

EFFECTIVE JUNE 6, 2011

**Town of Milton  
WIRELESS COMMUNICATION FACILITIES REGULATIONS  
APPENDIX B to the Town of Milton Zoning Regulations**

I. Purpose.....1

II. Authority.....1

III. Permit Required.....1

IV. Approval Process.....2

V. Review Standards.....2

VI. Application Requirements.....7

VII. Conditions.....9

VIII. Amendments.....9

IX. Abandonment or Discontinuance and Removal.....10

X. Consistency with Federal Law.....10

XI. Definitions.....10

**I. Purpose**

The purpose of this bylaw is to promote the public health, safety, welfare, and convenience of the residents of the Town of Milton, while accommodating the telecommunication needs of the Town’s residents. The goals of this regulation are to:

- (a) Create a clear review process to address the considerations specific to Wireless Telecommunication Facilities and to provide relevant review criteria.
- (b) Ensure that Wireless Telecommunication Facilities are designed to minimize adverse aesthetic impact by encouraging providers to utilize careful design, siting, screening, and camouflaging techniques; and
- (c) Minimize the total number of wireless telecommunication towers in the Town by encouraging the collocation of Wireless Telecommunication Facilities and the use of existing towers and structures for placement of facilities and equipment; and
- (d) Facilitate the ability of the providers of telecommunications services to provide such services to Town residents and businesses in a manner consistent with the community values and goals contained in the Comprehensive Plan.

**II. Authority**

Pursuant to 24 V.S.A. Section 4414(12), the Town of Milton is authorized to adopt regulations for review of wireless telecommunication facilities and ancillary improvements in a manner consistent with state or federal law.

**III. Permit Required**

Wireless Telecommunication Facilities may be allowed in any zoning district as conditional uses upon compliance with the Town of Milton Zoning Regulations. No installation or construction of, or significant addition or modification to, any Wireless Telecommunication Facility shall commence until Site Plan and Conditional Use approval has been granted by the Development Review Board and a permit has been issued by the Zoning Administrator. However, in accordance with 24 V.S.A. § 4412(9), a permit shall be issued for a Wireless Telecommunication Facility, without Development Review Board approval, if in the determination of the Telecommunications Officer it will impose no impact or merely a de minimis impact upon any criteria established in this Appendix or any other Section of the Zoning Regulations. Following a de minimis impact or no impact finding by the Telecommunications Officer’s, the Zoning Administrator shall issue a Zoning Permit.

This bylaw shall not apply to amateur radio, citizens band radio, AM or FM radio, or broadcast television service.

No permit shall be required for a Wireless Telecommunication Facility that has received a certificate of public good pursuant to 30 V.S.A. § 248a.

Pursuant to 24 V.S.A. § 4412 (8)(A), except to the extent bylaws protect historic landmarks and structures listed on the state or national register of historic places, no permit shall be required for placement of antennae used to transmit, receive, or transmit and receive communications signals on that property owner's premises if the aggregate area of the largest face of the antennae is not more than eight square feet, and if the antennae and the mast to which they are attached do not extend more than 12 feet above the roof of that portion of the building to which they are attached.

#### **IV. Approval Process**

- A. Wireless communication facilities may be permitted as conditional uses in all zoning districts. All proposed wireless communication facilities, except those exemptions identified under Section III, whether new (non-collocated) or collocated, must be reviewed by the Development Review Board as a conditional use under the requirements of this section and under the requirements of Section 500 of the Milton Zoning Regulations prior to the issuance of a zoning permit by the Zoning Administrator.
- B. Wireless communication facilities require Site Plan approval by the Development Review Board in accordance with Section 800 of Milton Zoning Regulations and 24 V.S.A. Section 4416. All proposed wireless communication facilities must be reviewed by the Development Review Board for Site Plan approval under the requirements of this section and under the requirements of Section 800 of the Milton Zoning Regulations prior to the issuance of a zoning permit by the Zoning Administrator.
- C. All wireless communication facilities are deemed to be a structure as the term structure is defined and used in the Milton Zoning Regulations. Any activity with respect to wireless communication facilities that constitutes Land Development as this term is defined and used in the Milton Zoning Regulations shall require a zoning permit in accordance the Milton Zoning Regulations.
- D. An applicant for a proposed facility must be a licensed wireless communication provider or must provide a copy of its executed contract to provide land or facilities to an existing provider to the Zoning Administrator at the time that an application is submitted. A permit shall not be granted for a wireless communication facility to be built on speculation. In addition, the record owner(s) of the property on which the facility is located must sign and join in the permit application, and the permit will run to and be binding on the owner, including successors and assigns.

