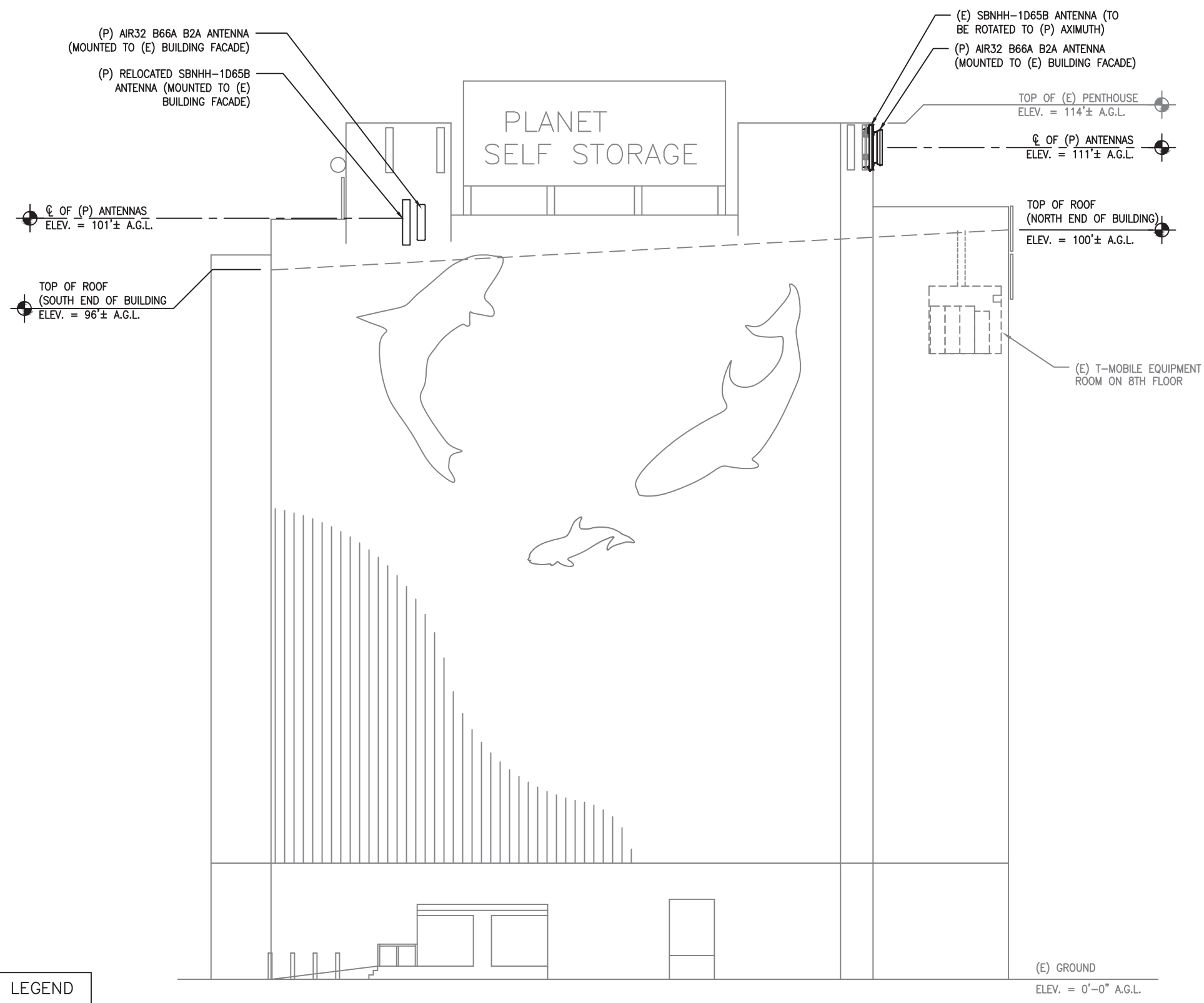
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**ROOF PLAN & EQUIPMENT SCHEDULE**

SHEET NO. **A-1**



**LEGEND**  
 (E) = FUTURE  
 (E) = EXISTING  
 (P) = PROPOSED  
 (AGL) = ABOVE GROUND LEVEL

1 EAST ELEVATION  
 A-2 SCALE: 1/16"=1'-0"

**EG ADVANCED**  
 ENGINEERING GROUP, P.C.  
 Civil Engineering - Site Development - Surveying - Telecommunications  
 500 North Broadway East Providence, RI 02914  
 Phone: (401) 354-2403  
 Fax: (401) 633-6354

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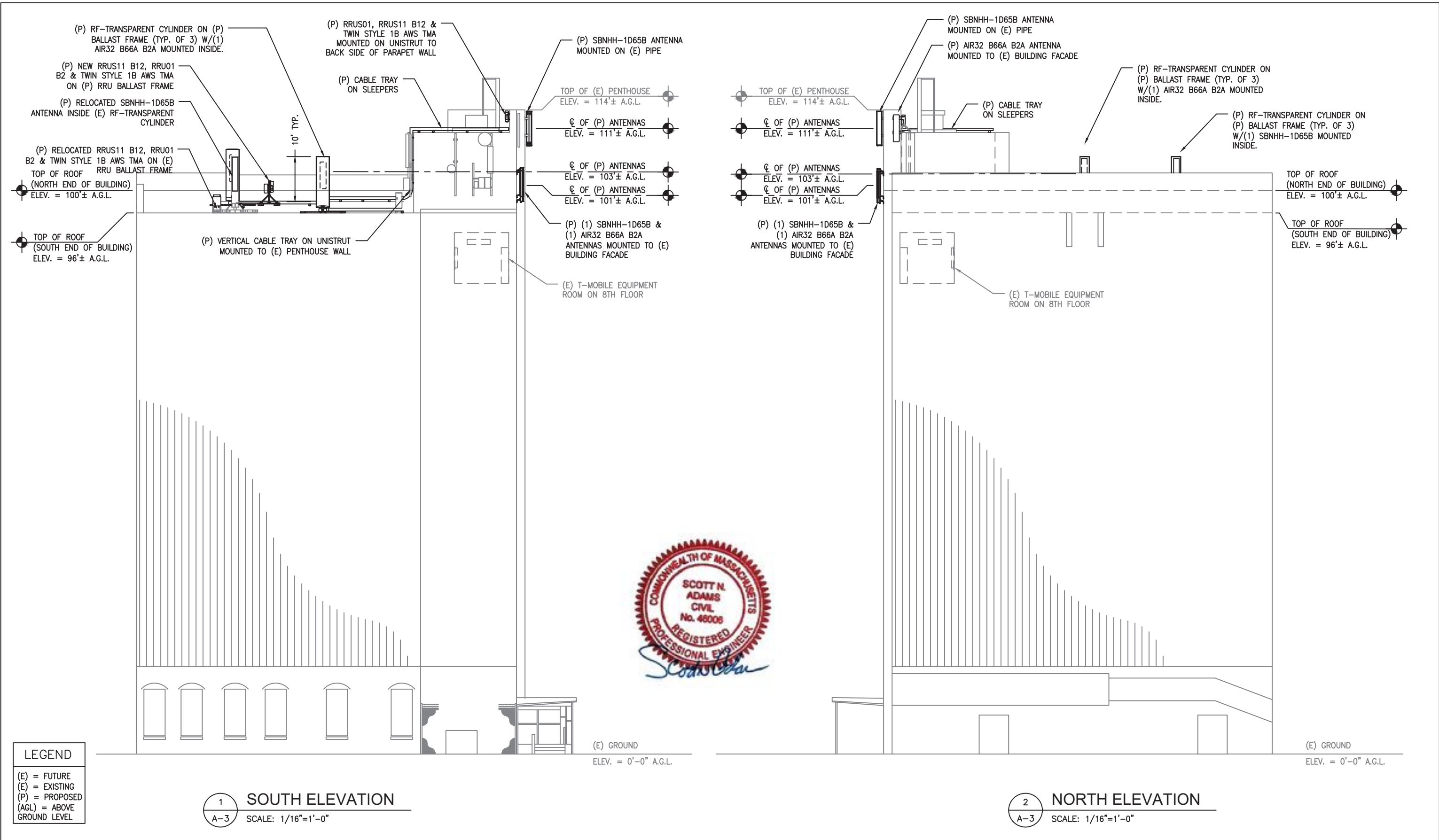
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ELEVATION	
SHEET NO.	<b>A-2</b>





**LEGEND**  
 (E) = FUTURE  
 (E) = EXISTING  
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 (AGL) = ABOVE GROUND LEVEL

1 SOUTH ELEVATION  
 A-3 SCALE: 1/16"=1'-0"

2 NORTH ELEVATION  
 A-3 SCALE: 1/16"=1'-0"

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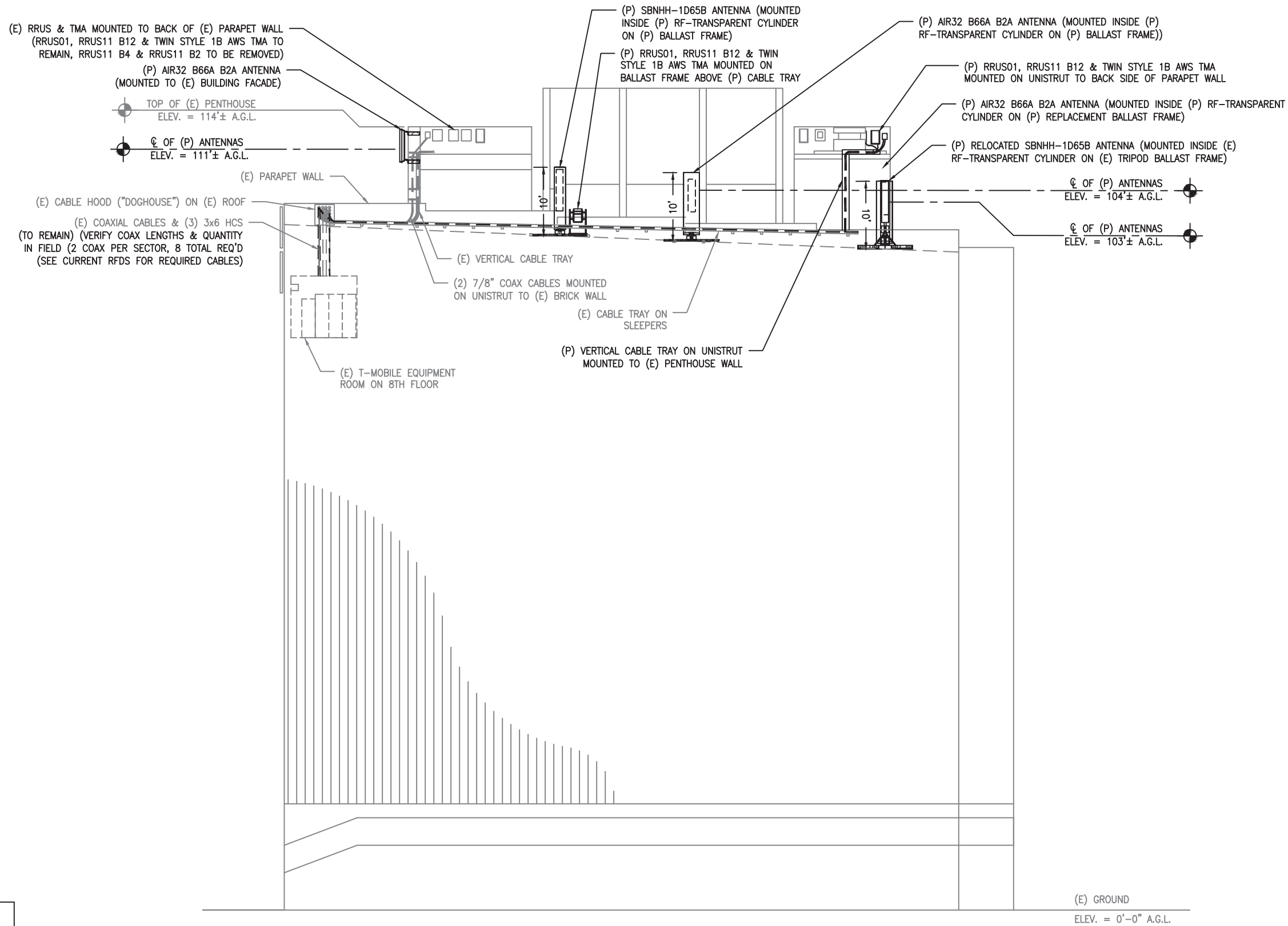
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ELEVATION  
 SHEET NO. **A-3**



**LEGEND**  
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 (P) = PROPOSED  
 (AGL) = ABOVE GROUND LEVEL

1 WEST ELEVATION  
 A-4 SCALE: 1/16"=1'-0"

(E) GROUND  
 ELEV. = 0'-0" A.G.L.



