



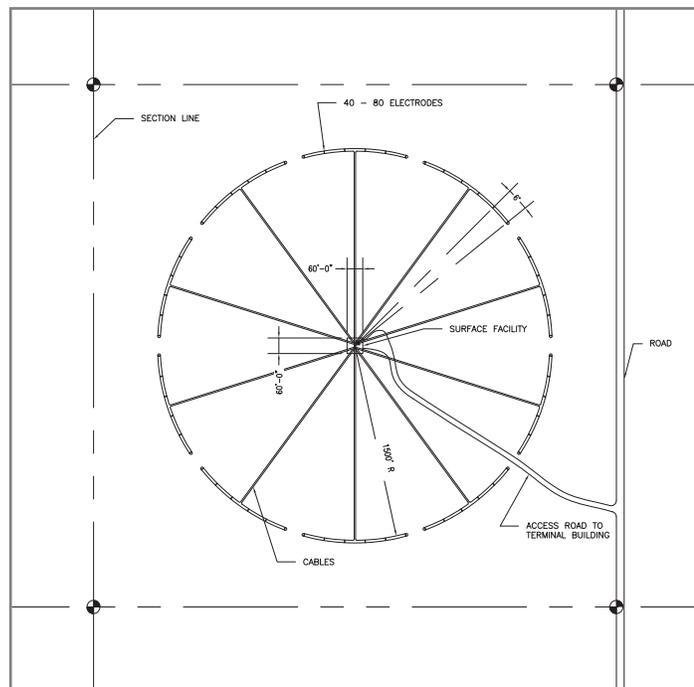
## Three other key technology components for the TWE Project

### 1. Ground electrode facilities

- A ground electrode facility built near each terminal to maintain electrical current continuity immediately following an unexpected electrical interruption
  - 10-50 miles from northern terminal
  - 50-100 miles from southern terminal
  - Would only operate 10-60 minutes during emergency situations
- Facility design:
  - Typically a network of 40 to 80 ground electrodes arranged in a circle 3,000 to 5,000 feet in diameter
  - Each electrode will be completely underground and installed up to 1,000 feet below ground, depending on soils and geology
  - Electrode leads will be electrically interconnected and wired to a small control building with low voltage underground cables
  - A low voltage electrode line will connect the ground electrode facility to the terminal
  - No impacts to local water supplies or other resources/infrastructure



A typical ground electrode control building  
(About 60 feet by 60 feet fenced area)



Typical site plan for a ground electrode facility  
(About 3,000 to 5,000 feet in diameter)

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## 2. Interconnection facilities

- The Northern Terminal and Southern Terminal will consist of an AC/DC converter station.
- Each station will be interconnected through 230 kV and 500 kV transmission lines to the existing transmission grid in Wyoming and Nevada.

## 3. Communication systems

- Two independent communication systems between the terminals for direct current system operation:
  - A fiber-optic network, to be installed on one of the two shield wires on the line structures. The network will require regeneration sites about every 50 miles within the right-of-way to house communications equipment, mobile radio equipment and emergency generators.
  - A microwave communication network, primarily using existing microwave systems used by utilities; a few microwave sites near each terminal may be required to connect into these existing networks.
- A mobile radio communication system to support emergency operations, line patrol and maintenance operations



Typical terminal and interconnection facilities