



# CALIFORNIA SURVEYOR

ISSUE #200  
SUMMER 2025



The cover photo has been enhanced with AI in order to highlight the capabilities of this emerging technology to the original photo taken in a lowlight situation. The original photo can be viewed on the table of contents page.

## CLSA CENTRAL OFFICE

**Jennifer Blevins, CMP**, *Director of Management Services*

**Kimi Shigetani**, *Executive Director*

**John Berkowitz**, *Publications Director*

**Michael Cochran**, *Webmaster*

**Tricia Schrum, CPA**, *Accountant*

### Central Office Address

2520 Venture Oaks Way, Suite 150  
Sacramento, CA 95833

916-239-4083 • 916-924-7323 fax  
[clsa@californiasurveyors.org](mailto:clsa@californiasurveyors.org)  
[www.californiasurveyors.org](http://www.californiasurveyors.org)

### California Surveyor Editor

**Warren D. Smith, PLS** – Editor  
[WDSmith@co.tuolumne.ca.us](mailto:WDSmith@co.tuolumne.ca.us)

### California Surveyor Designer

**John Berkowitz**  
[john@caladmanagement.com](mailto:john@caladmanagement.com)

### Advertising

Commercial advertising is accepted by The *California Surveyor*. Advertising rates and information can be obtained on the CLSA website at [www.californiasurveyors.org/calsurv.aspx](http://www.californiasurveyors.org/calsurv.aspx), or by contacting Kelly Hoskins at [kelly@caladmanagement.com](mailto:kelly@caladmanagement.com) or 916-239-4083. Circulation: 2,000.

### Editorial Material

All articles, reports, letters, and other contributions are accepted and will be considered for publication regardless of the author's affiliation with the **California Land Surveyors Association, Inc.** Contributions should be e-mailed to "CA Surveyor Magazine" at [clsa@californiasurveyors.org](mailto:clsa@californiasurveyors.org).

### Material Deadline Dates

**Spring:** March 1

**Fall:** September 1

Articles, reports, letters, etc., received after the above mentioned date will be considered for the next edition.

Opinions expressed by the editor or individual writers are not necessarily endorsed by the **California Land Surveyors Association** Officers or its Board of Directors. Original articles may be reprinted with due credit given to the source and written notification to the **California Land Surveyors Association**, unless otherwise noted.



## CLSA 2025 BOARD OF DIRECTORS

### EXECUTIVE COMMITTEE

**Joseph A. Padilla**, *President*

**Kristie M. Achee**, *President-Elect*

**Michael D. Pulley**, *Secretary*

**Kathy Nitayangkul**, *Treasurer*

**Kevin R. Nehring**, *Immediate Past President*

### DIRECTORS

#### Bakersfield Chapter

Jeffrey Alfred Gutierrez

#### Cascade Chapter

Jesse Lenaker

#### Central Coast Chapter

Luz Garcia • Joseph T. Morris

#### Central Valley Chapter

Scott Landon Blake

#### Channel Islands Chapter

William R. Froman • Daniel J. Walsh

#### Desert Chapter

Taylor Preece • Timothy J. Reilly

#### East Bay Chapter

David A. Murtha

#### Gold Country Chapter

Dirk J. de Valk

#### Humboldt Chapter

Jesse N. Buffington

#### Los Angeles Chapter

Beau Immel

#### Marin Chapter

Dominic P. Sanfilippo

#### Monterey Bay Chapter

Lynn A. Kovach • Kathy Nitayangkul

#### Orange County Chapter

Patrick D. Earl • Chu Man Kow • Bryan J. Mundia  
Tiffany Lisa Padilla • Kurt R. Troxell • David E. Woolley

#### Sacramento Chapter

Curtis B. Burfield • Cameron G. Clark • Andrew Tapley

#### San Francisco Chapter

Andrew Zachary Robinson

#### San Joaquin Valley Chapter

Jason A. Camit

#### Santa Clara / San Mateo Chapter

Paul W. Lamoreaux

#### Sonoma Chapter

Bruce S. Johnson • Michael Mueller



# CALIFORNIA SURVEYOR

ISSUE #200  
SUMMER 2025



**On the cover (original photo):** Ron McCauley and an assistant from BKF Engineers.

The *California Surveyor* is a bi-annual publication of the **California Land Surveyors Association, Inc.** and is published as a service to the land surveying profession of California. It is mailed to all members of the **California Land Surveyors Association, Inc.** The *California Surveyor* is an open forum for all Surveyors, with an editorial policy predicated on the preamble to the Articles of Incorporation of the **California Land Surveyors Association, Inc.** and its stated aims and objectives, which read:

Recognizing that the true merit of a profession is determined by the value of its services to society, the **California Land Surveyors Association** does hereby dedicate itself to the promotion and protection of the profession of land surveying as a social and economic influence vital to the welfare of society, community, and state.

The purpose of this organization is to promote the common good and welfare of its members in their activities in the profession of land surveying, to promote and maintain the highest possible standards of professional ethics and practices, to promote professional uniformity, to promote public faith and dependence in Land Surveyors and their work.



## COLUMNS

<b>President's Message</b> – Joseph A. Padilla, PLS .....	2
<b>Editor's Message</b> – Warren D. Smith, PLS .....	3
<b>Legislative Report</b> – Michael Belote, Esq. ....	4



## FEATURES

📍 <b>Lessons Learned from Lack of Monument Preservation</b> – Ronald J. Nelms, PLS & Rolland Van De Valk, PLS .....	7
📍 <b>Not a Typical Survey Day</b> – Kurt Lenhardt, PLS .....	15
📍 <b>Franchise Agreements, Encroachment Permits, and Monument Preservation Compliance</b> – Michael L. Quartaroli, LS .....	17
📍 <b>NSPS Surveyor Says! Podcast #129</b> – Tim Burch & Warren Smith .....	21
📍 <b>NSPS Young Surveyors Network: Backsighting the Last Decade – Foresighting the Next</b> – Trent Keenan .....	26
📍 <b>The Surveyor and the “Geodesy Crisis”</b> – Tim Burch .....	28
📍 <b>Surveyors Do Much More Than Measure</b> – Tom Liuzzo .....	30
📍 <b>Sustaining Members</b> .....	33





# PRESIDENT'S MESSAGE

## Joseph A. Padilla, PLS CLSA 2025 President

**A**fter four months as your President, I have been overwhelmed by the ease all the past Presidents have handled their presidencies. I keep trying to get ahead of my agenda and I keep falling farther behind.

I have been to the State Assembly to receive a Declaration for National Surveyor's Week. Also the Orange County Board of Supervisors Meeting the next week to receive a Declaration one week later. The following week was the Joint Survey Conference with NALS in Reno. We have received the preliminary numbers for the Conference and things look good with an approximate net amount of \$100,000.00 for CLSA's portion. Speaking of the Conference I want to make a public apology to all Past Presidents who didn't receive an invitation to the Past Presidents Breakfast. I was unaware that this happened and as President I should have been aware of this and reviewed the

invitation list. I didn't know I was invited to the meeting seeing how I was not a Past President yet. We have reviewed our Past President list and have verified email and addresses so this doesn't happen. Again to all Past President, I am truly sorry for this mistake!

Also a Big Thank you to Kimi Shigetani for putting together CLSA Reception on Sunday evening. It just happened to be my Birthday on that Sunday turning into an official senior citizen at 65! I tried to keep this event a secret, however it got out around 9:30 and I ended up having not one but two Happy Birthday songs. It was one of my best birthdays I have ever had.

However getting back to business, Membership recruitment should be on the way! We have two months to increase our Membership. Now is the time to recruit new blood and old blood. People who have just received their LS license and people who

are licensed but never have been a member. This may be a little harder but it doesn't hurt to ask. A lot members just forget to renew their membership. By calling them and speaking directly with them may will renew, however you need to call.

In the upcoming months I will be looking at all the non-standing committees to see which ones we can be retired. A lot of these committees have not had a charge for over three years and many do not submit a report to the Board of Directors. This should help us trim down our Board of Director's Meeting. Our next Board of Director's Meeting

will be Saturday July 26<sup>th</sup>. This will be a hybrid meeting in person or virtual through Zoom.

Finally a little caution. Skin cancer has affected a few friends of mine. These are men who haven't been in the field for a long time. In the upcoming few months we are expecting a hot summer and please use Sunblock. Also be aware of your surroundings. We recently had a licensed Surveyor who was hit in the streets while working.

Until our next issue, be safe. ☺

**Joseph A. Padilla, PLS**  
**CLSA 2025 President**





## EDITOR'S MESSAGE

### Warren D. Smith, PLS *California Surveyor Editor*

**T**his is the 200<sup>th</sup> issue of California Surveyor. When I first encountered the magazine in 1975, it was 16 pages thick, and black and white. Over the years, it has evolved into a full blown color publication and available electronically.

This edition has a couple of interview articles – one a “post-

mortem” look at a freeway construction project which removed several hundred property corner monuments. The lessons learned about the expensive fix are appropriate for current projects. The other is a transcript of a podcast of NSPS’ “Surveyor Says!” series. This is an example of a medium which was not available 50 years ago.

Other articles include a writeup of a Saturday field exercise for Scouts working toward their Surveying merit badge; a commentary on activities of the Young Surveyors Network; and an observation on the “Geodesy Crisis.”

The joint conference with NALS took place in late March and, as usual, was well attended and

brought much needed funding for scholarships for surveying students.

Next year will mark the 60<sup>th</sup> anniversary of CLSA, and promises to continue the advancement of our profession.

*Warren D. Smith*

Warren Smith, PLS

## — Welcome New Members! —

David Acosta  
Jonathan Adkins  
Alan Allmendinger  
Jason Aramburu  
Dennis Armstrong  
Jacob Michael Ardis  
Keoni Bactad  
Dennis Barber  
Matthew Barrett  
Douglas M. Baruch  
Robert Allen Bell, PLS  
Denisse Bermejo  
Justin Bomben  
J. Braley, PLS  
Gary K. Brown  
Sean Brown  
Jason Scott Burak  
Zachary E. Busch  
Owen Cabrera  
James Canada  
Jose Casanova  
Brittany Chen  
Jose De Jesus Ceja, III  
James Chaffin  
Brett Clarke

John R. Clow  
Tyler Cockrell  
Jose Luis Contreras  
John Cortes  
Thomas Crisman  
Allen Cummings  
David Dao  
Erik Jonathan de la Torre  
Nicholas James Deason  
Maeve Elise Desafey  
Brody Ray Doan  
Sanela Domitrovic  
Nicholas Doring  
Christopher Dotson  
Jeffrey M. Dron  
Kasey Edward  
Andres Espinoza  
Fernando Eusabiaga  
Derek Alan Faith  
Leovi Farfan  
Ronald Keith Feiro  
James R. Fisher  
Michael Gallegos  
Peter Michael Gambino  
Artur Gamirov

Gerardo Garciamontes, PLS  
Richard Garland  
Stephen P. Gates, PLS  
Ryan Giammona  
Rashad Gilliam  
Francisco Gonzales  
Brandon Erik Hall  
Jonathan W. Hardin  
Austin Lee Hart  
Allen Hernandez  
Mark A. Hill  
Kai Holden  
Khalid M. Jibril  
Michael Lee Jimenez  
Chad Johnson  
Marcus Johnson  
Michael K. Knopf  
Austin David Krietemeyer  
Eric Lahaye  
Jonathan Blake Loder  
Chris Lung  
Kinney Marks  
Joshua Rey Martin, LS  
Paulina Jean Martin-Goodman  
Sean Wayne Martinez

Marcelino Miller  
Jesus Emmanuel Millot  
Daniel O. Morales  
Roman Jose Moreno  
Brad Mortensen  
Chijlooj Mouanoutoua  
Matt Morrow  
Kaylan Paul Naicker  
Laird Hugh Nelson  
Dahlia Rose Nunez  
Taro Okada  
William Olmsted  
Angel Onofre Onofre  
Noah A. Ostly  
Spencer E. Oyama  
Cana Palmer  
Erik Matthew Pasco  
Peter Pastor  
Christopher Pentes  
Emily Kay Elizabeth Petersen  
Parker Beau Phillips  
Edward Pietsch  
Roy E. Porter  
Cynthia Rangel  
Cody Tyler Ray

Donald Reser  
Markus Anthony Reyes  
Chris Riggins, Sr.  
Eduardo Rodriguez  
Keith Rose  
Alexi Rosichan  
Federico Sanchez  
Garrin James Schaap  
John Thomas Schiffler  
Rodney A. Sherry  
Trevor John Smith  
Matthew Snodgrass  
Kirstin Spear  
Steve Strapac  
Joel James Surgeon  
Logan Marc Szabo  
Zachary Michael Seely  
Silvano Tlahuitzo, Jr.  
Thomas C. Traviss  
Sophie Truong  
Jerry L. Uselton  
Kennedy S. Williams  
Monica Wingett  
Erik Gabriel Zamora



# LEGISLATIVE REPORT

**Michael Belote, Esq.**  
**CLSA Legislative Advocate**

## Where Do All These Laws Come From?

**E**alifornia has a well-earned reputation for creating lots of laws. Each year approximately 2,500 new bills are proposed in the California legislature, and around 1,000 ultimately are enacted and signed into law by the governor. Where do all of these ideas to, ahem, make our lives better, come from?

