

CITY OF CAMBRIDGE

BOARD OF ZONING APPEAL

831 Massachusetts Avenue, Cambridge MA 02139

617-349-6100

OFFICE OF THE CITY CLERM CAMBRIDGE, MASSACHUSETT

2023 MAY 22 AM 11:58

BZA Application Form

BZA Number: 222599

General Information

The undersigned hereby petitions the Board of Zoning Appeal for the following:								
Special Permit:	<u>X</u>	Variance:	ı.	Appeal:				
PETITIONER: New	Cingular Wireles	s PCS, LLC ("AT&	<u>Г") C/O Michael R. D</u>	olan, Esq. with Brown Rudnick LLP				
PETITIONER'S ADD	DRESS: 110 Mem	orial Boulevard, Pi	rovidence, RI 02903					
LOCATION OF PRO	PERTY: 402 Rin	<u>dge Ave , Cambri</u>	dge, MA					
TYPE OF OCCUPA	NCY: Telecommu	nication Facility	ZONING DISTRIC	T: Residence C-2 Zone				
REASON FOR PETITION:								
/Telecommunication	n Facility (antenna	a)/						

DESCRIPTION OF PETITIONER'S PROPOSAL:

AT&T is proposing to add and relocate certain equipment, antennas and cabling on the roof of the Building so as to improve the RF signal transmission for AT&T customers in this area of Cambridge (the antenna facility as improved pursuant to this application, collectively hereinafter referred to as the "Facility"). In particular, AT&T is proposing to add and relocate the following:

- 1. Move the 2 existing gamma sector antennas from the upper rooftop penthouse to the westerly edge of the rooftop inside 2 RF-friendly faux chimneys/flues and also installa new third gamma sector antenna next to the aforementioned 2 relocated antennas and within the same style RF-friendly faux chimney/flue. The top height of the faux chimneys/flues will be 203' 2" and they will be painted to match the color of the building and penthouses. AT&T is also proposing to relocate the existing 3 gamma sector radios and add 3 radios all next to the new gamma antennas, all as more particularly shown on the plans.
- 2. Add 2 new antennas below the existing 2 beta sector antennas on the southerly penthouse façade and paint the antennas to match the penthouse. The centerline heights of the 2 new antennas will be 192' 5" and 188' 5".
- 3. Add 2 new antennas above the existing 2 alpha sector antennas on the northerly penthouse facade and paint the antennas to match the penthouse. The centerline heights of the 2 new antennas will be 200' 5" and 196' 3". respectively.

SECTIONS OF ZONING ORDINANCE CITED:

Article: 4.000 Section: 4.32.G.1 & Sec, 4.40 (Footnote 49)(Telecommunication Facility).

Article: 10.000 Section: 10.40 (Special Permit)

Article: 6409 Section: Federal Middle Class Tax Relief Act (Spectrum Act). Original Signature(s): Michael R. Polan

(Petitioner (s) / Owner)

New Cingular Wireless PCS, LLC c/o Michael R. Dolan, Esq.

(Print Name)

Brown Rudnick LLP

10 Memorial Boulevard, Providence, RI 02903 Address:

401-276-2610 Tel. No.

E-Mail Address: mdolan@brownrudnick.com

Date: __May 11, 2023

BZA Application Form

DIMENSIONAL INFORMATION

Applicant: New Cingular Wireless PCS, LLC ("AT&T")

402 Rindge Ave, Cambridge, MA

Location:

Phone: 401-276-2610 Present Use/Occupancy: Telecommunication Facility

Zone: Residence C-2 Zone

Requested Use/Occupancy: Telecommunication Facility

		Existing Conditions	Requested Conditions	Ordinance Requirements	
TOTAL GROSS FLOOR AREA:	l. m	N/A	N/A	N/A	(max.)
LOT AREA:		N/A	N/A	N/A	(min.)
RATIO OF GROSS FLOOR AREA TO LOT AREA: ²		N/A	N/A	N/A	
LOT AREA OF EACH DWELLING UNIT		N/A	N/A	N/A	
SIZE OF LOT:	WIDTH	N/A	N/A	N/A	1 AN -1
	DEPTH	N/A	N/A	N/A	
SETBACKS IN FEET:	FRONT	N/A	N/A	N/A	1
	REAR	N/A	N/A	N/A	- 4 - 1
	LEFT SIDE	N/A	N/A	N/A	
	RIGHT SIDE	N/A	N/A	N/A	
SIZE OF BUILDING:	HEIGHT	N/A	N/A	N/A	1.0
	WIDTH	N/A	N/A	N/A	
	LENGTH	N/A	N/A	N/A	
RATIO OF USABLE OPEN SPACE TO LOT AREA:		N/A	N/A	N/A	
NO. OF DWELLING UNITS:		N/A	N/A	N/A	
NO. OF PARKING SPACES:		N/A	N/A	N/A	
NO. OF LOADING AREAS:		N/A	N/A	N/A	
DISTANCE TO NEAREST BLDG. ON SAME LOT) 8	N/A	N/A	N/A	

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BZA APPLICATION FORM - OWNERSHIP INFORMATION

To be completed by OWNER, signed before a notary and returned to The Secretary of the Board of Zoning Appeals.

I/We Rindge Towers Apartments, LLC
(OWNER)
Address: 1035 Cambridge Street, #12, Cambridge, MA 02141
State that I/We own the property located at
which is the subject of this zoning application.
The record title of this property is in the name of
Rindge Towers Apartments, LLC
*Pursuant to a deed of duly recorded in the date $\underline{12/22/2015}$, Middlesex South
County Registry of Deeds at Book 66573 , Page 239 ; or
Middlesex Registry District of Land Court, Certificate No.
Book Page
SIGNATURE BY LAND OWNER OR AUTHORIZED TRUSTEE, OFFICER OR AGENT*
*Written evidence of Agent's standing to represent petitioner may be requested.
Commonwealth of Massachusetts, County of Middlesex
The above-name <u>CARL NAGY KŒCHLIN</u> personally appeared before me,
this 19th of MAY, 20 23, and made oath that the above statement is true. FIHAN SOLOMON Notary Public Notary
My Commission Expires
My commission expires October 27, 2028 (Notary Seal).

• If ownership is not shown in recorded deed, e.g. if by court order, recent deed, or inheritance, please include documentation.

BZA Application Form

SUPPORTING STATEMENT FOR A SPECIAL PERMIT

Please describe in complete detail how you meet each of the following criteria referring to the property and proposed changes or uses which are requested in your application. Attach sheets with additional information for special permits which have additional criteria, e.g.; fast food permits, comprehensive permits, etc., which must be met.

Granting the Special Permit requested for <u>402 Rindge Ave</u>, <u>Cambridge</u>, <u>MA</u> (location) would not be a detriment to the public interest because:

A) Requirements of the Ordinance can or will be met for the following reasons:

AT&T's Facility will comply with all applicable sections of the Ordinance as the modified Facility will not increase the height of the Building, and the antennas and camouflaging elements will be painted to match the color of the Building surface to which they are attached.

B) Traffic generated or patterns of access or egress would not cause congestion hazard, or substantial change in established neighborhood character for the following reasons:

AT&T's Facility will not result in any substantial change in the character of the neighborhood as there will be no significant increase in the amount of traffic to and from the Site, or any changes to existing patterns of access or egress to the Site. Trips to and from the Facility will average one or two per month by maintenance personnel who will park their SUV in the existing parking area on Site and not on the street.

The continued operation of or the development of adjacent uses as permitted in the Zoning

Ordinance would not be adversely affected by the nature of the proposed use for the following reasons:

The continued operation of or the development of adjacent uses will not be adversely affected by AT&T's equipment because AT&T's Facility will be a passive use and will not produce any smoke, odors, waste, glare, dust, or unreasonable amounts of traffic.

Nuisance or hazard would not be created to the detriment of the health, safety, and/or welfare of the occupant of the proposed use or the citizens of the City for the following reasons:

AT&T's Facility will not result in any nuisance or hazard to the detriment of the health, safety, or welfare of the citizens of the City because AT&T's facility will be a passive use and will not produce any smoke, odors, waste, glare, dust, or unreasonable amounts of traffic. As evidenced by the MPE Study submitted herewith, AT&T's Facility will comply with all applicable regulations and guidelines pertaining to radio frequency emissions.

For other reasons, the proposed use would not impair the integrity of the district or adjoining district or otherwise derogate from the intent or purpose of this ordinance for the following reasons:

The proposed Facility will be in harmony with the purposes of the Ordinance because by collocating a wireless facility on an existing Building in a manner which does not increase the height of the Building or expand its footprint, potential visual impacts are minimized. Also, the proposed Facility will not produce any smoke, odors, waste, glare or significant amounts of traffic. The Facility will have no negative impact on natural or undeveloped areas, wildlife, flora or endangered species. Consistent with the Ordinance, the Facility will function as a wireless communications services

facility within a local, regional, and national communications system. This system operates under licenses from the FCC, and AT&T is mandated and authorized to provide adequate service to the general public. The proposed Facility will comply with all applicable regulations, standards and guidelines with respect to radiofrequency emissions.

The Facility will benefit those living and working in, and traveling through, the area by providing enhanced wireless telecommunication services. The Facility will not adversely impact adjacent properties and neighborhoods as the Facility will be located on an existing Building. The collocation of the facility will not be a threat to public health, safety and welfare. In fact, Applicant submits that the facility aids in public safety by providing and improving wireless communications services to the residents, businesses, commuters, and emergency personnel utilizing wireless communications in the immediate vicinity and along the nearby roads. Consistent with the Ordinance, the Facility will function as a wireless communications services facility within a local, regional, and national communications system. This system operates under license from the FCC, and AT&T is mandated and authorized to provide adequate service to the general public. The Facility will not generate any objectionable noise, odor, fumes, glare, smoke, or dust or require additional lighting or signage. The Facility will have no negative impact on property values in the area. This is an unmanned Facility and will have minimal negative effect on the adjoining lots.

*If you have any questions as to whether you can establish all of the applicable legal requirements, you should consult with an attorney.

CODE COMPLIANCE

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

MASSACHUSETTS STATE BUILDING CODE 780 CMR (9TH EDITION)

- 2017 NATIONAL ELECTRICAL CODE
- 2012 NFPA 101 LIFE SAFETY CODE

2012 NFPA 1 - FIRE CODE

NFPA 76 - FIRE PROTECTION OF TELECOMMUNICATIONS FACILITIES

- AMERICAN CONCRETE INSTITUTE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- MANUAL OF STEEL CONSTRUCTION 13TH EDITION

2012 VERMONT FIRE AND BUILDING SAFETY CODE

TIA/EIA-222-G

- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEER 81
- IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION

TELECORDIA GR-1275

ANSI/T 311

SITE ACQUISITION:

ENGINEER:

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.

THE PROJECT WILL COMPLY WITH THE LOW RISK HANDBOOK FOR EROSION PREVENTION AND SEDIMENT CONTROL BY VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

PROJECT TEAM

CLIENT REPRESENTATIVE: CENTERLINE COMMUNICATIONS 95 RYAN DRIVE, SUITE 1 RAYNHAM, MA 02767 (603) 560-5020

jdellicolli@clinellc.com JENNILLE SMITH

CENTERLINE COMMUNICATIONS 750 W. CENTER STREET, FLOOR 3 WEST BRIDGEWATER, MA 02379 (774) 409-5807 jsmith@clinellc.com

ZONING: JENNILLE SMITH

CENTERLINE COMMUNICATIONS WEST BRIDGEWATER, MA 02379 (774) 409-5807

jsmith@clinellc.com CHAPPELL ENGINEERING ASSOCIATES, LLC

> 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752

(508) 481-7400

RF ENGINEER: RADU ALECSANDRU AT&T MOBILITY - NEW ENGLAND 550 COCHITUATE RD, SUITES 13 & 14

FRAMINGTON, MA 01701 RUSSELL ARCHER

> EMPIRE TELECOM 1150 FIRST AVENUE, SUITE 600 KING OF PRUSSIA, PA 19406 rarcher@empiretelecomm.com

PACE NUMBER

MRCTB051969 MRCTB066609 MRCTB066606 MRCTB066584

MRCTB066586 MRCTB066604 MRCTB066607

SITE INFORMATION

APPLICANT/LESSEE:

PROPERTY OWNER:

ZONING DISTRICT:

CONSTRUCTION MANAGER:

at&t

NEW CINGULAR WIRELESS PCS, LLC. 550 COCHITUATE ROAD, SUITES 13 & 14 FRAMINGHAM, MA 01701 RINDGE TOWERS APARTMENTS LLC 1035 CAMBRIDGE STREET #12

CAMBRIDGE, MA 02141 SITE ADDRESS: **402 RINDGE AVENUE** CAMBRIDGE, MA 02139 PARCEL ID: MAP 268B LOT 45

LATITUDE: 42.393100° (NAD 83) LONGITUDE: -71.139700° (NAD 83)

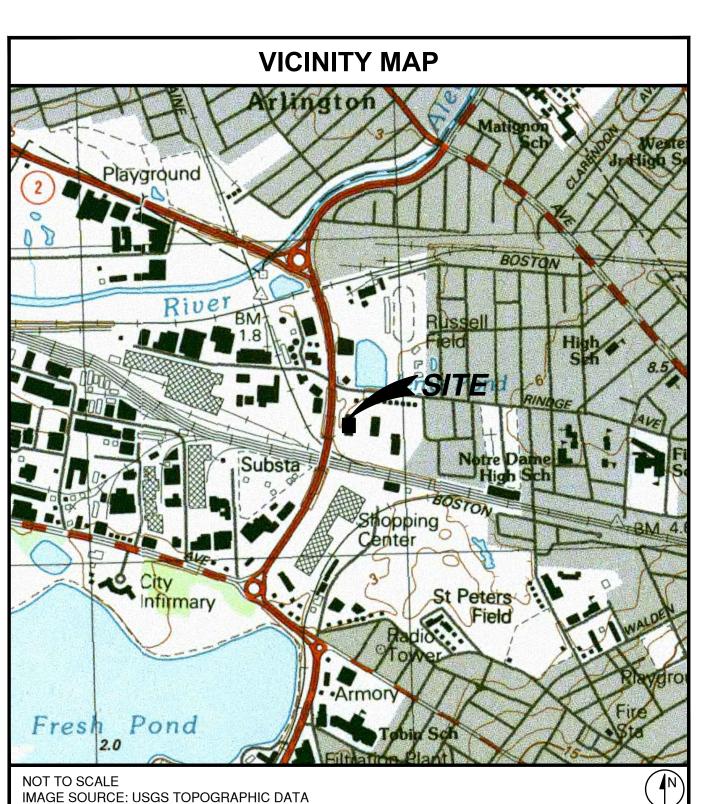
BUILDING HEIGHT ELEVATION: 211'-7"± AGL CITY OF CAMBRIDGE ZONING JURISDICTION:

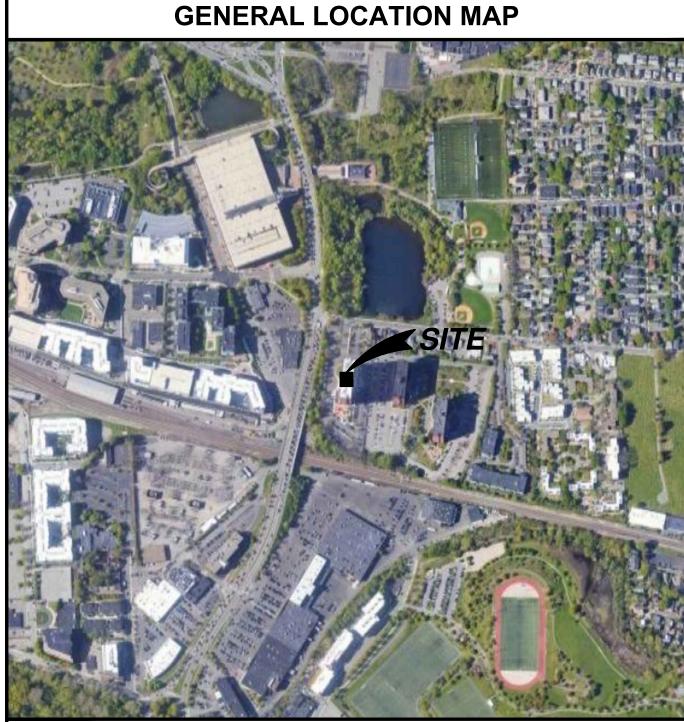
EXISTING/PROPOSED USE: UNMANNED TELECOMMUNICATION

RESIDENCE C-2



SITE NUMBER: MA3001 FA LOCATION CODE: 15630860 SITE NAME: CAMBRIDGE **402 RINDGE AVENUE** CAMBRIDGE, MA 02139 MIDDLESEX COUNTY





NOT TO SCALE IMAGE SOURCE: GOOGLE MAPS / BING

DRIVING DIRECTIONS

MERGE ONTO I-90 EAST/MASS PIKE TOWARD BOSTON. USE RIGHT 2 LANES TO TAKE EXIT 123 TOWARD I-95/PORTSMOUTH/PROVIDENCE. KEEP LEFT AT FORK & FOLLOW SIGNS FOR I-95 NORTH/PORTSMOUTH. MERGE ONTO I-95 NORTH. TAKE EXIT 45A FOR MA-2 EAST TOWARD BOSTON/CAMBRIDGE EAST. KEEP LEFT TO STAY ON MA-2 EAST. USE MIDDLE LANE TO STAY ON MA-2 EAST. KEEP RIGHT TO CONTINUE ON MA-2 EAST/CONCORD TURNPIKE. TURN SLIGHTLY RIGHT ONTO ALEWIFE BROOK PARKWAY. AT TRAFFIC CIRCLE, TAKE THE 4TH EXIT TO STAY ON ALEWIFE BROOK PARKWAY. TURN RIGHT ONTO RINDGE AVENUE. SITE IS LOCATED ON THE RIGHT HAND SIDE.

LEGAL DESCRIPTION

ASSESSORS PARCEL NUMBER: MAP 268B LOT 45

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

RF INFORMATION						
	GSM	LTE				
Tx	869 - 874.6 MHz 890 - 891.4 MHz 1950 - 1952.8 MHz 1970 - 1980 MHz	874.6 - 879.6 MHz 1945 - 1950 MHz				
Rx 824 - 829.4 MHz 845 - 846.4 MHz 1870 - 1872.8 MHz 1890 - 1900 MHz		829.6 - 834.4 MHz 1865 - 1869.8 MHz				
MAX ERP:		850 MHz: 54 WATTS 1900 MHz: 54.5 WATTS				

UNDERGROUND SERVICE ALERT



AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS & AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW & MAY IMPOSE CHANGES OR MODIFICATIONS.

DISCIPLINE	SIGNATURE	DATE
CENTERLINE SITE ACQUISITION:		
SMARTLINK CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

GENERAL CONTRACTOR NOTES

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF

GICWD (OWNER) AND SIMON OPERATION SERVICES (OPERATOR) TO LIMIT DISTURBANCE, MAINTAIN ACCESS AND RESTORE THE SITE TO AT LEASE ITS EXISTING CONDITION AT THE OF THE PROJECT.

PROJECT DESCRIPTION

THIS PROJECT WILL BE COMPRISED OF:

TOWER TOP EQUIPMENT TO INCLUDE

REMOVAL OF ANTENNAS: GAMMA SECTOR: (2) ANTENNAS

REMOVAL OF RADIOS: (1) RADIO PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (3)

DRAWING INDEX

- **NEW ANTENNAS:** ALPHA & BETA SECTORS: (2) ANTENNAS PER SECTOR, TOTAL OF (4) ANTENNAS GAMMA SECTOR: (3) ANTENNAS
- RELOCATION OF EXISTING GAMMA SECTOR RADIOS **NEW RADIOS:**
- GAMMA SECTOR: (3) RADIOS **NEW DIPLEXERS:**
- GAMMA SECTOR: (6) DIPLEXERS NEW FAUX FLUES: TOTAL OF (3)
- GROUND EQUIPMENT TO INCLUDE
- NEW EQUIPMENT CABINET
- NEW RADIO EQUIPMENT WITHIN EXISTING EQUIPMENT CABINETS

	DRAWING INDEX
SHEET	
T01	TITLE SHEET
T02	SPECIFICATIONS
Т03	GENERAL REQUIREMENTS, LEGEND & ABBREVIATIONS
T04	GENERAL SIGNAGE DETAILS
A01	ROOF PLAN
A02	BUILDING ELEVATION
A03	ANTENNA PLANS
A04	ANTENNA DETAILS
A05	EQUIPMENT PLANS & DETAILS
S01	SITE DETAILS
S02	FAUX FLUE DETAILS
S03	FAUX FLUE PIPE MOUNT DETAILS
E01	ELECTRICAL DIAGRAMS, DETAILS & NOTES
E02	GROUNDING DIAGRAM, DETAILS & NOTES
E03	ALPHA SECTOR PLUMBING DIAGRAM
E04	BETA SECTOR PLUMBING DIAGRAM
E05	GAMMA SECTOR PLUMBING DIAGRAM





500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



R.K. EXECUTIVE CENTRE 201 BOSTON POST ROAD WEST, SUITE 101

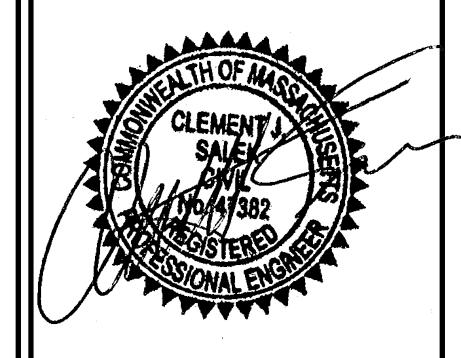
MARLBOROUGH, MA 01752

TEL: (508) 481-7400 FAX: (508) 481-7406

THE INFORMATION CONTAINED IN THIS SET OF DRAWINGS IS PROPRIETARY & CONFIDENTIAL TO AT&T WIRELESS ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES

TO AT&T WIRELESS IS STRICTLY PROHIBITED

3	05-01-23	CONSTRUCTION REVISED
2	03-24-23	CONSTRUCTION REVISED
1	12-23-22	ISSUED FOR CONSTRUCTION
0	10-11-22	ISSUED FOR REVIEW
REV.	DATE	REVISION DESCRIPTION



ENGINEER/LAND SURVEYOR PROJECT INFORMATION:

> MA3001 CAMBRIDGE

402 RINDGE AVENUE CAMBRIDGE, MA 02139

DRAWN BY: CHECKED BY: CMC

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

REVISION:

DATE

CEA JOB NO.: 1805.018

GENERAL CONSTRUCTION NOTES:

. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL

GENERAL CONTRACTOR SUBCONTRACTOR - CONTRACTOR (CONSTRUCTION) OWNER - AT&T

- 2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.
- 3. GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- I. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE
- 5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
- 6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- . PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHIETCT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH WORK.
- 8. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- 9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS. THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE SPACE FOR APPROVAL BY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING.
- 10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.
- 11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES
- 12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE
- 13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. SUBCONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.
- 14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. SUBCONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION. 15. SUBCONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.
- 16. 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 THE OWNER.
- 17. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- 18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND SUBCONTRACTORS TO THE SITE AND/OR BUILDING. 19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR
- THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION. 20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT
- ALL TIMES. 21.THE GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A OT 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING
- COMPLETED DURING CONSTRUCTION. 22.ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT/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 SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL
- PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, D) TRENCHING & EXCAVATION. 23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ARCHITECT/ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
- 24.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.
- 25. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
- 26.NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN
- MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT. 27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED
- BY THE LOCAL JURISDICTION. 28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.
- 29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
- 30. SUBCONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
- 31. SUBCONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION. 32.THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS
- REQUIRED). 33.OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2
- TIMES PER MONTH, BY AT&T TECHNICIANS. 34.NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.

- 35.ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION OF AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING." IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
- 35.SUBCONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF SUBCONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.
- 36.SUBCONTRACTOR SHALL REMOVED ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY 37.INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR
- DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- 38.NO WHITE STROBE LIGHTS ARE PERMITTED. ANY REQUIRED LIGHTING MUST MEET FAA STANDARDS AND REQUIREMENTS.
- 39. ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
- 40.NO SIGNIFICANT NOISE, SMOKE, DUST OR VIBRATIONS WILL RESULT FROM THIS FACILITY. (DISREGARD THIS NOTE IF THIS SITE HAS A GENERATOR) 41.NO ADDITIONAL PARKING TO BE PROPOSED. EXISTING ACCESS AND PARKING TO REMAIN,
- UNLESS NOTED OTHERWISE 42.NO LANDSCAPING IS PROPOSED AT THIS SITE, UNLESS NOTED OTHERWISE.

- 1. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANY/ALL ELECTRICAL WORK INDICATED. ANY/ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND ANY/ALL APPLICABLE SPECIFICATIONS. IF ANY PROBLEMS ARE ENCOUNTERED BY COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY 'CONSTRUCTION MANAGER' AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK, UNTIL THE 'CONSTRUCTION MANAGER' HAS DIRECTED THE CORRECTIVE ACTIONS TO BE TAKEN.
- 2. ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF. ALL EXISTING CONDITIONS OF ELECTRICAL EQUIP., LIGHT FIXTURES, ETC., THAT ARE PART OF THE FINAL SYSTEM, SHALL BE VERIFIED BY THE CONTRACTOR, PRIOR TO THE SUBMITTING OF HIS BID. FAILURE TO COMPLY WITH THIS PARAGRAPH WILL IN NO WAY RELIEVE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM.
- 3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL CODES AND LOCAL ORDINANCES OF THE LOCAL POWER & TELEPHONE COMPANIES HAVING JURISDICTION AND SHALL INCLUDE BUT NOT BE LIMITED TO:
 - C NATIONAL FIRE CODES
 - A. UL UNDERWRITERS LABORATORIES
- B. NEC NATIONAL ELECTRICAL CODE
- C. NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
- D. OSHA OCCUPATIONAL SAFETY AND HEALTH ACT E. SBC - STANDARD BUILDING CODE
- 4. DO NOT SCALE ELECTRICAL DRAWINGS; REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH 'CONSTRUCTION MANAGER' ANY SIZES AND LOCATIONS WHEN NEEDED.
- 5. EXISTING SERVICES: CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
- 6. CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS, AND TESTING. CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK
- BEGINNING OR ORDERING EQUIPMENT. 7. THE TERM "PROVIDE" USED IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, INDICATES THAT THE CONTRACTOR SHALL FURNISH AND INSTALL.
- 8. CONTRACTOR SHALL CONFIRM WITH LOCAL UTILITY COMPANY ANY/ALL REQUIREMENTS, SUCH AS THE: LUG SIZE RESTRICTIONS, CONDUIT ENTRY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTIME FOR THE OWNERS' CONFIRMATION, ETC... ANY/ALL CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO
- BEGINNING ANY WORK. 9. MINIMUM WIRE SIZE SHALL BE #12 AWG, NOT INCLUDING CONTROL WIRING, UNLESS NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THWN INSULATION. 10. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH
- THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS. 11.IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT
- TO BE PLACED IN PROPER WORKING ORDER. 12.ELECTRICAL SYSTEM SHALL BE AS COMPLETELY AND EFFECTIVELY GROUNDED, AS REQUIRED BY SPECIFICATIONS, SET FORTY BY AT&T.
- 13. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS, WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND SUBJECT TO REGULATORY INSPECTION & APPROVAL BY CONSTRUCTION MANAGER. 14. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- 15. CONTRACTOR SHALL GUARANTEE ANY/ALL MATERIALS AND WORK FREE FROM DEFECTS
- FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE. 16. THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ANY ADDITIONAL CHARGE AND SHALL INCLUDE THE REPLACEMENT OR THE REPAIR OF ANY OTHER PHASE
- OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN. 17. ADEQUATE AND REQUIRED LIABILITY INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LOSS AND ANY/ALL PROPERTY DAMAGE FOR THE DURATION OF WORK. 18. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES AND
- DEVICES FOR ALL OUTLETS AS INDICATED. 19. DITCHING AND BACK FILL: CONTRACTOR SHALL PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES INCLUDING EXCAVATION, BACKFILLING AND COMPACTION. REFER TO 'FOUNDATION, EXCAVATION, AND BACKFILLING NOTES.'
- 20.MATERIALS, PRODUCTS AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEC, NEMA, AND IECE.
- 21.CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURERS CATALOG INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES, AND ALL OTHER ELECTRICAL ITEMS FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION. 22. ANY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR
- WORK AND PERFORMED TO THE SATISFACTION OF THE 'CONSTRUCTION MANAGER' UPON FINAL ACCEPTANCE. 23.THE ELECTRICAL CONTRACTOR SHALL LABEL AL PANELS WITH ONLY TYPEWRITTEN DIRECTORIES. ALL ELECTRICAL WIRING SHALL BE THE RESPONSIBILITY OF THE
- ELECTRICAL CONTRACTOR. 24.DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, QUICK-MADE AND
- QUICK-BREAK ENCLOSURES, AS REQUIRED BY EXPOSURE TYPE.
- 25.ALL CONNECTIONS SHALL BE MADE WITH A PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND SUCH AS "NO-OXIDE A" BY DEARBORNE CHEMICAL CO. COAT ALL WIRE SURFACES BEFORE CONNECTING. EXPOSED COPPER SURFACES, INCLUDING GROUND BARS, SHALL BE TREATED - NO SUBSTITUTIONS.
- 26.RACEWAYS: CONDUIT SHALL BE SCHEDULE 40 PVC MEETING OR EXCEEDING NEMA TC2 -1990. CONTRACTOR SHALL PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LBS TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 2 FT. RADIUS. RGS CONDUITS WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADING RIGID CONDUIT. COAT ALL THREADS WITH 'BRITE ZINC' OR 'GOLD CALV.' 27. SUPPORT OF ALL ELECTRICAL WORK SHALL BE AS REQUIRED BY NEC.

- 28.CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY COPPER WITH TYPE THWN INSULATION, 800 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG.
- 29. CONNECTORS FOR POWER CONDUCTORS: CONTRACTOR SHALL USE PRESSURE TYPE INSULATED TWIST-ON CONNECTORS FOR NO. 10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR NO. 8 AWG AND LARGER.
- 30.SERVICES: 240/120V, SINGLE PHASE, 3 WIRE CONNECTION AVAILABLE FROM UTILITY COMPANY. OWNER OR OWNERS AGENT WILL APPLY FOR POWER.
- 31.TELEPHONE SERVICE: CONTRACTOR SHALL PROVIDE EMPTY CONDUITS WITH PULL STRINGS AS INDICATED ON DRAWINGS.
- 32.ELECTRICAL AND TELCO RACEWAYS TO BE BURIED A MINIMUM OF 2' DEPTH. 33.CONTRACTOR SHALL PLACE TWO LENGTHS OF WARNING TAPE AT A DEPTH OF 12" BELOW GROUND AND DIRECTLY ABOVE ELECTRICAL AND TELCO SERVICE CONDUITS. CAUTION TAPE TO READ "CAUTION BURIED ELECTRIC" OR "BURIED TELECOMM." 34. ALL BOLTS SHALL BE STAINLESS STEEL

- 1. COMPRESSION CONNECTIONS (2), 2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE
- PARALLEL EXOTHERMIC WELD. 2. EC SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND
- LABEL EACH SECTION ("P," "A," "N," "I") WITH 1" LETTERS. 3. ALL HARDWARE 18-8 STAINLESS STEEL, INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING. ALL HARDWARE SHALL BE
- STAINLESS STEEL 3/8 INCH DIAMETER OR LARGER. 4. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL. COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- 5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUNDING BAR AND
- BOLTED ON THE BACK SIDE. 6. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA
- LOCATION, AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED. 7. WHEN THE SCOPE OF WORK REQUIRES THE ADDITION OF A GROUNDING BAR TO AN
- EXISTING TOWER, THE SUBCONTRACTOR SHALL OBTAIN APPROVAL FROM THE TOWER OWNER PRIOR TO MOUNTING THE GROUNDING BAR TO THE TOWER
- 8. ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.

FOUNDATION, EXCAVATION, & BACKFILL NOTES:

- 1. ALL FINAL GRADED SLOPES SHALL BE A MAXIMUM OF 3 HORIZONTAL TO 1 VERTICAL. 2. ALL EXCAVATIONS PREPARED FOR PLACEMENT OF CONCRETE SHALL BE OF UNDISTURBED SOILS, SUBSTANTIALLY HORIZONTAL, AND FREE FROM ANY LOOSE, UNSUITABLE MATERIAL OR FROZEN SOILS, AND WITHOUT THE PRESENCE OF POUNDING WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED WHEN REQUIRED. COMPACTION OF SOILS UNDER CONCRETE PAD FOUNDATIONS SHALL NOT BE LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR THE SOIL IN ACCORDANCE WITH ASTM D1557.
- 3. CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC OR UNSUITABLE MATERIAL. IF INADEQUATE BEARING CAPACITY IS REACHED AT THE DESIGNED EXCAVATION DEPTH, THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION SHALL BE FILLED WITH CONCRETE OF THE SAME TYPE SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION, ANY STONE SUB BASE MATERIAL, IF USED, SHALL NOT
- SUBSTITUTE FOR REQUIRED THICKNESS OF CONCRETE. 4. ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH PRIOR TO BACK FILLING. BACK FILL SHALL CONSIST OF APPROVED MATERIALS SUCH AS EARTH, LOAM, SANDY CLAY, SAND AND GRAVEL, OR SOFT SHALE, FREE FROM CLODS OR LARGE STONES OVER 2 1/2 MAX DIMENSIONS. ALL BACK FILL SHALL BE PLACED IN COMPACTED LAYERS.
- 5. ALL FILL MATERIALS AND FOUNDATION BACK FILL SHALL BE PLACED IN MAXIMUM 6" THICK LIFTS BEFORE COMPACTION. EACH LIFT SHALL BE WETTED IF REQUIRED AND COMPACTED TO NOT LESS THAN 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR SOIL IN ACCORDANCE WITH ASTM D1557
- 6. NEWLY PLACED CONCRETE FOUNDATIONS SHALL CURE A MINIMUM OF 72 HOURS PRIOR TO BACK FILLING.
- 7. FINISHED GRADING SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE AND PREVENT STANDING WATER. THE FINAL (FINISH) ELEVATION OF SLAB FOUNDATIONS SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE CENTER. FINISH GRADE OF CONCRETE PADS SHALL BE A MAXIMUM OF 4 INCHES ABOVE FINAL FINISH GRADE ELEVATIONS. PROVIDE SURFACE FILL GRAVEL TO ESTABLISH SPECIFIED ELEVATIONS WHERE REQUIRED.
- 8. NEWLY GRADED SURFACE AREAS TO RECEIVE GRAVEL SHALL BE COVERED WITH GEOTEXTILE FABRIC TYPE: TYPAR-3401 AS MANUFACTURED BY "CONSTRUCTION MATERIAL 1-800-239-3841" OR AN APPROVED EQUIVALENT, SHOWN ON PLANS. THE GEOTEXTILE FABRIC SHALL BE BLACK IN COLOR TO CONTROL THE RECURRENCE OF VEGETATIVE GROWTH AND EXTEND TO WITHIN 1 FOOT OUTSIDE THE SITE FENCING OR ELECTRICAL GROUNDING SYSTEM PERIMETER WHICHEVER IS GREATER. ALL FABRIC SHALL BE COVERED WITH A MINIMUM OF 4" DEEP COMPACTED STONE OR GRAVEL AS SPECIFIED. I.E. FDOT TYPE NO.57 FOR FENCED COMPOUND; FDOT TYPE NO. 67 FOR
- ACCESS DRIVE AREA. 9. IN ALL AREAS TO RECEIVE FILL, REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIALS FROM GROUND SURFACE. PLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAN 1 VERTICAL TO 4 HORIZONTAL SUCH THAT FILL MATERIAL WILL BIND WITH
- EXISTING/PREPARED SOIL SURFACE. 10. WHEN SUBGRADE OR PREPARED GROUND SURFACE HAS A DENSITY LESS THAN THAT REQUIRED FOR THE FILL MATERIAL, SCARIFY THE GROUND SURFACE TO DEPTH REQUIRED, PULVERIZE, MOISTURE-CONDITION AND/OR AERATE THE SOILS AND RE-COMPACT TO THE REQUIRED DENSITY PRIOR TO PLACEMENT OR FILLS.
- 11. IN AREAS WHICH EXISTING GRAVEL SURFACING IS REMOVED OR DISTURBED DURING CONSTRUCTION OPERATIONS, REPLACE GRAVEL SURFACING TO MATCH ADJACENT GRAVEL SURFACING AND RESTORED TO THE SAME THICKNESS AND COMPACTION AS SPECIFIED. ALL RESTORED GRAVEL SURFACING SHALL BE FREE FROM CORRUGATIONS AND WAVES.
- 12. EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED WITH THE CONDITION THAT ANY UNFAVORABLE AMOUNTS OF ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ANY ADDITIONAL GRAVEL RESURFACING MATERIAL AS NEEDED TO PROVIDE A FULL DEPTH COMPACTED SURFACE THROUGHOUT SITE.
- 13. GRAVEL SUB SURFACE SHALL BE PREPARED TO REQUIRED COMPACTION AND SUBGRADE ELEVATIONS BEFORE GRAVEL SURFACING IS PLACED AND/OR RESTORED. ANY LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED AND ANY DEPRESSIONS IN THE SUBGRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL. GRAVEL SURFACING MATERIAL SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUBGRADE.
- 14.PROTECT EXISTING GRAVEL SURFACING AND SUBGRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE. USE PLANKING 'MATTS' OR OTHER SUITABLE PROTECTION DESIGNED TO SPREAD EQUIPMENT LOADS AS MAY BE NECESSARY. REPAIR ANY DAMAGE TO EXISTING GRAVEL SURFACING OR SUB GRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTORS OPERATIONS.
- 15. DAMAGE TO EXISTING STRUCTURES AND/OR UTILITIES RESULTING FROM CONTRACTORS NEGLIGENCE SHALL BE REPAIRED AND/OR REPLACED TO THE OWNERS SATISFACTION AT NO ADDITIONAL COST TO THE CONTRACT.
- 16. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES AT NO ADDITIONAL COST TO THE CONTRACT.

ENVIRONMENTAL NOTES:

- 1. ALL WORK PERFORMED SHALL BE DONE IN ACCORDANCE WITH ISSUED PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF FINES AND PROPER CLEAN UP FOR AREAS IN VIOLATION.
- 2. CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS AND WATERWAYS AND SHALL BE MAINTAINED IN PLACE THROUGH FINAL JURISDICTIONAL INSPECTION & RELEASE OF
- 3. CONTRACTOR SHALL INSTALL/CONSTRUCT ALL NECESSARY SEDIMENT/SILT CONTROL FENCING AND PROTECTIVE MEASURES WITHIN THE LIMITS OF SITE DISTURBANCE PRIOR TO CONSTRUCTION.
- 4. NO SEDIMENT SHALL BE ALLOWED TO EXIT THE PROPERTY. THE CONTRACTOR IS RESPONSIBLE FOR TAKING ADEQUATE MEASURES FOR CONTROLLING EROSION. ADDITIONAL SEDIMENT CONTROL FENCING MAY BE REQUIRED IN ANY AREAS SUBJECT TO
- 5. CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS AND ANY REPAIRS OF ALL SEDIMENT CONTROL MEASURES INCLUDING SEDIMENT REMOVAL AS NECESSARY.
- 6. CLEARING OF VEGETATION AND TREE REMOVAL SHALL BE ONLY AS PERMITTED AND BE HELD TO A MINIMUM. ONLY TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED.
- 7. SEEDING AND MULCHING AND/OR SODDING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE PROJECT FACILITIES AFFECTING LAND
- 8. CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, COUNTY AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS, AND CHECK DAMS.
- 9. RIP RAP OF SIZES INDICATED SHALL CONSIST OF CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY STONE FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRIABLE, THIN, ELONGATED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI, OR OTHER DELETERIOUS SUBSTANCES.

CONCRETE MASONRY NOTES:

- 1. CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM
- C90, GRADE N-1, (F'M=1,500 PSI). MEDIUM WEIGHT (115).
- 2. MORTAR SHALL BE TYPE "S" (MINIMUM 1,800 PSI AT 28 DAYS). 3. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS.
- 4. ALL CELLS CONTAINING REINFORCING STEEL OR EMBEDDED ITEMS AND ALL CELLS IN RETAINING WALLS AND WALLS BELOW GRADE SHALL BE SOLID GROUTED.

5. ALL HORIZONTAL REINFORCING STEEL SHALL BE PLACED IN BOND BEAM OR LINTEL BEAM

- 6. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE
- 7. ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS. 8. PROVIDE INSPECTION AND CLEAN-OUT HOLES AT BASE OF VERTICAL CELLS HAVING
- GROUT LIFTS IN EXCESS OF 4'-0" OF HEIGHT. 9. ALL GROUT SHALL BE CONSOLIDATED WITH A MECHANICAL VIBRATOR.
- 10. CEMENT SHALL BE AS SPECIFIED FOR CONCRETE. 11. REINFORCING BARS - SEE NOTES UNDER "REINFORCING STEEL" FOR REQUIREMENTS.
- 12. PROVIDE ONE BAR DIAMETER (A MINIMUM OF 1/2") GROUT BETWEEN MAIN REINFORCING 13.LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET.
- 14. LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMANCE WITH PROJECT SPECIFICATIONS AND SECTION 2104.6.1 OF CURRENT BUILDING CODE.
- 15. ALL CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, EXCEPT AS NOTED IN THE DRAWINGS OR SPECIFICATIONS. 16. CELLS SHALL BE IN VERTICAL ALIGNMENT, DOWELS IN FOOTINGS SHALL BE SET TO ALIGN
- WITH CORES CONTAINING REINFORCING STEEL. 17. REFER TO ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING
- PATTERN AND JOINT TYPE. 18. SAND SHALL BE CLEAN, SHARP AND WELL GRADED, FREE FROM INJURIOUS AMOUNTS OF DUST, LUMPS, SHALE, ALKAU OR ORGANIC MATERIAL

19. BRICK SHALL CONFORM TO ASTM C-62 AND SHALL BE GRADE MW OR BETTER. STRUCTURAL CONCRETE NOTES:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI-301-10 2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH fc'=2,500 PSI AT 28 DAYS UNLESS NOTED OTHERWISE.
- NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. 4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS

- STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST EARTH 3 IN. CONCRETE EXPOSED TO EARTH OR WEATHER: #6 AND LARGER #5 AND SMALLER & WWF 1-1/2 IN. CONCRETE NOT EXPOSED TO EARTH OR WEATHER, NOR CAST AGAINST THE GROUND: SLAB AND WALL 3/4 IN.
- BEAMS AND COLUMNS 1-1/2 IN. 5. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE U.N.O. IN
- ACCORDANCE WITH ACI 301 SECTION 4.2.4. 6. HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLD, DOWEL OR ROD AND SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. LOCATE AND AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN ELEVATED CONCRETE
- 7. USE AND INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER ICBO & MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW:

W-SHAPES: ASTM A992, 50 KSI ANGLES, BARS CHANNELS: ASTM A36, 36 KSI HSS SECTIONS: ASTM 500, 46 KSI PIPE SECTIONS: ASTM A53-E, 35 KSI

- ALL EXTERIOR EXPOSED STEEL AND HARDWARE SHALL BE HOT DIPPED GALVANIZED. 3. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION." PAINTED
- SURFACES SHALL BE TOUCHED UP. 4. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE 3/4" Ø CONNECTIONS AND
- SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. 5. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" Ø ASTM A307 BOLTS
- **UNLESS NOTED OTHERWISE** 6. FIELD MODIFICATIONS ARE TO BE COATED WITH ZINC ENRICHED PAINT.





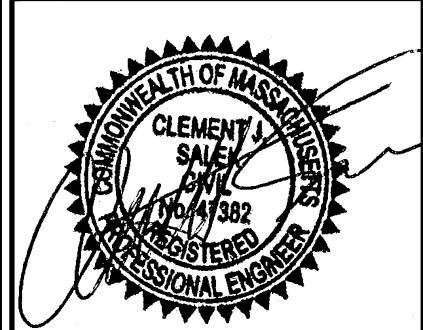
AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



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3	05-01-23	CONSTRUCTION REVISED
2	03-24-23	CONSTRUCTION REVISED
1	12-23-22	ISSUED FOR CONSTRUCTION
0	10-11-22	ISSUED FOR REVIEW
REV.	DATE	REVISION DESCRIPTION



ROJECT INFORMATION: MA3001

ENGINEER/LAND SURVEYOR

402 RINDGE AVENUE CAMBRIDGE, MA 02139

DRAWN BY: CHECKED BY: CMC

SPECIFICATIONS

SHEET NUMBER:

SHEET TITLE:

REVISION:

DATE

CEA JOB NO.: 1805.018

PART 1 - GENERAL

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

- A. DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR WAY CONSTRUCTION - CURRENT EDITION)
- ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
- OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION)

1.2 INSPECTION AND TESTING:

A. FIELD TESTING OF EARTHWORK COMPACTION AND CONCRETE CYLINDERS ALL WORK SHALL BE INSPECTED AND RELEASED BY THE GENERAL CONTRACTOR WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK WITH SPECIFIC CONCERN TO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND/OR CALLED FOR ON THE DRAWINGS. IT IS THE SUBCONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF WORK INACCESSIBLE OR DIFFICULT TO INSPECT.

1.3 SITE MAINTENANCE AND PROTECTION:

- A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE SUBCONTRACT.
- AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
- KEEP SITE FREE OF ALL PONDING WATER.
- PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT AND
- PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
- F. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE ENGINEER, AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.

PROVIDE A MINIMUM 48-HOUR NOTICE TO THE ENGINEER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.

- 2.1 SUITABLE BACKFILL: ASTM D2321 (CLASS I, II, III, OR IVA) FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.2 NON-POROUS GRANULAR EMBANKMENT AND BACKFILL: ASTM D2321 (CLASS III, IVA OR IVB) COARSE AGGREGATE. FREE FROM FROZEN LUMPS, REFUSE, STONES, OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.3 POROUS GRANULAR EMBANKMENT AND BACKFILL: ASTM D2321 (CLASS IA, IB, OR II) COARSE AGGREGATE FREE FROM FROZEN LUMPS, REFUSE, STONES, OR ROCKS LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL.
- 2.4 SELECT STRUCTURAL FILL: GRANULAR FILL MATERIAL MEETING THE REQUIREMENTS OF ASTM E850-95. FOR USE AROUND AND UNDER STRUCTURES WHERE STRUCTURAL
- 2.5 GRANUALR BEDDING AND TRENCH BACKFILL: WELL-GRADED SAND MEETING THE GRADATION REQUIREMENTS OF ASTM D2487 (SE OR SW-SM).
- 2.6 COARSE AGGREGATE FOR ACCESS ROAD SUB BASE COURSE SHALL CONFORM TO
- 2.7 UNSUITABLE MATERIAL: AND MODERATELY PLASTIC SILTS AND CLAYS (LL>45). MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3 INCHES IN ANY DIMENSION, AND DEBRIS AS DETERMINED BY THE CONSTRUCTION MANAGER. TYPICAL THESE WILL BE SOILS CLASSIFIED BY ASTM AS PT, MH, CH, OH, ML, AND OL.
- 2.8 GEOTEXTILE FABRIC: MIRAFI 500X OR APPROVED EQUAL. 2.9 PLASTIC MARKING TAPE: SHALL BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM SPECIFICALLY MANUFACTURED FOR MARKING AND LOCATING UNDERGROUND UTILITIES, 6 INCHES WIDE WITH A MINIMUM THICKNESS OF 0.004 INCH. TAPE SHALL HAVE MINIMUM STRENGTH OF 1500 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL CONDUCTORS, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN BURIED UP TO 3 FEET DEEP. THE METALLIC CORE OF THE TAPE SHALL BE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION. TAPE COLOR SHALL BE RED FOR ELECTRIC UTILITIES AND ORANGE FOR TELECOMMUNICATION UTILITIES.

