



PARALLAX

Newsletter of the Central Coast Chapter of the California Land Surveyors Association

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May 2000

TIDAL WATER BOUNDARIES

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TITLE BOUNDARY

At Statehood, California acquired from the Federal Government, ownership of the beds of navigable waters and waters under tidal influence. This included 800 miles of coastline and many more miles of inland waterways affected by the rise and fall of the tide. California therefore, claims the ownership of the beds of all navigable and tidal waters up to the ordinary high water mark and a public trust easement up to the line of high water. This claim is clearly stated in the statutory laws of California at Civil Code Section 670 "The State is the owner of all land below tide water, and below ordinary high-water mark", Civil Code Section 830 "Except where the grant under which the land is held indicates a different intent, the owner of the upland, when it borders on tidewater, takes to ordinary high-water mark" and Code of Civil Procedure Section 2077(5) "When tide water is the boundary, the rights of the grantor to the ordinary high-water mark are included in the grant". The courts have addressed these clais in Marks v. Whitney 6 Cal3d 251 & People v. Calif. Fish Co. 166 Cal 576.

The boundary between the state and an upland (riparian) owner is the ordinary high water mark in its last natural condition with the exception noted above "where the grant under which the land is held indicates a different intent". California courts have defined the ordinary high-water mark as the limit reached by the Neap Tides in Teschemacher v. Thompson, 18 Cal. 11, 21 (1861), and People v. William Kent Estate Co., 242 Cal. App. 2d 156 (1966), to name a few.

TIDES

Tides are the result of astronomical and meteorological forces interacting with the physical configuration of the shoreline and sea bed. As a result, the mean tide level will vary at every location along a shoreline. The tides along the Pacific Coast are semidiurnal, meaning that two highs and two lows occur daily. Tides are also distinguished by a periodical variation related to the stages of the Moon as it orbits the Earth. Tides occurring during the second and fourth stages have a larger range due to the re-enforcing gravitational forces of the sun, and the moon when it is new or full. These tides are called the "Spring Tides". Tides occurring during the first and third stages of the Moon are more moderate and referred to as "Neap Tides". The average Neap high tide may be half a foot lower than the mean of all high tides.

TIDAL BOUNDARY RULE

The Federal Court in 1935 in Borax Consolidated, Ltd. v. Los Angeles 296 U.S. 10 (1935), defined the Ordinary High Water Mark to be the Mean High Water based on the average of all high waters occurring over a tidal epoch of 18.61 years (period of regression of the Moon's nodes). The Federal Rule has been followed in California for the practical reason that tidal data is published by the National Ocean Survey for all high tides over a 19 year period and no information is readily available to determine the height of Neap High Tide.

The California State Lands Commission has followed the Federal Rule since 1938. The California Land and Title Association, the California Land Surveyors Association and the California Society of Professional Engineers are in agreement as reflected in their amicus curiae briefs submitted to the court in People v. William Kent Estate Co. arguing that the mean of all high waters or the Federal Rule should be followed. A 1992 California case, Antoine v. California Coastal Commission, 8 Cal. App. 4th 641, 10 Cal. Rptr. 2d 471, 479-81 presented a very informative and complete discussion of the "Mean High Tide Line" and ended with "we conclude that today the rule in California is the same as the federal rule". Unfortunately, this case was ordered depublished by the Supreme Court; however, it is only a matter of time before the court explicitly states that which has been implicitly followed. *Continued on Page 5....*

Table of Contents

Tidal Water Boundaries	1
Meeting Minutes	3
Announcements.....	4
Tidal Water Boundaries	5

MAY MEETING NOTICE

Date: Thursday, May 11, 2000	Location: Apple Farm
Time:..... 6:30pm.....no-host cocktails	San Luis Obispo
.....7:00pm.....business meeting	North End Monterey Street
.....7:15pm.....dinner	Dinner: Beef/ Chicken / Swordfish
.....8:00pm.....Program & Speakers	Cost :\$23.00 includes tax & tip

Program: Awards for the Triq Star winners. Teachers, parents, and students will be attending. Then Dan Kriegeer, local historian, will be talk about Hutton and Ord, two surveyors who explored a lot of this area way back when.

RSVP ASAP with choice of meal to:

Mark Lewis.....544-4011 or 434-3177 leave message or mark1@jlwa.com



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CLSA Central Coast Chapter

April 2000 Meeting Minutes

Central Coast Chapter CLSA Minutes - Meeting Date: April 13, 2000

Place: McLintocks, Shell Beach

- 1) Call to Order by Bob Fredricks @ 7:05 PM
- 2) Introductions
- 3) Approval of Minutes
 - a) Changes to minutes: none
 - b) Motion to approve minutes by: John Sanders
 - c) Seconded by: Dave Carey
 - d) Minutes approved
- 4) Officer's Reports
 - a) Presidents Report (Bob Fredricks) - No Report
 - b) Vice Presidents Report (Mark Lewis) - No Report
 - c) Secretary/Treasurers Report (Rochelle Vierra)
 - i) General Fund Balance: \$6,640.32 AG Edwards Account \$2075.82 Checking Account
 - ii) Balances of separate funds (money kept in the AG Edwards and/or Checking Account)

Education Fund	\$44.00 Legal Fund	\$0.00 Historical Fund
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- 5) Committee Reports
 - a) Standing Committees
 - i) Education Committee (Tom Mastin)

Completed LS/LSIT review class - 22 people attended, not all are taking the test. Wishes those that are taking the test good luck.

