



CITY OF CAMBRIDGE

BOARD OF ZONING APPEAL

831 Massachusetts Avenue, Cambridge MA 02139

617-349-6100

2023 APR 25 AM 11:56

OFFICE OF THE CITY CLERK
CAMBRIDGE, MASSACHUSETTS

BZA Application Form

BZA Number: 218156

General Information

The undersigned hereby petitions the Board of Zoning Appeal for the following:

Special Permit: X Variance: Appeal:

PETITIONER: T-Mobile Northeast LLC for Kendall Square Entity, Inc. C/O Adam F. Brailard, Esq. of Prince Lobel Tye LLP

PETITIONER'S ADDRESS: One International Place, Boston, MA 02110

LOCATION OF PROPERTY: 141 Portland St., Cambridge, MA

TYPE OF OCCUPANCY: Industrial, Commercial and Telecommunications **ZONING DISTRICT:** Industrial B Zone

REASON FOR PETITION:

/Telecommunication Facility (antenna)/

DESCRIPTION OF PETITIONER'S PROPOSAL:

The Applicant proposes to modify its existing wireless telecommunications facility currently operating on the rooftop of the Building by replacing 12 existing panel antennas with 12 new like-kind panel antennas, along with adding remote radio units (RRUs). The Applicant is also removing 2 faux ventpipe on the footop of the penthouse of the Building as the existing antennas housed in those will be relocated to the facade. All of the proposed placement antennas will be installed on the façades of the building and painted to match the color of the facade. Also, the Applicant proposes to install it radio cabinets and ancillary equipment on the rooftop of the building and out of view.

SECTIONS OF ZONING ORDINANCE CITED:

- Article: 4.000 Section: 4.32.G.1 & Sec. 4.40 (Footnote 49) (Telecommunications Facilities).
- Article: 10.000 Section: 10.40 (Special Permit).
- Article: 6409 Section: Federal Middle Class Tax Relief Act (Spectrum Act)

Original
Signature(s):



(Petitioner (s) / Owner)

Adam Brailard, of Prince Lobel Tye for the Applicant,
T-Mobile Northeast LLC (Print Name)

Address: One International Place, Suite 3700, Boston MA 02110

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 KENDALL SQUARE ENTITY, INC
(OWNER)

Address: 90 INTERCONTINENTAL MANAGEMENT CORP. 1270 SOLDIERS FIELD RD
BOSTON MA 02135-1003

State that I/We own the property located at 141 PORTLAND STREET,
which is the subject of this zoning application.

The record title of this property is in the name of KENDALL SQUARE ENTITY, INC.

*Pursuant to a deed of duly recorded in the date 12/31/85, Middlesex South
County Registry of Deeds at Book 16682, Page 565; or

~~Middlesex Registry District of Land Court, Certificate No. _____~~


Book _____ Page _____


AS AGENT
SIGNATURE BY LAND OWNER OR
AUTHORIZED TRUSTEE, OFFICER OR AGENT*

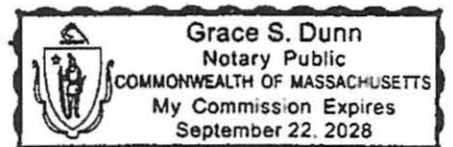
*Written evidence of Agent's standing to represent petitioner may be requested.

Commonwealth of Massachusetts, County of Middlesex

The above-name Paul Charos personally appeared before me,
this 26 of July, 2022, and made oath that the above statement is true.


Notary

My commission expires 09-22-2028 (Notary Seal)



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

April 12, 2023

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

Re: Eligible Facilities Request pursuant to Section 6409 of the
Spectrum Act and an Application for Special Permit, in the
Alternative
Property Address: 141 Portland Street, Cambridge, MA 02139
Assessor's Map 42, Lot 70 (the "**Property**")
Applicant: T-Mobile Northeast, LLC ("**Applicant**")

Dear Honorable Members of the Board of Zoning Appeals:

This firm represents T-Mobile Northeast LLC in connection with an application for a special permit from the City of Cambridge Board of Zoning Appeals (the "**Board**"), to modify an existing wireless communications facility on the Property. The Property is located in the Industry B Zoning District (the "**IB**"). To the extent that the Board determines that the requirements of Article 4 Section 4.32G.1 of the City of Cambridge Zoning Ordinance (the "**Ordinance**") apply, the use of the Property for a wireless telecommunications facility is permitted by special permit from the Board¹. The Applicant's proposal satisfies the requirements for the grant of a special permit pursuant to Section 10-43 of the Ordinance.

The Applicant's Proposed Facility (as defined herein) is subject to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, more commonly known as the "Spectrum Act" (47 U.S.C. § 1455). As such, we respectfully submit that in the event that the Board determines that the application does not comply with the Spectrum Act, the Applicant hereby states that the special permit requirements set forth in the Ordinance are hereby met by the Applicant, and that relief must be granted to the Applicant. Compliance with the Spectrum Act is shown on the Eligible Facilities Request permit application form attached hereto and incorporated herein by reference (the "**EFR**").

¹ Pursuant to Section 6409(a) of the Spectrum Act, 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." As such, the Applicant submits that they need not apply for a special permit from the board. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with special permit requirements set forth in Section 10-43 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

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FAX: 617 456 8100

The Applicant seeks to modify its existing wireless communications facility by, removing and replacing the existing antennas, removing the existing Remote Radio Units (“RRUs”) and Tower Mounted Amplifiers (“TMAs”) and replacing them with new RRUs, and removing and replacing the existing equipment cabinets on the rooftop of the existing building (the “Building”) on the Property (the “Proposed Facility”). The Applicant’s Proposed Facility is described in more detail below and is shown on the Plans attached hereto and incorporated herein by reference (the “Plans”).

I. Background

The Applicant is licensed by the Federal Communications Commission (the “FCC”) to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and in particular in the City of Cambridge. A copy of the Applicant’s FCC license is attached hereto. The Applicant is in the process of designing and constructing a telecommunications system to serve all of the Commonwealth of Massachusetts. One of the key design objectives of its systems is to provide seamless coverage. Such a system requires a grid of radio transmitting and receiving links located approximately .5 to 2 miles apart, depending on the location of existing and proposed installations in the surrounding area, the existing use of the network and the existing topography. The radio transmitting and receiving facilities operate on a line-of-sight basis, requiring a clear path from the facility to the user on the ground. This dynamic requires the antennas to be located in a location where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

II. Project Description

The Applicant’s existing facility consists of four (4) sectors (Alpha, Beta, Delta and Gamma) with each sector having three (3) panel antennas, one (1) TMA, and two (2) RRUs, which are all on the rooftop or facade of the Building. The Applicant proposes to modify its existing facility as follows:

- replacing the twelve (12) existing panel antennas with twelve (12) new, like-kind panel antennas;
- relocating three (3) antennas (1 each from the Alpha, Beta and Delta sectors) from the existing faux flue pipes on the rooftop of penthouse of the Building to sector specific areas of the Building’s façade;
- removing eight (8) RRUs and four (4) TMAs and replacing them with eight (8) new RRUs; and
- removing and replacing the two existing equipment cabinets.
- All visible antennas will be painted to match the color of the facade of the Building.

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The proposed modification will reduce the amount of equipment on the rooftop of the building by eliminating the two flue pipes. Similar to the existing facility, all of the antenna sectors associated with the Proposed Facility will remain in the same position. Consequently, the visual change to the Applicant's existing facility will be de minimus.

The Applicant's proposal is consistent with the previous decisions of the Board for this facility, the first of which is dated September 30, 2010 (Case No.9995) (the "2010 Decision"), a second dated October 11, 2012(Case No.10337) (the "2nd Decision"), and a third dated June 22, 2017 (Case No. BZA-013323-2017) (the "3rd Decision" and together with the Original Decision and 2nd Decision shall hereafter be referred to as the "**Decisions**").

After installation, the Proposed Facility will be unmanned and will only require twice a month maintenance visits per carrier. The only utilities required to operate this Proposed Facility are standard 120-volt electrical power as well as telephone service. These are presently in place at the Property. The traffic generated by the Proposed Facility will be approximately two vehicle trips per month by maintenance personnel who will inspect the Proposed Facility to ensure it remains in good working order. The Proposed Facility will comply with all applicable local, state and federal safety codes.

III. Legal Arguments

A. The Applicant complies with the Wireless Communications provisions set forth in Section 4.32(g), footnote 49 of the Ordinance

Pursuant to Section 4.32(g) of the Ordinance, the Applicant's proposed use for a wireless communications facility in the IB District is permitted by special permit. The Applicant's Proposed Facility further complies with the provisions set forth in Section 4.32(g), footnote 49 of the Ordinance:

- 1. The Board of Zoning Appeal shall consider the scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.**

Enclosed herewith is the Applicant's FCC license. The Applicant meets all requirements imposed by governmental authorities having jurisdiction over the Proposed Facility, including by the FCC, to provide wireless communications in this market area.

The intent of the U.S. Congress, when it enacted the Telecommunications Act of 1996 ("TCA") was to institute a framework to promote competition and innovation within the telecommunications industry. Under its license from the FCC, T-Mobile is

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obligated to provide a reliable “product” (i.e. wireless communications service) to the population of the City of Cambridge. Likewise, consumer expectations for increasingly robust and reliable service requires competing service providers (including T-Mobile) to identify and remedy existing gaps in reliable network coverage, or gaps that result from increasing subscriber voice and data traffic beyond the limits of existing network infrastructure. A carrier’s failure to remedy network gaps in a timely fashion can result in a significant loss of subscribers to competing telecommunications carriers. The Proposed Facility and corresponding relief requested are necessary to remedy a gap in reliable service coverage within T-Mobile’s existing network infrastructure.

T-Mobile investigated alternative sites in and around the defined geographic area within which its engineers determined that a facility must be located to fill the gap in service coverage and to function effectively within its network of existing and planned facilities. This is an existing location that is being upgraded with new technology to provide the necessary coverage to the subject area of the City of Cambridge. Therefore, the Proposed Facility in the IB District is necessary to close the coverage gap that is illustrated on the propagation maps submitted herewith. Consequently, T-Mobile is unable to close a gap in its wireless network without obtaining the requested relief under Section 6409 of the Spectrum act or a Special Permit to modify its existing wireless facility in the IB District.

Furthermore, Section 6409(a) of the Spectrum Act 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.*” 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.

Because federal law now preempts many of the permit application requirements that this jurisdiction would previously have required from an Applicant, we have provided, on the attached EFR, only the information that federal law allows this jurisdiction to consider when reviewing an EFR. As such, we submit that the Wireless Communications set forth in Section 4.32(g), footnote 49 of the Ordinance, provisions are not applicable to Proposed Facility and relief must be granted pursuant to Section 6409(a) of the Spectrum Act.

- 2. The Board of Zoning Appeal shall consider the extent to which the visual impact of the various elements of the proposed facility is minimized: (1) through the use of existing mechanical elements on the building’s roof or other features of the building as support and background, (2) through the use in materials that in texture and color blend with the**

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materials to which the facilities are attached, or (3) other effective means to reduce the visual impact of the facility on the site.

The Applicant's Proposed Facility will have no additional visual impact on the existing facility and Building. The Proposed Facility will be installed on the facade of the Building, painted to match the color of the building, and in conformity with the Decisions.

As stated above, federal law now preempts many of the permit applications requirements that the Ordinance sets forth. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with the Wireless Communications provisions set forth in Section 4.32(g), footnote 49 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

- 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 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 telecommunications facility is not inconsistent with the character that does prevail in the surrounding neighborhood.**

The Proposed Facility is located in a nonresidential district. As such, the Applicant submits that nonresidential uses predominate in the area, and in keeping with the Decisions, respectfully requests that the Board find the same.

B. The Applicant complies with the Special Permit Criteria set forth in Section 10-43 of the Ordinance²:

- 1. The requirements of the Ordinance can be met:**

² Pursuant to Section 6409(a) of the Spectrum Act, 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." As such, the Applicant submits that they need not apply for a special permit from the board. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with special permit requirements set forth in Section 10-43 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

As provided above, the Applicant has met the requirements set forth in Section 4.32(g), footnote 49 of the Ordinance.

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

The proposed installation will not obstruct existing rights-of-way or pedestrian access and will not change the daily conditions of access, egress, traffic, congestion hazard, or character of the neighborhood. The installation will not require the addition of any new parking or loading spaces. The use is passive and will not change the current conditions or appearance surrounding the Building. The facility will not produce any odors, fumes, noise or waste. There will be no need for water, sewer, or other municipal services.

As mentioned above, once modified, the facility will be unmanned and will only require infrequent visits by a technician, typically two times per month for routine diagnostics and/or maintenance, except in cases of emergency. These infrequent visits will not result in any material increase in traffic or disruption to patterns of access or egress that will cause congestion hazards or cause a substantial change in the established neighborhood character. The Applicant's maintenance personnel will make use of the existing access roads and parking at the Building.

3. 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:

As described above and illustrated on the attached photograph simulations, the modification of the existing facility will produce a minimal change in the appearance of the Building. The modification of the existing facility will blend with the existing characteristics of the Building and the surrounding neighborhood. Moreover, the proposed installation will not generate any traffic, smoke, dust, heat, glare, discharge of noxious substances, nor will it pollute waterways or groundwater. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communication.

4. 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:

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The operations of the proposed telecommunications facility will not adversely impact the health, safety, and the welfare of the residents of the City of Cambridge. On the contrary, the proposed use will benefit the City and promote the safety and welfare of its residents, businesses and drivers by providing reliable state-of-the-art digital wireless voice and data services. Further, the site will improve the reliability of emergency communications with the police and fire departments by eliminating dropped or blocked calls due to inadequate signal strength or insufficient network capacity to handle call volume, particularly important during emergency situations.

The Proposed Facility will comply with all federal, state and local safety requirements including the standards established by the FCC, Federal Aviation Administration (FAA), the American Standards Institute (ANSI), and the Massachusetts Department of Public Health (MDPH).

Accordingly, the Proposed Facility will not adversely impact the health, safety and/or welfare of the neighborhood or the residents of the City of Cambridge.

5. For other reasons, the proposed installation will 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 is designed to blend with the existing characteristics of the Property, reducing any visual impacts to the surrounding area. Accordingly, the Proposed Facility's design results in a minimal impact on the underlying and adjacent zoning district and is consistent with the Ordinance's intention to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space), including the IB District.

As mentioned above, the proposed modifications to the existing installation will not generate any traffic, smoke, dust, heat, glare, discharge, or noxious substances, nor will it pollute waterways or groundwater.

6. The new use of the building construction is consistent with the Urban Design Objective set forth in Section 19.30 of the Ordinance:

Not Applicable. The Applicant is not proposing to construct a new building or structure.

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IV. Summary

The Applicant hereby requests that the Board determine that the City of Cambridge has the right to authorize the construction of the Proposed Facility through the issuance of a Building Permit, pursuant to Section 6409(a) of the Spectrum Act. Or, in the alternative, its proposed modifications to the existing telecommunications facility will not have any adverse effect on the neighborhood within which the Property is located in particular, and the City of Cambridge as a whole. The findings are made in view of the particular characteristics of the Property and of the Applicant's proposed siting and equipment, as detailed above. This Property is the most appropriate location for the installation and operation of the wireless communications facility.

For the foregoing reasons the Applicant respectfully requests that the Board grant the foregoing relief pursuant to Section 6409(a) of the Spectrum Act or, in the alternative, zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the installation and operation of the Applicant's Proposed Facility.

Sincerely,

Adam F. Braillard
Direct: 617-456-8153
Email: abraillard@princelobel.com

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Tel. No. 617-456-8153
 E-Mail Address: abraillard@princelobel.com

Date: _____

BZA Application Form

DIMENSIONAL INFORMATION

Applicant: T-Mobile Northeast LLC for Kendall Square Entity, Inc.
Location: 141 Portland St., Cambridge, MA
Phone: 617-456-8153

Present Use/Occupancy: Industrial, Commercial and Telecommunications
Zone: Industrial B Zone
Requested Use/Occupancy: Telecommunications

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

Describe where applicable, other occupancies on the same lot, the size of adjacent buildings on same lot, and type of construction proposed, e.g; wood frame, concrete, brick, steel, etc.:

The proposed installation involves a modification of an existing Wireless Telecommunications Facility, more commonly referred to as a "collocation"

1. SEE CAMBRIDGE ZONING ORDINANCE ARTICLE 5.000, SECTION 5.30 (DISTRICT OF DIMENSIONAL REGULATIONS).
2. TOTAL GROSS FLOOR AREA (INCLUDING BASEMENT 7'-0" IN HEIGHT AND ATTIC AREAS GREATER THAN 5') DIVIDED BY LOT AREA.

PROJECT INFO.

SITE NAME: B0033/141 PORTLAND
SITE NUMBER: 4DE7033A
SITE ADDRESS: 141 PORTLAND STREET
 CAMBRIDGE, MA 02139
COUNTY: MIDDLESEX COUNTY
MUNICIPALITY: CITY OF CAMBRIDGE
ZONING: INDUSTRY B
LATITUDE: N 42°21'56.2788" (42.365633°) (NAD83)
LONGITUDE: W 71°05'32.9172" (-71.092477°) (NAD83)
TYPE OF SITE: ROOFTOP
STRUCTURE HEIGHT: 125'-9" AGL
ANTENNA CENTER: 132'-0" & 147'-0" AGL
GROUND ELEVATION: 9.1' (NAVD 88)
BUILDING OWNER NAME: INTERCONTINENTAL REAL ESTATE CORPORATION
BUILDING OWNER ADDRESS: 1270 SOLDIERS FIELD ROAD
 BRIGHTON, MA 02766
APPLICANT: T-MOBILE NORTHEAST, LLC.
 15 COMMERCE WAY, SUITE B
 NORTON, MASSACHUSETTS 02766
APPLICANT PHONE: (508) 286-2700
APPLICANT FAX: (508) 286-2893

APPROVED

By Ryan Monte de Ramos at 11:00 am, Feb 21, 2023

PROJECT DIRECTORY

ENGINEERING FIRM:
 CENTERLINE ENGINEERING SERVICES, PA
 750 WEST CENTER ST, SUITE 301
 WEST BRIDGEWATER, MA 02379
 DEREK CREASER (617) 306-3034

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



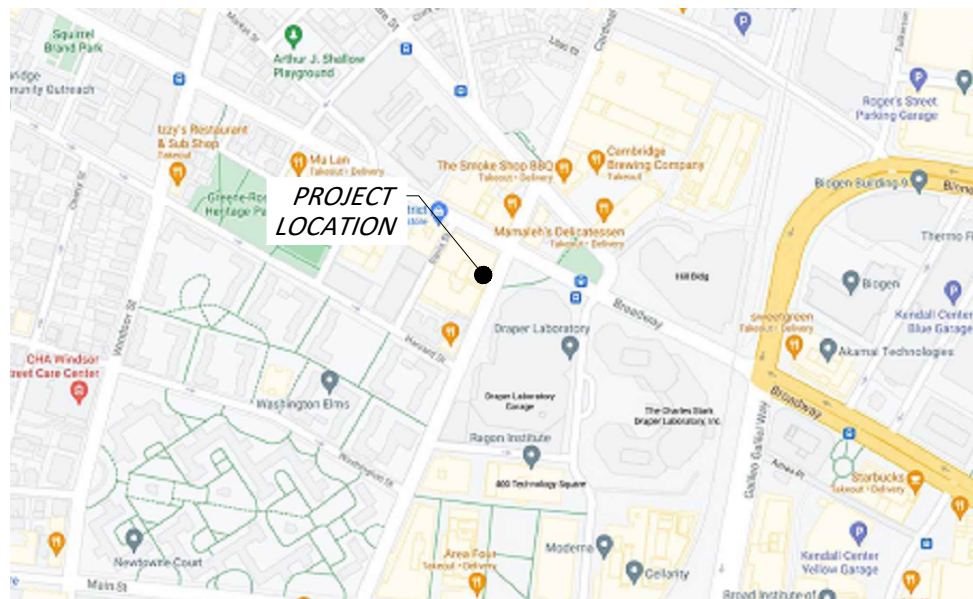
Know what's below.
Call before you dig.



T-Mobile NORTHEAST LLC

SITE NAME: B0033/141 PORTLAND
SITE ID: 4DE7033A
ADDRESS: 141 PORTLAND STREET
 CAMBRIDGE, MA 02139

TECHNOLOGY: 4SEC-67E5A998DE HYBRID
MODIFICATION: ANCHOR_PHASE 3



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSE OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SCOPE OF WORK

1. REMOVE TWELVE EXISTING ANTENNAS
2. INSTALL TWELVE NEW ANTENNAS
3. REMOVE EIGHT EXISTING RRUS
4. INSTALL EIGHT NEW RRUS
5. REMOVE FOUR EXISTING GENERIC TWIN STYLE TMAS
6. REMOVE ONE EXISTING RBS 2106 EQUIPMENT CABINET
7. REMOVE ONE EXISTING RBS 3106 EQUIPMENT CABINET
8. INSTALL ONE NEW 6160 EQUIPMENT CABINET
9. INSTALL ONE NEW B160 EQUIPMENT CABINET
10. INSTALL FOUR NEW 6X24 HYBRID CABLES
11. REMOVE ALL EXISTING UNUSED CABLES AND EQUIPMENT

DRAWING INDEX

| NO. | DESCRIPTION |
|------|--|
| T-1 | TITLE SHEET |
| GN-1 | GENERAL NOTES, RF NOTES, CABLING NOTES |
| A-1 | ROOFTOP PLAN |
| A-2 | EQUIPMENT LAYOUT |
| A-3 | EQUIPMENT DETAILS |
| A-4 | NORTHWEST ELEVATION |
| A-5 | ANTENNA PLAN AND SCHEDULE |
| SN-1 | STRUCTURAL NOTES & SPECIAL INSPECTIONS |
| S-1 | ANTENNA & RRU MOUNTING DETAILS |
| S-2 | ANTENNA & RRU MOUNTING DETAILS |
| S-3 | ANTENNA & RRU MOUNTING DETAILS |
| S-4 | ANTENNA & RRU MOUNTING DETAILS |
| S-5 | ANTENNA & RRU MOUNTING DETAILS |
| S-6 | ANTENNA & RRU MOUNTING DETAILS |
| G-1 | GROUNDING & ONE LINE DIAGRAM |

DRAWING SCALE NOTES:

THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 22"x34". CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

T-Mobile NORTHEAST LLC

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



750 W CENTER ST, SUITE 301
 WEST BRIDGEWATER, MA 02379
 PHONE: 781.713.4725

REVISIONS

| REV | DATE | DESCRIPTION | BY |
|-----|----------|-------------------------|-----|
| 3 | 01/04/23 | CONSTRUCTION UPDATE | AB |
| 2 | 11/30/22 | REVISED FOR COMMENTS | LP |
| 1 | 01/31/22 | ISSUED FOR CONSTRUCTION | RL |
| 0 | 08/12/21 | ISSUED FOR PERMITTING | SS |
| A | 06/30/21 | ISSUED FOR REVIEW | NMT |

DESIGNED BY: NMT
 APPROVED BY: WRD



DATE: 01/04/23

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT, UNLESS EXPLICITLY AGREED TO BY THE ENGINEER IN WRITING. THE ENGINEER DISCLAIMS ALL LIABILITY ASSOCIATED WITH THE REUSE, ALTERATION OR MODIFICATION OF THE CONTENTS HEREIN.

