

LOUISIANA PROFESSIONAL ENGINEERING AND LAND SURVEYING BOARD

Online Louisiana Minimum Standards Presentation and Examination

(Revised October 2009)

INSTRUCTIONS

1. The proper reference for Board's Rules is Louisiana Administrative Code, Title 46, Part LXI. However, for purposes of this document, the Rules of the Board will be referenced collectively as the "Board Rules" or individually as "Rule §"
2. The Board's Laws are contained in Louisiana Revised Statutes 37:681-703. However, for purposes of this document, the Laws of the Board will be referenced collectively as the "Licensure Law" or individually as "La. R.S. 37:. . ."
3. Print your name and license number in the appropriate section of the examination.
4. Read, sign, and date the certification statement on the examination.
5. Return the completed examination to the Board.
6. Applicants must score 90% to achieve a passing grade on the examination.

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PRESENTATION

A. What a Modern Survey Should Reflect

1. The Louisiana Professional Engineering and Land Surveying Board has published its *Compendium of Louisiana and Federal Laws Relating to Land Surveying*. The most recent Compendium dated January, 1993 states in its introduction:

The practice of land surveying has become more complex over the years and its importance in Louisiana much greater as land values have increased and the development of oil, gas and other natural resources has become such a large factor in the state's economy. This situation has made it imperative that [professional] land surveyors be required to have more ability and judgment than formerly.

The [Professional Engineering and Land Surveying Board] has responded to the need for more capability on the part of persons it

authorizes to perform land surveying by increasing the scope of the examinations it gives to applicants, particularly to ensure that a [professional] land surveyor will have some elementary knowledge of our State's property and land laws as well as technical proficiency in the profession.

2. The "practice of land surveying" is defined by the Licensure Law, in part, as follows:

"Practice of land surveying" shall include the measuring of areas, land surfaces, streams, bodies of water, and swamps for correct determination and description, for the establishment, reestablishment, ascertainment, or description of land boundaries, corners, divisions, distances, and directions, the plotting and monumenting of lands and subdivisions thereof, and mapping and topographical work. **(La. R.S. 37:682(13))**

3. In order to help ensure that surveys are performed in accordance with acceptable procedures, the Board promulgated the *Minimum Standards for Property Boundary Surveys* (the "Minimum Standards"). **[Rule §2901(A)]**.
4. The Minimum Standards are set forth to solely provide a means by which professional performance can be assessed by the Board and to enable the surveying profession as a whole to better protect the safety, health, and welfare of the public. **[Rule §2901(B)]**
5. It is intended that the Minimum Standards be recognized as minimum standards of practice and that they not be relied upon by the professional land surveyor as a substitute for the exercise of proper individual skill, professional discretion, and good judgment in fulfilling the legal and/or contractual requirements of any property boundary survey. **[Rule §2901(C)]**
6. When in the professional land surveyor's opinion, special conditions exist that effectively prevent the survey from meeting the Minimum Standards, the special conditions and any necessary deviation from the Minimum Standards must be noted

upon the drawing. It is a violation of the Minimum Standards to use special conditions to circumvent the intent and purpose of the Minimum Standards. [**Rule §2901(D)**]

7. The Minimum Standards define a "property boundary survey", as well as the purpose of a property boundary survey as follows:
 - a. A property boundary survey is a survey which, after careful study, investigation, and evaluation of major factors influencing the location of boundaries, results in the deliberate location or relocation on the ground of one or more boundaries. When all the boundaries of a parcel of land are surveyed, an area determination may be included if requested by the client. [**Rule §2907(A)**]
 - b. The primary purpose of a property boundary survey is: [**Rule §2907(B)**]
 - 1) to locate or relocate the physical position and extent of the boundaries of real property, and the discovery of visible evidence of prescriptive rights relating thereto;
 - 2) the location or relocation of the physical position and extent of political boundaries which define the perimeters of public or private ownership;
 - 3) a means of marking boundaries for sufficient definition and identification to uniquely locate each lot, parcel, or tract in relation to other well recognized and established points of reference, adjoining properties and rights-of-way.
8. Property boundary surveys include all forms of surveying and mapping that require the establishment of relationships to property ownership boundaries. The following is a list of surveying services which must be performed by or under the responsible charge of a professional land surveyor: [**Rule §105**]

