by **R. Lee Hixson, PLS**

Proposed: an ALTA/ACSM Record of Survey.

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For the greater part of surveying history, it has been the location of property boundaries that defines the essence of what we as surveyors do. From relocating the markers lost by the annual flooding of the Nile, to the establishment of sectionalized land in America, boundary work has always been our most valued product. Yes, construction layout and topographic work has usually been performed to some extent, but it never rose to the level of importance of a boundary survey, in my opinion.

Until modern times, that is. Now the reverse is true. Data acquisition (topographic surveys), data manipulation (from processing to mapping), data application (construction layout and staking) and GPS have become the darlings of the industry for many. From vendors' displays at conventions to any of the trade publications it is obvious that data manipulation is what everyone is thinking about and doing.

This modern preoccupation with "data" has contributed to a decline in boundary skills. I am convinced that the overall quality of the boundary work being done in our country has declined in the past 20 years. What too many surveyors either do not understand—or are simply failing to do—is how to conduct a thorough analysis of all available records and all available field evidence under the guiding principles of a proper boundary determination. Basic concepts such as knowing the difference between simultaneous and sequential conveyances, or senior vs. junior rights are completely missing from many maps. A disturbing number of professionals seem to think that the only obligation one has to an adjoiner parcel is to quote the book and page reference for its vesting document or map.

What can we do to reverse this trend? Some states have begun to change their laws and board regulations to more rigorously spell out what needs to be included in a boundary resolution. I recommend two new methods for encouraging proper boundary work: the creation of an ALTA Record of Survey and the inclusion of a "Boundary Statement" on all plats that involve a boundary resolution.

I understand that the ALTA/ACSM Land Title Survey (ALTA Survey) was created in the middle part of the last century, in large part because the title industry wanted to create a more dependable, uniform map product for insurance purposes. It has been said that the title insurance industry felt "…the need for a formal, printed standard. There is also, regrettably, an inconsistency in the quality of service provided by the surveying community. This inconsistency occurs not just from region to region, but within each region of the country. Two different surveyors practicing within a few blocks of each other may deliver surprisingly different levels of quality of survey. The purchaser of the service needs some assurance of the quality of service to be expected. That is where standards become necessary."[1]

The ALTA Survey has made great strides toward achieving this goal. It is noteworthy, however, that even the ALTA Standards—like virtually all state statutes and most board regulations—specify in great detail how maps should look and what should be contained therein, but they fall silent on what is expected of the boundary resolution itself. Aside from requiring that adjoiner recording data "be shown" and that any gores or overlaps "be clearly indicated," it is merely assumed that the surveyor will follow good practice in resolving the parcel boundary.

The time has come to stop assuming that licensed surveyors will follow historically accepted principles of boundary work and to begin spelling out what constitutes a proper boundary analysis in our regulations, laws and standards.

Despite the error of omission mentioned above, the ALTA Survey has, for many people, come to represent the highest standard of quality for a parcel survey. I suggest that there be an ALTA/ACSM Record of Survey, a type of map that surveyors

** Terminology may vary from state to state, but by "Record of Survey" I mean any type of map that is recorded or filed in order to document a boundary survey, as opposed to maps that are required for a division of property.*

across the country would voluntarily choose to produce. It would be similar to an ALTA Survey in that it would adhere to the same general principles of accuracy and thoroughness, but it would be adapted to apply to the garden variety Record of Survey.*

The appearance of such a map would be largely the same as for a regular Record of Survey with the exception of the title, "ALTA/ACSM Record of Survey," and a Boundary Statement to the effect that "The boundary resolution shown on this survey plat was prepared pursuant to the standards of practice for an ALTA/ACSM Record of Survey as defined and promoted by the American Land Title Association and the American Congress on Surveying and Mapping." What the surveyor would be doing is clearly stating that he or she has voluntarily chosen to raise his or her level of work on that particular survey to high standards of practice. That standard would include, among other things, specific language about what constitutes an acceptable level of thoroughness for the boundary portion of the map. It would also contain guidelines for accuracy and for the treatment of easements. In general, it would make explicit what is typically implicit in most state laws and regulations.

It is interesting to note that even in the NSPS Model Standards of Practice (Section B)[2] the actual components of a boundary analysis are only broadly sketched. After calling for research of pertinent documents and a diligent search for physical evidence in the field, these standards sum up the analytical portion of the process by simply stating that the surveyor shall "Compare and analyze all of the data gathered and reach a professional opinion as to the most probable location of the corners of the property."

The trouble with such generalizations is that too many surveyors interpret them in the least rigorous manner possible. For example, since the NSPS Standards do not spell out that one must take into account the document of record for each adjoining parcel, and demonstrate that each one is or is not compatible with the subject parcel, many surveyors will consider this principle satisfied by simply stating the book and page of the documents of record on their maps.

The time has come to begin spelling out what constitutes a proper boundary analysis in our regulations, laws and standards. I suggest that there be an ALTA/ACSM Record of Survey, a type of map that surveyors across the country would voluntarily choose to produce.

