



GRIDForward

CONSTRUCTION PROCESS

STEPS INVOLVED IN CONSTRUCTING HIGH-VOLTAGE POWER LINE

After obtaining easements from affected property owners, construction will generally follow the sequence of activities outlined in this document. The process may vary depending on the design of the line, soil conditions, geology, terrain and other variables. **The photos in this document are for illustrative purposes; techniques and equipment used also may vary based on site-specific conditions.**

STEP ONE

Construction access and corridor clearing

Before construction begins, crews will develop plans to enter the utility corridor via approved access lanes or roads. Both the corridor and access lanes need to be cleared of trees and other vegetation to accommodate the use of large construction equipment, which may include drilling rigs, concrete trucks, cranes, pick-ups and other vehicles. Timber construction mats



(that may look like a temporary road along the utility corridor) are often used to minimize compaction and soil disturbance and improve site safety. Using mats also helps speed up restoration efforts after the project is complete.

STEP TWO

Equipment mobilization and material delivery

Materials – including steel poles, steel casing, rebar cages and other miscellaneous items – will be delivered to structure locations prior to construction. Cranes, drill rigs, concrete trucks, boom trucks, trailers, mats and vehicles may also be parked at a construction site.



ATC is a Wisconsin-based company that moves energy along the regional electric grid.



Construction process

STEP THREE

Foundation construction

Drilled pier foundations for 345,000-volt structures are typically 30 to 60 feet deep and are usually eight to 12 feet in diameter. After drilling, concrete is poured into reinforcing steel in the hole. Specialty foundations may be required in areas of poor or rocky soils.



STEP FOUR

Placing the structure

Each power line structure is engineered specifically for its location. Weathering steel poles are earth-toned and require less maintenance than painted or galvanized steel. The poles generally arrive from the manufacturer in sections and are assembled at the site, then raised and set in place with cranes or other heavy equipment.



STEP FIVE

Stringing conductors (wires)

After the poles have been placed, the wires are installed by pulling them from one structure to the next using a temporary pulley system. After stringing the wires through a series of structures, they are hung on insulators that are attached to the poles and are made from



materials that do not allow electricity to pass through them. Trucks, heavy equipment and sometimes helicopters, are used to string the lines. Other equipment, including bird diverters, spacers and devices to prevent the wires from galloping (moving up and down during icy, windy weather conditions) may also be installed.

STEP SIX

Restoration of the corridor

When construction is complete and weather conditions permit, the utility corridor is cleaned up and restored. This work may include tile and fence repair, soil decompaction, repairing ruts, tilling, seeding, and in certain areas, wetland restoration. Construction mats, which help to prevent soil compaction, are removed. If damage occurred to crops or other non-restorable property during construction, ATC will fairly reimburse landowners for the damage. Restoration is a very important part of the construction process, and our goal is to leave the corridor in good condition after the project.

