

Pre-Construction Survey Conference Attendance

Revision date 04/20/2024

| | |
|-----------------|--------------------|
| Project Number: | Resident Engineer: |
| Project Code | Project Engineer: |
| Location: | Contractor: |
| Date: | Superintendent: |
| Time: | Surveyor: |

Project Contact information

| | |
|-----------------------------|-----------------|
| Resident Engineer: | Fax Number: |
| Office Number: | |
| Mobile Number: | E-Mail Address: |
| Project Engineer: | Fax Number: |
| Office Number: | |
| Mobile Number: | E-Mail Address: |
| Region Survey Coordinator: | Fax Number: |
| Office Number | |
| Mobile Number | |
| CDOT Survey Representative | |
| Office number | |
| Mobile Number: | E-Mail Address: |
| Region Plans Coordinator: | |
| Office Number: | |
| Mobile Number: | E-Mail Address: |
| Plan Coord. Representative: | |
| Office Number: | |
| Mobile Number: | E-Mail Address: |
| Prime Cont. Representative: | |
| Office Number: | |
| Mobile Number: | E-Mail Address: |
| Surveying Firm: | Fax Number: |
| Office Number: | |

Attendance

Responsible PLS:

Office Number:

Mobile Number:

E-Mail Address:

PLS Number:

Survey Crew Chief:

Office Number:

Other:

Cell Number:

Name:

Mobile Number:

Title:

Representing:

Office Number:

E-Mail Address:

Name:

Mobile Number:

Title:

Representing:

Office Number:

E-Mail Address:

Pre-Constructions Survey Conference Project Requirements

I. Pre-Survey Requirements

A. CDOT

Has the most current Project Control Diagram showing existing vertical and horizontal control information for the project been provided? YES NO

If not when will one be available:

Comments:

2. Has a Land Survey Control Diagram showing Right-of-Way, Public Land Survey, Boundary and Easement monuments located during the Preliminary Survey been provided? [§ 629.01] YES NO

B. Have Public Land Survey Boxes And Monuments Coordinates been provided to "Protect In Place", and to prevent damage to Monuments and milling equipment [§629.05] YES NO

3. Have Right-of-Way plans been provided location Coordinates? [(§ 629.05]

Comments:

C. Contractor and/Or Surveying Firm

A. Has the responsible Professional Engineer and Professional Land Surveyor indicated above, confirmed they will be available to review work, resolve problems, and make decisions in a timely manner. [§625.01]

YES NO

Comments:

B. The Contractor shall furnish all personnel, materials, equipment and traffic control necessary to perform the required construction surveying. [§ 625.02]

confirmation by (signature or Initials)

C. Does the Contractor Surveyor indicated above, understand agree to check all Department established Primary horizontal and vertical control points on the Project Control Diagram and supply verified and documented checks in the survey records of their accuracy. [§ 625.04]

confirmation by (signature/ initials)

Comments:

D. Does the Contractor have the latest CDOT Survey Manual? [§ 625.03] YES NO

Survey procedures shall be performed in conformance with the latest edition of the CDOT survey Manual. [§ 625.03, §629.03]

confirmation by (initials)

Comment

E. The Contractor shall submit a schedule of contractor construction surveying time before the first partial payment is made for this work. The schedule shall indicate the construction surveying time for each work item that requires construction surveying and the total for the project. [§ 625.13] confirmed by (initials):

II. Equipment Calibration

A. All Global Positioning System and conventional survey equipment calibrations shall be completed in conformance with the CDOT Survey Manual and documented in the field notes before and after fieldwork. [§ 625.02, § 629.03]

B. Has the responsible PLS reviewed the latest chapter 2 for electronic field book submittals as the responsible PLS reviewed the latest chapter 2 for electronic field book submittals

YES NO

If No- confirm Survey Manual Chapter 2.4. for field note and calibration requirements will be reviewed prior to construction.

confirmed by (signature):

1. All Global Positioning System and conventional surveying equipment shall be checked in accordance with CDOT Survey Manual on a National Geodetic Survey (NGS) / National Oceanic and Atmospheric Administration (NOAA) [§ 625.02, § 629.03]

Confirmed by: (initials)

Comments:

Provide Measured Checks Of Equipment Or Latest Maintenance Certification To CDOT Survey Coordinator

2. Levels shall be checked in accordance with the CDOT Survey Manual using the Two Peg method as stated in Chapter 5.10.11.