The answer, in the main, is us. To lightheartedly quote from the comic strip Pogo, “we have met the enemy and he is us.” While many bills ideas originate from the minds of activist legislators from both the left and right, a very large number are suggested by interest groups like CLSA. To put this in Sacramento parlance, groups like CLSA are the “sponsors” of bill ideas, which legislators as “authors” agree to carry. The vast majority of these bills are noncontroversial, never appear in the popular press, and often pass unanimously. They do not deal with abortion, same-sex marriage, or other hot-button topics, but merely fix problems in the law and permit business to run smoothly.

A good example for 2025 is **AB 1341 (Hoover)**, co-sponsored by CLSA, the American Council of Engineering Companies (ACEC), and the California & Nevada Civil Engineers and

Land Surveyors Association (CELSA). Our three allied organizations have been working for a number of years on enforcement of unlicensed surveying and other design disciplines. We have many times made comments to the legislature about our perception that unlicensed activity has grown, at least in part because of the advent of new technologies, such as GPS, drones and ground-penetrating radar. We have made changes to the “responsible charge” provisions in the licensing laws. We have also talked about increases in fines to deter unlicensed practice, because of a perception that some have viewed low fines as simply a cost of doing business.

AB 1341 takes a different approach, proposing amendments to the contractor’s licensing law in Business and Professions Code Section 7110. Existing law establishes that violations by contractors of various building laws are in and of themselves violations of the contractor’s license, including licensing statutes relating to structural pest control, and laws relating to home solicitation contracts, subsurface installations, and many more. AB 1341 proposes to add the unlicensed practice of land surveying, engineering, architecture, and

landscape architecture to those enumerated violations. This approach would thus provide additional teeth to the growing problem of unlicensed practice.

In Mid-May, AB 1341 passed the Assembly on a unanimous, bipartisan vote of 70-0. The strong vote indicated not that the bill is not important, because it most assuredly is, but because Democrats and Republicans, Senators and Assembly Members, get along and pass a huge number of bills that do not end up on cable television.

CLSA also has proposed a number of more technical changes to the PLS laws in the Business and Professions Code, and we are confident that these proposals will be added to this year’s Business and Professions Committee omnibus bill. Those changes would amend Section 8764.5 to add a field for dates on maps, to conform to the requirements of Section 8761(d); Section 9773.2 to clarify the ability of county surveyors to check for tagged monuments on corner records; and Section 8767 regarding the return of maps presented for recording.

As of this writing, the California Assembly and Senate have reached the metaphorical mid-

point in the 2025 legislative year. It should come as no surprise that a focus of this term has been on the long-standing problem of housing. A sizeable percentage of the remarkable 82 bills in the CLSA active legislation electronic folder relate in some fashion to encouraging the production of housing, whether through CEQA changes, permitting relief, building standards flexibility, tax incentives, ADUs or other ideas. A person would be hard-pressed to think of a credible housing creation idea which has not been incorporated into some bill introduced this year in Sacramento.

At this point, the legislature is scheduled to recess for the fall on Friday, September 12. This date is just a teensy bit uncertain, because of the possibility that actions in Washington, D.C. (has anyone *not* heard of the “one big beautiful bill?”) will have budget consequences requiring the legislature and governor to amend the state budget in the middle of the fiscal year. ☺





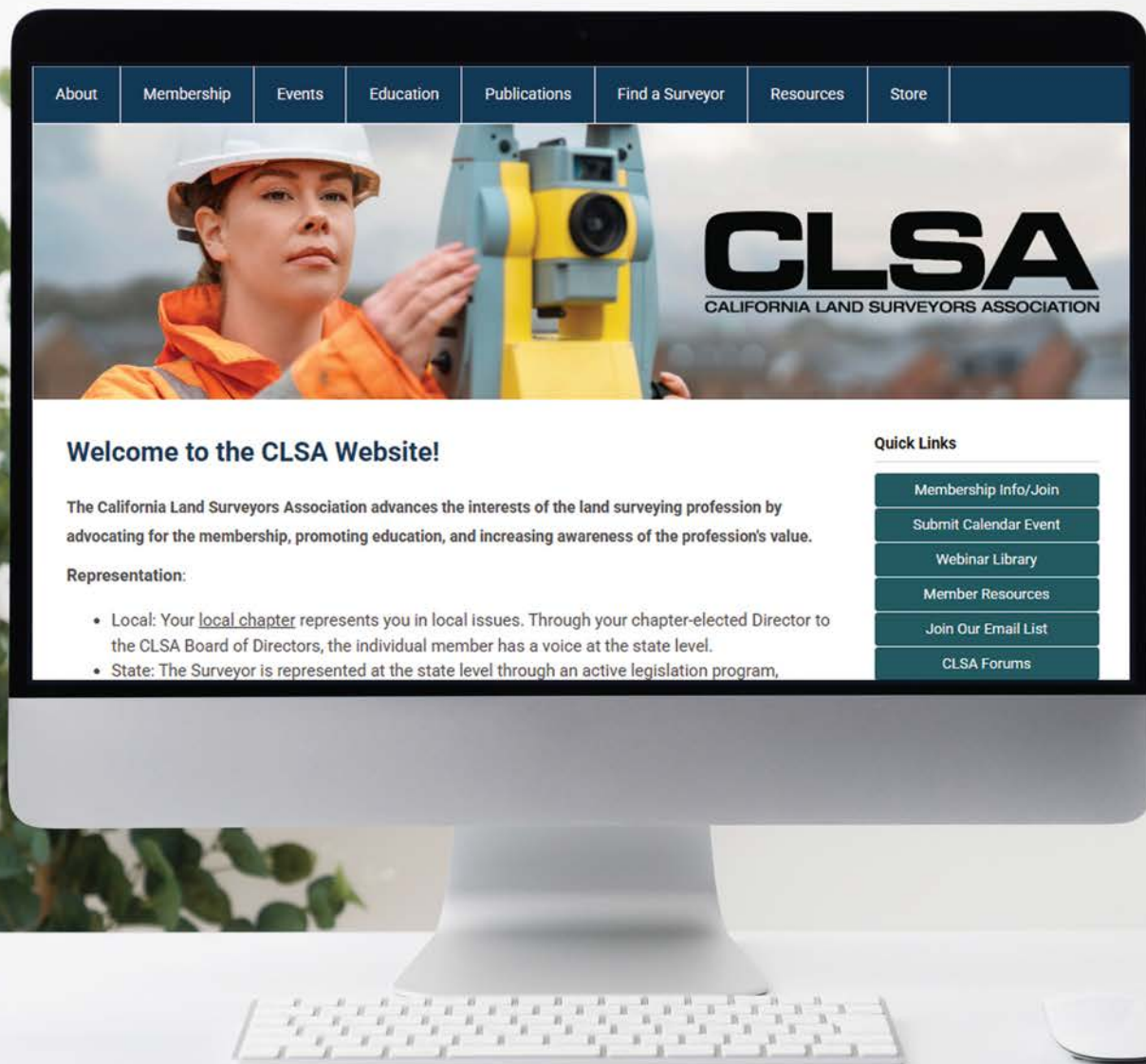


# [www.californiasurveyors.org](http://www.californiasurveyors.org)

NOW SHOWING ON A SMALL SCREEN NEAR YOU....

**The California Land Surveyors Association has a wealth of valuable information available to you at [www.californiasurveyors.org](http://www.californiasurveyors.org), including Discussion Forums, links to the Executive Committee, a Surveyor Locator, an up-to-date Calendar of Events, online meeting registration, a Webinar Library, archives of important and timely articles including back issues of **CALIFORNIA SURVEYOR** magazine, and a Members-Only section.**

**Log on today.**





# Lessons Learned from Lack of Monument Preservati

Ronald J. Nelms, PLS & Rolland Van De Valk, PLS







**A**ny ramifications of monument destruction are not always apparent at the launch of a project and may not emerge for some years after its completion. This time lag often leads to the illusion that all is well, when in fact it abandons the matter to future considerations where the monuments may be forgotten or left to 'hang' without fair solution. Apathy then follows and thus receiving statements like: "We will look into it"; only to be shadowed with a great silence. This casual behavior can make the matter unresolved, perhaps irreversible.

Often times the primary loss comes from public agencies who, in an attempt to complete projects, forget or neglect to ensure their protection and sometimes they hire consultants that do the same. Following is a story of potential damage to the public, but it is also a story of ways to encourage and promote the importance of protecting and perpetuating survey monuments by everyone involved in public projects.

### Background

The City of Bakersfield is in the process of constructing a number of major highway projects through the Thomas Roads Improvement Program (TRIP). One of those improvement projects is known as the Westside Parkway which consists of approximately seven miles of a new freeway from Truxtun Avenue to Heath Road. The project shares boundary/right-of-way with over 450 properties with over 450 survey monuments of record. In addition, there are over 66 Tract Maps, 20 Parcel Maps and 22 Record of Surveys encompassing the project.

The project began in 2005 with the City signing a Memorandum of Understanding with CalTrans on their specific roles. In 2006 the City hired an engineering company to assist with program management. The Parkway was officially opened to traffic on August 2, 2013, and the final segment was completed on April 15, 2015.

### Discovery

In May of 2015 Nelms Surveying was contracted to perform land surveying services for a property abutting the Westside Parkway Corridor. The survey required that the E1/4 for the Section be located. The County showed in a filed map that the monument should be in a monument encasement. A field investigation revealed that both the monument and the encasement were missing due to the construction of an overpass for the Westside Parkway. Research at the County Surveyor's office did not reveal any record of survey or corner records filed for the replacement of this

*continued on page 8*



monument nor was there any records for right of way control for the entire project.

The Lead Engineer for TRIP was approached on May 12, 2015 requesting information on the Surveyor of Record and any maps or plans that would indicate methods used to protect or replace monuments that might be affected by this project only to be told that there was no Surveyor of Record and there was no policy to protect the monuments in accordance with Section 8771 of the Professional Land Surveyors Act.

The approved design plans issued for construction do not indicate monuments or control points to be used. The sidelines of the plans were marked “R/W” which seemed to indicate the Right of Way. However, these lines had no courses or coordinate values. Further the plans have the following statement for the Basis of Bearings with no control scheme:

*“Coordinates are based on the California Coordinate system (CCS 83), Zone V, 1983 NAD, (2004.0 epoch), using coordinates provided by the California spatial reference center for CORS sites, bvpp, wgpp, and arm1.”*

Ron Nelms requested a meeting with the City Surveyor, and the Public Works Director on May 28<sup>th</sup>, 2015, to discuss the issue. They expressed concern over the severity of the situation and directed Mr. Nelms to contact the consultant in responsible charge. The consultant, a licensed surveyor, confirmed TRIP’s assertion that there was no policy to protect the monuments and there were no plans to locate or to protect existing monuments because they were under no contractual obligation to do so. Recognizing an impasse and needing assistance Mr. Nelms decided to approach the Bakersfield Chapter of CLSA.

### Complaint

On August 20, 2015, the Bakersfield Chapter under the Public Records Request Act sent a certified letter requesting copies of public records that pertain to surveying information for the development of the Westside Parkway. This was followed by a phone call from the City administrator to Aaron Byrd (President Bakersfield Chapter)



that the City had no records pertaining to our request. This was followed by an email with contact to their consultant to see if they had anything only to receive the same response.

The Chapter approved a committee to meet with the City to discuss this response. On October 2, 2015; Donna Fujihara (County Surveyor), Ron Nelms, and Rolland Van De Valk met the City Surveyor, lead engineer for the TRIP project, Attorney for City, consultants, and several City staff. The City and the Consultants confirmed that there were no records, nor a policy to protect the monuments but were very responsive as to how to remedy and prevent this from happening again. It was agreed that sample policies in other jurisdictions would be provided. They also invited the Chapter to give a presentation to Design Engineers, Surveyors, and Inspectors as to the proper procedure for monument preservation so that this does not happen again.

