


PROJECT NOTES:

- SITE INFORMATION OBTAINED FROM THE FOLLOWING:
 - PLAN ENTITLED "SOUTH END TREMONT" PREPARED BY DEWBERRY OF BOSTON, MA LAST REVISED 02/28/2018.
 - LIMITED FIELD OBSERVATION BY RAMAKER & ASSOCIATES ON 05/07/2019.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
- THE PROPOSED FACILITY WILL CAUSE NO INCREASE IN STORM WATER RUNOFF, THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
- NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
- THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).
- THE FACILITY DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
- CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTHS WITH RF ENGINEERING PRIOR TO INSTALLATION.
- THE TOWER, MOUNTS AND ANTENNAS SHALL BE DESIGNED TO MEET EIA/TIA-222-G AS PER IBC REQUIREMENTS.
- ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
- CONTRACTOR MUST FIELD LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
- CONSTRUCTION SHALL NOT COMMENCE UNTIL COMPLETION OF A PASSING STRUCTURAL ANALYSIS CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER.
- CONTRACTOR SHALL CONTACT STATE SPECIFIC ONE CALL SYSTEM THREE WORKING DAYS PRIOR TO ANY EARTH MOVING ACTIVITIES.



SITE NAME: SOUTH END TREMONT
FA NUMBER: 10025533
SITE NUMBER: MAL02084
ADDRESS: 567 TREMONT STREET
 BOSTON, MA 02118
SCOPE: 5G NR UPGRADE - MRCTB039377 (2101A0P37B),
 5C - MRCTB025514 (2101A0DAXQ),
 4TXRX ANTENNA RETROFIT - MRCTB025632



85 RANGEWAY ROAD - BLDG 3, SUITE 102
NORTH BILLERICA, MA 01862
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Certification & Seal:
I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Massachusetts.



James R. Skowronski 5/11/2021
Registered Civil Engineer Signature: Date:

AERIAL MAP:



PROJECT INFORMATION:

SITE INFORMATION:

LATITUDE: 42.3438800° N
LONGITUDE: 71.0725031° W
JURISDICTION: SUFFOLK COUNTY

APPLICANT/LESSEE:

COMPANY: AT&T
ADDRESS: 550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

PROPERTY OWNER:

PROPERTY OWNER: BRIGS, LLC
ADDRESS: 376 MASSACHUSETTS AVENUE
ARLINGTON, MA 02474

REAL ESTATE:

COMPANY: SMARTLINK, LLC
ADDRESS: 85 RANGEWAY ROAD
BUILDING 3, SUITE 102
CITY, STATE, ZIP: NORTH BILLERICA, MA 01862
CONTACT: RYAN LYNCH
E-MAIL: RYAN.LYNCH@SMARTLINKGROUP.COM

CONSTRUCTION MANAGER:

COMPANY: SMARTLINK, LLC
ADDRESS: 85 RANGEWAY ROAD
BUILDING 3, SUITE 102
CITY, STATE, ZIP: NORTH BILLERICA, MA 01862
CONTACT: RYAN LYNCH
E-MAIL: RYAN.LYNCH@SMARTLINKGROUP.COM

ENGINEER:

COMPANY: RAMAKER & ASSOCIATES, INC.
ADDRESS: 855 COMMUNITY DRIVE
SAUK CITY, WI 53583
CONTACT: ANGELA KVALHEIM
E-MAIL: AKVALHEIM@RAMAKER.COM

**PROJECT DESCRIPTION/
SCOPE OF WORK**

- INSTALL (3) NEW CCI TPA65R-BU4DA ANTENNAS, (1) PER SECTOR
- REMOVE (3) EXISTING KATHREIN 742-264 ANTENNAS, (1) PER SECTOR
- INSTALL (3) NEW 4449 B5/B12 RRU, (1) PER SECTOR
- INSTALL (3) NEW 8843 B2/B66A, (1) PER SECTOR
- REMOVE (3) EXISTING RRUS-11 B12, (1) PER SECTOR
- REMOVE (3) EXISTING RRUS-11 B5, (1) PER SECTOR
- REMOVE (3) EXISTING RRUS-12 B2 + RRUS A2 B25, (1) PER SECTOR
- REMOVE (6) EXISTING DTMABP7819V 51A (TWIN 700/850 BYPASS) TMAs, (2) PER SECTOR
- ADD 6630 + IDLe
- ADD (1) PROPOSED PIPE MOUNT, (1) PER ALPHA SECTOR
- ADD (1) PROPOSED PIPE TO PIPE MOUNT, (1) PER BETA SECTOR
- ADD (6) TUBES FOR DUAL BAND RRU, (2) PER SECTOR

PROPOSED PROJECT SCOPE BASED ON RFDS
ID# 4078603, VERSION 2.0, LAST UPDATED 09/18/2020 & ID# 3232650, VERSION 6.0, LAST UPDATED 10/08/2020.

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S4	RAYCAP / STEALTH DRAWINGS
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G-1	GROUNDING DETAILS
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MARK	DATE	DESCRIPTION
5	05/11/21	REVISED PER COMMENTS
4	05/03/21	REVISED PER ANTENNA 3M TRANSPARENT WRAP
3	11/03/20	REVISED PER RFDS v6
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ISSUE PHASE: FINAL DATE ISSUED: 05/11/2021
PROJECT TITLE:
**SOUTH END TREMONT
FA# 10025533
SITE# MAL02084**
PROJECT INFORMATION:
567 TREMONT STREET
BOSTON, MA 02118
SUFFOLK COUNTY

SHEET TITLE:
TITLE SHEET
SCALE: NONE
PROJECT NUMBER: 44223
SHEET NUMBER: T-1

CODE COMPLIANCE:

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

- 9TH EDITION OF THE MA STATE BUILDING CODE
- 2015 INTERNATIONAL BUILDING CODE
- 2015 INTERNATIONAL MECHANICAL CODE
- ANSI/TIA-22-G STRUCTURAL STANDARD



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GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 50 HMS OR LESS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
7. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE EQUIPMENT GROUND RING WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
10. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
11. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. ALL BENDS SHALL BE MADE WITH 12" RADIUS OR LARGER.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
13. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS EXCEPT FOR GROUND BAR CONNECTION FROM MGB TO OUTSIDE EXTERIOR GROUND SHALL ALL BE CADWELD CONNECTIONS.
14. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
15. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED TO THE TOWER GROUND BAR.
16. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
17. ALL EXTERIOR AND INTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
18. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
19. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
20. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G. NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
21. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/4" IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.
22. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - SMARTLINK
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AT&T (NEW CINGULAR WIRELESS PCS, LLC)
23. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
24. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
25. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
26. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
27. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
28. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
29. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE

- SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
30. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
 31. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
 32. ALL EXISTING 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 THE RESPONSIBLE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
 33. ALL EXISTING 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, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
 34. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION.
 35. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
 36. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
 37. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
 38. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
 39. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
 40. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
 41. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
 42. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR.
 43. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
 44. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
 45. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS.
 46. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (FY = 36 KSI) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (FY = 36 KSI). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
 47. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
 48. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
 49. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION, ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
 50. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN ALERT OF DANGEROUS EXPOSURE LEVELS.



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Certification # Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Massachusetts.



