

AT&T Mobility Radio Frequency Statement
3540 East Cameron Avenue, West Covina, CA 91791

I am the AT&T radio frequency engineer assigned to the proposed wireless communications facility at 3540 East Cameron Avenue, West Covina, CA (“Property”). Based on my personal knowledge of the Property and with AT&T’s wireless network, as well as my review of AT&T’s records with respect to the Property and its wireless communications facilities in the surrounding area, I have concluded that the work associated with this permit request is needed to close a significant service coverage gap in LTE service coverage, and to deploy new FirstNet service – the first-ever nationwide first-responder wireless network – in an area roughly bordered by East Virginia Avenue to the north, Palomino Drive to east, East Country Hollow Drive to the south, and Barranca Street to the west. The Proposed Facility will improve coverage to hundreds of homes in several neighborhoods, parks, a high school, and other points of interest in the immediate vicinity.

In addition to improving overall coverage, increasing data speed is critical to providing the mobile experience customers demand and to manage the unprecedented increase in mobile data usage on AT&T’s network. AT&T has experienced an estimated 470,000% increase in mobile data use on its network since the release of the iPhone in 2007. AT&T forecasts its customers’ growing demand for mobile data services to continue. The increased volume of data travels to and from customers’ wireless devices and AT&T’s wireless infrastructure over limited airwaves — radio frequency spectrum that AT&T licenses from the Federal Communications Commission.

Spectrum is a finite resource and there are a limited number of airwaves capable and available for commercial use. To ensure service quality, AT&T must knit together its spectrum assets to address customers’ existing usage and forecasted demand for wireless services, and it must use its limited spectrum in an efficient manner.

AT&T uses high-band (i.e., 2300 MHz, 2100 MHz, and 1900 MHz) and low-band (i.e., 850 MHz and 700 MHz) spectrum to provide wireless service. Each spectrum band has different propagation characteristics and signal quality may vary due to noise or interference based on network characteristics at a given location. To address this dynamic environment, AT&T deploys multiple layers of its licensed spectrum and strives to bring its facilities closer to the customer. The geographic area covered by a given site is determined by factors such as site elevation, local topography and customer usage patterns for the area. Sites must also be located with reference to other sites in the network to provide seamless mobile connectivity while also avoiding interference with one another.

The primary issue that is causing AT&T's significant service coverage gap is that there is inadequate infrastructure in the vicinity of the Property to provide in-building and in-vehicle LTE service to this portion of West Covina. AT&T currently has existing sites in the broader geographical area surrounding the Property but, as Exhibit 1 illustrates, these existing sites do not provide sufficient in-building LTE service in the gap area and does not provide sufficient in-vehicle service along significant routes in the city. The proposed facility is necessary to improve signal strength and signal quality in the area, which will improve overall coverage and increase data rates necessary for customers to receive consistently reliable wireless service. Any areas that do not meet these minimal standards represent a service coverage gap that must be closed.

The proposed facility at the Property will help close the gap in coverage and help address rapidly increasing data usage driven by smart phone and tablet usage. This site is part of an effort to fully deploy 4G LTE technology in the area. Specifically, the proposed facility will close this service coverage gap and provide reliable 4G LTE service for AT&T customers in the affected area. 4G LTE is capable of delivering speeds up to 10 times faster than industry-average 3G speeds. LTE technology also offers lower latency, or the processing time it takes to move data through a network, such as how long it takes to start downloading a webpage or file once you've sent the request. Lower latency helps to improve the quality of personal wireless services. What's more, LTE uses spectrum more efficiently than other technologies, creating more space to carry data traffic and services and to deliver a better overall network experience.

The proposed facility at the Property is also a part of AT&T's commitment to supporting public safety through its partnership with FirstNet, the federal First Responder Network Authority. Conceived by the *9/11 Commission Report* as necessary for first responder communications, Congress created the federal First Responder Network Authority, which selected AT&T to build and manage FirstNet, the first-ever nationwide first-responder wireless network. The proposed facility will provide new service on Band 14, which is the nationwide high-quality spectrum set aside by the U.S. government for public safety. Deployment of FirstNet in the subject area will improve public safety by putting advanced wireless technologies into the hands of public safety agencies and first responders.