After a full report was given to the Chapter, it was decided that a complaint needed to be filed with the Board of Registration. On January 19, 2016, the complaint was filed with California Board of Registration for Professional Engineers, Land Surveyors, and Geologists (BPELSG) on the following:

- 1 The City and its consultants did not protect survey monuments as outlined in Section 8771 of the Professional Land Surveyors Act (PLSA).

- 2 The City failed to designate person in responsible charge per 8725.1 of the PLSA.
- 3 The City and its consultants failed to submit a Record of Survey prior to construction as outlined in 8762 of the PLSA.
- 4 The surveyors who performed the construction staking failed to protect survey monuments as outlined in Section 8771 of the PLSA.

In the complaint, 14 consultants including Engineering and Surveying Companies were listed along with a number of attachments that explained the project.

On February 4, 2016, the Bakersfield Chapter received a letter from BPELSG that they have received our complaint and had opened up an investigation. Through inquiries it was discovered that the City decided to conform and was in the process of resetting the lost monuments along the corridor.

### Follow Up

Through a collaborative effort between the Bakersfield Chapter and CLSA it was decided that Rolland Van De Valk and Ron Nelms would follow up on the project and give a report. Both Mr. Van De Valk and Mr. Nelms decided that the best avenue would be to interview the participants.

*continued on page 9*





## Interviews:

Our first interview attempt was with Theodore Wright, City Surveyor for the City of Bakersfield. However, he was reluctant to do so due to the BPELSG investigation. It was during the Board's investigation that Mr. Wright retired, so we were unable to obtain comments from him, but his successor and staff were very gracious and open to an interview.

## RIC MOORE (BPELSG)

**Our first granted interview was with Ric Moore, PLS, Executive Officer of BPELSG. Mr. Moore shared a great deal of information about the case but nothing that was not a part of public record. Mr. Moore pointed out several areas of the Board rules and the acts that direct the fiduciary duties of public agencies and consulting professionals. In this case the City of Bakersfield and their consultants were obligated to follow the law as outlined in Board rules 475A and 476A during the engineering and surveying of the construction of the Westside Parkway.**

*The complaint was made against the City, TRIP, and the Consultants. We understand that a case opened; what actions were taken against them?*

The case is currently closed but remember that the City Surveyor (at that time) assumed full responsibility for compliance with the Board's laws and

no other complaints were submitted to the Board involving others related to this situation.

### *Were they cooperative?*

Typically, the Board requests specific dates for response during an investigation and in cases where compliance can be obtained, requests specific dates to resolve. In cases where compliance can be obtained but delays occur, the Board does push harder for resolution knowing that further delays might lead to further action. In this situation and due to the number of monuments requiring attention, factoring in time to comply with the statutory and regulatory duties needs to be considered while at the same time, the Board needs to be assured that proper attention is being devoted to satisfying requests for resolution.

### *Consultants were listed in the complaint. Were any of them cited or interviewed?*

Could have been but it is my understanding that the City Surveyor assumed all responsibilities for compliance with the Board's laws.

### *Did any of the Consultants share any responsibility?*

Don't know if they did.

### *Do you think the consultants could have been held responsible had the City not taken full responsibility?*

Could have been. The Board typically evaluates respective responsibilities

for all licensees found to be involved in responsible charge of a situation. It would be determined on a case-by-case basis, but they are not excused of their respective responsibilities under Board rules 475(A) and 476(A). They have a duty to inform the agency of the law if they believe or become aware of responsibilities related to compliance with the Board's laws while practicing engineering or land surveying. Civil engineers licensed under the Professional Engineer's Act are required to be familiar with their respective responsibilities under Section 6730.2(c) which is related to ensuring compliance with the applicable provisions related to monument preservation as described under Section 8771 of the Professional Land Surveyors' Act

### *What responsibility did the surveyor have who did the construction staking?*

All licensed engineers and land surveyors involved in a responsible charge aspect of a project have an obligation to be familiar with their statutory and regulatory responsibilities related to their licensure authority.

### *Did you view this process has productive? And is the public protected?*

Yes, I do in terms of enforcing the requirements of the Board's laws, but it should not have gotten to this point. If the licensed engineers and land surveyors involved in this situation, regardless of whether they are associated with a public agency or performing services in a private consulting capacity, had truly been cognizant of their licensing responsibilities and performed those in a proactive manner at the appropriate time in the project, then the public's interests would have been better protected. As it is, the only protection realized by the public was after their interests were affected and after the Board was informed of the violations.



continued on page 10



**BRIAN BLACKLOCK  
(Kern County Surveyor) &  
JEREMY BROCK (Kern County)**

We then interviewed the current County Surveyor and a senior land surveyor and his staff who is dealing with the records being filed as a result of monument perpetuation and resetting. Both confirmed that the city was filing corner records and the number of records being filed growing larger at a steady pace.

*We understand that the city decided to replace the lost monuments along the Westside Parkway. Have you seen a record of survey or corner records?*

We have not seen a record of survey but have seen an increase in Corner Records for this project.

*Who do you think is responsible to make sure all monuments have been accounted for?*

In this case, the city.

*What prevention should be taken so this does not happen again?*

Once a monument is lost it could in some degree be suspect when replacing. It is important to do pre-construction corner records with proper procedure and methods.

*Has BPELSG contacted you?*

We have had no contact with the Board regarding this project; however, I became County Surveyor in March of 2018 so they may have been in contact with the previous County Surveyor, Donna Fujihara.

*In the Corner Records you have seen were monuments actually lost during construction?*

It appears there have been a significant loss.

*Has the County kept an inventory of those losses?*

Not specifically, but Donna set up a binder to file corner records that have to do with the Westside Parkway.

*Have these Corner Records coming from the City?*

The ones we have seen has been coming from Dart Alba with SmithCo.

*Do you think Corner Records are the proper procedure in this case?*

It is acceptable, but if this had happened to the County, we would have recommended doing a Record of Survey.

*Do you think the consultants have a responsibility here?*

Absolutely, in fact as an agency we rely on our consultants to give advice especially if our actions could violate the law.

Subsequent to our interview with Mr. Blacklock and Mr. Brock, they informed us that a Record of Survey was recorded on July 12, 2019, for the control network and recently amended the Record of Survey in January of this year to correct some errors in the control network. They are expecting a record of survey for the monumentation for review shortly.

**DONNA FUJIHARA  
(Kern County Surveyor  
January 2012 to March of 2018)**

**Ms. Fujihara was the County Surveyor in place when the Westside Parkway**

**construction was started through the time when the complaint was filed and a portion of the filing of the corner records.**

*When did you become aware of the monument loss on the Westside Parkway?*

When it was brought to my attention by a local surveyor.

*While you were County Surveyor, did you have correspondence with the City?*

We contacted them after we were made aware of the fact that they had not perpetuated the monuments within their project. We had a meeting with their staff and the consultants who were involved with the project. It was explained to them what should have been done, per law, and what needed to be done to resolve the situation.

*We understand the City responded by filing Corner Records for the monuments that were replaced. Have they submitted a Record of Survey?*

At least one record of survey was filed for a small portion of the project. Several corner records have been filed.

*Who do you think was responsible?*

The City was responsible but the Consultants could have been as well.

*continued on page 11*







Depends on how the contract was written.

*As the County Surveyor you would often have to hire consultants, do you feel that the County is receptive to notifications of possible issues with a project?*

Certainly, the County would want to hear of issues and want to have them resolved.

*What do you think happened and why?*

I think it came down to ignorance of the law and the importance of monument preservation.

*Do you know if the County followed up to make sure all the monuments were replaced?*

We have a separate file on the items submitted for the Westside Parkway monuments, but did not follow up on each monument. The city knows their responsibilities and what they need to do.

**NICK FIDLER (Public Works Director), STUART PATTESON (Assistant Public Works Director, & JIM SCHROEDER (City Surveyor)**

We interviewed concurrently these three representatives of the Public

**Works Department for the City of Bakersfield. One was directly involved with the Westside Parkway project while the other two took their positions after the Parkway was constructed. Our interview focused mainly on the remedies and new programs resulting from the situation. Each shared a great deal about what the City is doing differently to ensure monument preservation is done properly and in the public interest in the future.**

*The Corner Records we reviewed show that Dart Alba is the surveyor. Is he the one responsible to replace the monuments for the entire project?*

We hired Ruettger-Schuler to ensure the replacement and they sub-contracted to SmithCo. Dart Alba is a PLS with SmithCo.

*Many of these monuments were in the backyards of private residence. How were these owners approached and did you receive resistance?*

The responsibility for notification was jointly approached by City Administration and SmithCo. We also had temporary construction easements in place so that made it easier. As far as resistance, we are unaware of any.

*Is there an inventory list to ensure that all monuments have been accounted for?*

A report was given in 2017 but has not been cross referenced. Corner Records were filed with the County Surveyor's office for monuments that were set or re-established.

*We understand that a number of Corner Records have been submitted to the County. Does the City intend to file a Record of Survey?*

The Parkway will eventually be transferred to CalTrans who will require that a Record of Survey be done showing the Right of Way. Overland, Pacific & Cutler (OPC) has been retained to complete this task.

*Does the City feel they have complied with the laws and have totally corrected this situation?*

Yes, to the best of our knowledge.

*What measures have been taken to prevent this from happening in the future?*

After the event we began reviewing our standards to assure compliance. We are also educating staff on the proper procedure to protect these monuments.

*The plans did not have any survey control, coordinates, and courses. Do you know how they were able to maintain control and to properly layout the project?*

We don't know, but more than likely CAD files were issued.

*The City often hires consultants, do you feel that the City is receptive to notifications of possible issues with a project particularly if they site statute?*

Yes, we expect and rely upon the consultant to alert and notify of any possible conflict.

**IAN PARKS (Ruettger-Schuler) & "DART" ALBA (SmithCo.)**

The City granted permission to interview their consulting team that is handling the monument perpetuation and resetting. The consultants gave us a rundown on how they approached

continued on page 12



the perpetuation and resetting of the monuments along the Westside Parkway and stated that the concentration of their efforts was at the highest potential for monument loss such as screen walls. Those areas being in the areas where sound walls were installed at the back of the residential and commercial developments that flank the parkway.

*We understand that the City hired your firm for the Westside Parkway. What was your task?*

Our task was to assess what monuments were destroyed and to replace them.

*After replacing did you file corner records or records of surveys?*

We found approximately 300 monuments missing and elected to file corner records.

*Many of these properties required entering into backyards. What method did you use to notify the owners?*

Sent letters and made phone calls similar to right of way acquisition. They were very cooperative, in fact one person helped us by sending out flyers letting the neighbors know we would be in the area.

*During replacement of the monuments did you have any issues with lines of occupation not matching?*

We had one incident with a sound wall that had to be removed and reinstalled in the correct location.

*As a consultant do you feel that you could approach the City or TRIP representatives with issues that may be in conflict with State Statute?*

Our experience has been that they have always been cooperative and that we can approach them with any issues.

*How important do you believe it is that the consultant raise these issues with an agency?*

Extremely, they are often dependent upon us to give the best possible advice. In this case the surveyors who were involved had a responsibility and duty to inform.

### Luis Topete (TRIP) Lead Engineer

Next came an interview with the managing engineer of the TRIP program. He was actually one of the first City engineer that was made aware of the monument issues on the Westside Parkway. As a result of this second meeting with him we found that he has a

clearer and more concise understanding of monument perpetuation.

*How were the consultants selected for this project?*

We used a CalTrans type project using QBS.

*Do you know if there was a survey element?*

The City was to come up with the scope in which the scope for surveying was part of the design and acquisition. There were two chances to catch it.

*When did you first become aware there was an issue?*

When Ron called back in 2015.

*During the design phase, did any consultant approach you that they had concerns regarding the preservation of the monuments?*

No.

*Reviewing the plans there was no right of way information, survey control, coordinates, and courses. Do you know why this was and do you know how it could have been staked?*

Of course, we are responsible to check the plans but often times we rely on the consultant to properly prepare the plans. As far as how it was staked, I can only speculate that the designer provided CAD based drawings.

*Do you feel that TRIP is approachable to concerns raised by the consultants, particularly if they cite statute that requires the project be done in a certain way that may conflict with policy?*

Yes, we had several cases that was the case. If consultant approaches will not discriminate if approached. No bearing one way or another.

*Do you feel that TRIP has complied with the laws regarding monument perpetuation and have corrected the situation?*

Yes, I think we have. Through this project we now make sure that monument preservation be included in our specs and make sure they are included in the plans.



continued on page 13





**Why do you think this was missed?**

A number of factors could have contributed. It wasn't a typical project. Length of time it took to complete was one. We had to seek funding, acquire properties, and design it. Changing staff can disrupt continuity. Opportunities were missed by both the City and the Consultants.