- a. boundary surveys
 - b. subdivision surveys and plats
 - c. public land surveys
 - d. the following only when they require the establishment of the relationship of property ownership boundaries:
 - 1) surveys of servitudes (easements) and rights of way
 - 2) surveys of leases
 - 3) topographical surveys
 - 4) surveys for record
 - 5) layout surveys for construction
 - 6) hydrographic surveys
 - 7) mine surveys
 - 8) mapping
 - e. all other surveys that require the establishment of relationships to property ownership boundaries.
9. Property boundary surveys can only be performed by persons qualified to practice land surveying and licensed in accordance with the provisions of the Licensure Law. **[Rule §2901(E)]**

B. The Role A Land Surveyor Plays: Educating Your Client

1. The practice of land surveying can only be performed by licensed professional land surveyors:
 - a. A professional land surveyor must be a graduate holding a baccalaureate degree from a curriculum of four years or more who has completed at least 30 semester credit hours,¹ or the equivalent, in land surveying, mapping, and real property courses approved by the Board, who is of good character and reputation, who has a verifiable record of four years or more of combined office and field experience in land surveying, including two years or more experience in responsible charge of land surveying projects under the supervision of a professional land surveyor, who has passed the oral and written examinations required by the Board, who was recommended for licensure by five personal references (at least three of whom must be professional land surveyors who have personal knowledge of the applicant), who has satisfied the requirements of La. R.S. 37:694, and who has been duly licensed as a professional land surveyor by the Board. **[Rule §907 & 909]**
 - b. In order to safeguard life, health and property, and to promote the public welfare, any individual in either public or private capacity, or foreign or domestic firm, practicing or offering to practice surveying, is required to submit evidence that they are qualified to so practice and must be licensed with the Board. **(La. R.S. 37:681)**
 - c. Unless specifically exempted by law it is unlawful for any person to practice or to offer to practice in this state, land surveying, as defined in the Licensure Law and the Board Rules, or to use in connection with his/her name or otherwise assume, use or advertise any title or description tending to convey the impression that he/she is a professional land surveyor, unless such person has been duly licensed under the provisions of the Licensure Law and the Board Rules. **[Rule §101]**

¹ The requirement that a professional land surveyor hold a baccalaureate degree was imposed effective January 1, 1995.

- d. A person is construed to practice or offer to practice land surveying who engages in land surveying and who by verbal claim, sign, advertisement, letterhead, card, or in any other way represents himself to be a land surveyor, or who represents himself as able to perform or who does perform any land surveying service or work, or any other service designated by the practitioner which is recognized as land surveying. **(La. R.S. 37:682(13)(b))**
 - e. Practicing or offering to practice land surveying in Louisiana without a license may be punished with sanctions that include a fine of up to \$5,000 per violation and imprisonment for up to three months. **(La. R.S. 37:700(A), (B) and (N))**
2. Professional land surveyors must at all times recognize that their primary obligation is to protect the safety, health, property, and welfare of the public. **[Rule §2503(B)]**
- a. Professional land surveyors must approve and seal only those surveys which are safe for public health, property, and welfare, which are complete and accurate, which are in conformity with accepted land surveying standards or practice, and which conform to applicable laws and ordinances. **[Rule §2503(C)]**
 - b. If their professional judgment is overruled by nontechnical authority, professional land surveyors must clearly point out the consequences, notifying the proper authority of any observed conditions which endanger public safety, health, property and welfare. **[Rule §2503(B)]**
 - c. A violation of these responsibilities may result in the professional land surveyor being held to have committed "gross negligence." Gross negligence means the practice of land surveying by a professional land surveyor characterized by his/her lack of reasonable care, precaution, or attention to the health, safety, or welfare of others, which could result in injury or damage to life or property or financial loss. Examples of practice which the Board may consider to constitute gross negligence include, but are not limited to:

- 1) the preparation of an incomplete or inaccurate land surveying document that is below acceptable standards, which is released for lawful purposes, and which could result in financial loss, damage or injury.
 - 2) the failure to exercise reasonable diligence and care in providing professional services, which could result in financial loss, damage or injury. **[Rule §105]**
- d. A violation of these responsibilities may also result in the professional land surveyor being held to have committed “gross incompetence.” Gross incompetence means the practice of land surveying by a professional land surveyor who is either incapable of exercising ordinary care and diligence or who lacks the ability and skill necessary to properly perform the duties he/she undertakes. Examples of practice which the Board may consider to constitute gross incompetence include, but are not limited to:
- 1) the undertaking of assignments other than those for which the professional land surveyor is qualified by education or experience in the specific technical fields involved.
 - 2) the affixing of the professional land surveyor's signature or seal to any land surveying document dealing with the subject matter in which he/she lacks competence by virtue of education or experience. **[Rule §105(E)]**
3. Professional land surveyors must act in professional matters for each employer or client as faithful agents or trustees and must avoid conflicts of interest. **[Rule §2507(A)]**
- a. The professional land surveyors can submit to a client only that work prepared by him/her or by an employee or subordinate which is under his/her responsible charge. **[Rule §2503(D)]**
 - b. The professional land surveyor cannot accept compensation, financial or otherwise, from more than one party for professional services on or pertaining

