

**City of Aurora Planning – New construction of CMRS facility – 5/14/2018
T-Mobile Wireless – New construction CMRS – DN01677- XCEL**

Use by Permit / LETTER OF INTENT & Narrative/SCOPE of WORK

Property Owner

XCEL Energy
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Applicant

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Applicant's Representative

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Site Plan/Project Name: DN01677-Xcel

Site Address: 1902 South Mobile Street (E911 address only) Aurora CO 80013

Lease Area: 300 Sq. Ft.

PARCEL #: 1973-20-3-00-013

Legal Description: Stone Ridge Park SUB 1st FLG – S 155 FT OF SEC EX RODS 20-4-66

Current Zoning: R-1

Future Land Use: XCEL Transmission Lines

Process: Pre-application meeting

Planner: To be assigned

Request: Collocate transmission tower structures for a wireless facility and associated supporting ground equipment.

Project Description: Construct antenna collocated on existing Xcel tower for wireless communications facility; all support electronics to be located within fenced area immediately below.

Request and Justification

T-Mobile due to demand and newer technologies has had numerous reports of insufficient capacity in or near the address of 1902 South Mobile Street. With the increased demand for wireless data ranging from smartphones, tablets, laptops, down to household appliance interface, and in particular the residential traffic and street traffic of the Buckley St. corridor near this location, the demands on current wireless facilities has been exponentially increasing daily.

The land use for this parcel is currently zoned R-1. The future land use designation remains XCEL transmission line path. The design of this site specifically has been engineered to support multiple wireless carriers. Uses surrounding this property are predominately residential and business. Collocating a new telecommunications facility at this location will help to integrate the facility into the area both visually and provide usable service where there is currently little or no T-Mobile service. The proposed facility will not adversely impact the surrounding land. The T-Mobile facility was carefully designed to blend into the environment through creating a structure that coincides with surrounding area blending into the existing property design. The facility proposed is a collocation on an existing transmission tower. Antennas would be mounted on the exterior of the existing

transmission tower. This will be an unmanned, 24/7, facility necessitating no vehicle parking nor utilities other than fiber interconnect and electrical power. If an unforeseen emergency should arise, unused parking is available at the base of structure of said parent parcel.

This facility will continue to comply with all FCC rules governing construction requirements, technical standards, interference protection, emissions, power and height limitations and radios frequency standards as well as FAA rules of location and operation. All permits necessary to construct this site shall be obtained prior to any construction commencing.

The goal for new telecommunications facilities is to acquire a site which blends in with the local character and is unobtrusive to the community. Existing structures such as water tanks and existing towers are primary targets for new facility locations this is the case for this proposed facility. It is important to note that wireless communications facilities must be considered as part of a network, not an individual location, and that communications facilities are like links in a chain. Each link connects to the next and they strengthen, improve and expand the network

Given that T-Mobiles' digital technology operates at extremely low power, it is critical that key network sites, like this one, be constructed at locations such as this and at the proposed height. Large scale, massive coverage sites are no longer desired. Small sites such as this one are designed to fill a very specific, small region of high demand where large sites have "overshot" the region creating a "gap" in capacity and coverage. Wireless coverage is primarily a line of sight situation and the signal does not bend well to dip into recesses such as this location. With the advancements that are offered through LTE/4G/AWS technology and now 5g, this site is being proposed in order to support these technologies for the surrounding residential and educational area. E911, speed, precision, and public safety will all improve with greater reliability. This proposed site will become a critical component for seamless service for Verizon Wireless as well as other wireless carriers.

T-Mobile customers communicate and transmit massive amounts of data through smart phones, tablets, and other mobile devices via a network of wireless facilities, each of which operate at low power and use the finite amount of the radio frequency spectrum allotted by the Federal Communications Commission ("FCC").

The provisions of personal wireless services are only possible through the installation of numerous overlapping and interconnected wireless facilities that, when combined, create a wireless network, which then serve individuals, businesses, and emergency services providers. Facilities are comprised of radio antennas together with other necessary electronic equipment that receive and transmit low-power radio signals to and from mobile wireless handsets, thereby facilitating wireless communications. Each wireless facility services a specific geographic area, the exact radius of which is dependent upon the details of corresponding "hand-off" sites.

Generally, the siting of a wireless facility is fairly inflexible, as in any given search area there will be a limited number of feasible locations from which a wireless facility is capable of providing adequate service to the target area.

In order for the system to function without coverage or capacity "gaps", there must be facilities that are properly located, installed and operational. If there are gaps in coverage or capacity between facilities, T-Mobile customers or other users who travel into the area will experience an unacceptable level of service, including failed attempts, busy signals, dropped calls, and inability to access or download data (i.e. emails, maps, etc.).