The essence of what any normal property owner expects of a surveyor is whether his/her boundaries conflict with his/her neighbors. That this is not spelled out in state laws, regulations or industry standards is inexcusable, especially when it is known that this principle is widely misunderstood or ignored by practicing surveyors around the country.

If ACSM would take the lead and expand on the Property Survey section of their Model Standards, this document could serve as the basis for a national standard Record of Survey. Then, if ALTA would join in the effort and lend its name to the new, voluntary map, much credence would result and the ALTA/ACSM Record of Survey would, by virtue of its name alone, have a head start in recognition and acceptance by the survey community, allied professions and the general public.

Page 52 shows an example of what I propose be included in a National Record of Survey.

ACSM (or NSPS) could be the sole agency for creating the standard, however, the added participation of the ALTA organization would add its strong "brand recognition value" and ensure greater success. Aside from sponsorship issues, the most important issue is to spell out the principles behind a quality boundary resolution. By developing a National Standard Record of Survey we would demonstrate our willingness to align our formal standards with this judicial trend, and also provide a way for surveyors across the country to voluntarily raise the quality of boundary surveys.

It is worth noting that all the different types of maps produced by surveyors anywhere in the country would be improved by adhering to this proposed, voluntary standard. Parcel maps, subdivision maps, topographic maps, or any other type of map or plat could have a short "Boundary Statement" included along with the other important information:

Boundary Statement

The boundary resolution shown on this survey plat was prepared pursuant to the standards of practice for an ALTA/ACSM Record of Survey as defined and promoted by the American Land Title Association and the American Congress on Surveying and Mapping.

Along the lines of a Basis of Bearings Statement and State Plane Coordinate Statements (explaining the datum and epoch of the information gathered), a Boundary Statement would add valuable information and credence to anyone examining the map, and provide some level of assurance that a sound, defensible boundary analysis was performed. As we all know, there are two messages conveyed by a paragraph on a map that explains the datum, epoch and metric-feet conversions. First, there are the important facts about the data gathering that future surveyors can use to better interpret the map. But second, there is

National Standard Record of Survey Proposal

The nine subsections in Section B of the current NSPS Model Standards of Practice are a great beginning for a national standard Record of Survey. I propose that an additional subsection be added, similar to the following:

10. Boundary Resolution

A. Determination of the Type and Extent of the Boundary Survey

Boundary Resolution. The term "boundary resolution" shall refer to the entire process of analyzing all available, pertinent information relating to: a) the location of the boundary of a given subject parcel, b) the relationship of that boundary to the matrix of parcels (and/or rights of way) that surround it, and c) a determination of whether there exist any inconsistencies or incompatibilities in any of the boundaries so located.

Parcel Matrix. A "parcel matrix" varies in nature from state to state and region to region, and is unique for each neighborhood of parcels. It is defined as that cluster of parcels surrounding the subject parcel being surveyed, which extends far enough in all directions to take into account the history of parcel divisions in that area, the type(s) of divisions that lead to the creation of the subject parcel (simultaneous, sequential, or a combination of both), and once understood, allows for a proper and complete plan for field work and office analysis that will allow for a resolution of the subject parcel boundary.

For a successful and cost-effective field survey, it is critical to conduct a preliminary deed investigation to determine what basic type of deed situation exists within the parcel matrix being surveyed: is it GLO public lands/cadastral, lot and block subdivision, sequential metes and bounds or a combination of these? The surveyor shall assess how many parcels need to be included in the boundary resolution process in order to make sense of the parcel matrix in question. At minimum, this will include the subject parcel and every bounding parcel that adjoins it. However, circumstances may require that the research, the field survey and the analysis be extended to additional parcels, beyond those that are immediately adjacent to the subject parcel.

Additionally, circumstances may also require that a chain of title search be performed on one or more of the parcels in the matrix, in order to settle any junior/senior rights issues.

In the case of a Record of Survey it is recognized that, depending on the wishes of the clients and the judgment of the surveyor, not all of the boundary lines of the subject parcel need be surveyed. The extent of the matrix may be adjusted accordingly. However, in all cases, the analysis needs to be sufficient to ensure that no other parcel is being adversely affected by the location of a particular line.

B. Information Gathering

All of the following types of record and non-record information should be considered, obtained and analyzed in the process of resolving the boundary of any parcel:

1. Record Information

All record information relating to the boundary survey should be obtained. This should include, at minimum, the current vesting deeds for the subject parcel and all surrounding parcels. However, depending on the situation, it may also be necessary to obtain the vesting deeds for additional parcels in order to understand the proper relationships of all the parcels in the area in question. In addition, all record maps that have any bearing on the location of the subject parcel–or the parcels adjoining the subject parcel–should be obtained and analyzed.

