

BZA APPLICATION FORM

Plan No: BZA-010037-2016

GENERAL INFORMATION

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

Special Permit : √ Variance : _____ Appeal : _____

PETITIONER: New Cingular Wireless PCS LLC d/b/a AT&T Mobility- C/O Timothy Greene

PETITIONER'S ADDRESS : 157 Riverside Drive Norwell, MA 02061

LOCATION OF PROPERTY : 1336-1362 Massachusetts Ave Cambridge, MA

TYPE OF OCCUPANCY : ZONING DISTRICT : Business B Zone

REASON FOR PETITION :

Other: Telecommunications

DESCRIPTION OF PETITIONER'S PROPOSAL :

This application is a Eligible Facilities request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. 1455; or in the alternative, for a special permit under the zoning ordinance as cited above, if and to the extent necessary, all rights reserved

AT&T will be replacing 3 antennas currently installed on site. AT&T will also be adding and upgrading telecommunications equipment as part of nationwide network upgrades

SECTIONS OF ZONING ORDINANCE CITED :


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 and Job Creation Act

Original Signature(s) :


(Petitioner(s) / Owner)

Timothy W. Greene
(Print Name)

Address :

157 Riverside Drive
Norwell, MA 02061

Tel. No. :

417-977-2950

E-Mail Address :

tygreve@terrasearchllc.com

Date : _____

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 President and Fellows of Harvard College
(OWNER)

Address: 1350 Massachusetts Ave. Cambridge, MA

State that I/We own the property located at 1350 Massachusetts Ave., which is the subject of this zoning application.

The record title of this property is in the name of President and Fellows of Harvard College

*Pursuant to a deed of duly recorded in the date 12/22/04, Middlesex South County Registry of Deeds at Book 44353, Page 481; or Middlesex Registry District of Land Court, Certificate No. _____

Book _____ Page _____

Carole Hill
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 CAROLE HILL personally appeared before me, this 14 of DEC, 2015, and made oath that the above statement is true.

Alexandra Recinos Notary

My commission expires 2/10/17 (Notary Seal).

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





April 25, 2016

Donna P. Lopez, City Clerk City of Cambridge City Hall 795 Massachusetts Avenue Cambridge, MA 02139	Constantine Alexander, Chair Board of Zoning Appeal City Hall 795 Massachusetts Avenue Cambridge, MA 02139
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Applicant: New Cingular Wireless PCS, LLC ("AT&T")
Property Address: 1336-1362 Massachusetts Ave.
Assessor's Map 160, Lot 14E (the "Property")
Re: Application for:
(i) Eligible Facilities Request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. § 1455; or, in the alternative,
(ii) Special Permit under Cambridge Zoning Ordinance Section 4.32(g)(1) and M.G.L. c. 40A, Section 9; and
(iii) Any other zoning relief required.
(All relief if and to the extent necessary, all rights reserved)

Dear Ms. Lopez, Mr. Alexander and Members of the Board of Zoning Appeal:

Pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (a/k/a the "Spectrum Act" or "Section 6409"), 47 U.S.C. § 1455, as further implemented by the Federal Communications Commission's Report and Order *In re Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, FCC Docket No. 13-238, Report and Order No. 14-153 (October 17, 2014) (the "FCC Order"), New Cingular Wireless PCS, LLC ("AT&T") hereby submits this Eligible Facilities Request ("Request"); and, in the alternative, applies for a special permit from the City of Cambridge Board of Zoning Appeal (the "Board") under Section 432(g)(1) of the Cambridge Zoning Ordinance (the "Ordinance") to modify its existing "Telephone Exchange including Transmission Facilities to serve a Mobile Communication System" (the "Facility") on and within the existing building located at 1336-1362 Massachusetts Ave.. (the "Special Permit Application").²

Under Section 6409, AT&T's proposed modification of its existing transmission equipment on and within the existing building, previously approved by the Board for use as a wireless communication

² AT&T submits this Request, Special Permit application and supporting materials subject to a full and complete reservation of AT&T's rights under the Spectrum Act and the FCC Order including without limitation its rights with respect to (i) any submittal requirements or approval criteria that are inconsistent with the prohibitions established by the FCC Order, (ii) any delay beyond the deadlines established in the FCC Order, (iii) the imposition of conditions on any approval that are inconsistent with the FCC Order, and (iv) referral or requirement to a discretionary review process such as a special permit.

base station, does “not substantially change the physical dimensions” of the existing building. Therefore, AT&T’s Request must be approved administratively, including the issuance of a building permit, to enable AT&T to make the proposed modifications to its transmission equipment.

In the alternative, as demonstrated in this application letter, the AT&T’s proposed modifications to its existing Facility on the Property located in the Business B zoning district satisfy the requirements for the grant of a special permit pursuant to Section 10.43 of the Ordinance.

I. APPLICATION PACKAGE

Enclosed with this application is a check payable to the City of Cambridge in the amount of \$500.00. In addition to the signed original of this letter are copies of the letter and the following materials:

1. The following completed and signed application forms:
 - a. BZA Application Form – General Information;
 - b. BZA Application Form – Ownership Information;
 - c. BZA Application Form – Dimensional Requirements;
 - d. BZA Application Form – Supporting Statement for a Special Permit; and
 - e. BZA Application Form – Check List;
2. AT&T’s relevant FCC License information;
3. Drawings by Hudson Design Group consisting of 8 pages dated 4/5/16;
4. Manufacturer’s specification sheets for AT&T’s proposed antennas and other featured equipment;
5. Photographs of the existing building and photosimulations of the proposed modifications Facility by Hudson Design Group., dated 4/4/16;
6. Radio Frequency Coverage Report, demonstrating the public need for the proposed modifications to the Facility, radio frequency coverage maps showing (a) existing or predicted coverage from neighboring facilities; and (b) coverage with the proposed Facility;
7. Structural Analysis by Hudson Design Group LLC dated April 4, 2016;
8. Maximum Permissible Exposure Study, Theoretical Report, by SAI Communications, dated December 7, 2015;
9. Letter of Authorization from Owner of Subject Property;
10. Deed to subject property; and
11. Attorney General’s letters to the Towns of Mount Washington, Lynnfield and Montague.

In addition to the supporting materials identified above, submitted simultaneously herewith is a completed building permit application package including:

1. Completed Building Permit Application;
2. Certificate of Liability Insurance;
3. Worker's Compensation Insurance Affidavit;
4. Construction Supervisor License for Keith F Barnard; and
5. 1 copy of the Plans.

II. PROPOSED FACILITY DESIGN

AT&T seeks to modify the existing Facility on the existing building and within the equipment shelter located on the roof of the building at the Property. The existing Facility consists of nine (9) panel antennas (Alpha Sector: 3 antennas, Beta Sector: 3 antennas, and Gamma Sector: 3 antennas) that are mounted in three (3) locations. The proposed modifications include the replacement one (1) antenna per sector. The replacement antennas will be mounted to the existing antenna mounts consistent with the current Facility's design. Six (6) remote radio-head units (RRUs) (two per sector) and three (3) surge arrestors (one per sector) will be added in close proximity to the antennas. Consistent with the concealment elements of the existing Facility's design, the proposed replacement antennas, any visible RRUs and surge arrestors will be painted to match the color and texture of the existing façade.

The Facility's design is shown in detail in the Zoning Drawings attached as Exhibit 3 to this application letter and featured equipment is described in the manufacturers' specification sheets attached as Exhibit 4. The photographs and photosimulations (Exhibit 5) show the existing Facility from various locations in the neighborhood around the Property and as simulated with proposed modifications. A structural analysis for the Facility demonstrates that the building is capable of supporting AT&T's proposed equipment at or near the locations shown on the Zoning Drawings (*see* Exhibit 7).

The Facility will continue to bring advanced wireless voice, text and data communications services to the surrounding areas. It will allow residents, professionals, government, businesses and students to communicate locally, nationally and internationally from virtually any location within the coverage area. In the event of an emergency, the improved Facility will allow immediate contact with fire, rescue and other emergency personnel. The improved Facility will thus enhance public health, safety and welfare both in ordinary daily living and in the event of fire, accident, medical emergency, natural disaster or other dangers.

III. BACKGROUND

AT&T is licensed by the Federal Communications Commission to construct and operate a wireless telecommunications network in various markets throughout the country, including the

Commonwealth of Massachusetts and the City of Cambridge. A copy of the AT&T's FCC license that covers the area of the proposed Facility is included with this application (*see* Exhibit 2). AT&T is in the process of designing and constructing additional wireless facilities to its existing telecommunications system to serve Massachusetts. One of the key design objectives of its systems is to provide adequate and reliable 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 extent of use of AT&T's wireless services within the network, and the existing topography and obstructions. 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. In urban settings, this dynamic requires the antennas to be located on buildings at heights and in locations where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

IV. RF COVERAGE DETERMINATION

AT&T has performed a study of radio frequency coverage for the City of Cambridge and from the Property, the results of which are described in the Radio Frequency Report submitted with this application (*see* Exhibit 6). Without the proposed modifications to its existing Facility, AT&T has a substantial coverage gap in this area of Cambridge including without limitation along portions of Massachusetts Avenue, Mount Auburn Street, Broadway, Kirkland Street, and Cambridge Street. AT&T has determined that the proposed modifications to the existing Facility located on the building at the Property will provide needed coverage to the targeted sections of the City and the immediately surrounding area if AT&T's antennas are located at the height and in the configuration requested. The importance of a facility at this location is underscored by AT&T's interest in enhancing its ability to provide its most up-to-date wireless technology, known as long-term evolution technology ("LTE"), in this area to satisfy its customers' ever-increasing needs for high-speed data services. Radio frequency coverage maps included in the report are provided to pictorially and vividly show the differences in existing and proposed wireless coverage at the various bands authorized for AT&T's service. The maps show dramatic improvements to wireless coverage at all three (3) bands with the inclusion of the proposed Facility, namely, at 700, 1900, and 2100 MHz.

V. THE FEDERAL SPECTRUM ACT AND THE FCC ORDER

As set forth below, the proposed modifications constitute an Eligible Facilities Request pursuant to the federal Spectrum Act,³ as further implemented by the FCC Order.⁴

³ Pursuant to Section 6409(a)(2) an "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves—

- (A) collocation of new transmission equipment;
- (B) removal of transmission equipment; or
- (C) replacement of transmission equipment.

47 U.S.C. § 1455(a)(2).

⁴ The Order was effective on February 9, 2015, except for § 1.40001, which became effective on April 8, 2015, except for §§ 1.40001(c)(3)(i), 1.40001(c)(3)(iii), 1.140001(c)(4), and 17.4(c)(1)(vii), which became effective on May 18, 2015, after approval by the Office of Management and Budget. The FCC Order makes clear that under the Spectrum Act discretionary review is not required or permitted for an Eligible Facilities Request.

Under the Spectrum Act, as further clarified by the FCC Order, the streamlined process for this Eligible Facilities Request is limited to non-discretionary review. Specifically, the FCC Order “adopt[s] an objective standard for determining when a proposed modification will ‘substantially change the physical dimensions’ of an existing tower or base station.” *FCC Order*, ¶ 87. As stated in the FCC Order, Section 6409 “states without equivocation that the reviewing authority ‘may not deny, and shall approve’ any qualifying application. This directive leaves no room for a lengthy and discretionary approach to reviewing an application that meets the statutory criteria.” *FCC Order*, ¶ 116.

In issuing the FCC Order and eliminating discretionary review for eligible facilities requests, the FCC’s goal was to “adopt a test that is defined by specific, objective factors rather than the contextual and entirely subjective standard advocated by the IAC and municipalities.” The FCC intentionally sought to reduce “flexibility” and “open ended context-specific approach” engendered by the discretionary review process:

While we acknowledge that the IAC approach would provide municipalities with maximum flexibility to consider potential effects, we are concerned that it would invite lengthy review processes that conflict with Congress’s intent. Indeed, some municipal commenters anticipate their review of covered requests under a subjective, case-by-case approach could take even longer than their review of collocations absent Section 6409(a). We also anticipate that disputes arising from a subjective approach would tend to require longer and more costly litigation to resolve given the more fact-intensive nature of the IAC’s open-ended and context-specific approach. We find that an objective definition, by contrast, will provide an appropriate balance between municipal flexibility and the rapid deployment of covered facilities. We find further support for this approach in State statutes that have implemented Section 6409(a), all of which establish objective standards.

FCC Order, ¶ 88.

As a result, the FCC Order implementing Section 6409 establishes clear and objective criteria for determining eligibility, limits the types of information that a municipality may require when processing an application for an eligible facilities request, and imposes a “deemed granted” remedy for failure to timely process and eligible facilities request.⁵ The FCC Order also establishes significant limits on the information that can be required to be provided with an eligible facilities request and limits it to only that information “reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation”. 47 CFR 1.40001(c)(1).

Both before and after the FCC Order was issued, the Massachusetts Attorney General’s Office provided clear guidance that an eligible request cannot be subjected to a discretionary special permit process. *See* Attorney General’s letters to (i) Town of Mount Washington, dated June 12,

⁵ *See* 47 CFR §§1.40001(c)(1) - (c)(4).

2014, p. 3 (ii) Town of Lynnfield, dated February 10, 2015, p. 3 (the “AG Lynnfield Letter”) and (iii) Town of Montague, dated February 23, 2015, p. 2 (all attached hereto). As set forth in each letter [t]he Act’s requirement that a local government ‘may not deny, and shall approve, any eligible facilities request’ means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. ***Such qualifying requests also cannot be subject to a discretionary special permit.***”(Emphasis added). In providing these opinions, the Attorney General’s Office specifically opined that provisions in zoning ordinances that specifically required a special permit for modifications to existing facilities could not be applied to eligible facilities requests. While approving the Town of Lynnfield’s Zoning Bylaw, the Attorney General stated that “Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act.” *AG Lynnfield Letter*, p. 3.

Therefore, as set forth in the FCC Order and Attorney General’s opinion letters, the City cannot impose a requirement that AT&T obtain a special permit, or an amendment to an existing special permit utilizing the same discretionary review process, in connection with its eligible facilities request. To the extent that the City of Cambridge’s Zoning Ordinance and any prior decisions by the Board include provisions seeking to further regulate the modification of wireless communication facilities, federal law overrules those requirements. See Sprint Spectrum L.P. v. Town of Swansea, 574 F.Supp.2d 227, 236 (2008) (Board is obligated to consider whether its actions would violate federal law even if a different outcome would be permitted under state law). The standard of review for an application to modify an existing wireless communication facility on an existing tower or base station is governed by the Spectrum Act and the FCC Order which require eligible facilities requests to be permitted “by right.”

In addition, the FCC Order establishes a 60-day period for approval from the time of AT&T’s submission. 47 CFR §1.40001(c)(2). Within the context of the Spectrum Act and FCC Order, approval means all necessary approvals to permit the proposed modifications, including the issuance of a building permit, if required. The FCC found that this 60-day period is appropriate due to “the more restricted scope of review applicable to applications under section 6409(a).” *FCC Order*, ¶ 108. If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4).

As set forth below, the proposed modifications constitute an eligible facilities request. Therefore, AT&T respectfully requests the Board to find that Section 4.32(g)(1) of the Ordinance does not apply to its Request.

VI. THE PROPOSED MODIFICATIONS ARE AN ELIGIBLE FACILITIES REQUEST

Under Section 6409 and the FCC Order, a “base station” means “[a] structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network.” 47 C.F.R §1.40001(b)(1). A Base Station includes “any structure other than a tower” that supports or houses “authorized wireless communications between user equipment and a communications network.” 47 C.F.R §1.40001(b)(1). Therefore, the existing building that is currently used for FCC-licensed transmissions for personal wireless services is a “base station” for purposes of Section 6409.

AT&T proposes to modify its existing Facility as described above and depicted on the Plans submitted herewith.

The proposed modifications will not require the installation of any part of the facility on the ground outside of the building.

As a result, AT&T’s proposed modifications involving the removal and replacement of the existing transmission equipment constitute an “eligible facilities request” under Section 6409. The proposed eligible facilities request is not a “substantial modification” under Section 6409 and the FCC Order because it does not:

- (i) Result in an increase in “the height of the structure by more than 10% or more than ten feet, whichever is greater” because the proposed replacement antennas will be façade mounted and located below the roofline and therefore will not exceed 10 feet above the existing building;
- (ii) Protrude from the edge of the edge of the building by more than six feet because AT&T’s proposed antennas will not protrude more than six feet from building façade;
- (iii) Involve the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets no new radio communications equipment cabinets will be installed;
- (iv) Require any excavation or deployment outside the current site of the tower or base station because all antennas, equipment cabinets and related equipment will be installed entirely on and within the existing building; or
- (v) Otherwise defeat the existing concealment elements of the tower or base station because the proposed replacement antennas will be painted and textured to match the façade of the existing building on which the existing and proposed antennas will be located and will continue to integrate the Facility into the existing architecture of the building. Further, the proposed RRUs and surge arrestors will be mounted out of view or painted to match the existing façade. Therefore, AT&T’s proposed Facility will remain aesthetically consistent with the exterior finish of the building as well as maintain the concealment elements of the original design.

See FCC Order, §1.40001(b)(7)(i)-(v).

VII. COMPLIANCE WITH THE CAMBRIDGE ZONING ORDINANCE

In the alternative, AT&T respectfully requests the Board to grant a special permit for the proposed modifications to the existing Facility.⁶

A. **AT&T complies with the Wireless Communications provisions set forth in Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance.**

AT&T's proposed modifications comply with Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance as follows:⁷

Section 4.32(g)(1): Section 4.32(g)(1) of the Ordinance allows for the use of a “[t]elephone exchange (including switching, relay, and transmission facilities serving mobile communications systems) and any towers or antennas accessory thereto.” Under the Table of Use Regulations beginning at Section 4.30, AT&T's proposed use of the Facility as a transmission facility serving a mobile communications system is permitted by special permit in the Business B zoning district (see the table at Section 4.32(g)(1)).

Section 4.40, Footnote 49: Section 4.32(g)(1) includes a reference to Section 4.40, Footnote 49 which sets out the standards for granting the special permit. AT&T's proposed Facility complies with Footnote 49's standards as noted below:

1. **The Board of Zoning Appeal shall consider “[t]he scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.”**

AT&T's Response: AT&T's FCC license is included with this application and the license information included shows that AT&T is authorized to provide wireless service in the area served by the Facility (see Exhibit 2).

2. **The Board of Zoning Appeal shall consider “[t]he 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 materials to which the facilities are attached, or (3) other effective means to reduce the visual impact of the facility on the site.”**

⁶ AT&T's request is made, if and to the extent necessary, all rights reserved. As discussed above, the FCC Order establishes a 60-day period for receipt of all necessary approvals from the time of AT&T's submission, including a building permit, if required. 47 CFR §1.40001(c)(2). If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4). Therefore, AT&T expressly reserves its rights under 47 CFR §1.40001(c)(2) and (4).

⁷ To the extent that Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance purport to require the submission of information that is beyond the scope permitted by the FCC Order or Spectrum Act, AT&T expressly reserves, and does not waive, its right to assert that such information is not required under the Spectrum Act and the submission of such information shall not constitute a waiver of AT&T's rights pursuant thereto.

AT&T's Response: The design of the overall Facility, including the choice and placement of replacement antennas and associated equipment, on the building's façade, minimizes the visual impact of the proposed Facility. This is because the antennas and equipment on the exterior façade surfaces will be painted to match the color and texture of the building so as to be minimally visible and consistent with the concealment elements of the existing Facility. The minimal visual impact of the Facility is shown in the photographs of the existing Facility and the photosimulations that superimpose the proposed modifications to the existing Facility (*see*, Exhibit 5).

3. **The Board of Zoning Appeal shall consider "[w]here 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 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.**

In granting a special permit the Board of Zoning Appeal shall set forth in its decision under which circumstances or procedures, if any, the permittee shall be allowed to replace and upgrade its equipment without the necessity of seeking a new special permit."

AT&T's Response: As demonstrated by the Radio Frequency Report and the associated coverage maps, AT&T has demonstrated an immediate and compelling need for the proposed modifications to its existing Facility located at the Property in order to provide substantially improved indoor coverage to residents, businesses, students and faculty, and the general public in that area.⁸ AT&T also seeks to substantially improve its ability to satisfy the ever-increasing need of its customers for data accessibility, navigation and use. This is especially critical in and around the area of Massachusetts Ave which also serves as home for numerous businesses, Harvard Square, and existing residential development. AT&T proposes to satisfy its RF coverage needs in the area by adding to the existing Facility the antennas and equipment necessary to provide the latest LTE wireless communications service technology. By modifying its existing Facility, AT&T obviates the need to construct an entirely new facility within this area of Cambridge in order to meet its wireless network coverage needs.

As provided in Footnote 49, AT&T requests that once permission is received from the City to site the Facility at the Property, the Board permit AT&T to replace and upgrade the equipment at this Facility in the future without further zoning proceedings or a new special permit, provided that such equipment shall meet the eligible facilities request criteria set forth in 47 CFR § 1.40001.

⁸ AT&T must generate a signal strength of at least -74 dBm to provide serviceable voice and data coverage on its mobile wireless devices in indoor environments. AT&T also seeks to substantially improve its data navigation service coverage in the area by including antennas and equipment that will provide LTE service.

B. AT&T complies with the Special Permit Criteria set forth in Section 10.43 of the Ordinance.

Section 10.43 of the Ordinance specifies the following criteria for issuance of a special permit: “Special permits will normally be granted where specific provisions of this Ordinance are met, except when particulars of the location or use, not generally true of the district or of the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:

(a) The requirements of this Ordinance cannot or will not be met, or

AT&T's Response: As provided above, AT&T's proposed modifications comply with the requirements set forth in Section 4.32(g), Footnote 49 of the Ordinance, the Spectrum Act and the eligible facilities request criteria set forth in 47 CFR § 1.40001. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

(b) Traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character for the following reasons, or

AT&T's Response: The proposed modifications to AT&T's existing Facility will not result in any change to the existing traffic on or near the Property. The Facility will continue to be unmanned and only require infrequent visits by a technician (typically two times per month for routine diagnostics and/or maintenance, except in cases of emergency), there will be no material increase in traffic or disruption to patterns of access or egress that will cause congestion, hazards or a substantial change in the established neighborhood character. AT&T's maintenance personnel will make use of the existing access roads and parking at the building. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: As described above and illustrated on the attached photographs and photosimulations (*see* Exhibit 5) the proposed modifications to the existing Facility will result in a *de minimis* change in the appearance of the building because the equipment will be located on building exterior surfaces. As a result, the Facility as a whole either will be hidden from view or will visually blend with existing characteristics of the building and the surrounding neighborhood. Because the proposed installation will not generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, it will not adversely affect residential uses on neighboring streets. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communications services. Granting the special permit

would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: Because the proposed modifications to the existing Facility will not cause the Facility to generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, no nuisance or hazard will be created to the detriment of the health, safety, or welfare of the occupants of the building or the residents of the City of Cambridge. To the contrary, the proposed Facility 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 that 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 Facility, as modified, will continue to comply with all federal, state and local safety requirements including the standards established by the FCC and Federal Aviation Administration (FAA). (See Exhibit 8 Maximum Permissible Exposure Study, Theoretical Report). Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

- (e) For other reasons, the proposed installation would impair the integrity of the district or adjoining district or otherwise derogate from the intent or purpose of this Ordinance, or**

AT&T's Response: The purpose of the Ordinance is multifaceted, the relevant aspects of which relating to wireless telecommunications facilities include the lessening of congestion in the streets, conserving health, securing safety from fire, flood, panic and other danger, conserving the value of land and buildings and natural resources, preventing blight and pollution, encouraging the most rational use of land throughout the city, including encouraging appropriate economic development, and protecting residential neighborhoods from incompatible activities.

As noted above, the proposed modifications to the existing Facility directly accord with the purposes of the Ordinance because the modifications will not result in any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater. As the Facility will improve the ability of residents, businesses, travelers and drivers in the area to access state-of-the-art wireless technology, the City's ability to provide emergency services will be improved, as will the economic development of the City as more people will be able to conduct commerce by virtue of a mobile platform. Because the proposed modifications to the existing Facility will be installed on an existing building that includes the Facility, and the proposed modifications are consistent with the existing concealment elements, the proposed modifications to the existing Facility are in consistent with the building's character and will not affect the value of the building or the natural resources of the City. Because the proposed modifications to the existing Facility are designed to be consistent with the existing concealment elements of the Facility and characteristics of the

Property, the visual impact on the underlying and adjacent zoning districts will be *de minimis*. As a result, the proposed modifications to the existing Facility are consistent with the Ordinance's purpose to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space) including the applicable overlay districts, and the underlying Business B district. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: As stated in the Section 19.30, the Citywide Urban Design Objectives ("Objectives") "are intended to provide guidance to property owners and the general public as to the city's policies with regard to the form and character desirable for new development in the city. It is understood that application of these principles can vary with the context of specific building proposals in ways that, nevertheless, fully respect the policies' intent. It is intended that proponents of projects, and city staff, the Planning Board and the general public, where public review or approval is required, should be open to creative variations from the detailed provisions presented in this Section as long as the core values expressed are being served. *A project need not meet all the objectives of this Section 19.30 where this Section serves as the basis for issuance of a special permit. Rather the permit granting authority shall find that on balance the objectives of the city are being served.* Nor shall a project subject to special permit review be required to conform to the Required Building and Site Plan Requirements set forth in Section 11.50." [emphasis added]. For the reasons stated in AT&T's response to this Section 10.43(f) of the Zoning Ordinance and in its application generally, "on balance, the objectives of the city are being served" by the installation of the Facility at the Property so that granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

The following are the Objectives' headings as appearing in the Ordinance:

19.31: New projects should be responsive to the existing or anticipated pattern of development.

AT&T's Response: The existing Facility is located on and within the existing building and equipment shelter, some of the equipment of which is hidden from view or otherwise obstructed from view, and the remaining equipment blends with the structures and colors of the building. The proposed modifications to the existing Facility are consistent with the previously approved design and concealment elements of the existing Facility. Therefore, the proposed modifications are responsive to the existing pattern of development in the Property's applicable zoning and overlay districts.

19.32: Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.

AT&T's Response: The existing Facility is located on and within the existing building and equipment shelter. The Facility is only accessed by authorized AT&T personnel for routine maintenance one to two times per month and is not accessed by the general public. The proposed

modifications to the existing Facility will not result in any increase in routine visits nor otherwise result in a change in traffic patterns in the vicinity of the Property that would affect pedestrian flow or cyclists' access to the building or surrounding areas within the Property's applicable zoning districts.

19.33 The building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include⁹

(1) Mechanical equipment that is carefully designed, well organized or visually screened from its surroundings and is acoustically buffered from neighbors. Consideration is given to the size, complexity and appearance of the equipment, its proximity to residential areas, and its impact on the existing streetscape and skyline. The extent to which screening can bring order, lessen negative visual impacts, and enhance the overall appearance of the equipment should be taken into account. More specifically:

(a) Reasonable attempts have been made to avoid exposing rooftop mechanical equipment to public view from city streets. Among the techniques that might be considered are the inclusion of screens or a parapet around the roof of the building to shield low ducts and other equipment on the roof from view.

(b) Treatment of the mechanical equipment (including design and massing of screening devices as well as exposed mechanical elements) that relates well to the overall design, massing, scale and character of the building.

(c) Placement of mechanical equipment at locations on the site other than on the rooftop (such as in the basement), which reduces the bulk of elements located on the roof; however, at-grade locations external to the building should not be viewed as desirable alternatives.

(d) Tall elements, such as chimneys and air exhaust stacks, which are typically carried above screening devices for functioning reasons, are carefully designed as features of the building, thus creating interest on the skyline.

(e) All aspects of the mechanical equipment have been designed with attention to their visual impact on adjacent areas, particularly with regard to residential neighborhoods and views and vistas.

AT&T's Response: As shown in the photosimulations (*see* Exhibit 5), the existing Facility, as proposed to be modified herein, will continue to be visually consistent with the color and texture of the building, the concealment elements of the design of the Facility, and with other existing wireless communications facilities from competing carriers located on the building. As

⁹ Inasmuch as Section 19.33 is most relevant to the Facility, it is stated here in full.

a result, AT&T's Facility is in keeping with the building's existing features without adversely affecting the building's overall design, massing, scale or character.

(2) Trash that is handled to avoid impacts (noise, odor, and visual quality) on neighbors, e.g. the use of trash compactors or containment of all trash storage and handling within a building is encouraged.

AT&T's Response: The Facility does not generate trash, therefore this design objective is inapplicable.

(3) Loading docks that are located and designed to minimize impacts (visual and operational) on neighbors.

AT&T's Response: The Facility does not utilize any loading dock, therefore this design objective is inapplicable.

(4) Stormwater Best Management Practices and other measures to minimize runoff and improve water quality are implemented.

AT&T's Response: The existing Facility, and the proposed modifications, are located entirely on and within the existing building and equipment shelter on the Property and have no effect on stormwater runoff, therefore this design objective is inapplicable.

(5) Landscaped areas and required Green Area Open Space, in addition to serving as visual amenities, are employed to reduce the rate and volume of stormwater runoff compared to pre-development conditions.

AT&T's Response: The existing Facility and proposed modifications have no effect any landscaped or Green Area Open Space, therefore this design objective is inapplicable.

(6) The structure is designed and sited to minimize shadow impacts on neighboring lots, especially shadows that would have a significant impact on the use and enjoyment of adjacent open space and shadows that might impact the operation of a Registered Solar Energy System as defined in Section 22.60 of this Zoning Ordinance.

AT&T's Response: The existing Facility and proposed modifications are designed so as not to cause shadows on neighboring lots.

(7) Changes in grade across the lot are designed in ways that minimize the need for structural retaining walls close to property lines.

AT&T's Response: The existing Facility and proposed modifications are located entirely on the existing building and within the existing equipment shelter and have no impact on the grade of the Property, therefore this design objective is inapplicable.

(8) Building scale and wall treatment, including the provision of windows, are sensitive to existing residential uses on adjacent lots.

AT&T's Response: The proposed modifications to the existing Facility will not change the building's scale because antennas and equipment will blend with the color and textures of the building (*see* Exhibit 3). The existing Facility and proposed modifications are consistent with characteristics of the existing building design, maintain the existing concealment elements of the Facility and therefore minimize any visual impact from the Facility.

(9) Outdoor lighting is designed to provide minimum lighting and necessary to ensure adequate safety, night vision, and comfort, while minimizing light pollution.

AT&T's Response: The existing Facility does not use any outdoor lighting. The proposed modifications to the Facility do not include any additional lighting of the Facility or building. As a result, this design objective is inapplicable.

(10) The creation of a Tree Protection Plan that identifies important trees on the site, encourages their protection, or provides for adequate replacement of trees lost to development on the site.

AT&T's Response: The existing Facility and proposed modifications are located entirely on and within the existing building and equipment shelter and have no effect on any trees on the Property, therefore this design objective is inapplicable.

19.34: Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.

AT&T's Response: The existing Facility, including the proposed modifications, is a passive use and will not generate trash, odor, excess noise, or utilize water or wastewater services. As such, it will not burden the City's infrastructure services.

19.35: New construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically.

AT&T's Response: The proposed modification of the existing Facility located on and within the existing building and equipment shelter, will obviate the need for AT&T to construct an additional Facility to address its wireless network coverage need in this area of Cambridge. The existing Facility and the proposed modifications blend the equipment with the building texture and color, and are consistent with the concealment elements of the Facility's design. As a result, the Facility will reinforce the existing Cambridge landscape as it currently is manifested at the Property.

19.36: Expansion of the inventory of housing in the city is encouraged.

AT&T's Response: The Facility and proposed modifications provide wireless services and will not adversely impact the City's housing inventory.

19.37. Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.

AT&T's Response: The Facility and proposed modifications are located on and within the existing building and equipment shelter. The Facility and proposed modifications will not adversely impact or otherwise reduce open space amenities within the City.

VIII. SUMMARY

For the foregoing reasons AT&T respectfully requests that the Board to determine that pursuant to the Spectrum Act and the FCC Order, the Request constitutes and eligible facilities request and therefore AT&T's Request must be approved administratively, including the issuance of a building permit, without the need for further relief from the Board. In the alternative, without waiving its rights, AT&T requests the Board grant the foregoing zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the modification and operation of AT&T's proposed Facility.

Best Regards,

Timothy W. Greene
Authorized Agent to New Cingular Wireless PCS, LLC ("AT&T")

cc: Brian S. Grossman, Esq.

BZA APPLICATION FORM**DIMENSIONAL INFORMATION**

APPLICANT: TerraSearch **PRESENT USE/OCCUPANCY:** Office/Telecom
LOCATION: 1336-1362 Massachusetts Ave Cambridge, MA **ZONE:** Business B Zone
PHONE: _____ **REQUESTED USE/OCCUPANCY:** Same

		<u>EXISTING</u> <u>CONDITIONS</u>	<u>REQUESTED</u> <u>CONDITIONS</u>	<u>ORDINANCE</u> <u>REQUIREMENTS</u> ¹	
<u>TOTAL GROSS FLOOR AREA:</u>		<u>0</u>	<u>0</u>	<u>0</u>	(max.)
<u>LOT AREA:</u>		<u>0</u>	<u>0</u>	<u>0</u>	(min.)
<u>RATIO OF GROSS FLOOR AREA</u> <u>TO LOT AREA: 2</u>		<u>0</u>	<u>0</u>	<u>0</u>	(max.)
<u>LOT AREA FOR EACH DWELLING UNIT:</u>		<u>0</u>	<u>0</u>	<u>0</u>	(min.)
<u>SIZE OF LOT:</u>	WIDTH	<u>0</u>	<u>0</u>	<u>0</u>	(min.)
	DEPTH	<u>0</u>	<u>0</u>	<u>0</u>	
<u>SETBACKS IN FEET:</u>	FRONT	<u>0</u>	<u>0</u>	<u>0</u>	(min.)
	REAR	<u>0</u>	<u>0</u>	<u>0</u>	(min.)
	LEFT SIDE	<u>0</u>	<u>0</u>	<u>0</u>	(min.)
	RIGHT SIDE	<u>0</u>	<u>0</u>	<u>0</u>	(min.)
<u>SIZE OF BLDG.:</u>	HEIGHT	<u>0</u>	<u>0</u>	<u>0</u>	(max.)
	LENGTH	<u>0</u>	<u>0</u>	<u>0</u>	
	WIDTH	<u>0</u>	<u>0</u>	<u>0</u>	
<u>RATIO OF USABLE OPEN SPACE</u> <u>TO LOT AREA:</u>		<u>0</u>	<u>0</u>	<u>0</u>	(min.)
<u>NO. OF DWELLING UNITS:</u>		<u>0</u>	<u>0</u>	<u>0</u>	(max.)
<u>NO. OF PARKING SPACES:</u>		<u>0</u>	<u>0</u>	<u>0</u>	(min./max)
<u>NO. OF LOADING AREAS:</u>		<u>0</u>	<u>0</u>	<u>0</u>	(min.)
<u>DISTANCE TO NEAREST BLDG.</u> <u>ON SAME LOT:</u>		<u>0</u>	<u>0</u>	<u>0</u>	(min.)

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

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.
3. OPEN SPACE SHALL NOT INCLUDE PARKING AREAS, WALKWAYS OR DRIVEWAYS AND SHALL HAVE A MINIMUM DIMENSION OF 15'.



