

## Attachment E1

### Grantor Request

Technical capability statement: Applicants must include a statement relating to their experience providing broadband, whether they currently provide broadband at the minimum 100/100 Mbps speeds, the useful life of the facilities, and how the project will be resilient and sustainable in the long-term. This statement should also include the number of technical staff that will be dedicated to serving the project area once the project is complete, the level of technical ability of staff, the technological components used and which components may require more frequent repair or replacement, a detailed description of the proposed network architecture including homes passed, fiber miles, and the specific technology to be used to provide service to end users, a description of the applicant's technical capability to meet the requirement to provide a minimum 100/100 Mbps in all locations that receive grant funding, and their plans to meet the minimum statutory technical and speed requirements in place for the CPF throughout the fifteen-year period, and how the service area will be maintained throughout the useful life of the facilities, and any other relevant technical expertise of the applicant. (Attachment Letter: E)

### Applicant Response

For this proposed project area, Nextlink will be using Tarana 6Ghz G1x2 to meet minimum speeds of 100/100 Mbps. For these wireless networks, site planning uses the following process. Nextlink starts by identifying vertical assets or potential sites for a vertical asset. Those sites are fed into Google Network planner (GNP) along with all the customer locations. GNP is programmed with the tower heights and RF constraints. GNP creates the coverages off existing sites and if there are coverage holes, it will choose one of the customer locations as a tower site assuming a 120' monopole placed at that location, and it will try multiple customer location sites until it finds the one that covers most of the customers. GNP models are custom and proprietary with clutter and terrain accuracy up to 1 meter. (For more information: <https://www.google.com/get/spectrumdatabase/network/>)

All identified tower sites for microwave backhaul are given to our Wireless Engineering team to create the backhaul links either with Microwave or Fiber. All links are designed as Aviat Networks equipment.

After the link design is complete, Nextlink looks at the loading of each tower and calculates the peak bandwidth utilization and oversell for each link going back to the core. If there are links that would be 70% saturated with a 70% take rate, they will convert that site to a fiber pop or add additional parallel wireless links to meet the obligation and demand.

The final radio plan defines the site locations and their respective configuration. The configuration involves base station, site height, number of sectors, assigned frequencies and bandwidth, types of antennae, azimuth and down tilt, equipment types and transmitted RF power. The final plan is tested against various KPIs requirements, coverage criteria and capacity (or signal quality) in support of the offered performance tiers.

The aim of the radio planning is to define a set of site locations and their respective configurations, that

addresses the coverage and capacity requirements derived from the dimensioning.

The radio planning task is based on the outputs from the dimensioning, especially the calculated site densities in each clutter type. Network planning works with high levels of detail. The site count derived from radio planning can sometimes be significantly different from the site count derived dimensioning since the actual site coverage may differ significantly from the models.

When performing coverage and capacity dimensioning for fixed wireless broadband for the various performance tiers, Nextlink is taking full advantage of the capabilities of the equipment providers and places particular attention to:

Operating band

Channel bandwidth

Antenna gain and placement

Antenna configuration