**What advice would you give other agencies in regard to monument preservation?**

Know the laws and make sure the consultant knows it as well. It is important that the consultant has the experience and listen to them.

**Have you received any complaints or concerns from adjoining owners?**

So far, we have not.

**Lynwood "Skip" Carlton, PLS, Consulting Land Surveyor for several TRIP projects subsequent to the Westside Parkway.**

We chose to interview Mr. Carlton with OPC because we believed he would have firsthand knowledge of what the City of Bakersfield actions were in regard to monument preservation post Westside Parkway construction. He gave us affirmation that City was indeed stepping up their processes and oversight. Mr. Carlton also told us that the City had hired a consultant for the Westside Parkway to ensure proper monumentation and mapping for the eventual transferring of ownership and maintenance of the Westside Parkway from the City of Bakersfield to CalTrans. This included Record of Surveys that have already been filed and additional surveys that are in process.

**We understand that you are under contract with the City. What is your role?**

OPC offers several public oriented real estate services; but its core strength is: RW Acquisition, Relocation, Utility Coordination and Property Management. Our role with this project is principally these core services together with

providing Land Surveying services via one of our sub-consultants.

**Are you keeping track of the back lot corners of adjoining subdivisions to ensure they have been properly replaced?**

The loss of rear lot corner monuments which may have been destroyed during the construction of the freeway sound wall happened years ago. OPC was not retained to deal with that circumstance, however I am aware (via Corner Records I have seen) that the City did retain another local survey firm to replace scores of rear lot corners along the Westside Parkway.

**We noticed that the Centennial Corridor which joins into the Westside Parkway has a pre-construction Record of Survey; however, the Westside Parkway does not. Is there a plan to do one?**

Given that the construction is complete on the Westside Pkwy. the opportunity to file a pre-construction ROS has passed. But we carried out a wide-reaching land survey spanning roughly seven miles in 2019 which documents in a nine sheet ROS the position of the monuments which control the cadastre surrounding the freeway corridor. In the next few months, we expect to set the final RW monuments for the Westside Pkwy. and file a post-construction ROS. In the not-too-distant future we also expect to set the final RW monuments for the Centennial Corridor and file a post-construction ROS.

**Why wasn't a pre-construction R/S commissioned on the Westside?**

That was before my time on this project but my guess is that, as many of us in the land survey profession know, the L.S. Act is not well understood by local agencies and it is likely that a pre-construction ROS was not specified in the design phase RFP, and the land survey firm that was awarded the engineering design survey job did not suggest that a ROS be done.

**Would you say it is important for surveyors to have an open relationship with the City?**

I have sympathy for the local agencies; to do their job well they must know at least a little about a very wide range of

topics, but they can't be expected to know everything about everything. And when they hire a professional to perform services it is not unreasonable for the agency to expect the professional to look out for the agency's interests and steer the project to a successful completion.

**What is your recommendation to an agency when retaining a consultant?**

Select someone who has done this work before. Experience and capacity are very important. I would also say that in this case the City and the consultant would have benefitted by advice from CalTrans.

**As a consultant do you feel you can approach agencies to reference statutes they may have overlooked?**

When reading the RFP, if you see a hole in the scope of services, you should enlighten them. If you are concerned that including unspecified but necessary tasks and deliverables in your proposal prices you out of contention, present them as optional items. They may even reissue an RFP. Most I believe will be accommodating when the need for unspecified items is properly explained.

**Do you know if the City consulted with CalTrans?**

Again, before my time, but I think District 6 did offer to assist, but the City tended to go their own way. I believe CalTrans had a liaison/oversight role, but it was not doing the decision making.

**The plans were very ambiguous and my opinion not workable as far as layout. Do you know how it was staked?**

I don't know but I would guess it was done by using a combination of the design engineer's CAD files and the CCS-83 based aerial control points.

**Do you think there are lessons learned here?**

This has had a great impact; credit to CLSA and you in particular Ron for affecting change. Now there is agreement & cooperation with CalTrans. The new RFPs are quite different and show lessons learned from the Westside

continued on page 14



Parkway. Also, I would like to point out that once an original monument is lost its replacement is always subject to interpretation and other variables.

### Conclusions

Throughout the interview process it became abundantly clear that there were multiple missed opportunities where the monument could have been protected but unfortunately were by passed by those who were in responsible charge to protect. It became increasingly clear that the City relied heavily upon their consultants who, in our opinion, did not protect them by alerting them of their responsibilities.

The City Surveyor had the duty to ensure that the monuments would be preserved. The City Surveyor at the time took complete responsibility and to his credit began making provisions to ensure it was rectified before his retirement. Basically “the buck stopped with him.” This is admirable; however, there are others on his staff that should have brought awareness along with the consultants that he relied upon.

The Consultant did not protect the City by not bringing awareness of the duty to ensure against monument loss. Cities and Agencies rely heavily upon their consultants to advise them accordingly. When the consultant was approached after the monument destruction was discovered the response was that it was not in the contract and did not want to raise the issue over concerns of not being rehired for other projects. Basically, it was the City’s responsibility to include it. The stigma that they might not get another project from them should they say something is counter intuitive. We found that the City’s response was quite the opposite.

As Ric Moore pointed out, “The Design engineers are not excused of their responsibilities under Board rules 475A and 476A. They have a duty to inform the agency of the law if they suspect violations. Under the PE Act it is incumbent that they be familiar with the PLSA to ensure compliance.” The Design Engineers plans were poorly drawn and did not show

how the right of way was established indicating they either were unaware of the importance of showing proper monumentation control or chose to ignore them all together. In this case it appears the former which means that measures should be taken to bring about awareness.

Although Inspectors are not necessarily licensed, we believe it is important that they be informed as the importance and an awareness of what monuments look like.

The authors of this report feel that the Construction surveyor had the last line of defense and should have been aware of the potential loss. The surveyor has the same duties to protect regardless of contractual obligations. In fact, it could be said that the surveyor instructed the contractor to remove based on the location of the staking. Granted, it may not have been literal, but the contractor often relies upon the surveyor to tell them where they may construct; particularly since the plans were poorly drawn and untraceable as to Right of Way location. In fact, we would point out that the Surveyor should have brought this to the attention the designers, but this does not appear to have occurred.

The City had to go through a painful exercise to remedy. Had they instituted proper procedure at the beginning, they would not have to painstakingly rebuild the location of the monuments and file over 300 corner records. Their improvements would not be susceptible to interpretation as to whether they are in the right of way or not. They had to spend countless hours of seeking proper methods and procedures to

remedy. Even though no incident has yet occurred with adjoining property owners, there could have been a huge problem if the lines of occupation did not align with the survey.

It is unfortunate that the monuments along the Westside Parkway were not protected but there is a silver lining. We found that the City now understand their importance and taking measures to safeguard by making sure it is included in the specs and RFP for all their projects. In addition, they have invited CLSA to give workshops to their designers, inspectors, and surveyors on monument preservation. As a matter of note the City received accreditation in 2019 by the American Public Works Association (APWA).

The Westside Parkway was one of the first phases of the TRIP projects and fortunately was caught early before the other projects began construction. Once the City became aware they began the process to include monument preservation.

Throughout the investigation, the Bakersfield Chapter was able to bring awareness of the importance along with conformance to Statute so that property rights are protected. This was brought about not by “strong arming” but rather by uniform and open dialogue.

We thank all those who participated in the interview for their willingness to be open and transparent so that maybe others can become aware of the importance of preserving monuments. 🌐





# Not a Typical Survey Day

Kurt Lehnhardt, PLS

**W**e arrived on the site early, just in time to see the sunrise over the Santa Susana Mountains. I was joined by Ron Theaker, PLS who graciously agreed to help me. We pulled out and set up all the equipment we would need for the day. It's early April in Simi Valley California; gasoline is over \$5 a gallon, but the weather is glorious. One could not ask for a nicer day for field surveying. Mr. Theaker and I did some recon of the site and selected some good spots and set some benchmarks around the work area.

As our morning crew begins arriving one by one, I noticed they are all: on time, polite, surprisingly eager and very **very** young. They are 13- and 14-year-olds in Scouting America arriving to participate in hands-on surveying exercises as part of the requirements to earn the Surveying Merit Badge.

As per the required exercises: we started with a five-station closed loop differential leveling run, around a building, using a basic construction level and manual rods.

A few days before, I had introduced the Scouts to basic leveling concepts, level rod reading and completed a couple of the other required discussions in a Zoom session. Next, Mr. Theaker set up his total station, where all the Scouts are required to make measurements and record at least five horizontal angles and distances from a backsight. We had them topo portions of a building, the corners of a soccer field and random other stuff nearby. For a bonus, we let them use the reflectorless capabilities of the total station to shoot the tops of some far away poles and asked them to guess height differences. Next, Mr. Theaker set up his Leica GPS RTK system and (under close supervision) let them measure a few of the same topo shoots to demonstrate they can get similar results to the total station. Finally, the Scouts are required to take a protractor and engineers scale and plot all the topo shots and control points on a sheet of paper. This all takes about three hours. And that is all there is to the hands-on field portion of the Surveying Merit Badge requirements. All the other requirements are interactive lectures which I am doing on Zoom sessions.

On this day, we worked with seven Scouts at a Ventura County Scouting Council sponsored Merit Badge Jamboree where several other Merit Badge classes were happening and Scouts were participating from all over Southern California. This was our second time participating in this event. I have also done the class for three members of a Port Hueneme Troop, solo, that requested it. And I just got asked to do another class for a Camarillo Scout Troop. It seems like the Scout interest is growing. I spoke with some Scout leaders that said they had Scouts who wanted to earn this Badge but could not find a local Counselor in other parts of California.

I started my involvement in the Survey Merit Badge for Scouting America (formerly Boy Scouts of America), pre-COVID, as just one of several surveyor volunteers from LA and Ventura County helping out Stephan Hughey, PLS (Scout Master) who was doing classes at the College of the Canyons in Valencia. I would just supervise a couple Scouts as they go through the field exercises. Mr. Hughey was the Certified Merit Badge Counselor who had created his class based on requirements shown in the official Surveying Merit Badge book (64 pages).

When Mr. Hughey stepped away from doing the class I thought this is something I can and should be doing. I see it as an outreach opportunity that I had not previously considered for the surveying profession. **Apparently, there are very few Professional Surveyors teaching the Survey Merit Badge in California.** So, I went through the relatively simple process of becoming a Certified Merit Badge Counselor for Scouting America.

It took me some time to fully package my class. With some guidance from Mr. Hughey and observing (and "borrowing" great ideas

*continued on page 16*







from) the Merit Badge Class that Chu Kow, PLS was doing in Long Beach, I have created power point presentations. I purchased a few supplies and some used equipment. Thank you to Marta Alvarez, PLS, PE for loaning some equipment, Ron Theaker for assisting in teaching the class and providing some of his own equipment (the expensive ones), Debbie Naves, PLS and Dan Walsh, PLS for encouraging outreach in the Channel Islands CLSA Chapter.

### The point of all this is:

- We as Professionals need to be doing more outreach for the future of Surveying.

- Scouts have many of the good qualities we would want in new surveyors.
- If I can do this, you certainly can.

If any of you are interested in participation or becoming a Certified Merit Badge Counselor for Scouting America, CLSA has information and example files. Also, you can contact me, and I will be happy to explain the certification process. I also do not mind sharing my power point presentations which you can use and adapt to your own class. So, please consider getting out of your **typical survey day** and volunteering your time and talent to become a Surveying Merit Badge Counselor. 📍

Kurt Lehnhardt, PLS began surveying while serving in the US Army right out of high school. Later, he attended CSU Fresno Surveying Engineering. He briefly interned at Larry Johnson Land Surveying in Fresno. He also interned two summers with Caltrans in Ventura County (District 7) where he was hired after graduation and worked for nearly 26 years. He is retired and enjoying many volunteer activities including 20 years as one of the Directors of the CLSA Education Foundation and currently serving as the Vice President of the Channel Islands Chapter of CLSA.





# Franchise Agreements, Encroachment Permits, and Monument Preservation Compliance

Michael L. Quartaroli, LS



**F**ranchise Agreements and Encroachment Permits are related but distinctly different. A utility company Franchise Agreement is a contract between a city or county and a utility company. The Franchise Agreement grants the utility company the right to use public property and rights-of-way for infrastructure installation, maintenance, and operation. This agreement outlines the utility company responsibilities and obligations while operating within the City or County, including payment of franchise fees and adherence to specific standards. Encroachment Permits, on the other hand, are required for any activity that physically encroaches on that right-of-way, even if the activity is authorized by a Franchise Agreement. Essentially, a Franchise Agreement provides the general authorization to operate, while an Encroachment Permit is required for specific activities within the right-of-way.

