

### **4.3 Geology, Soils, and Seismicity**

Construction of the proposed project would require grading for new access roads and excavation for support structure footings as described in Section 2.2.2 of this EA. Some vegetation clearing and trampling may occur at the work areas around the support structure sites and pull sites to allow safe personnel and equipment use and movement. Because the project site is within an Area of Critical Environmental Concern, construction would be monitored to minimize disturbance of biological and cultural resources, which would also minimize disturbance of soils.

Footings are expected to be buried about 10 to 30 feet deep. Subsurface soils near the IV substation are generally dense to very dense sand and silty sand. In the Pinto Wash area, geotechnical investigations have encountered medium dense to dense sands to a depth of 16 feet. Existing electrical transmission lines in the project area, including the SDG&E 230 kV transmission line that would be immediately adjacent to the proposed lines and which was constructed in a similar manner as proposed for the BCP and SER lines, are structurally stable. Soil and geologic conditions appear to offer adequate support for the proposed transmission line support structures.

Groundwater near the IV Substation has been encountered at a depth of about 25 feet. Monopole footings in this area could be deep enough to enter the groundwater zone. If this were to happen, the contractor could use casings to allow the footings to be poured. Thus groundwater, if encountered, would not interfere with construction of the footings nor adversely affect the footings, and the footings would not affect groundwater conditions.

The topography of the entire site is very gently sloping, almost level. Access roads would be graded on the surface, without any significant cut and fill grading, and would not be paved. Existing access roads do not exhibit excessive erosion. Therefore, excessive erosion due to the proposed new access roads is not expected.

Although the entire Imperial Valley is seismically active, none of the proposed routes lie within an Alquist-Priolo fault-rupture hazard zone designated by the State of California Division of Mines and Geology (CDMG). Surface fault rupture is unlikely to occur along the route taking into account the well-delineated fault lines through this region, as shown on the CDMG maps, although the possibility of undiscovered or new faults cannot be ruled out. Seismically-induced liquefaction is not a concern because of the depth of groundwater and predominance of dense sandy soils.

The topography throughout the proposed alignments is nearly level, so the hazard of landsliding is nonexistent. There are no large bodies of water in the vicinity, so there is no threat of tsunamis, seiche, or other seismically-induced flooding.