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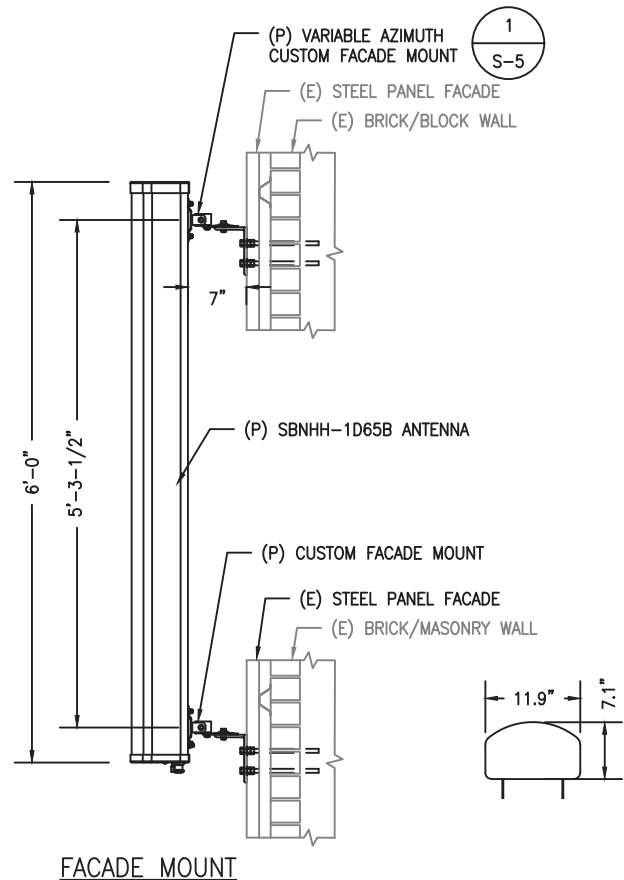
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4	02/22/18	UPDATES	JWH	SNA

ELEVATION

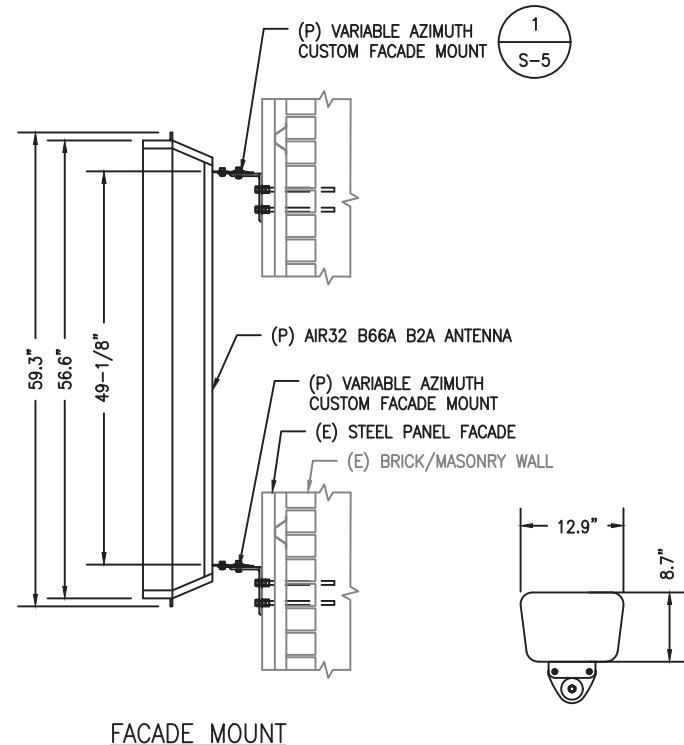
SHEET NO. **A-4**





FACADE MOUNT

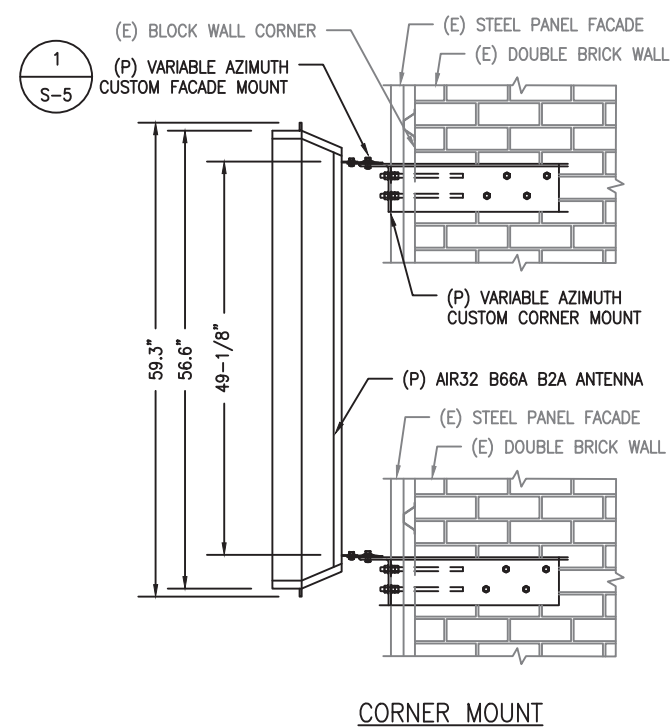
**SBNHH-1D65B**  
 MANUFACTURER: ANDREW-COMMSCOPE  
 DIMENSIONS: (HxWxD) 72.6"x11.9"x7.1"  
 WEIGHT: 40.92 LBS.



FACADE MOUNT

**AIR 32 B66Aa/B2a**

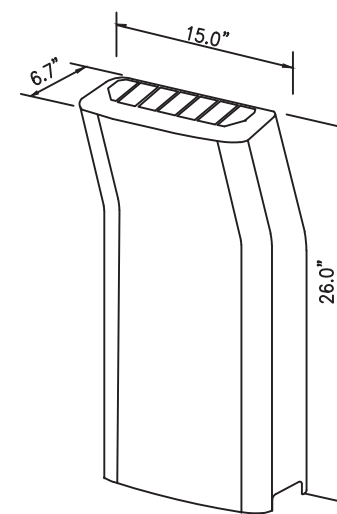
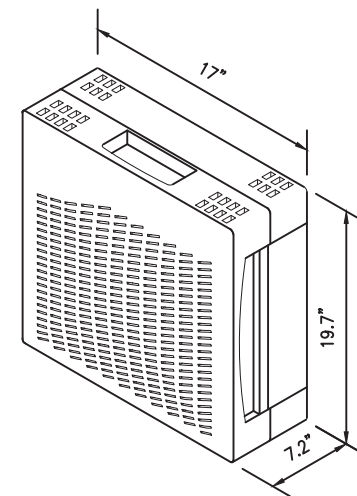
MANUFACTURER: ERICSSON  
 DIMENSIONS (HxWxD): 59.3"x12.9"x8.7"  
 WEIGHT: 132.2 LBS.  
 (HEIGHT INCLUDES LIFTING EYES)



CORNER MOUNT

**ERICSSON RRU-11**

-DIMENSIONS (H x W x D): 19.7" x 17.0" x 7.2" (INCLUDES SUNSHIELD)  
 -WEIGHT: 50 LBS  
 -CLIMATE: -40°C TO +55°C (SELF CONVECTION SILENT, NO FANS, IP55)  
 -POWER CONSUMPTION: 200 WATTS (TYP.)



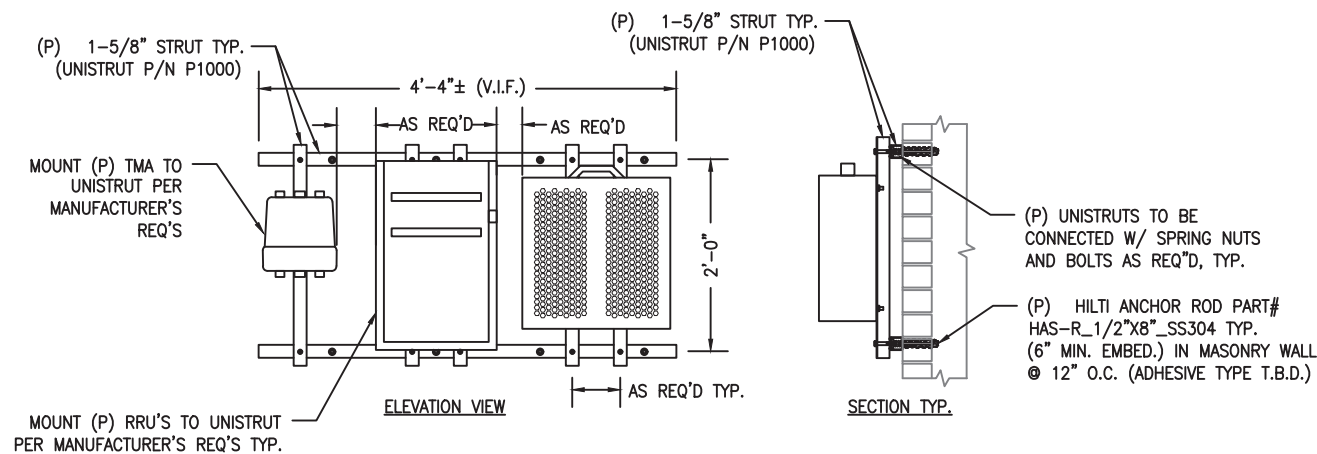
**ERICSSON RRU-11**

-DIMENSIONS (H x W x D): 26.0" x 15.0" x 6.7" /W SOLAR SHIELD  
 -WEIGHT: 44 LBS

NOTE:  
 VERIFY REQUIRED ANTENNAS &  
 EQUIPMENT WITH CURRENT RFDS

**1 ANTENNA MOUNTING DETAILS**

SCALE: 1/2" = 1'-0"



**2 RRU WALL MOUNT DETAIL**

SCALE: 1/2" = 1'-0"

**3 RRU DETAILS**

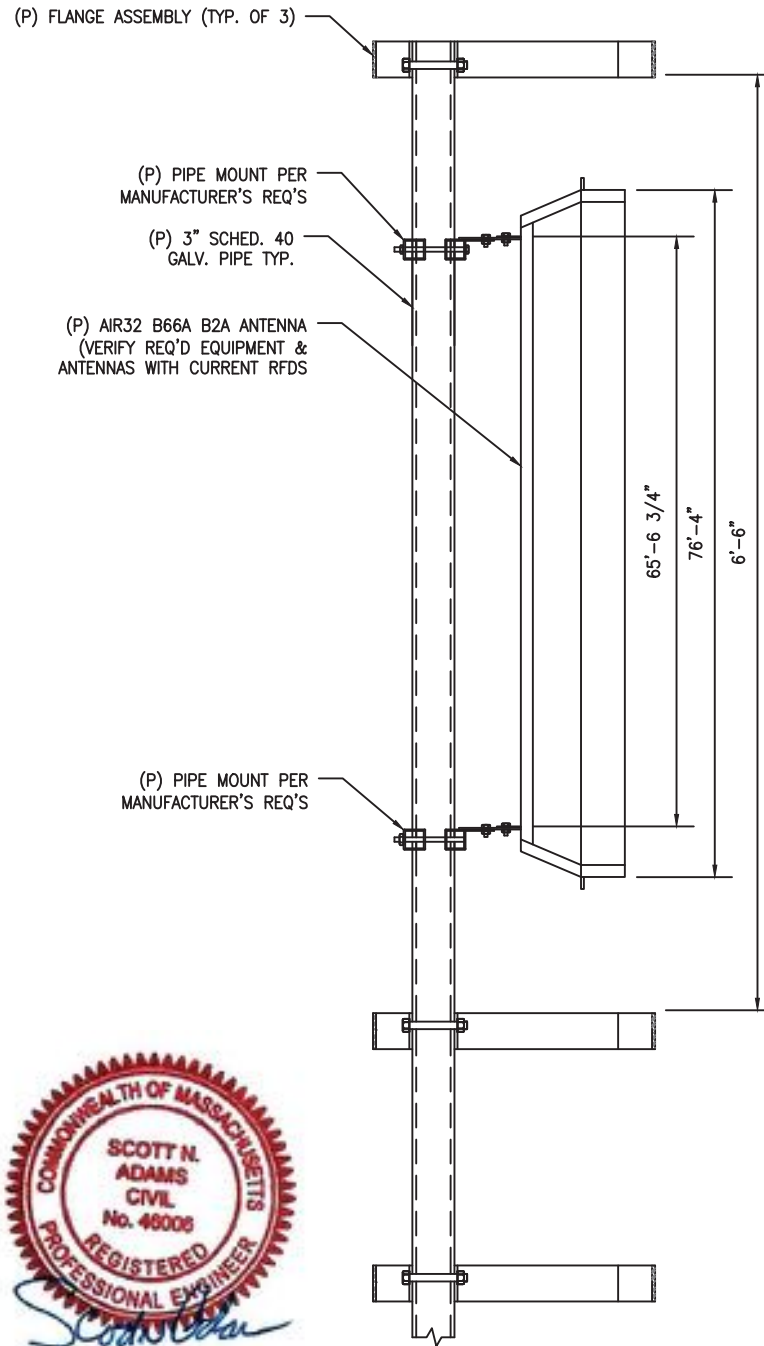
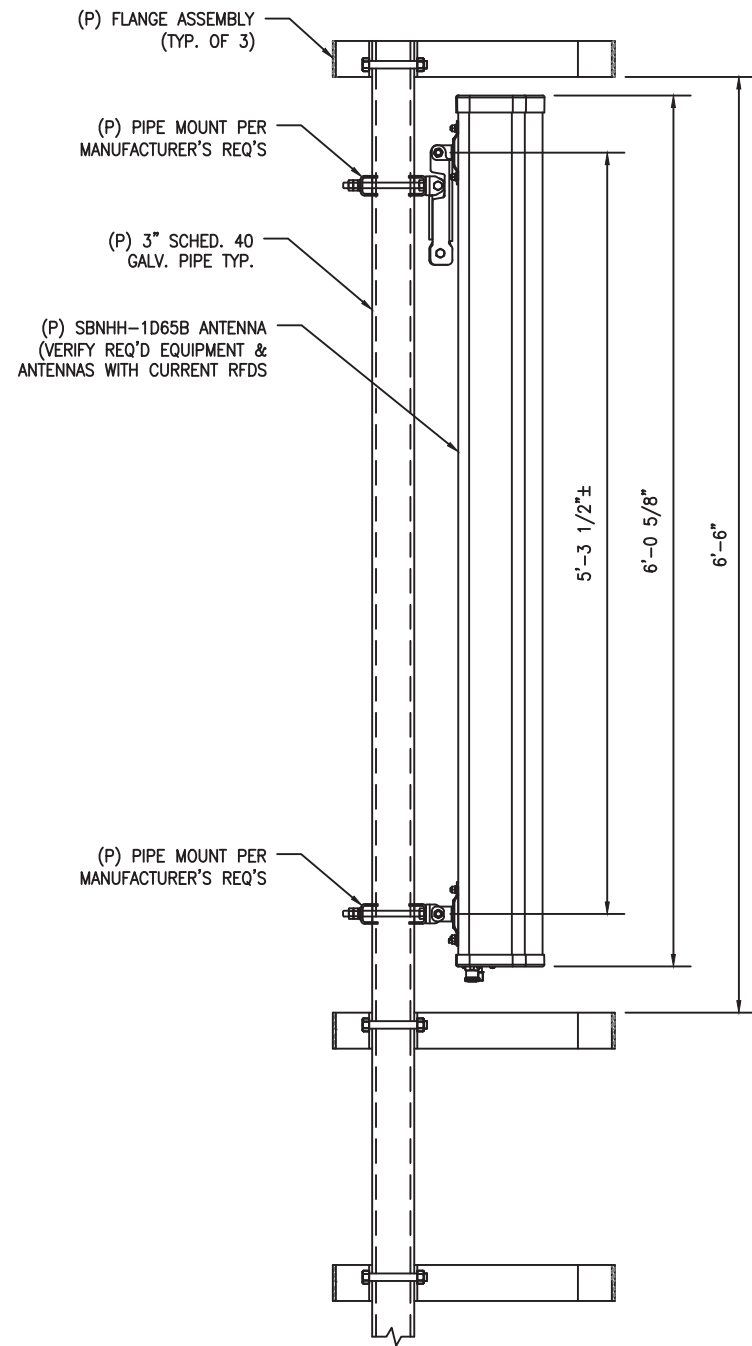
SCALE: N.T.S.