James R. Skowronski
 Registered Civil Engineer Signature: 5/11/2021
 Date:

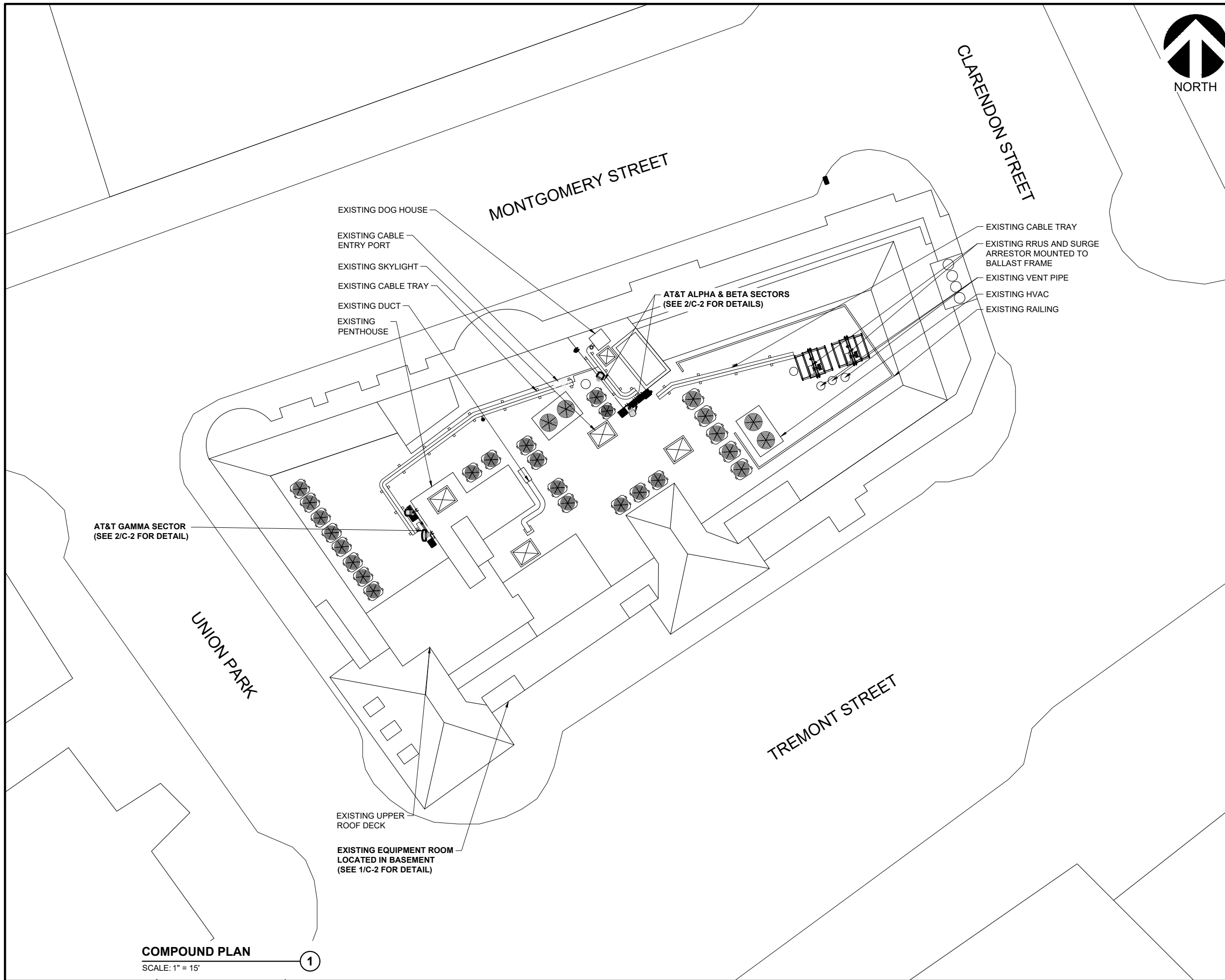
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MARK	DATE	DESCRIPTION
ISSUE PHASE	FINAL	DATE ISSUED 05/11/2021

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 SUFFOLK COUNTY

SHEET TITLE:
NOTES

SCALE: NONE

PROJECT NUMBER	44223
SHEET NUMBER	GN-1



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James R. Skowronski
 Registered Civil Engineer Signature: 5/11/2021 Date:

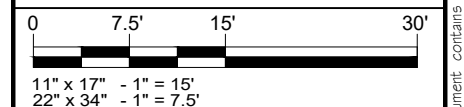
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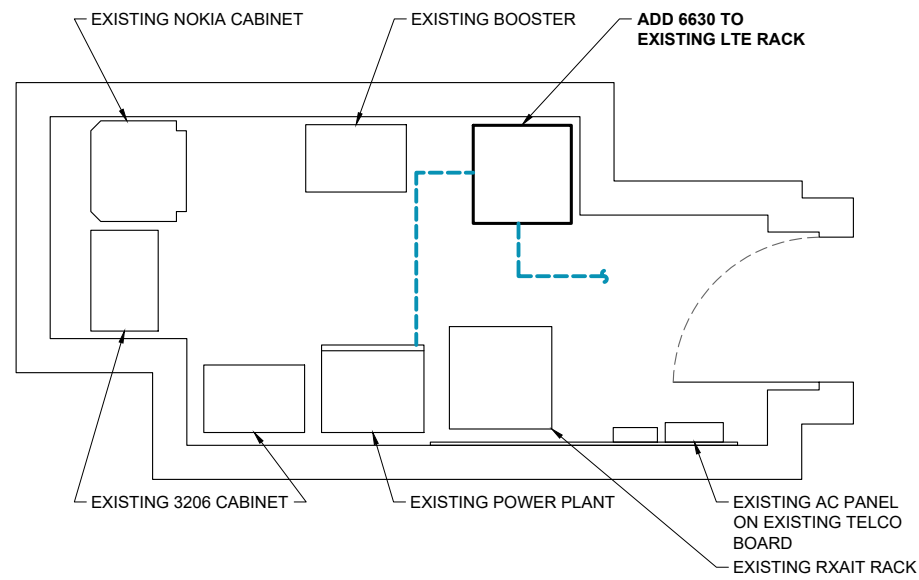
SHEET TITLE:
COMPOUND PLAN



