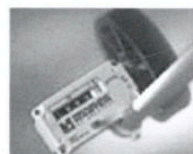


Hixon Mfg. & Supply Co.

For a Surveyor, By a Surveyor.

NEW!! Order Online: www.HixonMfg.com



- GPS
- Levels
- Laser Distance Meters
- Paint and Flagging
- Measuring Wheels
- Compasses
- Transits
- Total Stations
- Supplies

One stop for all of
your field needs!!

Garmin-SECO-Leica-Pentax-Rolatape-Lufkin-Keson-Estwing-Crain-CST-And More



Hixon Mfg. & Supply Co.
1001 Smithfield Drive, Fort Collins, Colorado 80524
Phone: (800) 762-5252



*Free shipping offer excludes wood, rebar and 50lb boxes of nails.

Lines & Points
P.O. Box 904
Casper, WY 82602

JOEL EBNER
3224 WATSABAUGH DRIVE
GILLETTE WY 82718

PRSR STD
U.S. POSTAGE
PAID
CASPER, WY
PERMIT NO. 208



THE EQUALITY STATE SURVEYOR

LINES & POINTS



PROFESSIONAL LAND SURVEYORS OF WYOMING

AFFILIATE — AMERICAN CONGRESS ON SURVEYING AND MAPPING

MEMBER — WESTERN FEDERATION OF PROFESSIONAL SURVEYORS

KEVIN JONES, VICE-PRESIDENT

RICHARD MUSCIO, PRESIDENT

MARLOW SCHERBEL, SEC.-TREAS.

VOLUME 17, NO. 1

MAY 2005



A (Very) Short History of RTK GPS

by
Dr. Lon G. Toody, Geodesist

October 1995 -

We were toting around an RTK rover backpack that weighed 36 pounds - not including the rover GPS antenna which weighed another three pounds.

The receiver consumed about 12 watts of power, and the lead-acid batteries weighed 6.5 pounds each.

There were enough cables in that rover backpack to wire a Las Vegas casino!



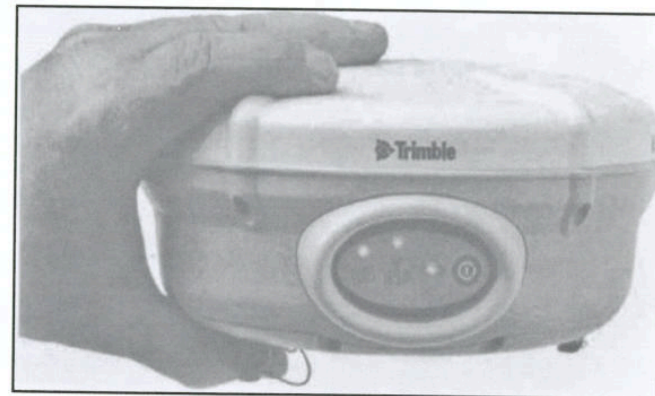
Remember when backpack meant backache?

October 2002 -

Introducing the Trimble 5800 rover receiver - the first GPS receiver with Bluetooth cable-free wireless communication! No cables at the rover!

The Trimble 5800 combines the GPS receiver, Zephyr GPS antenna, internal radio modem, and battery into one compact, 2.7-pound unit. One internal battery powers the 5800 for over five hours.

You can use the Trimble 5800 rover with your existing Trimble 4000 / 4700 / 4800 / 5700 base receivers. Call Inland GPS for more information.



You asked for it - a cable-free, no-backpack GPS rover!

Please call (or check our Web site) for more information on the Trimble 5800 RTK rover and the Trimble ACU Survey Controller with color graphical display

INLAND GPS



TRIMBLE GPS EQUIPMENT - SALES, RENTALS, AND TRAINING

Cody, Wyoming (Main Office)

Voice - 307-527-6684

Telefax - 307-527-5900

Casey Saxton

E-mail—Casey@inlandgps.com

Mobile—406-580-2291

Glenn Borkenhagen

E-mail—Glenn@inlandgps.com

Mobile—307-272-5044

Todd Ferris - Missoula, Montana

Office - 406-829-9888

E-mail - Todd@inlandgps.com

Mobile - 406-360-0464

Not the worst site on the Web: www.inlandgps.com

☐ APPROVED BY BOD

☐ REJECTED BY BOD

SEC./TREAS.

DATE

2005 PLSW MEMBERSHIP APPLICATION

PROFESSIONAL LAND SURVEYORS OF WYOMING

AFFILIATE—AMERICAN CONGRESS ON SURVEYING AND MAPPING
MEMBER—WESTERN FEDERATION OF PROFESSIONAL SURVEYORS



NAME

DATE

(Please indicate preferred mailing address)

WYOMING REG. NO. ☐ PLS

HOME ADDRESS: ☐

☐ PE/LS

STREET OR BOX:

CITY/STATE/ZIP:

TELEPHONE:

BUSINESS ADDRESS: ☐

STREET OR BOX:

CITY/STATE/ZIP:

TELEPHONE

FAX

E-MAIL

EMPLOYER:

YOUR TITLE:

States other than Wyoming in which you are registered:

Additional information or comments (optional):

CLASS OF MEMBERSHIP APPLIED FOR: (check one only and please submit dues with application, prorated for the remainder of the calendar year)

☐ **MEMBER**, ANNUAL DUES \$75 (Persons duly registered, PLS or PE&PLS in Wyoming.)

AFFILIATE MEMBERSHIPS

☐ **Associate Member**, annual dues \$50. (Persons employed under the direction of a PLS and working toward PLS registration in Wyoming.)

☐ **Special Member**, annual dues \$50. (Not meeting above qualifications but with a particular interest in, or association with, the profession of land surveying.)

☐ **Special Member**, Student, annual dues \$15. (Pursuing a post secondary academic course of study, and currently enrolled.)

☐ **Sustaining Member**, annual dues \$100. (Persons, institutions or corporations desiring to assist PLSW financially.)

I AGREE TO OBSERVE THE CONSTITUTION AND BY-LAWS OF THE PROFESSIONAL LAND SURVEYORS OF WYOMING AND THE CHAPTER THEREOF TO WHICH I WILL BELONG AND TO SUPPORT SAID ORGANIZATIONS IN THEIR ENDEAVORS.

APPLICANT'S SIGNATURE

SPONSOR'S SIGNATURE

(For Affiliate Member applicants only.)

NOTE: All portions of the state have chapters. Chapter dues or assessments may vary in amount. Applications are considered

(Continued from Page 21)

LSIT applicants who decide not to pursue a baccalaureate degree must be more attentive in pursuing academic studies. There are a number of opportunities in Wyoming to earn the AAS (Associate of Applied Science) degree. In general, four-year post secondary academic institutions do not offer two-year degrees. For instance, in Colorado, two-year degrees can be awarded only by community colleges, in a few instances around the United States, some four-year institutions offer two-year degrees, and a very few two-year institutions offer four-year degrees. Perspective students should carefully read the institution's catalogue concerning academic offerings and academic programs. In Wyoming, the minimum academic requirements for graduation are defined by state statute and institutional requirements. In the Appendices of this investigation the salient points concerning the general education requirements for the Associate of Applied Science (AAS) and Applied Science (AS) degrees for each institution are presented. There are definite differences between the AAS and AS academic requirements. There are subtle differences between each institution's AAS degree requirements.

Since several two-year institutions offer AAS degrees in engineering technology, the LSIT applicant could complete the engineering technology degree at an institution of choice. However, only one of the two-year institutions (in Wyoming) offers the AAS engineering technology degree with an academic emphasis in surveying [Laramie County Community College - Cheyenne Campus]. If an LSIT applicant decides to complete the AAS engineering technology degree at another institution, then surveying related courses can be added as technical electives (after appropriate consultation with the academic advisor). In all likelihood there is insufficient opportunity in the published academic program to complete the minimum academic requirements for surveying related courses. Therefore, after completion of the AAS degree, the graduate must enroll in and complete additional course work in surveying and surveying related courses offered by other bona fide academic institutions. This is the same approach used by graduate engineers described above. Before enrolling in such course work, the student should contact the WSBREPLS to determine acceptability.

Since there are several two-year academic institutions throughout the United States, offering AAS degrees in engineering technology and/or surveying/surveying technology, perspective students should contact the WSBREPLS. One rule-of-thumb is that if the academic program is ABET/TAC accredited, then the program has satisfied the minimum education requirements stipulated by the WSBREPLS. In this investigation, two academic institutions in neighboring states offer AAS degrees in surveying [Flathead Valley Community College (Montana) and Southeast Community College (Nebraska)]. Neither program is ABET/TAC accredited. Therefore, consultation with the WSBREPLS should take place. Although the programs appear satisfactory, the issue of acceptable general studies in communications and mathematics should be addressed.

For individuals who have earned baccalaureate or associate degree, the program of study is somewhat convoluted. Then the LSIT applicant must consult an academic advisor for a customized academic program of study to optimize course completion. In many instances, all, or a significant majority of the courses required for general studies have been completed. In Wyoming, the Wyoming government [not required for degrees earned outside Wyoming]

requirement and mathematics are usually the two subject areas which may be deficient.

RECOMMENDATIONS

While performing research for this investigation, there have been a couple of administrative matters which, if addressed, would clarify some of the matters presented herein.

It has been noted in the Appendices, that several Wyoming two-year institutions offer AAS engineering related degrees [Engineering Technology: Laramie County Community College and Western Wyoming Community College; General Technology: Sheridan College; and Drafting: Northwest College and Sheridan College]. There are several AS related engineering degrees being offered [Engineering: Laramie County Community College, Casper College, Northwest College, Sheridan College, and Western Wyoming Community College, and Pre-Engineering: Western Wyoming Community College]. These programs are not AAS degrees in engineering technology. However, it is recommended that the WSBREPLS review all these programs, and determine if any, or all, the programs are substantially equal to the academic requirements for the degree of AAS in engineering technology.

As mentioned earlier, the WSBREPLS has written an informal document providing general guidance as to acceptable areas of academic studies [Tables 1, 2, and 3]. There has been confusion in interpreting, understanding, and applying the guidance to LSIT and PLS applications. After review of the academic publications of the Wyoming academic institutions, it is recommended that a more formal working document be written and published. This document would not be a portion of the Board's Rules and Regulations, but would be an informal in-house policy for reference to applicants, staff members, and Board members.

