

TOWN OF WELLESLEY



MASSACHUSETTS

RECEIVED
TOWN CLERK'S OFFICE
WELLESLEY, MA 02482

2002 JAN -4 A 8:15

ZONING BOARD OF APPEALS

TOWN HALL • 525 WASHINGTON STREET • WELLESLEY, MA 02482-5992

KENDALL P. BATES, CHAIRMAN
RICHARD L. SEEGL, VICE CHAIRMAN
CYNTHIA S. HIBBARD

ELLEN D. GORDON
EXECUTIVE SECRETARY
TELEPHONE
(781) 431-1019 EXT. 208

ROBERT A BASTILLE
J. RANDOLPH BECKER
ROBERT W. LEVY

ZBA 2001-91

Petition of Sprint Spectrum LP
978 Worcester Street

Pursuant to due notice, the Special Permit Granting Authority held a Public Hearing on Thursday, November 29, 2001 at 7:30 p.m. in the Great Hall at the Town Hall, 525 Washington Street, Wellesley, on the petition of SPRINT SPECTRUM LP requesting a Special Permit pursuant to the provisions of Section XXIIIC and Section XXV of the Zoning Bylaw to allow tri-location of a wireless communication facility consisting of 12 antenna panels with a total surface area of 29 square feet, at a height of 77 feet on the existing AT&T 100 foot monopole, 10 feet below the existing Nextel facility and 20 feet below the AT&T facility, at 978 WORCESTER STREET, in a Business District and a Water Supply Protection District. An 8 foot woven wire fenced enclosure approximately 30 feet by 35 feet will contain 5 equipment cabinets ranging in height from 5 feet to 6 feet. Associated landscaping will be provided.

On November 13, 2001, the petitioner filed a request for a hearing before this Authority, and thereafter, due notice of the hearing was given by mailing and publication.

Presenting the case at the hearing was William O'Brien, counsel for Sprint Spectrum, who was accompanied by Timothy Greene, property specialist from TerraSearch, and Nurullah Kose, Radio Frequency Engineer.

Mr. O'Brien said Sprint is requesting a Special Permit to tri-locate on the AT&T monopole at 978 Worcester Street. The monopole is located at the back of the parking lot of the Wellesley Travel Inn. The pole was permitted originally in 1997 for AT&T. The decision allowing the monopole included the condition that any modification of the decision would require a Special Permit. The Special Permit is also requested, not only because the facility height exceeds the allowed height of 45 feet, but also because the addition of the Sprint facility would be an expansion of the nonconforming use.

Mr. O'Brien said the Sprint communications facility would be tri-located at a height of 77 feet. There will be 12 antennas in three segments of four antennas in each segment. There will be one smaller GPS global positioner located on a fence post. The antennas will be 10 feet below the Nextel equipment, which is the necessary separation for the wireless systems.

Mr. O'Brien explained that the Sprint equipment operates in a similar fashion to the PCS Nextel equipment and the AT&T equipment. The height of 77 feet is the highest that can be achieved with proper separation on the monopole, but is high enough to propagate a signal that is useful to Sprint and its network. This site would provide service up Route 9 in the northwest section of Wellesley toward Weston; connect with the water tank location at Wellesley College; and would connect with an existing

RECEIVED
TOWN CLERK'S OFFICE
WELLESLEY MA 02482
2002 JAN -4 A 8:15

site in Natick. It would also help to connect a planned site in Natick on top of Whitney Place on Route 9, which was recently approved.

The Board asked why the GPS antenna is necessary. Mr. Kose explained that it is necessary for system synchronization and is standard in any installation. Mr. Greene added that it assists in the "hand-off" of the calls, so the system knows when to pass off calls from one location to another. The GPS antenna will be mounted on a fence post rather than on the monopole below the antenna array.

Mr. Kose said the facility is necessary to close the coverage gap on the Route 9 area. Using a map showing the extent of Sprint coverage along the Route 9 corridor, Mr. Kose pointed out the new area that would be covered as a result of the new facility. The problem is mainly one of coverage, but capacity is also important.

The Board asked how long the Sprint lease on use of the monopole extended. Mr. Greene said the lease is for about 22 years and runs co-terminus with that of Nextel, which began in 1997.

The Board asked what would happen if the facility became obsolete. Mr. Greene said that if Sprint were not using the facility, it would be removed. The lease is in segments of 5-year terms. If Sprint ceases to use the equipment, the lease requires removal of the equipment and restoration of the area to its previous condition.