to the same project, unless the circumstances are fully disclosed to, and agreed to, by all interested parties. **[Rule §2507(C)]**

- c. The professional land surveyor cannot solicit or accept, directly or indirectly, benefits of any substantial nature or significant gratuity, from any supplier of materials or equipment, or from contractors, their agents, servants or employees or from any other party dealing with the client or employer of the professional land surveyor in connection with any project on which he/she is performing or has contracted to perform land surveying services. **[Rule §2507(D)]**

- 1) "Benefits of any substantial nature or significant gratuity" means any acts, articles, money or other material possessions which are of such value or proportion that their acceptance could reasonably be expected to create an obligation on the part of the receivers, or otherwise compromise their ability to exercise their own judgment, without regard to such benefit or gratuity. **[Rule §105]**

- d. The professional land surveyor cannot seek financial advantage through fraud, etc. **[Rule §2509(B)]**

- 1) "Fraud, deceit or misrepresentation" means intentional deception to secure gain, through attempts to deliberately conceal, mislead, or misrepresent the truth with the intent to have others take some action relying thereupon, or any act which provides incorrect, false, or misleading information, upon which others might rely. **[Rule §105]**

4. Disciplinary Action

- a. The Board may take disciplinary action against any professional land surveyor found by the Board to be guilty of any of the following acts or offenses: **(La. R.S. 37:698(A))**

- 1) Fraud, deceit, material misstatement, or perjury or the giving of any false or forged evidence when applying for a license or certificate, or in taking any examination, or in applying for any renewal license or certificate.
- 2) Fraud, deceit, gross negligence, material misrepresentation, gross incompetence, or gross misconduct in the practice of land surveying.
- 3) Conviction of a felony or of any crime of moral turpitude or entry of a plea of guilty or nolo contendere to a felony charge or to a crime of moral turpitude under the laws of the United States or any state, territory, or district of the United States.
- 4) Conviction of any crime or entry of a plea of guilty or nolo contendere to any criminal charge an element of which is fraud or which arises out of such person's practice of land surveying.
- 5) Conviction of any civil or criminal violation of, or entry of a plea of guilty or nolo contendere to any criminal charge under the Louisiana Campaign Finance Disclosure Act or any other campaign finance and/or practices laws of the state of Louisiana, the United States, or any state, territory, or district of the United States.
- 6) Violation of provision of the Licensure Law or Board Rules.
- 7) The refusal of the licensing authority of another state, territory, or district of the United States to issue or renew a license, permit, or certificate to practice land surveying, or the revocation or suspension or other restriction imposed on a license, permit, or certificate issued by such licensing authority, on grounds other than nonpayment of a licensure fee, or a finding by such licensing authority that a person has engaged in the unlicensed practice of land surveying, provided that the reason for the action taken by the other licensing authority was recognized by the Louisiana board as a ground for disciplinary action at the time the action was taken.

- 8) Providing false testimony before the Board.
- 9) Using a seal or stamp or engaging in any other act constituting the practice of land surveying, or violating any order or terms of probation imposed by the Board, at a time when his/her license is suspended or revoked, or at a time when his/her license has been expired for more than 90 days, or at a time when he/she is in retired or inactive status as a Board licensee.
- 10) Failure to provide, within 30 calendar days of receipt of notice by certified mail, information requested by the Board relating to charges preferred by the Board alleging a violation of the Licensure Law.
- 11) The use of any advertising or solicitation which is false or misleading.
- 12) Aiding or assisting another person in violating any provision of the Licensure Law or Board Rules.
- 13) Knowingly making or signing false statements, certificates, or affidavits in connection with the practice of land surveying.
- 14) Declaration of insanity or incompetence by a court of competent jurisdiction.
- 15) Presenting or attempting to use as one's own the license, seal, or stamp of another person.
- 16) Using or attempting to use an expired, inactive, retired, or revoked license.