Lenard Lenger & Tom Mastin attended career day @ Cuesta College
 - ii) Membership Committee (Rochelle Vierra)

5 - Affiliate; 5 - Associate; 38 - Corporate; 5 - Life
 - iii) Professional Practices Committee (Bob Fredricks)
 - (1) Mike Baumberger, Tom Vaughan, Joe Morris, Linda Richardson, Dan Manion and Leonard Langer

Committee was contacted about an old complaint, but it has since been decided to handle it in another manner.
 - b) Special Committees
 - i) Publications Committee (Bryce Dilger) - No Report

There was discussion about e-mail of Parallax instead of mailing. A trial period of e-mail and hard copy should be done to see how it goes and then decide on whether to continue the practice.
 - ii) Trig Star Committee (Randy Woodjack)
 - (1) Keith Crowe, John Sanders, Skip Touchon, JoAnn Benner-Head, Alan Volbrecht, Mark Lewis, Randy Ellison, Tom Mastin, George Marchenko, Geoff Villegas, Dave Carey, Burke Blake, Leonard Lenger.

5 schools participated; number of students ranged from 1 @ Morro Bay to 16 @ Mission Prep; Participating High Schools Paso Robles, Templeton, San Luis Obispo, Morro Bay and Mission Prep; Next meeting will be the Trig Star awards and dinner.
 - iii) Workshops/Seminar Committee (Randy Ellison)

The Subdivision Map Act seminar is going to be held May 26 at the Santa Maria Airport Regency. A mailer will be sent out.
 - iv) Bar-b-que Committee (Mark Lewis) - July 8, 2000 at Cuesta Park
 - v) Nominating Committee (Bob Fredricks) - No Report
 - vi) Christmas Committee (Linda Richardson) - No Report
 - c) Ad Hoc Committees
 - i) Scholarship Committee - (Bob Fredricks) - Gearing up for September
 - ii) GIS Development Committee (Victor Rasgado) -

Meeting was held March 21, 2000 @ JLWA Conference Room. This was the introductory meeting. The theme "Where are we and where do we want to go?" and "What sort of demos are we interested in?"
 - iii) Historical Records Committee (Randy Ellison) - No Report
 - iv) County Liaison Committee (Mike Stanton) - No Report
 - v) Legislative Liaison - (Robert Reese)
 - Re: 8761 - Proposed to strike the paragraph "Every map or plat issued ..." (SB 1563)
 - Re: 8771 - Proposed to change 8771 (c) to amend "pursuant to subsection (b)" and to insert the word "the required" in place of "a" to read "the decision to file a **the required** corner record". Also changes that require documentation & raising to surface monuments in harms way - spurred by the City of Yucaipa
 - PECG is objecting to the proposed 8 year minimum experience requirement to sit for the PLS examination.
 - Re: 27282 of Govt. Code - eliminate acknowledgement requirement for certificates of correction.
 - SMA certificate of correction relieving filer of cert. of cor. To not have to notify land owners 66472.1, 66470, 66472.
 - SMA requirement re: showing private easements currently 66434, 66436 require that those to remain in effect must be shown. Where easements were not shown damages have been incurred by future owners of lots.
 - 8772 - tagging swing ties
 - Partial funding for the CSRC is in the Gov's proposed budget.
- 6) State Board Report (Robert Reese, Randy Ellison, Randy Woodjack) - No Report
- 7) Old Business

Bob Fredricks thanked Mark Lewis for the report on the local chapter to the CLSA
- 8) Announcements - Robert Reese
- 9) Program

Gregory Helmer with Robert Bein, William Frost & Associates. He is also with the California Spatial Reference Center - an Adhoc group based out of Scripps Institute of Oceanography in San Diego. Mr. Helmer spoke of the many changes and challenges that the surveying profession has

Cuesta College - Courses Available

ENGR 25- AutoCAD 2000
1 unit - T,Th 6-9 PM
June 20- July 27

ENGR50- Statics
3 units - M-Th 3- 5:15 PM
June 19- July 27

For more information contact :

Jeff Jones, PE, Division Chair
Cuesta College • PO Box 8106 • San Luis Obispo, CA • 93403-8106
emailto:jjones@bass.cuesta.cc.ca.us

Selective Availability Turned Off !!!