CONCLUSION

The WSBREPLS's Rules and Regulations are unambiguous with respect to minimum education requirements for eventual registration as a professional land surveyor. Unfortunately, there is a need to develop a documented set of administrative guidelines which will minimize misunderstandings concerning the implementation. Careful study of the two-year and four-year academic publications pertaining to academic degree requirements has clarified the Board's intent.

GIS • LIDAR • TOPOGRAPHIC MAPPING
AERIAL PHOTOGRAPHY • ORTHOPHOTOGRAPHY



INCORPORATED

800.658.3613

OFFICES in MN, MT & SD

sales@horizonsinc.com

www.horizonsinc.com



AERIAL MAPPING PROFESSIONALS



SUPPORT "SOS"

EDITORIAL POTPOURRI

O LINES AND POINTS FAX AND E-MAIL - Our fax number is 307-235-5604 and our E-mail address is dond@wlcwyo.com or johnhh@trib.com.

O PLSW KEY RINGS AND PINS - The South Central Chapter has key rings and pins for sale. Contact *Lines and Points*.

O SAFETY MANUAL FOR SURVEYORS - Available from the Southwest Chapter. Comprehensive Affordable, Adaptable - \$50. CD contains entire 206 page manual in both "Word" and "Adobe" in pdf formats that can be edited and adapted for your particular use.

Contact Secretary/Treasurer Ken Magrath - kenm@co.sweet.wy.us or send a check or money order for \$52.00 (includes postage) made payable to:

Southwest Chapter PLS
1010 South Dakota Street
Green River, WY 82935

TABLE OF CONTENTS

<i>A RTICLE</i>	<i>PAGE</i>
EDITORIAL POTPOURRI	3
PRESIDENT'S MESSAGE	4
2005 ANNUAL MEETING MINUTES	5
WFPS REPORT	6
BOD MINUTES	7
SCHOLARSHIP APPLICATION	8
FRIEND OF AG AWARD	10
COUNTY LINE QUESTION	10
L.S. ROLE IN SUBDIVISION DESIGN	11
ELEMENTS USED IN WRITING	15
RESEARCH REPORT ON EDUCATION & LICENSING	17
INVESTIGATION OF AVAILABILITY OF SURVEYING COURSES & PROGRAMS	20
MEMBERSHIP APPLICATION	23

Lines and Points is published by the Professional Land Surveyors of Wyoming. *Lines and Points* is not copyrighted and permission is hereby granted to reprint articles with appropriate credit. The Professional Land Surveyors of Wyoming assumes no responsibility for statements made or opinions expressed in this publication.

PLSW (Professional Land Surveyors of Wyoming) is a statewide organization of Registered Land Surveyors licensed to practice in the Equality State of Wyoming. PLSW is dedicated to improving the technical, legal, and business aspects of surveying in the State of Wyoming. PLSW is affiliated with the American Congress on Surveying and Mapping and the Western Federation of Professional Land Surveyors.

Editorial Staff: John Hibsman, Steve Strang, Don Davis.

Lines and Points subscription \$50/year

Advertising Information

Camera ready advertisements with payment should be mailed to *Lines & Points*, PLSW, Box 904, Casper, WY 82602

Advertising rates are as follows:

	Year	Issue
Full page	\$350	\$100
Half page	\$225	\$75
Quarter page	\$150	\$50
Business card	\$ 40	\$20
Employment	Free	

Special Rates for PLSW Chapters

Deadline for next issue — 15 JUNE 05

Front Cover
Artwork
by

T. L. McMahon, PLSW
Gillette, Wyoming



Gard Talbot
Home 234-0632

Drafting and Engineering Supplies
Complete Reproduction Service

145 North Durbin
Casper, Wyoming 82602

P.O. Box 1276
Phone 265-2990

In State WATS 800-231-9743

President's Message

I would like to begin by thanking Don Davis for his service as president over the past two years. Also to Paul Blough, vice-president and Jim Greer, secretary-treasurer for their fine work. In addition all the committee members and delegates are to be commended for their efforts over this past year in making PLSW a viable organization.

2005 started out with a bang in Gillette this year at the annual WES convention and PLSW membership meeting. Let your chapter director know what you thought about the shorter duration of the event. If you think we need to go back to the longer version we will need to let the planners know for next year. Also we need chapter input on the presentations, exhibits and overall quality of the convention.

Our Scholarship Committee is starting to make some good progress under the direction of chairman, Scott Scherbel. We presented applicant James Jacob with a check for \$2,500 at our membership meeting. He came up to me afterward and expressed his thanks to PLSW for our help. Hopefully others will follow in James' footsteps so we can continue investing in the future of our profession.

Scott Pierson is the new chair of the Investment Committee. He will be working directly with secretary-treasurer Marlowe Scherbel while vice-president Kevin Jones will serve as liaison to the Board of Directors. I believe we are in very capable hands with this group at the helm.

In other news it appears that the legislation concerning the elimination of the professional education requirement for licensing as a Professional Land Surveyor did not go through this session. It is my understanding that it could be brought up again this year so we will all be anxiously waiting to hear of any new developments from our Legislative Committee.

I would like to close by thanking the membership of PLSW for entrusting me with the office of president and I promise to do my best to uphold that trust.

Sincerely,
Richard T. Muscio
President
Richard T. Muscio, President
35 Hickory Club
Cody, WY 82414
Tel: 307-587-3411
Fax: 307-527-5182
rmuscio@gdaengineers.com

NSPS Awards

The National Society of Professional Surveyors (NSPS) is happy to announce the 2005 winners of the following NSPS awards:

- Surveying Excellent Award**
Robert E. Church
Rochester, IL
- Student Project of the Year Award**
No Award Given in 2005
- Excellence in Professional Journalism Award**
Over 500 Member Category Under 500 Member Category
Arthur W. Hipp Ronald L. Forstbauer
Editor, Side Shots Editor, Benchmarks
Arvada, CO Albuquerque, NM

- Affiliate of the Year Award**
Over 500 Member Category Under 500 Member Category
Michigan Society of No Award Given in 2005
Professional Surveyors
A special thanks to all of you who were nominated or applied for the different NSPS awards.

Big Piney People I Admire

By Rob Shaul

Paul Scherbel – I challenge you to find someone else in Big Piney or Sublette County who has given as much to his or her community as Mr. Paul Scherbel. Paul has been a county commissioner, mayor, county surveyor, and consistent community volunteer. He has a quick wit, brilliant mind, and heart so kind the full extent of his generosity will never be known. He's the type of man who fights for the little guy, and is the first to open his heart and wallet for those in need. I simply think Paul is a wonderful man.

Reprinted from the *Pinedale Roundup*, Vol. 101, No. 22

aero-graphics INC.
PHOTOGRAMMETRY PRODUCTS



Airborne GPS Aerial Photography
Topographic/Planimetric Mapping
Orthorectified Imagery

40 West Oakland Ave.
Salt Lake City, UT 84115
agi@aero-graphics.com

Ph. (801) 487-3273
Fax (801) 487-3313

Oil City PRINTERS



544 E. YELLOWSTONE
CASPER, WYOMING 82601
(307) 234-1030
(800) 735-8411
FAX: 237-7229

Serving Casper & Wyoming since 1917
CHECK US OUT ON THE WEB:
www.oilcityprinters.com

- (Continued from Page 20)
- B Advanced Surveying: topographic; triangulation; coordinates; fundamentals of aerial photography (photogrammetry); Public Land Survey System and subdivision of sections
 - C Office Practice: drafting media; plat and map drawing; calculations; essentials of drawing; legal requirements; design of subdivisions and additions
 - D Route Surveying:
 - E Boundary Control and Legal Principles: evidence; record research
 - F Real Property Law:
 - G Descriptions:

The WSBRPEPLS category of "elective" topics has been divided into thirteen (13) categories. Table 3 contains the list of the categories.

TABLE 3-ELECTIVE TECHNICAL STUDIES

Category	Subject Matter
A	Mine Surveying:
B	Hydrographic Surveying:
C	Aerial Photography:
D	Geodesy:
E	Water and Water Rights:
F	Global Positioning Systems and Operations:
G	Precise Triangulation and Trilateration: control surveys
H	Construction Staking and Layout:
I	Cartography:
J	Land Information Systems (GIS):
K	Computer Aided Drafting:
L	Remote Sensing:
M	Advanced Courses for Required Courses

In many academic programs, a number of these subject matters are presented in a single course. For example, a course in geodesy incorporates the technical topics of precise triangulation, trilateration, and control surveys. Construction staking and layout is frequently present in courses of route surveying and engineering surveying. In recent years, specialized courses in GPS have been developed, but historically the theoretical aspects have been presented in introductory courses of geodesy. The aerial photography material is invariably presented in a unique course on photogrammetry.

The reader should be aware that the subject matter content of courses (i.e. Survey I; Survey II; Engineering Surveying, etc.) may not be represented by the course title/name. Therefore, only inspection of the approved course syllabus/course outline will provide specific knowledge of a course's technical subject matter. Also, the description published in the institution's catalogue should reflect the technical content of the course. ABET accreditation teams carefully compare published catalogue descriptions with the approved course syllabi.

Three commissions of the Accreditation Board for Engineering and Technology accredited surveying programs. The Engineering Accreditation Commission accred its survey/surveying engineering programs. The Technology Accreditation Commission accredits two-year and four-year survey/surveying technology programs. The Applied Science Accreditation Commission accredits four-year surveying programs. Of the programs reviewed, only the surveying program at the Metropolitan State College of Denver

Valley Community College has been approved by the Montana Board of Professional Engineers and Land Surveyors.

There are two four-year and three two-year academic institutions in the region offering complete academic programs in surveying. These institutions are: four-year: Metropolitan State College of Denver and Idaho State University; two-year: Laramie County Community College; Flathead Valley Community College (Montana); and Southeast Community College (Nebraska). Besides these institutions, the University of Wyoming offers surveying courses through the Department of Civil Engineering and the Division of Outreach Credit Programs. Individuals considering pursuing academic studies at any of these institutions should carefully review the academic offerings to ensure that the two-year degree will satisfy the WSBRPEPLS minimum academic requirements. Individuals interested in completing academic studies at Flathead Valley Community College or Southeast Community College should contact the WSBRPEPLS for guidance. The WSBRPEPLS is the arbiter of minimally acceptable education programs. It is possible that the WSBRPEPLS might determine that one or more courses should be added/included to the program of academic study to satisfy the Wyoming academic requirements.