- 17) Falsely impersonating any other licensee or certificate holder of like or different name.
 - 18) Practicing or offering to practice land surveying when not qualified.
 - 19) Violation of or noncompliance with any order, ruling, or decision of the Board.
- b. Disciplinary action may include a reprimand, probation, suspension, revocation of license, refusal to renew license, or fine up to \$5,000 per violation. **(La. R.S. 37:698(B))**
 - c. Disciplinary action is initiated by the preferral of charges which, after investigation, are heard by the Board. A majority vote is required to sustain any charges. **(La. R.S. 37:698(D) through (H))**

C. Fundamentals of a Survey: A Systematic Approach To Boundary Survey Problems

1. The Order [Rule §2905]

- a. The order of surveys is provided in the Minimum Standards as categories. These categories define the degree of accuracy which should be attained for surveys performed in Louisiana.
- b. These categories are based upon the purposes for which the property is being used at the time the survey is performed and any proposed developments which are disclosed by the client.

c. Categories:

- 1) Class A Surveys. Surveys which require maximum surveying accuracy. This includes, but is not limited to, surveys of urban business district properties and highly developed commercial properties.

- 2) Class B Surveys. Surveys of properties which justify a high degree of surveying accuracy. This includes, but is not limited to, surveys of commercial properties and higher priced residential properties located outside urban business districts and highly developed commercial areas.

- 3) Class C Surveys. Surveys of residential and suburban areas. This includes, but is not necessarily limited to, surveys of residential areas which cannot be classified as Class A or Class B surveys.

- 4) Class D Surveys. Surveys of all remaining properties which cannot be classified as Class A, B or C surveys. This includes, but is not limited to, surveys of farm lands and rural areas.

d. Accuracy Specification and Positional Tolerances [**Rule §2909**]

Condition	A	B	C	D	Remarks And Formula
	Urban Business District	Urban	Suburban	Rural	
Unadjusted Closure (maximum allowable)	1:15,000	1:10,000	1:7,500	1:5,000	Traverse Loop or between Control Monuments
Angular Closure (maximum allowable)	$10''\sqrt{N}$	$15''\sqrt{N}$	$25''\sqrt{N}$	$30''\sqrt{N}$	N = Number of Angles in Traverse
Accuracy of Bearing	± 15 Sec.	± 20 Sec.	± 30 Sec.	± 40 Sec.	In Relation to Source

Condition	A	B	C	D	Remarks And Formula
	Urban Business District	Urban	Suburban	Rural	
Linear Distances Accurate to: (maximum allowable)	0.05 ft ± ± 0.05 ft per 1,000 ft	0.05 ft ± ± 0.1 ft per 1,000 ft	0.07 ft + ± 0.15 ft per 1,000 ft	0.1 ft + ± 0.2 ft per 1,000 ft	Applies when the Distance is not part of a Closed Traverse
Positional Tolerance and Positional Accuracy of any Monument (maximum)	0.1' + AC/15,000	0.1' + AC/10,000	0.1' + AC/7,500	0.2' + AC/5,000	AC = Length of Any Course*
Calculation of area - Accurate and carried to nearest _____ (decimal place) of an acre	0.001	0.001	0.001	0.001	To 1 acre
	0.001	0.001	0.01	0.01	To 10 acres
	0.01	0.01	0.1	0.1	To 100 acres
	0.1	0.1	0.2	0.3	To 1,000 acres
Elevations for Boundaries Controlled by Tides, Contours, Rivers, etc. Accurate to:	0.2 ft.	0.3 ft.	0.4 ft.	0.5 ft.	Based on Accepted Local Datum
Location of Improvements, Structures, Paving, etc. (Tie Measurements) Adjusted Mathematical Closure to Survey (Minimum)	± 0.1 ft. 1:50,000	± 0.2 ft. 1:50,000	± 0.5 ft. 1:50,000	± 1 ft. 1:50,000	

* Short courses in categories "A" and "B" may generate positional errors of less than 0.01 feet. A minimum course distance of 200 feet should be used in calculating positional error.

2. Gathering Information [Rule §2907(D)]

- a. A professional land surveyor must obtain the legal description or plats describing the property to be surveyed.