"The decision to discontinue Selective Availability is the latest measure in an ongoing effort to make GPS more responsive to civil and commercial users worldwide. --This increase in accuracy will allow new GPS applications to emerge and continue to enhance the lives of people around the world."

President Bill Clinton May 1, 2000

(Rumor has it from multiple sources that tests show autonomous GPS positions are ± 16 feet hor. now. Ed.)

Equipment Wanted:

Twin Cities Surveying is looking to purchase an used Total station. If anyone knows of one available or is interested in selling, call Skip Touchon at (805) 434-1834

Next Month ... U.S. Land History Part IV



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TIDAL WATER BOUNDARIES

By Michael R. McGee, PLS3945
(Continued from Page 1...)

ARTIFICIAL ACCRETION

The natural location of the mean high tide is the usual criteria for boundary determination. Artificial accretions caused by man made improvements, such as jetties, belong to the State or its municipal tideland grantee. If artificial accretion or erosion has occurred, then the mean high water in its last natural location must be determined. It will be necessary to conduct a thorough research for historical information that may identify the locations of the mean high tide line at times in the past. The area between the last natural and present mean high tide line may become the subject of litigation or preferably an agreement with the state. The opinion of a water boundary attorney and the State Lands Division will be most helpful. See *Carpenter v. City of Santa Monica*, 63 Cal. App. 2d 772, 783-94 (1944), and *People v. Hecker*, 179 Cal. App. 2d 823, 832-35, 837-39 (1960).

TIDAL DATUMS

The height of Mean High Water, and all water heights will gradually vary along the shoreline. If the slope of the shore is gradual then the vertical component should be accurate to 0.1 feet. Precise determination of the elevation of mean high water at a specific location requires observations of the tide for 18.6 years (taken as 19 years to round out seasonal events). Continuous observations for 13 months will yield an elevation within 0.1 feet; whereas, observations for 30 days will yield an elevation within 0.2 feet.

The National Ocean Survey of the Federal Government monitors the tides at 26 primary and numerous secondary and tertiary tide stations around North America. Local water heights are determined for Mean High Water, Mean Sea Level, Mean Low Water, Mean Lower Low Water etc. The heights at these stations are published based on a 19 year epoch with the present Epoch being 1960-1978. Mean Lower Low Water is taken as a local reference datum of zero at each station. This local datum is referenced to permanent bench marks in the vicinity called Tidal Bench Marks which are connected to the National Geodetic Vertical Datum of 1929 (NGVD 1929) and the North American Datum of 1988 (NAVD88).

DETERMINING LOCAL MEAN HIGH WATER

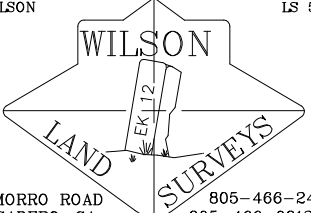
An accurate height of mean high water can be determined in a practical manner by observing the tide as it rises to the level of mean high water at a known tide station and simultaneously at a local site. This can be done in one or more sessions. For a detailed explanation of this method see "Survey Procedures for Determining Mean High Water" described in an article published in the Proceedings of the ACSM at Seattle Wash., September 30, 1976 by Jack E. Guth. This procedure has been adopted by the Florida State Legislation. (see also "Water Boundaries" by George M. Cole, 1983, Landmark Enterprises)

RESEARCH SOURCES


State Lands Division (responsible for state boundaries, excellent data source); State Department of Water Resources (river gauges); Caltrans; National Ocean Survey (tide stations, sea level datum, hydrographic surveys over 100 years old, publications such as "Tide Tables 199?" of the West Coast of North and South America", "Tidal Datum Planes" Special Publication 135, "Shore & Sea Boundaries" by Shalowitz, 1962); National Geodetic Survey (horizontal and vertical survey control both historical and present); Corps/Engineers; United States Geological Survey; Bureau of Land Management; National Information Center; Farm Bureau (old aerial photos); County Assessor (aerial photos and old maps); County Recorder (record of surveys, deeds, land patents, Swamp & Overflow Patents and Surveys, Tideland Patents and Surveys); Title Companies (title reports, chain of title); City & County agencies (maps, photos); National Archives; Coast Guard (continuously monitors tide); Private Surveyors; California Room at the Bancroft Library at Berkeley; References, see "Bibliography On Tidal Datum Determinations And Survey Techniques For Tidal Boundaries", 1987 published by the American Congress on Surveying & Mapping, Falls Church, Virginia 22046.

Author's Note: The reader is cautioned that this paper was researched in 1993 and law should be Sheperdized for more recent cases defining these issues.

KEN WILSON LS 5571



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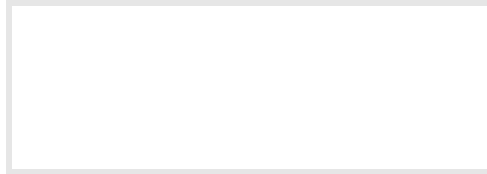
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