SITE NAME:
 B0033/141 PORTLAND
SITE ID:
 4DE7033A
SITE ADDRESS:
 141 PORTLAND STREET
 CAMBRIDGE, MA 02139
 MIDDLESEX COUNTY
 COUNTY

SHEET TITLE:
 TITLE SHEET

DRAWING:
 T-1

RF NOTES

- ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR
- THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
- RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
- ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS-OCCUPIED, INDOORS-UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
- RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.
- THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
- DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
- ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.
- 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.
- USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.
- ANTENNAS SHALL BE PAINTED, WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.
- CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE & SCHEDULING NOTES

- SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.
- TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER T-MOBILE ANTENNA CABLE MARKING STANDARD:
 - TOP OF TOWER END OF MAIN COAX
 - BOTTOM OF TOWER END OF MAIN COAX
 - DIRECTLY BEFORE AND AFTER RF EQUIPMENT
 - END OF JUMPERS AT BTS EQUIPMENT
- ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.
- PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

GENERAL NOTES

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR - CENTERLINE COMMUNICATIONS
SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - T-MOBILE MOBILITY
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

- ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
- CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE MOBILITY SITES."
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
- APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

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BUILDING CODE: IBC 2015 & MA STATE BUILDING 780 CMR 9TH EDITION
ELECTRICAL CODE: 2020 NATIONAL ELECTRICAL CODE
LIGHTNING CODE: NFPA 780-2020

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

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

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

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

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

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

ABBREVIATIONS

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

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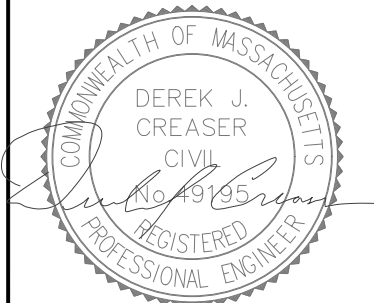


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PHONE: 781.713.4725

REVISIONS

| REV | DATE | DESCRIPTION | BY |
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| 3 | 01/04/23 | CONSTRUCTION UPDATE | AB |
| 2 | 11/30/22 | REVISED FOR COMMENTS | LP |
| 1 | 01/31/22 | ISSUED FOR CONSTRUCTION | RL |
| 0 | 08/12/21 | ISSUED FOR PERMITTING | SS |
| A | 06/30/21 | ISSUED FOR REVIEW | NMT |

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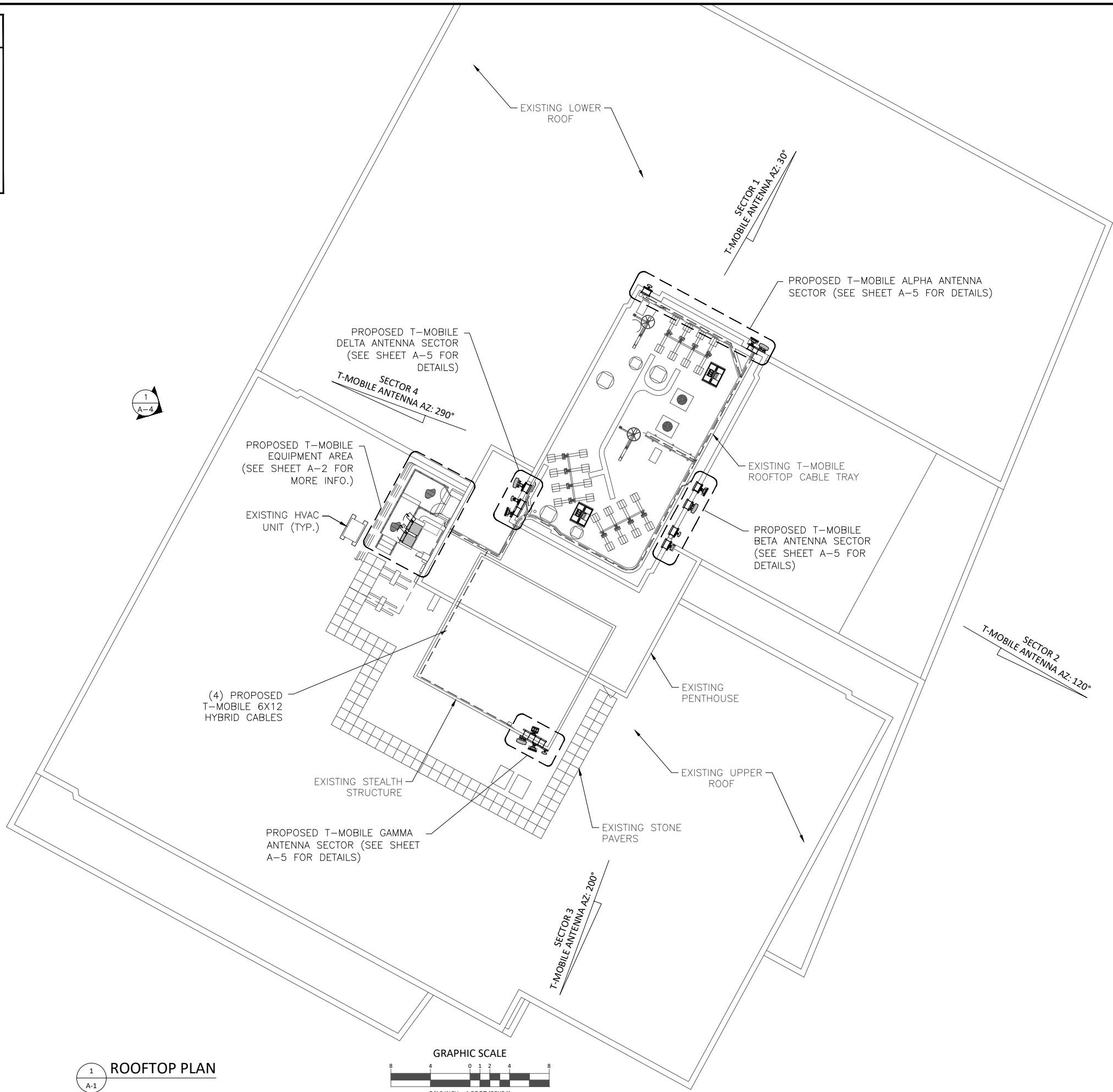
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| SITE ID: 4DE7033A |
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SHEET TITLE:
**GENERAL NOTES, RF NOTES,
CABLING NOTES**

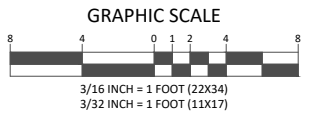
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GN-1

NOTES

1. CONTRACTOR SHALL MAKE A UTILITY 811 DIG SAFE CALL TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
3. REFERENCE STRUCTURAL ANALYSIS BY CENTERLINE COMMUNICATIONS DATED 09/30/2021 FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
4. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA MODELS AND SETTINGS.



1 ROOFTOP PLAN
A-1



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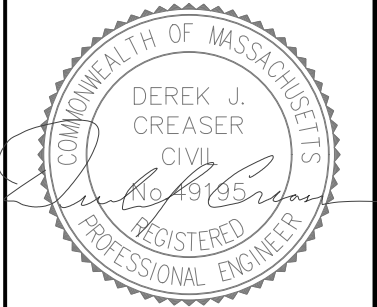


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MIDDLESEX COUNTY
COUNTY

SHEET TITLE:
ROOFTOP PLAN

DRAWING:
A-1



T-Mobile NORTHEAST LLC

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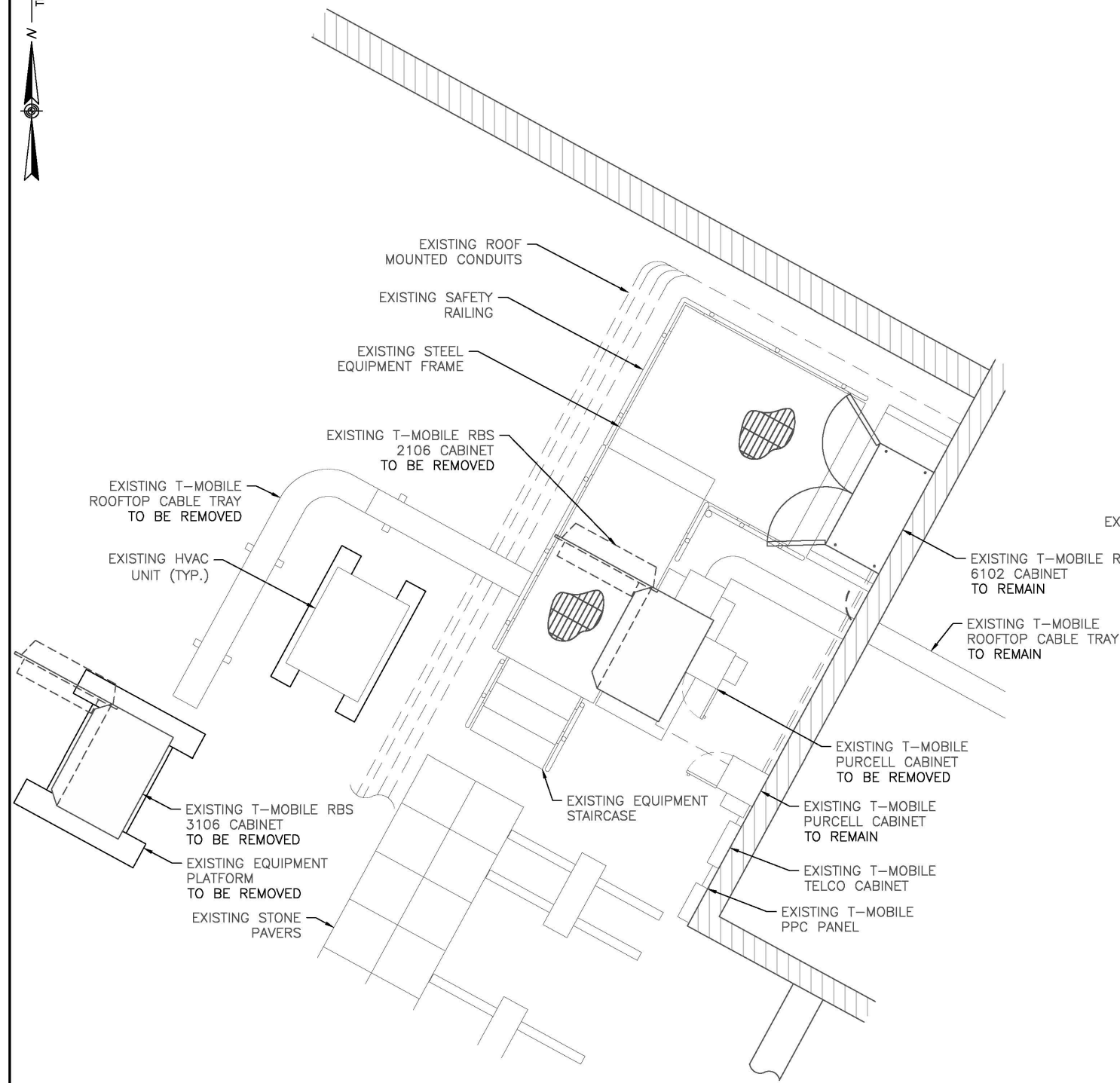
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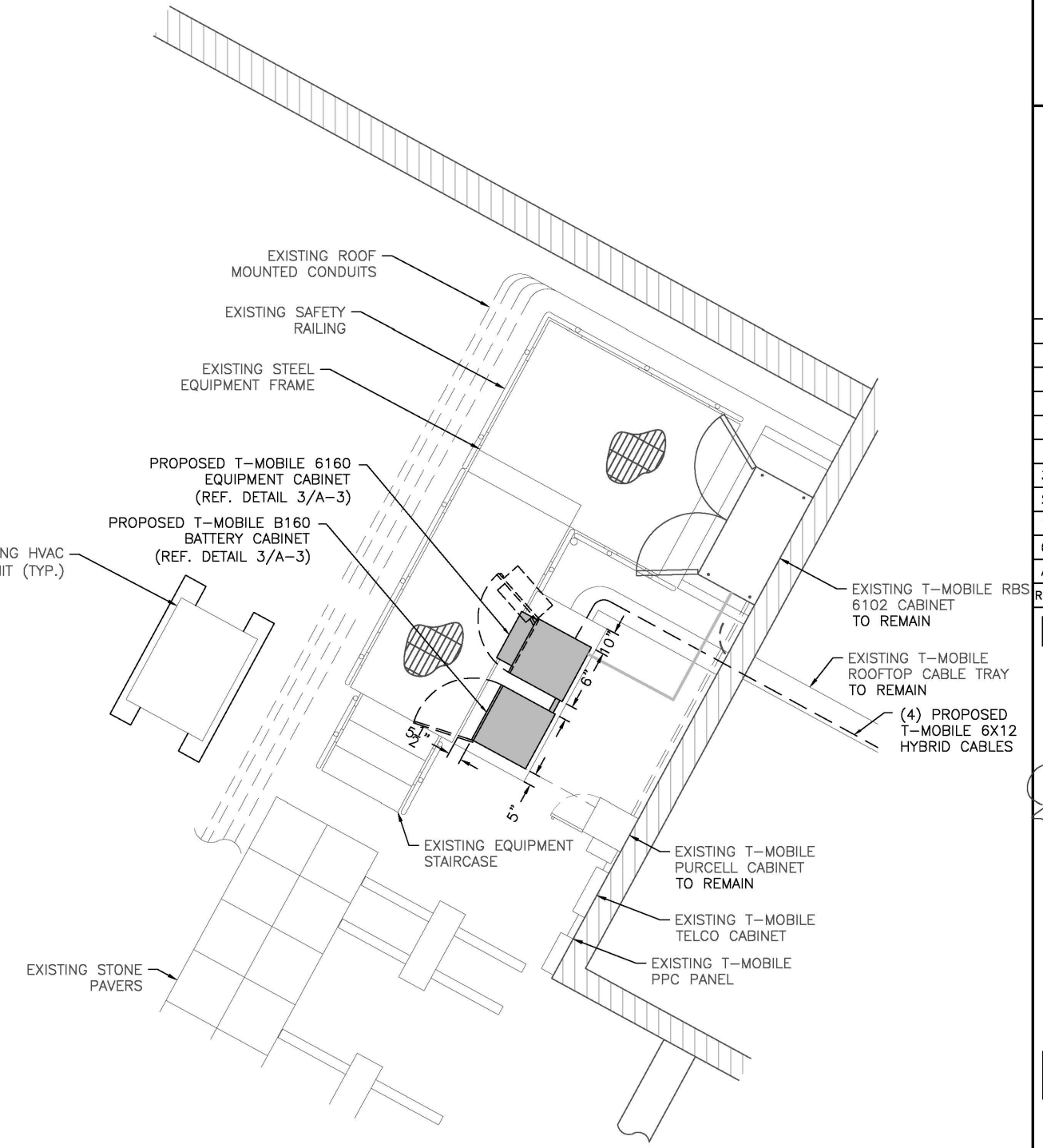
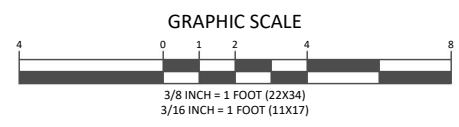
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COUNTY**

SHEET TITLE:
EQUIPMENT LAYOUT

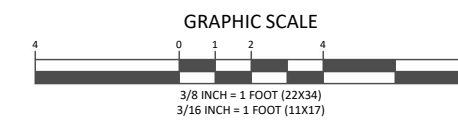
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A-2



1 EXISTING EQUIPMENT PLAN
A-2



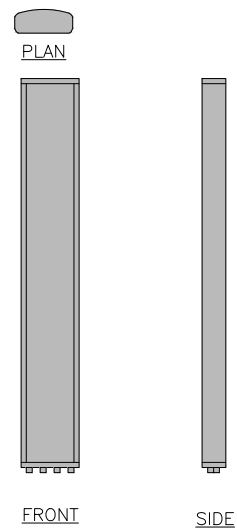
2 PROPOSED EQUIPMENT PLAN
A-2



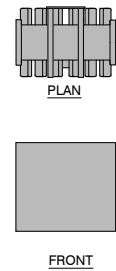
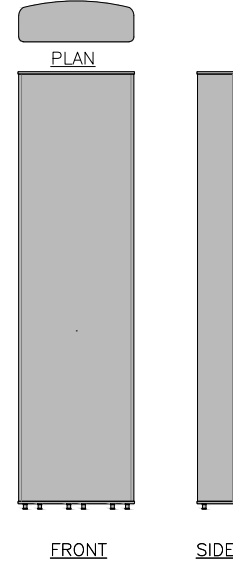
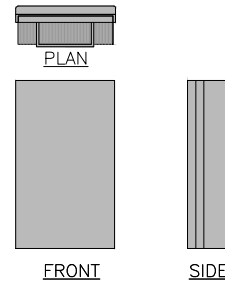
| RFS APXVLL19_43-C-A20 | |
|-----------------------|---|
| MODEL # | APXVLL19_43-C-A20 |
| MANUF. | RFS |
| HEIGHT | 75.8" |
| WIDTH | 11.3" |
| DEPTH | 4.6" |
| WEIGHT | 40.9 LBS W/O MTG HARDWARE 44.1 LBS W/ MTG HARDWARE |
| FRONT EPA: | 6.01 FT ² |
| SIDE EPA: | 2.67 FT ² |

| ERICSSON AIR 6449 B41 | |
|-----------------------|----------------------|
| MODEL # | AIR 6449 B41 |
| MANUF. | ERICSSON |
| HEIGHT | 33.1" |
| WIDTH | 20.6" |
| DEPTH | 8.6" |
| WEIGHT | 104.0 LBS |
| FRONT EPA: | 5.01 FT ² |
| SIDE EPA: | 2.09 FT ² |

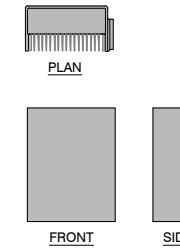
| RFS APXVAALL18_43-U-NA20 | |
|--------------------------|--|
| MODEL # | APXVAALL18_43-U-NA20 |
| MANUF. | RFS |
| HEIGHT | 72.0" |
| WIDTH | 24.0" |
| DEPTH | 8.5" |
| WEIGHT | 93.0 LBS W/O MTG HARDWARE 109.5 LBS W/ MTG HARDWARE |
| FRONT EPA: | 12.01 FT ² |
| SIDE EPA: | 4.25 FT ² |



1 ANTENNA DETAILS
A-3



| RADIO DIMENSIONS | |
|------------------|--------------------|
| MODEL # | RADIO 4460 B25_B66 |
| MANUF. | ERICSSON |
| HEIGHT | 15.1" |
| WIDTH | 17.0" |
| DEPTH | 11.9" |
| WEIGHT | 108 LBS |
| FRONT EPA: | |
| SIDE EPA: | |



| RADIO DIMENSIONS | |
|------------------|----------------|
| MODEL # | RADIO 4480 B66 |
| MANUF. | ERICSSON |
| HEIGHT | 19.5" |
| WIDTH | 15.1" |
| DEPTH | 7.8" |
| WEIGHT | 87 LBS |
| FRONT EPA: | |
| SIDE EPA: | |

2 RADIO DETAILS
A-3

T - Mobile
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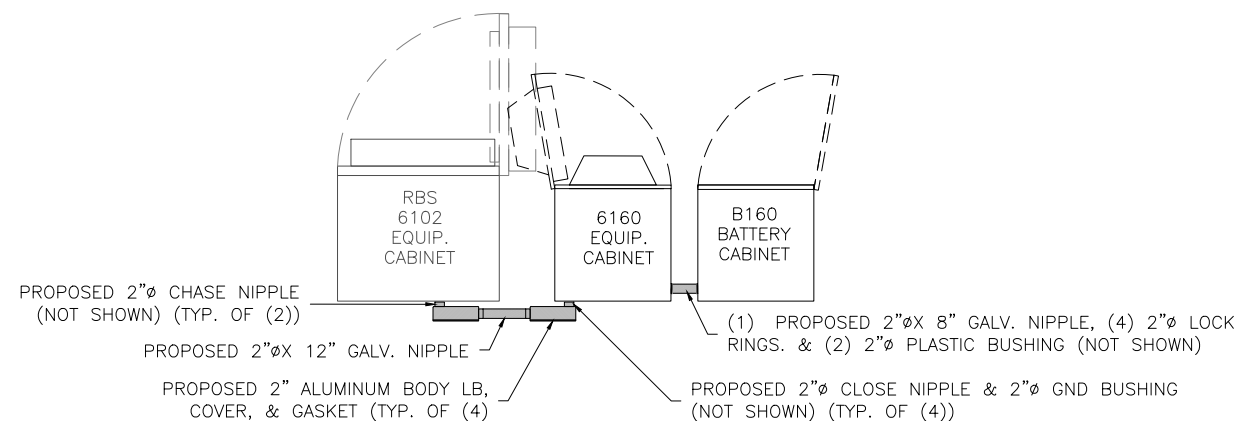
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| SHEET TITLE: | EQUIPMENT DETAILS |
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| | |
|----------|-----|
| DRAWING: | A-3 |
|----------|-----|

| 6160 AC ENCLOSURE | |
|---------------------------|---|
| CAPACITY | 19U(19" RACK) |
| RACK SPACE USER EQUIP. | POWER AND CPRI SUPPORT FOR |
| HARDWARE CAPABILITIES | MULTI-STANDARD REMOTE RADIOS (RRU OR AIR) ERS BASEBAND AND TRANSPORT UNITS LI-ION BATTERIES 3PP EQUIPMENT ADDITIONAL POWER FEED OPTIONS AVAILABLE |
| MECHANICAL SPECIFICATIONS | |
| WEIGHT | 320lbs (INCLUDING ACTIVE EQUIPMENT) |
| DIMENSIONS (HWD) | 63"x26"x26" (INCLUDING BASE FRAME) |
| BASE FRAME HEIGHT | 6" |
| MOUNTING POSITION | GROUND |
| ENCLOSURE MATERIAL | ALUMINUM |
| COLOR | POWDER PAINT NCS 2002-B |
| DOOR | FRONT ACCESS |
| RACK TYPE | 19" (IEC 60297-3-100) |
| LOCK TYPE | CYLINDER/PAD LOCK |
| POWER SYSTEM | |
| INPUT VOLTAGE | 3P+N+PE 346/200-415/240 VAC 2P+N+PE 208/120-220/127 VAC 1P+N+PE 200-250 VAC |

| B160 BATTERY ENCLOSURE | |
|---------------------------|---|
| CAPACITY | 100Ah/150Ah/170Ah/190Ah/210Ah |
| VRLA12V: | 24U 19"/23" |
| Li-ION | 3xFIAMM |
| SODIUM-NICKEL | |
| ELECTRICAL SPECIFICATIONS | |
| DC OUTPUT | -48VDC/200A |
| BATTERY BREAKERS | 2x125/2p |
| ALARMS | DOOR OPEN, CLIMATE FAILURE, MCB CONNECTION |
| MECHANICAL SPECIFICATIONS | |
| WEIGHT | 295 lbs (PLUS 3 STRINGS OF RECOMMENDED 190 dHR FOR ADDITIONAL 1588LBS) |
| DIMENSIONS (HWD) | 63"x26"x26" (INCLUDING BASE FRAME) |
| BASE FRAME HEIGHT | 6" |
| MATERIAL | GALVANIZED STEEL (180g/m ²) |
| COLOR | POWDER PAINT NCS 2002-B |
| LOCKING TYPE | CYLINDER/PAD LOCK |

3 PROPOSED EQUIPMENT CABINET SPECIFICATIONS
A-3



6 PROPOSED EQUIPMENT CONDUIT DETAIL
A-3

T-Mobile NORTHEAST LLC

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REVISIONS

| REV | DATE | DESCRIPTION | BY |
|-----|----------|-------------------------|-----|
| 3 | 01/04/23 | CONSTRUCTION UPDATE | AB |
| 2 | 11/30/22 | REVISED FOR COMMENTS | LP |
| 1 | 01/31/22 | ISSUED FOR CONSTRUCTION | RL |
| 0 | 08/12/21 | ISSUED FOR PERMITTING | SS |
| A | 06/30/21 | ISSUED FOR REVIEW | NMT |

DESIGNED BY: NMT APPROVED BY: WRD



DATE: 01/04/23

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SITE NAME:
B0033/141 PORTLAND

SITE ID:
4DE7033A

SITE ADDRESS:
**141 PORTLAND STREET
CAMBRIDGE, MA 02139
MIDDLESEX COUNTY
COUNTY**

SHEET TITLE:
NORTHWEST ELEVATION

DRAWING:
A-4

PROPOSED T-MOBILE ALPHA ANTENNAS & RRUS
(SEE SHEET A-5 FOR MORE INFO.)

EXISTING T-MOBILE ROOFTOP CABLE TRAY

PROPOSED T-MOBILE DELTA ANTENNAS & RRUS
(SEE SHEET A-5 FOR MORE INFO.)

PROPOSED T-MOBILE EQUIPMENT AREA
(SEE SHEET A-2 FOR MORE INFO.)

EXISTING T-MOBILE VERTICAL CABLE TRAY

PROPOSED T-MOBILE GAMMA ANTENNAS & RRUS
(SEE SHEET A-5 FOR MORE INFO.)

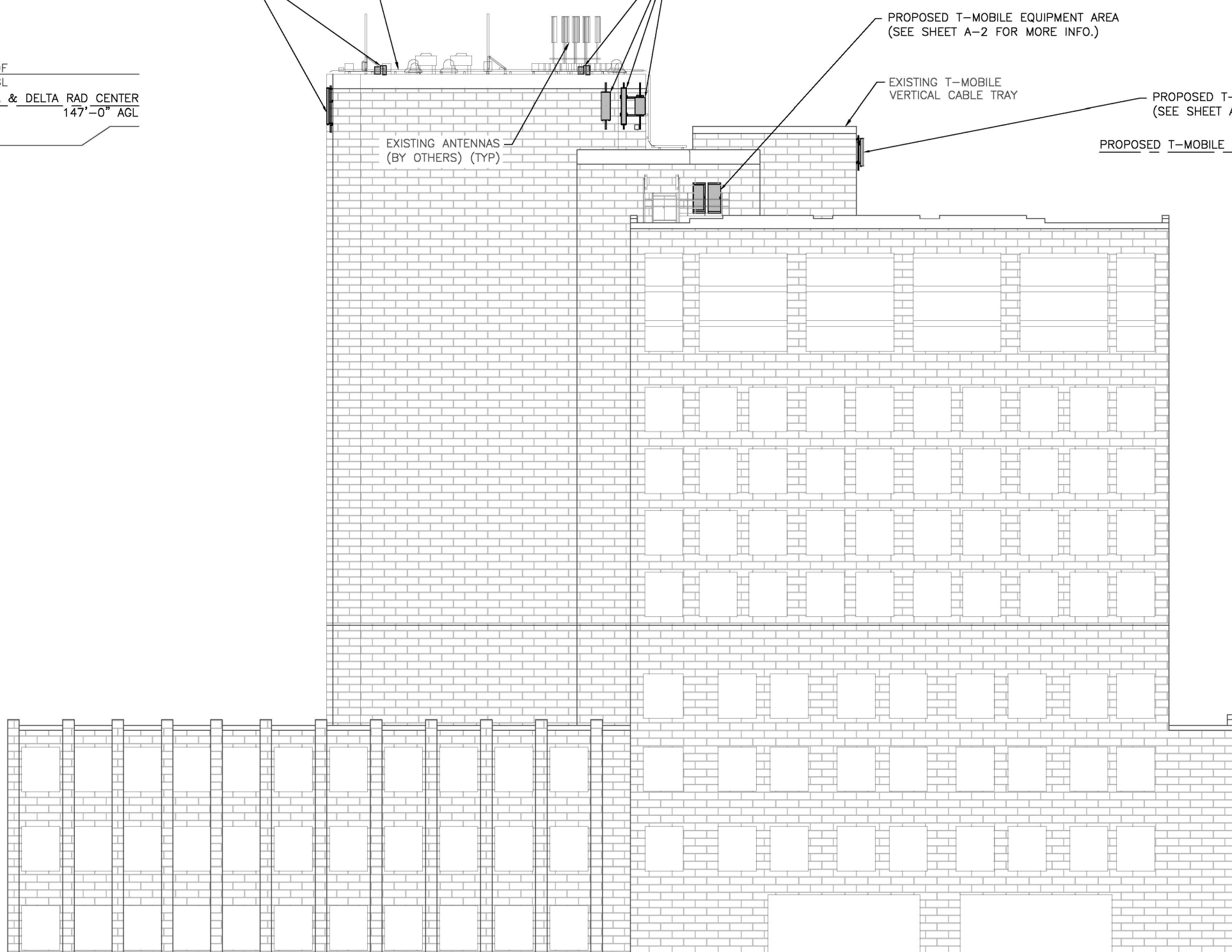
PROPOSED T-MOBILE GAMMA RAD CENTER
139'-0" AGL

EXISTING ANTENNAS
(BY OTHERS) (TYP)

TOP OF EXISTING PENTHOUSE ROOF
152'-6" AGL

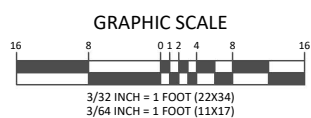
PROPOSED T-MOBILE ALPHA, BETA & DELTA RAD CENTER
147'-0" AGL

TOP OF EXISTING ROOF
143'-6" AGL



EXISTING GRADE
0'-0" AGL

1 NORTHWEST ELEVATION
A-4



- ANTENNA & CABLE NOTES:**
1. REFERENCE MOUNT ANALYSIS BY CENTERLINE COMMUNICATIONS DATED 11/30/2022 FOR FURTHER INFORMATION REGARDING THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THIS EQUIPMENT UPGRADE.
 2. REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.
 3. REMOVE ALL UNUSED CABLE, RRUS AND TMAs.
 4. PAINT ANTENNAS AND EQUIP. TO MATCH EXISTING.

