

**STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL**

RE: APPLICATION BY NEW CINGULAR  
WIRELESS PCS, LLC (AT&T) FOR A  
CERTIFICATE OF ENVIRONMENTAL  
COMPATIBILITY AND PUBLIC NEED  
FOR A TELECOMMUNICATIONS FACILITY  
AT 224 LOVELY STREET IN THE TOWN OF  
AVON, CONNECTICUT

Docket 373A

Date: June 21, 2010

**PRE-FILED TESTIMONY OF MICHAEL P. LIBERTINE**

**Q1. Please state your name and profession.**

A1. Michael P. Libertine. I am the Director of Environmental Services in the Middletown, Connecticut office of Vanasse Hangen Brustlin, Inc. ("VHB"). My responsibilities at VHB include managing and overseeing the environmental science and engineering projects, including telecommunications projects, undertaken by VHB.

**Q2. Please summarize your professional background in telecommunications.**

A2. My background includes nineteen years of consulting in the environmental field. The scope of my consulting services in the telecommunications field includes visual resource analyses, environmental assessments for NEPA compliance, site screenings, land use evaluations, wetland assessments, vegetative surveys and noise analyses. I have assisted in the permitting of over 500 telecommunications projects in New England and New York over the past twelve years.

**Q3. What services did VHB provide AT&T regarding the proposed Facility?**

A3. AT&T retained VHB to perform a Comparative Visibility Analysis of two potential site locations for a proposed 110-foot tall wireless telecommunications facility (the "Facility"; a brown monopole with flush-mounted antennas) at 224 Lovely Street in

Avon, Connecticut (the "Site"). Presently, a location has been approved by the Siting Council and a northerly alternative has been proposed for further consideration. The purpose of the analysis was to determine the visibility of the approved and alternate locations from abutting properties. I oversaw the activities associated with this analysis.

**Q4. Please describe the process for conducting the Comparative Visibility Analysis.**

A4. The analysis was completed using a predictive computer model of the Site vicinity and supplemented by in-field analysis. The predictive computer model allowed for an assessment to be made of potential visibility from locations on neighboring private properties that were inaccessible for field verification. The in-field analysis consisted of a dual "balloon float" and drive-by reconnaissance of the immediate Site vicinity (the "Study Area" in this instance was an approximate 0.25 mile around the Site). This in-field investigation allowed VHB to assess the general visibility of the two candidate locations from the local road system.

**Q5. Please describe how VHB prepared the comparative visibility analysis.**

A5. VHB used a combination of computer modeling tools to develop a three-dimensional model of the Study Area to calculate areas where one or both of the monopoles could be visible. The specific programs incorporated into the analysis included: ArcGIS Spatial and 3D Analyst extensions, computer modeling tools developed by the Environmental Systems Research Institute, Inc. (ESRI), and 3D rendering using Google SketchUp 7.0. The model takes into account key data such as the locations and heights of the Facility, ground elevation, surrounding topography, and existing vegetation and structures. The following data sources were used in the analysis:

- Approved and alternate tower locations were modeled and spatially referenced in accordance with site plans provided by Hudson Design Group, LLC.
- a digital elevation model, derived from Connecticut LiDAR-based digital elevation data produced by the University of Connecticut Center for Land Use Education and Research, to develop a three dimensional topographic layer of the Study Area, incorporating two-foot contours.
- Town of Avon digital parcel data, obtained from CTDEP's online GIS data.
- Aerial photography (including 2006 and 2008 Pictometry Aerial Imagery, Google Earth Aerial Imagery, and Bing Maps Aerial Imagery) to create areas with tree canopy and existing residences.
- Field-verified survey data of existing vegetation on host property

VHB constructed the forest canopy layer by digitally locating individual tree specimens within the Study Area from 2006 and 2008 aerial photographs, and field surveying select specimens at the Site, to develop a graphic representation of the intervening vegetation. An average height value was assigned to the tree canopies: 65 feet for all trees west of Roaring Brook; 65 feet for those deciduous trees east of the Brook; and 30 feet for conifers located between the Brook and Cold Spring Road. Residences in the Study Area were assigned a height value of 25 feet. Once the data are entered and rectified, views of the Facility locations were evaluated from several locations on each of the abutting properties to determine if lines of sight could be achieved above or through the intervening vegetation.

**Q6. Please describe how VHB conducted the balloon float.**

A6. On June 21, 2010, VHB raised and maintained two four-foot diameter helium-filled weather balloons at the two locations of the proposed Facility at heights of 110 feet to conduct the in-field analysis. After stabilizing the balloons, VHB drove the local public roads within the Study Area to inventory areas where the balloon could be seen above and/or through the tree canopy. In conducting the drive-by reconnaissance, VHB focused its evaluation on nearby residential areas with a particular emphasis on

assessing potential views from where residential driveways and lawn/landscaped areas about the road. The receptor locations evaluated included abutting properties along Lovely Street, Greenwood Drive, and Cold Spring Road.