#### **V. Review Standards**

Prior to granting such approval, the Development Review Board shall make affirmative findings for each of the following criteria in addition to the other applicable provisions set forth in this Appendix (Wireless Communication Facilities), Section 500 (Conditional Uses) and Section 800 (Site Plan Approval):

##### **A. Setbacks:**

Wireless communication facilities shall comply with the setback provisions of the zoning district in which the facility is located.

**B. Fall Zones:**

(1) Fall Zones for Existing and New Ground Mounted Facilities: To ensure public safety, the minimum distance of any ground mounted wireless service facility to any property line, habitable dwelling, business, right-of-way, institutional or public building shall be no less than 110% of the height of the facility, including antennas or vertical appurtenances. This setback shall be referred to as a fall zone. The fall zone may cross property lines, so long as the applicant secures a fall zone easement from the affected property owner(s). The area of the easement shall be shown on all applicable plans submitted to the Town, and the terms of the easement shall be provided as part of the Site Plan review.

(2) Fall Zones for Non-Ground Mounted Facilities: In the event that an existing structure such as a building, barn silo, church steeple, or utility pole is proposed as a mounting for a wireless communication facility, a fall zone setback shall not be required.

**C. Height Limitations:**

(1) Height Limitations for Ground Mounted Facilities/Towers: In order to protect public safety and to preserve the scenic character and appearance of the area, the height limit for a wireless communication facility, antennas and facility-related fixtures in all districts shall not exceed twenty (20) feet above the average height of the tree line within one hundred fifty (150) feet of the base of the facility. Notwithstanding the above, an additional height not to exceed fifty (50) feet may be approved upon a finding by the Development Review Board as part of the Conditional Use review, that the additional height is necessary in order to provide adequate coverage, or to accomplish collocation as outlined in Section V.K., and that the additional height will not have an adverse visual impact on the appearance of the area as per Section V.N.

(2) Height Increase for Existing Structures and Buildings: In the event that an existing structure (other than a wireless communication tower) is proposed as a mount for a wireless communication facility, the height of the structure shall not be increased by more than fifteen (15) feet above the highest point of the roof unless the facility is completely camouflaged; for example, a facility within a flag pole, steeple or chimney. The increase in the height of the structure shall be in scale and proportionality to the structure as originally configured. A provider may locate a wireless communication facility on a building that is legally non-conforming with respect to height, provided that the provisions of this section are met.

**D. Camouflaging Facilities:**

New ground mounted wireless communication facilities shall not be located within open areas or on or near the top of a ridge.

To the greatest extent feasible, all wireless communication facilities shall be designed to blend into the surrounding environment through the use of existing vegetation, landscaping and screening, the use of compatible materials and colors, or other camouflaging techniques.

(1) Camouflage for Ground Mounted Facilities/Towers: New ground mounted wireless communication facilities shall be located up against or within an existing natural background such as trees or ledge. In addition the following landscaping and buffering shall be required around the perimeter of the tower and accessory structures:

(a) A row of trees a minimum of eight feet tall and a maximum of ten feet apart shall be planted around the perimeter of the fence;

(b) A continuous hedge at least thirty inches high at the time of planting, capable of growing to at least thirty-six inches in height within eighteen months, shall be planted in front of the tree line referenced above;

(c) All required landscaping shall be of the evergreen variety;

(d) All required landscaping shall be irrigated and properly maintained to ensure good health and vitality.

