

Building Where the Network **Doesn't Go Yet**

A low-earth-orbit network needs a rock-solid ground segment. This one needed fiber to a patch of rural Kansas it didn't own yet. Every national carrier in the country was available to them. They chose KFN.

THE BACKGROUND

A satellite broadband service is only as good as the ground infrastructure behind it. Expanding coverage means standing up new sites, and those sites tend to land in remote country, well outside the footprint where carriers have already built. The terrestrial side has to follow the service into places no carrier had a commercial reason to reach.

This customer, a global technology company operating across multiple business lines, was expanding a low-earth-orbit service into exactly that kind of location. The company needed to secure land in rural Kansas, build a substation on it, and connect that site to its network so it could extend service reach to its customers.

The location was greenfield with no fiber in the ground, none on any carrier's roadmap, and nothing nearby to extend from. The land wasn't secured yet either, which meant this wasn't a route-design problem with a real-estate step attached. Land acquisition and network design had to run concurrently, because neither side could commit until both were resolved. The customer couldn't close on ground without knowing fiber could reach it, and no one could engineer a route to a parcel that hadn't been bought.

Given the nature of the use case, diversity was non-negotiable. The site is a capacity chokepoint, and a single physical path into it is an unacceptable failure domain. The timeline was known, but it was firm. The collection of requirements required responsiveness and flexibility.

THE CHALLENGE

That profile is a bad fit for how a national carrier operates. Put this project in front of one, and the real estate question stalls with a corporate team that's never worked in the county. They don't know who owns the adjacent parcels, and they've never dealt with the people whose sign-off the project needs. Permitting takes a similar route, through workflows built for markets where the carrier already owns plant and the right-of-way agreements have been in place for years.

Large carrier processes are built for a different kind of project, and a greenfield site on unsecured land isn't it. What the customer would have gotten is a chain of handoffs, each one adding a review cycle, with

the final call resting on people who'd never seen the ground. Having worked with those carriers before, the company already knew where it would stall.

KFN's position in Kansas is the reverse of that arrangement. KFN already works with the local utilities, already knows how the right-of-way process runs in that part of the state, and can put the customer in front of someone with the authority to answer instead of the obligation to escalate. That matters less as raw speed than as sequencing. When a question gets settled in the same conversation it's raised, work that would otherwise sit in a queue can move in parallel.

THE SOLUTION

Land and Route, Engineered Together

KFN ran the parts of this project in parallel that a national carrier would have run in sequence.

1

STAGE ONE: FOUNDATION DESIGN AND LAND ACQUISITION, TOGETHER

Before a mile of fiber was planned for the ground, KFN worked the fiber design, the pricing exercise, and the land acquisition agreement at the same time. The customer needed real estate secured and the route designed before either side could commit, and inside a national carrier those are two departments reporting up two separate chains. The work would have gone one after the other by default. KFN ran them together.

2

STAGE TWO: THE BUILD TWO WAVES, NO SHARED SEGMENTS

KFN built the route into a site with no existing infrastructure nearby and delivered two 100G waves on fully diverse physical paths. The network had no shared segments at any point, which means genuinely independent failure domains rather than a labeled “protect” path riding the same conduit. KFN also absorbed design changes during the active buildout, which is often the moment a customer finds out whether a provider can adapt or only execute.

2

Diverse 100G
Waves Delivered

0

Miles of Existing
Fiber at the Site

18 Mo.

Project Timeline

Ph 2

Additional Sites
in Discussion

THE RESULT

The new circuits now tie the site back to the customer’s network and gives them the reach to serve hundreds, potentially thousands, of additional customers from a location that had no connectivity before it. The site is built with headroom, so the capacity is there as the service scales rather than something that has to be rebuilt for.

The confirmation on the work came after the first build closed. A customer with every national carrier option available to it is now in discussions with KFN about a second generation of Kansas sites. Nobody has to keep working with a regional provider on infrastructure this critical. This customer is choosing to.

“They knew what they were walking into. A greenfield site on land nobody owned yet isn’t a standard order, and they’d been through the national carrier process before. What they wanted was somebody who could answer a question the day they asked it.”

Brian Cornish, VP of Network Development, KFN