



## CLSA Education Committee LS Review Outline July, 2010

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The Education Committee has compiled this LS Review Outline to assist Chapters in holding LS Review classes. The course content of proven review series such as the LS review classes offered at various CLSA Chapters seems to be working pretty well. The CLSA Education Committee Exam Prep Publication List provides suggestions for study and reference materials. While this is not a full course lesson plan, it is a start. We welcome additional input. Please e-mail your comments.

### **Introduction**

#### Study strategy

- Formulate an achievable and realistic study plan and schedule.
- Study enough so that the calculations are self-evident
- CLSA LS Exam Guide
- Your own LS Exam Reference Notebook
- Study Groups

#### Exam strategy

- Common mistakes
- Organize your study material
- A discussion about the 2005 LS exam
- Laws for the California Surveyor

### **NCEES PS prep**

- ALTA/ACSM Surveys
- FEMA Elevation Certificate Surveys
- Ethics, Business Law & Practices, Economics, Project Planning and Procedures
- Computer operations and programming, Physics for surveying
- [http://www.ncees.org/Exams/PS\\_exam.php](http://www.ncees.org/Exams/PS_exam.php)

### **Advanced Topics**

- Least Squares
- GPS and Geodesy
- Astronomy

### **Public Lands**

- Procedures
  - Original Field Notes & Original Plats
  - Re-surveys
- Proportioning
  - Single Proportion
  - Double Proportion
  - Weighted Mean Bearings
- Fractional Sections
- Grant Boundaries
- Riparian Boundaries
- Area by chainage and other nifty BLM tricks

Comments and feedback are appreciated.

## **Water Boundaries**

- Tidal
- Non-tidal
- Accretion, Erosion, and Avulsion

## **Subdivision and Deed Boundary**

- Conveyances
  - Simultaneous & Sequential
- Proportioning
- Rights of Way
- Land Development and the SMA – Identifying Solutions to development issues

## **Legal Descriptions**

- Elements of a legal description
- Types of legal descriptions
  - Public Lands descriptions
  - Metes & Bounds descriptions
  - Lot & Block descriptions
  - “Of” descriptions
  - Exception descriptions
  - Strip descriptions
- Conveyances
  - Simultaneous
  - Sequential
- Clauses

## **Photogrammetry**

- Concepts and Planning
- Calculations

## **State Plane Coordinates**

- Transformations
  - Positions – Geodetic & Grid
  - Directions – Geodetic & Grid
  - Distances – Ground & Grid
- Public Resources Code

## **Construction**

- Plan Reading – Plan, Profile, Cross Section and Super-elevation Diagrams
- Route Surveying
  - Stationing
  - Horizontal Curves
  - Vertical Curves
  - Slope Staking
    - Is there adequate R/W or boundary?
    - Solving simultaneous equations

## **Wrap up and Mock Exam**

- Exam strategy
  - Be prepared and well rested
  - Arrive early
  - Follow instructions
  - Don't panic!
- Mock exam - Simulate exam conditions and procedures