To meet its coverage objectives, AT&T needs to construct a new wireless communications facility. Wireless telecommunications is a line-of-sight technology, and AT&T's antennas need to be in the gap area and at an elevation capable of propagating an effective signal throughout the gap area. To meet its service objectives for this gap area, AT&T proposes to install a new wireless telecommunications

facility disguised as a eucalyptus tree. Denial of this proposed facility or a reduction in height would materially inhibit AT&T's ability to provide and improve wireless services in this portion of the city.

It is important to understand that service problems can and do occur for customers even in locations where the coverage maps on AT&T's "Coverage Viewer" website appear to indicate that coverage is available. As the legends and links to the Coverage Viewer maps indicate, these maps display approximate outdoor coverage. Actual coverage in an area may differ from the website map graphics, and it may be affected by such things as terrain, weather, network changes, foliage, buildings, construction, signal strength, high-usage periods, customer equipment, and other factors.

It is also important to note that the signal losses, slow data rates, and other service problems can and do occur for customers even at times when certain other customers in the same vicinity may not experience any problems on AT&T's network. These problems can and do occur even when certain customers' wireless phones indicate coverage bars of signal strength on the handset. The bars of signal strength that individual customers can see on their wireless phones are an imprecise and slow-to-update estimate of service quality. In other words, a customer's wireless phone can show coverage bars of signal strength, but that customer will still, at times, be unable to initiate voice calls, complete calls, or download data reliably and without service interruptions due to service quality issues.

AT&T uses industry standard propagation tools to identify the areas in its network where signal strength is too weak to provide reliable in-building service quality. This information is developed from many sources including terrain and clutter databases, which simulate the environment, and propagation models that simulate signal propagation in the presence of terrain and clutter variation. AT&T designs and builds its wireless network to ensure customers will receive reliable in-building service quality. This level of service is critical as customers increasingly use their mobile phones as their primary communication devices. According to the Center for Disease Control and Prevention (CDC), more than 81% of California adults, and more than 98% of Californians under age 18, rely exclusively or primarily on wireless communications in their homes. And California households rely on their mobile phones to do more (E911, video streaming, GPS, web access, text, etc.). In fact, the FCC conservatively estimates that 72% of 911 calls are placed by people using wireless phones.

Exhibit 1 to this Statement is a map of the existing LTE service coverage (without the proposed installation at the Property) in the area at issue. It includes LTE service coverage provided by existing AT&T sites. The green shaded areas of the map depict acceptable in-building coverage. In-building coverage means customers are able to place or receive a call on the ground floor of a building. The yellow shaded areas depict areas within a signal strength range that provide acceptable in-vehicle service

coverage. In these areas, an AT&T customer should be able to successfully place or receive a call within a vehicle. The pink shading and unshaded (white) areas are areas within a signal strength range in which a customer might have difficulty receiving a consistently acceptable level of service. The quality of service experienced by any individual customer can differ greatly depending on whether that customer is indoors, outdoors, stationary, or in transit. Any area in the yellow, pink, or white category is considered inadequate service coverage and constitutes a service coverage gap.

Exhibit 2 is a map that predicts LTE service coverage based on signal strength in the vicinity of the Property if the proposed facility is constructed as proposed in the application. As shown by this map, constructing the proposed facility at the Property closes this significant service coverage gap. Specifically, this map depicts a large new area of in-building service coverage (in green) throughout the defined gap area.

My conclusions are based on my knowledge of the Property and with AT&T's wireless network, as well as my review of AT&T's records with respect to the Property and its wireless telecommunications facilities in the surrounding area. I have a Bachelor Degree in Electronics and Communications from the University of Mysore, India, and have worked as an engineering expert in the wireless communications industry for more than 26 years.