SOLUTIONS

For LSIT applicants who have earned a baccalaureate degree in surveying, the question about adequate education in surveying subjects is moot. The WSBRPEPLS has not mandated ABET accreditation for academic program acceptance, but has decided to review each application and the applicant's academic transcript on an individual basis. There are a number of academic institutions offering baccalaureate degrees, including University of Alaska at Anchorage, University of Florida, University of California at Fresno, Idaho State University, University of Maine, Ferris State University, Michigan Technological University, St. Cloud State University, Metropolitan State College of Denver, New Jersey Institute of Technology, New Mexico State University, Purdue University, SUNY Agricultural & Technical College at Alfred, Oregon Institute of Technology, Pennsylvania State University at Wilkes-Barre, East Tennessee State University, and Texas A&M University at Corpus Christi.

For LSIT applicants who have earned a baccalaureate degree in engineering (ABET accredited), the requirements listed in Table I usually have been satisfied. The applicant must address the required technical studies contained in Table 2. Most two-year and four-year academic institutions offering surveying and surveying related courses will provided approximately eighteen (18) to twenty (20) semester credits in courses covering the seven categories listed in Table 2. Once the applicant has ensured that academic course work encompassing the subject matter listed in Table 2 has been completed, then the remainder of the course work would draw upon the academic subjects listed in Table 3. A "rule-of-thumb" is that additional courses in a particular topic (i.e. land surveying/legal aspects) should become more technical and advanced. Courses which apparently duplicate previously complete surveying courses will likely not receive credit. For example: surveying courses entitled "Introduction to Surveying"; "Surveying I"; and "Elementary Surveying" are probably identical in course content and subject matter, which means that only one of these courses would satisfy the WSBRPEPLS's 30-credit hour criteria.

An Investigation into the Availability of Academic Courses
and Academic Programs Offering Courses in Surveying
and Surveying Related Subjects at Post Secondary
Institutions in and adjacent to Wyoming

[Being a study requested by the Wyoming State Board of Registration for Professional Engineers and Professional Land Surveyors at its November 2004 meeting about the availability of professional undergraduate post secondary education in surveying, mapping, and surveying related courses and academic programs of each Wyoming and the states adjacent to Wyoming]

by Herbert W Stoughton, Ph.D., P.E., L.S., C.P. Geodetic Engineer

INTRODUCTION

The Rules and Regulations (R&R) of the Wyoming Board of Registration for Professional Engineers and Professional Land Surveyors (WSBRPEPLS) state that the applicant for Land Surveyor-in-Training (LSIT) [Chapter IV, Section 8] shall:

- (b) Have a bachelor of science degree in land surveying or engineering curriculum approved by the Board which curriculum included at least thirty (30) semester credit hours in surveying, mapping and other courses approved by the Board, or
- (c) Have an associate degree in surveying technology in a curriculum accredited at the time of graduation by the Accreditation Board of Engineering and Technology or otherwise approved by the Board plus four (4) years of combined office and field experience in land surveying, of which two (2) years shall have been in charge of boundary land surveying projects under the supervision of a registered professional land surveyor.

Since the implementation of the education requirement for professional land surveyor registration, there has been considerable discussion as to how to address the education requirement. This investigation will attempt to identify those academic institutions in Wyoming and neighboring states offering educational opportunities to satisfy the educational requirements.

BACKGROUND

There are a number of approaches in completing the academic requirements, which the WSBRPEPLS utilize. These are:

- 1. A bachelor of science degree in land surveying.
- 2. A bachelor of science degree in engineering which includes a minimum of thirty (30) semester credit hours in surveying and surveying related course work.
- 3. A bachelor of science degree in engineering plus additional course work in surveying and surveying related subjects so that the academic record indicates a minimum thirty (30) semester credits in surveying and surveying related course work.
- 4. An Associate in Applied Science (AAS) degree in surveying, or surveying technology with a minimum of thirty (30) semester credit hours in surveying and surveying related course work.
- 5. An Associate in Applied Science (AAS) degree in engineering technology which emphasizes surveying, and having a minimum of thirty (30) semester credit hours of surveying and surveying related course work.
- 6. An Associate in Applied Science (AAS) degree in engineering technology plus additional course work in surveying and

indicates a minimum of thirty (30) semester credits in surveying and surveying related course work.

The WSBRPEPLS has prepared an informal document with a list of suggested courses to satisfy the AAS degree education requirements. The document addresses three categories of educational subject areas. These are "background"; "required"; and "elective". The core course work addresses general studies and specific surveying course work. In the area identified as "background", the subject area of general studies includes mathematics, communications, physical sciences, and humanities and social sciences (in particular economics). Table 1 lists the composition of this category.

TABLE 1-GENERAL STUDIES

Category	Subject Area
A	Mathematics: through trigonometry and statistics
B	Communication: English composition and technical report writing
C	Physical science: physics, geology, chemistry, biology
D	Humanities and social science: economics

These categories are similar to the divisions used for AAS degree programs offered by the Wyoming community colleges. It is recommended that the reader refer to the distribution of "general studies" as stated in the guidelines published by various Wyoming community colleges [Appendices A, B, E, F, and G of this investigation].

The WSBRPEPLS category of "required" subject area is divided into seven (7) categories. Table 2 contains the a list of the categories and the Board's interpretation of subject matter content.

The course content listed in Table 2, by various subject matters, normally does not meet the subject matter distribution. The course matter topics are usually distributed through such courses as:

Surveying I (Plane Surveying I); Surveying II (Advanced Surveying); Surveying Computations/Data Analysis; Route Surveying; Engineering Surveying; Surveying Drafting; etc. The course matter topics listed in Table 2 are usually distributed to ensure that similar topics are presented together (i.e. Route Surveying: circular and parabolic curves; spirals; earthwork; mass diagram; DTM; stationing; etc.). In many academic programs, "boundary control and legal principles" and "real property law" are taught jointly in a series of courses/classes.

TABLE 2-REQUIRED TECHNICAL STUDIES

Category	Subject Matter
A	Elementary Surveying: care and use of instruments; leveling; traversing; computations of areas; computation of earthwork volumes; astronomy; note-

Professional Land Surveyors of Wyoming, Inc.
2005 Annual Meeting Minutes

1. The Annual Meeting of the Professional Land Surveyors of Wyoming, Inc.
 - a. Location: Clarion Western Plaza, Gillette, Wyoming.
 - b. Date & Time: Thursday, February 3, 2005 at 1:05 P.M.
 - c. Presiding Officer: President Don A. Davis.
2. Agenda: The proposed agenda was modified and accepted.
3. Introductions:
 - a. President Davis introduced the current PLSW Officers.
 - b. There were no honorary members nor guests present.
4. In Memoriam:
 - a. President Davis asked for a moment of silence in memory of Joseph W. Popp and Joel Coffee.
5. Minutes of the Annual and Board of Directors' Meetings in 2004:
 - a. It was moved and seconded to approve the minutes of the annual meeting held on February 4, 2004 at the Parkway Plaza Hotel, Casper, Wyoming.
 - b. Minutes of the Board of Directors' meetings held in February, May, August and November 2004 were presented as enclosures 3 through 6 with the 2004 Annual Meeting Agenda. No action required.
6. President's Report: Published in Lines and Points.
7. Secretary/Treasurer's Report: The financial reports and budget were distributed.
 - a. Discussion of budget – not approved until list of checks written for expenses is published in Lines & Points.
8. Committee Reports:
 - a. Audit-Finance Committee: Books approved by Jeff Jones as of December 31, 2003
 - b. Bylaws Committee: No report.
 - c. Convention Committee: No report.
 - d. Education Committee: Bill Fehringer presented report on the 2004 Fall Technical Session. Discussed responses on evaluation sheet. 129 members and others registered for FTS. The 2005 FTS is tentatively scheduled for last week in October at Casper Parkway Plaza Hotel.
 - e. History Committee: Enclosure No. 2.
 - f. Legislative Committee: John Steil. General discussion of pending bills at State Legislature: HB 21 - Proposal to change education requirement for Land Surveyors, HB 2 – water rights, SF 427 – proposal to construct 4 lane highways, SF 94 – City must be notified if county plans to vacate any roads within 1.5 miles of city limits. None of the above bills have been passed as of this date.
 - g. Lines & Points : . Don Davis - still need volunteers for staff help. Discussion about putting L&P on web page. Most members want to receive their copy in the mail. Don Davis noted that advertisers want circulation numbers.
 - h. Manual of Professional Practice: George Dale reported that the Manual is available on CD.
 - i. Membershin Committee: President Don Davis moved

that Rick Hudson be considered for honorary membership in PLSW. Second Jeff Jones. Discussion of procedure for such nomination. Passed – sent to Board of Directors.

j. Nominations & Elections Committee – Deferred until votes are counted.

k. Professional Awards Committee - no report.

l. Public Relations Committee - no report.

m. S.O.S. Committee – Paul Reid announced that the exhibits were on display at the back of the conference room. Urged members to view them and vote.

n. Scholarship Committee – Discussion of amount of scholarship to be awarded to James Jacobs who was not paid for fall of 2003 and spring/fall 2004. Referred to Board of Directors meeting following this annual meeting.

o. Standards, Ethics & Professional Practice Committee – Northwest Chapter, Keven Jones reported. Complaints about survey practice should go to committee before formal complaint is filed. Address all correspondence to Rusty Blough, Holm/Blough and Company, 1402 Stampede Avenue, Cody, WY 82414.

p. Trig Star Competition - No report.

q. Allen Mace Memorial Scholarship Raffle – Chris D. Hamilton, tickets available. General discussion about asking for money donations and/or items.

r. Investment Committee: Report given by Kevin Jones.

9. Delegate Reports.

a. ASCM-NSPS Board of Governors - Jeff Jones published report in Lines and Points. Jeff is stepping down from Board of Governors and has accepted appointment as Area 7 Director.

b. WestFED - Paul A. Reid written report to be published in Lines & Points

10. State Board of Registration for Professional Engineers and Professional Land Surveyors – No report.

11. Old Business: None.

12. Election results:

President – Richard T. Muscio
Vice President – Kevin D. Jones
Secretary/Treasurer – Marlowe A. Scherbel

13. New Business: Discuss replacement for Jeff Jones at ASCM-NSPS Board of Governors. Jeff Jones/John Steil motion and second to appoint Cotton Jones – motion passed.