Comments:

3. Miscellaneous equipment including all measuring tapes, survey rods, hand levels and other equipment shall have been checked in accordance with the CDOT Survey Manual. [§ 625.02, § 629.03]

Comments:

III. Construction Requirements

A. The Contractor shall perform all construction surveying and staking that is necessary for construction of the project. [625.04 & 625.05]

Discuss items of work that will require construction surveying (earthwork, subgrade preparation, major/minor structures, curb & gutter, HMA, concrete pavement, etc.)

Comments:

B. Acceptable staking placement intervals for the various construction surveying operations are described in the CDOT Survey Manual, Chapter 6., Section 6.7 [§ 625.05]

Comments:

C. It is the responsibility of the Contractor to perform all required layout work, which shall include, but will not be limited to the following:

1. Piling Locations and cut-off elevations
2. Steps on Piers and Abutments
3. Bolt locations and patterns
4. Construction Sign Locations
5. Guardrail

Who will be performing required layout work (i.e. contractor, surveying firm, subcontractor)?

D. Accuracy of surveys and survey tolerances shall be as specified in the Contract or the **CDOT Survey Manual Chapters 5 & 6. [§625.06] 2022 Survey Manual Chapter 6 Section 6.4 and section 6.7**

Discuss the required tolerances for various surveying tasks as indicated in the plans / survey manual. The Contractor shall check the work to verify the accuracy and include documentation of this check in the Survey Records. ([§625.07]

Comments:

E. Supervision and coordination of construction surveying is the Contractor's responsibility [§625.07].

Has survey work been scheduled in conjunction with planned construction activities?

Yes

No

III. Construction Requirements (Cont'd)

F. Control points, benchmarks, and other significant stakes (that are not tabulated on the survey tabulation sheet for replacement) that are damaged, destroyed, or made inaccessible by the progress of construction shall be replaced, transferred, or reestablished at the Contractor's expense. [§ 625.08]

confirmed by: _____ (initials)

Land monuments and property marks shall not be disturbed or moved until their location has been witnessed or referenced in accordance with Section 629 and CDOT removal approved (107.12).

What measures will be taken by the Contractor to ensure that needed stakes are not destroyed by construction activities prior to referencing?

Comments:

- G. All changes in lines and grades required by field conditions and all discrepancies in grades, alignment, location or dimensions detected by the Contractor shall be immediately submitted to the Engineer in writing. No changes in given data or plans will be allowed unless approved by the Engineer in writing. All changes shall be documented in the survey records. [§ 625.09]

Are there any possible changes to required construction surveying as a result of anticipated Change Modification Orders or Minor Contract Revisions? Yes No

Comments:

- H. The Engineer will perform cross-section surveys and all other interim and final measurements needed to determine contract pay quantities. The Contractor shall maintain control points and stationing as required for these measurements. [§ 625.10]

Comments:

IV. Survey Records

1. Survey records shall be completed as the work is done. Field survey notes, for construction surveying and checking, shall be recorded by the Contractor in field notebooks that are in conformance with the format given in the CDOT Survey Manual. If an electronic format is used, it shall contain the same information and format as required in the Survey Manual Chapter 2 Section 2.4 Field books should be stamped by the PLS in responsible charge for the work.

Comments:

3. Initial staking for major structures [Section 500 of the 2021 CDOT Construction Specification manual](overhead signs, concrete box culverts, bridges, and all other structures assigned a structure number) shall be done in conformance with the CDOT Survey Manual from two independent setups. An independent check shall be made by the Contractor and shown in the survey notebooks for all bridge structures. With stamped PLS pdf copies for permanent record keeping. [§ 625.11(¶2)]

Comments:

3. All survey records generated shall be considered the property of the CDOT and shall be available for inspection or reproduction at anytime.
[§625.11(¶3), §629.03(¶4)]

Comments:

4. All survey records shall be stamped with the seal of, and signed by, the responsible PE or PLS identified in subsection 625.01 and shall be transmitted to the Engineer for inclusion into the project records before final project acceptance. [§625.11(¶3), 629.09]

IV. Survey Records (Cont'd)

5. The Contractor shall provide an as-constructed survey of the abutments and piers, prior to girder construction. The Contractor shall submit to the Engineer a copy of the survey notes detailing the girder seat elevations, anchor bolt locations and projections, and span distances from centerline of bearing to centerline of bearing. The survey notes shall indicate all adjustments necessary for bearing device dimensions other than those shown on the plans. The Contractor shall submit details for all adjustments to the Engineer for approval.
[§ 601.12 (L) (¶2)]

