

DOCKET NO. 478 - Eco-Site, Inc. and T-Mobile Northeast, LLC } Connecticut
application for a Certificate of Environmental Compatibility and }
Public Need for the construction, maintenance, and operation of a } Siting
telecommunications facility located at 63 Woodland Street, }
Glastonbury, Connecticut. } Council

March 29, 2018

Opinion

On September 18, 2017, Eco-Site, Inc. and T-Mobile Northeast, LLC (collectively the Applicant) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance, and operation a 150-foot wireless telecommunications facility located at 63 Woodland Street in Glastonbury, Connecticut. The purpose of the proposed facility is to provide wireless service to the south-central section of Glastonbury.

The proposed site is located on an approximate 177.1-acre parcel that contains two residences, crop fields, a Christmas tree farm, wooded areas and a gravel pit. The parcel is located on the west side of Woodland Street and is surrounded by residential and agricultural uses, and dedicated open space.

The United States Congress recognized a nationwide need for high quality wireless services through the adoption of the Federal Telecommunications Act of 1996 and directed the Federal Communications Commission (FCC) to establish a market structure for system development and develop technical standards for network operations. The FCC preempts state or local regulation on matters that are exclusively within the jurisdiction and authority of the FCC, including, but not limited to, network operations and radio frequency emissions. Preservation of state or local authority extends only to placement, construction and modifications of telecommunications facilities based on matters not directly regulated by the FCC, such as environmental impacts. The Council's statutory charge is to balance the need for development of proposed wireless telecommunications facilities with the need to protect the environment.

Eco-Site, Inc., (EcoSite) develops/builds/owns and leases telecommunications towers in the U.S. EcoSite would construct, maintain and own the proposed facility and would be the Certificate Holder. T-Mobile Northeast, LLC (T-Mobile) is licensed by the FCC to provide personal wireless communication service to Hartford County, Connecticut, where the site is located.

T-Mobile is currently located on seven existing telecommunications facilities within a four-mile radius of the proposed site. None of these sites provide adequate service to the area. T-Mobile would deploy 700 MHz, 1900 MHz, 2100 MHz wireless service at the proposed facility, capable of providing Long Term Evolution (LTE) quality service. Most of T-Mobile's voice and data traffic would be handled by the 1900 MHz and 2100 MHz frequencies since T-Mobile is limited to 5 MHz of spectrum in the 700 MHz frequency band. Propagation modeling indicates the proposed site would provide approximately 1.8 square miles of residential in-building coverage at both the 1900 MHz and 2100 MHz service frequencies.

The Applicant established an initial search ring that focused on a largely residential area centered on Hopewell Road in South Glastonbury. This initial search ring was based on T-Mobile's desire to locate a facility within this dense residential area, but due to local topography, lack of existing suitable structures, and small lot sizes within the initial search area, the Applicant expanded the site search area farther from the dense residential district to include larger parcels and higher terrain that could serve a majority of T-Mobile's target service area. Although the proposed site is not in T-Mobile's most desired location where service can be maximized, coverage modeling indicates the proposed site would meet a majority of T-Mobile's coverage objectives to the area, and would include a service area with 600 residents, numerous area roads and a Town-owned

park/swimming pool on Hopewell Road. The proposed site would also serve as a base site to further design future wireless facilities to expand T-Mobile's service into the larger surrounding area.

As an alternative to the tower, providing wireless service using a distributed antenna system, repeater, microcell or other similar types of technology is not practical or feasible given the large area of coverage needed. A macrosite tower furthers the Council's charge of promoting tower sharing to avoid the unnecessary proliferation of towers in the state as it would be designed to support the co-location of three additional telecommunication carriers and local and regional emergency service antennas. The Town of Glastonbury, a party in this proceeding, expressed interest in locating emergency service antennas on the tower. EcoSite would continue to consult with the Town to determine the Town's emergency communication needs and accommodate their tower space requirements.

The proposed facility consists of a 150-foot tower and an associated 50-foot by 50-foot compound area. T-Mobile would install 9 panel antennas, 9 remote radio units, and one 2-foot diameter dish antenna on a low-profile rigid T-arm mount at a centerline height of 146 feet above ground level. The Town's preliminary list of tower equipment includes three whip antennas and one dish antenna but the exact tower heights needed for this equipment is not known at this time. Both T-Mobile and the Town would install equipment shelters within the compound.

The proposed tower site is located in the heavily wooded, southwest portion of the property. The site is remote, with the nearest property line and residence being 290 feet and 1,140 feet to the southwest, respectively. Access to the site would follow an existing dirt road that extends from Woodland Street through the property for a distance of 3,750 feet. From this point, a new access drive would extend south from the existing dirt road and proceed uphill at a grade of ten percent to the tower site. The northern end of the new access drive would utilize retaining walls on both sides of the driveway to stabilize hillside slopes. The precast modular block retaining walls would extend up to six feet in height. Preliminary stormwater controls for the new section of access drive would consist of rip-rap lined swales that would discharge as sheet flow across the existing dirt road.

Underground utilities would be installed to the compound from an existing utility pole on Woodland Street. The utilities would be installed along the edge of the existing dirt road except in locations where a culvert watercourse crossing exists, requiring the utility line to be routed within the dirt road travel surface to avoid impacts to watercourses that cross under the road. The underground utilities would then extend to the tower site following the route of a drainage swale along the new portion of access drive. EcoSite would examine the feasibility of moving the underground utility line out of the swale to allow for easier access to the line if emergency repairs are necessary.

