

SECTION 4.322 WIRELESS COMMUNICATION FACILITIES

A. Purpose

The Zoning Board of Appeals, together with the Community Development Board (hereafter "Board") finds that it is necessary and beneficial for the health, safety and welfare of the community to update the regulations for development of Wireless Communications Facilities ("Facilities") in the City for the purposes articulated in the Siting and Design Guidelines for Wireless Communications Facilities adopted by the Zoning Board of Appeals (the "Guidelines");

B. Wireless Communications Facilities.

This Section 4.322, together with the Guidelines, establishes standards and requirements for the locating of Wireless Communications Facilities. All capitalized terms used herein are defined in the Guidelines. Reference to the Guidelines should be made for application processes and development standards.

C. Permit Required; Exemptions

1. No Wireless Communications Facility shall be altered, added to, installed, constructed or permitted unless the applicant has shown compliance with all the requirements of this Section and the Guidelines. The requirements of Section 4.322 apply to all Wireless Communications Facilities, whether Concealed or not, whether above-ground or underground, including but not limited to existing Towers, proposed Towers, public Towers, Replacement of Towers, Ancillary Structures and equipment, Co-location on existing Towers, Base Stations, temporary Personal Wireless Service Facilities (PWSF), PWSF facilities, Distributed Antenna Systems (DAS) facilities, Small Wireless Facility sites and/or networks, and broadcast Towers, except that the following are exempt and no permit is required:
 - a. An Amateur Radio Tower less than 70 feet in height that is used exclusively for non-commercial purposes and which may not be used to collocate commercial Wireless Services;
 - b. A government-owned Wireless Communications Facility erected for a state of emergency officially declared by a federal, state or local government and where the Mayor or designee has made a written determination of public necessity for the facility, and only during the duration of the state of emergency;
 - c. A government-owned public safety facility;
 - d. Over-the-air reception devices (OTARD), including Satellite Earth Stations, so long as the device does not require construction of a Tower or other structure exceeding 12 feet above the home or building and the device is no more than one meter in diameter in a residential zone or two meters in any other zone district.
2. Wireless Communication Facilities shall be located in accordance with the Use Table in Section D. One or more of several types of permits may be required for a given facility or group of facilities.
 - a. Zoning Permit (ZP). For those types of facilities that are allowed in the given zone district, and for qualified Co-locations, an administrative permit (a permit issued by the Building Inspector) is required. The permit shall be processed and decided in accordance with this Section 4.322.
 - b. Site Plan Review (SPR). For those types of facilities that require a Site Plan Review (see Section D Use Table), the Community Development Board shall hold a site plan review

hearing for the application and may approve, approve with conditions, or deny the application in accordance with this Section 4.322 and Section 7.702 of the Zoning Ordinance.

- c. Special Permit (SP). For those types of facilities that require a Special Permit (see Section D Use Table), the Community Development Board shall hold a site plan review hearing for the application and make a recommendation to the Zoning Board of Appeals who shall hold a public hearing on the application and who may approve, approve with conditions, or deny the application in accordance with this Section 4.322, Section 7.8, and Section 13.204 of the Zoning Ordinance.
- d. Right-of-way work/use permit. Facilities / structures located in the public right-of-way shall be placed so as not to interfere with vehicular or pedestrian use of the rights-of-way or with traffic safety. Any/all work in the public right-of-way requires a separate permit pursuant to the requirements of the City's Engineering Department. The provider shall comply with all the provisions and terms of the right-of-way work permit. As-built construction drawings including product details shall be provided to the City for all structures, equipment, cable, pipes and conduit located within the public right-of-way or within a public or City-owned utility or multi-purpose easement, which must include, for fiber optic cable, the number of strands of fiber in the conduit. The depth of bury for underground facilities in the right-of-way shall be a minimum of twenty-four (24) inches for communications and low voltage cable lines.
- e. Consolidated application/permit. For the following facility types, the applicant shall be allowed, at the applicant's discretion, to file a single, consolidated application for multiple facilities and receive a single review/permit/decision instead of filing separate applications for each facility (however, right-of-way work permit(s) may also be required):
 - (i) For Small Wireless Networks involving multiple individual Small Wireless Facilities within the City;
 - (ii) For an applicant desiring to Co-locate on several Wireless Service Facilities within the City.
- f. Shadow conduit. For all Wireless Communications Facility development/installation that involves trenching or excavation in the public right-of-way or in a public or City-owned utility or multipurpose easement, the applicant shall notify the City 30 days prior to commencing such excavation and provide the City the opportunity to install conduit in the same trench / excavation area.