Comments:

6. The Contractor shall provide a survey of each overhead sign foundation to verify placement soon after work on the foundation has been completed. The survey shall conform to the requirements of Section 625 – Construction Surveying. The Contractor shall submit to the Engineer a copy of the PLS stamped survey notes detailing the foundation location and elevation and the anchor bolt locations, projections, and orientations and in the case of sign bridge type of overhead signs, the distance measured between the centerline of the anchor bolt groups. The elevation of the ground surrounding each foundation shall also be provided. The Contractor shall compare the survey information to the reviewed shop drawing and reconcile any differences between them. The contractor shall submit all proposed adjustments or modifications to the engineer for approval. (M & S Standard Plan S-614-50)

Comments:

V. Control Survey

- A. Each item of data for the control survey (if control is not already furnished by CDOT), for setting or for replacing any control monument shall be performed in accordance with the CDOT Survey Manual. [Section 6.2 of Chapter 6 CDOT Survey Manual], [§ 625.03(¶3), § 629.03(¶2), § 629.06(¶3)]

How will the control survey for setting any new control or replacing any existing control CDOT be performed?

Confirmed by: (initials)

Comments:

- B. A Project Control Diagram showing any set and/or replaced horizontal and vertical control monuments and data for the project will be prepared and submitted in accordance with the CDOT Survey Manual. [Section 6.2 of Chapter 6 CDOT Survey Manual] [§ 625.08, §629.09 (¶4) (#3)]

Comments:

- C. Control monuments shall be set such that they are intervisible with at least two other adjacent control monuments and shall not conflict with construction activities. [§625.06(¶3)] [Section 6.2 Survey Manual]

Comments:

- D. Accuracy of control surveys and land survey control survey tolerances shall be as specified in the Contract or the CDOT Survey Manual. [§625.06, §629.03(¶2)]

Comments:

VI. Aliquot Monuments

- A. Are there any identified aliquot monuments on the project? (§107.12, §625.01, §629.04) If so, discuss number and location.

Comments:

- B. Survey records shall be in accordance with the CDOT Survey Manual and shall include at a minimum the following items for any aliquot monuments on the project [§625.01, §629.03(¶5), §629.06(¶4)] :
1. A description of the original undisturbed aliquot monument.
 2. A record of four temporary references to the original monument, which are outside of the construction area. These shall be straddle type references, unless otherwise approved.
 3. A description of the reset aliquot monument including a minimum of three permanent accessories placed after the construction is completed.
 4. Two, color photographs each of the original and of the new monument as set.

5. New Monument Record filed by the Contractor with the Board. A copy shall be submitted to the Engineer prior to filing, and the Regional Survey Coordinator.

Comments:

C. Have monument materials been provided by CDOT? [§629.02]

Comments:

VII. Monumentation

A. What other land monuments (*i.e.* other than control and aliquot) types and quantities will be set or reset? [§107.12, §625.01, §629.05]

Comments:

B. Have monument materials been provided by CDOT? [§629.02]

Comments:

C. Monuments shall be set within in an error circle no greater than the tolerances specified in accordance with the CDOT Survey Manual.

[§629.06(¶2)]

Comments:

D. A Land Survey Control Diagram showing any set and/or replaced public or private land monument (*i.e.* monuments other than control) shall be prepared and submitted in accordance with the CDOT Survey Manual. [§107.08, §625.08, §629.01, §629.09]

Comments:

VIII. Basis Of Payment

A. Partial payment for construction surveying (Item 625), as determined by the Engineer, will be made as the work progresses [§625.13(¶3)]. Before payment is made (Item 629) the following shall be completed in accordance with the CDOT Survey manual, bear the signature of the PLS in responsible charge, and be deposited with the county in accordance with 38-51-107 CRS. [§629.09(¶4)]

1. All survey records. (*i.e.* monument records)
2. The Control and Monumentation sheet of the R/W plans. (*i.e.* Land Survey Control Diagram along with a full set of Right of Way Plans)
3. The Survey Control Diagram. (*i.e.* Project Control Diagram, this is not required to be deposited in the county records but may be so if desired)

Comments:

B. Construction surveying required by plan force account or by additional work beyond the scope of the original contract will be paid for at a negotiated rate not to exceed the rate established in Section 105.08. That rate shall also apply to reductions in construction surveying as impacted by reductions or deletions to the original contract work. Any survey work not performed to the contract requirements shall be subject to price reduction or rejection. [§625.13(¶2)]

Comments:

Notes: