Visual Assessment
\& Photo-Simulations
Prepared in May 2018 by:

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Prepared for Verizon Wireless

## Project Introduction

Cellco Partnership (d/b/a Verizon Wireless) is pursuing a Certificate of Environmental Compatibility and Public Need from the Connecticut Siting Council ("Council") for the development of a new wireless communications facility ("Facility") at 72 Ragged Hill Road in Pomfret Center, Connecticut ("Host Property"). At the request of Verizon Wireless, All-Points Technology Corporation, P.C. ("APT") prepared this Comparative Visibility Analysis to evaluate the potential visibility of the proposed Facility within a two-mile radius ("Study Area"). The Study Area includes parts of the neighboring municipalities of Woodstock and Eastford which are located in the north and western portions of the Study Area, respectively. APT evaluated three optional locations for the proposed Facility (identified as Site A, Site B, and Site C) on the Host Property. Descriptions of each of the optional Sites are presented in the following section.

## Site Description and Setting

The Host Property consists of an undeveloped, mostly wooded $\pm 627$-acre parcel located to the east of Ragged Hill and Swedetown Roads. Each of the three proposed optional Site locations are located on the western portion of the Host Property and would be accessed from an existing dirt logging road originating from Swedetown Road. Whichever location is ultimately selected, the proposed Facility would be comprised of a monopole tower, appurtenances and ground equipment located in a 50 -foot by 50 -foot gravel-base, 8 foot tall chain-link fence-enclosed compound.

Site A would be located at an approximate ground elevation of 820 feet above mean sea level ("AMSL"). A Facility at this location would require a 150 -foot tall monopole tower. The top of the monopole tower would rise to an approximate height of 970 ' AMSL. Access to Site A would extend eastward onto the Host Property from Swedetown Road and initially follow existing dirt road for approximately 140 feet. A new 12 -foot wide gravel access road would diverge southeastward for an additional $\pm 120$ feet to the proposed 100 -foot by 100 foot ground lease area. The nearest property boundary is located approximately 250 feet to the west. The nearest residence to Site A is located approximately 420 feet to the southwest at 50 Swedetown Road.

Site B would be located at an approximate ground elevation of 816 feet AMSL and would also require a 150foot tall monopole. The top of the monopole would extend to an approximate height of 966 feet AMSL. Access to Site B would follow the existing dirt road for approximately 625 feet. A new 12 -foot wide gravel spur would diverge eastward for $\pm 50$ feet to the proposed 80 -foot by 125 -foot ground lease area. The nearest property boundary is located approximately 530 feet to the west. The nearest residence to Site $B$ is located approximately 850 feet to the southwest at 50 Swedetown Road.

Site C would be located at an approximate ground elevation of 833 feet AMSL and require a 130 -foot tall monopole. The top of the monopole tower would rise to an approximate height of 963 feet AMSL. Access to Site C would follow a series of existing dirt roads for approximately 2,000 feet, where a new 12 -foot wide spur would diverge eastward for $\pm 20^{\prime}$ to the proposed 100 -foot by 100 -foot ground lease area. The nearest property boundary is located approximately 1,000 feet to the west. The nearest residence to Site C is located approximately 1,500 feet to the southwest at 36 Ragged Hill Road.

Land use within the immediate vicinity of the Host Property is a mix of residential development, agricultural land and large portions of undeveloped forest. Connecticut Scenic Route 244 is located approximately 0.75 mile to the south. The northernmost portion of the Natchaug Forest Trail is located $\pm 1.9$ miles to the south. Two recreational land use areas are located within the Study Area. One is an unnamed open space parcel located $\pm 0.4$ mile to the north of the Host Property and the other is the Natchaug State Forest located $\pm 1.5$ miles to the south. The topography is characterized generally by rolling to steep hills, with ground elevations ranging from approximately 414 feet AMSL to nearly 870 feet AMSL. The tree cover within the Study Area (consisting of mixed deciduous hardwoods with interspersed stands of conifers) occupies approximately 5,733 acres of the 8,042-acre study area ( $\pm 71 \%$ ).