ANTENNA & CABLE SCHEDULE:

| LOCATION | AZIMUTH | RAD CENTER | STATUS | TECHNOLOGY | ANTENNA MODEL NO. | MECH DOWNTILT | ELEC DOWNTILT | CABLES | DIPLEXERS | TMA/RRU | CABLE SIZE | CABLE LENGTH |
|---|---------|------------|---------|------------|----------------------------|----------------------|---------------|--------|---|------------------------------|-------------------|-----------------------|
| ALPHA | A-1 | 30° | 147'-0" | PROPOSED | G1900, U2100, L2100, L1900 | APXVLL19P_43-C-A20 | 0° | 6°/6° | (2) FIBER JUMPER 15 FT (2) COAX JUMPER 10 FT (X4) | N/A | RRUS 4460 B25+B66 | SHARED N/A |
| | A-2 | 30° | 147'-0" | PROPOSED | L2500, N2500 | AIR6449 B41 | 0° | 2°/2° | (2) FIBER JUMPER 15 FT (X2) | N/A | N/A | SHARED N/A |
| | A-3 | 30° | 147'-0" | PROPOSED | L600, N600, L700 | APXVAALL18_43-U-NA20 | 0° | 4°/4° | (2) COAX JUMPER 10 FT (X4) FIBER JUMPER 15 FT | N/A | RRUS 4480 B71+B85 | 6x24 HYBRID 140' ± |
| BETA | B-1 | 120° | 147'-0" | PROPOSED | L2500, N2500 | AIR6449 B41 | 0° | 2°/2° | (2) FIBER JUMPER 15 FT (X2) | N/A | N/A | SHARED N/A |
| | B-2 | 120° | 147'-0" | PROPOSED | L600, N600, L700 | APXVAALL18_43-U-NA20 | 0° | 4°/4° | (2) COAX JUMPER 10 FT (X4) FIBER JUMPER 15 FT (X2) | N/A | RRUS 4480 B71+B85 | 6x24 HYBRID 100' ± |
| | B-3 | 120° | 147'-0" | PROPOSED | L2100 | APXVLL19P_43-U-NA20 | 0° | 6°/6° | (2) FIBER JUMPER 15 FT (2) COAX JUMPER 10 FT (X4) | N/A | RRUS 4460 B25+B66 | SHARED N/A |
| GAMMA | C-1 | 200° | 139'-0" | PROPOSED | G1900, U2100, L2100, L1900 | APXVLL19P_43-U-NA20 | 0° | 6°/6° | (2) FIBER JUMPER 15 FT (2) COAX JUMPER 10 FT (X4) | N/A | RRUS 4460 B25+B66 | SHARED N/A |
| | C-2 | 200° | 139'-0" | PROPOSED | L2500, N2500 | AIR6449 B41 | 0° | 2°/2° | (2) FIBER JUMPER 15 FT (X2) | N/A | N/A | SHARED N/A |
| | C-3 | 200° | 139'-0" | PROPOSED | L600, N600, L700 | APXVAALL18_43-U-NA20 | 0° | 4°/4° | (2) FIBER JUMPER 15 FT (X4) | N/A | RRUS 4480 B71+B85 | 6x24 HYBRID 80' ± |
| DELTA | D-1 | 290° | 147'-0" | PROPOSED | L2500, N2500 | AIR6449 B41 | 0° | 2°/2° | (2) FIBER JUMPER 15 FT (X2) | N/A | N/A | SHARED N/A |
| | D-2 | 290° | 147'-0" | PROPOSED | U2100, L2100, G1900, L1900 | APXVLL19P_43-C-A20 | 0° | 6°/6° | (2) COAX JUMPER (X4) (2) FIBER JUMPER 15 FT | N/A | RRUS 4460 B25+B66 | 6x24 HYBRID 40' ± |
| | D-3 | 290° | 147'-0" | PROPOSED | L600, N600, L700 | APXVAALL18_43-U-NA20 | 0° | 4°/4° | FIBER JUMPER 15 FT (X2) (2) COAX JUMPER 10 FT (X4) | N/A | RRUS 4480 B71+B85 | SHARED N/A |
| NOTE: DARK TEXT IN TABLE ABOVE DENOTES PROPOSED EQUIPMENT | | | | | | | | | | (4) TOTAL 6x12 HYBRID CABLES | 360' | |

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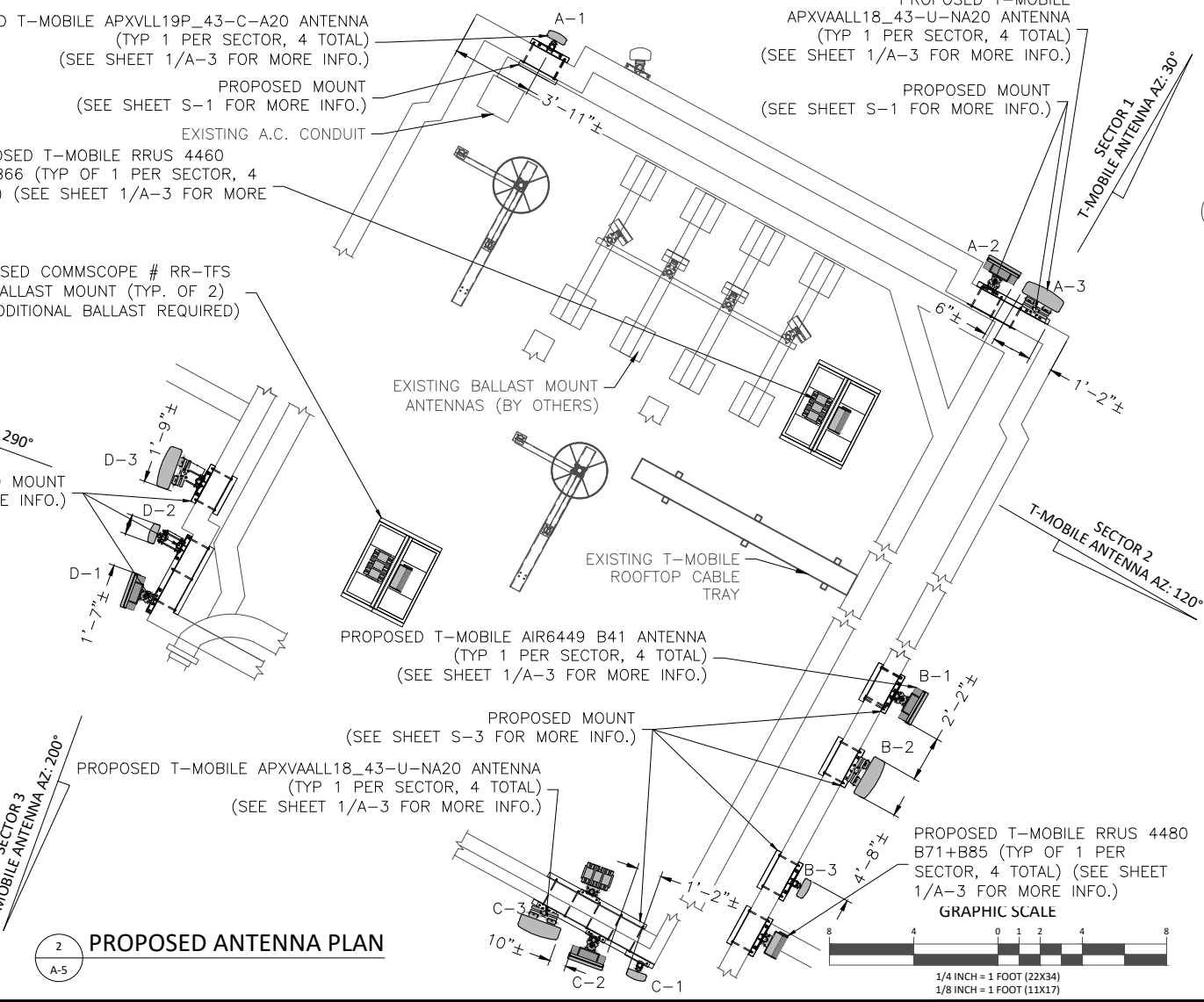
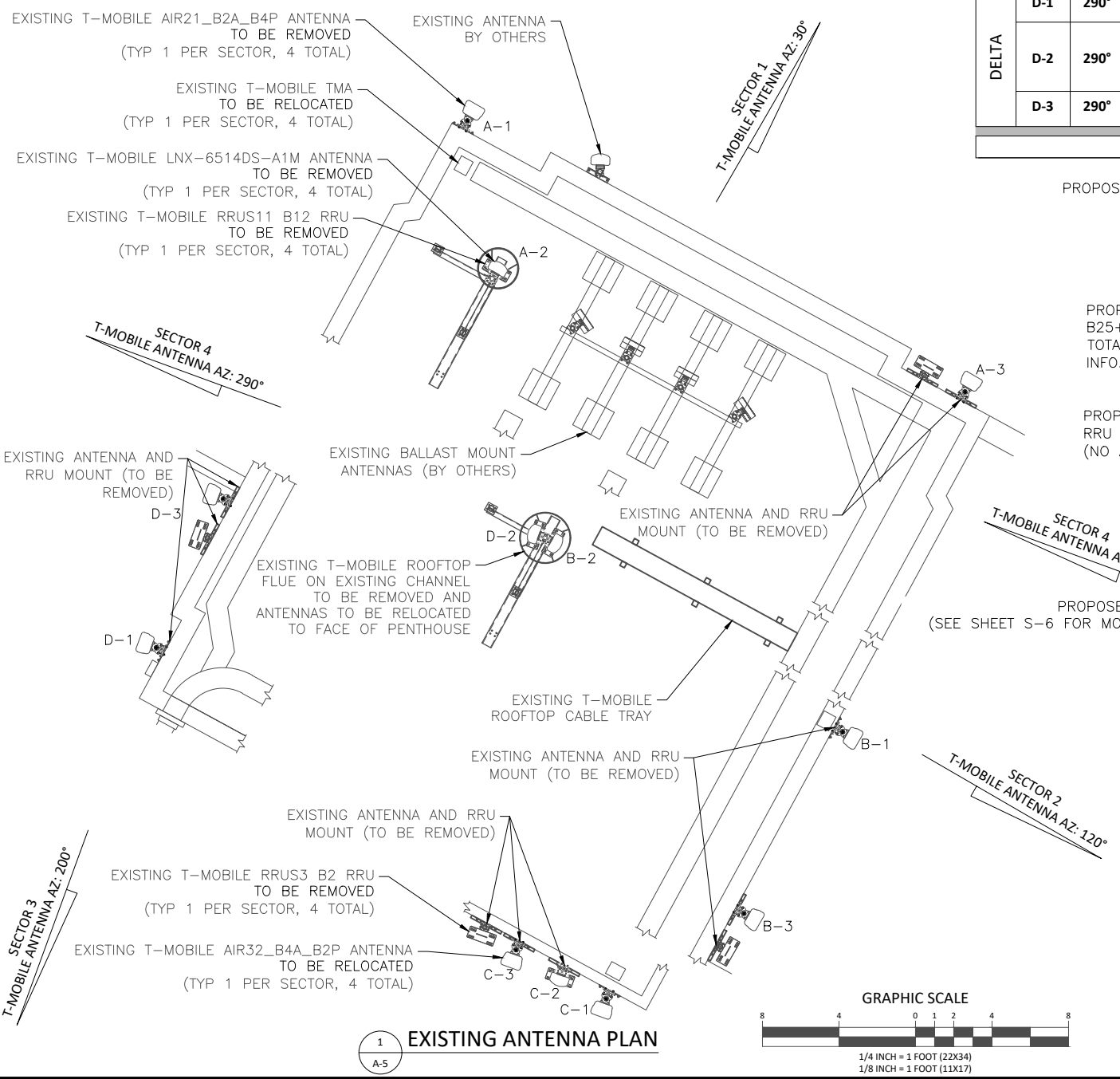
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SITE ADDRESS:
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MIDDLESEX COUNTY
COUNTY

SHEET TITLE:
ANTENNA PLAN & SCHEDULE

DRAWING:
A-5



STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS, AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
- WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
- ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
- NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
- SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTION CHECKLIST

| BEFORE CONSTRUCTION | |
|--|--|
| CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD) | REPORT ITEM |
| REQUIRED | ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹ |
| N/A | MATERIAL SPECIFICATIONS REPORT ² |
| N/A | FABRICATOR NDE INSPECTION |
| N/A | PACKING SLIPS ³ |

| DURING CONSTRUCTION | |
|--|--|
| CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD) | REPORT ITEM |
| REQUIRED | STEEL INSPECTIONS |
| N/A | HIGH STRENGTH BOLT INSPECTIONS |
| N/A | HIGH WIND ZONE INSPECTIONS ⁴ |
| N/A | FOUNDATION INSPECTIONS |
| N/A | CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT |
| N/A | POST INSTALLED ANCHOR VERIFICATION ⁵ |
| N/A | GROUT VERIFICATION |
| N/A | CERTIFIED WELD INSPECTION |
| N/A | EARTHWORK: LIFT AND DENSITY |
| N/A | ON SITE COLD GALVANIZING VERIFICATION |
| N/A | GUY WIRE TENSION REPORT |

| AFTER CONSTRUCTION | |
|--|--|
| CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD) | REPORT ITEM |
| REQUIRED | MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS ⁶ |
| N/A | POST INSTALLED ANCHOR PULL-OUT TESTING |
| REQUIRED | PHOTOGRAPHS |

- NOTES:**
- REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
 - PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
 - PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
 - HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
 - ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
 - AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

- NOTES:**
- ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
 - SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
 - SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
 - VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
 - CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
 - EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

REQUIRED INSPECTIONS AND SITE REVIEW DOCUMENT AS A CONDITION OF THE BUILDING PERMIT THE FOLLOWING INSPECTIONS AND SITE REVIEWS IDENTIFIED BY THE BUILDING OFFICIAL ARE REQUIRED FOR WORK PER THE 9TH EDITION OF THE MASSACHUSETTS STATE BUILDING CODE, 780 CMR, SECTION 10 AND CHAPTER 17

REQUIRED SITE REVIEW AND DOCUMENTATION FOR PORTIONS OR PHASES CONSTRUCTION ^{1&6,7}
(TO BE PERFORMED BY THE APPROPRIATE REGISTERED DESIGN PROFESSIONAL OF HIS/HER DESIGNEE OR M.G.L.C 112 §81R CONTRACTOR)

| SITE REVIEW AND DOCUMENTATION | X | SITE REVIEW AND DOCUMENTATION | X |
|--|---|--|----------|
| SOIL CONDITION/ANALYSIS/REPORT | | ENERGY EFFICIENCY REQUIREMENTS | |
| FOOTING AND FOUNDATION (INCLUDING REINFORCEMENT AND FOUNDATION ATTACHMENT) | | FIRE ALARM INSTALLATION ² | |
| CONCRETE FLOOR AND UNDER FLOOR | | FIRE SUPPRESSION AND INSTALLATION ³ | |
| LOWEST FLOOR FLOOD ELEVATION | | FIELD REPORTS ⁵ | |
| STRUCTURAL FRAME-WALL/FLOOR/ROOF | | CARBON MONOXIDE DETECTION SYSTEM ⁴ | |
| LATH AND PLASTER/GYPSUM | | SEISMIC REINFORCEMENT | |
| FIRE RESISTANT WALL/PARTITIONS FINISH ATTACHMENTS | | SMOKE CONTROL SYSTEMS | |
| FIRE RESISTANT WALL/PARTITIONS FINISH ATTACHMENTS | | SMOKE AND HEAT VENTS | |
| ABOVE CEILING INSPECTION | | ACCESSIBILITY (521 CMR) | |
| FIRE BLOCKING/STOPPING SYSTEM | | OTHER | |
| EMERGENCY LIGHTING/EXIT SIGNAGE | | | |
| MEANS OF EGRESS COMPONENTS | | SPECIAL INSPECTIONS (SECTION 1704): | X |
| ROOFING, COPING/SYSTEM | | | |
| VENTING SYSTEMS (KITCHEN, CHEMICAL, FUME) | | | |
| MECHANICAL SYSTEMS | | | |

- IT IS THE RESPONSIBILITY OF THE PERMIT APPLICANT TO NOTIFY THE BUILDING OFFICIAL OF REQUIRED INSPECTIONS (X). INSPECTION OF 780 CMR FIRE PROTECTION SYSTEMS MAY BE WITNESSED BY TEH FIRE OFFICIAL AND INSTALLATION PERMITS ARE REQUIRED FROM THE FIRE DEPARTMENT PER 527 CMR.
- INCLUDE NFPA 72 TEST AND ACCEPTANCE DOCUMENTATION.
- INCLUDE APPLICABLE NFPA 13, 13R, 13D, 14,15, 17, 20, 241, ETC. - TEST AND ACCEPTANCE DOCUMENTATION.
- INCLUDE NFPA RECORD OF COMPLETION AND INSPECTION AND TEST FORM.
- INCLUDE FIELD REPORTS AND INSTALLATION DOCUMENTATION.
- WORK SHALL NOT PROCEED, OR BE CONCEALED, UNTIL THE REQUIRED INSPECTION HAS BEEN APPROVED BY THE BUILDING OFFICIAL, AND NOTHING WITHIN CONSTRUCTION CONTROL SHALL HAVE EFFECT OF WAIVING OR LIMITING THE BUILDING OFFICIAL'S AUTHORITY TO ENFORCE THE CODE WITH RESPECT TO EXAMINATION OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, COMPUTATIONS AND SPECIFICATIONS, AND FIELD INSPECTIONS.
- ROUGH AND/OR FINISH INSPECTIONS OF ELECTRICAL, PLUMBING, OR SHEET METAL SHALL BE INSPECTED PRIOR TO ROUGH AND FINISH INSPECTIONS BY THE BUILDING OFFICIAL.

MASSACHUSETTS AMENDMENTS TO THE IBC

(REFERENCE 780 CMR):

107.6 CONSTRUCTION CONTROL.

107.6.1 GENERAL. THIS SECTION SHALL APPLY TO THE CONSTRUCTION CONTROLS, PROFESSIONAL SERVICES AND CONTRACTOR SERVICES REQUIRED FOR BUILDINGS AND STRUCTURES NEEDING REGISTERED DESIGN PROFESSIONAL SERVICES.

107.6.1.1 SPECIALIZED STRUCTURES. TELECOMMUNICATION TOWERS, WIND TURBINE TOWERS, AND SIMILAR STRUCTURES ARE ENGINEERED STRUCTURES AND SHALL BE SUBJECT TO THE REQUIREMENTS OF SECTION 107.6.

107.6.2.2 CONSTRUCTION. THE REGISTERED DESIGN PROFESSIONALS WHO ARE RESPONSIBLE FOR THE DESIGN, PLAN, CALCULATIONS, AND SPECIFICATIONS, THEIR DESIGNEE OR THE REGISTERED DESIGN PROFESSIONALS WHO HAVE BEEN RETAINED FOR CONSTRUCTION PHASE SERVICES, SHALL PERFORM THE FOLLOWING TASKS:

- REVIEW, FOR CONFORMANCE TO 780 CMR AND THE DESIGN CONCEPT, SHOP DRAWINGS, SAMPLES AND OTHER SUBMITTALS BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS.
- PERFORM THE DUTIES FOR REGISTERED DESIGN PROFESSIONALS IN 780 CMR 17.00 SPECIAL INSPECTIONS AND TESTS.
- BE PRESENT AT INTERVALS APPROPRIATE TO THE STAGE OF CONSTRUCTION TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE WORK AND TO DETERMINE IF THE WORK IS BEING PERFORMED IN A MANNER CONSISTENT WITH THE CONSTRUCTION DOCUMENTS AND 780 CMR.

THE PERMIT APPLICATION SHALL NOT BE DEEMED COMPLETED UNTIL ALL OF THE CONSTRUCTION DOCUMENTS REQUIRED BY 780 CMR HAVE BEEN SUBMITTED. DOCUMENTATION INDICATING THAT WORK COMPLIES WITH TEH PLANS AND SPECIFICATIONS SHALL BE PROVIDED AT THE COMPLETION OF EACH PHASE WHEN REQUIRED BY THE BUILDING OFFICIAL. UPON COMPLETION OF THE WORK, TEH REGISTERED DESIGN PROFESSIONAL SHALL FILE A FINAL DOCUMENT TO TEH BUILDING OFFICIAL INDICATING THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND 780 CMR. FORMS FOR CONSTRUCTION CONTROL WHEN REQUIRED BY THE BUILDING OFFICIAL SHALL BE THOSE FOUND AT <http://www.ma.gov/government/oca-agencies/dpl-lp/opsl/>.

107.6.2.3 SPECIAL INSPECTIONS AND TESTS. SPECIAL INSPECTIONS AND TESTS. SHALL BE PROVIDED IN ACCORDANCE WITH 780 CMR 17.00 SPECIAL INSPECTIONS AND TESTS.

107.6.2.3 NON STRUCTURAL SYSTEM TEST AND INSPECTIONS. TESTS AND INSPECTIONS OF NON-STRUCTURAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE ENGINEERING PRACTICE STANDARDS, REFERENCED STANDARDS LISTED IN 780 CMR 35.00: REFERENCED STANDARDS, OR AS OTHERWISE SPECIFIED IN 780 CMR.

107.6.3 CONSTRUCTION CONTRACTOR SERVICES. THE ACTUAL CONSTRUCTION OF THE WORK SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AS IDENTIFIED ON THE APPROVAL PERMIT AND INVOLVE THE FOLLOWING:

- EXECUTION OF ALL WORK IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
- EXECUTION AND CONTROL OF ALL METHODS OF CONSTRUCTION IN A SAFE AND SATISFACTORY MANNER IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL STATUTES AND REGULATIONS.
- UPON COMPLETION OF THE CONSTRUCTION, CERTIFICATION IN WRITING TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE THAT, TO THE BEST OF THE CONTRACTORS'S KNOWLEDGE AND BELIEF, CONSTRUCTION HAS BEEN DONE IN SUBSTANTIAL ACCORD WITH SECTION 107.6 AND WITH ALL PERTINENT DEVIATIONS SPECIFICALLY NOTED. THE BUILDING OFFICIAL MAY REQUIRE A COPY OF THIS CERTIFICATION.

107.6.4 PROJECT REPRESENTATION. A PROJECT REPRESENTATIVE MAY BE REQUIRED BY THE BUILDING OFFICIAL. THIS REPRESENTATIVE SHALL KEEP DAILY RECORDS AND SUBMIT REPORTS AS MAY BE REQUIRED BY THE BUILDING OFFICIAL. THIS PROJECT REPRESENTATION REQUIREMENT SHALL BE DETERMINED PRIOR TO THE ISSUANCE OF THE PERMIT AND MAY BE A PREREQUISITE FOR PERMIT ISSUANCE. REFUSAL BY THE APPLICANT TO PROVIDE SUCH SERVICE IF REQUIRED BY THE BUILDING OFFICIAL SHALL RESULT IN THE DENIAL OF THE PERMIT. ALL FEES AND COSTS RELATED TO THE PERFORMANCE OF PROJECT REPRESENTATION SHALL BE BORNE BY THE OWNER. WHEN APPLICATIONS FOR UNUSUAL DESIGNS OR MAGNITUDE OF CONSTRUCTION ARE FILED, OR WHERE REFERENCE STANDARDS REQUIRE SPECIAL ARCHITECTURAL OR ENGINEERING INSPECTIONS, THE BUILDING OFFICIAL MAY REQUIRE THAT THE PROJECT REPRESENTATIVE BE A REGISTERED DESIGN PROFESSIONAL IN ADDITION TO THOSE REGISTERED DESIGN PROFESSIONALS REQUIRED ELSEWHERE IN ACCORDANCE WITH SECTION 107.6.