**LEGEND**

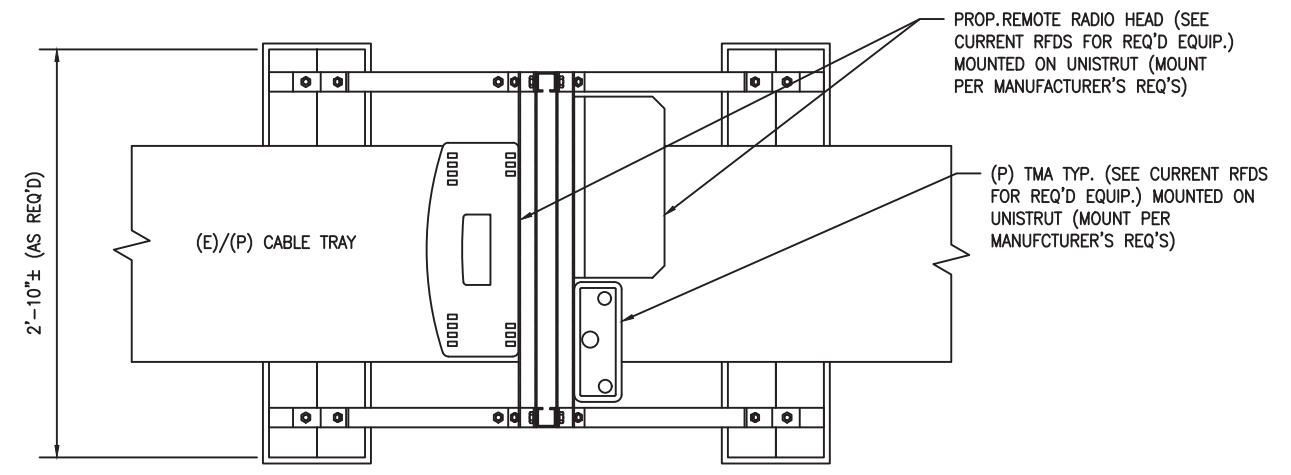
- (E) = FUTURE
- (E) = EXISTING
- (P) = PROPOSED
- (AGL) = ABOVE GROUND LEVEL



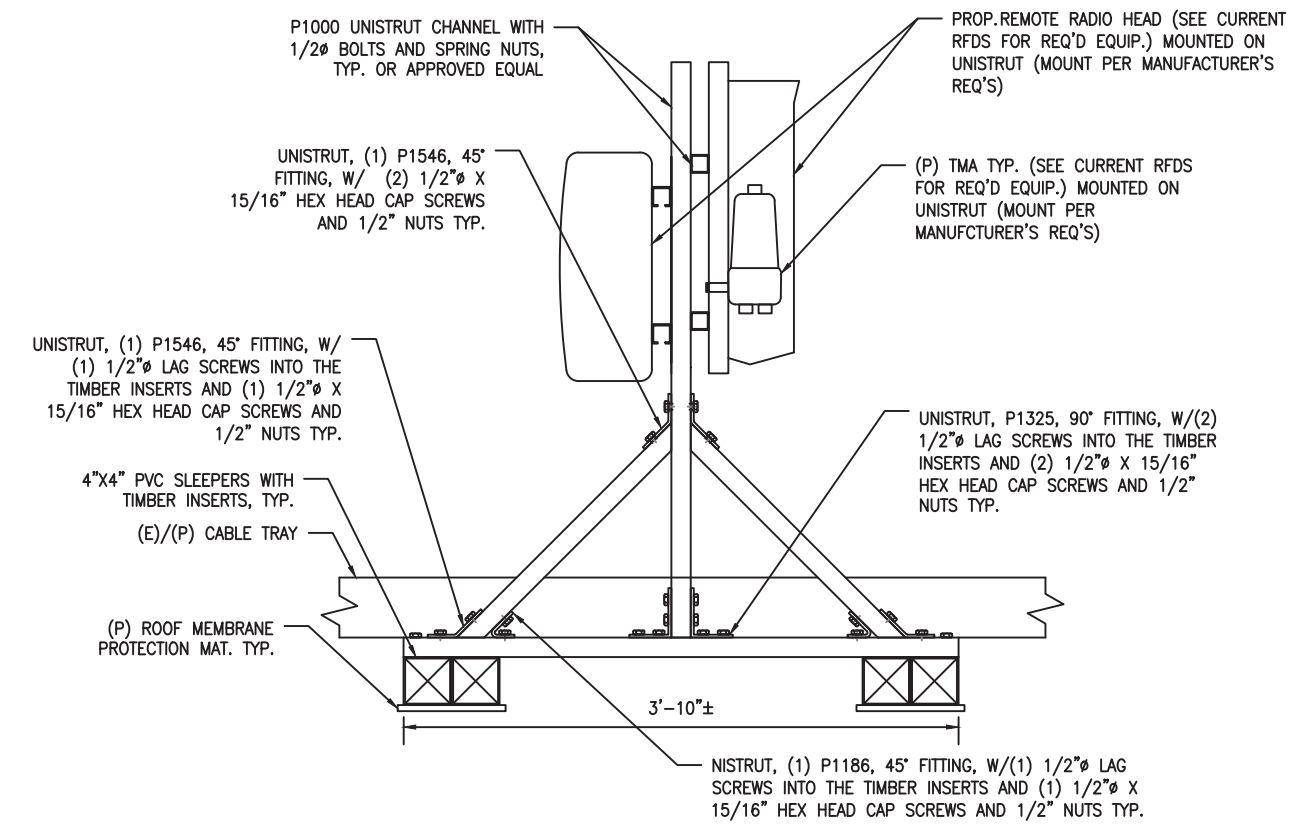
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1	02/06/18	ISSUED FOR REVIEW	JWH	SNA
2	02/07/18	UPDATES	JWH	SNA
3	02/20/18	UPDATES	JWH	SNA
4	02/22/18	UPDATES	JWH	SNA



1 ANTENNA MOUNTING DETAILS  
SCALE: 3/4" = 1'-0"



PLAN



PROFILE

2 RRH FRAME DETAILS  
SCALE: 3/4" = 1'-0"

LEGEND

(E)	= FUTURE
(E)	= EXISTING
(P)	= PROPOSED
(AGL)	= ABOVE GROUND LEVEL



WELLMAN ASSOCIATES INC  
64 CARPENTER STREET  
ORANGE, MA 01364

SITE NUMBER: 4BS0231A  
SITE NAME: BS231/PLANET SELF STORAGE  
33 TRAVELER STREET  
BOSTON, MA 02118  
SUFFOLK COUNTY

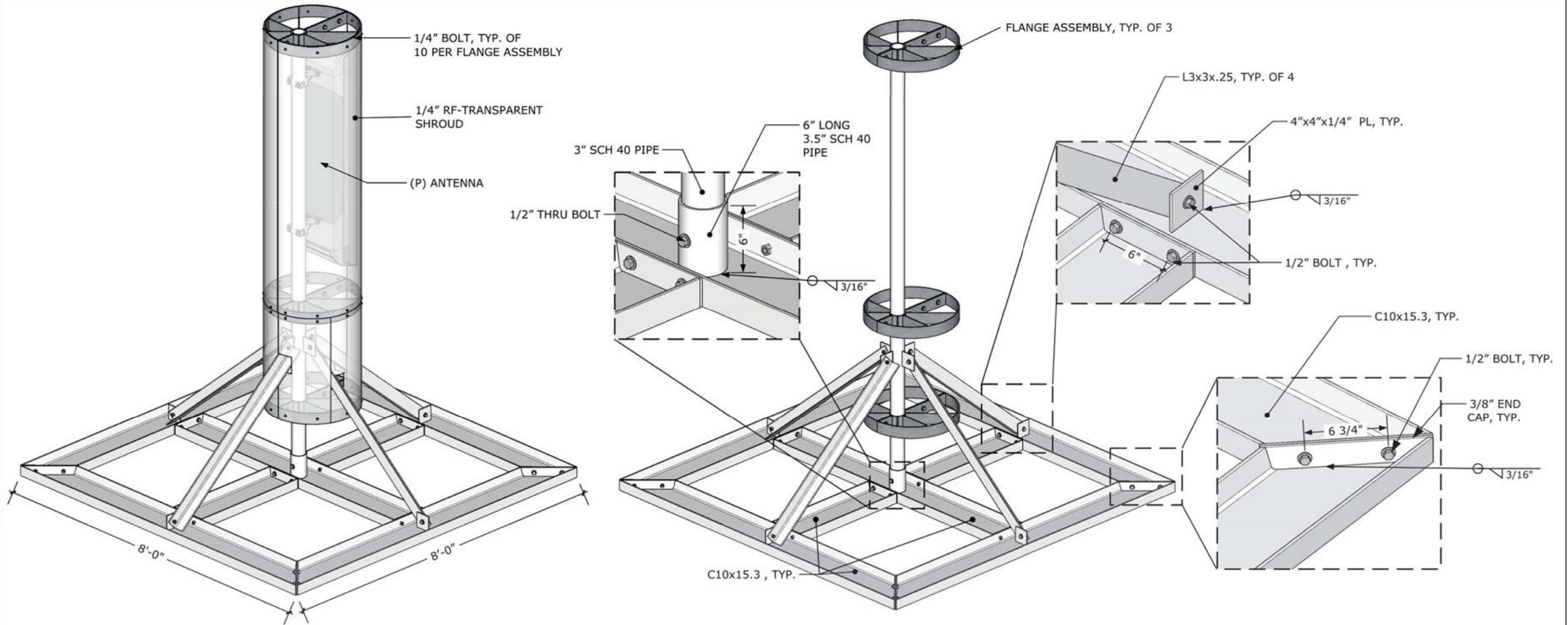
T-MOBILE NORTHEAST LLC  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766  
OFFICE: (508) 286-2700  
FAX: (508) 286-2893

NO.	DATE	REVISIONS	BY	CHK
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3	02/20/18	UPDATES	JWH	SNA
4	02/22/18	UPDATES	JWH	SNA