T-Mobile provides best in class wireless service to its customers and others using its network. To do so, it is continuously testing, improving, and expanding its infrastructure; and because of the exponential growth in data usage (such as for downloading business files and emails from company networks, streaming music and videos, movies, and sportscasts, and other such uses), T-Mobile must constantly add more communications facilities to address capacity issues created by ever-increasing data usage.

Existing gaps in personal wireless service coverage and capacity. Also increasing demand for wireless and data services by the public, require the installation of additional wireless facilities by T-Mobile across the State of Colorado, and specifically in and around Arapahoe County. This includes the Facility at issue here, which is designed to ensure: 1) the continued provision of wireless and data services with the requisite coverage and

capacity needed for reliable voice, data and other services for use by the public on a daily basis; 2) residents have the ability to access E-911 services and emergency service providers; and 3) the wireless services are tailored to meet the evolving needs of mobile devices used by the public (such as 4G, 5G and LTE “smart phone” devices).

From 2012 to 2013, wireless usage increased significantly as data traffic doubled, and this growth is projected to increase by another 650% by 2018. A smart phone generates 49 times the data traffic as a typical handset. In addition, the number of wireless only (no land lines) households has increased to 49%.

The significance of providing adequate wireless and data service (i.e., coverage and capacity) is important considering the increased reliance on mobile devices for access to emergency services. Many emergency personnel and first responders rely upon wireless networks not only for secure encrypted wireless communications, but also for use of mobile first response equipment which has become fairly common place in emergency vehicles and for the transmission of data services.

T-Mobile is legally required to provide seamless coverage in the areas it is licensed to serve. Accordingly, under federal law, local governments like Aurora may not prohibit the deployment of wireless facilities if the applicant demonstrates there is a gap in coverage/capacity and the proposed site is the least intrusive available means by which to address the gap. In this instance, a highly dense traffic area with major traffic traversing Buckley Ave east north and south in particular in the morning and evening rush hour, creates a high surge of need for capacity. Data traffic creates capacity impacts and ultimately overloads existing sites, causing coverage gaps to arise. T-Mobile must add new Facilities in between existing sites to off-load some traffic and ensure adequate coverage throughout its network. Based on the circumstances underlying this Application, the failure to allow this Facility will lead to a gap in coverage/capacity, which T-Mobile is required under federal law to remedy.

T-Mobile therefore commenced efforts to locate and install a Facility at the Site to hold mounted antennas and related equipment for T-Mobile to enable the provision of personal wireless services to fill the identified significant network capacity and wireless coverage gap. T-Mobile considered and investigated all available locations within the affected area (including possible co-location facilities) to find a suitable site for a new Facility to remedy the coverage and capacity gap.

Inside the search ring identified by the T-Mobile RF Engineer, there are no other viable sites that work for T-Mobile to lease property and deploy a wireless facility. Either due to zoning or lack of interest from property owners

As the residential traffic in the area has continued to grow and the technology has improved, it is necessary to continue to develop sites like this as high density, high traffic sites and into a digitally compatible component interfacing with T-Mobile's neighboring sites. The demand by today's highly mobile public as well as the commuting traffic in the area, the demands are for internet connectivity literally everywhere. Smartphones as well as laptops, tablets, alarm systems, appliances, automobiles just to mention a few, continues to create greater and greater demands on the existing cellular facilities necessitating new smaller facilities designed for very specific use areas.

With the advance and implementation of “digital” service large areas of insufficient signal have been created. The large area sites are at capacity now and are desperately in need of off-loading some of their existing traffic. Sites like this one become a very “niche”, target specific site filling in and offloading what the big sites can't handle.

Summary

The T-Mobile proposal shall comply with all standards and requirements as listed in the Aurora Development Code. E911 services, public safety, and residents of the area will all benefit from the additional technologies

requested for this site by enhancing speed, accuracy in locating mobile 911 calls, increasing capacity for current and future users, and off-loading neighboring sites to prevent blocked calls, busy signals, or no service at all.

The integrity of the T-Mobile network continues to rely on sites such as this to fill in small areas where current capacity has reached or is approaching maximum capabilities. This site shall comply with the intent of Auroras' plan of the city. The construction shall not cause any unsightly visual or other negative impacts on the area while at the same time, offering the residents, businesses, and general public with better and faster voice and data technologies.

T-Mobile recognizes that on May 15th, 2018 when this application was submitted, it is for an eligible facility request related to the modification of an existing wireless tower or base station which does not substantially change the physical dimensions of the site. As such, the jurisdiction shall have sixty days to review this application. Failure of the jurisdiction to respond to, or otherwise not request reasonably related documentation, shall result in this application being deemed granted pursuant to section 6409(a) of Title VI of the Middle Class Tax Relief and Job Creation Act of 2012.

Thank you for your time and consideration in this matter.