The Board asked what would happen if AT&T no longer used its facility, but Nextel and Sprint wanted to remain. Mr. Greene was not certain, but felt that Sprint would probably try to renegotiate the lease.

The Board asked about the structural integrity of the pole, which was originally constructed for two users. Mr. Greene said he has read the AT&T decision, and at that time, the Board encouraged AT&T to design the pole for a minimum of two locators. The Nextel decision included representation by Nextel that the monopole was a two-carrier monopole. A report prepared by FTW, which included an analysis of the structure with up to 90 mph windspeed, was submitted. FTW determined the pole could accommodate a tri-locator.

Mr. Greene explained that when a pole is ordered, it is ordered for a certain number of carriers. The tower is manufactured with portholes. They have done a structural analysis of the pole and believe the structural capacity of the monopole is sufficient for more than two carriers, although it was manufactured as only a two-carrier pole.

The Board noted that the conditions analyzed by FTW were a windspeed of 90 mph or 77 mph with ½ inch radial ice. It appears from the drawing that the analysis took into consideration the additional ports that Sprint would have to cut into the pole. However, on Pages 7-8 of the structural analysis submitted, there is a column entitled "Actual Divided by Allowable Stress". In the 90 mph condition, some of the results are over "1". There are many that are over the allowable stress level – all the results from the 19 foot level to 0 are marked with stars, which indicates exceeding allowable stresses.

Mr. Greene said that generally, a 5% overstress is acceptable. The Board stated that there was no documentation in the submitted data that a 5% overstress is acceptable, and insisted that Sprint's structural engineer send a letter to the Board stating that for 90 mph winds, the fact that the actual stresses

ZBA 2001-91
Petition of Sprint Spectrum LP
978 Worcester Street

RECEIVED
TOWN CLERK'S OFFICE
WELLESLEY MA 02482

are exceeding the allowable stresses by 4.82% is acceptable under pertinent codes, and that reinforcement is not necessary. The letter should be signed, stamped and contain a citation supporting the statement. Mr. Greene agreed to this condition. He said that if Sprint had to modify the pole, they would do so.

The Board noted that the datum base used is North American, and asked if that was the same as USGS, and how it related to the Wellesley Datum Base. There is an elevation of 125 in regard to the 100 year flood, and the Board wanted to make certain that the 100 year flood is consistent with the Wellesley Datum Base.

The Board noted there is a difference in the scale used on Plan Z-2. The plan states the scale is 1:20, but the bar scale measures 1 inch equals 5 feet. The plan should be revised to show the proper scale. The note on the plan regarding the structural analysis is dated "July 34, 2001", which should also be revised.

The Board commented that the Design Review Board comments indicate there have been problems with Nextel's replacement of dead plantings, and that Sprint had been asked to replace some of them. The Board asked if Sprint would do additional plantings.

Mr. Greene said this would be the Board's decision. In his opinion, Sprint's equipment cannot be seen. There is very little space between the building and the fence, so additional planting would be difficult. None of the windows in the Motor Inn face the equipment shelter. Sprint is going to replace the existing dead plantings.

The Board asked about compensatory storage. Mr. Greene said that Sprint is required to provide compensatory storage pursuant to the Order of Conditions. The Board noted that the Order of Conditions provides that no pesticides are allowed. Mr. Greene said they lay a fabric around the plantings, which diminishes weed production. No pesticides would be used.

The Board asked how many cabinets would be constructed within the fenced area. Mr. Greene said there are 5 cabinets, which house the telecommunications equipment, a small fuse box cabinet, and another small cabinet for the telephone demarcation.

The Board stated that in the AT&T decision, there was a discussion of seismic safety. Mr. Greene said that the foundation had been analyzed to ensure the foundation could support the additional antennas. The Board requested that the structural engineer, in his letter regarding the 5% overstress acceptability, also verify the seismic safety of the foundation under the new conditions. Mr. Greene said that four of the antennas weigh 15 pounds apiece, and 8 weigh 10.5 pounds apiece, which would be an additional weight load of about 140 pounds.

No other person present had any comment on the petition.

ZBA 2001-91
Petition of Sprint Spectrum LP
978 Worcester Street

Statement of Facts

RECEIVED
TOWN CLERK'S OFFICE
WELLESLEY MA 02482
2007 JAN -11 AM 8:15

The subject property is located at 987 Worcester Street in a Business A District and a Water Supply Protection District and is owned by Wellesley Realty Associates, LLC.