## Balloon Float and Field Reconnaissance

An in-field analysis was employed to evaluate the visibility of a proposed Facility at each optional Site locations. The analyses included concurrent balloon floats and reconnaissance of the Study Area to record existing conditions, inventory visible and nonvisible locations, and provide photographic documentation from publicly accessible areas.

On March 23, 2018, APT personnel conducted balloon floats and field reconnaissance to evaluate the visibility associated with each of the optional Sites for the proposed Facility and to obtain existing conditions photographs for use in this report. The balloon floats consisted of raising approximately four-foot diameter, red helium-filled balloons tethered to string heights representative of the tower heights required for each of the Site locations. ${ }^{1}$ In addition to the red helium-filled balloons used at each Site, a second, distinctly colored "marker" balloon was attached to each of the strings. The marker balloons were inflated to approximately 2 feet in diameter and used to differentiate each Site during the reconnaissance. Red, yellow, and blue marker balloons were used for Sites A, B, and C; respectively. Weather conditions were favorable for the in-field activities, with calm winds (less than 5 miles per hour) and a mixture of sunny and overcast skies.

APT drove the public roads within the Study Area during the balloon floats and photo-documented conditions from several areas to represent where one or more of the balloons could be seen. In addition, numerous locations were also photographed to document where the balloons were not visible. At each photo location the geographic coordinates of the camera's position were logged using global positioning system ("GPS") technology. Photographs were taken with a Canon EOS 6D digital camera body and Canon EF 24 to 105 millimeter ("mm") zoom lens. APT typically uses a standard focal length of 50 mm , presenting a consistent field of view throughout the document. On occasion, photos are taken at lower focal lengths/greater depth of field in order to include existing contextual surroundings and/or more of the proposed facility within the photograph. During this evaluation, photos $1,11,13,20,21,24,28$, and 31 were taken at a 24 mm focal length.

## Photograph Locations

The table below summarizes characteristics of the photographs and simulations presented in the attachment to this report including a description of each location, view orientation, the distance from where the photo was taken relative to the optional Sites of the proposed Facility and the general characteristics of that view. The

[^0]photo locations were chosen in the field because they provided generally unobstructed view lines towards the optional Sites of the proposed Facility and collectively represent the extent and nature of visibility associated with the proposed Facility.