14. Miscellaneous:

a. John Lee announced that BLM now has 8400 survey plats and 30,000 pages of field notes on line.

15. Anouncements: The next Board of Directors meeting will follow the General Meeting.

16. Adjournment: 3:23 P.M.

Respectfully submitted,
James E. Greer,
Secretary/Treasurer

WFPS Meeting Report

WFPS Board of Directors Meeting held Saturday, March 19, 2005 at the Riviera Hotel and Casino, Las Vegas, Nevada.

Chairman Ron Whitehead called the meeting to order at approximately 8:14 a.m. Roll Call was taken and a quorum declared with Delegates and Officers in attendance representing all of the thirteen western states.

It was motioned and seconded to approve the minutes of the September 25, 2004 Board of Directors meeting.

Chairman Ron Whitehead prepared a written report of his activities since the last meeting.

Treasurer Jerry Tippin presented a written report with total current assets being 141,032.96, with the Scholarship CD having a current balance of \$52,202.63. Copies of the Budget vs. Actual expenses, Balance sheet, Income/Expense Statement and check register were provided. The annual tax return was filed in a timely manner by January 15, 2005.

State activity reports were reviewed with each member delegate giving verbal updates or noting specific issues and items important to their respective state associations. Some highlighted items are:

California...(californiasurveyors.org) Membership is at 2,087 members. The California Surveyor - CLSA's quarterly magazine circulation is at 4,800, with advertising doubled in the last two years, the magazine is now a full color format. CLSA reviewed the Governor's California Performance Review, which included a proposal for the dissolution of the Board of Registration. In opposition to the proposal, CLSA sent letters to the California Performance Review Commission and the Little Hoover Commission. CLSA also organized a letter writing campaign and provided surveying professionals sample letters to the legislature and sample letters to newspaper editors. In the end, the Governor withdrew his proposal.

Colorado...(plsc.net) A GIS in the Rockies conference is scheduled for September 21-23, 2005 at INVESCO Field at Mile High Stadium. PLSC is a Sponsoring and Affiliated Organization. Metro State Community College Denver was officially ABET accredited last October. There are more full time enrollments and many calls are received every year for the refresher course 6 weeks before the surveying exams. MSCD is in good financial shape with a grant of \$50,000 from the BLM. Monument records forms were revised to include changes supported by PLSC, which includes space for when a monument was first found and a space for entering the date a monument was used as a control corner.

Nevada...(nv-landsurveyors.org) All surveying classes for the spring semester of Great Basin College have been filled with students and the program is up and running.

Oregon...(plso.org) Membership stands at 606. PLSO will hold their 2006 Annual Conference jointly with Washington (LSAW) at the new Vancouver Convention Center (Vancouver, WA) with a theme celebrating the bicentennial of the Lewis and Clark Expedition. The Oregon Task Force has drafted proposed legislation relating to the regulation and licensure of photogrammetrists. The Board of Directors has tagged a \$1.00 per member fee for the contribution to the National Surveying Museum and the Library of Congress surveying exhibit.

Washington...(lsaw.org/Link-wfps.org) Continuing Education bill was resubmitted this year. Discussion is continuing on development of a single coordinate system for the State. Currently Washington is split into a North and South Zone system, which hinders statewide mapping efforts. The Board of Registration is considering a rule in regards to the level of research of legal descriptions should be required. The current proposal could require not only the parcel you are surveying, but also all adjoining be traced back to creation (Federal Patent) to resolve gaps, overlaps and Scribner errors.

Curt Sumner, Executive Director for ACSM gave a report on ACSM activities.

Committee Reports were presented. The Conference Committee reported that preliminary registration numbers for the ACSM/WFPS/CLSA/NALS conference was around 1,745. The 2007 Conference to be hosted with CLSA is still in the site selection process with San Diego also being considered.

The Action list was reviewed and updated.

The next WFPS Board of Directors meeting will be held in conjunction with the Arizona Board of Directors

Conference and Meeting AT Bucky's Resort and Conference Center in Prescott, Arizona, June 18.

Meeting adjourned at 3:02 p.m. Respectfully submitted, Paul Reid, Wyoming Delegate

(Continued from Page 18)

CONCLUSIONS

After carefully analyzing the data in 2003 NCEES Licensing Board Survey and upon reviewing the remarks of the many qualified professionals in the surveying industry we have concluded that the surveying industry as a whole would benefit greatly from requiring a four year surveying degree for professional licensure as a land surveyor across all 55 licensing jurisdictions within the USA. We based much of our conclusions on the potential benefits of such a requirement on the surveying industry discovered during our research, which includes but is not limited to:

- Improved quality and quantity of work done by professional surveyors.
- Elevated professional status of land surveyor's reputation to that of architects, engineers, planners, and lawyers.
- Increased salaries of professional land surveyors resulting in increased interest in the profession amongst high school students.
- Creation of more surveying programs in colleges and universities across the country

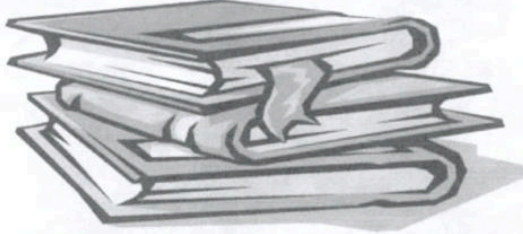
RECOMMENDATIONS

On the basis of our conclusions, we recommend the following:

List of checks written in 2004/05 from PLSW checking account.

CHECK NO.	DATE	AMOUNT	RECIPIENT	CHECK NO.	DATE	AMOUNT	RECIPIENT		
1.	1225	Jan. 7	\$200.50	Arrow Printing and Graphics	32.	1256	Sept 21	18.48	Mike's Printing – mail labels
2.	1226	Jan 14	5.65	Wheatland Postmaster	33.	1257	Sept 26	25.00	Wyoming Sec. of State
3.	1227	Jan 15	98.40	Platte Valley National Bank	34.	1258	Oct 4	223.86	Worthington, Lenhart & C.,
				Bank Draft for web server					Reimburse Conference serv.
4.	1228	Jan 26	12,000.00	RBC Dain Rauscher	35.	1259	Oct 4	875.00	Lines & Points – Qrtly pay.
5.	1229	Jan 27	193.95	Kinko's, Inc.	36.	1260	Oct 5	13.13	Noyce's Copy Shop
6.	1230	Jan 27	9.67	Dennis Dawson – postage	37.	1261	Oct 5	600.00	Jeff Jones – NSPS Del. Exp.
7.	1231	Jan 27	131.30	Steil Surveying – NSPS entry	38.	1262	Oct 25	500.00	Northeast Chapter PLSW
				Fee and postage					Scholarship matching funds
8.	1232	Feb 3	132.30	Noyces Copy Shop	39.	1263	Nov 2	600.00	Paul Reid – WFPS Del. Exp.
9.	1233	Feb 18	500.00	Karl Scherbel – Scholarship	40.	1264	Oct 27	78.30	Wheatland Postmaster
10.	1234	Feb 18	500.00	Lyle Casciato – Scholarship	41.	1265	Nov 9	22.49	Noyce's Copy Shop
11.	1235	Mar 4	592.50	Lines & Points – WES Conv.	42.	1266	Nov 12	2,850.00	Cadastral Consulting, Inc.
12.	1236	Mar 4	875.00	Lines & Points – Qtrly pay.					Final payment on contract
13.	1237	Mar 24	500.00	Cadastral Consulting, Inc.	43.	1267	Nov 12	128.64	Parkway Café – BOD lunch
				Advance fee FTS	44.	1268	Nov 12	778.74	C.E.P. – FTS expenses
14.	1238	Mar 29	18.90	Noyce's Copy Shop	45.	1269	Nov 18	12,000.00	RBC Dain Rauscher
15.	1239	Mar 29	38.06	Wheatland Postmaster	46.	1270	Nov 18	3.93	Wheatland Postmaster
16.	1240	Mar 30	25.00	Kinko's, Inc.	47.	1271	Nov 24	150.00	NSPS – Map/plat contest
17.	1241	Apr 14	110.00	Jeff Jones - NSPS door prize	48.	1272	Nov 24	600.00	Jeff Jones – NSPS Del. Exp.
18.	1242	Apr 14	600.00	Paul Reid – Delegate expense	49.	1273	Nov 24	900.00	Lines & Points – Qrtly pay.
19.	1243	Apr 26	300.00	Cody Hendricks – Trig Star	50.	1274	Dec 1	7.90	Wheatland Postmaster
20.	1244	Apr 26	300.00	Bob Hull Trig Star teacher	51.	1275	Dec 7	3,333.00	Parkway Plaza Hotel – FTS
21.	1245	June 3	100.00	Rick Hudson – SOS 1 st place	52.	1276	Dec 15	15.23	Noyces Copy Shop
22.	1246	June 3	50.00	Paul Reid – SOS 2 nd place	53.	1277	Jan 11, 2005	21.00	Noyces Copy Shop
23.	1247	void			54.	1278	Feb 2	194.35	R.L. Hudson – Exp. Election
24.	1248	June 3	69.96	Wyoming Trophy & Engrav.	55.	1279	Feb 2	643.49	Noyce's Copy Shop – 2005
25.	1249	void							Annual Meeting Reports
26.	1250	July 12	139.16	Worthington, Lenhart & C.	56.	1280	void		
				Reimburse conference serv.	57.	1281	Feb 3	25.00	Cotton Jones – SOS 3 rd Place
27.	1251	July 12	109.95	Richard Greenwood – renew					Replace check No. 1247
				domain name for web page	58.	1282	Feb 3	500.00	James Jacobs – Scholarship Fall
28.	1252	July 26	57.75	Fresh Flower Fantasy – Joel					03
				Coffee memorial	59.	1283	Feb 3	2,000.00	James Jacobs – Scholarship
29.	1253	July 26	600.00	Paul Reid – Delegate expense					Spring 04, Fall 04, Spring 05
30.	1254	Aug 6	850.00	Lines & Points – Qrtly pay.	60.	1284	Feb 10	5.34	Wheatland Postmaster
31.	1255	Sept 13	550.00	Jarvis F. Windom & Assoc.,	Checks 1285 through 1290 remain in book, unused to date.				
				Accountant – Budget & Dir.					

