

TOWN OF LUDLOW, VERMONT

TELECOMMUNICATIONS FACILITIES ORDINANCE

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ARTICLE 1. AUTHORITY

1.01 Under authority granted in 24 V.S.A. § 2291(19) and 24 V.S.A. Chapter 59, the Board of Selectmen of the Town of Ludlow, VT hereby adopts the following civil ordinance concerning telecommunications facilities which shall be known as the “Wireless Telecommunications Ordinance of the Town of Ludlow”. Under this Ordinance, the Ludlow Board of Selectmen shall have the power to regulate the construction, alteration, development, decommissioning or dismantling of wireless telecommunications facilities and ancillary improvements as well as associated equipment, site improvements, roads, trails, structures, buildings, and wireless communication providers, licensed and/or regulated by the Federal Communications Commission, or their agents. The Board may require that bond be posted or that other acceptable security be provided in order to finance future decommissioning or dismantling activities.

1.02 Pursuant to 24 V.S.A. § 4401 et seq. the Board of Select Board of the Town of

Ludlow is authorized to review, approve, conditionally approve, and deny applications for wireless telecommunications facilities, including sketch, preliminary and final plans, and installation. Pursuant to 24 V.S.A. § 4407, the Selectboard is authorized to hire qualified persons to conduct an independent technical review of applications and to require the applicant to pay for all reasonable costs thereof.

- 1.03 Warned Public Hearings will be conducted by the Board of Selectmen to review all applications submitted under these bylaws. The rules of procedure will include the use of sworn testimony by the applicant(s) and/or the applicant's agent and any other interested parties pursuant to 24 V.S.A. § 1204 et seq.
- 1.04 The Selectboard may, at its discretion, refer all administrative and compliance procedures associated with this ordinance to the Town Manager; however, all decisions related to this ordinance will be made by the Ludlow Board of Selectmen.

ARTICLE 2. PURPOSES

- 2.01 The purpose of this Ordinance is to advance the objectives of the Town Plan of Ludlow, to protect the public health, safety and general welfare of the Town of Ludlow of Ludlow, and to accommodate the communication needs of the community. This ordinance shall:
 - a. Preserve the character and appearance of the Town of Ludlow of Ludlow while allowing adequate telecommunications services to be developed;
 - b. Protect the scenic, historic, environmental and natural resources of the Town of Ludlow;
 - c. Provide standards and requirements for the operation, siting, design, appearance, construction, monitoring and removal of telecommunications facilities and towers;
 - d. Minimize tower and antenna proliferation by requiring the sharing of existing telecommunications facilities, towers and sites where possible and appropriate;
 - e. Facilitate the provision of telecommunications services to the Town of Ludlow;
 - f. Minimize the adverse visual effects of telecommunications facilities and towers through careful design and siting standards; and
 - g. Encourage, through performance standards and incentives, the location of towers and antennas in non-residential areas and away from other sensitive areas such as schools, hospitals, child care centers, nursing homes, long term care facilities and those natural areas designated as ecologically fragile by the State of Vermont or its recognized agencies.
 - h. Encourage and permit only those wireless telecommunications facilities, which are necessary to provide for adequate coverage in a cell for the use of cellular or Personal Communications Services (PCS) digital service without significant gaps and are the least intrusive means necessary to provide such coverage; and require the removal of obsolete permitted towers, and the redesign of a permitted tower, when the tower is no longer needed in its

permitted height or design and an aesthetically or visually less intrusive tower or antenna would suffice for adequate coverage of a cell.

ARTICLE 3. CONSISTENCE WITH FEDERAL LAW

- 3.01 In addition to other findings required by this Ordinance, the Board shall find that its decision regarding an application is intended to be consistent with federal law, particularly the Telecommunications Act of 1996. This Ordinance:
- a. Does not prohibit or have the effect of prohibiting the provision of personal wireless services;
 - b. Does not unreasonably discriminate among providers of functionally equivalent services; and
 - c. Does not regulate personal wireless services on the basis of the environmental effects of radio frequency emissions to the extent that the regulated serves and facilities comply with Federal Communications Commission (FCC) regulations concerning such emissions.

ARTICLE 4. PERMITS

- 4.01 Application for a permit for a telecommunications tower or facility shall be made to the Ludlow Town Manager.
- 4.02 No construction, alteration, addition, modification, or installation of any telecommunications tower or facility shall commence until a permit has been issued by the Ludlow Board of Selectmen. This includes installation of antennas for new uses, change in the number of buildings or facilities, material change in technology used, or addition or change of any equipment resulting in greater visibility or structural wind-loading or additional height of the tower or profile change of the facility due to additional antennas not included in the original application.
- 4.03 Telecommunications towers or facilities may be permitted upon compliance with this Ordinance and upon proof of compliance with all other local, state or federal laws applicable to land use and development and to such towers or facilities.
- 4.04 An applicant for a telecommunications tower or facility must be a telecommunications provider or must provide a copy of its executed contract to provide land or facilities to an existing telecommunications provider.