107.6.5 BUILDING OFFICIAL RESPONSIBILITY. NOTHING CONTAINED IN SECTION 107.6 SHALL HAVE THE EFFECT OF WAIVING OR LIMITING THE BUILDING OFFICIAL'S AUTHORITY TO ENFORCE 780 CMR WITH RESPECT TO EXAMINATION OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, COMPUTATIONS AND SPECIFICATIONS, AND FIELD INSPECTIONS.

T - Mobile
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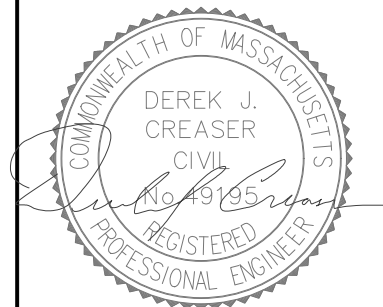


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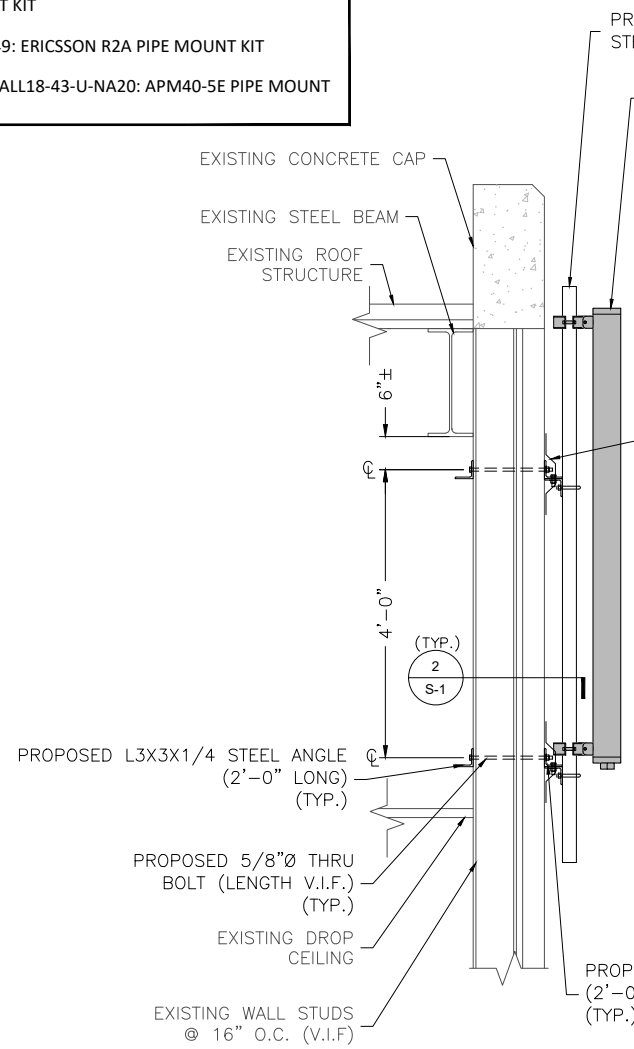
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| SITE ID: 4DE7033A |
| SITE ADDRESS: 141 PORTLAND STREET CAMBRIDGE, MA 02139 MIDDLESEX COUNTY COUNTY |

SHEET TITLE:
STRUCTURAL NOTES & SPECIAL INSPECTIONS

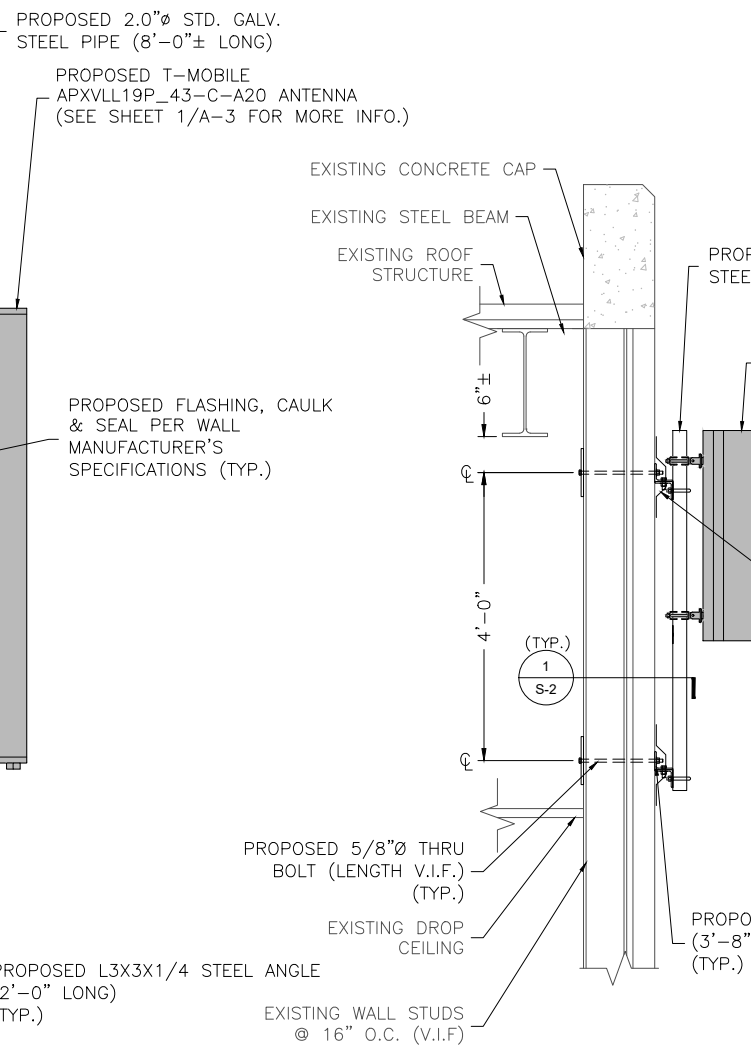
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SN-1

NOTES FOR ANTENNA MOUNTS:

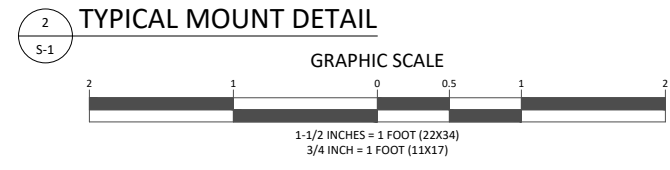
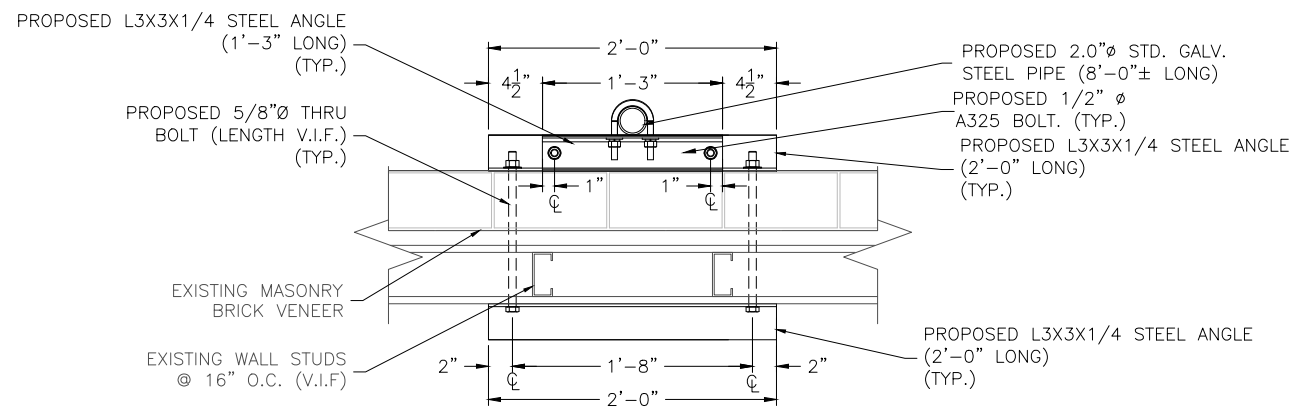
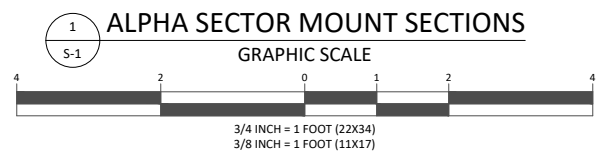
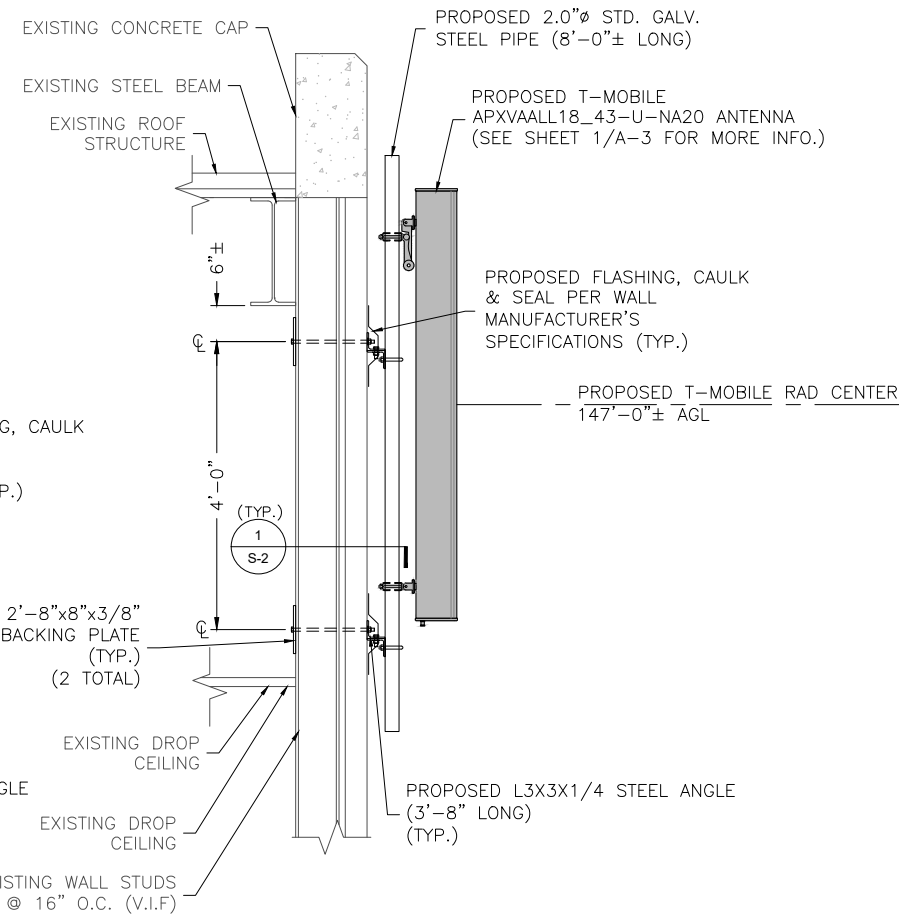
1. APXVLL19P_43-C-A20: APM40-5E PIPE MOUNT KIT
2. AIR6449: ERICSSON R2A PIPE MOUNT KIT
3. APXVAALL18-43-U-NA20: APM40-5E PIPE MOUNT KIT



PROPOSED MOUNT FOR A-1



PROPOSED MOUNT FOR A-2 & A-3



- NOTES:**
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 8. ENGINEER REVIEWED STEEL SHOP DRAWINGS REQUIRED PRIOR TO FABRICATION.

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COUNTY

SHEET TITLE: ANTENNA & RRU MOUNTING DETAILS
DRAWING: S-1

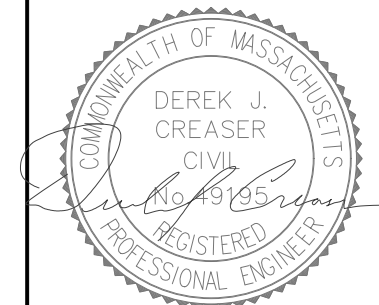


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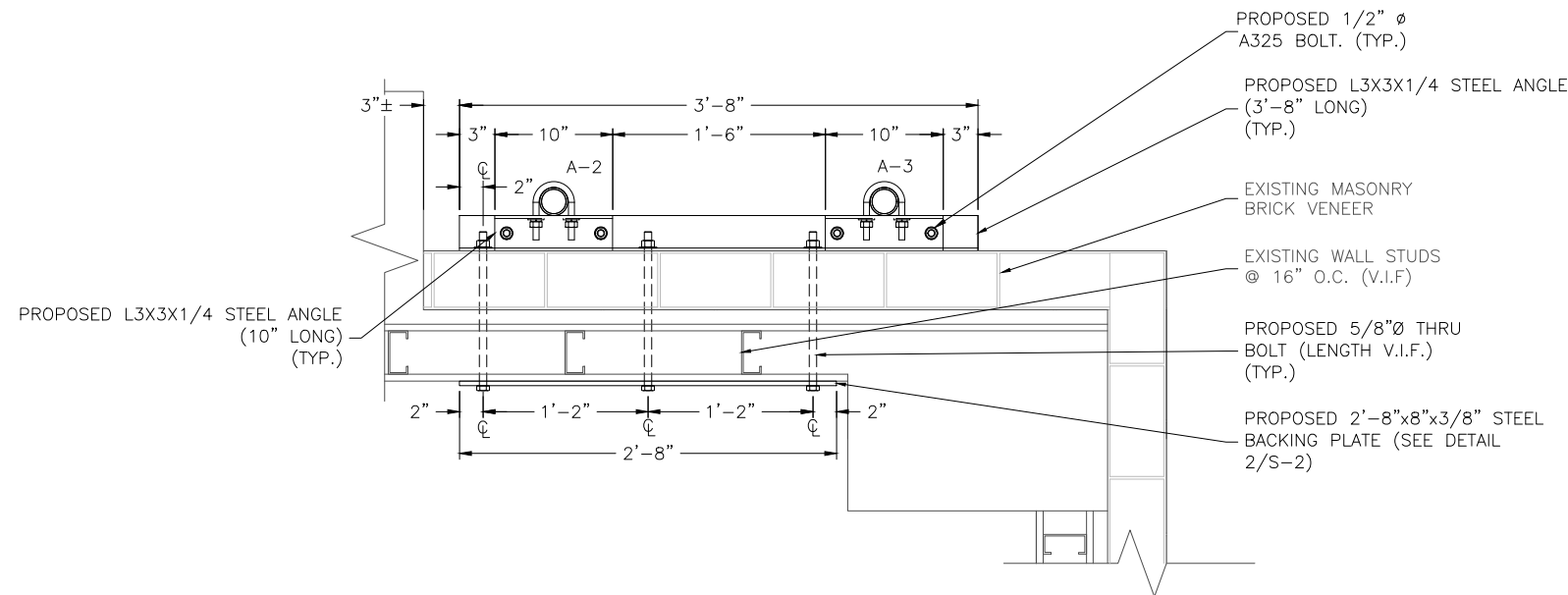
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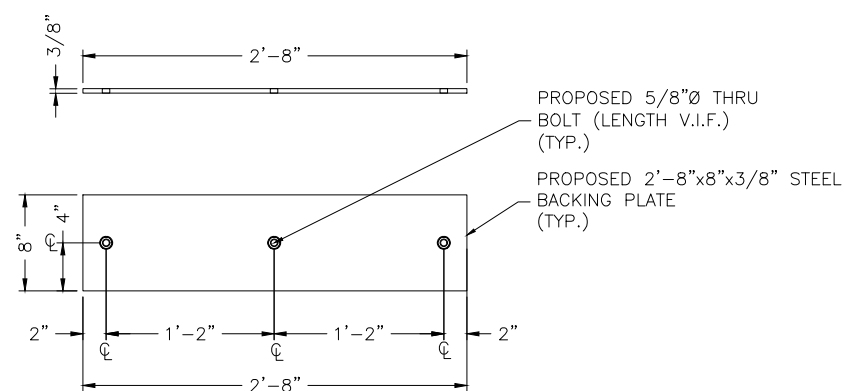
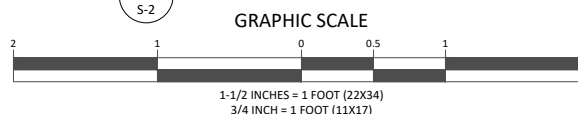
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SHEET TITLE:
**ANTENNA & RRU
MOUNTING DETAILS**

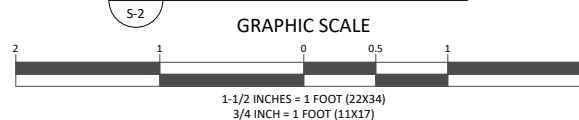
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1 TYPICAL MOUNT DETAIL



2 TYPICAL MOUNT DETAIL

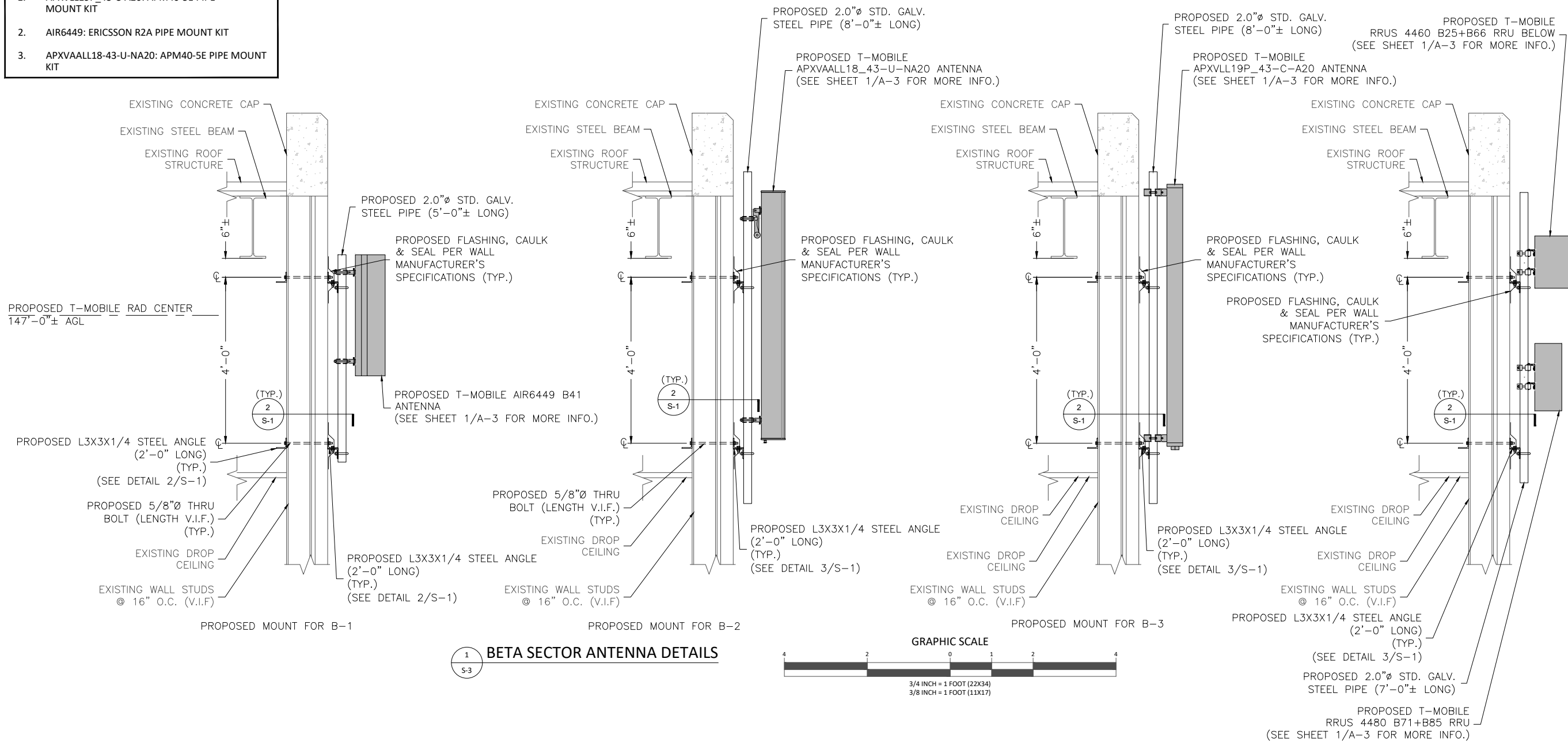


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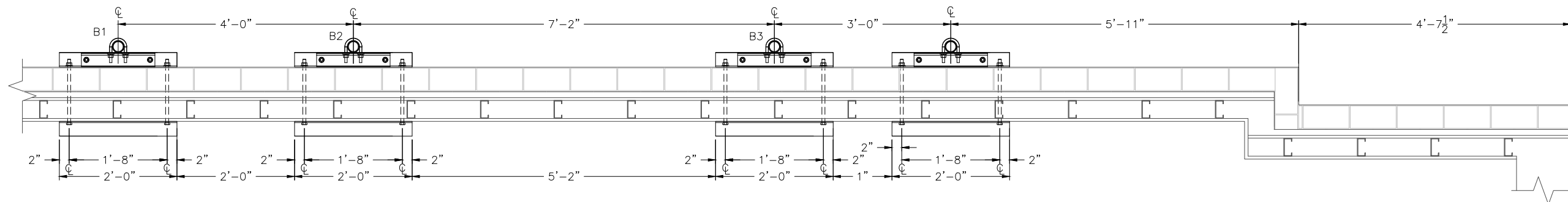
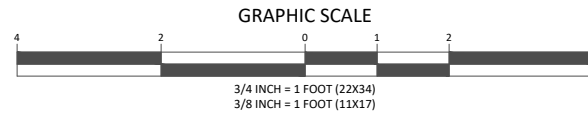
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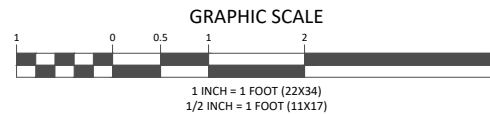
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1 BETA SECTOR ANTENNA DETAILS



2 BETA SECTOR LAYOUT



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MIDDLESEX COUNTY
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SHEET TITLE:
ANTENNA & RRU
MOUNTING DETAILS

DRAWING:
S-3

NOTES FOR ANTENNA MOUNTS:

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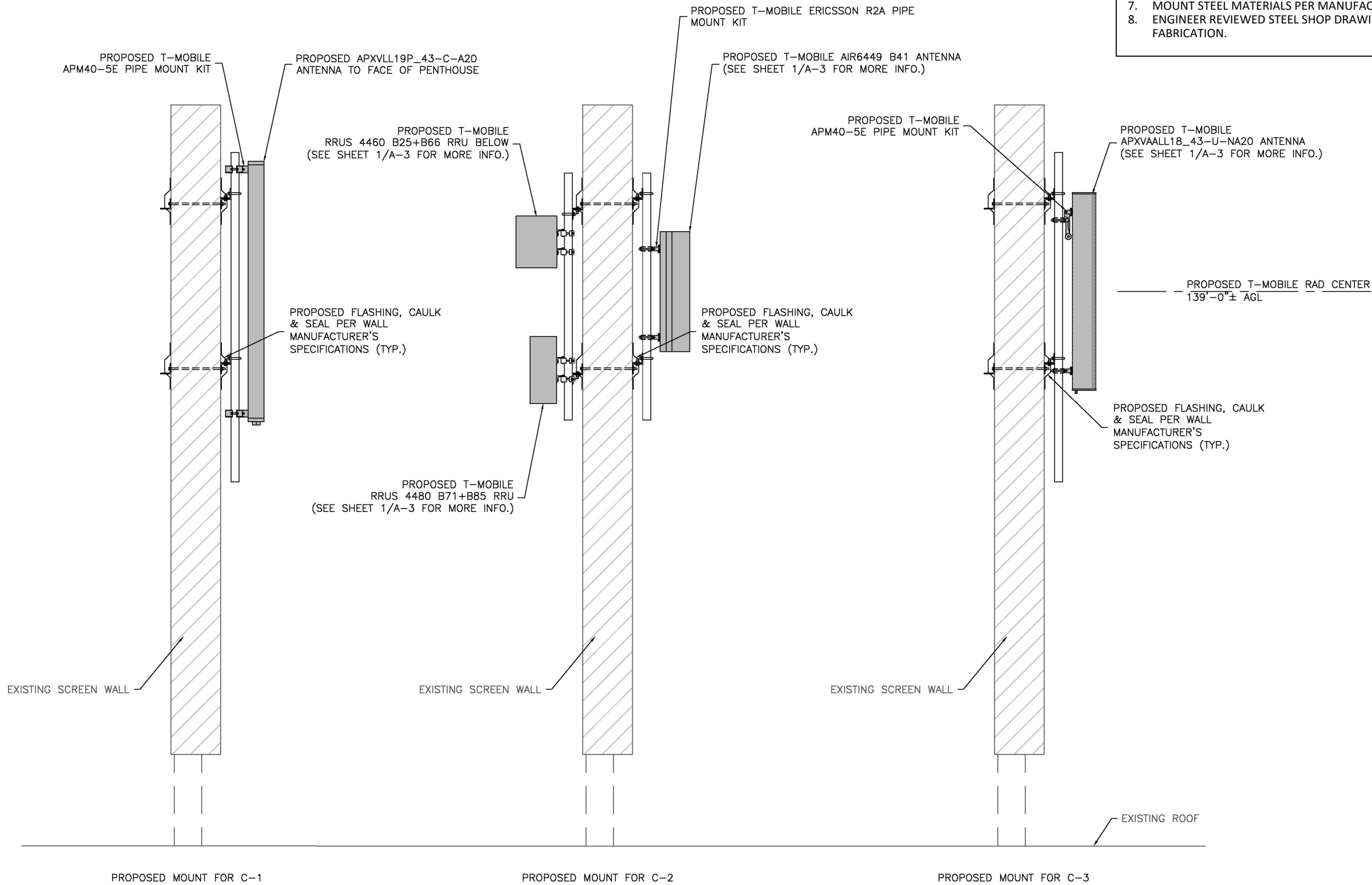
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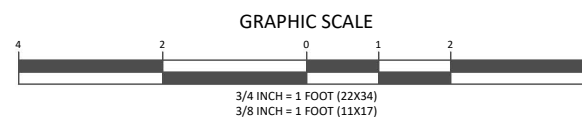
SHEET TITLE:
ANTENNA & RRU
MOUNTING DETAILS

