

CHAPTER 20 – CONSTRUCTION SURVEYING / MONUMENTATION

The Contract will specify whether the Project Manager (PM) or the Contractor is to perform the construction survey work. Construction survey work includes the surveying needed to establish locations, lines, and grades necessary for the Contractor to construct the Work required on the Project.

In all cases, the PM will perform the surveying, or will perform some verification, needed to calculate quantities of work performed by and to be paid to the Contractor. [*Refer to Chapter 12-D – Quantities*]

20-1 CONSTRUCTION SURVEYING BY THE AGENCY

If the Agency is to perform the construction survey work, Section 00150.15 specifies the responsibilities of the parties.

The PM must assure that adequate horizontal and vertical control is available on the Project, and that other layout information is available, so that construction survey work can be performed in a timely manner for the Contractor's operations.

The PM and Contractor must maintain good communication to identify and provide timely notice of survey needs in order to avoid delays to construction activities. The Contractor's Project schedule can be used as a tool to anticipate construction survey needs.

The PM must assure that the Contractor understands the staking layout before proceeding with the work.

Construction surveying must be performed and recorded in accordance with current statutes, standards, and Agency guidelines. Contact the [ODOT Geometronics Unit](#) for further information.

The PM survey crew must maintain a diary to record the following information daily:

- Date;
- Names of crew members;
- Weather;
- Type and location of Work performed and/or accomplished;
- Instructions from the PM;
- Requests for surveying or staking; and
- Signature of person making the diary entry.

When Agency survey personnel measure quantities of Work, that information is a “Source Document” and must be recorded as specified for “Source Documents” in **Chapter 12-D – Quantities**.

20-2 CONSTRUCTION SURVEYING BY THE CONTRACTOR

When the Contractor is responsible for performing the construction survey work on a project, Section 00305 will be included in the Contract and will identify the responsibilities of the parties.

Generally the responsibilities include, but are not limited to the following:

The Agency will:

- Establish initial horizontal and vertical control stations in the proximity of the Project.
- Provide cross section finish grade elevations.
- Provide horizontal and vertical alignment data.
- Provide information needed to accomplish layout of Project Work.
- Measure or verify any quantities derived or calculated by construction survey work used for determining pay quantities.
- Assure that all information is provided to the Contractor in a timely manner to prevent any delay or disruption to the Work.
- File survey records with the County Surveyor regarding Work done on the Project, if required.

Contractor will perform or provide the following items:

- Perform calculations, field notes and survey drawings for the layout and control of all work needed to establish line, grade, and location for all elements of Work to be done under the Contract.
- Have a licensed Oregon Land Surveyor in responsible charge of the survey work. A Professional Engineer, who is licensed in Oregon, may be in responsible charge of the construction survey work. However, a licensed Land Surveyor must be in responsible charge of boundary surveying or monumentation.
- Require its surveyor to maintain a daily record of work, as required by 00305.07. Furnish a final copy of the diary to the PM upon Project completion.
- Provide to the PM all original or copies of survey information required by the Contract.

20-3 MONUMENTATION AND BENCHMARKS

The Agency may install survey markers, benchmarks, or other monuments to identify centerline or Right of Way boundaries for its projects. Some of this work may be included in the Contract to be performed by the Contractor.

Survey markers or monuments must be installed according to current Agency guidelines as well as ORS 209.140 and ORS 209.150. Contact the [ODOT Geometronics Unit](#) for current ODOT guidelines for this work.

The PM must record information on existing survey markers or monuments that will be destroyed during completion of Work on a Project. This is done by electronically submitting a [Survey Mark Report Form](#) to the ODOT Geometronics Unit. The PM may also need to reference and relocate markers that will be disturbed during the Project. The PM is responsible for assuring that the markers or monuments are properly recorded, relocated when necessary, and filed with the County Surveyor. ORS 209 requires the survey documents to be filed with the County Surveyor within 180 days after issuance of Second Notification.

ORS 209 requires survey markers or monuments to be installed and recorded with the County Surveyor within specified timelines. The PM must assure that the work is accomplished properly and timely, whether the work is accomplished by the Agency or Contractor.

The Agency works with other agencies to maintain a system of benchmarks along the Highway system. New benchmarks are often added or are necessary to replace those destroyed by during the Project.

Contact the ODOT Geometronics Unit at the start of the Project to determine if new benchmarks will be needed within the Project limits. The PM may need to perform some survey work to provide information on the benchmarks.

At the completion of the Project, as part of the final Project documentation submittal [*Refer to Chapter 37 – Submittal of Final Project Documentation*] the PM must submit a Right of Way (ROW) Monumentation Completion Notice to the Contract Administration Unit (CAU). The notice can be in the form of an email and is required to be submitted on all Projects.

The purpose of the ROW Monumentation Completion Notice is to ensure that the Project expenditure account (EA) is not closed prior to all Right of Way work being completed. Project EAs are automatically closed 90 days after final payment is made. If the PM needs the EA to remain open for the Right of Way work to be completed, contact the CAU.

The notice must identify that all Right of Way work has been completed, or provide the estimated date for completion of the work. If there was no Right of Way work on the Project, the completion notice should indicate that “no Right of Way work was performed”.