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**TOWN OF NEEDHAM
MASSACHUSETTS
BOARD OF APPEALS
SPECIAL PERMIT**

***ATC Watertown LLC, applicant
350 Cedar Street
Map 227, Parcel 1***

November 21, 2019

ATC Watertown, LLC, applicant, made application to the Board of Appeals for a Special Permit under Sections 6.7.7, 7.5.2, and any other applicable Sections of the By-Law to permit the installation of a 44' lattice extension along with the installation, replacement and removal of antennas and associated cabling on an existing 1192' guyed tower. The property is located at 350 Cedar Street, Needham, MA in the Single Residential B District. A public hearing was held in the Public Services Administration Building, 500 Dedham Avenue, Needham, MA, on Thursday, November 21, 2019 at 8:00 p.m.

Documents of Record:

- Application for Hearing, Clerk stamped October 25, 2019.
Brief in Support of Application for Special Permit.
Exhibit 1 – General Warranty Deed, dated December 29, 2017.
Exhibit 2 – Broadcast Antenna Installation, T-1, N-1, C-1, C-2, C-3, C-4, C-5, C-6, prepared by Tower Engineering Professionals, stamped by Graham M. Andres, Professional Engineer, dated October 17, 2019.
Exhibit 3 – 1192' Guyed Tower + New 44' Tower Extension Modification Installation, Sheets 1-5 & Guy Tension Charts, prepared by Hodge Structural Engineers, stamped W. Gray Hodge, Professional Engineer, dated June 28, 2019.
Exhibit 4 – Hodge Engineering Analysis Report, stamped W. Gray Hodge, Professional Engineer, dated October 24, 2019.
Exhibit 5 – FCC Antenna Structure Registration, issued September 25, 2018.
- Email from Dennis Condon, Chief of Fire Department, November 8, 2019.
- Email from Tara Gurge, Assistant Public Health Director, November 13, 2019.
- Memo from John J. Schlittler, Chief of Police,
- Letter from David A. Roche, Building Commissioner, November 12, 2019.
- Letter from Thomas Ryder, Assistant Town Engineer, November 12, 2019.
- Letter from Lee Newman, Director of Planning and Community Development, November 20, 2019.

- Tower Elevation & Detail Color Highlighted, C2, prepared by Tower Engineering Professionals; Graham M. Andres professional engineer stamped, dated October 17, 2019; ZBA date stamped November 21, 2019.

November 21, 2019

The Board included Jon D. Schneider, Chairman; Jonathan D. Tamkin, Member; and Howard S. Goldman, Member. Also participating were Kathy Lind Berardi, Associate Member and Peter Friedenber, Associate Member. Mr. Schneider opened the hearing at 8:07 p.m. by reading the public notice.

Earl W. Duval, representing the applicant, reported that ATC Watertown LLC, a subsidiary of American Tower Corporation, owns the property and tower. It was unknown who the original owner holder of the Special Permit was. Mr. Schneider did not believe that the original Special Permit limited the transfer of ownership and that it was likely that the Special Permit runs with the property. Mr. Duval concurred.

Mr. Schneider requested that Mr. Duval describe what is being proposed with respect to the Tower. Mr. Duval provided plans of the Tower Elevation & Detail, Sheet No C2, marked up in different colors to illustrate the proposed work.

The proposed work includes construction of a 44' lattice extension to the tower to support proposed antennas. However, the overall height of the tower will be four and a half feet shorter than currently.

The current tower is a lattice style tower which consists of a series of squares with cross member supports. The existing tower extends to 1192 feet in height. Above the tower sits two fiber glass cylindrical broadcast antenna measuring over 100 feet. The current structure is 1296' in height. The current 100-foot antenna is being removed.

Once removed, a 44' lattice tower extension will be added to the existing tower, making the proposed tower 1236' tall. Two new broadcast antennas will be mounted on the extended lattice tower. The total height of the proposed tower and antenna will be 1291', four and half feet shorter than the existing tower and antenna.

The reasons for the proposed lattice extension are:

1. to maintain the center line of the new broadcast antennas at the same height of 1264' in height; and
2. to support two new side mounted broadcast antennas to be installed on the new lattice tower.

An Engineering Analysis Report, prepared by Hodge Structural Engineers, was prepared to analyze the loading capacity of the existing and proposed structure.

Mr. Schneider said that the ultimate concern for the Board was the safety and structural integrity of the tower. Mr. Duval highlighted page 13 of the Engineering Report which concluded that for the tower to meet the strength requirements it needs 1) guyed wires to be re-tensioned; and 2) bolts in specific sections of the tower to be replaced.

Victor Rodriguez, Senior Broadcast Manager, offered to provide a compliance letter once the project is done from a structural engineer verifying the work has been completed as specified.

Mr. Friedenbergl asked how often the tower foundation was inspected. Mr. Rodriguez responded that concrete does not deteriorate and continues to cure for 100 years after it is poured. The foundation is checked visually. According to Mr. Rodriguez, if there is no visual damage to the foundation, it is considered suitable.

Mr. Friedenbergl asked how the antenna was going to be removed. Mr. Rodriguez said that the antenna would be removed using conventional methods because there is no helicopter strong enough to lift the antenna. A *Chicago Boom* would be strapped to the tower, loads will be calculated by an on-site engineer and the antenna will be removed using pullies and cables. The bolts will be removed and replaced one at a time.

The applicant had been in consultation with the Building Commissioner regarding the details of the project and addressing any of his concerns.

Mr. Rodriguez noted that the two side antennas are currently located on the tower and they will be relocated to the higher elevation. In addition, a new dish will be installed on the tower at 400 feet.

Mr. Rodriguez said that the work is being done because 1) federal regulations mandate it; and 2) the improvement will benefit broadcasters and cellular carriers so as to provide better service.

Four major local broadcasters will be operating from this antenna which will allow them to stay ahead of technology: WGBX, WBC, WCVB, and WCCB.

Mr. Tamkin asked if the current tower complied. Mr. Rodriguez said that federal regulations required that they inspect their antennas and tower structures every three years. Any defect found during inspections must be addressed immediately. The modification proposed are to address the proposed load stress due to the changes.

In addition, Mr. Rodriguez stated that the guyed wires and towers are inspected for structural integrity prior to anyone climbing the structure before any work is done.

There were no comments from the public.

Comments received:

- The Fire Department had no concerns.
- The Health Department requested compliance to federal, state and local health and safety regulations.
- The Police Department has no issues.
- The Building Commissioner requested a post construction engineering report certifying the safety of the tower.
- The Planning Board made no comment.
- The Engineering Department no comment.

Mr. Friendenberg asked if a FAA No Hazard filing was needed. Mr. Rodriguez replied that

one would be needed for the work being performed during construction. It will stay open until the new lights are placed at the top of the new antenna.

Mr. Friedenbergr asked about the photo simulations of the antenna/tower required in the By-Law as part of the application. Mr. Duval said they did not provide any. The Board generally agreed it was not necessary because of the location of the antenna.

Mr. Friedenbergr wondered if an RF Affidavit would be required for the electromagnetic field generated with the change in equipment. Mr. Schneider noted that an affidavit was required in the past when there was a public concern. No concerns were raised from the public about the project. Mr. Duval indicated that the carriers and broadcasters are required to meet federal guidelines regarding emissions. Mr. Rodriguez added that the broadcast waves are high and diffused over long distance in contrast to cellular tower ones, which are in close proximity to populations.

Concerns about worker safety was raised. Mr. Rodriguez responded that OSHA protocols are specific as to a workers' time and proximity to an antenna while working on a project. The applicant must abide by those guidelines.

Mr. Goldman moved to grant the applicant a Special Permit to allow the installation of a 44' lattice tower extension along with the removal, installation and replacement of antennas and associated cabling on an existing guyed tower at 350 Cedar Street on the condition that that a certification report by an engineer regarding the work performed be submitted within 90 days of completion of the project to the Board and Building Department. Mr. Tamkin seconded the motion. The motion was unanimously approved.

The meeting adjourned at 8:35 p.m.

Findings:

On the basis of the evidence presented at the hearing, the Board makes the following findings:

1. The subject location is owned by ATC Watertown LLC, a subsidiary of American Tower Corporation and located in the Single Residence B District. The site is improved with an 1192-foot tower and a variety of broadcast antennas and mobile communication facilities.
2. The applicant proposes to remove the 104-foot monopole antenna which is on top of the lattice tower at 1192 feet. The applicant then proposes to extend the lattice tower by 44 feet and place a new 55 ft. monopole antenna on top of the new lattice. The result will be that the overall height of the tower will be reduced from 1296 feet to 1291feet.
3. The applicant also proposes to install two side mount antennas on the new lattice at 1215 feet and a variety of transmission lines and related equipment.
4. The applicant has submitted an Engineering Analysis Report dated October 26, 2019 prepared by W. Gray Hodge, a Registered Professional Engineer and Tower Structure

Specialist, certifying as to the structural integrity of the tower after the proposed modifications provided that certain modifications are made, namely an adjustment of the guy wires and replacement of certain bolts.

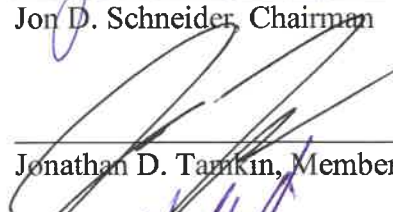
5. The applicant has submitted a certificate dated September 25, 2018 confirming that the tower is registered with the FCC.
6. The proposed installation is consistent with the policies set forth in Section 6.7.1 of the Zoning By-Law including maximizing the use of existing towers and is also consistent with the policies in Section 6.7.5 of the Zoning Bylaw.
7. To the extent the proposed modifications are considered a reconstruction or replacement of an existing tower under Section 6.7.10, the modified tower will not be substantially more detrimental to the neighborhood and/or the Town than the existing tower and will create public benefit by providing improve service.
8. The proposed installation is consistent with the general purposes of the Zoning By-Law, is designed in a manner compatible with the existing natural features and does not have a demonstrable adverse impact on the surrounding area.

Decision:

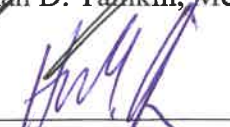
On the basis of the foregoing findings, following due and open deliberation, upon motion duly made and seconded, the Board by unanimous vote grants the applicant a Special Permit under Section 6.7.3(f) and 6.7.10 of the Zoning By-Law to reconstruct the tower at 350 Cedar Street and to install a new communications equipment substantially in accordance with the plans presented at the hearing, subject to the conditions that (a) within 90 days of completion of construction the applicant shall submit to the Building Commissioner a certification from a Registered Professional Engineer that the tower has been modified and the guy wires set in accordance with the Engineering Analysis Report submitted with the application and that the tower as modified meets industry standards for safety, and (b) a certification from a radio frequency engineer that the radio frequencies coming for the tower are in compliance with FCC regulations. The issuance of a building permit shall be subject to a review by the Design Review Board as provided in Section 6.7.6 of the Zoning By-Law.



Jon D. Schneider, Chairman



Jonathan D. Tankin, Member



Howard S. Goldman, Member