DETAILS

SHEET NO. **A-6**





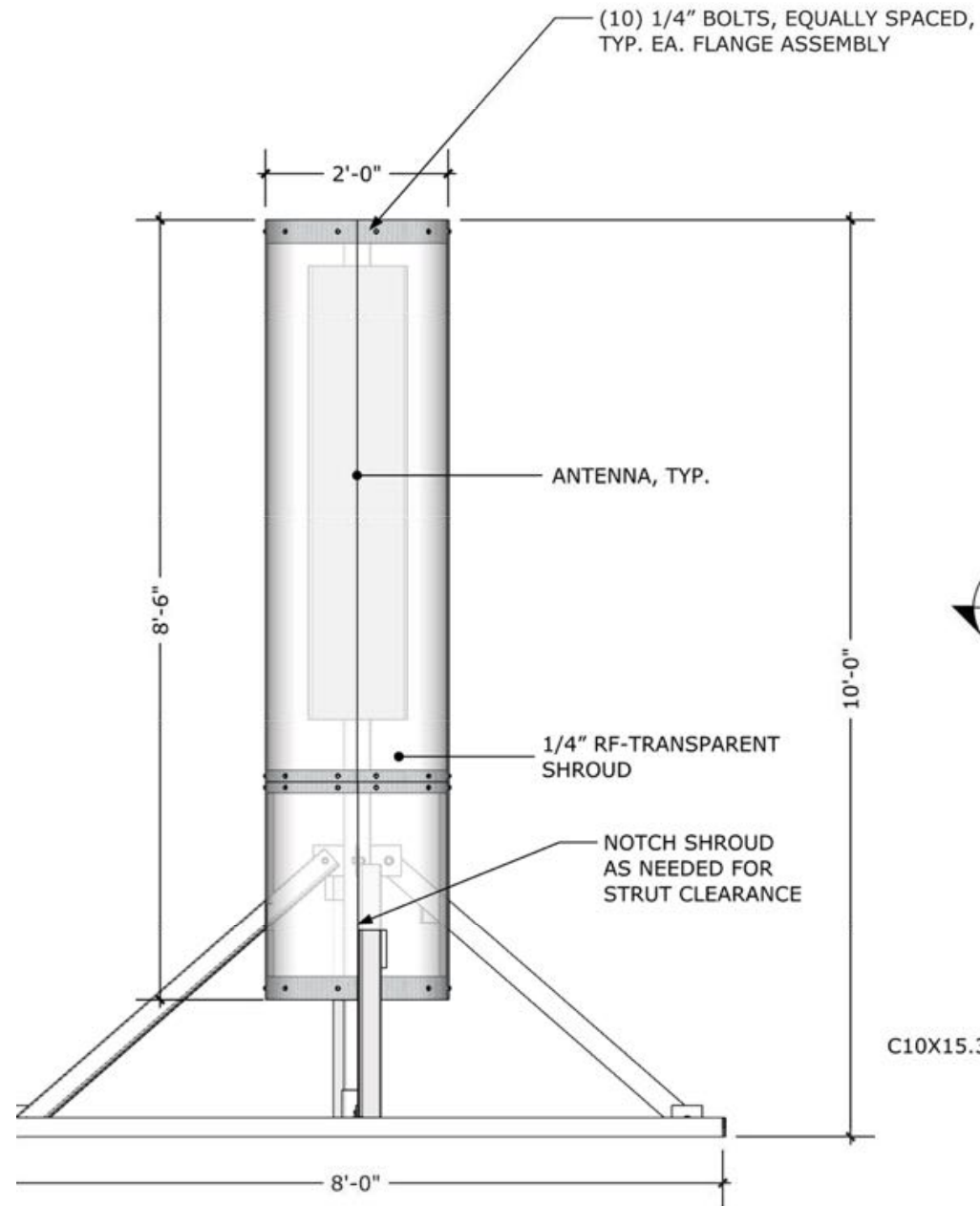
1 ISOMETRIC  
S-1 Scale: NTS

2 FRAMING ISOMETRIC  
S-1 Scale: NTS

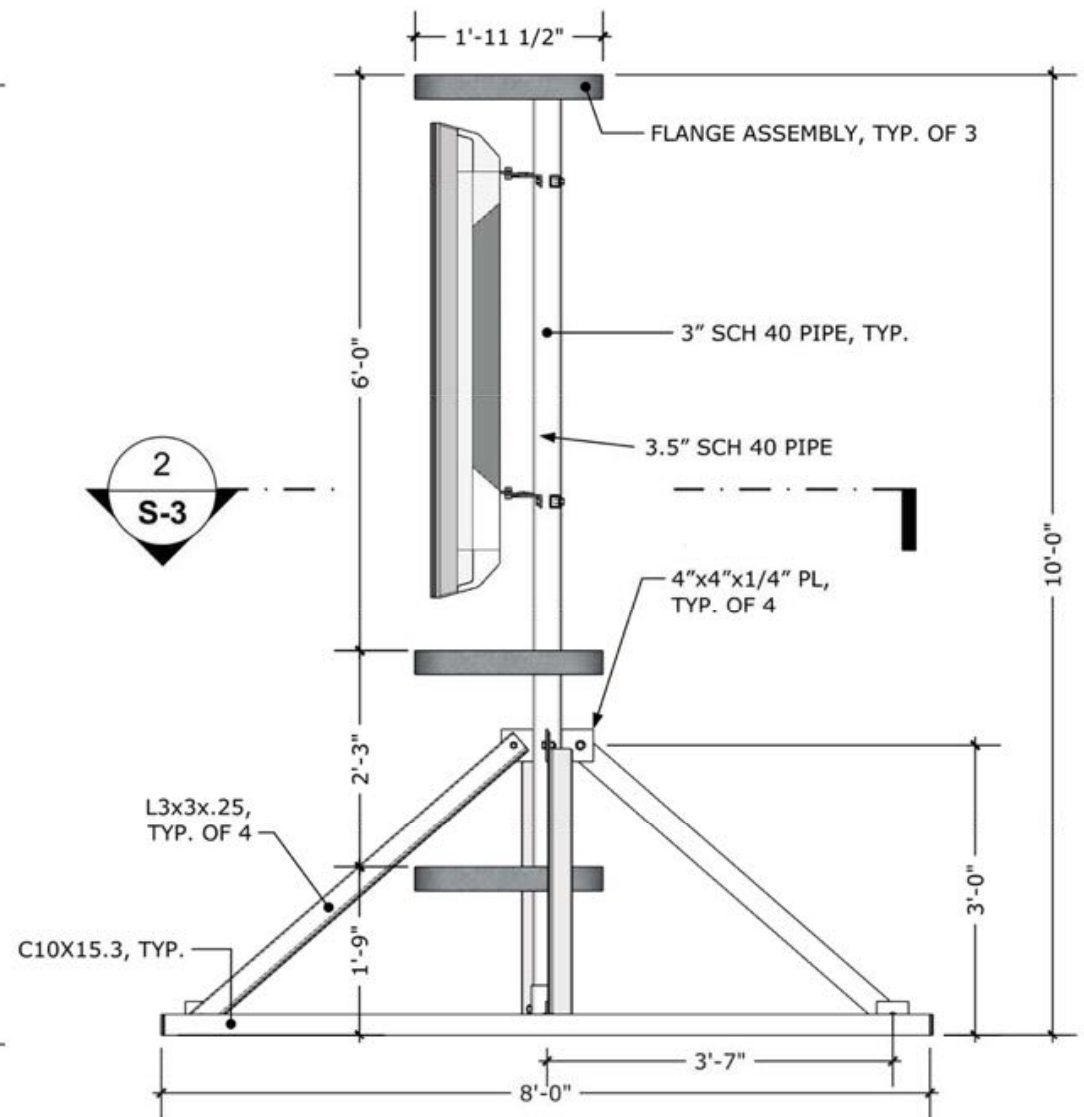


- NOTES:
1. PROVIDE PT LUMBER SHIMS AS REQ'D TO MAINTAIN LEVEL BALLAST FRAMES. VERIFY ANTENNA IS PLUMB AFTER PLACEMENT.
  2. PROVIDE 1/2" PROTECTION MATS BENEATH ALL EQUIPMENT/FRAMES TOUCHING EXISTING ROOF MEMBRANE. VERIFY COMPATIBILITY WITH EXISTING ROOFING MEMBRANE

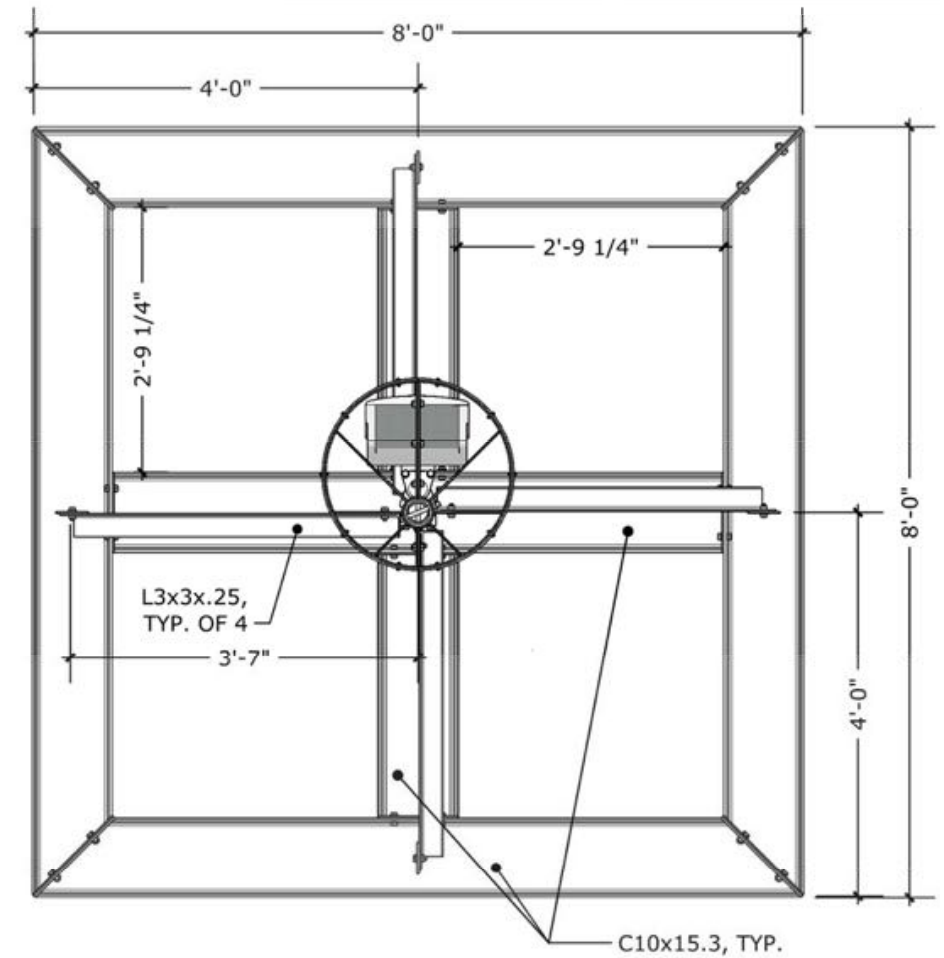
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2	02/07/18	UPDATES	JWH	SNA
3	02/20/18	UPDATES	JWH	SNA
4	02/22/18	UPDATES	JWH	SNA



1 FRONT ELEVATION  
S-2 Scale: 1/2"=1'-0"



2 SIDE ELEVATION  
S-2 Scale: 1/2"=1'-0"

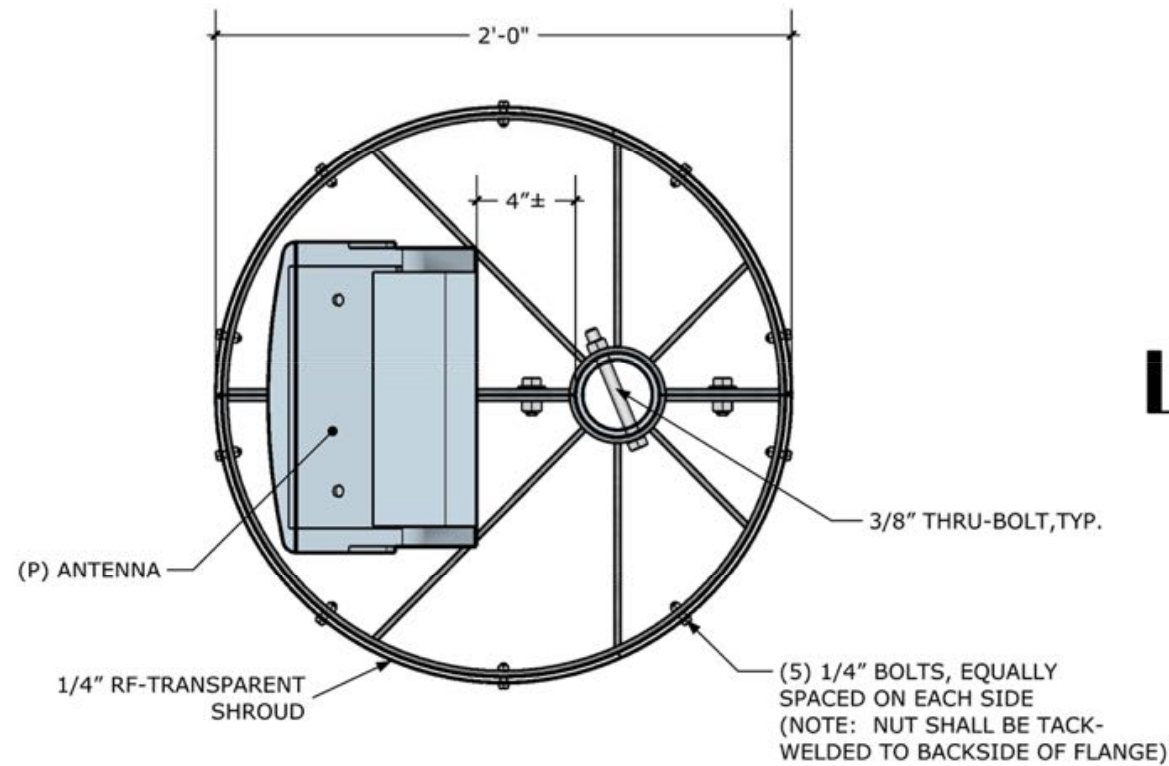


3 PLAN  
S-2 Scale: 1/2"=1'-0"

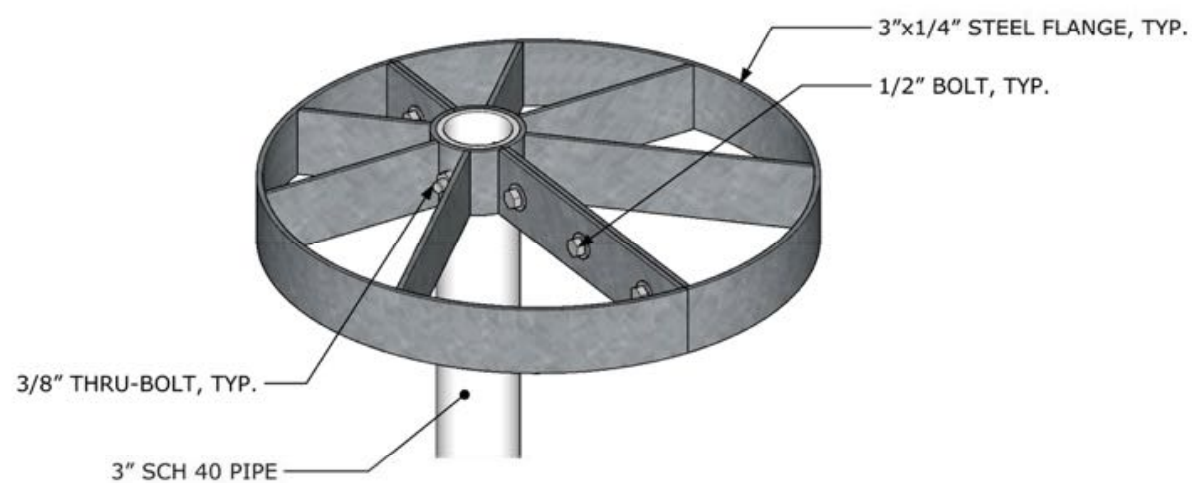


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4	02/22/18	UPDATES	JWH	SNA

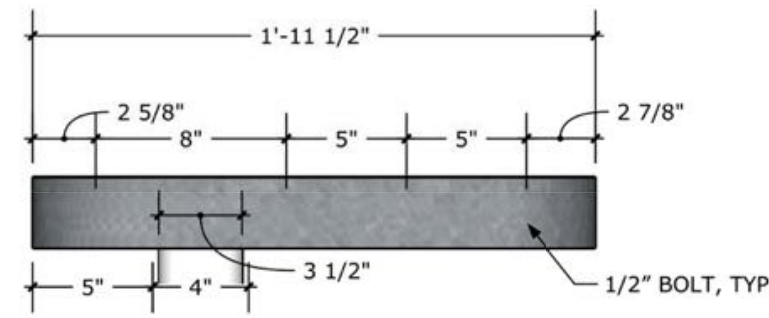
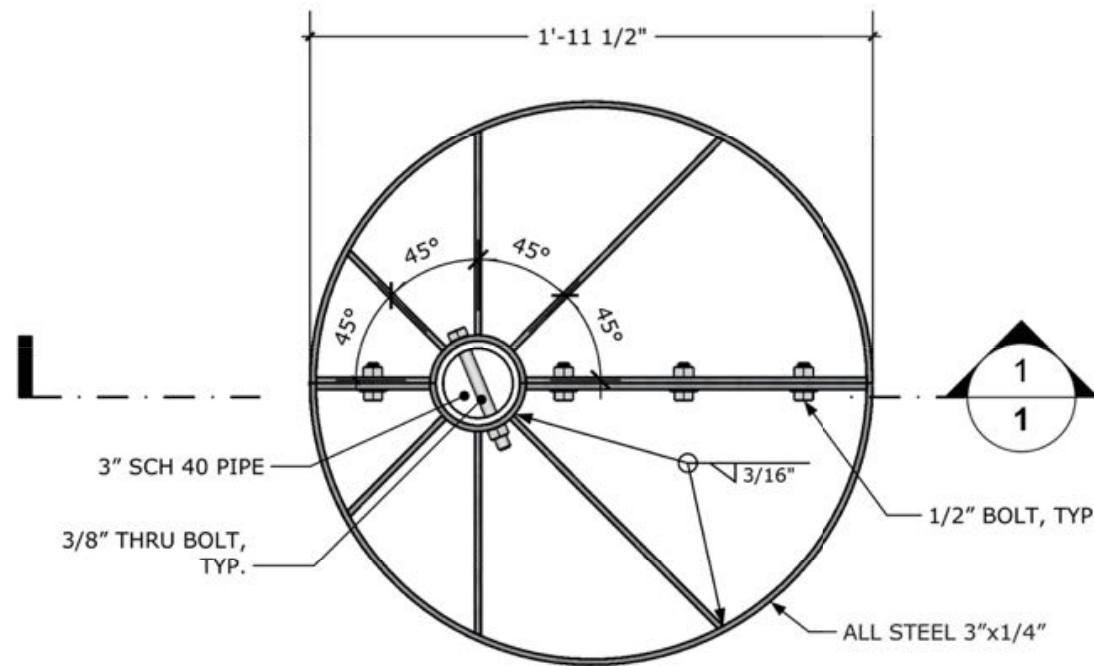