The land surveyor designated by the local agency (City or County) to be in responsible charge must be identified on the Notice of Department Designation

(NODD) form as required by Sec. 8725.1. Unless clearly specified on the NODD form, the City Surveyor or the County Surveyor is PRESUMED to be in responsible charge of land surveying practices at the department issuing and administering the Encroachment Permit.

Professional Engineers Act Sec. 6730.2 has two significant sub-sections. Sec. 6730.2(a) requires that at least one person authorized to practice civil engineering be designated as the person in responsible charge of civil engineering work practiced in any department at the local agency (City or County) and be identified on a Notice of Department Designation (NODD) form. Sec. 6730.2(c) mandates that the designated civil engineer is ultimately responsible for compliance with subsections (b) and (c) of Sec. 8771 for their particular department. Unless clearly specified on the NODD form, the City Engineer or the County Engineer is PRESUMED to be in responsible charge of civil engineering practices at the department issuing and administering the Encroachment Permit.

If an Encroachment Permit is issued to the landowner, utility company, or contractor for work performed in “streets, highways, other right-of-ways or easements” then the Governmental Agency must **ENSURE** that Sec. 8771 is completed.

If NO Encroachment Permit is issued, the landowner, utility company, or contractor working in “streets, highways, other right-of-ways, and easements” are required to comply with Sec. 8771(b)(c) but the governmental agency is not required to **ENSURE** compliance.

If the Governmental Agency is performing construction or maintenance work in “streets, highways, other right-of-ways, and easements” then the Governmental Agency must **ENSURE** that Sec. 8771 is completed.

**“ENSURING”** is partially accomplished with the use of the “Acknowledgement of Survey Monument Responsibility (Pre-Utility Repair/Restoration)” and Acknowledgement of Survey Monument Preservation (Post-Utility Repair/Restoration) forms. Someone has to be “responsible” – held accountable. The acknowledgement forms attempt to do that. But together with the Acknowledgment forms there has to be involvement by the governmental agency designated Land Surveyor (City/County Surveyor). The governmental agency designated Land Surveyor must monitor, question, and provide oversight. Remember, PLS Act Sec. 8771 is a quasi-partnership between the governmental agency designated civil engineer (city/county engineer).



*continued on page 18*



(Sec. 6730.2) and the landowners, utility company, or contractor designated land surveyor (Sec. 8729(a)(2)) identified on the acknowledgement form. The purpose of the acknowledgement form is to share as much of the responsibility as possible with the designated land surveyor.

A governmental agency that only places a note or statement on the **ENCROACHMENT PERMIT** alerting the landowner, utility company, or contractor to comply with Sec. 8771 without having a system that **ENSURES** compliance, does not relieve the governmental agency of basic Sec. 8771 monument preservation responsibilities. **ENSURING**

compliance when an encroachment permit is issued is necessary to fulfill the requirements of Sec. 8771.

Below are suggested statements to be included in the local agency Franchise Agreement, Encroachment Permit, and Standard Plans and Specifications:

In accordance with State law, the City/County of \_\_\_\_\_ is responsible for **ENSURING** the protection and preservation of survey monumentation from any land disturbing activity permitted within the City/County of \_\_\_\_\_ jurisdiction.

**Legislation changes effective January 1, 2015  
Senate Bill No. 1467, Chapter 400**

**Section 16: Section 8771 (d) of the Business and Professions Code (Land Surveyor's Act):**

(d) The governmental agency performing or permitting construction or maintenance work is responsible for ensuring that either the governmental agency or landowner performing the construction or maintenance work provides for monument perpetuation required by this section.

Section 8771 mandates that survey monuments at risk of being disturbed, destroyed or covered by permitted construction, restoration or maintenance activities shall be located and referenced prior to construction, restoration or maintenance by or under the direction of a Licensed Land Surveyor. If any monument is disturbed, destroyed or covered by the construction, restoration or maintenance it must be reset by or under the direction of the above-mentioned Licensed Land Surveyor. A corner record or record of survey must be filed with the County Surveyor in compliance with the Land Surveyors Act and Business and Professions Code Section 8771.

**Encroachment Permit Requirement:**

The permittee shall designate, at permittee's expense, a Licensed Land Surveyor, as being responsible for all monument preservation efforts and shall complete the form entitled "Acknowledgement of Monument Responsibility – Pre (Construction)" prior to the commencement of any land disturbing activities (including construction, restoration or maintenance). Prior to final acceptance, approval, or completion the form entitled "Acknowledgement of Monument Preservation – Post (Construction)" shall be completed by the same Licensed Land Surveyor.

Franchise Agreements and Encroachment Permits must be updated to clearly require franchisee's and permittee's to comply with Section 8771. After all, the unspoken ultimate purpose of Franchise Agreements and Encroachment Permits

is to ensure public safety and to protect and preserve public and private property rights. City and County Surveyors and City and County Engineers **MUST** recognize that they have an important responsibility that will not go away

by ignoring it. The local agency has a statutory duty and moral obligation to protect the public.

*continued on page 19*





**(Town/County Letterhead)**

**Acknowledgement of Survey Monument Responsibility  
“Pre-(Construction)”**

Survey Monument Preservation prior to permitted (Construction) activity  
(Same Land Surveyor for Pre & Post)

I, (Please print) \_\_\_\_\_, a duly Licensed Land Surveyor or Licensed Civil Engineer legally authorized to practice Land Surveying, License No. \_\_\_\_\_, hereby acknowledge and accept all responsibility for the Pre-(Construction) survey monument preservation in the Public Domain as required by Sec. 8771 (a-f) of the Business and Profession Code, and to comply with Sec. 8725 of the Business and Profession Code; Sec. 841 of the Civil Code; Sec. 605 of the California Penal Code; Sec. 732 of the Streets and Highway Code; Sec. 476 Code of Professional Conduct – Professional Land Surveyor; and U.S. Code Title 18, Sec. 1858 within the bounds of the (Construction) Activity Zone (survey monument preservation zone) permitted by the City/County (Permit No. \_\_\_\_\_) Address/APN/Description \_\_\_\_\_

I further acknowledge that I am hereby responsible for the Post-(Construction) Survey Monument Preservation prior to final acceptance of the (Construction) Activity permitted by the City/County (Permit No. \_\_\_\_\_) Address/APN/Description \_\_\_\_\_

\_\_\_\_\_  
Signature – Land Surveyor Responsible for Monument Preservation

Seal

Date \_\_\_\_\_

**Requirements Needed Prior to Issuing Permit:**

- ☐ Exhibit of agreed definition of Survey Monument Preservation Zone.
- ☐ Acknowledging Surveyor agrees to provide County Surveyor draft Pre-(Construction) Corner Record(s) or Record of Survey within a specified time limit depending on the number of monuments involved.
- ☐ Survey monument found - Post Acknowledgement/Corner Record to follow.
- ☐ No survey monuments found.

*continued on page 20*





(Town/County Letterhead)

**Acknowledgement of Survey Monument Responsibility  
“Post-(Construction)”**

Survey Monument Preservation prior to final acceptance of permitted (Construction) activity  
(Same Land Surveyor for Pre & Post)

I, (Please print)\_\_\_\_\_, a duly Licensed Land Surveyor or Licensed Civil Engineer legally authorized to practice Land Surveying, License No.\_\_\_\_\_, hereby acknowledge and accept all responsibility for the Post-(Construction) survey monument preservation in the Public Domain as required per Sec. 8771 (a-f) of the Business and Profession Code, and to comply with Sec. 8725 of the Business and Profession Code; Sec. 841 of the Civil Code; Sec. 605 of the California Penal Code; Sec. 732 of the Streets and Highway Code; Sec. 476 Code of Professional Conduct - Professional Land Surveyor; and U.S. Code Title 18, Sec. 1858 within the bounds of the (Construction) Activity Zone (survey monument preservation zone) permitted by the City/County Permit No.\_\_\_\_\_ Address/APN/Description\_\_\_\_\_

I hereby state that all survey monuments within the (Construction) Activity Zone (survey monument preservation zone) permitted by City/County Permit No.\_\_\_\_\_

Address/APN/Description\_\_\_\_\_ are in the original location or have been reset in accordance with Section 8771 (a-f) of the Business and Professions Code.

\_\_\_\_\_  
Signature – Land Surveyor Responsible for Monument Preservation

Seal

Date\_\_\_\_\_

**Requirements Needed Prior to Issuing Notice of Completion:**

☐ Draft copy of Corner Record(s) or Record of Survey.





# SURVEYOR SAYS!



## NSPS Surveyor Says! Podcast #129

June 29, 2022  
San Francisco

**TIM BURCH:** Hello, and welcome to another episode of Surveyor Says! This is Tim Burch, and today – I know, I say it every week: this is a very special guest – well, yeah, this is another very, very special guest. We've had some ongoing conversations with the California Land Surveyors Association for several years, and it's finally here. We've finally agreed on an MOU, and California is coming in as a 100% membership state. So, with me today is their current President, Warren Smith. Actually, Warren and I have been going back and forth on a couple of things – and it's not just the MOU. It's the monument preservation and restoration with wildfires – we'll get into a few of these things. Warren, thank you for joining me today. I'm thrilled to death that we've been able to meet in person and to be able to do this.

**WARREN SMITH:** Well, thank you, Tim. It is a pleasure to finally meet in person – and not Zoom.

**T:** Because we've seen each other on several Zoom meetings across a couple of chapter meetings. So, yes, it's always great to be able to put a real face with a real voice and a real person. Tell us a little bit about your background besides being the current California president. What's your daily life?

**W:** I am a County Surveyor, so a lot of it involves reviewing maps that are submitted for approval, and dealing with landowners' issues and, of course, the public holdings in the county that I'm County Surveyor in.

**T:** So, how long have you been a County Surveyor, and how long have you been a surveyor?

**W:** I was licensed in 1980 here in California. I began in the mid 1970s, back in the manual drafting days. I was in the private sector for 15 years, and became a City Surveyor in Southern California for 22 years, and now have been a County Surveyor – at that level – for the last nine.

**T:** So, what's the day to day responsibilities of a County Surveyor? Are you in the Bay Area – where are you at?

**W:** Actually, we're in the Sierra foothills. Part of our county encompasses Yosemite National Park, and a lot of it is National Forest. But for the remaining lands, it has to do with research by local surveyors – providing that – and by landowners themselves.

**T:** Okay, it sounds like just a terrible, terrible place where you live.

**W:** Oh, it is. At this point in my career, it really suits my pace.

**T:** Very good. Well, like I said – president of CLSA. How did you get involved with CLSA?

**W:** It was not immediately after I became licensed. Several years after that, when I started setting monuments with my tags in the ground and signing maps, I realized that I needed to network. I needed to expand my exposure to like minded surveyors and get help from survey organizations with common issues. So that was in 1986 and since then, as with most organizations, it's at the chapter level – the basic building blocks – that an awful lot of local application of survey issues get taken care of. And then you have the parent organization that collects all that activity and identifies issues and collaboratively tackles those issues. So now, beginning July 1, California will collaborate on a national level.

**T:** Honestly, we're thrilled, we honestly are. It's interesting – some of those discussions we've had – that California is a geographically pretty good sized state. 20 chapters?

**W:** 20 chapters.

*continued on page 22*



**T:** Wow, my background – my career – was in Illinois with 10 chapters, so I can't imagine what it must be like herding in 20 chapters at a state level.

**W:** The geography is diverse. Today, we're in the San Francisco Bay Area, and I think we have five chapters within sight of this facility. Just up and down the state, there are that many diverse local issues. 20 is an appropriate number.

**T:** You talk about the diversity of California. That's one thing I've notice about various states. They go from a lot of metropolitan areas to, quite often, a lot of rural areas that there is a different mentality when it comes to surveying in these different areas.

**W:** In approach – it's the research. Here in California, we have Ranchos [Spanish and Mexican land grants] – which were exempt from the Public Land Survey System. Up in the foothills, we have mining claims – that's another thing to be concerned about. North of the Bay Area, we have two major rivers converge in the Delta – and this was exempt from Federal disposition. These were Swamp and Overflowed lands which were dispensed by the State.

**T:** Throughout your career, and the positions you've held – one of the themes we try to talk about is the advancement of the profession. From your perspective - where surveying is now with the technology – mentoring. We're gradually going from the 3, 4, 5 man crews to the two man crew and the one man crew in a lot of the places you've been and worked. Can we keep this up? We still desperately need that mentoring.