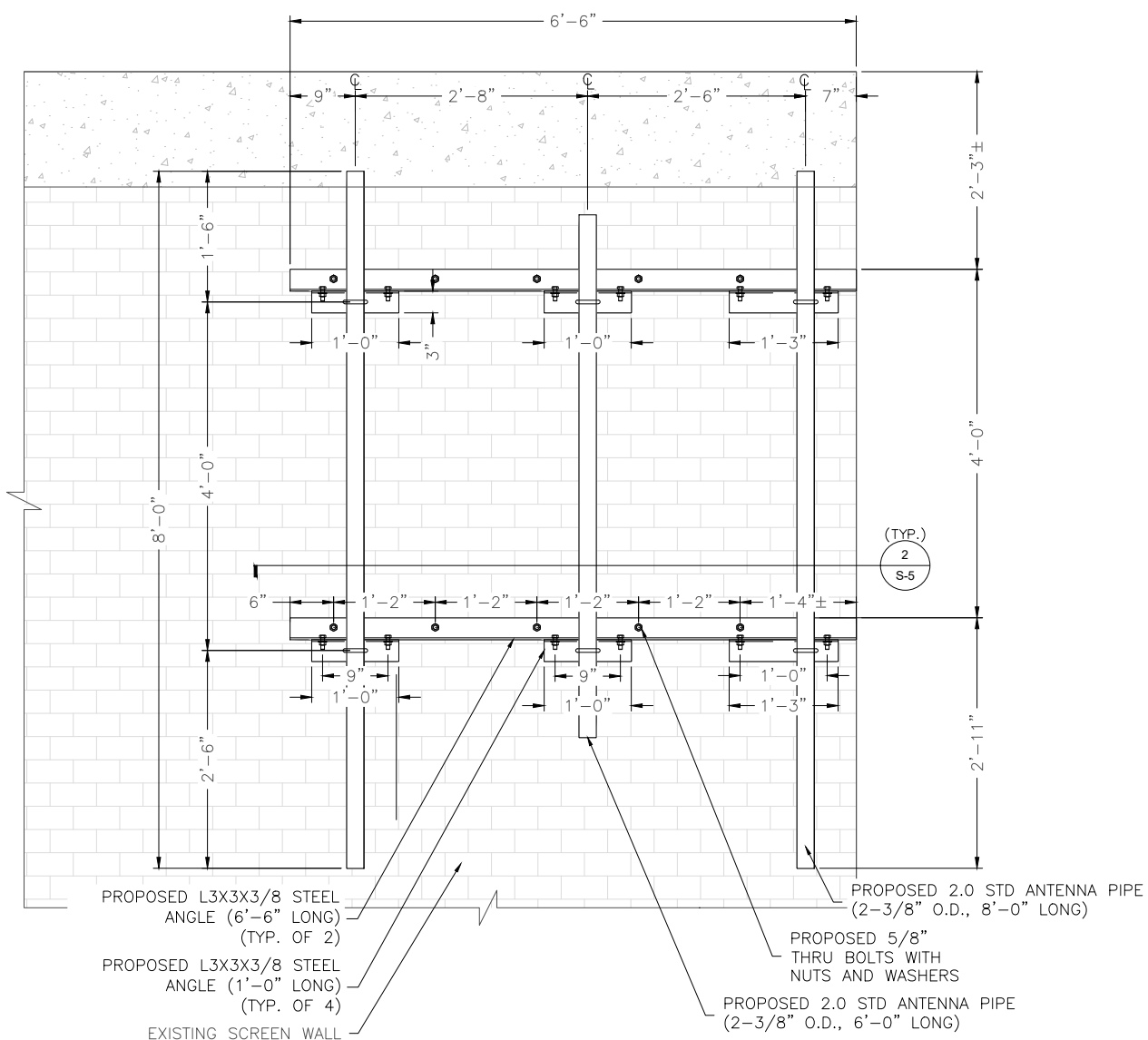
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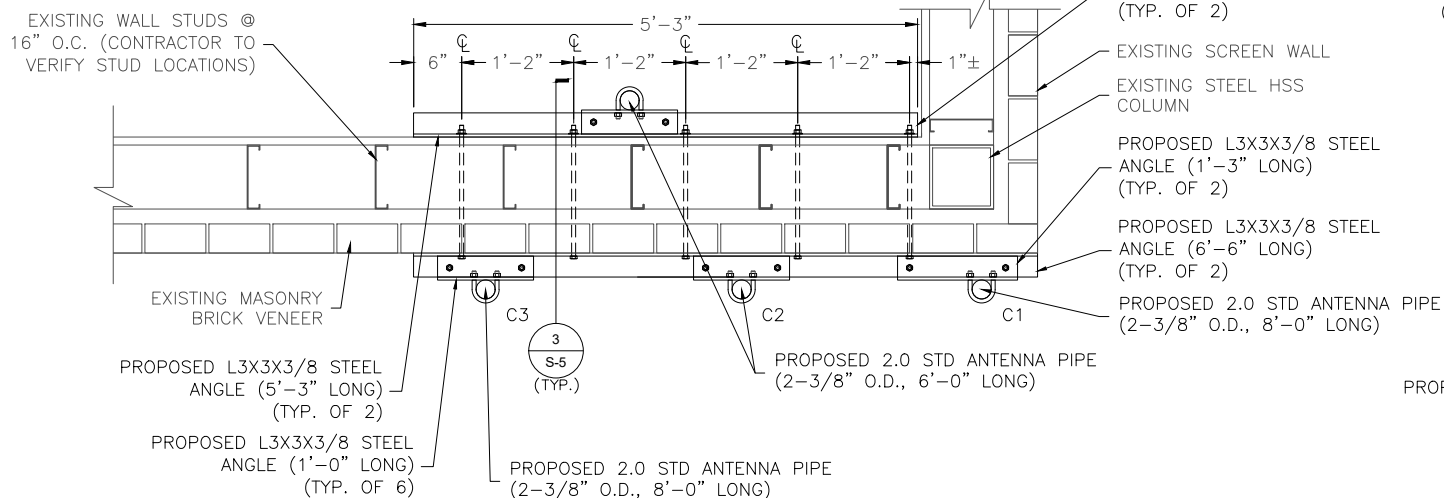
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GAMMA SECTOR ANTENNA & RRU MOUNTING DETAIL

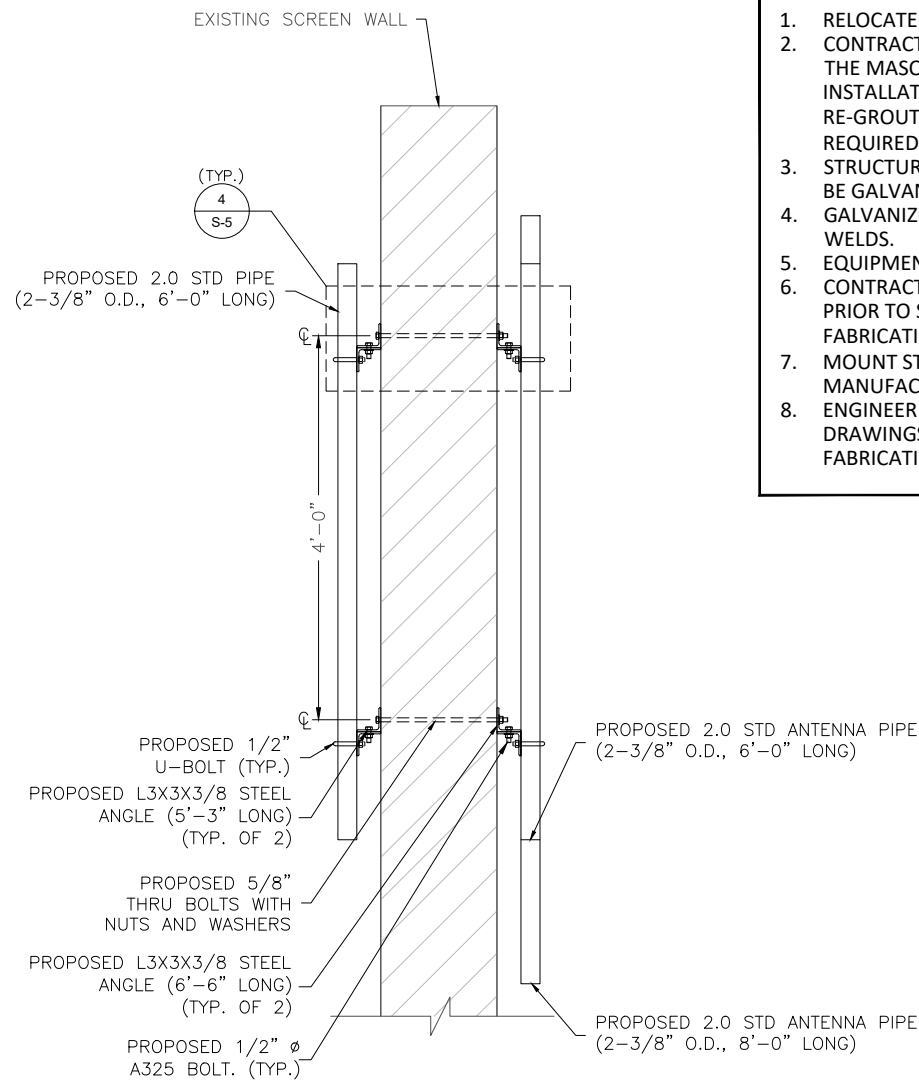
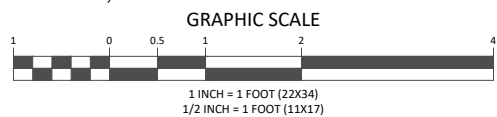




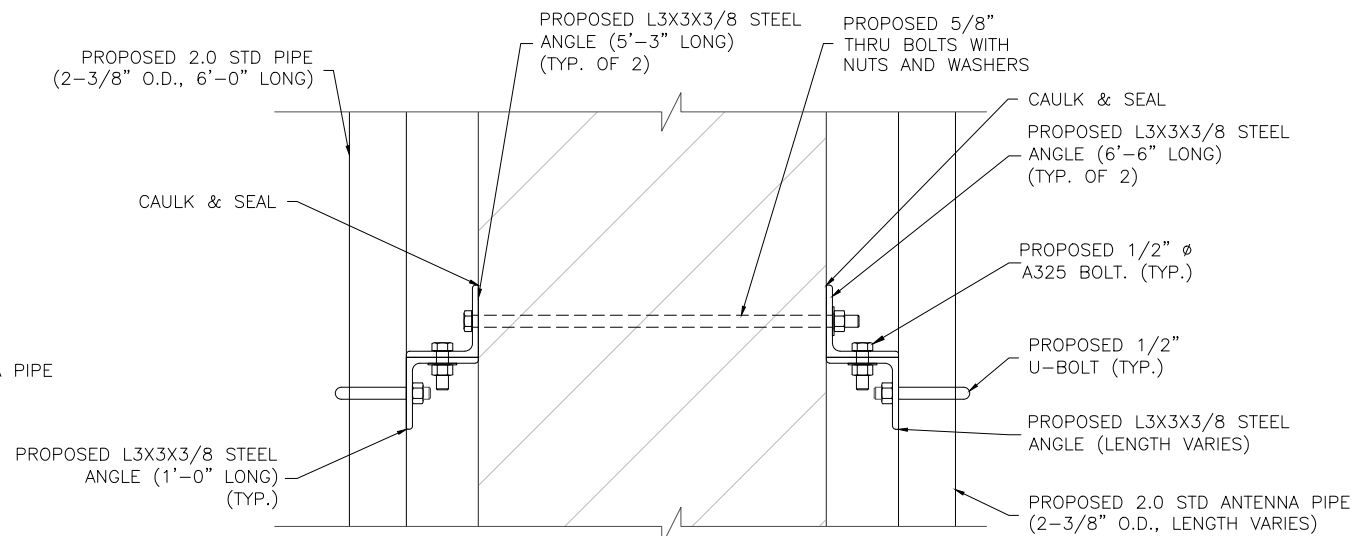
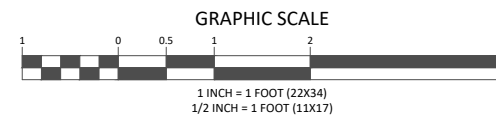
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S-5



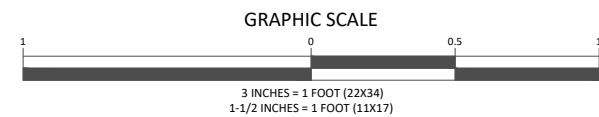
2 GAMMA SECTOR LAYOUT
S-5



3 GAMMA SECTOR SECTION
S-5



4 SCREEN WALL CONNECTION DETAIL
S-5



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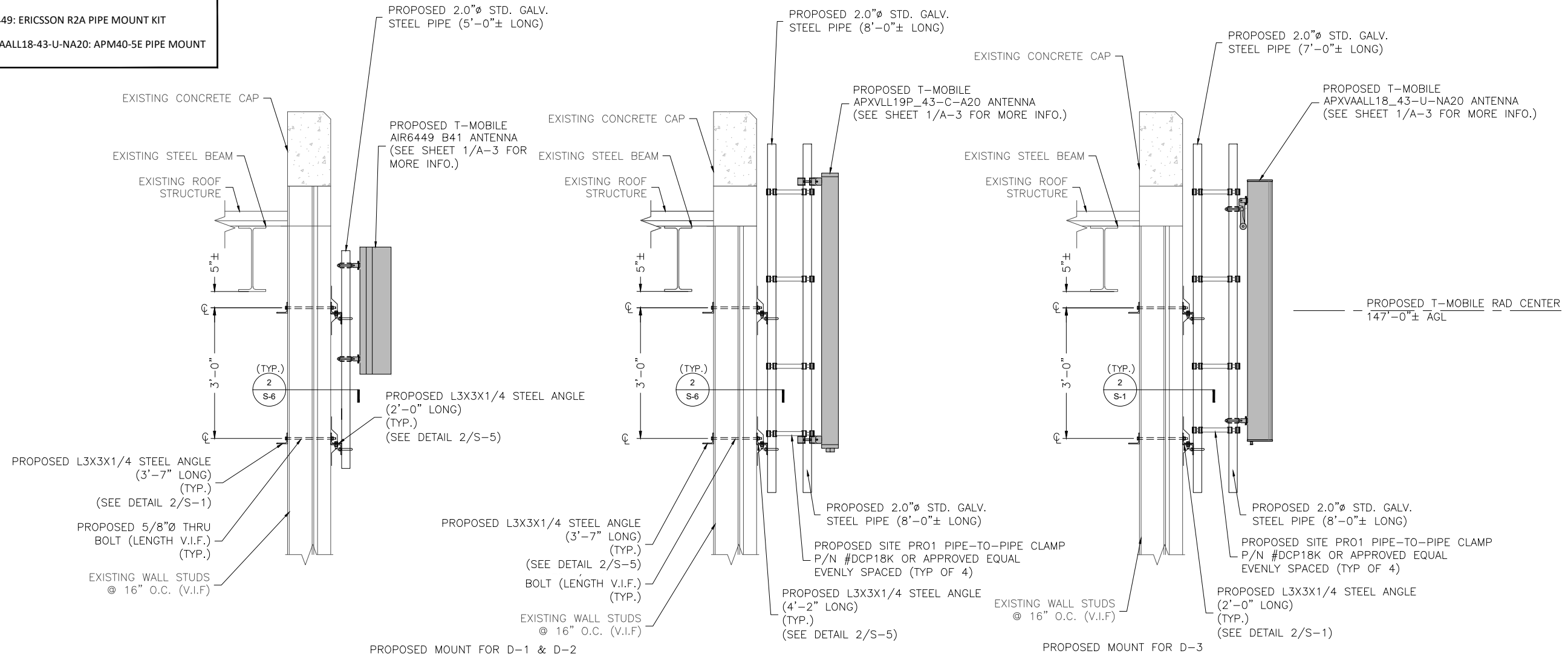
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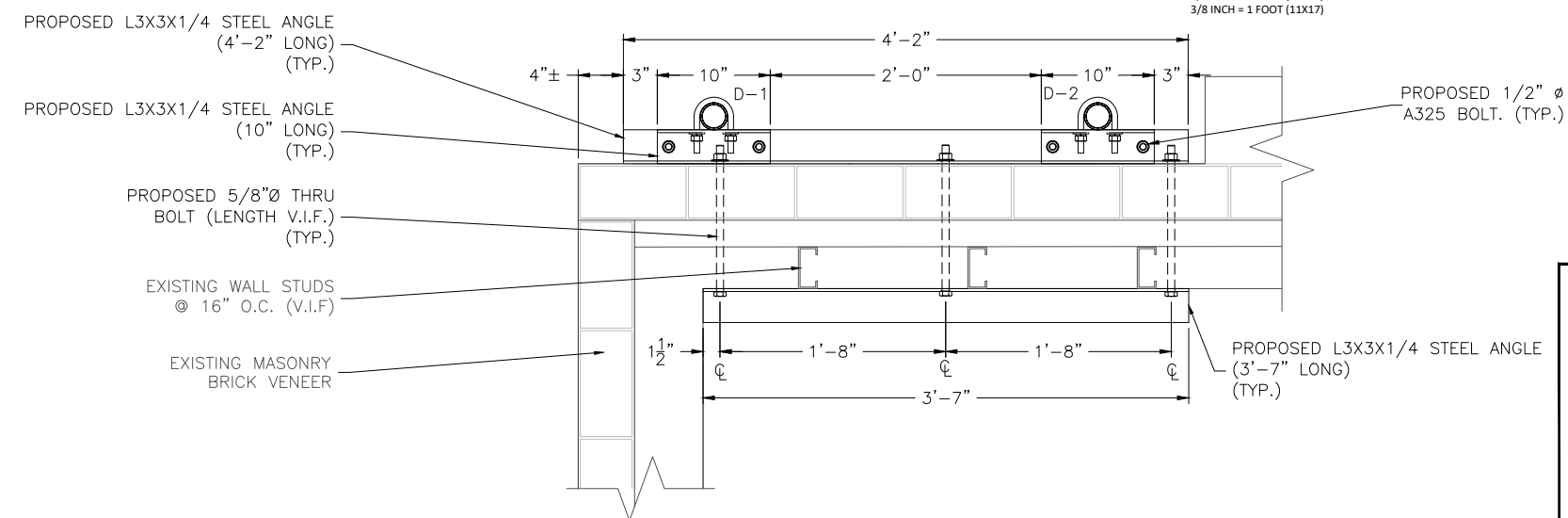
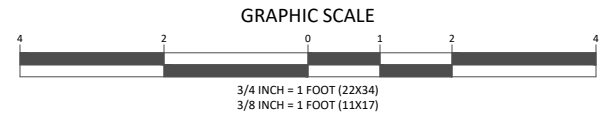
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S-5

NOTES FOR ANTENNA MOUNTS:

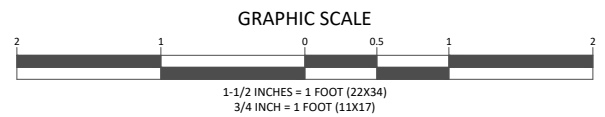
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1 DELTA SECTOR ANTENNA DETAILS
S-6



2 TYPICAL MOUNT DETAIL
S-6



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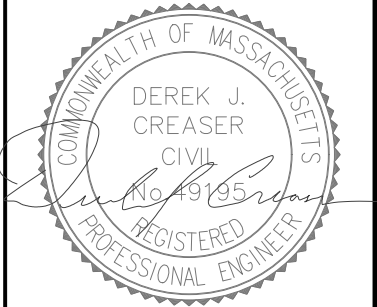
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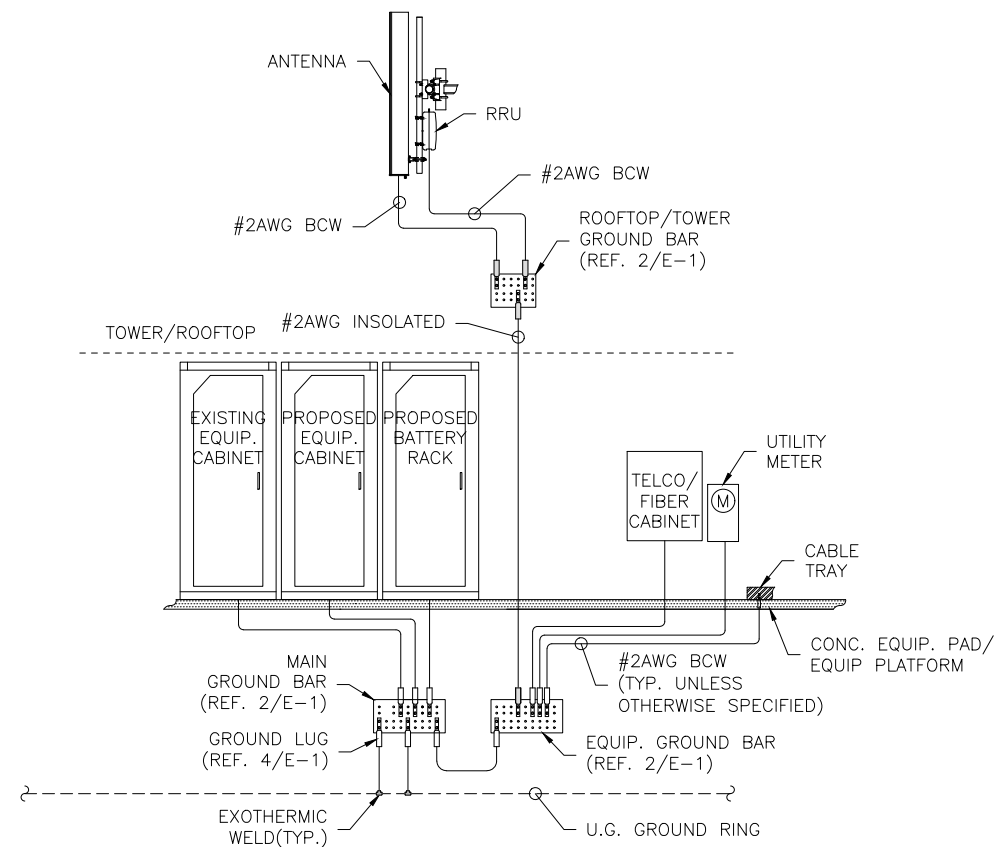


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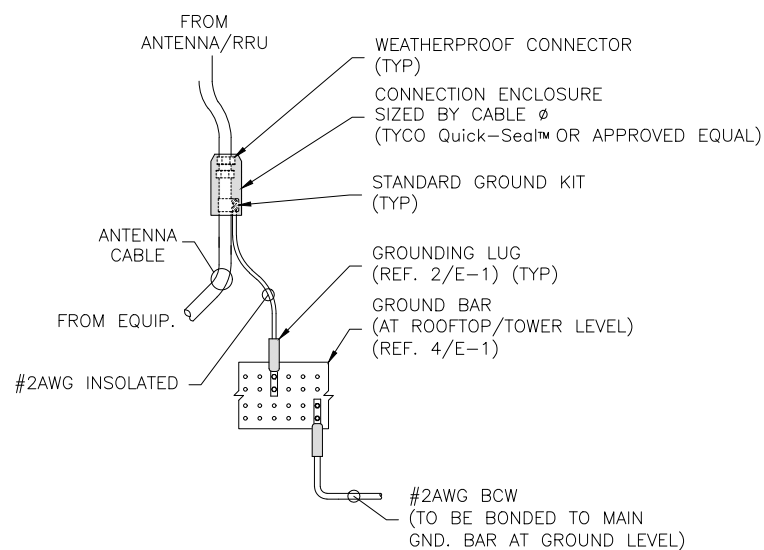
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| SHEET TITLE: ANTENNA & RRU MOUNTING DETAILS |
| DRAWING: S-6 |



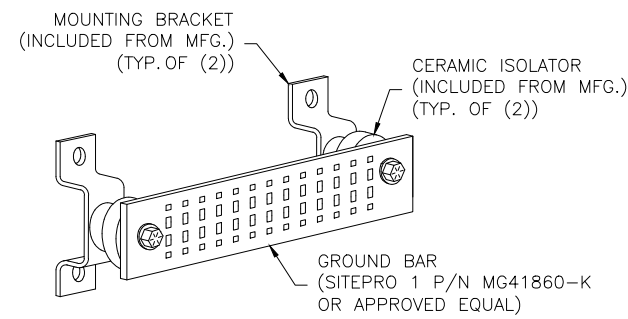
GROUNDING RISER NOTE:
UNLESS OTHERWISE SPECIFIED ALL GROUNDING CONDUCTORS ARE TO BE #2AWG BCW

1 GROUNDING RISER DIAGRAM
G-1

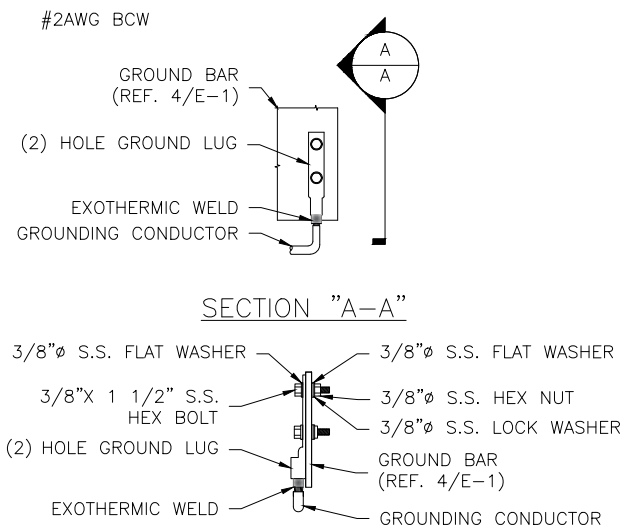


- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT BEND IN CABLE.
 - GROUND CABLES DIRECTLY TO CIGBE
 - JUMPER REQUIRED ONLY WHEN CABLE IS 1 1/4" OR LARGER

4 ANTENNA/RRU GROUNDING DETAIL
G-1



2 GROUND BAR DETAIL
G-1



- GROUNDING LUG NOTES:**
- DO NOT DOUBLE UP OR STACK LUGS.
 - OXIDE INHIBITING COMPOUND TO BE APPLIED TO ALL LUGS.
 - ALL LUGS ARE TO BE EXOTHERMIC WELDED TO GROUNDING CONDUCTORS.
 - FOR INSULATED GROUNDING CONDUCTORS, EXPOSED BARE COPPER TO BE KEPT TO ABSOLUTE MINIMUM.
 - NO INSULATION IS ALLOWED WITHIN THE BARREL OF THE COMPRESSION TERMINAL.