D. Use Table *

SP = Special Use Permit N = Not Permitted ZP = Zoning Permit

Zoning District	<u>Residence Districts - R-43, R-20, R-12, R-6, R-G, R-M</u>	<u>Business Districts – B-C, B-G, B-D, C-W-S</u>	<u>Industrial Districts – I-L, I-G</u>	<u>L-D-I, B-N</u>
Colocation/- Combined Facility	ZP	ZP	ZP	ZP
DAS - Attached	ZP	ZP	ZP	ZP
Antenna Replacement Facility	ZP	ZP	ZP	ZP
Dual Purpose Facility	SPR	SPR	SPR	SPR
Concealed Small Wireless Facility	SPR	SPR	SPR	SPR
Non-concealed Small Wireless Facility	SPR	SPR	SPR	SPR
DAS - Freestanding	SPR	SPR	SPR	SPR
Concealed Base Station	SPR	SPR	SPR	SPR
Non-Concealed Base Station	SPR	SPR	SPR	SPR
Tower Replacement Facility	SPR	SPR	SPR	SPR
Concealed New Tower	SP	SP	SP	SP
Non-concealed New Tower	SP	SP	SP	SP
Broadcast Tower	SP	SP	SP	SP

Eligible Collocations under 47 USC §1445 shall be administratively approved.

E. Siting Preferences For New Wireless Communications Facilities.

1. Siting of new PWSF of any type shall be in accordance with the Siting Preferences below and with the Use Table in Section D. Where a lower ranked alternative is proposed, the applicant must demonstrate through relevant information including, but not limited to, an affidavit by a

radio frequency engineer demonstrating that despite diligent efforts to adhere to the established hierarchy within the geographic search area, higher ranked options are not technically feasible, practical or justified given the location of the proposed facilities, by clear and convincing evidence. The applicant must provide such evidence in its application in order for the application to be considered complete.

The Siting Preferences are, in order:

- a. Dual Purpose Facility
- b. Replacement of existing Wireless Communications Facility in any zoning district
- c. Concealed antenna(s) on a base station
- d. Concealed Small Wireless Facility site
- e. Distributed Antenna System (DAS) facility
 1. Attached
 - i. Concealed on City-owned property, right-of-way or public easement
 - ii. Concealed on other public property
 - iii. Concealed on non-public property
 - iv. Non-concealed on City-owned property, right-of-way or public easement
 - v. Non-concealed on other public property
 - vi. Non-concealed on non-public property
 2. New Freestanding DAS Facility
 - i. Concealed on City-owned property, right-of-way or public easement
 - ii. Concealed on other public property
 - iii. Concealed on non-public property
 - iv. Non-concealed on City-owned property, right-of-way or public easement
 - v. Non-concealed on other public property
 - vi. Non-concealed on non-public property
- f. Non-concealed Small Wireless Facility site
- g. Non-concealed Antenna(s) on a Base Station
 - i. On City-owned property in any non-residential zoning district
 - ii. On other public property in any non-residential zoning district
 - iii. On non-public property in any Business Zone
 - iv. In other zone districts in accordance with the Use Table in Section D
- h. Co-location or combined PWSF
- i. Concealed freestanding towers
 - i. On City-owned property in any non-residential zoning district
 - ii. On other public property in any non-residential zoning district
 - iii. On non-public property in any Business Zone or other zone districts, in accordance with the Use Table in Section D.
- j. Preferred concealment type shall be determined by the Community Development Board or Zoning Board of Appeals as applicable and shall be dependent upon the location and

geography of each proposed facility, but may include, but is not limited to, a “faux” tree, church steeple, building parapet, bell, clock tower or other existing type of structure which ordinarily has a different purpose or use.

- k. Non-concealed towers
 - i. On City owned property in any non-residential zoning district
 - ii. On other public property in any non-residential zoning district
 - iii. On non-public property in any Business Zone
- l. Preferred tower type (wherever located)
 - i. Monopole
 - ii. Lattice
 - iii. Guyed

2. Broadcast towers are not subject to the siting preferences; they may be sited in accordance with the Use Table (Section 4.322(D)) and pursuant to the development standards contained in the Guidelines.

