

# **Rules and Regulations for Wireless Communications Facilities**

## **Application Requirements**

### **I. Consultant**

- A. The applicant will pay for a technical consultant, hired by the town of Concord, to review the application and evaluate alternatives. The cost for the consultant will not exceed \$10,000. The application will be reviewed by the consultant prior to the applicant's public hearing before the Zoning Board of Appeals.

### **II. Required Documentation**

- A. Copies of all submittals and showings pertaining to: FCC licensing; Environmental Impact Statements; FAA Notice of Construction or Alteration; Aeronautical Studies; and all data, assumptions and calculations relating to service coverage and power levels regardless of whether categorical exemption from Routine Environmental Evaluation under the FCC rules is claimed.
- B. Copies of all information submitted in compliance with requirements of Massachusetts Department of Public Health, 105 CMR 122 FIXED FACILITIES WHICH GENERATE ELECTROMAGNETIC FIELDS IN THE FREQUENCY RANGE OF 300 kHz to 100 GHz and MICROWAVE OVENS, or any revisions thereof as the Department of Public Health may create by written notice.
- C. The exact legal name, address or principal place of business and phone number of the Applicant. If any Applicant is not a natural person, it shall also give the state under which it was created or organized.
- D. The name, title, address and phone number of the person to whom correspondence or communications in regard to the application should be sent. Notice orders and other papers may be served upon the person so named, and such service shall be deemed to be service upon the Applicant.
- E. Name, address, phone number and written consent to apply for this permit, of the owner of the property on which the proposed Tower shall be located, or of the owner(s) of the Tower or structure on which the proposed Facility shall be located.

- F. Details of proposed method of finance surety for tower and facility removal as required in section 7.8.5 of the Zoning Bylaw for Personal Wireless Communication Facilities for the Town of Concord.
- G. Required plans and engineering plans, prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts. (Note: survey plans should also be stamped and signed by a Professional Land Surveyor registered in Massachusetts.) Plans shall be on 24"x36" sheets, on as many sheets as necessary, and at scales which are not smaller (i.e., no less precise) than listed below, and which show the information described below.
- H. Each plan sheet shall have a title block indicating the project title, sheet title, sheet number, date, revision dates, scales(s), and original seal and signature of the Professional Engineer and other professionals who prepared the plan.

**III. For new tower construction, or major modification of an existing tower, a tower construction special permit is required.**

- A. Applicant shall provide a written, irrevocable commitment valid for the duration of the existence of the Tower, to rent or lease available space for co-location on the Tower at fair-market prices and terms, without discrimination to other Personal Wireless Service providers.
- B. If applicant is not simultaneously applying for a Personal Wireless Service Facilities Special Permit, it shall provide a copy of its existing lease/contract with a Personal Wireless Service Provider. A Tower Construction Special Permit shall not be granted for a Tower to be built on speculation.
- C. The following plans and maps are required:
  - 1. Location Map: Copy of a portion of the most recent USGS Quadrangle map, at a scale of 1:25,000, and showing the area within at least two miles from the proposed tower site. Indicate the tower location and the exact Latitude and Longitude (degrees, minutes and seconds).
  - 2. Vicinity Map: At a scale of 1"=200' (1:2,400) with contour intervals no greater than 1- feet (0.3 meter) showing the entire vicinity with a 2000' radius of the Tower site, and including the topography, public and private roads and driveways, buildings and structures, bodies of water, wetlands, landscape features, historic sites, and habitats for endangered species. Indicate the property lines of the proposed Tower Site Parcel and all abutters within 300' of the Tower Site Parcel (from the Assessors maps or available surveys). Include the names of all abutters within 300' of the Tower Site Parcel. Indicate any access easement or right-of way needed for access from a public way to the Tower, and the names of all abutters or property owners along the access easement or who have deeded rights to the easement.

3. Existing Conditions Plan: A recent survey of the Tower Site at a scale no smaller than 1"=40' (1:480 or metric equivalent 1:500) with topography drawn with a minimum of 2' (0.6 meter) contour intervals, showing existing utilities, property lines, existing buildings or structures, stone walls or fence lines, wooded areas, individual trees with diameters greater than 12" within a 200' radius from the base of the proposed Tower (labeled with their current heights). Show the boundary of any wetlands or floodplains or watercourses and of any body of water included in the Watershed Protection District within 200' from the proposed Tower or any related facilities or access ways or appurtenances. A Professional Land Surveyor must have completed the survey plan, on the ground, within two years prior to the application date.
4. Proposed Site Plans: proposed facility site layout, grading and utilities at the same scale or larger than the Existing Conditions Plan.
  - a) Proposed Tower locations and any appurtenances, including supports and guy wires, if any, and any accessory building (Communications Equipment Shelter or other). Indicate property boundaries and setback distances to the base(s) of the Tower and to the nearest corners of each of the appurtenant structures to those boundaries and dimensions of all proposed improvements.
  - b) Indicate proposed spot elevations at the base of the Proposed Tower and at the base of any guy wires, and the corners of all appurtenant structures.
  - c) Proposed utilities, including distance from the source of power, sizes of service available and required, locations of any proposed utility or communication lines, and whether underground or above ground.
  - d) Limits of areas where vegetation is to be cleared or altered, and justification for any such clearing or alteration.
  - e) Any direct or indirect wetland alteration proposed.
  - f) Detailed plans for drainage of surface and/or subsurface water; plans to control erosion and sedimentation both during construction and as a permanent measure.
  - g) Plans indicating locations and specifics of proposed screening, landscaping, ground cover, fencing, etc., and any exterior lighting or signs.
  - h) Plans of proposed access driveway or roadway and parking area at the Tower Site. Including a cross section of the access drive indicating the width, depth of gravel, paving or surface materials.
5. Proposed Tower and Appurtenances:
  - a) Plans elevations, sections and details at appropriate scales but no smaller than 1"=10'.
  - b) Two cross sections through proposed Tower drawn at right angles to each other and showing the ground profile to at least 100 feet beyond the limit of

clearing and showing any guy wires or supports. Dimension the proposed height of the Tower above average grade at Tower Base. Show all proposed antennas, including their locations on the Tower.