PART 3 - EXECUTION

3.1 GENERAL:

- A. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH A CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ANY TIME.
- BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF
- CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED. 1. REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES
 - BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS, AND OTHER DEBRIS, BRUSH, AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE, RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OF 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
- REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS.
- EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING, AND DEMOLITION WORK COMPLETELY WITH SUITABLE FILL.
- REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.
- PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE UNDERGROUND STRUCTURE, OR OTHER ITEM NOT SHOWN THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.

SEPARATE AND STOCK PILE AL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.

3.2 BACKFILL:

- A. AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE.
- 4. PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND UNSUITABLE MATERIALS.
- BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACTED. WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED.
- WHENEVER THE DENSITY TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM COMPACTION REQUIREMENTS.
- B. THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D

3.3 TRENCH EXCAVATION:

- A. UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.
- B. EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.
- C. WHEN SOFT YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, BACKFILL AT THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL.

3.4 TRENCH BACKFILL:

- A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.
- NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT
- TRENCH BEFORE ACCEPTANCE TESTING. D. PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY
- RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED
- LOADING. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
- COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.5 AGGREGATE ACCESS ROAD:

- A. CLEAR, GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. SCARIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL. ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS SHALL BE CORRECTED.
- THE ENTIRE SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D
- C. AFTER PREPARATION OF THE SUBGRADE IS COMPLETE THE GEOTEXTILE FABRIC (MIRAFI 500Xi) SHALL BE INSTALLED TO THE LIMITS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY ALONG THE ROADWAY. THE FABRIC SHALL NOT BE DRAGGED ACROSS THE SUBGRADE. PLACE THE ENTIRE ROLL IN A SINGLE OPERATION, ROLLING OUT AS SMOOTHLY AS POSSIBLE.
- 1. OVERLAPS PARALLEL TO THE ROADWAY WILL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS BEYOND THE ROADWAY SURFACE WIDTH (I.E. WITHIN THE SHOULDER WIDTH) ONLY. NO LONGITUDINAL OVERLAPS SHALL BE LOCATED BETWEEN THE CENTERLINE AND THE SHOULDER. PARALLEL OVERLAPS SHALL BE A MINIMUM OF 3 FEET WIDE.
- TRANSVERSE (PERPENDICULAR TO THE ROADWAY) OVERLAPS AT THE END OF A ROLL SHALL OVERLAP IN THE DIRECTION OF THE AGGREGATE PLACEMENT (PREVIOUS ROLL ON TOP) AND SHALL HAVE A MINIMUM LENGTH OF 3 FEET.
- ALL OVERLAPS SHALL BE PINNED WITH STAPLES OR NAILS A MINIMUM OF 10 INCHES LONG TO INSURE POSITIONING DURING PLACEMENT OF AGGREGATE. PIN LONGITUDINAL SEAMS AT 25 FOOT CENTERS AND TRANSVERSE SEAMS EVERY 5 FEET. D. THE AGGREGATE BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN
- LAYERS NOT MORE THAN 4 INCH (COMPACTED) THICKNESS. AGGREGATE TO BE PLACED ON GEOTEXTILE FABRIC SHALL BE END-DUMPED ON THE FABRIC FROM THE FREE END OF THE FABRIC OR OVER PREVIOUSLY PLACED AGGREGATE. THE FIRST LIFT SHALL BE BLADED DOWN TO A THICKNESS OF 8 INCHES PRIOR TO COMPACTION. AT NO TIME SHALL EQUIPMENT, EITHER TRANSPORTING THE AGGREGATE OR GRADING THE AGGREGATE, BE PERMITTED ON THE ROADWAY WITH LESS THAN 4 INCHES OF MATERIAL COVERING THE FABRIC.
- E. THE AGGREGATE SHALL BE IMMEDIATELY COMPACTED TO NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE PROCTOR TEST, ASTM D 1557 WITH A TAMPING ROLLER, OR WITH A PNEUMATIC-TIRED ROLLER, OR WITH A VIBRATORY MACHINE OR ANY COMBINATION OF THE ABOVE. THE TOP LAYER SHALL BE GIVEN A FINAL ROLLING WITH A THREE-WHEEL OR TANDEM ROLLER.

3.6 FINISH GRADING:

- A. PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE IMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.
- UTILIZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.
- ACHIEVE FINISHED GRADE BY PLACING A MINIMUM OF 4 INCHES OF 1/2" 3/'4" CRUSHED STONE ON TOP SOIL STABILIZER FABRIC.
- REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE CORSE

3.7 ASPHALT PAVING ROAD:

DIVISION 600 - KDOT FLEXIBLE PAVEMENT. (UPDATE PER LOCAL DOT)

B. SECTION 403 - MODOT ASPHALT CONCRETE PAVEMENT.

OF THIS WORK TO THEIR ORIGINAL CONDITION.

-	NEW ANTENNA		WOOD CONT.	\bigwedge	REVISION
Ģ	EXISTING ANTENNA		WOOD BLOCKING		SET POINT
\otimes	GROUND ROD	<u> </u>	PLYWOOD	+	SPOT ELEVATION
	GROUND BUS BAR		STEEL		PROPERTY LINE
•	MECHANICAL GROUND CONNECTION		EXISTING MASONRY		ABUTTERS
-	CADWELD		EXISTING BRICK		STREET LINE
igorplus	GROUND ACCESS WELL		GROUT OR PLASTER		LEASE AREA
•	XIT GROUND ROD		CONCRETE	——Е——	ELECTRICAL CONDUIT
E	ELECTRIC BOX		SAND	——т—	TELEPHONE CONDUIT
T	TELEPHONE BOX		EARTH	—— F ——	FIBER CONDUIT
M	UTILITY METER		GRAVEL	——— w ———	WATERLINES
G	GENERATOR		MATCH LINE	——— UG/E/T ———	UNDERGROUND CONDUITS
\	LIGHT POLE	•	WORK POINT	———— OHW ————	OVERHEAD UTILITIES
\$	LIGHT SWITCH	X	SECTION REFERENCE		GROUND CONDUIT
	DISCONNECT SWITCH	X X-X	ELEVATION REFERENCE		COAXIAL CABLES
>	CIRCUIT BREAKER	(2) A-1)	DETAIL REFERENCE (DETAIL NO. 2 ON SHEET A-1)	_xx	CHAIN LINK FENCE
	FND. MONUMENT	$\stackrel{\smile}{\times}$	GRID REFERENCE		STOCKADE FENCE
					CENTERLINE

LEGEND

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
A.B. ABV. ACCA ADD'L A.F.F. A.F.G. ALUM. ALT. ANT. APPRX. ARCH. AWG. BLKG. BLK	ANCHOR BOLT ABOVE ANTENNA CABLE COVER ASSEMBLY ADDITIONAL ABOVE FINISHED FLOOR ABOVE FINISHED GRADE ALUMINUM ALTERNATE ANTENNA APPROXIMATE(LY) ARCHITECT(URAL) AMERICAN WIRE GAUGE BUILDING BLOCK BLOCKING BEAM BOUNDARY NAILING BARE TINNED COPPER WIRE BOTTOM OF FOOTING BACK-UP CABINET CONDUIT CABINET CANTILEVER(ED) CAST IN PLACE COAX INSULATED GROUND BAR EXTERNAL CENTER LINE CEILING CLEAR CONDUIT ONLY COLUMN CONCRETE CONNECTION(OR) CONSTRUCTION CONSTRUCTION CONSTRUCTION CONSTRUCTION CONSTRUCTION DUBLE DEPARTMENT DOUGLAS FIR DIAMETER DIAGONAL DIMENSION DRAWING(S) DOWEL(S) EACH ELEVATION ELECTRICAL ELEVATION ELECTRICAL ELEVATION ELECTRICAL ELECTRICAL ELEVATIOR ELECTRICAL ELEVATIOR ELECTRICAL EXPANSION EXISTING EXTERIOR	FAB. F.F. F.G. FIN. FLR. FDN. F.O.C. F.O.M. F.O.S. F.O.S. FTG. GA. GEN. GI. GLB.(GLU-LAM) GPS GR. GRND. GSM. HDR. HGR. HT. ICGB. IN.(") INT. LB.(#) L.F. L. LTE. MAS. MAX. M.B. MECH. MFR. MISC.	FABRICATION(OR) FINISH FLOOR FINISH FLOOR FINISH GRADE FINISH(ED) FLOOR FOUNDATION FACE OF CONCRETE FACE OF MASONRY FACE OF STUD FACE OF WALL FINISH SURFACE FOOT(FEET) FOOTING GROWTH (CABINET) GAUGE GENERATOR GALVANIZE(D) GROUND FAULT CIRCUIT INTERRUPTER GLUE LAMINATED BEAM GLOBAL POSITIONING SYSTEM GROWTH GROUND GLOBAL SYSTEM MOBILE COMMUNICATIONS HEADER HANGER HEIGHT ISOLATED COPPER GROUND BUS INTERIOR GROUND RING (HALO) INCH(ES) INTERIOR GROUND RING (HALO) INCH(ES) INTERIOR POUND(S) LAG BOLTS LINEAR FEET (FOOT) LONG(ITUDINAL) LONG TERM EVOLUTION MASONRY MAXIMUM MACHINE BOLT MECHANICAL MANUFACTURER MASTER ISOLATED GROUND BAR MINIMUM MISCELLANEOUS METAL NEW NUMBER NOT TO SCALE ON CENTER OPENING PRECAST CONCRETE PERSONAL COMMUNICATION SERVICES PLYWOOD POWER PROTECTION CABINET PRIMARY RADIO CABINET POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH PRESSURE TREATED	PVC. PWR. QTY. RAD.(R) RAN. REF. REINF. REQ'D. RGS. RWY. SCH. SHT. SIM. S.L.D. SPEC. SQ. S.S. STD. STL. TEMP. THK. TMLP T.N. T.O.A. T.O.C. T.O.P. T.O.S. T.O.P. U.L. UMTS. U.N.O. V.I.F. W/ WD. W.P. WT. Q-P. PL	POLYVINYL CHLORIDE CONDUIT POWER (CABINET) QUANTITY RADIUS RADIO ACCESS NODE REFERENCE REINFORCEMENT(ING) REQUIRED RIGID GALVANIZED STEEL RACEWAY SCHEDULE SHEET SIMILAR SINGLE LINE DIAGRAM SPECIFICATION(S) SQUARE STAINLESS STEEL STANDARD STEEL STRUCTURAL TELEPHONE TEMPORARY THICK(NESS) AT&T LIMITED PARTNERSHIP TOE NAIL TOP OF ANTENNA TOP OF CURB TOP OF FOUNDATION TOP OF PLATE (PARAPET) TOP OF STEEL TOP OF WALL TYPICAL UNDER GROUND UNDERWRITERS LABORATORY UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM UNLESS NOTED OTHERWISE VERIFY IN FIELD WIDE(WIDTH) WITH WOOD WEATHERPROOF WEIGHT CENTERLINE PLATE





AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



R.K. EXECUTIVE CENTRE 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752 TEL: (508) 481-7400 FAX: (508) 481-7406

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PROJECT INFORMATION: MA3001

ENGINEER/LAND SURVEYOR

402 RINDGE AVENUE

CAMBRIDGE

CAMBRIDGE, MA 02139 DRAWN BY: CHECKED BY:

CMC SHEET TITLE:

> GENERAL REQUIREMENTS, **LEGEND & ABBREVIATIONS**

SHEET NUMBER:

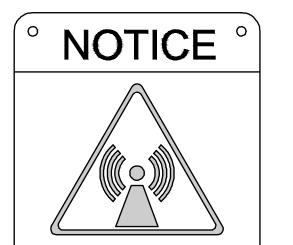
REVISION:

JMT

DATE

GENERAL REQUIREMENTS

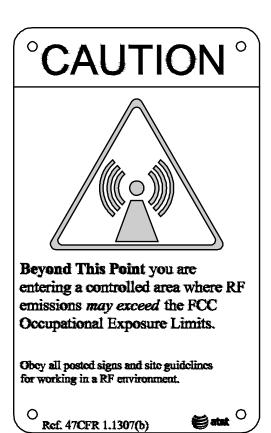
ABBREVIATIONS



Beyond This Point you are entering a controlled area where RF emissions may exceed the FCC General Population Exposure Limits.

Follow all posted signs and site guidelines for working in a RF environment.

C Ref. 47CFR 1.1307(b)





ALERTING SIGNS

S

ALERTING SIGNS

WARNING! DANGER DO NOT TOUCH TOWER! SERIOUS *RF* BURN HAZARD! MAINTAIN AN ADEQUATE CLEARANCE BETWEEN TOWER SUPPORTS AN GUY WIRES

FAILURE TO OBEY ALL POSTED SIGNS AND SITE GUIDBLINES FOR WORKING IN A RADIO FREQUENCY ENVIRONMENT COULD RESULT IN SERIOUS INJURY, CONTACT CURRENT MAY EXCHED LIMITS PRESCRIBED IN ANSI/FEE C95-1-1997 FOR CONTROLLED ENVIRONMENTS.

ALERTING SIGN

PROPERTY OF AT&T **AUTHORIZED** PERSONNEL ONLY

IN CASE OF EMERGENCY, OR PRIOR TO PERFORMING MAINTENANCE ON THIS SITE, CALL 800-638-2822 AND REFERENCE CELL SITE NUMBER

INFO SIGN #5



INFO SIGN #3

INFORMATION

INFORMACION

INFO SIGN #1

ACTIVE ANTENNAS ARE MOUNTED ON THE OUTSIDE OF THIS BUILDING BEHIND THIS PANEL ON THIS STRUCTURE STAY BACK A MINIMUM OF 3 FEET FROM THESE ANTENNAS

INFORMATION

INFO SIGN #2

atat

R

INFO SIGN #4

		GLINLI	TAL SIGNAG	IL GOIDELIN	iLO			
STRUCTURE TYPE	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	INFO SIGN #5	STRIPING	NOTICE SIGN	CAUTION SIGN
TOWERS								
MONOPOLE / MONOPINE / MONOPALM	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN. 9FT. ABOVE GROUND
SCE TOWERS / TOWERS WITH VOLTAGE	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN. 9FT. ABOVE GROUND
LIGHT POLES / FLAG POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			
UTILITY WOOD POLES (JPA)	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET		LEVEL IS: 0-99%: NO CAUTION SIGN AT BELOW ANTENN	OF MPE AT ANTENNA FICE SIGN; OVER 99%: NO LESS THAN 3FT A AND 9FT ABOVE DUND
MICROCELLS MOUNTED ON NON-JPA POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET		NOTICE OR CAUTION SIGN AT NO LESS THAN 9FT ABOVE GROUND: ONLY IF THE EXPOSURE EXCEEDS 90% OF THE GENERAL PUBLIC EXPOSURE AT 6FT ABOVE GROUND	
ROOF TOPS								
AT ALL ACCESS POINTS OF THE ROOF	Х							
ON ANTENNAS	х		Х	х				
CONCEALED ANTENNAS	X	Х						
ANTENNAS MOUNTED FACING OUTSIDE THE BUILDING	X	X						
ANTENNAS ON SUPPORT STRUCTURE	X	Х						
ROOFTOP GRAPH:								
RADIATION AREA IS WITHIN 3FT FROM ANTENNA	Х	ADJACENT TO EACH ANTENNA					FITHER NOTICE	OR CAUTION SIGN
RADIATION IS BEYOND 3FT FROM ANTENNA	Х	ADJACENT TO EACH ANTENNA				DIAGONAL, YELLOW STRIPING AS TO ROOFVIEW GRAPH	EITHER NOTICE OR CAUTION SIGN (BASED ON ROOFVIEW RESULTS) AT ANTENNAS / BARRIER	
CHURCH STEEPLES	ACCESS TO STEEPLE	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			CAUTION SIGN AT THE ANTENNAS
WATER TANKS	ACCESS TO WATER TANK	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ON THE SIDE OF ANTENNAS	ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET			CAUTION SIGN AT THE ANTENNAS

GENERAL SIGNAGE GUIDELINES

NOTES FOR ROOFTOP SITES:

EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR.

IF ROOFVIEW SHOWS: ONLY BLUE = NOTICE SIGN, BLUE AND YELLOW = CAUTION SIGN, ONLY YELLOW = CAUTION SIGN TO BE INSTALLED.
SHOULD THE REQUIRED STRIPING AREA INTERFERE WITH ANY STRUCTURES OR EQUIPMENT (A/C, VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETC.), PLEASE NOTIFY AT&T TO MODIFY THE STRIPING AREA,



AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

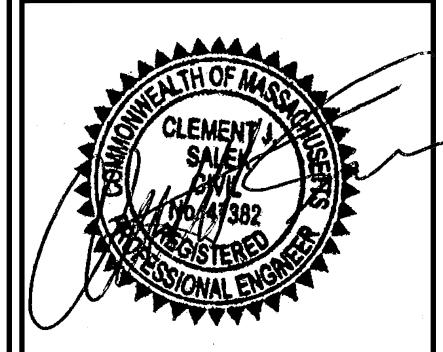


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ENGINEER/LAND SURVEYOR

MA3001 CAMBRIDGE

402 RINDGE AVENUE CAMBRIDGE, MA 02139

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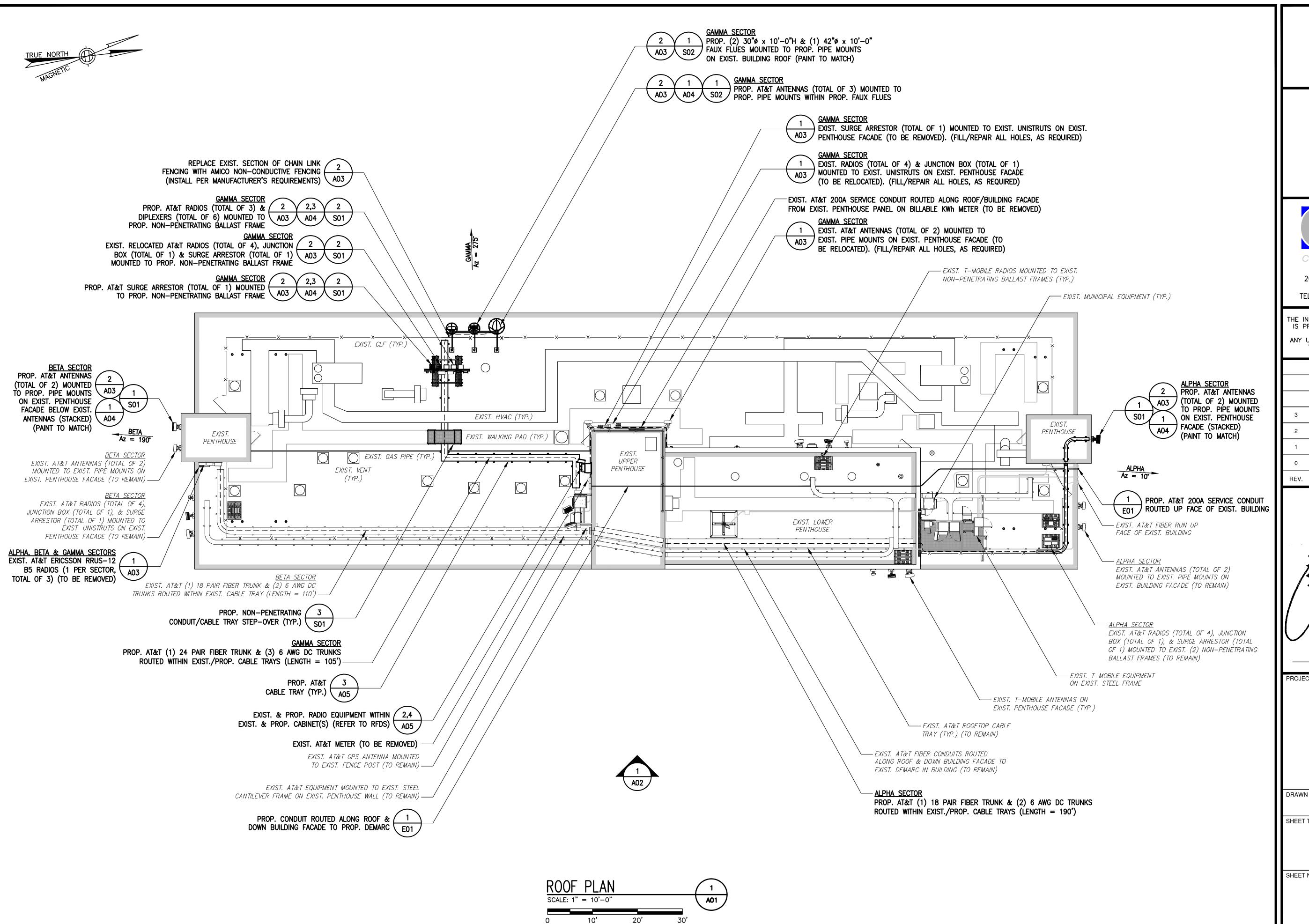
SHEET TITLE:

GENERAL SIGNAGE DETAILS

SHEET NUMBER:

T04

REVISION:







AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



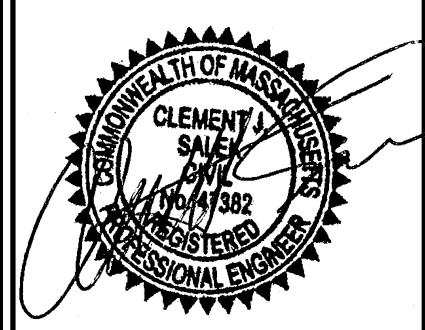
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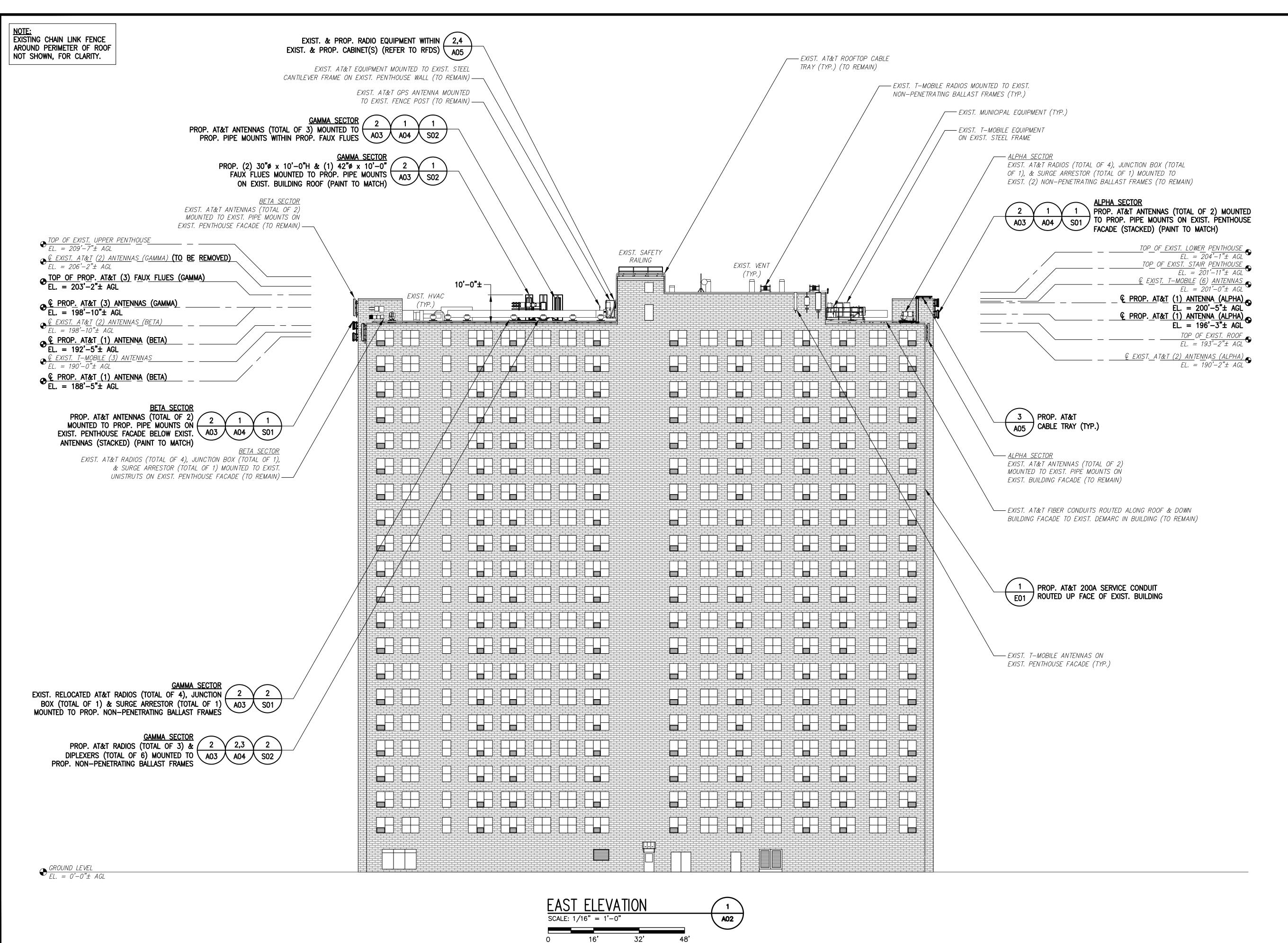
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ROOF PLAN

SHEET NUMBER:

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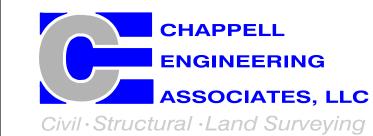
REVISION:







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500 ENTERPRISE DRIVE, SUITE 3A
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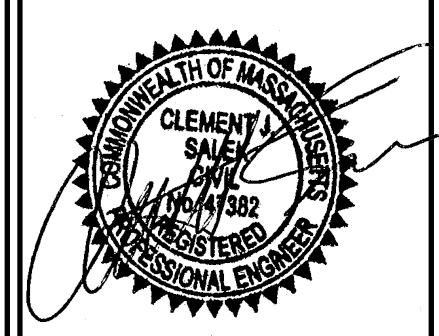


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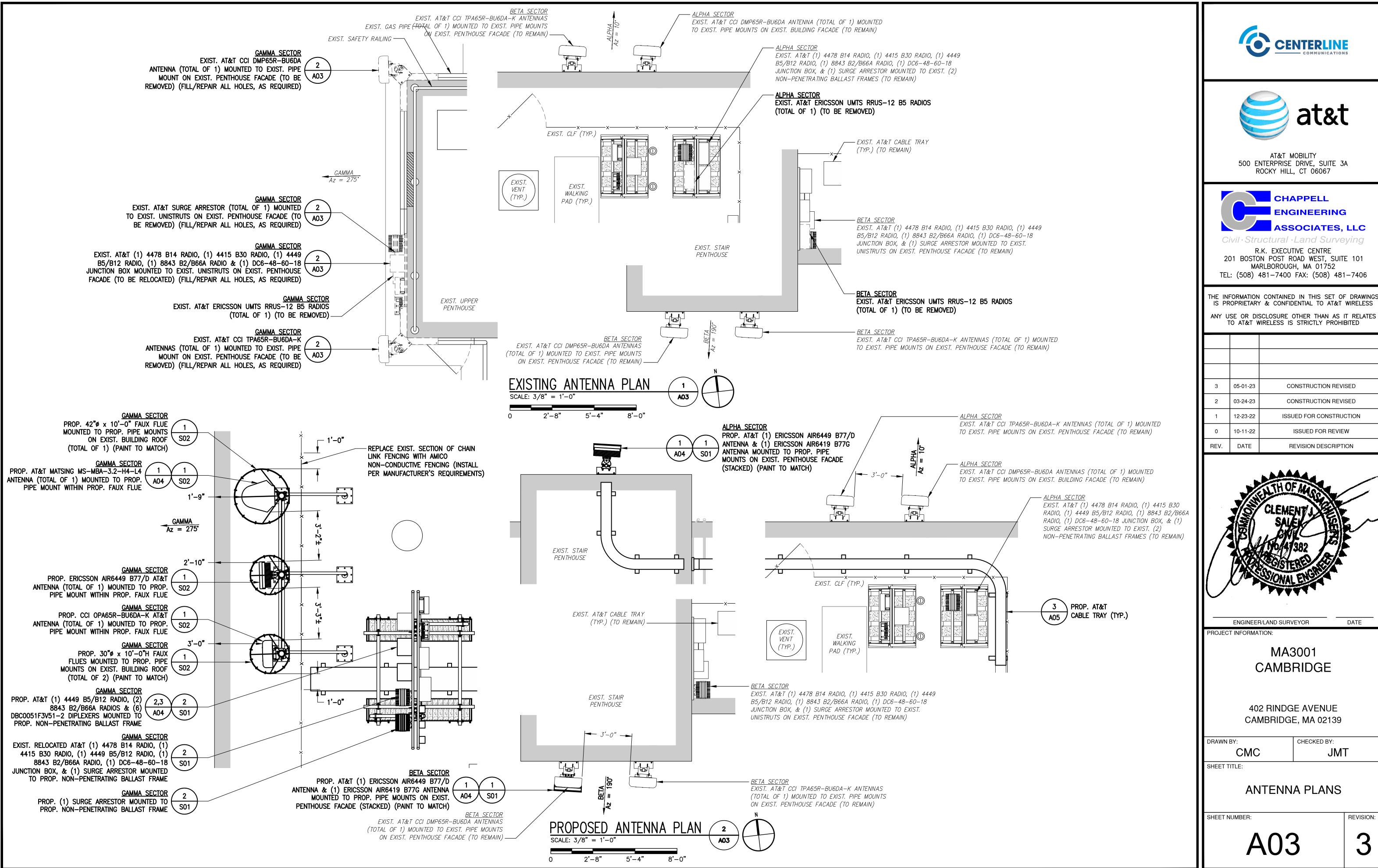
BUILDING ELEVATION

SHEET NUMBER:

A02

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REVISION:







500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067

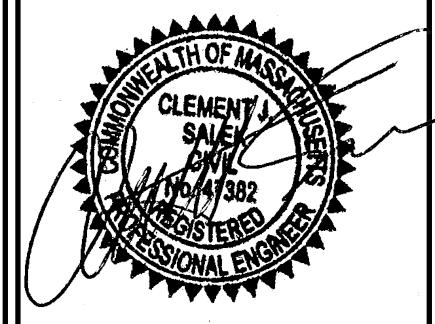


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402 RINDGE AVENUE

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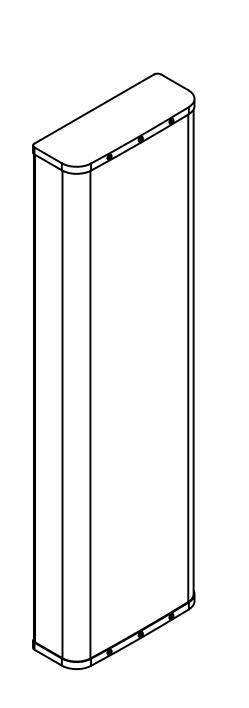
JMT

ANTENNA PLANS

3

REVISION:

CEA JOB NO.: 1805.018



CCI OPA65R-BU6D ANTENNA DIMENSIONS: 71.2"H x 20.7"W x 7.7"D WEIGHT: 63.3 lbs QUANTITY: TOTAL OF 1 SECTOR: GAMMA



ERICSSON M-MIMO AIR6419 B77G ANTENNA DIMENSIONS: 36.3"H x 20.9"W x 9.0"D WEIGHT: 83.3 lbs QUANTITY: 1 PER SECTOR, TOTAL OF 2



ERICSSON M-MIMO AIR6449 B77D ANTENNA

DIMENSIONS: 33.1"H x 20.5"W x 8.3"D WEIGHT: 103.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3
SECTORS: ALPHA, BETA, GAMMA





MATSING MS-MBA-3.2-H4-L4 ANTENNA DIMENSIONS: 72.0"H x 24.0"W x 25.0"D WEIGHT: 130.0 lbs QUANTITY: TOTAL OF 1 SECTOR: GAMMA



ERICSSON RADIO 4449 B5+B12 DIMENSIONS: 14.96"H x 13.19"W x 10.43"D
WEIGHT: 73.0 lbs
QUANTITY: TOTAL OF 1
SECTOR: GAMMA

SCALE: N.T.S.



ERICSSON RADIO 8843 B2+B66A DIMENSIONS: 14.96"H x 13.2"W x 11.1"D

WEIGHT: 75.0 lbs

QUANTITY: TOTAL OF 2

SECTOR: GAMMA

> 2 A04



KAELUS DBC0051F3V51-2 TWIN 1900/AWS DIPLEXER DIMENSIONS: 8.54"H x 2.17"W x 5.0"D WEIGHT: 7.5 lbs QUANTITY: TOTAL OF 6 SECTOR: GAMMA

DIPLEXER DETAIL SCALE: N.T.S. A04

					ANT	ENNA SCHEDULE			
SECTOR	EXISTING / PROPOSED	BAND	ANTENNA	ANTENNA & HEIGHT	AZIMUT H	TMA / DIPLEXER	RRU	FEEDER	SURGE PROTECTION
A1	PROPOSED	5G CBAND	AIR6449 B77D	±201'	10°			(E) (1) 18 PAIR FIBER TRUNK (E) (2) 6 AWG DC TRUNKS	
A1	PROPOSED	5G DoD	AIR6419 B77G	±196′	10°			(E) (1) 18 PAIR FIBER TRUNK (E) (2) 6 AWG DC TRUNKS	
A2	EXISTING	LTE 700/LTE 850/5G 850/LTE AWS	TPA65R-BU6DA-K	±190'	10°		(E) (1) 4478 B14 (E) (1) 4415 B30	(E) (1) 18 PAIR FIBER TRUNK	(E) (1) DC6-48-60-18
А3	EXISTING	LTE 700/5G 850/LTE 1900/5G 1900	DMP65R-BU6DA	±190'	10°		(E) (1) 4449 B5/B12 (E) (1) 8843 B2/B66A (SHARED)	(E) (1) 18 PAIR FIBER TRUNK	
B1	EXISTING	LTE 700/LTE 850/5G 850/LTE AWS	TPA65R-BU6DA-K	±199'	190°		(E) (1) 4478 B14 (E) (1) 4415 B30	(E) (1) 18 PAIR FIBER TRUNK	(E) (1) DC6-48-60-18
B2	EXISTING	LTE 700/5G 850/LTE 1900/5G 1900	DMP65R-BU6DA	±199'	190°		(E) (1) 4449 B5/B12 (E) (1) 8843 B2/B66A (SHARED)	(E) (1) 18 PAIR FIBER TRUNK	
В3	PROPOSED	5G CBAND	AIR6449 B77D	±193'	190°			(E) (1) 18 PAIR FIBER TRUNK (E) (2) 6 AWG DC TRUNKS	
В3	PROPOSED	5G DoD	AIR6419 B77G	±189′	190°			(E) (1) 18 PAIR FIBER TRUNK (E) (2) 6 AWG DC TRUNKS	
C1	PROPOSED	LTE 700(BC)/5G 850/AWS	OPA 65R-BU6DA-K	±203'	275°	(P) (2) DBC0051F3V51-2	(E) (1) 4478 B14 (E) (1) 4415 B30	(P) (1) 24 PAIR FIBER TRUNK	(P) (1) DC9-48-60-RM
C2	PROPOSED	5G CBAND	AIR6449 B77D	±203'	275°			(P) (1) 24 PAIR FIBER TRUNK (P) (3) 6 AWG DC TRUNKS	
СЗ	PROPOSED	LTE 700/5G 850/LTE 1900/5G 1900	MS-MBA-3.2-H4-L4	±203'	275°	(P) (6) DC6-48-60-18	(E) (1) 4449 B5/B12 (E) (1) 8843 B2/B66A (SHARED) (P) (1) 4449 B5/B12 (P) (2) 8843 B2/B66A (SHARED)	(P) (1) 24 PAIR FIBER TRUNK	







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ENGINEERING

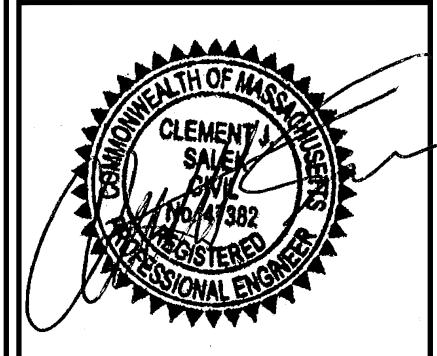
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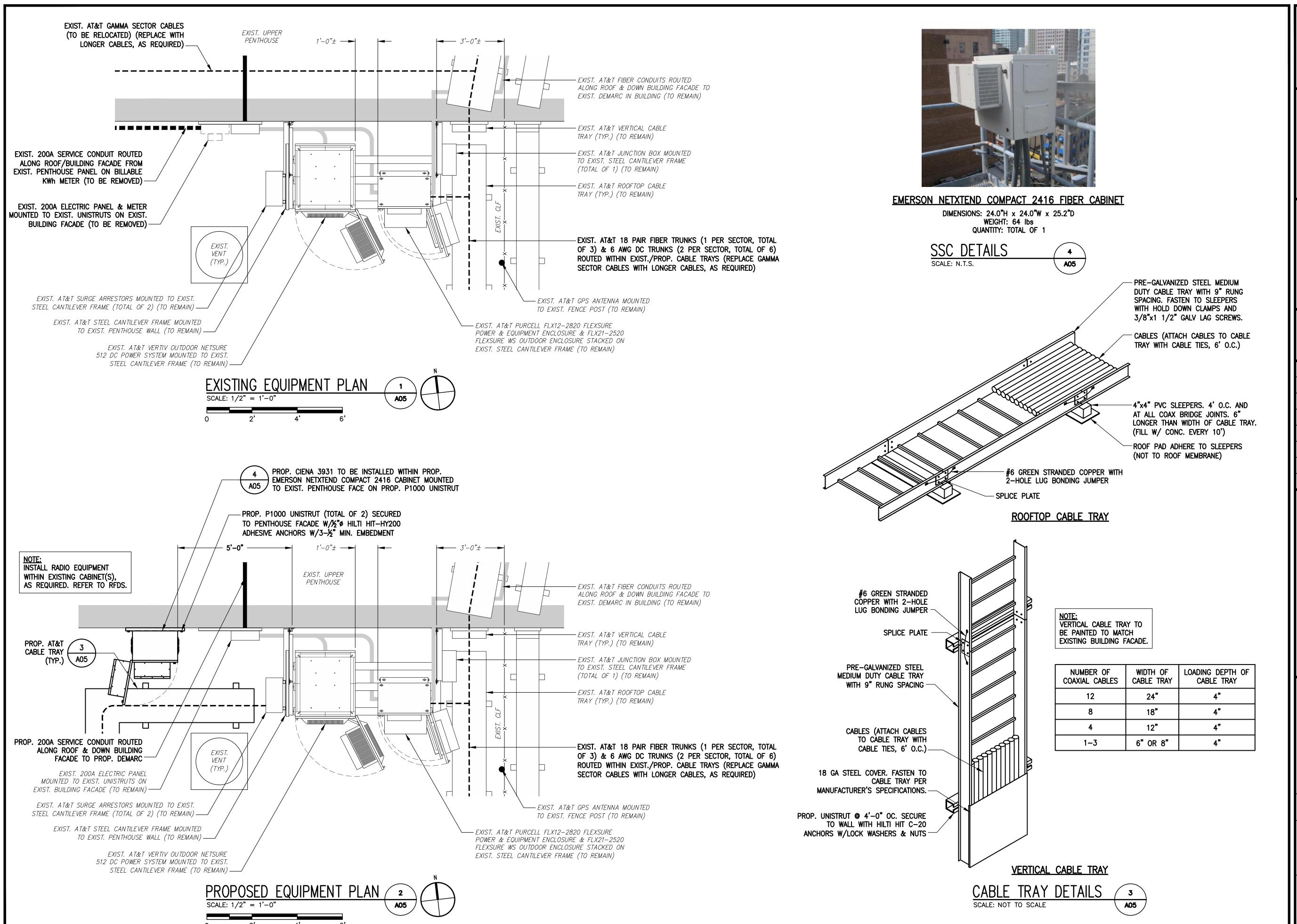
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SHEET NUMBER:

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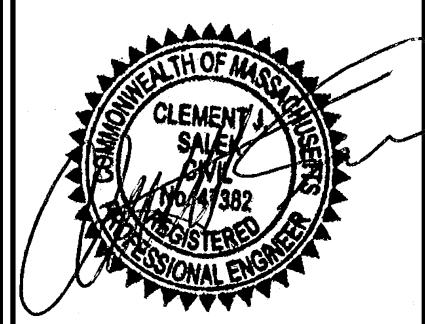
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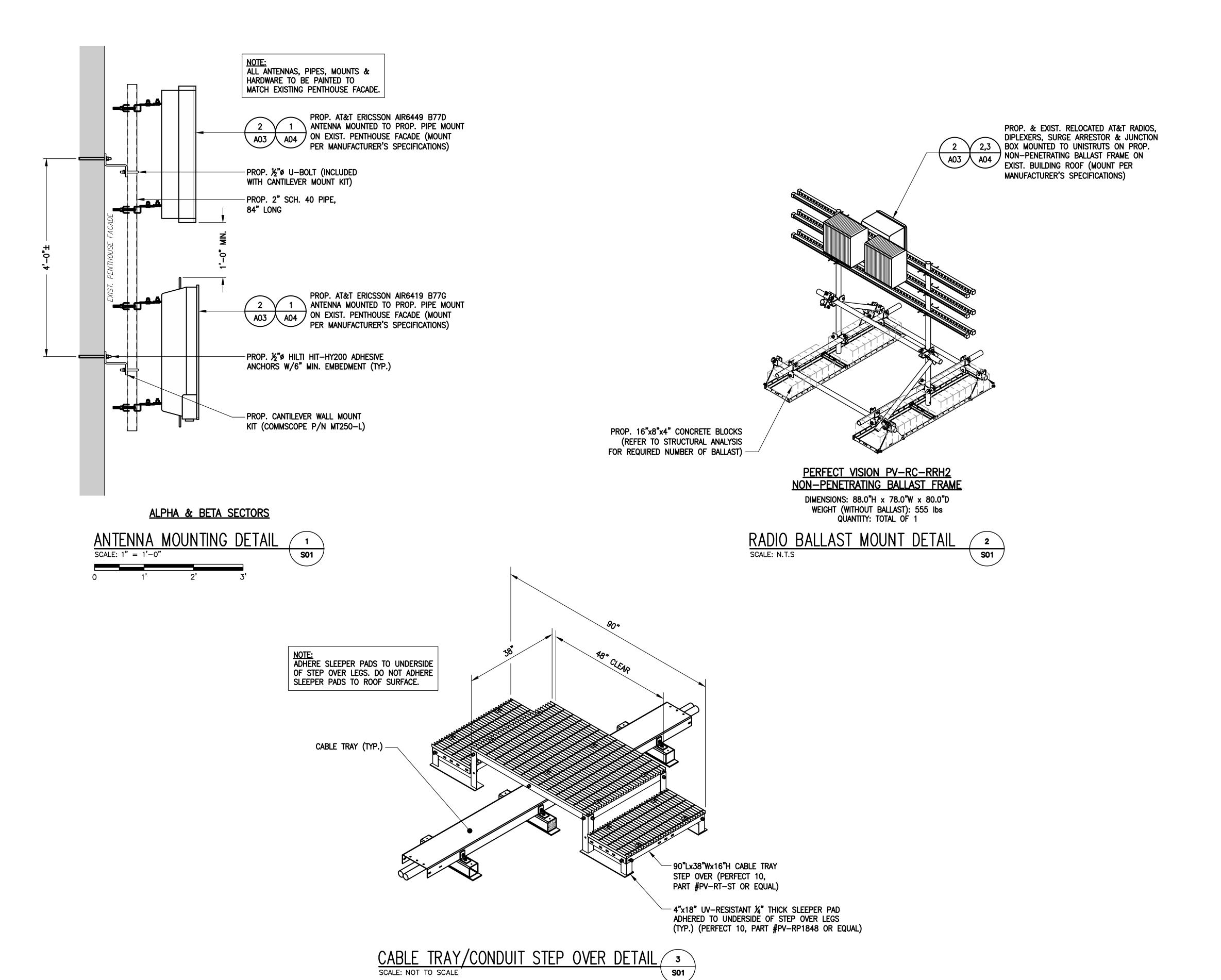
EQUIPMENT PLAN & DETAILS

SHEET NUMBER:

A05

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REVISION:







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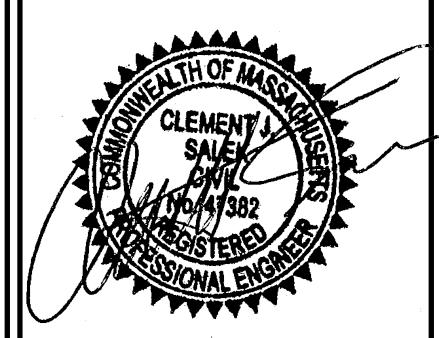
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S01