(e) The Development Review Board shall have the authority to decrease, relocate, or alter the required buffer based on site conditions and add other conditions to the permit regarding screening and landscaping.

(f) The trees within the buffer shall be maintained and shall not be removed or trimmed, unless necessary to ensure the health of the trees and vegetation or because they present a hazard to persons or property, or approval is granted by the Development Review Board.

(2) Camouflage for Facilities on Existing Buildings or Structures – Roof Mounts: When a wireless communication facility extends above the roof height of a building on which it is mounted, every effort shall be made to conceal or camouflage the facility within or behind existing or new architectural features to limit its visibility from public ways. Facilities mounted on a roof shall be stepped back from the front façade in order to limit their impact on the building's silhouette.

(3) Camouflage for Facilities on Existing Buildings or Structures – Side Mounts: Wireless communication facilities that are side-mounted shall be camouflaged.

(4) Camouflaging for Equipment Shelters: Equipment shelters shall be camouflaged as described in D(1)(a-d) above. If mounted on a rooftop, the equipment shelter shall be concealed or camouflaged so that the shelter either is not visible at grade or appears to be part of the original structure.

#### E. Lighting:

(1) Wireless Communication Facility Lighting: Wireless communication facilities shall not be illuminated by artificial means and shall not display lights unless such lighting is specifically required by the FAA or other federal or state authority for a particular wireless communication facility because of its height. If any lighting is required solely because of the height of the facility, the applicant must demonstrate that it has or will request the least visually obtrusive marking and/or lighting scheme in the FAA applications. Additionally, the Development Review Board as part of Site Plan review may review the plan to determine if the lighting requirement can be eliminated by a reduced height or a change in location of the facility.

(2) Ground Lighting: Emergency, safety or security ground lighting may be utilized when there are people at the site. All ground lighting shall be directed downward towards the facility, shielded and away from neighboring properties.

#### F. Bulk, Height, and Glare:

All wireless communication facilities shall be designed in such a manner as to minimize the visual impact of height, mass, and guy wire supports for the intended use. Materials utilized for the exterior of any structure shall be of a type, style, and location so as to minimize glare and not result in an adverse visual impact on any public vantage point or from abutting properties.

#### G. Finish:

New wireless communication facilities shall have a galvanized finish unless otherwise required. The finish shall not be shiny or reflective. The Development Review Board as part of Conditional Use review may require the wireless communication facility to be painted or otherwise camouflaged to minimize the adverse visual impact.

#### H. Fencing:

The area around the wireless communication facility and communications equipment shall be completely fenced and gated for security to a height of eight (8) feet. Fencing shall be chosen as to minimize visual impact and be consistent with its intended safety purpose.

#### I. Signs:

A sign no greater than six (6) square feet stating the name of the facility's owner and a 24-hour emergency telephone number shall be posted adjacent to the entry gate. In addition, "No Trespassing" or other warning signs and the federal wireless communication facility registration plate, where applicable, may be posted on the fence or as required to meet federal requirements. No commercial signs or lettering shall be placed on the tower or facility. These emergency and warning signs may exceed those allowed under Section 830: Signs in the Milton Zoning Regulations, if necessary.

#### J. Noise:

The sustained (for a period of one hour) sound pressure level of any wireless telecommunications facility equipment shall not exceed the 70 dbA decibel level at the property line between the hours of 7:00 AM and 7:00 PM, and shall not exceed the 60 dbA decibel level at the property line between the hours of 7:00 PM and 7:00 AM. If the noise is impulsive (i.e. hammering), intermittent (i.e. machine sounds) or periodic (i.e. hums or screeches), the maximum sound pressure levels described above shall be reduced by 5 dbA. Furthermore, the applicant shall demonstrate that the sound pressure level of the proposed facility is as quiet as reasonably possible (i.e. if it is reasonably possible to have a dbA level less than cited above, the lower level shall be required).