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

2016 APR 27 PM 3:34

OFFICE OF THE CITY CLERK
CAMBRIDGE, MASSACHUSETTS

Plan No: BZA-010037-2016

BZA APPLICATION FORM

GENERAL INFORMATION

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

Special Permit: ✓ Variance: _____ Appeal: _____

PETITIONER: New Cingular Wireless PCS LLC d/b/a AT&T Mobility- C/O Timothy Greene

PETITIONER'S ADDRESS: 157 Riverside Drive Norwell, MA 02061

LOCATION OF PROPERTY: 1336-1362 Massachusetts Ave Cambridge, MA

TYPE OF OCCUPANCY: _____ ZONING DISTRICT: Business B Zone

REASON FOR PETITION:

Other: Telecommunications

DESCRIPTION OF PETITIONER'S PROPOSAL:

This application is a Eligible Facilities request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. 1455; or in the alternative, for a special permit under the zoning ordinance as cited above, if and to the extent necessary, all rights reserved

AT&T will be replacing 3 antennas currently installed on site. AT&T will also be adding and upgrading telecommunications equipment as part of nationwide network upgrades

SECTIONS OF ZONING ORDINANCE CITED:

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 and Job Creation Act

Original Signature(s):

(Petitioner(s) / Owner)

Timothy W. Greene
(Print Name)

Address:

157 Riverside Drive
Norwell, MA 02061

Tel. No.:

617-877-2950

E-Mail Address:

tgrene@terrasearchllc.com

Date: _____

BZA 10037-2016



CAMBRIDGE HISTORICAL COMMISSION

831 Massachusetts Avenue, 2nd Fl., Cambridge, Massachusetts 02139

Telephone: 617 349 4683 Fax: 617 349 3116 TTY: 617 349 6112

E-mail: histcomm@cambridgema.gov URL: http://www.cambridgema.gov/Historic

William B. King, *Chair*, Bruce A. Irving, *Vice Chair*, Charles M. Sullivan, *Executive Director*

William G. Barry, Jr., M. Robert G. Crocker, Chandra Harrington, Jo M. Solet, *Members*

Shary Page Berg, Joseph V. Ferrara, Susannah Barton Tobin, *Alternates*

Jurisdiction Advice

To the Owner of Property at 1336-1362 Mass Ave:

The above-referenced property is subject to the jurisdiction of the Cambridge Historical Commission (CHC) by reason of the status referenced below:

☐ Old Cambridge Historic District

☐ Fort Washington Historic District

(M.G.L. Ch. 40C, City Code §2.78.050)

☐ Avon Hill Neighborhood Conservation District

☐ Half Crown – Marsh Neighborhood Conservation District

☒ Harvard Square Conservation District

☐ Mid Cambridge Neighborhood Conservation District

☐ Designated Landmark

☐ Property is being studied for designation:

(City Code, Ch. 2.78., Article III, and various City Council Orders)

☐ Preservation Restriction or Easement (as recorded)

☐ Structure is fifty years or more old and therefore subject to CHC review of any application

for a demolition permit, if one is required by ISD. (City Code, Ch. 2.78, Article II). See

the back of this page for definition of demolition.

☐ No jurisdiction: not a designated historic property and the structure is less than fifty years old.

☐ No local jurisdiction, but the property is listed on the National Register of Historic Places; CHC staff is available for consultation, upon request.

Staff comments: _____

The Board of Zoning Appeal advises applicants to complete Historical Commission or Neighborhood Conservation District Commission reviews before appearing before the Board.

If a line indicating possible jurisdiction is checked, the owner needs to consult with the staff of the Historical Commission to determine whether a hearing will be required.

CHC staff initials SLB

Date 4/26/2016

Received by upload to Energov

Date "

Relationship to project _____

cc: Applicant
Inspection Services Commissioner

Demolition Delay Ordinance and Application Information

The Demolition Delay Ordinance (Chapter 2.78, Article II of the Cambridge Municipal Code) was adopted by the City Council in 1979 to afford public review of demolition permit applications for potentially significant buildings. When the Historical Commission determines that a building is significant and should be preserved, demolition will be delayed for up to six months so that solutions can be sought to preserve the building indefinitely. The Ordinance covers all buildings over 50 years old, city-wide. The Historical Commission archives provide dates of construction for all properties in the City.

Demolition is defined in the ordinance as "the act of pulling down, destroying, removing or razing a building or commencing the work of total or substantial destruction with the intent of completing the same." The Inspectional Services Commissioner has provided further guidelines to outline what actions require a demolition permit. **In addition to complete demolition of a building, the following actions may require a demolition permit,**

- **removal of a roof,**
- **removal of one side of a building,**
- **gutting of a building's interior to the point where exterior features (windows, etc.) are impacted, and**
- **removal of more than 25% of a structure.**

Please contact the building inspector or a staff member of the Historical Commission if you have questions about whether a demolition permit is required for a particular project.

Demolition permit applications can be obtained from the Inspectional Services Department. The completed application should be submitted to the Historical Commission, where the staff will review the application. If the Executive Director of the Historical Commission makes an initial determination that the building is significant, a public hearing will be scheduled with Historical Commission. If the staff makes an initial determination that the building is not significant, the application is released for further review by the Building Commissioner.

More information about the demolition permit application procedures is available on the Historical Commission's web site or by calling or dropping by the Historical Commission office.

July 2003

Cambridge Historical Commission
831 Massachusetts Ave., 2nd Fl.
Cambridge, MA 02139

Ph: 617/349-4683 or TTY: 617/349-6112

<http://www.cambridgema.gov/Historic/demolitiondelay.html>

[illegible]

1336-1362 Mass Ave

160-58
CAMBRIDGE SAVINGS BANK
C/O KAREN A. GIESTA
1374 MASS AVE
CAMBRIDGE, MA 02138

161-1 /162-11 /160-74-37-38 / 159-1
PRESIDENT & FELLOWS OF HARVARD COLLEGE
C/O HARVARD REAL ESTATE, INC.
HOLYOKE CENTER, ROOM 1000
1350 MASSACHUSETTS AVE
CAMBRIDGE, MA 02138

160-76
WHOLEY, FREDERICK R.,
TRS OF THE FREDERICK R. WHOLEY
IRREVOCABLE TRS
15 ANIS ROAD
BELMONT, MA 02478

159-2
OUT OF TOWN NEWS, INC.
C/O HUDSON NEWS AGENCY
0 HARVARD SQ.
CAMBRIDGE, MA 02138

160-83
PLATIN LLC
15 WALNUT ST., SUITE 150
WELLESLEY, MA 02481

160-59
DANA CHAMBERS ALLIANCE
135 BEAVER STREET - SUITE #404
WALTHAM, MA 02452

162-10
SIGNET ASSOCIATES
46 DUNSTER ST
CAMBRIDGE, MA 02138

162-62
76 MOUNT AUBURN STREET, INC.
76 MT. AUBURN ST.
CAMBRIDGE, MA 02138

160-11
TRINITY REALTY LIMITED PARTNERSHIP I
P.O. BOX 380212
CAMBRIDGE, MA 02238

160-84
DAVIDSON, CHARLES L.
19 GARDEN ST.
CAMBRIDGE, MA 02138

Petitioner

TIMOTHY W. GREENE
AUTHORIZED AGENT FOR AT&T
157 RIVERSIDE DRIVE
NORWELL, MA 02061

160-77
HARVARD STUDENT AGENCIES, INC
67 MT. AUBURN ST
CAMBRIDGE, MA 02138

162-67
45 DUNSTER STREET LLC
2 HOLYOKE PLACE
CAMBRIDGE, MA 02138

160-14
PRESIDENT AND FELLOWS OF HARVARD COLLEGE
HARVARD UNIVERSITY R.E. DEPT
HOLYOKE CENTER, ROOM 1017
1350 MASS AVENUE
CAMBRIDGE, MA 02138

160-85
P.C. HOLYOKE STREET, LLC,
50 CONGRESS ST. ROOM 540
BOSTON, MA 02109



April 25, 2016

Donna P. Lopez, City Clerk City of Cambridge City Hall 795 Massachusetts Avenue Cambridge, MA 02139	Constantine Alexander, Chair Board of Zoning Appeal City Hall 795 Massachusetts Avenue Cambridge, MA 02139
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Applicant: New Cingular Wireless PCS, LLC ("AT&T")
Property Address: 1336-1362 Massachusetts Ave.
Assessor's Map 160, Lot 14E (the "Property")
Re: Application for:
(i) Eligible Facilities Request pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, 47 U.S.C. § 1455; or, in the alternative,
(ii) Special Permit under Cambridge Zoning Ordinance Section 4.32(g)(1) and M.G.L. c. 40A, Section 9; and
(iii) Any other zoning relief required.
(All relief if and to the extent necessary, all rights reserved)

Dear Ms. Lopez, Mr. Alexander and Members of the Board of Zoning Appeal:

Pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (a/k/a the "Spectrum Act" or "Section 6409"), 47 U.S.C. § 1455, as further implemented by the Federal Communications Commission's Report and Order *In re Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies*, FCC Docket No. 13-238, Report and Order No. 14-153 (October 17, 2014) (the "FCC Order"), New Cingular Wireless PCS, LLC ("AT&T") hereby submits this Eligible Facilities Request ("Request"); and, in the alternative, applies for a special permit from the City of Cambridge Board of Zoning Appeal (the "Board") under Section 432(g)(1) of the Cambridge Zoning Ordinance (the "Ordinance") to modify its existing "Telephone Exchange including Transmission Facilities to serve a Mobile Communication System" (the "Facility") on and within the existing building located at 1336-1362 Massachusetts Ave.. (the "Special Permit Application").²

Under Section 6409, AT&T's proposed modification of its existing transmission equipment on and within the existing building, previously approved by the Board for use as a wireless communication

² AT&T submits this Request, Special Permit application and supporting materials subject to a full and complete reservation of AT&T's rights under the Spectrum Act and the FCC Order including without limitation its rights with respect to (i) any submittal requirements or approval criteria that are inconsistent with the prohibitions established by the FCC Order, (ii) any delay beyond the deadlines established in the FCC Order, (iii) the imposition of conditions on any approval that are inconsistent with the FCC Order, and (iv) referral or requirement to a discretionary review process such as a special permit.

base station, does “not substantially change the physical dimensions” of the existing building. Therefore, AT&T’s Request must be approved administratively, including the issuance of a building permit, to enable AT&T to make the proposed modifications to its transmission equipment.

In the alternative, as demonstrated in this application letter, the AT&T’s proposed modifications to its existing Facility on the Property located in the Business B zoning district satisfy the requirements for the grant of a special permit pursuant to Section 10.43 of the Ordinance.

I. APPLICATION PACKAGE

Enclosed with this application is a check payable to the City of Cambridge in the amount of \$500.00. In addition to the signed original of this letter are copies of the letter and the following materials:

1. The following completed and signed application forms:
 - a. BZA Application Form – General Information;
 - b. BZA Application Form – Ownership Information;
 - c. BZA Application Form – Dimensional Requirements;
 - d. BZA Application Form – Supporting Statement for a Special Permit; and
 - e. BZA Application Form – Check List;
2. AT&T’s relevant FCC License information;
3. Drawings by Hudson Design Group consisting of 8 pages dated 4/5/16;
4. Manufacturer’s specification sheets for AT&T’s proposed antennas and other featured equipment;
5. Photographs of the existing building and photosimulations of the proposed modifications Facility by Hudson Design Group., dated 4/4/16;
6. Radio Frequency Coverage Report, demonstrating the public need for the proposed modifications to the Facility, radio frequency coverage maps showing (a) existing or predicted coverage from neighboring facilities; and (b) coverage with the proposed Facility;
7. Structural Analysis by Hudson Design Group LLC dated April 4, 2016;
8. Maximum Permissible Exposure Study, Theoretical Report, by SAI Communications, dated December 7, 2015;
9. Letter of Authorization from Owner of Subject Property;
10. Deed to subject property; and
11. Attorney General’s letters to the Towns of Mount Washington, Lynnfield and Montague.

In addition to the supporting materials identified above, submitted simultaneously herewith is a completed building permit application package including:

1. Completed Building Permit Application;
2. Certificate of Liability Insurance;
3. Worker's Compensation Insurance Affidavit;
4. Construction Supervisor License for Keith F Barnard; and
5. 1 copy of the Plans.

II. PROPOSED FACILITY DESIGN

AT&T seeks to modify the existing Facility on the existing building and within the equipment shelter located on the roof of the building at the Property. The existing Facility consists of nine (9) panel antennas (Alpha Sector: 3 antennas, Beta Sector: 3 antennas, and Gamma Sector: 3 antennas) that are mounted in three (3) locations. The proposed modifications include the replacement one (1) antenna per sector. The replacement antennas will be mounted to the existing antenna mounts consistent with the current Facility's design. Six (6) remote radio-head units (RRUs) (two per sector) and three (3) surge arrestors (one per sector) will be added in close proximity to the antennas. Consistent with the concealment elements of the existing Facility's design, the proposed replacement antennas, any visible RRUs and surge arrestors will be painted to match the color and texture of the existing façade.

The Facility's design is shown in detail in the Zoning Drawings attached as Exhibit 3 to this application letter and featured equipment is described in the manufacturers' specification sheets attached as Exhibit 4. The photographs and photosimulations (Exhibit 5) show the existing Facility from various locations in the neighborhood around the Property and as simulated with proposed modifications. A structural analysis for the Facility demonstrates that the building is capable of supporting AT&T's proposed equipment at or near the locations shown on the Zoning Drawings (*see* Exhibit 7).

The Facility will continue to bring advanced wireless voice, text and data communications services to the surrounding areas. It will allow residents, professionals, government, businesses and students to communicate locally, nationally and internationally from virtually any location within the coverage area. In the event of an emergency, the improved Facility will allow immediate contact with fire, rescue and other emergency personnel. The improved Facility will thus enhance public health, safety and welfare both in ordinary daily living and in the event of fire, accident, medical emergency, natural disaster or other dangers.

III. BACKGROUND

AT&T is licensed by the Federal Communications Commission to construct and operate a wireless telecommunications network in various markets throughout the country, including the

Commonwealth of Massachusetts and the City of Cambridge. A copy of the AT&T's FCC license that covers the area of the proposed Facility is included with this application (*see* Exhibit 2). AT&T is in the process of designing and constructing additional wireless facilities to its existing telecommunications system to serve Massachusetts. One of the key design objectives of its systems is to provide adequate and reliable 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 extent of use of AT&T's wireless services within the network, and the existing topography and obstructions. 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. In urban settings, this dynamic requires the antennas to be located on buildings at heights and in locations where the signal is not obstructed or degraded by other buildings or by topographical features such as hills.

IV. RF COVERAGE DETERMINATION

AT&T has performed a study of radio frequency coverage for the City of Cambridge and from the Property, the results of which are described in the Radio Frequency Report submitted with this application (*see* Exhibit 6). Without the proposed modifications to its existing Facility, AT&T has a substantial coverage gap in this area of Cambridge including without limitation along portions of Massachusetts Avenue, Mount Auburn Street, Broadway, Kirkland Street, and Cambridge Street. AT&T has determined that the proposed modifications to the existing Facility located on the building at the Property will provide needed coverage to the targeted sections of the City and the immediately surrounding area if AT&T's antennas are located at the height and in the configuration requested. The importance of a facility at this location is underscored by AT&T's interest in enhancing its ability to provide its most up-to-date wireless technology, known as long-term evolution technology ("LTE"), in this area to satisfy its customers' ever-increasing needs for high-speed data services. Radio frequency coverage maps included in the report are provided to pictorially and vividly show the differences in existing and proposed wireless coverage at the various bands authorized for AT&T's service. The maps show dramatic improvements to wireless coverage at all three (3) bands with the inclusion of the proposed Facility, namely, at 700, 1900, and 2100 MHz.

V. THE FEDERAL SPECTRUM ACT AND THE FCC ORDER

As set forth below, the proposed modifications constitute an Eligible Facilities Request pursuant to the federal Spectrum Act,³ as further implemented by the FCC Order.⁴

³ Pursuant to Section 6409(a)(2) an "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves—

- (A) collocation of new transmission equipment;
- (B) removal of transmission equipment; or
- (C) replacement of transmission equipment.

47 U.S.C. § 1455(a)(2).

⁴ The Order was effective on February 9, 2015, except for § 1.40001, which became effective on April 8, 2015, except for §§ 1.40001(c)(3)(i), 1.40001(c)(3)(iii), 1.140001(c)(4), and 17.4(c)(1)(vii), which became effective on May 18, 2015, after approval by the Office of Management and Budget. The FCC Order makes clear that under the Spectrum Act discretionary review is not required or permitted for an Eligible Facilities Request.

Under the Spectrum Act, as further clarified by the FCC Order, the streamlined process for this Eligible Facilities Request is limited to non-discretionary review. Specifically, the FCC Order “adopt[s] an objective standard for determining when a proposed modification will ‘substantially change the physical dimensions’ of an existing tower or base station.” *FCC Order*, ¶ 87. As stated in the FCC Order, Section 6409 “states without equivocation that the reviewing authority ‘may not deny, and shall approve’ any qualifying application. This directive leaves no room for a lengthy and discretionary approach to reviewing an application that meets the statutory criteria.” *FCC Order*, ¶ 116.

In issuing the FCC Order and eliminating discretionary review for eligible facilities requests, the FCC’s goal was to “adopt a test that is defined by specific, objective factors rather than the contextual and entirely subjective standard advocated by the IAC and municipalities.” The FCC intentionally sought to reduce “flexibility” and “open ended context-specific approach” engendered by the discretionary review process:

While we acknowledge that the IAC approach would provide municipalities with maximum flexibility to consider potential effects, we are concerned that it would invite lengthy review processes that conflict with Congress’s intent. Indeed, some municipal commenters anticipate their review of covered requests under a subjective, case-by-case approach could take even longer than their review of collocations absent Section 6409(a). We also anticipate that disputes arising from a subjective approach would tend to require longer and more costly litigation to resolve given the more fact-intensive nature of the IAC’s open-ended and context-specific approach. We find that an objective definition, by contrast, will provide an appropriate balance between municipal flexibility and the rapid deployment of covered facilities. We find further support for this approach in State statutes that have implemented Section 6409(a), all of which establish objective standards.

FCC Order, ¶ 88.

As a result, the FCC Order implementing Section 6409 establishes clear and objective criteria for determining eligibility, limits the types of information that a municipality may require when processing an application for an eligible facilities request, and imposes a “deemed granted” remedy for failure to timely process and eligible facilities request.⁵ The FCC Order also establishes significant limits on the information that can be required to be provided with an eligible facilities request and limits it to only that information “reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation”. 47 CFR 1.40001(c)(1).

Both before and after the FCC Order was issued, the Massachusetts Attorney General’s Office provided clear guidance that an eligible request cannot be subjected to a discretionary special permit process. *See* Attorney General’s letters to (i) Town of Mount Washington, dated June 12,

⁵ *See* 47 CFR §§1.40001(c)(1) - (c)(4).

2014, p. 3 (ii) Town of Lynnfield, dated February 10, 2015, p. 3 (the “AG Lynnfield Letter”) and (iii) Town of Montague, dated February 23, 2015, p. 2 (all attached hereto). As set forth in each letter [t]he Act’s requirement that a local government ‘may not deny, and shall approve, any eligible facilities request’ means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. ***Such qualifying requests also cannot be subject to a discretionary special permit.***”(Emphasis added). In providing these opinions, the Attorney General’s Office specifically opined that provisions in zoning ordinances that specifically required a special permit for modifications to existing facilities could not be applied to eligible facilities requests. While approving the Town of Lynnfield’s Zoning Bylaw, the Attorney General stated that “Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act.” *AG Lynnfield Letter*, p. 3.

Therefore, as set forth in the FCC Order and Attorney General’s opinion letters, the City cannot impose a requirement that AT&T obtain a special permit, or an amendment to an existing special permit utilizing the same discretionary review process, in connection with its eligible facilities request. To the extent that the City of Cambridge’s Zoning Ordinance and any prior decisions by the Board include provisions seeking to further regulate the modification of wireless communication facilities, federal law overrules those requirements. *See Sprint Spectrum L.P. v. Town of Swansea*, 574 F.Supp.2d 227, 236 (2008) (Board is obligated to consider whether its actions would violate federal law even if a different outcome would be permitted under state law). The standard of review for an application to modify an existing wireless communication facility on an existing tower or base station is governed by the Spectrum Act and the FCC Order which require eligible facilities requests to be permitted “by right.”

In addition, the FCC Order establishes a 60-day period for approval from the time of AT&T’s submission. 47 CFR §1.40001(c)(2). Within the context of the Spectrum Act and FCC Order, approval means all necessary approvals to permit the proposed modifications, including the issuance of a building permit, if required. The FCC found that this 60-day period is appropriate due to “the more restricted scope of review applicable to applications under section 6409(a).” *FCC Order*, ¶ 108. If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4).

As set forth below, the proposed modifications constitute an eligible facilities request. Therefore, AT&T respectfully requests the Board to find that Section 4.32(g)(1) of the Ordinance does not apply to its Request.

VI. THE PROPOSED MODIFICATIONS ARE AN ELIGIBLE FACILITIES REQUEST

Under Section 6409 and the FCC Order, a “base station” means “[a] structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network.” 47 C.F.R §1.40001(b)(1). A Base Station includes “any structure other than a tower” that supports or houses “authorized wireless communications between user equipment and a communications network.” 47 C.F.R §1.40001(b)(1). Therefore, the existing building that is currently used for FCC-licensed transmissions for personal wireless services is a “base station” for purposes of Section 6409.

AT&T proposes to modify its existing Facility as described above and depicted on the Plans submitted herewith.

The proposed modifications will not require the installation of any part of the facility on the ground outside of the building.

As a result, AT&T’s proposed modifications involving the removal and replacement of the existing transmission equipment constitute an “eligible facilities request” under Section 6409. The proposed eligible facilities request is not a “substantial modification” under Section 6409 and the FCC Order because it does not:

- (i) Result in an increase in “the height of the structure by more than 10% or more than ten feet, whichever is greater” because the proposed replacement antennas will be façade mounted and located below the roofline and therefore will not exceed 10 feet above the existing building;
- (ii) Protrude from the edge of the edge of the building by more than six feet because AT&T’s proposed antennas will not protrude more than six feet from building façade;
- (iii) Involve the installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets no new radio communications equipment cabinets will be installed;
- (iv) Require any excavation or deployment outside the current site of the tower or base station because all antennas, equipment cabinets and related equipment will be installed entirely on and within the existing building; or
- (v) Otherwise defeat the existing concealment elements of the tower or base station because the proposed replacement antennas will be painted and textured to match the façade of the existing building on which the existing and proposed antennas will be located and will continue to integrate the Facility into the existing architecture of the building. Further, the proposed RRUs and surge arrestors will be mounted out of view or painted to match the existing façade. Therefore, AT&T’s proposed Facility will remain aesthetically consistent with the exterior finish of the building as well as maintain the concealment elements of the original design.

See FCC Order, §1.40001(b)(7)(i)-(v).

VII. COMPLIANCE WITH THE CAMBRIDGE ZONING ORDINANCE

In the alternative, AT&T respectfully requests the Board to grant a special permit for the proposed modifications to the existing Facility.⁶

A. **AT&T complies with the Wireless Communications provisions set forth in Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance.**

AT&T's proposed modifications comply with Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance as follows:⁷

Section 4.32(g)(1): Section 4.32(g)(1) of the Ordinance allows for the use of a “[t]elephone exchange (including switching, relay, and transmission facilities serving mobile communications systems) and any towers or antennas accessory thereto.” Under the Table of Use Regulations beginning at Section 4.30, AT&T's proposed use of the Facility as a transmission facility serving a mobile communications system is permitted by special permit in the Business B zoning district (see the table at Section 4.32(g)(1)).

Section 4.40, Footnote 49: Section 4.32(g)(1) includes a reference to Section 4.40, Footnote 49 which sets out the standards for granting the special permit. AT&T's proposed Facility complies with Footnote 49's standards as noted below:

1. The Board of Zoning Appeal shall consider “[t]he scope of or limitations imposed by any license secured from any state or federal agency having jurisdiction over such matters.”

AT&T's Response: AT&T's FCC license is included with this application and the license information included shows that AT&T is authorized to provide wireless service in the area served by the Facility (see Exhibit 2).

2. The Board of Zoning Appeal shall consider “[t]he 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 materials to which the facilities are attached, or (3) other effective means to reduce the visual impact of the facility on the site.”

⁶ AT&T's request is made, if and to the extent necessary, all rights reserved. As discussed above, the FCC Order establishes a 60-day period for receipt of all necessary approvals from the time of AT&T's submission, including a building permit, if required. 47 CFR §1.40001(c)(2). If the Request is not acted upon within the 60-day period, it is deemed granted. 47 CFR §1.40001(c)(4). Therefore, AT&T expressly reserves its rights under 47 CFR §1.40001(c)(2) and (4).

⁷ To the extent that Section 4.32(g)(1), and Section 4.40, Footnote 49 of the Ordinance purport to require the submission of information that is beyond the scope permitted by the FCC Order or Spectrum Act, AT&T expressly reserves, and does not waive, its right to assert that such information is not required under the Spectrum Act and the submission of such information shall not constitute a waiver of AT&T's rights pursuant thereto.

AT&T's Response: The design of the overall Facility, including the choice and placement of replacement antennas and associated equipment, on the building's façade, minimizes the visual impact of the proposed Facility. This is because the antennas and equipment on the exterior façade surfaces will be painted to match the color and texture of the building so as to be minimally visible and consistent with the concealment elements of the existing Facility. The minimal visual impact of the Facility is shown in the photographs of the existing Facility and the photosimulations that superimpose the proposed modifications to the existing Facility (*see*, Exhibit 5).

3. **The Board of Zoning Appeal shall consider “[w]here 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 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.**

In granting a special permit the Board of Zoning Appeal shall set forth in its decision under which circumstances or procedures, if any, the permittee shall be allowed to replace and upgrade its equipment without the necessity of seeking a new special permit.”

AT&T's Response: As demonstrated by the Radio Frequency Report and the associated coverage maps, AT&T has demonstrated an immediate and compelling need for the proposed modifications to its existing Facility located at the Property in order to provide substantially improved indoor coverage to residents, businesses, students and faculty, and the general public in that area.⁸ AT&T also seeks to substantially improve its ability to satisfy the ever-increasing need of its customers for data accessibility, navigation and use. This is especially critical in and around the area of Massachusetts Ave which also serves as home for numerous businesses, Harvard Square, and existing residential development. AT&T proposes to satisfy its RF coverage needs in the area by adding to the existing Facility the antennas and equipment necessary to provide the latest LTE wireless communications service technology. By modifying its existing Facility, AT&T obviates the need to construct an entirely new facility within this area of Cambridge in order to meet its wireless network coverage needs.

As provided in Footnote 49, AT&T requests that once permission is received from the City to site the Facility at the Property, the Board permit AT&T to replace and upgrade the equipment at this Facility in the future without further zoning proceedings or a new special permit, provided that such equipment shall meet the eligible facilities request criteria set forth in 47 CFR § 1.40001.

⁸ AT&T must generate a signal strength of at least -74 dBm to provide serviceable voice and data coverage on its mobile wireless devices in indoor environments. AT&T also seeks to substantially improve its data navigation service coverage in the area by including antennas and equipment that will provide LTE service.

B. AT&T complies with the Special Permit Criteria set forth in Section 10.43 of the Ordinance.

Section 10.43 of the Ordinance specifies the following criteria for issuance of a special permit: “Special permits will normally be granted where specific provisions of this Ordinance are met, except when particulars of the location or use, not generally true of the district or of the uses permitted in it, would cause granting of such permit to be to the detriment of the public interest because:

(a) The requirements of this Ordinance cannot or will not be met, or

AT&T’s Response: As provided above, AT&T’s proposed modifications comply with the requirements set forth in Section 4.32(g), Footnote 49 of the Ordinance, the Spectrum Act and the eligible facilities request criteria set forth in 47 CFR § 1.40001. Granting the special permit would not be a detriment to the public interest and is consistent with the Board’s obligations pursuant to the Spectrum Act and FCC Order.

(b) Traffic generated or patterns of access or egress would cause congestion, hazard, or substantial change in established neighborhood character for the following reasons, or

AT&T’s Response: The proposed modifications to AT&T’s existing Facility will not result in any change to the existing traffic on or near the Property. The Facility will continue to be unmanned and only require infrequent visits by a technician (typically two times per month for routine diagnostics and/or maintenance, except in cases of emergency), there will be no material increase in traffic or disruption to patterns of access or egress that will cause congestion, hazards or a substantial change in the established neighborhood character. AT&T’s maintenance personnel will make use of the existing access roads and parking at the building. Granting the special permit would not be a detriment to the public interest and is consistent with the Board’s obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T’s Response: As described above and illustrated on the attached photographs and photosimulations (*see* Exhibit 5) the proposed modifications to the existing Facility will result in a *de minimis* change in the appearance of the building because the equipment will be located on building exterior surfaces. As a result, the Facility as a whole either will be hidden from view or will visually blend with existing characteristics of the building and the surrounding neighborhood. Because the proposed installation will not generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, it will not adversely affect residential uses on neighboring streets. Conversely, the surrounding properties and general public will benefit from the potential to enjoy improved wireless communications services. Granting the special permit

would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: Because the proposed modifications to the existing Facility will not cause the Facility to generate any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater, no nuisance or hazard will be created to the detriment of the health, safety, or welfare of the occupants of the building or the residents of the City of Cambridge. To the contrary, the proposed Facility 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 that 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 Facility, as modified, will continue to comply with all federal, state and local safety requirements including the standards established by the FCC and Federal Aviation Administration (FAA). (See Exhibit 8 Maximum Permissible Exposure Study, Theoretical Report). Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: The purpose of the Ordinance is multifaceted, the relevant aspects of which relating to wireless telecommunications facilities include the lessening of congestion in the streets, conserving health, securing safety from fire, flood, panic and other danger, conserving the value of land and buildings and natural resources, preventing blight and pollution, encouraging the most rational use of land throughout the city, including encouraging appropriate economic development, and protecting residential neighborhoods from incompatible activities.

As noted above, the proposed modifications to the existing Facility directly accord with the purposes of the Ordinance because the modifications will not result in any traffic, smoke, dust, heat or glare, discharge noxious substances, nor pollute waterways or groundwater. As the Facility will improve the ability of residents, businesses, travelers and drivers in the area to access state-of-the-art wireless technology, the City's ability to provide emergency services will be improved, as will the economic development of the City as more people will be able to conduct commerce by virtue of a mobile platform. Because the proposed modifications to the existing Facility will be installed on an existing building that includes the Facility, and the proposed modifications are consistent with the existing concealment elements, the proposed modifications to the existing Facility are in consistent with the building's character and will not affect the value of the building or the natural resources of the City. Because the proposed modifications to the existing Facility are designed to be consistent with the existing concealment elements of the Facility and characteristics of the

Property, the visual impact on the underlying and adjacent zoning districts will be *de minimis*. As a result, the proposed modifications to the existing Facility are consistent with the Ordinance's purpose to allow for less intrusive wireless telecommunications facilities in all districts (other than Open Space) including the applicable overlay districts, and the underlying Business B district. Granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

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

AT&T's Response: As stated in the Section 19.30, the Citywide Urban Design Objectives ("Objectives") "are intended to provide guidance to property owners and the general public as to the city's policies with regard to the form and character desirable for new development in the city. It is understood that application of these principles can vary with the context of specific building proposals in ways that, nevertheless, fully respect the policies' intent. It is intended that proponents of projects, and city staff, the Planning Board and the general public, where public review or approval is required, should be open to creative variations from the detailed provisions presented in this Section as long as the core values expressed are being served. *A project need not meet all the objectives of this Section 19.30 where this Section serves as the basis for issuance of a special permit. Rather the permit granting authority shall find that on balance the objectives of the city are being served.* Nor shall a project subject to special permit review be required to conform to the Required Building and Site Plan Requirements set forth in Section 11.50." [emphasis added]. For the reasons stated in AT&T's response to this Section 10.43(f) of the Zoning Ordinance and in its application generally, "on balance, the objectives of the city are being served" by the installation of the Facility at the Property so that granting the special permit would not be a detriment to the public interest and is consistent with the Board's obligations pursuant to the Spectrum Act and FCC Order.

The following are the Objectives' headings as appearing in the Ordinance:

19.31: New projects should be responsive to the existing or anticipated pattern of development.

AT&T's Response: The existing Facility is located on and within the existing building and equipment shelter, some of the equipment of which is hidden from view or otherwise obstructed from view, and the remaining equipment blends with the structures and colors of the building. The proposed modifications to the existing Facility are consistent with the previously approved design and concealment elements of the existing Facility. Therefore, the proposed modifications are responsive to the existing pattern of development in the Property's applicable zoning and overlay districts.

19.32: Development should be pedestrian and bicycle-friendly, with a positive relationship to its surroundings.

AT&T's Response: The existing Facility is located on and within the existing building and equipment shelter. The Facility is only accessed by authorized AT&T personnel for routine maintenance one to two times per month and is not accessed by the general public. The proposed

modifications to the existing Facility will not result in any increase in routine visits nor otherwise result in a change in traffic patterns in the vicinity of the Property that would affect pedestrian flow or cyclists' access to the building or surrounding areas within the Property's applicable zoning districts.

19.33 The building and site design should mitigate adverse environmental impacts of a development upon its neighbors. Indicators include⁹

(1) Mechanical equipment that is carefully designed, well organized or visually screened from its surroundings and is acoustically buffered from neighbors. Consideration is given to the size, complexity and appearance of the equipment, its proximity to residential areas, and its impact on the existing streetscape and skyline. The extent to which screening can bring order, lessen negative visual impacts, and enhance the overall appearance of the equipment should be taken into account. More specifically:

(a) Reasonable attempts have been made to avoid exposing rooftop mechanical equipment to public view from city streets. Among the techniques that might be considered are the inclusion of screens or a parapet around the roof of the building to shield low ducts and other equipment on the roof from view.

(b) Treatment of the mechanical equipment (including design and massing of screening devices as well as exposed mechanical elements) that relates well to the overall design, massing, scale and character of the building.

(c) Placement of mechanical equipment at locations on the site other than on the rooftop (such as in the basement), which reduces the bulk of elements located on the roof; however, at-grade locations external to the building should not be viewed as desirable alternatives.

(d) Tall elements, such as chimneys and air exhaust stacks, which are typically carried above screening devices for functioning reasons, are carefully designed as features of the building, thus creating interest on the skyline.

(e) All aspects of the mechanical equipment have been designed with attention to their visual impact on adjacent areas, particularly with regard to residential neighborhoods and views and vistas.

AT&T's Response: As shown in the photosimulations (*see* Exhibit 5), the existing Facility, as proposed to be modified herein, will continue to be visually consistent with the color and texture of the building, the concealment elements of the design of the Facility, and with other existing wireless communications facilities from competing carriers located on the building. As

⁹ Inasmuch as Section 19.33 is most relevant to the Facility, it is stated here in full.

a result, AT&T's Facility is in keeping with the building's existing features without adversely affecting the building's overall design, massing, scale or character.

(2) Trash that is handled to avoid impacts (noise, odor, and visual quality) on neighbors, e.g. the use of trash compactors or containment of all trash storage and handling within a building is encouraged.

AT&T's Response: The Facility does not generate trash, therefore this design objective is inapplicable.

(3) Loading docks that are located and designed to minimize impacts (visual and operational) on neighbors.

AT&T's Response: The Facility does not utilize any loading dock, therefore this design objective is inapplicable.

(4) Stormwater Best Management Practices and other measures to minimize runoff and improve water quality are implemented.

AT&T's Response: The existing Facility, and the proposed modifications, are located entirely on and within the existing building and equipment shelter on the Property and have no effect on stormwater runoff, therefore this design objective is inapplicable.

(5) Landscaped areas and required Green Area Open Space, in addition to serving as visual amenities, are employed to reduce the rate and volume of stormwater runoff compared to pre-development conditions.

AT&T's Response: The existing Facility and proposed modifications have no effect any landscaped or Green Area Open Space, therefore this design objective is inapplicable.

(6) The structure is designed and sited to minimize shadow impacts on neighboring lots, especially shadows that would have a significant impact on the use and enjoyment of adjacent open space and shadows that might impact the operation of a Registered Solar Energy System as defined in Section 22.60 of this Zoning Ordinance.

AT&T's Response: The existing Facility and proposed modifications are designed so as not to cause shadows on neighboring lots.

(7) Changes in grade across the lot are designed in ways that minimize the need for structural retaining walls close to property lines.

AT&T's Response: The existing Facility and proposed modifications are located entirely on the existing building and within the existing equipment shelter and have no impact on the grade of the Property, therefore this design objective is inapplicable.

(8) Building scale and wall treatment, including the provision of windows, are sensitive to existing residential uses on adjacent lots.