- c) Details of proposed Tower foundations, including cross-sections and details. Show all ground attachments, specifications for anchor bolts and other anchoring hardware.
- d) Descriptions and visual aids depicting alternative tower designs that would minimize the visual impact of the tower at the proposed site.
- e) Details of proposed exterior finish of the Tower and appurtenances, including color.
- f) Indicate relative height of the Tower to the tops of surrounding trees as they presently exist and the height to which they are expected to grow in ten years.
- g) Illustration of the modular structure of the proposed Tower indicating the heights of sections which could be removed or added in the future to adapt to changing communications conditions or demands.
- h) A structural Professional Engineer's written description of the proposed Tower structure and its capacity to support additional Antennas or other communications facilities at different heights and the ability of the Tower to be shortened if future communications facilities no longer require the original height.
- i) A description of available space on the tower, providing illustrations and examples of the type and number of Personal Wireless Service Facilities which can be mounted on the structure.

6. Proposed Communications Equipment Shelter:

- a) Floor plans, elevations and cross sections at a scale of no smaller than  $\frac{1}{4}''=1'$  (1:48) of any proposed appurtenant structure.
- b) Representative elevation views, indicating the roof, facades, doors and other exterior appearance and materials.

7. Sight Lines:

- a) A minimum of eight (8) view lines in a zero (0) to two (2) mile radius from the site shown beginning at True North and continuing clock-wise at forty-five degree intervals. Photographs are the preferred medium for illustrating sight lines.
- b) A plan map of a circle of two (2) miles radius of the Facility Site on which any visibility of the proposed Tower from a public way shall be indicated.
- c) Applicant shall utilize the U.S.G.S. Quadrangle map, at a scale of 1:25,000 and submit profile drawings on a horizontal scale of  $1''=400'$  with a vertical

scale of 1"=40'. Trees shall be shown at existing heights and at projected heights in ten years.

8. Proposed Equipment Plan:

- a) Plans, elevations, sections and details at appropriate scales but no smaller than 1" = 10'
- b) Number of Antennas and Repeaters, as well as the exact locations of Antenna(s) and of all Repeaters (if any) located on a map as well as by degrees, minutes and seconds of latitude and longitude.
- c) Mounting locations on Tower or structure, including height above ground.
- d) Antenna type(s), manufacturer(s), model number(s)
- e) For each antenna, the antenna gain and the antenna radiation pattern.
- f) Number of channels per antenna, projected and maximum.
- g) Power output, in normal use and a maximum output for each antenna and all antennas as an aggregate. Output frequency of the transmitters(s).

**IV. For new Personal Wireless Service Facility, or Major Modification of an Existing Facility, a Personal Wireless Service Facility Special Permit is required.**

A. The following plans and maps are required:

1. Location Map: A copy of a portion of the most recent U.S.G.S. Quadrangle map, at a scale of 1:25,000, and showing the area within at least two miles from the proposed Facility Site. Indicate the location of the proposed Personal Wireless Service Facility, or the Facility undergoing major modifications and the exact Latitude and Longitude (degrees, minutes and seconds).
2. Proposed Facility Plan: A recent survey of the Facility Site at a scale no smaller than 1" = 40' (1:480 or metric equivalent 1:500) showing:
  - a) Horizontal and radial distances of Antenna(s) to nearest point on property line.
  - b) Horizontal and radial distances of Antenna(s) to nearest dwelling.
  - c) Proposed utilities, including distance from source of power, sizes of service available and required, locations of any proposed utility or communication lines and whether underground or above ground.
  - d) Any changes to be made to the existing Facility's landscaping, screening, fencing, lighting, drainage, wetlands, grading, driveways or roadways, parking, or other infrastructure as a result of this proposed Modifications of the Facility.
3. Sight Lines:

- a) A minimum of eight (8) view lines in a zero (0) to two (2) mile radius from the site shown beginning at True North and continuing clock-wise at forty-five degree intervals. Photographs are the preferred medium for illustrating sight lines.
- b) A plan map of a circle of two (2) miles radius of the Facility Site on which any visibility of the proposed antenna/facility from a public way shall be indicated.
- c) Applicant shall utilize the U.S.G.S. Quadrangle map, at a scale of 1:25,000 and submit profile drawings on a horizontal scale of 1"=400' with a vertical scale of 1"=40'. Trees shall be shown at existing heights and at projected heights in ten years.

4. Proposed Communications Equipment Shelter:

- a) Floor plans, elevations and cross sections at a scale no smaller than  $\frac{1}{4}" = 1'$  (1:48) of any proposed appurtenant structure.
- b) Representative elevation views indicating the roof, facades, doors and other exterior appearance and materials.

5. Proposed Equipment Plan:

- a) Plans, elevations, sections and details at appropriate scales but no smaller than 1" = 10'
- b) Number of Antennas and Repeaters, as well as the exact locations of Antenna(s) and of all Repeaters (if any) located on a map as well as by degrees, minutes and seconds of latitude and longitude.
- c) Mounting locations on Tower or structure, including height above ground.
- d) Antenna type(s), manufacturer(s), model number(s)
- e) For each antenna, the antenna gain and the antenna radiation pattern.
- f) Number of channels per antenna, projected and maximum.
- g) Power output, in normal use and a maximum output for each antenna and all antennas as an aggregate.
- h) Output frequency of the transmitters(s).