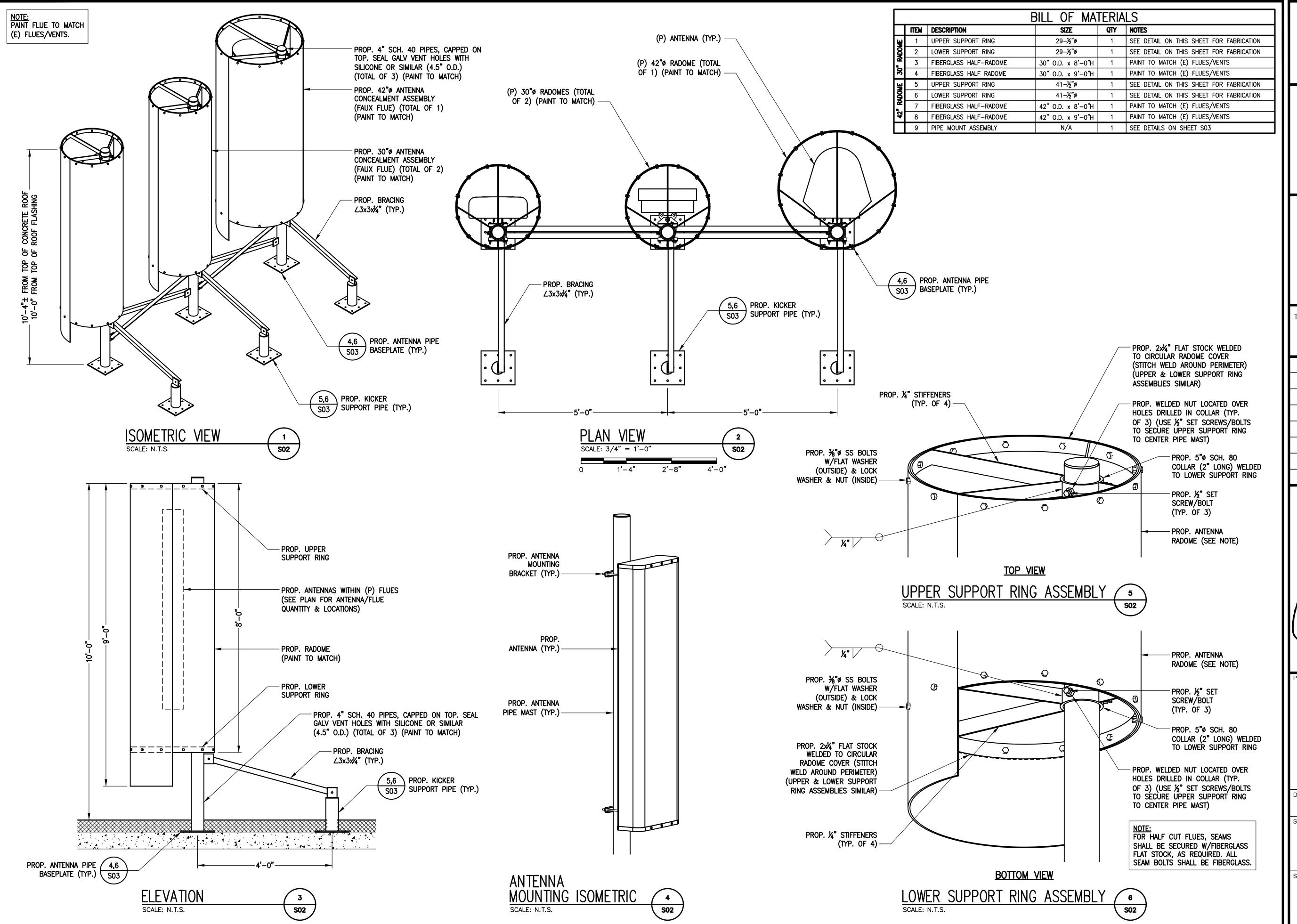
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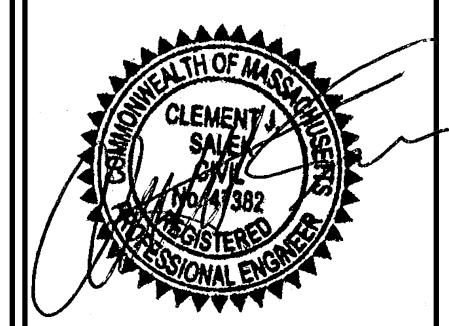
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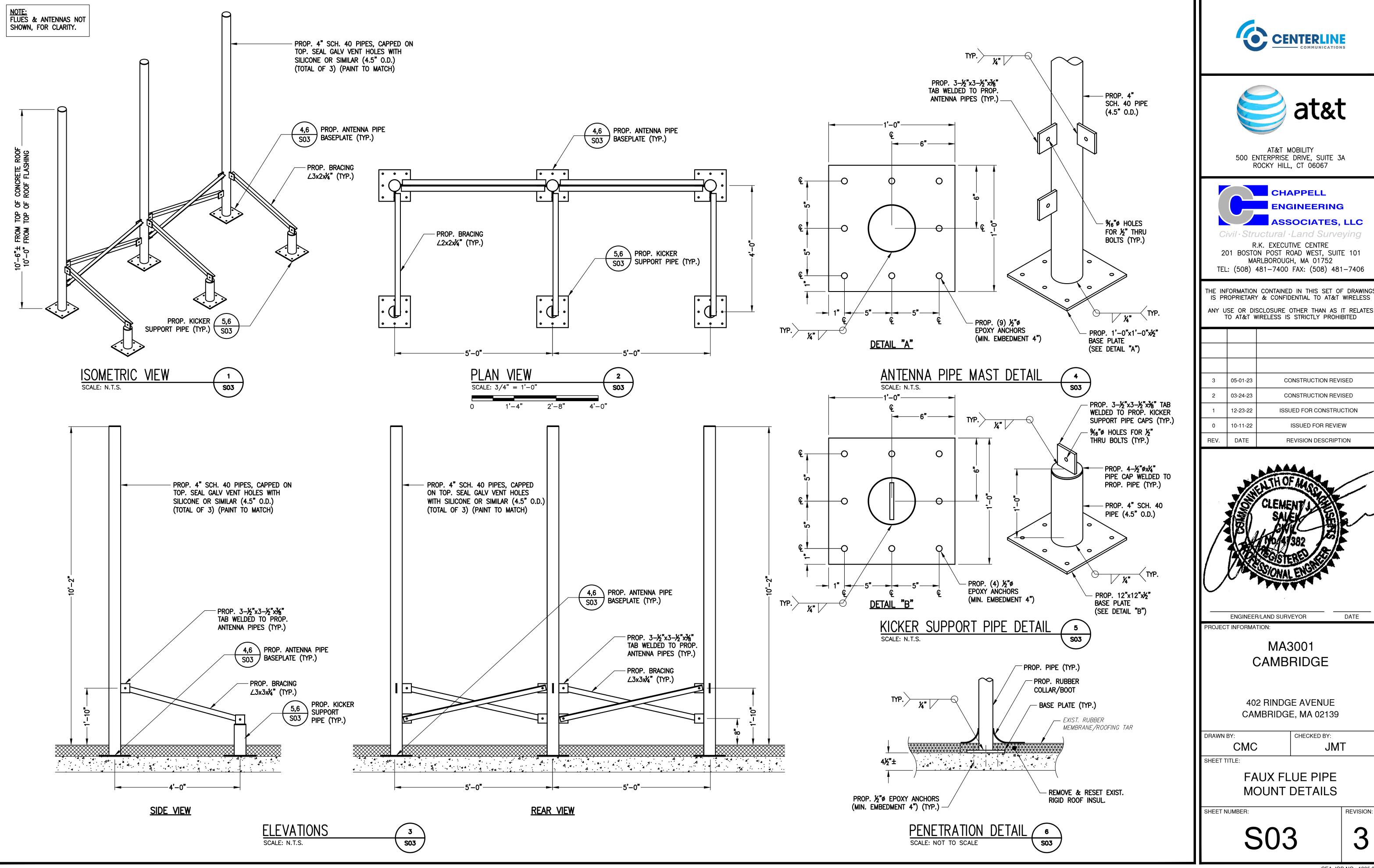
FAUX FLUE DETAILS

SHEET NUMBER:

S02

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REVISION:





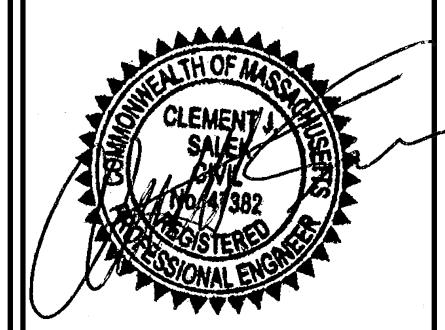




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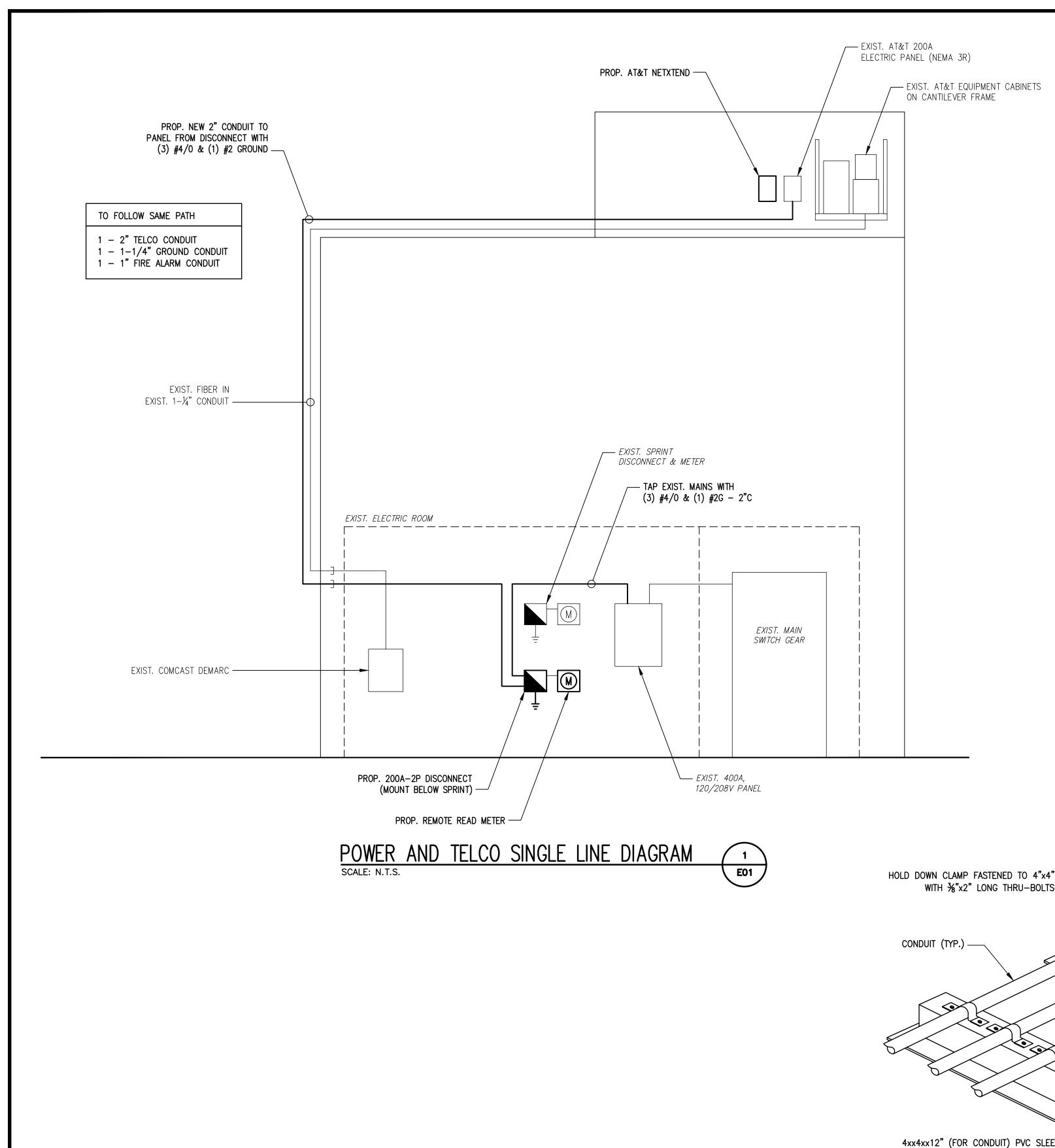
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MOUNT DETAILS

3

REVISION:

CEA JOB NO.: 1805.018



ELECTRICAL 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 SPECIFICATIONS 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
- 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 THIN 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 IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- 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
- 11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- 12. PPC SUPPLIED BY PROJECT OWNER.

LEGEND: **ABBREVIATIONS:** GROUND TEST WELL AMERICAN WIRE GAUGE BARE COPPER WIRE GROUND ROD COAX GROUND BAR EXTERNAL

DISCONNECT SWITCH CIGBE COAX ISOLTAED GROUND BAR EXTERNAL CADWELD TYPE CONNECTION ELECTRICAL METALLIC TUBING COMPRESSION TYPE CONNECTION MASTER GROUND BAR

PERSONAL COMMUNICATION SYSTEM GROUNDING WIRE RIGID (SCH. 40) POLYVINYL CHLORIDE CONDUIT REPRESENTS DETAIL NUMBER REF. DRAWING NUMBER RIGID GALVANIZED STEEL

RACEWAY





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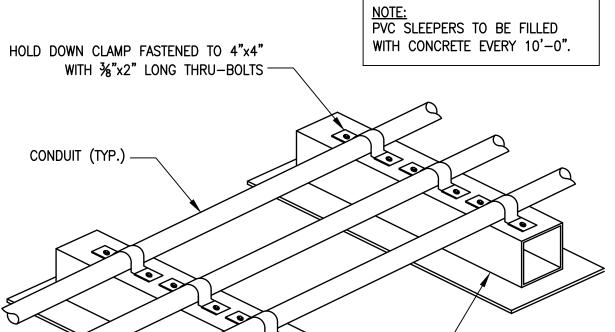
SHEET TITLE:

DETAILS & NOTES

SHEET NUMBER:

E01

ELECTRICAL DIAGRAMS, REVISION:



4xx4xx12" (FOR CONDUIT) PVC SLEEPERS. INSTALL EVERY 6'-0" WHEN MOUNTED ON ROOF. ATTACH SLEEPER TO ROOF PAD W/APPROVED ADHESIVE. SECURE ROOF PAD TO ROOF W/ APPROVED ADHESIVE.

CONDUITS ON ROOFTOP

CONDUITS ON WALL OR CEILING

— EXISTING WALL/CEILING

PROP. GALV. UNISTRUT

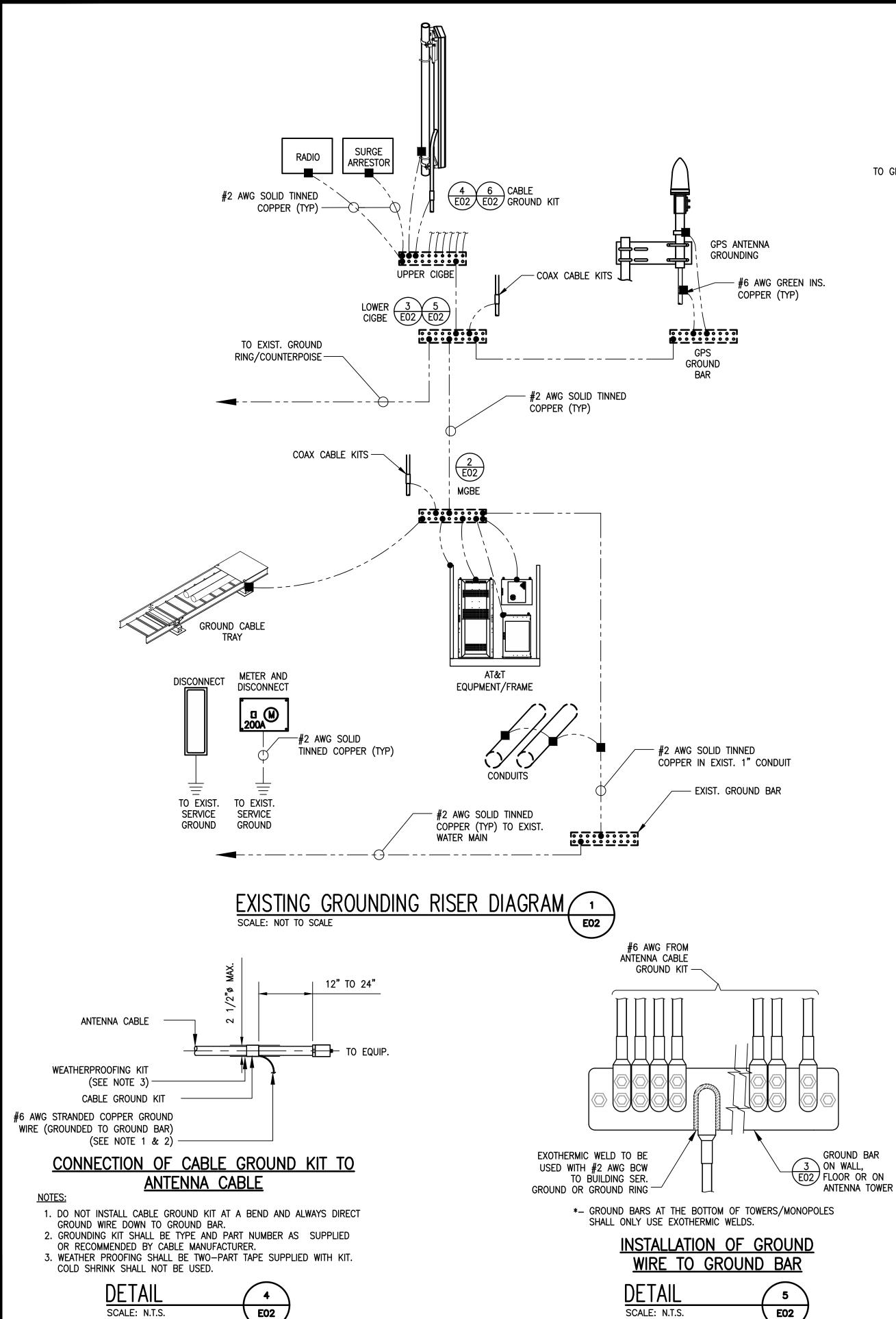
- PROP. CONDUIT (TYP.)

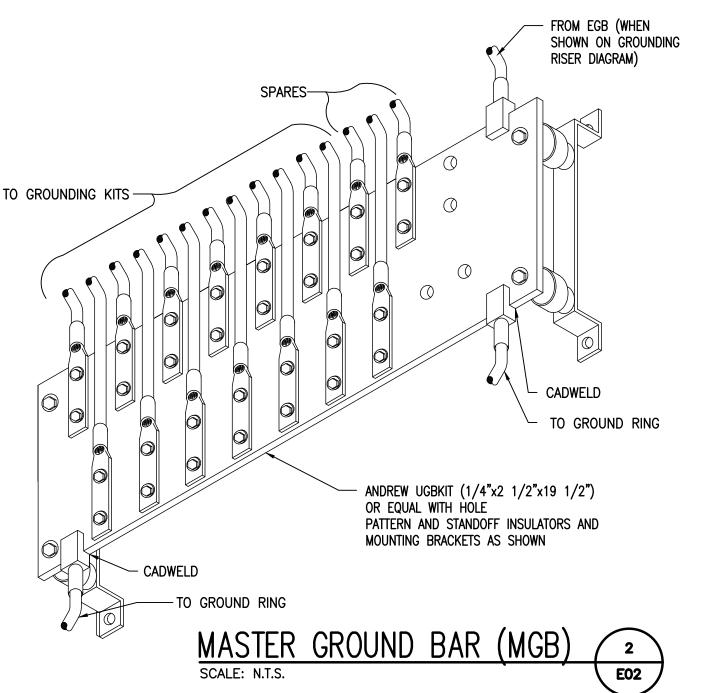
- PROP. (3) ½"ø SLEEVE ANCHORS

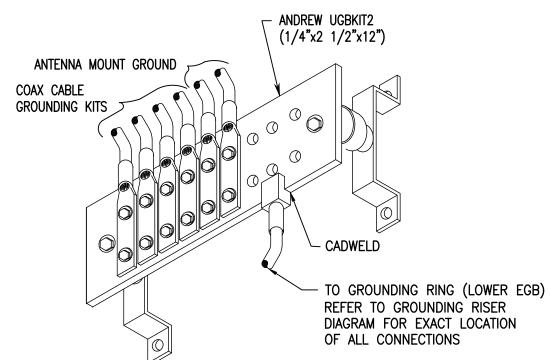
1-%x1-%x12gx1'-0" LONG @ 8'-0" O.C. MAX

CONDUIT MOUNTING DETAIL E01

3







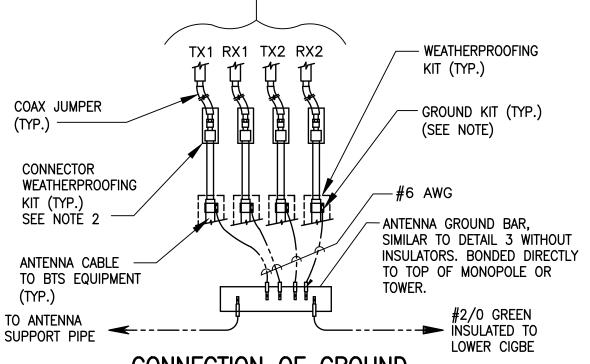


NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.

2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

TO ANTENNAS



CONNECTION OF GROUND WIRE TO GROUNDING BAR

DETAIL 6
SCALE: N.T.S. E02

GROUNDING NOTES:

- 1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION 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 81) FOR NEW GROUND ELECTRODE SYSTEMS.
- 4. 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.
- 5. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHEIVE A TEST RESULT OF 5 OHMS OR LESS ON TOWER SITES AND 10 OHMS OR LESS ON ROOFTOP SITES. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEENTHE ADDED ELECTRODE ANDANY OTHER EXISTING ELECTRODES EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPERATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
- 6. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
- 7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- 8. COAX BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO—HOLE MECHANICAL TYPE BRASS CONNECTORS.
- 9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- 10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- 11. 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.
- 12. 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 USED. 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.
- 13. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK—TO—BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND ARE PERMITTED.

 14. 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.

 15. USE OF 90° BENDS IN THE PROTECTION GROUNDING
- CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
- 16. EACH INTERIOR TRANSMISSION CABINET FRAME/ PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH 8 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRE UNLESS NOTED OTHERWISE IN THE DETAILS. EACH OUTDOOR CABINET FRAME/ PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH 2 AWG SOLID TIN-PLATED COPPER WIRE UNLESS NOTED OTHERWISE IN THE DETAILS.
- 17. EXOTHERMIC WELDS SHALL BE USED FOR FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE INCLUDING SET SCREWS, HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM BECHTEL TELECOMMUNICATIONS MARKET REPRESENTATIVE.
- 18. ALL EXTERIOR GROUND CONNECTORS BETWEEN
 EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE 2
 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
- ALL WIRE TO WIRE GROUND CONNECTIONS TO THE ANTENNA GROUND RING SHALL BE FORMED USING HIGH PRESSURE CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
 ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A
- CORROSION RESISTANT MATERIAL.

 21. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE,

INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO

ALL ROOFTOP TRANSMISSION EQUIPMENT AND STRUCTUAL STEEL.

22. BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF THE BURIED
GROUND RINGWITH 2 AWG SOLID TIN-PLATED COPPER GROUND
CONDUCTOR. DURING EXCAVATION FOR NEW GROUND
CONDUCTORS. IF EXISTING GROUND CONDUCTORS ARE
ENCOUNTED, BOND EXISTING GROUND CONDUCTORS TO NEW
CONDUCTORS.





AT&T MOBILITY
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067



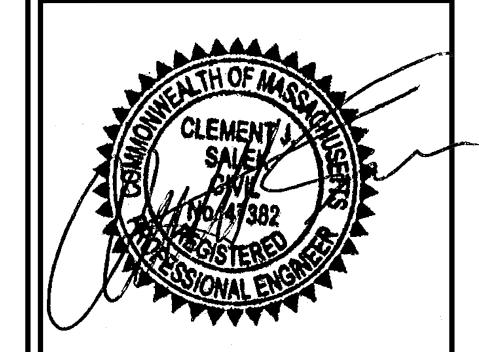
Civil · Structural · Land Surveying

R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
TEL: (508) 481-7400 FAX: (508) 481-7406

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ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES
TO AT&T WIRELESS IS STRICTLY PROHIBITED

3	05-01-23	CONSTRUCTION REVISED
2	03-24-23	CONSTRUCTION REVISED
1	12-23-22	ISSUED FOR CONSTRUCTION
0	10-11-22	ISSUED FOR REVIEW
REV.	DATE	REVISION DESCRIPTION



ENGINEER/LAND SURVEYOR DATE
PROJECT INFORMATION:

MA3001 CAMBRIDGE

402 RINDGE AVENUE CAMBRIDGE, MA 02139

CMC CHECKED BY:

CMC

JMT

SHEET TITLE:

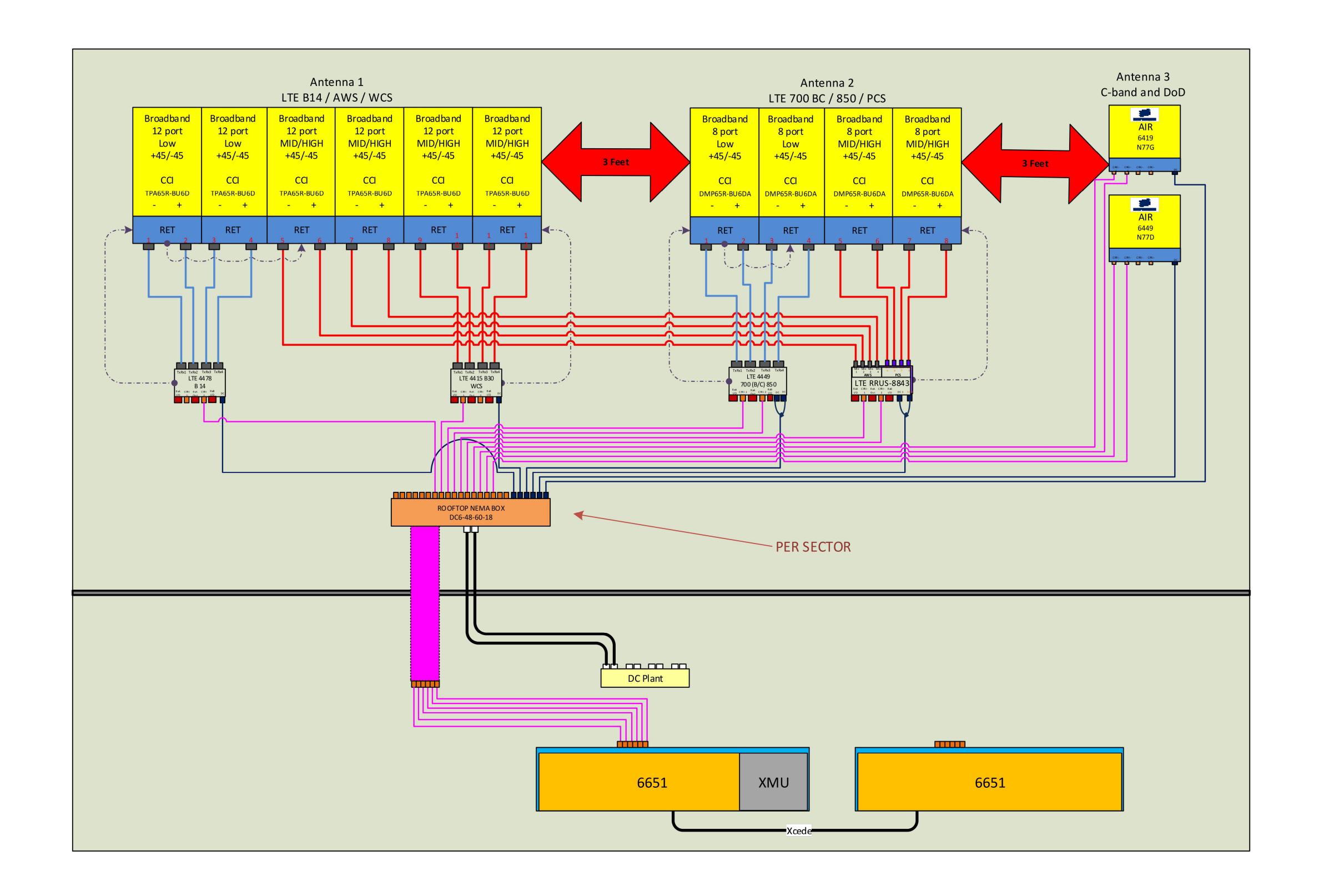
GROUNDING DIAGRAM, DETAILS & NOTES

SHEET NUMBER:

E02

3

REVISION:



ALPHA SECTOR PLUMBING DIAGRAM (1)





AT&T MOBILITY
500 ENTERPRISE DRIVE, SUITE 3A
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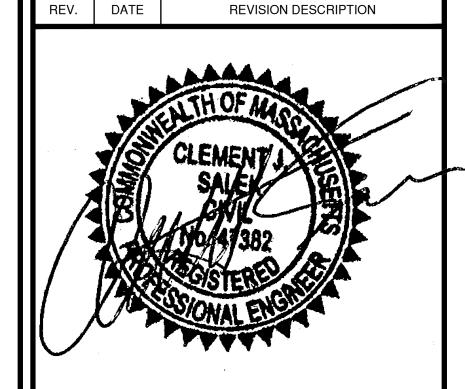
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3 05-01-23 CONSTRUCTION REVISED
2 03-24-23 CONSTRUCTION REVISED
1 12-23-22 ISSUED FOR CONSTRUCTION
0 10-11-22 ISSUED FOR REVIEW



ENGINEER/LAND SURVEYOR DATE
PROJECT INFORMATION:

MA3001 CAMBRIDGE

402 RINDGE AVENUE CAMBRIDGE, MA 02139

CMC CHECKED BY:

CMC JMT

SHEET TITLE:

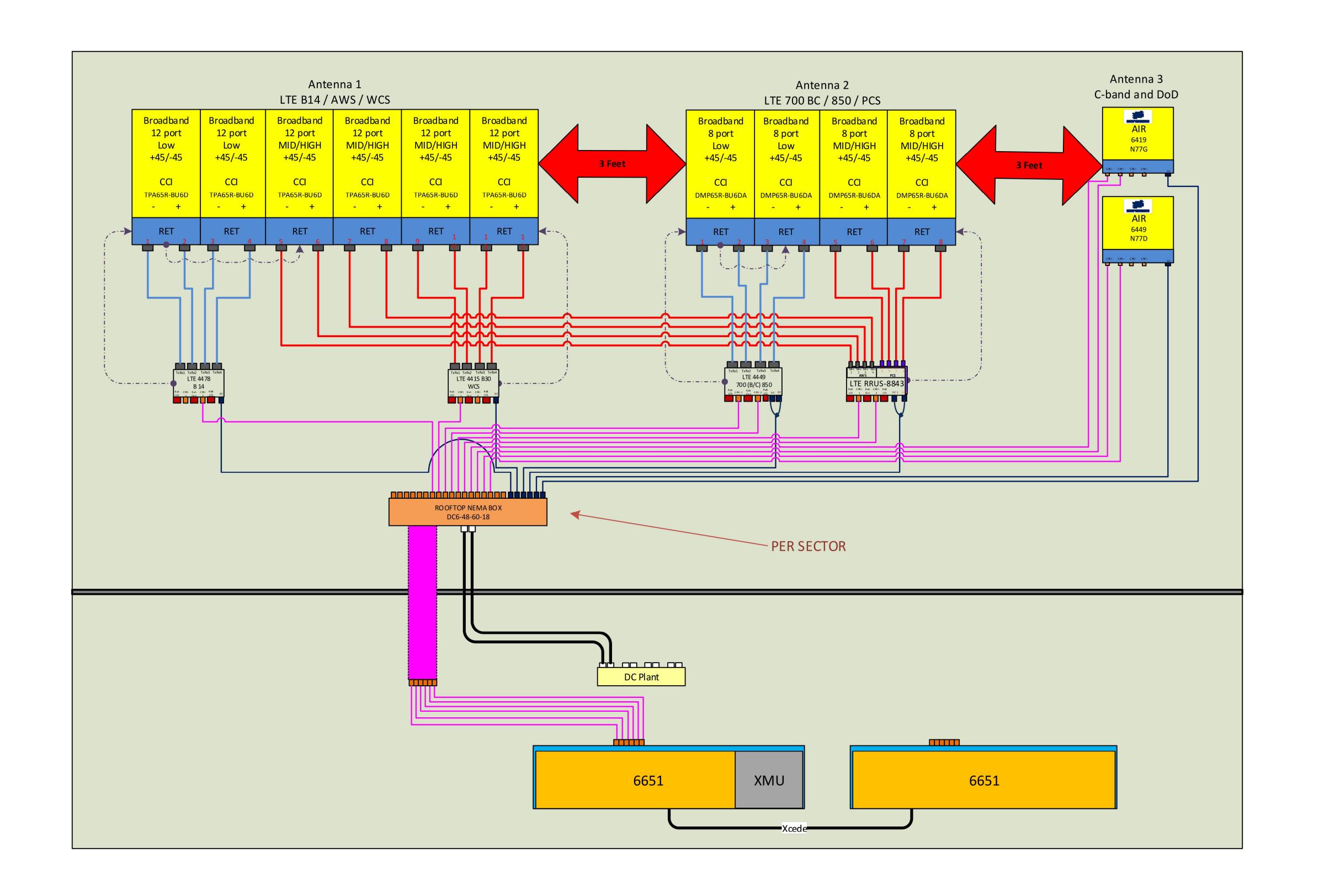
ALPHA SECTOR PLUMBING DIAGRAM

E03

SHEET NUMBER:

REVISION:

3



BETA SECTOR PLUMBING DIAGRAM





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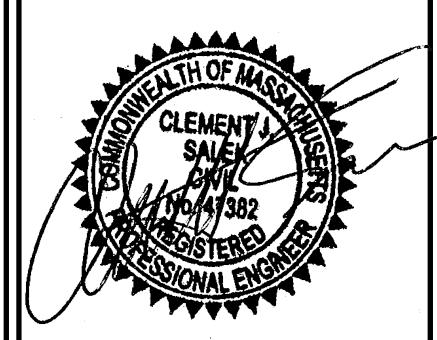
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	3	05-01-23	CONSTRUCTION REVISED
	2	03-24-23	CONSTRUCTION REVISED
I	1	12-23-22	ISSUED FOR CONSTRUCTION
	0	10-11-22	ISSUED FOR REVIEW
	REV.	DATE	REVISION DESCRIPTION



MA3001 CAMBRIDGE

ENGINEER/LAND SURVEYOR

PROJECT INFORMATION:

402 RINDGE AVENUE CAMBRIDGE, MA 02139

DRAWN BY:
CMC
CHECKED BY:
JMT

SHEET TITLE:

BETA SECTOR
PLUMBING DIAGRAM

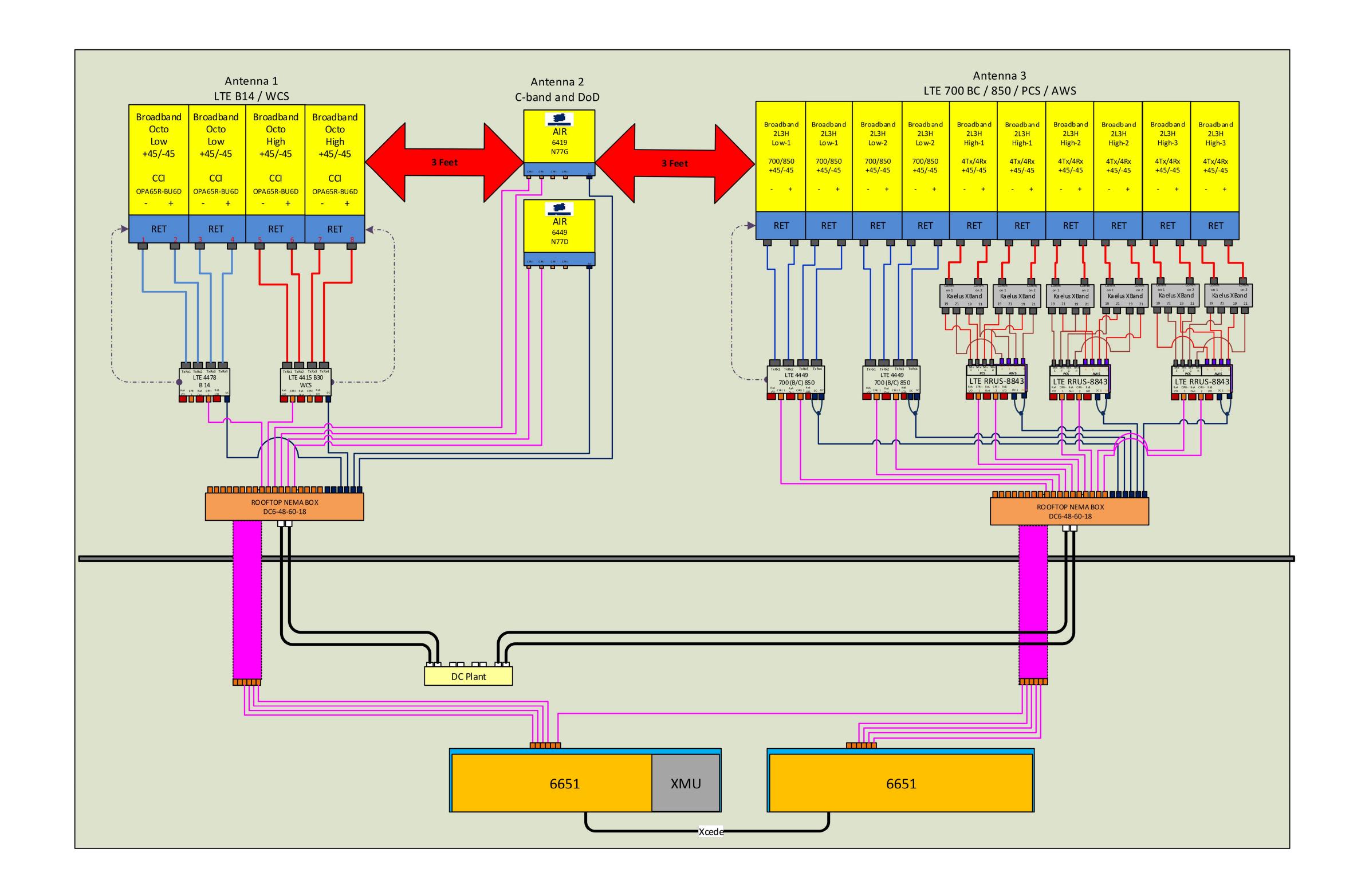
E04

SHEET NUMBER:

REVISION:

DATE

CEA JOB NO.: 1805.018



GAMMA SECTOR PLUMBING DIAGRAM 1





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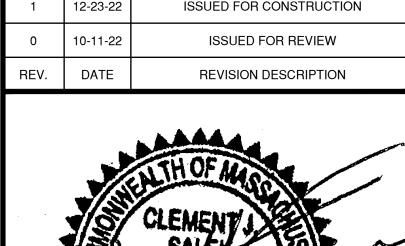
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2 03-24-23 CONSTRUCTION REVISED
1 12-23-22 ISSUED FOR CONSTRUCTION



CLEMENT J SAJESTERES SONAL ENGINEER

ENGINEER/LAND SURVEYOR
PROJECT INFORMATION:

MA3001 CAMBRIDGE

402 RINDGE AVENUE CAMBRIDGE, MA 02139

CMC CHECKED BY:

CMC JMT

SHEET TITLE:

GAMMA SECTOR PLUMBING DIAGRAM

E05

SHEET NUMBER:

DATE

3

REVISION:

Photographic Simulation Package

Proposed Wireless Telecommunications Facility:

MA3001 Cambridge 402 Rindge Avenue Cambridge, MA 02139

- Site photographs taken 2/9/23



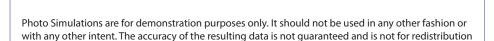
Virtual Site Simulations, LLC 24 Salt Pond Road Suite C3 South Kingstown, Rhode Island 02879

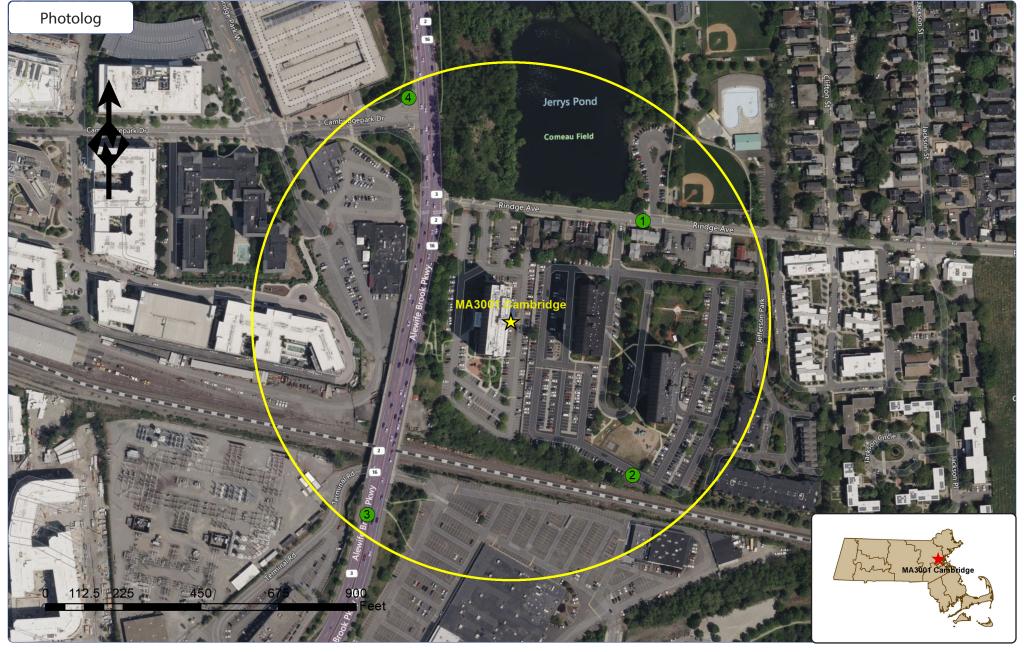
www.VirtualSiteSimulations.com www.ThinkVSSFirst.com











Wireless Telecommunications Facility:

MA3001 Cambridge 402 Rindge Avenue Cambridge, MA 02139 Legend:







Photo location - NOT visible

Photo Simulations are for demonstration purposes only. It should not be used in any other fashion or with any other intent. The accuracy of the resulting data is not guaranteed and is not for redistribution









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Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility342.39159-71.141280.13 MilesSouth-West38Year Round









Photo #Approximate LocationGps CoordinatesDistance to siteOrientationBearing to siteVisibility342.39159-71.141280.13 MilesSouth-West38Year Round









VSS







VSS





brownrudnick

Michael R. Dolan, Esq. direct dial: 401-276-2610 mdolan@brownrudnick.com

May 2, 2023

VIA FEDERAL EXPRESS

City of Cambridge Board of Zoning Appeal 831 Massachusetts Avenue Cambridge, MA 02139

RE: Request of New Cingular Wireless PCS, LLC ("AT&T") for Administrative Review of an Eligible Facilities Request to Install Transmission Equipment on the existing 196' 2" above ground level ("AGL") building (the "Building") located at 402 Rindge Avenue, Cambridge MA 02139 (Assessor's Parcel Identification Map 268B, Lot 45), pursuant to Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 (the "Spectrum Act") and Special Permit pursuant to: Article 4, Section 4.32.g.1; Article 4, Section 4.40 (Footnote 49); and Article 10, Section 10.40 of the City of Cambridge Zoning Ordinance; Massachusetts General Laws, Ch 40A, Section 9; the Telecommunications Act of 1996 (the "TCA"), and the Spectrum Act, all rights reserved.

Dear Honorable Members of the Cambridge Board of Zoning Appeal:

On behalf of AT&T, while reserving all rights, we are pleased to submit this Eligible Facilities Request and Special Permit Application (the "Application") to the City of Cambridge Board of Zoning Appeals (the "Board") in support of AT&T's request to add and modify Transmission Equipment on the existing Building located at 402 Rindge Avenue, Cambridge, MA 02139 (Assessor's Parcel Identification Map 268B, Lot 45) (the "Site"). Capitalized terms not defined herein shall have the same meaning as provided in the Spectrum Act and Regulations (defined below).

As noted on the attached plans (the "Plans"), the Building is owned by Rindge Tower Apartments, LLC. AT&T currently has an existing wireless antenna facility on the roof of the Building. On the rooftop there is also currently mounted the Transmission Equipment of another wireless communications services provider (Sprint/TMobile). As shown in the plans, AT&T is proposing to add and relocate certain equipment, antennas and cabling on the roof of the Building so as to improve the RF signal transmission for AT&T customers in this area of Cambridge (the antenna facility as improved pursuant to this application, collectively hereinafter referred to as the "Facility").

In particular, AT&T is proposing to add and relocate the following:

1. Move the 2 existing gamma sector antennas from the upper rooftop penthouse to the westerly edge of the rooftop inside 2 RF-friendly faux chimneys/flues and also install



Cambridge Board of Zoning Appeal May 2, 2023 Page 2

a new third gamma sector antenna next to the aforementioned 2 relocated antennas and within the same style RF-friendly faux chimney/flue. The top height of the faux chimneys/flues will be 203' 2" and they will be painted to match the color of the building and penthouses. AT&T is also proposing to relocate the existing 3 gamma sector radios and add 3 radios all next to the new gamma antennas, all as more particularly shown on the plans.

- 2. Add 2 new antennas below the existing 2 beta sector antennas on the southerly penthouse façade and paint the antennas to match the penthouse. The centerline heights of the 2 new antennas will be 192' 5" and 188' 5", respectively.
- 3. Add 2 new antennas above the existing 2 alpha sector antennas on the northerly penthouse façade and paint the antennas to match the penthouse. The centerline heights of the 2 new antennas will be 200' 5" and 196' 3", respectively.

AT&T's Facility will comply with all applicable terms and conditions of the Cambridge Zoning Ordinance (the "Ordinance"). As the proposed antennas of the Facility and related stealth chimneys/flues will be painted to match the portion of the Building to which they are mounted, there will be no undue adverse impacts upon historic resources, scenic views, residential property values or man-made resources and the aesthetic qualities of the City of Cambridge are preserved. The Facility will be passive in nature and will not generate unreasonable noise, odors, smoke, waste, or significant amounts of traffic. This is an unmanned facility and will not have negative effects upon adjoining lots. The Facility will comply with all applicable federal, state and local laws, regulations and guidelines, including applicable radio frequency emissions standards.

AT&T, while reserving all rights, respectfully requests, to the extent necessary, that a special permit be granted so that the antennas may be installed consistent with the Plans submitted herewith.

ELIGIBLE FACILITIES REQUEST

On behalf of AT&T, while reserving all rights, we seek approval of the modified facility as depicted on the Plans as an Eligible Facilities Request. As you may know, Section 6409(a) of the "Spectrum Act" (copy attached) mandates that state and local governments "may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." [emphasis added]. Under Section 6409(a)(2)(A)-(C), an Eligible Facilities Request is any request to modify a Tower or Base Station that involves "collocations of new Transmission Equipment," "removal," or "replacement" of Transmission Equipment.

Federal law now preempts many of the permit application requirements that the City of Cambridge may previously have required from an applicant and provides for a limited, administrative review of AT&T's Eligible Facilities Request application. This Eligible Facilities



Cambridge Board of Zoning Appeal May 2, 2023 Page 3

Request involves an effort to collocate, remove, modify, or replace Transmission Equipment (as referenced previously) on an existing Building used by an FCC licensed wireless carrier. The existing Building is a Structure that is 196' 2" AGL supporting wireless Transmission Equipment. AT&T seeks administrative approval for the proposed equipment which is clearly an Eligible Facilities Request which does not substantially change the physical dimensions of the Building pursuant to Section 6409 of the Spectrum Act.

The equipment identified on the Plans submitted as part of this Eligible Facilities Request application that will be collocated is Transmission Equipment pursuant to the FCC definition. The FCC has defined Transmission Equipment as "any equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas and other relevant equipment associated with and necessary to their operation, including coaxial or fiber-optic cable, and regular and back-up power supply. This definition includes equipment used in any technological configuration associated with any Commission-authorized wireless transmission, licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband."

As you may also know, the FCC adopted a Report and Order, In re: Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, FCC Docket No.13-238, Report and Order No. 14-153 (October 17, 2014) Final Rule codified at 47 CFR Parts 1 and 17 promulgating regulations (the "Regulations") interpreting and implementing the provisions of the Spectrum Act, which Regulations became effective on April 8, 2015 (with certain provisions effective on May 18, 2015). The Regulations determined that any modification to a Base Station, that meets the following six criteria does not substantially change the physical dimensions of the existing Building and, therefore, is an Eligible Facilities Request which must be granted:

- 1. The modifications do not increase the height of the Building by more than ten feet (10') from an existing antenna array or ten percent (10%), whichever is greater.
- 2. The modifications do not protrude from the edge of the Building by more than six feet (6').
- 3. The modifications do not involve the installation of more than the standard number of equipment cabinets for the technology involved, not to exceed four.
- 4. The modifications do not entail any excavation or deployment outside of the Site.
- 5. The modifications do not defeat any existing concealment elements of the Base Station.
- 6. The modifications comply with prior conditions of approval of the Base Station, unless the non-compliance is due to an increase in height, increase in width, addition



of equipment cabinets, or new excavation that does not exceed the corresponding "substantial change" thresholds in numbers 1-4 above.

As evidenced on the Plans, this Eligible Facilities Request satisfies each of the six review criteria enumerated by the FCC in the Regulations. In accordance with the Spectrum Act and the Regulations, AT&T's proposed equipment will not increase the height of the Building nor protrude from the edge of the Building by more than six feet (6'). AT&T does not propose excavating outside of the Site and is not adding more than the standard number of equipment cabinets. Lastly, AT&T's proposed equipment will not defeat any concealment elements because the antennas will be either mounted in a similar fashion as the existing antennas or will be located in faux chimneys/flues and painted to match the Building and mostly invisible from the ground. AT&T's proposed Transmission Equipment at the Building contained in this Eligible Facilities Request fully conforms to Section 6409(a) of the Spectrum Act.

