

**DOCKET NO. 448** – Cellco Partnership d/b/a Verizon Wireless } Connecticut  
application for a Certificate of Environmental Compatibility and Public }  
Need for the construction, maintenance, and operation of a } Siting  
telecommunications facility located at Orange Tax Assessor Map 77, } Council  
Block 3, Lot 1, 831 Derby Milford Road, Orange, Connecticut. }

January 8, 2015

### Opinion

On May 13, 2014, Cellco Partnership d/b/a Verizon Wireless (Cellco) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a wireless telecommunications facility to be located on a property identified as 831 Derby Milford Road in Orange, Connecticut. The intervenors in this proceeding are Albert Subbloie, Jacqueline Barbara, Glenn MacInnes, Jill MacInnes, Gayle Slossberg, Senator 14<sup>th</sup> District, James Maroney, State Representative 119<sup>th</sup> District, Themis Klarides, State Representative 114<sup>th</sup> District, and Paul Davis, State Representative 117<sup>th</sup> District, grouped as intervenors with the same interests in accordance with C.G.S. § 16-50n(c), and herein after referred to collectively as the Intervenors.

Cellco's objective for this facility is to provide wireless telecommunications services to the west-central portion of Orange, eastern Shelton and southeast Derby. The proposed 100-foot monopole facility is designed to provide capacity relief for six Cellco facilities adjacent to the proposed site and to cover existing wireless service gaps in this area.

An exponential increase in the use of data services by wireless customers is causing capacity issues surrounding the proposed site, as well as nationwide. In particular, considering Cellco's six adjacent facilities, four of their service sectors are nearing capacity limits on the 700 MHz system, which is Cellco's main network supporting wireless data services. To help alleviate capacity demands, Cellco has deployed 2100 MHz equipment and is offloading some of the data usage from the 700 MHz system. Cellco's information indicates that even with this deployment, however, the four sectors at issue would reach exhaustion by June 2016, compromising network reliability. Cellco's proposed site would offload further wireless data traffic from these four sectors, as well as four additional sectors, thus providing significant capacity relief.

The Intervenors argued the proposed site cannot provide the relief claimed. Their expert presented his own server mapping to show that the proposed site would not offload significant capacity from all of the eight sectors Cellco identified. While Cellco found the Intervenors' mapping was generally consistent with theirs, they countered that an in-house analysis of the network showed signal strength from several existing sectors nearby extending into the proposed service area more robustly than the Intervenors' models indicated; thus, they stated, their claim of significant capacity relief is justified.

Cellco also stated it has identified wireless service gaps totaling 1.2 square miles at 700 MHz and 2.0 square miles at 2100 MHz within its proposed service area. The service-deficient areas include portions of Route 34, Route 110, and Route 12. Overall, the proposed 100-foot facility would provide 700 MHz service to a 12.7

The proposed tower site is in the central portion of a 34.6-acre parcel that is partially used for agriculture. The property contains active hayfields, farm buildings, woodlands, wetlands and old field areas. The proposed tower site is located in an old field area, approximately 460 feet from Derby Milford Road. Access to the

tower site would be from a new gravel driveway extending northeast from Derby Milford Road through an active hayfield before reaching the site.

Cellco would lease a 100-foot by 100-foot parcel, within which it would install a 50-foot by 50-foot gravel compound. The compound would include the tower designed to support four levels of antennas, a 12-foot by 30-foot shelter for Cellco's ground equipment and emergency power generator. Antennas would be installed on a low-profile antenna platform to provide 700 MHz and 2100 MHz services. Cellco intends to install 850 MHz and 1900 MHz antennas on the platform at a later date. The tower and foundation would be designed to accommodate a 20-foot tower extension if another carrier demonstrates a need for a height beyond 100 feet.

The emergency generator would use diesel fuel and could run for four days under normal operating conditions before refueling. To prevent any leaks to the environment, the generator and its fuel tank would be housed inside a room in the equipment shelter; also, the tank would be double-walled. For tertiary protection, the floor of the room would be designed as a basin to contain the full capacity of the tank.