| Photograph Locations |  |  |  |  |  |  |  |  |
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| View | Location | Orientation | Distance to Sites |  |  | View Characteristics |  |  |
|  |  |  | A | B | C | A | B | C |
| 1 | East Hill Road ( 24 mm ) | Northeast | $\pm 1.35$ Miles | $\pm 1.42$ Miles | $\pm 1.43$ Miles | Not Visible | Not Visible | Not Visible |
| 2 | Boston Turnpike at East Hill Road | Northeast | $\pm 1.41$ Miles | $\pm 1.49$ Miles | $\pm 1.49$ Miles | Not Visible | Not Visible | Not Visible |
| 3 | Taft Pond Road at Brayman Hollow Road | North | $\pm 0.70$ Mile | $\pm 0.73$ Mile | $\pm 0.54$ Mile | Not Visible | Not Visible | Not Visible |
| 4 | Brayman Hollow Road | Northwest | $\pm 1.65$ Miles | $\pm 1.62$ Miles | $\pm 1.45$ Miles | Not Visible | Not Visible | Not Visible |
| 5 | Angel Road | Northwest | $\pm 1.86$ Miles | $\pm 1.81$ Miles | $\pm 1.66$ Miles | Not Visible | Not Visible | Not Visible |
| 6 | Angel Road | West | $\pm 1.70$ Miles | $\pm 1.65$ Miles | $\pm 1.52$ Miles | Not Visible | Not Visible | Not Visible |
| 7 | Angel Road | Southwest | $\pm 1.98$ Miles | $\pm 1.92$ Miles | $\pm 1.85$ Miles | Not Visible | Not Visible | Not Visible |
| 8 | Quarry Road | Southwest | $\pm 1.70$ Miles | $\pm 1.62$ Miles | $\pm 1.65$ Miles | Not Visible | Not Visible | Not Visible |
| 9 | New Sweden Road | Southwest | $\pm 2.00$ Miles | $\pm 1.92$ Miles | $\pm 2.01$ Miles | Not Visible | Not Visible | Not Visible |
| 10 | Hopkins Road at Perrin Road ( 24 mm ) | Southeast | $\pm 1.43$ Miles | $\pm 1.40$ Miles | $\pm 1.61$ Miles | Not Visible | Not Visible | Not Visible |
| 11 | Hopkins Road ( 24 mm ) | Southeast | $\pm 1.42$ Miles | $\pm 1.39$ Miles | $\pm 1.61$ Miles | Not Visible | Not Visible | Not Visible |
| 12 | Hopkins Road | Southeast | $\pm 1.43$ Miles | $\pm 1.41$ Miles | $\pm 1.63$ Miles | Year Round | Year Round | Year Round |
| 13 | Hopkins Road ( 24 mm ) | Southeast | $\pm 1.47$ Miles | $\pm 1.45$ Miles | $\pm 1.66$ Miles | Not Visible | Not Visible | Not Visible |
| 14 | Perrin Road | Southeast | $\pm 1.12$ Miles | $\pm 1.18$ Miles | $\pm 1.32$ Miles | Not Visible | Not Visible | Not Visible |
| 15 | Old Colony Road at Yetter Hill Road | East | $\pm 1.38$ Miles | $\pm 1.45$ Miles | $\pm 1.54$ Miles | Not Visible | Not Visible | Not Visible |
| 16 | Yetter Hill Road | East | $\pm 0.94$ Mile | $\pm 1.01$ Miles | $\pm 1.11$ Miles | Not Visible | Not Visible | Not Visible |
| 17 | Yetter Hill Road | East | $\pm 0.68$ Mile | $\pm 0.75$ Mile | $\pm 0.86$ Mile | Not Visible | Not Visible | Not Visible |
| 18 | Yetter Hill Road | East | $\pm 0.50$ Mile | $\pm 0.56$ Mile | $\pm 0.67$ Mile | Not Visible | Not Visible | Not Visible |
| 19 | Yetter Hill Road | East | $\pm 0.24$ Mile | $\pm 0.32$ Mile | $\pm 0.41$ Mile | Seasonal | Not Visible | Not Visible |
| 20 | Ragged Hill Road ( 24 mm ) | North | $\pm 0.43$ Mile | $\pm 0.47$ Mile | $\pm 0.30$ Mile | Not Visible | Not Visible | Not Visible |
| 21 | Ragged Hill Road ( 24 mm ) | North | $\pm 0.18$ Mile | $\pm 0.25$ Mile | $\pm 0.22$ Mile | Not Visible | Not Visible | Not Visible |
| 22 | Ragged Hill Road | Northeast | $\pm 0.13$ Mile | $\pm 0.22$ Mile | $\pm 0.24$ Mile | Seasonal | Not Visible | Not Visible |
| 23 | Swedetown Road | Northeast | $\pm 275$ Feet | $\pm 0.13$ Mile | $\pm 0.26$ Mile | Not Visible | Seasonal | Not Visible |
| 24 | Swedetown Road ( 24 mm ) | East | $\pm 268$ Feet | $\pm 0.13$ Mile | $\pm 0.26$ Mile | Seasonal | Not Visible | Not Visible |
| 25 | Swedetown Road | East | $\pm 0.10$ Mile | $\pm 0.11$ Mile | $\pm 0.31$ Mile | Not Visible | Seasonal | Not Visible |
| 26 | Swedetown Road | Southeast | $\pm 0.14$ Mile | $\pm 0.13$ Mile | $\pm 0.34$ Mile | Seasonal | Not Visible | Not Visible |
| 27 | Swedetown Road | Southeast | $\pm 0.26$ Mile | $\pm 0.21$ Mile | $\pm 0.42$ Mile | Not Visible | Not Visible | Not Visible |
| 28 | Swedetown Road (24mm) | Southeast | $\pm 0.47$ Mile | $\pm 0.44$ Mile | $\pm 0.66$ Mile | Not Visible | Not Visible | Not Visible |
| 29 | Quarry Road | Southwest | $\pm 0.69$ Mile | $\pm 0.61$ Mile | $\pm 0.76$ Mile | Not Visible | Not Visible | Not Visible |
| 30 | Quarry Road | South | $\pm 0.84$ Mile | $\pm 0.76$ Mile | $\pm 0.86$ Mile | Seasonal | Seasonal | Not Visible |
| 31 | Quarry Road (24mm) | South | $\pm 0.86$ Mile | $\pm 0.77$ Mile | $\pm 0.87$ Mile | Not Visible | Not Visible | Not Visible |