**W:** We do, and one of the things that NSPS brings to the table is the Young Surveyors Network. This is the newer generation – newly licensed and LSITS studying. One of the things that is their goal – and I remember back when I was that age – is to be exposed to us older folk – and exposure to how it was - not just in our time - but our predecessors were working with less modern equipment.

And the goal of all retracement is to follow in those footsteps. Any gathering that we have that shows how – hands on – that was done and compare it to the precision we have today needs to merge those two into a proper retracement philosophy. So that's a great group that NSPS has put together, and is pretty active in California already.

**T:** And a name I've heard – a transplant from Nevada – is Sarah Walker.

**W:** Very true.

**T:** She's a past Surveyor Says! guest and just a dynamo. A little shoutout to Sarah out there for her involvement in getting engaged right away, once she moved to California. Recently.

**W:** Oh, yes. Just a week ago, we had a campout with, probably, a dozen young surveyors on the Mt. Diablo initial point. This is the initial point for most of Northern California and all of Nevada. A behind the scenes tour, and some hands on work with chains, surveyors compasses, and transits, put on by the Historical Society. So that was a great learning experience and hands on!

**T:** Did it get chilly overnight?

**W:** A bit, but this is June.

**T:** This is my first visit to the San Francisco area, it does get a little chilly here.

**W:** Around the Bay it does, but that's inland a bit – it's surrounded by valleys, so there's enough heat to keep it normal.

**T:** What other things are going on at CLSA that, during your presidency, that really has your attention and the things that you want to see dealt with and accomplished while you're president?

**W:** One of my platforms is survey monument preservation and not just the ones which are paved over by local agencies, but in the aftermath of disasters. Here, mostly it's wildfires, but it could be floods, it could be hurricanes or tornados. Whatever it is, when FEMA and the insurance companies come in, that steps be taken to not make the

*continued on page 23*







cure worse than the cause. And that is the equipment that comes in to rebuild and remove toxic material – not disturb or destroy existing survey monuments. So there's a program that one of our local surveyors, Mike Quartaroli, is propounding – particularly Building Officials and local agencies that are regulating the reconstruction effort have on their checklist not just right of entry for damaged tree removal and grading efforts, but that surveyors identify – and reset as necessary – that monumentation so that the rebuilding is done within the limits of people's property ownership.

**T:** Tell us a little bit about when they go in to clear some of these areas, I didn't realize – not thinking about it – after a fire, the toxic material, all the building material and such – it's all sitting on top, it's gotta go somewhere before it can be rehabbed.

**W:** Right, and no one other than the specially trained crews with their equipment – hazmat suits and the like – are actually allowed onsite. FEMA has that down. The idea is to expand on that to, subsequent to the site being declared safe to visit, is to have that reconstruction. The impetus, I know, for Mike's efforts began in the Town of Paradise during the Camp Fire a few years ago, where the town essentially got wiped out. The rebuilding effort turned out to have unforeseen consequences, where the overhead power lines were determined to go underground. Those trenching machines took out miles of right of way monuments that define property corners. So, one of the lessons learned from that is to have checklists upon reconstruction and make sure that doesn't happen.

**T:** Exactly. That's one thing we talk about at the national level – in this monument preservation effort – it's not like we can gather a group of surveyors from across the country and come in and start, basically, carpet bombing and locating all these things. It's still California, it's still a state specific survey activity to do this work.

**W:** It is, and yet, there are Federal interests, such as National Forests and the like, that have a lot of funding and authorization to perform fire prevention – fire breaks and the like – with the urban interface. So that's the point where an inventory, pre construction would want to take place. Some of these section corners, boundary corners have not been seen since they were set 100, 120 years ago. So that's the idea, to get a pre-existing database of these monuments, get them tied out and flagged up so that the equipment that does this clearing does not take them out. Or they can be reset if they happen to be.

**T:** Where do you think we're at in the process? What needs to be the next step to fully implement this program? We need to get something going.

**W:** What we've found in Zoom meetings with staff for Congressmen is that the authorizing legislation is one thing – and the funding – but it's in the enactment by the Department of Agriculture and the National Forest Service – the actual agencies who contract out – that they have procedures in place to hire local surveyors through a qualifications-based procedure, and have that as part of their budget. It's far more efficient, timewise and moneywise, to have it tied out in advance and prevent them from being disturbed or destroyed, rather than having to bring it in later. It's much like the difference between a lost and an obliterated corner. You either have nearby evidence or you have to bring it in from a mile in four directions, and it won't quite be in the same place. It's just an unforced error. The idea is to work with the agencies that perform and contract this out to tighten up those regulations.

**T:** I guess, ultimately, who's going to oversee that survey operation? Is it going to fall back to a County Surveyor?

**W:** In most cases, it does. We have a pilot program in my county, Tuolumne County, with the Stanislaus National Forest. The first several versions of the fire breaks have been next to

subdivisions. As part of that contracting, those property corners are identified, flagged up and, essentially, inventoried. So that, as the brushing crew comes in, they stay on the Federal side, and not onto private property. So that's been a bit of a success story – would like to replicate that.

**T:** That's good to hear because, obviously, these types of situations, these forest fires are not going to go away, these wildfires are not going to go away. We will try to mitigate it as much as we can and try to reduce those opportunities. I shouldn't say it's human nature, but it's gonna happen.

**W:** We want to make good on the success stories and not repeat missed opportunities.

**T:** Exactly. I guess the other part is that is that it would be overseen by the County Surveyor. In this day and age when it's so hard to get a surveyor to come out and to do anything when everybody's so busy – is that going to be another hurdle that's going to be out there for this operation – to find consultants to do this kind of work?

**W:** It is, and that's part of the planning is to have a list of qualifications-based surveying companies that are part of the contracting end of things. The front end planning makes up for a lot of that.

**T:** What do you think it's going to take to really get this going? We need to continue our outreach, continue pressing both our state and federal legislators to make sure that this program continues to move forward.

**W:** It does. It's going to take persistence – reaching out to our associated professional colleagues. We have the Building Officials Association, obviously, Engineers for design, and Planners for these projects to be made aware of it. The reconstruction is going to take place, the fire prevention is going to take place, the plan is to give Surveyors

*continued on page 24*



a seat at the table. It's a great investment for a small part of the overall budget to do things right. It will take persistence.

**T:** The teams that are coming in to help do that surveying under the direction of the County Surveyor, is there any kind of coordination with, say, the County Recorder, to have access to records at their fingertips?

**W:** Well, that's the research part, and the County Surveyor acts more of an expeditor or facilitator, rather than contract administrator. But, he or she does need to be aware of the implications of not doing so – it's not a good idea to not do anything.

**T:** Sure – I would hate for this whole process to get tied up in red tape. Just trying to get the recorded documents. The Recorder's office is there for public information, but with this many documents, it would be a significant expenditure.

**W:** Well, at least in California, County Surveyors function is to keep a geographic database – long before GIS – and to provide that research to anyone doing boundary retracements. So, in design projects, it's a function that we provide.

**T:** I would like to switch gears just a little bit here. Something we talked about a little bit off record earlier – was our change to a dynamic datum with NSRS and several years down the line with NGS. I think the rest of the country – we kind of get it, we understand tectonic plates. You live in California, you got things moving all the time. Can you touch on how important a dynamic datum is going to be for, not just California, but for the rest of us?

**W:** It is, because it is a relative motion. You and I are currently sitting on the North American Plate, but 15 miles away – across the San Andreas Fault – is the Pacific Plate, which happens to be moving relative to us about 2.5 centimeters a year Northwesterly. That's active. An awful lot of the developed land

in Southern California is on that Pacific Plate. So that's been studied for some time now, and now it's being adopted into the national datum.

**T:** So, obviously, you see the value in adopting this dynamic datum because, like you said, everything's relative, so all the static monuments that are placed throughout an area – they're OK within themselves – but when the whole plate is moving, there are geographic considerations that need to be taken.

**W:** Right, well that's the fourth dimension. You have the X, Y, Z values, and then you now have the time value – time stamp value, if you will – so that positions on the different plates have a constant that can be applied. Pretty much – if I can remember the acronym HTDP – that does estimate, based on observations, what that relative movement is. So this is just an adoption to reflect the fact that we can now measure these things as well as we can.

**T:** Exactly. I guess that's one thing – a little shoutout to our good friend Dave Doyle who constantly harps: Metadata, metadata – that's what it's about. I guess it's nice to hear a true, everyday application of a place where that is important – those shifts are important.

**W:** And continual.

**T:** So what else is going on with CLSA that we need to know about?

**W:** We just finished up our Western Regional Surveyors Conference, which we got to co-host with four State Associations, and the Western Federation of Professional Surveyors. So, after a couple of years absence of having an inhouse or in person meetings, this was a great relief. I think we had something like 800 surveyors in attendance.

**T:** Yes, it was a great attendance throughout.

**W:** One thing I want to bring up that NSPS provides is what's known as the Final Point monument. Just recently, we had a chance for a person to actually set his own final point – Steve Parrish. I was able to be there for that ceremony. It's a bit unusual that he was able to do it and, during the ceremony, hear accolades from all the people he's mentored over the years, and not let it go unpassed. He got to correct a lot of the anecdotes.

**T:** Which is good. I've heard nothing but praise for not just the ceremony itself, but for the whole concept of, yes, being able to have a celebration with that person, rather than as a eulogy.

**W:** Right. It was a celebration of life that he got to participate in.

**T:** That's fantastic. Ever since this has come to light that this ceremony was going to happen, yes, you don't want to question your own mortality sometimes, but to be able to have that and to be around the people you've enjoyed for years and mentored and all these influences, I'm so glad that you all had an opportunity to do that.



continued on page 25





**W:** Oh, yes. And another thing that NSPS is good at is publicizing National Surveyors Week. I had a chance for our local county to have our Supervisors adopt a resolution honoring the local surveying community, and had a chance for about a dozen of them to be present, be recognized, get a nice group photo shot, so that their efforts do not go unnoticed.

**T:** I'm glad that you brought that up, because I think that so often when we think about National Surveyors Week, we think about true national recognition. Did we get anything from the President, did we get anything from our Governors, or our Federal representatives? But the fact that you did it at your local level, and the local surveyors could partake in it, and have others embrace the profession that we all love so well – kudos to you for doing that, because I think that's another angle, another element to it that a lot of us haven't thought of. We're definitely gonna use that back in Frederick to promote it as you did – at the local level where it is truly appreciated.

**W:** Right. Well, that's what builds a local community – they take great pride in it, they are following in their predecessors' footsteps and doing a great job of it.

**T:** That is fantastic. Yes, that's the whole point of National Surveyors Week is to take that time to really appreciate each other and this great profession. A little bit of public recognition never hurts.

**W:** In this case, we had from Land Surveyors in Training, through current employers, to retired County Surveyors. It really ran the gamut of how each generation takes over from the previous one. So that is a bit of a prime example of mentoring in one ceremony.

**T:** I like the fact that it wasn't just the retired surveyors, your colleagues and contemporaries, you're bringing in technicians, LSITs, and the entire gamut of the profession, and was able to enjoy this moment.

**W:** That's right – that's the next generation. And, with the technology, it may not take as many of us as it did before, but they still need to use the basics, follow the footsteps of us older, slower, less efficient folks, but we did the best with the equipment we had – so did our predecessors.

**T:** So what's on the radar for California and CLSA? Anything you're really looking at going forward and for the future?

**W:** Yeah, as far as the future goes, I didn't really have the Young Surveyors Network on my radar, but spending time with them last week was very energizing! I happen to remember being that age, and not having the opportunity they did to be exposed in a short amount of time to the techniques – some things you can learn in school and online, but the real

hands on and being at a place that has a view of several hundred miles in each direction was pretty awesome!

**T:** I agree, that would be really, really neat to see. I gotta tell you, it's been great to get to know you, and to meet up. Any last parting shots for us this week?

**W:** I just really want to thank all the people of the California Land Surveyors Association, from the chapter level, the committee level that put in, as a volunteer organization, the hard work it takes to elevate and keep our profession going forward. It's a big step for us to join with NSPS, and looking forward to continuing sharing resources is a large part of what that's about.

**T:** I do have to piggyback on that a little bit, because the chapters that invited me a lot of their virtual meetings – everybody was fantastic, a lot of great questions, a lot of voicing their concerns on what representation in NSPS truly meant and, so, I can't thank enough, like you said, all the chapters and all the people that were involved; Rob McMillan, yourself, everybody at the officer level have been great to work with to put a bow on this partnership, and we look forward to a long, healthy relationship and progress.