While the Ordinance may provide that a special permit or other zoning relief is required for modifications and colocations, such a discretionary process is contrary to the guidance issued by the FCC in its Public Notice (the "Public Notice") dated January 25, 2013 and the Massachusetts Office of the Attorney General (the "Attorney General") in response letters to municipalities granting approvals of bylaw amendments.

In its Public Notice, the FCC determined that the relevant government entity may require the filing of an application for "administrative approval" only. Additionally, pursuant to Section 1.40001(c)(1) of the Regulations, "when an applicant asserts in writing that a request for a modification is covered by this section, a State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section." The Regulations provide that applicants are not required to justify a need for the facility. Further, the Regulations also require that local governmental approvals must be granted for eligible facilities requests within 60 days of the date that the application is submitted. Clearly, this review may not be subject to a discretionary special permit process with the associated public hearing and appeal period provisions. Likewise, the Attorney General has issued a number of letters to municipalities reflecting that same opinion and warning municipalities that such qualifying requests under Section 6409 cannot be subject to a discretionary special permit process. We are confident that you will agree that AT&T's proposed equipment does not substantially change the physical dimensions of the Eligible Support Structure or Base Station at the Site, as enumerated in the Regulations.

SPECIAL PERMIT

10.43 Criteria.

Special permits will normally be granted where specific provisions of this Ordinance are met, except when particulars of the location or use, not generally true of the district or of



the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:

(a) It appears that requirements of this Ordinance cannot or will not be met, or

AT&T's Facility will comply with all applicable sections of the Ordinance as the modified Facility will not increase the height of the Building, and the antennas and camouflaging elements will be painted to match the color of the Building surface to which they are attached.

(b) traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character, or

AT&T's Facility will not result in any substantial change in the character of the neighborhood as there will be no significant increase in the amount of traffic to and from the Site, or any changes to existing patterns of access or egress to the Site. Trips to and from the Facility will average one or two per month by maintenance personnel who will park their SUV in the existing parking area on Site and not on the street.

(c) the continued operation of or the development of adjacent uses as permitted in the Zoning Ordinance would be adversely affected by the nature of the proposed use, or

The continued operation of or the development of adjacent uses will not be adversely affected by AT&T's equipment because AT&T's Facility will be a passive use and will not produce any smoke, odors, waste, glare, dust, or unreasonable amounts of traffic.

(d) nuisance or hazard would be created to the detriment of the health, safety and/or welfare of the occupant of the proposed use or the citizens of the City, or

AT&T's Facility will not result in any nuisance or hazard to the detriment of the health, safety, or welfare of the citizens of the City because AT&T's facility will be a passive use and will not produce any smoke, odors, waste, glare, dust, or unreasonable amounts of traffic. As evidenced by the MPE Study submitted herewith, AT&T's Facility will comply with all applicable regulations and guidelines pertaining to radio frequency emissions.

(e) for other reasons, the proposed use would impair the integrity of the district or adjoining district, or otherwise derogate from the intent and purpose of this Ordinance, and



The proposed Facility will be in harmony with the purposes of the Ordinance because by collocating a wireless facility on an existing Building in a manner which does not increase the height of the Building or expand its footprint, potential visual impacts are minimized. Also, the proposed Facility will not produce any smoke, odors, waste, glare or significant amounts of traffic. The Facility will have no negative impact on natural or undeveloped areas, wildlife, flora or endangered species. Consistent with the Ordinance, the Facility will function as a wireless communications services facility within a local, regional, and national communications system. This system operates under licenses from the FCC, and AT&T is mandated and authorized to provide adequate service to the general public. The proposed Facility will comply with all applicable regulations, standards and guidelines with respect to radiofrequency emissions.

The Facility will benefit those living and working in, and traveling through, the area by providing enhanced wireless telecommunication services. The Facility will not adversely impact adjacent properties and neighborhoods as the Facility will be located on an existing Building. The collocation of the facility will not be a threat to public health, safety and welfare. In fact, Applicant submits that the facility aids in public safety by providing and improving wireless communications services to the residents, businesses, commuters, and emergency personnel utilizing wireless communications in the immediate vicinity and along the nearby roads. Consistent with the Ordinance, the Facility will function as a wireless communications services facility within a local, regional, and national communications system. This system operates under license from the FCC, and AT&T is mandated and authorized to provide adequate service to the general public. The Facility will not generate any objectionable noise, odor, fumes, glare, smoke, or dust or require additional lighting or signage. The Facility will have no negative impact on property values in the area. This is an unmanned Facility and will have minimal negative effect on the adjoining lots.

(f) the new use or building construction is inconsistent with the Urban Design Objectives set forth in Section 19.30.

AT&T's Facility will not be inconsistent with the Citywide Urban Design Objectives of Section 19.30 of the Ordinance because AT&T's Facility will not result in an increase in the height of the Building or any alteration of existing setbacks on the Site. AT&T's equipment will not result in any significant increase in traffic to or from the Site and will not adversely impact upon pedestrians or bicyclists and, as AT&T's Facility will continue to be unmanned, it will have no impact on parking on Site or the surrounding area. AT&T's antennas and related improvements will be camouflaged and painted to match. AT&T's Facility will not produce any waste and noise levels on Site will not increase as a result of AT&T's Facility, nor will there be any additional exterior lighting as a result of AT&T's Facility.



AT&T's Facility will operate using standard electric and telephone services. As the Facility will be unmanned, it will require no water or sewer services, and City infrastructure will not be overburdened.

4.40 (49)(3)

Where it is proposed to erect such a facility in any residential zoning district, the extent to which there is a demonstrated public need for the facility at the proposed locations, the existence of alternative, functionally suitable sites in nonresidential locations, the existence of alternative, functionally suitable sites in nonresidential locations, the character of the prevailing uses in the area, and the prevalence of other, existing mechanical systems and equipment carried on or above the roof of nearby structures. The Board of Zoning Appeal shall grant a special permit to erect such a facility in a residential zoning district only upon a finding that nonresidential uses predominate in the vicinity of the proposed facility's location and that the telecommunication facility is not inconsistent with the character that does prevail in the surrounding neighborhood.

AT&T proposes improvements and modifications to its existing antenna facility at the Site. AT&T proposes the Facility so that it will continue to fill a significant gap in coverage and provide adequate wireless communications services coverage to this part of the City of Cambridge. The use will be passive in nature, producing no unreasonable noise, smoke odor, waste, or glare. There will be no significant increase in the amount of traffic to and from the Site as maintenance visits will average one or two per month.

THE TELECOMMUNICATIONS ACT OF 1996 - THE TCA

The Federal TCA provides that: no laws or actions by any local government or planning or zoning board may prohibit, or have the effect of prohibiting, the placement, construction, or modification of communications towers, antennas, or other wireless facilities in any particular geographic area, see 47 U.S.C. §332(c)(7)(B)(i); local government or planning or zoning boards may not unreasonably discriminate among providers of functionally equivalent services, see 47 U.S.C. §332(c)(7)(B)(i); health concerns may not be considered so long as the emissions comply with the applicable standards of the FCC, see 47 U.S.C. §332(c)(7)(B)(iv); and, decisions must be rendered within a reasonable period of time, see 47 U.S.C. §332(c)(7)(B)(ii) and the FCC's Declaratory Ruling commonly referred to as the "Shot Clock".

CONCLUSION

AT&T is committed to working cooperatively with the City of Cambridge, and all jurisdictions around the country, to secure expeditious approval of requests to install personal wireless service facilities. We respectfully request that the Board review AT&T's proposed Facility and determine that the installation does not "substantially change the physical dimensions of the Base Station" pursuant to Section 6409 of the Spectrum Act, or in the



alternative, to the extent necessary, grant a special permit pursuant to: Article 4, Section 4.32.g.1; Article 4, Section 4.40 (Footnote 49); and Article 10, Section 10.40 of the City of Cambridge Zoning Ordinance; Massachusetts General Laws, Ch 40A, Section 9; the TCA, all rights reserved.

AT&T respectfully requests that the Board approve this Eligible Facilities Request, or in the alternative, all rights reserved, a Special Permit. Please do not hesitate to contact me should there be any questions.

Respectfully,

BROWN RUDNICK LLP

Michael R. Dolan (jed)
Michael R. Dolan, Esq.

64972709 v1-WorkSiteUS-024519/1704



ATTACHMENTS

- 1. Application Form
- 2. Letter of Authorization Notarized Owner Information Form
- 3. FCC Licenses
- 4. Block Map
- 5. Photographs
- 6. Plans
- 7. Structural Report
- 8. MPE Study
- 9. FCC Regulations
- 10. FCC Public Notice
- 11. Representative Letter from the Attorney General



47 USC 1455

Middle Class Tax Relief and Job Creation Act of 2012

SEC. 6409. WIRELESS FACILITIES DEPLOYMENT

- (a) FACILITY MODIFICATION.—
- (1) IN GENERAL.—Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.
- (2) ELIGIBLE FACILITIES REQUEST.—For purposes this subsection, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves –
- (A) collocation of new transmission equipment;
- (B) removal of transmission equipment; or
- (C) replacement of transmission equipment.
- (3) APPLICABILITY OF ENVIRONMENTAL LAWS. Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.



ADDENDUM "A"

The Regulations provide that "substantial change" means a modification that changes the physical dimensions of an eligible support structure that meets any of the following criteria. Included below are comments in bold to demonstrate that the proposed facility is NOT a substantial change.

For Base Stations, the modification increases the height of the structure by more than 10% or more than ten (10) feet, whichever is greater;

As depicted on the Plans, AT&T's proposed equipment will not increase the height of the Building.

For Base Stations, the modification involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure by more than six (6) feet;

As depicted on the Plans, AT&T's Transmission Equipment will not protrude from the edge of the Building more six (6) feet.

For any eligible support structure, the modification involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets;

As depicted on the Plans, AT&T does not propose to add four cabinets as a part of this project.

The modification entails any excavation or deployment outside the current site;

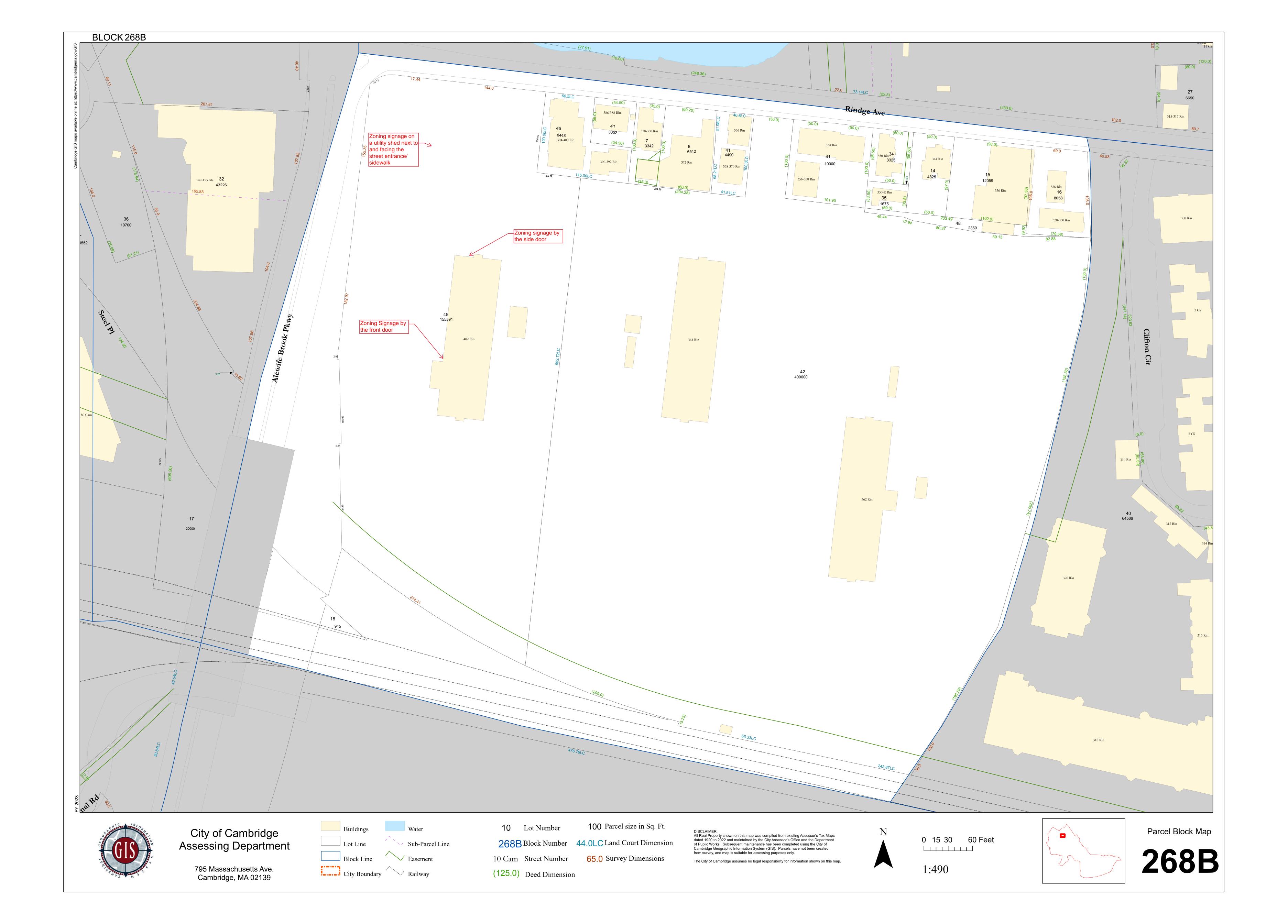
AT&T does not propose any excavation or deployment outside the current site.

The modification would defeat the concealment elements of the tower; or

As depicted on the Plans, AT&T's modification will be substantially similar to the existing transmission equipment on the Building and will be painted to match.

The modification does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in § 1.40001(b)(7)(i) through (iv).

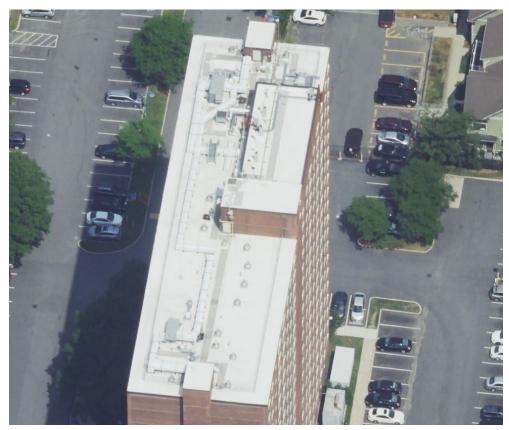
AT&T is not aware of any noncompliance and respectfully asserts that the proposed modifications are consistent with all applicable terms of prior approvals for the wireless facility.





550 Cochituate Road Suite 13 Framingham, MA 01701

STRUCTURAL ANALYSIS RINDGE AVE - SITE No. MA3001



Address:

402 RINDGE AVENUE

CAMBRIDGE, MA 02139

Date:

March 21, 2023





Civil · Structural · Land Surveying



March 21, 2023

Centerline Communications 750 West Center Street, Suite 301 West Bridgewater, MA 02379

Reference: AT&T Site: MA3001

Rindge Avenue 402 Rindge Avenue Cambridge, MA 02139

Dear Sirs:

Chappell Engineering Associates, LLC has performed a structural analysis of the proposed relocation of the existing *gamma* sector antennas currently mounted to the upper penthouse face. In order to increase the signal performance of the *gamma* sector, AT&T proposes to relocate the existing antenna sector to anchored antenna flues to support the proposed antennas and the existing in-service re-located antennas.

Existing Conditions:

The existing building is a 22-story residential structure with poured concrete 2-way slab/column structural system. The proposed AT&T gamma sector flue assemblies (three total), existing equipment cabinets, panel antennas and remote radio units are part of an integrated telecommunications facility servicing RF transmission and receptor antennas located on the roof of the existing building.

Proposed Work:

AT&T proposes to install a total of six (6) panel antennas (2 antennas per sector, total of 3 sectors) to the existing inservice *alpha*, *beta* and *gamma* sector antennas. The existing *alpha* and *beta* sector antennas are located on the northerly and southerly (respectively) faces of the existing building. The proposed antennas for *alpha* and *beta* sectors will be located adjacent to the existing in-service antennas. For enhanced performance, the existing *gamma* sector antennas will be re-located to a series of three flue assemblies secured to the roof of the existing building. The 2 proposed *gamma* sectors antennas will be located within the antenna flue structures. Our construction drawings are included in this analysis for reference and contain all necessary information to install the proposed antennas and re-locate the existing in-service antennas to the proposed anchored flue assemblies.

Based upon our analysis of the proposed AT&T installation, the information obtained in the existing building drawings, and the magnitude of the anticipated loads, we consider the existing structure adequate to support the proposed AT&T installation as shown on our construction drawings.

If you have any questions regarding this matter, please do not hesitate to call.

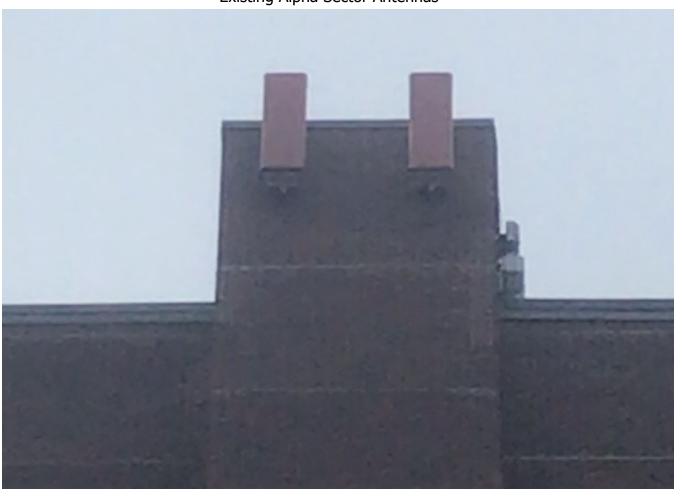
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CIVIL
No. 47382

Clement J Salek, P.E.

CJS/cjs

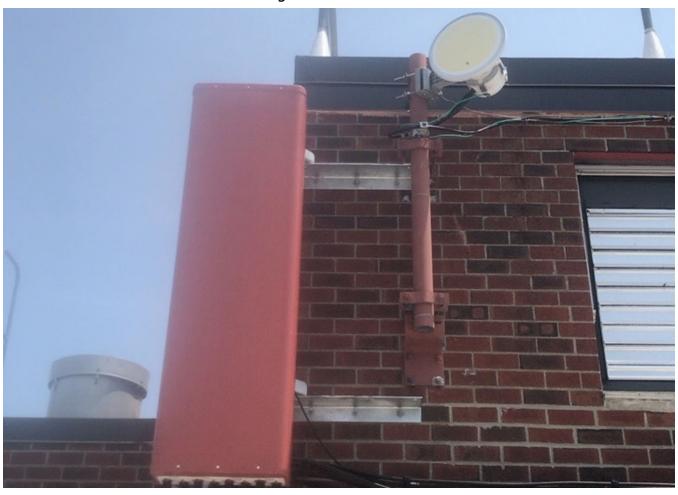


Existing Alpha Sector Antennas



Existing Beta Sector Antennas





Existing Gamma Sector Antennas

CODE COMPLIANCE

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

- MASSACHUSETTS STATE BUILDING CODE 780 CMR (9TH EDITION)
- 2017 NATIONAL ELECTRICAL CODE
- 2012 NFPA 101 LIFE SAFETY CODE
- 2012 NFPA 1 FIRE CODE
- AMERICAN CONCRETE INSTITUTE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- MANUAL OF STEEL CONSTRUCTION 13TH EDITION

- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEER 81
- · IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION
- TELECORDIA GR-1275

ANSI/T 311

ZONING:

TOR MY 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 DETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.



SITE NUMBER: MA3001 FA LOCATION CODE: 15630860 SITE NAME: CAMBRIDGE **402 RINDGE AVENUE CAMBRIDGE, MA 02139** MIDDLESEX COUNTY

PROJECT TEAM

JEFF DELLICOLLI
CENTERLINE COMMUNICATIONS
95 RYAN DRIVE, SUITE 1
RAYNHAM, MA 02767
(603) 560-5020
jdelicoli@clinellc.com CLIENT REPRESENTATIVE:

SITE ACQUISITION:

JENNILLE SMITH
CENTERLINE COMMUNICATIONS
750 W. CENTER STREET, FLOOR 3
WEST BRIDGEWATER, MA 02379 (774) 409-5807 jsmith@clinellc.com

JENNILLE SMITH
CENTERLINE COMMUNICATIONS
750 W. CENTER STREET, FLOOR 3
WEST BRIDGEWATER, MA 02379

(774) 409-5807 jsmith@clinellc.com

CHAPPELL ENGINEERING ASSOCIATES LLC ENGINEED MARLBOROUGH, MA 01752 (508) 481-7400

RF ENGINEER: RADU ALECSANDRU HADU ALECSANDHU AT&T MOBILITY - NEW ENGLAND 550 COCHITUATE RD, SUITES 13 & 14 FRAMINGTON, MA 01701

CONSTRUCTION MANAGER:

EMPIRE TELECOM 1150 FIRST AVENUE, SUITE 600 KING OF PRUSSIA, PA 19406

PACE NUMBER

SITE INFORMATION

APPLICANT/LESSEE at&t

NEW CINGULAR WIRELESS PCS, LLC. 550 COCHITUATE ROAD, SUITES 13 & 14 FRAMINGHAM, MA 01701

PROPERTY OWNER RINDGE TOWERS APARTMENTS LLC 1035 CAMBRIDGE STREET #12 CAMBRIDGE, MA 02141

402 RINDGE AVENUE CAMBRIDGE, MA 0213 SITE ADDRESS: PARCEL ID: MAP 268B LOT 45 LATITUDE: 42 393100° (NAD 83)

LONGITUDE: -71.139700° (NAD 83) 211'-7"± AGL ZONING JURISDICTION: CITY OF CAMBRIDGE

ZONING DISTRICT: DESIDENCE C-2 EXISTING/PROPOSED LISE UNMANNED TELECOMMUNICATION

MRCTB066609 MRCTB066606 MRCTB066604 MRCTB066607

VICINITY MAP Fresh Pond

GENERAL LOCATION MAP

DRIVING DIRECTIONS

T TO SCALE AGE SOURCE: GOOGLE MAPS / BING

LEGAL DESCRIPTION

ASSESSORS PARCEL NUMBER: MAP 268B LOT 45

NOT TO SCALE IMAGE SOURCE: USGS TOPOGRAPHIC DATA

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS RECUIRED FOR ROUTINE A MANTEMANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE: NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS RECUIRED AND NO DMMERCIAL SIGNAGE IS PROPOSED.

	RF INFO	RMAT	ION
	GSM		LTE
Tx	869 - 874.6 MHz 890 - 891.4 MHz 1950 - 1952.8 MHz 1970 - 1980 MHz		874.6 - 879.6 MHz 1945 - 1950 MHz
Rx	824 - 829.4 MHz 845 - 846.4 MHz 1870 - 1872.8 MHz 1890 - 1900 MHz		829.6 - 834.4 MHz 1865 - 1869.8 MHz
	MAX ERP:		z: 54 WATTS dz: 54.5 WATTS

UNDERGROUND SERVICE ALERT



AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS & AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW & MAY IMPOSE CHANGES OR MODIFICATION.

DISCIPLINE	SIGNATURE	DATE
CENTERLINE SITE ACQUISITION:		
SMARTLINK CONSTRUCTION MANAGER:		
AT&T PROJECT MANAGER:		

GENERAL CONTRACTOR NOTES

DO NOT SCALE DRAWINGS
CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON
THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECTENGINEER IN WRITING OF
ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK OR BE RESPONSIBLE FOR SAME.

CONTRACTOR SHALL BE REQUIRED TO SCHEDULE AND COORDINATE CONSTRUCTION WIT GIGWD (OWNER) AND SIMON OPERATION SERVICES (OPERATOR) TO LIMIT DISTURBANCE, MAINTAIN ACCESS AND RESTORE THE SITE TO AT LEASE ITS EXISTING CONDITION AT THE OF THE PROJECT.

PROJECT DESCRIPTION

OWER TOP EQUIPMENT TO INCLUDE:

- NEW FAUX FLUES: TOTAL OF (3)
- ALPHA & BETA SECTORS: (2) ANTENNAS PER SECTOR, TOTAL OF (4) ANTENNAS
- GAMMA SECTOR: (3) ANTENNAS TO REPLACE (2) ANTENNAS REMOVAL OF RADIOS: (1) RADIO PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (3)
- RADIOS RELOCATION OF EXISTING GAMMA SECTOR RADIOS
- GAMMA SECTOR: (3) RADIOS
- GROUND EQUIPMENT TO INCLUDE

 NEW RADIO EQUIPMENT WITHIN EXISTING EQUIPMENT CABINETS

DRAWING INDEX

TITLE SHEET
SPECIFICATIONS
GENERAL REQUIREMENTS, LEGEND & ABBREVIATIONS
GENERAL SIGNAGE DETAILS
ROOF PLAN
BUILDING ELEVATION
ANTENNA PLANS
ANTENNA DETAILS
EQUIPMENT PLANS & DETAILS
ANTENNA & RADIO MOUNTING DETAILS
FAUX FLUE DETAILS
FAUX FLUE PIPE MOUNT DETAILS
ELECTRICAL DIAGRAMS, DETAILS & NOTES
GROUNDING DIAGRAM, DETAILS & NOTES
·





AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



R.K. EXECUTIVE CENTRE 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752 TEL: (508) 481-7400 FAX: (508) 481-7406

THE INFORMATION CONTAINED IN THIS SET OF DRAWING IS PROPRIETARY & CONFIDENTIAL TO AT&T WIRELESS

ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO AT&T WIRELESS IS STRICTLY PROHIBITED

2	03-10-23	CONSTRUCTION REVISED
1	12-23-22	ISSUED FOR CONSTRUCTION
0	10-11-22	ISSUED FOR REVIEW
REV.	DATE	REVISION DESCRIPTION



MA3001 CAMBRIDGE

402 RINDGE AVENUE CAMBRIDGE MA 02139

CMC

TITLE SHEET

T01

GENERAL CONSTRUCTION NOTES:

FOR THE PURPOSE OF CONSTRUCTION DRAWINGS. THE FOLLOWING DEFINITIONS SHALL

GENERAL CONTRACTOR LIBCONTRACTOR - CONTRACTOR (CONSTRUCTION) OWNER - AT&T

- ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T
- CIFICATIONS.
 NTRACTOR AND SUBCONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND PARILUMEZE RINGSELY SINT ALL COMUNITATIONS APPECTIVES IN THE PROFUSED WORN AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH ALL CONTRACT DOCUMENTS, REIC CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORN MAY BE ACCOMPLISHED SHOWN PRIGHT OF PROFICE SHOWN PRIGHT OF THE WORN MAY BE ACCOMPLISHED. SHOWN PRIGHT OF PROFUSED SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECTEVEN GRIEGEEP RIPORT OF THE ARCHITECTEVEN GRIEGE RIPORT OF THE ARCHITECTEVEN GRIEGEEP RIPORT OF THE ARCHITECTEVEN GRIEGEEP RIPORT OF THE ARCHITECTEVEN GRIEGEEP RIPORT OF THE THE ARCHITECTEVEN GRIEGEEP RIPORT OF THE ARCHITECTEVEN GRIEGE RIPORT OF THE ARCHITECTEVEN GRIEGE RI COMMENCEMENT OF WORK.
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 ISSUE ALLA PPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES,
 REGULATIONS, AND LAWPIL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE
- PERFORMANCE OF WORK.
 ALL WORK CARPILEO OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY
 COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND
 APPLICABLE REGULATIONS.
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- UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE PURISISHING MATERIALS, ECIDIMENT, APPLITAMANCES, AND LOBER RESEASON TO COMPLETE ALL PLANT OF THE PROPERTY OF TH REQUIRED CLEARANCE. THEREFORE, IT IS CHITCAL TO FIELD VEHEV DIMENSIONS.

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 GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES
- WITH OTHER DISCIPLINE.

 12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWMING.
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- 23 ALL EXISTING INACTIVE SEWER, WATER, CAS, ELECTRIC, AND OTHER UTILITIES, WHICH METERFER WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPE, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT STREET WITH THE EXECUTION OF THE WORK AS DISCOVED OF THE RESPONSIBLE MONITECTIONNINEER. PLUCIFICATION OF THE WORK AS DISCOVED OF THE WORK AS DISCOVED OF THE WORK AND OTHER WORK AS THE WORK AS THE

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 7. THE PROPOSED FACILITY WILL BE UNMANINED AND DOCS NOT REQUIRE POTABLE WATER OR SEVEN SERVICE, AND IS NOT FOR HUMAN HORIZON FOR OWNER, OF THE STATE OF THE PROPERTY OF THE PROFIT OF THE PROFI
- OF SURVIVE AND AND A STATE OF PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY ATAT TECHNICIANS.

 14. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.

- 95 ALL MATERIAL SHALL BE ELIDNISHED AND WORK SHALL BE DEDECOMED IN ACCORDANCE ON OF AT&T MOBILITY GROUN WITH THE LATEST REVISION OF ATAT MOBILITY GROUNDING STANDARD TECHNICAL.
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- BASIS.

 37.INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENSINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

 38.NO WHITE STROBE LIGHTS ARE PERMITTED. ANY REQUIRED LIGHTING MUST MEET FAA.
- 39.ALL COAXIAL CABLE INSTALLATIONS TO FOLLOW MANUFACTURER'S INSTRUCTIONS AND
- RECOMMENDATIONS.

 40.NO SIGNIFICANT NOISE, SMOKE, DUST OR VIBRATIONS WILL RESULT FROM THIS FACILITY. 40.NO SIGNIFICANT NOISE, SMORE, DUST ON VIDENTIONS WILL RESULT FROM THIS PACELTY. (DISRECARD THIS NOTE IF THIS SITE HAS A GENERATOR) 41. NO ADDITIONAL PARKING TO BE PROPOSED, EXISTING ACCESS AND PARKING TO REMAIN, INLESS NOTED OTHERWISE. 42.NO LANDSCAPING IS PROPOSED AT THIS SITE, UNLESS NOTED OTHERWISE.

- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ANYALL ELECTRICAL WORK MODICATED, ANYALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWNIGS AND COMPLYING WITH THESE REQUIREMENTS, CONTRACTOR SHALL NOTIFY CONSTRUCTION MANAGER AS SOON AS POSSIBLE, AFTER THE DISCOVERY OF THE PROBLEMS, AND SHALL NOT PROCEED WITH THAT PORTION OF WORK LURTIL. THE CONSTRUCTION MANAGER HAS DIRECTED THE CORRECTION ACTIONS TO BE TAKEN.

 2 ELECTRICAL CONTRACTOR ACTIONS TO BE TAKEN.

 2 ELECTRICAL CONTRACTOR ACTIONS TO BE TAKEN.
- ANY/ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND ANYALI CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATION INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF, ALL ESTIMA CONDITIONS OF ELECTRICAL MAKE PROVIDED AS TO THE COST THEREOF, ALL ESTIMA CONDITIONS OF ELECTRICAL DEVICE OF THE CONTRACTOR, FROM TO THE SIMBITTING OF HIS BIG FAILURE TO COMPANIES AND THE SIMBITTING OF HIS BIG FAILURE TO COMPANIES AND THE LINE OF THE SIMBIT THIS OF HIS BIG FAILURE TO COMPANIES AND THE LINE OF THE SIMBIT THIS OF HIS BIG FAILURE TO COMPANIES AND THE PROPORTION OF THE SIMBIT THIS OF HIS BIG FAILURE TO THE COMPANIES AND THE PROPORTION OF THE NEC AND ALL COIDS AND LOCAL ORDINANCES FOR THE LOCAL POWER A TELEPHONE COMPANIES AND AUGUST AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT TELEPHONE COMPANIES AND AUGUST STATE OF THE LOCAL POWER AT THE POWER AUGUST STATE OF THE LOCAL POWER AT THE POWER AUGUST STATE OF THE LOCAL POWER AT THE POWER AUGUST STATE OF THE LOCAL POWER AT THE POWER AUGUST STATE OF THE LOCAL POWER AT THE POWER AUGUST STATE OF THE LOCAL POWER AT THE POWER AUGUST STATE OF THE LOCAL POWER AT THE POWER AUGUST STATE OF THE LOCAL POWER AUGUST STATE OF THE POWER AUGUST S
- - C NATIONAL FIRE CODES
 - UL UNDERWRITERS LABORATORIES
- . UL UNDERWHITERS DISOPRICHES
 NEC NATIONAL ELECTRICAL CODE
 NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOC.
 OSHA OCCUPATIONAL SAFETY AND HEALTH ACT
 SBC STANDARD BUILDING CODE
- DO NOT SCALE ELECTRICAL DRAWINGS; REFER TO SITE PLANS AND ELEVATIONS FOR EXACT LOCATIONS OF ALL EQUIPMENT, AND CONFIRM WITH 'CONSTRUCTION MANAGER' ANY SIZES AND LOCATIONS WERN RESEDE.
 EXISTING SERVICES: CONTRACTOR SHALL NOT INTERRUPT EXISTING SERVICES WITHOUT
 WRITTETERS.
- WHILLEN PERMISSION OF THE OWNER.

 6. CONTRACTOR SHALL PAY FOR ANY/ALL PERMITS, FEES, INSPECTIONS, AND TESTING.

 CONTRACTOR IS TO OBTAIN PERMITS AND APPROVED SUBMITTALS PRIOR TO THE WORK
- BEGINNING OR ORDERING EQUIPMENT ENTITY AND APPRAYED SUBMITTALS PRIGHT OT HE WORK.

 7. THE TERM PROVIDE VISIO IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.

 7. THE TERM PROVIDE VISIO IN CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.

 CONTRACTOR SHALL CONFIRM WITHOUT LOCAL UTILITY ORDER AND INSTALL.

 SUCH AS THE LUG SIZE RESTRICTIONS, CONQUIT ENTITY, SIZE OF TRANSFORMERS, SCHEDULED DOWNTHEF FOR THE OWNERS CONFIRMING IN. ETC. ANYALL COPPLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER, PRIOR TO BEGINNING ANY WORK.
- BEGINNING ANY WORK.

 B. MINIMUM WIRE SIZE SHALL BE #12 AWG, NOT INCLUDING CONTROL WIRING, UNLESS
- NOTED OTHERWISE. ALL CONDUCTORS SHALL BE COPPER WITH THWN INSULATION. 10. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASS CLASSIFIED AREAS.

 11 IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION. CONTRACTOR IS EXPECTED TO PURINSH AND INSTALL ALL TEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS FOR THE EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. ELECTRICAL SYSTEM SHALL BE AS COMPLETELY AND EFFECTIVELY GROUNDED, AS REQUIRED BY SPECIFICATIONS, SET FORTY BY ATAT.
- 13. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST
- CLASS, WORKMALIKE MANNELD BY A LICENSED ELECT HIGAL CONHACTOR IN A FIRST CLASS, WORKMANIKE MANNER. THE COMPLETE SYSTEM SHALL BE FULLY OPERATIVE AND SUBJECT TO REGULATORY INSPECTION & APPROVAL BY CONSTRUCTION MANAGER. A.LL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.
- THE PROGRESS OF CONSTRUCTION.

 IT CONTRACTOR SHALL GUARANTEE ANYALL MATERIALS AND WORK FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.

 If THE CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT MY ADDITIONAL CHARGE AND SHALL INCLIDE THE REPLACEMENT OR THE REPRAIR OF ANY OTHER PHASE OF THE INSTALLATION, WHICH MY HAVE BEEN DAMAGED THEREIN.
- OF THE INSTALLATION, WHICH MAY HAVE BEEN DAMAGED THEREIN.

 TA AREQUATE AND REQUIRED LUBBLITY INSURANCE SHALL BE PROVIDED FOR PROTECTION.

 TO THE PROVIDE AND INSTALL CONDUCTIONS AND AND ADDRESS AND A
- COMPACTION, REFER TO FOUNDATION, EXCAVATION, AND BACKFILLING NOTES
- COMPRISON REPORT TO POUNDATION, EXAMPLED AND BRACHER AND BRACHER OF SHALL BE NEW AND SHALL APPEAR ON THE LIST OF U.L. APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF THE NEW, DRINA, AND ICEC.

 21. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OR MANUFACTURERS CATALOG
- INFORMATION OF ANY/ALL LIGHTING FIXTURES, SWITCHES, AND ALL OTHER ELECTRICAL IREM FOR APPROVAL BY THE CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

 22.MY CUTTING OR PATCHING DEEMED NECESSARY FOR ELECTRICAL WORK IS THE
 ELECTRICAL CONTRACTORS RESPONSIBILITY AND SHALL BE INCLUDED IN THE COST FOR
 WORK AND PERFORMED TO THE SATISFACTION OF THE CONSTRUCTION MANAGER UPON
 BIMM_ACCEPTANCE.
- WORK AND PERFORMED TO THE SATISFACTION OF THE CONSTRUCTION MANAGER! THAN ACCEPTANCHITECTORS AND LABEL AN EXPELSE WITH ONLY TYPERHITTEN DEPOSIT OF THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

 24. DISCONNECT SWITCHES SHALL BE H.P. RATED HEAVY-DUTY, DUTCH ANDE AND QUICK-BRADE AND QUICK-BRADE KNOLLOUSER. SHE CREQUIED BY SEPONSUBET YIES.

- 24. DISCONMECT SWITCHES SHALL BE N.P. RATED HEAVY-DUTY, GUICK-MODE AND GUICK-BREAK PLOCKLOSURES. AS REQUIRED BY EXPOSITE TYPE.

 25. ALL CONNECTIONS SHALL BE MIDE WITH A PROTECTIVE COATING OF AN ANTI-OXDE COMPANION SUCH AS YOU OXDE OF BY PEARBORNE CHEMICAL CO. COAT ALL WIFE SURPICKES BEFORE CONNECTIVIA. EMPOSED DOPPER SURPIACES INCLUDING GROUND SURPICKES BEFORE CONNECTIVIA. EMPOSED DOPPER SURPIACES INCLUDING GROUND SURPIACE WITH A COMPANION OF SURPIACE SHALL BE AS A SURPIACE OF SURPIACE SHALL BE AS A SURPIACE OF SURPIACE SHALL BE AS A SURPIACE OF SURPIACE SHALL BE AS A MINIMAM OF 2 FT. RADIUS. RISS CONDUITS WHEN SPECIFIED, CONDUITS WHEN SHALL BE AS A MINIMAM OF 2 FT. RADIUS. RISS CONDUITS WHEN SPECIFIED, CONDUIT SWILL BE ASSESSED SHALL BE A MINIMAM OF 2 FT. RADIUS. RISS CONDUITS WHEN SPECIFIED SHALL BE A CONDUIT OF STATE AND SHALL BE STATE FOR USE SHALL BE AS A MINIMAM OF 2 FT. RADIUS. RISS CONDUITS WHEN SPECIFIED SHALL BE A FT. RADIUS. RISS CONDUITS WHEN SPECIFIED SHALL BE AS A MINIMAM OF 2 FT. RADIUS. RISS CONDUITS WHEN SPECIFIED SHALL BE ASSESSED SHALL BE SHALL BE FOR USE OF STATE SHALL BE ASSESSED.

- 98 CONDUCTORS: CONTRACTOR SHALL USE 98% CONDUCTIVITY CORRED WITH TYPE THAN INSULATION, 800 VOLT, COLOR CODED, USE SOLID CONDUCTORS FOR WIRE UP NCLUDING NO. 8 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 8 AWG
- INCLUDING NO. 3 AWG. USE STRANDED CONDUCTORS FOR WIRE ADOLY NO. 3 AWG.

 ZO CONNECTORS FOR POWER CONDUCTORS CONTRACTOR SHALL USE PRESUME TYPE
 INSULATED TWIST ON CONNECTORS FOR NO. 10 AWG AND SMALE USE SCLOERLESS
 RECONNEX. I TERMINAL LUSES FOR IN. 3 AWG AND SMALE USES SCLOERLESS
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 THE CONNECTOR SWALE AND LANGER AND LANGER AND LANGER FOR MILLITY
 COMPANY. OWNER OR OWNERS AGENT WILL APPLY FOR POWER.

 STELEPHONE SERVICE CONTRACTOR SMALL PROVICE BERY CONDUCTS WITH PULL
 STRINGS AS NOICATED ON DRAWINGS.

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- TAPE TO READ "CAUTION BURIED ELECTRIC" OR "BURIED TELECOMM."
 34.ALL BOLTS SHALL BE STAINLESS STEEL

GROUNDING NOTES:

- COMPRESSION CONNECTIONS (2), 2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE
- GROUNDING DAY ROUTE CONDUCTORS TO BURIED GROUNDING RISK AND PROVIDE

 GROUNDING THE CONDUCTORS TO BURIED GROUNDING RISK AND PROVIDE

 LOS SHALL BEF FERMINENT MARKET TO DRAW THE LINES BETWEEN EACH SECTION AND

 LABEL EACH SECTION (P. "A". "", "" "A" II" III II II I ETTERS.

 ALL HARDWINE HE STANILES STEEL, INCLUDING LOCK WISHERS, COAT ALL SURPACES

 WITH AN ANTI-CURDANT COMPOUNDE BETORE MATTING, ALL HARDWINE SHALL BE

 WITH AN ANTI-CURDANT COMPOUNDE BETORE MATTING, ALL HARDWINE SHALL BE

 AND STEEL COAT ALL SURPACES WITH AN ANTI-CURDANT COMPOUNDE BETORE MATTING

 AND STEEL, COAT ALL SURPACES WITH AN ANTI-CURDANT COMPOUNDE BETORE MATTING

 NOT A WASHER SHALL BEFLACED ON THE PRIORT SIZE OF THE GROUNDING BAR MO

- 5. NJT a Washels Synal, be praced on the First Saul.

 6. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATION, MOC CONNECTION ORIENTATION, PROVIDE AS REQUIRED.

 7. WHEN THE SCOPE OF WORN REQUIRES THE ADDITION OF A GROUNDING BAR TO AN EXISTING TOWER, THE SUBCONTRACTOR SYALL DEFINANT APPROVIAL FROM THE TOWER
- OWNER PRIOR TO MOUNTING THE GROUNDING BAR TO THE TOWER S. ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.

FOUNDATION, EXCAVATION, & BACKFILL NOTES:

- ALL FINAL GRADED SLOPES SHALL BE A MAXIMUM OF 3 HORIZONTAL TO 1 VERTICAL.

 ALL EXCAVATIONS PREPARED FOR PLACEMENT OF CONCRETE SHALL BE OF
 UNDISTURBED SOILS, SUBSTANTIALLY HORIZONTAL, AND FREE FROM ANY LOOSE,
 UNSUITABLE MATERIAL OR FROZEN SOILS, AND WITHOUT THE PRESENCE OF POUNDING WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED WHEN
- WATER, DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED WHEN REQUIRED. COMPACTION OF SOILS LINBER CONCRETE POP FOUNDATIONS SHALL NOT BE LESS THAN 89% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR THE SOIL IN ACCORDANCE WITH ASTM DISTO.

 THE WATER HAS THE STATE OF THE WATER OF THE SOIL OF THE STATE OF THE SOIL OF THE STATE OF THE SOIL OF THE STATE O
- BOTTOM OF THE EXCAVATION, ANY STORE SUB BASE MAILHAID, IT USED, SHALL NOT SUBSTITUTE FOR REQUIRED THICKNESS OF CONCRETE RETERIAL SUCH AS VEGETATION, 4. ALL EXCAVATIONS SHALL BE CLEAN OF HIS WISHTABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH PRIOR TO BACK FLIME, BACK FLI, SHALL CONSIST OF APPROVED MATERIALS SUCH AS EARTH, LOAM, SAMOY CLAY, SAND AND GRAVEL, OR SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OVER 7 12 MAX DIMENSIONS, ALL SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OVER 7 12 MAX DIMENSIONS, ALL SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OVER 7 12 MAX DIMENSIONS, ALL SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OVER 7 12 MAX DIMENSIONS, ALL SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OVER 7 12 MAX DIMENSIONS, ALL SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OVER 7 12 MAX DIMENSIONS, ALL SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OVER 7 12 MAX DIMENSIONS, ALL SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OVER 7 12 MAX DIMENSIONS, ALL SOFT SHALE, FREE FROM CLOSO OF LARGE STORES OF REPLACED OF THE STORES.
- SOFT SYNLE, FHEE PHUN CLUDS OF UNKELS STORES OFFER 2 1/2 MAY DIMERSIONS. ALL BACK FILL SHALL BE PLACED IN COMPACTED LAYER SHALL BE PLACED IN MAXIMUM 6" THICK FILL MATERIALS AND POUNDATION BACK FILL SHALL BE WETTED IF REQUIRED AND COMPACTED TO NOT LESS THAN 95%. OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY FOR SOIL IN ACCORDANCE WITH ASTM DISEASE.
- 6. NEWLY PLACED CONCRETE FOUNDATIONS SHALL CURE A MINIMUM OF 72 HOURS PRIOR
- TO BACK FILING.

 TO RINGE THE READING SHALL BE SLOPED TO PROVIDE POSITIVE DRAINING AND PREVENT STANDARD WATER THE FRAIL, FINISH, ELEVATION OF SLAB FOUNDATIONS SHALL SLOPE AWAY BALL DISECTIONS FROM THE CENTER FINISH GRADE OF CONCRETE FROM SHALL SLOPE AWAY BALL DISECTIONS FROM THE CENTER FINISH GRADE OF CONCRETE FROM SHALL S
- GEOTEXTILE FABRIC SHALL BE BLACK IN COLOR TO CONTROL THE RECURRENCE OF EGETATIVE GROWTH AND EXTEND TO WITHIN 1 FOOT OUTSIDE THE SITE FENCING OF VEGETATIVE GROUNDING SYSTEM PERINDEREN WHICHEVER IS GREATER. ALL FABRIC ELECTRICAL GROUNDING SYSTEM PERINDEREN WHICHEVER IS GREATER. ALL FABRIC SHALL BE COVERED WITH A MINIMUM OF 4" DEEP COMPACTED STONE OR GRAVEL AS SPECIFIED. LE. FOOT TYPE NO.57 FOR FENCED COMPOUND; FDOT TYPE NO. 67 FOR ACCESS DRIVE AREA.
- 9. IN ALL AREAS TO RECEIVE FILL, REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, WET AND INALEMENT OF NEUTRAL PERMANDIALS, DESTRICTIONS, AND DELETERIOUS MATERIALS FOR GROUND SUFFACE PLOY STRIP OR BREAK UP SLOPED SIFFACES STEEPER THAN 1 VERTICAL PROJECTIONS AND SUFFACE STEEPER THAN 1 VERTICAL TO HORIZONTAL SUCH THAT FILL MATERIAL WILL BIND VIDENCE STEEPER THAN 1 VENTICAL TO HORIZONTAL SUCH THAT FILL MATERIAL WILL BIND VIDENCE STRIP SECTION SUFFACE.
- 10. WHEN SIGNAUL OF HEAPHED UNEXNO SHAPES HAS A DESIST IT LESS FIRM IN THE RECURRED PLAYER, MOST TIME CONDITION ABOVE AREAT THE SOLS AND RECORDED THE REQUIRED DENSITY PRIOR TO PLACEMENT OF RELS. THE RECURRED PLAYER WITH THE RECURRED SHAPE THE SOLD THE CONSTRUCTION OF PRIATIONS. FER THE CRIVES IS SHAPED TO THE SHAPE THE GRAVEL SUPPLICATION AND RESTORED TO THE SAME THICKNESS AND COMPACTION AS SECURED. ALL RESTORED GRAVEL SHAPE CONSTRUCTION OF THE REPORT OF PROBUSTATION SHAPED THE SHAPE OF THE SHAPE OF THE SHAPE THE SHAPE OF THE
- AND WAVES.