#### K. Collocation:

New wireless communication facilities shall be designed structurally, electrically and in all respects to accommodate both the applicant's antenna, additional antennas, and the rearrangement of antennas when the overall permitted height allows. The owner of an approved facility shall allow other providers to collocate on the facility subject to reasonable terms and conditions (this includes communication equipment for municipal emergency services when the new wireless communication facility is proposed in an area where the municipal emergency services have a communication dead zone). Notwithstanding, there shall be no affirmative obligation on the owner to increase the height or width of the facility in order to accommodate the equipment or facilities of another user. A proposal to collocate additional antennas on an approved facility shall include a rebuttable presumption of de minimis impact and shall be permitted in accordance with Section III.

The applicant must demonstrate to the satisfaction of the Development Review Board that the new wireless communication facility cannot be accommodated on an existing or approved facility or structure due to one of the following reasons:

- (1) Structural or Spatial Capacity: The proposed antennas and equipment would exceed the structural or spatial capacity of the existing or approved facility, as documented by a structural engineer licensed to practice in the State of Vermont. Additionally, the existing or approved wireless communication facility cannot be reinforced, modified or replaced to accommodate planned or equivalent equipment, at a reasonable cost, to provide coverage and capacity comparable to that of the proposed facility.

(2) Radio Frequency Interference: The proposed antennas and equipment, alone or together with existing facilities, equipment or antennas, would create radio frequency interference (RFI) in violation of federal standards or requirements as documented by a qualified radio frequency engineer.

(3) Radio Frequency Radiation: The proposed antennas and equipment, alone or together with existing facilities, equipment or antennas, would create radio frequency radiation (RFR) in violation of federal standards or requirements without unreasonable modification or mitigation measures as documented by a qualified radio frequency engineer.

(4) Existing Facilities: Existing wireless communication facilities cannot accommodate, or be reasonably modified to accommodate, the planned equipment at a height necessary to function reasonably or are too far from the area of needed coverage to function reasonably as documented by a qualified radio frequency engineer.

(5) Aesthetics: Aesthetic reasons make it unreasonable to locate the planned equipment upon an existing or approved wireless communication facility.

(6) Coverage: There are no existing or approved wireless communication facilities in the area in which coverage is sought.

(7) Other: Other specific unforeseen reasons make it unreasonable to locate the planned equipment upon an existing or approved wireless communication facility.

#### L. Access Roads:

If available, existing entrances and driveways shall be utilized, unless the applicant can demonstrate that a new entrance and driveway will result in less visual and environmental impact. To the extent practicable, new access roads shall follow the contour of the land and be located within existing forest or forest fringe areas and not in open fields.

#### M. Above Ground Utilities:

Utility or service lines shall be designed and located so as to minimize or prevent disruption to the scenic character of the area.

#### N. Determination of Visual Impact:

The Facility will not have an undue adverse aesthetic impact. In determining whether a facility has an undue adverse aesthetic impact, the Development Review Board shall consider the following factors:

- (1) The results of the balloon test and photo simulations.
- (2) The extent to which the proposed towers and equipment have been designed to blend into the surrounding environment through the use of screening, camouflage, architectural design, and/or imitation of natural features.
- (3) The extent to which access roads have been designed to follow the contour of the land and will be constructed within forest or forest fringe areas and not open fields.
- (4) The duration and frequency with which the Facility will be viewed on a public highway or from public property.
- (5) The degree to which the Facility will be screened by existing vegetation, topography, or existing structures.

(6) Background features in the line of sight to the Facility that obscure or make the Facility more conspicuous.

(7) The distance of the Facility from the point of view and the proportion of the facility that is above the skyline.