PROJECT NUMBER: 44223
 SHEET NUMBER: C-1

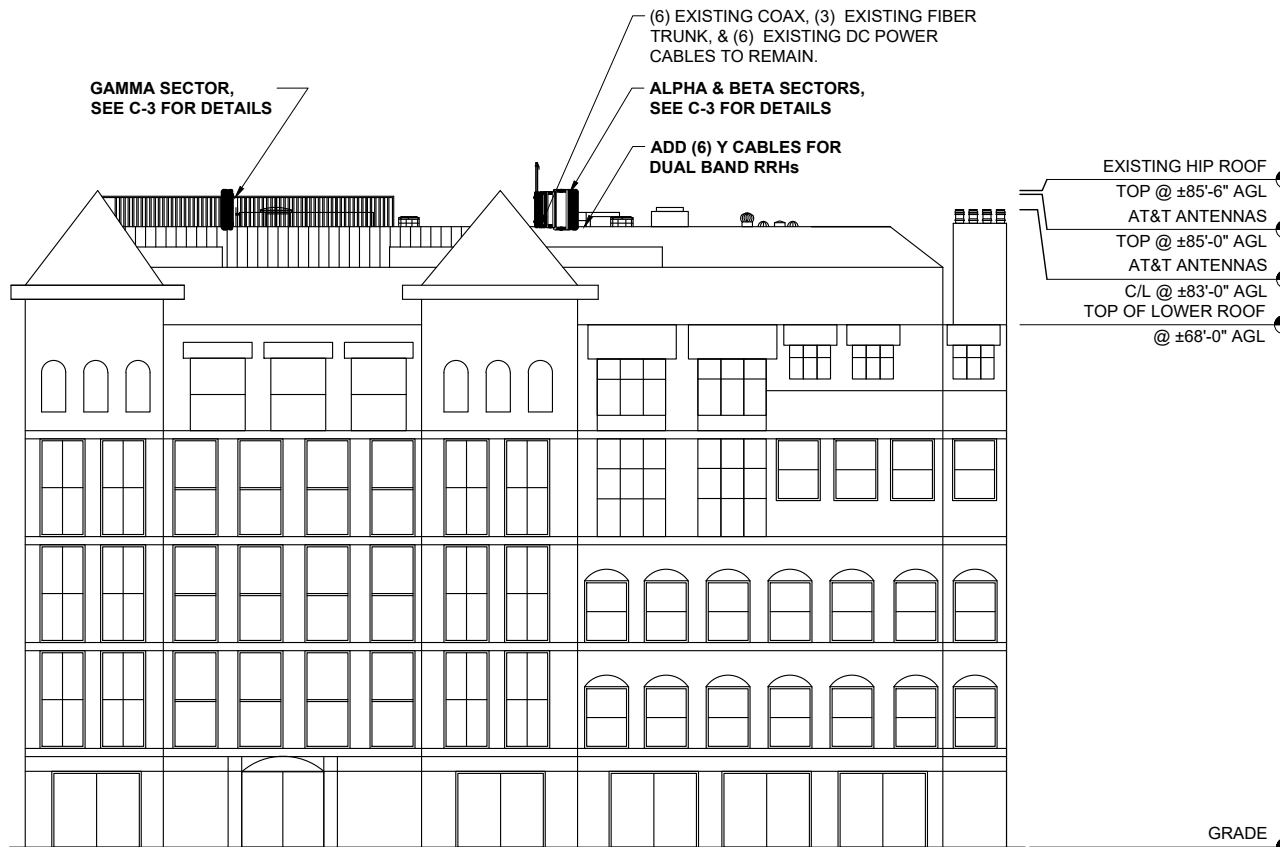
COMPOUND PLAN
 SCALE: 1" = 15'

1



EQUIPMENT LAYOUT
 SCALE: 1" = 3.75'

1



ELEVATION VIEW
 SCALE: 1" = 25'

NOTE:
 A STRUCTURAL ASSESSMENT OF THE ANTENNA AND EQUIPMENT MOUNTING STRUCTURES HAS BEEN COMPLETED BY RAMAKER, DATED SEPTEMBER 11, 2020.
 SEE S-1 FOR STRUCTURAL DETAILS TO BE COMPLETED PRIOR TO ANTENNA AND EQUIPMENT INSTALLATION.



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Certification & Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Massachusetts.



James R. Skowronski
 Registered Civil Engineer Signature: 5/11/2021
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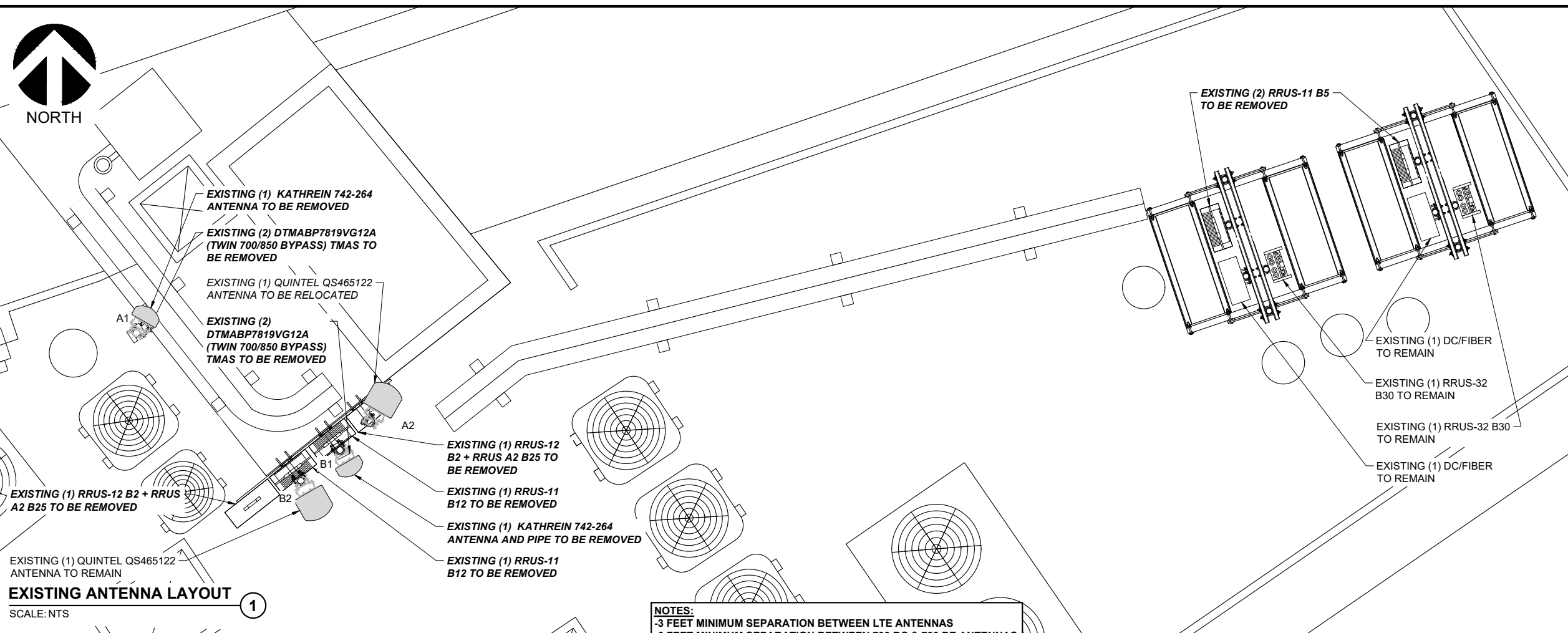
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SHEET TITLE:
EQUIPMENT LAYOUT AND ELEVATION VIEW

SCALE:
 AS NOTED

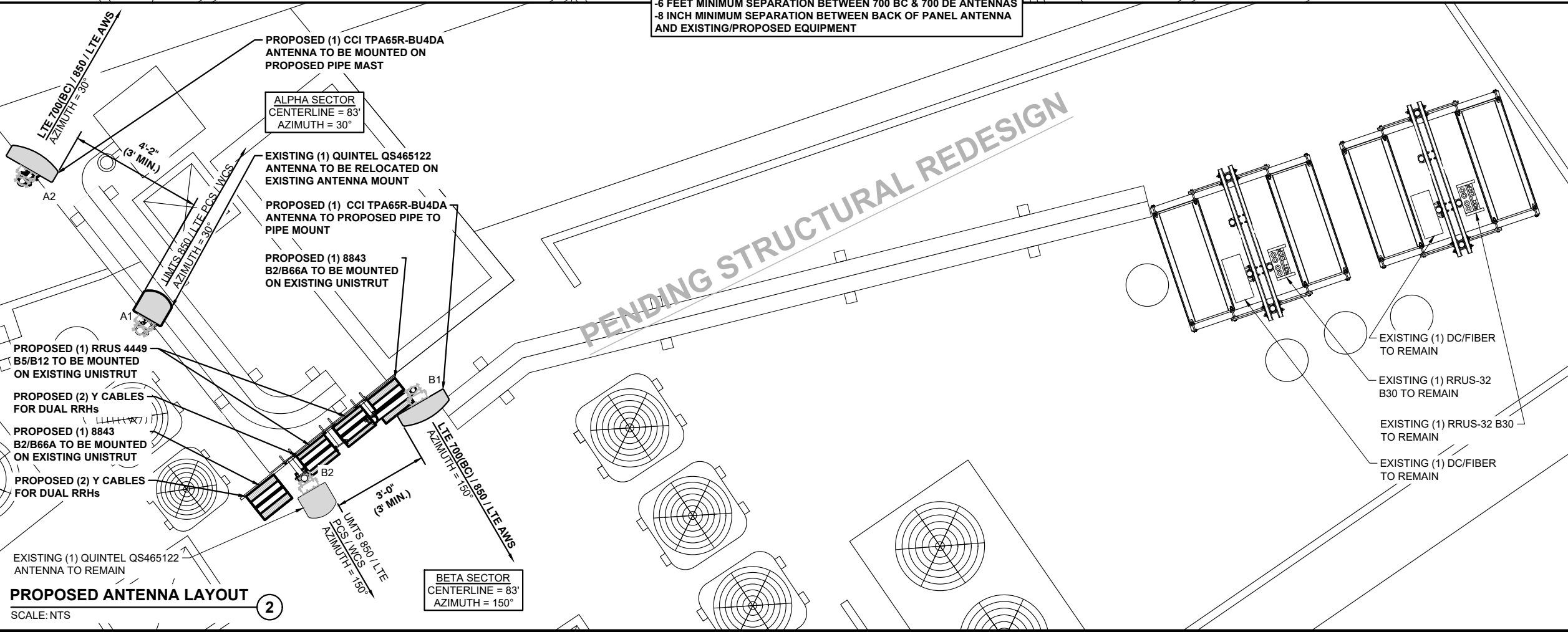
PROJECT NUMBER: 44223
 SHEET NUMBER: C-2