AT&T's Response: The proposed modifications to the existing Facility will not change the building's scale because antennas and equipment will blend with the color and textures of the building (*see* Exhibit 3). The existing Facility and proposed modifications are consistent with characteristics of the existing building design, maintain the existing concealment elements of the Facility and therefore minimize any visual impact from the Facility.

(9) Outdoor lighting is designed to provide minimum lighting and necessary to ensure adequate safety, night vision, and comfort, while minimizing light pollution.

AT&T's Response: The existing Facility does not use any outdoor lighting. The proposed modifications to the Facility do not include any additional lighting of the Facility or building. As a result, this design objective is inapplicable.

(10) The creation of a Tree Protection Plan that identifies important trees on the site, encourages their protection, or provides for adequate replacement of trees lost to development on the site.

AT&T's Response: The existing Facility and proposed modifications are located entirely on and within the existing building and equipment shelter and have no effect on any trees on the Property, therefore this design objective is inapplicable.

19.34: Projects should not overburden the City infrastructure services, including neighborhood roads, city water supply system, and sewer system.

AT&T's Response: The existing Facility, including the proposed modifications, is a passive use and will not generate trash, odor, excess noise, or utilize water or wastewater services. As such, it will not burden the City's infrastructure services.

19.35: New construction should reinforce and enhance the complex urban aspects of Cambridge as it has developed historically.

AT&T's Response: The proposed modification of the existing Facility located on and within the existing building and equipment shelter, will obviate the need for AT&T to construct an additional Facility to address its wireless network coverage need in this area of Cambridge. The existing Facility and the proposed modifications blend the equipment with the building texture and color, and are consistent with the concealment elements of the Facility's design. As a result, the Facility will reinforce the existing Cambridge landscape as it currently is manifested at the Property.

19.36: Expansion of the inventory of housing in the city is encouraged.

AT&T's Response: The Facility and proposed modifications provide wireless services and will not adversely impact the City's housing inventory.

19.37. Enhancement and expansion of open space amenities in the city should be incorporated into new development in the city.

AT&T's Response: The Facility and proposed modifications are located on and within the existing building and equipment shelter. The Facility and proposed modifications will not adversely impact or otherwise reduce open space amenities within the City.

VIII. SUMMARY

For the foregoing reasons AT&T respectfully requests that the Board to determine that pursuant to the Spectrum Act and the FCC Order, the Request constitutes and eligible facilities request and therefore AT&T's Request must be approved administratively, including the issuance of a building permit, without the need for further relief from the Board. In the alternative, without waiving its rights, AT&T requests the Board grant the foregoing zoning relief in the form of a Special Permit and such other relief as the Board deems necessary to allow the modification and operation of AT&T's proposed Facility.

Best Regards,

Timothy W. Greene
Authorized Agent to New Cingular Wireless PCS, LLC ("AT&T")

cc: Brian S. Grossman, Esq.

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: REGINALD YOUNGBLOOD
 AT&T MOBILITY SPECTRUM LLC
 3300 E. RENNER ROAD, B3132
 RICHARDSON, TX 75082

Call Sign WQJU427	File Number
Radio Service WY - 700 MHz Lower Band (Blocks A, B & E)	

FCC Registration Number (FRN): 0014980726

Grant Date 01-06-2009	Effective Date 02-12-2014	Expiration Date 06-13-2019	Print Date
Market Number CMA006	Channel Block B	Sub-Market Designator 0	
Market Name Boston-Lowell-Brockton-Lawrenc			
1st Build-out Date 12-13-2016	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).

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

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.

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**Federal Communications Commission
Wireless Telecommunications Bureau**

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: REGINALD YOUNGBLOOD
NEW CINGULAR WIRELESS PCS, LLC
3300 E. RENNER ROAD, B3132
RICHARDSON, TX 75082

Call Sign KNKA226	File Number
Radio Service CL - Cellular	
Market Numer CMA006	Channel Block A
Sub-Market Designator 0	

FCC Registration Number (FRN): 0003291192

Market Name Boston-Lowell-Brockton-Lawrenc
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Grant Date 10-05-2004	Effective Date 02-13-2014	Expiration Date 10-01-2014	Five Yr Build-Out Date	Print Date
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Site Information:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
15	42-37-42.3 N	070-39-16.8 W	45.7	58.8	

Address: 40 DORY ROAD

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

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

Conditions:

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKA226

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
20	43-03-11.8 N	071-16-02.1 W	179.2	59.4	

Address: 80 Diamond Hill Road

City: Candia County: ROCKINGHAM State: NH Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.200	111.000	159.400	159.000	98.400	148.300	88.600	75.600
Transmitting ERP (watts)	52.325	70.778	16.988	1.425	0.187	0.144	0.491	7.084
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.200	111.000	159.400	159.000	98.400	148.300	88.600	75.600
Transmitting ERP (watts)	0.343	3.851	33.085	100.313	84.855	19.494	2.061	0.299
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	73.200	111.000	159.400	159.000	98.400	148.300	88.600	75.600
Transmitting ERP (watts)	6.845	0.890	0.107	1.038	6.652	7.633	3.304	6.905

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
24	42-54-55.1 N	071-21-37.4 W	100.9	46.3	1011624

Address: 15 INDEPENDENCE DRIVE

City: LONDONDERRY County: ROCKINGHAM State: NH Construction Deadline:

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	35.900	30.000	44.800	52.100	54.500	72.000	68.000	66.500
Transmitting ERP (watts)	161.221	224.756	47.602	3.692	0.510	0.437	1.233	19.454
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	35.900	30.000	44.800	52.100	54.500	72.000	68.000	66.500
Transmitting ERP (watts)	0.510	3.172	43.604	213.248	156.639	22.374	1.350	0.496
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	35.900	30.000	44.800	52.100	54.500	72.000	68.000	66.500
Transmitting ERP (watts)	11.168	0.691	0.533	0.586	7.854	87.092	266.329	94.294

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKA226

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
25	42-00-32.6 N	071-19-15.2 W	90.5	51.8	

Address: 75 WASHINGTON SST

City: PLAINVILLE County: NORFOLK State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	64.500	61.200	95.600	96.100	94.300	64.100	46.000	48.800
Transmitting ERP (watts)	84.752	97.052	31.772	5.158	0.550	0.224	2.803	20.645
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	64.500	61.200	95.600	96.100	94.300	64.100	46.000	48.800
Transmitting ERP (watts)	0.380	5.181	37.013	100.829	79.042	20.699	2.118	0.824
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	64.500	61.200	95.600	96.100	94.300	64.100	46.000	48.800
Transmitting ERP (watts)	24.577	1.736	0.715	2.292	18.444	139.378	281.180	142.336

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
26	41-46-57.1 N	070-44-06.5 W	12.5	58.8	

Address: KENDRICK ROAD

City: WAREHAM County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	46.500	56.700	59.800	50.600	39.100	32.800
Transmitting ERP (watts)	186.898	242.551	75.777	10.617	0.738	0.508	2.730	35.860
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	46.500	56.700	59.800	50.600	39.100	32.800
Transmitting ERP (watts)	0.361	5.818	47.861	150.309	121.062	28.493	2.933	0.991
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	46.500	56.700	59.800	50.600	39.100	32.800
Transmitting ERP (watts)	18.390	1.111	0.538	1.628	13.482	98.897	203.625	103.938

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKA226

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
27	41-53-35.2 N	070-56-35.0 W	17.7	106.1	1210211

Address: 326 W GROVE ST

City: Middleboro County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	47.500	46.300	30.000	37.000	40.900	39.500	51.600	42.300
Transmitting ERP (watts)	125.283	153.432	54.208	6.550	0.674	0.363	2.675	27.340
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	47.500	46.300	30.000	37.000	40.900	39.500	51.600	42.300
Transmitting ERP (watts)	0.351	5.901	52.455	151.828	120.612	27.887	2.679	0.991
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	47.500	46.300	30.000	37.000	40.900	39.500	51.600	42.300
Transmitting ERP (watts)	14.428	1.006	0.875	1.215	13.317	87.541	159.641	85.795

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
28	42-14-21.9 N	070-51-09.3 W	54.9	55.8	

Address: 168 Turkey Hill Lane

City: Cohasset County: NORFOLK State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.800	98.300	97.600	71.700	64.800	62.900	86.700	99.100
Transmitting ERP (watts)	185.522	243.217	80.727	11.598	0.756	0.499	2.589	34.953
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.800	98.300	97.600	71.700	64.800	62.900	86.700	99.100
Transmitting ERP (watts)	0.521	6.371	65.693	238.024	196.107	43.191	4.256	0.906
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	99.800	98.300	97.600	71.700	64.800	62.900	86.700	99.100
Transmitting ERP (watts)	9.488	0.543	0.538	1.234	8.977	53.553	85.290	45.661

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKA226

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
29	41-56-02.0 N	070-35-08.0 W	82.9	128.0	1007828

Address: 265 STATE ROAD

City: PLYMOUTH County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.000	128.000	128.000	123.500	92.200	86.600	84.900	120.500
Transmitting ERP (watts)	23.222	24.154	10.475	1.931	0.466	0.109	1.398	6.965
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.000	128.000	128.000	123.500	92.200	86.600	84.900	120.500
Transmitting ERP (watts)	0.346	4.427	33.055	88.168	72.485	17.790	1.831	0.701
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	128.000	128.000	128.000	123.500	92.200	86.600	84.900	120.500
Transmitting ERP (watts)	9.680	0.561	0.550	1.216	9.292	54.685	90.439	45.409

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
30	42-12-47.6 N	071-32-33.4 W	128.0	58.5	

Address: 26 LUMBER STREET

City: HOPKINTON County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	68.900	93.200	99.800	91.500	55.300	59.600	35.700	76.400
Transmitting ERP (watts)	158.662	188.312	64.228	8.830	0.704	0.395	4.080	30.535
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	68.900	93.200	99.800	91.500	55.300	59.600	35.700	76.400
Transmitting ERP (watts)	0.432	6.612	61.028	195.296	166.263	35.500	3.748	0.703
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	68.900	93.200	99.800	91.500	55.300	59.600	35.700	76.400
Transmitting ERP (watts)	18.831	1.074	0.590	1.783	15.144	103.799	219.501	97.060

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
31	42-38-27.0 N	070-36-24.8 W	36.6	38.7	

Address: 38 Thatcher Rd

City: ROCKLAND County: ESSEX State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.500	69.500	69.500	69.500	69.500	66.700	58.400	60.100
Transmitting ERP (watts)	170.519	227.554	76.127	10.393	0.706	0.470	2.520	32.796
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.500	69.500	69.500	69.500	69.500	66.700	58.400	60.100
Transmitting ERP (watts)	0.462	5.689	58.840	206.264	174.760	39.385	4.197	0.837
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	69.500	69.500	69.500	69.500	69.500	66.700	58.400	60.100
Transmitting ERP (watts)	20.761	1.510	0.812	1.238	15.269	110.467	237.338	124.965

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
32	42-36-37.9 N	071-33-28.9 W	148.4	46.3	

Address: 142 LOWELL RD

City: GROTON County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
33	42-08-01.1 N	070-43-57.5 W	68.3	80.5	1017973

Address: 178 EAMES WAY

City: Marshfield County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	125.300	128.600	128.200	125.800	107.800	113.100	97.600	105.400
Transmitting ERP (watts)	156.993	202.510	73.503	10.210	0.666	0.415	2.429	32.615
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	125.300	128.600	128.200	125.800	107.800	113.100	97.600	105.400
Transmitting ERP (watts)	0.482	5.988	62.083	217.536	187.313	40.576	4.382	0.869
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	125.300	128.600	128.200	125.800	107.800	113.100	97.600	105.400
Transmitting ERP (watts)	21.007	1.466	0.829	1.219	15.907	109.305	228.002	122.541

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
34	41-42-11.1 N	070-46-47.1 W	14.3	59.4	

Address: 55 BENSONBROOK ROAD

City: MARION County: PLYMOUTH State: MA Construction Deadline: 03-29-2013

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
35	42-21-20.1 N	071-33-16.6 W	156.1	26.5	

Address: 157 UNION STREET

City: MARLBOROUGH County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	97.800	119.900	113.500	108.400	76.200	73.000	51.900	77.300
Transmitting ERP (watts)	280.304	377.489	119.970	14.810	1.525	0.802	6.660	52.209
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	97.800	119.900	113.500	108.400	76.200	73.000	51.900	77.300
Transmitting ERP (watts)	0.801	13.105	105.660	375.949	325.389	63.339	6.978	1.142
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	97.800	119.900	113.500	108.400	76.200	73.000	51.900	77.300
Transmitting ERP (watts)	30.606	2.831	1.046	2.632	27.909	187.774	419.392	197.441

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
36	42-39-54.6 N	070-38-19.9 W	59.4	44.5	

Address: 68 JOHNSON ROAD

City: ROCKPORT County: ESSEX State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	103.000	103.000	103.000	100.400	95.400	85.100	98.100	103.000
Transmitting ERP (watts)	126.741	159.124	54.189	7.443	0.564	0.334	3.098	25.685
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	103.000	103.000	103.000	100.400	95.400	85.100	98.100	103.000
Transmitting ERP (watts)	0.353	5.360	49.103	157.255	130.117	30.639	2.895	0.641
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	103.000	103.000	103.000	100.400	95.400	85.100	98.100	103.000
Transmitting ERP (watts)	15.787	0.974	0.495	1.442	11.730	84.942	168.331	87.120

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

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Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
37	42-41-29.8 N	071-47-30.8 W	233.8	47.9	

Address: 1140 Greenville Rd

City: ASHBY County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	138.200	163.500	145.000	68.800	30.000	30.000	30.000
Transmitting ERP (watts)	301.383	343.844	123.915	17.212	1.267	0.862	4.339	57.968
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	138.200	163.500	145.000	68.800	30.000	30.000	30.000
Transmitting ERP (watts)	0.559	6.546	72.077	254.800	226.824	50.359	4.678	0.979
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	138.200	163.500	145.000	68.800	30.000	30.000	30.000
Transmitting ERP (watts)	35.557	2.084	1.375	2.194	29.159	209.483	410.600	215.057

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
38	42-38-54.9 N	071-47-40.6 W	240.8	47.2	

Address: 601-603 FITCHBURG STATE ROAD

City: ASHBY County: MIDDLESEX State: MA Construction Deadline: 03-29-2013

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	31.100	159.800	170.800	147.700	56.300	30.000	30.000	30.000
Transmitting ERP (watts)	204.865	233.420	85.530	11.768	0.897	0.575	2.961	39.554
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	31.100	159.800	170.800	147.700	56.300	30.000	30.000	30.000
Transmitting ERP (watts)	0.570	6.676	74.271	261.076	238.587	50.169	4.787	1.001
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	31.100	159.800	170.800	147.700	56.300	30.000	30.000	30.000
Transmitting ERP (watts)	24.123	1.410	0.948	1.499	20.272	140.599	280.157	146.756

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKA226

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
40	43-05-58.2 N	070-47-28.6 W	7.6	67.4	

Address: 165 GOSLING RD

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

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	34.000	45.500	68.500	72.400	58.800	51.900	57.200	52.000
Transmitting ERP (watts)	205.727	278.300	62.928	5.059	0.711	0.597	1.577	25.136
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	34.000	45.500	68.500	72.400	58.800	51.900	57.200	52.000
Transmitting ERP (watts)	0.559	3.335	47.419	236.351	181.187	26.867	1.510	0.563
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	34.000	45.500	68.500	72.400	58.800	51.900	57.200	52.000
Transmitting ERP (watts)	10.525	0.618	0.497	0.555	7.391	82.592	243.998	90.540

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
41	43-04-39.1 N	071-07-30.3 W	107.0	60.7	1231475

Address: 150 Raymond Road

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

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.900	95.800	122.100	119.300	102.200	66.300	44.100	30.000
Transmitting ERP (watts)	160.334	230.049	54.265	4.271	0.586	0.522	1.415	21.993
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.900	95.800	122.100	119.300	102.200	66.300	44.100	30.000
Transmitting ERP (watts)	0.493	3.289	48.427	238.724	177.920	27.618	1.619	0.581
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	54.900	95.800	122.100	119.300	102.200	66.300	44.100	30.000
Transmitting ERP (watts)	10.353	0.693	0.601	0.662	8.753	100.864	305.315	110.743

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKA226

File Number:

Print Date:

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

Address: 50 OLD CANTERBURY RD

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

Antenna: 1 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	114.248	162.456	37.049	2.808	0.392	0.366	0.961	16.015
Antenna: 2 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	0.544	3.573	49.915	233.638	184.420	30.453	1.413	0.618
Antenna: 3 Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	30.000	30.000	43.800	80.800	68.900	30.000	53.500	30.000
Transmitting ERP (watts)	8.132	0.494	0.387	0.467	6.390	72.302	182.164	77.916

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

Address: 96 GROVE RD

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

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

Control Points:

Control Pt. No. 2

Address: 100 LOWDER BROOK DR

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: KNKA226

File Number:

Print Date:

Waivers/Conditions:

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

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: REGINALD YOUNGBLOOD
 AT&T MOBILITY SPECTRUM LLC
 3300 E. RENNER ROAD, B3132
 RICHARDSON, TX 75082

Call Sign KNLB200	File Number
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0014980726

Grant Date 09-27-2010	Effective Date 02-12-2014	Expiration Date 07-21-2017	Print Date
Market Number MEA001	Channel Block B	Sub-Market Designator 0	
Market Name Boston			
1st Build-out Date 03-13-2017	2nd Build-out Date 09-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

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

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

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: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNLB200

File Number:

Print Date:

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

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

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

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

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: REGINALD YOUNGBLOOD
 AT&T MOBILITY SPECTRUM LLC
 3300 E. RENNER ROAD, B3132
 RICHARDSON, TX 75082

Call Sign KNLB210	File Number
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0014980726

Grant Date 09-27-2010	Effective Date 02-12-2014	Expiration Date 07-21-2017	Print Date
Market Number MEA001	Channel Block A	Sub-Market Designator 0	
Market Name Boston			
1st Build-out Date 03-13-2017	2nd Build-out Date 09-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

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

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

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: AT&T MOBILITY SPECTRUM LLC

Call Sign: KNLB210

File Number:

Print Date:

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

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

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

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: REGINALD YOUNGBLOOD
 AT&T MOBILITY SPECTRUM LLC
 3300 E. RENNER ROAD, B3132
 RICHARDSON, TX 75082

Call Sign KNLB297	File Number
Radio Service WS - Wireless Communications Service	

FCC Registration Number (FRN): 0014980726

Grant Date 09-27-2010	Effective Date 02-12-2014	Expiration Date 07-21-2017	Print Date
Market Number REA001	Channel Block D	Sub-Market Designator 0	
Market Name Northeast			
1st Build-out Date 03-13-2017	2nd Build-out Date 09-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

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

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

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

Conditions:

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

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**Federal Communications Commission
Wireless Telecommunications Bureau****RADIO STATION AUTHORIZATION**

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: REGINALD YOUNGBLOOD
NEW CINGULAR WIRELESS PCS, LLC
2200 N. GREENVILLE AVE, 1W
RICHARDSON, TX 75082

Call Sign	File Number
KNLF216	
Radio Service	
CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 07-07-2005	Effective Date 11-24-2012	Expiration Date 06-23-2015	Print Date
Market Number MTA008	Channel Block A	Sub-Market Designator 17	
Market Name Boston-Providence			
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

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

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

Conditions:

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

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: REGINALD YOUNGBLOOD
NEW CINGULAR WIRELESS PCS, LLC
2200 N. GREENVILLE AVE, 1W
RICHARDSON, TX 75082

Call Sign WPOI214	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 07-07-2005	Effective Date 11-24-2012	Expiration Date 06-23-2015	Print Date
Market Number MTA008	Channel Block A	Sub-Market Designator 7	
Market Name Boston-Providence			
1st Build-out Date 06-23-2000	2nd Build-out Date 06-23-2005	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

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

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

Conditions:

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

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

Licensee Name: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPOI214

File Number:

Print Date:

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

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

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY II LLC

ATTN: REGINALD YOUNGBLOOD
AT&T MOBILITY II LLC
3300 E. RENNER ROAD, B3132
RICHARDSON, TX 75082

Call Sign WPWU950	File Number
Radio Service WZ - 700 MHz Lower Band (Blocks C, D)	

FCC Registration Number (FRN): 0016982233

Grant Date 01-24-2003	Effective Date 02-11-2014	Expiration Date 06-13-2019	Print Date
Market Number CMA006	Channel Block C	Sub-Market Designator 0	
Market Name Boston-Lowell-Brockton-Lawrenc			
1st Build-out Date 06-13-2019	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

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

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

Conditions:

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

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: AT&T MOBILITY II LLC

Call Sign: WPWU950

File Number:

Print Date:

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

Reference Copy

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: NEW CINGULAR WIRELESS PCS, LLC

ATTN: REGINALD YOUNGBLOOD
NEW CINGULAR WIRELESS PCS, LLC
3300 E. RENNER ROAD, B3132
RICHARDSON, TX 75082

Call Sign WPZY689	File Number
Radio Service CW - PCS Broadband	

FCC Registration Number (FRN): 0003291192

Grant Date 02-28-2007	Effective Date 02-13-2014	Expiration Date 01-03-2017	Print Date
Market Number BTA051	Channel Block C	Sub-Market Designator 2	
Market Name Boston, MA			
1st Build-out Date 12-07-2003	2nd Build-out Date 01-03-2007	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.

This authorization is conditioned upon the full and timely payment of all monies due pursuant to Sections 1.2110 and 24.711 of the Commission's Rules and the terms of the Commission's installment plan as set forth in the Note and Security Agreement executed by the licensee. Failure to comply with this condition will result in the automatic cancellation of this authorization.

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: NEW CINGULAR WIRELESS PCS, LLC

Call Sign: WPZY689

File Number:

Print Date:

Pursuant to Order DA 03-617 (rel. March 3, 2003), the designated entity holding period for this license is extended by 703 days, or until the licensee meets its five-year construction requirement, whichever is sooner.

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

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Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: AT&T MOBILITY SPECTRUM LLC

ATTN: REGINALD YOUNGBLOOD
AT&T MOBILITY SPECTRUM LLC
2200 N. GREENVILLE AVE, 1W
RICHARDSON, TX 75082

Call Sign WQGA763	File Number
Radio Service AW - AWS, 1710-1755/2110-2155 MHz bands	

FCC Registration Number (FRN): 0014980726

Grant Date 11-29-2006	Effective Date 11-29-2012	Expiration Date 11-29-2021	Print Date
Market Number BEA003	Channel Block C	Sub-Market Designator 3	
Market Name Boston-Worcester-Lawrence-Lowe			
1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

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

Conditions:

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

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: AT&T MOBILITY SPECTRUM LLC

Call Sign: WQGA763

File Number:

Print Date:

AWS operations must not cause harmful interference across the Canadian or Mexican Border. The authority granted herein is subject to future international agreements with Canada or Mexico, as applicable.

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

PROJECT INFORMATION

SCOPE OF WORK: TELECOMMUNICATIONS FACILITY UPGRADE (LTE- 3C,4C & 5C PROJECT 2016):
SITE ADDRESS: 1350 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138
LATITUDE: 42.372841 N 42° 22' 22.23" N
LONGITUDE: 71.118546 W 71° 07' 06.76" W
TYPE OF SITE: ROOFTOP / INDOOR EQUIPMENT
OVERALL
ROOF HEIGHT: 121'-6"±
RAD CENTER: 119'-0"±
CURRENT USE: TELECOMMUNICATIONS FACILITY
PROPOSED USE: TELECOMMUNICATIONS FACILITY
JURISDICTION: NATIONAL, STATE & LOCAL CODES OR ORDINANCES



SITE NUMBER: MA2215
SITE NAME: CAMBRIDGE MASS. AVE
PROJECT: LTE 3C-4C-5C 2016 UPGRADE

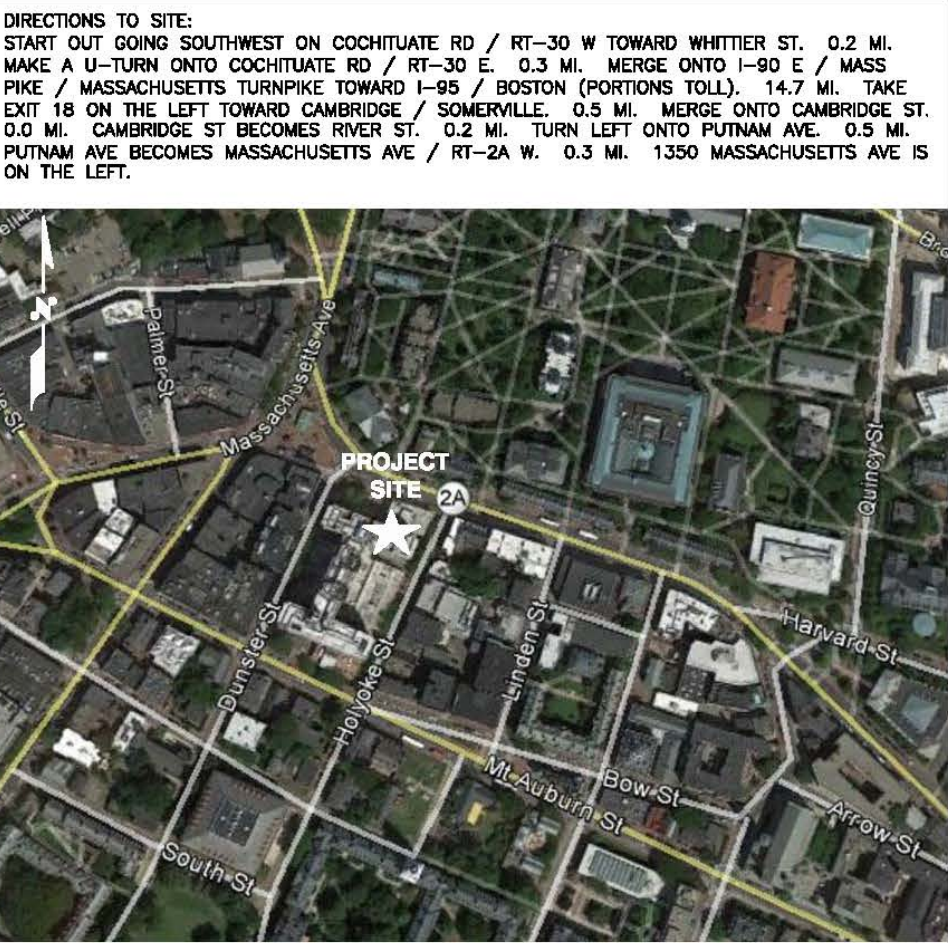
DRAWING INDEX

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GN-1 GENERAL NOTES
A-1 ROOF AND EQUIPMENT ROOM PLAN
A-2 ELEVATION
A-3 ANTENNA LAYOUTS
A-4 DETAILS
RF-1 PLUMBING DIAGRAM
G-1 GROUNDING DETAILS

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VICINITY MAP



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES 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 AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

72 HOURS
BEFORE YOU DIG
CALL TOLL FREE 888-DIG-SAFE OR DIAL 811

UNDERGROUND SERVICE ALERT

Hudson
Design Group, LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

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MIDDLESEX COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
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1	11/30/15	ISSUED FOR CONSTRUCTION	SG	AT	DPH
A	11/17/15	ISSUED FOR REVIEW	EB	AT	DPH
SCALE:	AS SHOWN	DESIGNED BY:	AT	DRAWN BY:	EB



AT&T		
TITLE SHEET (LTE-3C-4C-5C)		
JOB NUMBER	DRAWING NUMBER	REV
2215.01	T-1	2

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – SAI
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – AT&T MOBILITY
2. 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.
3. 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.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "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.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. 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.
9. 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.
10. 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.
11. 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.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. 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.
15. 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.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
17. 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.
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.
19. 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.
20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
BUILDING CODE: MA STATE BUILDING CODE 780 CMR 8TH EDITION
ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS
- 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		



Hudson
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1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
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SAI

27 NORTHWESTERN DR.
SALEM, NH 03079

SITE NUMBER: MA2215
SITE NAME: CAMBRIDGE MASS. AVE
1350 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138
MIDDLESEX COUNTY



at&t

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

2	04/05/16	ISSUED FOR CONSTRUCTION	EB	AT	UPH
1	11/30/15	ISSUED FOR CONSTRUCTION	SG	AT	UPH
A	11/17/15	ISSUED FOR REVIEW	EB	AT	UPH
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: EB		



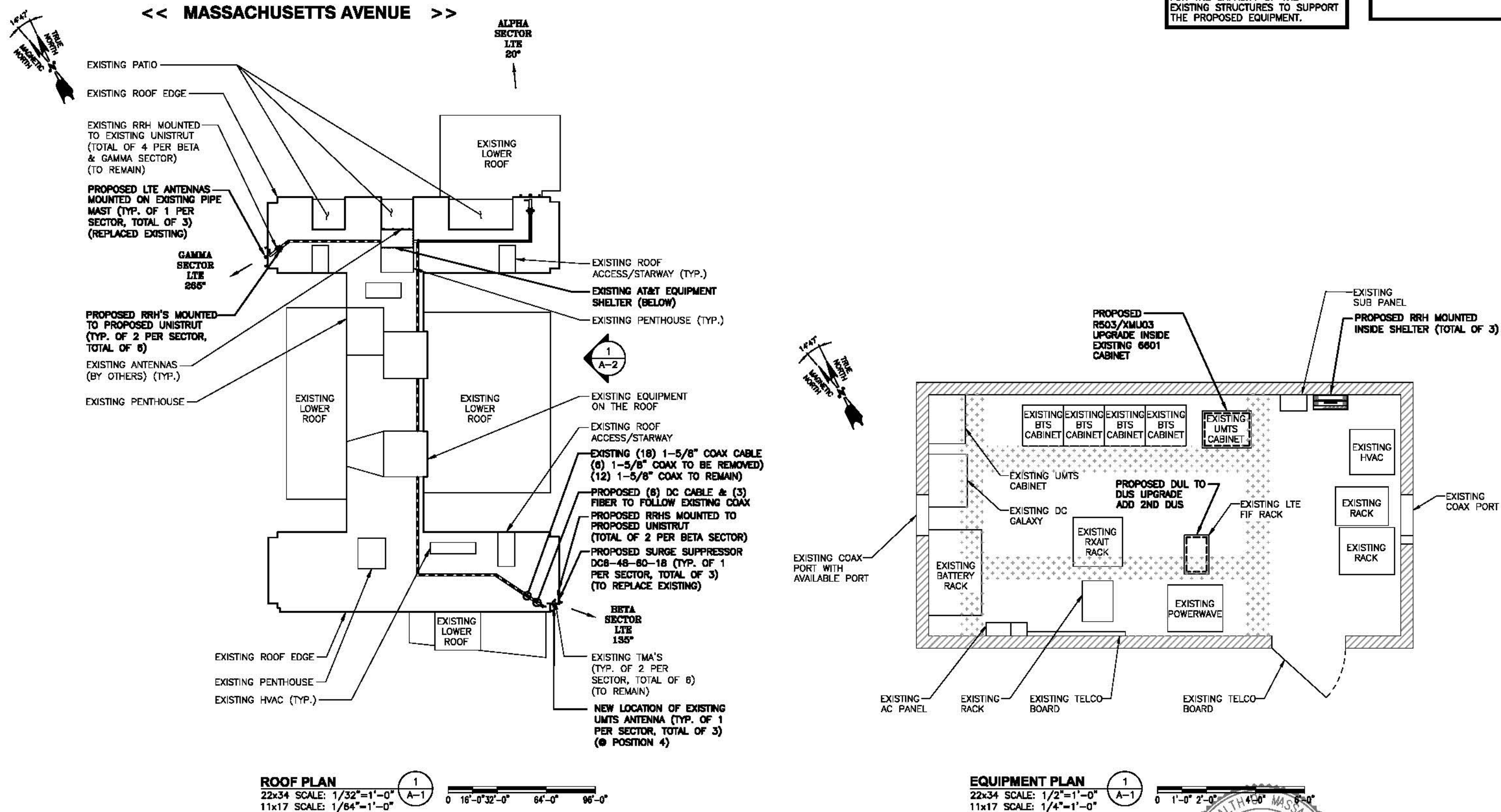
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GENERAL NOTES
(LTE-3C-4C-5C)

JOB NUMBER	DRAWING NUMBER	REV
2215.01	GN-1	2

NOTE:
REFER TO STRUCTURAL ASSESSMENT
BY: HUDSON DESIGN GROUP, LLC,
DATED: APRIL 5, 2016,
FOR THE CAPACITY OF THE
EXISTING STRUCTURES TO SUPPORT
THE PROPOSED EQUIPMENT.

NOTE:
REFER TO THE FINAL RF DATA
SHEET FOR FINAL ANTENNA
SETTINGS.



ROOF PLAN
22x34 SCALE: 1/32"=1'-0"
11x17 SCALE: 1/64"=1'-0"

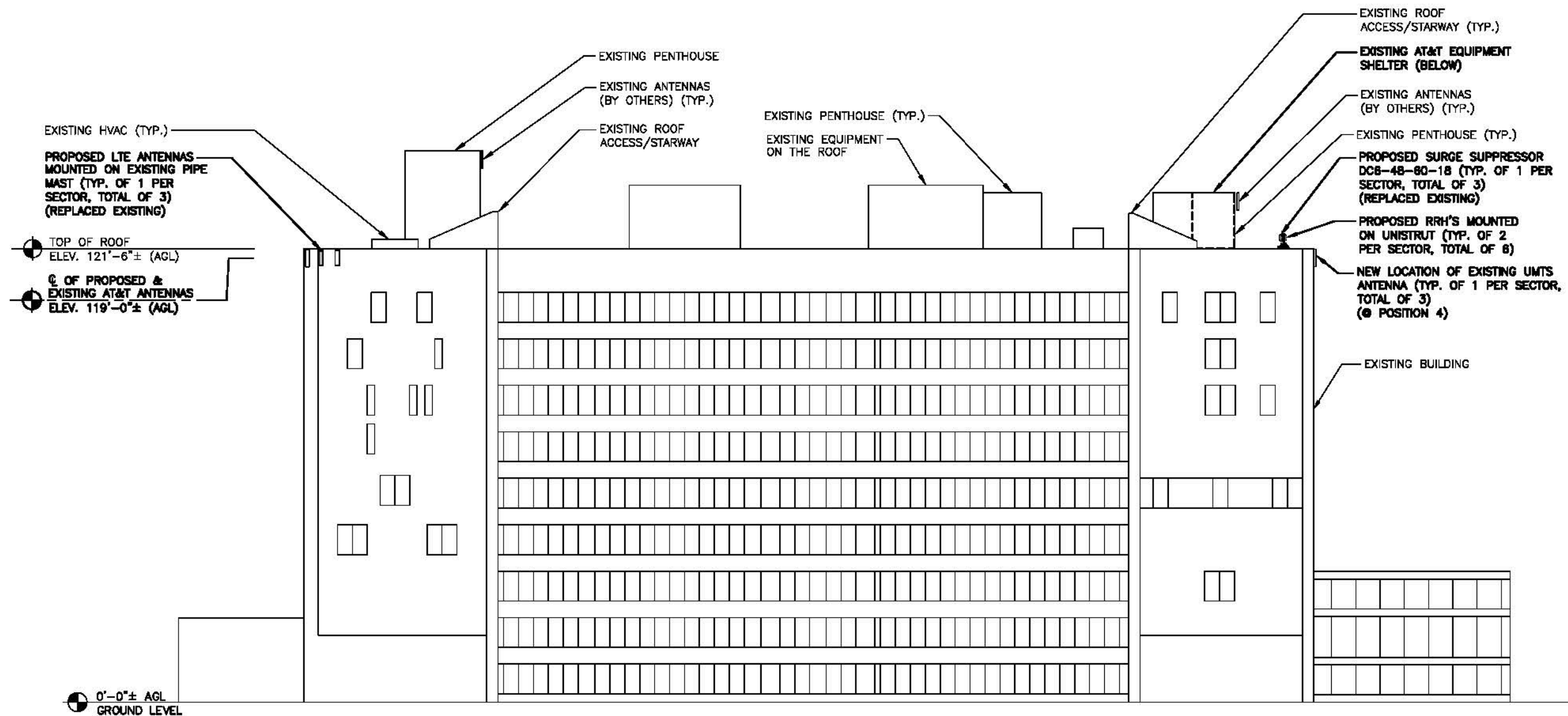
EQUIPMENT PLAN
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

REFER TO STRUCTURAL ASSESSMENT BY: HUDSON DESIGN GROUP, LLC, DATED: APRIL 5, 2016, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.