* Photographs taken using a 24mm Focal Length.


## Photographic Simulations

Photographic simulations were generated to portray scaled renderings of the proposed Facility from representative locations where one or more of the Sites would be visible. Using field data, site plan information and 3-dimension (3D) modeling software, spatially referenced models of the site area and Facility were generated and merged. The geographic coordinates obtained in the field for the photograph locations were incorporated into the model to produce virtual camera positions within the spatial 3D model. Photo simulations were then created using a combination of renderings generated in the 3D model and photorendering software programs. For presentation purposes in this report, the photographs were produced in an approximate 7 -inch by 10.5 -inch format.

Photo-documentation of the balloon float activities and photo-simulations of the optional Site Facilities are presented in the attachment at the end of this report. The balloon float photos provide visual reference points for the approximate heights and locations of the proposed Facility at each option Site location relative to the scene. The photo-simulations are intended to provide the reader with a general understanding of the different views that might be achieved of the Facility. The publicly-accessible locations were chosen to present unobstructed view lines (wherever possible) towards the proposed Facility. They are static in nature and may not characterize prevailing views from all locations within a given area. In some cases, a view of the Facility may be limited to the immediate area of the specific photo location presented herein. The simulations provide a representation of the Facility under similar settings as those encountered during the balloon floats and reconnaissance. Views of the Facility can change throughout the seasons and the time of day, and are dependent on weather and other atmospheric conditions (e.g., haze, fog, clouds); the location, angle and intensity of the sun; and the specific viewer location.

## Visibility Analysis Results

Based on the field reconnaissance, the three optional Sites (A, B, and C) were only all visible from the area of Hopkins Road, at a distance of approximately 1.5 miles northwest of the Host Property. In fact, this area is the only location from which Site C was observed during the reconnaissance. A second area, located on Quarry Road, approximately 0.8 mile to the north, yielded seasonal views of Sites A and B. The combination of undulating topography and dense woodlands appear to limit any near-range views (within a $1 / 4$-mile) to Sites A and B) through the deciduous trees from select locations on Yetter Hill Road, Ragged Hill Road, and Swedetown Road.

## Proximity to Schools And Commercial Child Day Care Centers

No schools or commercial child day care centers are located within 250 feet of the Host Property or within the 2-mile Study Area. The nearest commercial child day care center, Children at Rectory, is located approximately 5.2 miles to the east at 528 Pomfret Street in Pomfret. The nearest school, Eastford Elementary School, is located approximately 3.2 miles to the west at 12 Westford Road in Eastford.

## ATTACHMENTS





























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[^0]:    ${ }^{1}$ String lengths for Sites $A$ and $B$ were measured to 150 feet. The string length for Site $C$ was measured to 130 feet. Note the bottom of the balloon at each Site location represents the top of the proposed tower.

