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AN ORDINANCE REGULATING TELECOMMUNICATIONS FACILITIES IN THE TOWN OF WORCESTER

SECTION I: AUTHORITY

Under authority granted in 24 V.S.A. § 2291(19) and 24 V.S.A. Chapter 59, the Selectboard of Worcester hereby adopts the following civil ordinance concerning telecommunications facilities. Under this Ordinance, the Worcester Selectboard shall have the power to regulate the construction, alteration, development, decommissioning or dismantling of wireless telecommunications facilities and ancillary improvements. The Board may require that bond be posted or that other acceptable security be provided in order to finance future decommissioning or dismantling activities.

SECTION II: PURPOSES

The purposes of this ordinance are to advance the objectives of the Worcester Town Plan, to protect the public health, safety and general welfare of the Town of Worcester, and to accommodate the communication needs of the community. This bylaw shall:

- A. Preserve the character and appearance of the Town of Worcester while allowing adequate telecommunication services to be developed;
- B. Protect the scenic, historic, environmental and natural resources of the town;
- 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 telecommunication services to the community;
- F. Minimize the adverse visual effects of telecommunications facilities and towers through careful design and siting standards; and
- G. Encourage the location of towers and antennas in non-residential areas and away from other sensitive areas such as those that have schools and child care facilities.

SECTION III: CONSISTENCE WITH FEDERAL LAW

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 regulations concerning such emissions.

SECTION IV: PERMITS

- A. Application for a permit for a telecommunications tower or facility shall be made to the Worcester Selectboard.
- B. No construction, alteration, addition, modification, or installation of any telecommunications tower or facility shall commence until a permit has been issued by the Worcester Selectboard. 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.

- C. 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.
- D. 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.

SECTION V: APPLICATION REQUIREMENTS

An application for a telecommunication tower or facility in the Town of Worcester shall include at least the following information:

- A. The name(s) and address(es) 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(es) of the record landowners and their agent(s);
- C. The name(s) and address(es) of the record landowners of each abutting property;
- D. The name(s), address(es), fax/telephone numbers and E-mail address(es) 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 co-located on a telecommunications tower and the minimum separation distances between antennas;
 - 3. Describes the tower's proposed capacity, including the number, height and types of antennas that the tower is proposed to accommodate;
 - 4. Documents the steps the applicant will take to avoid interference with any established public safety telecommunications;
 - 5. In the case of new tower proposals, demonstrates that existing telecommunications towers and other existing structures within 30 miles of the proposed site cannot reasonably be modified to provide adequate coverage and adequate capacity to the community;
 - 6. Describes potential changes or additions to those existing structures or towers that would enable them to provide adequate coverage and adequate capacity;
 - 7. Describes the output frequency, number of channels and the power output per channel for each proposed antenna;
 - 8. Includes a written five-year plan for use of the proposed telecommunication 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;
 - 9. Demonstrates the proposed tower's, facility's and other structure's compliance with the standards set forth in this Ordinance or other applicable standards;

10. Describes the radio frequency radiation (RFR) at the site, whether or not the applicant is regulated by the FCC, and the basis for the statement pertaining to RFR;
 11. Provides proof that at the proposed site, the applicant will be in compliance with all FCC regulations, standards and requirements and a commitment to continue to maintain compliance with all FCC regulations, standards and requirements regarding radio frequency interference (RFI). **(The Selectboard may hire independent engineers to perform evaluations of compliance with the FCC regulations, standards and requirements on an annual basis at unannounced times.);**
 12. Includes such other information required by the Board or its consultants necessary to evaluate the application; and
 13. Includes each engineer's stamp and registration number;
- K. 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;
- L. 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;
- M. 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.

Each application shall be signed by the applicant(s) and the contributing engineer(s) under the pains and penalties of perjury.

SECTION VI: PROVISION FOR INDEPENDENT CONSULTANTS

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

SECTION VII: CO-LOCATION REQUIREMENTS

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 function reasonably or are too far from the area of needed coverage to function reasonably as documented by a qualified engineer licensed to practice in the state of Vermont;
- 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.

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.

SECTION VIII: HEIGHT AND SETBACK REQUIREMENTS

- A. 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 Worcester or to accomplish co-location of facilities and that the additional height will not cause an undue visual impact on the scenic character or appearance of the area.
- B. The minimum distance from any telecommunication 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.

SECTION IX: LIGHTING AND SIGNAGE REQUIREMENTS

Towers shall not be illuminated by artificial means and shall not display strobe lights unless such lighting is specially 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.

No commercial signs or lettering shall be placed on the tower or its appurtenances.

SECTION X: TOWER AND ANTENNA DESIGN REQUIREMENTS

All telecommunications towers, antennas and their support structures shall be designed to blend into the surrounding environment through the use of color camouflaging, architectural design, and other alternative design tower structures as well as by minimal disruption of existing vegetation. Materials used for the exterior of any structure shall be of a type, color and location so as to minimize glare and the impact on any scenic or historic areas, public vantage points or abutting properties.

SECTION XI: SCREENING

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.

SECTION XII: ACCESS ROADS AND ABOVE-GROUND UTILITIES

Where telecommunication 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.

SECTION XIII: PROTECTION OF SCENIC RIDGES AND HILLSIDES

The Selectboard, in consultation with the applicant and others shall determine the likely visual impact of any proposed telecommunications facility or tower and may require balloon tests, photographs, simulations, and any other necessary, helpful and relevant information. Based on the information presented, the Selectboard may designate an alternative location for the facility or tower or may request a redesign in order to minimize the visual impact on the scenic character and beauty of the area. In determining whether or not a facility or tower would have an undue adverse visual impact and when setting conditions in the permit, the Selectboard shall consider:

- A. The period of time during which it would be viewed by persons traveling on public highways;
- B. The frequency with which persons traveling on public highways will view the facility;
- C. The degree to which it will be screened by existing vegetation, the topography of the land, and existing structures;
- D. Background features that will either obscure it or make it more conspicuous;
- E. Its distance from key vantage points and the proportion of it which will be visible above the skyline or tree line;
- F. The number of members of the traveling public or residents of Worcester and neighboring towns who will be affected by the alteration of the scenic character and beauty of the area;
- G. The sensitivity or unique value of the particular view affected by it; and
- H. Significant disruption of a viewshed that provides context to an historic or scenic resource.

SECTION XIV: CONTINUING OBLIGATIONS

- A. 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, dates of the readings and names of the person or company who took the readings.
- B. The telecommunications facility or tower owner shall maintain adequate insurance on the facility, tower and the entire site.
- C. 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.

SECTION XV: REMOVAL OF ABANDONED, UNUSED, OBSOLETE DAMAGED OR DANGEROUS TOWERS OF OTHER PORTIONS OF FACILITIES

Abandoned or unused towers or other portions of telecommunication facilities shall be removed as follows:

- A. The owner of a tower shall annually 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. An owner who has inadvertently failed to file a declaration may then file a declaration of use and intended use and may request permission to continue use of the facility.
- 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 may remove the tower and all associated facilities and all costs of that 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.

SECTION XVI: ENFORCEMENT AND PENALTIES

- A. The Worcester Selectboard shall be the enforcement officer/body.
- B. Penalties shall be a minimum of \$100.00 per violation with each day that a violation continues being a separate violation.
- C. Costs incurred by the Town of Worcester 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.

SECTION XVII: SEVERABILITY CLAUSE

If any section of this ordinance is held by a court of competent jurisdiction to be invalid, such finding shall not invalidate any other part of this ordinance.

SECTION XVIII: DEFINITIONS

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.

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).

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.

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*).

Antenna: A device which is attached to a tower or other structure for transmitting and receiving electromagnetic waves.

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.

Applicant: A person who applies for a telecommunications facility siting. An applicant may be the telecommunication service provider or the owner of the property.

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.

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 provider can be located on a single tower or structure.

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.

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.

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.

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 wireless communications equipment from more than one provider on a single site.

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.

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.

Directional Antenna: An antenna or array of antennas designed to concentrate a radio signal in a particular area.

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.

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.).

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.

FCC: Federal Communications Commission. The government agency responsible for regulating telecommunications in the United States.

Frequency: The number of cycles completed each second by an electromagnetic wave measured in Hertz (Hz).

GIS: Geographic Information Services.

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.

Modification of an Existing Facility: Any change, or proposed change in power input or output, number of antennas, change in antenna type or model, repositioning of antenna(s), change in number of channels per antenna above the maximum number approved under an existing permit.

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.

Monitoring: The measurement, by the use of instruments in the field, of non-ionizing radiation exposure from telecommunications facilities, towers, antennas or repeaters.

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.

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.

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.

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.

Preexisting Towers and Antennas: Any tower or antenna for which a permit has been issued prior to the effective date of these regulations.

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.

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.

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.

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*.)

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.

System: The communications transmission system operated by a telecommunications service provider in the municipality or region.

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.

Telecommunications Provider: An entity licensed by the FCC to provide telecommunications services to individuals or institutions.

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.

Tower: See Communications Tower.

USGS: United States Geological Survey.

VCGI: Vermont Center for Geographic Information.

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 downtown 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.

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.

SECTION XIX: EFFECTIVE DATE

This ordinance shall become effective sixty (60) days after its adoption by the Worcester Selectboard. If a petition is filed under 24 VSA § 1973, that statute shall govern the taking effect of this ordinance.

SECTION XX: NOTICE

This ordinance shall be entered into the minutes of the town records and shall be posted in at least five conspicuous places in town. A concise summary of it shall be published in the Times-Argus within 14 days of its adoption accompanied by information as to where the full text of it may be examined, the right of voters to petition for a vote, and the name, address and telephone number of a person who is available to answer questions about it. [Instead of a concise summary, you may publish the entire text of the proposed ordinance in the paper.] The ordinance shall become effective 60 days after its adoption unless a petition signed by five percent of the qualified voters in the Town asking for a vote on the question of disapproving the ordinance is filed with the Town Clerk or the Selectboard within 44 days after the adoption of the ordinance. If such a petition is filed, the Selectboard shall call a special meeting to vote on that question and the ordinance shall become effective at the end of that meeting unless a majority of those voting on the question disapproves the ordinance or 60 days after its adoption.

SIGNATURES

E. John A. Turner
Walter Badon

DATE

May 18, 1998