SOUTHEAST ELEVATION

22x34 SCALE: 1/16"=1'-0"
11x17 SCALE: 1/32"=1'-0"

1
A-2

0 8'-0" 16'-0" 32'-0" 48'-0"



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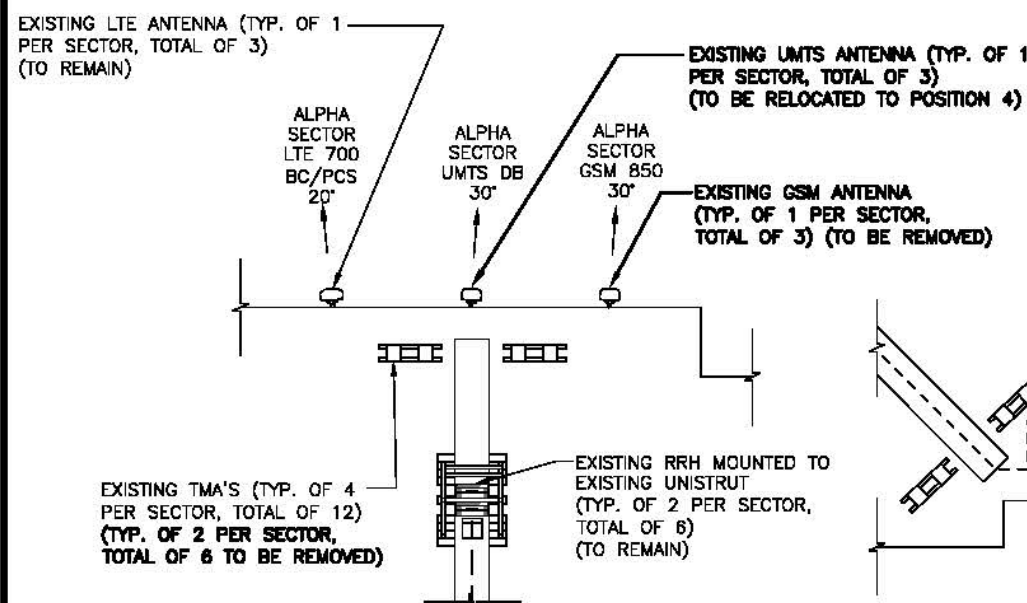
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NO.	DATE	REVISIONS	BY	ELEVATION (LTE-3C-4C-5C)		
2	04/05/16	ISSUED FOR CONSTRUCTION	EB	JOB NUMBER		
1	11/30/15	ISSUED FOR CONSTRUCTION	SG	DRAWING NUMBER		
A	11/17/15	ISSUED FOR REVIEW	EB	REV		
SCALE: AS SHOWN				2215.01	A-2	2

NOTE:

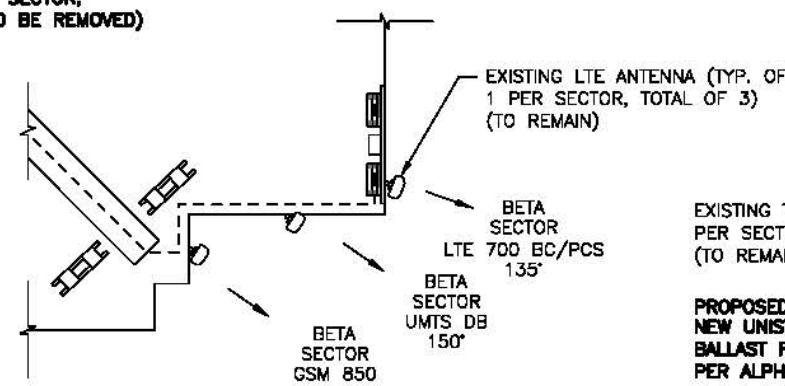
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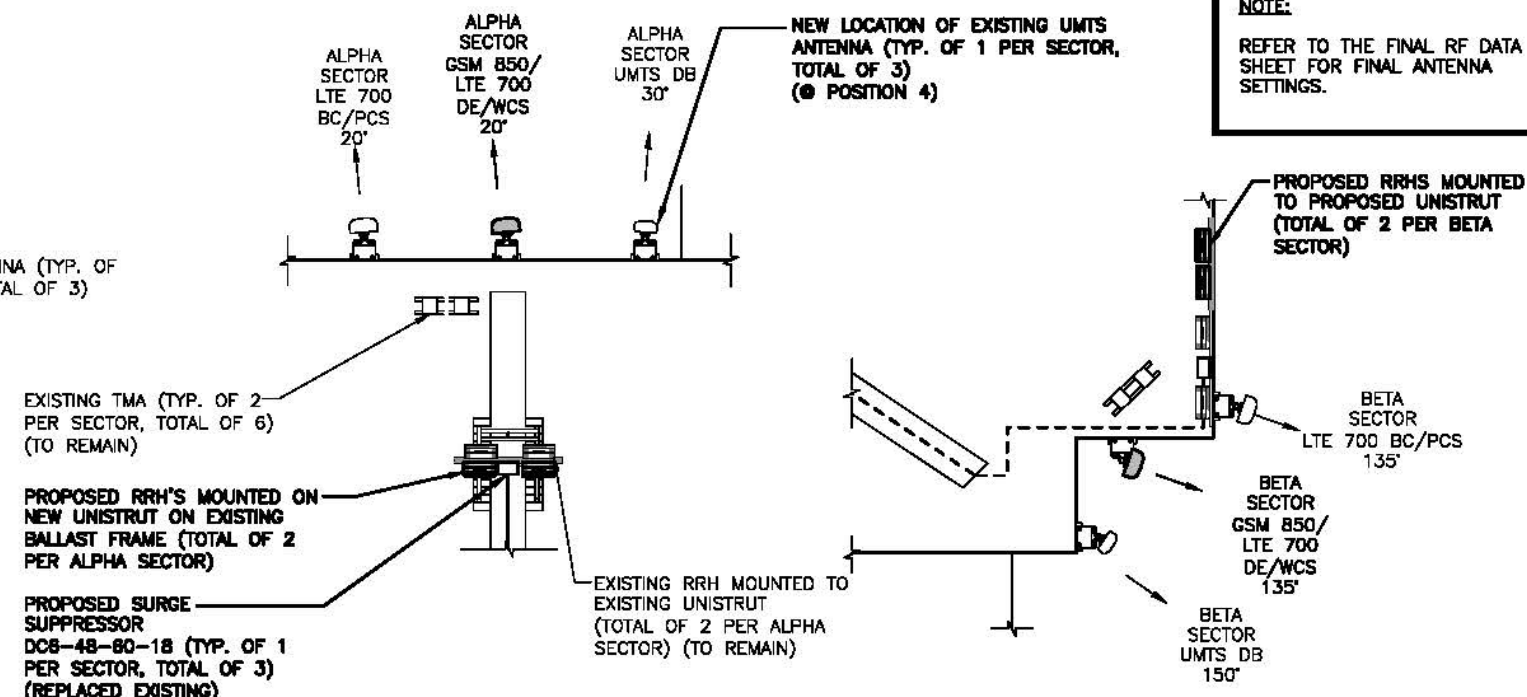
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SHEET FOR FINAL ANTENNA
SETTINGS.



ALPHA SECTOR

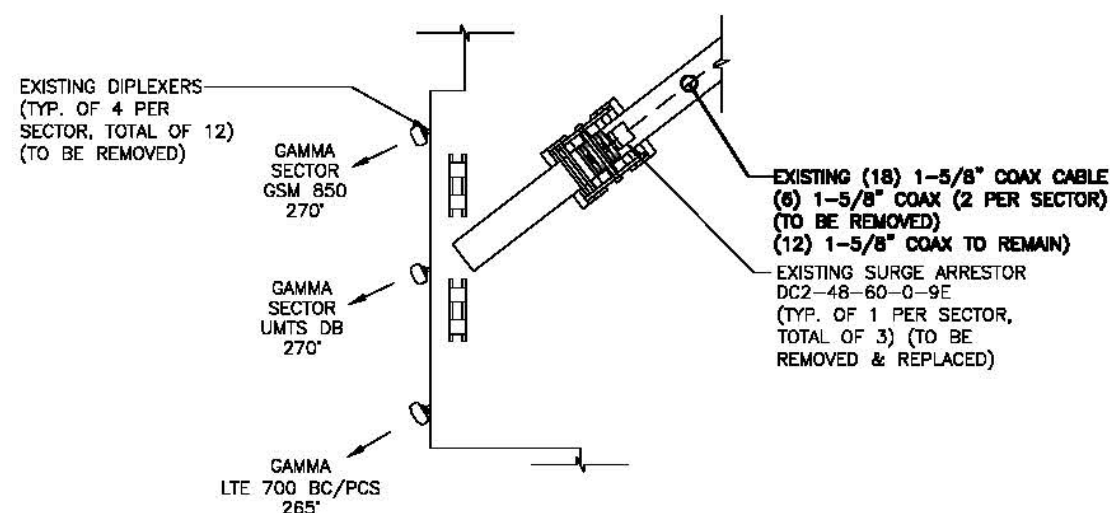


BETA SECTOR



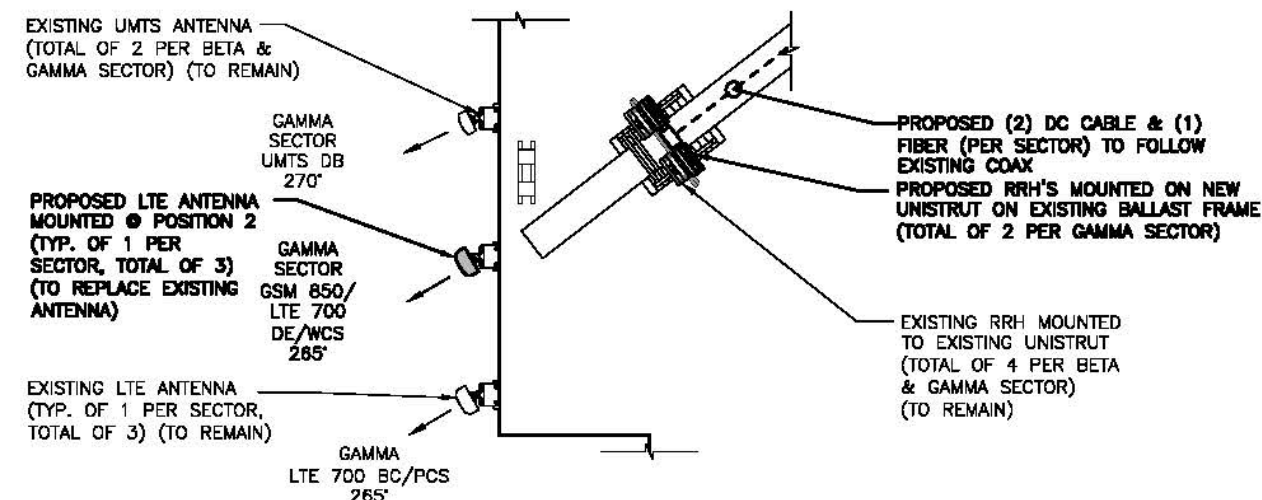
ALPHA SECTOR

BETA SECTOR



GAMMA SECTOR

EXISTING ANTENNA LAYOUT
SCALE: N.T.S.



GAMMA SECTOR

PROPOSED ANTENNA LAYOUT
SCALE: N.T.S.

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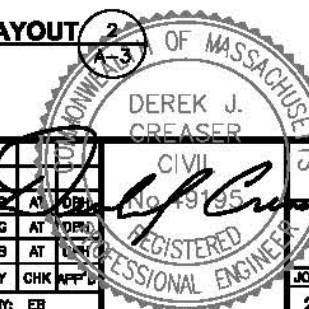
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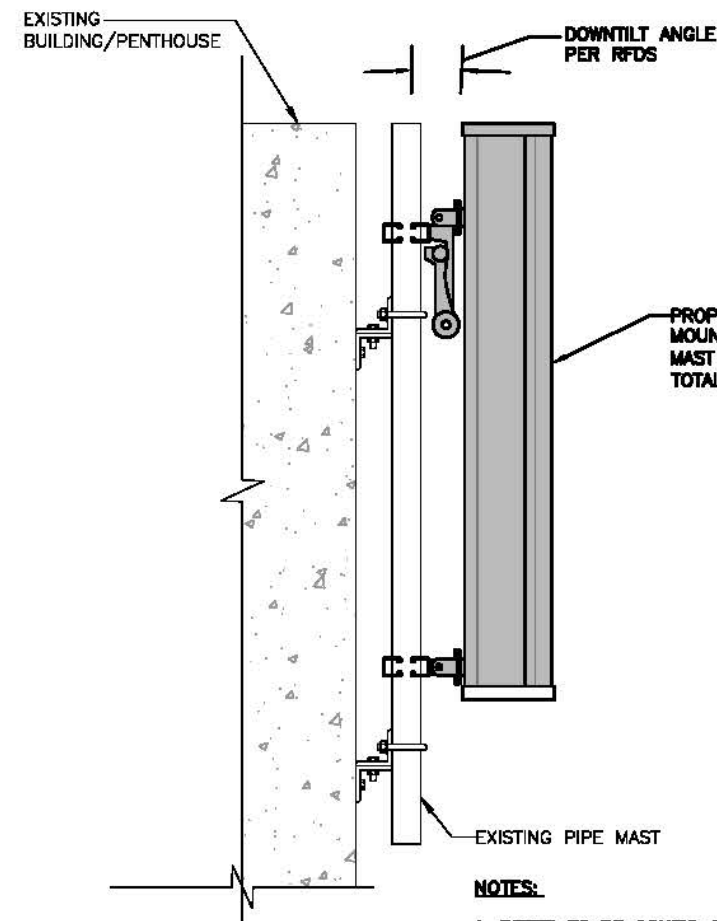
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AT&T

ANTENNA LAYOUT
(LTE-3C-4C-5C)

JOB NUMBER	DRAWING NUMBER	REV
2215.01	A-3	2



NOTES:
1. REFER TO RF CONFIG & SECTOR SCHEMATICS FOR MODEL, TYPE & QUANTITY REQUIRED PER SECTOR

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

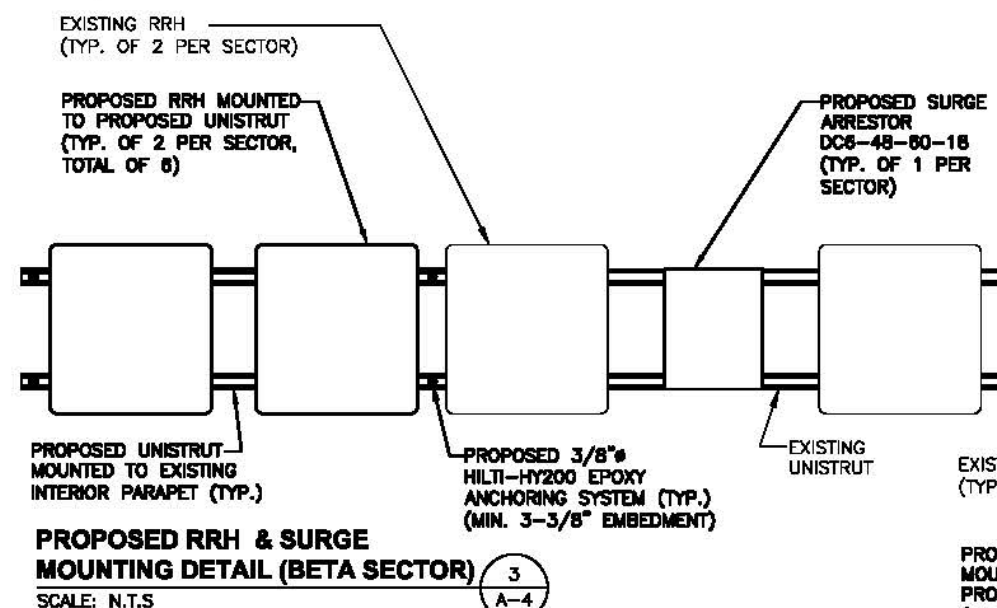
REFER TO STRUCTURAL ASSESSMENT BY: HUDSON DESIGN GROUP, LLC, DATED: APRIL 5, 2016, FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT.

EXISTING ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	KMW	AM-X-CD-14-85-00T-RET	48X11.8X5.9
	KATHREIN	742 264	51.8X10.3X5.5
BETA:	KMW	AM-X-CD-14-85-00T-RET	48X11.8X5.9
	KATHREIN	742 264	51.8X10.3X5.5
GAMMA:	KMW	AM-X-CD-14-85-00T-RET	48X11.8X5.9
	KATHREIN	742 264	51.8X10.3X5.5

PROPOSED ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
ALPHA:	KMW	AM-X-CD-14-85-00T-RET	48X11.8X5.9
	CCI	OPA-85R-LCUU-H4	48X14.4X7.3
BETA:	KMW	AM-X-CD-14-85-00T-RET	48X11.8X5.9
	CCI	OPA-85R-LCUU-H4	48X14.4X7.3
GAMMA:	KMW	AM-X-CD-14-85-00T-RET	48X11.8X5.9
	CCI	OPA-85R-LCUU-H4	48X14.4X7.3



EXISTING RRH (TYP. OF 2 PER SECTOR)

PROPOSED RRH'S MOUNTED TO PROPOSED UNISTRUT (TYP. OF 2 PER SECTOR, TOTAL OF 6)

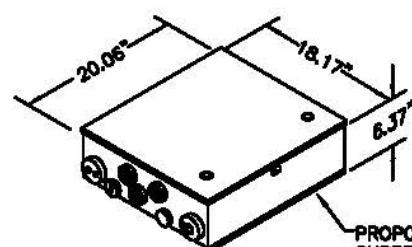
PROPOSED SURGE ARRESTOR DC6-48-60-18 (TYP. OF 1 PER SECTOR)

PROPOSED P1000 UNISTRUT (TYP.)

EXISTING 4"x4" CONC. FILLED PVC SLEEPER (TYP.)

PROPOSED ANTENNA MOUNTING DETAIL BETA & GAMMA SECTOR

22x34 SCALE: 1-1/2"=1'-0"
11x17 SCALE: 3/4"=1'-0"



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED SURGE SUPPRESSOR
MODEL NUMBER:
DC6-48-60-18
DIMENSIONS:
H20.06"xW18.17"xD6.37"

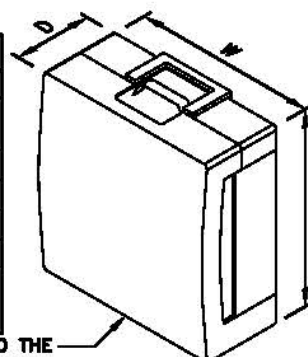
PROPOSED SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.

RRU CHART				
QUANTITY	MODEL	L	W	D
6 (E) & 3 (P)	RRUS-11	19.7"	17.0"	7.2"
-	RRUS-12	20.4"	18.5"	7.5"
3 (E)	RRUS-32	27.2"	12.1"	7.0"
3 (E)	RRUS-E2	20.4"	18.5"	7.5"
-	LTE-A2	16.4"	15.2"	3.4"

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS



PROPOSED RRU DETAIL

SCALE: N.T.S.

PROPOSED RRH & SURGE ARRESTOR MOUNTING DETAIL (ALPHA & GAMMA SECTOR)

SCALE: N.T.S.

EXISTING STRAP (TYP.)

EXISTING CABLE TRAY

DEREK J. CREASER
CIVIL
REGISTERED ENGINEER

5
A-4

Hudson
Design Group, Inc.

1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI

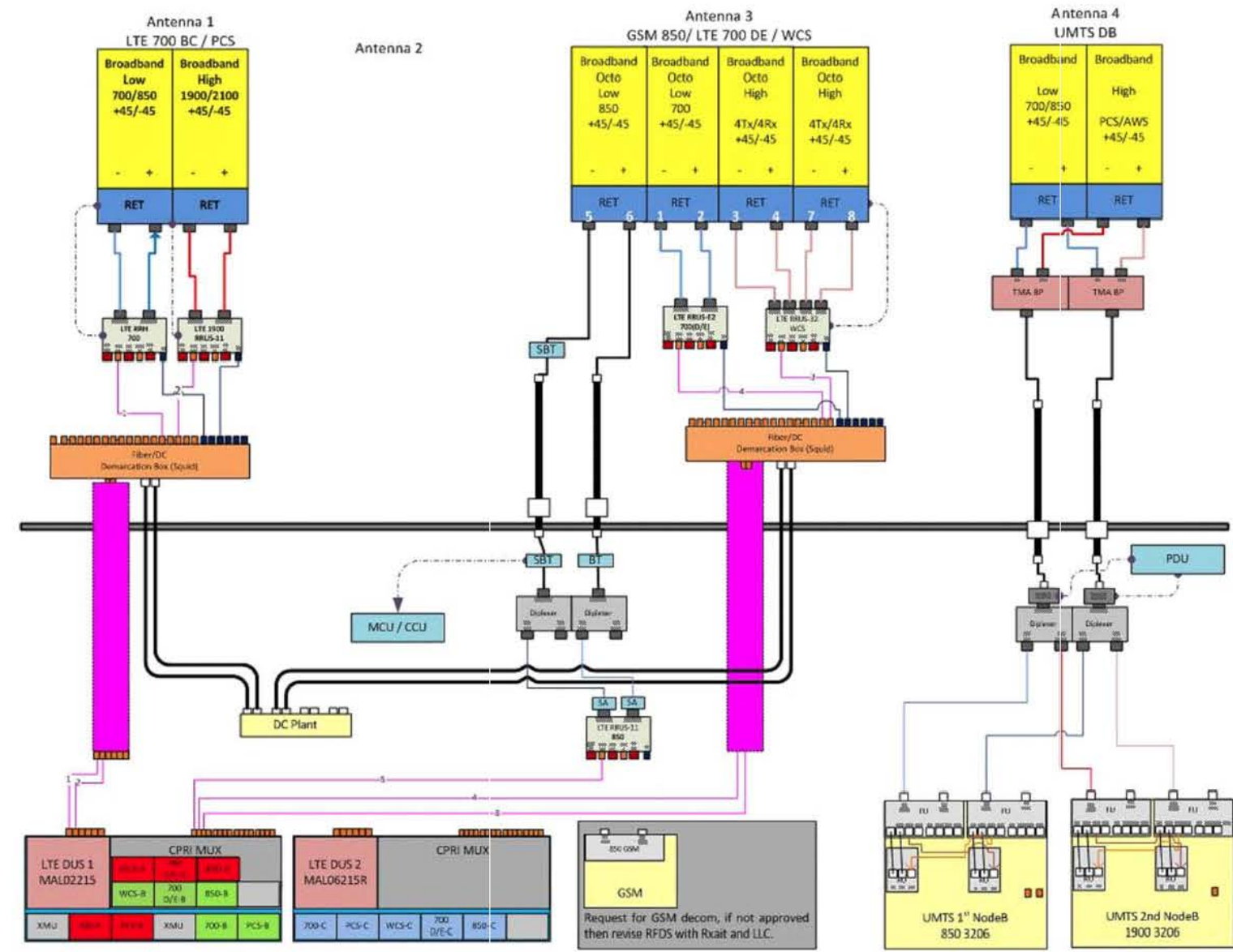
27 NORTHWESTERN DR.
SALEM, NH 03079

SITE NUMBER: MA2215
SITE NAME: CAMBRIDGE MASS. AVE
1350 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138
MIDDLESEX COUNTY

at&t

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

AT&T			
DETAILS (LTE-3C-4C-5C)			
NO.	DATE	REVISIONS	BY
2	04/05/16	ISSUED FOR CONSTRUCTION	EB
1	11/30/15	ISSUED FOR CONSTRUCTION	SG
A	11/17/15	ISSUED FOR REVIEW	EB
NO.	DATE	REVISIONS	BY
SCALE:	AS SHOWN	DESIGNED BY: AT	DRAWN BY: EB
JOB NUMBER	2215.01	DRAWING NUMBER	A-4
REV			2



RF PLUMBING DIAGRAM
SCALE: N.T.S.

- NOTES:**
1. CONTRACTOR TO CONFIRM ALL PARTS.
 2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

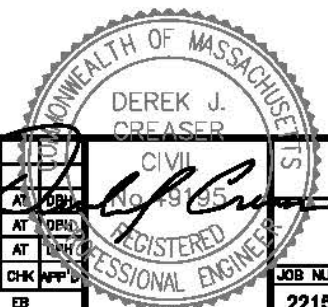
Hudson Design Group Inc.
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SAI
27 NORTHWESTERN DR.
SALEM, NH 03079

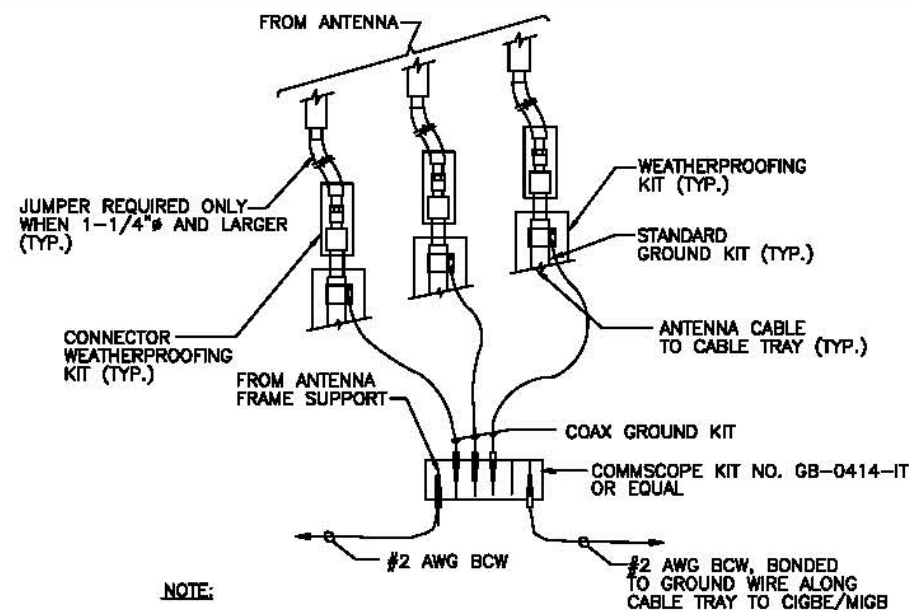
SITE NUMBER: MA2215
SITE NAME: CAMBRIDGE MASS. AVE
1350 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138
MIDDLESEX COUNTY

at&t
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

NO.	DATE	REVISIONS	BY	CHK	APP'D
2	04/05/16	ISSUED FOR CONSTRUCTION	EB	AT	DPH
1	11/30/15	ISSUED FOR CONSTRUCTION	SG	AT	DPH
A	11/17/15	ISSUED FOR REVIEW	EB	AT	DPH
SCALE: AS SHOWN					
DESIGNED BY: AT					
DRAWN BY: EB					



AT&T		
PLUMBING DIAGRAM (LTE-3C-4C-5C)		
JOB NUMBER	DRAWING NUMBER	REV
2215.01	RF-1	2

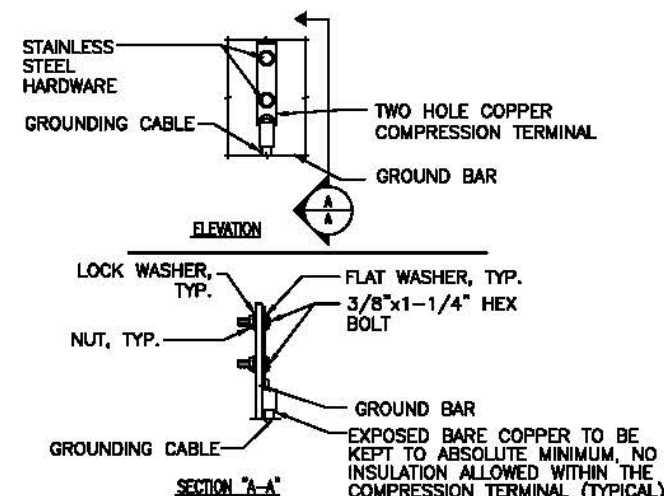


NOTE:

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

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

1
G-1
N.T.S.



NOTE:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.

TYPICAL GROUND BAR CONNECTION DETAIL

3
G-1
N.T.S.

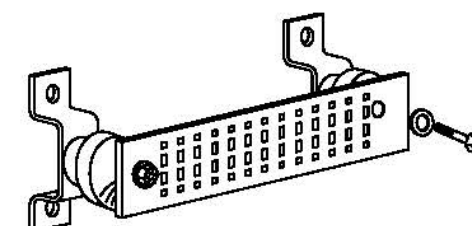
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

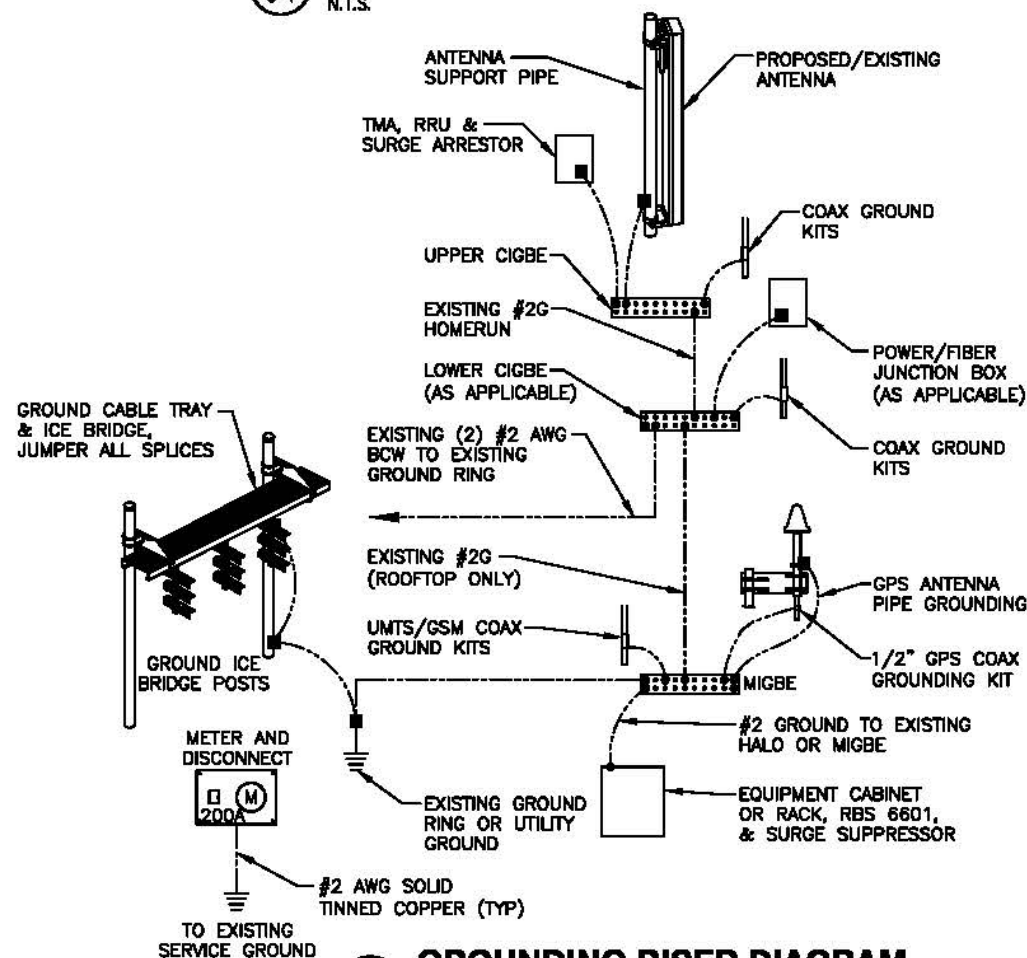
CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

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)



4
G-1
N.T.S.



2
G-1
N.T.S.

Hudson
Design Group, Inc.

1600 OSGOOD STREET
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SAI

27 NORTHWESTERN DR.
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at&t

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

AT&T				GROUNDING DETAILS (LTE-3C-4C-5C)		
NO.	DATE	REVISIONS	BY	CHK	APP	REV
2	04/05/16	ISSUED FOR CONSTRUCTION	EB	AT	DPH	
1	11/30/15	ISSUED FOR CONSTRUCTION	SG	AT	DPH	
A	11/17/15	ISSUED FOR REVIEW	EB	AT	DPH	
SCALE: AS SHOWN				DESIGNED BY: AT		DRAWN BY: EB
JOB NUMBER				DRAWING NUMBER		
2215.01				G-1		2

Twin Triple Band “Active PCS with 700 and 850 Band Pass-thru” Dual Duplexed TMA

Tel: 201-342-3338

Fax: 201-342-3339

www.cciproduts.com

General Information



CCI's Twin Triple Band (700 Band, Cellular and PCS) TMA contains two triple band TMA's in a single housing. The PCS TMA is full band and fully duplexed, while the 700 Band and Cellular RF is bypassed and combined (Duplexed) with the PCS RF signal. High linearity improves the uplink sensitivity and the receive performance of base stations. The TMA is fully compliant with the latest AISG 2.0 specification. The TMA supports EDGE/GSM, UMTS and LTE BTS equipment. It provides a convenient package for sites upgraded to triple or quad antenna configurations. The twin TMA package reduces tower loading, leasing, and installation costs. Unit count on the tower is cut in half. An excellent match for two branch receive diversity applications using triple polarization antennas. The input and output connectors are located inline for ease of installation in space constrained areas such as uni-pole structures and stealth antennas.



Model
DTMABP7819VG12A

Contents:

General Info and Technical Description	1
Electrical & Mechanical Specs (AISG TMA)	2
Block Diagram & Outline Drawing (AISG TMA)	3

Features:

- Small, lightweight, twin unit
- Triple Band Dual Duplexed (PCS with 700 Band & Cellular Bypass)
- Optional AISG 2.0 compatible unit
- AISG TMA detects BTS port that DC voltage and AISG sampling is applied to, and automatically switches to utilize that port
- AISG TMA operates at constant power
- AISG TMA may be powered by a standard PDU
- High linearity
- Lightning protected
- Fail-safe bypass mode
- High reliability

Technical Description

The TMA system consists of a twin outdoor triple band tower mount unit which combine separate PCS, 700 Band & Cellular antennas onto a single BTS port. The PCS path of the tower mount unit is dual duplexed to separate the low-power uplink signals from the high-power downlink signals at the antenna port, amplifies the low-level uplink signals using an ultra-low noise amplifier (LNA), and recombines the two paths at the BTS port. The 700 Band & Cellular path is ultra low loss and passive. Both paths are duplexed at the BTS port. The tower mount units consist of eight band-pass filters, two redundant low-noise amplifiers, bypass failure circuitry, and bias tee's which are all housed in an IP65 moisture proof enclosure, with IP68 Immersion proof connectors suited to long-life masthead mounting. The unit provides protection against lightning strikes via a multi-stage surge protection circuit. DC power and control is provided via the feeder cable from the BTS or a Power Distribution Unit (PDU). Optional AISG 2.0 DC power and control is provided via the feeder cable from the BTS using the AISG 2.0 and 3GPP standard. The optional AISG TMA detects which BTS port has DC Voltage/AISG Sampling applied and automatically switches to utilize that port. Additionally the AISG TMA operates at constant power when powered by an AISG 2.0 Compatible Site Control Unit, but may be powered by a “Standard Power distribution Unit. A separate AISG connector is also provided to allow direct AISG connection or “Daisy Chaining” to multiple AISG products at the top of the tower.

An optional indoor site control unit (SCU) is available to power up to up to 32 AISG modules per sector and to provide the all the monitoring and alarm functions for the system. The SCU is housed in a single (1U) 1.75” x 19” rack and contains triple redundant power supplies capable of being “hot swapped” that provide a regulated DC supply voltage on the RF coax for the tower mount amplifiers.