ARTICLE 5. PERMITTED AND PROHIBITED LOCATIONS:

- 5.01 The following prohibitions apply to freestanding telecommunications towers or antennas over 20 feet in elevation in any of the following locations:
- a. Within 100 feet of a State or Federally designated wetland.
 - b. The habitat of any State listed Rare or Endangered Species.
 - c. Within 500 feet horizontally from any Historic District or property eligible

- to be listed on the Federal Historic Register.
- d. Closer than the horizontal distance, equal to the height of the tower including attached antennas or other fixtures, from the base of the tower to the boundary of the property on which the tower is located.
 - e. Closer than 1,500 feet horizontally to the property of any school, hospital, long-term care facility, church, park, recreation field or places of public gathering, or to any structure or building, not located on the property on which the tower is located, existing at the time of the application which is used as either a primary or secondary residence.
 - f. Within 200 feet horizontally of any river or perennial stream.
 - g. Within 500 feet horizontally of any known archeological site.
 - h. Within 2,000 feet horizontally of a designated scenic road or highway.

ARTICLE 6. SMALL SCALE FACILITIES

- 6.01 The placement of wireless telecommunications antennas, repeaters, or micro cells on existing buildings, structures, roofs, or walls, and not extending more than 10 feet from the same, or the installation of ground facilities less than 20 feet in height, may be approved by the Selectboard, provided the antennas meet the applicable requirements of this ordinance, upon submission of:
- a. a final site and building plan.
 - b. a report by a qualified and licensed engineer indicating the structure's suitability for the telecommunications facility, and that the proposed method of affixing the antenna or other device to the structure complies with standard engineering practices. Complete details of all fixtures and couplings and the exact point(s) of attachment shall be indicated in this report.
 - c. for a facility to be installed on an existing structure, a copy of the applicant's executed contract with the owner of the existing telecommunications facility or structure.
- 6.02 No such small scale device or facilities may be located closer than 50 feet to an existing residence.

ARTICLE 7. APPLICATION REQUIREMENTS FOR WIRELESS TELECOMMUNICATIONS FACILITIES NOT COVERED UNDER SECTION VI

- 7.01 An applicant for a permit must be a personal wireless service provider or FCC licensee, or must provide a copy of its executed contract to provide land or facilities to such an entity, to the Town Manager at the time the application is submitted. A permit shall not be granted for a wireless telecommunications facility to be built on speculation.
- 7.02 No construction, alteration, modification (including the installation of antennas for new uses) or installation of any wireless telecommunications facility shall commence without a permit first being obtained from the Selectboard.

7.03 In addition to information otherwise required in the Town of Ludlow's Zoning Regulations, applicants for wireless telecommunications facilities shall include the following supplemental information:

- a. The name(s) and address(s) of each applicant and of their agents. If any applicant is not a natural person, the name and address of the business and the state in which it is incorporated and has its principle office;
- b. The name(s) and address(s) of the record landowners and their agent(s);
- c. The name(s) and address(s) of the record landowners of each abutting property;
- d. The name(s), address(s), fax/telephone numbers and e-mail address(s) of the persons to be contacted who are authorized to act in event of an emergency regarding the structure or safety of the tower or facility;
- e. A vicinity map showing the entire vicinity within a 2500 foot radius of the tower or facility site, including the location of the telecommunications facility or tower, topography, public and private roads and driveways, buildings and structures, utilities, water bodies, wetlands, landscape features, historic sites and habitats for endangered species. It shall indicate the property lines of the proposed tower site parcel and all easements or rights of way needed for access from a public way to the tower and/or other structures;
- f. The location of the proposed structure on a USGS Topographic Map or Survey with 20-foot elevations or a GIS-generated map compatible with VCGI standards and encompassing the area within at least a two-mile radius of the proposed tower site;
- g. Elevations and proposed site plans of the entire development showing all facades and indicating all exterior materials and colors of towers, buildings and associated facilities, as well as all proposed landscaping, utility wires, guy wires and screening. (All plans shall be drawn at a minimum scale of 1 inch = 50 feet);
- h. In the case of a proposed site which is forested, the approximate average height of the existing vegetation within 200 feet of the tower base;
- i. Construction sequence and time schedule for completion of each phase of the entire project; and
- j. A report from a qualified and licensed engineer that:
 1. Describes the tower height, design and elevation;
 2. Documents the height above grade for all proposed mounting positions for antennas to be collocated on a wireless telecommunications tower and the minimum separation distances between antennas;
 3. Describes the wireless telecommunications facility's proposed capacity, including the number, height and types of antennas that the tower is proposed to accommodate;
 4. Describes the radio frequency emissions from the proposed facility and demonstrates that they will meet FCC standards for regulating frequency interference. A written statement from the FCC showing