5 GROUND LUG DETAIL
G-1

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- 48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)

3 GROUND WIRE SCHEDULE
G-1

T-Mobile
NORTHEAST LLC

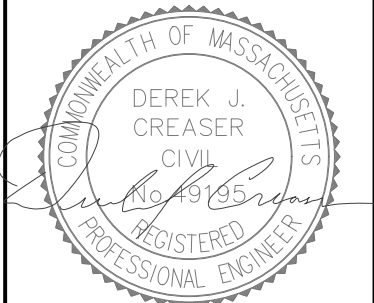
T-MOBILE NORTHEAST, LLC.
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
PHONE: (508) 286-2700
FAX: (508) 286-2893



750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

| REVISIONS | | | |
|-----------|----------|-------------------------|-----|
| REV | DATE | DESCRIPTION | BY |
| 3 | 01/04/23 | CONSTRUCTION UPDATE | AB |
| 2 | 11/30/22 | REVISED FOR COMMENTS | LP |
| 1 | 01/31/22 | ISSUED FOR CONSTRUCTION | RL |
| 0 | 08/12/21 | ISSUED FOR PERMITTING | SS |
| A | 06/30/21 | ISSUED FOR REVIEW | NMT |

| | |
|---------------------|---------------------|
| DESIGNED BY: NMT | APPROVED BY: WRD |
|---------------------|---------------------|



DATE: 01/04/23

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT. UNLESS EXPLICITLY AGREED TO BY THE ENGINEER IN WRITING, THE ENGINEER DISCLAIMS ALL LIABILITY ASSOCIATED WITH THE REUSE, ALTERATION OR MODIFICATION OF THE CONTENTS HEREIN.

| |
|--|
| SITE NAME: B0033/141 PORTLAND |
| SITE ID: 4DE7033A |
| SITE ADDRESS: 141 PORTLAND STREET CAMBRIDGE, MA 02139 MIDDLESEX COUNTY COUNTY |

SHEET TITLE:
GROUNDING & ONE LINE
DIAGRAM

DRAWING:
G-1



View 1
Alpha Sector

View 4
Delta Sector

View 2
Beta Sector

View 3
Gamma Sector

4DE7033A
Location Map





4DE7033A
141 Portland St., Cambridge, MA
View 1 Alpha Sector - Broadway at Portland
View from the Northeast
Showing the Existing Site



Remove both existing antenna
Proposed T-Mobile
Alpha Sector Antenna (2)

Remove existing antenna
Proposed T-Mobile
Alpha Sector Antenna (1)



4DE7033A
141 Portland St., Cambridge, MA
View 1 Alpha Sector - Broadway at Portland
View from the Northeast
Showing the Proposed Site



4DE7033A
141 Portland St., Cambridge, MA
View 2 Beta Sector - Hampshire St.
View from the Northeast
Showing the Existing Site

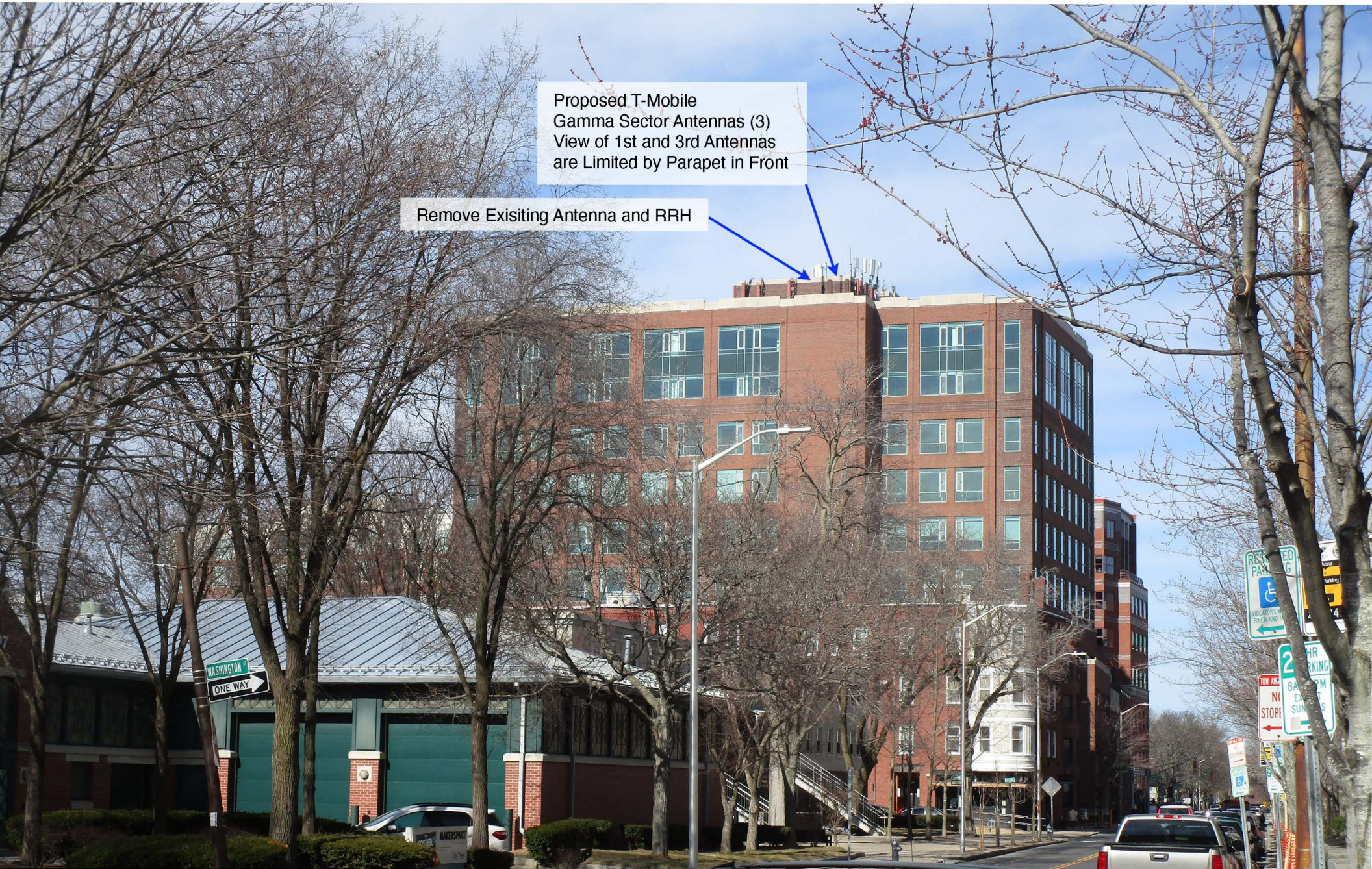
Proposed T-Mobile
Beta Sector Antennas
Remove 2 Existing Antennas
Replace with 3 Antennas and 1 RRH



4DE7033A
141 Portland St., Cambridge, MA
View 2 Beta Sector - Hampshire St.
View from the Northeast
Showing the Proposed Site



4DE7033A
141 Portland St., Cambridge, MA
View 3 Gamma Sector - Portland St.
View from the Southeast
Showing the Existing Site



Proposed T-Mobile
Gamma Sector Antennas (3)
View of 1st and 3rd Antennas
are Limited by Parapet in Front

Remove Existing Antenna and RRH



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COMMUNICATIONS

4DE7033A
141 Portland St., Cambridge, MA
View 3 Gamma Sector - Portland St.
View from the Southeast
Showing the Proposed Site



4DE7033A
141 Portland St., Cambridge, MA
View 4 Delta Sector - Broadway
View from the Northwest
Showing the Existing Site



Proposed T-Mobile
Delta Sector Antenna
Full Height Hidden

Proposed T-Mobile
Delta Sector Antennas
Full Height Hidden

Proposed T-Mobile
Base Station Equipment
Not Visible

4DE7033A
141 Portland St., Cambridge, MA
View 4 Delta Sector - Broadway
View from the Northwest
Showing the Proposed Site

April 12, 2023

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

Re: Eligible Facilities Request pursuant to Section 6409 of the Spectrum Act and an Application for Special Permit, in the Alternative

Property Address: 141 Portland Street, Cambridge, MA 02139
Assessor's Map 42, Lot 70 (the "**Property**")

Applicant: T-Mobile Northeast, LLC ("**Applicant**")

Dear Honorable Members of the Board of Zoning Appeals:

This firm represents T-Mobile Northeast LLC in connection with an application for a special permit from the City of Cambridge Board of Zoning Appeals (the "**Board**"), to modify an existing wireless communications facility on the Property. The Property is located in the Industry B Zoning District (the "**IB**"). To the extent that the Board determines that the requirements of Article 4 Section 4.32G.1 of the City of Cambridge Zoning Ordinance (the "**Ordinance**") apply, the use of the Property for a wireless telecommunications facility is permitted by special permit from the Board¹. The Applicant's proposal satisfies the requirements for the grant of a special permit pursuant to Section 10-43 of the Ordinance.

The Applicant's Proposed Facility (as defined herein) is subject to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, more commonly known as the "Spectrum Act" (47 U.S.C. § 1455). As such, we respectfully submit that in the event that the Board determines that the application does not comply with the Spectrum Act, the Applicant hereby states that the special permit requirements set forth in the Ordinance are hereby met by the Applicant, and that relief must be granted to the Applicant. Compliance with the Spectrum Act is shown on the Eligible Facilities Request permit application form attached hereto and incorporated herein by reference (the "**EFR**").

¹ Pursuant to Section 6409(a) of the Spectrum Act, 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." As such, the Applicant submits that they need not apply for a special permit from the board. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with special permit requirements set forth in Section 10-43 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

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The Applicant seeks to modify its existing wireless communications facility by, removing and replacing the existing antennas, removing the existing Remote Radio Units (“**RRUs**”) and Tower Mounted Amplifiers (“**TMA**s”) and replacing them with new RRUs, and removing and replacing the existing equipment cabinets on the rooftop of the existing building (the “**Building**”) on the Property (the “**Proposed Facility**”). The Applicant’s Proposed Facility is described in more detail below and is shown on the Plans attached hereto and incorporated herein by reference (the “**Plans**”).

I. Background

The Applicant is licensed by the Federal Communications Commission (the “**FCC**”) to construct and operate a wireless telecommunications network in various markets throughout the country, including the Commonwealth of Massachusetts and in particular in the City of Cambridge. A copy of the Applicant’s FCC license is attached hereto. The Applicant is in the process of designing and constructing a telecommunications system to serve all of the Commonwealth of Massachusetts. One of the key design objectives of its systems is to provide seamless coverage. Such a system requires a grid of radio transmitting and receiving links located approximately .5 to 2 miles apart, depending on the location of existing and proposed installations in the surrounding area, the existing use of the network and the existing topography. The radio transmitting and receiving facilities operate on a line-of-sight basis, requiring a clear path from the facility to the user on the ground. This dynamic requires the antennas to be located in a location where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

II. Project Description

The Applicant’s existing facility consists of four (4) sectors (Alpha, Beta, Delta and Gamma) with each sector having three (3) panel antennas, one (1) TMA, and two (2) RRUs, which are all on the rooftop or facade of the Building. The Applicant proposes to modify its existing facility as follows:

- replacing the twelve (12) existing panel antennas with twelve (12) new, like-kind panel antennas;
- relocating three (3) antennas (1 each from the Alpha, Beta and Delta sectors) from the existing faux flue pipes on the rooftop of penthouse of the Building to sector specific areas of the Building’s façade;
- removing eight (8) RRUs and four (4) TMAs and replacing them with eight (8) new RRUs; and
- removing and replacing the two existing equipment cabinets.
- All visible antennas will be painted to match the color of the facade of the Building.

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The proposed modification will reduce the amount of equipment on the rooftop of the building by eliminating the two flue pipes. Similar to the existing facility, all of the antenna sectors associated with the Proposed Facility will remain in the same position. Consequently, the visual change to the Applicant's existing facility will be de minimus.

The Applicant's proposal is consistent with the previous decisions of the Board for this facility, the first of which is dated September 30, 2010 (Case No.9995) (the "2010 Decision"), a second dated October 11, 2012(Case No.10337) (the "2nd Decision"), and a third dated June 22, 2017 (Case No. BZA-013323-2017) (the "3rd Decision" and together with the Original Decision and 2nd Decision shall hereafter be referred to as the "**Decisions**").

After installation, the Proposed Facility will be unmanned and will only require twice a month maintenance visits per carrier. The only utilities required to operate this Proposed Facility are standard 120-volt electrical power as well as telephone service. These are presently in place at the Property. The traffic generated by the Proposed Facility will be approximately two vehicle trips per month by maintenance personnel who will inspect the Proposed Facility to ensure it remains in good working order. The Proposed Facility will comply with all applicable local, state and federal safety codes.

III. Legal Arguments

A. The Applicant complies with the Wireless Communications provisions set forth in Section 4.32(g), footnote 49 of the Ordinance

Pursuant to Section 4.32(g) of the Ordinance, the Applicant's proposed use for a wireless communications facility in the IB District is permitted by special permit. The Applicant's Proposed Facility further complies with the provisions set forth in Section 4.32(g), footnote 49 of the Ordinance:

- 1. The Board of Zoning Appeal shall consider the scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.**

Enclosed herewith is the Applicant's FCC license. The Applicant meets all requirements imposed by governmental authorities having jurisdiction over the Proposed Facility, including by the FCC, to provide wireless communications in this market area.

The intent of the U.S. Congress, when it enacted the Telecommunications Act of 1996 ("TCA") was to institute a framework to promote competition and innovation within the telecommunications industry. Under its license from the FCC, T-Mobile is

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obligated to provide a reliable “product” (i.e. wireless communications service) to the population of the City of Cambridge. Likewise, consumer expectations for increasingly robust and reliable service requires competing service providers (including T-Mobile) to identify and remedy existing gaps in reliable network coverage, or gaps that result from increasing subscriber voice and data traffic beyond the limits of existing network infrastructure. A carrier’s failure to remedy network gaps in a timely fashion can result in a significant loss of subscribers to competing telecommunications carriers. The Proposed Facility and corresponding relief requested are necessary to remedy a gap in reliable service coverage within T-Mobile’s existing network infrastructure.

T-Mobile investigated alternative sites in and around the defined geographic area within which its engineers determined that a facility must be located to fill the gap in service coverage and to function effectively within its network of existing and planned facilities. This is an existing location that is being upgraded with new technology to provide the necessary coverage to the subject area of the City of Cambridge. Therefore, the Proposed Facility in the IB District is necessary to close the coverage gap that is illustrated on the propagation maps submitted herewith. Consequently, T-Mobile is unable to close a gap in its wireless network without obtaining the requested relief under Section 6409 of the Spectrum act or a Special Permit to modify its existing wireless facility in the IB District.

Furthermore, Section 6409(a) of the Spectrum Act 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.*” 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.

Because federal law now preempts many of the permit application requirements that this jurisdiction would previously have required from an Applicant, we have provided, on the attached EFR, only the information that federal law allows this jurisdiction to consider when reviewing an EFR. As such, we submit that the Wireless Communications set forth in Section 4.32(g), footnote 49 of the Ordinance, provisions are not applicable to Proposed Facility and relief must be granted pursuant to Section 6409(a) of the Spectrum Act.

- 2. The Board of Zoning Appeal shall consider the extent to which the visual impact of the various elements of the proposed facility is minimized: (1) through the use of existing mechanical elements on the building’s roof or other features of the building as support and background, (2) through the use in materials that in texture and color blend with the**

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materials to which the facilities are attached, or (3) other effective means to reduce the visual impact of the facility on the site.

The Applicant's Proposed Facility will have no additional visual impact on the existing facility and Building. The Proposed Facility will be installed on the facade of the Building, painted to match the color of the building, and in conformity with the Decisions.

As stated above, federal law now preempts many of the permit applications requirements that the Ordinance sets forth. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with the Wireless Communications provisions set forth in Section 4.32(g), footnote 49 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

- 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 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 telecommunications facility is not inconsistent with the character that does prevail in the surrounding neighborhood.**

The Proposed Facility is located in a nonresidential district. As such, the Applicant submits that nonresidential uses predominate in the area, and in keeping with the Decisions, respectfully requests that the Board find the same.

B. The Applicant complies with the Special Permit Criteria set forth in Section 10-43 of the Ordinance²:

- 1. The requirements of the Ordinance can be met:**

² Pursuant to Section 6409(a) of the Spectrum Act, 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." As such, the Applicant submits that they need not apply for a special permit from the board. To the extent that this Board determines that the Applicants' proposed wireless facility must comply with special permit requirements set forth in Section 10-43 of the Ordinance, the Applicants submit that they have complied with said requirements, without waiving the argument that such relief is not required.

As provided above, the Applicant has met the requirements set forth in Section 4.32(g), footnote 49 of the Ordinance.

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

The proposed installation will not obstruct existing rights-of-way or pedestrian access and will not change the daily conditions of access, egress, traffic, congestion hazard, or character of the neighborhood. The installation will not require the addition of any new parking or loading spaces. The use is passive and will not change the current conditions or appearance surrounding the Building. The facility will not produce any odors, fumes, noise or waste. There will be no need for water, sewer, or other municipal services.

As mentioned above, once modified, the facility will be unmanned and will only require infrequent visits by a technician, typically two times per month for routine diagnostics and/or maintenance, except in cases of emergency. These infrequent visits will not result in any material increase in traffic or disruption to patterns of access or egress that will cause congestion hazards or cause a substantial change in the established neighborhood character. The Applicant's maintenance personnel will make use of the existing access roads and parking at the Building.

3. 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:

As described above and illustrated on the attached photograph simulations, the modification of the existing facility will produce a minimal change in the appearance of the Building. The modification of the existing facility will blend with the existing characteristics of the Building and the surrounding neighborhood. Moreover, the proposed installation will not generate any traffic, smoke, dust, heat, glare, discharge of noxious substances, nor will it pollute waterways or groundwater. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communication.

4. 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:

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The operations of the proposed telecommunications facility will not adversely impact the health, safety, and the welfare of the residents of the City of Cambridge. On the contrary, the proposed use will benefit the City and promote the safety and welfare of its residents, businesses and drivers by providing reliable state-of-the-art digital wireless voice and data services. Further, the site will improve the reliability of emergency communications with the police and fire departments by eliminating dropped or blocked calls due to inadequate signal strength or insufficient network capacity to handle call volume, particularly important during emergency situations.

The Proposed Facility will comply with all federal, state and local safety requirements including the standards established by the FCC, Federal Aviation Administration (FAA), the American Standards Institute (ANSI), and the Massachusetts Department of Public Health (MDPH).

Accordingly, the Proposed Facility will not adversely impact the health, safety and/or welfare of the neighborhood or the residents of the City of Cambridge.

5. For other reasons, the proposed installation will 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 is designed to blend with the existing characteristics of the Property, reducing any visual impacts to the surrounding area. Accordingly, the Proposed Facility's design results in a minimal impact on the underlying and adjacent zoning district and is consistent with the Ordinance's intention to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space), including the IB District.

As mentioned above, the proposed modifications to the existing installation will not generate any traffic, smoke, dust, heat, glare, discharge, or noxious substances, nor will it pollute waterways or groundwater.

6. The new use of the building construction is consistent with the Urban Design Objective set forth in Section 19.30 of the Ordinance:

Not Applicable. The Applicant is not proposing to construct a new building or structure.

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IV. Summary

The Applicant hereby requests that the Board determine that the City of Cambridge has the right to authorize the construction of the Proposed Facility through the issuance of a Building Permit, pursuant to Section 6409(a) of the Spectrum Act. Or, in the alternative, its proposed modifications to the existing telecommunications facility will not have any adverse effect on the neighborhood within which the Property is located in particular, and the City of Cambridge as a whole. The findings are made in view of the particular characteristics of the Property and of the Applicant's proposed siting and equipment, as detailed above. This Property is the most appropriate location for the installation and operation of the wireless communications facility.

For the foregoing reasons the Applicant respectfully requests that the Board grant the foregoing relief pursuant to Section 6409(a) of the Spectrum Act or, in the alternative, zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the installation and operation of the Applicant's Proposed Facility.

Sincerely,



Adam F. Braillard
Direct: 617-456-8153
Email: abraillard@princelobel.com

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Suite 3700
Boston, MA 02110
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View 1
Alpha Sector

View 4
Delta Sector

View 2
Beta Sector

View 3
Gamma Sector

4DE7033A
Location Map





4DE7033A
141 Portland St., Cambridge, MA
View 1 Alpha Sector - Broadway at Portland
View from the Northeast
Showing the Existing Site



Remove both existing antenna
Proposed T-Mobile
Alpha Sector Antenna (2)

Remove existing antenna
Proposed T-Mobile
Alpha Sector Antenna (1)



4DE7033A
141 Portland St., Cambridge, MA
View 1 Alpha Sector - Broadway at Portland
View from the Northeast
Showing the Proposed Site



4DE7033A
141 Portland St., Cambridge, MA
View 2 Beta Sector - Hampshire St.
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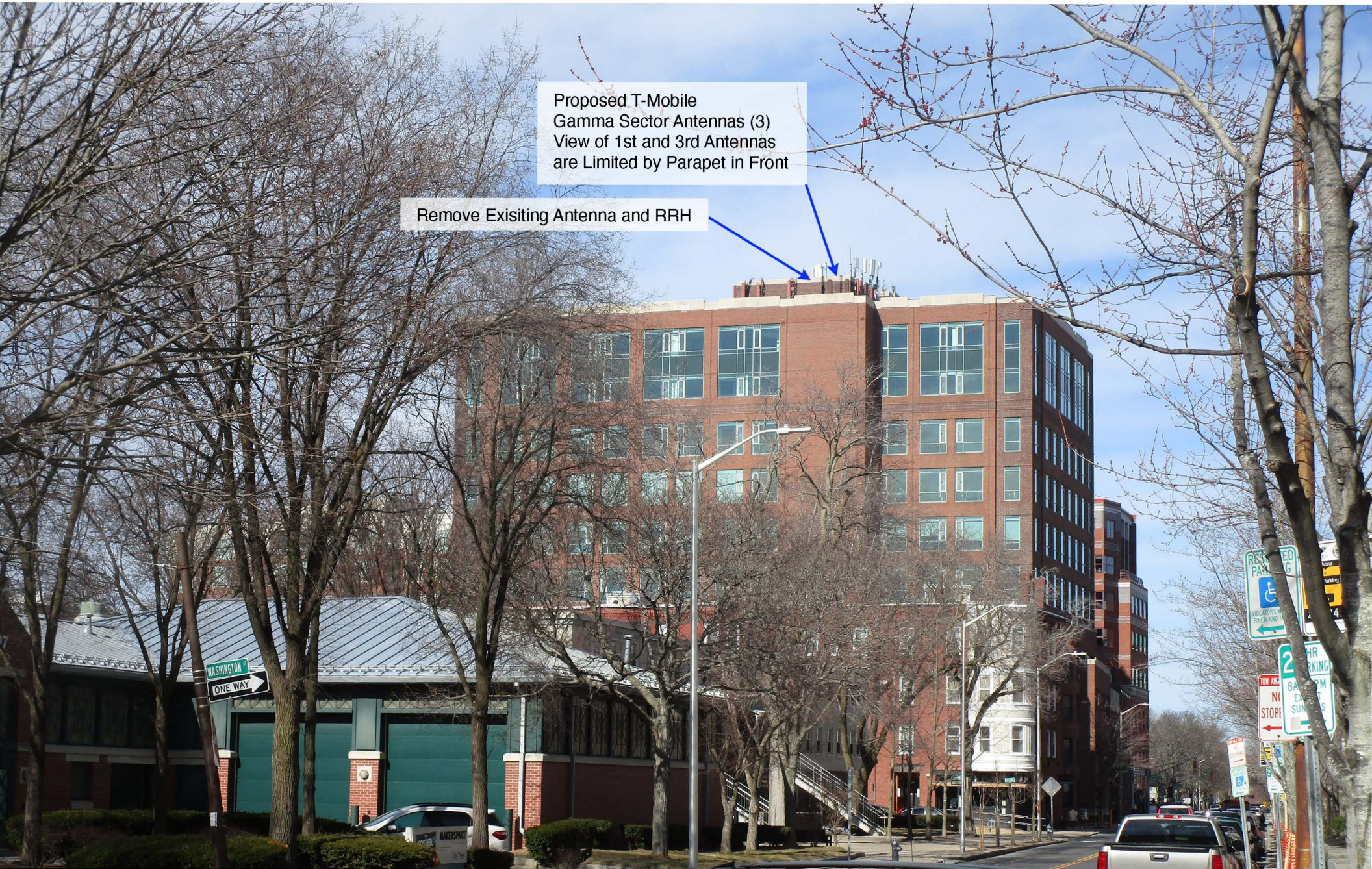
Proposed T-Mobile
Beta Sector Antennas
Remove 2 Existing Antennas
Replace with 3 Antennas and 1 RRH



4DE7033A
141 Portland St., Cambridge, MA
View 2 Beta Sector - Hampshire St.
View from the Northeast
Showing the Proposed Site



4DE7033A
141 Portland St., Cambridge, MA
View 3 Gamma Sector - Portland St.
View from the Southeast
Showing the Existing Site



Proposed T-Mobile
Gamma Sector Antennas (3)
View of 1st and 3rd Antennas
are Limited by Parapet in Front

Remove Existing Antenna and RRH



CENTERLINE
COMMUNICATIONS

4DE7033A
141 Portland St., Cambridge, MA
View 3 Gamma Sector - Portland St.
View from the Southeast
Showing the Proposed Site





4DE7033A
141 Portland St., Cambridge, MA
View 4 Delta Sector - Broadway
View from the Northwest
Showing the Existing Site



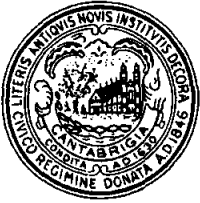
Proposed T-Mobile
Delta Sector Antenna
Full Height Hidden

Proposed T-Mobile
Delta Sector Antennas
Full Height Hidden

Proposed T-Mobile
Base Station Equipment
Not Visible

4DE7033A
141 Portland St., Cambridge, MA
View 4 Delta Sector - Broadway
View from the Northwest
Showing the Proposed Site





City of Cambridge

MASSACHUSETTS

BOARD OF ZONING APPEAL

2010 DEC -1 A 11: 22

831 Mass Avenue, Cambridge, MA.
(617) 349-6100

OFFICE OF THE CITY CLERK
CAMBRIDGE, MA 02142-1115

CASE NO: 9995

LOCATION: 141 Portland Street Industry B Zone
Cambridge, MA

PETITIONER: T-Mobile Northeast LLC
C/o Peter Cooke



2011 00007918

Bk: 56260 Pg: 142 Doc: DECIS
Page: 1 of 4 01/10/2011 03:37 PM

PETITION: Special Permit: To add 2 booster cabinets to existing equipment cabinets on the rooftop, add 1 equipment cabinet with booster adjacent to existing equipment cabinets, add 2 antennas flush mounted and painted to match the building penthouse on the southerly side of the property.