3. Researching the Deed [Rule §2907(D)]

- a. The professional land surveyor must evaluate the necessity to obtain the following data based on the specific purpose of the survey:
 - 1) the most recent recorded legal descriptions and plats of the tract to be surveyed and tracts adjoining or in proximity to the property to be surveyed;
 - 2) the recorded legal descriptions of adjoining, severing, or otherwise encumbering servitudes or rights-of-way, including but not limited to, highways, roadways, pipelines, utility corridors, and waterways used for drainage, navigation or flood control. Where the purpose of a survey neither requires nor includes research and investigation of servitudes, a note to that effect must be placed upon the plat of survey; and
 - 3) grants, patents, subdivision plats or other recorded data that will reference or influence the position of boundary lines.

4. What Goes On In The Field [Rule §2907(F)]

- a. All field work must be performed in accordance with accepted modern surveying theory, practice and procedures. Any person in charge of a field party must be well-trained in the technical aspects of surveying. **[Rule §2907(F)]**
- b. A careful search must be made for corner monuments affecting the location of the boundaries of land to be surveyed. Any evidence discovered must be evaluated for its agreement in description and location with the call in the relevant deeds and/or plats. **[Rule §2907(F)(5)]**

- 1) Monuments set or called for, whether artificial or natural, represent the footsteps of the professional land surveyor and his/her professional opinion as to the proper location of the points or corners of a property boundary survey. **[Rule §2907(E)]**

- c. All field measurements of angles and distance must satisfy the closures and tolerances expressed in the Minimum Standards. **[Rule §2907(F)(1)]**

- d. Special consideration must be afforded by the rules of evidence and "hierarchy of calls" before any decision is made regarding property boundaries. The legal guides for determining a question of boundary or the location of a land line in order of their importance and value are as follows, but the controlling consideration is the intention of the parties: (See citation in *Myer vs. Comegys*, 147 La. 851, 86 So. 307, 309 (1920) **[Rule §2907(F)(4)]**)

- 1) Natural Monuments

- a) Natural monuments are objects which are the works of nature; such as streams, rivers, ponds, lakes, bays, trees, rock outcrops, and other definitive topographic features. **[Rule §2907(E)(1)]**

- 2) Artificial Monuments

- a) Artificial monuments are relatively permanent objects used to identify the location of a corner. Artificial monuments must retain a stable and distinctive location and must be of sufficient size and composition to resist the deteriorating forces of nature. **[Rule §2907(E)(2)]**

- 3) Distances

- 4) Courses

5) Quantity

- e. All boundary discrepancies, visible encroachments, and visible indications of rights which may be acquired through prescription or adverse possession must be physically located. All evidence of servitudes that is visible without meticulous searching is to be physically located during the survey. Furthermore, nonvisible servitudes need to be located only upon the client's specific request. **[Rule §2907(F)(6)]**

- f. Resurveys
 - 1) In performing resurveys of tracts having boundaries defined by lines established in public lands surveys, the professional land surveyor must, as nearly as possible, reestablish the original lines of any prior survey made under United States or state authority. In all townships or portions of townships where no survey has been made, the professional land surveyor, in surveying or platting the township or portion thereof, must make it conform as nearly as practicable to the lots and sections indicated upon the plats according to which the lands were granted by the state or by the United States. **(La. R.S. 50:125) [Rule §2907(F)(2)]**

 - 2) Where applicable, surveys necessitating the division of a section, must be performed in accordance with the instructions for the subdivisions of sections as published by the United States Department of the Interior, Bureau of Land Management, in its book entitled *Manual of Instruction for Survey of the Public Lands of the United States*, and all applicable federal laws. **[Rule §2907(F)(3)]**

- g. All field data gathered must satisfy the requirements of the Minimum Standards on plats, maps, and drawings. **[Rule §2907(F)(7)]**

5. Putting It All Together

- a. A property boundary survey will result in the establishment of monumented corners; points of curvature and tangency; and reference points. **[Rule §2907(C)]**
- b. In event that no plat of survey is required, the professional land surveyor must maintain adequate records to substantiate his/her professional opinion in reestablishing boundary lines and corners on a survey. **[Rule §2907(C)]**
- c. If requested by the client, a boundary survey may also include the following: **[Rule §2907(C)]**
 - 1) a certified map or plat depicting the survey as made on the ground.
 - 2) a sealed, signed and dated metes and bounds written description depicting the surveyed boundary.
 - 3) a sealed, signed and dated written report of the professional land surveyor's findings and determinations (*i.e.*, proces verbal).
- d. The following guidelines apply to artificial monuments to be set: **[Rule §2907(E)(3)]**
 - 1) Monuments of a ferrous material must have at least a one-half inch outside diameter, and must be at least 18 inches in length (longer in soft or unstable soil).
 - 2) Concrete monuments must be at least three inches in width or diameter by 24 inches in length, reinforced with an iron rod at least one-fourth

inch in diameter, and may contain a precise mark on top indicating the exact location of the corner.

