



Cell Tower Foundation (Five Precast CELL BLOCK® Foundation) Placed and Post Tensioned in 90 minutes

AT&T ANTENNAS FOUNDATION

Pittsburgh Zoo

Pittsburgh, PA.

The Pittsburgh Zoo had an existing wooden pole supporting AT&T's antennas for cellular service to the visitors and employees of the Pittsburgh Zoo located in Pittsburgh, PA. The existing service was located behind the education building opposite the parking lot. At the back of the education building, the ground sloped up a hill. Access to build a traditional foundation for a new steel monopole was formidable. Working with Black and Veatch, various options using the CELL BLOCKS precast foundation system were reviewed. An additional challenge was keeping the existing antennas on the wood pole until the new mono-pole was in place.

THE DESIGN

The plan view layout (shown on page 2) placed the CELL BLOCKS foundation in front of the existing wood pole. Using the design reactions of the proposed monopole and antenna loading, the precast foundation was indicated on the zoning drawings as 7-foot x 14-foot in plan view consisting of five blocks.

THE SOLUTION

Due to limited access with lifting equipment, the CELL BLOCKS system was modified to make the blocks one third the size of the typical 7' x 7' block. The blocks were cast as 2'-4" wide by 7' long, therefore reducing the

DESIGN & CONSTRUCTION TEAM

Owner
AT&T

Construction Manager
Black and Veatch

Design Engineer
Mountain State
Community Wireless

Oldcastle Infrastructure - Precast Manufacturer
Telford, PA

Oldcastle Precast Product(s)
Precast Concrete CELL BLOCKS® Foundation
(5 CELL BLOCKS foundation)



CELL BLOCKS are an engineered foundation system made from individual precast concrete Blocks that are assembled in various configurations and post-tensioned providing a foundation for a monopole and equipment.

weight from 15,000 pounds to 5,000 pounds. The weight was similar to the handling weight of the new monopole.

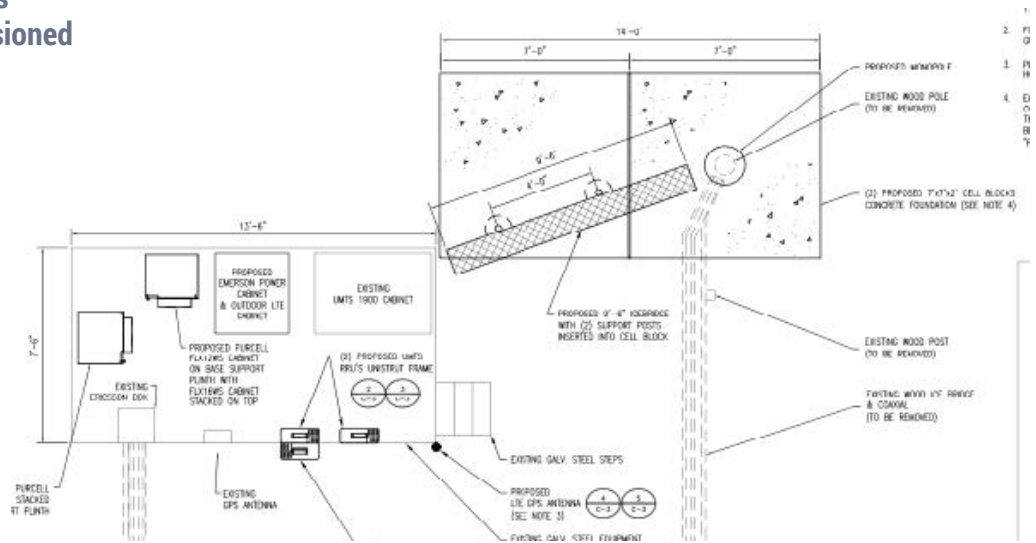
The contractor installed the grounding system and prepared the level granular base foundation. In the afternoon prior to setting the foundation blocks, the crane set up in the parking lot and unloaded the pole and the blocks from the delivery truck.

Since the parking lot had to be vacated by 9 AM, the setting of the blocks commenced at 5 AM and were placed and post tensioned in less than 90 minutes.

Taking into account the completed foundations are immediately full strength, the poles and cabinets were set immediately after the foundations were installed. Using patented post tensioned precast concrete CELL BLOCKS for the Pittsburgh Zoo foundation made the installation extremely fast and it fit perfectly into the limited space available.

The steel monopole, antennas and other heavy lifting was complete by 8 AM and the crane was removed from the parking lot at 9 AM.

Using CELL BLOCKS provided for minor disturbance of the existing ground conditions, minimized the safety concerns about unknown underground hazards and was predictable. As an added bonus, the business interruption was minimal and improved connectivity for the visitors at the Pittsburgh Zoo is assured.



About Oldcastle Infrastructure

Oldcastle Infrastructure, A CRH Company, is the leading provider of building materials, products and services for infrastructure projects to several market sectors nationwide, including: Building Structures, Communications, Energy, Transportation and Water.

For More Information Contact:

Phil Colflesh

Phone: 614.816.4810

Email: phil.colflesh@oldcastle.com

oldcastleinfrastructure.com