

A Grave Endeavor

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A volunteer mapping project locates and honors Civil War veterans.

by Charles Beal



*El Toro Memorial Park,
Lake Forest.*

While studying for my land surveyor's exam in 2004, I came up with an idea to combine my professional experience with a favorite hobby. As a member of the Sons of Union Veterans of the Civil War (SUVCW), an organization that aims to preserve the memory of the Grand Army of the Republic and our ancestors who fought to preserve the Union during the period of 1861-1865, I worked on a project to locate the graves of Civil War veterans of Orange County, Calif. Born and raised in Orange County, the experience on the project was very fulfilling. Many of these veterans have been overlooked and forgotten in our local history. Documenting their names, titles, final resting places and any other known information will help preserve them as they deserve to be.

Remembering the Veterans



*Magnolia Memorial
Park, Garden Grove.*

After the Civil War ended in 1865, many Civil War veterans wanted to start a new life. They came to a little sleepy area in southern California and established a new community known as Orange County. Orange County's first surveyor, Samuel O. Wood, was a veteran of the war from the state of Maine. Many others became our early political leaders.

In 1999, preservation officer Paul Gillette of the Civil War Round Table of Orange County, an organization for the study of the Civil War and preservation of its battlefields and historic sites, spearheaded a project to document the Civil War veterans buried in the county—approximately 725 graves in nine local cemeteries. As a member of the Sons of Confederate Veterans (SCV), the counterpart to the SUVCW, former Mayor of Santa Ana Gordon Bricken assumed the responsibility of maintaining the database of the graves. The project I took on documents these findings.

Personal Interest and Goals

I became a participant in this project even before 2004. In 1999, I began researching historical local newspapers on microfilm at the Santa Ana Public Library during my lunch hour. My goal was to find additional names for the Civil War veterans database. I eventually helped locate some of the Grand Army of the Republic (GAR) post



records for the four GAR posts that existed in Orange County. The GAR, an organization for veteran camaraderie as well as political and special interests and charitable work, was established in 1866 and numbered more than 400,000 members in 1890. Along with Glen Roosevelt (SUVCW), who helped to locate these GAR records in Orange and Los Angeles Counties and in the state of Arizona, we were able to add almost 50 additional names to the list.

*Anaheim Cemetery,
Anaheim.*

The goals for my volunteer project (working during the summer and fall months during my lunch breaks and on weekends) were to photograph each located grave site and to determine the latitude and longitude coordinates to plot each grave on area aerial photographs.

Assembling the Equipment

As an office surveyor without access to field equipment, I began my project with a handheld Garmin eTrex Global Positioning System (GPS) unit with ± 30 ft radius accuracy. I used the Garmin unit for the seven cemeteries that had fewer graves than the other two.



The author takes notes at Fairhaven Memorial Park in Santa Ana. Photo courtesy of Floyd Farrar.

After taking the professional exam in April 2006, I decided to make a final push to complete the grave site project. I knew I needed to use a new approach to accurately determine the final 628 graves in the final two cemeteries. I needed greater accuracy than provided by the Garmin unit to plot the larger number of grave locations on the aerial photographs.

I approached Ray Mathe, PLS, county surveyor for the County of Orange, who agreed to loan me a Leica Geosystems (Norcross, Ga.) SR530 RTK GPS Survey Rover. Kurt Hoehn, PLS, owner of HB Land Surveying in Orange, Calif., loaned me his Sokkia (Olathe, Kan.) SET 2100 total station and Sokkia SDR 31 data collector. With this equipment, my new approach was to establish control points using the rover and to locate the graves at the final two cemeteries using the data collector.

The County of Orange Geomatics/Land Information Systems Division, along with the California Spatial Reference Center, developed a real-time RTK GPS network in Orange County known as the Orange County Real Time Network. Via the rover's wireless data modem, I selected one of the network's Continuously Operating Reference Stations (CORS) that computes one's position relative to the CORS station.

Collecting the Data

In June 2006, I began setting out control points at one cemetery using the Leica rover. A minimum of one minute was used to set each control point at an average accuracy of ± 0.06 ft. I tried to set



the control points in open grassy areas to stay out of the narrow roads often seen in cemeteries.

The author measures to the Lovitt grave using the timer on his camera at Loma Vista Memorial Park in Fullerton.