F. No Interference with Public Safety Communications.

a. Applicants shall, regardless of the type of facility, comply with “Good Engineering Practices” as defined by Federal Communications Commission (FCC) regulations and shall provide a composite analysis of all users of the site to determine that the proposed facilities will not cause radio frequency interference with any governmental public safety communications and shall implement appropriate technical measures to prevent such interference.

b. When the City notifies a wireless service provider that it believes the provider’s Antenna(s) or Array(s) are creating such interference, the provider shall investigate and mitigate the interference, if any, utilizing the procedures set forth in the joint wireless industry-public safety “Enhanced Best Practices Guide,” released by the FCC in Appendix D of FCC 04-168 (released August 6, 2004), including the “Good Engineering Practices,” as may be amended or revised by the FCC from time to time in any successor regulations.

c. If the provider fails to comply with this subsection (F), including but not limited to by initiating an appropriate response within 24 hours of the City’s notification, the provider and the property owner shall be jointly and severally responsible for reimbursing the City for all costs associated with ascertaining and resolving the interference.

G. Temporary PWSF Specifications and Requirements

Development Standards. Temporary PWSF shall require a zoning permit in those zone districts specified in the Use Table in Section 4.322 (D) where all of the following are met:

- a. It will be in place for no more than 60 days (subject to a one-time extension of an additional 60 days for good cause);
- b. Notification of construction is provided by the applicant to the Federal Aviation Administration (FAA);
- c. It does not require marking or lighting by the FAA;
- d. It will be less than 200 feet in height;
- e. It does not involve any excavation (or excavation where prior disturbance exceeds proposed excavation by at least 2 feet).

H. Wireless Communication Facility, Co-Location and Combination

Development Standards. The Board requires co-location and combining of Wireless Communications Facilities on existing Towers, existing Base Stations or existing Dual Purpose Facilities as a highest priority where such co-location is possible. A zoning permit shall be required for co-location of facilities on an existing Tower, existing Base Station or Dual Purpose Facility. Co-location or combination of Wireless Communications Facilities requires a zoning permit, and is subject to the following:

- a. A co-located or combined Antenna or Antenna Array shall not exceed the maximum height prescribed in the applicable land use permit or increase the height of an Existing Tower by more than 20 feet and shall not affect any Tower lighting, except as provided for herein below. A PWSF co-location that does not create a Substantial Change in the Tower or Dual Purpose Facility or Small Cell Facility shall be approved within 60 days (subject to tolling) in accordance with Section 4 of the Guidelines.
- b. If the applicant who seeks to co-locate PWSF demonstrates a coverage gap that cannot be addressed by a co-location that meets the height limitations of Section **4.322(M)(c)** below, the applicant may request a variance of the height limitation. If the co-location is a qualified co-location under 47 U.S.C. §332(c)(7), the Building Inspector shall render a decision within 90 days, subject to tolling, in accordance with Section 4 of the Guidelines.
- c. New antenna mounts shall be flush-mounted onto existing structures, unless it is demonstrated through radio frequency (RF) propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area.
- d. The Equipment Cabinet shall be subject to the setback requirements of the underlying zoning district.
- e. When a co-located or combined Antenna is to be located on a nonconforming building or structure, then the existing permitted nonconforming setback shall prevail.
- f. No signage shall be permitted on an Antenna or Antenna Array that is combined with or co-located on an alternative Dual Purpose Facility; however, the Dual Purpose Facility may itself be an existing sign, so long as the sign was approved through a non-Wireless Communications Facility development permit or sign permit.

I. New Base Stations: Concealed and Non-Concealed

Antennas and equipment may be mounted onto a structure which is not primarily constructed for telecommunications purposes in accordance with the Use Table of Section 4.322(D). A site plan review is required for base station antennas and equipment mounted onto such an alternative structure. In residential districts, the following structures shall **not** be used as Base Stations or to support PWSF or commercial antenna(s): single-family dwelling, two-family dwelling, multi-family dwelling of fewer than three stories in height, group living facility, or day care.