**2** SECTION  
**S-3** Scale: 1-1/2"=1'-0"



**3** FLANGE ISOMETRIC  
**S-3** Scale: NTS

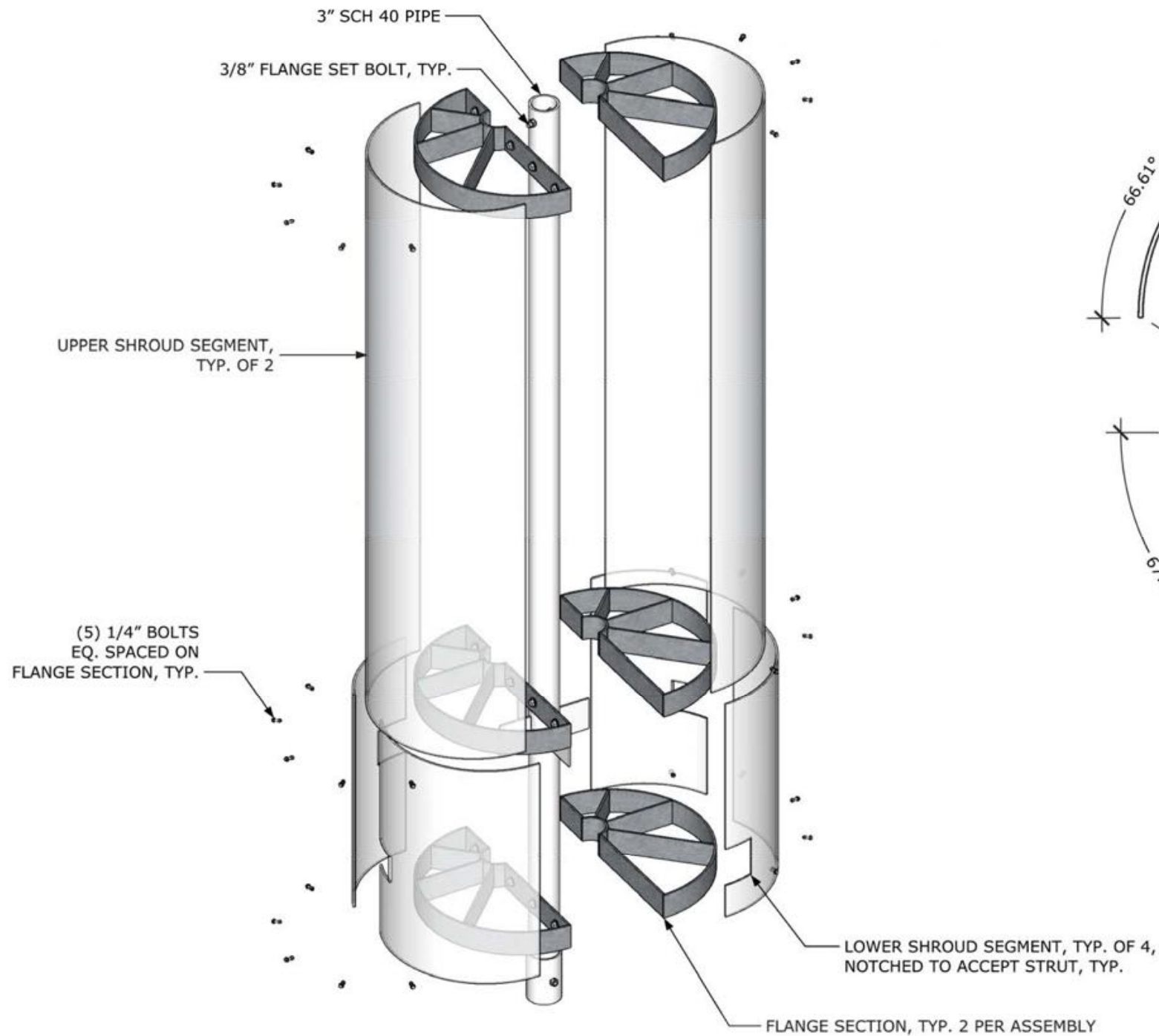


**1** FLANGE ASSEMBLY DETAIL  
**S-3** Scale: 1-1/2"=1'-0"

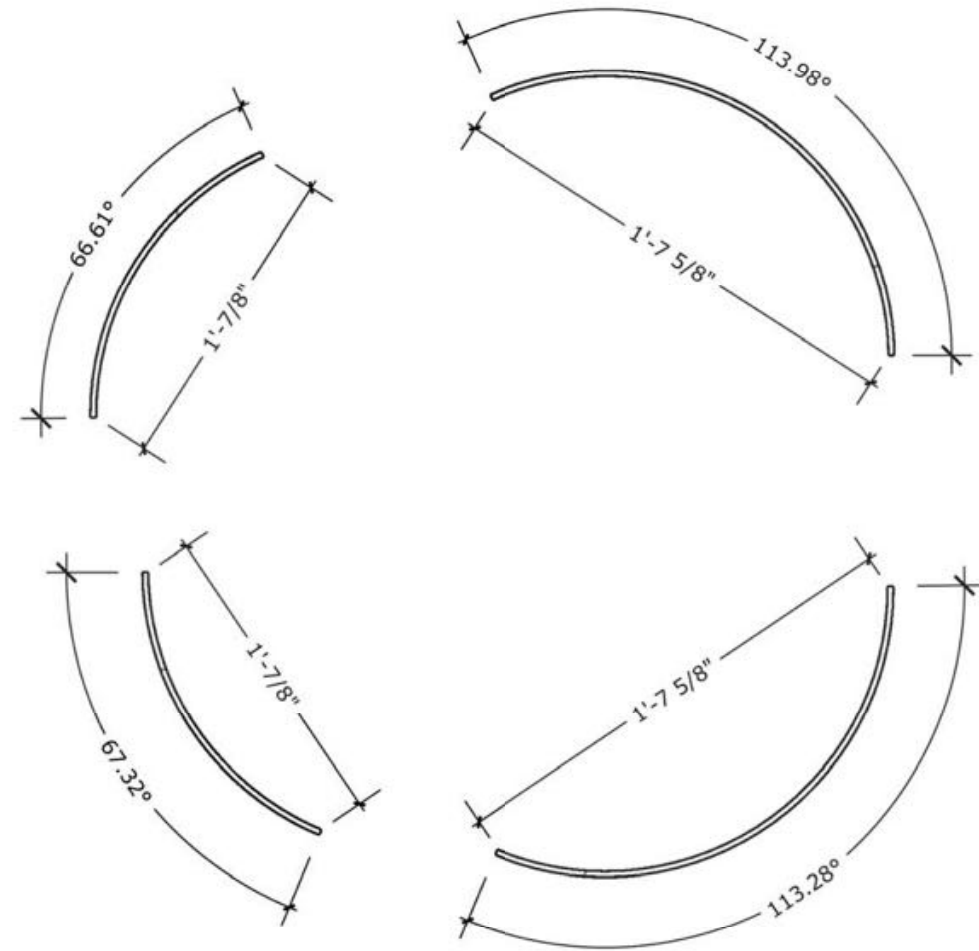
- STRUCTURAL**
- All structural steel work shall conform to the requirements of the American Institute of Steel Construction (AISC) and all applicable building codes.
  - Structural steel angles to be ASTM A36 steel.
  - All bolts shall be ASTM Grade A325, hot-dip galvanized per ASTM D153. All bolts shall be 1/2" diameter unless otherwise noted.
  - All bolts shall have galvanized lock washer or pal nut
  - Tighten bolts using the "turn of the nut" method as specified by AISC.
  - Hot-dip galvanize angles per ASTM D123 after fabrication.
  - Apply a minimum of two coats of cold galvanizing to any field cut or drilled surfaces.
  - Structural connection bolts shall be high strength bolts (bearing type) and conform to ASTM A325 "High Strength Bolts for Structural Joints, Including suitable nuts and plain hardened washers".
  - All bolts anchors and miscellaneous hardware shall be galvanized in accordance with ASTM A153 "Zinc-Coating (Hot-Dip) on Iron and Steel Hardware", unless otherwise noted.
  - Steel pipe shall conform to ASTM A500 "cold-formed welded & seamless carbon steel structural tubing", grade A, or ASTM A53 pipe steel black and hot-dipped zinc-coated welded and seamless type E or S, grade B. Pipe sizes indicated are nominal. Actual outside diameter is larger.
  - Field welds, drill holes, saw cuts and all damaged galvanized surfaces shall be repaired with an organic zinc repair paint complying with requirements of ASTM A780. Galvanizing repair paint shall have 86 percent zinc by weight, zipr by duncan galvanizing, galva bright premium by crown or equal. thickness of applied galvanizing repair paint shall be not less than 4 coats (allow time to dry between coats) with a resulting coating thickness required by ASTM A123 or A153 as applicable.
  - Contractor shall comply with AWS code for procedures, appearance and quality of welds, and for methods used in correcting welding. All welders and welding processes shall be qualified in accordance with AWS "Standard Qualification Procedures". All wedding shall be done using E70XX electrodes and welding shall conform to AISC and D1.1. Where fill weld sizes are not shown, provide the minimum size per table J2.4 in the AISC "Manual of Steel Construction", 9th Edition.



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3	02/20/18	UPDATES	JWH	SNA
4	02/22/18	UPDATES	JWH	SNA



**1** EXPLODED ISOMETRIC  
**S-4** Scale: NTS

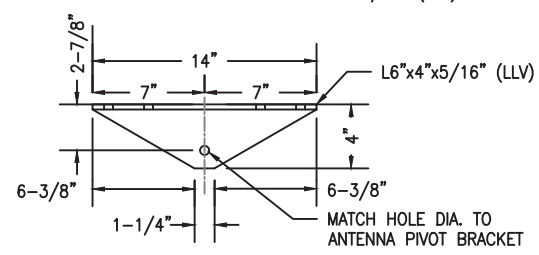
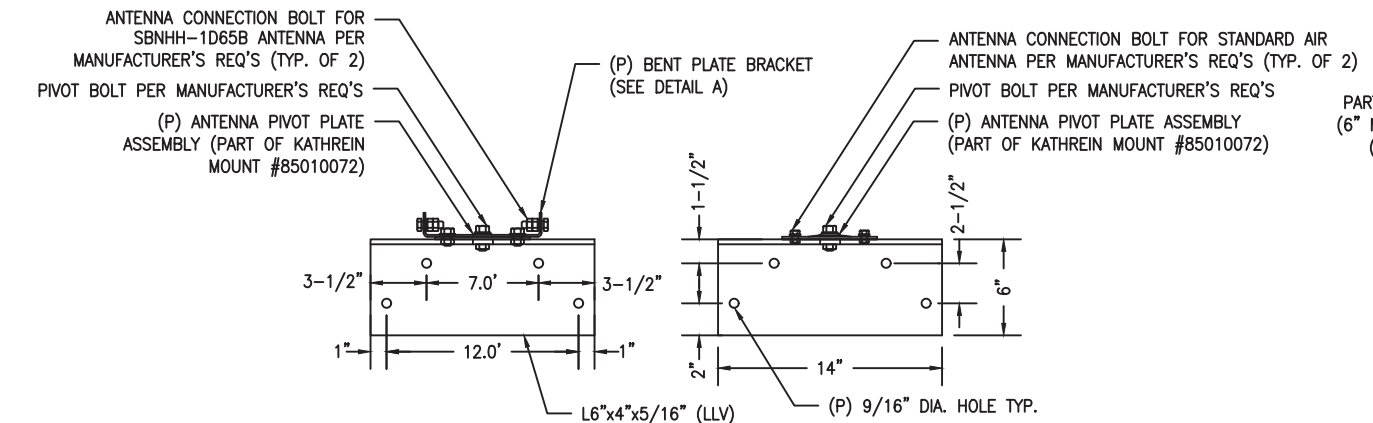
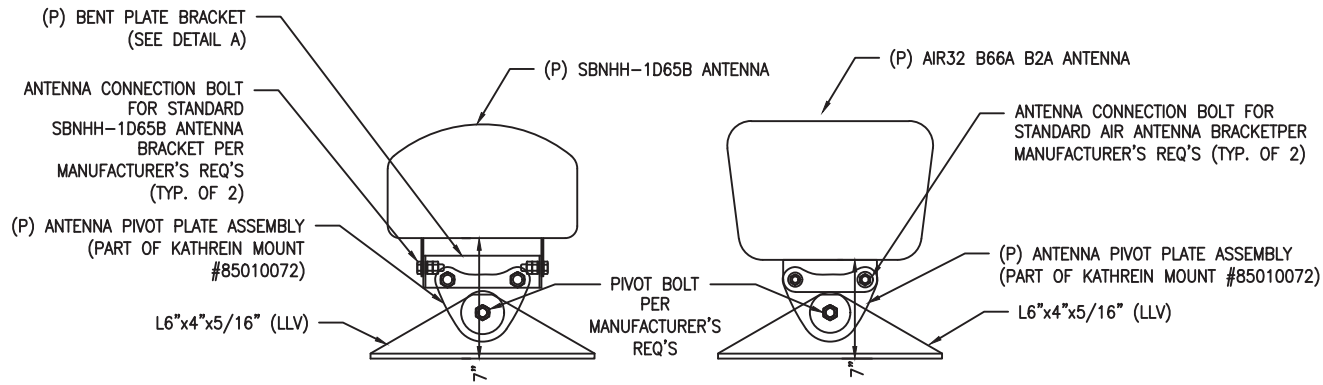