**M. Non-Complying Wireless Communication Facility:**

Any changes to a non-complying wireless communication facility must be in conformity with these Regulations unless a variance from these Regulations is obtained from the Development Review Board.

**VI. Application Requirements**

In addition to the Site Plan application requirements of Section 800, an application shall include the following supplemental information:

- A. The names and addresses of the neighboring Planning Commission(s) and the Regional Planning Commission if the proposed facility might be visible from parcels in a neighboring community.
- B. The name(s) and address(es), fax/telephone numbers and e-mail address(es) of the persons to be contacted who are authorized to act in the event of an emergency regarding the structure or safety of the facility. Both the licensed wireless communication provider and the record owner(s) of the property on which the facility is located must sign and join in the Development Review Board and zoning permit applications.
- C. A vicinity map on the most recent United States Geological Survey Quadrangle map, showing the area within a three-mile radius of the proposed facility site, including the location of the facility and indicate the property lines of the proposed facility parcel and all easements or rights-of-way needed for access from a public right-of-way to the facility.
- D. Site plan of the entire development indicating all proposed improvements including landscaping, utility lines, guy wires, screening and roads. The site plan shall be at a scale no smaller than one (1) inch equals fifty (50) feet.
- E. Elevations showing all façades and indicating all exterior materials and colors of the tower, buildings and associated facilities.
- F. In the case of a ground mounted facility, the approximate average height of the existing vegetation within one-hundred fifty (150') feet of the base of the facility.
- G. A report prepared by qualified radio frequency engineer and a licensed structural engineer that:
  - (1) Describes the height, design, and elevation of the proposed facility.
  - (2) Documents the height above grade for all proposed mounting positions for antennas to be collocated on a wireless communications facility and the minimum separation distances between antennas.
  - (3) Describes the facility's proposed capacity, including the number, height, and type(s) of antennas that the applicant expects the facility to accommodate.

- (4) Describes potential changes and cost to those existing facilities or sites in their current state that would enable them to provide adequate coverage, and provide a map that describes coverage of the existing and proposed facilities.
  - (5) Describes existing coverage. In the case of a new wireless communication facility proposal, the applicant shall demonstrate to the satisfaction of the Development Review Board that the new wireless communication facility cannot be accommodated on an existing or approved facility or structure within a five (5) mile radius of the proposed site. The documentation shall include, for each facility site or proposed site within such radius, the exact location, ground elevation, height of tower or structure, and sufficient additional data to allow the Development Review Board or independent reviewer to verify that other locations will not be suitable.
  - (6) Describes the output frequency, number of channels, sector orientation and power output per channel, as appropriate for each proposed antenna.
  - (7) Includes a written explanation for use of the proposed facility, including reasons for seeking capacity in excess of immediate needs, if applicable, as well as plans for additional development and coverage within Milton.
  - (8) Demonstrates that the tower and related equipment are structurally able.
  - (9) Demonstrates the wireless communication facility's compliance with the zoning district setback and the fall zone setback for facility and support structures.
  - (10) Provides assurance that at the proposed site, the applicant will establish and maintain compliance with all FCC rules and regulations particularly with respect to radio frequency radiation (RFR). The Town may hire independent engineers to perform evaluations of compliance with FCC regulations, standards and requirements on an annual basis at unannounced times.
  - (11) Includes other information required by the Development Review Board that is necessary to evaluate the request.
  - (12) For structural engineers, include an engineer's stamp and registration number. For radio frequency engineers, provide a list of credentials.
- H. A letter of intent committing the facility owner and his or her successors to permit shared use of the facility if the additional user agrees to meet reasonable terms and conditions for shared use, including compliance with all applicable FCC regulations, standards and requirements and the provisions of these Regulations.
- I. For a wireless communication facility to be installed on an existing structure, a copy of the applicant's executed contract with the owner of the existing structure (to be provided to the Zoning Administrator at the time an application is submitted).
- J. To the extent required by the National Environmental Policy Act (NEPA) and as administered by the FCC, a complete Environmental Assessment (EA) draft or final report describing the probable impacts of the proposed facility.
- K. Construction sequence and time schedule for completion of each phase of the entire project.
- L. Information detailing the contents of the equipment shelters servicing the proposed wireless communication facility. The information shall include the type and quantity of oil, gasoline, batteries,



propane, natural gas, or any other fuel stored within the shelter. Information shall be submitted which demonstrates that any hazardous materials stored on site shall be housed to minimize the potential for any adverse impact an abutting property.