 12. EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED WITH THE CONDITION THAT ANY UNFAVORABLE AMOUNTS OF ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ANY ADDITIONAL GRAVEL RESURFACING MATERIAL AS NEEDED TO PROVIDE A FULL DEPTH COMPACTED
- DESIGNED TO SPREAD EQUIPMENT LOADS AS MAY BE NECESSARY. REPAIR ANY DAMAGE
- I/O LESS ING GRAVEL SURFACING OR SUB GRADE WHERE SUCH SAMAGE IS DUE TO THE CONTRACTORS OPERATIONS.

 15. DAMAGE TO EXISTING STRUCTURES ANDOIN UTILITIES RESULTING FROM CONTRACTORS REGLEGENCE SURLUL BE REPAIRED SHOON REPLACED TO THE OWNERS SASTRACTION AT THE OWNERS ASSTRACTION AT THE OWNER ASSTRACTION AT THE OWNER ASSTRACTION AT THE OWNER ASSTRACTION ASSTRACT

ENVIRONMENTAL NOTES

- ALL WORK PERFORMED SHALL BE DONE IN ACCORDANCE WITH ISSUED PERMITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF FINES AND PROPER CLEAN UP
- DOWN FIND ON STRIKE BE INSPONDED.

 FOR AREAS IN VIOLATION.

 CONTRACTOR AROUS OF LOPER SMALL BE RESPONSIBLE FOR CONSTRUCTION AND CONTRACTOR AROUS OF LOPER SMALL BE RESPONSIBLE FOR CONSTRUCTION AND SEDMENTATION CONTROLS DURING CONSTRUCTION FOR PROTECTION OF ADJACENT PROPERTIES, ROADWAYS AND WATERWAYS AND SMALL BE MAINTAINED IN PLACE THROUGH FINAL JURISDICTIONAL INSPECTION & RELEASE OF
- E.. NTRACTOR SHALL INSTALL/CONSTRUCT ALL NECESSARY SEDIMENT/SILT CONTROI NCING AND PROTECTIVE MEASURES WITHIN THE LIMITS OF SITE DISTURBANCE PRI
- TO CONSTRUCTION.
 4. NO SEDIMENT SHALL BE ALLOWED TO EXIT THE PROPERTY. THE CONTRACTOR IS 5. CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS AND ANY REPAIRS OF ALL
- SEDIMENT CONTROL MEASURES INCLUDING SEDIMENT FEMOVAL AS NECESSARY
 6. CLEARING OF VEGETATION AND TREE REMOVAL SHALL BE ONLY AS PERMITTED AND BE
 HELD TO A MINIMUM. ONLY TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES
 SHALL BE FEMOVED. S AND MULCHING AND/OR SODDING OF THE SITE WILL BE ACCOMPLISHED AS
- SOON AS POSSIBLE AFTER COMPLETION OF THE PROJECT FACILITIES AFFECTING LAND
- DISTURBANCE.

 B. CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, COUNTY MAD STATE CODES AND DEPOMACES TO PRICTED THE COUNTY WAS STATE CODES AND DEPOMACES TO PRICTED THE STREAMS AND PROPAGATE AND PRICTED THE STREAMS AND PROPAGATE PRICTED THE AND PRICTED THE STREAMS AND OFFICE MAD AS SLICE TRACES, STAW BALL SEDIMENT ERAPHERS, AND OFFICE MAD AS SLICE TRACES, STAW BALL SEDIMENT ERAPHERS, AND OFFICE MAD AS SLICE TO THE STATE OF THE STATE OF THE STREAMS AND OFFICE MAD AS SLICE TO THE STATE OF THE STATE OF

CONCRETE MASONRY NOTES:

- 1. CONCRETE MACCHAY JUSTS SHALL BE MEDIUM MEGINT LIMITS CONFORMING TO ASTM COR, GRADE BY, IFM-150 PSI, NEUBLIM WEIGHT 110.

 2. MOGTRAS SHALL BE TYPE S' (IMINIMAN 1800 PSI AT 20 DAYS).

 3. GROUT SHALL HAVE A MANIMAN COMPRESSIVE STREAGHT 0F 2:000 PSI AT 20 DAYS.

 4. GROUT SHALL HAVE A MANIMAN COMPRESSIVE STREAGHT 0F 2:000 PSI AT 20 DAYS.

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- UNITS.

 8. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER, HORIZONTAL CONSTRUCTION
 JOINTS SHALL BE FORMED BY STOPPING THE GROUT POUR 1-1/2" BELOW TOP OF THE
- UPPERMOST UNIT. ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" UNITS.
- 7. ALL BOND BEAM BLOCK SHALL BE "DEEP CUT" LINTS.
 B. PROVIDE RISPECTION AND CLEAN-CUT HOLES AT DASE OF VERTICAL CELLS HAVING
 GROUD LITS IN EXCLESS CF 4" OF PHEBBIT.
 10. CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.
 11. DELIVERY SHALL BE AS SPECIFIED FOR CONCRETE.
 11. PLEINFORCING BARS SEE NOTES LINDER "REINFORCING STEEL," FOR REQUIREMENTS.
 12. PROVIDE CHE BARD JOINTER IN ANIMAMOR F12", GROUD ETRIVER IN AMA REINFORCING
 12. PROVIDE CHE BARD JOINTER IN ANIMAMOR F12", GROUD ETRIVER IN AMA REINFORCING AND MASONRY LINITS
- AND MASONHY UNITS.

 13.LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FEET

- 13.LOW LIFT CONSTRUCTON, MAXIMUM GROUT POUR HEIGHT S 4 FEET.

 LIFT GROUTED CONSTRUCTION MAY BE USED IN CONFORMACE WITH PROLECT

 STEPCETATIONS AND SECTION 210% ALT OF CURRENT BUILDING COURT.

 SINCE CONTROL OF THE CONT

STRUCTURAL CONCRETE NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI-301-10
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACK-901-10
 ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (6°=2,500 PSI AT 28 DAYS UNLESS NOTED OTHERWISE.
 REINFORDING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED
- STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST FARTH CONCRETE EXPOSED TO FARTH OR WEATHER CONCRETE EXPOSED 10 AAHTHOR WEATHER:
#6 AND LARGER 6 WWF
1-1/2 IN.
CONCRETE NOT EXPOSED 70 EARTH OR WEATHER, NOR CAST AGAINST THE GROUND:
SLAB AND WALL
BEAMS AND COLUMNS
1-1/2 IN.

- 5. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE U.N.O. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
 HOLES TO RECEIVE EXPANSIONWERGE ANCHORS SHALL BE 1/8" LARGER IN DUMETER THAN THE ANCHOR BOLD, DOWEL OR ROD AND SHALL CONFORM TO MANUFACTURERS RECOMMENDATION FOR BUBBEDHATE TEPTH OR AS SHOWN ON THE DRAWINGS. LOCATE AND AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN ELEVATED CONCRETI
- SLABS.
 USE AND INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER ICBO & MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.

STRUCTURAL STEEL NOTES:

 ALL STEEL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION. STEEL SECTIONS SHALL BE IN ACCORDANCE WITH ASTM AS INDICATED BELOW:

W-SHAPES: ASTM A992, 50 KSI ANGLES, BARS CHANNELS: ASTM A36, 36 KSI HSS SECTIONS: ASTM 500, 46 KSI PIPE SECTIONS: ASTM A53-E, 35 KSI

- 2. ALL EXTERIOR EXPOSED STEEL AND HARDWARE SHALL BE HOT DIPPED GALVANIZED. 2. ALL EXTENDED EXPOSED SIEELAND PARIDWAYE SYNAL BE HOT DIPPED GALVANUZED.

 A. ALL WELDING SYNALL BE PERFORMED LIGHTS EVEN EVEN FETTODES AND WELDING SYNALL
 CONFORM TO MSC. WHERE FALLY HELD SENA EVEN SYNALL PROVINCE THE MINMAM
 SUFFACES SHALL BE FOUGHED UP.

 4. BOLTED CONNECTIONS SHALL BE ASTM ASSE BEARING TYPE 3 4" O CONNECTIONS AND
 SYNALL HAVE MINMAM OF TWO BOLTS WHERE SYNOTEO DIFFERENCE.

 5. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 56" O ASTM ASSO BOLTS
 UNLESS NOTED OTHERWISE.

- 6. FIELD MODIFICATIONS ARE TO BE COATED WITH ZINC ENRICHED PAINT





AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



RIK EXECUTIVE CENTRE 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752 TEL: (508) 481-7400 FAX: (508) 481-7406

THE INFORMATION CONTAINED IN THIS SET OF DRAWING

ANY USE OR DISCLOSURE OTHER THAN AS IT RELATES TO AT&T WIRELESS IS STRICTLY PROHIBITED CONSTRUCTION REVISED ISSUED FOR CONSTRUCTION 10.11.22 ISSUED FOR DEVIEW REV DATE REVISION DESCRIPTION



MA3001 CAMBRIDGE

402 RINDGE AVENUE CAMBRIDGE MA 02139

HECKED BY CMC JMT

SPECIFICATIONS

T02

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DATE

SITE WORK & DRAINAGE:

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

- REFERENCES:
 DOT (STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR
 WAY CONSTRUCTION CURRENT EDITION)
 ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
 OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION)
- 1.2 INSPECTION AND TESTING:
- NSPECTION AND TESTINS:
 FIELD TESTING CHATHWORK COMPACTION AND CONCRETE CYLINDERS
 FIELD TESTING CHATHWORK COMPACTION AND CONCRETE CYLINDERS
 ALL WORK SHALL BE RISPECTED AND RELEASED BY THE GENERAL CONTRACTOR
 WITH SHALL CHAPTER PERFORMANCE OF THE WORK AS SPECIFIED AND GROUND
 CONCERN TO PROCEED FREE FORMANCE OF THE WORK AS SPECIFIED AND GROUND
 CONCERN TO PROCEED THE TO PROCEED AND THE PURPLE WORK THAT
 WOULD MAKE PARTS OF WORK NACCESSIBLE OR DIFFICULT TO INSPECT.
- SITE MAINTENANCE AND PROTECTION:

 A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF
- PHOVIDE ALL NECESSARY JOB SITE MANITEMANCE HYDOM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE SUBCONTRACT.
 AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK
- KEEP SITE FREE OF ALL PONDING WATER.
- NEEP'S JIE PREE OF ALL POMDING WALEH.
 PROVIDE ERISSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT AND
 EPA REQUIREMENTS.
 PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING
 SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM
- SUMMALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERSON OF CONSTRUCTION, REMOVE ALL SUCH DEVICES DIVIDED AND THE PROPERTY OF THE

PROVIDE A MINIMUM 48-HOUR NOTICE TO THE ENGINEER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.

PART 2 - PRODUCTS

- SUITABLE BACKFILL ASTIM D2291 (CLASS I. III, III, OR IVA) FIREE FROM FROZEN LIMPS, REFUSE. STOMES OR ROCKS. LARGER TIMA'S INCHES IN ANY DMENSION OR OTHER NON-POPULOS GENMAL AS EMBANDARY AND BACKFILL ASTIM D221 (CLASS III, NA OR NOS-POPULOS GENMAL AS EMBANDARY AND BACKFILL ASTIM D221 (CLASS III, NA OR NOS POPULOS GENERAL AS EMBANDARY OR FOR PROTEIN LIMPS, REFUSE, STOMES, OR ROCKS LARGER THAN 3 HOMES AN ANY DMENSION OF OTHER MATERIAL THAT MAY MAKE THE POPULOS GRAVILLAR EMBANNAKINT NIO BACKFILL. ASTIM D221 (CLASS I. III, OR III) COARSE AGGREGATE FREE FROM FROZEN LIMPS, REFUSE, STOMES, OR ROCKS COARSE AGGREGATE FREE FROM FROZEN LIMPS REFUSE, STOMES, OR ROCKS
- LARGER THAN 3 INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE NORGANIC MATERIAL UNSUITABLE FOR BACKFILL
- NORGANIC MATERIAL INSUITABLE FOR BLOCKFILL.

 SELECT STRUCTURA FILL GRANUAR FILL MATERIAL MEETING THE REQUIREMENTS
 OF ASTIME BESO-SE, FOR USE, AROUND AND UNDER STRUCTURES WHERE STRUCTURES
 OF ASTIME BESO-SE, FOR USE AROUND AND UNDER STRUCTURES WHERE STRUCTURAL
 GRANUAR BEOLOGY AND TENDED AND THE STRUCTURES OF THE STRUCTURES OF THE STRUCTURES OF THE STRUCTURE OF TH
- 2.6
- COARSE AGREGATE FUR IN-ACCES TRUM 450 BM. ACCESS TRUM 450 BM. ACCE 2.7
- SPECIFICALLY MANUFACTURED PORI MARRING AND LOCATING UNDERGROUND SPECIFICALLY MANUFACTURED PORI MARRING AND LOCATING UNDERGROUND MARRING AND ANALYZONED WITH INTEGRAL CONDUCTORS FOIL BACKING OR OTHER MEANS TO SMALE UPDETCTION BY ARTH. DICTRICTOR WHEN BURBOLD ID TO SMALE DETECTION BY ARTH. DICTRICTOR WHEN BURBOLD ID TO SMALE DETECTION FOR MARRING AND SMALE THE TEXT THE METALLIC CONTINUE AND SMALE SPECIFICATION. THE COLOR SMALL BE RED FOR LECTRIC UTILITIES AND OFFICIES THE TEXT MARRING THE CONTINUE AND SMALE BY RED FOR LECTRIC UTILITIES AND OFFICIES OF THE ELECOMMARING TON UTILITIES.

- 3.1 GENERAL:
 A BETWEEN STATTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND
 EXOMENT CONTROL MEASURES. THE WORK PRES SHALL BE CONSTRUCTED AND
 MANTANEED IN SUCH A CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE
 DRAINED AT ANY TIME.

 CHARLES AND MARKEN STATELLISH AND MANTAN.
- ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF
- THE WORK.

 CLEAR AND GRUE THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES,

 READING STUDIES AND OTHER DEBRIS AND VEGETATION RESTING ON OR

 RESING STUDIES.

 READING THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 MICHES

 BELOW THE GROUND MATERIALS TO A DEPTH OF NO LESS THAN 12 MICHES

 BELOW THE GROUND GROWED AND THE READING THE GROUND

 SURFACE, RANCE, DISK OR PROVIDE THE AREA TO A DEPTH OF NO LESS THAN BERISS,

 BRUSH, AND REFUSE EMBEDGED IN OR PROTRIGING THROUGH THE GROUND

 SURFACE, RANCE, DISK OR PROVIDE THE AREA TO A DEPTH OF NO LESS THAN B

 NICHES, AND REMOVE TO A DEPTH OF 12 MICHES ALL ROOTS AND OTHER DEBRIS

 THEREBY EVENTSON.
- THEREBY EXPOSED. REMOVE THE SUBJECT THE SU
- OMPLETELY WITH SUITABLE FILL.
- COMPLETELY WITH SUITABLE FILL.
 REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS
 RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.
 PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED
- PHIGH 10 EXCAVATION, INFORMEDISTLY EXAMINE. THE AREA TO BE EXCAVATION ANDOR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATE ON THEIR DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, OR UNDERGROUND STRUCTURE, OR OTHER TIEM NOT SHOWN THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISAMENT OF THE WORK AS INDICATED ON THE DRAWINGS

SEPARATE AND STOCK PILE AL EXCAVATED MATERIALS SUITABLE FOR BACKFILL ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.

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NEW ANTENNA

- 12 BAOKFIL: A AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURINN PERIOD FOR CAST-IN-PLACE CONCRETE, BAOKFIL: THE EXCAVATION WITH APPROVED MINERAL TO RESTORE THE RECURIED FINASED ALL AND ASSOCIATION OF RESTORE THE RECURIED FINASED ALL AND ASSOCIATION OF RESTORE THE RECURIED FINASED AND ASSOCIATION OF RESTORED ASSOCIATION OF THE PROMOTE AND ASSOCIATION OF THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND INSUSTRADE MATERIALS.

 5. BACKFILES PLACING AND COMPACTIONS SUITABLE BACKFILL MATERIAL OR REQUIRED IN UNIFORM

 - SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND
 - AND COMPACTED. WITH TESTING INDICATES THAT THE CONTRACTOR HAS NOT WHEREHER THE PEOPLET HESTING INDICATES THAT THE CONTRACTOR HAS NOT PLACED LIMIT. THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE GEOTECHNICAL REQUIREMENTS OF THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKNOWN OF THE METERS OF THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKNOWN OF THE METERS OF THE METERS
- ANU DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE MINIMUM COMPACTION REQUIREMENTS. THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.
- 3.3 TRENCH EXCAVATION:
- UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.
- EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE

- 3.4 TRENCH BACKFILL:

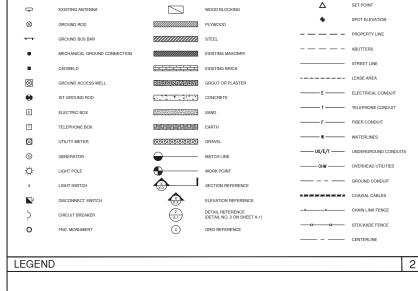
 A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.

 B. NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING.
 C. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT

- CORDUCT UTILITY OFFICE RESINGS DEPUME BILLAND, BUCAPILLA AND COMPANY. TRENCH BEFORE ACCEPTANCE TESTINGS. ON BOTH SIDES OF THE CONDUITS PLACE GRANILLAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS. IN SINCH UNCOUNTY ACTED LITES UNTIL 2 RICHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS ON THE CONDUITS. PROTECT CONDUIT FROM LATERAM MOVEMENT, MPACT DAMAGE, OR UNBALANCED PROTECT CONDUIT FROM LATERAM MOVEMENT, MPACT DAMAGE, OR UNBALANCED
- LOADING.
 ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFIL MATERIAL IN 9-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED INSINS DIFFACE GROWS COMPACT FINAL TRENCH BACKFILL TO A DENSITY ECUAL TO OR GREATER THAN THAT OF THE EXISTING LUNGSTITUTED MATERIAL IMMEDIATELY ADMINISTRATION TO THE MAXIMUM DIFF CREATER THAN THE COMPACT OF THE MAXIMUM DIFF CREATER ADMINISTRATION OF THE PROVIDED BY THE STANDARD PROJECTION TEST, ASTEN DISEASE.
- CLEAR, GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD TO THE LINES AND GRADES INDICATED ON THE DRAWINGS, SCARIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL. ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS SHALL BE
- CORRECTED.
 THE ENTIRE SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE
 MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D
- 1557.
 AFTER PREPARATION OF THE SUBGRADE IS COMPLETE THE GEOTEXTILE FABRIC (MIRAFI 500X), SHALL BE INSTALLED TO THE LIMITS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY ALONG THE ROADWAY. THE FABRIC SHALL NOT BE DRAGGED ACROSS THE SUBGRADE. PLACE THE ENTIRE ROLL IN A
- SHALL NOT BE DRAGGED ACROSS THE SUBGRADE. PLACE THE ENTIRE ROLL IN A SWIGL OPERATOR, ROLLING OUT AS SMOOTHLY AS POSSIBLE. OVERLAPS PARALLEL TO THE ROADWAY WILL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS SEYNON THE ROADWAY SURFACE WOTH (I.E. WITHIN THE SHOULDER WITHIN (I.W. IN OLIGINATIONE) OVERLAPS SHALL BE LOCATED BETWEEN THE CENTERLINE AND THE SHOULDER PARALLEL OVERLAPS SHALL BE THE CENTERLINE AND THE SHOULDER PARALLEL OVERLAPS SHALL BE THE PROPERTY OF THE PROPERTY O
- BETWEEN THE CENTERLINE AND THE SHOULDER, PARALLEL OVERLAYS SHALL BE THANSVERSE PEPENDICULAR TO THE ROMOWING YOUR LEVEL AS IT THE ROOF OR ROLL SHALL OVERLAYS IN THE DIRECTION OF THE AGGREGATE PLACEMENT PHYSICAGE ROLL OF THE ABOUND THAN AND AND MICHAEL HOST OF STREET PHYSICAGE ROLL OF THE ABOUND THE AGGREGATE. THE THAN THE AGGREGATE AND THE AGGREGATE AND THE HOST LOWER TO SHOULD SHOULD THE AGGREGATE AND THE LOWEST LOWER TO SHOULD SHOULD THE AGGREGATE AND THE LOWEST LOWER TO SHOULD THE AGGREGATE AND THE LOWEST LOWER TO SHOULD THE AGGREGATE AND THE LOWEST LOWER THE LOWER THE
- : GREGATE BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN NOT MORE THAN 4 INCH (COMPACTED) THICKNESS. AGGREGATE TO BE ON GEOTEXTILE FABRIC SHALL BE END-DUMPED ON THE FABRIC FROM THE
- PLACED ON GEOTEXTILE FARRIC SHALL BE END DUMPED ON THE FARRIC FROM THE FREE NO OF THE FARRIC GROWER PREVIOUSLY PLACED AGGREGATE. THE FIRST LITT SHALL BE BLACED DOWN TO A THICKNESS OF 8 MONESS PRIOR TO COMMISSION. AT ON THIS SHALL EDUCATION. IT CHEFT ARRASSOFTING THE COMMISSION OF THE PLACE AGGREGATE THE FROM THE FARRIC. THE FARRIC THE FARR

- 3.5 FINISHED AND STATE OF THE PROPERTY OF THE
- SUBROLINDING TOPOGRAPHY AND STRUCTURES.

 UTAZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN
 THE CONSTRUCTION OF FILLS. EMBANAMENTS AND FOR REPLACEMENT OF
 REMOVED INSURTALE MATERIALS.
 ACHIEVE FRINSHED GRADE BY PLACING. A MINIMUM OF I INCHES OF 1/2" 3/4"
 CRUSHED STORE ON TOP SOL STABILIZER FABRIC.
- REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE CORSE OF THIS WORK TO THEIR ORIGINAL CONDITION.
- ASPHALT PAVING ROAD:
 DIVISION 600 KDOT FLEXIBLE PAVEMENT. (UPDATE PER LOCAL DOT)
 SECTION 403 MODOT ASPHALT CONCRETE PAVEMENT.



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WOOD CONT

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REVISION

ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
AB. ABOUT ABOUT AND	ANCHOR BOLT AMTERINA CABLE GOVER ASSEMBLY ADDITIONAL AD	FAB. FFG. FFG. FFG. FFG. FFG. FFG. FFG. FF	FABRICATION(OR) FRINSH FLOOD FRINSH FLOOD FRINSH FLOOD FRINSH FLOOD FRINSH FLOOD FOUNDATION FOUNDATION FOUNDATION FOUNDATION FOUNDATION FOUNDATION FOUNDATION FACE OF STUD FOUNDATION FOUN	PYCH PYCH PYCH PYCH PYCH PYCH PYCH PYCH	POLYVINYL CHLORIDE CONDUIT POWNTYL CHRONE POWNTYL C





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GENERAL REQUIREMENTS, LEGEND & ABBREVIATIONS

3

T03

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GENERAL REQUIREMENTS **ABBREVIATIONS** 1







ALERTING SIGNS

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ALERTING SIGNS

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ALERTING SIGN

PROPERTY OF ATET **AUTHORIZED** PERSONNEL ONLY

INFO SIGN #5



INFO SIGN #3

INFORMATION



INFORMACION

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INFO SIGN #1

INFO SIGN #2

INFO SIGN #4

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E N N A -

GENERAL SIGNAGE GUIDELINES STRUCTURE TYPE INFO SIGN #1 INFO SIGN #2 INFO SIGN #3 INFO SIGN #4 INFO SIGN #5 STRIPING NOTICE SIGN CAUTION SIGN **TOWERS** ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS ON THE SHELTER DOOR OR ON ONE OUTDOOR AT THE HEIGHT OF THE FIRST CLIMBING STEP. CLIMBING SIDE OF THE TOWER ON BACKSIDE OF ANTENNAS ON THE SIDE OF MONOPOLE / MONOPINE / MONOPALM EQUIPMENT CABINET MIN. 9FT. ABOVE GROUND ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN. 9FT. ABOVE GROUND ON THE SHELTER DOOR OR ON ONE SCE TOWERS / TOWERS WITH VOLTAGE CABINETS ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS ON THE SHELTER DOOR OR ON ONE ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA ON BACKSIDE OF ANTENNAS ON THE SIDE OF ANTENNAS LIGHT POLES / FLAG POLES OUTDOOR EQUIPMENT CABINET IF GP MAX VALUE OF MPE AT ANTENNA LEVEL IS: 0-99%: NOTICE SIGN; OVER 99% CAUTION SIGN AT NO LESS THAN 3FT BELOW ANTENNA AND 9FT ABOVE GROUND ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA UTILITY WOOD POLES (JPA) EQUIPMENT CABINET GROUND ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS ON THE SHELTER NOTICE OR CAUTION SIGN AT NO LESS THAN 9FT ABOVE GROUND: ONLY IF THE EXPOSURE EXCEEDS 90% OF THE GENERAL PUBLIC EXPOSURE AT 6FT ABOVE GROUND ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA ON BACKSIDE OF ANTENNAS ON THE SIDE OF ANTENNAS **ROOF TOPS** AT ALL ACCESS POINTS OF THE ROOF CONCEALED ANTENNAS х х ANTENNAS MOUNTED FACING OUTSIDE THE ANTENNAS ON SUPPORT STRUCTURE х ROOFTOP GRAPH: RADIATION AREA IS WITHIN 3FT FROM ANTENNA EITHER NOTICE OR CAUTION SIGN (BASED ON ROOFVIEW RESULTS) AT ANTENNAS / BARRIER ADJACENT TO EACH ANTENNA RADIATION IS BEYOND 3FT FROM ANTENNA ADJACENT TO ANTENNAS IF CHURCH ACCESS TO STEEPLE ON BACKSIDE OF ANTENNAS ON THE SIDE OF CAUTION SIGN AT THE ANTENNAS STEEPLES ANTENNAS ARE CONCEALED EQUIPMENT CABINET ON THE SHELTER DOOR OR ON ONE OUTDOOR EQUIPMENT CABINET ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED ON BACKSIDE OF ON THE SIDE OF CAUTION SIGN AT THE ANTENNAS WATER TANKS ANTENNAS ANTENNAS

NOTES FOR ROOFTOP SITES.

EITHER NOTICE OF CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO THE QUITER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR.

IF ROOFWELD SYMMEN ONLY BLUE - NOTICE SIGN, BLUE AND YELLOW - CAUTION SIGN, ONLY YELLOW - CAUTION SIGN TO BE INSTALLED.

SHOULD THE REQUIRED STRIPMS AREA INTERPERE WITH ANY STRUCTURES OR EQUIPMENT (AC, VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETC.), PLEASE NOTIFY ATAT TO MODIFY THE STRIPMS AREA.





AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



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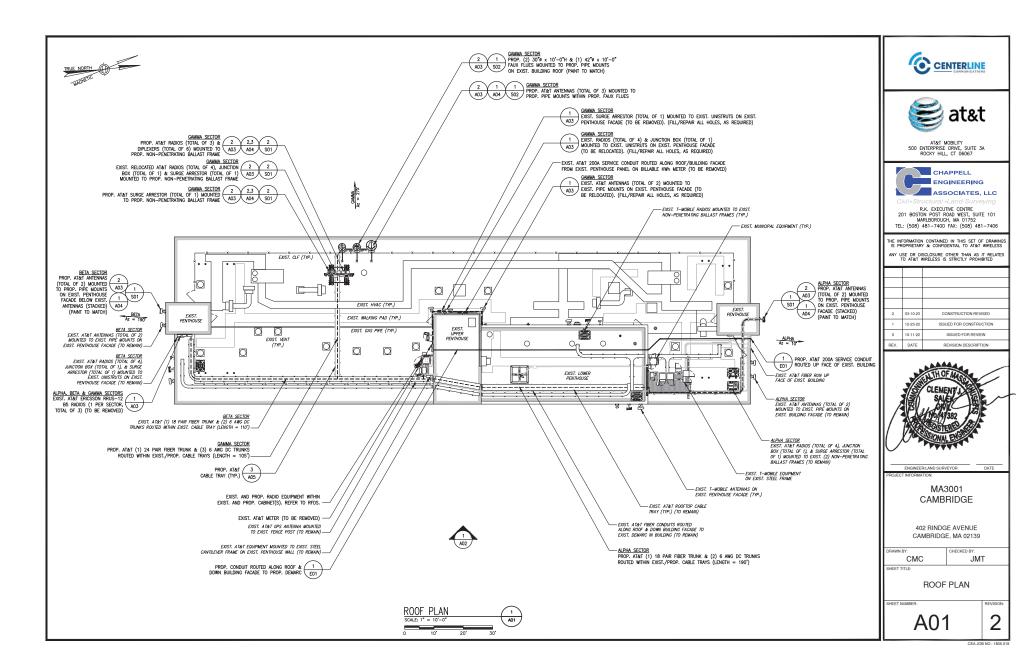
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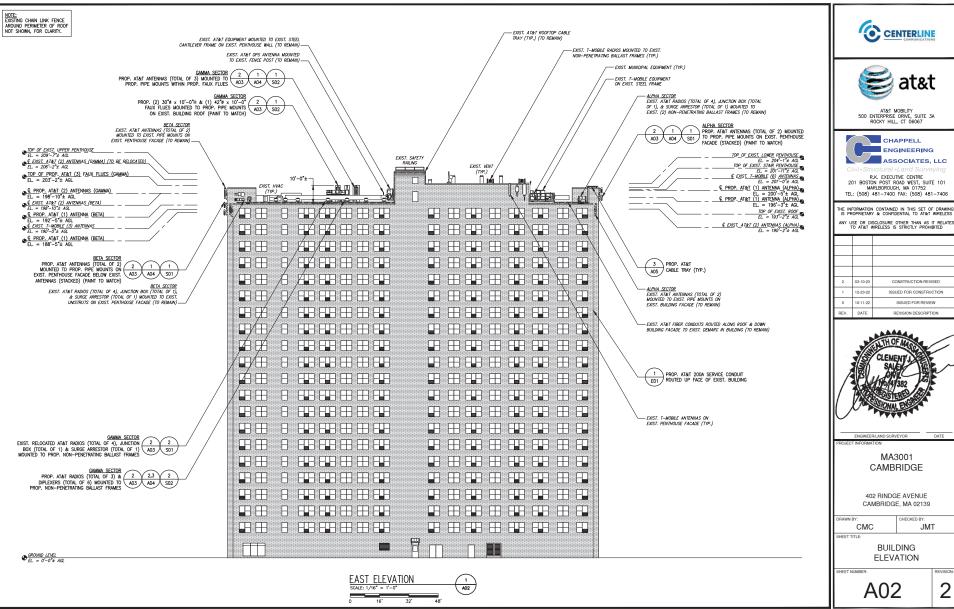
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GENERAL SIGNAGE DETAILS

T04











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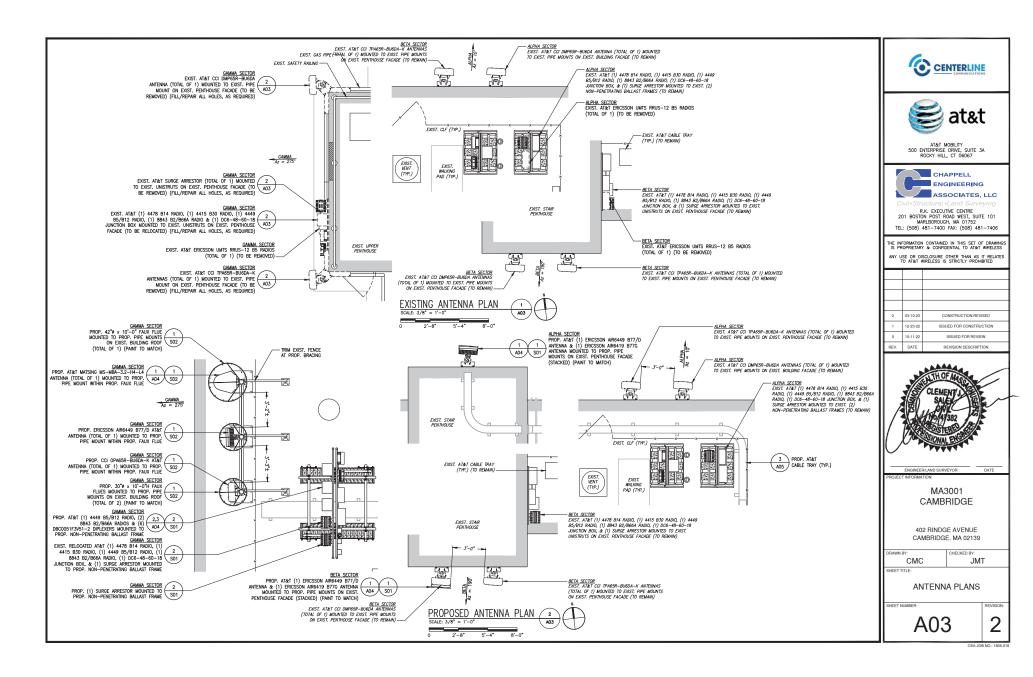
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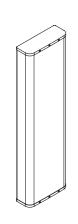
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2

DATE









DIMENSIONS: 36.3"H x 20.9"W x 9.0"D
WEIGHT: 83.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 2
SECTORS: ALPHA, BETA



ERICSSON M-MIMO AIR6449 B77D ANTENNA





MATSING MS-MBA-3.2-H4-L4 ANTENNA DIMENSIONS: 72.0"H x 24.0"W x 25.0"D
WEIGHT: 130.0 lbs
QUANTITY: TOTAL OF 1
SECTOR: GAMMA



ERICSSON RADIO 4449 B5+B12 DIMENSIONS: 14.96"H x 13.19"W x 10.43"D WEIGHT: 73.0 lbs QUANTITY: TOTAL OF 1 SECTOR: GAMMA

RADIO DETAIL SCALE: N.T.S.



ERICSSON RADIO 8843 B2+B66A DIMENSIONS: 14.96"H x 13.2"W x 11.1"D
WEIGHT: 75.0 lbs
QUANTITY: TOTAL OF 2
SECTOR: GAMMA

A04

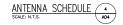


KAELUS DBC0051F3V51-2 TWIN 1900/AWS DIPLEXER DIMENSIONS: 8.54"H x 2.17"W x 5.0"D WEIGHT: 7.5 lbs QUANTITY: TOTAL OF 6 SECTOR: GAMMA

DIPLEXER DETAIL SCALE: N.T.S.



	ANTENNA SCHEDULE								
SECTOR	PROPOSED	BAND	ANTENNA	4. HEIGHT	AZIMUT H	TMA / DIPLEXER	RRU	FEEDER	SURGE PROTECTION
A1	PROPOSED	5G CBAND	AIR6449 B77D	±201'	10°	-	-	(E) (1) 18 PAIR FIBER TRUNK (E) (2) 6 AWG DC TRUNKS	-
A1	PROPOSED	5G DoD	AIR6419 B77G	±196'	10*	=	-	(E) (1) 18 PAIR FIBER TRUNK (E) (2) 6 AWG DC TRUNKS	-
A2	EXISTING	LTE 700/LTE 850/5G 850/LTE AWS	TPA65R-BU6DA-K	±190'	10°		(E) (1) 4478 B14 (E) (1) 4415 B30	(E) (1) 18 PAIR FIBER TRUNK	(E) (1) DC6-48-60-18
А3	EXISTING	LTE 700/5G 850/LTE 1900/5G 1900	DMP65R-BU6DA	±190'	10°	-	(E) (1) 4449 B5/B12 (E) (1) 8843 B2/B66A (SHARED)	(E) (1) 18 PAIR FIBER TRUNK	-
B1	EXISTING	LTE 700/LTE 850/5G 850/LTE AWS	TPA65R-BU6DA-K	±199'	190°		(E) (1) 4478 B14 (E) (1) 4415 B30	(E) (1) 18 PAIR FIBER TRUNK	(E) (1) DC6-48-60-18
B2	EXISTING	LTE 700/5G 850/LTE 1900/5G 1900	DMP65R-BU6DA	±199'	190°	-	(E) (1) 4449 B5/B12 (E) (1) 8843 B2/B66A (SHARED)	(E) (1) 18 PAIR FIBER TRUNK	-
ВЗ	PROPOSED	5G CBAND	AIR6449 B77D	±193'	190°	-	-	(E) (1) 18 PAIR FIBER TRUNK (E) (2) 6 AWG DC TRUNKS	-
ВЗ	PROPOSED	5G DoD	AIR6419 B77G	±189°	190°	-	-	(E) (1) 18 PAIR FIBER TRUNK (E) (2) 6 AWG DC TRUNKS	-
C1	PROPOSED	LTE 700(BC)/5G 850/AWS	OPA65R-BU6DA-K	±203'	275°	(P) (2) DBC0051F3V51-2	(E) (1) 4478 B14 (E) (1) 4415 B30	(P) (1) 24 PAIR FIBER TRUNK	(P) (1) DC9-48-60-RM
C2	PROPOSED	5G CBAND	AIR6449 B77D	±203'	275°	-	-	(P) (1) 24 PAIR FIBER TRUNK (P) (3) 6 AWG DC TRUNKS	-
СЗ	PROPOSED	LTE 700/5G 850/LTE 1900/5G 1900	MS-MBA-3.2-H4-L4	±203'	275°	(P) (6) DC8-48-60-18	(E) (1) 4449 B5/B12 (E) (1) 8843 B2/B66A (SHARED) (P) (1) 4449 B5/B12 (P) (2) 8843 B2/B66A (SHARED)	(P) (1) 24 PAIR FIBER TRUNK	-







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	-1	12-23-22	ISSUED FOR CONSTRUCTION			
	0	10-11-22	ISSUED FOR REVIEW			
	REV.	DATE	REVISION DESCRIPTION			



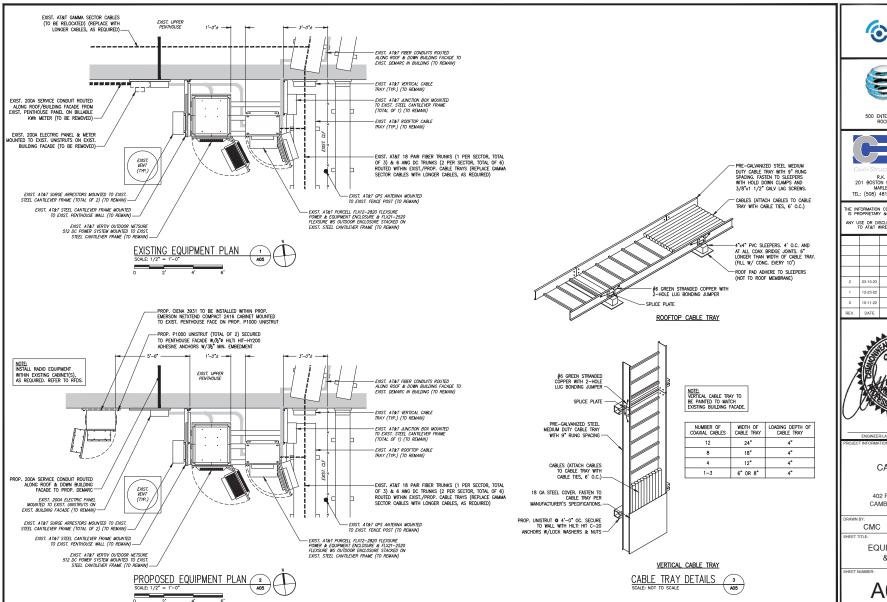
MA3001 CAMBRIDGE

402 RINDGE AVENUE CAMBRIDGE, MA 02139

CMC JMT

ANTENNA DETAILS

A04









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ı	- 1	12-23-22	ISSUED FOR CONSTRUCTION			
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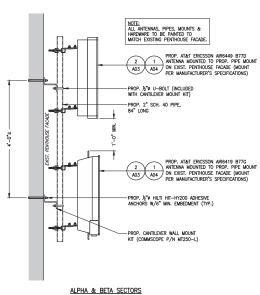
MA3001 CAMBRIDGE

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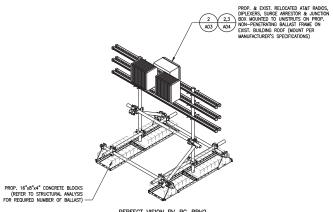
JMT

EQUIPMENT PLAN & DETAILS

A05







PERFECT VISION PV-RC-RRH2 NON-PENETRATING BALLAST FRAME DIMENSIONS: 88.0°H x 78.0°W x 80.0°D WEIGHT (WITHOUT BALLAST): 555 lbs QUANTITY: TOTAL OF 1

RADIO BALLAST MOUNT DETAIL

S01





AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



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ı	REV.	DATE	REVISION DESCRIPTION			



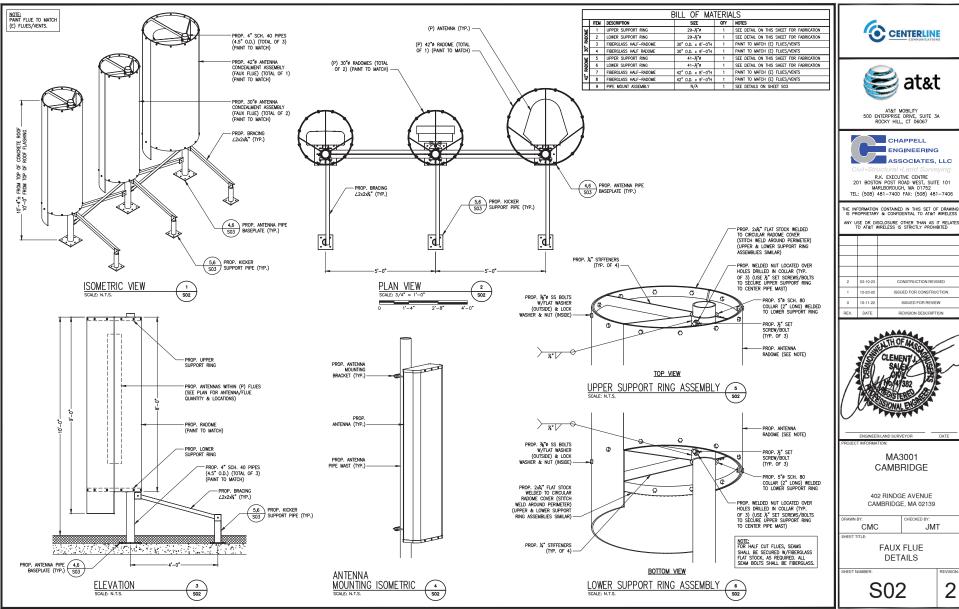
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CHECKED BY: CMC JMT

> ANTENNA & RADIO MOUNTING DETAILS

S01









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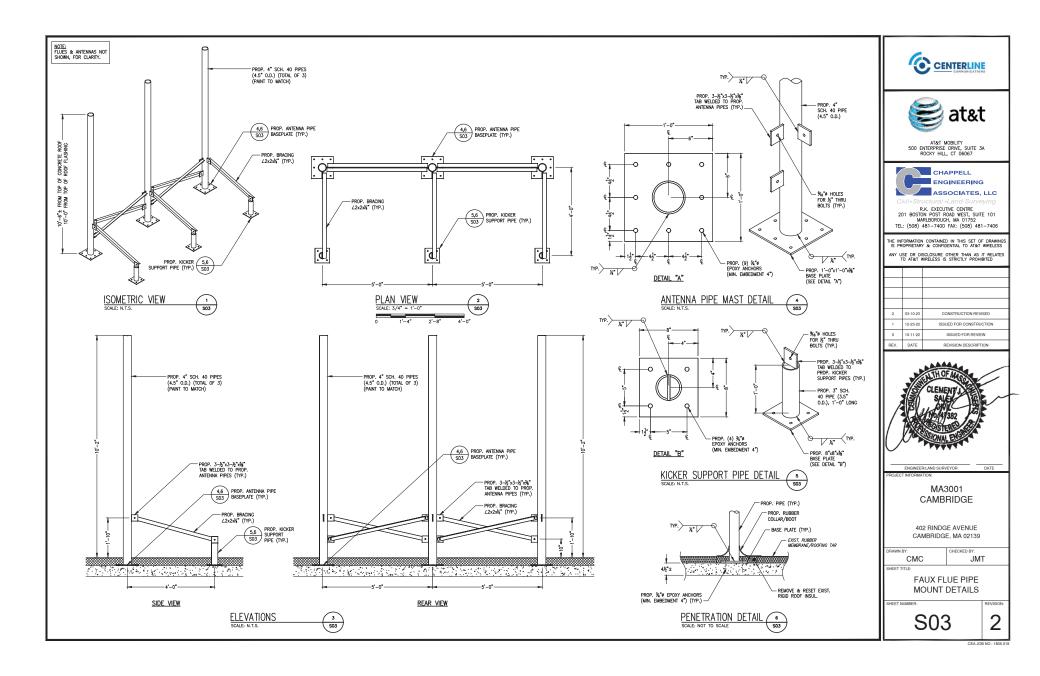
ISSUED FOR CONSTRUCTION ISSUED FOR DEVIEW REVISION DESCRIPTION

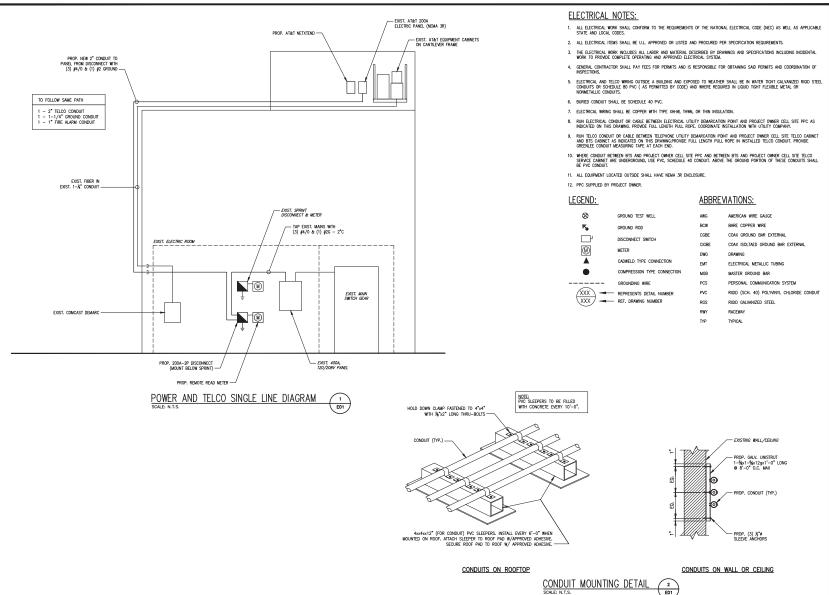


CAMBRIDGE

CAMBRIDGE, MA 02139

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REVISION DESCRIPTION

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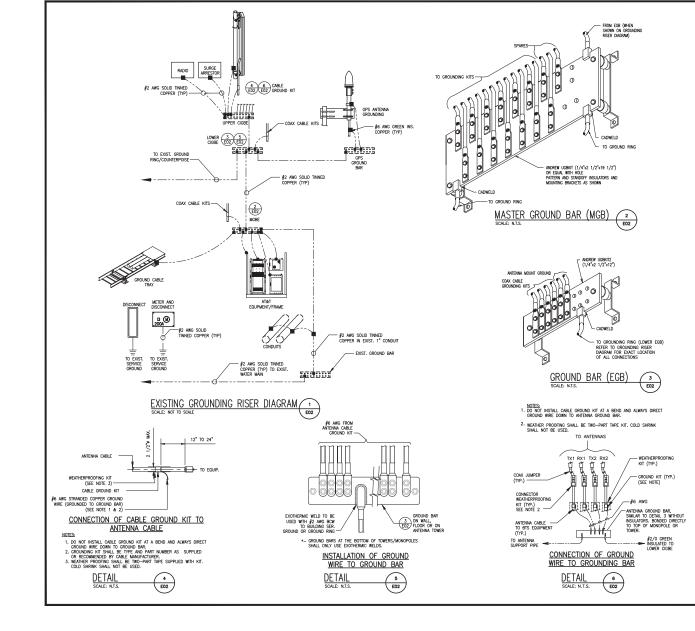
CHECKED BY: CMC JMT