- that the proposed facility will comply with its standards will suffice.
5. In the case of new wireless telecommunications facility proposals, demonstrates:
 - i. either that the facility or tower is necessary to provide service in the geographic area of the proposed cell, where there is no service by the applicant provider, or that it is necessary to fill a significant gap in the existing cell of its wireless telecommunications service in order to provide adequate service, or that the number of users in the geographic area of an existing cell of the provider is such that a new cell or facility is needed to handle the volume of calls within that geographic area,
 - ii. or that there is no existing facility, tower, structure or alternative site on which the proposed new facility can be located or collocated in order to provide service with adequate coverage,
 - iii. or that the proposed site(s) is (are) the least intrusive sites that can be used to provide adequate coverage in the proposed cell,
 - iv. or that the proposed facility or tower is, or facilities or towers are, the least intrusive, in number, height, siting, and design that can be proposed for the site(s) being applied for.
 4. The documentation shall demonstrate the necessity of the subject cell to the provision of wireless telecommunications service by the applicant. Within the geographic area of the proposed cell, their documentation will show on a map:
 - i. all alternative sites considered by the applicant for the location of this needed facility
 - ii. the exact location, ground elevation, and height of all those alternative sites
 - iii. the exact location, ground elevation, and height of existing wireless telecommunications facilities, towers, or structures on which location or collocation would be possible or which had been considered and rejected by the applicant
 - iv. the exact location, ground elevation, and height of the proposed wireless telecommunications facility(s), and
 - v. In addition to the maps, provide sufficient additional data on each site to allow an independent review and verification of applicant's data and conclusions on adequate coverage, or lack thereof, from each of the sites.

7.04 Describes potential changes or additions to those existing structures or towers that would enable them to provide adequate coverage and adequate capacity;

7.05 Describes the output frequency, number of channels and the power output per channel for each proposed antenna;

- 7.06 Includes a written five-year plan for use of the proposed telecommunications facility, including reasons for seeking capacity in excess of immediate needs (if applicable), as well as plans for additional development and coverage within the Town of Ludlow;
- 7.07 Demonstrates the proposed tower's, facility's and other structure's compliance with the standards set forth in this Ordinance or other applicable standards;
- 7.08 Provides proof that at the proposed site the applicant will be in compliance with all FCC regulations, standards and requirements, and includes a statement that the applicant commits to continue to maintain compliance with all FCC regulations, standards and requirements regarding both radio frequency interference (RFI) and radio frequency radiation (RFR);
- 7.09 Includes such other information required by the Board or its consultants necessary to evaluate the application; and
- 7.10 Includes each engineer's stamp and registration number;
- a. A letter of intent committing the tower or facility owner and his or her successors to permit shared use of the tower if the additional user(s) agree to meet reasonable terms and conditions for shared use, including compliance with all applicable FCC regulations, standards and requirements and the provisions of this Ordinance and all other applicable laws;
 - b. In the case of an application for additional antennas or other equipment to be installed on an existing tower or other structure, a copy of the executed contract with the owner of the existing structure;
 - c. 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.
 - d. A copy of the application or draft application for an ACT 250 permit, if applicable.
- 7.11 During the week of, but twenty-four hours prior to, the public hearing on an application for a new tower, and on amendments thereto where the height of a tower or antenna is proposed to be extended, in addition to computer simulation to be presented at the hearing, the applicant shall simulate the tower by tethering a dark colored balloon at the site of the base of the proposed tower and raise the balloon to the height of the top of the tower as proposed, or other reasonable simulation, as required by the Selectboard in the exercise of its reasonable discretion on the adequacy of the simulation.
- 7.12 Each application shall be signed by all applicants, including the landowner, or agent of the landowner, of the site on which the facility will be sited, under the pains and

penalties of perjury.

ARTICLE 8. PROVISION FOR INDEPENDENT CONSULTANTS

8.01 The Selectboard may require the applicant to pay for reasonable costs of an independent consultant who shall be chosen by the Selectboard.