PLSW
Field Books



Field books with PLSW logo Printed on front
Orange in Color with logo in Black

**MINING TRANSIT STYLE
WITH 10 X 10 GRID**

**AVAILABLE FROM
PLWS SE CHAPTER
FOR
ONLY \$10.00 EACH**

PLSW SE
C/o Terrestrial Surveying & Mapping Co.
P.O. Box 82
Cheyenne, Wyo. 82003

AERO-METRIC

PHOTOGRAMMETRIC & G.I.S. SERVICES

AERIAL PHOTOGRAPHY • PRECISION DIGITAL MAPPING
DIGITAL ORTHOPHOTOGRAPHY



AERO-METRIC, INCORPORATED
4708 SOUTH COLLEGE AVENUE
FORT COLLINS, COLORADO 80525
TEL: (970) 226-2883 FAX: (970) 226-2965
www.aerometric.com
e-mail aerometric@amcolorado.com

profession became viewed by many as a vocation. Scholars of the day lacked interest and pursued architecture, engineering, and law instead.

As the country moved into the information age in the latter half of the 20th century, there were extraordinary advances in the tools used by surveyors. Geographic Information Systems (GIS) and Global Positioning Systems (GPS) have reintroduced the need for scholarship in the surveying profession. However, traditional surveying professionals licensed through a well rounded technical education and apprenticeship did not embrace these technologies and scholars from other fields stepped in. These well intentioned scholars, who lacked professional licensure, began questioning the boundary work of licensed surveyors. The licensed surveyors immediately called for a stop to the spread of non-licensed scholars into this new field of surveying. However these same surveyors were not prepared to meet the needs of this new field because they lacked the fundamental educational background to truly grasp the new technology.

What we are now seeing is the redefinition of the surveying professional. Most state professional surveying societies are supporting baccalaureate degree requirements as a prerequisite for professional licensure in addition to an apprenticeship and examination requirement. In this new model, a scholarship requirement will produce an individual with a well-rounded background who can adapt to rapid changes in the industry, and the apprenticeship requirement will continue to provide the individual with an opportunity to learn the art of surveying as it applies in practice.

MATERIALS AND METHODS

- In conducting our research, we completed the following tasks:
- We acquired data on licensing standards in the 55 jurisdictions within the USA from the NCEES, National Council of Examiners for Engineering and Surveying.
 - We studied various articles from professional surveying publications to determine what professionals in the surveying field were saying about the future of the surveying industry. We focused on the four year degree requirement and its advantages and disadvantages as seen by professionals in the industry.
 - We interviewed Dr. Herbert W. Stoughton, Ph.D., P.E., P.L.S., C.P., Head, MSCD Surveying and Mapping Program to gain insight into the surveying profession from an acting professional and scholar, as well as, an opinion on the issues facing the surveying industry today.

RESULTS

Our research report investigated whether or not it would be beneficial, to the professional land surveyor and the surveying industry, to require a four year degree requirement for professional licensure as land surveyor across all 55 licensing jurisdictions within the USA. We obtained the following results:

NCEES 2003 Licensing Boards Survey

The National Council of Examiners for Engineering and Surveying (NCEES) is a national non-profit organization composed of engineering and land surveying licensing boards representing all U.S. states and territories. We studied the results of the NCEES 2003 Licensing Boards Survey for this research report. The NCEES asked the following question in the survey:

- Graduation from which programs is acceptable for taking the FLS examination in your jurisdiction?

Of the 55 jurisdictions surveyed only 12 required a four year surveying degree requirement for taking the FLS examination.

Support for a Four Year Surveying Degree Requirement

According to Trent Turk, L.S. of Geo Survey Ltd in Marietta, GA, the biggest problem facing the surveying industry is, “luring young people into the profession for the future.” (Cheves, 2004) He also feels that, “elevating our profession by the requirement of a four year degree is imperative for the future of the profession.” (2004)

The mentor and apprentice relationship of tutoring has been the foremost way for training young surveyors to carry on the surveying profession for many generations. Many ask, why are we changing this proven method by instituting this big push for formal education? Paul Kwan, RPLS #4313, answered the question this way. “The simple reason is that surveying has evolved with the advance of technology and the range of service a professional surveyor now provides to her or his clients.” (Kwan, 2002) He goes on to say that by mandating a four year degree requirement for professional licensure, a young surveying professional will have the same educational credentials as the engineers, attorneys, and architects she or he will deal with on a daily basis (2002). Knud E. Hermansen, Surveyor, Civil Engineer, and Counselor at Law says that the professions of law, ministry, and medicine evolved from an apprenticeship program that once relied entirely on experience (Hermansen, p. 7). He goes on to say that, “it stands to reason that if justice, personal health, and the human spirit are all adequately protected by licensing persons without experience so too can property rights and title be adequately protected by licensing surveyors without experience.” (Hermansen, p. 8) He qualifies this by giving an example of a surveying licensing law recognizing formal graduate education to qualify for survey licensure. The point being, this method of licensure has several advantages. The most important being, it recognizes and encourages not only a four year degree but a graduate degree and that a common education background that challenges students imparts an alumni spirit that evolves directly into professional spirit and more quality work (Hermansen, p. 8).

Charles D. Ghilani, Ph.D. and program chair of the baccalaureate degree Surveying program at The Pennsylvania State University, sees a baccalaureate degree requirement for licensure in all states as the key to boosting enrollment in surveying programs among educational institutions (Ghilani, p. 5). He also believes it is long past due for the surveying profession to re-embrace scholarship as a requirement for licensure. He states, “In this model, scholarship will produce an individual with a well-rounded background who can adapt to rapid changes in the industry...” (Ghilani, p. 4)

Dr. Herbert W. Stoughton, Ph.D., P.E., P.L.S., C.P. Interview

We provided Dr. Stoughton, Head, MSCD Surveying and Mapping Program a questionnaire which he answered and sent back to us. The full questionnaire and Dr. Stoughton’s answers can be found in the appendix.

According to Dr. Stoughton, “The surveying and mapping industry would be greatly benefited by requiring four year post secondary degree.” He added, “In those states where mandatory education is required, the quality of the services and products produced have improved considerable. Also, I have personally found that the professional education places me on the same plateau when I am working with architects, engineers, planners, and attorneys.”

**Professional Land Surveyors of Wyoming, Inc.
Board of Directors’ Meeting Minutes, February 3, 2005**

1. The Board of Directors’ Meeting of the Professional Land Surveyors of Wyoming was called to order by recently elected Richard T. Muscio.

- a. Location: Clarion Motel – Gillette, Wyoming
- b. Date and Time: Thursday 3 February 2005 at 4:30 pm
- c. Presiding Officer: President Richard T. Muscio

2. Agenda: The agenda was set by President Muscio and approved.

3. Board of Directors’ Minutes: Motion by Bill Fehringer to approve the minutes of the 14 January 2005 Special Budget Session. Motion seconded by Don Schramm. Motion passed.

4. Secretary’s Report: Recently elected Secretary-Treasurer Marlowe A. Scherbel had no report.

- 5. Treasurer’s Report: no report
- 6. Old Business: none to report
- 7. New Business:

- a. Discussion held on payment to James Jacobs for Scholarships. Motion by Bruce Frederick to approve and pay \$500.00 for 2003/2004 and \$2,000.00 for 2004/2005. Motion seconded by Randy Stelzner. Motion passed by unanimous vote.

- b. Discussion held on when to hold the Alan Mace Scholarship Fund and if it was better not to compete for funds at the WES Convention. Motion made by Randy Stelzner to hold annual raffle at the Fall Technical Session instead of at the annual WES Convention and to send requests for donations from members, member firms, and other businesses. Motion seconded by Bill Fehringer. Motion passed.

- c. Discussion held on how to account for amounts in the various Funds, ie. S.O.S., Scholarship, etc. President Muscio directed Secretary Scherbel to decide proper procedure and implement.

Meeting was temporarily suspended and moved to new location at Clarion lounge.

New Business (cont’d.)

- d. Discussion was held on Honorary Member Policy. Rick Hudson was nominated at the Annual Meeting held prior. No one was aware what the procedure and policy were. Motion to table recommendation for Rick Hudson to be an Honorary Member until next Board meeting. Motion seconded by John Lee. Motion passed. President Muscio directed Secretary Scherbel to locate policies and report at next Board meeting.

- e. Discussion was held on who should be authorized to receive investment statements. Motion made by Randy Stelzner to approve Board Resolution and Affidavit to be sent to RBC Dain Rauscher – Investment Company – authorizing the Secretary/Treasurer and Investment Committee Chair to receive statements and require two (2) signatures of the following people for all transactions other than the purchase of certificates of deposit:

- Richard T. Muscio, President
- Kevin D. Jones, Vice-President
- Marlowe A. Scherbel, Secretary-Treasurer
- Scott R. Pierson, Chair, Investment Committee

Motion seconded by Bruce Frederick. Motion passed. President Muscio directed recently elected Vice-President and current Investment Committee Chair – Kevin Jones – to complete Resolution and send to Secretary Scherbel for signature and

forwarding to Dain Rauscher.

- f. Secretary Scherbel committed to serve a minimum of three (3) years. Discussion was held on reimbursement of Secretary Scherbel’s staff when working on PLSW mailings, etc. President Muscio indicated that budget allowed for outside secretarial services and use of personal staff was authorized.

- g. Discussion was held on education requirement for licensure. Is there a “road map” of how to achieve the requirements in Wyoming? It was indicated that the State Board had requested a report from Herb Stoughton on this subject. Mark Rehwaldt indicated he would like to prepare a position paper on changing the Education requirements. Don Davis, Don Schramm and Lloyd Baker indicated they would help Mark.

- h. Lloyd Baker approached the Board with a discussion on changing the size, type and length of monuments. President Muscio suggested he discuss this issue with his local chapter, form a consensus, and have the Chapter Director bring this issue before the Board, if the Chapter so desires.