PENDING STRUCTURAL REDESIGN



EXISTING ANTENNA LAYOUT ①
 SCALE: NTS

NOTES:
 -3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
 -6 FEET MINIMUM SEPARATION BETWEEN 700 BC & 700 DE ANTENNAS
 -8 INCH MINIMUM SEPARATION BETWEEN BACK OF PANEL ANTENNA AND EXISTING/PROPOSED EQUIPMENT



PROPOSED ANTENNA LAYOUT ②
 SCALE: NTS



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Registered Civil Engineer Signature: *James R. Skowronski* Date: 5/11/2021

MARK	DATE	DESCRIPTION
5	05/11/21	REVISED PER COMMENTS
4	05/03/21	REVISED PER ANTENNA 3M TRANSPARENT WRAP
3	11/03/20	REVISED PER RFDS v6
2	10/06/20	FINAL CDs ISSUED
1	09/11/20	CDs REVISED FOR REVIEW
0	08/17/20	CDs ISSUED FOR REVIEW

ISSUE PHASE	FINAL	DATE ISSUED	05/11/2021
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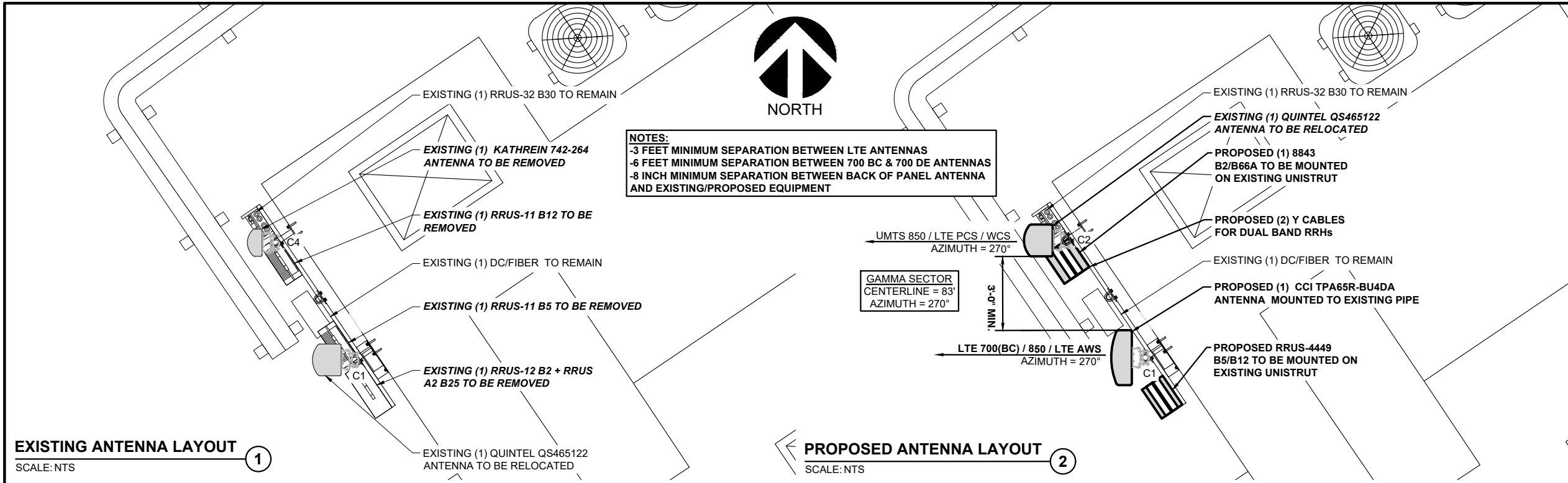
PROJECT TITLE:
SOUTH END TREMONT
 FA# 10025533
 SITE# MAL02084

PROJECT INFORMATION:
 567 TREMONT STREET
 BOSTON, MA 02118
 SUFFOLK COUNTY

SHEET TITLE:
ALPHA & BETA SECTOR
ANTENNA LAYOUT

SCALE: NONE

PROJECT NUMBER	44223
SHEET NUMBER	C-3



EXISTING ANTENNA LAYOUT
SCALE: NTS

PROPOSED ANTENNA LAYOUT
SCALE: NTS

SECTOR	EXISTING ANTENNA	PROPOSED ANTENNA	TECHNOLOGY	ANTENNA STATUS	HEIGHT (IN.)	WIDTH (IN.)	DEPTH (IN.)	WEIGHT (LBS.)	ANTENNA AZIMUTH (DEG.)	ANT. C/L ELEV. (FT.)	REMOTE RADIO/TMA CONFIGURATION	TRANSMISSION CABLE			RAYCAP UNIT
												QUANTITY	TYPE	STATUS	
SECTOR 1	1 KATHREIN 742-264	CCI TPA65R-BU4DA	LTE 700(BC) / 850 / LTE AWS	PROPOSED	48.0	20.7	7.7	52.6	30	83	(1) 4449 B5/B12	1 2	FIBER TRUNK DC POWER	EXISTING	(3) EXISTING DC6-48-60-18-8F SQUID
	2 -	QUINTEL QS46512-2	UMTS 850 / LTE PCS / WCS	EXISTING	52	12	10.8	75	30	83	(1) 8843 B2/B66A (1) RRUS-32 B30	2	COAX	EXISTING	
	3 -	-	-	VACANT	-	-	-	-	-	-	-	-	-	-	
	4 QUINTEL QS46512-2	-	-	VACANT	-	-	-	-	-	-	-	-	-	-	
SECTOR 2	1 KATHREIN 742-264	CCI TPA65R-BU4DA	LTE 700(BC) / 850 / LTE AWS	PROPOSED	48.0	20.7	7.7	52.6	150	83	(1) 4449 B5/B12	1 2	FIBER TRUNK DC POWER	EXISTING	
	2 -	QUINTEL QS46512-2	UMTS 850 / LTE PCS / WCS	EXISTING	52	12	10.8	75	150	83	(1) 8843 B2/B66A (1) RRUS-32 B30	2	COAX	EXISTING	
	3 -	-	-	VACANT	-	-	-	-	-	-	-	-	-	-	
	4 QUINTEL QS46512-2	-	-	VACANT	-	-	-	-	-	-	-	-	-	-	
SECTOR 3	1 QUINTEL QS46512-2	CCI TPA65R-BU4DA	LTE 700(BC) / 850 / LTE AWS	PROPOSED	48.0	20.7	7.7	52.6	150	83	(1) 4449 B5/B12	1 2	FIBER TRUNK DC POWER	EXISTING	
	2 -	-	-	VACANT	-	-	-	-	-	-	-	-	-	-	
	3 -	-	-	VACANT	-	-	-	-	-	-	-	-	-	-	
	4 KATHREIN 742-264	QUINTEL QS46512-2	UMTS 850 / LTE PCS / WCS	EXISTING	52	12	10.8	75	150	83	(1) 8843 B2/B66A (1) RRUS-32 B30	2	COAX	EXISTING	

BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_BOSTON_MAL02084_2020-5G-NR-RADIO_CELL-SITE-RF-MODIFICATIONS_MM093Q_2101A0P37B_10025533_54524_07-23-2020_FINAL-APPROVED_V2.00" LAST REVISED 09/18/2020.

BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_BOSTON_MAL02084_2018-LTE-MULTI-CARRIER_LTE_MH705R_2101A0DB1B_10025533_54524_06-27-2019_FINAL-APPROVED_V6.00" LAST REVISED 10/08/2020.

ANTENNA SCHEDULE
SCALE: NTS

3



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ISSUE PHASE: FINAL DATE ISSUED: 05/11/2021

PROJECT TITLE:
**SOUTH END TREMONT
FA# 10025533
SITE# MAL02084**

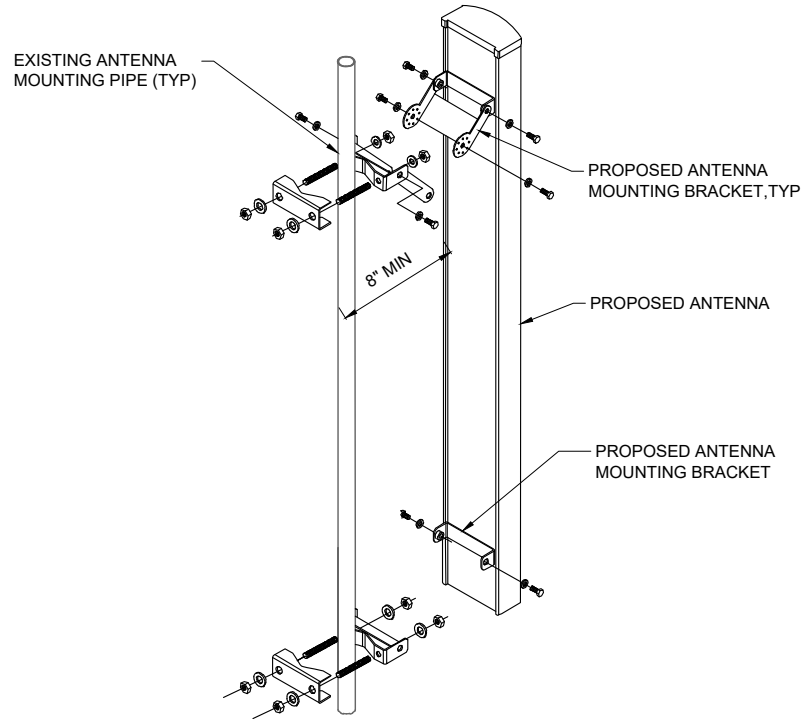
PROJECT INFORMATION:
567 TREMONT STREET
BOSTON, MA 02118
SUFFOLK COUNTY

SHEET TITLE:
**GAMMA SECTOR
ANTENNA LAYOUT AND
ANTENNA SCHEDULE**

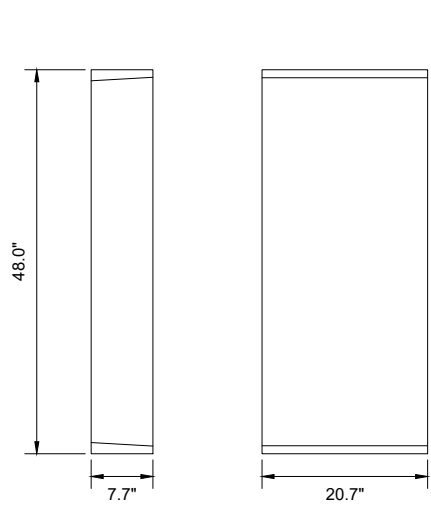
SCALE: NONE

PROJECT NUMBER: 44223
SHEET NUMBER: C-4

NOTES:
 -3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
 -8 INCH MINIMUM SEPARATION BETWEEN BACK OF PANEL ANTENNA AND EXISTING/PROPOSED EQUIPMENT

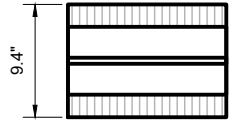


ANTENNA MOUNTING DETAIL ①
 SCALE: NTS

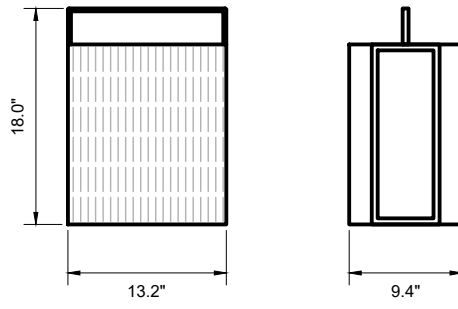


CCI TPA65R-BU4DA
 DIMENSIONS (HxWxD):
 48.0"x20.7"x7.7"
 WEIGHT (LBS): 52.6"

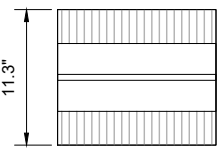
ANTENNA DETAIL ②
 SCALE: NTS



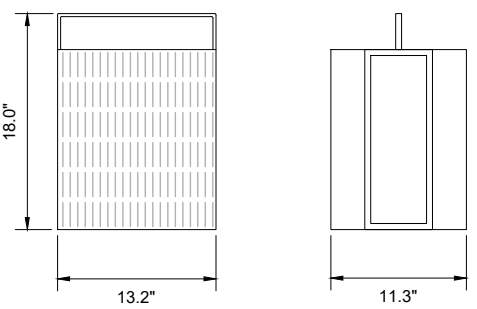
ERICSSON B5/B12 4449
 DIMENSIONS (HxWxD):
 18.0"x13.2"x9.4"
 WEIGHT (LBS): 75



RRUS 4449 B5 / B12 DETAIL ③
 SCALE: NTS



ERICSSON B2/B66A 8843
 DIMENSIONS (HxWxD):
 18.0"x13.2"x11.3"
 WEIGHT (LBS): 70



RRUS 8843 B2/B66A DETAIL ④
 SCALE: NTS



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ISSUE PHASE	FINAL	DATE ISSUED 05/11/2021