- 3) Marks on existing concrete, stone, or steel surface must consist of drill holes, chisel marks or punch marks and must be of sufficient size, diameter or depth to be definitive, stable and readily identifiable as a survey monument. Marks on asphalt roads may consist of railroad spikes, large nails, "PK nails", or other permanent ferrous spikes or nail-like objects.
 - 4) It is unacceptable to set wooden stakes as permanent boundary monuments.
 - 5) Monuments must be set vertically whenever possible and the top may be reasonably flush with the ground when practical. Monuments subject to damage from earthwork, construction or traffic should be buried at a sufficient depth to offer protection.
 - 6) When physically impossible to set a monument at the corner, witness monuments must be set when possible, preferably on each converging line at measured distances from the corner and identified as such in the description and on the plat of the property.
- e. Every original plat or map of a boundary survey should be a reproducible drawing at a suitable scale which clearly shows the results of the field work, computations, research and record information as compiled and checked. The plat, map or drawing must be prepared in conformity with the following guidelines. **[Rule §2907(G)]**
- 1) Each plat, map or drawing must show the following: **[Rule §2907(G)(15)]**
 - a) caption or title;

- b) client and/or purpose;
 - c) general location of the property (or vicinity map);
 - d) the date of the survey;
 - e) the name, location and license number of the professional land surveyor; and
 - f) signature and seal of the professional land surveyor under whose direction the survey was done.
- 2) Final plats or maps issued to the client must contain a certificate sealed, signed and dated by the professional land surveyor certifying its authenticity (that it represents his/her survey) and stating that the survey is in accordance with the applicable standards of practice as stipulated in this publication based on the current survey "classification" (see **Rule §2505** on Classification of Surveys). [**Rule §2907(G)(16)**]
- 3) All dimensions, bearings or angles, including sufficient data to define the curve must be neatly and legibly shown with respect to each property or boundary line. When possible, all bearings must read in a clockwise direction around the property. All lines and curves must show sufficient data on the map to calculate a map closure. [**Rule §2907(G)(3)**]
- 4) Monuments must be labeled as "found" or "set" with a brief definitive description of the monument and relevant reference markers, if any, along with their position in relation to the corner. This description must include the physical characteristics of the monument and its relevance to the survey. [**Rule §2907(G)(4)**]

- 5) When the purpose of the survey dictates, all pertinent natural or man-made features located during the course of the field survey (water courses, streets, visible utilities, etc.) must be labeled or represented by an appropriate symbol on the plat in its proper location. When appropriate, the feature should be dimensioned and referenced to the nearest property line. **[Rule §2907(G)(5)]**

- 6) All maps or plats must show a north arrow and it is recommended that the drawings be oriented so that north is toward the top of the sheet. **[Rule §2907(G)(6)]**

- 7) A statement indicating the origin of angles or bearings must be shown on each plat, map, or drawing. If bearings are used, the basis of the bearing must include one or more of the following: **[Rule §2907(G)(7)]**
 - a) reference to true north as computed by astronomic observation within one mile of the surveyed site.

 - b) reference to the Louisiana State Coordinate System with the proper zone and controlling station(s) noted.

 - c) reference to the record bearing of a well-established line found monumented on the ground as called for in a relevant deed, or survey plat.

 - d) when none of the above alternatives are practical, a magnetic bearing (corrected for declination) may be used.

- 8) If a coordinate system other than the Louisiana State Coordinate System is used on a map, that system must be identified. If that system is the Louisiana State Coordinate System, the appropriate zone must be shown on the map. **[Rule §2907(G)(8)]**

- 9) Where the new survey results differ from the prior deed information in regard to course, distance, location or quantity, the plat must indicate such differences or discrepancies. **[Rule §2907(G)(9)]**

- 10) Where separate intricate details, blowups or inserts are required for clarity, they must be properly referenced to the portion of the map where they apply. This applies particularly to areas where lines of occupation do not conform to deed lines and to areas where a comparison of adjoining deeds indicates the existence of a gap or an overlap. **[Rule §2907(G)(10)]**

- 11) Cemeteries and burial grounds known by the professional land surveyor to be located within the premises being surveyed must be indicated on the plat. However, a detailed survey of the limits of the cemetery is not required unless directed by the client. **[Rule §2907(G)(11)]**