Development Standards. Antenna(s) and equipment to be located on an alternative structure shall be subject to the following:

- a. If the facility is concealed, the top of Antenna(s) shall not be more than 35 feet above the existing or proposed building or structure, except that Antenna(s) located on the perimeter of the Supporting Structure shall not be more than ten feet above the Supporting Structure;
- b. If the facility is non-concealed, the top of the Antenna shall not be more than 20 feet above the existing or proposed building or structure and shall not be located on the perimeter of the Supporting Structure;

- c. New Antenna mounts shall be flush-mounted onto existing structures, unless it is demonstrated through radio frequency (RF) propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area;
- d. New Antenna mounts shall meet the setbacks and height restrictions of the underlying zone district;
- e. When attached Base Station antenna(s) and equipment is/are to be located on a nonconforming building or structure, the existing permitted nonconforming setback or height shall prevail;
- f. Concealed Base Station attached Antennas, feed lines and Antennas shall be designed to architecturally match the façade, roof, wall, and/or structure on which they are affixed so that they blend with the existing structural design, color, and texture; and
- g. No signage shall be allowed on an Antenna or Antenna Array that is located on an Alternative Structure; however, the Alternative Structure itself may have a sign that was otherwise approved as part of a non-Wireless Communications Facility development application or sign permit.

J. Antenna Element Replacement or Modification

Development Standards. A zoning permit is required for any Replacement or modification of existing antenna(s) and associated equipment, and the replacement or modification must comply with the following:

- a. Height. The increase in height of a PWSF that is modified shall not create a “Substantial Change” in the PWSF.
- b. Equipment Cabinets and Equipment Shelters. Electronic equipment shall be contained in either (a) Equipment Cabinets or (b) Equipment Shelters. Equipment cabinets shall not be visible from pedestrian and right-of-way views. Equipment Cabinets may be provided within the principal building on the lot, behind a screen on a rooftop, or on the ground within the fenced-in and screened equipment compound.
- c. Sounds. No unusual sound emissions such as alarms, bells, buzzers, or the like are permitted. Emergency generators are allowed. Sound levels shall not exceed .65 db as measured at the property boundaries for the facility.
- d. Signage. Commercial messages shall not be displayed on any concealed tower. Required noncommercial signage shall be subject to the following:
 - i. The only signage that is permitted upon a concealed tower, equipment cabinets, shelters or fence shall be informational, and for the purpose of identifying the tower (such as Antenna Structure Registration (ASR) registration number), as well as the party responsible for the operation and maintenance of the facility, and any additional security and/or safety signs as applicable.
 - ii. If more than 220 voltage is necessary for the operation of the facility and is present in a ground grid or in the tower, signs located every twenty (20) feet and attached to the fence or wall shall display in large, bold, high contrast letters, minimum height of each letter four (4) inches, the following: “HIGH VOLTAGE - DANGER.”
 - iii. Name plate signage shall be provided, in an easily visible location, including the address and telephone number of the contact to reach in the event of an emergency or equipment malfunction, including property manager signs as applicable.

- e. Lighting. Lighting on concealed PWSF towers shall not exceed FAA minimum standards. All other lighting shall be subject to the following.
 - i. Any lighting required by the FAA must be of the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. Dual lighting standards are required with strobe during daytime and red flashing lights at night unless prohibited by the FAA.
 - ii. Lights shall be filtered or oriented so as not to project directly onto surrounding property or rights-of-way, consistent with FAA requirements.

K. Tower / Dual Purpose Facility Replacement

A site plan review is required for Replacement of a Tower and Dual Purpose Facility. Applicant must demonstrate by clear and convincing competent evidence that Replacement will accomplish at least one of the following:

- a. Reduction in the number of Wireless Communications Dual Purpose Facilities or Towers;
- b. Replacement of a Non-concealed Tower with a Concealed Tower
- c. Significant reduction of the visual impact of a Wireless Communications Facility;
- d. Replacement of an existing Tower with a new Tower so as to improve network functionality resulting in compliance with this Section; and/or
- e. Replacement of an existing Dual Purpose Facility to increase the number of Personal Wireless Service Providers located on such structure.

Development Standards.

- a. Setbacks: A new Tower approved for Replacement shall not be required to meet new setback standards so long as the new Tower and its Equipment Compound are no closer to any property lines or dwelling units as the tower and Equipment Compound being replaced. The intent is to encourage the replacement process, not penalize the tower owner for the change out of the old facility. (For example, if a new Tower is replacing an old Tower, the new Tower is permitted to have the same setbacks as the Tower being removed, even if the old Tower had nonconforming setbacks.)
- b. Height: The height of the Replacement Tower or Dual Purpose Facility shall not create a Substantial Change of the facility being replaced.
- c. Breakpoint technology: A Replacement monopole tower shall use breakpoint technology in the design of the replacement facility.
- d. Visibility: Replacement Towers or Dual Purpose Facilities shall be configured and located in a manner that minimizes adverse effects on the landscape and adjacent properties, with specific design considerations as to height, scale, color, texture, and architectural design of the buildings on the same and adjacent zoned lots.
- e. All Replacement Towers shall be constructed and maintained to meet ANSI/EIA/TIA Class III, Exposure C structural standards.

