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3745-512-110

Permanent survey marks.

(A) Permanent survey marks shall be established by the owner or operator prior to construction of any other engineered component.

(B) Permanent survey marks shall be constructed by the owner or operator to conform to the following:

(1) Reference horizontally to the "1927 North American Datum," "1983 North American Datum," or "State Plane Coordinate System" and vertically to the "1929 or 1988 North American Vertical Sea Level Datum" as identified on the USGS 7.5 minute (topographic) map.

(2) Be at least as stable as a poured concrete monument ten inches in diameter installed to a depth of forty-two inches below the ground surface.

(3) Include a corrosion resistant metallic disk, which indicates horizontal and vertical coordinates of the survey mark.

(4) Contain a magnet or ferromagnetic rod to allow identification through magnetic detection methods.

(5) Have survey control standards for all survey marks that shall be in accordance with the following:

(a) For all permanent survey marks, the maximum vertical error shall be one inch to five thousand feet horizontal.

(b) At least one permanent survey mark shall be established from a known control point with a maximum horizontal error of one foot horizontal to two thousand five hundred feet horizontal.

(c) For any supplemental permanent survey mark, the maximum horizontal error shall be one foot horizontal distance to five thousand feet horizontal.

(C) Certification of permanent survey marks by the owner or operator shall include the following information:

(1) An identification and description of the known control points used to establish the horizontal and vertical coordinates of the facility permanent survey marks.

(2) The horizontal and vertical coordinates of the known control points and facility permanent survey marks.

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- (3) A summary of surveying activities performed to determine the coordinates of the facility permanent survey marks.
- (4) A copy of the 7.5-minute USGS (topographic) map used in establishing the survey marks with the known control points and the location of the facility permanent survey marks clearly identified on the map.
- (5) A detailed drawing showing the design of the facility permanent survey marks, as constructed.
- (6) The results of all testing and verification that the permanent survey marks meet the standards in paragraph (B) of this rule and any specification in the authorizing document.