ARTICLE 9. COLLOCATION REQUIREMENTS

9.01 An application for a new telecommunications tower or facility shall not be approved unless the Selectboard finds that the antennas and other equipment planned for the proposed tower or facility cannot be accommodated on an existing or approved tower or facility due to one of the following reasons:

- a. The proposed antennas and other equipment would exceed the structural or spatial capacity of the existing or approved tower or facility, as documented by a qualified engineer licensed to practice in the State of Vermont, and the existing or approved tower or facility cannot be reinforced, modified or replaced to accommodate planned or equivalent antennas and equipment at a reasonable cost to provide coverage and capacity comparable to that of the proposed facility;
- b. The proposed antennas and equipment would cause interference materially impacting the usefulness of other existing or permitted equipment at the existing or approved tower or facility as documented by a qualified engineer licensed to practice in the State of Vermont and such interference cannot be prevented at a reasonable cost;
- c. The proposed antennas and equipment, either alone or together with existing facilities, equipment or antennas, would create RFI in violation of federal standards or requirements;
- d. The proposed antennas and equipment, either alone or together with existing equipment and antennas would create RFR in violation of federal standards or requirements;
- e. Existing or approved towers and other structures cannot accommodate the planned antennas and equipment at a height necessary to provide adequate coverage in the proposed cell, or are not located properly within the geographic area to be served by the proposed cell, and thus will not provide adequate coverage within the cell. These facts must be based on evidence presented by a qualified engineer;
- f. Aesthetic considerations make it unreasonable to locate the planned antennas and equipment upon an existing or approved tower or building;
- g. There is no existing or approved tower or other structure in the area for which coverage is sought; or
- h. Other unforeseen specific reasons make it unreasonable to locate the planned antennas and equipment upon an existing or approved tower or building.
- i. Towers shall be designed to allow for future rearrangement of antennas upon the tower and to accept antennas mounted at varying heights where

overall permitted height allows. Towers shall be designed structurally, electrically and in all other respects to accommodate both the applicant's antennas and additional antennas where overall permitted height allows.

ARTICLE 10. HEIGHT AND SETBACK REQUIREMENTS

- 10.01 In order to protect public safety and to preserve the scenic character and appearance of the area, the height limit for towers, antennas and tower-related fixtures shall be not more than 20 feet above the average height of the tree line measured within 100 feet of the highest vertical element of the telecommunications facility. Notwithstanding the above, additional height may be approved upon a finding by the Selectboard that the additional height is necessary in order to provide adequate coverage in the Town of Ludlow or to accomplish collocation of facilities and that the additional height will not cause an undue visual impact on the scenic character or appearance of the area.
- 10.02 The minimum distance from any telecommunications tower or facility to any property line, dwelling or other occupied structure shall be no less than the height of the tower, including antennas or other vertical appurtenances. In the event that the communications tower or equipment will be mounted on an existing structure such as a silo, church steeple or utility pole, the minimum distance from the base of that structure to any property line, dwelling or other occupied structure shall be no less than the distance from ground level to the top of the tower, including antennas and other vertical appurtenances.

ARTICLE 11. LIGHTING AND SIGNAGE REQUIREMENTS

- 11.01 Towers shall not be illuminated by artificial means and shall not display strobe lights unless such lighting is specifically required by FAA or other federal or state law. If any lighting is required solely because of the height of a tower, the Selectboard may review the plan to determine if the lighting requirement can be eliminated by a reduced height or a change in location of the tower.
- 11.02 No commercial signs or lettering shall be placed on the tower or its appurtenances.

ARTICLE 12. TOWER AND ANTENNA DESIGN REQUIREMENTS

- 12.01 Proposed facilities shall not unreasonably interfere with the view from any public park, natural scenic vista, historic building, or major view corridor. Height and mass of facilities shall not exceed that which is essential for the intended use and public safety.
- 12.02 Towers, antennas, and any necessary support structures shall be designed to blend into the surrounding environment through the use of color camouflaging and architectural treatment, except in cases in which the Federal Aviation Authority (FAA), state, or federal authorities have dictated color. Use of stealth design, including those which imitate natural features, may be required in visually sensitive locations by the Selectboard.