8. The next Board of Directors’ meeting will be held by teleconference on 14 May 2005 at 10:00 am.

9. Adjournment: Motion to adjourn. Motion passed.
Respectfully submitted,

Marlowe A. Scherbel, Secretary/Treasurer

Attendees:

- Richard T. Muscio, President
Kevin Jones, Vice-President
Marlowe A. Scherbel, Secretary-Treasurer
Donald M. Schramm, Southwest Chapter – Director
John P. Lee, Southeast Chapter – Director
Bruce W. Frederick, Northwest Chapter – Director
Randy S. Stelzner, Central Chapter – Director
Olian Shockley, Southwest Chapter
Ted McMahon, Northeast Chapter – for Cevin C. Imus, Northeast Chapter – Director
William R. Fehringer, South Central Chapter – Director
Cotton Jones, NSPS Governor
Lloyd B. Baker, Central Chapter
Mark Rehwaldt
Don Davis, Past President
Jim Greer, Past Secretary-Treasurer

PLSW Paraphernalia

Lapel Pins \$5.00

Key Rings (few left) \$5.00

South Central Chapter

P.O. Box 904

Casper, WY 82601

Email: mblum@wlcwyo.com

SCHOLARSHIP APPLICATION
PROFESSIONAL LAND SURVEYORS OF WYOMING

Applicant’s Name _____ DOB _____

Street Address _____ City _____ State ____ Zip _____

Telephone: _____: Fax: _____ e-mail: _____

Marital Status: _____ Number of dependent children: _____

Describe Career Plans: _____

If a full-time student, please list the College or University you are attending: _____
If you will not be a full-time student, please describe on another sheet, how you are obtaining your education.

How many semester/quarters of college have you completed? _____
How many credit hours of surveying curriculum classes have you completed? _____ hours (semester or quarter?)
Current or last available GPA: _____ from: _____ (list school)
Will you be in school two consecutive semesters/quarters? _____. List them _____

Employment information: List employer and annual wage for you and your spouse: _____

Does your employer offer re-imbursement or other assistance for college classes? ____ If so, describe on separate sheet.

If receiving support from parents, please provide the following information:

Father’s employer _____	Yearly Salary _____
Mother’s employer _____	Yearly Salary _____

List other immediate family members currently in college or university and receiving support from parents: _____

Please provide proof of enrollment in the college that you are attending.

On another sheet of paper, please document your financial need, efforts you are making to earn the necessary funds, debts or other financial obligations, a budget of expected yearly educational costs, including housing, books, tuition, fees, transportation, entertainment, clothing, food, etc. List other scholarships, grants, loans, etc., that you are applying for or have received. Please include the status of those applications ie,. received, expect to receive, applied for, haven’t heard or other appropriate indication of status. Note: please make your application as complete as possible.

Please also include a recommendation from a practicing, professional land surveyor which includes a reference to being familiar with your plans to become a professional land surveyor.

The above information is true and complete to the best of my knowledge:

Applicant _____ Date _____

FOR COMMITTEE USE ONLY

Date received by scholarship committee: _____

Research Report on Land Surveying Education andLicensing Standards

by Luke Johnson L.L.C.
November 9, 2004

Mr. Johnson is a student in the Metropolitan State college of Denver Surveying and Mapping Program.

The United States moved from an economy based on agriculture to an economy based on manufacturing in the early 19th century. During this time the value of land to society decreased and the prestige of the surveying professional went with it. A drastically reduced need for scholarship due to the relatively unchanging surveying equipment and methods during this period allowed for the licensing of professional surveyors based solely on apprenticeship. As the United States economy shifted once again from manufacturing to one fueled by information during the latter half of the 20th century, the surveying profession faced another difficult challenge. How does the surveying industry embrace the new technologies created during the information boom? Geographic Information Systems (GIS) and Global Positioning Systems (GPS) have reintroduced the need for scholarship in the profession. However the requirements in many jurisdictions of the United States still require less than a four-year surveying degree to become a licensed professional land surveyor. As a result, licensed land surveyors in these jurisdictions lack credibility and dilute the licenses of those surveyors who obtained a four-year surveying degree. Based on the information we gathered and received, we recommend all jurisdictions within the United States require a four-year surveying degree from an ABET accredited institution to become licensed as a professional land surveyor. We believe this requirement combined with the examination and apprenticeship requirements already in place, will rightly elevate the prestige of the surveying professional to that of architects, engineers, planners, and attorneys.

EXECUTIVESUMMARY

According to our research, the surveying industry is currently facing a serious challenge. Advances in surveying technology combined with an aging workforce have left the surveying industry scrambling for qualified recruits. However, the old days of licensure based solely on apprenticeship is not sufficient given the recent technological advances in surveying methods and equipment. Therefore potential employers of professional land surveyors are looking to accredited institutions to recruit students, who are not only interested in land surveying, but also bright enough to master the technical and professional aspects of the evolving surveying profession. We found, in an overwhelming majority of our research, that employers are looking to hire professional land surveyors who have completed a four-year surveying degree. We then asked the question: How are licensing boards addressing the employers’ concerns? We found that currently, 55 jurisdictions within the United States independently license professional land surveyors according to their particular licensing board standards. According to the NCEES 2003 Licensing Boards Survey, of those 55 jurisdictions, currently only 12 have a four-year surveying degree requirement for professional licensure. Not surprisingly, we also found that only 25 of the 50 states and 5 territories that make up the jurisdictions have colleges offering four year degrees. We feel this is insufficient, in both respects, given the needs and concerns of the employers stated above. We recommend all 55 jurisdictions

requirement for licensure as a professional land surveyor and encourage, through funding, the development of more four year surveying programs in their colleges and universities. We believe the implementation of our recommendations would create the following situation:

- The requirement would improve the quality of work done by professional surveyors.
- The improved quality of work would elevate the professional land surveyor’s reputation to that of architects, engineers, planners, and lawyers.
- The improved reputation would increase the salaries of professional land surveyors which would then increase interest in the profession amongst high school students.
- The increased interest would create the need for more surveying programs in colleges across the country

INTRODUCTION

This research report confronts a major problem facing the surveying profession today. The surveying profession has fallen behind economically and in professional status, largely due to its failure to embrace a four-year degree requirement for professional licensure across all 55 licensing jurisdictions within the USA. Based on our research we make a recommendation to the 55 individual jurisdictions within the USA responsible for licensing land surveyors, to require a four-year surveying degree for professional licensure as a land surveyor. We believe this requirement across all 55 jurisdictions will better prepare future surveying professionals to handle technological advances in the instruments and methods of surveying, as well as, create an academic standard that will rightly elevate the economic and professional status of the surveying professional to that of architects, engineers, planners, and attorneys. To make this recommendation Luke Johnson L.L.C. researched the land surveying education and licensing standards in these 55 jurisdictions. Next, keeping in mind the new need for scholarship and the continuing need for apprenticeship, we asked three questions when making a recommendation:

- Is there a standard model for the education and licensing of land surveyors among the 55 jurisdictions?
- Would the surveying industry and its professionals benefit from standardizing the licensing requirement across all 55 jurisdictions to include a four-year surveying degree?
- Would a four year surveying degree requirement for professional licensure create an incentive for the creation of new surveying degree programs in colleges and universities?

BACKGROUND

In early American history George Washington and Thomas Jefferson were not only great American Presidents they were also surveying professionals. During this period in our history agriculture dominated the economy and therefore land was a valued commodity. As a result a surveying professional was considered a scholar with a specific apprenticeship in surveying.

The importance of land to society decreased as the country’s economy moved from agriculture to manufacturing. The prestige of the surveying profession was all but over. By this time, the basic equipment and methods for surveying were stable and relatively unchanging. There was little innovation and the surveying

REPRINTED MAP

SOURCES OF SNAKE RIVER

Snake River Expedition—
James Stevenson, Director

The Northwest Chapter has reprinted, from an old (perhaps first printing) lithograph found in a cabin west of Cody, the map of the Hayden-Stevenson expedition and survey of Jackson Hole, Yellowstone National Park and surrounding vicinity. The map shows the campsites of the expedition, from July 12th, 1872, at Fort Hall, Idaho Territory, up the Snake River, into Yellowstone, and returning to Fort Hall on October 11th.

The reprint measures approximately 28 inches by 29 inches overall, black printing on white background, and is printed on heavy photographic paper.

The map is representative of the cartographic style of the time and uses shading to depict mountain ranges, water lining on lakes and artistic profiles of various ranges including the Tetons.

A 39-page excerpt from "Great Surveys of the American West", by Richard A. Bartlett, published by University of Oklahoma Press, is to be included with the map (reprint permission pending) and details the progress of the expedition.

THE CHAPTER IS OFFERING PRINTS TO PLSW MEMBERS AT THE INTRODUCTORY PRICE OF \$40 PER PRINT, POSTPAID.

ORDER FROM:

PLSW, NORTHWEST CHAPTER

R. L. Hudson, Secretary / Treasurer

P.O. Box 784

Thermopolis, Wyoming 82443

ATLAS

REPRODUCTION

AUTHORIZED AGENT FOR

XEROX®

USWEST
CELLULAR

Free Pick-Up & Delivery
Complete Reproduction Services

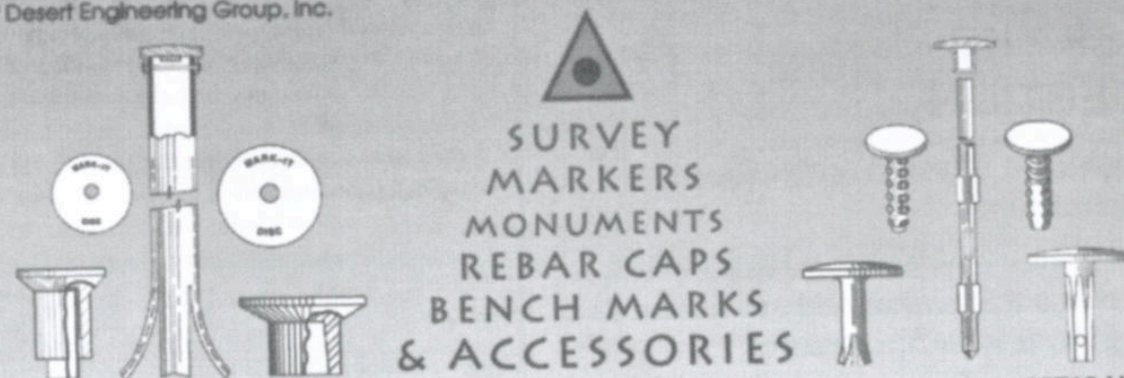
800 East "A" Street

Casper, WY

237-9523 or 800-372-3837 In State

MARK-IT®
SURVEY MARKERS & MONUMENTS
A Division of Desert Engineering Group, Inc.

HISTORY IN THE MARKING



A Division of Desert Engineering Group, Inc. 3162 E. 46th Street, Tucson, Arizona, 85713 U.S.A.
(520) 882-7363 or 1-800-323-4578 www.desertengr.com



Not Evolution. Revolution.

Introducing the Trimble S6.