In the event an outage of commercial power occurs, T-Mobile will rely on a power battery unit and a propane fueled Auxiliary Power Unit for emergency power. The generator will have an estimated 80 hours of run time at average load conditions before refueling is required. The Town may install its own emergency power generator at the site.

Development of the new access drive and compound area would require the clearing of approximately 1.26 acres of a mixed evergreen and deciduous forest dominated by oaks, beech, hickory, eastern hemlock and black birch. The tower site and new portion of access drive are not in areas mapped by the Natural Resources Conservation Service as containing prime agricultural soils.

There are no wetlands or watercourses within the construction limits of the new access drive and compound. The proposed project would be constructed in compliance with the *2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control*.

No records of species listed on the Department of Energy and Environmental Protection's Natural Diversity Database occur in the area. The proposed facility is not located near a National Audubon Society designated Important Bird Area and the design of the proposed facility would comply with United States Fish and Wildlife Service guidelines for minimizing the potential impact of telecommunications towers to bird species.

The State Historic Preservation Office (SHPO) determined the project would have no adverse effect on properties listed on or eligible for the National Register of Historic Places. In its determination letter to the Applicant, SHPO recommends that the facility be constructed to be as non-visible as possible.

The proposed tower would be visible year-round from approximately 317 acres within a two-mile radius of the site with most of this visibility occurring from agricultural fields and orchards a half mile south/southwest of the site. When viewed from this area, the tower would be visible due to the lack of intervening vegetation and would extend above the ridgeline backdrop. Some residential development is located within this area, mostly along Matson Hill Road. Seven residences are projected to have year-round visibility of the tower within a half mile of the site. The visibility analysis indicates the surrounding area to the east, west and north is hilly and has a developed tree canopy, limiting views of the tower to localized openings in the tree canopy.

The upper portion of the tower would be visible from the Town's Slocomb Mill preserve located along the east side of Matson Hill Road. The preserve, approximately 0.3-mile northwest of the proposed tower, contains a parking lot and the ruins of the Slocomb Mill. As one moves further east through the open area and closer to the treeline within the preserve, tower visibility is reduced. The proposed tower would not be visible from any State-designated scenic roads or any "blue blazed" hiking trails maintained by the Connecticut Forest and Park Association.

As for the final design of the 150-foot tower, the Council is sensitive to the Town's concerns regarding visibility impacts to the surrounding community as well as to the recently developed Slocomb Mill preserve. Although the Council acknowledges the Town prefers a monopine design at the site, the monopine may appear out of scale with its surroundings in certain locations, especially from a portion of Matson Hill Road near the Slocomb Mill preserve and from open field areas on Matson Hill Road south of the site. When viewed from these areas, the monopine would extend significantly above the existing tree canopy and would have a wider profile than a typical monopole design, tending to draw a viewer's attention to it. However, the monopine would more readily blend in with its surroundings when viewed from other locations, especially for leaf-off views through sparse vegetation or from high elevation areas where the monopole appears to extend slightly above the surrounding tree canopy and distant ridgelines. Furthermore, a monopine would cost an additional \$70,000 more than a standard monopole to account for a larger foundation and faux branches, and may require additional maintenance and antenna co-location costs.

Other stealth options examined for this proposed facility included a firetower design and a flagpole type tower with flush mount antennas but these designs are not practical due to necessary tower heights to achieve coverage, visual profile concerns, antenna deployment issues, limited tower sharing ability and overall cost.

After reviewing the visibility analysis, the Council will order either a monopine or a monopole tower at the site contingent upon further consultation between the Town and the Applicant regarding the Town's tower space requirements for emergency communication equipment prior to submission of the Development and Management (D&M) Plan for the project. The location of such equipment may be detrimental to a monopine design, and if it is determined during the consultation process that the faux monopine branches cannot adequately camouflage the Town's communication equipment, thus reducing the effectiveness of the monopine in concealing antennas and other tower mounted equipment, a standard monopole with platform-mounted antennas can be constructed at the site, and submitted as part of the D&M Plan

According to a methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997), the radio frequency power density levels of T-Mobile's antennas would be 1.2 percent of the FCC's General Public/Uncontrolled Maximum Permissible Exposure, as measured at the base of the tower. This is conservatively based on all antennas of a given sector pointing down to the ground and emitting maximum power. This percentage is well below federal standards established for the frequencies used by wireless companies. If federal standards change, the Council will require that the facility be brought into compliance with such standards. The Council will require that the power densities be recalculated in the event other carriers or the Town add antennas to the tower. The Telecommunications Act of 1996 prohibits any state or local agency from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. Regarding potential harm to wildlife from radio emission; this, like the matter of potential hazard to human health, is a matter of federal jurisdiction. The Council's role is to ensure that the tower meets federal permissible exposure limits.

Based on the record in this proceeding, the Council finds that the effects associated with the construction, operation, and maintenance of a 150-foot telecommunications facility at the proposed site, including effects on the natural environment, ecological balance, public health and safety, scenic, historic, and recreational values, agriculture, forests and parks, air and water purity, and fish, aquaculture and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with policies of the State concerning such effects, and are not sufficient reason to deny this application. Therefore, the Council will issue a Certificate to Eco-Site, Inc. for the construction, maintenance, and operation of a 150-foot telecommunications facility located at 63 Woodland Street, Glastonbury, Connecticut.