



Survey Activities

Western Spirit Transmission Line

This document summarizes basic information about the types of surveys that the Western Spirit Transmission Line and its consultants will be performing through the remainder of the development period this year and into construction starting next year. Not all surveys listed below may be needed on your land – rather the list is meant to illustrate and help you understand the types of field work that may be required on this project.

If you have any questions, please contact your land representative directly or call the Western Spirit Transmission team directly at (505) 375-1324.

General Information

- » Prior to the arrival of survey technicians, landowners will be notified of the date, time and type of survey that will be performed.
- » Each field survey can typically take a few days to a week to complete, depending on size of the parcel.
- » Temporary flagging or tape may be used to denote survey boundaries or areas of interest.

Boundary Surveys

- » Boundary surveying is the determination, description, portraying, measuring or monumentation of the boundaries of a tract of land and reflecting the relationship of the boundaries of the surveyed property with its adjoining, where ascertainable from record documents or from field evidence gathered during the process of conducting the survey of the property being surveyed.
- » Surveys will be performed in accordance with the Minimum Standards for Surveying in New Mexico. [Title 12, Chapter 8, Part 2, New Mexico Administrative Code]
- » Survey duration may vary based on the size of the parcel, ease of access, terrain, and the condition of the survey monuments on the property. Properties with little or no monumentation will take longer to survey than those that are well monumented.
- » Surveys of a parcel may require multiple site visits. Upon review of field data, the licensed surveyor may require the crew to return to search for additional monumentation or to set monumentation where none was found. Landowners will be notified when subsequent visits are required.

Boundary Surveys continued...

- » The typical survey crew consists of two people, and surveys will be conducted during the daylight hours. Multiple crews may be present on one property at the same time, especially on larger parcels.
- » ATVs may be used to access areas away from roadways, or where rough terrain not suitable for a pickup is present.
- » Survey crews will also be determining the location of pipelines, utility lines and other improvements along the proposed easement area.
- » On properties where boundary evidence is insufficient, the surveyor may wish to contact the landowner to request documentation or testimony that may aid in completion of the survey.
- » The survey crews will perform a thorough search for Section corners and property corners. If monuments are not located during the survey, they will be set as needed. Fence lines and other important features along the boundary of the property may be located to aid in the search for monumentation. Temporary flags or flagging may be used to mark boundary monuments.

Environmental Surveys

Wetland and other surface water surveys

- » Typically performed during the growing season (generally March through November), these surveys are used by project engineers and planners to comply with permit requirements by the US Army Corps of Engineers. Wetland technicians will primarily focus their work on streams, creeks, rivers, floodplains, wetlands, and areas of seasonal inundation.
- » The number of technicians will vary depending on parcel size and the amount of potential wetland areas anticipated.
- » Some minor soil sampling may be required—typically no more than a few shovels' worth at particular locations. Soils sampled during wetland surveys are analyzed in the field and immediately put back in place.
- » Surveys mainly involve identifying wetland boundaries and mapping these boundaries using GPS technology.
- » Some temporary survey flagging (small ribbons of colored tape) may be installed to aid the crews. Flags can be removed after the survey is completed, but most flagging naturally decomposes after a few months.

Wildlife Surveys

- » Wildlife surveys are typically performed during the spring and summer since many species are migratory and only occur in the project area during the summer breeding season. Survey windows are defined by the state or federal natural resource management agency.
- » Most surveys are completed during daylight hours, with a few potential exceptions, such as:
 - Bat “mist-netting” surveys are conducted during nighttime hours, and
 - Special access times will be coordinated in advance with the landowner.
- » Duration of individual surveys will depend on the species of interest and guidance from state or federal agencies. This will, in turn, influence:
 - The size of the crews
 - Survey tools and temporary equipment
 - Possible need for vehicular access to the parcel(s) (see below)
- » Most surveys will be conducted on the property by two to three people who will travel on foot. Some exceptions may include:
 - For some smaller, open properties and for some surveys, the crews may be able to complete their work visually from adjacent properties or public roads without actually entering the property.
 - On some properties with challenging terrain, difficult access, or for surveys that require specialized equipment, technicians may request the use of light-duty pickup trucks or ATVs. When vehicular access is required, it will be coordinated with the landowner.
- » Environmental crews may require access to survey for the presence of certain wildlife species (this may include, for example, mammals, birds, insects, fish, or plants) and, in some instances, identification of wildlife habitat.

Cultural Resource Surveys

- » Locations and extent of cultural resource surveys in the field may include a broad area. However, this will vary depending on location and guidance from state and federal historic and cultural resource agencies.
- » In areas with crops, studies preferably are conducted during early spring or early fall when ground is thawed and crops do not obscure visibility of the ground surface.
- » Survey duration may vary. Most surveys are completed on individual parcels within one to three days, depending on the size of the survey area and the findings. Positive findings of cultural resources might prompt an additional survey effort, potentially meaning that the crew may spend more time on the property. In those cases, more soil may be disturbed to complete the survey that requires a “shovel test” described below.
- » Most cultural surveys require periodic shovel tests to review the subsurface soil. Typically, these are performed with a “sharp-shooter” type hand shovel to a depth of about 12 to 24 inches. All holes are backfilled immediately and most of them are nearly invisible after the survey is complete.
- » Cultural resources that are discovered during these surveys will be documented according to state and federal standards, and their location, extent, and content will be recorded with the appropriate state entity.
- » Size of field crews will vary depending on the survey effort and the size of areas to be surveyed, but most survey teams consist of two people.

Environmental Site Assessment Surveys

- » These surveys are completed to identify any potentially hazardous materials that might be located on a property and to document and report on any relevant findings.
- » Typically will not require field surveys of entire property areas but rather require small field crews conducting site reconnaissance of a limited subset of land.
- » No ground disturbance of any kind is conducted and field crew analysis is strictly based on visual information.

Geotechnical Surveys

- » Contractor will stake/mark the proposed survey/boring locations. The samples will be obtained at an interval of 2-½ to 5 feet to a depth of 10 feet, and at 5-foot intervals thereafter.
- » Contractor will observe and record groundwater levels (if applicable) during and immediately after drilling. Once the samples have been collected and visually classified in the field, they will be placed in appropriate sample containers for transport to our laboratory.
- » Field electrical resistivity tests will be conducted as part of the geotechnical survey. Resistivity tests will consist of two perpendicular arrays and will be performed in general accordance with the Wenner Array (4-pin) method per ASTM G57.
- » The equipment used will be one or two rubber tire mounted drill rigs and two pick-up trucks for each drill rig.
- » For safety purposes, all borings will be backfilled immediately after their completion. Excess auger cuttings would be disposed of on-site by evenly distributing the spoils across the boring location areas.
- » Contractor will take reasonable efforts to reduce damage to the property, such as rutting of the ground surface. However, it should also be understood that in the normal course of our work some such disturbance could occur.