- M. Computer generated photo simulations of the proposed facility showing the facility from all public rights-of-way from which it may be visible. Each photo shall be labeled with the line of sight, elevation and with the date taken imprinted on the photograph. The photos shall show the color of the facility and the method of screening.
- N. Balloon Test: The applicant shall fly or raise a five (5) foot diameter balloon (painted black or dark blue) at the maximum height of the proposed facility at a location within fifty (50) horizontal feet of the center of the proposed facility. The applicant shall provide at least seven (7) days written notice to the Zoning Administrator of the date and time of the test. The sole purpose of this test is to identify the location and height of the proposed facility and not its visual impact.
- O. A written visual analysis with supporting illustrations demonstrating the visual impact of the proposed facility, including photographs of the balloon test and elevation views of the facility from each of the five (5) vantage points previously designated by the Zoning Administrator.
- P. A Plan for removal and restoration of the site following abandonment of the facility. This plan shall be binding upon the provider and the property owner, including their successors and assigns, and therefore construction of the facility will constitute consent from the owner, including successors and assigns, for the town or its agents to enter upon the property, if necessary, to complete removal of an abandoned facility.
- Q. A landscape easement on an adjoining site, if this is needed to satisfy the requirements of camouflaging ground mounted facilities as provided in Section V.D..
- R. Any additional information requested by the Development Review Board.
- S. Provision for Independent Consultants: Pursuant to 24 V.S.A. § 4440(d), the Town may contract with consultants (whose services shall be paid for by the applicant) to review application materials to assist the Development Review Board in the technical review of applications. Any or all final reports or documents prepared by the consultant shall be made available to the applicant and other parties to the proceeding.

## **VII. Conditions**

The Development Review Board shall have the authority to impose conditions consistent with the purpose of this section and Sections 500 and 800 of the Zoning Regulations in approving a proposed plan for the development of a wireless communication facility. It shall be the obligation of the permittees and subsequent assigns to remain in compliance with all conditions.

- A. Maintenance: The owner of the facility shall maintain the wireless communication facility in good condition at all times. Such maintenance shall include, but shall not be limited to, painting, structural integrity of the mount and security barrier, and maintenance of the buffer areas and landscaping.
- B. Radio Frequency Radiation Monitoring: Upon receiving a zoning permit, the permittee shall annually demonstrate compliance with all FCC standards and requirements regarding Radio Frequency Radiation (RFR) and provide the basis for representations to the Zoning Administrator. A survey by another permittee on the same site, since it will demonstrate compliance of all emitters, may be submitted provided there is annual demonstration of site compliance.
- C. Security for Removal: Prior to issuance of a zoning permit, the applicant shall provide a

performance bond, or similar form of surety acceptable to the Milton Selectboard to cover the full costs for removal (as described in Section IX.B.) and disposal of abandoned wireless communication facilities. The amount of the security shall be based upon the removal costs, plus a fifteen (15) percent contingency and updated on an annual basis. A cost estimate shall be provided by the applicant and certified by a civil engineer licensed in Vermont. This performance bond shall name the owner of the property, including successors and assigns, as a Principal, and should incorporate the terms of the permit by reference.

### **VIII. Amendments**

An amendment to a prior approved wireless communications facility may be considered by the Development Review Board and shall require Site Plan and Conditional Use Approval when any of the following are proposed:

- (A) An increase in the number of towers permitted on the site;
- (B) Addition of any external equipment or additional height not approved in the original application.

