

BOULDER COUNTY TRANSPORTATION CAD/SURVEY GUIDELINES FOR OUTSOURCED DESIGN

The following information is intended to be a guideline for outside consultants/contractors which are providing survey or design services to Boulder County Transportation.

CAD Requirements:

- a. The electronic drawing file must be AutoCAD/Civil 3D release 2018-2020 compatible. Electronic files of the topographical features need to be submitted to the County's Project Engineer.
- b. Boulder County prefers to have the final CAD format to be in AutoCAD Civil 3D. If the files can only be delivered in basic AutoCAD or MicroStation format, the Consultant will need to provide LandXML files of all proposed and existing surfaces, alignments, and profiles.
- c. Once the consultant completes the field topographical survey, an electronic ASCII file with point number, northing, easting, elevation and description shall be submitted to the County. Survey files ending in .txt or .csv are an acceptable format.
- d. The project base files shall be in model space (not paper space) with 1 foot interval minor contours and 5 foot major contour intervals.
- e. Use fonts that easily translate to AutoCAD Civil 3D format.
- f. CAD layer names should be easily understood. A detailed list of standard CAD layers should also be included with the final CAD submittal.
- g. Text heights should be 0.08 in paper space.
- h. Plans should be submitted in 11" x 17" format.
- i. Final plans should be submitted to Boulder County in both CAD (dwg) and PDF format.

Field Survey Requirements:

- a. Survey point data files must have survey point descriptions in an understandable alpha description in both the provided survey data file and when viewed within AutoCAD. ***CDOT type TMOSS numerical coded survey point descriptions will not be accepted.*** Provide a list of commonly used survey acronyms or codes, i.e. EOP=Edge of Pavement.
- b. All existing surface features and breaklines (survey points connected with three dimensional feature lines along the roadway centerlines, edge of pavement, ditch lines, etc., for use in surface modeling) should also be provided to the County.
- c. Survey Control:
 - Vertical Control - The North American Vertical Datum of 1988 (NAVD 88) is the vertical datum for orthometric heights established for vertical control.
 - All survey projects conducted for Boulder County should be converted to: Colorado State Plane, North Zone projection, based upon the 1992 HARN adjustment of the 1983 North American Datum (NAD HPGN 83/92) at the time of final drawing submittal.
- d. Show survey ties to known section corners within the Boulder County.
- e. Show project specific horizontal and vertical control used on the project control sheet which is to be included in all construction plan sets.