Mahesh Kolur

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EXHIBIT 1

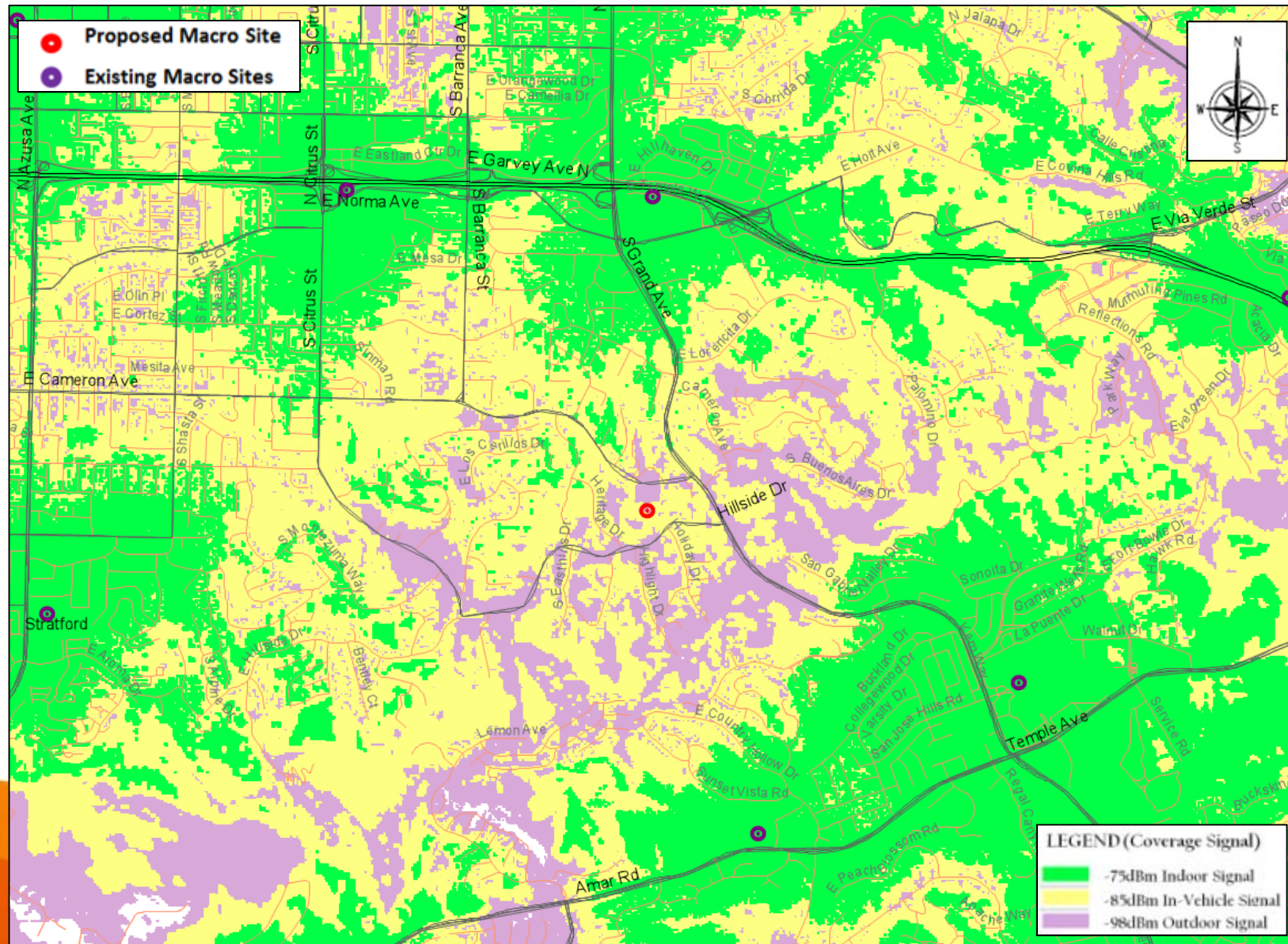


EXHIBIT 2