**2** LOWER SHROUD EXPLODED PLAN  
**S-4** Scale: 1-1/2"=1'-0"

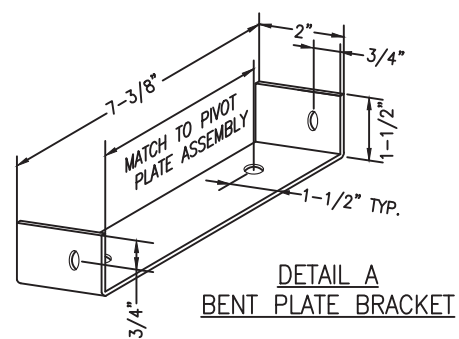


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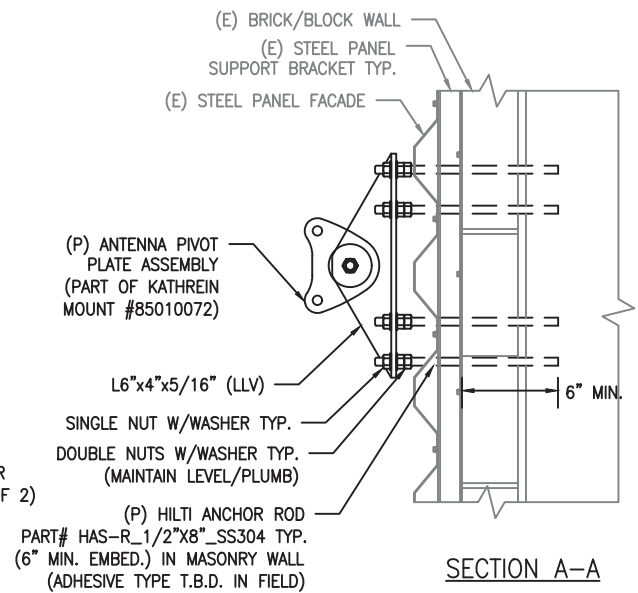




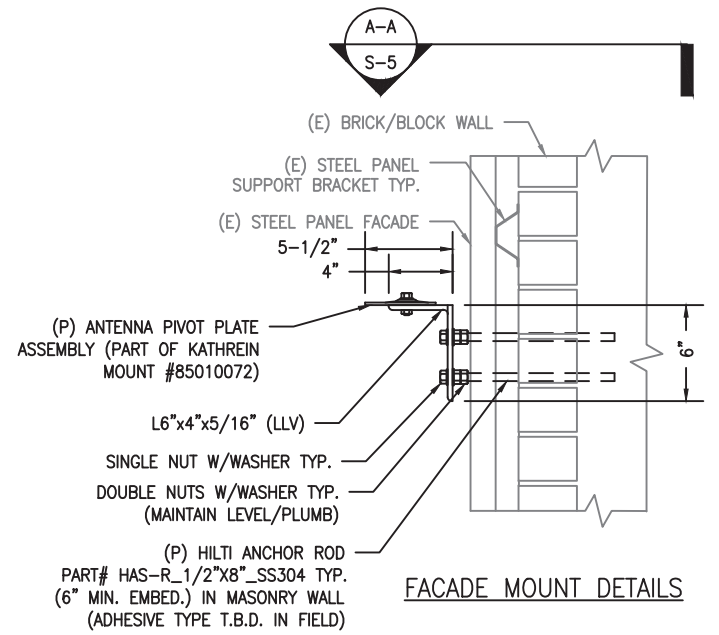
DETAIL A  
BENT PLATE BRACKET



DETAIL A  
BENT PLATE BRACKET



SECTION A-A



FACADE MOUNT DETAILS

1 ANTENNA MOUNT DETAILS  
S-5 SCALE: 1" = 1'-0"

NOTE:  
CONTRACTOR TO VERIFY THE EXISTING WALL CONDITIONS BEFORE MOUNTING ANTENNAS. ADVANCED ENGINEERING GROUP, P.C. HAS NOT PERFORMED TESTING TO VERIFY SUITABILITY OF THE (E) BRICK FACADE WALLS TO SUPPORT THE (P) LOADS. NOTIFY ENGINEER & CM IMMEDIATELY IF CONDITIONS ARE OTHER THAN AS SHOWN



STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, ANSI/ASCE7, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF ENGINEER OF RECORD.
- STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE A, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 1/2" DIA. UNLESS OTHERWISE INDICATED.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZINC BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1-5/8"x1-5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-70 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWICK BOLT II OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE AND ON HALF (3-1/2) INCHES.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.

LEGEND

(E) = FUTURE
(E) = EXISTING
(P) = PROPOSED
(AGL) = ABOVE GROUND LEVEL
(V.I.F.) = VERIFY IN FIELD
(LLV) LONG LEG VERTICAL



WELLMAN ASSOCIATES INC  
64 CARPENTER STREET  
ORANGE, MA 01364

SITE NUMBER: 4BS0231A  
SITE NAME: BS231/PLANET SELF STORAGE  
33 TRAVELER STREET  
BOSTON, MA 02118  
SUFFOLK COUNTY

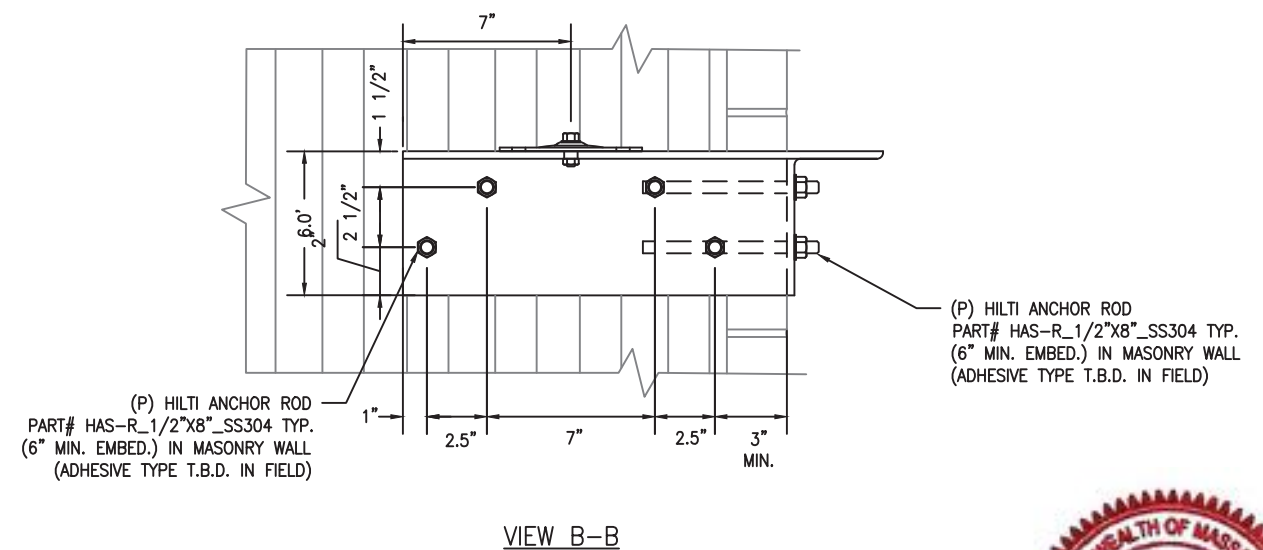
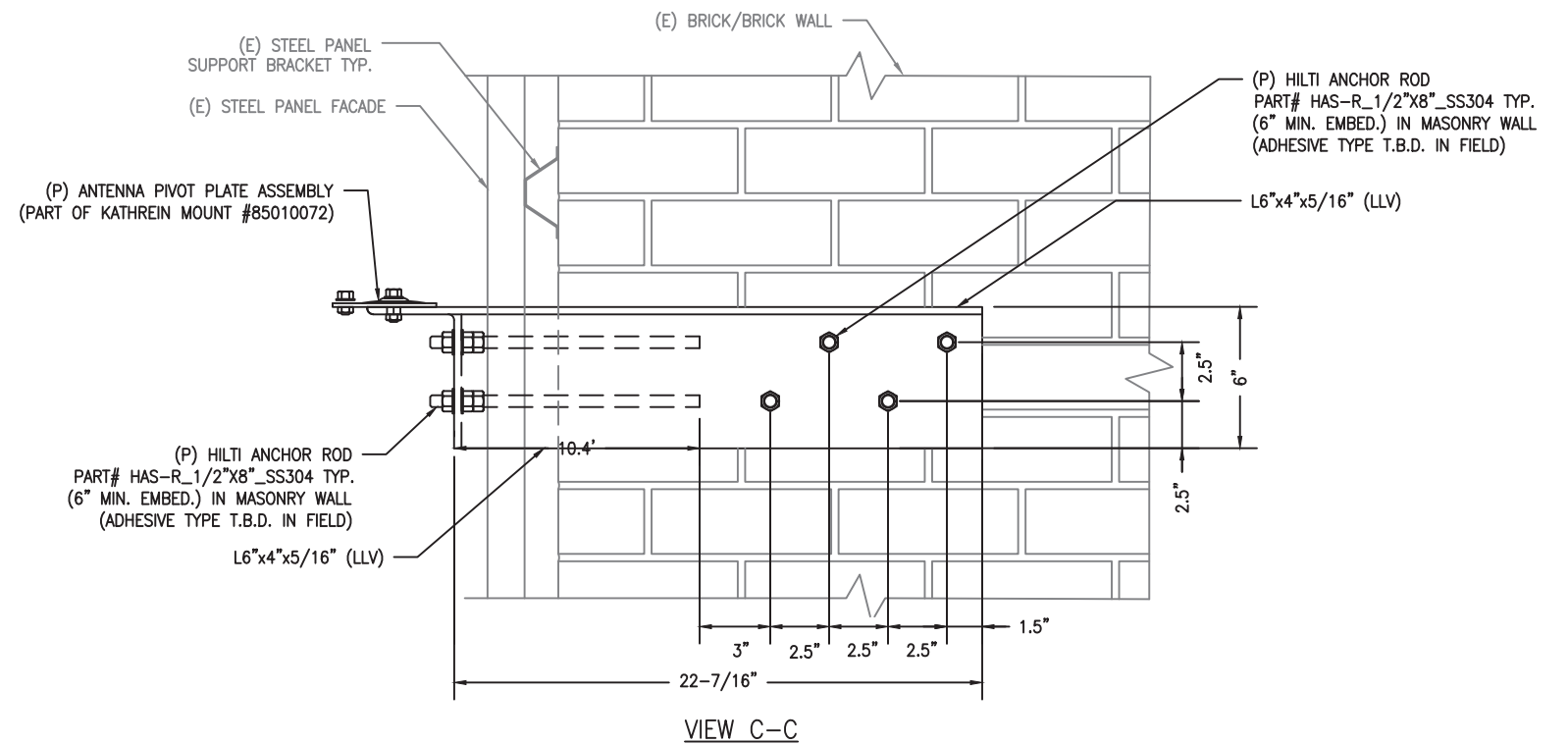
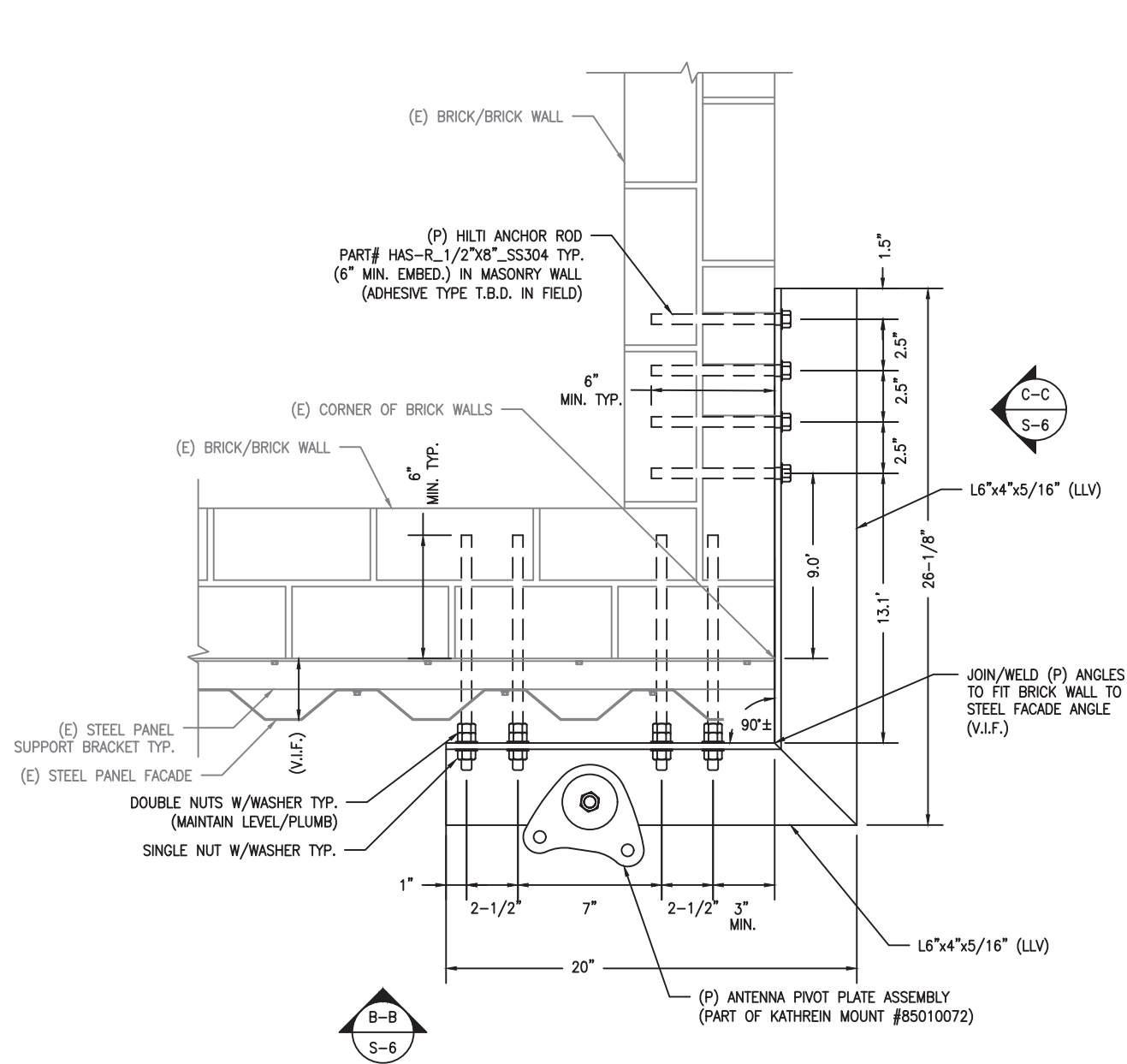
T-MOBILE NORTHEAST LLC  
15 COMMERCE WAY, SUITE B  
NORTON, MA 02766  
OFFICE: (508) 286-2700  
FAX: (508) 286-2893

