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Determining Property Corner History

A critical step in every boundary survey is the determination of property corner history. In this installment of Footsteps, will discuss why this process is important and how to perform it. We will then consider a brief example that demonstrates what can happen when a boundary surveyor fails to properly determine the history of a property corner. Before we can get into the heart of this discussion, we need to understand the difference between a property corner, and a property corner monument.

Corner Versus Monument

Although often used interchangeably, even by surveyors, the term “property corner” and “property corner monument” do not refer to the same thing. A property corner is an angle point or other defined point that controls a property boundary. A property corner monument is a physical mark or feature set to mark the location of a property corner. With a little more analysis, we can logically understand the two terms can't refer to the same thing. A property corner may be marked by multiple monuments, or none at all, during its lifetime. In a similar way, a property corner may be set to represent the location of a property corner, but might not actually be located on the true corner at all. You can dig a property corner monument out of the ground and display it on your desk. You can't do that with a property corner. The monument is tangible and physical; the corner is intangible and abstract.

Why is it important to determine property corner history?

It is important to determine property corner history for a number of reasons:

- Unlike most natural features that control property boundary location, property corner monuments are subject to destruction, damage, and deterioration.
- Property corner monuments are changed more frequently by surveyors than other elements of a boundary resolution. (As a land parcel ages, the land description that controls it may not change at all,

but the monuments that mark its location likely will.)

- The potential for error in a boundary resolution based on an incorrect or lack of understanding of property corner history is large.

When to Begin Determining Property Corner History

When, during a parcel boundary survey, should you begin to determine property corner history? In my own practice I've found it beneficial to start this process as soon as I begin researching filed survey maps and deeds that help define my parcel boundary. It is certainly prudent to have a

continued on page 54

Property Corner Data To Note For Each Document

- 1 The description (character) of the monument marking the property corner.
- 2 If a monument marking the corner was found, set, replaced, or repaired as shown on or described in the document.
- 3 If the property corner was established or created by the document.
- 4 The identity of the surveyor who established the corner, created the corner, or who found, set, replaced, or repaired a monument that marked the corner.
- 5 The identity, date, and filing or recording information for the document from which the above data was obtained.

Review each document acquired as part of your boundary research and note important information about the property corners shown or described in the document.

Blake, continued from page 56

handle on the property corner history for each property corner that controls your parcel boundary before field work begins. If you don't have this understanding, how will you properly search for, interpret, and locate evidence of the corner location during the field survey?

The Process for Determining Property Corner History

What process can be used to determine a property corner history? I'll describe a four (4) step process in this section. The end result of this process is a timeline for each property corner in the boundary survey.

Step #1: Review each survey map and land description for the boundary survey. During this review note the following information for each property corner shown or described in the document:

- The description (character) of the monument.
- If a monument was found, set, replaced, or repaired as shown or described in the document.
- If the property corner was established or created by the document. (A corner can be established or created without being monumented.)
- The surveyor or engineer who found, set, replaced, or repaired a monument for the corner.
- The identity, date and filing or recording information for the document form which the 4 elements above were obtained.

Step #2: Use the data obtained in Step #1 to create preliminary timelines for each corner.

This can be done using a spreadsheet. Use a separate sheet in the spreadsheet document for each property corner. Each row on the sheet will store the data for the property corner obtained from a single map or deed. The sheet can then be sorted by the date of the document to produce the timeline.

Step #3: Identify monument character gaps in the timeline.

There are three (3) types of monument character gaps that you should look for. The first, and most common, is a change in the record character of a monument that is not explained in the record. For example, one document shows a rebar and plastic cap being set to mark the property corner. A

subsequent document shows a brass disk at the same location. No other documents in the record show when the rebar and plastic cap was replaced by the brass disk. The second type of monument character gap occurs when a not reflected by the physical monument on the ground. For example, the last document in your timeline shows the property corner marked by a monument

“You can't trust the monuments you find in the field if you don't know the history of the corners they are set to mark.”

box containing a rebar and plastic cap, but you find an empty monument well. This scenario can happen when a land surveyor forgets, or neglects, to set the property corner monument. The third type of monument character gap occurs when there is a conflict about monument character in the record. For example, the first document in your timeline for a corner indicates a rebar and plastic cap was set. The second document in your timeline indicates this was replaced with an iron pipe and plug. The third document in your timeline identifies the rebar and plastic cap shown on the first document in the timeline. This scenario can happen because the chronology of the filing or recording of documents doesn't always correspond to the field surveys that locate the monuments.

Step #4: Compare measurements from the subject corner to neighboring corners and identify positional conflicts.

To the best of your ability, compare the measurements between the subject corner and neighboring corners. When you see differences, especially large ones, try to identify the logical cause if possible. Does the difference correspond to a major change in the monument character? Did the difference result on a document that established the property corner after the destruction of the monument marking the corner? Was the corner established using the appropriate method and in the correct location?

An Example

I'll conclude this article by considering an example that shows why it is important to determine property corner history during a boundary survey. Although this example is contrived, I assembled it using elements from past boundary surveys I'm familiar with.

During a field survey you search for evidence of a 1/4 section corner that con-

trols your subject parcel boundary. The last survey map filed in this area shows a nail set in the pavement above a brass disk. You find a nail hole at the record position of this corner. Upon excavation, you discover and survey the actual brass disk shown on the last survey map as marking the 1/4 section corner.