2. Non-record Information

All non-record information for the subject parcel and surrounding parcels shall be obtained. This may include, but not be limited to, such information as: railway maps or deeds, highway maps or deeds, GLO maps and field notes, county and/or city maps and improvement plans, easement deeds, the testimony and opinion of the owners of property in the area (or any other person with pertinent knowledge about boundaries or monuments), utility company maps and documents, and any unrecorded maps or other information on file at private surveying or engineering offices. Such information will vary from one region to another and all reasonable efforts should be made to obtain as much useful information as possible.

3. Field Survey Information

All types of monuments, those of record and those not of record, shall be tied in the field, along with any lines of occupation such as fences, hedges, structures or roads. Such information shall be collected for the subject parcel and all contiguous, surrounding parcels and, depending on the circumstances, other nearby parcels as well. The distance that the survey shall extend beyond the subject parcel (and the adjoining parcels) will vary depending on the number and quality of the monumentation found in the field, and also upon the nature of the legal descriptions in question (lot and block vs. metes and bounds, for example).

C. Analysis and Resolution

A boundary resolution is the analysis of all of the above information such that the surveyor can determine the location of each property line defining the subject parcel in its proper location relative to the parcels surrounding it. The surveyor shall determine what survey principles and what legal principles are pertinent to the survey in question and then perform all calculations and analysis necessary to properly apply those principles to the survey at hand.

The resolution process must necessarily take into account the boundaries of all abutting parcels, such that a determination can be made that there either are, or are not, any discrepancies along any of the boundary lines in question. All sources of errors and inconsistencies among deeds, maps, monuments or lines of occupation should be considered. Any discrepancies that are found shall be clearly and plainly described on the map being recorded, along with documentation and references that explain the reasons for the discrepancies, and whenever possible, the surveyor's solution to the problem. To this end, efforts shall be made to reconcile such discrepancies by whatever means are legally available to the surveyor. This may include correction deeds, Lot Line Adjustments, Quit Claims, Quiet Title and cooperation with other surveyors who have worked in the area to resolve any differences between their surveys.

To make it clear to those who will examine the map in the future, the surveyor shall either: 1.) place a written statement on the plat that explains the resolution; or 2.) show sufficient notes and comments, together with angles, bearings and distances (record vs. measured) on the map portion of the plat; or 3.) a combination of both. The intent shall be to remove any doubt about how the surveyor arrived at the resolution shown on the map.

the implicit message that the surveyor who prepared the map is competent and professional enough to understand the principles involved and how they should be applied. Similarly, a Boundary Statement would indicate to all that the surveyor has applied a rigorous analysis to the resolution shown on the map, and that he or she is not hiding behind the ambiguity and brevity that plagues most state laws and professional standards.

The public can only be served (and protected) if, first, we are in clear agreement about what it takes to complete a good boundary survey.

There are those who are repelled by the call for more legislation or any other such attempt to "dictate" how they do their work. But a laissez faire approach reaches a point of diminishing returns when it fails to clarify the elemental ingredients of an acceptable boundary resolution. I am not proposing that we micro-manage surveyors. Rather, I suggest that the public can only be served (and protected) if, first, we are in clear agreement about what it takes to complete a good boundary survey, and second, if we take definite steps to hold ourselves—and each other—to the fundamental principles of our honored profession.

Many have commented that surveying is a dying career. I know one thing for sure: incomplete, nebulous or cursory legislation and standards of practice can only hurt us.

I believe that the time has come to address the issue of a national boundary standard for Records of Survey and to begin incorporating Boundary Statements on all of our maps. My purpose is to get the discussion started, to make suggestions and to facilitate a debate that leads us forward.

References

[1] Foster, Robert W., RPLS, PE. ALTA/ACSM Land Title Surveys Seminar. P.O.B. Publishing Company. Copyright 1992.
[2] National Society of Professional Surveyors. "Model Standards of Practice." Revised March 12, 2002.

Point of Beginning

”Viewpoint”
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As a professional engineer and licensed land surveyor in Connecticut, I have been forever mystified by the lack of a written standard for the determination of an actual boundary. In Connecticut we are required to attain a positional accuracy of greater than 1 in 5,000 to state that there has been an A-2 survey conducted—a task that is not very demanding with modern equipment. Almost all our work exceeds 1:30,000. There is no requirement for the appropriateness of our choice of location of the actual boundary! R. Lee Hixson’s article ("Proposed: An ALTA/ACSM Record of Survey") was the best thing I’ve ever read relative to this very issue. In determining the actual location of a boundary, the accuracy with which the information was obtained is of secondary interest. The real point of the whole effort is, “Where is the boundary?” Everything else means very little. In Connecticut, a metes and bounds state, I am constantly faced with adjacent properties that, by deed or accident, do not fit together. I do not, nor does any surveyor in my state, attest to the accuracy of the determination of the boundary. We attest to the accuracy of the method used to gather the information that depicts the locations of objects relative to each other. I must ask the rhetorical question... So what does that tell me about my boundary? To my mind... not a darn thing. Hurrah for Mr. Hixson! He sure has my support.

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