In 1997, AT&T was granted a Special Permit (ZBA 97-49) to install a 100 foot monopole with an 8 foot base having a minimum setback of 113 feet from Morses Pond and from the left side property line at the rear of the subject location. The monopole would carry a nine-panel antenna array. The decision contained a condition that AT&T must provide space for at least one co-locator.

In 2000, Nextel was granted a Special Permit (ZBA 2001-71) to co-locate a wireless communications facility containing a triangular antenna array comprised of three sectors each containing four antennas at a height of 87 feet on the existing AT&T monopole, 10 feet below the existing AT&T installation.

The petitioner is requesting a Special Permit to tri-locate a wireless communications facility consisting of 12 antenna panels at a height of 77 feet on the existing AT&T monopole. An 8 foot woven wire fenced enclosure containing 5 equipment cabinets ranging in height from 5 to 8 feet will also be constructed.

The application submission contained the following written materials:

1. Application and Information Survey
2. Design Review Board Approval & Recommendations
3. Order of Conditions – DEP 324-372
4. Copies of AT&T and Nextel decisions
5. Description of the Facility
6. Support Statements for Information Survey
7. PCS Site Agreement and Sublease Agreement
8. Radio Frequency Affidavit and FCC License
9. Health Report
10. Structural Evaluation dated July 24, 2001, stamped by Martin L. DeLaRosa, Registered Professional Engineer of FWT
11. National Environmental Policy Act Report and References
12. Coverage Plots
13. Photosims and Plans

The following plans were submitted:

- T-1 Title Sheet- Dated 8/07/01, revised 8/28/01, revised 10/29/01, revised 11/06/01, revised 11/28/01
- Z-1 Abutters Plan – Dated 8/07/01, revised 8/28/01, revised 10/29/01, revised 11/06/01
- Z-2 North Elevation & Detailed Site Plan – Dated 8/07/01, revised 8/28/01, revised 10/29/01, revised 11/06/01
- Z-3 Details – Dated 8/07/01, revised 8/28/01, revised 10/29/01, revised 11/06/01

The Title Sheet and Plans Z-1 through Z-3 were all stamped by Edward W. Brown, Registered Professional Engineer.

ZBA 2001-91
Petition of Sprint Spectrum LP
978 Worcester Street

RECEIVED
TOWN CLERK'S OFFICE
WELLESLEY MA 02482
2002 JUN -4 A 8:15

On September 27, 2001, the Design Review Board reviewed the Sprint Spectrum project and voted to recommend approval of the petition subject to the following conditions:

1. There shall be no use of barbed wire fencing.
2. The Applicant shall replace all dead plants at the site, and shall demonstrate to the ZBA why appropriate landscaping around the equipment cabinets cannot be achieved.
3. The Applicant shall clean up unkempt areas around the AT&T facility and commit to future maintenance of the site.

On October 25, 2001, the Wetlands Protection Committee issued an Order of Conditions (DEP 324-372) for the proposed equipment installation.

On November 27, 2001 the Planning Board reviewed the petition and endorsed the recommendations of the Design Review Board. The Planning Board stated that the application is consistent with Town policy that encourages co-location of antenna.

Decision

This Authority has made a careful study of the materials and plans submitted and the information presented at the hearing. The petitioner's tri-location of a wireless communication facility consisting of 12 antennas at a height of 77 feet on the 100 foot monopole permitted to AT&T in 1997 will exceed the allowed height of 45 feet pursuant to Section XXIIIC of the Zoning Bylaw.

This Authority has made the following findings:

1. The requested installation is essential to the proper functioning of the telecommunications services to be provided by the device at 978 Worcester Street, and an alternative installation meeting the 45 foot height restriction is not workable. The Sprint PCS system depends on a grid of antennas and the "cell" created by an antenna, which serves as a link between the customer and the telephone system while the caller is within proximity to the site. Without additional cell sites, calls are dropped or customer calls are blocked. The proposed location will connect to the existing site at the Wellesley College water tank and an existing and proposed site in Natick.

Existing buildings within the area are approximately 20 feet to 45 feet. The antennas must be at a height sufficient to provide a signal unobstructed by trees, hills, or buildings. Sprint's use of the existing monopole eliminates the need for a new structure in this area.