L. DAS & Concealed Small Wireless Facilities

- a. **Attached DAS Development Standards.**

- i. A zoning permit is required for New attached DAS Facility & Concealed Small Wireless Facility.
- ii. Where feasible, Antennas can be placed directly above, below or incorporated with vertical design elements of a building or structure to help in concealment. The top of the Antenna(s) shall not exceed more than 7 feet above the tallest level of the structure on which it is attaching.
- iii. Attached Equipment box and power meter shall be located on the pole at a height that does not interfere with pedestrian or vehicular traffic or visibility and where applicable shall not interfere with street name signs or traffic lighting standards.
- iv. Freestanding equipment box and/or power meter not attached to an existing structure shall be located no farther than 2' from the base of the structure and shall not interfere with pedestrian or vehicular traffic. Screening materials may be required if the equipment box and/or meter are adjacent to a public right-of-way or along a pedestrian sidewalk or pathway.
- v. All cables and surface mounted wires shall be enclosed within conduit or a similar cable cover which should be painted to match the structure or building on which that DAS is mounted.

b. New Freestanding DAS Facility & Concealed Small Wireless Facility Development Standards.

- i. A site plan review is required for New Freestanding DAS Facility & Concealed Small Wireless Facility.
- ii. Height. The total height of DAS /Small Wireless Facility including antenna shall not exceed one foot above the height of existing public utility poles for power or light in the same geographic area.
- iii. Setbacks for DAS/Small Wireless Facility outside of the right-of-way shall meet the same setbacks of the underlying zoning district for similar structures.
- iv. The use of either (a) foliage or vegetation as screening, or (b) design wrapped in accordance with the Pittsfield Paintbox Project around ground equipment may be required by the City based on conditions of the specific area where the ground equipment is to be located. In order to avoid the clustering of multiple items of ground equipment in a single area, a maximum of two ground equipment boxes may be grouped together in any single location. In addition, such locations must be spaced a minimum of 500 linear feet of right-of-way apart from each other. Individual ground equipment boxes shall not exceed three feet wide by three feet deep by five feet high in size. The size and height of new freestanding DAS and concealed Small Wireless Facility poles shall be no greater than the size and height of any other telecommunications facility poles located in the same or similar type of rights-of-way in the City.
- v. Visibility of new DAS/Small Wireless Facility poles
 - 1. New DAS/Small Wireless Facility structures shall be configured and located in a manner that minimizes adverse effects on the landscape and adjacent properties, with specific design considerations as to height, scale, color, texture, and architectural design of the buildings on the same and adjacent zoned lots. Concealment design is required to minimize the visual impact of wireless communications facilities.
 - 2. All cables, conduits, and surface mounted wires shall be enclosed within the structure. All equipment should be contained within the vertical infrastructure installed in the right-of-way except where insufficient interior physical space or incapable loading issues are present, in which event external cabinets, boxes and vaults may be used.