ELECTRICAL DIAGRAMS, **DETAILS & NOTES**

E01

E01

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GROUNDING NOTES:

- THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTINING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AND, THE SITE—SPECIFIC (UL,

- (SE DESIGNED AND INSTALLED) FOR STRICT COMPUNEX WITH THE NEXT CAS POPULD BY THE ANALY THE STETS—SECRET (U. J.P., ON NITY). LICETION FOR PROPERTIES OF CODE, AND GREEN LICETION OF COMPUNE CONTROL OF COMPUNE C

- SHALL STINKE TO KEEP THE SEPERATION DESTANCE EQUAL TO
 BE CHOTHERM URBS SHALL BE PENTITED ON TOWNERS ONLY WITH
 THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE
 CORRECTIONS STRUCTURE, DIRECT CONSTRUCTION OF THE
 BROOK AND THE TOWER CONDUCTS SHALL BE USED ON ALL COMPRESSION AND BOLTED
 GROUND OR BUILTO WITH STANLESS SITEL HAPDWARE TO THE
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AT&T MOBILITY 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067



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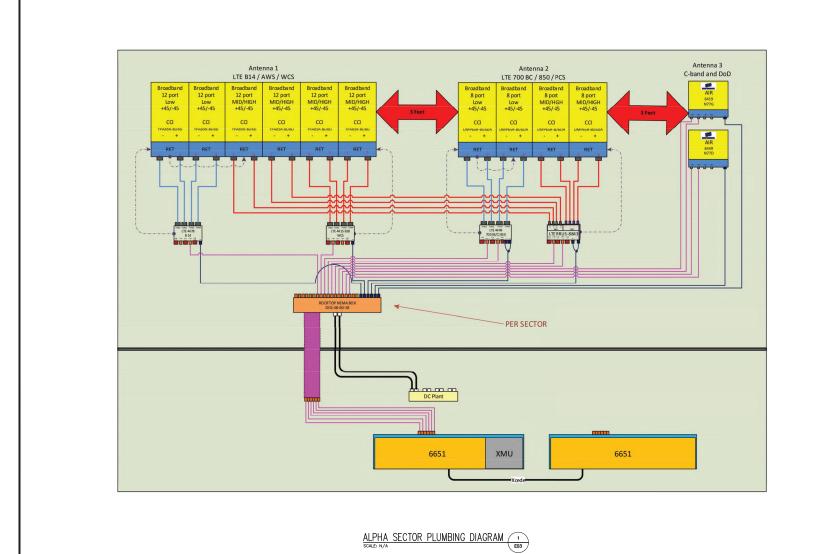
MA3001 CAMBRIDGE

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GROUNDING DIAGRAM, **DETAILS & NOTES**

E02









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ENGINEER/LAND SURVEYOR

MA3001 CAMBRIDGE

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CMC CHECKED BY:

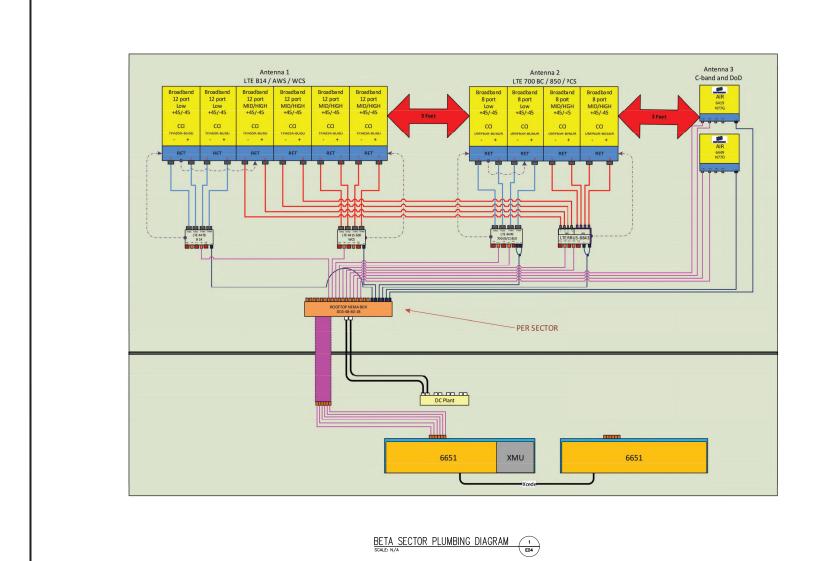
ALPHA SECTOR PLUMBING DIAGRAM

SHEET NUMBER

E03

2 EA JOB NO.: 1805.018

JMT









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CMC CHECKED BY:

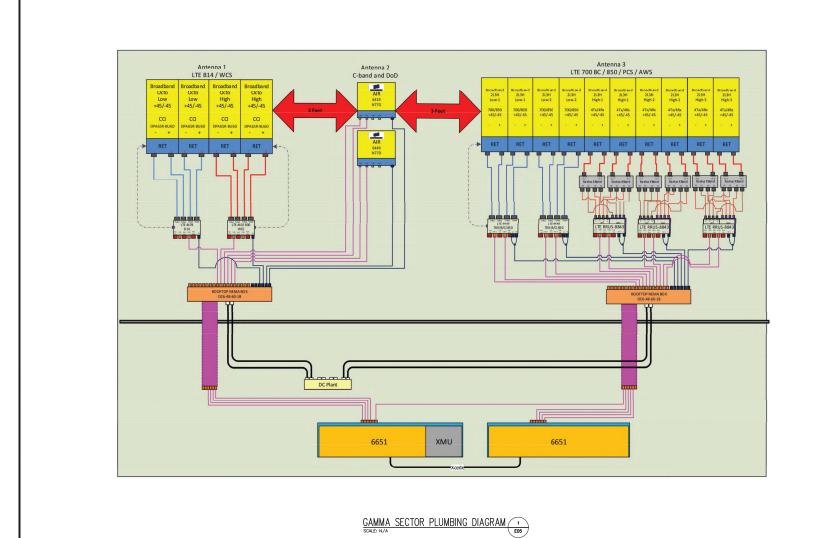
BETA SECTOR

PLUMBING DIAGRAM

E04

2 EA JOB NO.: 1805.018

JMT









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П	REV.	DATE	REVISION DESCRIPTION



ENGINEER/LAND SURVEYOR

MA3001 CAMBRIDGE

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RAWN BY: CHECKED BY: JMT

GAMMA SECTOR PLUMBING DIAGRAM

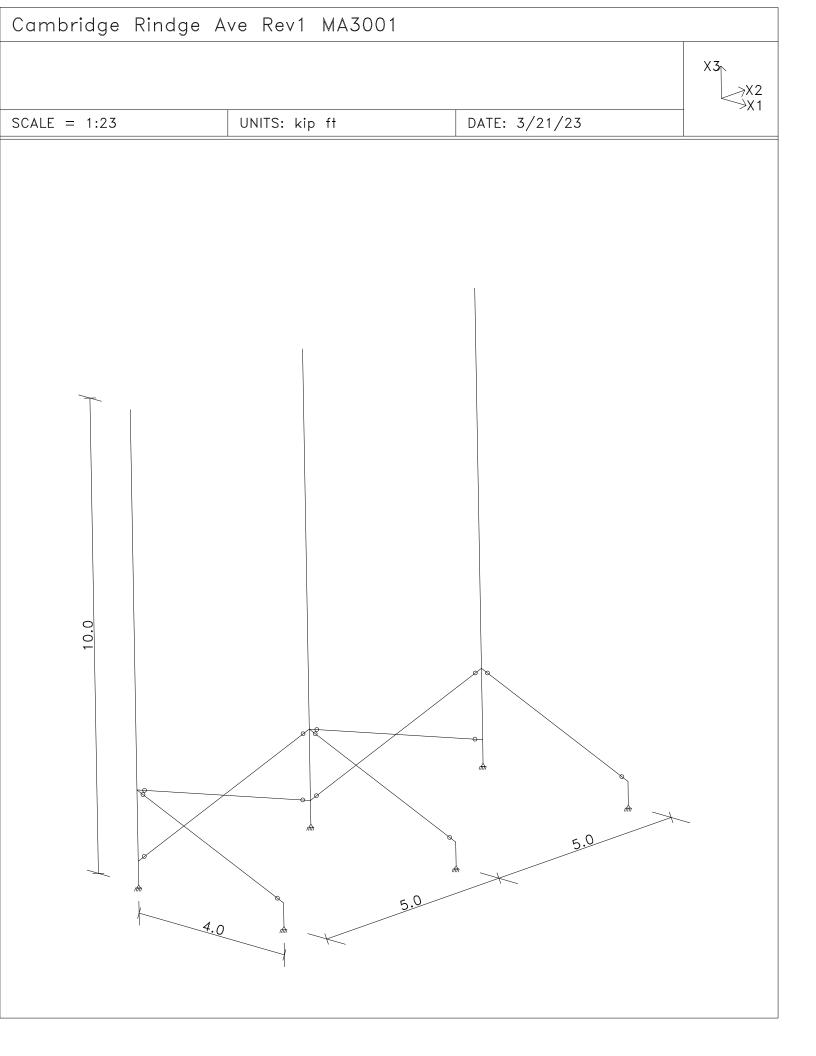
SHEET NUMBER

E05

2 EA JOB NO.: 1805.018

Cambridge Rindge Ave Rev1 MA3001
X3 >X2 >X1
SCALE = 1:23 UNITS: kip ft DATE: 3/21/23

Cambridge Rindge Ave Rev1 MA3001						
		X3 X2 X1				
SCALE = 1:23 UNITS: kip ft	DATE: 3/21/23					
Padd Padd Padd Padd Padd Padd Padd Padd	PIPE4					



Cambridge Rindge Ave Rev1 MA3001

Prepared by: Page: 1
Date: 3/21/23

Load no. 1: Front Wind (units - kips ft.)

/ JOINT LOADS / JOINT LOADS FX1 0.22 N 2 3 8 7 FX1 0.31 N 11 12 / END

FORCE SUMMATION

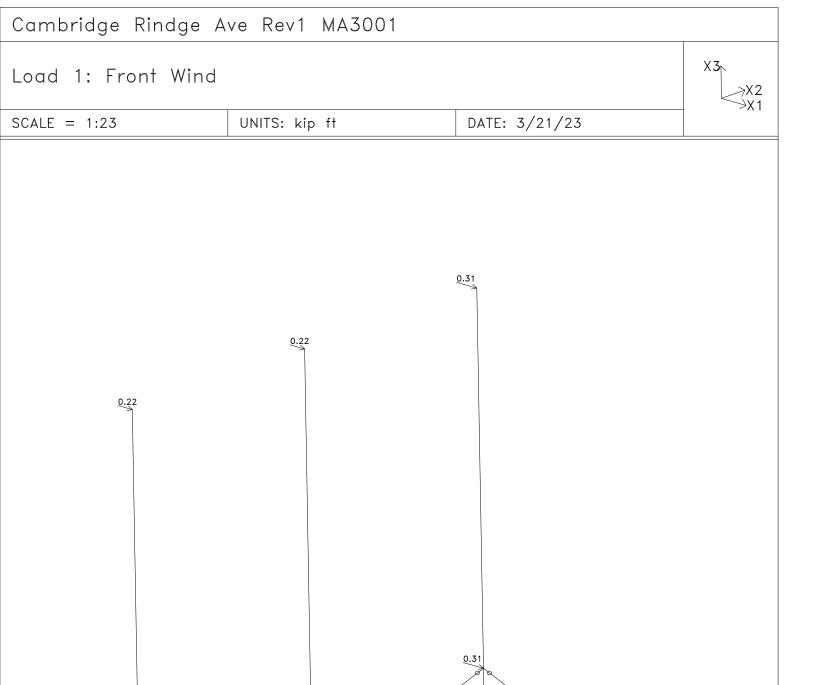
FX1=1.5 kip FX2=0. kip FX3=0. kip

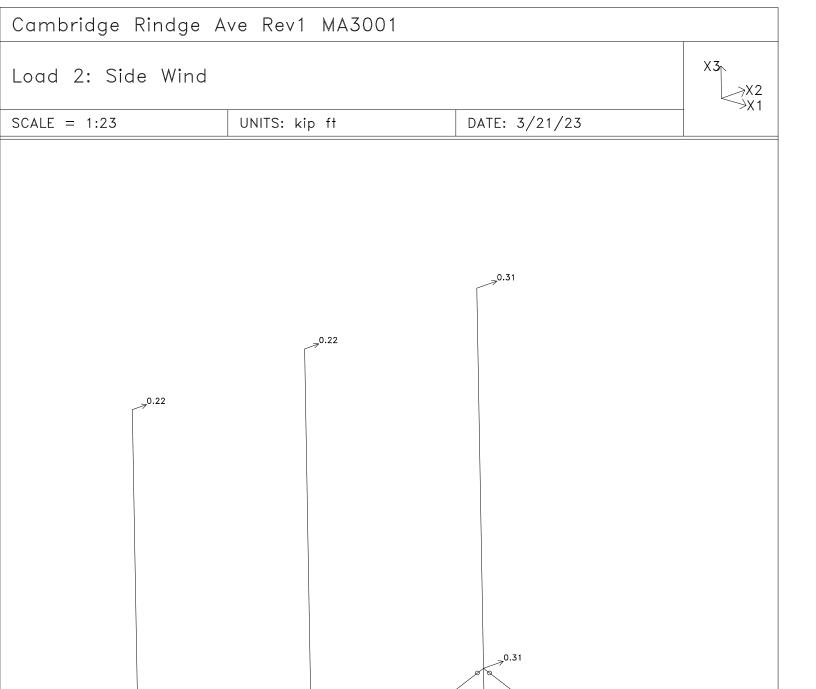
Load no. 2: Side Wind (units - kips ft.)

/ JOINT LOADS / JOINT LOADS FX2 0.22 N 2 3 8 7 FX2 0.31 N 11 12 / END STATIC

FORCE SUMMATION

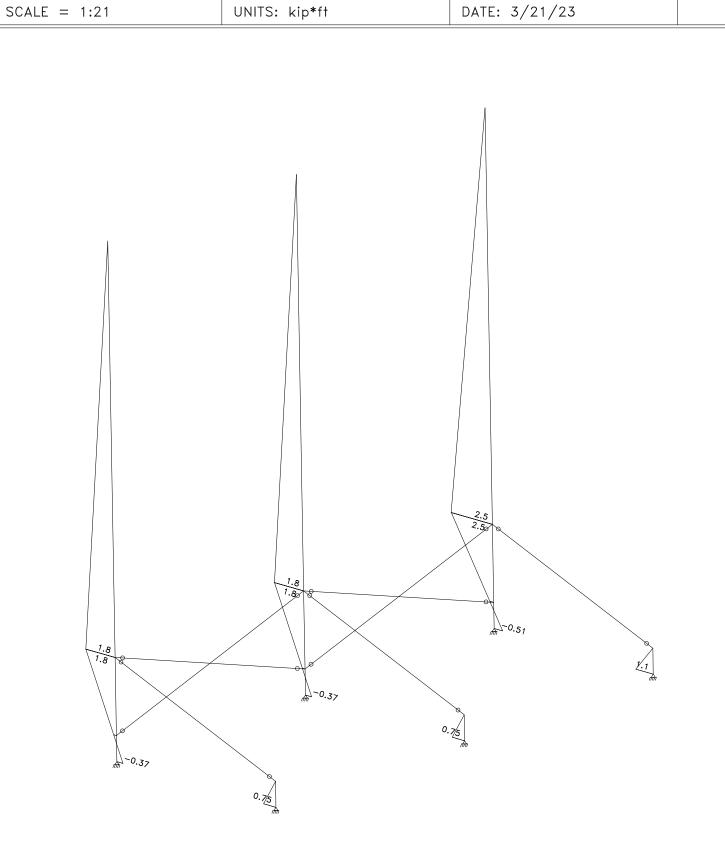
FX1=0. kip FX2=1.5 kip FX3=0. kip





_0.22

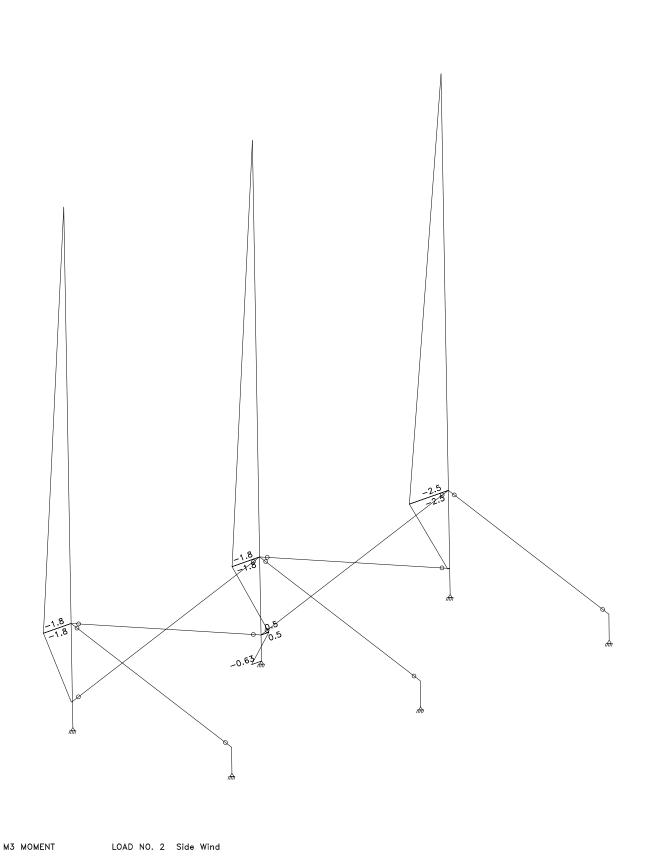
Cambridge	Rindge	Ave	Rev1	MA3001	
					X3 X2 X1



M2 MOMENT

LOAD NO. 1 Front Wind

Cambridge	Rindge /	Ave Rev1	MA3001		
					X3 >X2 >X1
SCALE = 1:21		UNITS: kip	o*f†	DATE: 3/21/23	



Cambridge Rindge Ave Rev1 MA3001		
		X3 X2 X1
SCALE = 1:23 UNITS: kip ft	DATE: 3/21/23	7,71

Cambridge Rindge Ave Rev1 MA3001

Prepared by:

Code: AISC-ASD Page: 1 Date: 3/21/23

Results Sur						r y	T a b	l e			
							C	APAC	ITY		
			Defl			Dir				Combined	
Beam	Section	Com	L/	Slen	Axial		Shear	Mom	LTB	Axial+Mom	
1	PIPE 4	2	1100	79	0.01	MJ	0.04	0.28	0.28	0.30	
						MI	0.04	0.28	0.00		
3	PIPE 4	1	9999	4	-0.01	MJ	0.06	0.12	0.12	0.12	
4	L 2x2x1/4	1	9999	131	-0.20	MI	0.00	0.00	0.00	0.20	
5	PIPE 4	1	1100	79	0.01	MJ	0.04	0.28	0.28	0.29	
						MI	0.08	0.28	0.00		
7	PIPE 4	1	9999	4	-0.01	MJ	0.06	0.12	0.12	0.12	
8	L 2x2x1/4	1	9999	131	-0.20	MI	0.00	0.00	0.00	0.20	
9	PIPE 4	2	780	79	-0.02	MJ	0.06	0.40	0.40	0.41	
						MI	0.06	0.40	0.00		
11	PIPE 4	1	9999	4	-0.01	MJ	0.08	0.17	0.17	0.17	
12	L 2x2x1/4	1	9999	131	-0.28	MI	0.00	0.00	0.00	0.28	
20	L 2x2x1/4	2	9999	160	0.05	MI	0.00	0.00	0.00	0.05	
21	L 2x2x1/4	2	9999	160	-0.19	MI	0.00	0.00	0.00	0.19	
22	L 2x2x1/4	2	9999	160	-0.30	MI	0.00	0.00	0.00	0.30	
23	L 2x2x1/4	2	9999	160	0.11	MI	0.00	0.00	0.00	0.11	

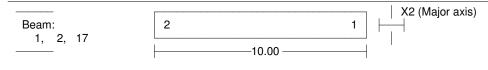
Cambridge Rindge Ave Rev1 MA3001

Prepared by:

Code: AISC-ASD Page: 1 **Date:** 3/21/23

Detailed Results Table for Beam 1 - 17

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch



CONSTRAINTS

DESIGN DATA

- Sections : Check -Kx = 1.00- Ky = 1.00

- Steel Grade: A53 - Allow. Slend.: 200 (compr.) 300 (tens.)

- Allowable Deflection : 1/240

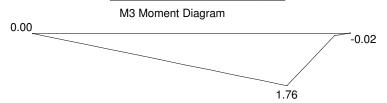
- Tension Area Reduction Factor: 1.00

- Building type : Unbraced

Section: PIPE 4

14.47 Cw = 0.00in6

DESIGN COMBINATION = 2



Max. AXIAL Force = 0.75 (tens.) Max. SHEAR Force = 1.12

DESIGN	EQUATION	FACTORS	VALUES	RESULT
V2 Shear (F4-1)	V/(Av*Fv) <1.00 Fv=0.4*Fy	Av = 1.90	V = 1.12 Fv = 14.00	0.04
M3 Moment (F3-1)	M S*Fb < 1.00	S = 3.21 Fb =0.660 *Fy	M = 1.76 S*Fb = 6.20	0.28
Deflection	defl. L / 240 < 1.00		defl = 0.10873	0.22
Combined Stresses (Local) (H1-2) (H2-1)	$ \frac{fa}{0.6Fy} + \frac{fbx}{Fbx} + \frac{fby}{Fby} $ (Ft) $ < 1.00 $	fbx = 0.02 Fbx= 23.10 fby = 6.56 Fby= 23.10	P = 0.75 A = 3.17 Fu = 60.00 fb = M/S	0.29
Axial Force (D1)	F 0.60AgFy < 1.00	(kL/r)x =79 (kL/r)y =79	P = 0.75 Ag = 3.17 Fy = 35.00	0.01
Combined Stresses (tension) (H2-1)	$ \frac{fa}{Ft} + \frac{fbx}{Fbx} + \frac{fby}{Fby} < 1.00 $	Fbx = 23.10 Fby = 23.10	fbx = 0.02 fby = 6.56	0.30

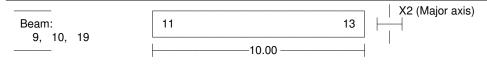
Code: AISC-ASD

Cambridge Rindge Ave Rev1 MA3001

Page: 2 **Date:** 3/21/23 Prepared by:

Detailed Results Table for Beam 9 - 19

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch



CONSTRAINTS

DESIGN DATA

- Sections : Check

- Steel Grade: A53 - Kx = 1.00 - Ky = 1.00 - Allow. Slend. : 200 (compr.) 300 (tens.)

- Allowable Deflection : 1/240

- Tension Area Reduction Factor: 1.00

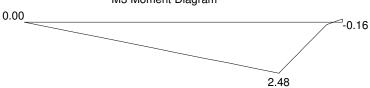
- Building type : Unbraced

Section: PIPE 4

$$lx = 7.23 ly = 7.23in4 Sx = 3.21 Sy = 3.21in3 Area = 3.17$$

DESIGN COMBINATION = 2

M3 Moment Diagram



Max. AXIAL Force = -0.96 (compr.) Max. SHEAR Force = 1.57

DESIGN	EQUATION	FACTORS	VALUES	RESULT
V2 Shear (F4-1)	V/(Av*Fv) <1.00 Fv=0.4*Fy	Av = 1.90	V = 1.57 Fv = 14.00	0.06
M3 Moment (F3-1)	M S*Fb < 1.00	S = 3.21 Fb =0.660 *Fy	M = 2.48 S*Fb = 6.20	0.40
Deflection	defl. L / 240 < 1.00		defl = 0.15329	0.31
Combined Stresses (Local) (H1-2) (H2-1)	$ \frac{fa}{0.6Fy} + \frac{fbx}{Fbx} + \frac{fby}{Fby} $ (Ft) < 1.00	fbx = 0.02 Fbx= 23.10 fby = 9.25 Fby= 23.10	P = 0.96 A = 3.17 Fu = 60.00 fb = M/S	0.42
Axial Force (E2-1/2)	fa < 1.00	(kL/r)x =24 (kL/r)y =24 Cc = 128.10	P = 0.96 Ag = 3.17 Fa = 19.81	0.02
Combined Stresses (tension) (H2-1)	$\frac{\text{fa}}{\text{Ft}} + \frac{\text{fbx}}{\text{Fbx}} + \frac{\text{fby}}{\text{Fby}} < 1.00$	Fbx = 23.10 Fby = 23.10	fbx = 0.02 fby = 9.25	0.40

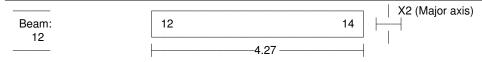
Cambridge Rindge Ave Rev1 MA3001

Code: AISC-ASD
Page: 3
Prepared by:

Date: 3/21/23

Detailed Results Table for Beam 12

Moments: kips*foot, Forces: kips, Stresses: ksi, Section prop.: inch



CONSTRAINTS

DESIGN DATA

- Sections : Check

eck -Kx = 1.00 -Ky = 1.00

- Steel Grade: A36 - Allow. Slend.: 200 (compr.) 300 (tens.)

- Allowable Deflection : 1/240

- Tension Area Reduction Factor: 1.00

- Building type : Unbraced

Section: L 2x2x1/4

DESIGN COMBINATION = 1

Max. AXIAL Force = -2.26 (compr.) Max. SHEAR Force = 0.00

SECTION CLASSIFICATION: *** COMPACT ***

Limiting Ratios: Compact Non-Compact

d/t= 8.06 < 12.7 12.7

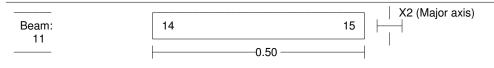
b/t = 8.06 < 12.7

(Fy= 36.0)

DESIGN	EQUATION	FACTORS		V	'ALUES	RESULT
Axial Force (E2-1/2)	fa < 1.00	(kL/r)x =84 (kL/r)y =131 Cc = 126.31	Ag	=	2.26 0.94 8.73	0.28

Detailed Results Table for Beam 11

Moments: kips*foot, Forces: kips, Stresses: ksi, Section prop.: inch



CONSTRAINTS

DESIGN DATA

- Sections : Check - Kx = 1.00 - Ky = 1.00

- Steel Grade: A53 - Allow. Slend.: 200 (compr.) 300 (tens.)

- Allowable Deflection : 1/240

- Tension Area Reduction Factor: 1.00

- Building type : Unbraced

Section: PIPE 4

Ix = 7.23 Iy = 7.23in4 Sx = 3.21 Sy = 3.21in3 Area = 3.17

D = 4.50 t = 0.24inJ = 14.47 Cw = 0.00in6

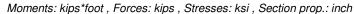
DESIGN COMBINATION = 1

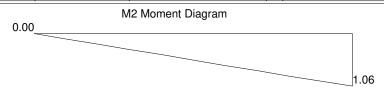
Cambridge Rindge Ave Rev1 MA3001

Code: AISC-ASD
Page: 4
Prepared by:

Date: 3/21/23

Detailed Results Table for Beam 11



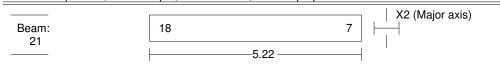


Max. AXIAL Force = -0.79 (compr.) Max. SHEAR Force = 2.12

DESIGN	EQUATION	FACTORS	VALUES	RESULT
V3 Shear (F4-1)	V/(Av*Fv) <1.00 Fv=0.4*Fy	Av = 1.90	V = 2.12 Fv = 14.00	0.08
M2 Moment (F3-1)	M S*Fb < 1.00	S = 3.21 Fb =0.660 *Fy	M = 1.06 S*Fb = 6.20	0.17
Combined Stresses (Local) (H1-2) (H2-1)	$ \frac{fa}{0.6Fy} + \frac{fbx}{Fbx} + \frac{fby}{Fby} $ (Ft) $ < 1.00 $	fbx = 3.95 Fbx= 23.10 fby = 0.00 Fby= 0.00	P = 0.79 A = 3.17 Fu = 60.00 fb = M/S	0.18
Axial Force (E2-1/2)	fa < 1.00	(kL/r)x =4 (kL/r)y =4 Cc = 128.10	P = 0.79 Ag = 3.17 Fa = 20.84	0.01
Combined Stresses (tension) (H2-1)	$\frac{fa}{Ft} + \frac{fbx}{Fbx} + \frac{fby}{Fby} < 1.00$	Fbx = 23.10 Fby = 23.10	fbx = 3.95 fby = 0.00	0.17

Detailed Results Table for Beam 21

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch



CONSTRAINTS DESIGN DATA

- Sections : Check - Kx = 1.00 - Ky = 1.00

- Steel Grade: A36 - Allow. Slend. : 200 (compr.) 300 (tens.)

- Allowable Deflection : 1/240

- Tension Area Reduction Factor: 1.00

- Building type : Unbraced

Section: L 2x2x1/4

DESIGN COMBINATION = 2

Cambridge Rindge Ave Rev1 MA3001 Code: AISC-ASD **Page:** 5

Date: 3/21/23 Prepared by:

Detailed Results Table for Beam 21

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch

Max. AXIAL Force = -1.05 (compr.) Max. SHEAR Force =

SECTION CLASSIFICATION: *** COMPACT ***

Limiting Ratios: Compact Non-Compact

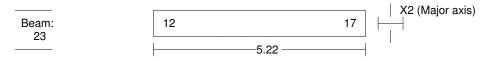
d/t = 8.06< 12.7 12.7 (Fy= 36.0)

b/t = 8.06< 12.7

DESIG	ΞN	EQUATION	FACTORS		VALUES	RESULT
Axial Force (E2-1/2)		fa Fa < 1.00	(kL/r)x =103 (kL/r)y =160 Cc = 126.31	P Ag Fa	= 1.05 = 0.94 = 5.85	0.19

Detailed Results Table for Beam 23

Moments: kips*foot, Forces: kips, Stresses: ksi, Section prop.: inch



CONSTRAINTS

DESIGN DATA

- Sections : Check -Kx = 1.00- Ky = 1.00

- Allow. Slend.: 200 (compr.) 300 (tens.) - Steel Grade: A36

- Allowable Deflection: 1/240

- Tension Area Reduction Factor: 1.00

- Building type : Unbraced

Section: L 2x2x1/4

0.35 ly = 0.35 in4 Sx = 0.25 Sy = 0.25 in3 Area = 0.94 $h = 2.00 \ b = 2.00in \ t = 0.25 \ ey = 1.42in \ ex = 1.42in$

0.02 Cw = 0.00 in 6 Iv = 0.14 in 4

DESIGN COMBINATION = 2

Max. AXIAL Force = 2.29 (tens.) Max. SHEAR Force =

SECTION CLASSIFICATION: *** COMPACT ***

Limiting Ratios: Compact Non-Compact

d/t = 8.06(Fy= 36.0)12.7 12.7

b/t = 8.06< 12.7

DESIGN	EQUATION	FACTORS	VALUES	RESULT
Axial Force (D1)	F 0.60AgFy < 1.00	(kL/r)x =103 (kL/r)y =160	P = 2.29 Ag = 0.94 Fy = 36.00	0.11



Radio Frequency Safety Survey Report Prediction (RFSSRP)

AT&T Rooftop Facility

Site Name	402 RINDGE AVE DUP				
Site ID		MA3001			
Site Address	402 RINDGE AVE	DUP, CAMBRIDGE, MA 02140			
Latitude: 42.3	930640	Prepared for: Centerline on behalf of			
Longitude: -71	1.1398080	AT&T			
USID: 320585					
FA : 15630860		Report Date: February 9, 2023			
Centerline PN	: N/A				
Pace ID: MRC	CTB051969;	Report Writer: Benjamin Black			
MRCTB066609; MRCTB066606;		Report Reviewer: Yasir Alqadhili			
MRCTB06658	4; MRCTB066586;				
MRCTB06660	4; MRCTB066607				



Statement of Compliance

AT&T will be compliant with FCC Regulations upon installation of recommended mitigation measures.



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1.0 GENERAL SUMMARY

Centerline Communications, LLC ("Centerline") has been contracted to provide a Radio Frequency (RF) Analysis for the following AT&T rooftop facility to determine whether the facility is in compliance with federal standards and regulations regarding RF emissions. This analysis includes theoretical emissions calculations for all equipment for AT&T.

1.1 SITE SUMMARY

Analysis Site Data									
	Site USID:	320585							
	Site FA#:	15630860							
	Site Name:	402 RINDGE AVE DUP							
	Site Address:	402 RINDGE AVE DUP, CAMBRIDGE							
		MA 02140							
	Site Latitude:	42.3930640							
	Site Longitude:	-71.1398080							
	Facility Type:	Rooftop							
Compliance Summary									
	Compliance Status:	Compliant Upon Mitigation							
Maximum AT&T	Predicted MPE Level on Site	14,220.00%							
	(General Public Limit):	14,220.0070							
Maximum Composite	Predicted MPE Level on Site	14,220.00%							
	(General Public Limit):	14,220.0070							
Maximum AT&T	Predicted Ground Level MPE	0.13%							
	(General Public Limit):	0.1370							
Maximum Comp	osite Predicted Ground Level	0.13%							
	(General Public Limit):								
	Site Data Informat								
CD:	MA3001 Construction (Camb	<u> </u>							
RFDS:	NEW-ENGLAND_BOSTON								
	Site_New_ra9161_2101A0ZN6N_15630860_320585_05-12-								
	2022_Preliminary-In-Progres	s_v4.00							



1.2 SITE MITIGATION

Signage and barriers are the primary means of mitigating accessible areas of exposure. Below is a summary of existing and recommended signage at this AT&T facility.

Existing Signage and Barriers (AT&T Sectors)											
Location	Information	Notice	Notice 2	Caution	Caution 2	Caution 2B	Caution 2C	Warning	Warning 2	Barriers	
Alpha	0	0	0	0	0	0	0	0	0	0	
Beta	0	0	0	0	0	0	0	0	0	0	
Gamma	0	0	0	0	0	0	0	0	0	0	
Access 1	0	0	0	0	0	0	0	0	0	0	
Access 2	0	0	0	0	0	0	0	0	0	0	

Recommended Signage and Barriers (AT&T Sectors) – Actions that MUST be Taken												
Location Notice 2 Caution 2 Caution 2B Caution 2C Warning 2 Barriers												
Alpha	0	0	0	2	0	0						
Beta	0	0	0	2	0	0						
Gamma	0	2	0	0	0	0						
Access 1	0	0	0	0	0	0						
Access 2	0	0	0	0	0	0						

Final Compliant Configuration (AT&T Sectors) – All Mitigation Items that MUST be in Place											
Location	Information	Notice	Notice 2	Caution	Caution 2	Caution 2B	Caution 2C	Warning	Warning 2	Barriers	
Alpha	0	0	0	0	0	0	2	0	0	0	
Beta	0	0	0	0	0	0	2	0	0	0	
Gamma	0	0	0	0	2	0	0	0	0	0	
Access 1	0	0	0	0	0	0	0	0	0	0	
Access 2	0	0	0	0	0	0	0	0	0	0	

Alpha:

• Install (2) Caution 2c signs on the safety fence behind the antennas as depicted in the site scale map (see p. 5).

Beta:

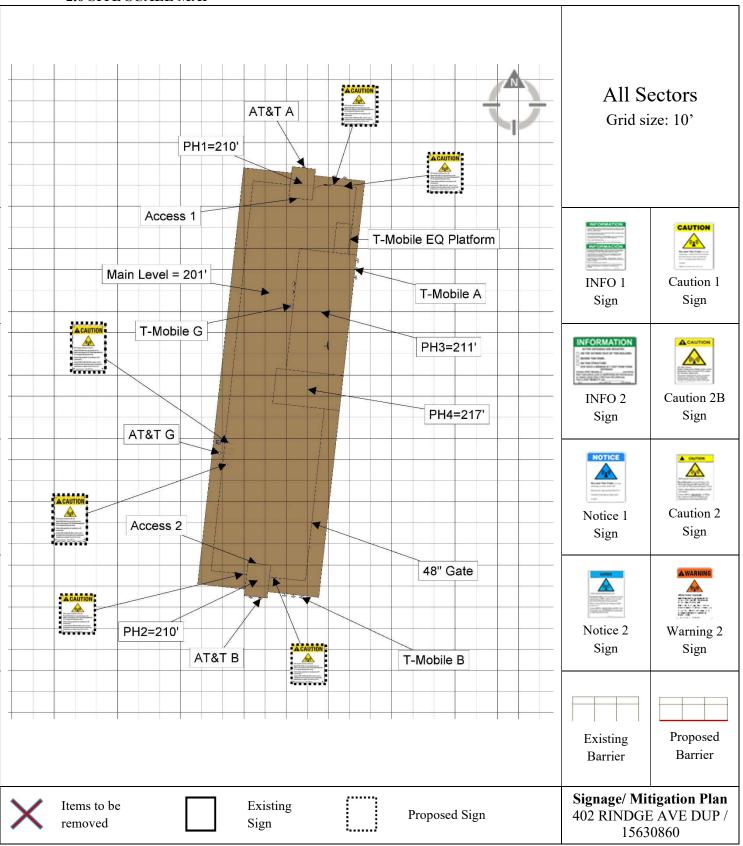
• Install (2) Caution 2c signs on the safety fence flanking the antennas as depicted in the site scale map (see p. 5).

Gamma:

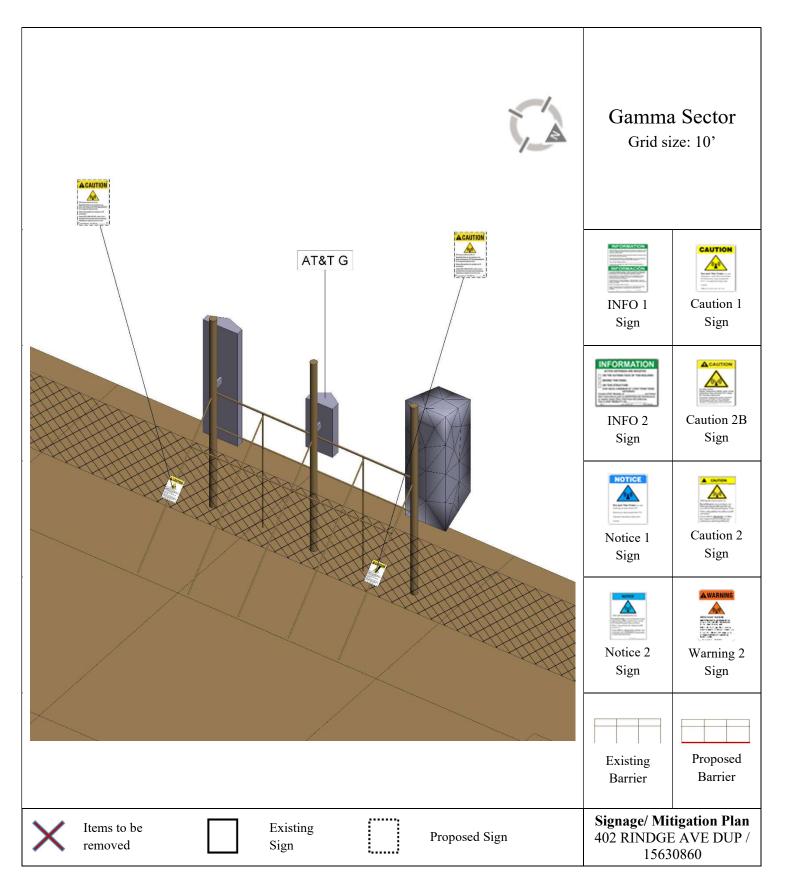
• Install (2) Caution 2 sign on the antenna mount behind the antennas as depicted in the site scale map (see p. 6).



2.0 SITE SCALE MAP









2.1 ADJACENT BUILDING ANALYSIS

• The AIR6449/6419 antennas do not exceed limits on any adjacent building. All adjacent buildings are >70' away laterally and/or >16' below the AIR6449/6419 antennas.





3.0 ANTENNA INVENTORY

ANTEND		T. 041.0411	Freq	ТРО	Azimuth	Mech. Tilt	Elec. Tilt	Gain	ERP	Antenna Length	Antenna Z Value
ANT ID	Operator	Type/Make/Model	(MHz)	(watts)	(°)	(°)	(°)	(dBd)	(watts)	(ft.)	(ft.) AGL*
1	AT&T	Panel/Ericsson/AIR 6419	3450	54.22	10	0	6	23.05	10943.58	2.35	207.41
2	AT&T	Panel/Ericsson/AIR 6449	3700	86.75	10	0	6	23.55	19645.79	2.55	203.31
3	AT&T	Panel/CCI/TPA65R-BU6D	700	120.00	10	0	2 to 12	12.35	2061.49	5.93	195.04
3	AT&T	Panel/CCI/TPA65R-BU6D	2300	75.00	10	0	0 to 8	15.85	2884.44	5.93	195.04
4	AT&T	Panel/CCI/DMP65R-BU6D	700	120.00	10	0	2 to 12	11.85	1837.3	5.93	195.04
4	AT&T	Panel/CCI/DMP65R-BU6D	850	120.00	10	0	2 to 12	12.45	2109.51	5.93	195.04
4	AT&T	Panel/CCI/DMP65R-BU6D	1900	120.00	10	0	0 to 8	15.95	4722.6	5.93	195.04
4	AT&T	Panel/CCI/DMP65R-BU6D	2100	120.00	10	0	0 to 8	15.95	4722.6	5.93	195.04
5	AT&T	Panel/CCI/TPA65R-BU6D	700	120.00	190	0	2 to 12	12.35	2061.49	5.93	204.04
5	AT&T	Panel/CCI/TPA65R-BU6D	2300	75.00	190	0	0 to 8	15.85	2884.44	5.93	204.04
6	AT&T	Panel/CCI/DMP65R-BU6D	700	120.00	190	0	2 to 12	11.85	1837.3	5.93	204.04
6	AT&T	Panel/CCI/DMP65R-BU6D	850	120.00	190	0	2 to 12	12.45	2109.51	5.93	204.04
6	AT&T	Panel/CCI/DMP65R-BU6D	1900	120.00	190	0	0 to 8	15.95	4722.6	5.93	204.04
6	AT&T	Panel/CCI/DMP65R-BU6D	2100	120.00	190	0	0 to 8	15.95	4722.6	5.93	204.04
7	AT&T	Panel/Ericsson/AIR 6419	3450	54.22	190	0	6	23.05	10943.58	2.35	199.41
8	AT&T	Panel/Ericsson/AIR 6449	3700	86.75	190	0	6	23.55	19645.79	2.55	195.31
9	AT&T	Panel/CCI/OPA65R-BU6D	700	120.00	275	0	2 to 12	12.15	1968.71	5.93	204.04
9	AT&T	Panel/CCI/OPA65R-BU6D	2300	75.00	275	0	0 to 8	16.05	3020.38	5.93	204.04
10	AT&T	Panel/Ericsson/AIR 6449	3700	86.75	275	0	6	23.55	19645.79	2.55	205.73



ANT ID	Operator	Type/Make/Model	Freq (MHz)	TPO (watts)	Azimuth (°)	Mech. Tilt	Elec. Tilt	Gain (dBd)	ERP (watts)	Antenna Length (ft.)	Antenna Z Value (ft.) AGL*
11	AT&T	MATSING/MS-MBA-3.2- H4-L4	700	240.00	275	0	()	11.35	3275	6	204.00
11	AT&T	MATSING/MS-MBA-3.2- H4-L4	850	240.00	275	0		11.35	3275	6	204.00
11	AT&T	MATSING/MS-MBA-3.2- H4-L4	1900	360.00	275	0		15.65	13222.16	6	204.00
11	AT&T	MATSING/MS-MBA-3.2- H4-L4	2100	360.00	275	0		15.65	13222.16	6	204.00
12	T-Mobile	Panel/Generic 6ft.	650	120.00	90	0	0	11.95	1880.1	6	205.00
12	T-Mobile	Panel/Generic 6ft.	700	120.00	90	0	0	12.35	2061.49	6	205.00
13	T-Mobile	Panel/Generic 6ft.	1900	120.00	90	0	2	15.55	4307.06	6	205.00
14	T-Mobile	Panel/Generic 6ft.	2100	120.00	90	0	2	15.55	4307.06	6	205.00
15	T-Mobile	Panel/Generic 6ft.	650	120.00	180	0	0	11.95	1880.1	6	192.00
15	T-Mobile	Panel/Generic 6ft.	700	120.00	180	0	0	12.35	2061.49	6	192.00
16	T-Mobile	Panel/Generic 6ft.	1900	120.00	180	0	2	15.55	4307.06	6	192.00
17	T-Mobile	Panel/Generic 6ft.	2100	120.00	180	0	2	15.55	4307.06	6	192.00
18	T-Mobile	Panel/Generic 6ft.	650	120.00	270	0	0	11.95	1880.1	6	205.00
18	T-Mobile	Panel/Generic 6ft.	700	120.00	270	0	0	12.35	2061.49	6	205.00
19	T-Mobile	Panel/Generic 6ft.	1900	120.00	270	0	2	15.55	4307.06	6	205.00
20	T-Mobile	Panel/Generic 6ft.	2100	120.00	270	0	2	15.55	4307.06	6	205.00
21	Other	Parabolic reflector/ Generic/120cm Dish	18000	0.01	90	0		44.1	257.04	3.94	212.03

*AGL = Above Ground Level

Note: Z Value represents the bottom tip height of the antenna 75% duty cycle is assumed for all AT&T antennas

AT&T AIR6449/6419 antennas were calculated using AT&T's preferred conservative power reduction factor of 0.32



4.0 PREDICTED RF EXPOSURE LEVELS

Calculations performed based upon the data listed for this facility have produced results that are above allowable MPE limits for General Population and Occupational limits for exposure to RF emissions as specified by federal standards.