### **IX. Abandonment or Discontinuance and Removal**

- A. Notification of Abandonment or Discontinuance: At such time that an owner of the wireless communication facility plans to abandon or discontinue operation of said wireless communication facility, such owner shall notify the Town of Milton's Zoning Administrator by certified U.S. mail of the proposed date of abandonment or discontinuation of operations. Such notice shall be given no less than thirty (30) days prior to abandonment or discontinuation of operations. In the event that an owner fails to give such notice, the facility shall be considered abandoned upon discontinuation of operations for a continuous period of one hundred and eighty (180) days.
- B. Removal: Upon abandonment or discontinuation of use, the owner of the facility shall physically remove the wireless communication facility within ninety (90) days from the date of abandonment or discontinuation of use. "Physically remove" shall include, but not be limited to:
  - (1) Removal of antennas, facility mount, equipment shelters and security barriers from the subject property.
  - (2) Proper disposal of the waste materials from the site in accordance with local, state and federal solid waste disposal regulations.
  - (3) Restoring the location of the facility in accordance with the approved restoration plan.
- C. Failure to Remove: If the owner of the facility does not remove the facility (as described in Section IX.B.) then the Selectboard may, after holding a public hearing, with notice to the owner and abutters, consider issuing a declaration of abandonment. The owner of the wireless communication facility shall dismantle and remove the facility within ninety (90) days of receipt of a declaration of abandonment. If the abandoned facility is not removed at the end of this ninety (90) day period, the Town may execute the security to pay for this action. The record owner of the property, including successors and assigns, as a co-applicant on the permit for the facility constitutes consent for the town or its agents to enter upon the property, if necessary, to complete removal of an abandoned facility.

### **X. Consistency with Federal Law:**

These Regulations have been drafted to be consistent with Section 704 of the 1996 Telecommunications Act. Accordingly, the Regulations shall not prohibit or have the effect of prohibiting the provision of personal wireless communications services; shall not unreasonably discriminate among providers of functionally equivalent services; and shall not regulate personal wireless services based on the environmental effects of radio frequency emissions to the extent that these facilities comply with the Federal Communications Commission Regulations concerning such emissions.

## **XI. Definitions**

### **ADEQUATE CAPACITY (provider's capacity for wireless telephony)**

When the grade of service ("GOS") is p.05 or better for median teletraffic levels offered during the typical busy hour, as assessed by direct measurement of the facility in question. The GOS shall be determined by the use of standard Erlang B calculations. As call blocking may occur in either the land line or radio portions of a wireless network, adequate capacity for this regulation shall apply only to the capacity of the radio components. When determined prior to the installation of the personal wireless services facility in question, adequate capacity shall be determined on the basis of a 20% busy hour (20% of all offered traffic occurring within the busiest hour of the day), with total daily traffic based on aggregate estimates of the expected traffic in the coverage area.

### **ADEQUATE COVERAGE**

A provider's coverage for wireless telephony is "adequate" within that area surrounding a base station where the predicted or measured median field strength of the transmitted signal is such that most of the time transceivers properly installed and operated will be able to communicate with the base station without objectionable noise (or excessive-bit-error-rate for digital) and without calls being dropped. In the case of cellular communications in a rural environment, this would be a signal strength of at least -90 dBm. It is acceptable for there to be holes within the area of adequate coverage as long as the signal regains its strength further away from the base station. The outer boundary of the area of adequate coverage, however, is that location past which the signal does not regain.

### **ANTENNA**

A device for transmitting and/or receiving electromagnetic waves, which is attached to a wireless communication facility or other structure.

### **CAMOUFLAGED**

Wireless communication facilities that are disguised, hidden, part of an existing or proposed structure, or placed within an existing or proposed structure.

### **CHANNEL**

The segment of the radiation spectrum to or from an antenna which carries one signal. An antenna may radiate on many channels simultaneously.