3. Small Wireless Facilities shall be no larger in size than what is specified in the Definitions within the Guidelines.
 4. New DAS/Small Wireless Facility structures shall be located in non-residential roadway rights-of-way whenever possible. Placement of new DAS/Small Wireless Facility structures in rights-of-way other than non-residential roadways shall be justified by an engineering analysis from the applicant to the satisfaction of the City engineer prior to the issuance of any permit. Whenever new DAS/Small Wireless Facility structures must be placed in a right-of-way with residential uses on one or both sides of the street, no pole, equipment, Antenna or other structure may be placed directly in front of a residential structure. If a right-of-way has residential structures on only one side of the street, the new DAS/Small Wireless Facility structure shall be located on the opposite side of the right-of-way whenever possible. All new DAS/Small Wireless Facility structures shall be located such that views from residential structures are not significantly impaired. Newly installed poles for new DAS/Small Wireless Facility structures should be located in areas with existing foliage or other aesthetic features in order to obscure the view of the pole.
 5. New DAS/Small Wireless Facility structures located in rights-of-way shall be constructed and maintained so as not to interfere with, displace, damage, inhibit or destroy any other utilities or facilities, including but not limited to sewer, gas or water mains or service lines, storm drains, pipes, cables or conduits, or any other facilities lawfully occupying the right-of-way, whether public or private. All wireless communications facilities shall be placed and maintained so as not to create interference with the operations of public safety telecommunications service. The City reserves the right to place and maintain, and permit to be placed or maintained, sewer, gas, water, electric, storm drainage, communications, and other utilities and facilities, cables or conduit, and to do, and to permit to be done, any underground and overhead installation or improvement that may be deemed necessary or proper by the City in public rights-of-way occupied by the new DAS/Small Wireless Facility structure.
- vi. Equipment Cabinets. Equipment Shelters or Cabinets shall be consistent with the general character of the neighborhood and historic character if applicable. Equipment Shelters or Cabinets shall be screened from the public view by using landscaping, or materials and colors consistent with the surrounding backdrop.
1. Screening enclosures shall be allowed when the design is architecturally compatible with the building.
 2. Screening materials shall consist of materials and colors consistent with the surrounding backdrop and/or textured to match the existing structure.
 3. The use of foliage and vegetation as screening around ground equipment may be required based on conditions of the specific area where the ground equipment is to be located.
 4. Small Wireless Facility equipment cabinets shall comply with the size requirements set forth in the Definitions above.
 5. The location in the public rights-of-way of any equipment or equipment cabinets, boxes or vaults associated with Small Wireless Facilities shall be subject to the approval of the City. Any such cabinets, boxes, vaults, or equipment must be approved by the City as to structural design and structural/electrical safety in accordance with applicable structural and electrical codes, and shall not physically interfere with the use of the public rights-of-way by pedestrian or vehicular traffic and shall not obscure or block sight lines between traffic on the adjacent roadway and

pedestrian pathways/sidewalks. No generators utilized in connection with wireless communications facilities may be placed in the public rights-of-way, except temporarily in the case of emergency and only if approved within forty-eight (48) hours of placement by the City.

c. DAS Hub Development Standards.

- a. Setbacks for DAS hubs outside of the right-of-way shall meet the setback standards of the underlying zoning district.
- b. DAS hubs, Equipment Shelters or Cabinets shall be consistent with the general character of the neighborhood and historic character if applicable. Equipment Shelters or Cabinets shall be screened from the public view by using landscaping, or materials and colors consistent with the surrounding backdrop, or consistent with the Pittsfield Paintbox Project.
 - i. Screening enclosures shall be allowed when the design is architecturally compatible with the building.
 - ii. Screening materials shall consist of materials and colors consistent with the surrounding backdrop and/or textured to match the existing structure.
 - iii. The use of foliage and vegetation around ground equipment may be required based on conditions of the specific area where the ground equipment is to be located.

M. Concealed and Non-Concealed Wireless Communications Towers (not including DAS or Broadcast Tower, which are addressed in other subsections)

- a. A special permit and site plan review shall be required for a new Wireless Communications Tower.
- b. No new Tower shall be permitted unless the applicant demonstrates that no Existing Tower or Dual Purpose Facility can accommodate the applicant's proposed use, or that Co-location on such existing facilities would have the effect of prohibiting personal Wireless Services in the geographic search area to be served by the proposed Tower.
- c. Development Standards.
 - i. Height.
 - 1. New Concealed Towers shall be limited to 135 feet in height. Height calculations shall be made in accordance with FAA standards, and shall include all appurtenances.
 - 2. New Non-concealed (non-broadcast) Towers shall be limited to 115 feet in height.
 - ii. Setbacks. A new Concealed Tower shall be subject to the setbacks described below for breakpoint technology:
 - 1. If the Concealed Tower has been constructed using Breakpoint Design Technology (see 'Definitions' in Guidelines), the minimum setback distance shall be equal to 110 percent (110%) of the distance from the top of the structure to the breakpoint level of the structure, or the minimum side and rear yard requirements, whichever is greater. Certification by a registered professional engineer licensed by the Commonwealth of Massachusetts of the breakpoint design and the design's fall radius must be provided together with the other

information required herein from an applicant. (For example, on a 100-foot tall monopole with a breakpoint at eighty (80) feet, the minimum setback distance would be twenty-two (22) feet (110 percent of twenty (20) feet, the distance from the top of the monopole to the breakpoint) plus the minimum side or rear yard setback requirements for that zoning district.)

