SP00921 (2015 Specifications: ~~11-19~~-12-10-15) ***(This Section requires SP02001)***

SECTION 00921 - MAJOR SIGN SUPPORT 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 00921 of the Standard Specifications modified as follows:

00921.10(b) Concrete - Replace this subsection, except for the subsection number and title, with the following:

Use Class 4000 drilled shaft concrete according to Section 02001, except as modified in this Section. Water may be added to the concrete mix at the Project Site only if allowed by the approved mix design.

00921.12 Concrete Mix Design - Delete this subsection.

00921.40(a) Drilled Shaft Installation Plan -

(Use the following ~~subsection .40(a)~~ paragraph and bullet when the foundation will be embedded in rock or there is another reason to have additional reinforcing cage length. Check with designer.)

~~00921.40(a) Drilled Shaft Installation Plan -~~ Replace the bullet that begins "Unstamped reinforcing steel shop drawings…" with the following bullet:

- Unstamped reinforcing steel shop drawings and details of reinforcement placement, including bracing, splicing, centering, lifting methods, and the method for supporting the reinforcement on the bottom of the shaft excavation according to 00150.35. Include details on the type, number, and placement of spacers and other devices for ensuring the reinforcing cage position is maintained during construction. Include details for attaching the CSL test access tubes to the reinforcing cage (if applicable).

Replace the bullet that begins "Provide documentation that assures…" with the following bullet:

- Documentation that assures that the concrete mix design will maintain the required slump retention properties specified in Section 02001.

Add the following bullet before the bullet that begins "Details of concrete placement…":

- If the concrete mix design allows the addition of water at the Project Site, documentation that specifies the amount of water that may be added and allowable methods for adding the water.

(Use the following subsection .45(a) when the foundation will be embedded in rock or there is another reason to have additional reinforcing cage length. Check with designer.)

00921.45(a) Placement - Replace the paragraph that begins "In each shaft, place…" with the following paragraph:

In each shaft, place reinforcing steel extending from 6 inches above the bottom of the shaft excavation to the elevation shown. The reinforcing cage may be supported on the bottom of the shaft excavation if approved. Support the reinforcing cage to prevent distortion or settlement during concrete placement. Support the reinforcing cage such that the supporting mechanism does not obstruct the center of the shaft and allows concrete placement vertically down the center of the shaft. If concrete placement does not immediately follow cage placement, remove the reinforcing cage from the excavation and rectify the integrity of the excavation prior to reinstallation of the cage.

Add the following paragraph to the end of this subsection:

To accommodate variations in shaft length, furnish steel reinforcing bar cages, including CSL access tubes if specified, 4 feet longer than the lengths shown. Add the increased length to the bottom of the cage. Following bottom cleanliness approval, trim the bottom of the 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.

00921.80 Measurement - The estimated quantities of materials for the sign support drilled shaft foundations are:

(Fill in the blanks with the appropriate quantities. Obtain information from the designer.)

Location	Material	Quantity
Structure Type _____ (Br No. _____)	Concrete Class 4,000	_____ cu. yds.
	Uncoated Reinforcement Grade 60	_____ pounds
	Drilled Shaft Excavation	_____ cu. yds.
	CSL Tubes	_____ feet
	CSL Test	_____ each