



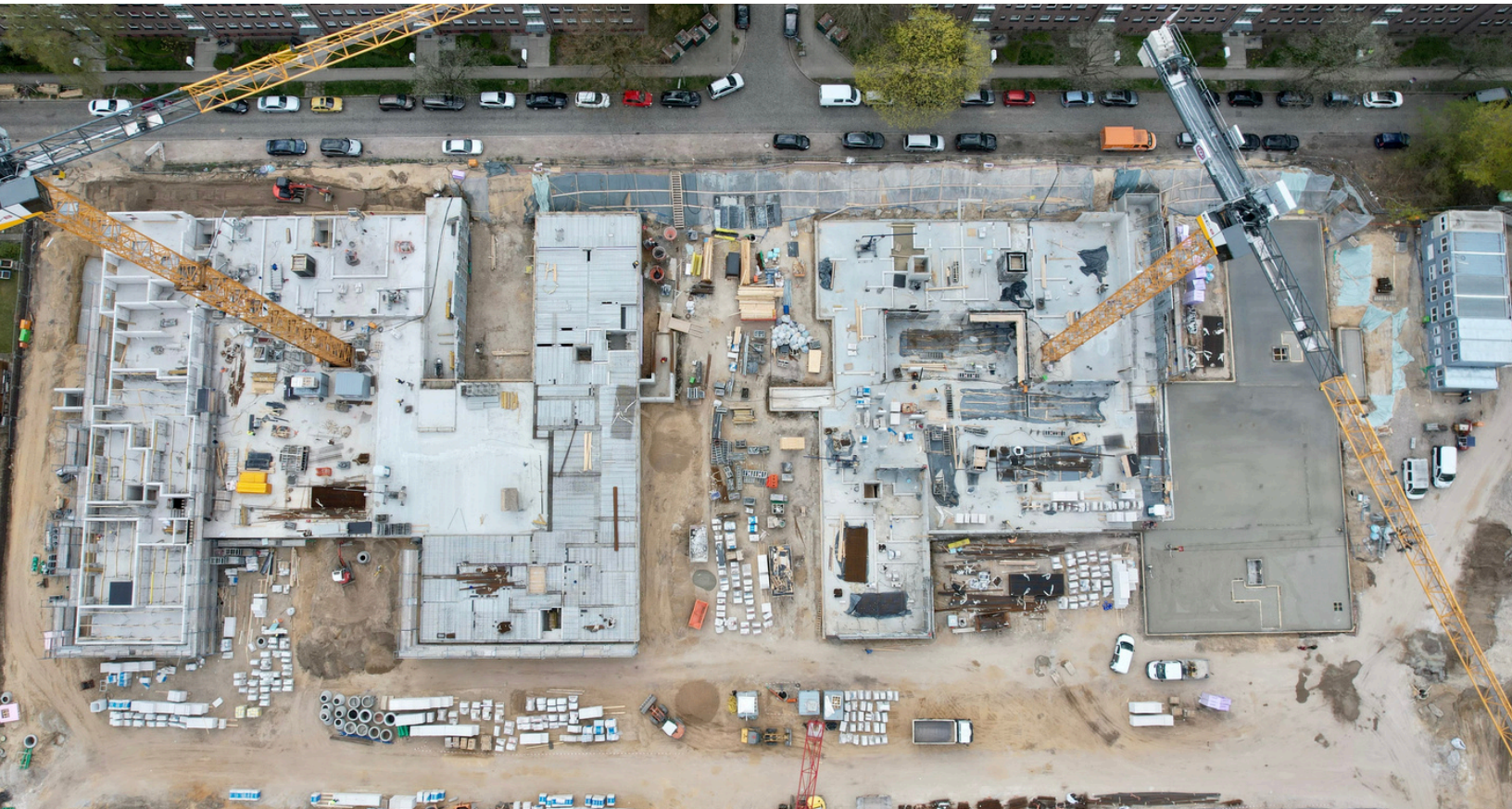
Reliable Connectivity for Construction Sites

Not Just an After Thought but a Requirement

March 2026



Construction sites today have not changed over the years in many fundamental ways. They are large, covering many acres. Consist of dozens if not hundreds of temporary facilities spread throughout the work site. Services such as power, sanitation and roads are all required, well-known components of a construction site. In addition, high-speed data communications and the power to run them are not only equally essential, but proper deployment and use of these systems can save money, time and improve operational efficiency. Security cameras, intrusion detection, inventory control, worker communications and massive IoT are just a few of the applications supported by these networks.



