



GROUND DISTURBANCE



Purpose

The purpose of this program is to define the minimum requirements for performing **Ground Disturbance** activities including Trenching and **Excavation** while on a Validus Energy worksite.

Scope

This program applies to all Validus Energy worksites and employees.

Process

A one call locate request shall be called and cleared prior to any Ground Disturbance activities excluding **Routine Maintenance** activities and surface digging of 18 inches or less on Validus wellsites.

A pre-job plan will be developed prior to beginning the Ground Disturbance activity.

All Ground Disturbance activities will be stopped immediately if unmarked lines, evidence of a spill or potential **Culturally Significant Artifacts** are discovered.

Validus Energy will respond to locate requests and mark areas according to appropriate state regulations.

A **Blind Sweep** shall be conducted along the planned path of disturbance prior to excavation beginning.

Responsibilities

Leadership	Commit to, follow and reinforce the requirements set forth in this program. Provide sufficient resources for implementation.
Supervisors	Ensure Validus employees have the knowledge and skills to follow this program. Ensure 811 is called and cleared prior to all Ground Disturbance activity.
EHS	Provide technical advice and resources to monitor compliance. Conduct training on this program and facilitate qualified/competent person training as necessary.
Validus Employees	Follow the requirements of this program and complete required training.



Definitions

Access and Egress - “entry” and “exit,” respectively. In trenching and excavation operations, they refer to the safe means for Workers to enter or exit an excavation or trench.

Blind Sweep - The use of electronic line finding equipment, and visual scan to locate unmarked underground facilities in the path of Ground Disturbance activities.

Competent Person - is an individual who can identify existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to Workers, and who has authorization to take prompt corrective measures to eliminate or control these hazards and conditions.

Culturally Significant Artifacts - coins, painted pottery, telephones or anything else that evidences the social, political, economic or religious organization of the people whom they belonged to.

Excavation or Trench - is any man-made cut, cavity, trench, or depression in an earth surface that is formed by earth removal. A Trench is a narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth of a trench is greater than its width, and the width (measured at the bottom) is not greater than 15 ft (4.6 m). If a form or other structure installed or constructed in an excavation reduces the distance between the form and the side of the excavation to 15 ft (4.6 m) or less (measured at the bottom of the excavation), the excavation is also considered to be a trench.

Ground Disturbance - Any work, operation or activity that results in a disturbance of the earth, rock, or other material in the ground.

Hazardous Atmosphere - is an atmosphere that by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen-deficient, toxic, or otherwise harmful may cause death, illness, or injury to persons exposed to it.

Protective System - refers to a method of protecting Workers from cave-ins, from material that could fall or roll from an excavation face or into an excavation, and from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.

Routine Maintenance - Operation involving lease road/pad maintenance (grading/blading, snowplowing, backfilling, etc.) that does not change the original grade in or below the ground.

Underground Installations - include, but are not limited to, utilities (sewer, telephone, fuel, electric, water, and other product lines), tunnels, shafts, vaults, foundations, and other underground fixtures or equipment that may be encountered during excavation or trenching work.



Policies

Contractors hired to conduct Ground Disturbance activities shall follow all applicable standards including but not limited to 29CFR1926 Subpart P and any other federal, state and local requirements.

One Call Locate

A One Call locate must be performed prior to excavation activities. Any confirmed or suspected subsurface installation must be marked. All parties must understand the locate markings are often approximations and those excavating within close proximity must practice diligence.

- Excavation shall be done in a manner, so it does not strike the underground installations or endanger the Workers.
- Utilities left in place shall be protected prior to excavating within the tolerance zone
 - Note: Specific state tolerance zones are:
 - New Mexico: 18 inches
 - North Dakota: 24 inches
 - Texas: ½ the diameter of pipe plus 18 inches
 - Oklahoma: 24 inches
 - Wyoming: 24 inches

Exposed excavations

Barriers shall be used around excavations and/or trenches.

Wells, holes, pits, shafts and all similar hazardous excavations shall be effectively barricaded or covered and posted as necessary to prevent unauthorized access.

All temporary excavations must be backfilled as soon as possible.

Access/Egress

A safe means of access/egress (e.g., ladders, ramps, stairs, etc.) is required for those entering and exiting an excavation that is 4 feet or more in depth to require no more than 25 feet of lateral travel for Workers.

Visibility

Those engaged in Ground Disturbance near a road or other high traffic area must wear high visibility clothing.



Competent Person

A competent person must always be present when a worker is in a trench or excavation of 4 feet or greater. The competent person's responsibilities include:

Daily Inspection

- Daily inspections of excavations shall be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections shall also be made after every rainstorm or other hazard increasing occurrence.
 - If there is evidence of a situation that could result in a possible cave-in, failure of protective systems, Hazardous Atmosphere, or other hazardous conditions, everyone shall be removed from the excavation.

Protective Systems or Equipment

- Monitoring water removal equipment and operations.
 - Removal of Workers if conditions dictate.
 - Atmospheric testing. Using a properly calibrated direct reading gas monitor or direct reading gas detector tubes.
 - Inspecting excavations subject to runoff from heavy rains to determine the need for diversion ditches, dikes, or other suitable protection.
 - Determining cave-in potential to assess need for shoring or other Protective System.
 - Examining damaged material or equipment used for protective systems to determine its suitability for continued use.
 - Classifying soil and rock deposits, by both visual analysis and by testing, to determine protection and re-classifying, if necessary, based on changing conditions.
 - Determining the appropriate slope of an excavation to prevent collapse due to stored material or equipment, operating equipment, adjacent structures, or traffic, and assuring that such slope is achieved.
 - Determining if the excavation work could affect the stability of adjoining buildings, walls, sidewalks or other structures.
- The competent person shall keep a written log of all inspections conducted. This log shall include the date, work site location, results of the inspection, and a summary of any action taken to correct existing hazards.

Access/Egress

- Structural ramps used for access or egress of equipment must be designed by a competent person qualified in structural design.

Training

Validus Energy employees not performing Ground Disturbance will receive awareness level training on the requirements of this program.

If Validus Energy Employees will be conducting Ground Disturbance activities, they will receive third party training specific to the type of excavation and role they will be performing.