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4	02/22/18	UPDATES	JWH	SNA

DETAILS

SHEET NO. S-5





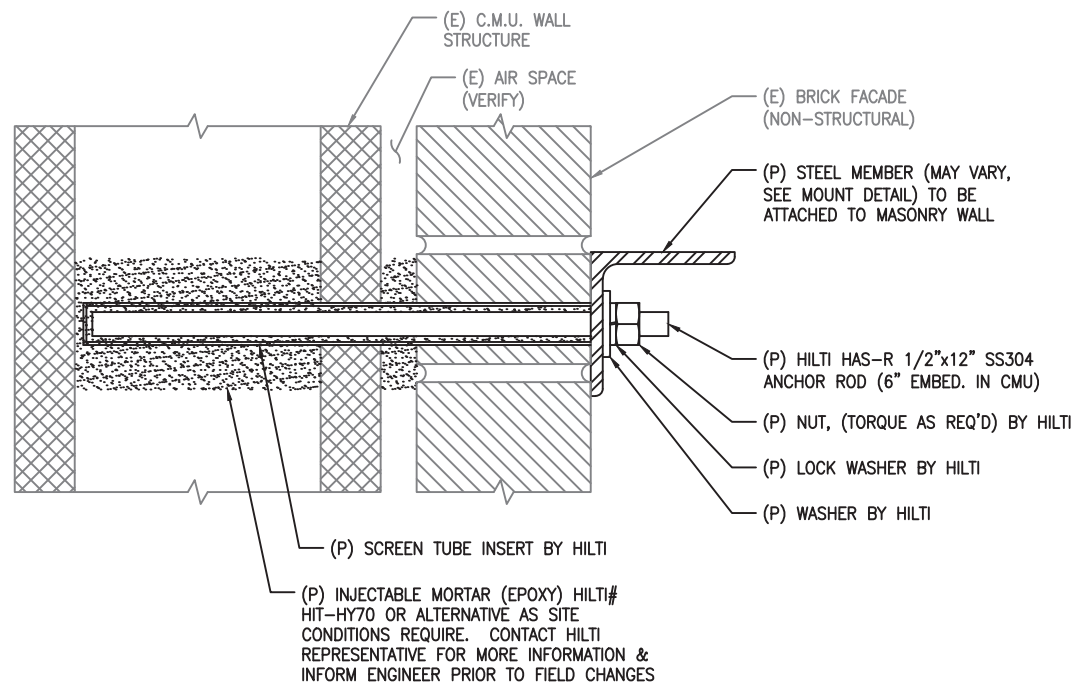
1  
S-6 ANTENNA CORNER MOUNT DETAILS  
SCALE: 1-1/2" = 1'-0"

LEGEND

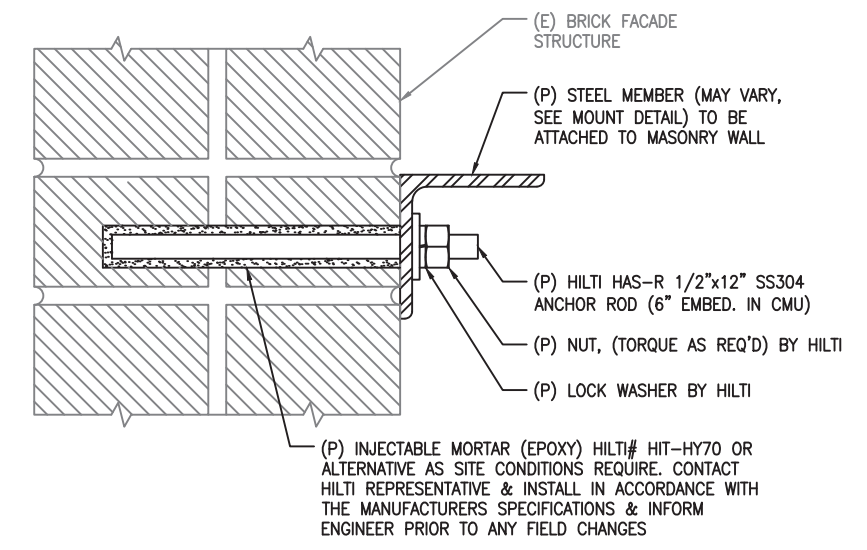
(E) = FUTURE  
(E) = EXISTING  
(P) = PROPOSED  
(AGL) = ABOVE  
GROUND LEVEL  
(V.I.F.) = VERIFY  
IN FIELD  
(LLV) LONG LEG  
VERTICAL



NO.	DATE	REVISIONS	BY	CHK
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3	02/20/18	UPDATES	JWH	SNA
4	02/22/18	UPDATES	JWH	SNA



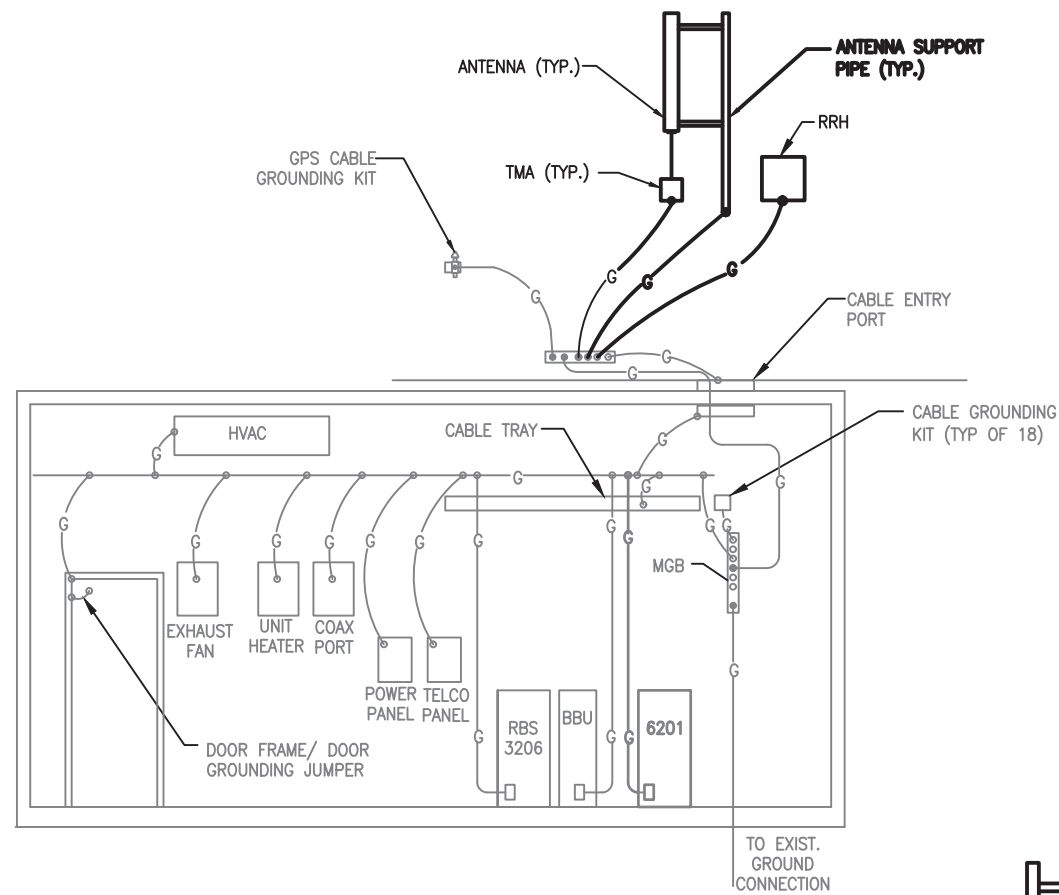
1 BRICK / BLOCK WALL EMBEDMENT DETAIL  
S-7 SCALE: 3/4" = 1'-0"



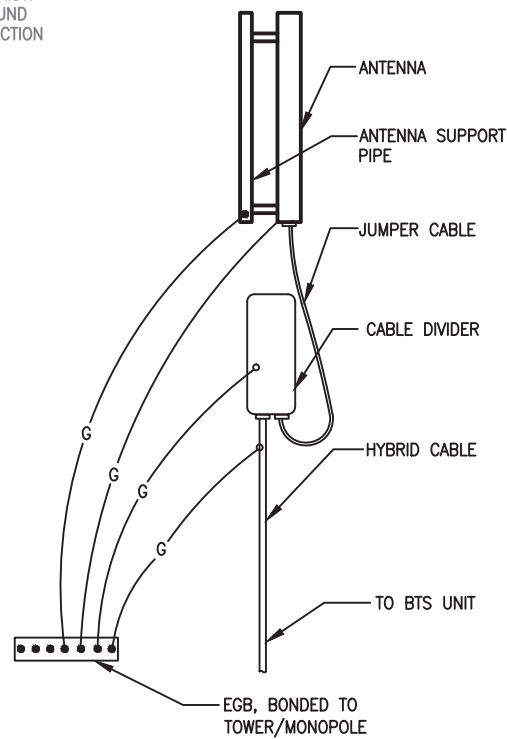
2 SOLID BRICK WALL EMBEDMENT DETAIL  
S-7 SCALE: 3/4" = 1'-0"



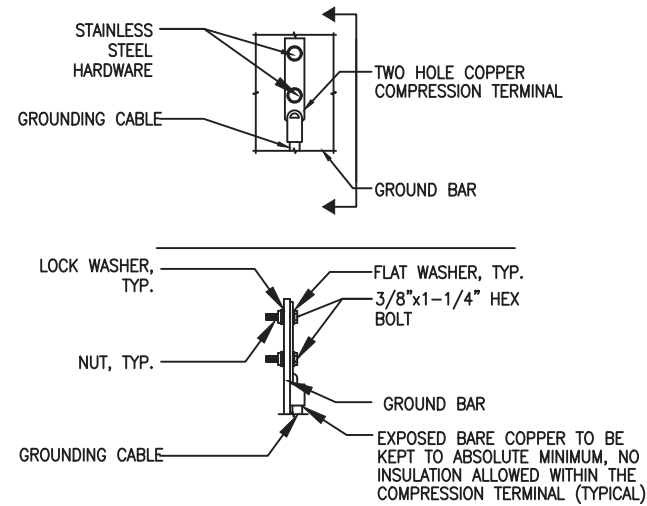
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4	02/22/18	UPDATES	JWH	SNA



1 TYP. GROUNDING RISER DIAGRAM  
G-1 SCALE:N.T.S.

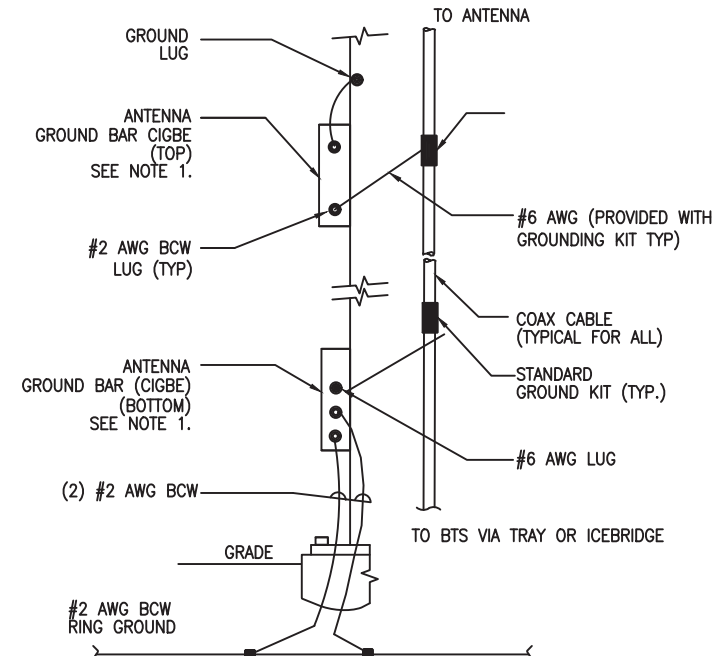


4 HYBRID CABLE CONNECTION AND GROUNDING DETAIL  
G-1 SCALE: N.T.S.



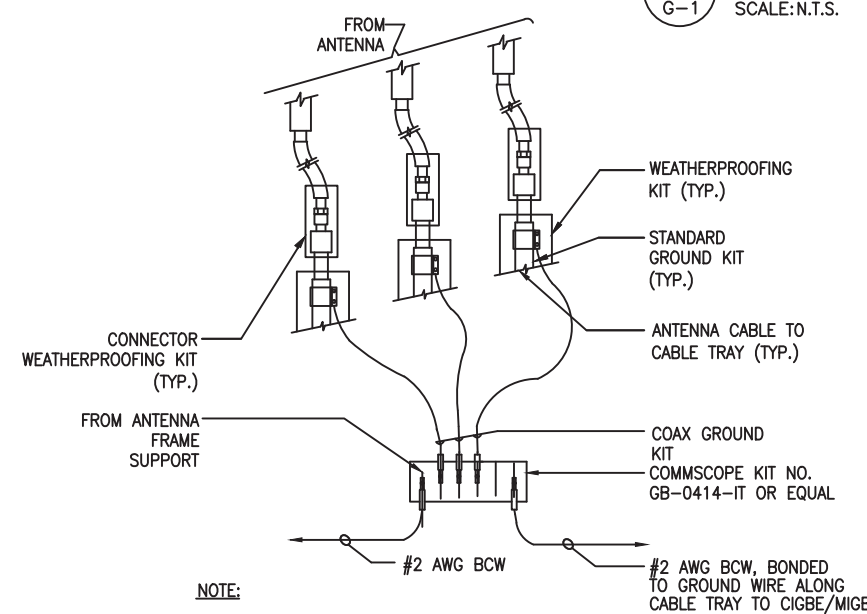
- NOTES:  
 1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.  
 2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.  
 3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.  
 4. ALL GROUND LUGS MUST BE HEAT SHRUNK AT WIRE/LUG CONNECTION