- 12.03 In order to protect public safety and to preserve the scenic character and appearance of the area, the height limit for towers, antennas, and tower-related fixtures shall not be more than 20 feet above the average height of the tree line measured within 100 feet of the highest vertical element of the telecommunications facility. Notwithstanding the above, additional height may be approved upon a finding by the Selectboard that the additional height is necessary in order to provide adequate coverage in the Town of Ludlow or to accomplish collocation of facilities and that the additional height will not cause an undue visual impact on the scenic character or appearance of the area.
- 12.04 Towers, antennas, and any necessary support structures shall be designed to avoid having any undue aesthetic impact on prominent ridgelines and hilltops. In determining whether a tower's aesthetic impact would be undue and adverse, the Selectboard will consider:
- a. The period of time during which the proposed tower would be viewed by the traveling public on a public highway;
 - b. The frequency of the view experienced by the traveling public;
 - c. The degree to which the tower would be screened by existing vegetation, the topography of the land, and existing structures;
 - d. Background features in the line of sight to the proposed tower that obscure the facility or make it more conspicuous;
 - e. The distance of the proposed tower from the view point and proportion of the facility that is visible above the skyline;
 - f. The sensitivity or unique value of a particular view affected by the proposed tower;
 - g. Significant disruption of a view shed that provides context to a historic or scenic resource.
- 12.05 The Board shall have the authority to impose conditions consistent with the purpose of this section in approving a proposed facility. Furthermore, the Board may designate an alternative location for the facility and/or tower to be evaluated by the applicant, if it is determined that the proposed location would result in undue adverse aesthetic impacts. In this event, the applicant may revise its application to include such a site, assuming it is available to the applicant and technically feasible to meet the applicant's need for adequate coverage within the subject wireless telecommunications service cell.
- 12.06 All buildings and structures accessory to a tower (except for electric power poles where specifically exempted by the Board) shall meet the minimum setback requirements of the underlying zoning district or setback requirements specified in this ordinance. If the minimum setbacks of the underlying zoning district are less than the height of the tower, including antennas or other vertical appurtenances, the minimum distance from the tower to any property line shall be no less than the height of the tower, including antennas or other vertical appurtenances.

- 12.07 Ground mounted equipment or antennas, as well as buildings and structures accessory to a tower, shall be screened from view by suitable vegetation, except where a design of non-vegetative screening better complements the architectural character of the surrounding neighborhood. A planted or vegetative screen shall be a minimum of ten feet in depth with a minimum height of six feet and shall have the potential to grow to a height of at least 15 feet at maturity. Existing on-site vegetation outside the immediate site for the wireless facility shall be preserved or improved. Disturbance to existing topography shall be minimized unless the disturbance is demonstrated to result in less visual impact on the facility from surrounding properties and other vantage points.

ARTICLE 13. SCREENING

- 13.01 Screening shall be required at the perimeter of the site. This may be provided by existing natural foliage or by planted new foliage or other means approved by the Selectboard. A planted or natural vegetative screen shall be a minimum of 10 feet in depth with a minimum height of 6 feet and shall have the potential to grow to a height of at least 15 feet at maturity. Existing on-site vegetation outside the immediate site for the wireless facility shall be preserved or improved. Disturbance to existing topography shall be minimized unless the disturbance is demonstrated to result in less visual impact on the facility from surrounding properties and other vantage points.

ARTICLE 14. ACCESS ROADS AND ABOVE-GROUND UTILITIES

- 14.01 Where telecommunications facilities require construction of a new access road or improvement to existing access roads, to the extent practicable, roads shall follow the contour of the land. Access roads, when consistent with the purposes of this Ordinance and when economically feasible, shall be constructed or improved within existing forest or forest fringe areas and not in open fields. Utility or service lines shall be designed and located so as to minimize or prevent disruption of the scenic character and beauty of the area.

ARTICLE 15. TEMPORARY WIRELESS COMMUNICATIONS FACILITIES

- 15.01 Any wireless telecommunications facility designed for temporary use is subject to the following:
- a. Use of a temporary facility is permitted only if the owner has received a temporary use permit from the Town of Ludlow.
 - b. Temporary facilities are permitted for no longer than five days use during a special event.
 - c. The maximum height of a temporary facility is 50 feet from grade.
 - d. Temporary facilities must comply with all applicable portions of this ordinance.

ARTICLE 16. CONTINUING OBLIGATIONS

- 16.01 Upon receiving a permit, the applicant shall annually demonstrate that it is in compliance with all FCC standards and requirements regarding RFR, the basis for its representations and the date that the most recent actual readings of RFR were performed at the site. The applicant shall provide a list of RFR readings, their distances from the tower/transmitter, and dates of the readings and names of the person or company who took the readings.
- 16.02 The telecommunications facility or tower owner shall maintain adequate insurance on the facility, tower and the entire site.
- 16.03 All facility and tower sites shall be properly fenced and identified by signage that indicates the presence of RFR and any other appropriate warnings required by the permit conditions.

