

Amend **Section 613 - Centerline and Reference Survey Monuments** to read as follows:

**"SECTION 613 - CENTERLINE AND REFERENCE SURVEY MONUMENTS**

**613.01 Description.** This work includes furnishing and installing, reconstructing and/or adjusting centerline and reference survey monuments according to the contract.

**613.02 Materials.**

(A) **Concrete.** Concrete shall be Class A and shall conform to Section 601 - Structural Concrete. The Contractor may hand mix the concrete.

(B) **Plug.** The metal plug for marking the centerline point shall be of brass. Burr or feather the metal plug for anchorage in the concrete.

(C) **Other Materials.** Other materials shall conform to the following:

Zinc-coated Pipe and Fittings 707.10

Reinforcing Steel 709.01

Adhesives for Pavement Markers 712.41

Structural Steel 713.01

The plate shall have the shape and dimensions shown in the contract.

The sleeve encircling the centerline or reference survey monument shall have the shape and dimensions shown in the contract. Fillet-weld the sleeve around its entire outer circumference.

The nail fastening the plate to the pavement shall be 2.0 inches long by 9.0 concrete nail.

The #4 x 20-inch bar shall be of one piece as shown on the plans.

**613.03 Construction Requirements.** After fully completing the median and shoulders, cut the holes through the median and unpaved shoulders into the subgrade for the required depth. When reaching solid rock before reaching the required depth, the Contractor may build the monument on this instead of being built to its full depth. Fill the hole with concrete. Place the 4 #4 x 20-inch bars as shown on the plans when curing the concrete. When the concrete has set sufficiently, install the brass plug in the exact position required.

After curing the concrete in the monument for at least 7 days, restore the edge of pavement surrounding the monument to the original condition.

Complete the adjustment of centerline and reference survey monuments before the paving operations.

Adjust the centerline and reference survey monuments by :

- (1) covering the bottom of the plate and sleeve assembly with adhesive and
- (2) pressing the assembly into place over the existing centerline or reference survey monument.

Then align the assembly so that the monument pin is in the center of the sleeve. While maintaining this alignment, fasten the plate to the existing pavement by driving the concrete nails through the predrilled holes in the plate. Drive the nails until the head of each nail is flush with the plate. Complete these operations within five minutes of mixing the adhesive.

When adjusting centerline and reference survey monuments, epoxy and weld the sleeve shown in the contract to the existing sleeve. Place the epoxy on contact surfaces between sleeves. The fillet welds shall be completely around the entire circumference of the sleeve.

Fill the sleeve with newspaper or other material to prevent the concrete of the existing monument from being affected by the application of tack coat or by subsequent paving operations.

After laying the pavement but before compaction, remove the pavement directly above the sleeve and the newspaper or other material from the sleeve.

After completing the compaction of the pavement, clean the area enclosed by the sleeve so that the pin and concrete are clearly visible.

When reconstructing the centerline and reference survey monuments, reference the existing monument with cross nails after laying and compacting the new pavement. Then excavate the reconstructed monument in its entirety. Construct a new monument according to the contract.

**613.04 Method of Measurement.** The Engineer will measure centerline and reference survey monuments per each.

**613.05 Basis of Payment.** The Engineer will pay for the accepted centerline and reference survey monuments at the contract unit price per each complete in place.

The price includes full compensation for excavating, restoring to original condition, cutting and filling the holes, furnishing and installing the 4 - #4 x 20-inch bars and the brass plugs, aligning the assembly, driving the concrete nail, epoxing and welding the sleeve, cleaning the area, and furnishing labor, materials, equipment, tools, and other incidentals necessary to complete the work.

The Engineer will make payment under:

<b>Pay Item</b>	<b>Pay Unit</b>
Centerline and Reference Survey Monuments	Each
Reconstructing Centerline and Reference Survey Monuments	Each
Adjusting Centerline and Reference Survey Monuments	Each"

**END OF SECTION**