**W:** Very good, thank you, we look forward to it as well. 🍷





# NSPS

## Young Surveyors Network:

### Backsighting the Last Decade – Foresighting the Next

**Trent Keenan**

If you had told me 10 years ago that I'd be reflecting on becoming President of a national young professionals organization and where I think it would be heading ... I'd probably laugh it off, turn the television back on, and say, "Yeah, and the Cubs will win the World Series. Right!" Wow, a decade can really make a difference (or two for all you Cubbie fans out there!).

I hope everyone reading this article will be able to see the fruitfulness that YSN has brought to me and the profession. I have been a member of Professional Land Surveying Societies since my time in college, as a Surveyor in Training, and continuing as a Licensed Surveyor. There has been no greater highlight than the time I have spent within the YSN at the state and national level. I can safely say that my only regret is that I never had the opportunity to experience YSN on an international level with the International Federation of Surveyors (FIG) YSN.

For those of you who do not know what the domestic Young Surveyors Network has been up to the past 10 years, I invite you to take a trip down memory lane. We'll explore how it all began, what's been put into place since, and what I see for its path ahead.

#### The Beginning

The NSPS Young Surveyors Network was born from the first FIG Young Surveyors North American meeting held in San Diego, California in the Spring of 2014. This meeting, organized and coordinated by Eva-Maria Unger (Chair, FIG Young

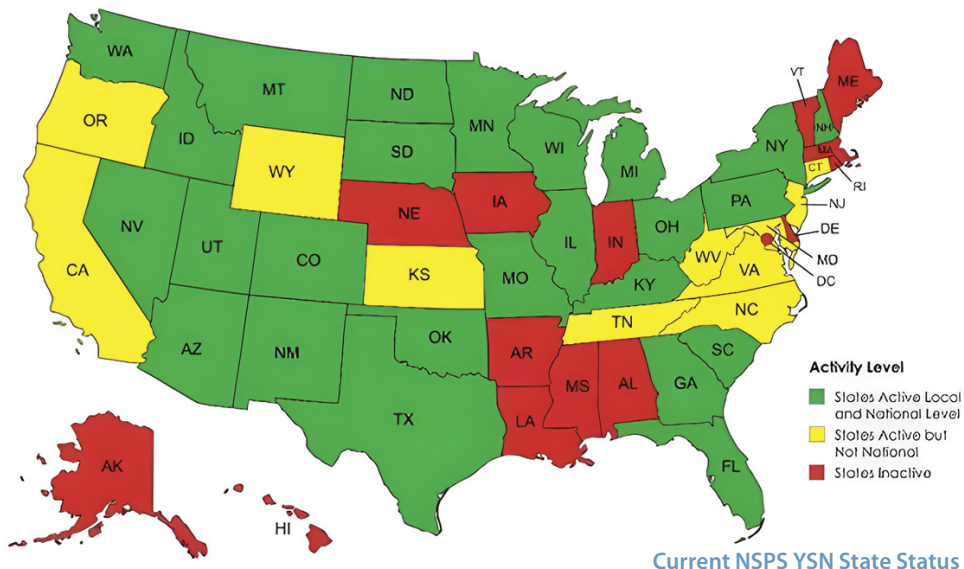
Surveyors Network), John Hohol (President, FIG Foundation), and Trish Milburn (NSPS), was held in conjunction with the 2014 NSPS Spring Business Meeting. It was hosted by and held during the California Land Surveyors Association (CLSA)/Nevada Association of Land Surveyors (NALS) 2014 Annual Conference.

Twenty-five young surveyors from 15 states were represented and came together on how to establish a Young Surveyors presence and program in North America. The first day started with an introduction to NSPS, FIG, FIG Foundation, and the FIG Young Surveyors Network to get inspired by staking out the pathway for the two-day meeting. Presentations were made by surveying profession experts including Don Buhler (*Chief Surveyor, US Bureau of Land Management*), Bryn Fosburgh (*Senior Vice President, Trimble*), Steve Frank (*Chair, FIG Commission 2 – Professional Education*),

Shannon Hixon (*Product Manager – NAFTA, Leica*), Joseph Paiva (*CEO, GeoLearn*), William Stone (*Southwest Region Geodetic Advisor – NM, NV, UT, AZ, National Geodetic Survey*), Curt Sumner (*Executive Director, National Society of Professional Surveyors*).

The second meeting day launched with participants recapping the outcome from day one and began collecting ideas on establishing and forming the Network. The discussion focused on mutual benefits for NSPS, State societies and Young Surveyors and Young Professionals. At the end of the meeting, a presentation was made to the NSPS Board of Governors by Eva-Maria Unger, representing the FIG Young Surveyors Network with Amanda Askren (Washington), Adam Schleicher (Wisconsin), Alysén Kohlhofer (Wisconsin) and Marcus Hampton (Minnesota) representing the

*continued on page 27*



Current NSPS YSN State Status





**FIG Young Surveyors 1st Americas Meeting attendees at the 2023 FIG Working Week held in Orlando Florida**

North American Network. They presented their goals, mission, and vision, as well as how to collaborate with NSPS and the state societies with the request to create an NSPS Young Surveyors Network.

## The Past 10 Years

Following the events in San Diego, the Young Surveyors Network and NSPS followed up in the spring of 2016 as an Affiliate of NSPS, with the MOU being passed. This has allowed YSN to participate at the EXCOM level of NSPS and be present in the conversations to enable all generations of voices to be heard.

Since its inception, the NSPS YSN has met twice a year at the NSPS Spring and Fall business meetings along with committees and the board of directors. Through the years, YSN state coordinators have attended from almost all 50 states and territories during this time. A number that has since gone down since (yes, one more time just to say it) COVID times. The NSPS YSN also hosted three FIG North America Meetings - the 2014 San Diego FIG Young Surveyors North America Meeting, the 2016 Minnesota FIG Young Surveyors North America meeting, and the 2018 College Park, Maryland, FIG Young Surveyors North America Meeting. In 2023, the first FIG Americas Young Surveyors Meeting was hosted in Orlando as a pre-event. One of the largest meetings the YSN has had to date, with 80+ attendees.

One of my personal favorite achievements seen by the YSN has also been the rebranding and dedication to the NSPS

Student Competition. Since 2022, the YSN has played a pivotal role in helping plan the student exercises, monument hunt and providing volunteers since the competition has been able to take place in person again. With 12 teams returning in 2022, the next year was expanded to 24 teams and quickly filled. In 2023, 24 teams were given the chance to compete again and filled up all the slots, plus other schools were not able to participate due to the competition being capped at 24. It is safe to say that the universities supporting surveying degrees are thrilled with the way the competition has molded, and the format is working. It will be exciting to see how the Network can come up with ideas to keep the competition fresh without changing the whole dynamic.

## The Next 10 Years

While the NSPS Young Surveyors Network has done an amazing job over the past 10 years getting our feet wet, building a stable foundation, and establishing an identity, I believe it is now time for the YSN to take its next step and become an even more integral part of NSPS transitioning to a board within NSPS, where we can help boost the national society even more. I am extremely proud of our Mentoring Committee and the work they did with FIG Young Surveyors network to develop a mentoring program. I look forward to the pilot program being shared and then expanding into the Americas region of



**NSPS YSN Spring Meeting Attendees in front of the Capitol Building in Washington, D.C.**



**Student in period attire pulling chain in front of the Washington Monument during NSPS Student Competition**

FIG. Speaking of the Americas region, I am also happy that this year's NSPS Fall Business meeting will host the NSPS Young Surveyors Network Conference/FIG Young Surveyors Network 2<sup>nd</sup> Americas Regional Meeting! I look forward to seeing this event come back (hopefully) every other year at an international level or even every year at a national level.

Ultimately, I hope that the next generation comes along, and that "seasoned" members continue to support the ideas that are up and coming from new members, encouraging them to grow and lead the organization in tomorrow. They can provide constructive criticism for future leaders of the profession at local, state, national, and international levels. There is no one solution on how we can change or better the society, but I do wholeheartedly believe from experiencing it firsthand that the Young Surveyors Network will play a vital role in strengthening the profession in years and generations to come. Don't believe me after all that? Send someone to find out! If you are reading this before the Spring Meeting in March, don't be afraid to send a member to volunteer at the student competition in spring. If you are reading this sometime after March, send someone to the YSN/FIG Americas Meeting and let them see what they think. I promise that if they fully participate, they will feel the same energy that all members, both past and present, have felt. Some have said this is a fad, but I don't see this group going away anytime soon! ☺



# The Surveyor and the “Geodesy Crisis”

Tim Burch

**T**o the average professional surveyor, the term “geodesy” does not exist in their everyday conversations about the business. While the use of state plane coordinates has expanded greatly with the development of GPS/GNSS receivers and RTK/RTN connectivity, the mathematics and “black magic” of geodesy remains an enigma to most of the profession.

However, the ongoing progression of technology within surveying instruments has expanded the need for understanding how geodesy works. Our practitioners are faced with expanding their knowledge and expertise of geodesy and thus have put a new challenge on them to find teachers and/or mentors to provide training on the datums and techniques.

## Crisis? What crisis?

Recently, I was invited to attend a geospatial workforce conference in which various government agencies, university leadership, and members of private industry gathered to discuss the future of geodesy. While the overall theme of the gathering was focused on the future of geospatial datums and how the various parties must work together, a large portion of the conversations highlighted the “geodesy crisis” we are facing throughout the surveying profession. Here are some of the points from the conference to highlight the challenges ahead:

*Three levels of geodetic understanding are needed, with different but complementary approaches for each:*

- **Geodesy experts (geodesists)** – While the overall numbers needed may be fewer than expected, we have seen a significant downturn in these experts due to attrition and lack of replacement from

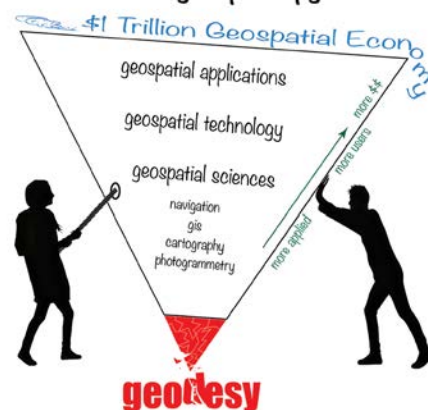
higher educational interest. This group includes experts who design, build, and operate our National Spatial Reference Framework (NSRS). It also includes those who utilize this framework to design and provide the multitude of tools and utilities we use every day (phone and service apps).

- **Geodesy knowledgeable (professional surveyors)** – This group of geodesy users is responsible for the data being utilized by the profession and follows a normal standard of care for its intended application. Professional surveyors are tasked with assuring clients and the public that the information is correct, so understanding how the tools they use work is a critical requirement. We need additional practitioners who understand the functional use of geodesy in surveying, and we need experts but are having a similar issue with attrition and recruiting.

- **Geodesy cognizant (managers & technicians)** – This is the area of greatest need. Our profession must have personnel who are technically capable of understanding the basics of geodesy and how it applies to the tasks within surveying. This sector, however, has the lowest cost of investment through education and training, but will continue to struggle with the same workforce recruitment faced throughout the profession.

If these employment challenges were not enough, the geospatial communities also face another potential obstacle: the upcoming modernization of the National Spatial Reference Framework (NSRS) by our colleagues at the National Geodetic Survey (NGS). Here is a brief explanation from the NGS website regarding why this modernization is a critical upgrade:

## The inverted geospatial pyramid



The entire geospatial economy is supported by geodesy!

Credit: Dana Caccamise, NGS

The North American Datum of 1983 (NAD 83) and North American Vertical Datum of 1988 (NAVD 88), although still the official horizontal and vertical datums of the NSRS, have been identified as having shortcomings that are best addressed through defining new horizontal and vertical datums. Specifically,

- NAD 83 is misaligned to the earth’s center by about 2.2 meters, and
- NAVD 88 is both biased (by about one-half meter) and tilted (about one meter coast to coast) relative to the best global geoid models available today.

Correcting these two issues will mean that every existing latitude, longitude, ellipsoid height, and orthometric height in the United States (as reported in the current NSRS) will change by as much as four meters (as reported in the modernized NSRS). Adopting the modernized NSRS is critical, as it finally aligns the NSRS with both international standards, as well as aligning with all Global

*continued on page 29*





Navigation Satellite Systems (GNSS), which naturally orbit about, and provide positions relative to the center of the Earth.

There is more information about the specifics regarding the modernized NSRS on [www.geodesy.noaa.gov](http://www.geodesy.noaa.gov).