ARTICLE 17. REMOVAL OF ABANDONED, UNUSED, OBSOLETE DAMAGED OR DANGEROUS TOWERS OF OTHER PORTIONS OF FACILITIES

- 17.01 Abandoned or unused towers or other portions of telecommunications facilities shall be removed as follows:
- a. The owner of a tower shall annually, on January 15, file a declaration with the Selectboard certifying the continuing safe operation of the entire tower and other portions of the facility. Failure to file a declaration shall mean that it is no longer in use and the Selectboard shall declare it abandoned.
 - b. Abandoned or unused towers and facilities shall be removed within 180 days of cessation of operations unless a time extension is approved by the Selectboard. If the tower is not removed within 180 days of cessation of operations at a site, the municipality shall notify the owner and may remove the tower and all associated facilities. Costs of removal shall be assessed against the property owner, tower owner and/or facility owner.
 - c. Unused portions of towers shall be removed within 180 days of the time that such portion is no longer used. Replacement of portions of a tower previously removed shall require a new permit.
 - d. An owner who has failed to file an annual declaration with the Selectboard by January 15 may, by February 15, file a declaration of use or intended use and may request the ability to continue use of the facility/tower.

ARTICLE 18. ENFORCEMENT AND PENALTIES

- 18.01 The Ludlow Board of Selectmen shall be the enforcement authority of this ordinance.
- 18.02 Penalties shall be a minimum of \$100.00 per violation with each day that a violation continues being a separate violation.
- 18.03 Costs incurred by the Town of Ludlow of Ludlow pursuant to any enforcement action,

including but not limited to attorney fees, court costs, and removal of the tower or facility or parts of the tower or facility shall be assessed against the property owner and/or tower owner.

ARTICLE 19. DEFINITIONS

As used in this ordinance, the following terms shall have the respective meanings here assigned to them:

- 19.01 Adequate Capacity: Capacity is considered to be “adequate” if the grade of service is p.05 or better for a least 50% of the days in a preceding month, prior to the date of application, as measured using direct traffic measurement of the telecommunications facility in question, where the call blocking is due to frequency contention at the antenna(s).
- 19.02 Adequate Coverage: Coverage is “adequate” within that area surrounding a base station where the predicted or measured median field strength of the transmitted signal is such that the majority 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 -90dBm. 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.
- 19.03 Affiliate: When used in relation to an operator, another person who directly or indirectly owns or controls, is owned or controlled by, or is under common ownership or common control with the operator, or an operator’s principal partners, shareholders, or owners of some other ownership interest; and when used in relation to the municipality, any agency, board, authority or political subdivision affiliated with the municipality or other person in which the municipality has legal or financial interest.
- 19.04 Alternative Design Tower Structure: Artificial trees, clock towers, bell steeples, light poles, silos and similar alternative-design mounting structures that camouflage or conceal the presence of antennas or towers. (See also: Stealth Facility.)
- 19.05 Antenna: A device which is attached to a tower or other structure for transmitting and receiving electromagnetic waves.
- 19.06 Antenna Height: The vertical distance measured from the base of the antenna support structure at grade to the highest point of the structure. If the support structure is on a sloped grade, then the average between the highest and lowest grades shall be used in calculating the antenna height.
- 19.07 Applicant: A person who applies for a telecommunications facility siting. An

applicant may be the telecommunications service provider or the owner of the property.

- 19.08 Available Space: The space on a tower or structure to which antennas of a telecommunications provider are both structurally able and electromagnetically able to be attached.
- 19.09 Base Station: The primary sending and receiving site in a telecommunications facility network. More than one base station and/or more than one variety of telecommunications providers can be located on a single tower or structure.
- 19.10 Cellular Service: A telecommunications service that permits customers to use wireless, mobile telephones to connect, via low-power radio transmission sites called cell sites, either to the public switched network or to other mobile cellular phones.
- 19.11 Cellular Telecommunications: A commercial Low Power Mobile Radio Service bandwidth licensed by the Federal Communications Commission (FCC) to providers in a specific geographical area in which the radio frequency spectrum is divided into discrete channels which are assigned in groups to geographic cells within a service area and which are capable of being reused in different cells within the service area.
- 19.12 Cellular Telecommunications Facility: A cellular telecommunications facility consists of the equipment and structures at a particular site involved in receiving telecommunication or radio signals from mobile radio communications sources and transmitting those signals to a central switching computer which connects the mobile unit with the land-based telephone lines.
- 19.13 Channel: The segment of the radiation spectrum to or from an antenna, which carries one signal. An antenna may radiate on many channels simultaneously.
- 19.14 Collocation: Locating wireless communications equipment from more than one provider on a single site.
- 19.15 Communications Facility: A land facility supporting antennas and microwave dishes that send and/or receive radio frequency signals. Communications facilities may include structures, towers or accessory buildings.
- 19.16 Communication Tower: A guyed, monopole, or self-supporting vertical structure, constructed as a free standing 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.
- 19.17 Directional Antenna: An antenna or array of antennas designed to concentrate a radio signal in a particular area.