**Q7. Please describe and compare the estimated visibility of the Facility locations under consideration.**

A7. The table below provides a summary of anticipated visibility from the surrounding properties.

Abutter's Table

Property Address	Year-Round Visibility	Seasonal Views (leaf off)	Comments
204 Lovely Street		√	Seasonal views through deciduous under- and over-story
214 Lovely Street		√	Seasonal views through deciduous under- and over-story
240 Lovely Street	√		Views limited to upper portion of Facility from select locations along northern property boundary through gaps in conifers.
9 Greenwood Drive	√		Views limited to upper portion of Facility from select locations along northern property boundary through conifers located on Site.
15 Greenwood Drive	√		Views limited to upper portion of Facility from select locations along northern property boundary through conifers located on Site.
21 Greenwood Drive	√		Lower portion of Facility visible year-round; majority of Facility would be seen seasonally.
138 Cold Spring Road	√		Minimal views above tree canopy from select locations.
144 Cold Spring Road	√		Partial views above and through trees from select locations.
150 Cold Spring Road	√		Partial views above and through trees from select locations.
156 Cold Spring Road		√	Minimal views through trees.

In general, the majority of year-round views would be limited to the upper portions of the Facility, and therefore could be characterized as minimal. The exception would be 21 Greenwood Drive, where deciduous trees would block upper portions of the Facility during "leaf-on" conditions; seasonally, when the leaves are off the trees, all but the

lower 30 feet of the Facility would become more visible (particularly if developed in the currently approved location). There are no similarly unobstructed sight lines from any of the other neighboring properties. The approved location is closer in proximity to Greenwood Drive and the residences located along the south side of that road. The proposed alternate location to the north does provide for additional buffer from those vantage points and allows for the intervening vegetation to create more of a screen throughout the year.

Locations to the east along Cold Spring Road are not significantly impacted one way or another with the Facility shifting slightly northward. Views of a Facility at either location would be obscured greatly by the intervening trees, which are a mix of shorter conifers (30± feet in height) and taller, mixed deciduous specimens (60+ feet). Similarly, views from the northerly abutting properties are not dramatically different when evaluating the two locations, as views would be primarily limited to times of the year when "leaf-off" conditions exist.

Overall, a Facility placed in the northern alternative location appears to provide the best balance of distance from nearby homes and reduction in visibility, as this location is adjacent to a steep embankment (to the west) and tucked into the existing tree line along the east side of the property.

**Q8. Please describe any features that would reduce potential visual impact of the proposed Facility.**

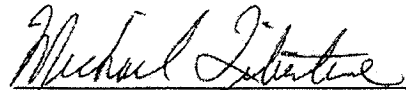
A8. The generally rolling topography and forested nature of the site vicinity help to reduce the potential visual impacts of the proposed Facility. The existing vegetation in the Study Area consists of mixed deciduous hardwood and coniferous species with an average estimated height of sixty feet. The exceptions are those conifers planted in the

side and back yards of residences located along Cold Spring Road, east of the Site; these trees are in the thirty foot range.

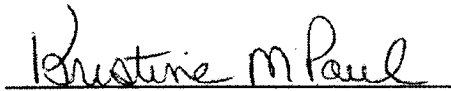
The majority of views would be seasonal in nature (during “leaf-off” conditions) and confined to select locations on abutting properties. The visibility associated with a Facility at either location would be substantially limited because of the relatively low height of the tower, the intervening vegetation, and the tower’s placement at a lower ground elevation than that of the surrounding receptor locations.

**Q9. Would any alternate stealth designs further mitigate the views of the Facility?**

A9. The proposed Facility is a brown monopole with flush-mount antennas, which would serve to minimize the width of the structure and provide a softer texture, consistent with the surrounding landscape, especially when compared to a traditional stainless-steel monopole. Implementing a “monopine” design might go one step further, as it would naturally blend in with the existing tree cover both at the Site and in the vicinity. Numerous conifers are located on-Site and would provide a visually consistent backdrop to the Facility. Where visible, particularly through existing conifers from locations south and east, a monopine would likely be difficult to discern from most vantage points. The monopine design also provides the most flexibility for service providers, as it allows full, standard antenna arrays to be employed within the stealth design and it would maximize the amount of collocation opportunities at the Site.

  
Michael P. Libertine

Sworn and subscribed to before me this  
21<sup>st</sup> day of June, 2010.



*Notary Public*  
*My Commission expires*

**KRISTINE M. PAUL**  
**NOTARY PUBLIC**  
MY COMMISSION EXPIRES JAN. 31, 2014