Maximum AT&T Predicted MPE Level on Site:	% of MPE Limit:
Accessible General Population MPE Limits:	14,220.00%
Accessible Occupational MPE Limits:	2,844.00%

Maximum Composite Predicted MPE Level on Site:	% of MPE Limit:
Accessible General Population MPE Limits:	14,220.00%
Accessible Occupational MPE Limits:	2,844.00%

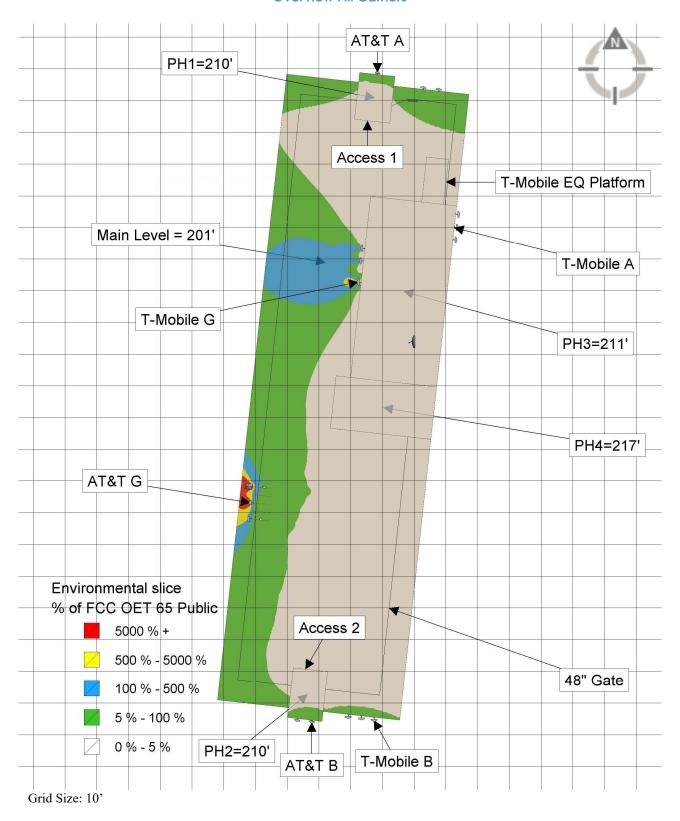
Maximum AT&T Predicted Ground Level MPE:	% of MPE Limit:
Accessible General Population MPE Limits:	0.13%
Accessible Occupational MPE Limits:	0.03%

Maximum Composite Predicted Ground Level MPE:	% of MPE Limit:
Accessible General Population MPE Limits:	0.13%
Accessible Occupational MPE Limits:	0.03%



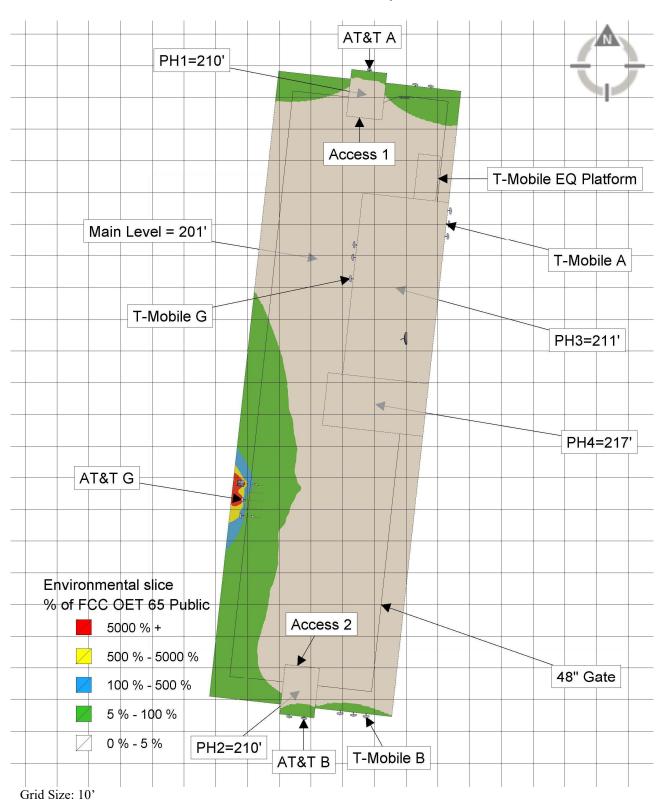
5.0 RF EXPOSURE DIAGRAMS

Overview All Carriers



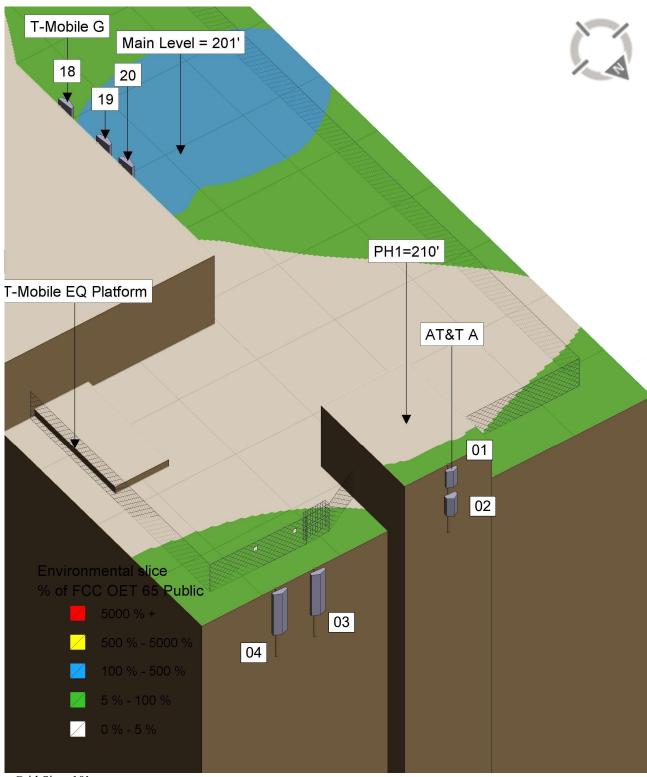


Overview AT&T Only





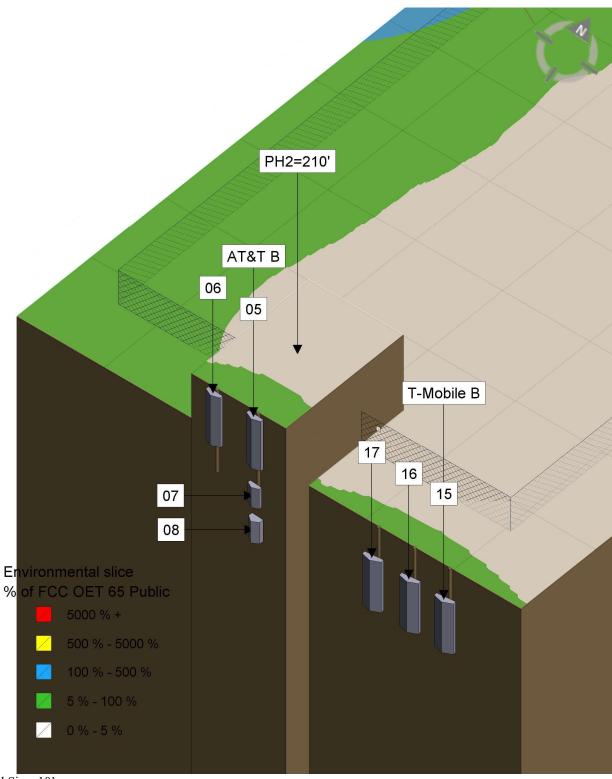
Alpha Sector Overview



Grid Size: 10'



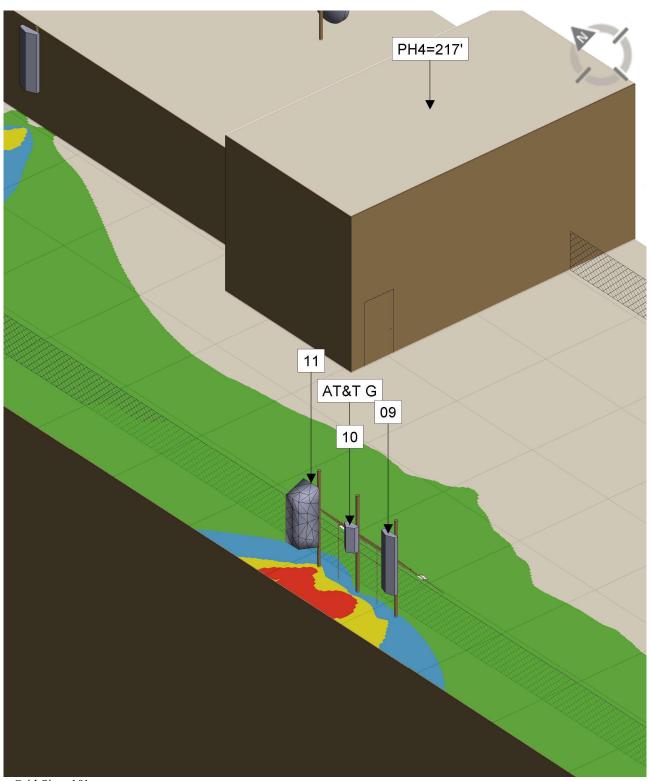
Beta Sector Overview



Grid Size: 10'



Gamma Sector Overview



Grid Size: 10'



6.0 STATEMENT OF COMPLIANCE

Centerline conducted worst case modeling to determine whether the rooftop facility located at 402 RINDGE AVE DUP CAMBRIDGE, Massachusetts is in compliance with FCC Regulations.

Based on the information analyzed, AT&T will be compliant with FCC Regulations once the mitigation measures recommended in this report are implemented.

6.1 RECOMMENDATIONS

Existing Signage and Barriers (AT&T Sectors)												
Location	Information	nformation Notice Notice 2 Caution Caution 2 Caution 2B Caution 2C Warning Warning 2 Barriers										
Alpha	0	0	0	0	0	0	0	0	0	0		
Beta	0	0	0	0	0	0	0	0	0	0		
Gamma	0	0	0	0	0	0	0	0	0	0		
Access 1	0	0	0	0	0	0	0	0	0	0		
Access 2	0	0	0	0	0	0	0	0	0	0		

Recommended Signage and Barriers (AT&T Sectors) – Actions that MUST be Taken												
Location Notice 2 Caution 2 Caution 2B Caution 2C Warning 2 Barriers												
Alpha	0	0	0	2	0	0						
Beta	0	0	0	2	0	0						
Gamma	0	2	0	0	0	0						
Access 1	0	0	0	0	0	0						
Access 2	0	0	0	0	0	0						

Final Compliant Configuration (AT&T Sectors) – All Mitigation Items that MUST be in Place										
Location	Information	Notice	Notice 2	Caution	Caution 2	Caution 2B	Caution 2C	Warning	Warning 2	Barriers
Alpha	0	0	0	0	0	0	2	0	0	0
Beta	0	0	0	0	0	0	2	0	0	0
Gamma	0	0	0	0	2	0	0	0	0	0
Access 1	0	0	0	0	0	0	0	0	0	0
Access 2	0	0	0	0	0	0	0	0	0	0

Alpha:

• Install (2) Caution 2c signs on the safety fence behind the antennas as depicted in the site scale map (see p. 5).

Beta:

• Install (2) Caution 2c signs on the safety fence flanking the antennas as depicted in the site scale map (see p. 5).

Gamma:

• Install (2) Caution 2 sign on the antenna mount behind the antennas as depicted in the site scale map (see p. 6).



APPENDIX A: AT&T RF SIGNAGE

Sign	Description	Sign	Description
INFORMATION THE BY THE PROPERTY OF THE PROPER	Information 1 Sign Gives guidelines on how to proceed and who to contact regarding areas that may exceed either the FCC's General Population or Occupational emissions limits.	JAEL operators automous at this size. Beyond files Pleater year one extension an area where called inceptors (PER Beldes may searced the FCC Congational Exposure United FCC Congational Exposure United FCC Constact ASIA at 800-439-2822, option 9 and 3, and follow their instructions pier to performing maintenance or reports beyond the logical Tennance and the ASIA and Tennance and Tennance ASIA and Tennance and Tennance ASIA and Tennance AS	Caution 2C Sign Gives specific information on how to proceed and who to contact regarding antennas that are façade mounted, concealed or on stand-alone structures.
Beyond This Point you are enlering an area where RF Emissions may exceed the FOC General Population Exposure Limits	Blue Notice 1 Sign Used to alert individuals that they are entering an area that may exceed the FCC's General Population emissions limit. Must be positioned such that persons approaching from any angle have ample warning to avoid the marked areas.	Alka Toperaties anteninas at this site. **Beyond This Point you are entering an area where custo inequency (81) Tokis, may exceed the EC General Population Lopezone Limbs. *Follow sudery guidelines for working in an life Contract Alka at 1600-688-822, option you and a and follow their instructions prior to performing any manifectance or perspis above this point. ***On the Alka at 188** ***Town In Alka Em.** **Town In Alka Em.** ***Town In Alka Em.** ***Town In Alka Em.**	Blue Notice 2 Sign Used to alert individuals that they are entering an area that may exceed the FCC's General Population emissions limits. To be used on barriers or antenna sectors as a hybrid of the Information 1 and Blue Notice 1 signs.
	Yellow Caution 1 Sign-		Yellow Caution 2 Sign-
Beyond This Point you are entering a controlled area where RF Emissions may exceed the FCC Occupational Exposure Limits Chew all control comes and site	Rooftop Used to inform individuals that they are entering an area that may exceed the FCC's Occupational emissions limit. Must be positioned such that persons approaching from any angle have ample warning to avoid the marked areas.	All operates attentions at this site. By one of the Park you or extention go area where dails freeze (1919 her) to be a certain go area where dails freeze (1919 her) area yeared the KC Coupstrional Exposure Limit. Follow safety productions for working in an SF environment. Contact ARIA at 806-818-2322, option 9 and 3; and follow their instructions gripped to performing an attention of the production of	Rooftop Used to alert individuals that they are entering an area that may exceed the FCC's Occupational emissions limit. To be used on barriers or antenna sectors as a hybrid of the Information 1 and Yellow Caution 1 signs.
On this tower: Bad for frequency [8] fields near some antennas may exceed the CO Coopstional Eposome Limit. Contact ABS at 806-858-8212, option 9 and 3, and maintennator explain beyond this point. Personnel climbing this tower should be trailend for wording in fife enriemments and one a personal BF monitor if working near active antennas. • *** **Teaching actions** **This is ABS of the	Yellow Caution 2B Sign- Tower Used to inform individuals that they are entering an area that may exceed the FCC's Occupational emissions limits. Must be placed at the base of the tower to warn tower climbers of potential for exposure.	AND operates antennas at this site. Sepond This Point you are entering an area where each operancy (IF) fields acceed the FCC Occupational Exposure Limits. Failure to follow 600-58 2822, open and 3, and respect assistance prior to proceeding beyond the joint. **This Point of This This Point of This Point o	Warning 2 Sign Used to inform individuals that they are entering an area that may exceed the FCC's Occupational emissions limit by a factor of 10 or greater. Must be positioned such that persons approaching from any angle have ample warning to avoid the marked areas.



APPENDIX B: FCC GUIDELINES AND EMISSIONS THRESHOLD LIMITS

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm²) or microwatts per square centimeter (μ W/cm²). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm²) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm² (1000 μ W/cm²). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Because exposure limits may vary for each frequency band, it is necessary to report % MPE rather than power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.

The FCC Mandates that if a site is found to be out of compliance with regard to exposure that any system operator contributing 5% or more to areas exceeding the FCC's allowable limits will be responsible for bringing the site into compliance.

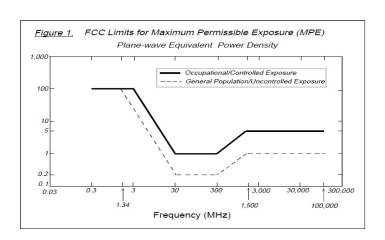
Additional details can be found in FCC OET 65.



	Table 1: Limit	s for Maximum Permissible Ex	aposure (MPE)				
(A) Limits for Occupational/Controlled Exposure							
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time [E] ² , [H] ² , or S (minutes)			
0.3-3.0	614	1.63	(100)*	6			
3.0-30	1842/f	4.89/f	(900/f ²)*	6			
30-300	61.4	0.163	1.0	6			
300-1,500			f/300	6			
1,500-100,000			5	6			
	(B) Limits	for General Public/Uncontroll	ed Exposure				
Frequency Range	Electric Field Strength (E)	Magnetic Field Strength (H)	Power Density (S)	Averaging Time [E] ² , [H] ² , or S			
(MHz)	(V/m)	(A/m)	(mW/cm ²)	(minutes)			
0.3-1.34	614	1.63	(100)*	30			
1.34-30	824/f	2.19/f	(180/f²)*	30			
30-300	27.5	0.073	0.2	30			
300-1,500			f/1,500	30			
1,500-100,000			1.0	30			

f = Frequency in (MHz)

^{*} Plane-wave equivalent power density





APPENDIX C: CALCULATION METHODOLOGY

IXUS electromagnetic energy (EME) calculation software was used to assess all RF field levels presented in this study. IXUS software uses a fast and accurate EME calculation tool that allows for the determination of RF field strength in the vicinity of radio communication base stations and transmitters. At its core, the IXUS EME calculation module implements evaluation techniques detailed in the ITU-T K.61, CENELEC EN 50383, and IEC 62232 specifications and referenced in *C95.3 IEEE Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 0 Hz to 300 GHz.* The EME calculation result at any point in 3D space is achieved via a synthetic ray tracing technique, a conservative cylindrical envelope method, or through full-wave electromagnetic simulation. The ray tracing method is an advanced computation method described in IEC 622322 where the power is summed from elemental sources representing the individual components of the antenna which are selected by an analysis of published manufacturer datasheets and antenna pattern information. The selection of the solution method is determined by the particular antenna being considered.



APPENDIX D: CERTIFICATIONS

I, Benjamin Black, preparer of this report certify that I am fully trained and aware of the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I have been trained in the procedures and requirements outlined in AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document.

Benjamin Black

2/9/2023

I, Yasir Alqadhili, reviewer and approver of this report certify that I am fully trained and aware of the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I have been trained in the procedures and requirements outlined in AT&T's RF Exposure: Responsibilities, Procedures & Guidelines document.

Yasir Alqadhili

2/9/2023



APPENDIX E: PROPRIETARY STATEMENT

This report was prepared for the use of AT&T to meet all applicable FCC requirements. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by Centerline Communications, LLC are based solely on the information provided by AT&T and all observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to Centerline Communications, LLC so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

Subpart CC—State and Local Review of Applications for Wireless Service Facility Modification

§1.40001 Wireless Facility Modifications.

- (a) Purpose. These rules implement section 6409 of the Spectrum Act (codified at 47 U.S.C. 1455), which requires a State or local government to approve any eligible facilities request for a modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station.
- (b) Definitions. Terms used in this section have the following meanings.
- (1) Base station. A structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network. The term does not encompass a tower as defined in this subpart or any equipment associated with a tower.
- (i) The term includes, but is not limited to, equipment associated with wireless communications services such as private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.
- (ii) The term includes, but is not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration (including Distributed Antenna Systems and small-cell networks).
- (iii) The term includes any structure other than a tower that, at the time the relevant application is filed with the State or local government under this section, supports or houses equipment described in paragraphs (b)(1)(i) through (ii) of this section that has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, even if the structure was not built for the sole or primary purpose of providing such support.
- (iv) The term does not include any structure that, at the time the relevant application is filed with the State or local government under this section, does not support or house equipment described in paragraphs (b)(1)(i)-(ii) of this section.
- (2) Collocation. The mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.
- (3) Eligible facilities request. Any request for modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station, involving:
 - (i) Collocation of new transmission equipment;
 - (ii) Removal of transmission equipment; or

- (iii) Replacement of transmission equipment.
- (4) Eligible support structure. Any tower or base station as defined in this section, provided that it is existing at the time the relevant application is filed with the State or local government under this section.
- (5) Existing. A constructed tower or base station is existing for purposes of this section if it has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, provided that a tower that has not been reviewed and approved because it was not in a zoned area when it was built, but was lawfully constructed, is existing for purposes of this definition.
- (6) Site. For towers other than towers in the public rights-of-way, the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site, and, for other eligible support structures, further restricted to that area in proximity to the structure and to other transmission equipment already deployed on the ground.
- (7) Substantial change. A modification substantially changes the physical dimensions of an eligible support structure if it meets any of the following criteria:
- (i) For towers other than towers in the public rights-of-way, it increases the height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for other eligible support structures, it increases the height of the structure by more than 10% or more than ten feet, whichever is greater;
- (A) Changes in height should be measured from the original support structure in cases where deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.
- (ii) For towers other than towers in the public rights-of-way, it involves adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for other eligible support structures, it involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure by more than six feet;
- (iii) For any eligible support structure, it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; or, for towers in the public rights-of-way and base stations, it involves installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure, or else involves installation of ground cabinets that are more than 10% larger in height or overall volume than any other ground cabinets associated with the structure;

- (iv) It entails any excavation or deployment outside the current site;
- (v) It would defeat the concealment elements of the eligible support structure; or
- (vi) It does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in §1.40001(b)(7)(i) through (iv).
- (8) Transmission equipment. Equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply. The term includes equipment associated with wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.
- (9) Tower. Any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul, and the associated site.
- (c) Review of applications. A State or local government may not deny and shall approve any eligible facilities request for modification of an eligible support structure that does not substantially change the physical dimensions of such structure.
- (1) Documentation requirement for review. When an applicant asserts in writing that a request for modification is covered by this section, a State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation, including but not limited to documentation intended to illustrate the need for such wireless facilities or to justify the business decision to modify such wireless facilities.
- (2) Timeframe for review. Within 60 days of the date on which an applicant submits a request seeking approval under this section, the State or local government shall approve the application unless it determines that the application is not covered by this section.
- (3) Tolling of the timeframe for review. The 60-day period begins to run when the application is filed, and may be tolled only by mutual agreement or in cases where the reviewing State or local government determines that the application is incomplete. The timeframe for review is not tolled by a moratorium on the review of applications.
- (i) To toll the timeframe for incompleteness, the reviewing State or local government must provide written notice to the applicant within 30 days of receipt of the application, clearly and

specifically delineating all missing documents or information. Such delineated information is limited to documents or information meeting the standard under paragraph (c)(1) of this section.

- (ii) The timeframe for review begins running again when the applicant makes a supplemental submission in response to the State or local government's notice of incompleteness.
- (iii) Following a supplemental submission, the State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. The timeframe is tolled in the case of second or subsequent notices pursuant to the procedures identified in this paragraph (c)(3). Second or subsequent notices of incompleteness may not specify missing documents or information that were not delineated in the original notice of incompleteness.
- (4) Failure to act. In the event the reviewing State or local government fails to approve or deny a request seeking approval under this section within the timeframe for review (accounting for any tolling), the request shall be deemed granted. The deemed grant does not become effective until the applicant notifies the applicable reviewing authority in writing after the review period has expired (accounting for any tolling) that the application has been deemed granted.
- (5) Remedies. Applicants and reviewing authorities may bring claims related to Section 6409(a) to any court of competent jurisdiction.

[80 FR 1269, Jan. 8, 2015]

62266034 v1-WorkSiteUS-024519/0782

Federal Communications Commission 445 12th St., S.W. Washington, D.C. 20554

News Media Information 202 / 418-0500 Internet: http://www.fcc.gov TTY: 1-888-835-5322

WIRELESS TELECOMMUNICATIONS BUREAU OFFERS GUIDANCE ON INTERPRETATION OF SECTION 6409(a) OF THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012

DA 12-2047 January 25, 2013

On February 22, 2012, the Middle Class Tax Relief and Job Creation Act of 2012 (Tax Act)¹ became law. Section 6409(a) of the Tax Act provides that a state or local government "may not deny, and shall approve" any request for collocation, removal, or replacement of transmission equipment on an existing wireless tower or base station, provided this action does not substantially change the physical dimensions of the tower or base station.² The full text of Section 6409(a) is reproduced in the Appendix to this Public Notice.

To date, the Commission has not received any formal petition to interpret or apply the provisions of Section 6409(a). We also are unaware of any judicial precedent interpreting or applying its terms. The Wireless Telecommunications Bureau has, however, received informal inquiries from service providers, facilities owners, and state and local governments seeking guidance as to how Section 6409(a) should be applied. In order to assist interested parties, this Public Notice summarizes the Bureau's understanding of Section 6409(a) in response to several of the most frequently asked questions.³

What does it mean to "substantially change the physical dimensions" of a tower or base station?

Section 6409(a) does not define what constitutes a "substantial[] change" in the dimensions of a tower or base station. In a similar context, under the *Nationwide Collocation Agreement* with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers, the Commission has applied a four-prong test to determine whether a collocation will effect a "substantial increase in the size of [a] tower." A proposed collocation that does not involve a substantial increase in

¹ Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, H.R. 3630, 126 Stat. 156 (enacted Feb. 22, 2012) (Tax Act).

² Id., § 6409(a).

³ Although we offer this interpretive guidance to assist parties in understanding their obligations under Section 6409(a), see, e.g., Truckers United for Safety v. Federal Highway Administration, 139 F.3d 934 (D.C.Cir. 1998), the Commission remains free to exercise its discretion to interpret Section 6409(a) either by exercising its rulemaking authority or through adjudication. With two exceptions not relevant here, the Tax Act expressly grants the Commission authority to "implement and enforce" this and other provisions of Title VI of that Act "as if this title is a part of the Communications Act of 1934 (47 U.S.C. 151 et seq.)." Tax Act § 6003.

⁴ 47 C.F.R. Part 1, App. B, Nationwide Programmatic Agreement for the Collocation of Wireless Antennas, § I.C (Nationwide Collocation Agreement).

size is ordinarily excluded from the Commission's required historic preservation review under Section 106 of the National Historic Preservation Act (NHPA).⁵ The Commission later adopted the same definition in the 2009 Declaratory Ruling to determine whether an application will be treated as a collocation when applying Section 332(c)(7) of the Communications Act of 1934.⁶ The Commission has also applied a similar definition to determine whether a modification of an existing registered tower requires public notice for purposes of environmental review.⁷

Under Section I.C of the Nationwide Collocation Agreement, a "substantial increase in the size of the tower" occurs if:

- 1) [t]he mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or
- 2) [t]he mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or
- 3) [t]he mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or
- 4) [t]he mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

Although Congress did not adopt the Commission's terminology of "substantial increase in size" in Section 6409(a), we believe that the policy reasons for excluding from Section 6409(a) collocations that substantially change the physical dimensions of a structure are closely analogous to those that animated the Commission in the *Nationwide Collocation Agreement* and subsequent proceedings. In light of the Commission's prior findings, the Bureau believes it is appropriate to look to the existing definition of "substantial increase in size" to determine whether the collocation, removal, or replacement of equipment

⁵ See 16 U.S.C. § 470f, see also 47 C.F.R. § 1.1307(a)(4) (requiring applicants to determine whether proposed facilities may affect properties that are listed, or are eligible for listing, in the National Register of Historic Places).

⁶ See Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance, WT Docket No. 08-165, Declaratory Ruling, 24 FCC Rcd. 13994, 14012, para. 46 & n.146 (2009) (2009 Declaratory Ruling), recon. denied, 25 FCC Rcd. 11157 (2010), pet. for review denied sub nom. City of Arlington, Texas v. FCC, 668 F.3d 229 (5th Cir.), cert. granted, 113 S.Ct. 524 (2012); 47 U.S.C. § 332(c)(7).

⁷ See 47 C.F.R. § 17.4(c)(1)(B); National Environmental Policy Act Compliance for Proposed Tower Registrations, WT Docket No. 08-61, Order on Remand, 26 FCC Rcd. 16700, 16720-21, para. 53 (2011).

on a wireless tower or base station substantially changes the physical dimensions of the underlying structure within the meaning of Section 6409(a).

What is a "wireless tower or base station"?

A "tower" is defined in the *Nationwide Collocation Agreement* as "any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities." The Commission has described a "base station" as consisting of "radio transceivers, antennas, coaxial cable, a regular and backup power supply, and other associated electronics." Section 6409(a) applies to the collocation, removal, or replacement of equipment on a wireless tower or base station. In this context, we believe it is reasonable to interpret a "base station" to include a structure that currently supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a base station. Moreover, given the absence of any limiting statutory language, we believe a "base station" encompasses such equipment in any technological configuration, including distributed antenna systems and small cells.

Section 6409(a) by its terms applies to any "wireless" tower or base station. By contrast, the scope of Section 332(c)(7) extends only to facilities used for "personal wireless services" as defined in that section. Given Congress's decision not to use the pre-existing definition from another statutory provision relating to wireless siting, we believe the scope of a "wireless" tower or base station under Section 6409(a) is not intended to be limited to facilities that support "personal wireless services" under Section 332(c)(7).

May a state or local government require an application for an action covered under Section 6409(a)?

Section 6409(a) states that a state or local government "may not deny, and shall approve, any eligible facilities request...." It does not say that a state or local government may not require an application to be filed. The provision that a state or local government must approve and may not deny a request to take a covered action, in the Bureau's view, implies that the relevant government entity may require the filing of an application for administrative approval.

⁸ See Nationwide Collocation Agreement, § I.B.

⁹ See Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, WT Docket No. 10-133, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, Fifteenth Report, 26 FCC Rcd. 9664, 9481, para. 308 (2011).

¹⁰ See also 47 C.F.R. Part 1, App. C, Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process, § II.A.14 (defining "tower" to include "the on-site fencing, equipment, switches, wiring, cabling, power sources, shelters, or cabinets associated with that Tower but not installed as part of an Antenna as defined herein").

¹¹ 47 U.S.C. § 332(c)(7)(A). "Personal wireless services" is in turn defined to mean "commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services." *Id.* § 332(c)(7)(C)(1).

Is there a time limit within which an application must be approved?

Section 6409(a) does not specify any period of time for approving an application. However, the statute clearly contemplates an administrative process that invariably ends in approval of a covered application. We believe the time period for processing these applications should be commensurate with the nature of the review.

In the 2009 Declaratory Ruling, the Commission found that 90 days is a presumptively reasonable period of time to process collocation applications.¹² In light of the requirement of Section 6409(a) that the reviewing authority "may not deny, and shall approve" a covered request, we believe that 90 days should be the maximum presumptively reasonable period of time for reviewing such applications, whether for "personal wireless services" or other wireless facilities.

Wireless Telecommunications Bureau contact: Maria Kirby at (202) 418-1476 or by email: Maria.Kirby@fcc.gov.

-FCC-

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¹² See 2009 Declaratory Ruling, 24 FCC Rcd. at 14012-13, paras. 46-47.

APPENDIX

SEC. 6409. WIRELESS FACILITIES DEPLOYMENT.

(a) FACILITY MODIFICATIONS.

- (1) IN GENERAL. Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.
- (2) ELIGIBLE FACILITIES REQUEST. For purposes of this subsection, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves —
- (A) collocation of new transmission equipment;
- (B) removal of transmission equipment; or
- (C) replacement of transmission equipment.
- . (3) APPLICABILITY OF ENVIRONMENTAL LAWS. Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.



THE COMMONWEALTH OF MASSACHUSETTS OFFICE OF THE ATTORNEY GENERAL

CENTRAL MASSACHUSETTS DIVISION 10 MECHANIC STREET, SUITE 301 WORCESTER, MA 01608

> (508) 792-7600 (508) 795-1991 fax www.mass.gov/ago

February 17, 2015

Dorothy A. Powers, Town Clerk Town of Westwood 580 High Street Westwood, MA 02090

RE: Westwood Special Town Meeting of November 17, 2014 - Case # 7455

Warrant Articles # 11, 12, 13, 14, 15 and 16 (Zoning)

Warrant Article #7, 17 and 18 (General)

Dear Ms. Powers:

<u>Articles 7 and 18</u> – We take no action on Articles 7 and 18 because they are votes to accept the provisions of local option statutes. Such votes do not require review and approval by the Attorney General.

Article 14 – We retain Article 14 (Street Access Special Permit) for further review and will issue our decision by our deadline of March 9, 2015.

Articles 11, 12, 13, 15, 16, and 17 – We approve these Articles from the November 17, 2014 Westwood Special Town Meeting. Our comments on Article 13 are detailed below.

<u>Article 13</u> — Article 13 amends Section 7.3 of the Town's Zoning Bylaw, "Environmental Impact and Design Review." In part the amendments make the EIDR by-law applicable to the "construction, installation or alteration of a Minor Wireless Communication Facility pursuant Section 9.4 of [the zoning] bylaw."

Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 requires that "[A] state or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." (emphasis added). The Act defines "eligible facilities request" as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies "[n]otwithstanding section 704 of the Telecommunications Act of 1996." The Act's requirement that a local government "may not deny, and shall approve, any eligible facilities request" means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot

be subject to a discretionary special permit. The Town must apply the EIDR by-law consistent with these requirements.

Article 13 also amends Section 7.3.3, "Exempt Uses" to clarify the application of the EIDR by-law to protected uses under G.L. c. 40A, Section 3, as follows (emphasis supplied):

In cases where M.G.L. Chapter 40A, Section 3 provides certain exemptions from zoning restrictions for uses protected thereunder, review and approval pursuant to this Section shall be limited consistent with those statutory provisions and on other matters shall be advisory only. For all uses exempt under M.G.L. Chapter 40A, Section 3, the Planning Board shall make determinations of compliance with dimensional and parking requirements of this Bylaw, including requirements related to setbacks, building height, building coverage, <u>impervious surface</u>, parking and circulation, buffers, <u>screening</u>, <u>landscaping</u>, <u>lighting</u>, and stormwater management.

This text must be applied consistent with the protections given to agricultural, religious, educational, child care, and solar energy systems under G.L. c. 40A, § 3.

First, G.L. c. 40A, § 3 requires that, to the extent the use of land or structures constitutes commercial agriculture, the Town cannot require a special permit for, unreasonably regulate, or prohibit such activities: (1) on land zoned for agriculture; (2) on land that is greater than five acres in size; and (3) on land of 2 acres or more if the sale of products from the agricultural use generates \$1,000 per acre or more of gross sales. We urge the Town to consult closely with Town Counsel when applying the new text in the EIDR by-law to agricultural uses to ensure that the Town complies with G.L. c. 40A, § 3.

Second, for religious, educational, and child care uses, G.L. c. 40A, § 3 allows the Town to impose only reasonable regulations in eight areas: the bulk and height of structures, yard size, lot area, setbacks, open space, parking and building coverage requirements. Nothing in G.L. c. 40A, § 3 allows the Town to impose requirements regarding impervious surface, screening, landscaping, lighting, and stormwater management on religious, educational, and child care uses. Because the text in underline and bold above conflicts with the G.L. c. 40A, § 3 protections for religious, educational, and child care uses, the Town cannot apply this text to such uses. We urge the Town to consult closely with Town Counsel when applying the new text in the EIDR by-law to religious, educational, and child care uses to ensure that the Town complies with G.L. c. 40A, § 3.

¹ During the course of our review we received correspondence from a Town resident urging us to disapprove the amendment to Section 7.3.3 on the basis that the EIDR is in reality special permit review process, and thus violates G.L. c. 40A, § 3. We appreciate this correspondence and it has aided us in our review. However, we are unable to conclude that the EIDR is in reality a special permit requirement, and cannot disapprove the text under the Attorney General's standard of review of by-laws under G.L. c. 40, § 32.

Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements are satisfied unless a later effective date is prescribed in the by-law, and (2) zoning by-laws and amendments are deemed to have taken effect from the date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

MAURA HEALEY ATTORNEY GENERAL

Margaret J. Gurley
by: Margaret J. Hurley, Assistant Attorney General

Chief, Central Massachusetts Division

Director, Municipal Law Unit Ten Mechanic Street, Suite 301

Worcester, MA 01608

(508) 792-7600 x 4402

cc: Town Counsel Thomas P. McCusker

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: CECIL J MATHEW AT&T MOBILITY SPECTRUM LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign KNKA226	File Number
	Service Cellular
Market Numer	Channel Block
CMA006	A
Sub-Marke	t Designator
1	J

FCC Registration Number (FRN): 0014980726

Market Name

Boston-Lowell-Brockton-Lawrenc

Grant Date	Effective Date	Expiration Date	Five Yr Build-Out Date	Print Date
09-09-2014	08-29-2018	10-01-2024		

Site Information:

Ground Elevation Structure Hgt to Tip Antenna Structure Location Latitude Longitude (meters) (meters) Registration No. 15 58.8

45.7 070-39-16.8 W 42-37-42.3 N

Address: 40 DORY ROAD

Construction Deadline: City: GLOUCESTER **County:** ESSEX State: MA

Antenna: 1								
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north) Antenna Height AAT (meters)	0 93.100	45 97.500	90	135	180 100,800	225 88.700	270 85.700	315 101.800
Transmitting ERP (watts) Antenna: 2	158.853	205.617	101.800 68.628	101.800 9.427	0.642	0.431	2.268	29.488
Maximum Transmitting ERP in Watts:	140.820					•		
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	93.100	97.500	101.800	101.800	100.800	88.700	85.700	101.800
Transmitting ERP (watts) Antenna: 3	0.459	5.462	56.429	198.529	168.403	38.276	3.953	0.786
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	93.100	97.500	101.800	101.800	100.800	88.700	85.700	101.800
Transmitting ERP (watts)	12.078	0.668	0.599	1.024	10.050	68.014	123.413	62.132

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Call Sign: KNKA226 File Number: Print Date:

Location Latitude 20 43-03-11.8 N	Longitude 071-16-02.1 W	(m	round Elev neters) '9.2	(r	tructure Hg meters) 9.4	t to Tip	Antenna St Registratio	
Address: 80 Diamond Hill Ro	oad							
City: Candia County: ROC	CKINGHAM Sta	te: NH	Constructi	on Deadl	ine:			
Antenna: 1	740							
Maximum Transmitting ERP in								
Azimuth(from true north) Antenna Height AAT (meters)	0 73.200	45	90	135	180	225	270	315
Transmitting ERP (watts)	52.325	111.000 70.778	159.400 16.988	159.000 1.425	98.400 0.187	148.300 0.144	88.600 0.491	75.600 7.084
Antenna: 2		70.776	10.700	1.423	0.167	0.144	0.471	7.004
Maximum Transmitting ERP in Azimuth(from true north)		45	90	135	100	225	270	315
Azimuth(from tide horth) Antenna Height AAT (meters)	0 73.200	45 111.000	90 159.400	159.000	180 98.400	148.300	88.600	75.600
Transmitting ERP (watts)	0.343	3.851	33.085	100.313	84.855	19.494	2.061	0.299
Antenna: 3 Maximum Transmitting ERP in	Wetter 140 920							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.200	111.000	159.400	159.000	98.400	148.300	88.600	75.600
						T (00	2 20 4	6.905
Transmitting ERP (watts)	6.845	0.890	0.107	1.038	6.652	7.633	3.304	6.905
Location Latitude	6.845 Longitude	Gı	0.107 round Elev	ation S	6.652 Atructure Hg meters)		Antenna St	ructure
Location Latitude	Longitude	Gı (m	round Elev	ration S	tructure Hg meters)		Antenna St Registratio	ructure
Location Latitude 24 42-54-55.1 N	Longitude 071-21-37.4 W	Gı (m	round Elev	ration S	tructure Hg		Antenna St	ructure
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENCE	Longitude 071-21-37.4 W CE DRIVE	G1 (m	round Elev neters) 10.9	ration S (r	tructure Hg meters) .6.3	t to Tip	Antenna St Registratio	ructure
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENCE	Longitude 071-21-37.4 W	G1 (m	round Elev	ration S (r	tructure Hg meters)	t to Tip	Antenna St Registratio	ructure
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENC City: LONDONDERRY C	Longitude 071-21-37.4 W CE DRIVE	G1 (m	round Elev neters) 10.9	ration S (r	tructure Hg meters) .6.3	t to Tip	Antenna St Registratio	ructure
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENC City: LONDONDERRY Co	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING	G1 (m	round Elev neters) 10.9	ration S (r	tructure Hg meters) .6.3	t to Tip	Antenna St Registratio	ructure
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENC City: LONDONDERRY Co Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north)	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING	Gi (m 10 HAM Si	round Elev neters) 10.9	ration S (r	tructure Hg meters) .6.3	t to Tip	Antenna St Registratio	ructure
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENCE City: LONDONDERRY Comparison of the comp	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING Watts: 140.820 0 35.900	Gi (m 10 HAM Si 30.000	round Elevaters) 100.9 tate: NH 90 44.800	ation S (1 4 Construction 135 52.100	tructure Hg meters) 6.3 ction Deadlin	ne: 225 72.000	Antenna St Registratio 1011624 270 68.000	315 66.500
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENC City: LONDONDERRY Co Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north)	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING	Gi (m 10 HAM Si	round Elevaters) 100.9 tate: NH	construction S (1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	tructure Hg meters) 6.3 ction Deadli	t to Tip ne:	Antenna St Registratio 1011624	ructure n No.
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENCE City: LONDONDERRY Comparison of the comp	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING 140.820 0 35.900 161.221	Gi (m 10 HAM Si 30.000	round Elevaters) 100.9 tate: NH 90 44.800	ation S (1 4 Construction 135 52.100	tructure Hg meters) 6.3 ction Deadlin	ne: 225 72.000	Antenna St Registratio 1011624 270 68.000	315 66.500
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENC City: LONDONDERRY Co Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north)	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING a Watts: 140.820 0 35.900 161.221 a Watts: 140.820 0	G1 (m 10 HAM Si 30.000 224.756	round Elevaters) 00.9 tate: NH 90 44.800 47.602	135 52.100 3.692	tructure Hg meters) 6.3 ction Deadlin 180 54.500 0.510 180	225 72.000 0.437	270 68.000 1.233	315 66.500 19.454
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENCE City: LONDONDERRY Comparison of the comp	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING 0 35.900 161.221 a Watts: 140.820 0 35.900	G1 (m 10 HAM Si 30.000 224.756 45 30.000	round Elevaters) 100.9 tate: NH 90 44.800 47.602	135 52.100 3.692	### Action Deadling 180	225 72.000 0.437 225 72.000	Antenna St Registratio 1011624 270 68.000 1.233 270 68.000	315 66.500 19.454 315 66.500
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENCE City: LONDONDERRY Comparison of the comp	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING 0 35.900 161.221 n Watts: 140.820 0 35.900 0.510	G1 (m 10 HAM Si 30.000 224.756	round Elevaters) 00.9 tate: NH 90 44.800 47.602	135 52.100 3.692	tructure Hg meters) 6.3 ction Deadlin 180 54.500 0.510 180	225 72.000 0.437	270 68.000 1.233	315 66.500 19.454
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENCE City: LONDONDERRY Comparison of the comp	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING 140.820 0 35.900 161.221 1 Watts: 140.820 0 35.900 0.510 1 Watts: 140.820	Gi (m. 10) HAM Si 30.000 224.756 45 30.000 3.172	round Elevaters) 10.9 tate: NH 90 44.800 47.602 90 44.800 43.604	135 52.100 3.692 135 52.100 213.248	180 54.500 0.510 180 54.500 156.639	225 72.000 0.437 225 72.000 22.374	270 68.000 1.233 270 68.000 1.350	315 66.500 19.454 315 66.500 0.496
Location Latitude 24 42-54-55.1 N Address: 15 INDEPENDENCE City: LONDONDERRY Comparison of the comp	Longitude 071-21-37.4 W CE DRIVE ounty: ROCKING 0 35.900 161.221 n Watts: 140.820 0 35.900 0.510	G1 (m 10 HAM Si 30.000 224.756 45 30.000	round Elevaters) 100.9 tate: NH 90 44.800 47.602	135 52.100 3.692	### Action Deadling 180	225 72.000 0.437 225 72.000	Antenna St Registratio 1011624 270 68.000 1.233 270 68.000	315 66.500 19.454 315 66.500

Call Sign: KNKA226 File Number: Print Date:

Location Latitude	Longitude		ound Ele	vation	Structure Hg (meters)	t to Tip	Antenna St Registratio	
25 42-00-32.6 N	071-19-15.2 W	V 90	.5		51.8		8	
Address: 75 WASHINGTO	N SST							
City: PLAINVILLE Cour	ity: NORFOLK	State: MA	Constru	iction D	eadline: 03-29	-2013		
Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP	0 64.500 84.752 in Watts: 140.820	45 61.200 97.052	90 95.600 31.772	135 96.100 5.158	0.550	225 64.100 0.224	270 46.000 2.803	315 48.800 20.645
Azimuth(from true north Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3		45 61.200 5.181	90 95.600 37.013	135 96.100 100.82		225 64.100 20.699	270 46.000 2.118	315 48.800 0.824
Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters) Transmitting ERP (watts)	0	45 61.200 1.736	90 95.600 0.715	135 96.100 2.292	180 94.300 18.444	225 64.100 139.378	270 46.000 281.180	315 48.800 142.336
Location Latitude	Longitude		ound Ele	vation	Structure Hg (meters)	t to Tip	Antenna St Registratio	
26 41-46-57.1 N	070-44-06.5 W	<i>J</i> 12	5		58.8			
Address: KENDRICK ROA	D							
City: WAREHAM Count	y: PLYMOUTH	State: MA	Constr	uction D	Deadline: 03-29	9-2013		
Antenna: 1 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	0 30.000 186.898 in Watts: 140.820	45 30.000 8 242.551 45 30.000 5.818	90 46.500 75.777 90 46.500 47.861	135 56.700 10.617 135 56.700 150.30	0.738 180 59.800	225 50.600 0.508 225 50.600 28.493	270 39.100 2.730 270 39.100 2.933	315 32.800 35.860 315 32.800 0.991
Maximum Transmitting ERP Azimuth(from true north Antenna Height AAT (meters) Transmitting ERP (watts)	0	45 30.000 1.111	90 46.500 0.538	135 56.700 1.628	180 59.800 13.482	225 50.600 98.897	270 39.100 203.625	315 32.800 103.938

Transmitting ERP (watts)

Print Date: Call Sign: KNKA226 File Number:

Location Latitude	Longitude	_	round Ele ieters)		Structure Hg (meters)	t to Tip	Antenna S Registratio	
27 41-53-35.2 N	070-56-35.0 W	17	7.7	1	106.1		1210211	
Address: 326 W GROVE ST								
City: Middleboro County:	PLYMOUTH S	tate: MA	Constru	ction Dea	dline: 03-29-	2013		
Antenna: 1								
Maximum Transmitting ERP in	Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)	47.500	46.300	30.000	37.000	40.900	39.500	51.600	42.300
Antenna: 2	125.283	153.432	54.208	6.550	0.674	0.363	2.675	27.340
Maximum Transmitting ERP in								
Azimuth(from true north) Antenna Height AAT (meters)	0 47.500	45 46.300	90	135	180	225	270	315
Transmitting ERP (watts)	0.351	5.901	30.000 52.455	37.000 151.828	40.900 120.612	39.500 27.887	51.600 2.679	42.300 0.991
Antenna: 3		3.501	32.433	131.020	120.012	27.007	2.079	0.771
Maximum Transmitting ERP in Azimuth(from true north)	1 Watts: 140.820 0	45	90	135	100	225	270	315
Antenna Height AAT (meters)	47.500	46.300	30.000	37.000	180 40.900	39.500	51.600	42.300
Transmitting ERP (watts)	14.428	1.006	0.875	1.215	13.317	87.541	159.641	85.795
Location Latitude	Longitude		round Ele		Structure Hg	t to Tip	Antenna S	
20		`	eters)		(meters)		Registratio	n No.
28 42-14-21.9 N	070-51-09.3 W	54	1.9	-	55.8			
Address: 168 Turkey Hill Lar	ne							
City: Cohasset County: NC	ORFOLK State:	MA Co	nstruction	n Deadline	e: 03-29-2013	3		
Antenna: 1								
Maximum Transmitting ERP in								
Azimuth(from true north) Antenna Height AAT (meters)	0 99.800	45 98.300	90	135	180	225	270	315
Transmitting ERP (watts)	185.522	243.217	97.600 80.727	71.700 11.598	64.800 0.756	62.900 0.499	86.700 2.589	99.100 34.953
Antenna: 2		243.217	00.727	11.570	0.750	0.477	2.30)	54.755
Maximum Transmitting ERP in Azimuth(from true north)		45	00	125	100	225	270	215
Antenna Height AAT (meters)	0 99.800	45 98.300	90 97.600	135 71.700	180 64.800	225 62.900	270 86.700	315 99.100
Transmitting ERP (watts)	0.521	6.371	65.693	238.024		43.191	4.256	0.906
Antenna: 3	Watta 140 920							
Maximum Transmitting ERP in Azimuth(from true north)	1 watts: 140.820	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.800	98.300	97.600	71.700	64.800	62.900	86.700	99.100
Transmitting FDD (watta)			J 1.000	, 1., 50	0000		00.,00	//.100