The proposed site is located at the interface of a wetland/old field area, offering a diversity of habitat for wildlife. The proposed compound is approximately 108 feet from a forested wetland that extends to the west and north ends of the parcel. South of the proposed site is a narrow ridge, and below the crest at a moderate grade, an active hayfield. Vernal pools that support wood frogs were identified in the forested wetland. The old field area provides suitable habitat for the Eastern Box Turtle, a State Species of Special Concern. Although no turtles were identified on site, Cellco would incorporate an Eastern Box Turtle Protection Program as part of site construction practices. Approximately five trees would be removed to develop the site and provisions would be made to protect two large-diameter trees adjacent to the access drive.

The area around the site is characterized by wooded, rolling terrain, limiting year-round visibility of the site to areas proximate to the host property, generally adjacent to open fields, and a few areas lower in elevation than the site across the Housatonic River in Shelton. Given the relatively short height of the tower and the mature tree canopy in the surrounding area, the tower will mostly be seen through vegetation rather than above the tree canopy.

Although there is an open view of the facility along the Derby Milford Road adjacent to the site, the small ridge southeast of the compound would shield views of the compound and lower section of tower from the road. Leaf-off views of the facility within a half-mile of the site would mainly occur from residential areas to the south and along Rainbow Trail to the north. Although there is a forest buffer between the site and Rainbow Trail, a small intervening valley decreases the buffering effect to the extent that several houses along Rainbow Trail would have leaf-off views. The residence at 905 Rainbow Trail (MacInnes residence) may have limited year-round views of a portion of the tower through the trees. Cellco would plant evergreens on the northwest side of the compound area to provide screening of the compound and lower portion of the tower from an adjacent cemetery. The Council considered a tree tower in this location, but concluded that although a tree tower would mitigate views through the trees, it would appear out of place from areas with year-round views and would be more visually prominent if it were extended by 20 feet. To help the tower blend in with its surroundings, the Council will examine a two-tone as well as a brown color scheme as part of the Development and Management Plan for this project.

During the proceeding, several locations were mentioned as alternatives to the proposed site, including preserved open space, a cemetery, a small parcel near the host property, and different locations on the host property. None of the off-parcel locations were determined to be viable. As for the host property, the property owner was not amenable to relocating the tower near existing buildings on the property or in other areas that could impede agricultural operations. The property owner did agree to an alternate location approximately 90 feet to the south of the proposed site. This alternate location would increase the buffer to the nearby forested wetland from approximately 100 feet to 218 feet. It would also be more protective of the old field habitat than the proposed site. Visual impacts of the alternate site are comparable to the proposed site because the tower height would remain at 100 feet and the ground elevation is a few feet lower. The tower would appear more prominent when viewed from Derby Milford Road across the hayfield, but when viewed from other areas, the visibility would be similar. Based on a review of the environmental conditions and visibility of the tower, the Council finds the alternate site preferable to the original proposed site.

According to a methodology prescribed by the Federal Communications Commission (FCC) Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997), the combined worst-case radio frequency power density levels of Cellco's antennas proposed for the facility, assuming LTE, AWS, PCS and cellular equipment, have been calculated to amount to 37.8 percent of the FCC's General Public/Uncontrolled Maximum Permissible Exposure, as measured at the base of the tower. 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 tower be brought into compliance with such standards. The Council will require that the power densities be recalculated in the event other carriers 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 frequency emissions: 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.

The Council first notes the evidence shows that there is no substantial adverse environmental effect from the proposed facility. Secondly, in determining the public need for a facility, the Council notes that 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. Notwithstanding this pre-emption, and on the basis of extensive experience with the rapid increase in public demand for wireless services and the evidence in this record, the Council finds that the proposed site would provide necessary capacity relief in Cellco's network and would provide coverage to identified service-deficient areas.

Based on the record in this proceeding, the Council finds that the effects associated with the construction, maintenance and operation of the proposed telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish 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 for the construction, maintenance, and operation of a 100-foot monopole telecommunications facility at the Alternate Site at 831 Derby Milford Road in Orange, Connecticut.