2 TYP. GROUND BAR CONNECTION DETAIL  
G-1 SCALE:N.T.S.



- NOTE:  
 1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER. ANTENNA LOCATION AND CONNECTION ANTENNA LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.  
 2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

3 ANTENNA CABLE GROUNDING  
G-1 SCALE:N.T.S.



- NOTE:  
 1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.  
 2. ALL PROPOSED COAXIAL CABLING TO BE GROUNDED IN (3) LOCATIONS; BELOW JUMPER/HARDLINE CONNECTION, AT BASE OF TOWER & PRIOR TO BUILDING/CABINET ENTRY.

4 GROUND WIRE TO GROUND BAR CONNECTION DETAIL  
G-1 SCALE:N.T.S.





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0	01/25/18	ISSUED FOR REVIEW	DD	SNA
1	02/06/18	ISSUED FOR REVIEW	JWH	SNA
2	02/07/18	UPDATES	JWH	SNA
3	02/20/18	UPDATES	JWH	SNA
4	02/22/18	UPDATES	JWH	SNA





**MAP SYMBOL LEGEND**

-  SUBJECT SITE LOCATION
-  PHOTO LOCATION NUMBER



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SITE NO: 4BS0231A  
 SITE NAME: BS231/PLANET SELF STORAGE  
 ADDRESS: 33 TRAVELER ST  
 BOSTON, MA 02118

KEY MAP OF PHOTOS

PAGE: MAP-1  
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EXISTING SECTOR B  
ANTENNAS TO BE  
RECONFIGURED

EXISTING  
BUILDING

(2) EXISTING SECTOR A  
ANTENNAS TO BE  
REMOVED FROM NORTH  
FACADE OF BUILDING

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**SITE NO:** 4BS0231A

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**VIEW #1**

EXISTING VIEW FROM THE EAST ON AT  
THE INTERSECTION OF TRAVELER STREET  
& ALBANY STREET

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PROPOSED (2) SECTOR A  
ANTENNAS TO BE PAINTED  
TO MATCH FACADE

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SITE NO: 4BS0231A  
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ADDRESS: 33 TRAVELER ST  
BOSTON, MA 02118

**VIEW #1**  
PROPOSED VIEW FROM THE EAST ON AT THE  
INTERSECTION OF TRAVELER STREET &  
ALBANY STREET

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EXISTING BUILDING

EXISTING SECTOR A ANTENNAS TO BE RECONFIGURED

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SITE NO: 4BS0231A  
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**VIEW #2**  
 EXISTING VIEW FROM THE SOUTH  
 ON EAST BERKELEY STREET

PAGE: V-2E  
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PROPOSED (2) SECTOR B ANTENNAS TO BE PAINTED TO MATCH FACADE

PROPOSED SECTOR A ANTENNA (1 VISIBLE IN THIS VIEW) TO BE PAINTED TO MATCH FACADE

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**VIEW #2**  
 PROPOSED VIEW FROM THE SOUTH  
 ON EAST BERKELEY STREET

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VIEW #3  
 EXISTING VIEW FROM THE SOUTHWEST,  
 THE INTERSECTION OF EAST BERKELEY  
 STREET AND HARRISON AVENUE

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(1) PROPOSED SECTOR C  
RF-TRANSPARENT  
CYLINDER CONTAINING  
PROPOSED ANTENNA

(2) PROPOSED SECTOR D  
RF-TRANSPARENT  
CYLINDERS CONTAINING  
PROPOSED ANTENNAS

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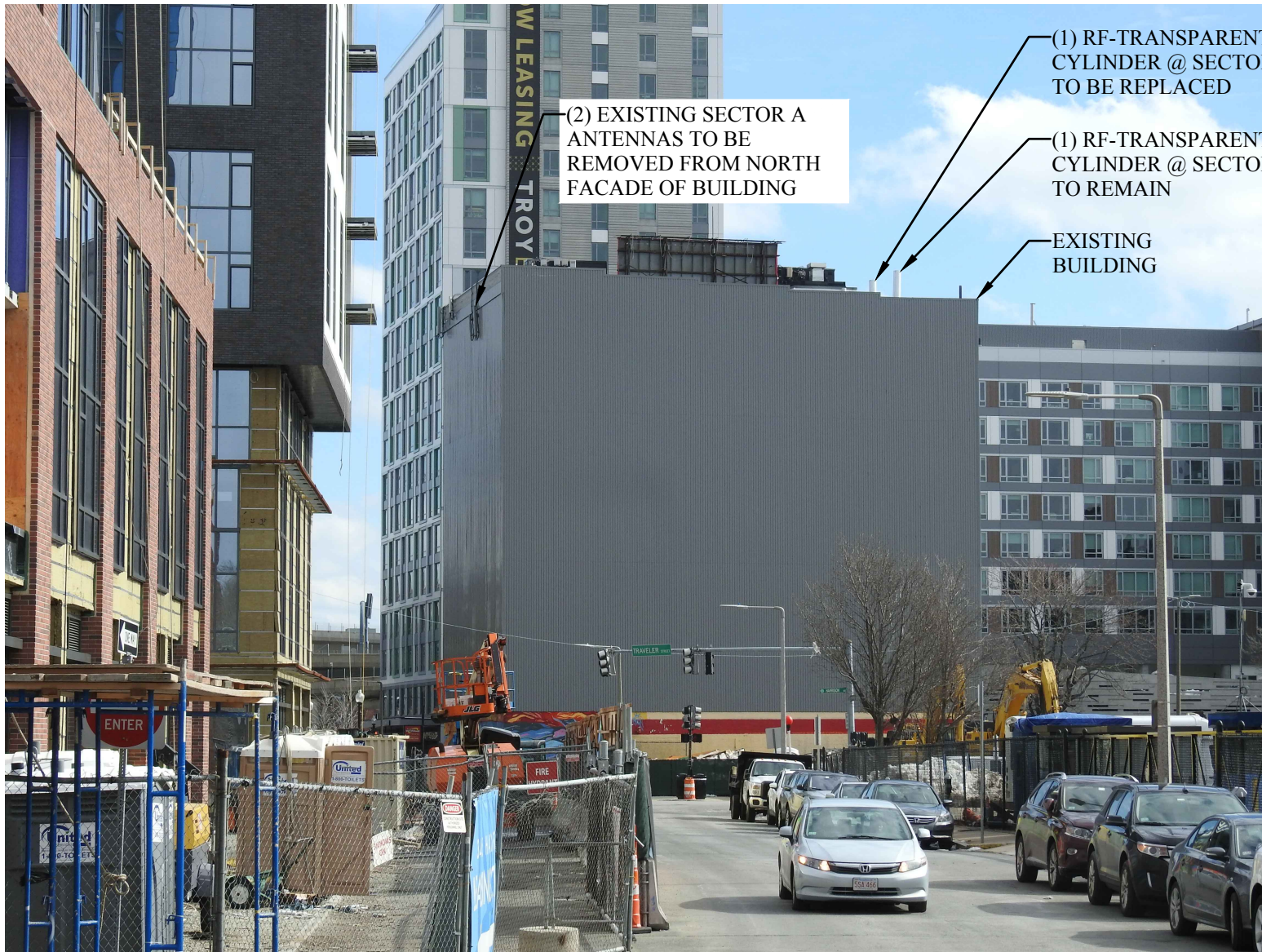
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SITE NO: 4BS0231A  
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ADDRESS: 33 TRAVELER ST  
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**VIEW #3**  
PROPOSED VIEW FROM THE SOUTHWEST,  
THE INTERSECTION OF EAST BERKELEY  
STREET AND HARRISON AVENUE

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(2) EXISTING SECTOR A ANTENNAS TO BE REMOVED FROM NORTH FACADE OF BUILDING

(1) RF-TRANSPARENT CYLINDER @ SECTOR C TO BE REPLACED

(1) RF-TRANSPARENT CYLINDER @ SECTOR C TO REMAIN

EXISTING BUILDING

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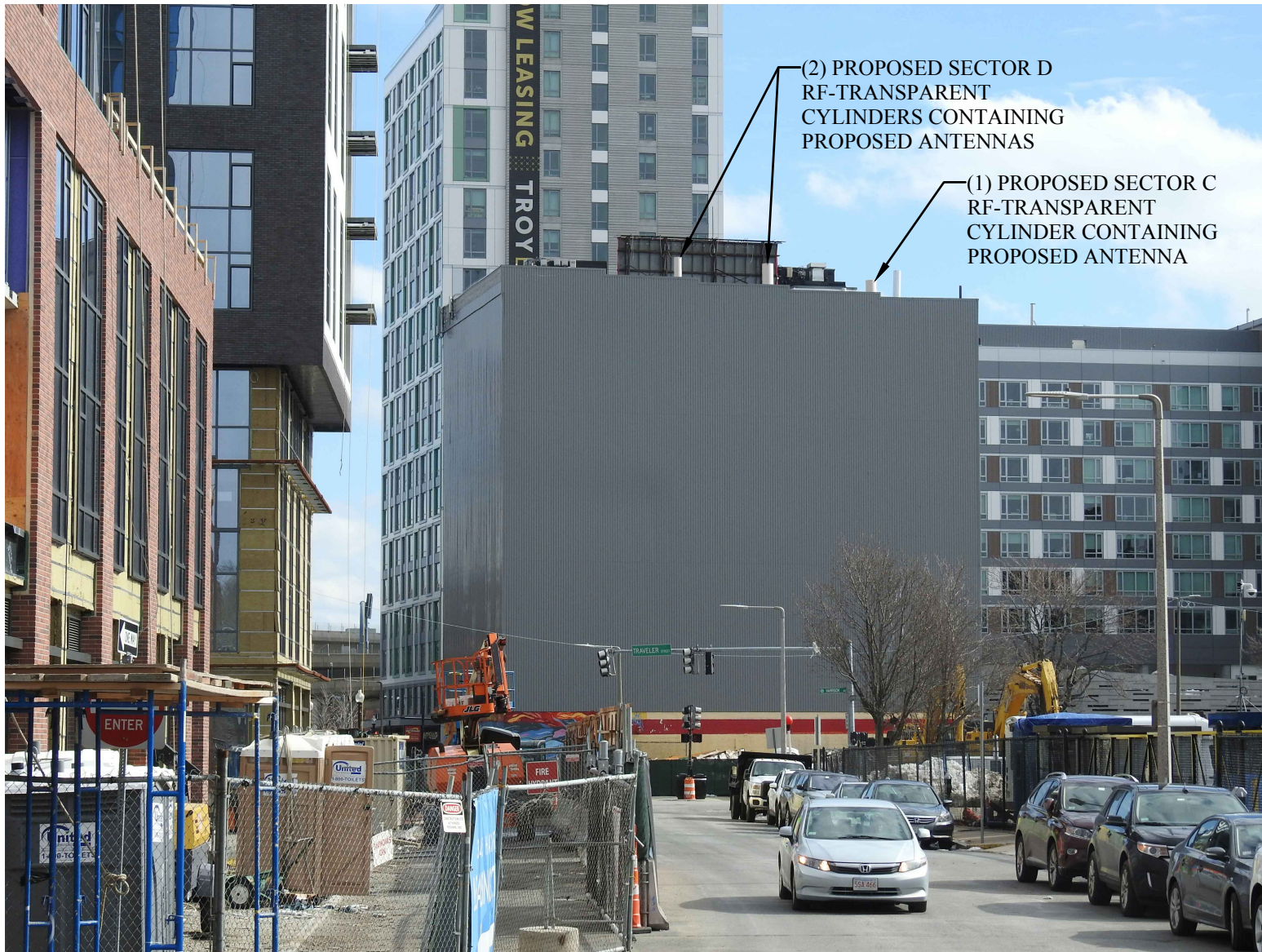
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**VIEW #4**  
 EXISTING VIEW FROM THE NORTHWEST,  
 AT THE INTERSECTION OF TRAVELER  
 STREET AND WASHINGTON STREET

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(2) PROPOSED SECTOR D  
RF-TRANSPARENT  
CYLINDERS CONTAINING  
PROPOSED ANTENNAS

(1) PROPOSED SECTOR C  
RF-TRANSPARENT  
CYLINDER CONTAINING  
PROPOSED ANTENNA

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**SITE NO:** 4BS0231A

**SITE NAME:** BS231/PLANET SELF STORAGE

**ADDRESS:** 33 TRAVELER ST  
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**VIEW #4**

PROPOSED VIEW FROM THE NORTHWEST,  
AT THE INTERSECTION OF TRAVELER  
STREET AND WASHINGTON STREET

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**DATE:** 2/20/2018

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