The Problem

These sites are the definition of rugged. Installing a flexible, reliable and custom network for your data needs requires expertise in deploying and maintaining complex systems. Wireless is the choice for these networks but not all wireless systems are created equal. Do you use cellular? Small cells? Wi-Fi? Satellite? How do you know what to use and where? Who owns the network, who maintains it, and who is responsible for security? At many construction sites it is common to find issues such as:

Unstable Power

Move a trailer here, re-locate it, establish a security camera over there then add five more. With reliability a must, backup systems should be part of the package but are often overlooked.

Coverage and Technology

The requirements for these networks include speed (multigigabit), low latency (milliseconds at most) and most important of all accessibility. People and devices must be able to "get on" the network. That means coverage — the wireless network must reach every corner of the site.

The primary elements needed for deploying a good wireless network lie in proper design, the right technology and the right equipment. Ruggedized equipment able to perform at IP 67 or even IP68 levels of hardiness.

Not just Fixed — but Mobile

Having an antenna sitting on a trailer is great. But these sites have people and equipment on the move. Delivering on capacity, latency and coverage while supporting mobility adds an additional layer of complexity.

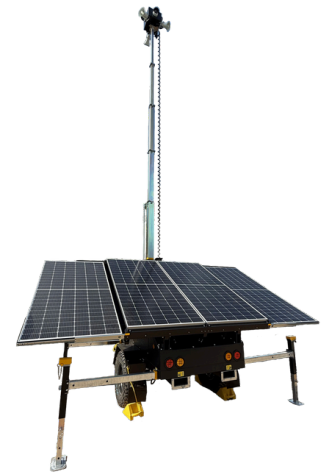


The Answer

Northwest Towers (NWT) was founded with a focus on delivering communications networks in the harshest environments. With years of experience designing, installing and supporting virtually every type of wired and wireless network, NWT understands every site is unique and uses tried and true practices from dozens of successful deployments. Northwest Towers addresses the key challenges listed above:

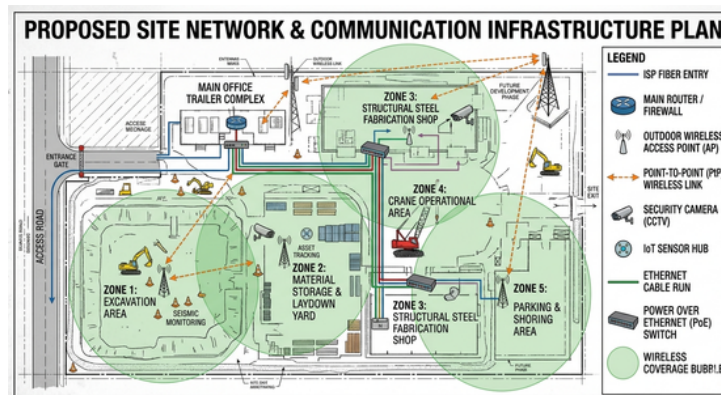
Stable Power

Not every corner of a construction site will have 110/220V AC at hand. Many times a local power source is needed and NWT offers custom trailers that use solar panels and battery systems to ensure reliable, and flexible, power supplies for remote locations. Even for those locations that do have wires delivering electricity, these wires often are cut or damaged by the traffic and heavy equipment on site. NWT ensures battery backup systems are installed through the site.



Coverage and Technology

Cellular typically has great coverage, decent capacity but when you have a work site with thousands of people and devices within a square mile it lacks the ability to support the literally thousands of connected devices you often find on a large construction site.



Satellite systems are great at providing 100% coverage, but: they are asymmetric, designed for most of the traffic to be downstream while construction sites are very symmetric. Adding to the satellite woes are a lack of mobility and high recurring monthly costs for every antenna.

Wi-Fi is often used and meets most if not all of the networks demands. However improperly designed and deployed standard Wi-Fi will have coverage gaps, poor performance and critically – no support for mobility. The proven approach deployed by NWT is a Wi-Fi based mesh system for access with mmWave providing a multi gigabit backbone. Any standard Wi-Fi enabled device can access the network.



Mobility

Typically this requires 4G/5G technology. Other approaches are unable to deliver true mobility or do so in a very inefficient and clunky way. Until today. NWT supports mobility – hand off from one mesh AP to another, seamlessly with very low latency. Coverage – check. Capacity – check. Military Grade Security – check.

Results

A well-designed and implemented communications system for a construction site is part of the critical infrastructure needed to execute the project on time and on budget. When done correctly site commissioning efforts can shave months of time off the schedule. Time that equals potentially millions of dollars. At NWT we understand the entirety of the challenge and the totality of the requirements. NWT – critical infrastructure specifically for the construction industry.