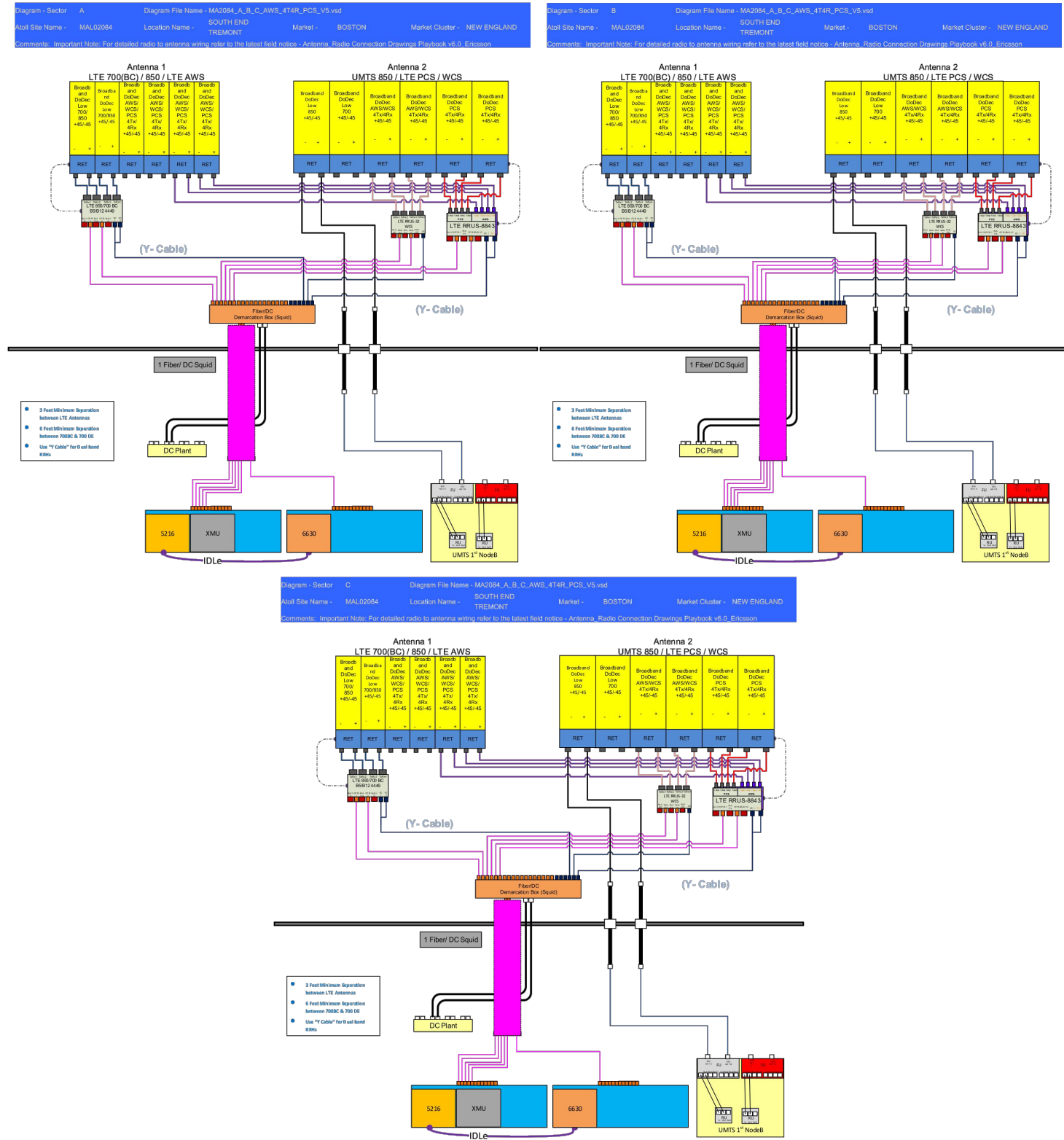
PROJECT TITLE:
SOUTH END TREMONT
FA# 10025533
SITE# MAL02084

PROJECT INFORMATION:
 567 TREMONT STREET
 BOSTON, MA 02118
 SUFFOLK COUNTY

SHEET TITLE:
CONSTRUCTION DETAILS

SCALE: NONE

PROJECT NUMBER: 44223
 SHEET NUMBER: A-1



BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_BOSTON_MAL02084_2018-LTE-MULTI-CARRIER_LTE_MH705R_2101A0DB1B_10025533_54524_06-27-2019_FINAL-APPROVED_V6.00" LAST REVISED 10/08/2020.

RF PLUMBING DIAGRAMS
SCALE: NTS



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PROJECT TITLE:
SOUTH END TREMONT
FA# 10025533
SITE# MAL02084
PROJECT INFORMATION:
567 TREMONT STREET
BOSTON, MA 02118
SUFFOLK COUNTY

SHEET TITLE:
RF PLUMBING DIAGRAMS

SCALE: NONE

PROJECT NUMBER	44223
SHEET NUMBER	A-2

PENDING STRUCTURAL REDESIGN

PROPOSED MOUNT DETAIL
 SCALE: NTS

1



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James R. Skowronski 5/11/2021
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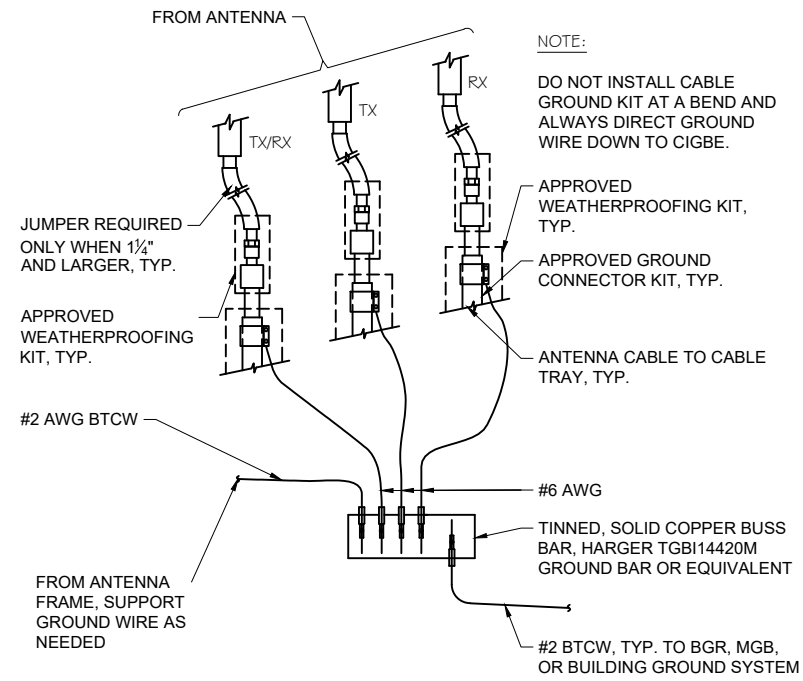
PROJECT TITLE:
SOUTH END TREMONT
FA# 10025533
SITE# MAL02084

PROJECT INFORMATION:
 567 TREMONT STREET
 BOSTON, MA 02118
 SUFFOLK COUNTY

SHEET TITLE:
STRUCTURAL DETAILS

SCALE: NONE

PROJECT NUMBER: 44223
 SHEET NUMBER: S-1

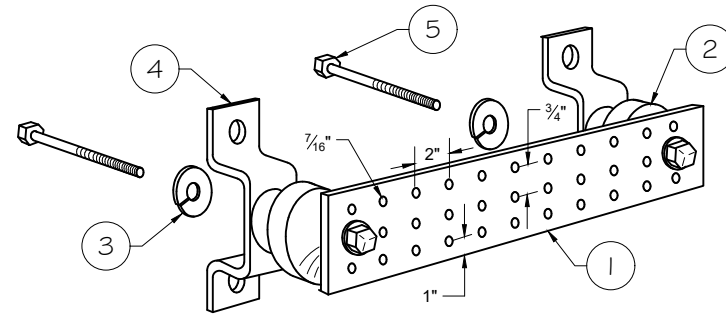


GROUND WIRE TO GROUND BAR DETAIL

SCALE: NTS

1

- NOTES:**
1. ALL MOUNTING HARDWARE CAN BE USED ON 6", 12", 18", ETC. GROUND BARS.
 2. ENTIRE ASSEMBLY AVAILABLE FROM NEWTON INSTRUMENT CO. CAT. NO. 2106060010 OR AS HARGER TGBI14420M.