- 19.18 Electromagnetically Able: The determination that the signal from and to the proposed new antenna will not significantly interfere with the existing signals from and to other facilities or antennas located on the same tower or structure as determined by a qualified professional telecommunications engineer. The use of available technologies to alleviate such interference shall be considered when making this determination.
- 19.19 Engineer: An engineer who is licensed to practice in the State of Vermont and who is qualified in the relevant field of knowledge or engineering specialty (e.g., a structural engineer in questions of load-bearing, shear forces, etc.; an electrical engineer in questions of radiation effects, interference, etc.).
- 19.20 Facility Site: A property, or any part thereof, which is owned or leased by one or more telecommunications facility(s) and where required landscaping is located.
- 19.21 FCC: Federal Communications Commission. The government agency responsible for regulating telecommunications in the United States.
- 19.22 Frequency: The number of cycles completed each second by an electromagnetic wave measured in Hertz (Hz).
- 19.23 GIS: Geographic Information Services.
- 19.24 Location: References to site location shall be the exact longitude and latitude, to the nearest tenth of a second. Bearing or orientation should be referenced to true North.
- 19.25 Modification of an Existing Facility: Any change, or proposed change in power input or output, number of antennas, change in antenna type(s) or model(s), repositioning of antenna(s), change in number of channels per antenna above the maximum number approved under an existing permit.
- 19.26 Modification of an Existing Tower: Any change or proposed change in dimensions of an existing and permitted tower or other structure designed to support telecommunications transmission, receiving and/or relaying antennas and/or equipment.
- 19.27 Monitoring: The measurement, by the use of instruments in the field, of non-ionizing radiation exposure from telecommunications facilities, towers, antennas or repeaters.
- 19.28 Monitoring Protocol: The testing protocol, such as the Cobbs Protocol (or one substantially similar, including compliance determined in accordance with the National Council on Radiation Protection and Measurements, Reports 86 and 119), which is to be used to monitor the emissions and determine exposure risk from telecommunications facilities.

- 19.29 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.
- 19.30 Permit: 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.
- 19.31 Personal Wireless Services: Commercial mobile services, unlicensed wireless exchange access services. These services include cellular services, personal communications services, specialized mobile radio services, and paging services.
- 19.32 Preexisting Towers and Antennas: Any tower or antenna for which a permit has been issued prior to the effective date of these regulations.
- 19.33 Repeater: A small receiver/relay transmitter and antenna of relatively low power output designed to provide service to areas which are not able to receive adequate coverage directly from a base or primary station.
- 19.34 Roof and/or Building Mount Facility: A facility in which antennas are mounted to an existing structure on the roof (including rooftop appurtenances) or a building face.
- 19.35 Scenic View: A wide angle or panoramic field of sight that may include natural and/or manmade structures and activities. A scenic view may be from a stationary viewpoint or be seen as one travels along a roadway, waterway, or path. A view may be to a far away object, such as a mountain, or a nearby object.
- 19.36 Stealth Facility: Any communications facility which is designed to blend into the surrounding environment. Examples include architecturally screened roof-mounted antennas, building-mounted antennas painted to match the existing structure, antennas integrated into architectural elements, and antenna structures designed to look like light poles. (See also: Alternative Design Tower Structure.)
- 19.37 Structurally Able: The determination that a tower or structure is capable of carrying the load imposed by the proposed new antennas under all reasonable predictable conditions as determined by professional structural engineering analysis.
- 19.38 System: The communications transmission system operated by a telecommunications service provider in the municipality or region.
- 19.39 Telecommunications Facility: All equipment (including repeaters) and locations of equipment with which a telecommunications provider transmits and receives the waves which carry their services. This facility may be sited on one or more towers or structure(s) owned and permitted by the provider or another owner or entity.
- 19.40 Telecommunications Provider: An entity licensed by the FCC to provide

telecommunications services to individuals or institutions.

- 19.41 Temporary Wireless Communication Facility: Any tower, pole, antenna, etc., designed for use while a permanent wireless facility is under construction, or for a special event or conference where a majority of people attending are wireless users.
- 19.42 Tower: See Communication Tower.
- 19.43 USGS: United States Geological Survey.
- 19.44 VCGI: Vermont Center for Geographic Information.
- 19.45 View Corridor: A three-dimensional area extending out from a viewpoint. The width of the view corridor depends on the focus of the view. The focus of the view may be a single object, such as a mountain, which would result in a narrow corridor, or a group of objects, such as a down town of Ludlow skyline, which would result in a wide corridor. Panoramic views have very wide corridors and may include a 360-degree perspective. Although the view corridor extends from the viewpoint to the focus of the view, the mapped portion of the corridor extends from the viewpoint and is based on the area where base zone heights must be limited in order to protect the view.
- 19.46 Whip Antenna: A vertical antenna that normally transmits signals in 360 degrees. Whip antennas are typically cylindrical in shape, narrow (less than 6 inches in diameter) and long (often measure 18 inches in height or more). Also called Omni directional, stick or pipe antennas.