2. If the concealed tower is not constructed using breakpoint design technology, the minimum setback distance shall be equal to the height of the proposed tower.
- iii. Equipment Cabinets and Equipment Shelters. Electronic equipment shall be contained in either (a) Equipment Cabinets or (b) Equipment Shelters. Equipment Cabinets shall not be visible from pedestrian and right-of-way views. Equipment Cabinets may be provided within the principal building on the lot, behind a screen on a rooftop, or on the ground within the fenced-in and screened equipment compound.
 - iv. Fencing. All Equipment Compounds shall be enclosed with an opaque fence or masonry wall in residential zoning districts and in any zoning district when the equipment compound adjoins a public right-of-way. Alternative equivalent screening as described in subsection (v)(5) below may be approved through the site plan approval process.
 - v. Buffers. The equipment compound shall be landscaped with a minimum ten (10) foot wide perimeter buffer containing the following planting standards:
 1. All plants and trees shall be indigenous to western Massachusetts.
 2. Existing trees and shrubs on the site should be preserved and may be used in lieu of required landscaping as approved by the Building Inspector.
 3. One (1) row of evergreen trees with a minimum two (2) inch caliper, twenty-five (25) foot on center.
 4. Evergreen shrubs capable of creating a continuous hedge and obtaining a height of at least five (5) feet shall be planted, minimum three (3) gallon or twenty-four (24) inches tall at the time of planting, five (5) foot on center.
 5. Alternative landscaping plans which provide for the same average canopy and understory trees but propose alternative locating on the entire subject property may be considered and approved by the Building Inspector, provided the proposed alternative maximizes screening as provided above, and is otherwise consistent with the requirements of this section.
 - vii. Signage. Commercial messages shall not be displayed on any Concealed Tower. Required noncommercial signage shall be subject to the following:
 1. The only signage that is permitted upon a Concealed Tower, Equipment Cabinets, Shelters or fence shall be informational, and for the purpose of identifying the tower (such as ASR registration number), as well as the party responsible for the operation and maintenance of the facility, and any additional security and/or safety signs as applicable.
 2. If more than 220 voltage is necessary for the operation of the facility and is present in a ground grid or in the Tower, signs located every twenty (20) feet and attached to the fence or wall shall display in large, bold, high contrast letters, minimum height of each letter four (4) inches, the following: "HIGH VOLTAGE - DANGER."
 3. Name plate signage shall be provided, in an easily visible location, including the address and telephone number of the contact to reach in the event of an emergency or equipment malfunction, including property manager signs as applicable.

- viii. Lighting. Lighting on Concealed Towers shall not exceed the Federal Aviation Administration (FAA) minimum standards. All other lighting shall be subject to the following.
- i. Any lighting required by the FAA must be of the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. Dual lighting standards are required with strobe during daytime and red flashing lights at night unless prohibited by the FAA.
 - ii. Lights shall be filtered or oriented so as not to project directly onto surrounding property or rights-of-way, consistent with FAA requirements.
- ix. Equipment Compound. The fenced-in compounds shall not be used for the storage of any excess equipment or hazardous materials. No outdoor storage yards shall be allowed in a tower equipment compound. The compound shall not be used as habitable space.
- x. Structural Standards. All new concealed or non-concealed PWSF towers on public property shall be constructed and maintained to meet ANSI/EIA/TIA Class III, Exposure C structural standards.
- xi. Visibility
1. Concealed:
 - a) New Concealed Towers shall be designed to match adjacent structures and landscapes with specific design considerations such as architectural designs, height, scale, color, and texture.
 - b) New Antenna mounts shall be concealed and match the Concealed Tower.
 - c) In residential zoning districts and in mixed use zoning districts that include residential uses, new Concealed Towers shall not be permitted on lots where the primary use or principal structure is single-family or two-family residential, group living, day care, or a multi-family structure of fewer than three stories. Examples of land uses/structure types in residential areas where the site may include a Concealed Tower are: school, religious assembly, fire station, hospital, or other similar institutional / civic uses/structures.
 2. Non-concealed: New Antenna mounts shall be flush-mounted, unless it is demonstrated through RF propagation analysis that flush-mounted Antennas will not meet the network objectives of the desired coverage area.
 3. Concealed and Non-concealed:
 - a) New concealed and Non-concealed Towers shall be configured and located in a manner that shall minimize adverse effects including visual impacts on the landscape and adjacent properties.
 - b) A balloon test shall be required subsequent to the receipt of the photo simulations in order to demonstrate the proposed height and concealment solution of the PWSF. The applicant shall arrange to raise a red or orange colored balloon no less than three (3) feet in diameter at the maximum height of the proposed tower, and within twenty-five (25) horizontal feet of the center of the proposed tower. The applicant shall meet the following for the balloon test:
 - Applicant must inform the Building Inspector, City Planner, and abutting property owners in writing of the date and times, including alternative date and times, of the test at least fourteen (14) days in advance.