The demands on a surveyor's time are greater than ever. So, when you asked for better performance, improved accuracy and extreme versatility, we listened. The Trimble S6 represents a revolution in survey technology.

Bringing you enhanced and more dynamic functionality, the Trimble S6 contains the latest technical advances.

CABLE FREE

The internal battery and integrated radio make both the instrument and the Robotic rover completely cable free. The smart battery provides six hours of power in Robotic mode.

MAGDRIVE™

Silent, direct-drive electromagnetic servos deliver unmatched speed and accuracy.

MULTITRACK™

Combines passive prism tracking with active Target ID for exceptional flexibility and performance.

SUREPOINT™

Automatic pointing correction ensures the most accurate measurements, even in difficult conditions.

Experience the new Trimble S6 now.
www.trimble.com/revolution

 **Trimble.**

FOR MORE
INFORMATION CALL YOUR
TRIMBLE DEALER

AGA Geodimeter
Denver, CO
303-823-9570

Frontier Precision
Loveland, CO
701-222-2030

Inland GPS
Cody, WY
307-527-6684

©2005, Trimble Navigation Limited. All rights reserved. Trimble and the Globe & Triangle logo are trademarks of Trimble Navigation Limited registered in the United States Patent and Trademark Office.

SUR-076

Friend of Agriculture Committee Award

By Barbara Budd

You know down there by the road is that triangular piece of ground. It looks like it belongs to the BLM, but it is not fenced in their section. How about that piece of oblong land along the creek? Who does that property belong to? Well, call this person I am nominating for “Friend of Agriculture” and he can tell you. He will locate the corners to the property because they were either lost or not very well marked. Also this man can tell you about water. He can tell who has such and such a right and whether they use it or not or if it has been brought up to date. He, also, will help you find locations for water wells and natural springs. He’ll survey for reservoirs, obtain the permits and make everything legal. In this country where rain fall is 4 to 6 inches a year, we must find every drop of water we can.

Homesteaders had to fence to prove up on their land in order to get the title. They built the fences where it was convenient, not on a rocky steep hill but down on a flat and not where they knew there would be a big snow drift so boundaries were off line. When the west was first settled, the surveyors surveyed with links and chains, and degrees and minutes. They did everything by hand. Using today’s new technology of surveying, it has been found that the man I am talking about was 99.9 right when he used the old methods. He will find exactly where your ranch lies.

He served in the Navy during WWII Most of the time he was on a seagoing tug in the Pacific Theater. He was first an ensign but by the time he retired from the reserve, he was a Commander. And you know what? He can still wear his white dress uniform which he does every Veteran’s Day. The uniform is still as white as the day hat he first put it on!

I asked his daughter, Annette, for more information about him. She told me that her father Paul N. Scherbel, came to the Big Piney area after WWII to work for the Soil Conservation Service. His first experience with ranchers was teaching the veterans under the G I Bill. He taught them how to calculate numbers of cows, with acres of land and feed. Also, during his first years, water right problems seemed to be continually obstructing his conservation worked and in 1951, he applied for a Surveyor’s license and started ‘moonlighting” to clear up the water rights problems.

At the same time the oil industry was beginning at the southern end of the county. They had asked him to do some surveying on hem. Well, he could not without a license but when he went home here was his license laying on the table with the day’s mail.

Around this time he was also trying to buy a ranch. He bought a cow and registered the SS brand which stood originally for Saturday-Sunday Ranch. The rancher decided not to sell, but Paul still kept his cow, called Hazel, and named her calves after local grasses. Two of the calves were named, “Cow-ma-grass-tos” and “Buda-loo-a”.

In 1955, he retired early from the SCS and began working full time as a Land Surveyor. His brand, the SS, became the logo for surveyor Scherbel. Much of his work was doing water rights for ranchers stretching into Cokeville, Star Valley, and Jackson as well as Sublette County. To this day, at age 87, he works a full day often on water rights and still traveling to consult with various ranchers.

Through the years, he has accepted beef in place of wages and has always chopped off his bills to whatever the rancher thought was fair no matter how many hundreds of hours he may

experience he is now often sought out for his extensive knowledge and to solve disputes. He remembers every detail of every project he ever worked on and the location and size of the rock for every section corner he’s ever found. He treats these corners with special care as he replaces the original stones with brass caps and whenever he’s in the area, he revisits them and adds a few stones to the mound.

Paul is still active in all community affairs. He is very active in the Legion and Boy’s State. He sponsors the coloring contest in the Fair Book and buys Sublette County beef from the 4-H sale. He has helped at most barbecues. And as everybody knows, he is a history buff of Sublette County. He respects the early homesteaders and honors them by giving their name to many landmarks. He goes about it the legal way, recording the name, and permanently marking the site on the map so that the family name will be remembered 100, 200, or 900 years from now. Two examples are Jewett Pinnacle and Bailey’s Cone. He found the original tri-territorial site and reestablished the Oregon and the Lander Trails. He is interested in state government and follows the legislative bills, especially concerning easements, rights of way, and private roads.

Paul is 87, still surveying and helping ranchers. How did we ever miss him to receive “The Friend of Agriculture” recognition. If he received his Surveyor’s license in 1955 and this is 2005, that makes 50 years so let’s help him celebrate and give him this “Friend of Agriculture” honor. I truly recommend Paul N. Scherbel to receive the “Friend of Agriculture” award.

Reprinted from the *Pinedale Roundup* , March 10, 2005

County line Questions Unsettled

A border dispute between Campbell and Sheridan counties has new importance thanks to the coal-bed methane boom.

(GILLETTE (AP) — Campbell County officials say they thought that lingering questions about the border with Sheridan County were settled over a year ago.

But they say they have no problem with Sheridan County’s recent hiring of a surveyor.

Part of the county line has been ill-defined for decades, and an eight-mile-long by one-mile-wide area has a long history of stop-and-start surveying.

The issue has gained new importance since the coal-bed methane boom. A county line shift in either direction would cost either county the 6 percent ad valorem tax charged on production of any coal-bed methane wells in the area.

Campbell County Assessor Jerry Shatzer said defining the county line had not been a priority in Sheridan County until recently. “We’ve been after Sheridan County for 15 years to get the line straightened out,” he said.

A map and documents on file in Campbell County show that field work on the disputed boundary was begun in 1989. It was finished in November 2003, when a final survey map was sent to both county commissions, according to Mike Coleman, Campbell County’s public works director.

“If they find something that disagrees with our survey, we’ll look at their data and make a professional determination,” Coleman said.

Elements used in writing easement and real property descriptions for strips of land conveyances.

The question has been asked concerning stating the width of a strip of land conveyance. The legal concept is well stated in Robillard & Bouman’ “The ultimate question that is often presented by the courts to the surveyor is” ‘Is this description capable of being located on the ground by a competent surveyor?’ “ And: “The surveyor should not read any other meaning into such a description.”²

2. Robillard & Bouman further state: “Both surveyors and attorneys should be careful about the manner in which land parcels are described. What seem clear and unambiguous to the parties may become ‘fogged and ambiguous’ after a period of time.”³

3. Robillard & Bouman also state “Many times the surveyor is asked to locate a description based on the words contained within the document. What the surveyor reads in the words may be totally different from the ‘intent’ that the court will conclude. It is recommended that the individual who prepares the description use those specific words to show with clarity what the true intention really was.”⁴

4. Fant, Freeman & Madson⁵ admonish the reader that: “Description writers should also be guided by the statement ‘know that others understand what you write’ “⁵

5. From these accepted writings and based upon legal decisions,

the scrivener should take care to write a clear, concise description an minimize any ambiguity.

6. Through the years, and in various parts of the United States, there exist different interpretations concerning the meaning of the width of a strip conveyance.

7. Fant, Freeman & Madson further state six specific rules concerning the basic elements of construction of the description of strips of land. Rule No. 2 states: “The strip width is measured perpendicular to the center line”⁶ (or a specific reference line).

8. Historically, the courts have been divided on the interpretation of the width of a strip. If the end boundary of a strip of land is perpendicular to the parallel sides (Figure 1 .a), then there is no problem. However, if the parallel sides of the strip intersect a parcel boundary at an angle not equal to ninety degrees (perpendicular or normal), then non-surveyors have quite

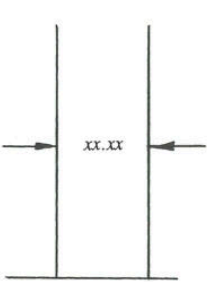


Figure 1.a
Strip of land perpendicular to parcel boundary.

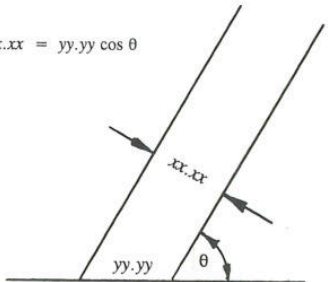


Figure 1.b
Strip of land not perpendicular to parcel boundary.

frequently interpreted the width of the strip as the distance between the points of intersection of the sides, measured along the parcel boundary (Figure 1 .b).

9. In order to eliminate the ambiguity of interpretation, it is recommended that the description contain the following wording: A strip of land xx.xx feet in width, measured at right angles, The remainder of the description of the strip would be the same.

Herbert W. Stoughton, Ph.D., P.E., P.L.S., C.P.
Geodetic Engineer

Notes

¹Walter G. Robillard and Lane J. Bouman: Clark on Surveying and Boundaries, 6th ed. (Charlottesville,

²Virginia: Lexis Law Publishing; 1992); pp 500 - 501 [hereafter cited as Robillard & Bouman] ²Sweringern v. City of St. Louis, 151 Mo. 349, 52 S.W. 346 (1899).

³Robillard & Bouman; p. 471.

⁴Robillard & Bouman; p. 501.

⁵Jesse E. Fain, Alver R. Freeman, and Carlisle Madson: Report Four: Metes and Bounds Descnvrions, revised edition (Minneapolis: Minnesota Land Surveyors Association/Myers Printing Co.; 1980); p. 3 [hereafter cited as Fant, Freeman & Madson]

SURVEY TECHNICIAN
CERTIFICATION PROGRAM

INCREASE YOUR OPPORTUNITIES BY
BECOMING A CERTIFIED SURVEY TECHNICIAN

ASK THE QUESTION ARE YOU A CST?