### **COLLOCATION**

Locating the wireless communications equipment of more than one provider on a single structure.

### **COMMUNICATION TOWER**

A guyed, monopole, or self-supporting wireless communication facility, constructed as a freestanding structure or in association with a building, other permanent structure, or equipment, containing one or more antennas intended for transmitting and/or receiving television, AM/FM radio, digital, microwave, cellular, telephone, or similar forms of electronic communication.

### **EQUIPMENT SHELTER**

A structure located at a base station designed principally to enclose equipment used in connection with wireless communication facility transmissions.

### **FAA**

The Federal Aviation Administration.

### **FALL ZONE**

The distance of any ground-mounted wireless service facility to any property line, dwelling, or similar, including antennas or other vertical appurtenances.

### **FCC**

The Federal Communications Commission.

**GROUND-MOUNTED**

Mounted on the ground.

**GUYED WIRELESS COMMUNICATION FACILITY**

A lattice wireless communication facility that is secured to the ground or other surface by diagonal cables for lateral support.

**MONOPOLE**

A single self-supporting vertical pole with no guy wire anchors, usually consisting of a galvanized or other unpainted metal, or a wooden pole with below-grade foundations.

**MOUNT**

The structure or surface upon which antennas are mounted, including the following types of mounts (see "ground-mounted," "roof-mounted," "side-mounted" and "structure-mounted").

**PERMIT (wireless communication facility only)**

Embodies the rights and obligations extended by the municipality to an operator to own, construct, maintain, and operate its facility within the boundaries of the municipality.

**PROVIDER**

An entity authorized and/or regulated by the FCC to provide wireless communications services to individuals or institutions.

**RADIOFREQUENCY (RF) ENGINEER**

An engineer specializing in electrical or microwave engineering, especially the study of radio frequency.

**RECEIVING ANTENNA**

An antenna used exclusively for receiving signals for television and radio broadcast.

**RFR (RADIOFREQUENCY RADIATION)**

The emissions from wireless communication facilities.

**RFI (RADIOFREQUENCY INTERFERENCE)**

The emissions from wireless communication facilities which can affect the normal operation of electronic devices, generally in a harmful way.

**ROOF-MOUNTED**

Mounted on the roof of the building.

**SIDE-MOUNTED**

Mounted on the side of the building.

**STRUCTURE-MOUNTED**

Mounted on a structure other than a building.

**STEALTH FACILITY**

Any communications facility that is designed to blend into the surrounding environment. Examples of stealth facilities may include architecturally screened roof-mounted antennas, building-mounted antennas painted to match the existing structure, antennas integrated into architectural elements, antenna structures designed to look like light poles, and structures designed to resemble natural features such as trees or rock outcroppings. (See also "alternative design tower structure.")

**STRUCTURALLY ABLE**

The determination that a tower or structure is capable of carrying the load imposed by the proposed equipment under all reasonable predictable conditions as determined by a professional structural engineering analysis.

**TEMPORARY WIRELESS COMMUNICATION FACILITY**

Any tower, pole, antenna, etc., designed for use while a permitted permanent wireless facility is under construction or repair, or for a special event or conference.

**TOWER**

A vertical structure for an antenna(s) that provides wireless communication services.

**VANTAGE POINT**

A point located on a public roadway, waterway or path from which a proposed wireless communication facility will be visible.

**WIRELESS COMMUNICATION FACILITY**

Any tower or other support structure, including but not limited to, antennas intended for use in connection with transmission or receipt of radio or television signals or any other electromagnetic-spectrum-based transmissions/reception regulated by the FCC; the construction or improvement of a road, trail, building, or structure incidental to a communication facility. This definition does not include amateur radio facilities.

**WIRELESS TELECOMMUNICATION SERVICE**

Any commercial mobile service, wireless service, common carrier wireless exchange service, cellular service, personal communication service (PCS), specialized mobile radio service, paging service, wireless data service, public or private radio dispatch service, or wireless internet service.