Installation Details for Base Nodes and Remote Nodes

Base Node

Figure 1: Existing Crown Castle tower photo at 33°44'30.9"N, 111°44'4.3"W

Figure 1 is a photo (care of Google Earth), of an **existing** communications lattice tower located at 33°44'30.9"N, 111°44'4.3"W with an address of 16040 E Rio Verde Drive Scottsdale, AZ 85263, in Maricopa County. This tower, owned by Crown Castle, is a 78-foot (23.8m) AGL self-supporting tower. The nominal elevation at this site is 2,076 feet MSL (632.8m MSL)

Cox is in the process of obtaining approval to mount four Base-nodes at a nominal height of 37-feet (11.3m) AGL, each with a 2° down tilt, and oriented at 0° (North), 90° (East), 180° (South), and 270° (West) respectively.

Each Base Node has an integrated internal antenna which is custom-made by Tarana Wireless. The Base Node antenna is a single dual-polarized array antenna which is equipped with 8 H/V antennas that result in focusing the effective beam pattern in the direction of interest. The half-power beamwidth is 80°.

Remote Nodes

Figure 2: Temporary Remote Node tester

As part of evaluating this technology, Cox will be using a temporary, portable mast with a nominal height of 11 feet (3.35m). We will install one Remote node at a nominal height of 10 feet (3.05m).

We then will drive to various locations around the cell-site located at 33°44'30.9"N, 111°44'4.3"W, within a 0.5km radius, and evaluate performance.

At each location, we will aim the Remote Node directional antenna so that the boresight is aimed towards the cell-site located at 33°44'30.9"N, 111°44'4.3"W.

Figure 2 shows a typical arrangement of the Temporary Remote Node testers.

The Remote Node has an integrated internal antenna which is custom-made by Tarana Wireless. The Remote Node antenna is a single dual-polarized array antenna which is equipped with 4 H/V antennas that result in focusing the effective beam pattern in the direction of interest.

Initially, we will be using just one Remote Node as a tester. However, it is possible that we will be using more than one Remote Node as part of a capacity evaluation.