- A 3' by 5' sign with lettering no less than 3 inches high stating the purpose of the balloon test shall be placed at closest major intersection of proposed site.
 - The date, time, and location, including alternative date, time and location, of the balloon test shall be advertised in a locally distributed paper by the applicant at least seven (7) but no more than fourteen (14) days in advance of the test date.
 - The balloon shall be flown for at least four (4) consecutive hours during daylight hours on the date chosen. The applicant shall record the weather, including wind speed during the balloon test.
 - Re-advertisement will not be required if inclement weather occurs.
- c) All macro towers shall be constructed structurally to accommodate no fewer than four (4) Antenna Array of equal loading capacity.
- d) Grading shall be minimized and limited only to the area necessary for the new Tower and Equipment Compound.
- e) Sounds. No unusual sound emissions such as alarms, bells, buzzers, or the like are permitted. Emergency generators are allowed. Sound levels shall not exceed .65 db as measured at the property boundaries.

N. Broadcast Towers

No new Broadcast Facilities shall be constructed or installed without a site plan review and a permit under this Section. No new Broadcast Facilities shall be permitted unless the applicant demonstrates that no existing broadcast tower can accommodate the applicant's proposed use. A pre-application conference shall be required for any new Broadcast Facility.

Development Standards.

- a. Height. Height for Broadcast Facilities shall be evaluated on a case-by-case basis; the determination of height contained in the applicant's FCC Form 351/352 construction permit or application for construction permit and an FAA determination of no hazard (FAA Form 7460/2) shall be considered prima facie evidence of the tower height required for such Broadcast Facilities.
- b. Setbacks. New Broadcast Facilities and anchors shall be setback a minimum of five hundred (500) feet from any single-family dwelling unit on same zone lot; and a minimum of 1 foot for every 1 foot of tower height from all adjacent lots of record.
- c. Equipment Cabinets. Except for AM Broadcast Facilities, cabinets shall not be visible from pedestrian views.
- d. Fencing. All Broadcast Facility towers, AM antenna(s) towers, and guy anchors shall each be surrounded with an anti-climbing fence compliant with applicable FCC regulations.
- e. Buffers
- i. Except for AM Broadcast Facilities, it is the intent that all pedestrian views from public rights-of-ways and adjacent residential land uses be screened from proposed Broadcast Facilities. AM Broadcast Facilities shall, where practicable, use artificial screening devices in lieu of natural vegetation for screening its ground equipment located at the base of AM tower(s).
 - ii. Alternative landscaping plans which provide for the same average canopy and understory trees but propose alternative siting on the entire subject

property on which the proposed facility is projected may be considered and approved by the Department of Community Development, provided the proposed alternative maximizes screening as provided above, and is otherwise consistent with the requirements of this section.

- f. Signage.
 - i. Commercial messages shall not be displayed on any tower.
 - ii. The only signage that is permitted upon an antenna Support Structure, Equipment Cabinets, or fence shall be informational, and for the purpose of identifying the antenna Support Structure (such as ASR registration number), as well as the party responsible for the operation and maintenance of the facility; i.e. the address and telephone number, security or safety signs, and property manager signs (if applicable).
- g. If more than two hundred twenty (220) volts are necessary for the operation of the facility, signs located every twenty (20) feet and attached to the fence or wall shall display in large, bold, high contrast letters (minimum height of each letter four (4) inches) the following: "HIGH VOLTAGE - DANGER".
- h. Lighting.
 - i. Lighting on towers shall meet and not exceed the FAA minimum standards.
 - ii. Any lighting required by the FAA must be of the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. Dual lighting standards are required and strobe light standards are prohibited unless required by the FAA. The lights shall be oriented so as not to project directly onto surrounding property, consistent with FAA requirements.
- i. Equipment Compound. The fenced in compounds shall not be used for the storage of any excess equipment or hazardous materials. No outdoor storage yards shall be allowed in a tower Equipment Compound. The compound shall not be used as habitable space.
- j. Grading shall be minimized and limited only to the area necessary for the new tower and equipment.
- k. Sounds. No unusual sound emissions such as alarms, bells, buzzers, or the like are permitted. Emergency generators are allowed. Sound levels shall not exceed .65 db as measured at the closest property boundaries for the facility.
- l. Parking. One parking space is required for each tower development area. The space shall be provided within the leased area, or equipment compound or the development area as defined on the site plan.