VIOLATION: Art. 10.000, Sec. 10.40 (Special Permit).
Art. 4.000, Sec. 4.32.G.1 & Sec. 4.10 (Footnote 49)
(Telecommunication Facility).

DATE OF PUBLIC NOTICE: September 10 & 17, 2010

DATE OF PUBLIC HEARING: September 30, 2010

MEMBERS OF THE BOARD:

CONSTANTINE ALEXANDER - CHAIR
TIMOTHY HUGHES - VICE CHAIR
BRENDAN SULLIVAN
THOMAS SCOTT

ASSOCIATE MEMBERS:

CHRISTOPHER CHAN
MAHMOOD R. FIROUZBAKHT
DOUGLAS MYERS
SLATER W. ANDERSON
TAD HEUER

Members of the Board of Zoning Appeal heard testimony and viewed materials submitted regarding the above request for relief from the requirements of the Cambridge Zoning Ordinance. The Board is familiar with the location of the petitioner's property, the layout and other characteristics as well as the surrounding district.

19589/421

Case No. 9995
Location: 141 Portland Street
Petitioner: T-Mobile Northeast LLC c/o Peter Cooke

On October 28, 2010, Petitioner's representative Peter Cooke appeared before the Board of Zoning Appeal requesting a special permit in order to add two booster cabinets to existing equipment cabinets on the rooftop, to add one equipment cabinet booster adjacent to existing equipment cabinets, and to add two antennas flush mounted and painted to match the building penthouse on the southerly side of the property. The Petitioner requested relief from Article 4, Sections 4.32.G.1 and 4.10 of the Cambridge Zoning Ordinance ("Ordinance"). The Petitioner submitted application materials including information about the project, plans, and photographs.

Mr. Cooke stated that the Petitioner was FCC licensed and that the proposed site was in a nonresidential district. He stated that the proposed upgrade was needed in order to increase coverage. He stated that equipment currently existed on the rooftop and that the installation was designed to minimize visual impact.

The Chair asked if anyone wished to be heard on the matter, no one indicated such. The Chair read a letter of support from the Planning Board.

After discussion, the Chair moved that the Board grant the special permit for relief in order to add two booster cabinets to existing equipment cabinets on the rooftop, to add one equipment cabinet booster adjacent to existing equipment cabinets, and to add two antennas flush mounted and painted to match the building penthouse on the southerly side of the property based on the finding that adding this equipment will not affect traffic or patterns of access or egress to the property or cause congestion, hazard or substantial change in established neighborhood character. The Chair moved that the Board find that the continued operation of or development of adjacent uses as permitted in the Ordinance will not be adversely affected by the proposed work. The Chair moved that the Board find that no nuisance or hazard will 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. The Chair moved that the Board find that what is being proposed would not impair the integrity of the district or adjoining district or otherwise derogate from the intent and purpose of the Ordinance. The Chair moved that the Board find that the site is in a nonresidential district and the proposed installation is on a building that is quite high, so that the visual impact is minimized. The Chair moved that the Board find that the equipment will be painted in a manner that will minimize the visual impact on the property. The Chair moved that the Board find that the Petitioner is a licensed FCC carrier. The Chair moved that the Board grant the variance on the following conditions:


1. that the work proceed in accordance with plans submitted by the Petitioner, bearing the most recent date of October 13, 2010, being three pages numbered T-1, Z-1 and Z-2, with the first page initialed by the Chair,
2. that the equipment and the cabinets be painted to minimize the visual impact and that they be maintained so as not to fall into disrepair, and
3. that should the facility cease to operate for any period of six months or more, the equipment be promptly removed and the building be restored to its original conditions to the extent reasonably possible.

The five member Board voted unanimously in favor of granting the special permit (Alexander, Hughes, Sullivan, Scott, and Heuer) with the above conditions. Therefore, the special permit is granted.

The Board based its decision upon all the information presented, the above findings and upon the following:

- 1) The meeting of the requirements of the Ordinance;
- 2) Traffic generated or patterns of access or egress would not cause congestion, hazard, or substantial change in the established neighborhood character;
- 3) The continued operation of or the development of adjacent uses as permitted in the Ordinance would not be adversely affected by the nature of the proposed uses;
- 4) Nuisance or hazard would not be created to the detriment of the health, safety and /or welfare of the occupants of the proposed use;
- 5) The proposed use would not impair the integrity of the district or adjoining district or otherwise derogate from the Ordinance, and in fact would be a significant improvement to the structure and benefit the neighborhood, and;
- 6) The new use or building construction is not inconsistent with the Urban Design Objectives set forth in Section 19.30 of the Cambridge Zoning Ordinance.

The Board of Zoning Appeal is empowered to waive local zoning regulations only. This decision therefore does not relieve the petitioner in any way from the duty to comply with local ordinances and regulations of the other local agencies, including, but not limited to the Historical Commission, License Commission and/or compliance with requirements pursuant to the Building Code and other applicable codes.



Constantine Alexander, Chair

Attest: A true and correct copy of decision filed with the offices of the City Clerk and Planning Board on 12/1/10 by Maia DeBello, Clerk.

Twenty days have elapsed since the filing of this decision.

No appeal has been filed _____.

Appeal has been filed and dismissed or denied.

Date: Jan. 4, 2011 D. Margaret Dwyer City Clerk.

PK 16682
19 - 565 *

City of Cambridge

MASSACHUSETTS

BOARD OF ZONING APPEAL

831 Mass Avenue, Cambridge, MA
(617) 349-6100



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Page: 1 of 4 01/02/2013 01:36 PM

DEC 5 PM 3 12

OFFICE OF THE CITY CLERK
CAMBRIDGE, MASSACHUSETTS



CASE NO: 10337

LOCATION: 141 Portland Street (a/k/a 198 Broadway) Industry B Zone
Cambridge, MA

PETITIONER: T-Mobile Northeast, LLC
C/o Jackie Slaga, Agent

PETITION: Special Permit: In-kind replacement of existing 8 antennas with new antennas; replacement of 2 existing cabinets with 1 cabinet of similar site and appearance and 1 substantially smaller cabinet, in same location. All antennas will be mounted in the same location and painted to match façade of building.

VIOLATION: Art. 4.000, Sec. 4.32.G.1 & 4.10 (Footnote 49) (Telecommunication Facility). Art. 10.000, Sec. 10.40 (Special Permit).

DATE OF PUBLIC NOTICE: September 27, 2012 & October 4, 2012

DATE OF PUBLIC HEARING: October 11, 2012

MEMBERS OF THE BOARD:

| | |
|------------------------------------|-------------------------------------|
| BRENDAN SULLIVAN - CHAIR | <input checked="" type="checkbox"/> |
| CONSTANTINE ALEXANDER - VICE-CHAIR | <input checked="" type="checkbox"/> |
| TIMOTHY HUGHES | <input checked="" type="checkbox"/> |
| THOMAS SCOTT | <input type="checkbox"/> |
| JANET GREEN | <input checked="" type="checkbox"/> |

ASSOCIATE MEMBERS:

| | |
|------------------------|-------------------------------------|
| MAHMOOD R. FIROUZBAKHT | <input type="checkbox"/> |
| DOUGLAS MYERS | <input checked="" type="checkbox"/> |
| SLATER W. ANDERSON | <input type="checkbox"/> |
| TAD HEUER | <input type="checkbox"/> |
| ANDREA A. HICKEY | <input type="checkbox"/> |
| KEVIN C. McAVEY | <input type="checkbox"/> |

* Kendall Square Entity Inc

Members of the Board of Zoning Appeal heard testimony and viewed materials submitted regarding the above request for relief from the requirements of the Cambridge Zoning Ordinance. The Board is familiar with the location of the petitioner's property, the layout and other characteristics as well as the surrounding district.

Jackie Slaga 95 Indian Tr. Saunderton RI 02874

Case No. 10337
Location: 141 Portland Street / 198 Broadway
Petitioner: T-Mobile Northeast, LLC c/o Jackie Slaga, Agent

On October 11, 2012, Petitioner's attorney Ricardo Sousa appeared before the Board of Zoning Appeal requesting a special permit in order to permit the in-kind replacement of eight existing antennas with new antennas mounted in the same location and painted to match the façade of the building and the replacement of two existing cabinets with one cabinet of similar size and one smaller cabinet. The Petitioner requested relief from Article 4, Sec. 4.32.G.1 of the Cambridge Zoning Ordinance ("Ordinance"). The Petitioner submitted application materials including information about the project, plans, and photographs.

Mr. Sousa stated that the Petitioner wished to upgrade its existing specially permitted wireless facility as part of a system wide upgrade. He stated that new antennas and a cabinet would replace existing ones. He stated that everything would be painted and placed so as to reduce visual impacts. He also agreed to replace the proposed pole mounts with low profile mounts and would lower the antennae so that they would maintain a clearance of one foot from the top of the penthouse. He stated that there was an increasing need for more coverage.

The Chair asked if anyone wished to be heard on the matter, no one indicated such.

After discussion, the Chair moved that the Board grant the special permit for relief in order to permit the in-kind replacement of eight existing antennas with new antennas mounted in the same location and painted to match the façade of the building and the replacement of two existing cabinets with one cabinet of similar size and one smaller cabinet based on the finding that no limitations have been exceeded for any license secured from any state or federal agency having jurisdiction. The Chair moved that the Board find that the property was in an Industry B Zone, so that the requirements for telecommunications facilities within residential districts would not apply in this case. The Chair moved that the Board find that the requirements of the Ordinance were met. The Chair moved that the Board find that traffic generated or patterns of access or egress would not cause congestion, hazard, or substantial change in the established neighbored character. The Chair moved that the Board find that the continued operation of or development of adjacent uses as permitted in the Ordinance would not be adversely affected by the nature of the proposed use, but rather would be enhanced by the upgraded equipment. The Chair moved that the Board find that there would not be any nuisance or hazard created to the detriment of the health, safety, or welfare of the occupants of the proposed use or the citizens of the city. The Chair moved that the Board find that the proposed use would not impair the integrity of the district or adjoining districts or otherwise derogate from the intent and purpose of the Ordinance. The Chair moved that the Board grant the special permit on the following conditions:


1. that the work proceed as per the drawings and photo simulations submitted, except that the proposed antennas be moved closer to the building by the use of flush mount brackets and the antennas be lowered in order to be fully backed by the brick façade and be painted to match the background color where possible,
2. that should the equipment become unused, it be removed within six months, and the facade of the building be restored to its original condition, and
3. that the antennas and equipment be maintained and not be allowed to deteriorate.

The five member Board voted unanimously in favor of granting the special permit (Sullivan, Alexander, Hughes, Green, and Myers) with the above conditions. Therefore, the special permit is granted.

The Board based its decision upon all the information presented, the above findings and upon the following:

- 1) The meeting of the requirements of the Ordinance;
- 2) Traffic generated or patterns of access or egress would not cause congestion, hazard, or substantial change in the established neighborhood character;
- 3) The continued operation of or the development of adjacent uses as permitted in the Ordinance would not be adversely affected by the nature of the proposed uses;
- 4) Nuisance or hazard would not be created to the detriment of the health, safety and /or welfare of the occupants of the proposed use;
- 5) The proposed use would not impair the integrity of the district or adjoining district or otherwise derogate from the Ordinance, and in fact would be a significant improvement to the structure and benefit the neighborhood, and;
- 6) The new use or building construction is not inconsistent with the Urban Design Objectives set forth in Section 19.30 of the Cambridge Zoning Ordinance.

The Board of Zoning Appeal is empowered to waive local zoning regulations only. This decision therefore does not relieve the petitioner in any way from the duty to comply with local ordinances and regulations of the other local agencies, including, but not limited to the Historical Commission, License Commission and/or compliance with requirements pursuant to the Building Code and other applicable codes.


Brendan Sullivan, Chair

Attest: A true and correct copy of decision filed with the offices of the City Clerk and Planning Board on 12/5/12 by Maria Paschco, Clerk.

Twenty days have elapsed since the filing of this decision.

No appeal has been filed ✓.

Appeal has been filed and dismissed or denied.

Date: January 2, 2013 Deanna P. Lopez ^{Interim} City Clerk.

3.4



CITY OF CAMBRIDGE
MASSACHUSETTS
BOARD OF ZONING APPEAL
831 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02139
617 349-6100

2017 JUL 26 PM 12: 01

CITY OF CAMBRIDGE
CAMBRIDGE, MASSACHUSETTS

CASE NO: BZA-013323-2017 Industry B Zone

LOCATION: 141 Portland St
Cambridge, MA 02139

RECORD OWNER
KENDALL SQUARE
Entity Inc
16682-565

PETITIONER: T-Mobile Northeast LLC - C/O Ricardo M. Sousa, Esq.

PETITION: Special Permit: The Applicant proposes to modify its existing Wireless Telecommunications Facility by collocating four (4) new panel antennas on the existing building, together with supporting equipment. The Applicants proposal complies with Section 6409 of the Spectrum Act as the collocation of antennas is not a substantial change to the existing base station. Moreover, the Applicants proposal complies with Section 4.32 and 10.4 of the Cambridge Zoning Ordinance.

VIOLATION :

| | |
|----------------|---|
| Article 4.000 | Section 4.32(g)(1) (Telecommunications Facility). |
| Article 4.000 | Section 4.40 (Footnote 49) (Telecommunications Facility). |
| Article 10.000 | Section 10.40 (Special Permit). |
| Article 6409 | Section Middle Class Tax Relief Act |

DATE OF PUBLIC NOTICE: June 08, 2017 and June 15, 2017

DATE OF PUBLIC HEARING: June 22, 2017;



2017 00132174

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Page: 1 of 5 08/17/2017 02:39 PM

MEMBERS OF THE BOARD:

- CONSTANTINE ALEXANDER - CHAIR
- BRENDAN SULLIVAN - VICE-CHAIR
- JANET O. GREEN
- PATRICK TEDESCO
- ANDREA A. HICKEY

ASSOCIATE MEMBERS:

- DOUGLAS MYERS
- SLATER W. ANDERSON
- ALISON HAMMER
- JIM MONTEVERDE
- GEORGE BEST
- LAURA WERNICK

Members of the Board of Zoning Appeal heard testimony and viewed materials submitted regarding the above request for relief from the requirements of the Cambridge Zoning Ordinance. The Board is familiar with the location of the petitioner's property, the layout and other characteristics as well as the surrounding district.

Attw: Greg Costello
85 Ruggeway Rd.
Billerica, MA. 01862
Smartlink

Case No. BZA-013323-2017
Location: 141 Portland Street
Petitioner: T-Mobile Northeast LLC – c/o Ricardo Sousa, Esq.

On June 22, 2017, Petitioner's attorney Daniel Glissman appeared before the Board of Zoning Appeal requesting a special permit in order to modify its existing wireless telecommunications facility by collocating four new panel antennas, together with supporting equipment. The Petitioner requested relief under Article 4, Section 4.32.G.1 and Article 10, Section 10.40 of the Cambridge Zoning Ordinance ("Ordinance") and Section 6409 of the Middle Class Tax Relief & Job Creation Act. The Petitioner submitted materials in support of their application including information about the project, plans, and photographs.

Mr. Glissman stated that as part of a system wide upgrade the proposal was to add four antennas at the existing specially permitted telecommunications facility. He stated that the proposed work did not substantially increase the installation under Section 6409. He stated that three antennas would be mounted in faux flues. He stated one antenna would be façade mounted, on low profile mounts, below the cornice and painted to match the façade, as requested by the Planning Board. He stated he was unable to comply with the Planning Board's request that the roof be screened because other carriers were also located on the building. He stated that the flues could be painted a lighter grey than shown on the plans and photo simulations.

The Chair asked if anyone wished to be heard on the matter, no one indicated such. The Chair noted a letter from the Planning Board with the discussed recommendations.

After discussion, the Chair moved that the Board make the following findings based upon the application materials submitted and all evidence before the Board and that based upon the findings the Board grant the requested relief as described in the Petitioner's submitted materials and the evidence before the Board: that the Board find that the requirements of the Ordinance could not be met without the granting of the special permit requested; that the Board find that traffic generated or patterns of access or egress resulting from what was proposed would not cause congestion, hazard, or substantial change in established neighborhood character; that the Board find that the continued operation or development of adjacent uses as permitted in the Ordinance would not be adversely affected by what was proposed; that the Board find that no nuisance or hazard would be created to the detriment of the health, safety, and/or welfare of the occupant of the use or the citizens of the City; that the Board find that what was proposed would not impair the integrity of the district or adjoining district or otherwise derogate from the intent and purpose of the Ordinance; that the Board find that the proposed modification of the existing telecommunication facility did not substantially change the physical dimensions of the existing wireless tower or base station at such facility within the meaning of

Section 6409(a) of The Middle Class Tax Relief and Job Creation Act of 2012, also known as The Spectrum Act.

The Chair further moved that based upon all the information presented the Board grant the requested relief as described in the Petitioner's submitted materials and the evidence before the Board on the following conditions:

1. that the work proceed in accordance with plans submitted by the petitioner, as initialed by the Chair,
2. that upon completion of the work, the physical appearance and visual impact of the proposed work be consistent with the photo simulations submitted by the petitioner, as initialed by the Chair, except that the paint color for the flue will be lighter than is shown on the photo simulations,
3. that the petitioner at all times maintain the proposed work so that its physical appearance and visual impact remain consistent with the photo simulations previously referred to, with the exception of the paint color of the flue,
4. that should the petitioner cease to utilize the equipment approved tonight for a continuous period of six months or more, it promptly thereafter remove such equipment and restore the building on which it was located to its prior condition and appearance to an extent reasonably practicable,
5. that the petitioner continue to comply with the conditions imposed by the Board with respect to previous Special Permits granted to the petitioner with regard to the site in question,
6. that inasmuch as the health effects of the transmission of electromagnetic energy waves is a matter of ongoing societal concern and scientific study, the Special Permit is also subject to the following conditions:
 - A. that the petitioner shall file with the Inspectional Services Department each report it files with the federal authorities regarding electromagnetic energy wave emissions emanating from all of the petitioner's equipment on the site. Each such report shall be filed with the Inspectional Services Department no later than ten business days after the report has been filed with the federal authorities. Failure to timely file any such report with the Inspectional Services Department shall ipso facto terminate the Special Permit granted tonight.
 - B. that in the event that at any time federal authorities notify the petitioner that its equipment on the site, including, but not limited to the special permit granted tonight, fails to comply with the requirements of law or governmental regulations, whether with regard to the emissions of electromagnetic energy waves or otherwise, the petitioner, within ten business days of receipt of such notification of such failure, shall file with the Inspectional Services Department a report disclosing in reasonable detail that such failure has occurred and the basis for such claimed failure. The special permit shall ipso facto terminate if any of the petitioner's federal licenses are suspended, revoked, or terminated.

- C. that to the extent a special permit has terminated pursuant to the foregoing paragraphs A and B, the petitioner may apply to this Board for a new special permit provided that the public notice containing such application discloses in reasonable detail that the application has been filed because of a termination of the special permit pursuant to paragraphs A or B above. Any such new application shall not be deemed a repetitive petition and therefore will not be subject to the two-year period during which repetitive petitions may not be filed.
- D. that within ten business days within receipt of a Building Permit for the installation of the equipment subject to this petition, the petitioner shall file with the Inspectional Services Department a sworn Affidavit of the person in charge of the installation of equipment by the petitioner with a geographical area that includes Cambridge stating that; he or she has such responsibility and that the equipment being installed pursuant to the Special Permit requested tonight will comply will all federal safety rules and will be situated and maintained in locations with appropriate barricades and other protections such that individuals, including nearby residents and occupants of nearby structures will be sufficiently protected from excessive radio frequency radiation under federal law.

The five member Board voted unanimously in favor of granting the special permit with the above conditions (Alexander, Sullivan, Green, Hickey, and Tedesco). Therefore, the special permit is granted as conditioned.

The Board of Zoning Appeal is empowered to waive local zoning regulations only. This decision therefore does not relieve the petitioner in any way from the duty to comply with local ordinances and regulations of the other local agencies, including, but not limited to the Historical Commission, License Commission and/or compliance with requirements pursuant to the Building Code and other applicable codes.



Constantine Alexander, Chair

ATTEST: A true and accurate copy of the above decision has been filed on 7-26-17 with the Offices of the City Clerk and the Planning Board by Maria Pacheco, duly authorized representative of the Board of Zoning Appeal.

Twenty days have elapsed since the above decision was filed in the office of the City Clerk and:

no appeal has been filed; or
 an appeal has been filed within such twenty days.

The person exercising rights under a duly appealed special permit does so at risk that a court will reverse the permit and that any construction performed under the permit may be ordered undone. This certification shall in no event terminate or shorten the tolling, during the pendency of any appeals, of the periods provided under the second paragraph of G.L. c. 40A, §6.

Date: August 17, 2017

Donna P. Lopez, City Clerk

Appeal has been dismissed or denied.

Date: _____, City Clerk

April 12, 2023

Ranjit Singanayagam
Commissioner of Inspectional Services/Building Commissioner
City of Cambridge
831 Massachusetts Avenue
Cambridge, MA 02139

Re: Eligible Facilities Request to Modify Transmission Equipment at an Existing Base Station located at 141 Portland Street, Cambridge, MA 02139.

Dear Mr. Singanayagam:

A. T-Mobile is Filing an Eligible Facilities Request

Prince Lobel Tye LLP, on behalf of T-Mobile Northeast LLC is submitting the attached Eligible Facilities Request application to add, remove, modify, or replace Transmission Equipment at an Existing Base Station located at 141 Portland Street, Cambridge, MA 02139.

Because this jurisdiction has not yet developed an Eligible Facilities Request permit application form that complies with Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, commonly known as the “Spectrum Act” (Pub. Law No. 112-96, 126 Stat 156) (codified at 47 U.S.C. § 1455), this Eligible Facilities Request is attached to the Building Permit Application form which was customarily used by this jurisdiction when reviewing requests to collocate or modify wireless telecommunications facilities. Because federal law now preempts many of the permit application requirements that this jurisdiction would previously have required from an applicant, this Eligible Facilities Request application provides only the information that federal law allows this jurisdiction to consider when reviewing an Eligible Facilities Request.

Section 6409(a) of the Spectrum Act 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.*” 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.