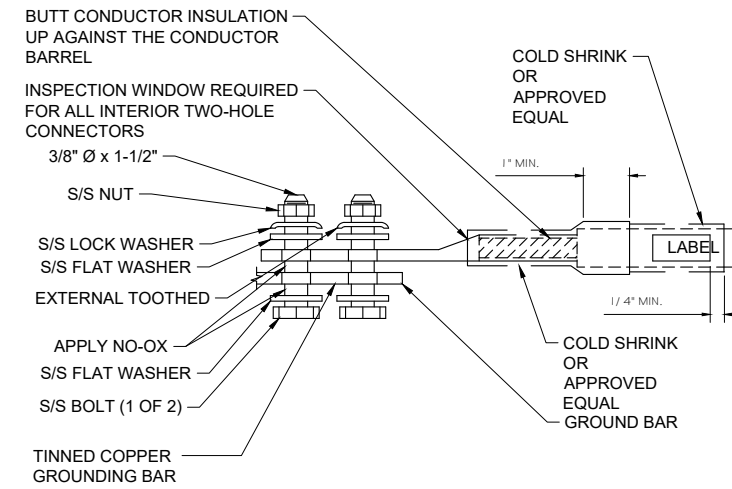
LEGEND

1. TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON CO., HARGER TGBI14420M, OR EQUIVALENT. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
2. INSULATORS. INSTRUMENT CO. CAT. NO. 3061-4 OR HARGER EQUIVALENT.
3. 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUIVALENT.
4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR HARGER EQUIVALENT.
5. 5/8" x 1" H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1 OR HARGER EQUIVALENT.

TYPICAL GROUND BAR DETAIL

SCALE: NTS

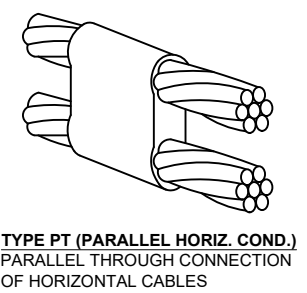
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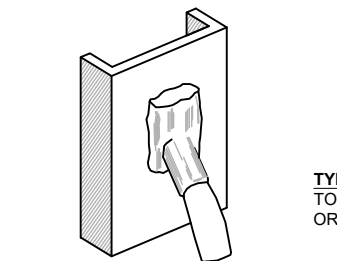
TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: NTS

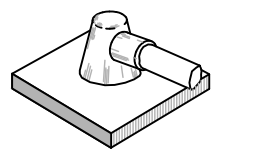
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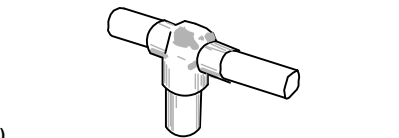
TYPE PT (PARALLEL HORIZ. COND.)
PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES



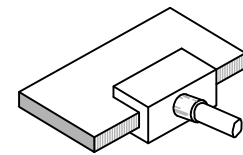
TYPE VS (VERT. STEEL SURFACE)
CABLE TAP DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE



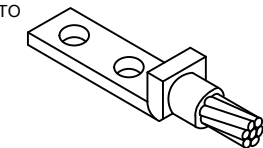
TYPE HS (HORIZ. STEEL SURFACE)
TO FLAT STEEL SURFACE OR HORIZONTAL PIPE



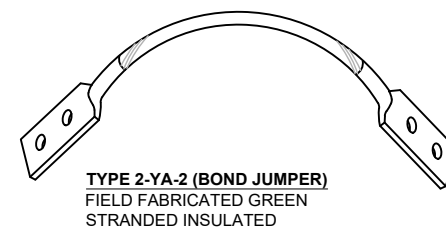
TYPE GT (THROUGH CABLE TO GROUND ROD)
THROUGH CABLE TO TOP OF GROUND ROD



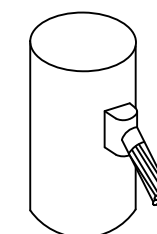
TYPE LJ (FLAT BUSBAR)
TAP OF HORIZONTAL CABLE TO EDGE OF HORIZONTAL



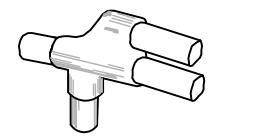
TYPE YA-2 (COPPER LUGS)
TWO HOLE - LONG BARREL LENGTH



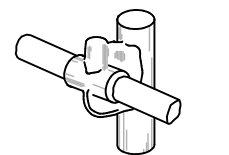
TYPE YA-2 (BOND JUMPER)
FIELD FABRICATED GREEN STRANDED INSULATED



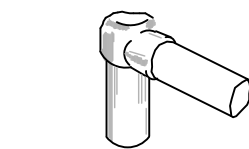
TYPE VS (VERTICAL PIPE)
CABLE TAP DOWN AT 45° TO RANGE OF VERTICAL PIPES



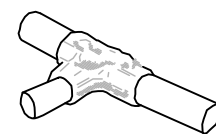
TYPE NC
THROUGH AND TAP CABLES TO GROUND ROD



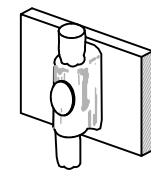
TYPE GY
THROUGH CABLE TO SIDE OF GROUND ROD



TYPE GR
CABLE TAP TO TOP OF GROUND ROD



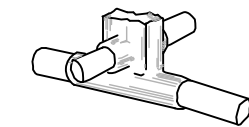
TYPE TA
TEE OF HORIZONTAL RUN AND TAP CABLES



TYPE W
THROUGH VERTICAL CABLE TO VERTICAL STEEL SURFACE OR TO THE SIDE OF EITHER HORIZONTAL OR VERTICAL PIPE



TYPE PC
PARALLEL TAP CABLES



TYPE XB
CROSS OF HORIZONTAL CABLES. LAPPED AND NOT CUT.

TYPICAL CADWELD TYPES DETAIL

SCALE: NTS

4



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 Registered Civil Engineer Signature: 5/11/2021
 Date:

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ISSUE PHASE: FINAL DATE ISSUED: 05/11/2021