–Provide a Career Ladder for Technicians

–Provide Credentials to Technicians
–Provide a Standard Way to Evaluate Staff and New Applicants

–Receive Discounts on Insurance

For more information contact Trish Milburn
at (240) 632-9716 ext. 105,
email <tmilburn@acsm.net> or visit our
website at www.acsm.net
NSPS, 6 Montgomery Village Avenue, Suite
403, Gaithersburg, MD 20879

subdivisions or city planning except in major metropolitan areas.

After the American Civil War a significant portion of land surveying shifted from the agrarian-rural surveys (i.e. farm surveys) to municipal-city surveys. Early surveying textbooks omitted any discussion of "city surveys" Surveying textbooks omitted any discussion of "city-surveys" until about 1880. Two of the earliest "systematized" city surveys resulted from the need for a national capitol and the reconstruction of a village totally destroyed by fire. Andrew Ellicott and his brothers, Benjamin and Joseph, performed surveys to execute L'Enfant's plan for the District of Columbia.

On 11 June 1805, Detroit was obliterated by fire, which is generally attributed to careless smoking of a "segar" in the stable behind John Harvey's bakery near the center of the village." Governor W. Hull and Judges Bates and Woodward assumed their territorial offices on 1 July 1805, and immediately employed their territorial duties to implement a new revised plan for the village. The plan provided for extra wide streets (today, these streets will accommodate from six to eight lanes of traffic), municipal parks, etc. This plan is known as the "Governor and Judges Plan" and today is the heart of the City of Detroit.

In 1867, Michigan enacted one of the first statutes concerning the subdivision of land.¹² The statute describes to size of the map, use of monuments, bearings and distances of boundaries, identification of lots and streets, and filing requirements and procedures. No mention of the design of water distribution systems, sewerage collection systems, street design, and hydrological studies appears in the legislation. Disregarding the filing requirements and procedures, the statute pertains to monumentation of boundaries and proper identification of the original and "new" boundaries of the subdivision.

After World War I, the subdivision of land into "residential lots" (of a few tenths of an acre to a few acres) became a major portion of land surveying practice in metropolitan areas. Since 1920, various legislative bodies (village, town, city, county and state) have added various requirements before acceptance and filing of subdivision maps. Most of these new requirements pertain to engineering work, which was not formerly required (i.e. sanitary sewers, storm sewers, water supply systems, highways, and environmental impact statements).

CONCLUSION

The work of the land surveyor is to establish and/or reestablish property lines according to law, evidence, and in cases of subdivision, proper layout of property boundaries. The most important fact the land surveyor must remember is that the work concerning boundary retracement and/or establishment is subject to judicial review.

Since colonial times, the land surveyor (and he/she has always been identified as a surveyor or land surveyor by custom or statute and not identified as an engineer) has subdivided and re-subdivided property. It has been only in the past few decades that additional duties have been appended through legislation to subdivision work.

FOOTNOTES

- 1 Thompson, F.M.L.: Chartered Surveyors, The Growth Of A Profession; (London: Routledge & Kegan Paul; 1968); p. 2.
- 2 Ibid.; pp 10 and 11.
- 3 The authors were: Leonard Digges (1556 and 1571); Ralph Agas (1596); Aaron Rathborne (1616); William Leybourne (1650 and 1653); and George Atwell (1658).
- 4 Robinson, W. Stitt, Jr Mother Earth, Land Grants In Virginia, 1607-1699; (Charlottesville: University Press: 1957); p. 24.
- 5 Taylor, Eva Germain Rimington: The Mathematical Practitioners of Tudor and Stuart England, 1455 - 1714; (Cambridge: Cambridge University Press; 1970); pp 202 and 353.
- 6 Robinson, W. Stitt, Jr.: op. cit.; pp 24 and 25.
- 7 Love's work is considered so important in retracement surveys of colonial patents that the 1688 edition has been reprinted (1977).
- 8 Stoughton, Herbert W.: A Goodly Heritage; Surveying In New York State; 1776 - 1976; (Almond, New York: privately printed; 1976); pp 2 and 3.
- 9 Donaldson, Thomas: The Public Domain; (Washington; Government Printing Office; 1884). This work encompasses over 1,300 pages of material concerning the public lands acquired by the Federal Government. Besides this work, the annual reports of the Commissioner of the General Land Office to Congress and more than one hundred other works document those surveys.]
- 10 The Holland Land Purchase, Phelps and Gorham Purchase, and the Morris Reserve (all in western New York State) and the Macomb Purchase (in northern New York State) are excellent examples.
- 11 Proceedings Of The Land Board Of Detroit - Governor and Judges Journal; p 3 (this is the reprint of 1915 edited by M.Agnes Burton).
- 12 A. J. ...

Land Surveyor's Role In Subdivision Design

By Herbert W Stoughton, Ph.D., P.E., L.S., C.P.

INTRODUCTION

In recent years, discussions have ensued concerning the role of engineering and land surveying in subdivision design. A significant reason for these discussions is an apparent ambiguity in the statutes and other "legal documents." Since our common law is based on historical precedence, it would be prudent to review the historical developments of the role of land surveying in subdivision design.

This document will outline the significant developments pertaining to surveying in the subdivision of land in the United States.

COLONIAL PERIOD

The first use of the term surveyor in England appears in John Fitzherbert's *Book of Surveying* [1523] and comes from the French word *Surveieur*.¹ By 1658 seven different major works on surveying were published in England. These works were so popular that most went through several editions. The role of the surveyor was to measure lengths and areas of land holdings for tenures and rents.

The colonial surveyors established themselves in the English Colonies early in the colonies' settlement. Although much has been said about colonies being established for religious and political freedom the major purpose was commercial investment. The Crown encouraged settlement to strengthen claim of title (claim to land made by various explorers, i.e. Cabot, Robisher, etc.); additional funds for royal coffers; etc. The crown generally issued large grants of land to

relatives, political friends, and corporations (called proprietors) to develop the North American colonies. In turn, the proprietors issued patents to individuals to induce settlement in the colony, particularly for skilled craftsmen (i.e. blacksmiths, carpenters, masons, etc.). The common procedure was to grant a specific number of acres and passage to the colony in turn for services to the proprietor in the colony. A surveyor would 'lay-put' and prepare the description and/or map of the grant. A letters patent would be issued by the proprietor. Ignoring royal grants, this is the first subdivision of lands in the English colonies.

Although Richard Norwood [1590 - 1675] is the first known surveyor to visit the English colonies, there is no evidence remaining that he performed any surveys. Norwood wrote his book on surveying in 1631, but there is no mention of surveying in the colonies (at this time most books on surveying cited surveys performed by the author to illustrate various techniques).⁵ The next surveyor in the English colonies was William Claibourne [c. 1587-c. 1671]. In 1621, Claibourne accompanied Governor F. Wyatt

to Virginia, and supervised most of the surveys for the 164 patents which appear in the list of activities of the governor for the year 1625.

Through the first century of Virginia's existence, the surveys of lands were a major concern in the colony. In 1624, a Surveyor General was appointed whose responsibility was to maintain the survey records. The colonial legislature established the surveyors fees (generally in pounds of tobacco) for surveys. Besides setting the surveyor's fees, the legislature studied the matter of incompetent surveyors and enacted legislation to resolve conflicting surveys (gores, overlaps, etc.).

Virginia was not alone in employing surveyors to delineate boundaries of real property (on the ground, in maps, and deed descriptions). John Love spent several years in Carolina, and upon his return to England published *Geodesia, Or The Art Of Surveying* ... First printed in 1688, the work went through eleven editions in England and at least two editions (after 1775) in the United States. Love's work was the first book to specifically discuss procedures and problems of surveying in the American colonies.⁷

The late colonial period [1740 -1775] saw men like Peter Jefferson (Thomas Jefferson's father) George Washington, Daniel Boone, Thomas Hutchins. David Rittenhouse, and Park Holland performing surveys for the subdivision of large tracts of land along the frontier.

FEDERAL PERIOD

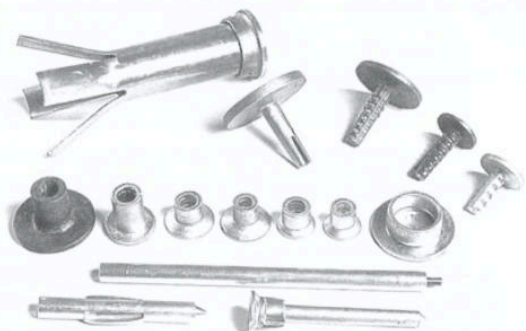
After the American Revolution the Federal Government acquired title to most of the lands west of the Appalachian Mountains (except for Kentucky and most of Tennessee), and established a system to subdivide and sell the lands. This procedure was employed for all other territorial acquisitions except Texas, Hawaii, and the territories acquired after the Spanish-American War. The territory to be surveyed usually was delineated by an act of Congress, and the work was supervised by a Surveyor General. The Surveyor General appointed deputy surveyors to perform the actual surveys (New York State implemented a similar program in western and other portions of the state). The deputy surveyors laid out "lots" according to instructions furnished by the Surveyor General (sometimes these instructions were mandated by statute). Their field notes and/or maps of these surveys were returned to the Surveyor General, and the lands were sold "unimproved" in the manner prescribed by law.

At the same time, the entrepreneurs employed similar procedures. In most instances, none or minor improvements were made to the land at the time of the surveys. This is due to the nature of the land tenure and settlement in the United States. In most areas, there was little regular development of "residential

SURV-KAP®

The Landmark Name in Survey Products

Same Day Shipping • Factory Direct Prices
Small Orders Welcome • Guaranteed Satisfaction



800-445-5320

P.O. Box 27367 • Tucson AZ 85726
www.surv-kap.com

FREE
SUPER
CATALOG!
PRODUCT &
PRICE LIST

MARKERS • CAPS • STAKES • MONUMENTS • ACCESSORIES

SURVEY SUPPLY SERVICE COMPANY

MANUFACTURER CUSTOM
SURVEY STAKES, LATH, & BRASS CAPS
FLAGGING - PIN FLAGS - FLUORESCENT PAINT
ROBERT C. SHOOK

P.O. Box 51227
Casper, WY 82605-1227
307-234-9856



SCHERBEL ON SURVEYING

A compilation of parts of the
WYOMING STATUTES
and others items of interest to
PROFESSIONAL LAND SURVEYORS
Order from SURVEYOR SCHERBEL, LTD.
Box 4296, Big Piney - Marbleton, Wyoming 83113