- 12) When the purpose of the survey dictates, properties, water courses and rights-of-way surrounding, adjoining, or severing the surveyed site must be identified. Private lands or servitudes should be labeled with the name of the owner or with a reference to the deed under which ownership is held, provided that such information is furnished by the client. **[Rule §2907(G)(12)]**

- 13) Original section, grant, subdivision or survey lines, when an integral part of the deed, must be shown in proper location with pertinent labelling. A measurement of course and distance must be shown to a parent tract corner, block corner, section corner, subdivision or grant corner, and existing monuments must be indicated. **[Rule §2907(G)(13)]**

- 14) Differing line weights or delineating letters or numbers ("A", "B", "C", etc. or "1", "2", "3", etc.) must be used to clearly show the limits of what is being surveyed. **[Rule §2907(G)(14)]**

- 15) No plats or maps can have dimensions less than 8 inches by 10-1/2 inches. **[Rule §2907(G)(2)]**

- 16) Any reasonably stable and durable drawing paper, linen or film of reproducible quality will be considered suitable material for boundary survey plats and maps. **[Rule §2907(G)(1)]**

6. The Written Legal Description [Rule §2907(H)]

- a. A written legal description of the surveyed tract of land must provide information to properly locate the property on the ground and distinctly set it apart from all other lands. The following guidelines apply to preparation of written legal descriptions. **[Rule §2907(H)]**

- 1) When the surveyed property's dimensions, boundaries and area are in agreement with the existing recorded deed or platted calls, the existing recorded description may be used if it approximates the standards contained herein. **[Rule §2907(H)(1)]**

- 2) When the property is an aliquot part of a rectangular section or a lot in a platted subdivision, the aliquot method or the lot, block and subdivision method (including recordation data) of describing the property can be used. Metes and bounds descriptions of this type of property are optional. **[Rule §2907(H)(2)]**

- 3) Every aliquot description must contain the following basic information: aliquot part of section, township, range, parish, land district and meridian (if applicable), parish and state. **[Rule §2907(H)(3)]**

- 4) Every subdivision lot description must also contain the following basic information: lot, block, unit (if applicable), name of subdivision, city (if applicable), parish and state. **[Rule §2907(H)(4)]**

- 5) Every metes and bounds description may be written in at least two parts. The first part, called the "General Description," should indicate the

general location of the property by naming the particular lot or block, within which it is located if in a subdivision or by naming the grant or aliquot part of a rectangular section within which it is located, along with the township, range, land district and meridian (if applicable), city (if applicable), parish and state. The second part called the "Particular Description," must logically compile and incorporate calls for the following: **[Rule §2907(H)(5)]**

- a) courses and distances of the new survey, preferably in a clockwise direction;
 - b) adjoining apparent rights-of-way or servitudes;
 - c) monuments (when controlling), including descriptions of type, size, material, reference monuments (if applicable), and whether found, set or replaced;
 - d) parenthetical deed calls where the deed calls differ from the new survey; and
 - e) the area, if stated, must be in square feet or acres or hectares within the tolerances specified in the Minimum Standards.
- 6) The "Point of Beginning" should be the property corner that is most accessible and most easily identifiable by interested parties. This point must be carefully chosen and described in a manner which will distinguish it indisputably from any other point. The "Commencing Point" must be any identifiable point used to locate the "Point of Beginning." **[Rule §2907(H)(6)]**
- 7) It is recommended, for uniformity, that the metes and bounds description be written so that progression of courses is in a clockwise direction.

- 8) The courses in the written description must be as brief and yet as explanatory as the professional land surveyor can construct. Brevity should not cause important locative information to be omitted, and explanatory phrases should not enlarge the description to the extent of confusion. **[Rule §2907(H)(7)]**

- 9) Curved boundaries must be identified as tangent or non-tangent curves, and sufficient data to define the curve must be presented. **[Rule §2907(H)(8)]**

- 10) Each metes and bounds description must return to the point of beginning and close mathematically within the tolerances stated in the Minimum Standards. **[Rule §2907(H)(9)]**

- 11) A statement at the end of the description should connect the description to the specific survey on which it is based and to the map or plat which depicts the survey. Such a statement may be phrased: **[Rule §2907(H)(10)]**

"This description is based on the boundary survey and plat made by _____(name)_____ Professional Land Surveyor, dated _____." or

"This description is based on plat recorded _____ (give recordation data)."

