SP00512 (2015 Specifications: ~~11-13-14~~11-19-15) *(This Section requires SP02001)*

SECTION 00512 - DRILLED SHAFTS

(Follow all instructions. If there are no instructions above a subsection, paragraph, sentence, or bullet, then include them in the project. The specifications may be modified to include project specific specifications, but all additions, deletions, or modifications must be sent to the ODOT Technical Resource and Senior Specifications Engineer for review and approval.)

Comply with Section 00512 of the Standard Specifications modified as follows:

(Use the following subsection .43(a) when the contract requires a minimum shaft penetration into a bearing layer (as opposed to a specified tip elevation) and the bearing layer elevation at each shaft cannot be accurately determined. Obtain the information as from the Geotechnical Engineer. Include subsections .45, .80(d), and .80(e).)

00512.43(a) Drilled Shaft Excavation, General - Add the following paragraph after the last paragraph:

Variations in the bearing layer elevation from that shown are anticipated. Provide equipment on-site capable of excavating an additional _____ feet of depth below that shown.

(Use the following lead-in paragraph and subsection .44 when permanent casing is required. Include the outside diameter and the wall thickness under the "Casing Size" column.)

Add the following subsection:

00512.44 Permanent Casing - Furnish and install permanent casing as follows:

Bridge Number	Bent Number	Casing Size	Elevation for Top of Casing (Feet)	Elevation for Bottom of Casing (Feet)

Perform welding of all permanent casing according to AWS D1.1. Test all full penetration welds using nondestructive methods by either radiograph or ultrasonic methods. Base nondestructive testing acceptance criteria on cyclic tension loading.

After concrete placement, fill all void space between the casing and the shaft excavation with a material that approximates the geotechnical properties of the in-situ materials.

(Use the following subsection .45 when the contract requires a minimum shaft penetration into a bearing layer (as opposed to a specified tip elevation) and the

bearing layer elevation at each shaft cannot be accurately determined. Obtain the information from the Geotechnical Engineer. Include subsections .43(a), .80(d), and .80(e).)

00512.45 Reinforcing Steel - Add the following paragraph to the end of this subsection:

At locations requiring minimum shaft penetrations into specific bearing layers, furnish steel reinforcing bar cages, including CSL access tubes if specified, ___ feet longer than the lengths shown. Add the increased length to the bottom of the cage. Trim the shaft steel reinforcing bar cage to the proper length prior to placing it in the excavation. Shift or trim CSL access tubes (if present) to the revised cage length. If CSL tubes are cut, adapt the ends of the tubes to receive the watertight caps as specified.

(Use the following subsection .80(d) to list the estimated amount of required concrete.)

00512.80(d) Drilled Shaft Concrete - Add the following at the end of the paragraph:

The estimated quantity of drilled shaft concrete is:

Structure	Class	Quantity (Cubic Yard)

(Use the following paragraph when additional concrete is required to extend the minimum shaft penetrations. Include subsections .43(a), .45, and .80(e).)

The estimated quantity of drilled shaft concrete includes the concrete required to extend the shafts according to 00512.43(a).

(Use the following subsection .80(e) to list the estimated amount of required reinforcement. Remove the coated column if coated steel is not required.)

00512.80(e) Drilled Shaft Reinforcement - Add the following at the end of the paragraph:

The estimated quantity of drilled shaft reinforcement is:

Structure	Quantity	
	Uncoated (Pound)	Coated (Pound)

(Use the following paragraph when additional reinforcement is required to extend the minimum shaft penetrations. Include subsections .43(a), .45, and .80(d).)

The estimated quantity of drilled shaft reinforcement includes the reinforcement required to extend the shafts according to 00512.45.