Property Corner History	
1872	GLO Surveyor sets wood post in mound of rocks with pits at 1/4 corner.
1910	Retracing surveyor set's 2" outside diameter iron pipe in the center of a rock mound at 1/4 corner.
1952	40' road established on east-west 1/4 section line. County Surveyor sets a rebar inside a rusted iron pipe.
1972	40' of additional road right-of-way is acquired.
1977	Surveyor retracing parcel on south of east-west 1/4 section line finds no evidence of 1/4 corner. Sets a brass disk at the centerline of 80' wide Copper Hill Road right-of-way 2640' from the section corner to the north.
1999	Retracing surveyor for parcel to the north of east-west 1/4 section line sets a nail in pavement above brass disk.
2012	Field crew finds nail hole in pavement. Finds brass disk 0.8' below the surface of the pavement.

Sample Property Corner History Timeline.

Are you all done? After all, some surveyors would have located and held the nail hole as the position of the 1/4 corner, not even putting forth the effort to excavate the brass disk.

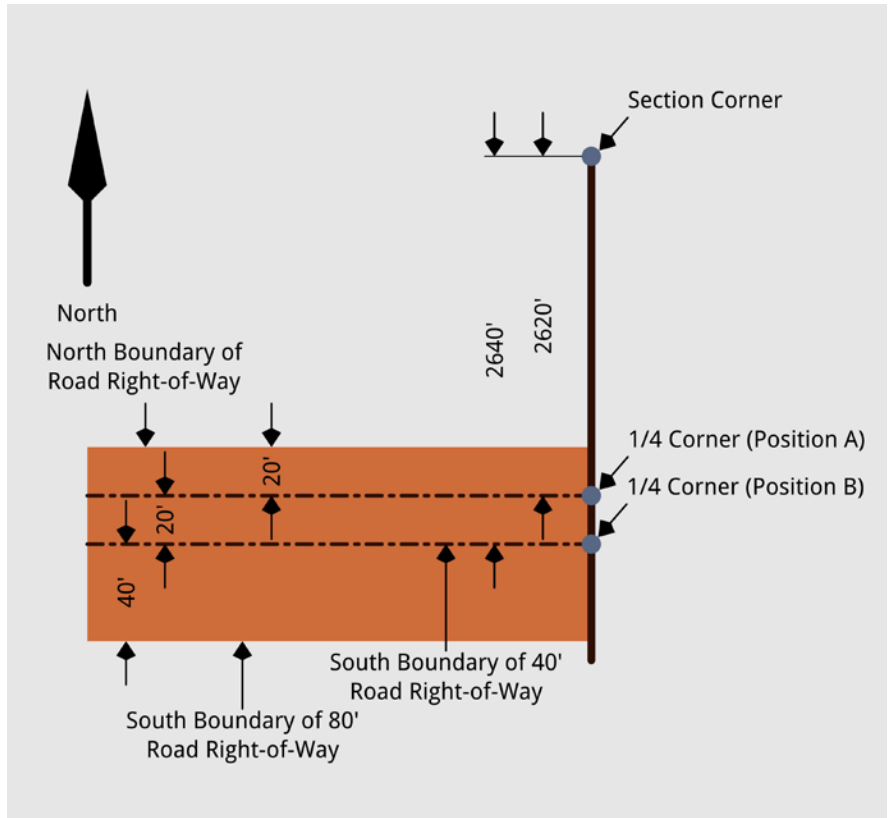
Consider the timeline and diagram included with this article to understand why determining property corner history as part of your survey would lead you to reject the brass disk as the location of the 1/4 section corner.

The brass disk is not in the same location as the wood post, rock mound, and 2 inch iron pipe described in the first two (2) record documents in the timeline. When Copperhill Road was widened from 40 feet to 80 feet in 1952, all of the new right-of-way was acquired south of the east-west 1/4 section line. When the 1977 survey was executed, the retracing surveyor improperly located the 1/4 section corner at the centerline of the 80 foot wide road, instead of on the actual 1/4 section line, and set the brass disk there. Why did he do this? The centerline of the road is the logical place for the corner to be located, and it just happened to result in a near perfect “2640” dimension between the 1/4 quarter corner and the section corner to the north.

A surveyor who determined the history of the property corner as described in this article would likely know about the problem with the brass disk before he ever sets foot in the field. He would realize there was a conflict in the measurements between the section corner and the 1/4 corner shown on the 1952 and 1977 surveys. He would have examined the 1952 survey (and possibly road deeds) to discover the road was widened only on the south, and that right-of-way was not acquired equally from both sides of the existing road.

Determining property corner history won't result in discoveries like this every time, or even frequently. However, this example hopefully demonstrates how important it is to determine the property corner history for every corner in your boundary survey. If the corner is young, this may be easy. If the corner is old, it could be very difficult. The effort is worthwhile in either case. You can't trust the monuments you find in the field, even a shiny brass disk shown on a recent survey map, if you don't know the history of the corner it is set to mark.

In a future installment of Footsteps, I'd like to talk more about gaps and conflicts discovered while determining property corner history, and how you deal with them. We will include more examples in this future discussion. *A*



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