SECTION 00921 - MAJOR SIGN SUPPORT DRILLED SHAFTS

(Follow all instructions. If there are no instructions above a subsection, paragraph, sentence, or bullet, then include it 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 State Specifications Engineer for review and approval.)

Comply with Section 00921 of the Standard Specifications modified as follows:

00921.00 Scope – Replace this subsection, except for the subsection number and title, with the following:

This Work consists of excavating and constructing drilled, cast-in-place, reinforced concrete shafts and footings for sign supports according to the Specifications and the Plans.

(Use the following subsection .00 when traffic signal 60 foot through 75 foot mast arm supports are included in the Project. Check with the Traffic Signal designer.)

Add the following paragraph to the end of this subsection:

This Work also consists of excavating and constructing drilled, cast-in-place, reinforced concrete shafts and footings for traffic signal 60 foot through 75 foot mast arm supports according to the Specifications and the Plans.

00921.10(a) Reinforcement - Replace the paragraph that begins "Use reinforcement complying…" with the following paragraph:

Use reinforcement complying with Section 02510.

00921.10(b) Concrete – Add the following to the end of this subsection:

Use Commercial Grade Concrete and anchor bolts according to 00920.10 for drilled shaft cap.

00921.40(a) Drilled Shaft Installation Plan -

(Use the following sentence when the foundation will be embedded in rock or there is another reason to have additional reinforcing cage length. Check with designer. Delete (s) or parentheses and the words in parentheses as needed.)

Add the following sentence to the bullet that begins “Unstamped reinforcing steel shop…”

For site(s) (insert site name) (and) (insert site name) only, include details of the method for supporting the reinforcement on the bottom of the shaft excavation

(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. Delete (s) or parentheses and the words in parentheses as needed.)

00921.45(a) Placement - Add the following paragraph and bullets to the end of this subsection:

For site(s) (insert site name) (and) (insert site name) only:

- 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.
- 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.

Add the following subsection:

00921.47(f) Drilled Shaft Cap – Install drilled shaft cap according to 00920.40 and 00920.41.

00921.80 Measurement - Replace the paragraph that begins "The quantities of Work performed under…" with the following paragraph:

The quantities of Work performed under this Section will be measured on the length basis.~~, by the vertical excavated~~Measurement will be the length from the bottom of the shaft to the top of the sign support footing. If directed to construct drilled shafts below the ~~elevations~~ bottom of shaft shown, the drilled shaft will be measured from the revised bottom of shaft.

Add the following to the end of this subsection:

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 3600	_____ cu. yds.

Concrete Class 4000	_____ cu. yds.
Uncoated Reinforcement Grade 60	_____ pounds
Drilled Shaft Excavation	_____ cu. yds.
CSL Tubes	_____ feet
CSL Test	_____ each

00921.90 Payment - Replace the paragraph that begins “Payment will be payment in full for furnishing…” with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for furnishing all Equipment, labor, and Incidentals necessary to complete the Work as specified. Work completed according to Section 00920 shall be Incidental to this section.

In the paragraph that begins "No separate or additional payment…", add the following bullet to the end of the bullet list:

- shaft clean out below the bottom of shaft shown