### As a surveyor/technician/student, what does this mean to me?

While there is an ongoing effort to address the shortage of workers in almost every profession and occupation, the “geodesy crisis,” coupled with the need for modernizing our geodetic reference frames, will take a large, profession-wide effort to tackle these challenges. Here are some of the concepts for addressing these challenges from the geodesy conference and conversations throughout the profession:

#### Utilize our existing resources

- Invest in our profession through education and training.
- Advocate the geodesy needs to our federal legislators (through private companies and professional organizations).
- Draw attention to upcoming advances in technology and georeference frames that an investment in geodetic infrastructure will bring us back to the forefront of mapping.

#### Outreach and marketing

- Expand outreach to raise public awareness of geodesy through applicable channels.

- Use examples of everyday technology and location services to highlight the importance of geodesy and its continued educational opportunities to the public.
- Create real-world examples of how geodesy impacts infrastructure, mapping, design, and informational databases of the world around us.

#### Collaborative efforts

- Partner government agency efforts with professional organizations to demonstrate how public/private data collection and maintenance can benefit our environment.
- Enhance relationships between government agencies, professional societies, and software providers to update critical programming to encourage use of new datums within the NSRS modernization.

#### Advancing educational opportunities

- Promote expansion of college programs and advanced degrees.
- Create minor degrees in geodesy or geospatial engineering to promote further studies.
- Recruit students from complementary studies, including physics, engineering, and advanced mathematics.
- Create expanded training programs and opportunities.
- Collaboration between agencies and professional societies to create specific

training and certifications for geodetic practitioners.

- Encourage more “on-the-job” training opportunities within private and public employers.

### The future of surveying is geospatially driven

The surveying world is simultaneously growing and shrinking due to the expanding technology and by new advances in geodetic positioning and mapping. Throughout the history of surveying, the practitioner has been tasked with measuring relative distances between fixed works and monuments. With the creation of GPS/GNSS technology (and other remote sensing technics), the surveyor has adapted to this revolution and is now tasked with the collection of locations instead of distances.

Almost all this data collection will benefit from being on a common coordinate system that aligns with the rest of the world. Geodesy is the root of this reference system, so the surveying community must make themselves more in tune with the times.

We are beginning a new chapter of not just our profession, but for mapping our world overall, and surveyors need to be at the heart of this operation. It is our duty to keep reading, learning, and progressing, so don't close the book and dismiss the surveyor's role in the future of geodesy. Keep reading and learning, as the road ahead will be worth it. 🌟

Tim W. Burch is executive director of the National Society of Professional Surveyors.



# Surveyors Do Much More Than Measure

Tom Liuzzo



I've been working in the land survey profession for over 33 years, including 22 years as a licensed surveyor. I obtained my Arizona license in 1999, followed by Nevada in 2006 and California in 2020. I've learned the importance of a thorough survey and all it entails, so I want to share that with readers.

While each state has their differences in how to determine land boundaries, the similarities are widespread. They include the identification of monuments found during the land survey and interpreting the written words while describing or interpreting a land boundary. Both are critical to the decision-making process for land boundary determination. They are the footsteps of the prior surveyor and when properly documented and preserved, they will guide other surveyors to retrace those footsteps.

On more than one occasion, a property owner has asked me to come out and find one missing pin. They say they know the location of all the pins except one. I explain to them that regardless of the need for just one pin, the state requires a surveyor to find all of the pins on the land, compare them to pins on adjacent properties, and check these findings against the public record. If the findings do not agree or pins are missing, the surveyor is required to set monuments in the correct position based on his interpretation, place his identification number on them, and record a survey.

Most of the time after a little discussion, I'm able to get the property owner to fully understand why I need to do this. On a few occasions I was not convincing

enough, and the potential client went elsewhere. So, I want to elaborate on why it is important for a surveyor to conduct a complete survey, and what value that job provides to the homeowner when it's done well.

A good survey is an investment in your property. Just like a new deck or fence, it adds value. A surveyor is required to record that survey with the county if he sets any monuments or finds a "material discrepancy" with any of the previous monuments. A material discrepancy can be a difference in position that exceeds the acceptable tolerance. That tolerance can vary with the type of survey and size of property that is being surveyed. A material discrepancy can also be found in the description or type of monument or its markings.

If the monument is supposed to be a half-inch rebar with a cap marked RLS 33861 (my Arizona number) and a surveyor finds a half-inch rebar with no markings, then if that pin is in an acceptable position, that surveyor is required to affix his number to it and record a survey. If a surveyor finds a half-inch rebar with markings other than RLS 33861 and no record evidence, then he must record a new survey or get in touch with the surveyor who owns that number to find out the location of his survey and why it was not recorded.

Take notice that I refer to a position, corner, and monument. You might think these are one in the same, but in land surveys they are not. A corner or property corner is the mathematical position on the ground of an angle point in a property line as shown on a map or deed. A monument physically

marks the position of the property corner on the ground.

As mentioned above, the other major aspect of land boundary determination is the written word. How the land surveyor writes those words is a presentation of his interpretation. How another surveyor interprets those words can be another thing altogether.

For example, my client's deed might say "...northerly along the west line of the subject parcel 350 feet more or less to the southwest corner of the Jones property." We have a few different things going on. First, we are running along the west side of the parcel. I need to review the documents for the adjacent properties to be sure there are no conflicts, overlaps or gaps. We have a general direction and an approximate distance. What if I pull the Jones deed from the county records and it directs me to a position that is 355 feet to the southwest corner of the Jones property? Do I set a corner five feet away because my client's deed said 350 feet and ignore the Jones corner? No way! The controlling call is the southwest corner of the Jones property, and it trumps the direction and distance. Where I find the southwest corner of the Jones property is where the northwest corner of my client's property is located.

The previous surveyor on my client's property left me breadcrumbs by calling out that corner position. He could have written "...northerly along the west line of the subject parcel 350 feet more or less, to a 2-inch pipe marking the southwest

*continued on page 31*





corner of the Jones property.” Now I have 350 feet more or less, the Jones deed gives me a distance of 355 feet, and at 353 feet I find that two-inch pipe. That pipe is the physical marking of that corner on the ground. It is both mathematical and physical evidence, and it is accepted by me. I am required to affix my tag to the pipe and record a survey. The 350 feet was qualified with a “more or less,” and that statement gives way to the call for the monument and description of the adjoining deed.

When dealing with the evidence gathered during a field survey and the documentation gathered through research, we surveyors have to become private investigators in order to make boundary determinations. Sometimes the items we find conflict with each other. Therefore, over time, some surveyors have turned into authors to provide the rest of us with some unofficial guidelines. One of these guys was named Curtis Brown and he wrote a book called “Brown’s Boundary Control and Legal Principles” in 1986.

Brown’s book is still in print and has been kept up to date by many contributing authors, but Brown gave us a starting list of conflicting elements to consider when making boundary determinations. This list is sometimes referred to as “a list of the rules for construction” and is used by courts in resolving deed discrepancies. It includes Right of Possession, Senior Rights,

Written Intention of Parties, Call for a Prior Survey, Call for the Lines Run, Call for a Monument, Natural Monuments, Artificial Monuments, Original Monuments, Record Monuments, Call for Adjoiners, Direction and Distance, Direction or Distance, Area, and Coordinates.

Surveyors are sometimes considered expert measurers. I am not a fan of that moniker at all. If you look at the list above, measurement is at the bottom third of that list. Measurement allows us to follow the

previous surveyor’s trail of breadcrumbs, but we can’t let that measurement cloud our vision when locating a property corner. We can’t go 350 feet from a prior point and simply set a monument. We need to be aware and observe what is in the vicinity of that measurement that might impact our decision-making process.

Most of the surveys we perform are retracement surveys. Someone has been there before us, and left evidence to help us discover the correct position for a corner. If we are lucky, that corner is marked by a monument.

A new survey is done when we subdivide land either through a major subdivision or a land split. In that case, as the original surveyor I need to leave a solid trail of evidence so the next surveyor can properly retrace my footsteps.

So, if you call me and ask me to find one pin for you, or if you ask me to flag your corners, I may educate you on the importance of what I do as a land surveyor. I take pride in my work. It is valuable to you and will enhance your property value. When I am finished, you will have the peace of mind that your property rights are protected on the ground and preserved on the public record. ☺



Thank you  
to all the  
sponsors  
who helped  
to make the  
CLSA/NALS  
Regional  
Conference  
happen!

*Special Thanks to Our Sponsors*

**PLATINUM SPONSOR**



**GOLD SPONSOR**



**SILVER SPONSORS**



**AUCTION DINNER**

**NAME BADGES**



**LUNCHEON SPONSORS**



**BREAK SPONSORS**



**BRONZE SPONSORS**

BMI IMAGING  
CSDS, INC.  
COOPER AERIAL  
JAVAD

KUDURRU STONE LLC  
LOOQ AI  
PARCELQUEST





# SUSTAINING MEMBERS

## SUSTAINING MEMBERSHIP:

Membership in the California Land Surveyors Association, Inc. as a Sustaining Member is open to any individual, company, or corporation who, by their interest in the land surveying profession, is desirous of supporting the purposes and objectives of this Association. For information regarding Sustaining Membership, contact:

2520 Venture Oaks Way, Suite 150, Sacramento, CA 95833 • 916-239-4083 • 916-924-7323 Fax • [clsa@californiasurveyors.org](mailto:clsa@californiasurveyors.org)

 <p><b>APS</b> Aerial Photomapping Services <a href="http://www.photomapping.com">www.photomapping.com</a></p>	 <p>AIRWORKS</p>	 <p><b>Berntsen</b> Custom Identification Products</p> <p>Berntsen International, Inc. PO Box 8670 Madison, WI 53708-8670 <a href="mailto:tdobrygoski@berntsen.com">tdobrygoski@berntsen.com</a> <a href="http://www.berntsen.com/clsa-members">www.berntsen.com/clsa-members</a></p> <p><b>Trevor Dobrygoski</b> Marketing Coordinator</p> <p>Tel. (608) 249-8549 Fax (608) 249-9794 Tel. (800) 356-7388 Fax (800) 249-9794</p> <p>Marking the Infrastructure of the World.</p>
 <p><b>BizWatt</b></p>	 <p>40 YEARS   Carlson</p>	 <p><b>Leica</b> Geosystems</p>
 <p><b>LEJA SURVEYING CORP.</b> Land Surveying &amp; Mapping • Court Diagrams Legal Descriptions</p> <p><b>Steve Leja</b> P.L.S. 5933</p> <p>Telephone (909) 797-3043 Cell (909) 709-6861 • Fax (909) 797-3876 13642 Highland Oaks Dr. • Yucaipa, CA 92399</p>	 <p>looq</p>	 <p><b>MERIDIAN</b> SURVEYING ENGINEERING, INC.</p>
 <p><b>Seafloor</b></p> <p>Complete Hydrographic Survey Solutions</p> <ul style="list-style-type: none"> <li>• Hydrographic Instruments</li> <li>• Software</li> <li>• Unmanned Survey Vessels</li> <li>• Support</li> </ul> <p>(530) 677-1019   <a href="http://seafloorsystems.com">seafloorsystems.com</a>   4415 Commodity Way   Shingle Springs, CA   95682  </p>	 <p>60 YEARS OF TAIT SINCE 1964</p>  <p>TAIT</p>	 <p><b>That CAD Girl</b></p> <p>jennifer dibona jennifer@thatcadgirl.com <a href="http://www.thatcadgirl.com">www.thatcadgirl.com</a> (919) 417-8351</p> <p>don't let cad drive you mad!</p> <p><b>Carlson</b> AUTHORIZED DEALER CERTIFIED TRAINING CENTER</p> <p><b>Carlson Software</b> Sales, Support &amp; Training</p> <p>Office and field software for land surveying, civil design and construction professionals</p>

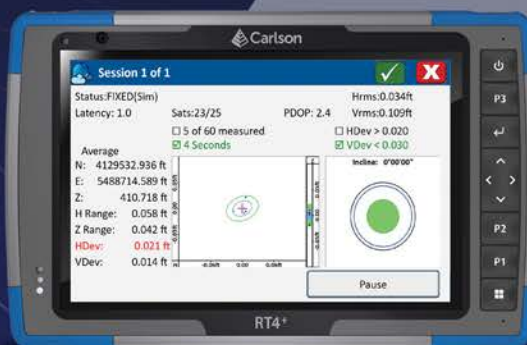




**BRx7**  
KING OF THE WOODS



**RTK5** GNSS-equipped Data Collector



**RT4+**



**SURVEYING SOLUTIONS FOR THE REAL WORLD  
(INCLUDING ALL THOSE TREES.)**

**SkyNet RTN**

Carlson's nationwide RTK network - Free 14-day trial!

Jim Reinbold - California Regional Director  
208-595-4855 | jreinbold@carlsonsw.com



carlsonsw.com/skynet

www.carlsonsw.com