PROJECT TITLE:
SOUTH END TREMONT
FA# 10025533
SITE# MAL02084

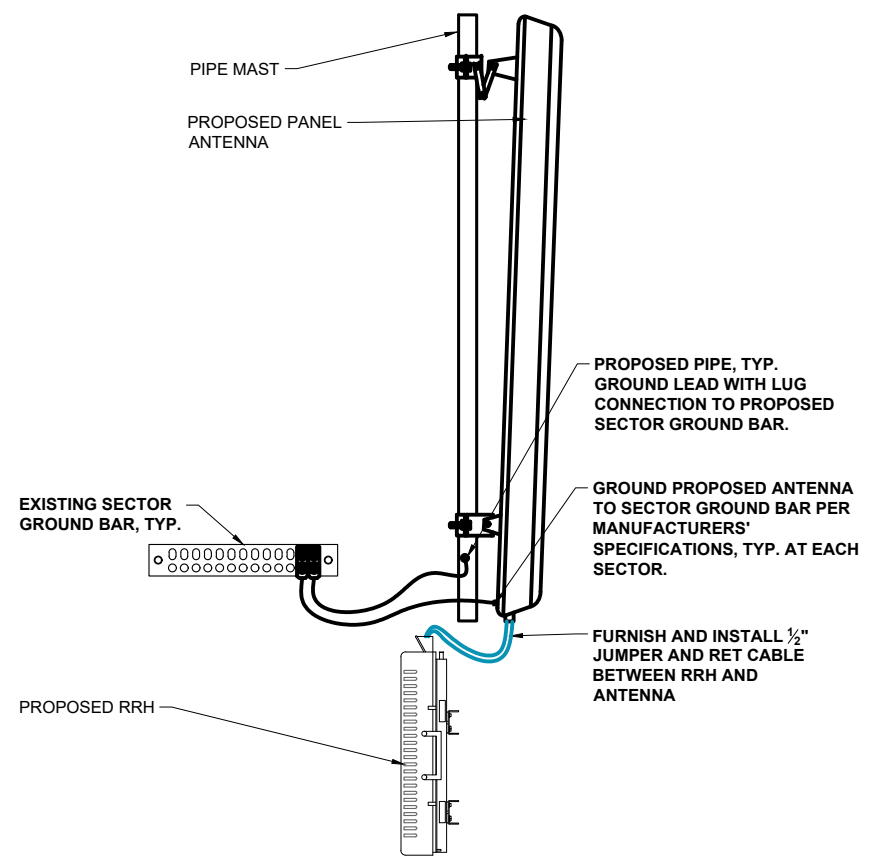
PROJECT INFORMATION:
 567 TREMONT STREET
 BOSTON, MA 02118
 SUFFOLK COUNTY

SHEET TITLE:

GROUNDING DETAILS

SCALE: NONE

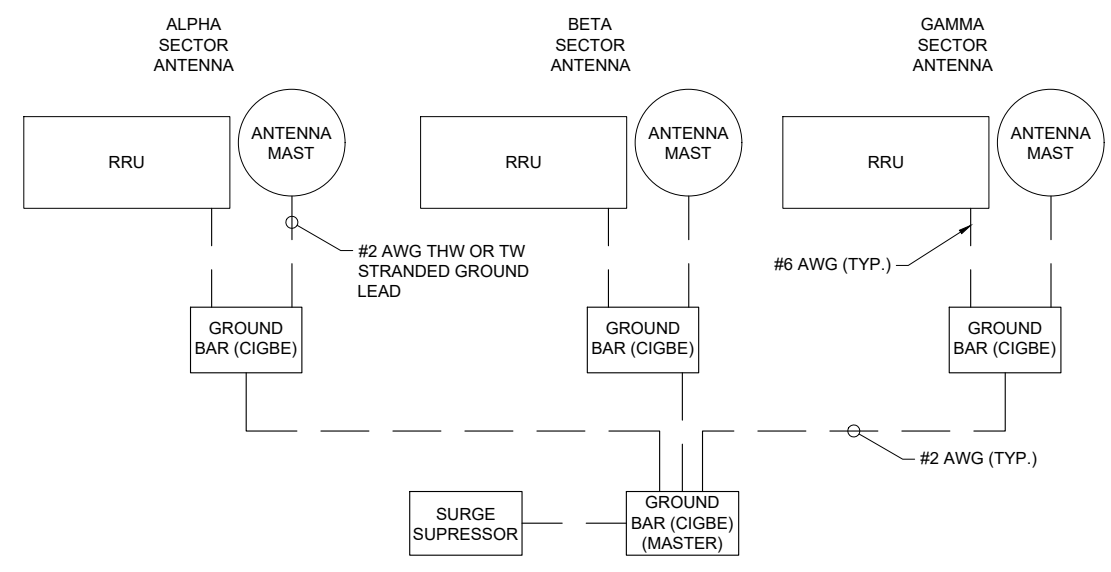
PROJECT NUMBER: 44223
 SHEET NUMBER: G-1



ANTENNA & RRU GROUNDING DETAIL

SCALE: NTS

1



SCHEMATIC DIAGRAM GROUNDING SYSTEM

SCALE: NTS

2



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ISSUE PHASE	FINAL	DATE ISSUED 05/11/2021

PROJECT TITLE:
SOUTH END TREMONT
FA# 10025533
SITE# MAL02084

PROJECT INFORMATION:
 567 TREMONT STREET
 BOSTON, MA 02118
 SUFFOLK COUNTY

SHEET TITLE:
GROUNDING DETAILS

SCALE: NONE

PROJECT NUMBER	44223
SHEET NUMBER	G-2



SHEET TITLE:

PHOTO RENDERING/SIMULATION LOCATION MAP

PROJECT TITLE:

SOUTH END TREMONT



PROJECT NUMBER:



44223

PROJECT LOCATION:

567 TREMONT STREET BOSTON, MA 02118




 TOP OF HIP ROOF
 @ ±85'-6" AGL

 TOP OF ANTENNA
 @ ±85'-3" AGL


 TOP OF PARAPET
 @ ±78'-0" AGL

 TOP OF BUILDING ROOF
 @ ±76'-0" AGL

EXISTING ANTENNA & EQUIPMENT LOCATIONS BEYOND



SHEET TITLE:
BEFORE PHOTO RENDERING/SIMULATION - LOOKING NORTH



PROJECT TITLE:
SOUTH END TREMONT



PROJECT NUMBER:
44223

PROJECT LOCATION:
567 TREMONT STREET BOSTON, MA 02118



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 TOP OF HIP ROOF
 @ ±85'-6" AGL

 TOP OF ANTENNA
 @ ±85'-0" AGL


 TOP OF PARAPET
 @ ±78'-0" AGL

 TOP OF BUILDING ROOF
 @ ±76'-0" AGL

PROPOSED ANTENNA & EQUIPMENT LOCATIONS BEYOND



SHEET TITLE:
AFTER PHOTO RENDERING/SIMULATION - LOOKING NORTH

PROJECT TITLE:
SOUTH END TREMONT

PROJECT NUMBER:
44223

PROJECT LOCATION:
567 TREMONT STREET BOSTON, MA 02118



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SHEET TITLE:
BEFORE PHOTO RENDERING/SIMULATION - LOOKING WEST

PROJECT TITLE:
SOUTH END TREMONT

PROJECT NUMBER:
44223

PROJECT LOCATION:
567 TREMONT STREET BOSTON, MA 02118

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- TOP OF CHIMNEY VENTS
@ ±83'-0" AGL
- TOP OF PROPOSED ANTENNA
@ ±85'-0" AGL
- TOP OF PARAPET
@ ±78'-0" AGL
- TOP OF BUILDING ROOF
@ ±76'-0" AGL
- TOP OF HIP ROOF
@ ±85'-6" AGL
- TOP OF ANTENNA
@ ±85'-3" AGL


TREMONT STREET

CLARENDON STREET



SHEET TITLE: AFTER PHOTO RENDERING/SIMULATION - LOOKING WEST
PROJECT TITLE: SOUTH END TREMONT
PROJECT NUMBER: 44223
PROJECT LOCATION: 567 TREMONT STREET BOSTON, MA 02118





85 RANGWAY ROAD - BLDG 3, SUITE 102
NORTH BILLERICA, MA 01862
SMARTLINKLLC.COM



RAMAKER
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(608) 643-4100 www.ramaker.com



SHEET TITLE:
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- TOP OF CHIMNEY VENTS
@ ±83'-0" AGL
- TOP OF PARAPET
@ ±78'-0" AGL
- TOP OF PROPOSED ANTENNA
@ ±85'-0" AGL
- TOP OF BUILDING ROOF
@ ±76'-0" AGL
- TOP OF ANTENNA
@ ±85'-3" AGL

EXISTING ANTENNA & EQUIPMENT LOCATIONS

PROPOSED ANTENNA & EQUIPMENT LOCATION BEYOND

MONTGOMERY STREET
CLARENDON STREET

04/08/2021



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