

The Contractor shall insure that heavily contaminated slurry suspension, which could impair the free flow of concrete, has not accumulated in the bottom of the shaft. Prior to placing concrete in any shaft excavation, the Contractor shall take slurry samples using a sampling tool similar to that shown in Figure 1. Slurry samples shall be extracted from the base of the shaft and at intervals not exceeding 10 feet up the shaft, until two consecutive samples produce acceptable values for density, viscosity, pH, and sand content.

When any slurry samples are found to be unacceptable, the Contractor shall take whatever action is necessary to bring the mineral slurry within specification requirements. Concrete shall not be poured until resampling and testing results produce acceptable values.

Reports of all tests required above signed by an authorized representative of the Contractor, shall be furnished to the Resident on completion of each drilled shaft.

During construction, the level of mineral slurry in the shaft excavation shall be maintained at a level not less than 4 feet above the highest expected piezometric pressure head along the depth of the shaft. If at any time the slurry construction method fails, in the opinion of the Resident, to produce the desired final results, then the Contractor shall both discontinue this method and propose an alternate method for approval of the Resident.

If the Contractor proposes to use a blended mineral-polymer slurry, the Contractor shall submit a detailed report specific to the project prepared and signed by a qualified slurry consultant describing the slurry materials, the mix proportions, mixing methods and quality control methods.

#### **501.06 EXCAVATION INSPECTION**

The drilled shaft installation shall be inspected by the Contractor's geotechnical inspector, who shall be a qualified geotechnical engineering inspector, experienced in drilled shaft construction inspection. The Contractor's Inspector shall keep a daily construction record, including the Inspection Forms and Reporting Forms.

The Contractor shall provide access and equipment for checking the dimensions and alignment of each permanent shaft excavation and for visual inspection of the rock socket. Final shaft depths shall be measured with a suitable weighted tape or other approved methods after final cleaning, unless otherwise stated in the plans. A minimum of 50 percent of the base of each shaft shall have less than ½ inch of sediment at the time of placement of the concrete. The maximum depth of sediment or any debris at any place on the base of the shaft shall not exceed 1.5 inch. Shaft cleanliness will be determined by the Resident, by visual inspection for dry shafts or other methods deemed appropriate to the Resident for wet shafts. In addition for dry excavations the maximum depth of water shall not exceed 3 inches prior to concrete pour.

Facilities shall be provided and maintained for the Resident to inspect each drilled shaft immediately prior to placing reinforcing steel, and again, if requested by the Resident, prior to depositing the drilled shaft concrete. Concrete placement shall not begin until the Resident's approval has been obtained. Prior to the placement of underwater concrete, a miniature shaft inspection device (Mini-SID) shall be provided and used to provide a comprehensive underwater inspection of the prepared rock socket and the steel casing. The Mini-SID inspections shall be recorded on videotape by the Contractor. The date, shaft number, and camera position shall be recorded on the videotape. Copies of all data (written, electronic, videotape, digital files, etc) obtained during inspections shall be submitted to the Department and become property of the Department.