I set up the final two cemeteries with advanced planning by compiling a list of names and grave locations that needed to be located. Volunteers helped to place orange flags where graves were to be located. The final two cemeteries were more than 90 percent complete during two weekends with my new results of ± 1 ft for each grave.

Two mausoleums contained graves that needed to be located as well. To obtain these, I set control points near the mausoleum entrances and did hand measurements using a 200-ft rag tape. I progressed in a cardinal direction and used right angle turns inside of the mausoleums to determine their grave locations.

After locating the graves at the final two cemeteries, I had to locate the graves that were missed. Using established coordinate values at nearby graves, I created a right triangle using two graves that were already located and obtained measurements by hand from those graves to the new grave. Using my trusty Hewlett Packard HP-48GX calculator with TDS (Corvallis, Ore.) Survey Pro software, I calculated a "distance-distance intersection" solution to determine the coordinates of each grave.

After setting my control points at the final cemetery, I decided to return to the previous seven cemeteries to set control points with the Leica GPS rover and establish new grave coordinates that matched the accuracy obtained at the final two cemeteries. When possible, I used the Leica rover to locate the new grave coordinates. Many times the satellite signals were obstructed by trees, so I set control points in the general area of the graves and hand measured from two control points at right angles to a grave to determine the new coordinates. Additionally, I located the GAR and Confederate States of America (CSA) monuments at three of the cemeteries and incorporated them into my collection.

The coordinate values obtained were California Coordinate System 1983 (CCS 83), Zone VI, 1991.35 Epoch Adjustment. The CCS 83 coordinates were used to plot the grave locations in Microstation (Bentley Systems Inc., Exton, Pa.). Since all of the cemeteries were close to sea level and located on level ground, and because there were no long distances involved with the control points, I chose to work in grid coordinates. If the grid coordinates were converted to ground coordinates, the distances would only change by a very small amount and would not affect the ± 1 ft accuracy for this project. The CCS 83 coordinates were transformed to latitude and longitude coordinates using the U.S. Army Corps of Engineers Corpscon program, version 6.0.1.

Final Records



My resulting data contained an assigned point number for each grave, the Civil War veteran's name, and latitude and longitude coordinates for each grave site. The assigned point number

The author takes shots at the Santa Ana Cemetery. Photo courtesy of Floyd Farrar.

identified each veteran on aerial photographs. While field checking my data, I could walk from one grave to the next by using the aerial photographs as my guide.

I supplied the SUVCW with a series of detailed Word documents, aerial photograph sheets and original photographs in JPEG format. The data was recorded on a DVD and distributed to local historical societies and the nine local cemeteries. The grave site photographs and coordinates were also collected at the Find-A-Grave website at

www.findagrave.com.

At the conclusion of this project, I realized that my work locating and photographing each gravestone in the nine cemeteries—many of which are becoming illegible—will perpetuate each of the deserved veterans. William Burton Candall, for example, was discovered as the last Orange County Civil War veteran. Candall died on Dec. 2, 1945 and was buried in a GAR plot in an unmarked grave. A Civil War monument and “Last Soldier” plaque was ordered for him. For Candall and all the others, I feel I have given something back to my community and helped to preserve the Civil War legacy in Orange County.

Sidebar: Unforgotten Soldiers

This project has identified the following known Civil War veteran graves:

- Union veteran graves: 701
- Confederate veteran graves: 89
- Documented unmarked graves: 30 (26 Union and four Confederate). The local SUVCW ordered and installed four Civil War monuments in the past year, leaving 26 unmarked graves left to be monumented.



A GAR monument in Anaheim Cemetery.

Newspaper research reveals some personal elements of some of the veterans, including:

- Death by suicide.
- A soldier who drowned when trying to save a girl in the ocean.
- Samuel O. Wood (First Orange County Surveyor): beaten senseless in 1892, died at a state hospital in 1905, buried in Los Angeles County.
- Edward Sweeney: beheaded in the Santa Ana Canyon in Orange County while returning to the Soldiers' Home in Los Angeles after leaving his mining buddies in the Santa Ana Mountains. Mountain lions or coyotes were presumed to have beheaded him, but his death was still suspicious.
- The last Orange County Confederate veteran died in 1941. He was a colorful guy who claims he was a scout sent to rescue General George Custer at the Battle of Little Bighorn but arrived too late.

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