45.661

86.700 85.290

53.553

0.543

9.488

0.538

1.234

64.800 8.977

Call Sign: KNKA226 File Number: Print Date:

Location Latitude 29 41-56-02.0 N	Longitude 070-35-08.0 W	(m	round Elev leters) 9	(Structure Hg (meters) 128.0	t to Tip	Antenna S Registration 1007828	
Address: 265 STATE ROAD			.,		120.0		100,020	
	y: PLYMOUTH	State: MA	Constr	uction D	Deadline: 03-2	29-2013		
Antenna: 1 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	0 128.000 23.222 n Watts: 140.820 0 128.000 0.346	45 128.000 24.154 45 128.000 4.427 45 128.000 0.561	90 128.000 10.475 90 128.000 33.055 90 128.000 0.550	135 123.500 1.931 135 123.500 88.168 135 123.500 1.216	0.466 180 92.200 72.485	225 86.600 0.109 225 86.600 17.790 225 86.600 54.685	270 84.900 1.398 270 84.900 1.831 270 84.900 90.439	315 120.500 6.965 315 120.500 0.701 315 120.500 45.409
Location Latitude	Longitude		ound Elev		Structure Hg	t to Tip	Antenna S	
30 42-12-47 6 N	071 22 22 4 33	•	eters)		(meters)		Registratio	on No.
30 42-12-47.6 N Address: 26 LUMBER STRI	071-32-33.4 W	12	8.0	;	58.5			
	ty: MIDDLESEX	State: M	A Const	ruction	Deadline: 03-	.29_2013		
——————————————————————————————————————	ty. WIDDLESEX	State. W	A Collst	Tuction .	Deadine: 03-	27-2013		
Antenna: 1 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	0 68.900 158.662	45 93.200 188.312 45 93.200 6.612	90 99.800 64.228 90 99.800 61.028	135 91.500 8.830 135 91.500 195.290	180 55.300 0.704 180 55.300 166.263	225 59.600 0.395 225 59.600 35.500	270 35.700 4.080 270 35.700 3.748	315 76.400 30.535 315 76.400 0.703
Maximum Transmitting ERP i Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	n Watts: 140.820 0 68.900 18.831	45 93.200 1.074	90 99.800 0.590	135 91.500 1.783	180 55.300 15.144	225 59.600 103.799	270 35.700 219.501	315 76.400 97.060

Call Sign: KNKA226 **Print Date:** File Number:

Call Sign. KINKA220	riie	Number:		11mt Date					
Location Latitude	Longitude		round Ele neters)	vation	ation Structure Hgt to Tip (meters)		Antenna St Registratio		
31 42-38-27.0 N	070-36-24.8 W	30	5.6		38.7				
Address: 38 Thatcher Rd									
City: ROCKLAND County	: ESSEX State:	MA C	onstruction	n Deadl	ine: 03-29-201	3			
Antenna: 1 Maximum Transmitting ERP in	Watter 140 820								
Azimuth(from true north)	0	45	90	135	180	225	270	315	
Antenna Height AAT (meters)	69.500	69.500	69.500	69.500	0 69.500	66.700	58.400	60.100	
Transmitting ERP (watts) Antenna: 2	170.519	227.554	76.127	10.393	3 0.706	0.470	2.520	32.796	
Maximum Transmitting ERP in	Watts: 140.820								
Azimuth(from true north) Antenna Height AAT (meters)	0 69.500	45 69.500	90 69.500	135 69.500	180 69.500	225 66.700	270 58.400	315 60.100	
Transmitting ERP (watts) Antenna: 3	0.462	5.689	58.840	206.20		39.385	4.197	0.837	
Maximum Transmitting ERP in	Watts: 140.820								
Azimuth(from true north) Antenna Height AAT (meters)	0 69.500	45 69.500	90 69.500	135 69.500	180 69.500	225 66,700	270 58.400	315 60.100	
Transmitting ERP (watts)	20.761	1.510	0.812	1.238	15.269	110.467	237.338	124.965	
Location Latitude	Longitude		round Ele	vation	Structure Hg (meters)	t to Tip	Antenna St Registratio		
32 42-36-37.9 N	071-33-28.9 W	14	18.4		46.3		G		
Address: 142 LOWELL RD									
City: GROTON County: M	IIDDLESEX Sta	ate: MA	Construc	tion De	adline: 03-29-2	2013			
Antenna: 1									

Antenna: 1								
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	129.600	133.000	121.700	118.300	83.000	99.300	81.700	86.000
Transmitting ERP (watts)	209.658	291.175	91.511	11.206	1.156	0.596	4.998	40.617
Antenna: 2			, 110 11					
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	129.600	133.000	121.700	118.300	83.000	99.300	81.700	86.000
Transmitting ERP (watts)	0.597	10.042	80.421	284.569	246.599	46.898	5.186	0.906
Antenna: 3								
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	129.600	133.000	121.700	118.300	83.000	99.300	81.700	86.000
Transmitting ERP (watts)	18.748	1.375	0.781	1.196	15.487	106.791	230.014	118.184

Call Sign: KNKA226 File Number: **Print Date:**

Call Sign: KNKA226	File	Number:	Frint Date:					
Location Latitude	Longitude		round Elev neters)	ation	Structure Hg (meters)	t to Tip	Antenna St Registratio	
33 42-08-01.1 N	070-43-57.5 W	68	3.3		80.5		1017973	
Address: 178 EAMES WAY	7							
City: Marshfield County: PLYMOUTH State: MA Construction Deadline: 03-29-2013								
Antenna: 1 Maximum Transmitting ERP Azimuth(from true north) Antenna Height AAT (meters)	0	45 128.600	90 128.200	135 125.80	180 00 107.800	225 113,100	270 97.600	315 105.400
Transmitting ERP (watts) Antenna: 2	156.993	202.510	73.503	10.210		0.415	2.429	32.615
Maximum Transmitting ERP Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	0 125.300 0.482 in Watts: 140.820	45 128.600 5.988 45 128.600 1.466	90 128.200 62.083 90 128.200 0.829	135 125.86 217.53 135 125.86 1.219	180 107.800	225 113.100 40.576 225 113.100 109.305	270 97.600 4.382 270 97.600 228.002	315 105.400 0.869 315 105.400 122.541
Location Latitude 34 41-42-11.1 N Address: 55 BENSONBROO	Longitude 070-46-47.1 W	(n	round Elev neters) 1.3	ation	Structure Hg (meters) 59.4	t to Tip	Antenna St Registratio	
		40. MA	Compton 4	a D	- Jli 02 20 2	012		
City: MARION County: I	PLYMOUTH Sta	te: MA	Constructi	on Dea	idline: 03-29-2	013		
Antenna: 1	: Wasser 140 920							

Antenna: 1								
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.300	62.700	66.200	68,700	66.600	60.600	47.100	51.900
Transmitting ERP (watts)	161.079	196.082	67.519	9.213	0.702	0.419	4.077	32.479
Antenna: 2								
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.300	62.700	66.200	68.700	66.600	60.600	47.100	51.900
Transmitting ERP (watts)	0.446	6.712	62.074	197.767	163.770	38.273	3.886	0.801
Antenna: 3								
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.300	62.700	66.200	68.700	66.600	60.600	47.100	51.900
Transmitting ERP (watts)	3.819	0.784	0.433	6.729	64.256	202.261	164.916	37.606

Call Sign: KNKA226 **Print Date:** File Number:

Can Sign; KNKA220	riie Number:				Finit Date.			
Location Latitude	Longitude	Ground Elevation (meters)		ation	Structure Hg (meters)	t to Tip	Antenna Structure Registration No.	
35 42-21-20.1 N	071-33-16.6 W	15	6.1		26.5			
Address: 157 UNION STR	REET							
City: MARLBOROUGH	County: MIDDLES	EX Stat	e: MA	Constru	ction Deadline	: 03-29-2	013	
Antenna: 1 Maximum Transmitting ER Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts)	th) 0	45 119.900 377.489	90 113.500 119.970	135 108.40 14.810		225 73.000 0.802	270 51.900 6.660	315 77.300 52.209
Antenna: 2	D: W-44-4 140 000							
Maximum Transmitting ER Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts) Antenna: 3	th) 0	45 119.900 13.105	90 113.500 105.660	135 108.40 375.94		225 73.000 63.339	270 51.900 6.978	315 77.300 1.142
Maximum Transmitting ER								
Azimuth(from true nor Antenna Height AAT (meter Transmitting ERP (watts)	th) 0 97.800 30.606	45 119.900 2.831	90 113.500 1.046	135 108.40 2.632	180 76.200 27.909	225 73.000 187.774	270 51.900 419.392	315 77.300 197.441
Location Latitude	Longitude		ound Elev	ation	Structure Hg (meters)	t to Tip	Antenna St Registratio	
36 42-39-54.6 N	070-38-19.9 W	59	.4		44.5		8	
Address: 68 JOHNSON R	OAD							
City: ROCKPORT Cour	nty: ESSEX State:	MA Coi	nstruction	Deadli	ne: 03-29-2013	;		
-	-							
Antenna: 1	D: W 44 140.000							

eng. Reem on	County Cassell	State: 1/11 1	Constituetion Deading	C. 05 2 5 2 015
Antenna: 1				

Maximum Transmitting ERP in Watts: Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2	0 103.000 126.741	45 103.000 159.124	90 103.000 54.189	135 100.400 7.443	180 95.400 0.564	225 85.100 0.334	270 98.100 3.098	315 103.000 25.685
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north) Antenna Height AAT (meters)	0 103.000	45 103.000	90 103.000	135 100,400	180 95.400	225 85.100	270 98.100	315 103,000
Transmitting ERP (watts) Antenna: 3	0.353	5.360	49.103	157.255	130.117	30.639	2.895	0.641
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	0 103.000 15.787	45 103.000 0.974	90 103.000 0.495	135 100.400 1.442	180 95.400 11.730	225 85.100 84.942	270 98.100 168.331	315 103.000 87.120

Call Sign: KNKA226 File Number: Print Date:

Location Latitude 37 42-41-29.8 N	Longitude 071-47-30.8 W	(n	round Eleva neters) 33.8		ructure Hgt teters) .9	to Tip	Antenna St Registratio	
Address: 1140 Greenville Rd					••			
City: ASHBY County: MI		e: MA	Construction	n Deadlin	e: 03-29-20	13		
Antenna: 1								
Maximum Transmitting ERP in	n Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)	30.000	138.200	163.500	145.000	68.800	30.000	30.000	30.000
Antenna: 2	301.383	343.844	123.915	17.212	1.267	0.862	4.339	57.968
Maximum Transmitting ERP in								
Azimuth(from true north) Antenna Height AAT (meters)	30.000	45	90	135	180	225	270	315
Transmitting ERP (watts)	0.559	138.200	163.500 72.077	145.000 254.800	68.800 226.824	30.000 50.359	30.000 4.678	30.000 0.979
Antenna: 3		0.540	72.077	234.000	220.824	30.337	4.076	0.575
Maximum Transmitting ERP in			0.0	40.	100			
Azimuth(from true north) Antenna Height AAT (meters)	0 30.000	45 138.200	90	135	180	225	270	315
Transmitting ERP (watts)	35.557	2.084	163.500 1.375	145.000 2.194	68.800 29.159	30.000 209.483	30.000 410.600	30.000 215.057
Location Latitude	Longitudo	G	round Fleve	ation St	ructure Hot	to Tin	Antonno St	ructura
Location Latitude 38 42-38-54.9 N	Longitude 071-47-40.6 W	(n	round Eleva neters) 40.8		ructure Hgt teters) .2	to Tip	Antenna St Registratio	
20	071-47-40.6 W	(n 24	neters)	(m	eters)	to Tip		
38 42-38-54.9 N	071-47-40.6 W RG STATE ROAD	(n	neters)	(m 47	neters)	•		
38 42-38-54.9 N Address: 601-603 FITCHBU	071-47-40.6 W RG STATE ROAD DDLESEX State	(n 24 e: MA	neters) 40.8 Construction	(m 47 n Deadline	e: 03-29-20	•	Registratio	n No.
38 42-38-54.9 N Address: 601-603 FITCHBUTCITY: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters)	071-47-40.6 W RG STATE ROAD DDLESEX State	(n	neters) 40.8	(m 47	neters)	13		
38 42-38-54.9 N Address: 601-603 FITCHBUTCITY: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	071-47-40.6 W RG STATE ROAD DDLESEX State n Watts: 140.820	(n 24 2: MA (neters) 40.8 Construction	(m 47 n Deadline	neters) .2 e: 03-29-20	225	Registratio	315
38 42-38-54.9 N Address: 601-603 FITCHBUTCITY: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2	071-47-40.6 W RG STATE ROAD DDLESEX State n Watts: 140.820 0 31.100 204.865	(n 24 2: MA (1 45 159.800	90 170.800	(m 47 n Deadline 135 147.700	neters) .2 e: 03-29-20 180 56.300	225 30.000	270 30.000	315 30.000
38 42-38-54.9 N Address: 601-603 FITCHBUTCITY: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north)	071-47-40.6 W RG STATE ROAD DDLESEX State n Watts: 140.820 0 31.100 204.865 n Watts: 140.820 0	(n 24 2: MA (1 45 159.800	90 170.800	(m 47 n Deadline 135 147.700	neters) .2 e: 03-29-20 180 56.300	225 30.000	270 30.000	315 30.000
38 42-38-54.9 N Address: 601-603 FITCHBUTCITY: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters)	071-47-40.6 W RG STATE ROAD DDLESEX State n Watts: 140.820 0 31.100 204.865 n Watts: 140.820 0 31.100	45 159.800 233.420 45 159.800	90 170.800 85.530 90 170.800	(m 47 n Deadline 135 147.700 11.768	180 56.300 0.897	225 30.000 0.575	270 30.000 2.961 270 30.000	315 30.000 39.554 315 30.000
38 42-38-54.9 N Address: 601-603 FITCHBUTCITY: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	071-47-40.6 W RG STATE ROAD DDLESEX State n Watts: 140.820 0 31.100 204.865 n Watts: 140.820 0	45 159.800 233.420	90 170.800 85.530	(m 47 n Deadline 135 147.700 11.768	180 56.300 0.897	225 30.000 0.575 225	270 30.000 2.961 270	315 30.000 39.554 315
38 42-38-54.9 N Address: 601-603 FITCHBUTCITY: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters)	071-47-40.6 W RG STATE ROAD DDLESEX State n Watts: 140.820 0 31.100 204.865 n Watts: 140.820 0 31.100 0.570	45 159.800 233.420 45 159.800	90 170.800 85.530 90 170.800	(m 47 n Deadline 135 147.700 11.768	180 56.300 0.897	225 30.000 0.575 225 30.000	270 30.000 2.961 270 30.000	315 30.000 39.554 315 30.000
38 42-38-54.9 N Address: 601-603 FITCHBUTCity: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP in Azimuth(from true north)	071-47-40.6 W RG STATE ROAD DDLESEX State n Watts: 140.820 0 31.100 204.865 n Watts: 140.820 0 31.100 0.570 n Watts: 140.820 0	45 159.800 233.420 45 159.800 6.676	90 170.800 85.530 90 170.800	(m 47 n Deadline 135 147.700 11.768	180 56.300 0.897 180 56.300 238.587	225 30.000 0.575 225 30.000	270 30.000 2.961 270 30.000 4.787 270	315 30.000 39.554 315 30.000 1.001
38 42-38-54.9 N Address: 601-603 FITCHBUTCITY: ASHBY County: MI Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP in	071-47-40.6 W RG STATE ROAD DDLESEX State n Watts: 140.820 0 31.100 204.865 n Watts: 140.820 0 31.100 0.570 n Watts: 140.820	45 159.800 233.420 45 159.800 6.676	90 170.800 85.530 90 170.800 74.271	(m 47 n Deadline 135 147.700 11.768 135 147.700 261.076	180 56.300 0.897 180 56.300 238.587	225 30.000 0.575 225 30.000 50.169	270 30.000 2.961 270 30.000 4.787	315 30.000 39.554 315 30.000 1.001

Call Sign: KNKA226	File Number:	Print Date:
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Location Latitude 40 43-05-58.2 N	Longitude 070-47-28.6 W	_	ound Elev eters)		ructure Hgt neters)	to Tip	Antenna St Registratio	
Address: 165 GOSLING RD	070 17 20.0 11	,	,	07				
	ty: ROCKINGHA	M States	NH Co	nstruction	Deadline: (03-29-201	13	
<u> </u>								
Antenna: 1								
Maximum Transmitting ERP in	n Watts: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters) Transmitting ERP (watts)	34.000	45.500	68.500	72.400	58.800	51.900	57.200	52.000
Antenna: 2	205.727	278.300	62.928	5.059	0.711	0.597	1.577	25.136
Maximum Transmitting ERP in	n Watts: 140.820							
Azimuth(from true north) Antenna Height AAT (meters)	0	45	90	135	180	225	270	315
Transmitting ERP (watts)	34.000 0.559	45.500 3.335	68.500 47.419	72.400 236.351	58.800 181.187	51.900 26.867	57.200 1.510	52.000 0.563
Antenna: 3		3.333	47.417	230.331	101.107	20.007	1.510	0.505
Maximum Transmitting ERP in		4.7	00	125	100	225	250	21.5
Azimuth(from true north) Antenna Height AAT (meters)	0 34.000	45 45.500	90 68.500	135 72.400	180 58.800	225 51.900	270 57.200	315 52.000
Transmitting ERP (watts)	10.525	0.618	08.300	0.555	7.391	82.592	243.998	90.540
Location Latitude 41 43-04-39.1 N	Longitude 071-07-30.3 W	(m	ound Eleveters)		ructure Hgt neters)).7	t to Tip	Antenna St Registratio 1231475	
41 43-04-39.1 N Address: 150 Raymond Road	071-07-30.3 W	(m 10	eters) 7.0	(m 60	neters)).7	•	Registratio	
41 43-04-39.1 N Address: 150 Raymond Road	071-07-30.3 W	(m	eters) 7.0	(m 60	neters)	•	Registratio	
41 43-04-39.1 N Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in	071-07-30.3 W ROCKINGHAM n Watts: 140.820	(m 10 State: NI	eters) 7.0 H Const	(m 60 ruction De	neters) 0.7 eadline: 03-2	29-2013	Registratio 1231475	n No.
41 43-04-39.1 N Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north)	071-07-30.3 W ROCKINGHAM n Watts: 140.820	(m 10 State: NI	eters) 7.0 H Const	(m 60 ruction De	neters) 0.7 eadline: 03-2	29-2013	Registratio 1231475 270	315
41 43-04-39.1 N Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2	071-07-30.3 W ROCKINGHAM N Watts: 140.820 0 54.900 160.334	(m 10 State: NI	eters) 7.0 H Const	(m 60 ruction De	neters) 0.7 eadline: 03-2	29-2013	Registratio 1231475	n No.
41 43-04-39.1 N Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in	071-07-30.3 W ROCKINGHAM n Watts: 140.820 0 54.900 160.334 n Watts: 140.820	(m 10 State: NI 45 95.800 230.049	90 122.100 54.265	(m 60 ruction De 135 119.300 4.271	180 102.200 0.586	29-2013 225 66.300 0.522	Registratio 1231475 270 44.100 1.415	315 30.000 21.993
41 43-04-39.1 N Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north)	071-07-30.3 W ROCKINGHAM n Watts: 140.820 0 54.900 160.334 n Watts: 140.820 0	(m 10 State: NI 45 95.800 230.049	90 122.100 54.265	(m 60 ruction De 135 119,300 4.271	180 102.200 0.586	29-2013 225 66.300 0.522 225	270 44.100 1.415 270	315 30.000 21.993
41 43-04-39.1 N Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP in Azimuth(from true north) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts)	071-07-30.3 W ROCKINGHAM N Watts: 140.820 0 54.900 160.334 N Watts: 140.820 0 54.900	(m 10 State: NI 45 95.800 230.049 45 95.800	90 122.100 54.265 90 122.100	(m 60 ruction De 135 119.300 4.271	180 102.200 0.586 180 102.200	29-2013 225 66.300 0.522 225 66.300	270 44.100 1.415 270 44.100	315 30.000 21.993 315 30.000
Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	071-07-30.3 W ROCKINGHAM n Watts: 140.820 0 54.900 160.334 n Watts: 140.820 0 54.900 0.493	(m 10 State: NI 45 95.800 230.049	90 122.100 54.265	(m 60 ruction De 135 119,300 4.271	180 102.200 0.586	29-2013 225 66.300 0.522 225	270 44.100 1.415 270	315 30.000 21.993
Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	071-07-30.3 W ROCKINGHAM n Watts: 140.820 0 54.900 160.334 n Watts: 140.820 0 54.900 0.493 n Watts: 140.820	45 95.800 230.049 45 95.800 3.289	90 122.100 54.265 90 122.100 48.427	(m 60 ruction De 135 119.300 4.271 135 119.300 238.724	180 102.200 0.586 180 102.200 177.920	225 66.300 0.522 225 66.300 27.618	270 44.100 1.415 270 44.100 1.619	315 30.000 21.993 315 30.000 0.581
Address: 150 Raymond Road City: Nottingham County: Antenna: 1 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 2 Maximum Transmitting ERP in Azimuth(from true north) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna Height AAT (meters) Transmitting ERP (watts) Antenna: 3	071-07-30.3 W ROCKINGHAM n Watts: 140.820 0 54.900 160.334 n Watts: 140.820 0 54.900 0.493	(m 10 State: NI 45 95.800 230.049 45 95.800	90 122.100 54.265 90 122.100	(m 60 ruction De 135 119.300 4.271	180 102.200 0.586 180 102.200	29-2013 225 66.300 0.522 225 66.300	270 44.100 1.415 270 44.100	315 30.000 21.993 315 30.000

Call Sign: KNKA226 File Number: Print Date:

Location Latitude	Longitude	Ground Elevation	Structure Hgt to Tip	Antenna Structure
		(meters)	(meters)	Registration No.
42 43-13-24.3 N	071-14-23.2 W	189.0	38.7	

Address: 50 OLD CANTERBURY RD

City: NORTHWOOD County: ROCKINGHAM State: NH Construction Deadline: 03-29-2013

Antenna: 1	140,000							
Maximum Transmitting ERP in Watts	: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	114.248	162.456	37.049	2.808	0.392	0.366	0.961	16.015
Antenna: 2	114.246	102.430	37.049	2.808	0.392	0.300	0.901	10.013
Maximum Transmitting ERP in Watts	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	0.544	3.573	49.915	233.638	184.420	30.453	1.413	0.618
Antenna: 3	0.344	3.373	49.913	233.036	164.420	30.433	1.413	0.016
Maximum Transmitting ERP in Watts	: 140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	8.132	0.494	0.387	0.467	6.390	72.302	182.164	77.916
	0.132	0.494	0.367	0.407	0.390	12.302	162.104	11.910

Location	1 Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
43	42-59-40.7 N	070-46-58.5 W	12.5	59.4	Registi ation 110.

Address: 96 GROVE RD

City: RYE County: ROCKINGHAM State: NH Construction Deadline: 03-29-2013

Antenna: 1 Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north) Antenna Height AAT (meters)	0	45	90	135	180	225	270	315
Transmitting ERP (watts) Antenna: 2	49.700 146.515	62.100 206.846	64.000 49.164	64.300 3.766	63.700 0.505	45.100 0.452	38.900 1.193	54.200 17.877
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north) Antenna Height AAT (meters)	0 49.700	45 62.100	90 64.000	135 64.300	180 63.700	225 45.100	270 38.900	315 54.200
Transmitting ERP (watts) Antenna: 3	0.464	2.913	42.460	206.462	152.606	24.148	1.373	0.460
Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	49.700	62.100	64.000	64.300	63.700	45.100	38.900	54.200
Transmitting ERP (watts)	10.168	0.644	0.536	0.576	7.457	86.483	257.603	87.494

Control Points:

Control Pt. No. 2

Address: 100 LOWDER BROOK DR

City: WESTWOOD County: NORFOLK State: MA Telephone Number: (617)462-7094

Call Sign: KNKA226 File Number: Print Date:

Waivers/Conditions:

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE A. WILSON NEW CINGULAR WIRELESS PCS, LLC 208 S. AKARD ST., RM 1016 DALLAS, TX 75202

Call Sign KNLB200	File Number
Radio	Service
WS - Wireless Com	munications Service

FCC Registration Number (FRN): 0003291192

e negistration ramber (11	= 1,11 0000 = 2 = 2 = 2				
Grant Date 02-07-2020	Effective Date 02-07-2020	Expiration Date 07-21-2027	Print Date		
Market Number MEA001		Channel Block B			
	Market Bos				
1st Build-out Date 03-13-2017	2nd Build-out Date 09-13-2019	3rd Build-out Date	4th Build-out Date		

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/Mexico), future coordination of any base station transmitters shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLB200 File Number: Print Date:

Spectrum Lease associated with this license. See Spectrum Leasing Arrangement Letter dated 04/01/2005 and File No. 0001999501.

License renewal is granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Pursuant to WCS Order on Reconsideration, FCC 12-130, in order to obtain a renewal expectancy at the 7/21/17 renewal deadline, a licensee must, for each license area, certify that it has maintained, or exceeded, the level of coverage demonstrated for that license area at the 3/13/2017 construction deadline.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLB200 File Number: Print Date:

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE A. WILSON NEW CINGULAR WIRELESS PCS, LLC 208 S. AKARD ST., RM 1016 DALLAS, TX 75202

Call Sign KNLB210	File Number
Radio	Service
WS - Wireless Com	munications Service

FCC Registration Number (FRN): 0003291192

`	11)1 0000271172		
Grant Date 02-07-2020	Effective Date 02-07-2020	Expiration Date 07-21-2027	Print Date
Market Number MEA001		nel Block A	Sub-Market Designator
		t Name ston	
1st Build-out Date 03-13-2017	2nd Build-out Date 09-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/Mexico), future coordination of any base station transmitters shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLB210 File Number: Print Date:

License renewal is granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Pursuant to WCS Order on Reconsideration, FCC 12-130, in order to obtain a renewal expectancy at the 7/21/17 renewal deadline, a licensee must, for each license area, certify that it has maintained, or exceeded, the level of coverage demonstrated for that license area at the 3/13/2017 construction deadline.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLB210 File Number: Print Date:

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE WILSON NEW CINGULAR WIRELESS PCS, LLC 208 S AKARD ST., RM 1016 DALLAS, TX 75202

Call Sign KNLF216	File Number		
Radio Service CW - PCS Broadband			

FCC Registration Number (FRN): 0003291192

Grant Date 06-02-2015	Effective Date 08-31-2018	Expiration Date 06-23-2025	Print Date
Market Number MTA008	Chanr	nel Block A	Sub-Market Designator 27
	Market Boston-Pr	- 131222	
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

This license is conditioned upon compliance with the provisions of Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations, Memorandum Opinion and Order, FCC 04-255 (rel. Oct. 26, 2004).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLF216 File Number: Print Date:

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLF216 File Number: Print Date:

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

REFERENCE COPY

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: CECIL J MATHEW AT&T MOBILITY SPECTRUM LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign KNLF954	File Number		
Radio Service CW - PCS Broadband			

FCC Registration Number (FRN): 0014980726

Grant Date 06-29-2017	Effective Date 09-21-2018	Expiration Date 06-27-2027	Print Date
Market Number BTA051	Chan	nel Block D	Sub-Market Designator
		et Name on, MA	
1st Build-out Date 06-27-2002	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Call Sign: KNLF954 File Number: Print Date:

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

Call Sign: KNLF954 File Number: Print Date:

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

REFERENCE COPY

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: CECIL J MATHEW AT&T MOBILITY SPECTRUM LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WPOI214	File Number
Radio	Service
CW - PCS	Broadband

FCC Registration Number (FRN): 0014980726

Grant Date 06-10-2015	Effective Date 08-29-2018	Expiration Date 06-23-2025	Print Date
Market Number MTA008	Chan	nel Block A	Sub-Market Designator 7
		et Name Providence	
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

License renewal granted on a conditional basis, subject to the outcome of FCC proceeding WT Docket No. 10-112 (see FCC 10-86, paras. 113 and 126).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Call Sign: WPOI214 File Number: Print Date:

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

This license is conditioned upon compliance with the provisions of Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations, Memorandum Opinion and Order, FCC 04-255 (rel. Oct. 26, 2004).

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

Call Sign: WPOI214 File Number: Print Date:

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

REFERENCE COPY

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: LESLIE WILSON NEW CINGULAR WIRELESS PCS, LLC 208 S AKARD ST., RM 1016 DALLAS, TX 75202

Call Sign KNLF216	File Number
Radio	Service
CW - PCS	Broadband

FCC Registration Number (FRN): 0003291192

Grant Date 06-02-2015	Effective Date 08-31-2018	Expiration Date 06-23-2025	Print Date
Market Number MTA008		nel Block A	Sub-Market Designator 27
		t Name rovidence	
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This license is conditioned upon compliance with the provisions of Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corporation For Consent to Transfer Control of Licenses and Authorizations, Memorandum Opinion and Order, FCC 04-255 (rel. Oct. 26, 2004).

Commission approval of this application and the licenses contained therein are subject to the conditions set forth in the Memorandum Opinion and Order, adopted on December 29, 2006 and released on March 26, 2007, and revised in the Order on Reconsideration, adopted and released on March 26, 2007. See AT&T Inc. and BellSouth Corporation Application for Transfer of Control, WC Docket No. 06-74, Memorandum Opinion and Order, FCC 06-189 (rel. Mar. 26, 2007); AT&T Inc. and BellSouth Corporation, WC Docket No. 06-74, Order on Reconsideration, FCC 07-44 (rel. Mar. 26, 2007).

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select "License Search". Follow the instructions on how to search for license information.

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNLF216 File Number: Print Date:

700 MHz Relicensed Area Information:

Market Name Buildout Deadline Buildout Notification Status

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: CECIL J MATHEW AT&T MOBILITY SPECTRUM LLC 208 S. AKARD ST. DALLAS, TX 75202

Call Sign WPWU950	File Number 0008666854
	Service ver Band (Blocks C,

FCC Registration Number (FRN): 0014980726

Grant Date 07-23-2019	Effective Date 07-23-2019	Expiration Date 06-13-2029	Print Date 07-24-2019	
Market Number CMA006		Channel Block Su		
	Market Boston-Lowell-B			
1st Build-out Date 06-13-2019	2nd Build-out Date	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

Operation of the facilities authorized herein, are subject to the condition that harmful interference may not be caused to, but must be accepted from UHF TV transmitters in Canada and Mexico as identified in existing and any future agreements with those countries.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: AT&T MOBILITY SPECTRUM LLC

This license is subject to compliance with the conditions set forth in the Commission's Order of Modification, WT Docket No. 12-69, DA 14-43, released January 16, 2014.

Licensee Name: AT&T MOBILITY SPECTRUM LLC

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T Corp

ATTN: CECIL MATHEW
AT&T CORP

208 S. AKARD ST, ROOM 1015 DALLAS, TX 75202

Call Sign	File Number	
WQKN779		
Radio Service MM - Millimeter Wave 70/80/90 GHz Service		
Regulatory Status		
Common Carrier, Non Common Carrier, Private		

FCC Registration Number (FRN): 0005937974

Grant Date	Effective Date	Expiration Date	Print Date
07-30-2019	10-12-2022	07-28-2029	

Location: Nationwide

Frequency Bands: Lower Frequency Upper Frequency

 (MHz)
 (MHz)

 71000.00000000
 76000.00000000

 81000.00000000
 86000.00000000

 92000.00000000
 94000.00000000

 94100.00000000
 95000.000000000

Waivers/Conditions:

This nationwide, non-exclusive license qualifies the licensee to register point-to-point links. This license does not authorize any operation of a link that is not both (1) coordinated with the National Telecommunications and Information Administration with respect to Federal Government operations in the 71-95 GHz bands and (2) posted as a registered link with the FCC (interim process) or third-party Database Manager (permanent process). Nor does this license authorize operation of any link that requires the submission of an environmental assessment, is located in a quiet zone, or is in an area subject to international coordination. For such links, the licensee must file FCC Form 601 Schedule M with the FCC for approval in addition to submitting the link to a third-party Database Manager for registration. See Public Notice, DA 04-1493 (rel. May 26, 2004)

>http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-04-1493A1.doc.

Special Condition for AU/name change (6/4/2016): Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948); if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station is licensed under the prior name.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

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Federal Communications Commission Public Safety and Homeland Security Bureau

RADIO STATION AUTHORIZATION

LICENSEE: FIRST RESPONDER NETWORK AUTHORITY

ATTN: UZOMA ONYEIJE FIRST RESPONDER NETWORK AUTHORITY 12201 SUNRISE VALLEY DRIVE RESTON, VA 20192

Call Sign WQQE234	File Number
Radio Service SP - 700 MHz Public Safety Broadband Nationwide License	
Regulatory Status PMRS	

FCC Registration Number (FRN): 0025487950

Grant Date	Effective Date	Expiration Date	Print Date
11-15-2012	12-29-2017	11-15-2022	

Location: Nationwide

Frequency Bands: 000758.00000000-000769.00000000 MHz

000788.00000000-000799.00000000 MHz

Waivers/Conditions:

This authorization is subject to any rules the Commission may adopt pursuant to its authority under the Middle Class Tax Relief and Job Creation Act of 2012 or the Communications Act of 1934, as amended.

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T WIRELESS SERVICES 3 LLC

ATTN: CECIL J MATHEW AT&T WIRELESS SERVICES 3 LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WQVN675	File Number	
Radio Service		
AT - AWS-3 (1695-1710 MHz,		
1755-1780 MHz, and 2155-2180 MHz)		

FCC Registration Number (FRN): 0023910920

Grant Date 04-08-2015	Effective Date 08-29-2018	Expiration Date 04-08-2027	Print Date		
Market Number BEA003	Chann	Channel Block Sub-Ma			
Market Name Boston-Worcester-Lawrence-Lowe					
1st Build-out Date 04-08-2021	2nd Build-out Date 04-08-2027	3rd Build-out Date	e 4th Build-out Date		

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: AT&T WIRELESS SERVICES 3 LLC

Call Sign: WQVN675 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T SPECTRUM FRONTIERS LLC

ATTN: CECIL J. MATHEW AT&T SPECTRUM FRONTIERS LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRNI961	File Number	
Radio Service		
PM - 3.7 GHz Service		

FCC Registration Number (FRN): 0027840180

,			
Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date
Market Number PEA007		Channel Block B4	
	Market Boston		
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Call Sign: WRNI961 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T SPECTRUM FRONTIERS LLC

ATTN: CECIL J. MATHEW AT&T SPECTRUM FRONTIERS LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRNI962	File Number	
Radio Service		
PM - 3.7 GHz Service		

FCC Registration Number (FRN): 0027840180

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 12-05-2025	Print Date
Market Number PEA007		el Block	Sub-Market Designator
	Market Boston		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This interim license, in conjunction with one or more final licenses, collectively provides authorization during the full 15-year license term. This interim license expires on the earlier of (1) 12/5/2025 or (2) the date that the certification foraccelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR? 27.1412(g). Renewals of this interim license will not be accepted; only final license(s) can be renewed. Assignment application(s) and transfers of control filed for thisinterim license must be done in conjunction with any linked final license.

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Call Sign: WRNI962 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T SPECTRUM FRONTIERS LLC

ATTN: CECIL J. MATHEW AT&T SPECTRUM FRONTIERS LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRNI963	File Number	
Radio Service		
PM - 3.7 GHz Service		

FCC Registration Number (FRN): 0027840180

,				
Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date	
Market Number PEA007		Channel Block B5 Sub-Market I		
	Market Bostor			
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Call Sign: WRNI963 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T SPECTRUM FRONTIERS LLC

ATTN: CECIL J. MATHEW AT&T SPECTRUM FRONTIERS LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRNI964	File Number	
Radio Service		
PM - 3.7 GHz Service		

FCC Registration Number (FRN): 0027840180

Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 12-05-2025	Print Date
Market Number PEA007		nel Block A5	Sub-Market Designator ()
	Market Boston		
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This interim license, in conjunction with one or more final licenses, collectively provides authorization during the full 15-year license term. This interim license expires on the earlier of (1) 12/5/2025 or (2) the date that the certification foraccelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR? 27.1412(g). Renewals of this interim license will not be accepted; only final license(s) can be renewed. Assignment application(s) and transfers of control filed for thisinterim license must be done in conjunction with any linked final license.

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Call Sign: WRNI964 File Number: Print Date:

700 MHz Relicensed Area Information:

This is not an official FCC license. It is a record of public information contained in the FCC's licensing database on the date that this reference copy was generated. In cases where FCC rules require the presentation, posting, or display of an FCC license, this document may not be used in place of an official FCC license.



Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T SPECTRUM FRONTIERS LLC

ATTN: CECIL J. MATHEW AT&T SPECTRUM FRONTIERS LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRNI965	File Number	
Radio Service		
PM - 3.7 GHz Service		

FCC Registration Number (FRN): 0027840180

,				
Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date	
Market Number PEA007		Channel Block C1		
	Market Bostor			
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date	

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Call Sign: WRNI965 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T SPECTRUM FRONTIERS LLC

ATTN: CECIL J. MATHEW AT&T SPECTRUM FRONTIERS LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRNI966	File Number	
Radio Service		
PM - 3.7 GHz Service		

FCC Registration Number (FRN): 0027840180

•			
Grant Date 07-23-2021	Effective Date 07-23-2021	Expiration Date 07-23-2036	Print Date
Market Number PEA007			
Market Name Boston, MA			
1st Build-out Date 07-23-2029	2nd Build-out Date 07-23-2033	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Call Sign: WRNI966 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T AUCTION HOLDINGS, LLC

ATTN: CECIL J. MATHEW AT&T AUCTION HOLDINGS, LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRQM357	File Number	
Radio Service PK - 3.45 GHz Service		

FCC Registration Number (FRN): 0031141229

8			
Grant Date 05-04-2022	Effective Date 05-04-2022	Expiration Date 05-04-2037	Print Date
Market Number PEA007	Chann	ub-Market Designator	
Market Name Boston, MA			
1st Build-out Date 05-04-2026	2nd Build-out Date 05-04-2030	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: AT&T AUCTION HOLDINGS, LLC

Call Sign: WRQM357 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T AUCTION HOLDINGS, LLC

ATTN: CECIL J. MATHEW AT&T AUCTION HOLDINGS, LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRQM358	File Number	
Radio Service		
PK - 3.45 GHz Service		

FCC Registration Number (FRN): 0031141229

Grant Date 05-04-2022	Effective Date 05-04-2022	Expiration Date 05-04-2037	Print Date
Market Number PEA007		nel Block B	Sub-Market Designator
		t Name n, MA	
1st Build-out Date 05-04-2026	2nd Build-out Date 05-04-2030	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: AT&T AUCTION HOLDINGS, LLC

Call Sign: WRQM358 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T AUCTION HOLDINGS, LLC

ATTN: CECIL J. MATHEW AT&T AUCTION HOLDINGS, LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRQM359	File Number		
Radio Service			
PK - 3.45 GHz Service			

FCC Registration Number (FRN): 0031141229

8			
Grant Date 05-04-2022	Effective Date 05-04-2022	Expiration Date 05-04-2037	Print Date
Market Number PEA007		el Block	Sub-Market Designator
	Market Boston		
1st Build-out Date 05-04-2026	2nd Build-out Date 05-04-2030	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: AT&T AUCTION HOLDINGS, LLC

Call Sign: WRQM359 File Number: Print Date:

700 MHz Relicensed Area Information:

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T AUCTION HOLDINGS, LLC

ATTN: CECIL J. MATHEW AT&T AUCTION HOLDINGS, LLC 208 S. AKARD ST., RM 1015 DALLAS, TX 75202

Call Sign WRQM360	File Number			
Radio Service PK - 3.45 GHz Service				
111 3.13 0	THE BOTTICE			

FCC Registration Number (FRN): 0031141229

Grant Date 05-04-2022	Effective Date 05-04-2022	Expiration Date 05-04-2037	Print Date
Market Number PEA007		nel Block D	Sub-Market Designator
		t Name n, MA	
1st Build-out Date 05-04-2026	2nd Build-out Date 05-04-2030	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

NONE

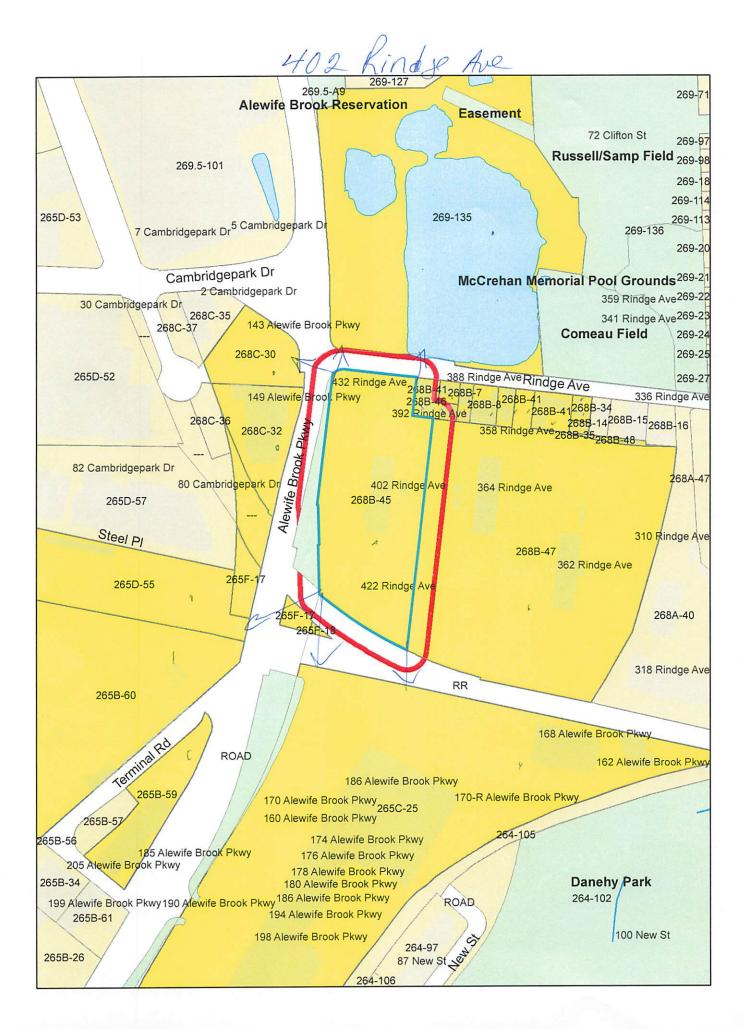
Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: AT&T AUCTION HOLDINGS, LLC

Call Sign: WRQM360 File Number: Print Date:

700 MHz Relicensed Area Information:



265F-17 MASSACHUSETTS COMMONWEALTH OF STATE HOUSE

265B-59 ALEWIFE PROPERTIES, LLC 545 CONCORD AVENUE CAMBRIDGE, MA 02138

BOSTON, MA 02133

268B-41 NAPOLI, MECKY & FATMA JIDDAWI 368 RINDGE AVE CAMBRIDGE, MA 02139

268B-41 MANNING, BENADETTE 356 RINDGE AVE CAMBRIDGE, MA 02138

268B-41 REZAEI-KAMALABAD & MARIANNE REZAEI-KAMALABAD 388 RINDGE AVE CAMBRIDGE, MA 02139

268B-41 ALAM, MOHAMMED 370 RINDGE AVE. CAMBRIDGE, MA 02140

265D-55 / 265F-18 MASSACHUSETTS BAY TRANSPORTATION AUTHORITY 10 PARK PLAZA BOSTON, MA 02116

268B-7 AL-AMIN, INC. 380 RINDGE AVE., UNIT #2 CAMBRIDGE, MA 02140

268B-46
JIFARA, TEREFE R & ELIZABETH HAILESILASE
398 RINDGE AVENUE, UNIT # 2
CAMBRIDGE, MA 02140

268B-46 ARADOM, HAILE G. & GENET W. ARADOM 394 RINDGE AVENUE. CAMBRIDGE, MA 02140 402 Finds AL

265B-60 BOSTON EDISON COMPANY C/O NSTAR ELECTRIC COMPANY P.O. BOX 270, PROPERTY TAX DEPT HARTFORD, CT 06141-0270

265C-25 THE FRESH POND MALL LIMITED PARTNERSHIP 545 CONCORD AVE. SUITE 400 CAMBRIDGE, MA 02138

268B-41 BROWN, MARIE BARBARA & OWEN OSBOURNE BROWN 354 RINDGE AVE. UNIT#3 CAMBRIDGE, MA 02138

268B-41 BARRY, ABRAHAM & OUMOU BARRY 358 RINDGE AVE CAMBRIDGE, MA 02138

268B-41 MASNY-SOKOLOWSKI, URSZULA C/O URSZULA MASNY-LATOS 354 RINDGE AVE. UNIT#4 CAMBRIDGE, MA 02138

268B-41 RAJAO, ELIANA M. PEREIRA & CARLOS RICARDO RAJAO 354 RINDGE AVE . UNIT#2 CAMBRIDGE, MA 02138

268B-41 NAHEED, SITARA & ASIA RAHMAN 354-390 RINDGE AVE CAMBRIDGE, MA 02138

268B-45 RINDGE TOWER APARTMENT LLC, 1035 CAMBRIDGE ST., #12 CAMBRIDGE, MA 02141

268B-46 YOHANNES, EFREM T. & MEAZA T. TEWELDEMEDHIN 390 RINDGE AVE. CAMBRIDGE, MA 02140

268B-46 BROWN, MELISSA 396 RINDGE AVENUE CAMBRIDGE, MA 02140 BROWN RUDNICK LLP C/O MICHAEL R. DOLAN, ESQ. 10 MEMORIAL BOULEVARD PROVIDENCE, RI 02903

268B-41 KEBEDE, ROMAN & TSEGAYE WOLDU 366 RINDGE AVE CAMBRIDGE, MA 02138

268B-8 MUSTASCIO, GEORGE C. LORENZO CASAMASSIMA 372 RINDGE AVE CAMBRIDGE, MA 02140

268B-41 SITHAR, DICKEY 354-388 RINDGE AVE., #386 CAMBRIDGE, MA 02140

268C-32 SWEETWOOD, LLC. C/O MCCARTHY LEGAL SERVICES LLC, 1188 CENTRE ST. NEWTON CENTER, MA 02459

268B-41 DUGGAN, MARY D. 354 RINDGE AVE., UNIT #5 CAMBRIDGE, MA 02138

268C-30
APPLETREEWOOD, LLC.
C/O MCCARTHY LEGAL SERVICES LLC,
1188 CENTRE ST
NEWTON CENTER, MA 02459

268B-46 NERE, SOLOMON K. & HIWOT H. GEBREMARIAM 400 RINDGE AVE. CAMBRIDGE, MA 02140

268B-46 MCLEOD, LORNA 392 RINDGE AVE. UNIT#7 CAMBRIDGE, MA 02140

268B-48-47
RINDGE ASSOCIATES
C/O FEDERAL MANAGEMENT CO.
536 GRANITE ST., #301
BRAINTREE, MA 02184

402 Rindse Ave

268B-46
SHAMS SAIFUL & FARHANAH AFROZE
398 RINDGE AVENUE UNIT 3
CAMBRIDGE, MA 02140

268B-46 AFRICAWALA, SHAHENAZBIBI F FAHAD, S, AFRICAWALA 398 RINDGE AVE - UNIT 1 CAMBRIDGE, MA 02140 269-135
IQHQ-ALEWIFE LLC
674 VIA DE LA VALLE - STE 206
SOLANA BEACH, CA 92075

268B-34-35 FFSIK LLC 29 ROBINSON DR BEDFORD, MA 01730