Twin Triple Band "Active AWS with 700 and 850 Band Pass-thru" TMA Typical Specifications



Description	Typical Specifications
Electrical Specifications	
700 Band & Cellular Frequency Range	698 to 894 MHz
PCS Receive Frequency Range	1850 – 1910 MHz
PCS Transmit Frequency Range	1930 - 1990 MHz
PCS Amplifier Gain	6 to 12 dB Adjustable in 0.25 dB steps via AISG
PCS Gain Variation	±1.0 dB
PCS System Noise Figure	1.4 dB (@ +25°C), 1.6 dB (@ +65°C), At 1910 MHz: 1.7 dB (@ +25°C), 1.9 dB (@ +65°C)
PCS Input Third Order Intercept Point	+12 dBm Min @ Max. Gain
Input/Output Return Loss	18 dB Min. all ports, 15 dB Min. Bypass Mode
Insertion Loss	
700 Band & Cellular Passband	< 0.2 dB, 0.1 dB typical
PCS Transmit Passband	0.4 dB Typical
PCS Transmit Passband Ripple	±0.2 dB
PCS Bypass Mode, Rx Passband	1.6 dB (@ +25°C), 1.8 dB (@ +65°C), At 1910 MHz: 2.3 dB (@ +25°C), 2.5 dB (@ +65°C)
PCS Bypass Mode, Rx Passband Ripple	±1 dB
Filter Characteristics	
700 Band & Cellular Path Rejection	70 dB @ 1850 - 1990 MHz
PCS Path Rejection	80 dB @ 698 - 894 MHz
Continuous Average Power	200 Watts max
Peak Envelope Power	2 kW max
Intermodulation Performance	
IMD at ANT port in Rx Band	-112 dBm Min. (2 x +43 dBm tones)
Operating Voltage	+10V to +30V DC provided via coax or AISG
Power Consumption	≤ 2.1 Watts
Mechanical Specifications	
Connectors	DIN 7-16 Female (Long Neck) x 6, AISG x 1
Dimensions (Body Only)	10.63" (H) x 11.02" (W) x 3.78" (D); (270 (H) x 280 (W) x 96 (D) mm)
Dimensions (with Bracket)	14.25" (H) x 11.46" (W) x 4.17" (D); (362 (H) x 291 (W) x 106 (D) mm)
Weight (w/o Bracket)	19.18 Lbs. (8.7 Kg)
Mounting	Pole/Wall Mounting Bracket
Environmental Specifications	
Operating Temperature	-40° C to +65° C
Lightning Protection	8/20us, ±2KA max, 10 strikes each, IEC61000-4-5
Enclosure	IP65 (Unit Body), IP68 (Connector)
MTBF	>500,000 hours

All specifications are subject to change. The latest specifications are available at www.cciproductions.com

Communication Components Inc.

Tel: 201-342-3338

CCI Confidential

Fax: 201-342-3339



89 Leuning Street
South Hackensack, NJ 07606

Tel: 201-342-3338

Fax: 201-342-3339

WWW.CCIPRODUCTS.COM



Ordering Information:

- ◆ **Model DTMABP7819VG12A**
CEQ. ?????
(Variable Gain AISG 2.0
Compatible Unit)

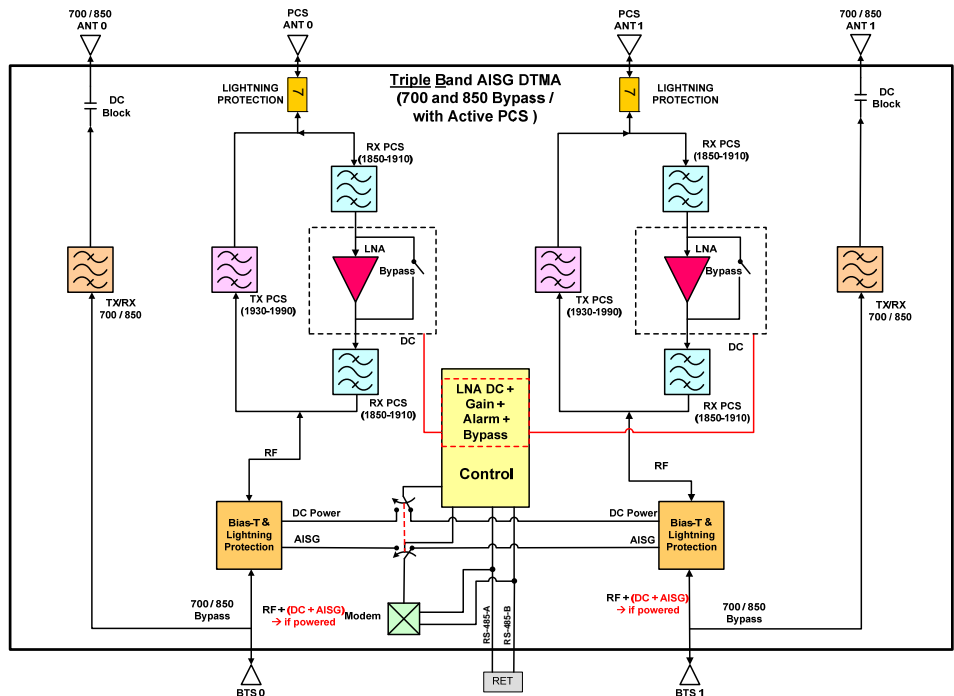
Options:

- ◆ Pole Mount Kit

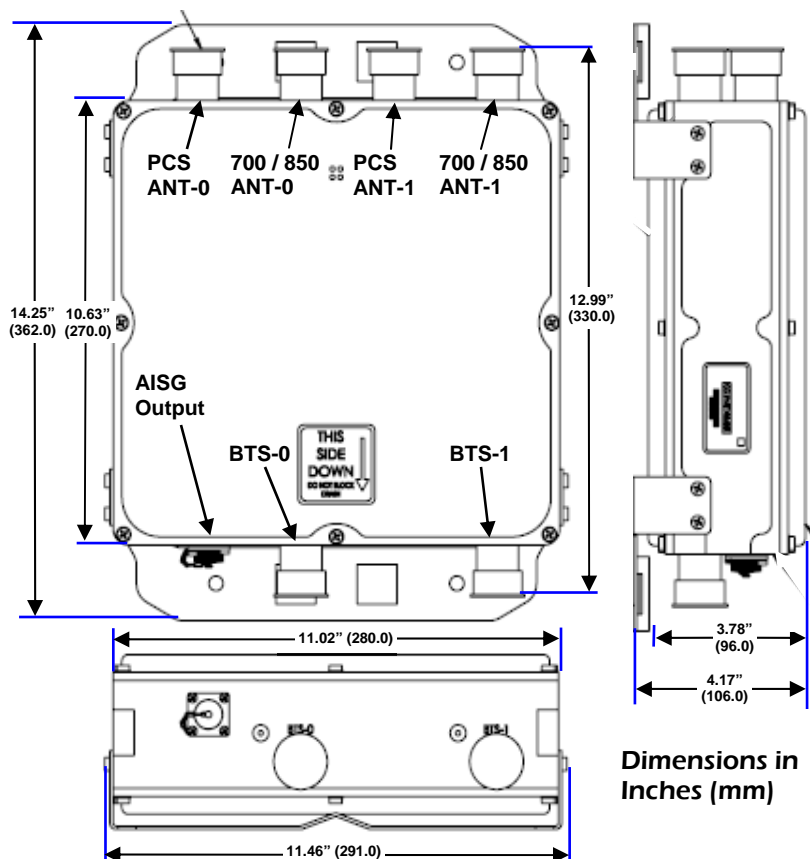
Accessories:

- ◆ AISG 2.0 Site Controller
(SCU-AISG2-3)
- ◆ AISG Cable Kit
(RET-CBK)
- ◆ AISG 2.0 Outdoor Bias-T
 1. Model BT-0821-DMDF-
AG-O (DIN-Male RF
Port, DIN-Female
RF+DC+AISG Port)
 2. Model BT-0821-DFDM-
AG-O (DIN-Female RF
Port, DIN-Male
RF+DC+AISG Port)
 3. Model BT-0821-DFDF-
AG-O (DIN-Female RF
Port, DIN-Female
RF+DC+AISG Port)

Triple Band Active PCS with 700 and 850 Band Pass-Thru Twin TMA Block Diagram



Triple Band Active PCS with 700 and 850 Band Pass-Thru Twin TMA Outline Drawing



Communication Components Inc.

65° OctoPORT MULTI-BAND ANTENNA

Model OPA-65R-LCUU-H4



Octoport Multi-Band Antenna Array

Benefits

- ◆ RET System allows Independent Tilt of each band specific paired port
- ◆ Reduces tower loading
- ◆ Frees up space for tower mounted Remote Radio Heads
- ◆ Single radome with eight ports
- ◆ All Band design simplifies radio assignments
- ◆ Sharp elevation beam eases network planning

The CCI Octoport Multi-Band Antenna Array is an industry first 8-port antenna with full WCS Band Coverage. With four high band ports covering PCS, AWS and WCS bands, two 700 MHz ports, and two 850 MHz ports our octoport antenna is ready for 4X4 high band MIMO.

Modern networks demand high performance, consequently CCI has incorporated several new and innovative design techniques to provide an antenna with excellent side-lobe performance, sharp elevation beams, and high front to back ratio.

Multiple networks can now be connected to a single antenna, reducing tower loading and leasing expense, while decreasing deployment time and installation cost.

Full band capability for 700 MHz , Cellular 850 MHz, PCS 1900 MHz, AWS 1710/2155 MHz and WCS 2300 MHz coverage in a single enclosure.

Features

- ◆ High Band Ports include WCS Band
- ◆ Four High Band ports with four Low Band ports in one antenna
- ◆ Sharp elevation beam
- ◆ Excellent elevation side-lobe performance
- ◆ Excellent MIMO performance due to array spacing
- ◆ Excellent PIM Performance
- ◆ A multi-network solution in one radome

Applications

- ◆ 4x4 MIMO on High Band and Dual 2x2 MIMO on 700 & 850 Low Bands
- ◆ Adding additional capacity without adding additional antennas
- ◆ Adding WCS Band without increasing antenna count



65° OctoPORT MULTI-BAND ANTENNA

Model OPA-65R-LCUU-H4

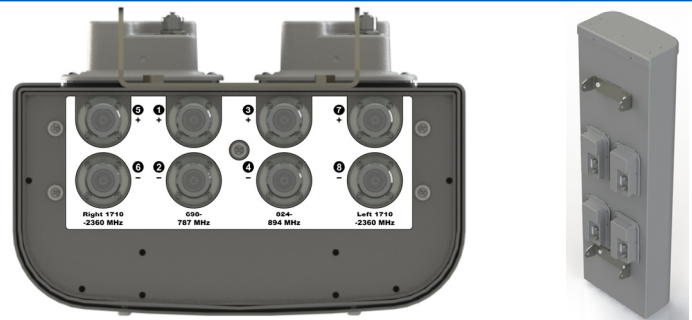
OPA-65R Multi-Band Antenna

Electrical Specifications

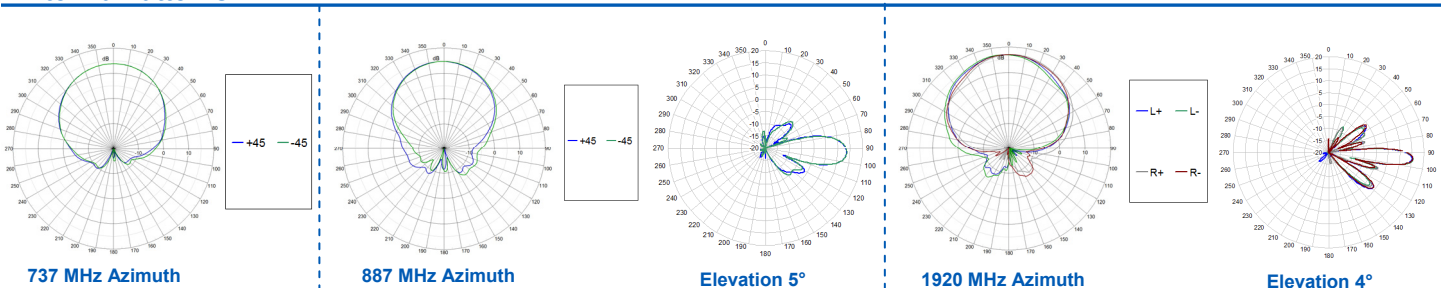
Frequency Range	2 X Low Band Ports (L) which cover the range from 698-787	2 X Low Band Ports (C) which cover the range from 824-894	4 X High Band Ports (H1 & H2) which cover the full range from 1710-2360 MHz			
			1850-1990 MHz	1710-1755/2110-2170 MHz	2305-2360 MHz	
Gain	12.7 dBi	13.3 dBi	15.7 dBi	14.9 dBi	16.4 dBi	16.8 dBi
Azimuth Beamwidth (-3dB)	65°	63°	63°	68°	62°	58°
Elevation Beamwidth (-3dB)	18.9°	16.5°	8.9°	9.8°	7.7°	6.9°
Electrical Downtilt	0° to 10°	0° to 10°	0° to 8°	0° to 8°	0° to 8°	0° to 8°
Elevation Sidelobes (1st Upper)	< -20 dB	< -18 dB	< -20 dB	< -20 dB	< -18 dB	< -18 dB
Front-to-Back Ratio @180°	> 28 dB	> 28 dB	> 30 dB	> 30 dB	> 30 dB	> 30 dB
Front-to-Back Ratio over ± 20°	> 28 dB	> 27 dB	> 28 dB	> 28 dB	> 26 dB	> 26 dB
Cross-Polar Discrimination (at Peak)	> 20 dB	> 20 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
Cross-Polar Discrimination (at ± 60°)	> 15 dB	> 13 dB	> 17 dB	> 17 dB	> 17 dB	> 17 dB
Cross-Polar Port-to-Port Isolation	> 25 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB	> 25 dB
VSWR	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1	< 1.5:1
Passive Intermodulation (2x20W)	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc	≤ -150dBc
Input Power	500 Watts CW	500 Watts CW	300 Watts CW	300 Watts CW	300 Watts CW	300 Watts CW
Polarization	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°	Dual Pol 45°
Input Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Lightning Protection	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground	DC Ground

Mechanical Specifications

Dimensions (LxWxD)	48.0 x 14.4 x 7.3 inches (1218 x 366 x 185 mm)
Survival Wind Speed	> 150 mph
Front Wind Load	152 lbs (676 N) @ 100 mph (161 kph)
Side Wind Load	86 lbs (381 N) @ 100 mph (161 kph)
Equivalent Flat Plate Area	5.9 ft ² (0.60 m ²)
Weight (w/o RET/Mounting)	57 lbs (26 kg)
RET System Weight	7.0 lbs (3.0 kg)
Connector	8; 7-16 DIN female long neck
Mounting Pole	2-5 inches (5-12 cm)



Antenna Patterns*



*Typical antenna patterns. For detail information on antenna pattern, please contact us at info@cciprducts.com. All specifications are subject to change without notice.

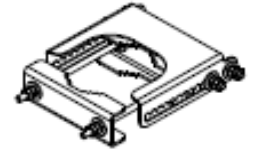
65° OctoPort Multi-Band Antenna

Model OPA-65R-LCUU-H4

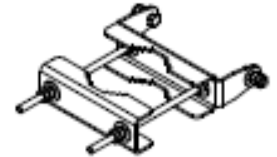
Ordering Information:

OPA-65R-LCUU-H4	4 Foot Octoport Antenna with 65° Azimuth Beamwidth and factory installed RET Actuators (4)
OPA-65R-LCUU-H4-K	Complete Kit with Antenna, Factory Installed Actuators (4) and MBK-02 Mounting Bracket
BSA-RET200	RET Actuator
MBK-02	Mounting Bracket (Top & Bottom) with 0° through 10° Mechanical tilt Adjustment: See Installation Guide 50-000038-01 for Details: Weight 10.3 Lbs. (4.7 kg)

MBK-02 Top Mounting Bracket



MBK-02 Bottom Mounting Bracket



RET [Remote Electrical Tilt] System

General Specification

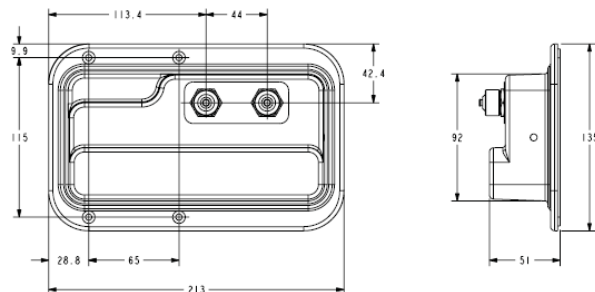
Part Number	BSA-RET200
Protocols	AISG 2.0
RET Type (Reference AISG 1.1)	Type 1
Adjustment Cycles	>10,000 cycles
Tilt Accuracy	±0.1°
Temperature Range	-40°C to +70°C

Electrical Specification

Interface Signal	Data dc
Input Voltage Range	10-30 Vdc
Current consumption during tilting	120mA at Vin = 24V
Current consumption idle	55mA at Vin=24V
Hardware Interface	AISG - RS 485 A/B
Input Connector	1x8-pin Daisy Chain In Male
Output Connector	1x8-pin Daisy Chain Out Female

Mechanical Specification and Dimensions

Housing Material	ASA / ABS / Aluminum
Dimensions (H x W x D)	8 x 5 x 2 inches (213 x 135 x 51 mm)
Weight	1.5 lbs (0.68 kg)



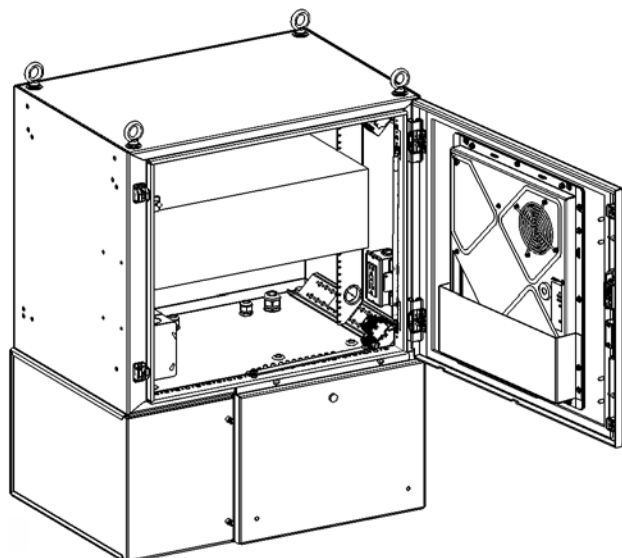
Standards Compliance

Safety	EN 60950-1, UL 60950-1
Emission	EN 55022
Immunity	EN 55024
Environmental	IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-5, IEC 60068-2-6, IEC 60068-2-11, IEC 60068-2-14, IEC 60068-2-18, IEC 60068-2-27, IEC 60068-2-29, IEC 60068-2-30, IEC 60068-2-52, IEC 60068-2-64, GR-63-CORE 4.3.1, EN60529 IP24

Regulatory Certification

AISG, FCC Part 15 Class B, CE, CSA US

FlexSure®



FLX12WSW Power-Battery Cabinet

Installation Manual



FLX12WSW POWER-BATTERY CABINET INSTALLATION MANUAL

Contact Information

Purcell® Systems, Inc. 16125 E. Euclid Avenue, Spokane Valley, WA 99216

Phone (509) 755-0341 **Fax** (509) 755-0345 **E-mail** marketing@PurcellSystems.com **Web** www.PurcellSystems.com

Tech Support Phone: (509) 720-5500 or (509) 755-0341 E-mail: tech-support@purcellsystems.com

Document Information

Identification

FLX12WSW Power-Cabinet Installation Manual

1000017671 Rev 00 11/10

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Content

These instructions do not cover all details or variations in equipment, nor do they provide for every possible contingency to be met with installation, operation, or maintenance.

Shipped product typically includes associated documents, such as user manuals from OEMs of installed equipment, engineering drawings, and instructions for supplied kits. For extra documentation or further information, contact Purcell Systems, Inc.

Pertinent Product(s)





This installation manual pertains to product part number 2000001749.

Packaging Inspection

If the shipping carton shows evidence of rough handling, inspect the equipment carefully for shipping damage. If damage is found, notify the carrier immediately, and annotate the damage on the bill of lading.

Precautions

Cautionary statements in this document conform to the following international standard:

	An operating or maintenance procedure, practice, condition, statement, etc., that, when not strictly observed, <u>will</u> result in serious injury or death.
	An operating or maintenance procedure, practice, condition, statement, etc., that, when not strictly observed, <u>could</u> result in serious injury or death.
	An operating or maintenance procedure, practice, condition, statement, etc., that, when not strictly observed, might result in minor or moderate injury.
	An operating or maintenance procedure, practice, condition, statement, etc., that, when not strictly observed, could result in damage to or destruction of equipment or product.

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NOTES

Section 1

System Description

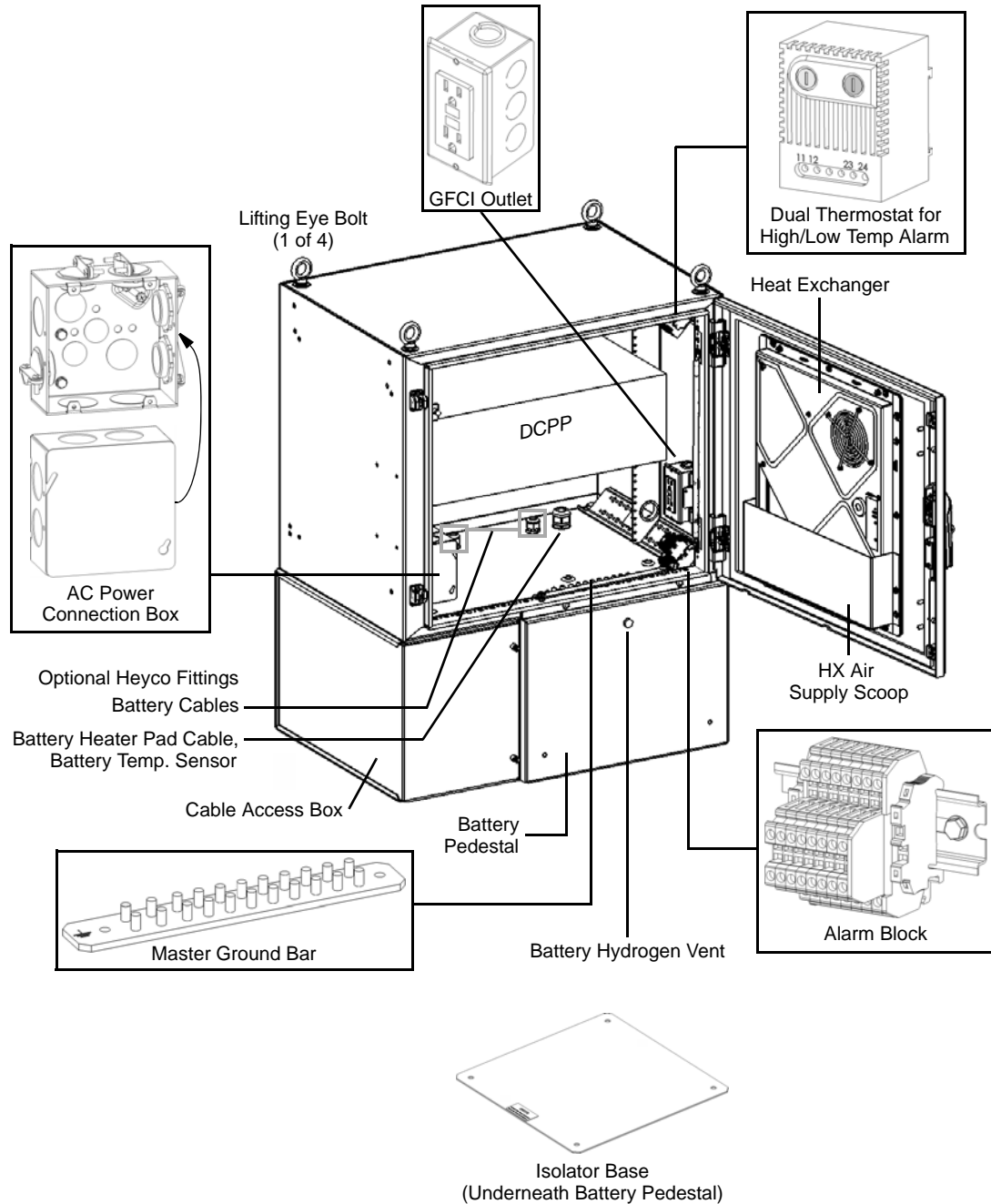


Functional Description

FLX12WSW is a DC power supply cabinet with 12 rack units (RU) equipment space and a battery pedestal that houses (4) 90A/hr backup batteries. A heat exchanger (HX) or other environmental control unit regulates interior temperature.

Components

This illustration shows cabinet components and options as seen from the left-front.



- **Alarm Block** Double 8-position prewired with low temperature, high-temperature, HX power fail, and door entry alarms.
- **Battery Pedestal** Covered compartment housing (4) 90A/hr batteries and an optional heater pad.
- **Cable Access Box** Compartment protected by a removable “skirt” that serves as a possible entry point for AC cables. Will support data cables for customized applications.
- **DCPP** The shelf DC power plant, rated at –48V, 200A, and using 5RU equipment space.
- **Demarc Box** Not shown in illustration, this 6-in. high option fits between the equipment bay and the battery pedestal, offering extra RU.
- **Dual Thermostat** Sets high and low temperature limits for high- and low-temperature alarms.
- **Equipment Rails** 23-in. wide.
- **GFCI Outlet** AC convenience option.
- **Heat Exchanger (HX)** Environmental control option, –48V, produces front-to-back air flow.
- **Heyco Fittings** Customer-installed Water-tight seals for routing battery cabling between the battery pedestal and the equipment bay. The large one routes and secures the cable for an optional battery heater. The smaller two are supplied loose for customer install of battery cables.
- **HX Air Supply Scoop** Directs ambient air upwards in the cabinet to the DCPP.
- **Isolator Base** Buffer that keeps the battery pedestal bottom from directly contacting a concrete pad.
- **J Box** Box for splicing incoming AC power to ground, DCPP, and GFCI/battery heater.
- **Lifting Eye Bolt** Hardware for hoisting the cabinet to the mounting location.
- **Master Ground Bar** Electrically and mechanically bonded to the cabinet frame through direct metal-to-metal contact on embosses below the bar.

The logo features the word "FlexSure" in a white serif font, with a registered trademark symbol (®) to its upper right. The text is set against a dark red rectangular background that has a subtle horizontal gradient, transitioning from a slightly lighter shade on the left to a darker shade on the right.

FlexSure®



Section 2

Installation



Precautions

Failure to comply with the precautions in this manual violates safety standards. Purcell® Systems, Inc., is not responsible for equipment damage or poor operating performance when these guidelines are not followed or when noncertified installers perform the work.

 WARNING	<ul style="list-style-type: none"> ■ The site engineer or contracted installer is responsible for all safety issues and procedures on-site. ■ Do not install or service equipment during a lightning storm.
 CAUTION	<p>Cabinet and equipment must be grounded to minimize shock hazard. Follow national and local codes, and best practices.</p>
CAUTION	<ul style="list-style-type: none"> ■ Do not lift the cabinet with customer equipment or batteries installed—the cabinet could bend from the weight. If the batteries are damaged, a hazardous material spill could occur. ■ Install/ground/remove equipment per manufacturer's instruction to ensure proper performance and maintain warranty. ■ Do not exceed equipment operational specifications.


Cabinet Mounting Options

- Cement pad
- Pole-mount

Both methods require a kit. Kits have their own installation manuals except where noted in the following table. This manual gives general mounting instructions only.

Mounting Kits

Kit PN	Document PN	Description
4000003681	<i>This manual</i>	Anchor plate for pad mount
1000016845	<i>This manual</i>	Template for pad mount, equipment bay pattern
1000016846	<i>This manual</i>	Template for pad mount, cable access box pattern
2000000744	1000006452	Pole mount, "face front" orientation

 **Important** Any method used to mount the cabinet must prevent shifting or overturn.

Selecting a Site

Various factors govern site selection including local/regional regulations and ordinances, climate, geological features, and other circumstance.

Consider these when developing site selection plans and requirements:

- **Accessibility**

- A site must be accessible to vehicles and equipment for installation, maintenance, and expansion.
- All services required at the site, including electrical, site grounding, and other utilities, must be available, reliable, and able to grow with planned site expansion.
- All cabinet doors must be accessible and have room to open.

- **Climate and Geography**

- Avoid locations prone to flooding or close to in-ground sprinkler systems. Cabinet sealing will not withstand complete or partial immersion in water, mud, or debris.
- Check with federal and local authorities for severe climate risks and seismic activity.
- Consider landforms, soils, and subterranean issues (caves, underground rivers, man-made structures) that can impact site acceptance, costs, safety, and performance.

- **Cabinet Heat Gain**

Heat gain can be caused by site loading and traffic, solar thermal loading, geographic location, time of day, weather, cabinet orientation, surroundings, and external air movement.

To avoid high-temperature shutdown, do not place the cabinet in the following locations:

- Within alcoves prone to heat gain
- Next to any surface within 4 ft (120 cm) of the cabinet or near hot air exhaust from neighboring buildings or structures
- Near hot surfaces such as asphalt, tarred roofs, or crushed rock

- **Safety and Maintenance**

Site planning must include safety and maintenance plans.

- **Local Codes and Bylaws**

Plan the site to meet or exceed the requirements of any local architectural codes, bylaws, environmental restrictions, right-of-way easements, and noise restrictions, as applicable. Off-ground mounting locations (poles) must meet all local codes and ordinances pertaining to the cabinet weights and dimensions described in this manual.

Preparing the Mounting Location

Pole-Mounting

See the manual that comes with the kit. Follow the instructions in this manual for all other procedures. Be sure to follow the instructions in “Releasing the Cabinet from the Pallet and Lifting the Cabinet Using a Hoist before using the kit manual.

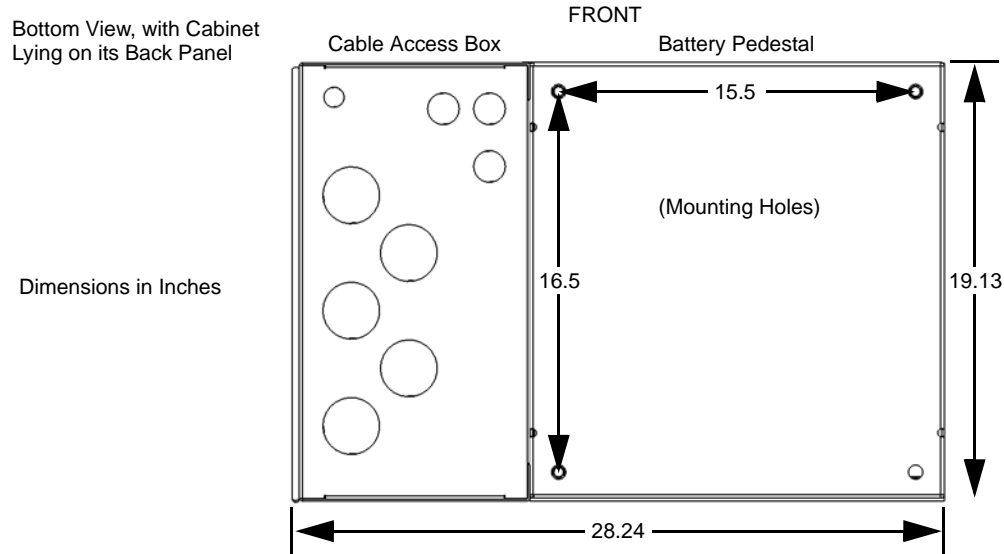
Pad-Mounting

The cabinet mounts to a cement pad using an anchor plate, Redi-Rods, or individual anchors. When designing the pad, consider:

- Cabinet footprint
- Cabinet weight
- External cable routing to the cabinet

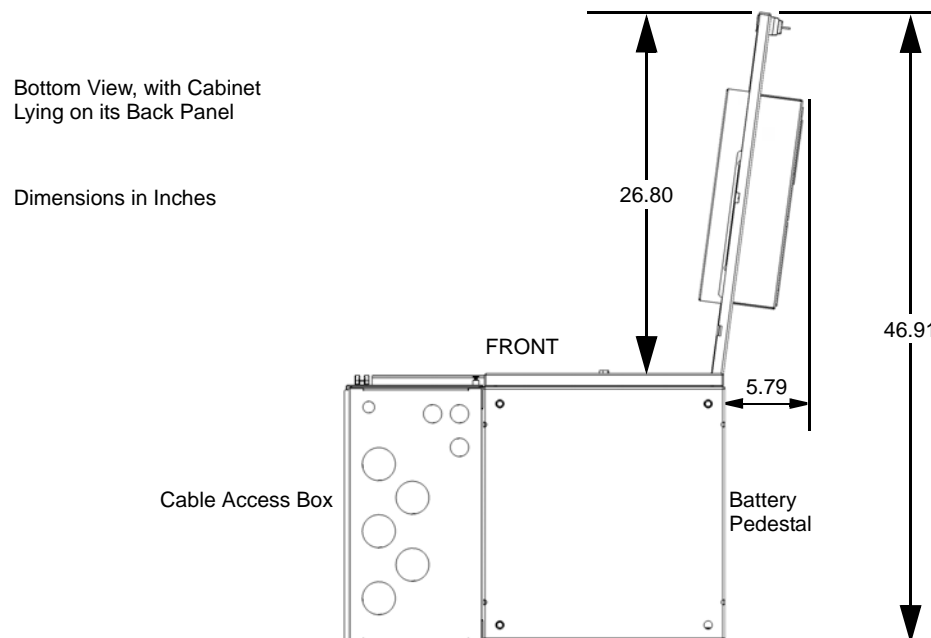
Cabinet Footprint

This illustration shows cabinet footprint and mounting bolt pattern:



Note Mounting hole dimensions match those in the plinth options and isolator base.

This illustration shows the cabinet door swing-out:



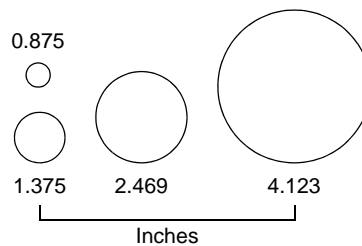
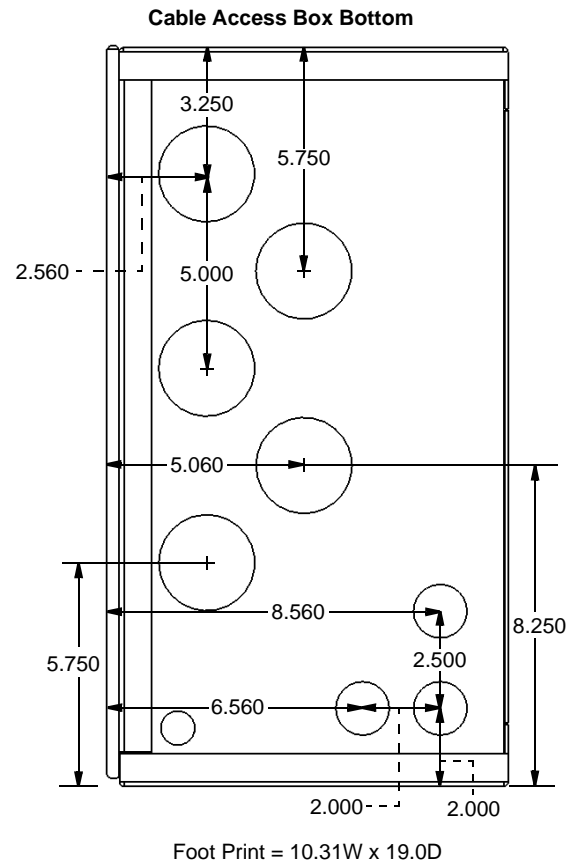
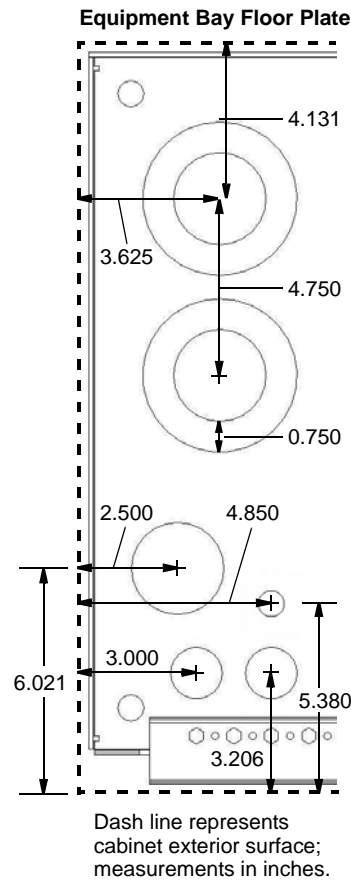
Cabinet Weight

- **Empty** About 87 lb
- **With 4 Batteries** Battery weight varies by type and manufacturer; 31 lb each = 124, for a typical total weight of about 211 lb

External Cable Routing to the Cabinet

Dimensions and locations of the cable access knockouts (KOs) in the floor plate of the equipment bay are shown below. Dimensions measure from the external surface of the cabinet to the KO center point.