B. Why this Eligible Facilities Request Must Be Granted

Prince Lobel Tye LLP
One International Place
Suite 3700
Boston, MA 02110
TEL: 617 456 8000
FAX: 617 456 8100

This Eligible Facilities Request involves an effort to collocate, remove, modify, or replace Transmission Equipment at an existing Base Station operated by a Federal Communications Commission (“FCC”) licensed wireless carrier. The FCC has defined Base Station as “the equipment and non-tower supporting structure at a fixed location that enable Commission-licensed or authorized wireless communications between user equipment and a communications network . . . the term includes equipment associated with wireless communications service including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supply, and comparable equipment.” The term existing base station also includes a structure that currently houses or supports an antenna, transceiver or other associated equipment that constitutes part of a Base Station at the time the application is filed even if the structure was not built solely or primarily to provide such support. The existing Base Station in this application is approximately one hundred fifty-two feet and six inches (152’-6”) high and presently contains wireless facilities. The existing Base Station meets the FCC definition of a Base Station.

The list of equipment identified in the Eligible Facilities Request application that will be collocated, removed, or replaced at the Base Station also is Transmission Equipment as determined by the FCC. 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.”

The FCC, in a Report and Order adopted on October 17, 2014, determined that any modification to an existing telecommunications Base Station that meets the following six criteria does not substantially change the physical dimensions of the existing Base Station and therefore is an Eligible Facilities Request which must be granted:

1. *The modifications to the Transmission Equipment do not increase the height of the Base Station by more than 10 percent (10%) or ten (10) feet, whichever is greater.*
 - a. The height of the Base Station is approximately one hundred fifty-two feet and six inches (152’-6”) high. The proposed

Prince Lobel Tye LLP
One International Place
Suite 3700
Boston, MA 02110
TEL: 617 456 8000
FAX: 617 456 8100

modifications will not affect the height of the Base Station, as the proposed modifications will respectively take place at a height of one hundred and forty-three feet and six inch (143'- 6") and one hundred and thirty-nine feet (139').

2. *The modifications to the Transmission Equipment do not protrude from the edge of the support structure by more than six (6) feet.*
 - a. The proposed replacement antennas will not protrude from the edge of the building by more than six (6) feet, and therefore the facility will not exceed the six (6) foot limitation. As such, the proposed modification will not protrude from the edge of the building by more than six (6) feet.
3. *The modifications to the Transmission Equipment do not involve the installation of more than the standard number of equipment cabinets for the technology involved, not to exceed four.*
 - a. The Applicant proposes to replace the two (2) existing equipment cabinet existing with two (2) like-kind equipment cabinets at the Base Station.
4. *The modifications to the Transmission Equipment do not entail any excavation or deployment outside of the Base Station site.*
 - a. There will be no excavation or deployment outside of the Base Station site.
5. *The modifications to the Transmission Equipment do not defeat any existing concealed or stealth-design.*
 - a. Pursuant to the previous decisions by the Board of Zoning Appeal for the City of Cambridge (the "Board") for this site September 30, 2010 (Case No.9995) (the "Original Decision"), a second dated October 11, 2012(Case No.10337) (the "2nd Decision"), and a third dated June 22, 2017 (Case No. BZA-013323-2017) (the "3rd Decision" and together with the Original Decision and 2nd Decision shall hereafter be referred to as the "**Decisions**"), the existing panel antennas, and the proposed new panel antennas, are located in the preferred location on the building. The replacement of the existing twelve (12) antennas with twelve (12) new antennas

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TEL: 617 456 8000
FAX: 617 456 8100

will not defeat the intent of the existing design, as the majority of the new antennas will be installed at the same locations as the existing antennas. Furthermore, all proposed antennas will be integrated into the building to the extent possible. As such, modifications to the existing facility will be in conformity with the Decisions and do not defeat the existing stealth design.

6. *The modifications to the Transmission Equipment 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.*
 - a. Based on the foregoing, the proposed modifications to the Base Station fully conform to Section 6409(a) of the Spectrum Act and comply with the prior conditions of approval of the Base Station.

There is a certification attached to the accompanying Eligible Facilities Request that identifies how each of the six review criteria identified by the FCC is met. The modifications to the Transmission Equipment at the Base Station located at 141 Portland Street, Cambridge, MA 02139 contained in this Eligible Facilities Request fully conform to Section 6409(a) as enacted by Congress and as interpreted by the FCC. Accordingly, this Eligible Facilities Request must be approved within 60 days, as required by federal law and FCC implementing regulations.

C. Notice of Federal Law Expedited Permit Processing and Deemed Granted

Under federal law, an Eligible Facilities Request is deemed granted sixty (60) days after a complete application is filed with a local jurisdiction. If sixty days pass after the submission of T-Mobile’s accompanying Eligible Facilities Request and the City of Cambridge has not acted to grant or deny the request, it will be deemed granted. At that time, the applicant may advise the City of Cambridge that the application has been deemed granted. If the City of Cambridge wishes to contest whether the Eligible Facilities Request has been deemed granted, the burden is on the City of Cambridge to file a lawsuit in a court of competent jurisdiction within 30 days after receipt of a written communication notifying it that the Eligible Facilities Request has been deemed granted. Failure to file a lawsuit in a timely manner may forever bar this jurisdiction from contesting that this Eligible Facilities Request has been deemed granted.

Prince Lobel Tye LLP
One International Place
Suite 3700
Boston, MA 02110
TEL: 617 456 8000
FAX: 617 456 8100

T-Mobile is committed to working cooperatively with you, and all jurisdictions around the country, to secure expeditious approval of requests to modify existing personal wireless service facilities. Please do not hesitate to contact me if you have questions.

Sincerely,



Adam F. Braillard

Direct: 617-456-8153

Email: abraillard@princelobel.com

Prince Lobel Tye LLP
One International Place
Suite 3700
Boston, MA 02110
TEL: 617 456 8000
FAX: 617 456 8100

**ELIGIBLE FACILITIES REQUEST CERTIFICATION FOR NON-SUBSTANTIAL
CHANGES
TO AN EXISTING BASE STATION**

“Base Station” means the equipment and non-tower supporting structure at a fixed location that allow Commission-licensed or authorized wireless communications between user equipment and a communications network. The term base station includes any equipment associated with wireless communications services including but not limited to radio transceivers, antennas, coaxial or fiber-optic cables, regular or back up power supply, and comparable equipment. The term existing base station also includes a structure that currently houses or supports an antenna, transceiver or other associated equipment that constitutes part of a base station at the time the application is filed even if the structure was not built solely or primarily to provide such support. “Base Station” includes the relevant equipment in any technological configuration, including small cells and DAS. Remember “Base Station” has two separate meanings: (1) the supporting structure that houses FCC licensed or authorized wireless equipment and (2) the wireless equipment itself. Keep this distinction in mind when calculating a substantial change in physical dimensions.

“Transmission Equipment” means any equipment that facilitates transmission for any FCC 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.

“Collocation” means the addition, removal or replacement of Transmission Equipment to an existing tower or a base station. This means that the existing support structure, be it a tower or a building or some other structure, must presently support FCC licensed or authorized wireless facilities. The FCC further requires that the site (tower, building, or other structure) was previously approved by the appropriate agency of government to house wireless facilities. Illegal wireless installations cannot be the basis for an eligible facilities request. However, if a communications Tower was erected at a time when it was exempt from zoning, the Tower can be modified through the Eligible Facilities Request process even if the Tower is no longer exempt from zoning.

Site Address: 141 Portland Street, Cambridge, MA 02139

Existing Facilities

The Existing Facility is comprised of twelve (12) panel antennas mounted within faux flue pipes and mounted to the façade of the existing penthouse on the roof of the building, together with supporting equipment.

Height of Base Station

Height above ground level of the tallest point on the existing base station: 152'-6".

Height above ground level of the tallest point of the existing base station after the installation of the *proposed* equipment: 152'-6".

- 1) Does the height above ground level of the proposed equipment exceed the height of the tallest point on the existing base station by more than 10 percent (10%) or ten (10) feet, whichever is greater?

Yes No

Width of Base Station

- 2) Will any of the proposed equipment protrude from the edge of the support structure by more than six (6) feet?

Yes No

Excavation or Equipment Placement

- 3) Will the proposed changes in Transmission Equipment involve excavation or placement of new equipment outside the existing Base Station site or outside any access or utility easements currently related to the site?

Yes No

Equipment Cabinets

- 4) Will the proposed modification in Transmission Equipment involve installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four?

Yes No

Concealed or Stealth-Designed Wireless Facilities

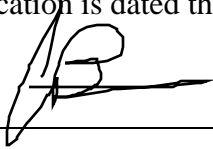
- 5)
- a) Is the existing wireless facility concealed or stealth- designed?
 Yes N
 - b) If the answer to 5a) is “Yes,” will the proposed modification in Transmission Equipment defeat the existing concealed or stealth-design?
 Yes No

Compliance with Preexisting Conditions of Approval for the Base Station

- 6)
- a) Were there any conditions of approval stated in the original government approval of the Base Station?
 Yes No
 - b) Will the proposed modification in Transmission Equipment comply with conditions of approval imposed on the Base Station prior to February 22, 2012?
 Yes No
 - c) If the answer to 6b) is “No,” is the non-compliance due solely to any of the conditions addressed in Questions 1-5 above?
 Yes No

If the answers to questions 1-4 are “No,” the answer to either 5a) or b) is “No,” and the answers to 6a) is “No” or the answers to either 6b) or 6c) are “Yes,” then the proposed modifications do not substantially change the physical dimensions of the existing Base Station.

This certification is dated this 12th day of April 2023.



Signature

Adam F. Braillard, Esq., Attorney for Applicant
Name & Title

Eligible Facilities Request (EFR) Application Form

Date of Submittal: _____

Submitted by:

Name: _____

Title: _____

Contact information: _____

Name of Jurisdiction: _____

Address of Jurisdiction: _____

Contact Name for Jurisdiction: _____

Name of Local Government Permit Application: _____

Local Government File #: _____

Street Address of Site: _____

Tax Parcel # of Site: _____

Latitude/Longitude of Site: _____

List Each Piece of Transmission Equipment that will be Collocated or Added:

List Each Piece of Transmission Equipment that will be Removed:

List Cabinets that will be Collocated or Added at the Site:

List Cabinets that will be Removed at the Site:

REFERENCE COPY

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

ATTN: FCC REGULATORY COMPLIANCE
T-MOBILE LICENSE LLC
12920 SE 38TH STREET
BELLEVUE, WA 98006

| | |
|--|----------------------------------|
| Call Sign WQIZ578 | File Number 0008577570 |
| Radio Service WY - 700 MHz Lower Band (Blocks A, B & E) | |

FCC Registration Number (FRN): 0001565449

| | | | |
|--|---|--------------------------------------|---------------------------------|
| Grant Date 05-30-2019 | Effective Date 05-30-2019 | Expiration Date 06-13-2029 | Print Date 05-31-2019 |
| Market Number BEA003 | Channel Block A | Sub-Market Designator 0 | |
| Market Name Boston-Worcester-Lawrence-Lowe | | | |
| 1st Build-out Date | 2nd Build-out Date 06-13-2019 | 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).

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.

Licensee Name: T-MOBILE LICENSE LLC

Call Sign: WQIZ578

File Number: 0008577570

Print Date: 05-31-2019

700 MHz Relicensed Area Information:

| Market | Market Name | Buildout Deadline | Buildout Notification | Status |
|---------------|--------------------|--------------------------|------------------------------|---------------|
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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

T-MOBILE LICENSE LLC
12920 SE 38TH STREET
BELLEVUE, WA 98006

| | |
|------------------------------------|-------------|
| Call Sign WQZL852 | File Number |
| Radio Service WT - 600 MHz Band | |

FCC Registration Number (FRN): 0001565449

| | | | |
|----------------------------------|----------------------------------|-------------------------------|--------------------|
| Grant Date 06-14-2017 | Effective Date 06-15-2017 | Expiration Date 06-14-2029 | Print Date |
| Market Number PEA007 | Channel Block B | Sub-Market Designator 0 | |
| Market Name Boston, MA | | | |
| 1st Build-out Date 06-14-2023 | 2nd Build-out Date 06-14-2029 | 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.

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Licensee Name: T-MOBILE LICENSE LLC

Call Sign: WQZL852

File Number:

Print Date:

700 MHz Relicensed Area Information:

| Market | Market Name | Buildout Deadline | Buildout Notification | Status |
|---------------|--------------------|--------------------------|------------------------------|---------------|
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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

T-MOBILE LICENSE LLC
12920 SE 38TH STREET
BELLEVUE, WA 98006

| | |
|---|--------------------|
| Call Sign WQZL853 | File Number |
| Radio Service WT - 600 MHz Band | |

FCC Registration Number (FRN): 0001565449

| | | | |
|---|---|--------------------------------------|---------------------------|
| Grant Date 06-14-2017 | Effective Date 06-15-2017 | Expiration Date 06-14-2029 | Print Date |
| Market Number PEA007 | Channel Block C | Sub-Market Designator 0 | |
| Market Name Boston, MA | | | |
| 1st Build-out Date 06-14-2023 | 2nd Build-out Date 06-14-2029 | 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.

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Licensee Name: T-MOBILE LICENSE LLC

Call Sign: WQZL853

File Number:

Print Date:

700 MHz Relicensed Area Information:

| Market | Market Name | Buildout Deadline | Buildout Notification | Status |
|---------------|--------------------|--------------------------|------------------------------|---------------|
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

ATTN: FCC REGULATORY COMPLIANCE
T-MOBILE LICENSE LLC
12920 SE 38TH ST.
BELLEVUE, WA 98006

| | |
|--|----------------------------------|
| Call Sign WRAM889 | File Number 0008585885 |
| Radio Service CW - PCS Broadband | |

FCC Registration Number (FRN): 0001565449

| | | | |
|-----------------------------------|-------------------------------------|--------------------------------------|---------------------------------|
| Grant Date 05-30-2019 | Effective Date 05-30-2019 | Expiration Date 06-30-2029 | Print Date 05-31-2019 |
| Market Number BTA201 | Channel Block C | Sub-Market Designator 4 | |
| Market Name Hyannis, MA | | | |
| 1st Build-out Date | 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.

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Licensee Name: T-MOBILE LICENSE LLC

Call Sign: WRAM889

File Number: 0008585885

Print Date: 05-31-2019

Spectrum Lease associated with this license. See Spectrum Leasing Arrangement Letter dated 07/27/2004 and File No. 0001765259.

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Licensee Name: T-MOBILE LICENSE LLC

Call Sign: WRAM889

File Number: 0008585885

Print Date: 05-31-2019

700 MHz Relicensed Area Information:

| Market | Market Name | Buildout Deadline | Buildout Notification | Status |
|---------------|--------------------|--------------------------|------------------------------|---------------|
|---------------|--------------------|--------------------------|------------------------------|---------------|

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

ATTN: FCC REGULATORY COMPLIANCE
T-MOBILE LICENSE LLC
12920 S.E. 38TH STREET
BELLEVUE, WA 98006

| | |
|--|----------------------------------|
| Call Sign KNLH311 | File Number 0007725350 |
| Radio Service CW - PCS Broadband | |

FCC Registration Number (FRN): 0001565449

| | | | |
|---|-------------------------------------|--------------------------------------|---------------------------------|
| Grant Date 06-08-2017 | Effective Date 06-08-2017 | Expiration Date 06-27-2027 | Print Date 06-09-2017 |
| Market Number BTA201 | Channel Block D | Sub-Market Designator 0 | |
| Market Name Hyannis, 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.

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Licensee Name: T-MOBILE LICENSE LLC

Call Sign: KNLH311

File Number: 0007725350

Print Date: 06-09-2017

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.

T-MOBILE LICENSE LLC

Licensee Name: T-MOBILE LICENSE LLC

Call Sign: KNLH311

File Number: 0007725350

Print Date: 06-09-2017

700 MHz Relicensed Area Information:

| Market | Market Name | Buildout Deadline | Buildout Notification | Status |
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

ATTN: FCC REGULATORY COMPLIANCE
T-MOBILE LICENSE LLC
12920 SE 38TH ST.
BELLEVUE, WA 98006

| | |
|--|----------------------------------|
| Call Sign WPOJ753 | File Number 0008585870 |
| Radio Service CW - PCS Broadband | |

FCC Registration Number (FRN): 0001565449

| | | | |
|--|-------------------------------------|--------------------------------------|---------------------------------|
| Grant Date 05-30-2019 | Effective Date 05-30-2019 | Expiration Date 06-30-2029 | Print Date 05-31-2019 |
| Market Number BTA229 | Channel Block C | Sub-Market Designator 3 | |
| Market Name Kingsport-Johnston City, TN-Br | | | |
| 1st Build-out Date 06-30-2004 | 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.

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Licensee Name: T-MOBILE LICENSE LLC

Call Sign: WPOJ753

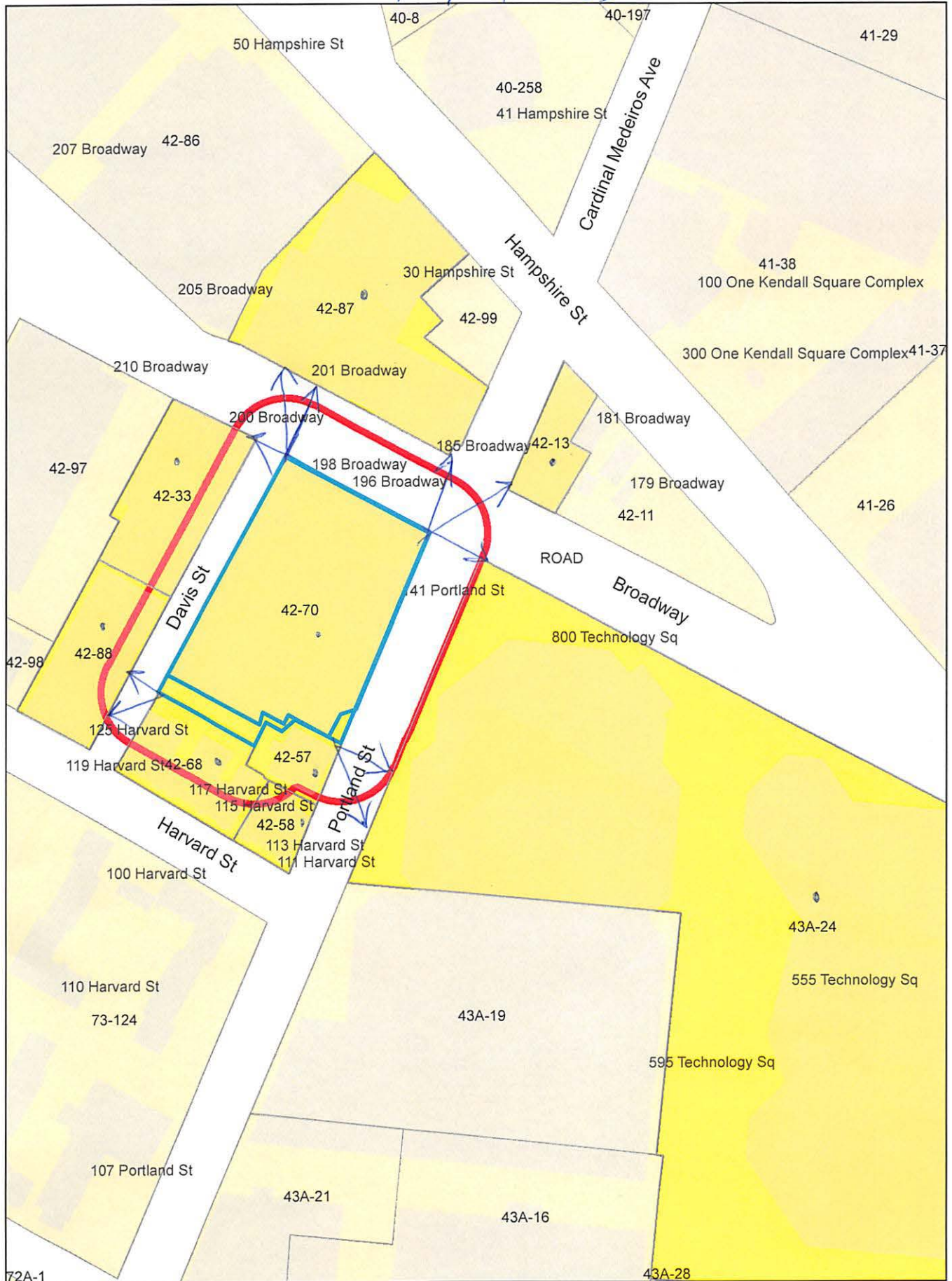
File Number: 0008585870

Print Date: 05-31-2019

700 MHz Relicensed Area Information:

| Market | Market Name | Buildout Deadline | Buildout Notification | Status |
|---------------|--------------------|--------------------------|------------------------------|---------------|
|---------------|--------------------|--------------------------|------------------------------|---------------|

141 Portland St.



141 Portland St.

Petitioner

42-13
CAMBRIDGE ELECTRIC LIGHT CO.
NSTAR ELECTRIC CO.
P.O. BOX 270
HARTFORD, CT 06141-0270

42-57
GEBRETSADIK, TEZERA T & SEBLE H. KIDANE
125 PORTLAND ST #1
CAMBRIDGE, MA 02139

PRINCE LOBEL TYE LLP
C/O ADAM F. BRAILLARD, ESQ.
ONE INTERNATIONAL PLACE – SUITE 3700
BOSTON, MA 02110

42-57
LEE, HAN KYU
125 PORTLAND ST., #7
CAMBRIDGE, MA 02140

42-58-68
MARTINS, ALFRED & ALICE MARTINS,
TRS. OF THE MARTINS HARVARD REALTY TRUST
166 HIGHLAND AVE
SOMERVILLE, MA 02143-1506

42-70
U.S.T. FINANCIAL PLANNING CO., INC.
C/O INTERCONTINENTAL MANAGEMENT CORP.
1270 SOLDIERS FIELD ROAD
BRIGHTON, MA 02135

42-57
BASTOS, GERADO
125 PORTLAND ST.
CAMBRIDGE, MA 02139

42-57
VOGEL, FRANK E.
125 PORTLAND ST., #2
CAMBRIDGE, MA 02139

42-87
BROADWAY/HAMPSHIRE ASSOCIATES
LIMITED PARTNERSHIP
ONE APPLETON ST.
BOSTON, MA 02116

42-33
200 BROADWAY, LLC,
ATTN: CHRISTOPHER CASSEL
200 BROADWAY
CAMBRIDGE, MA 02139

42-57
MONTOYA, AMANDA MARLENE
125 PORTLAND ST., #4
CAMBRIDGE, MA 02139

42-57
AZARIAH, D'VORAH
125 PORTLAND ST #5
CAMBRIDGE, MA 02139

42-57
KOCHANOWSKI, EDWARD J. &
MARGERY WILSON
125 PORTLAND ST
CAMBRIDGE, MA 02139

43A-24
CHARLES STARK DRAPER LABORATORY, INC.
ATTN: ELIZABETH MORA - MS #05
555 TECHNOLOGY SQUARE
CAMBRIDGE, MA 02139

42-88
JAS HOMEOWNERSHIP LLC
C/O JUST A START CORPORATION
1035 CAMBRIDGE ST., #12
CAMBRIDGE, MA 02141

42-88
KAFLE RUKMANI &
RAMJI BASNET BASNET RABI ET AL
125 HARVARD ST - UNIT 302
CAMBRIDGE, MA 02139

42-88
GREEN, JANICE B.
125 HARVARD ST. UNIT#406
CAMBRIDGE, MA 02139

42-88
HENRIQUEZ, REYNA E.
678 MASSACHUSETTS AVE
CAMBRIDGE, MA 02139

42-88
DAS, SUBRATA & JOYSRI DAS
125 HARVARD ST UNIT #204
CAMBRIDGE, MA 02139

42-88
JAHAN, NASIM
125 HARVARD ST., #201
CAMBRIDGE, MA 02139

42-88
LIU, HAoyang & SIAN V. LIU
125 HARVARD ST. UNIT#307
CAMBRIDGE, MA 02139

42-88
DIETRICH, KERRY
125 HARVARD ST., #408
CAMBRIDGE, MA 02139

42-88
PENAGOS-VARGAS, HECTOR L. &
MARIS I. ESQUITIN-CISNEROS
125 HARVARD ST UNIT #305
CAMBRIDGE, MA 02139

42-88
CRUZ, MARGARITA
125 HARVARD ST., #304
CAMBRIDGE, MA 02139

42-88
TRAHANT, REMY
125 HARVARD ST. UNIT#205
CAMBRIDGE, MA 02139

42-88
DENG, CHAO LI & GUAN YU CHEN
125 HARVARD ST., #404
CAMBRIDGE, MA 02139

42-88
LAVINE, REBECCA
125 HARVARD ST., #401
CAMBRIDGE, MA 02139

42-88
WORON, STEPHANIE
125 HARVARD ST. UNIT#306
CAMBRIDGE, MA 02139

42-88
KHALIFA, IMTIYAZ
125 HARVARD ST UNIT #303
CAMBRIDGE, MA 02139

42-88
BERNARD, ROSE M.
125 HARVARD ST. UNIT#301
CAMBRIDGE, MA 02139

141 Portland St.

42-88
ALI, AMINAT H.
125 HARVARD ST. UNIT#207
CAMBRIDGE, MA 02139

42-88
CRYSTOFF, JEFFREY M.
125 HARVARD ST #206
CAMBRIDGE, MA 02139

42-88
YENESEW, ENDESHAW W. &
HASABE A. MEKONEN
125 HARVARD ST. UNIT#202
CAMBRIDGE, MA 02139

42-88
WILLIAMS, NINA M.
125 HARVARD ST UNIT #203
CAMBRIDGE, MA 02139

42-57
MURPHY OKSANA PETROVNA
125 PORTLAND ST #6
CAMBRIDGE, MA 02139