

# Chapter 12

## Project Control

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# Chapter 12

## Project Control

### 12.1 General

The Project Control sheet provides a summary of horizontal and vertical datum (i.e., reference points, benchmarks and control points). The datum shown on this sheet must provide clear and sufficient information to establish horizontal and vertical control during the construction of the project. The data shown can be extracted from the project network control survey and historical control data, or reflect assumed datum.

These sheets are to be placed in the component plans in accordance with **Section 3.2.5** of this Volume.

See **Exhibits CTL-1, CTL-2 and CTL-3** for examples of a Project Control sheet.

### 12.2 Sheet Setup

Use the standard plan format sheet provided in the FDOT CADD Software to prepare the sheet. Use standard symbols contained in [Design Standards, Index 002](#) and the [FDOT CADD Manual](#).

Provide a note on the Project Control sheet that identifies horizontal and vertical datum that the survey is based on.

### 12.3 Reference Points

Reference points are prominent, easily located points in the terrain used to define a location of another point that is located on the baseline of survey. The purpose of reference points is to provide horizontal locations to re-establish primary control points along the baseline of survey. Reference points should not be located on the baseline. Detailed descriptions of each reference point are illustrated with a sketch.

Place survey reference points on the Project Control sheet along the top of the sheet or where other space allows. Clearly indicate the baseline of survey and reference points,

including all ties. Complete length of survey baseline between two consecutive reference points need not be shown. Clearly label each reference point, beginning at the first reference point within the limits of the project, and progressing in the direction of stationing. Reference points need not be drawn to any particular scale, but distances and angles shown must be proportionate.

## 12.4 Benchmarks

Benchmarks provide a known elevation that is used as the basis for measuring the elevation of other topographical points. When benchmarks are not used to provide horizontal control, they may be placed on the Project Control sheet along the bottom of the sheet or where other space allows. At a minimum, benchmarks are to include:

- Identifying name (e.g., BM No. 9)
- Description (e.g., nail in tree, concrete monument)
- Station and offset
- Elevation (in feet to two decimal places)

## 12.5 Control Points (Horizontal and Vertical Datum)

Control points provide information for the location and elevation of established monuments. Control points that provide vertical datum are also known as benchmarks.

Place the following information for the control points in a table titled Horizontal and Vertical Control:

- Point Name – this is often identified on the stamped disk placed on the established monument.
- Northing and Easting – Show to three decimal places. If control point serves only as a Benchmark show Northing and Easting to the nearest foot, more or less.
- Scale Factor – Show to nine decimal places.
- Latitude and Longitude – Show seconds to five decimal places. If control point serves only as a Benchmark show Latitude and Longitude to the nearest second.
- Baseline Station and Offset – Show to two decimal places.
- Elevation – if control point only serves as horizontal control show elevation as “N/A”.
- Description – indicate the size, type, if the monument is “found” or “set” and include the monument ID number.

When this table is the sole means to convey horizontal and vertical datum, include a project sketch on the Project Control sheet that provides a visual reference for the location of the control points. The sketch does not need to be any particular scale but must provide clarity and legibility. Include the following information on the sketch:

- Show the baseline of survey with stationing.
- Flag and label beginning and ending stations for project.
- Show bearings for all tangent sections, in the direction of stationing.
- Label PC and PT points and show horizontal curve data.
- Indicate graphically the location of intersecting roadways and railroads.
- Indicate Township, Range and Sections that the survey traverses. Show the location where section lines cross the baseline of survey.
- Place a north arrow and scale in a conspicuous location, typically in the upper right portion of the sheet.

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