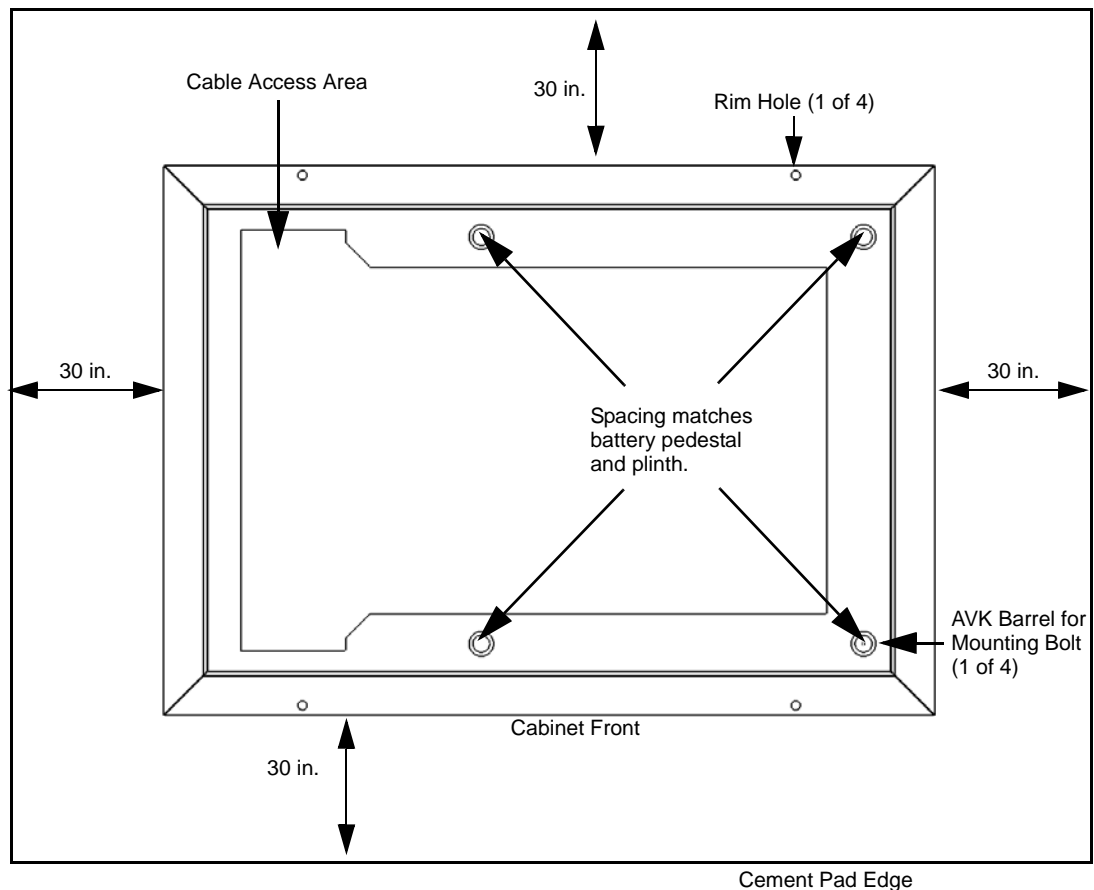
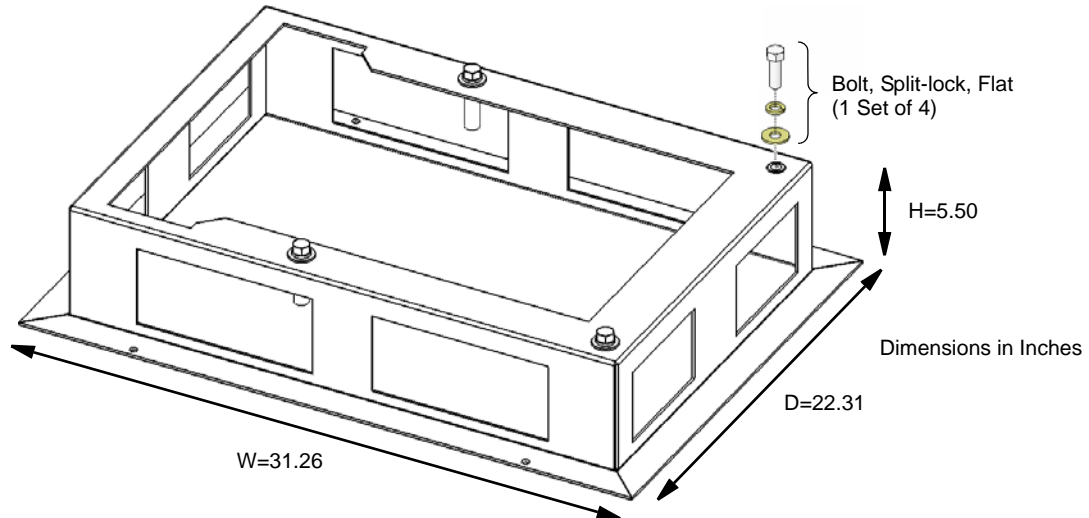
TOP VIEWS LOOKING DOWN INTO BAY AND BOX



Constructing a Pad with an Anchor Plate

Pad design and structure must meet all national and local codes/ordinances and conform to contractor best practices. Refer to the architectural and engineering drawings and to the customer site plan for specific site requirements.

The anchor plate is to be cemented into the pad.



Tools and Materials Required

- Anchor plate kit, PN 4000008712
- Standard tools and materials for concrete pad construction
- Cable conduit
- 16-penny nail to stabilize anchor plate through a rim hole

Constructing a Pad with a Template

Pad design and structure must meet all national and local codes/ordinances and conform to contractor best practices. Refer to the architectural and engineering drawings and to the customer site plan for specific site requirements.

The template locates conduits and Redi-Rod mounting locations. To obtain the template appropriate to your site, see “Contact Information” on page ii.

Tools and Materials Required

- Template from Purcell® Systems, Inc.
- Standard tools and materials for concrete pad construction
- Redi-Rods
- Cable conduit

≡ To construct a pad using a template

- 1 When preparing the site, allow for 30 in. of cement from each edge of the template.
- 2 Locate and stabilize all entry conduits and wire feeds necessary for the cabinet, according to the pattern in the template. Follow local Telco or NEC requirements for proper system ground rod or ground ring.
- 3 Based on the template, prepare the Redi-Rod locations.

Releasing the Cabinet from the Pallet

The cabinet secures to the pallet with 4 sets of securing hardware in the battery pedestal.



Once released from the pallet, the cabinet could be at risk of tipping over. Before removing mounting hardware, arrange a method for stabilizing the cabinet.

Tools and Materials Required

- Standard tools
- A method for stabilizing the cabinet

≡ **To release the cabinet from the pallet**

- 1 Stabilize the cabinet to keep it from tipping over when the pallet securing hardware is removed.
- 2 Remove the battery cover. Pull cover out and off (it might be tight).



- 3 Remove the bolts, washers, and nuts from the 4 corners of the battery pedestal floor.



Front Left Corner Shown

Not Shown:

- Securing Hex Nut
- Battery Bracket
- Optional Battery Heater Pad
- Cable Access Box

Note Battery brackets might be preinstalled inside the pedestal. If so, they will release with the removal of the pallet securing hardware. Remove and retain brackets.

Punching Knockouts in the Cable Access Box

If you choose to use the KOs in the cable access box to route cables into the cabinet, follow this procedure. If you are going to route cables by some other method, skip this subsection and go to the next.

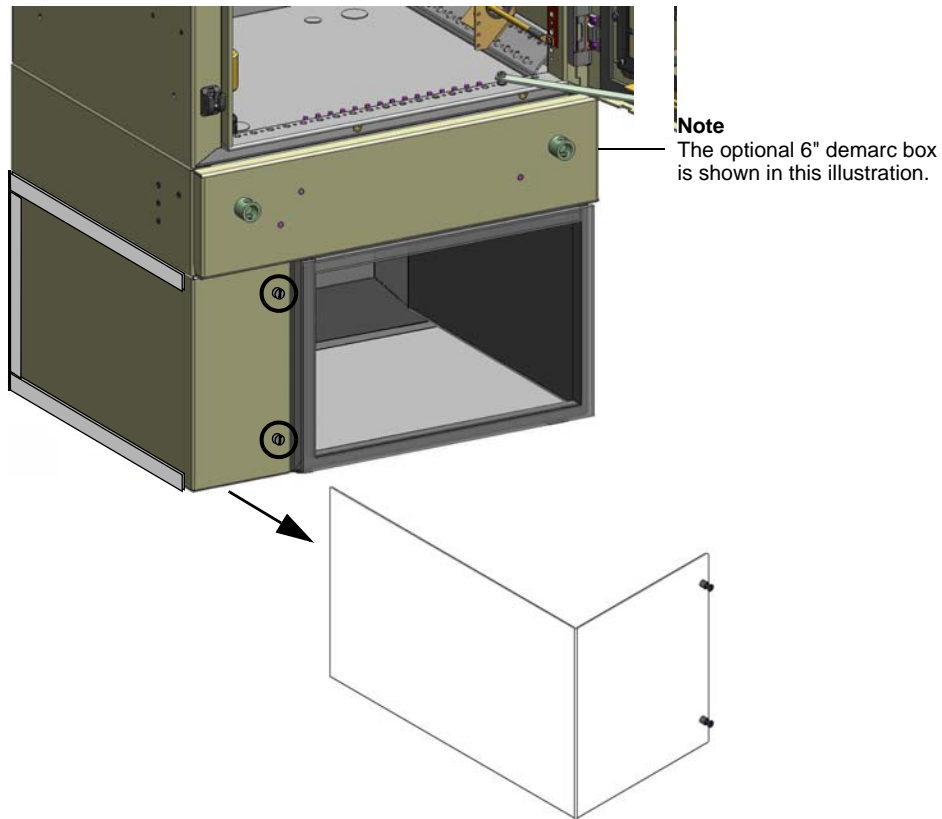
Remove the cable access box and punch the KOs for cable access before mounting the cabinet. The site plan should show which KOs to punch for the customer's configuration.

Tools and Materials Required

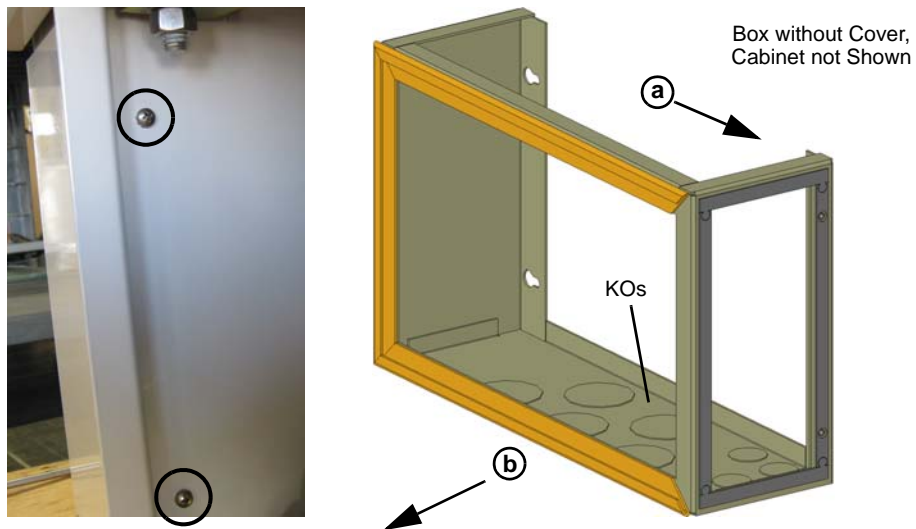
- KO punching tools
- Phillips screwdriver
- Liquid-tight fittings

≡ To punch through KOs

- 1 Release 2 captive screws (circled in illustration) and pull off the cover.



- 2 With the battery cover off, detach and retain the Phillips screws on the inside of the pedestal's left wall, near the front. Pull cover forward (a), then to the left and off the cabinet (b).

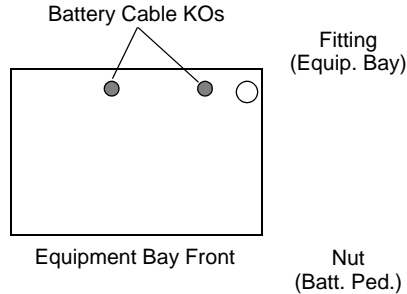


- 3 Follow best practices to punch KOs called out in the site plan. Seal all punched holes with 3R-rated weather-tight fittings.
- 4 Reattach box to cabinet. Leave cover off until cable routing is complete.

Preparing Battery Cable Ports

To prepare battery cable ports

- 1 Punch 2 KOs at the rear of the equipment bay.
- 2 Thread 0V cable through a Heyco fitting and the -48V cable through the other.
- 3 Set fittings in the port holes.
- 4 In the battery pedestal, slide Heyco nuts over the cables and up to the fittings. Tighten nuts.



Mounting the Cabinet

Engineer and set up a hoist sufficient for the cabinet weight.

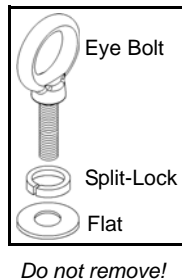
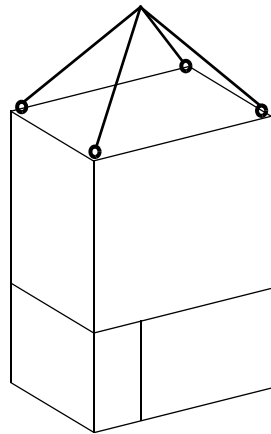
Lifting the Cabinet Using a Hoist

CAUTION

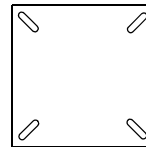
- Hand-tighten eye bolts; do not use a bar handle to tighten! The eye bolt secures inside a threaded barrel that is compression-sealed into a bracket attached under the cabinet roof. Severe over-torquing of the eye bolt can break the seal and cause the barrel to spin inside the bracket, trapping the bolt so it cannot release.
- Do not lift cabinet with batteries or customer equipment installed.

To lift the cabinet using a hoist

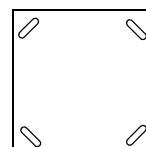
- 1 Angle the lifting eye bolts so that the edge of the eye bolt points to the center of the roof. **Loosen, rather than over-tighten, to get correct orientation of the eye bolt. Do not remove the eyebolt or its accompanying hardware.**
- 2 Attach the hoist cables to all lifting eye bolts.



Correct Eye Bolt Orientation (Top View)



One of Many Possible Incorrect Orientations



Mounting to a Cement Pad with Anchor Plate

Tools and Materials Required

- Torque wrench and sockets
- Level
- The battery brackets retained when the cabinet was removed from the shipping pallet
- Batteries to be installed

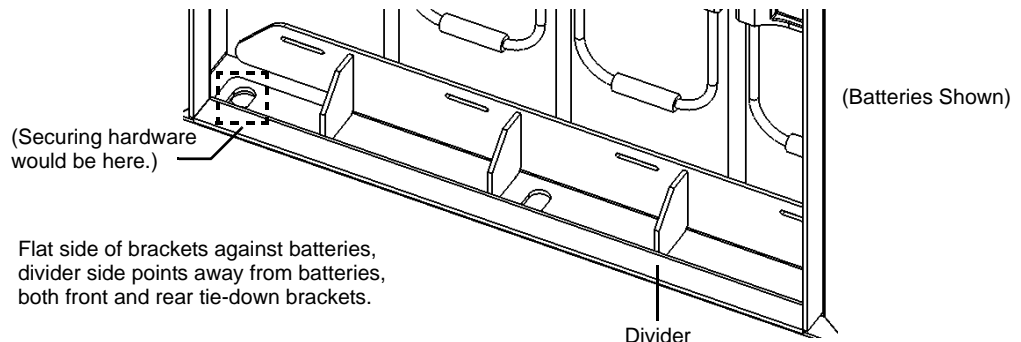
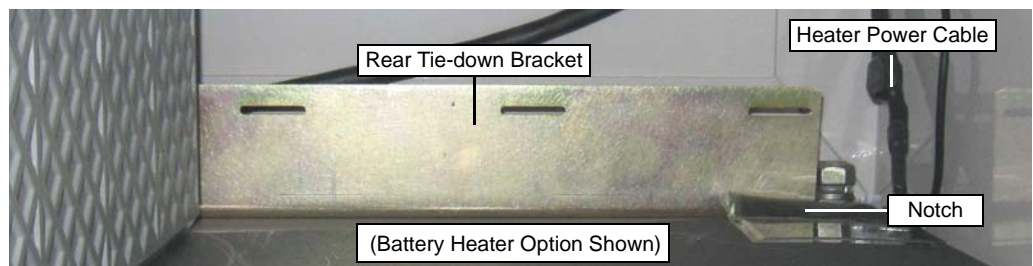


CAUTION Batteries are heavy; DC voltages are dangerous!

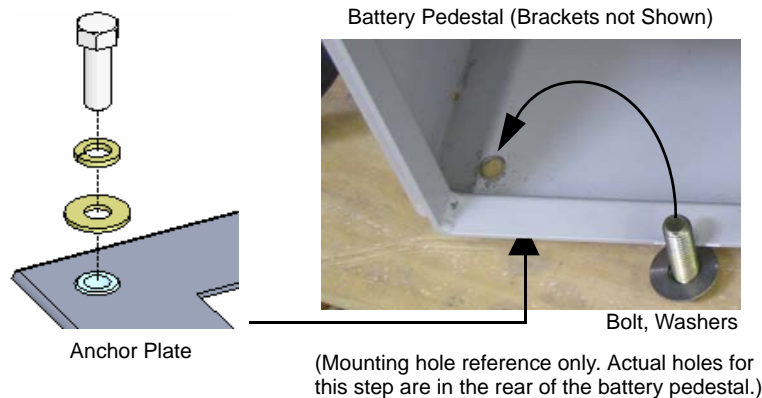
- Avoid touching electrically live spots.
- Prevent hazardous spills.

≡ To mount the cabinet to a pad with anchor plate

- 1 Move the cabinet to the mounting location by the best means available for the site.
- 2 Set the isolator base sheet, shipped between the cabinet and pallet, on the cement pad. Align the corner holes in the isolator over the mounting holes in the anchor plate.
- 3 Attach hoist; slowly and carefully lift the cabinet.
- 4 Set the cabinet on the pad:
 - Align the mounting holes of plinth or pedestal with the mounting holes in the plate and isolator base.
 - If conduit tubes are installed in the concrete pad, guide the cabinet over the tubes.
- 5 Check cabinet with level. Use supplied shims as necessary—between the isolator base and the cement pad—to achieve a level orientation.
- 6 Use the pallet mounting hardware to secure the cabinet to the anchor plate:
 - a Place a tie-down bracket in the rear of the battery compartment; notch in tie-down must be on the right side. Push bracket as far to the back as possible and still align side slots with the pedestal mounting holes. Note bracket orientation in the drawing.



- b** Place washers in the stacking order shown on the brackets over the mounting holes.



- c** Attach mounting bolt through the washers, brackets, and mounting hole. Torque to 44 ft-lb.
- d** Attach Velcro battery straps to the rear tie-down bracket.
- e** Shift battery heater pad so power-connector tab in back-right corner slides under bracket notch.
- f** Slide (2) 12V batteries into the battery compartment—on the far left, one on the far right—while pulling the strap out over the battery top.
- g** Pull the middle 2 velcro straps over the tops of the side batteries.
- h** Route battery cables and optional temperature probe cable to front according to contractor best practices.
- i** Slide the next 2 batteries into the middle; pull their straps over the top.
- j** Repeat Substeps a–c to attach the front battery bracket.
- k** Pull the velcro straps to the front bracket and hook them through the slots.
- 7** Disconnect the hoist.
- 8** Postpone battery connection until the end of the installation.

Mounting to a Cement Pad with Redi-Rods

Tools and Materials Required

- Torque wrench and sockets
- Level
- The battery brackets of a battery pedestal configuration—retained when the cabinet was removed from the shipping pallet
- Batteries to be installed

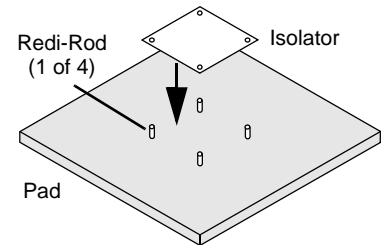


Batteries are heavy; DC voltages are dangerous!
Avoid touching electrically live spots.

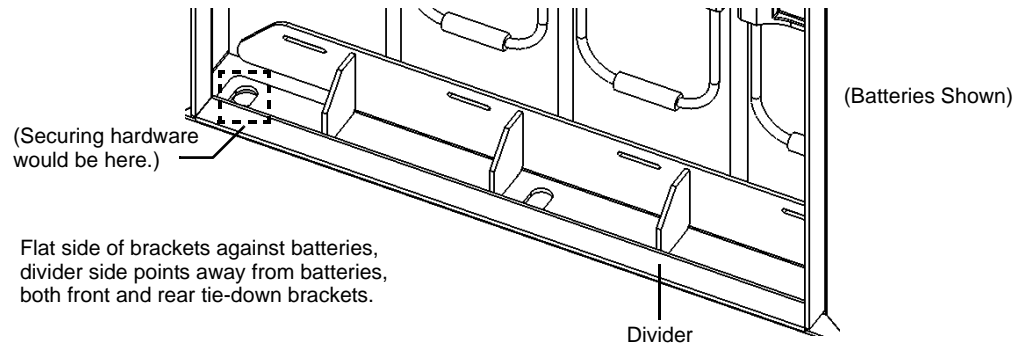
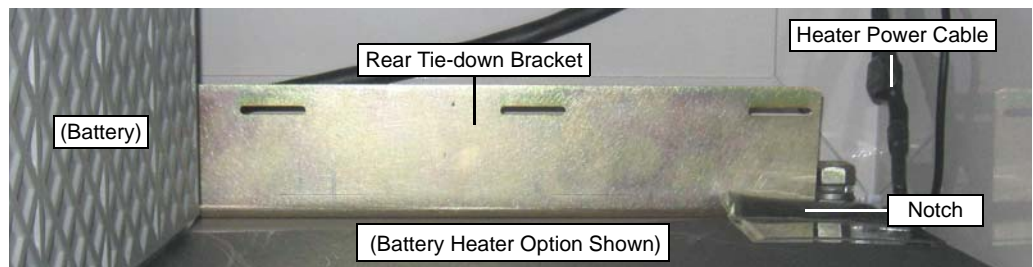
≡ To mount the cabinet to a pad with Redi-Rods

- 1** Move the cabinet to the mounting location by the best means available for the site.
- 2** Set the isolator base sheet, shipped between the cabinet and pallet, on the cement pad over the Redi-Rods.

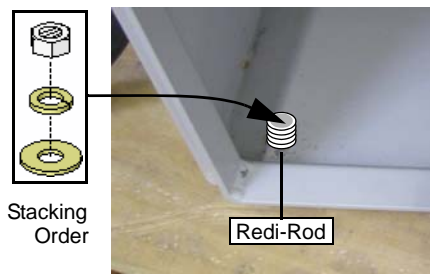
- 3 Attach hoist; slowly and carefully lift the cabinet.
- 4 Set the cabinet on the pad guiding the mounting holes of plinth or pedestal over the Redi-Rods and any conduit tubes.



- 5 Check cabinet with level. Use supplied shims as necessary—between the isolator base and the cement pad—to achieve a level orientation.
- 6 Use the pallet mounting hardware to secure the cabinet to the anchor plate:
 - a Place a tie-down bracket in the rear of the battery compartment; notch in tie-down must be on the right side. Push bracket as far to the back as possible and still align side slots with the pedestal mounting holes. Note bracket orientation in the drawing.



- b Place washers and securing nut over each of the back Redi-Rods in the stacking order shown. Torque nuts to 44 ft-lb.



(Mounting hole reference only. Actual holes for this step are in the rear of the battery pedestal.)

- c Attach Velcro battery straps to the rear tie-down bracket.
 - d Shift battery heater pad so power-connector tab in back-right corner slides under bracket notch.
 - e Slide (2) 12V batteries into the battery compartment on each side, while pulling the strap out over the battery top.
 - f Route battery cables and optional temperature probe cable to front according to contractor best practices.

- g** Pull the middle 2 velcro straps over the tops of the side batteries.
 - h** Slide the next 2 batteries into the middle; pull their straps over the top.
 - i** Repeat Substeps a–c to attach the front battery bracket.
 - j** Pull the velcro straps to the front bracket and hook.
- 7** Disconnect the hoist.
- 8** Postpone battery connection until the end of the installation.

Routing External Cables Into the Cabinet

The customer's AC power cables can enter the cabinet through a punched KO in the equipment bay floor plate on the left-hand side, possibly from the cable access box, or through a custom port drilled into the equipment bay by the installer. All KOs or drilled ports must be made water-tight.

Tools and Materials Required

- Liquid-tight fittings with a UL Type 3R rating if not supplied
- Cable ties
- Standard tools, to possibly include a KO punch tool or a drill for custom KOs
- Deburring tool, portable vacuum (if drilling custom ports)

≡ To route external cable into the cabinet



WARNING

AC and DC voltages are hazardous!

Before pulling and routing cable, verify no cables are connected to electrical power.

- 1** If you have drilled a custom port hole, deburr the edges and vacuum up filings.
- 2** Attach liquid-tight fittings to all open cable-access holes not already protected.
- 3** Carefully pull the AC cables through the chosen port into the equipment bay. Allow enough slack for routing within the bay.
- 4** If you routed cable into the equipment bay through the cable access box, reattach the box cover. Hand-tighten the captive screws.

Grounding the Cabinet



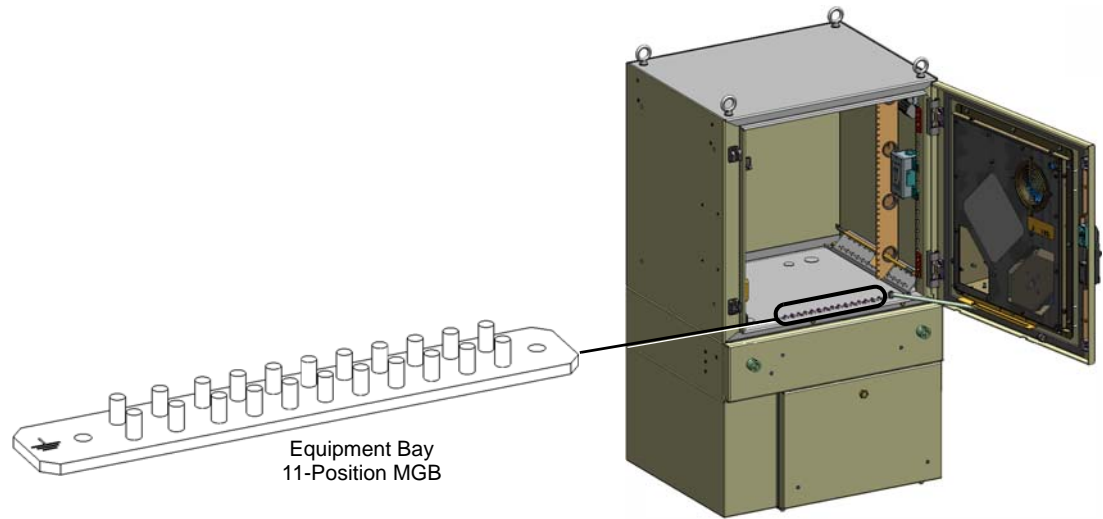
WARNING

AC voltages are hazardous!

Have a licensed, certified electrician perform cabinet grounding.

The master ground bar (MGB), located in the front of the equipment bay, serves as the grounding point for installed equipment and site ground. These are preconnected in the equipment bay:

- Door
- Equipment rails
- AC power connection box
- Convenience outlet
- DC power plant (DCPP)



Site Ground

Tools and Materials Required

- Standard electrician's tools
- A grounding ring large enough to fit around the cement mounting pad; site-ground service for pole-mount cabinet
- No. 2 AWG tin-plated copper wire grounding cable with a 2-hole lug (5/8-in. centers)
- Other grounding components required by national and local codes/ordinances
- Corrosion inhibiting, electrically conductive grease

≡ To ground the cabinet to site ground

- 1 Apply a corrosion preventing, electrically conductive grease to an MGB connection.
- 2 Bring the #2 lead from site ground into the cabinet through a weather-tight port. Bond it to the MGB with a 2-hole lug (1/4 in. diameter holes, 5/9 in. centers).
- 3 Ground cabinet according to national and local codes/ordinances and best practices.

Connecting AC Power

Follow the AC wiring diagram labeled on the inside of the HX door. These instructions are for routing incoming AC to the AC power connection box termination point.

▼ Note AC source and breakers are “up-line.” Recommended breaker ratings are on the AC wiring diagram label.



WARNING

AC voltages are hazardous!

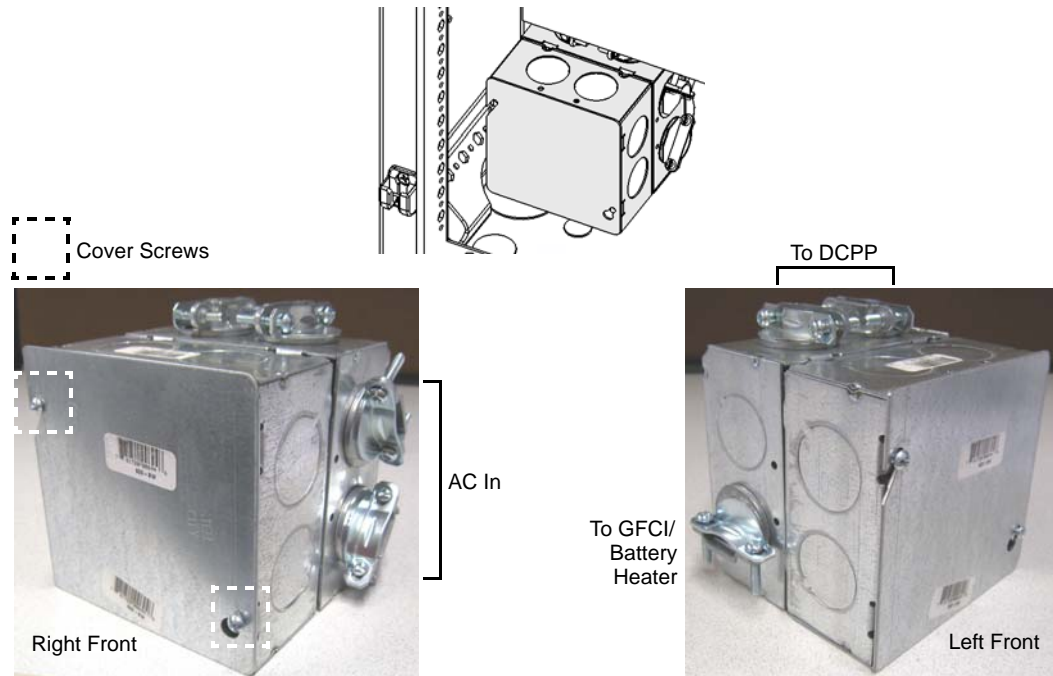
Have a licensed, certified electrician route and connect incoming AC.

Tools and Materials Required

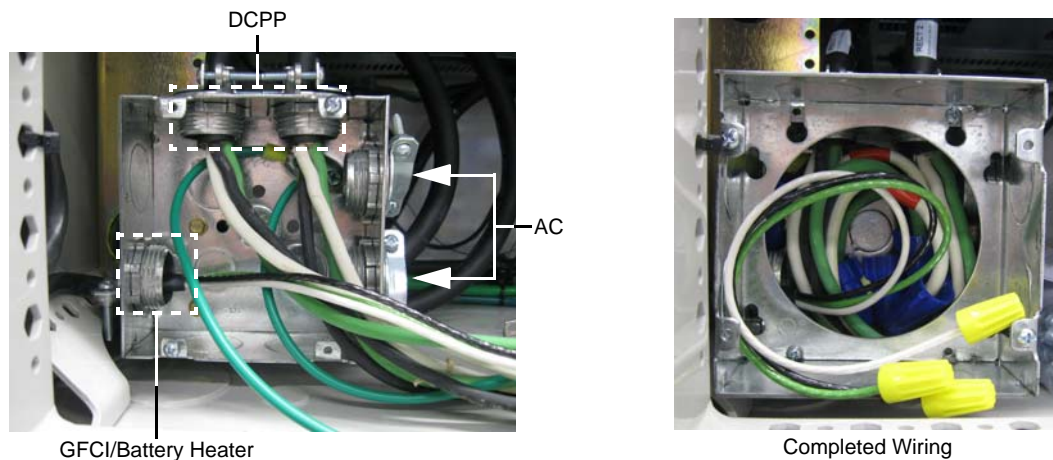
Standard tools

≡ To connect incoming AC power

- 1 Verify incoming AC power is switched off at the source.
- 2 Loosen the 2 cover screws enough to pull off the cover (removing screws is unnecessary).



- 3 Loosen clamp screws for incoming AC, enough to be able to route the cables into the AC power connection box.
- 4 Route AC feeds into the AC power connection box. Cables for DCPP, GFCI outlet/battery heater, and ground—with wire nuts—are prerouted and secured inside the connection box.



- 5 Splice AC to loads according to the wiring diagram. Follow all codes and ordinances and contractor best practices.
- 6 Tie the 2 connection-box ground wires into the incoming AC leads to establish a local AC ground.
- 7 Tighten the clamp onto the wires.
- 8 Do not switch on AC power at the source until cabinet installation is complete.

Setting up DC Power

The DCP is preinstalled, except for the customer-supplied 10A breaker for the HX. Refer to the DC schematic label on the door for location of the breaker.

For other DCP information, see the manufacturer's user manual (supplied). For any other DC power issues with the HX, see the supplied user manual, "FlexAir 741 Heat Exchanger Installation Manual," PN 1000013426.

Connecting Alarms

Prewired as shown in the diagram in "Setting up DC Power:"

- HX power fail
- Door entry
- Over- and under-temperature

Connect other alarms per customer plan.

Note There is enough service-loop in alarm wiring to allow the customer to move the terminal block to a more convenient location for better access and easier connections.

Connecting Batteries

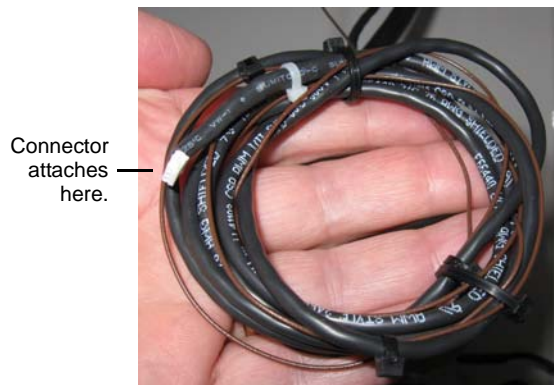


DC voltages are hazardous!

Have a licensed, certified electrician connect the battery string.

Connect the battery string according the battery vendor's installation instructions. Observe national and local codes/ordinances and follow contractor best practices.

≡ To install the optional battery temperature probe cable



- 1 Carefully snip cable ties holding the cable in a service loop.
- 2 Bring the cable to front of the battery pedestal.
- 3 Remove the connector from its shipping bag and attach to the cable.
- 4 Attach the ring terminal of the connector to any battery terminal (consult any customer battery install specification).

Testing the Installation

To test HX functioning, see the HX installation manual.

≡ **To test the installation**

- 1** Verify breakers in cabinet are on.
- 2** Switch on AC at source.
- 3** Check DCPD controller for proper operation. Refer to the DCPD manual.
- 4** Check door alarm switch with multimeter:
 - a** Set multimeter to “continuity.”
 - b** Red probe on red wire connection, black probe on black.
You should hear a tone, indicating continuity.
 - c** Press and hold the plunger on the door alarm switch.
Tone should stop, indicating an open circuit.
 - d** If the switch fails any test, contact technical support. See “Contact Information” on page ii.
- 5** Check high/low temperature alarm with multimeter (refer to DC schematic on door):
 - a** Turn high-temp control (red) below ambient temperature.
Test alarm block contacts with multimeter. Circuit should change state to “open.”
 - b** Turn low-temp control (blue) above ambient temperature.
Test alarm block contacts with multimeter. Circuit should change state to “open.”
 - c** With successful testing, return controls to normal setting. If the test fails, contact technical support. See “Contact Information” on page ii.
- 6** With successful testing, close door.

RRUS 32 B30 DATA SHEET

RRUS 32 B30

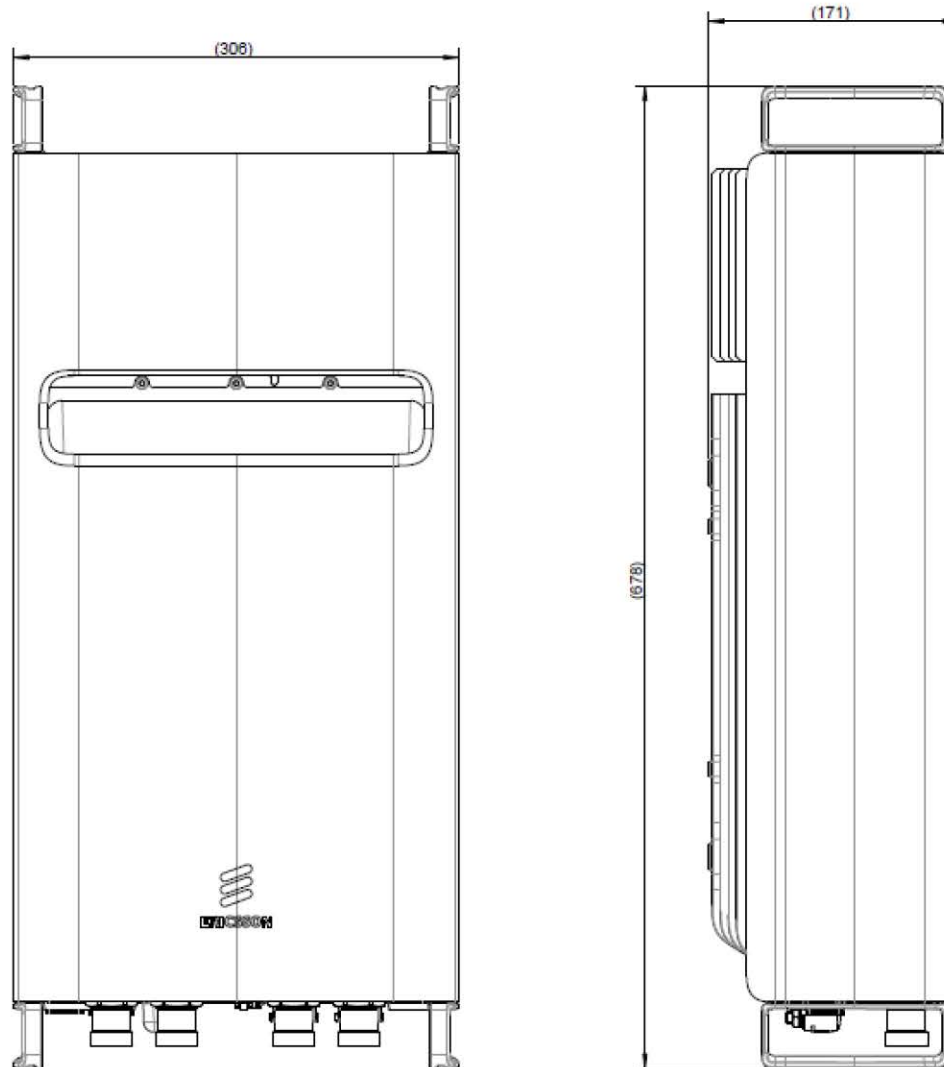
PRELIMINARY



- › WCS A+B blocks
 - TX = 2350 – 2360 MHz
 - RX = 2305 – 2315 MHz
- › CPRI 2 ports x 10 Gbps
- › Dimensions (incl. feet and sunshield)
 - Height: 26.7" (678 mm)
 - Width: 12.1" (306 mm)
 - Depth: 6.7" (171 mm)
- › Weight, excl. mounting hardware
 - 60 lbs (23 kg)



MECHANICAL OUTLINE



(millimeters)

PRELIMINARY



ERICSSON



Prepared For:
SAI-ATT
Site Number:
MA2215

1350 MASSACHUSETTS AVENUE
CAMBRIDGE, MA 02138

SITE NO: MA2215
SITE NAME: CAMBRIDGE MASS AVE
ADDRESS: 1350 MASSACHUSETTS AVE
CAMBRIDGE, MA 02138



SITE TYPE: ROOFTOP
DATE: 04/04/16
DRAWN BY: FM
SCALE: N.T.S.
REV: 5

THIS STUDY DOES NOT CLAIM IN ANY WAY TO SHOW THE ONLY AREAS OF VISIBILITY. IT IS MEANT TO SHOW A BROAD REPRESENTATION OF AREAS WHERE THE PROPOSED INSTALLATION MAY BE VISIBLE BASED UPON THE BEST INFORMATION FOR TOPOGRAPHY AND VEGETATION LOCATIONS AVAILABLE TO DATE.

LOCUS MAP

TAKEN FROM GOOGLE.COM ON 08-04-15

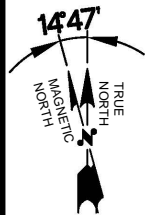
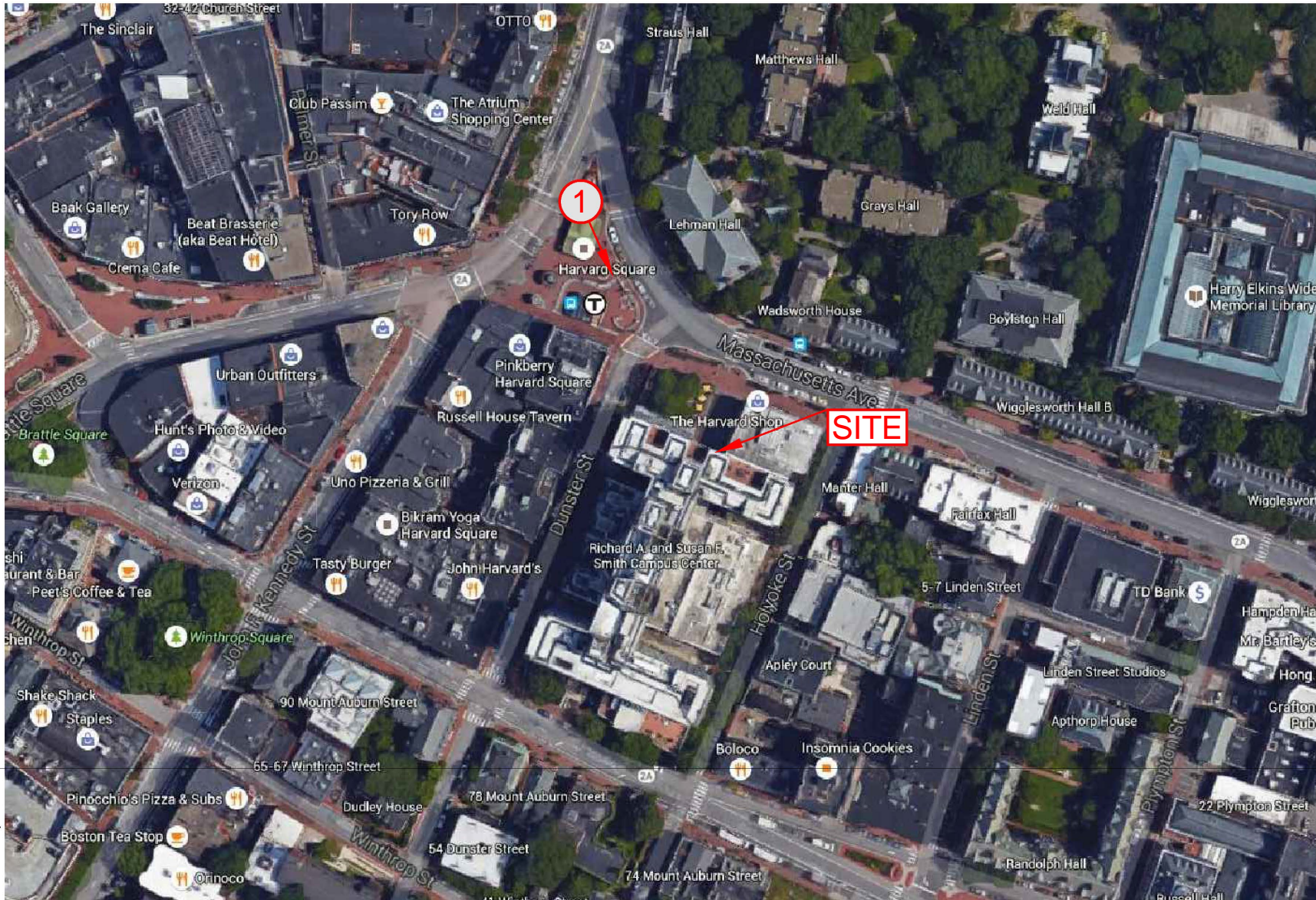


PHOTO LOCATION

SITE NO: MA2215
SITE NAME: CAMBRIDGE MASS AVE
ADDRESS: 1350 MASSACHUSETTS AVE
CAMBRIDGE, MA 02138



27 NORTHWESTERN DR
SALEM, NH 03079



SITE TYPE: ROOFTOP
DATE: 04/04/16
DRAWN BY: FM
SCALE: N.T.S.
REV: 5

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EXISTING CONDITIONS

LOCATION # 1

DATE OF PHOTO: 07-17-15

EXISTING UMTS ANTENNA (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO BE RELOCATED TO POSITION 4)

EXISTING GSM ANTENNA (TOTAL OF 1 PER ALPHA SECTOR) (TO BE REMOVED & REPLACED)

EXISTING LTE ANTENNA (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO REMAIN)

DETAIL OF EXISTING EQUIPMENT



VIEW SOUTHEAST FROM HARVARD SQUARE

SITE NO: MA2215
SITE NAME: CAMBRIDGE MASS AVE
ADDRESS: 1350 MASSACHUSETTS AVE
CAMBRIDGE, MA 02138



SITE TYPE: ROOFTOP
DATE: 04/04/16
DRAWN BY: FM
SCALE: N.T.S.
REV: 5

THIS STUDY DOES NOT CLAIM IN ANY WAY TO SHOW THE ONLY AREAS OF VISIBILITY. IT IS MEANT TO SHOW A BROAD REPRESENTATION OF AREAS WHERE THE PROPOSED INSTALLATION MAY BE VISIBLE BASED UPON THE BEST INFORMATION FOR TOPOGRAPHY AND VEGETATION LOCATIONS AVAILABLE TO DATE.

PROPOSED CONDITIONS

LOCATION # 1

DATE OF PHOTO: 07-17-15



PROPOSED LTE ANTENNA MOUNTED ON EXISTING PIPE MAST (TYP. OF 1 PER SECTOR, TOTAL OF 3) (REPLACED EXISTING) (PAINT TO MATCH COLOR AND TEXTURE OF EXISTING BUILDING FACADE)

NEW LOCATION OF EXISTING UMTS ANTENNA (TYP. OF 1 PER SECTOR, TOTAL OF 3) (@ POSITION 4) (PAINT TO MATCH COLOR AND TEXTURE OF EXISTING BUILDING FACADE)

EXISTING LTE ANTENNA (TYP. OF 1 PER SECTOR, TOTAL OF 3) (TO REMAIN)

DETAIL OF PROPOSED EQUIPMENT

VIEW SOUTHEAST FROM HARVARD SQUARE

SITE NO: MA2215
SITE NAME: CAMBRIDGE MASS AVE
ADDRESS: 1350 MASSACHUSETTS AVE
CAMBRIDGE, MA 02138



550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

27 NORTHWESTERN DR
SALEM, NH 03079

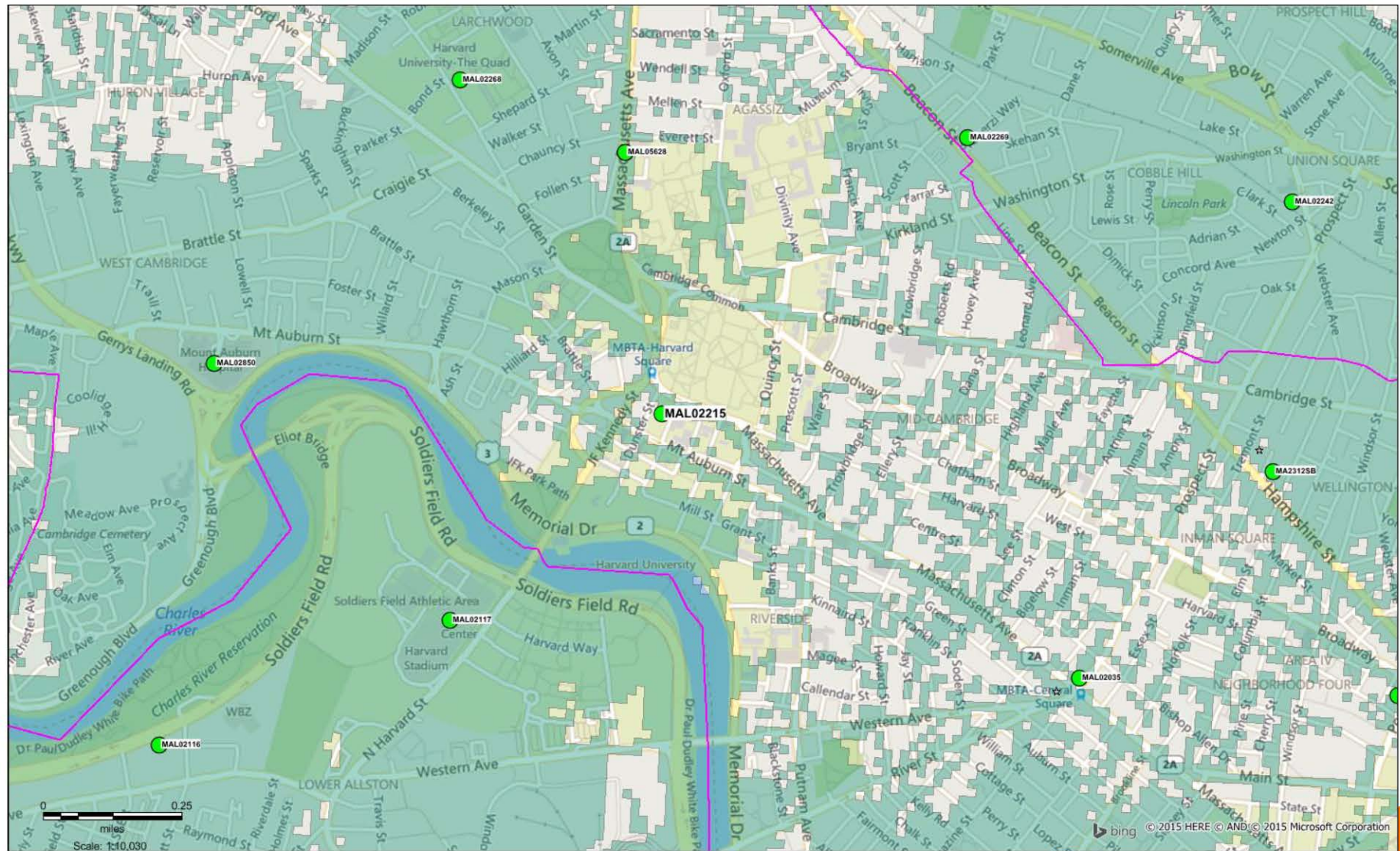


1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

SITE TYPE: ROOFTOP
DATE: 04/04/16
DRAWN BY: FM
SCALE: N.T.S.
REV: 5

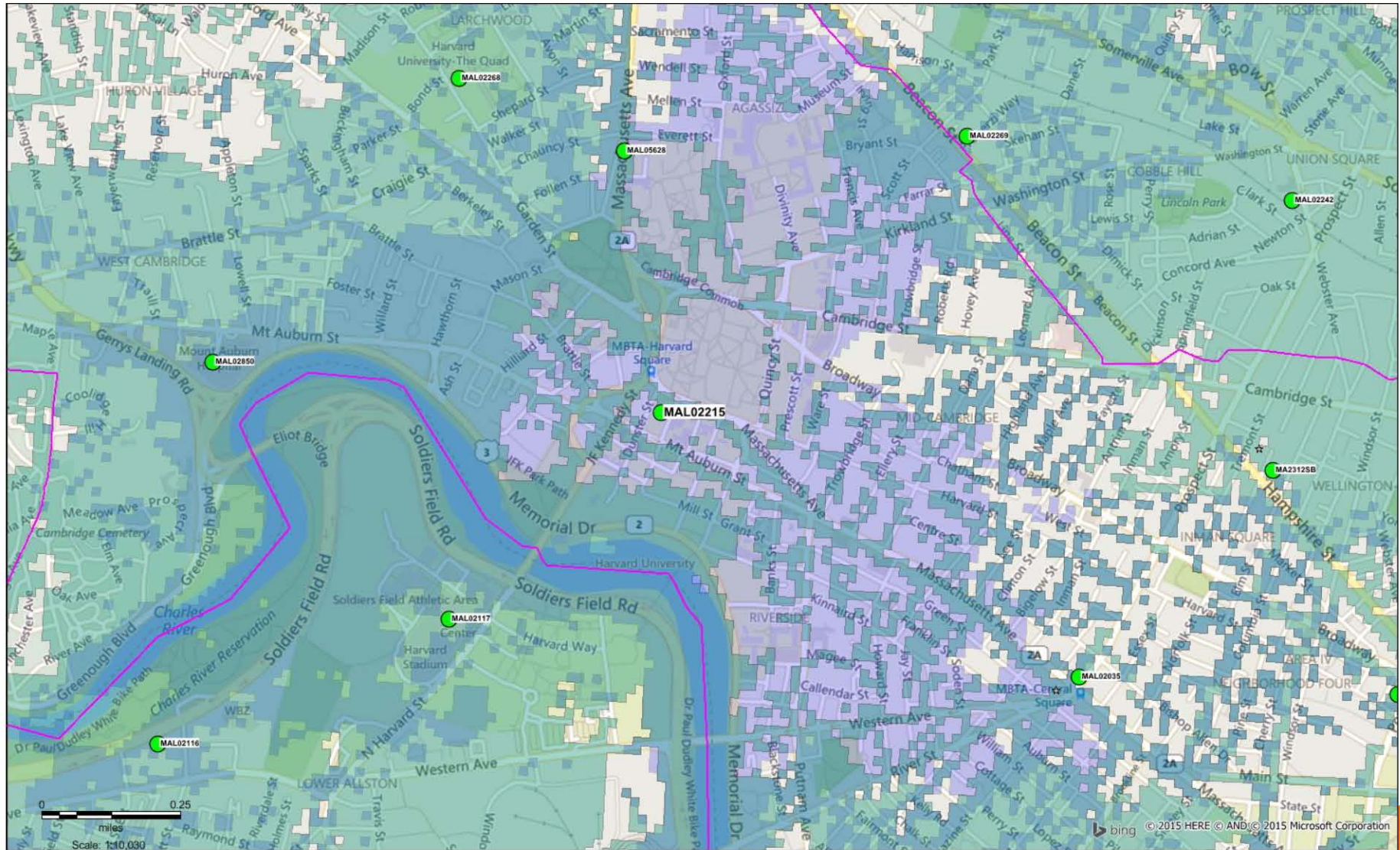
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Cambridge Coverage Plot Without MAL02215



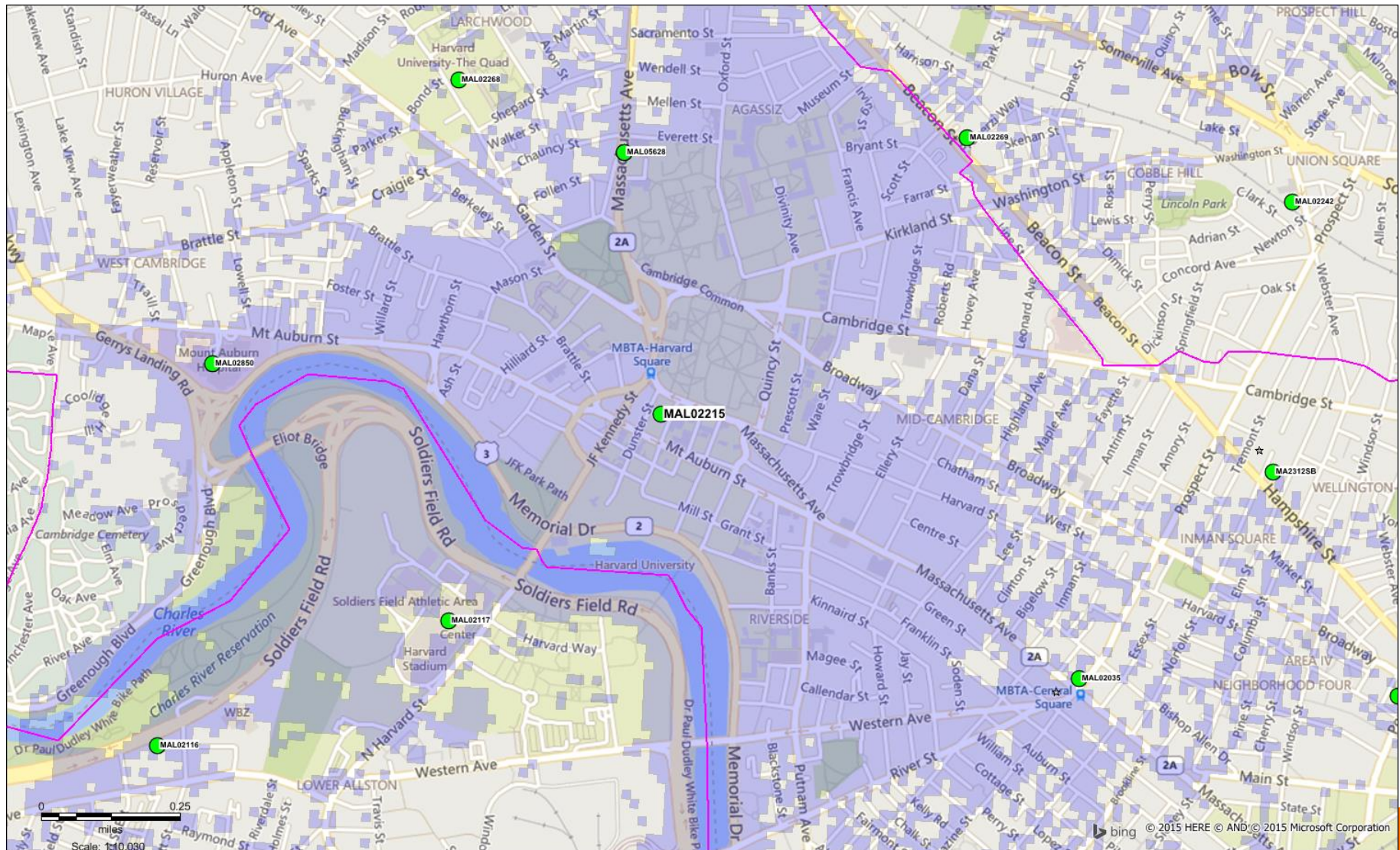
Cambridge Coverage Plot With MAL02215

- On Air sites
- Proposed sites
- Current coverage
- Proposed coverage



Cambridge Coverage Plot Individual MAL02215

- On Air sites
- Proposed sites
- Current coverage
- Proposed coverage



April 4, 2016 (Rev. 1)



SAI Communications
27 Northwestern Drive
Salem NH, 03079

RE: Site Number: MA2215
 Site Name: Cambridge Mass Ave
 Site Address: 1350 Massachusetts Avenue
 Cambridge, MA 02138

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by SAI to perform a structural assessment on the existing and proposed AT&T antenna/RRH mounts to determine its capability of supporting the following equipment loading:

- (3) OPA-65R-LCUU-H4 Antennas (1 per sector)
- (3) AM-X-CD-14-65-00T-RET Antennas (1 per sector)
- (3) 742-264 Antennas (1 per sector)
- (9) RRUS-11 RRH's (3 per sector)
- (3) RRUS-E2 RRH's (3 per sector)
- (3) RRUS-32 RRH's (3 per sector)
- (6) LGP21401 TMA's (4 per sector)
- (6) Surge Suppressors (1 per sector)

Based on our evaluation, we have determined that the existing structure **IS CAPABLE** of supporting the proposed equipment installation. Reference the latest HDG construction drawings for the proposed equipment locations.

This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2009, and the Massachusetts State Building Code, 8th edition.

This determination was based on the following limitations and assumptions:


1. Equipment and locations should not deviate from the construction drawings without written approval of the engineer.
2. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
3. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
4. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
5. All components supporting the AT&T equipment are assumed to be designed to all applicable codes and designed for identical to or larger than the current loads.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC



Michael Cabral
Structural Dept. Head



Daniel P. Hamm, PE
Principal





MAXIMUM PERMISSIBLE EXPOSURE STUDY

THEORETICAL REPORT



Site Number: MA2215
Site Name: Cambridge Mass. Ave
Latitude: 42.3727989
Longitude: -71.1185969
Address: 1350 Massachusetts
Avenue, Cambridge, MA

Conclusion: *AT&T's existing + proposed antenna installation is calculated to be within the FCC Standard for Uncontrolled/General Public and Controlled/Occupational Maximum Permissible Exposure (MPE).*

Prepared by: **SAI Communications**
260 Cedar Hill Street
Marlborough, MA 01752
(603) 421-0470

Date of Report: December 7, 2015

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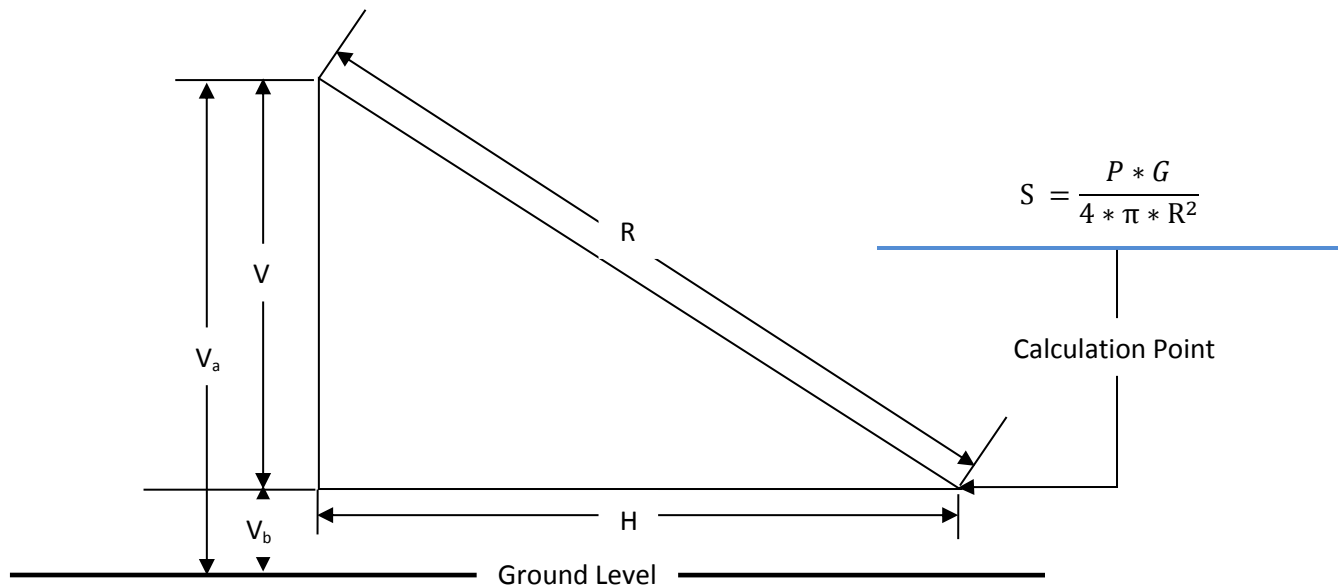
Introduction.....	3
RF Exposure Prediction Method.....	3
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RF Design Specifications.....	4
FCC Guidelines	5
FCC RF Exposure Limits	6
Calculation Results (6ft AGL).....	7
Statement of Certification.....	8

Introduction

SAI Communications has conducted this theoretical analysis for AT&T, to ensure that the existing radio facility complies with Federal Communications Commission (FCC) regulations after carrier additions. This report will show that, through the use of FCC suggested prediction methods, the radio facility in question will be in compliance with all appropriate Federal regulations in regards to Radio Frequency (RF) Exposure.

RF Exposure Prediction Method

Power Density is calculated in accordance with FCC OET Bulletin 65 formula (3):



Where:

S = Power Density

P = Power input to the antenna

G = Gain of an antenna

R = Radial distance $= \sqrt{H^2 + V^2}$

H = Horizontal distance from antenna

V = Vertical distance from antenna $= V_a - V_b$

V_a = Antenna height above ground

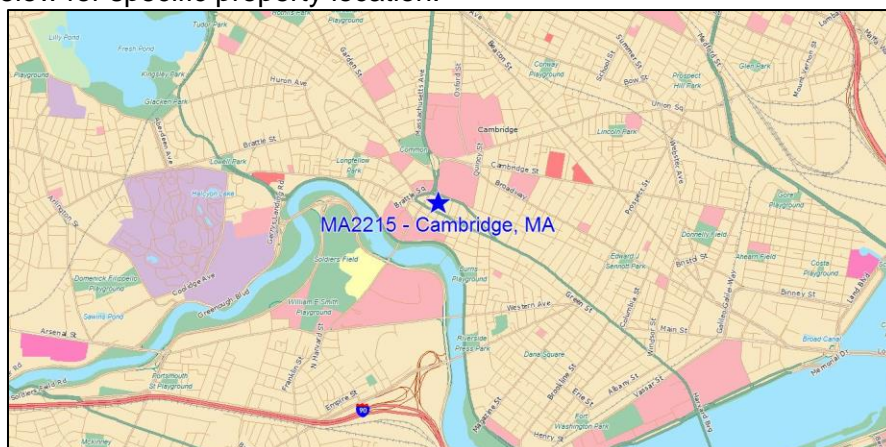
V_b = Calculation height above ground = 6ft

Case Summary

The existing radio facility has radiation centers of 119ft/130ft located at the following geographic coordinates:

Latitude: 42.3727989
Longitude: -71.1185969

See sketch below for specific property location.



RF Design Specifications

AT&T Mobility is planning to install 3 panel antennas, 1 per sector for LTE Technologies (3C+4C+5C) with azimuths of 20-135-265 for alpha-beta-gamma sectors. Table below shows the technical data used for the calculation.

	UMTS850	UMTS1900	LTE700BC	LTE700DE
Antenna Type:	Kathrein 742-264		KMW AM-X-CD-14-65-00T-RET	CCI OPA-65R-LCUU-H4
Antenna Gain (dBd)	11.85	14.85	9.75	10.35
Rad Center, AGL (ft)	119	119	119	119
ERP (dBm)	56.85	59.85	54.75	55.35
No of Radios	2	2	1	1

	LTE850	LTE1900	LTEWCS
Antenna Type:	CCI OPA-65R-LCUU-H4	KMW AM-X-CD-14-65-00T-RET	CCI OPA-65R-LCUU-H4
Antenna Gain (dBd)	11.25	11.95	14.75
Rad Center, AGL (ft)	119	119	119
ERP (dBm)	56.25	56.95	59.75
No of Radios	1	1	1

FCC Guidelines

Table 1. MPE Limits for General Population/ Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time for E ² , H ² , or S (Minutes)
0.3 – 1.34	614	1.63	(100)*	30
1.34 -30	824/f	2.19/f	(180/f ²)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	--	--	f/1500	30
1500– 100,000	--	--	1.0	30
f = frequency in MHz		* = Plane wave equivalent power density		

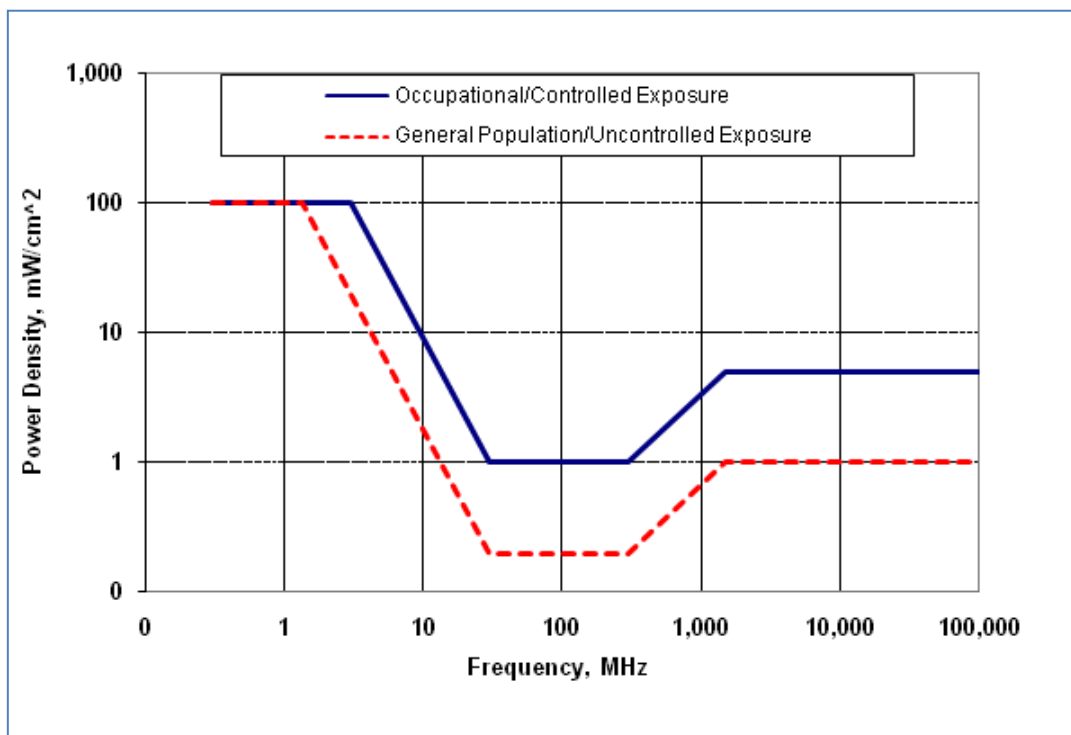
General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can't exercise control over their exposure.

Table 2. MPE Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time for E ² , H ² , or S (Minutes)
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1842/f	4.89/f	(900/f ²)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	--	--	f/300	6
1500– 100,000	--	--	5.0	6
f = frequency in MHz		* = Plane wave equivalent power density		

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where such occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

FCC RF Exposure Limits

FCC MPE LIMITS (mW/cm ²)		
EXPOSURE ENVIRONMENT	AT&T FREQUENCY BANDS	
	Cellular	PCS
General Public (Uncontrolled)	0.59	1.0
Occupational (Controlled)	2.93	5.0

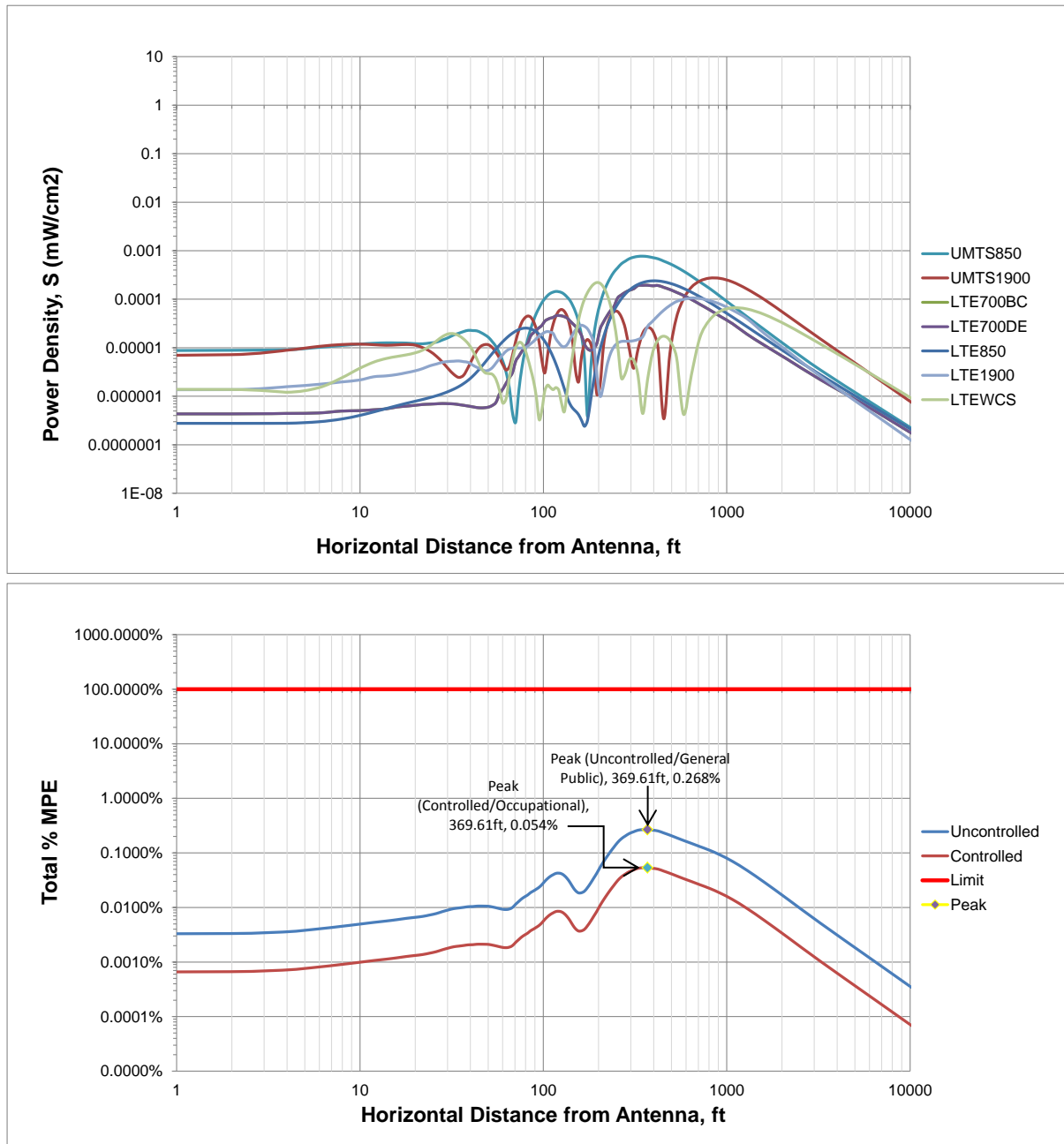


Maximum Permissible Exposures. Occupational/Controlled and General Population/Uncontrolled MPE's are functions of frequency.

Calculation Results (6ft AGL)

The following charts show the graphical representation of the calculated AT&T contribution on power density levels and % MPE at 6ft above ground, as horizontal distance from antenna increases. The calculations take into account the vertical pattern of the antennas and represent the immediate direction of each sector azimuth within the antenna horizontal beamwidth. The calculations also assume line of site to the antennas and the result will be lower if measured indoor due to in-building penetration loss.

Power Density and %MPE



Statement of Certification

I certify to the best of my knowledge that the statements contained in this report are true and accurate. The theoretical computations contained are based on FCC recommended methods, with industry standard assumptions & formulas, and complies with FCC mandated Maximum Permissible RF Exposure requirements.

A comprehensive field survey was not performed prior to the generation of this report. If questions arise regarding the calculations herein, SAI Communications recommends that a comprehensive field survey be performed to resolve any disputes.



Mike Lawton
RF Engineering Manager
SAI Communications

December 7, 2015
Date

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 President and Fellows of Harvard College
(OWNER)

Address: 1350 Massachusetts Ave. Cambridge, MA

State that I/We own the property located at 1350 Massachusetts Ave.,
which is the subject of this zoning application.

The record title of this property is in the name of President and
Fellows of Harvard College

*Pursuant to a deed of duly recorded in the date 12/22/04, Middlesex South
County Registry of Deeds at Book 44353, Page 481; or
Middlesex Registry District of Land Court, Certificate No. _____
Book _____ Page _____.

Carole Hill
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 CAROLE HILL personally appeared before me,
this 14 of DEC, 2015, and made oath that the above statement is true.

Alexandra Recinos Notary

My commission expires 2/10/17 (Notary Seal).

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





5
6

Unit No. 1
Carr Foundation Arrow Street Condominium
Two Arrow Street
Cambridge, Massachusetts

UNIT DEED

MASSACHUSETTS EXCISE TAX
Southern Middlesex District ROD # 001
Date: 12/22/2004 01:55 PM
Ctrl# 044582 23567 Doc# 00319703
Fee: \$25,992.00 Cons: \$5,700,000.00

Gregory C. Carr Foundation, Inc., a Massachusetts non-profit corporation, with a principal place of business at 30 Brattle Street, Cambridge, Massachusetts (the "Grantor"), for consideration of \$5,700,000.00 paid, grants to President and Fellows of Harvard College, a Massachusetts educational and charitable corporation with a principal place of business c/o Harvard Real Estate Services, Holyoke Center, 1350 Massachusetts Avenue, Cambridge, Massachusetts ("Grantee"), with Quitclaim Covenants, the unit known as Unit No. 1 (the "Unit") in Carr Foundation Arrow Street Condominium ("Condominium"), in Cambridge, Middlesex County, Massachusetts, a condominium established by the Grantor pursuant to Massachusetts General Laws, Chapter 183A by Master Deed dated as of December 21, 2004 and recorded herewith with the Middlesex South Registry of Deeds (the "Registry"). The Unit contains 7,997 square feet and is laid out as shown on the plans recorded herewith, which are copies of portions of the plans filed with the Master Deed, and to which is affixed the verified statement in the form required by Section 9 of said Chapter 183A.

The post office address of the Unit is Unit 1, Two Arrow Street, Cambridge, Massachusetts.

The Unit is conveyed together with:

1. A 32.39 percent interest in the "Common Elements" as described in said Master Deed;
2. A 34.97 percent interest in the "Arrow Street Common Elements" as described in the Master Deed;
3. A 100 percent interest in the "Theater Common Elements" as described in the Master Deed;
4. A 32.39 percent interest in the organization of unit owners.

Meaning and intending to convey with the Unit all rights and easements as are set forth in the Master Deed.

The Unit is conveyed with the benefit of and subject to:

1. The provisions of Massachusetts General Laws, Chapter 183A, as amended;
2. The provisions of the Master Deed and By-Laws as the same may be amended from time to time by instruments recorded in the Registry, which provisions, together with any

PLEASE RETURN TO:
LANDAMERICA
150 FEDERAL STREET, SUITE 200 - 1 -
BOSTON, MA 02110
ATTN: M. Walsh FILE NO. 07471

Property Address: Unit 1, Two Arrow Street, Cambridge
Grantee Address: 1350 Massachusetts Avenue, Cambridge

amendments thereto, shall constitute covenants running with the land and shall bind any entity having at any time any interest or estate in the Unit, its tenants, occupants and invitees as though such provisions were recited and stipulated at length herein;

3. Such taxes attributable to the Unit for the current year as are not yet due and payable;

4. Easements, rights, obligations, provisions, agreements, restrictions, building line limitation, zoning regulations, public utility and telephone easements, easements in favor of the Declarant of the Master Deed, and all other matters set forth or referred to in the Master Deed or appearing of record.

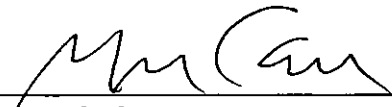
The Unit contains the approximate area listed above and is laid out as shown on the unit plan attached hereto and recorded herewith. The Unit shall be used solely for purposes permitted under the Master Deed and in accordance with all applicable laws, codes, permits and approvals.

For title, see two deeds to the Grantor recorded with said Deeds in Book 35587, Pages 198 and 203, respectively.

THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK

EXECUTED as a sealed instrument as of the 21st day of December, 2004.


GREGORY C. CARR FOUNDATION, INC.

By: 
Gregory C. Carr
President and Treasurer

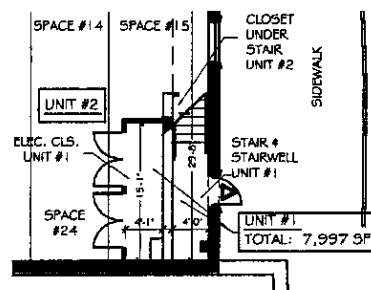
COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss.

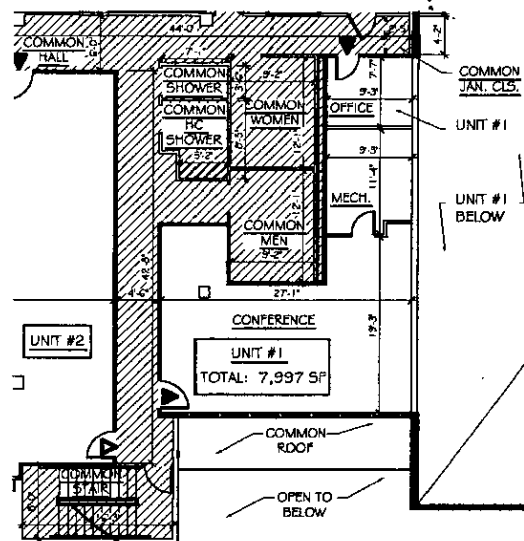
On this 14th day of December, 2004, before me, the undersigned notary public, personally appeared the above-named Gregory C. Carr, proved to me through satisfactory evidence of identification, which was personal knowledge of identity, to be the person whose name is signed on the preceding document, and acknowledged to me that he signed it voluntarily for its stated purpose as President and Treasurer of Gregory C. Carr Foundation, Inc.


Notary Public
[Seal]

MICHELE A. MULVANEY, Notary Public
My Commission Expires April 11, 2008



PARTIAL GROUND FLOOR PLAN



PARTIAL SECOND FLOOR PLAN

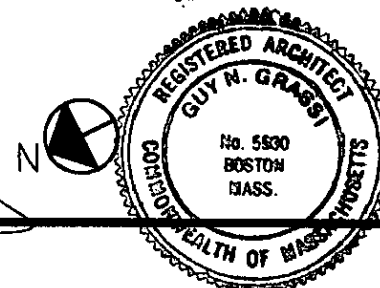
- UNIT DEMISING WALLS
- UNIT INTERIOR WALLS
- PRIMARY ENTRANCE
- SECONDARY EGRESS
- INTERIOR COMMON AREAS

SCALE:
0 4 8 16 FT.

I hereby certify that these plans were prepared with the rules and regulations of the registry of deeds, the Commonwealth of Massachusetts.

I further certify that these plans, fully and accurately depict the units numbered 1 located at the Carr Foundation Arrow Street Condominium, Cambridge, MA, and fully and accurately depict the layout, locations, dimensions, approximate areas, and main entrance of each unit and the immediate common areas to which each such unit has access, all as built and in existence as of 11-24-04.

The area of each unit is computed exclusive of common area facilities and demising walls, and is dimensioned to the plane of the surface of the wall facing the interior of such unit.



**CARR FOUNDATION
ARROW STREET CONDOMINIUM**
CAMBRIDGE, MA

DATE:
11-24-04

SHEET 2 OF 2

G GRASSI DESIGN GROUP
46 WALTHAM STREET
BOSTON, MASSACHUSETTS 02110
TELEPHONE: 617-956-9992



MARTHA COAKLEY
ATTORNEY GENERAL

THE COMMONWEALTH OF MASSACHUSETTS OFFICE OF THE ATTORNEY GENERAL

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

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

June 12, 2013

Gail Garrett, Town Clerk
Town of Mount Washington
118 East Street
Mount Washington, MA 01258

**RE: Mount Washington Special Town Meeting of April 1, 2013 - Case # 6642
Warrant Articles # 1, 2, and 3 (Zoning)**

Dear Ms. Garrett:

Articles 1, 2, and 3 - We approve the amendments to the Town by-laws adopted under Articles 1, 2, and 3 on the warrant for the Mount Washington Special Town Meeting that convened on April 1, 2013, and the map pertaining to Article 3. Our comments on Articles 1 and 2 are provided below.

Article 1 - The amendments adopted under Article 1 add a new Section 215-27 to the zoning by-laws entitled "Wireless Telecommunication Facility Zoning Bylaw." We approve the new Section 215-27, but offer the following comments.

I. **Applicable Law**

The federal Telecommunications Act of 1996, 47 U.S.C. § 332 (7) preserves state and municipal zoning authority to regulate personal wireless service facilities, subject to the following limitations:

1. Zoning regulations "shall not unreasonably discriminate among providers of functionally equivalent services." 47 U.S.C. §332(7) (B) (i) (I)
2. Zoning regulations "shall not prohibit or have the effect of prohibiting the provisions of personal wireless services." 47 U.S.C. § 332 (7) (B) (i) (II).
3. The Zoning Authority "shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time." 47 U.S.C.

§ 332 (7) (B) (ii).

4. Any decision “to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.” 47 U.S.C. § 332 (7) (B) (iii).
5. “No state or local government or instrumentality thereof may regulate the placement, construction and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communications] Commission’s regulations concerning emissions.” 47 U.S.C. § 332(7) (B) (iv).

Federal courts have construed the limitations listed under 47 U.S.C. § 332(7) as follows. First, even a facially neutral by-law may have the effect of prohibiting the provision of wireless coverage if its application suggests that no service provider is likely to obtain approval. “If the criteria or their administration effectively preclude towers no matter what the carrier does, they may amount to a ban ‘in effect’....” Town of Amherst, N.H. v. Omnipoint Communications Enters, Inc., 173 F.3d 9, 14 (1st Cir. 1999).

Second, local zoning decisions and by-laws that prevent the closing of significant gaps in wireless coverage have been found to effectively prohibit the provision of personal wireless services in violation of 47 U.S.C. § 332(7). See, e.g., Nat’l Tower, LLC v. Plainville Zoning Bd. of Appeals, 297 F.3d 14, 20 (1st Cir. 2002) (“local zoning decisions and ordinances that prevent the closing of significant gaps in the availability of wireless services violate the statute”); Omnipoint Communications MB Operations, LLC v. Town of Lincoln, 107 F. Supp. 2d 108, 117 (D. Mass. 2000) (by-law resulting in significant gaps in coverage within town had effect of prohibiting wireless services).

Third, whether the denial of a permit has the effect of prohibiting the provision of personal wireless services depends in part upon the availability of reasonable alternatives. See 360 Degrees Communications Co. v. Bd. of Supervisors, 211 F.3d 79, 85 (4th Cir. 2000). Zoning regulations must allow cellular towers to exist somewhere. Towns may not effectively ban towers throughout the municipality, even under the application of objective criteria. See Virginia Metronet, Inc. v. Bd. of Supervisors, 984 F. Supp. 966, 971 (E.D. Va. 1998).

State law also establishes certain limitations on a municipality’s authority to regulate wireless communications facilities and service providers. Under General Laws Chapter 40A, Section 3, wireless service providers may apply to the Department of Telecommunications and Cable for an exemption from local zoning requirements. If a telecommunication provider does not apply for or is not granted an exemption under c. 40A, § 3, it remains subject to local zoning requirements pertaining to cellular towers. See Building Comm’r of Franklin v. Dispatch Communications of New England, Inc., 48 Mass. App. Ct. 709, 722 (2000). Also, G.L. c. 40J, § 6B, charges the Massachusetts Broadband Institute with the task of promoting broadband access throughout the state. Municipal regulation of broadband service providers must not frustrate the achievement of this statewide policy.

In addition, Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012

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

We approve the new Section 215-27. However, the Town must apply the by-law in a manner consistent with the applicable law outlined above. In particular, Section IV of the new by-law requires that Wireless Telecommunication Facilities are only allowed by special permit in the Wireless Telecommunication Overlay District. This requirement cannot be applied to eligible facilities requests for modification to existing facilities which qualify for required approval under Section 6409 of the Act, as described above. We urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

II. Analysis of Mount Washington’s Wireless Telecommunication Facility By-Law

A. Section VIII “Criteria For Approval and Conditions”.

This section provides as follows:

5. The applicant will remove the Facility, should the Facility be abandoned or cease to operate. The Planning Board may require the applicant to provide a bond, or other form of financial guarantee acceptable to the Planning Board to cover the cost of removal of the Facility, should the Facility be abandoned or cease to operate, and ensure other compliance hereunder.

The Town must apply any bond or other financial guarantee proceeds in a manner consistent with state law. Bond proceeds do not become Town funds unless and until the applicant defaults on the obligation under the proposed by-law. Moreover, if the Town must use the bond to pay for removal of a wireless communication facility or the repair and/or restoration of the premises, an appropriation is required before expenditure is made to do the work. General Laws Chapter 44, Section 53, provides that “[a]ll moneys received by a city, town or district officer or department, except as otherwise provided by special acts and except fees provided for by statute, shall be paid by such officers or department upon their receipt into the city, town or district treasury.” Under Section 53 all moneys received by the Town become a part of the general fund, unless the Legislature has expressly made other provisions that are applicable to such receipt. In the absence of any general or special law to the contrary, performance security funds of the sort contemplated here must be deposited with the Town Treasurer and made part of the Town’s general fund, pursuant to G.L. c. 44, § 53. The Town must then appropriate the money for the specific purpose of completing the work required for removal and/or restoration.

B. Section X “Permit Revocation For Non-Performance”.

Section X authorizes the Planning Board to revoke a special permit for failure to comply with certain conditions. We approve Section X. However, before the Planning Board revokes a permit for failure to comply with certain conditions provided in Section X, the Planning Board should discuss with Town Counsel what due process, including notice and hearing requirements, are required. We suggest that the Town discuss this issue in more detail with Town Counsel.

Finally, the word “ordinance” is used in the by-law. Towns enact “by-laws” and cities enact “ordinances.” The Town may wish delete the word “ordinance” from the new Section 215-27 and insert the word “by-law” at a future Town Meeting.

Article 2 - The amendments adopted under Article 2 add a new Section 215-28, “Solar Photovoltaic Installation Moratorium Bylaw,” to the Town’s zoning by-laws. The temporary moratorium (through one year from the date of enactment of Section 215-28) on solar photovoltaic installation other than those mounted on an existing structure provides as follows:

Whereas, the Town of Mount Washington is undertaking a comprehensive study with respect to regulating the use of land for Solar Photovoltaic Installations, and

Whereas, there have been significant changes in law regarding Solar Photovoltaic Installations; and,

Whereas, the Town wishes to act carefully in a field with evolving law and technology, to investigate ways to preserve the character of the community while serving the needs of its people, and to devise an orderly process for granting permits by drafting an amendment to the Bylaw which is comprehensive, practical, equitable, and addresses the concerns of the Town on number, size, appearance, site standards, and location of Solar Photovoltaic Installations; and,

Whereas, it is desired to protect the Town from ill-advised and inappropriate development of Solar Photovoltaic Installations pending a thorough review and the formulation of such a zoning amendment; and,

Whereas, the Planning Board has determined that one year is necessary for such a comprehensive review and development of a Bylaw Subsection on Solar Photovoltaic Installations.

Now, therefore, no Solar Photovoltaic Installations other than those mounted on an existing structure, in the usual manner, shall be permitted for one year from the date of enactment of this Bylaw.

We approve the temporary moratorium adopted under Article 2 because the Town has the authority to “impose reasonable time limitations on development, at least where those restrictions are temporary and adopted to provide controlled development while the municipality engages in comprehensive planning studies.” Sturges v. Chilmark, 380 Mass. 246, 252-253 (1980). Such a temporary moratorium is within the Town’s zoning power where there is a stated need for “study, reflection and decision on a subject matter of [some] complexity...” W.R.

Grace v. Cambridge City Council, 56 Mass. App. Ct. 559, 569 (2002) (City's temporary moratorium on building permits in two districts was within city's authority to zone for public purposes.) The time limit Mount Washington has selected for its temporary moratorium (one year from the date of enactment of the by-law) appears to be reasonable in the circumstances. The moratorium is limited in time period and scope (to the use of land and structures for solar photovoltaic installations), and thus does not present the problem of a rate-of-development bylaw of unlimited duration which the Zuckerman court determined was unconstitutional. Zuckerman v. Hadley, 442 Mass. 511, 512 (2004) ("[A]bsent exceptional circumstances not present here, restrictions of unlimited duration on a municipality's rate of development are in derogation of the general welfare and thus are unconstitutional.")

While we approve the temporary one year moratorium on solar photovoltaic installations, we note that G.L. c. 40A, § 3, protects solar energy systems and the building of structures that facilitate the collection of solar energy from certain local zoning requirements. General Laws Chapter 40A, Section 3, provides in pertinent part as follows:

No zoning ordinance or by-law shall prohibit or unreasonably regulate the installation of solar energy systems or the building of structures that facilitate the collection of solar energy, except where necessary to protect the public health, safety or welfare.

General Laws Chapter 40A, Section 3, prohibits towns from adopting zoning by-laws that prohibit or *unreasonably regulate* the installation of solar energy systems or the building of structures that facilitate the collection of solar energy, except where necessary to protect the public health, safety or welfare. A temporary moratorium longer than one year may be vulnerable to a challenge in court that it is an unreasonable regulation of solar energy systems under G.L. c. 40A, § 3. We suggest the Town consult closely with Town Counsel on this issue.

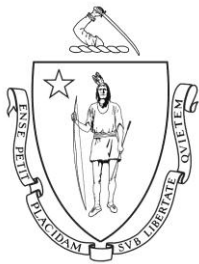
Note: Pursuant to G.L. c. 40, § 32, neither general nor zoning by-laws take effect unless the Town has first satisfied the posting/publishing requirements of that statute. Once this statutory duty is fulfilled, (1) general by-laws and amendments take effect on the date these posting and publishing requirements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

Very truly yours,
MARTHA COAKLEY
ATTORNEY GENERAL

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February 23, 2015

Debra A. Bourbeau, Town Clerk
Town of Montague
1 Avenue A
Montague, MA 01376

**RE: Montague Special Town Meeting of October 29, 2014 - Case # 7451
Warrant Article # 17 (Zoning)**

Dear Ms. Bourbeau:

Article 17 - We approve Article 17 from the October 29, 2014 Montague Special Town Meeting. Article 17 amends several portions of the Town's zoning by-laws pertaining to site plan review.

1. Section 5.2 (d), Permitted Uses and Special Permits - Procedures

Section 5.2 (d) was deleted in its entirety and replaced with new text that provides as follows (with emphasis added):

All applications for Special Permits and Site Plan Review from the Board of Appeals or the Planning Board shall be subject to the procedural requirements established by the respective Board. The Board of Appeals or Planning Board may determine that the assistance of outside professional expertise is required due to the size, scale, or complexity of a given project or its potential impact on the health, safety, and welfare of the Town. When outside review is determined to be necessary, the Board may require the applicant pay all reasonable expenses for this purpose, in accordance with the Board's regulations and M.G.L. Chapter 44 Section 53G.

General Laws Chapter 44, Section 53G, authorizes zoning boards, planning boards, boards of health, and conservation commissions, acting under authority conferred by G.L. c. 40A, § 9 and 12, c. 41, § 81Q, c. 40B, § 21, c. 111; and c. 40, § 8C, to impose consultant review fees, to disburse the funds collected, and to return unused portions to the applicant. However, the Legislature did not include Boards acting under the authority conferred solely by a local law within the small class of local boards that enjoy the benefits of G.L. c. 44, § 53G. When the Board is reviewing a site plan application based solely on the authority granted under local law, it cannot avail itself of the provisions of G.L. c. 44, § 53G. We suggest that the Town discuss this issue in more detail with Town Counsel.

2. Section 7.5.2, Telecommunication Facilities - General Provisions

Section 7.5.2, was deleted in its entirety and replaced with new text that provides as follows:

Telecommunication Facilities may be allowed by Special Permit from the Board of Appeals pursuant to Sections 5.2 and Section 7.5. Conditions shall maximize the shared use of any new or existing structures to minimize the required number of such facilities; and shall minimize[e] adverse visual impacts through careful design, siting, and screening. No facility shall be located in a (RS) Residential District. (see: Section 2, Definitions).

Section 7.5.2 must be applied in a manner consistent with Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, which requires that “[A] state or local government *may not deny, and shall approve*, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.” (emphasis added). The Act defines “eligible facilities request” as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies “[n]otwithstanding section 704 of the Telecommunications Act of 1996.” The Act’s requirement that a local government “may not deny, and shall approve, any eligible facilities request” means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot be subject to a discretionary special permit.

The Town must apply Section 7.5.2 in a manner consistent with the applicable law outlined above. We also urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

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

date they were approved by the Town Meeting, unless a later effective date is prescribed in the by-law.

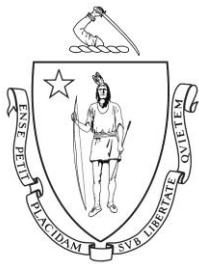
Very truly yours,

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February 10, 2015

Trudy L. Reid, Town Clerk
Town of Lynnfield
55 Summer Street
Lynnfield, MA 01940

RE: Lynnfield Fall Annual Town Meeting of October 20, 2014 - Case # 7408
Warrant Articles # 12, 13 and 14 (Zoning)
Warrant Articles # 16 and 17 (General)

Dear Ms. Reid:

Articles 12, 13, 14, 16 and 17 - We approve Articles 12, 13, 14, 16 and 17 from the October 20, 2014 Lynnfield Fall Annual Town Meeting. Our comments regarding Article 14 are provided below.

Article 14 - Article 14 makes a number of changes to the Town's zoning by-laws pertaining to Radio Telecommunication Facilities (RTF) and Personal Wireless Service Facilities (PWSF) including adding new definitions to Section 2, amending Section 7.4, "Site Plan" to add a new sub-section 7.4A "Additional Requirements for Personal Wireless Service Facilities"; and amending Section 8, "Special Permits" to add a new sub-section 8.7, "Siting of Radio Telecommunications Facilities."

I. Applicable Law

The federal Telecommunications Act of 1996, 47 U.S.C. § 332 (7) preserves state and municipal zoning authority to regulate personal wireless service facilities, subject to the following limitations:

1. Zoning regulations "shall not unreasonably discriminate among providers of functionally equivalent services." 47 U.S.C. §332(7) (B) (i) (I)
2. Zoning regulations "shall not prohibit or have the effect of prohibiting the provisions of personal wireless services." 47 U.S.C. § 332 (7) (B) (i) (II).
3. The Zoning Authority "shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time." 47 U.S.C. § 332 (7) (B) (ii).

4. Any decision “to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.” 47 U.S.C. § 332 (7) (B) (iii).
5. “No state or local government or instrumentality thereof may regulate the placement, construction and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communications] Commission’s regulations concerning emissions.” 47 U.S.C. § 332(7) (B) (iv).

Federal courts have construed the limitations listed under 47 U.S.C. § 332(7) as follows. First, even a facially neutral by-law may have the effect of prohibiting the provision of wireless coverage if its application suggests that no service provider is likely to obtain approval. “If the criteria or their administration effectively preclude towers no matter what the carrier does, they may amount to a ban ‘in effect’....” Town of Amherst, N.H. v. Omnipoint Communications Enters, Inc., 173 F.3d 9, 14 (1st Cir. 1999).

Second, local zoning decisions and by-laws that prevent the closing of significant gaps in wireless coverage have been found to effectively prohibit the provision of personal wireless services in violation of 47 U.S.C. § 332(7). See, e.g., Nat’l Tower, LLC v. Plainville Zoning Bd. of Appeals, 297 F.3d 14, 20 (1st Cir. 2002) (“local zoning decisions and ordinances that prevent the closing of significant gaps in the availability of wireless services violate the statute”); Omnipoint Communications MB Operations, LLC v. Town of Lincoln, 107 F. Supp. 2d 108, 117 (D. Mass. 2000) (by-law resulting in significant gaps in coverage within town had effect of prohibiting wireless services).

Third, whether the denial of a permit has the effect of prohibiting the provision of personal wireless services depends in part upon the availability of reasonable alternatives. See 360 Degrees Communications Co. v. Bd. of Supervisors, 211 F.3d 79, 85 (4th Cir. 2000). Zoning regulations must allow cellular towers to exist somewhere. Towns may not effectively ban towers throughout the municipality, even under the application of objective criteria. See Virginia Metronet, Inc. v. Bd. of Supervisors, 984 F. Supp. 966, 971 (E.D. Va. 1998).

State law also establishes certain limitations on a municipality’s authority to regulate wireless communications facilities and service providers. Under General Laws Chapter 40A, Section 3, wireless service providers may apply to the Department of Telecommunications and Cable for an exemption from local zoning requirements. If a telecommunication provider does not apply for or is not granted an exemption under c. 40A, § 3, it remains subject to local zoning requirements pertaining to cellular towers. See Building Comm’r of Franklin v. Dispatch Communications of New England, Inc., 48 Mass. App. Ct. 709, 722 (2000). Also, G.L. c. 40J, § 6B, charges the Massachusetts Broadband Institute with the task of promoting broadband access throughout the state. Municipal regulation of broadband service providers must not frustrate the achievement of this statewide policy.

In addition, Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 requires that “[A] state or local government *may not deny, and shall approve*, any eligible

facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.” (emphasis added). The Act defines “eligible facilities request” as any request for modification of an existing wireless tower or base station that involves: 1) collocation of new transmission equipment; 2) removal of transmission equipment; or 3) replacement of transmission equipment. The Act applies “[n]otwithstanding section 704 of the Telecommunications Act of 1996.” The Act’s requirement that a local government “may not deny, and shall approve, any eligible facilities request” means that a request for modification to an existing facility that does not substantially change the physical dimensions of the tower or base station must be approved. Such qualifying requests also cannot be subject to a discretionary special permit.

The Town must apply Article 14 in a manner consistent with the applicable law outlined above. In particular, Section 8.7.5.1 requires that PWSF may only be erected upon the grant of a special permit. The Town cannot apply this requirement to eligible facilities requests for modification to existing facilities that qualify for required approval under Section 6409 of the Act. We also urge the Town to consult closely with Town Counsel regarding the appropriate response to applications for collocation in light of these recent amendments.

II. Section 8.7, Siting of Radio Telecommunications Facilities

A. Section 8.7.2, Purpose

Section 8.7.2 provides that the purpose of the by-law is to establish general guidelines for the siting of RTFs. Section 8.7.2 (4) establishes one of the by-law’s goals as “[t]o make all RTF locations available for municipal agencies use where feasible.”

It is unclear whether Section 8.7.2 (4) would require the Town’s use of the RTF, and whether such use would be compensated or uncompensated. When applying the by-law, the Town cannot require an applicant to transfer property to the public without fair compensation. “The Fifth Amendment to the United States Constitution, made applicable to the States through the Fourteenth Amendment, provides that private property shall not ‘be taken for public use, without just compensation.’” This protection is “designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole.” Giovanella v. Conservation Commission of Ashland, 447 Mass. 720, 724 (2006) (*quoting* Armstrong v. United States, 364 U.S. 40, 49 (1960)). More recently, the court in Collins v. Stow, 79 Mass. App. Ct. 447 (2011) ruled that a town cannot condition subdivision approval on the dedication of open space for public use and actual conveyance of the land to the Town in exchange for waivers. “Although a planning board’s authority under the subdivision control law certainly encompasses, in appropriate circumstances, requiring open space, it does not extend to requiring the transfer of that open space to the public for reasons unrelated to adequate access and safety of the subdivision without providing just compensation.” *Id.* at 453. We suggest that the Town consult with Town Counsel regarding the proper application of Section 8.7.2 (4).

B. Section 8.7.5.4, General

Section 8.7.5.4.1 provides in relevant part that:

An undertaking shall be required, secured by a BOND appropriate in form and amount for removal of the PWSF within 6 months of cessation of operation of said facility or such other activity which may be appropriate to prevent the structures from becoming a nuisance or aesthetic blights.

The Town must apply any bond proceeds in a manner consistent with state law. Bond proceeds do not become Town funds unless and until the applicant defaults on the obligation under the by-law. Moreover, if the Town must use the bond to pay for removal of a PWSF or for other activity to prevent nuisance or blight, an appropriation is required before expenditure is made to do the work. General Laws Chapter 44, Section 53, provides that “[a]ll moneys received by a city, town or district officer or department, except as otherwise provided by special acts and except fees provided for by statute, shall be paid by such officers or department upon their receipt into the city, town or district treasury.” Under Section 53 all moneys received by the Town become a part of the general fund, unless the Legislature has expressly made other provisions that are applicable to such receipt. In the absence of any general or special law to the contrary, performance security funds of the sort contemplated here must be deposited with the Town Treasurer and made part of the Town’s general fund, pursuant to G.L. c. 44, § 53. The Town must then appropriate the money for the specific purpose of completing the work required for removal and/or other activities. The Town should consult with Town Counsel regarding the proper application of Section 8.7.5.4.

C. Section 8.7.5.5, Application Procedures

Section 8.7.5.5 pertaining to the Special Permit application provides in relevant part, that:

The Application Phase of the process begins with the receipt by the SPGA of a complete application including all materials required by the Zoning Bylaw and any applicable regulations.

Within 30 days of receipt, the SPGA or its designee shall review the application for consistency and completeness with respect to the Application Requirements in the bylaw and any applicable regulations and shall notify the Applicant in writing of any deficiency in the completeness of the application.

The SPGA shall take regulatory notice of the Federal Communications Commission (FCC) presumption that the final action of the SPGA on a new Antenna Tower should take no more than 150 days from the date of receipt of the completed application, and that final action on a Collocation or Site Sharing application should take no more than 90 days from the date of receipt of the completed application except upon written

extension of these timelines by mutual agreement between the SPGA and the Applicant.

Section 8.7.5.5 must be applied in a manner consistent with the time limits established in G.L. c. 40A, § 9. General Laws Chapter 40A, Section 9, requires that the special permit granting authority “shall hold a public hearing for which notice has been given as provided in section eleven, on any application for a special permit within sixty-five days from the date of filing of such application. . . . The decision of the special permit granting authority shall be made within ninety days following the date of such public hearing. . . . Failure by the special permit granting authority to take final action within . . . ninety days . . . shall be deemed to be a grant of the special permit.” (emphasis added).

Pursuant to G.L. c. 40A, § 9, the filing of a special permit application “starts the clock” on the time period within which the special permitting authority must act. Section 8.7.5.5 cannot be applied in a manner that “starts the clock” only when a *completed* application is filed. The Town must apply Section 8.7.5.5 consistent with G.L. c. 40A, § 9. See Massachusetts Broken Stone Co. v. Town of Weston, 430 Mass. 637, 642 (2000). The Town should consult with Town Counsel regarding the proper application of Section 8.7.5.5.

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

Very truly yours,

MAURA HEALEY
ATTORNEY GENERAL

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