

Drew Patterson
Project Manager
Network Building and Consulting, LLC
4435 Waterfront Drive, Suite 100
Glen Allen, VA 23060

January 22, 2018

Lucy Stoll
City Planner
Hampton Community Development
22 Lincoln Street
3rd and 5th Floors
Hampton, VA 23669

RE: Height justification - new tower at 1821 Cemetery Lane

Dear Ms. Stoll,

In the early days of personal wireless communications, the number and location of antenna sites was driven by voice communications along highways and major thoroughfares. At the time, towers were nearly 200 feet tall or taller and several miles apart. Today, in order to keep up with the move to wireless only homes (now at over 51% overall at 70% among Millennials) and the escalating use of smartphones (3/4ths of Americans own smartphones) in lieu of computers for downloading and sending videos and pictures (67% of Americans watch videos via mobile phone daily), making and receiving video calls, searching the internet, completing retail mobile transactions (70% of all retail mobile transactions are on smartphones), providing musical entertainment (e.g. streaming Pandora or Sirius XM mobile apps) and real time mapping and traffic navigation apps (e.g. Google Maps and Waze), wireless carriers are having to add new antenna sites to enhance and support their networks. Demand for data capacity, which will increase exponentially in the future with 5G applications, is increasing the need for more wireless antenna sites in closer proximity to each other, often times at or under a mile away.

In order to keep up with the dramatic increase in demand for wireless services, T-Mobile needs an antenna site in this area to connect with the following existing sites depicted on the attached map and on the propagation maps originally submitted with our application: (1) a 130 foot tower 1.17 miles to the northeast at Bassette Elementary School (VA096A); (2) a lattice tower 1.18 miles to the northwest located at the Gately Communications Building at 501 Industry Drive (VA100B); and (3) a rooftop installation 1.15 miles to the southwest on the top of the Riverside Rehabilitation Institute Building (VA100B).

The location of the proposed tower is dictated by the existing network of antenna sites in the area. The height of the proposed tower is dictated not only by the needs of the top user, T-Mobile, but also by the needs of the

additional users as well. The proposed height of 150 feet provides T-Mobile sufficient height for its antennas to connect with surrounding antennas in order to enhance voice and data services both now and in the future. To operate without interference, the centerline of each set of antennas on the tower must be vertically separated by 10 feet. As a result, with T-Mobile's antenna centerline at 145 feet, the additional users would be installed at 135 feet, 125 feet and 115 feet, respectively. Each carrier will likely have similar height needs to T-Mobile's. Moreover, given the height of buildings and mature trees nearby (90 feet to 110 feet), each carrier will have to have sufficient height to clear the buildings and trees, now and in the future as they grow. Therefore, in order to be suitable for T-Mobile's use and maximum collocation by additional wireless carriers, as required by the zoning ordinance, a height of 150 feet at this location is requested and required.

Sincerely,

Drew C. Patterson

Drew C. Patterson
Consultant to PI Tower Development, LLC