ARTICLE 20. MAINTENANCE AND INSURANCE REQUIREMENTS

- 20.01 The applicant shall maintain all facilities. Such maintenance shall include, but not be limited to, painting, structural integrity and landscaping. In the event the applicant fails to maintain the facility, the Town of Ludlow may undertake such maintenance at the expense of the applicant or landowner.
- 20.02 The facility owner shall maintain adequate on all facilities. In the event insurance is not secured or allowed to lapse, the Town of Ludlow may secure such insurance at the expense of the applicant or landowner.

ARTICLE 21. EXEMPTIONS

- 21.01 The following telecommunications facilities (if no higher than 35 feet, as measured from the average elevation of the finished grade to the highest point of the facility) are exempt from this Ordinance:
 - a. All municipal uses including but not limited to police, fire, ambulance and other emergency dispatch, highway and utilities;
 - b. amateur (ham) radio;
 - c. citizens band radio;

- d. local business radio dispatch; and
- e. personal use antennae.

- 21.02 The Town of Ludlow Selectboard will have the discretionary authority to require reasonable compliance to those elements of this ordinance it deems essential to protecting the public safety and welfare as described in Sections II and III of this ordinance.
- 21.03 No other Telecommunications Facility shall be considered exempt from this ordinance for any reason whether or not said Facility is proposed to share a Tower or other structure with such exempt uses.

ARTICLE 22. SEVERABILITY

- 22.01 If any section, subsection, subdivision, paragraph, sentence, clause, or phrase of this ordinance, or any part thereof, is for any reason held to be unconstitutional or invalid or ineffective by any court of competent jurisdiction, such decision shall not affect the validity or effectiveness of the remaining portions of this ordinance or any part thereof. The Board of Selectmen hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, clause, or phrase thereof irrespective of the fact that any one or more sections, subsections, subdivisions, paragraphs, sentences, clauses, or phrases be declared unconstitutional or ineffective.

ARTICLE 23. PUBLICATION AND EFFECTIVE DATE

- 23.01 No section of this ordinance shall be construed to supersede or replace any Vermont statute.
- 23.02 This ordinance shall be entered in the minutes of the Select Board's meeting, and posed in at least five (5) conspicuous places within the Town of Ludlow and published in a newspaper circulating in the Town of Ludlow on a day not more than fourteen (14) days following the date the ordinance is so adopted.
- 23.03 This ordinance will become effective on March 7, 2002, sixty (60) days after the Date of its adoption by the Select Board, unless a petition is filed with the Town Clerk by February 20, 2002, forty-four (44) days after the date of its adoption. The petition should be addressed to the Select Board, and should be signed by at least five (5) percent of the qualified voters of this municipality, and should ask for a special meeting to be called on the question of disapproving the ordinance.

The foregoing ordinance is hereby adopted by the Select Board of the Town of Ludlow, Vermont, this seventh day of January, 2002.

SELECT BOARD
TOWN OF LUDLOW, VERMONT

Howard Barton, Jr., Chairman
Philip Carter
Jay Jurkoic
Robert Tofferi
Jean Morrill

ARTICLE 23 above is amended to read:

- 23.01 No section of this ordinance shall be construed to supersede or replace any Vermont statute.
- 23.02 This ordinance shall be entered in the minutes of the Select Board's meeting, and posed in at least five (5) conspicuous places within the Town of Ludlow and published in a newspaper circulating in the Town of Ludlow on a day not more than fourteen (14) days following the date the ordinance is so adopted.
- 23.03 This ordinance will become effective on April 4, 2008, sixty (60) days after the Date of it adoption by the Select Board, unless a petition is filed with the Town Clerk by March 19, 2008, forty-four (44) days after the date of its adoption. The petition should be addressed to the Select Board, and should be signed by at least five (5) percent of the qualified voters of this municipality, and should ask for a special meeting to be called on the question of disapproving the ordinance.

The foregoing ordinance is hereby re-adopted by the Select Board of the Town of Ludlow, Vermont on this fourth day of February, 2008.

TOWN OF LUDLOW, VERMONT
SELECT BOARD

Howard Barton, Jr., Chair

John Neal, Vice Chair

Brett Sanderson

Bruce Schmidt

Earl Washburn