

Measurable tolerance policy on reporting found R/W monuments vs calc points on the Results of Survey & Supplemental Surveys

After discussing this issue with a number of registrants among the on-calls and within the R/W Plans Section, the following is to set forth the R/W Plans Section's policy regarding this issue.

If the on-call's "raw/unadjusted" field measured position on a found R/W monument ends up being one tenth of a foot (0.10') or less from the position of the final calculated point on an existing R/W line corner or property corner, the on-call is required to only report the found monument and its coordinates on the survey, after adjusting the raw measured coordinates on the monument to match what are the calculated coordinates of the corner. Position being further defined as being the square root of the sum of the squares of the coordinate differences of the northing and easting (or in other words the hypotenuse of the right triangle). This establishes on the drawing that the monument and the corner are one and the same.

This also applies to a found property corner monument shown on a supplemental survey.

Given the inherent measurement uncertainty of current technology and common field data collection procedures, it has been affirmed by the majority opinion that at a minimum, one-tenth of a foot is a reasonable or minimal value that can be considered to be the approximate error ellipse on the reported position of any given monument.

For positional differences that are between 0.10' and 0.25', it is the on-calls discretion as to if they want to either report the monument at the calculated coordinate, or , report both the found monument and the calculated point. Although there may be some exceptions, it is expected that if the difference in position is greater than 0.25', then the on-call will report both the found monument and the calculated point.

It is recommended and also up to the on-calls discretion to add a qualifying note to the survey drawing to address this situation. Essentially the note would state something to the effect that all coordinates or positions shown for found monumentation on the survey reflect measurable tolerances as defined by ...(ABSMS)... or ? (define the tolerances)?.or ...?.

In a sense, we have already been following this type of policy on section corner positions in the metro Phoenix area, where we have reported GDACS coordinate positions on section corner monuments on the results of survey, upon field verification and determination that the current field location is within measurable tolerance of the GDACS position.

It is believed that this policy will be better for the overall public good and welfare, help to minimize confusion, bears out a reasonable amount of professional discretion, and will create better consistency among ADOT R/W surveys.

Although the nature of the R/W staking plans and monumentation survey drawings are generally different than the results of survey and supplemental survey in that you are typically setting monuments instead of finding them, this policy will also apply to any found monuments shown on the staking plans and monumentation survey.

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