2. The requested installation will not adversely impact adjacent property materially. The proposed location of the Sprint wireless communication facility is on an existing permitted 100 foot monopole, which is located at the rear of the premises about 380 feet from Worcester Street.
3. The overall height of the facility exceeds 45 feet as it will be installed at a height of 77 feet. The petitioner has demonstrated to the satisfaction of the Board that the requested height is essential to the proper functioning of the telecommunications services to be provided by the device at the proposed height and location, and that an alternative installation meeting the requirements of Section XXIIIC of the Zoning Bylaw would not be less invasive and would not be workable.

ZBA 2001-91
Petition of Sprint Spectrum LP
978 Worcester Street

4. The petitioner has investigated alternative sites within the designated area. The construction of a new 100 foot monopole at St. James the Great Church was explored, as was installation of an 80 foot monopole at the Wellesley Nursing Home at 890 Worcester Street. The tri-location of the facility on an existing monopole was preferable to construction of a new monopole in a different location.
5. The report of the Design Review Board has been received. Installation and the special permit are consistent with that report under the guidelines established in Part D.1. of Section XXIIIC.

Therefore, a Special Permit is granted, as voted unanimously by this Authority at the Public Hearing, for the installation of a wireless communications facility at a height of 77 feet on the existing 100 foot monopole at 978 Worcester Street and construction of 5-7 equipment cabinets enclosed within a 30 foot by 35 woven wire fence at a height of 8 feet, subject to the conditions contained in Addendum A.

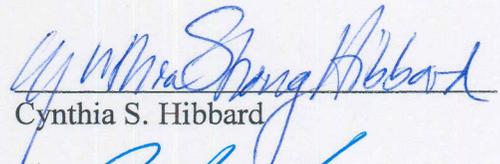
Subsequent to compliance with Conditions 1 and 2 in Addendum A, the Inspector of Buildings is hereby authorized to issue a permit for said installation and construction upon receipt and approval of a building application and detailed construction plans.

APPEALS FROM THIS DECISION,
IF ANY, SHALL BE MADE PURSUANT
TO GENERAL LAWS, CHAPTER 40A,
SECTION 17, AND SHALL BE FILED
WITHIN 20 DAYS AFTER THE DATE
OF FILING OF THIS DECISION IN
THE OFFICE OF THE TOWN CLERK.

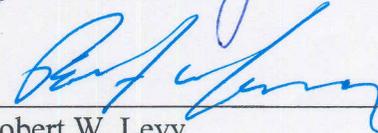
Cc: Planning Board
Wetlands Protection Committee
Design Review Board
Inspector of Buildings
Edg



Kendall P. Bates, Chairman



Cynthia S. Hibbard



Robert W. Levy

RECEIVED
TOWN CLERK'S OFFICE
WELLESLEY MA 02482
2002 JAN -4 A 8:15

ADDENDUM A

1. Prior to the issuance of any Building Permit, the petitioner shall submit to the office of the Zoning Board of Appeals a letter signed and stamped by a structural engineer verifying that for a 90 mph wind case, the fact that the actual stresses are exceeding the allowable stresses by 4.82% is acceptable under pertinent codes and that reinforcement is not necessary. A citation supporting the statement must be included. The letter must also include verification of the seismic safety of the foundation under the additional load of the 12 antennas to be installed by Sprint.

If reinforcement is found to be necessary, a detailed plan of said reinforcement shall be submitted to the office of the Board of Appeals.

2. Prior to the issuance of any Building Permit, a revision of the scale and date of July 34, 2001 on Plan Z-2 shall be submitted.
3. The proposed equipment shelter shall be located as shown on Plan Z-2 and shall be constructed in accordance with the most recent revisions on all submitted plans.
4. The petitioner shall comply with the Order of Conditions (DEP 324-372) issued by the Wetlands Protection Committee, which is hereby incorporated into this decision.
5. The petitioner shall comply with all recommendations contained in the letter from the Design Review Board, with the exception of provision of additional landscaping, but including replacement of all dead plantings and clean-up and maintenance of the equipment site.
6. No barbed wire fencing shall be installed.
7. If Sprint ceases to use the permitted antennas and fenced equipment cabinets, Sprint shall notify the Board of Appeals in writing of the date of cessation of use, and shall remove all devices, equipment and fencing within one year of the date of said cessation of use.

RECEIVED
TOWN CLERK'S OFFICE
WELLESLEY MA 02482
2002 JAN -4 A 8:15