- 12) The metes and bounds description must then be sealed, signed and dated by the professional land surveyor. **[Rule §2907(H)(11)]**

D. The Various Types of Surveys: Residential, Commercial and Construction

1. See "**The Order**", above.

E. What Are the Professional Land Surveyor's Obligations to the Client in Relation to Environmental Problems?

1. Professional land surveyors must at all times recognize that their primary obligation is to protect the safety, health, property, and welfare of the public. **[Rule §2503(B)]**

2. Professional land surveyors must approve and seal only those surveys which are safe for public health, property, and welfare, which are complete and accurate, which are in conformity with accepted land surveying standards or practice; and which conform to applicable laws and ordinances. **[Rule §2503(C)]**

3. If their professional judgment is overruled by nontechnical authority, professional land surveyors must clearly point out the consequences, notifying the proper authority of any observed conditions which endanger public safety, health, property and welfare. **[Rule §2503(B)]**

F. Certification and Seal: Why, When and Where [Rule §2701]

1. Professional land surveyors must approve and seal only those surveys which are safe for public health, property, and welfare, which are complete and accurate, which are in conformity with accepted land surveying standards or practice, and which conform to applicable laws and ordinances. **[Rule §2503(C)]**

2. The professional land surveyor must affix his/her seal, sign his/her name, and place the date of execution on all land surveying documents that have been issued by the professional land surveyor to a client or any public or governmental agency as completed work. **[Rule §2701(A)(4)(a)(i)]**

3. In the case of multiple sealings, the first sheet or title page must be sealed, signed and dated by the professional land surveyor(s) in responsible charge. In addition, each sheet must be sealed, signed and dated by the professional land surveyor(s) responsible for each sheet. **[Rule §2701(A)(4)(a)(ii)(a)]**

4. In the case of specifications or reports of multiple pages, the first sheet or title page of each document must be sealed, signed and dated by the professional land surveyor(s) involved. Subsequent revisions must be dated and initialed by the professional land surveyor in responsible charge whose seal, signature and date appears on the first sheet or title page. **[Rule §2701(A)(4)(a)(iii)(a)]**

5. The application of the professional land surveyor's seal, signature, and date will constitute certification that the work thereon was done by him/her or under his/her responsible charge. **[Rule §2701(A)(3)(a)]**

LOUISIANA PROFESSIONAL ENGINEERING AND LAND SURVEYING BOARD

Online Louisiana Minimum Standards Presentation and Quiz

(October 2009)

1. Why were the Minimum Standards adopted?
 - A. In order to help ensure that surveys are performed in accordance with acceptable procedures.
 - B. In order to help ensure that survey prices would be uniform in any given area of the state.
 - C. In order to help ensure that LAPELS enforcement sanctions were fair and consistent throughout the state.
 - D. In order to help ensure that large firms would not have an unfair competitive advantage over smaller firms.

2. What do the Minimum Standards categories of surveys define?
 - A. The degree of accuracy which should be attained for surveys performed in Louisiana.
 - B. The degree of accuracy that can be attained using modern surveying instruments to perform property boundary surveys.
 - C. The prices that should be charged for surveys of various sizes of tracts of land.
 - D. The extent to which courthouse research should be performed prior to the commencement of a survey.

3. What is the maximum allowable unadjusted closure for a rural survey?
 - A. 1:5,000
 - B. 1:10,000

- C. 1: 500
- D. 1:12,000

4. What is the definition of the “property boundary survey”?
- A. A process which, after careful study, investigation, and evaluation of major factors influencing the location of boundaries, results in the deliberate location or relocation on the ground of one or more boundaries
 - B. A process which, after performing appropriate field procedures and mathematical analyses, results in an adjusted closure suitable for a class A, B, C or D survey.
 - C. A process which, after completion of appropriate field procedures and office computations, results in a legal description that defines the record bearing and distance of each property line.
 - D. None of the above.
 - E. A, B and C
5. Which of the following are bona fide purposes of the property boundary survey?
- A. The location or relocation of the physical position and extent of the boundaries of real property, and the discovery of visible evidence of prescriptive rights relating thereto.
 - B. The location or relocation of the physical position and extent of political boundaries which define the perimeters of public or private ownership.
 - C. The marking of boundaries for sufficient definition and identification to uniquely locate each lot, parcel, or tract in relation to other well-recognized and established points of reference, adjoining properties and rights-of-way.
 - D. All of the above
6. What is the controlling consideration for determining a question of boundary or the location of a property line?

- A. The intention of the parties.
 - B. The previously recorded plat.
 - C. An evaluation of the extent to which the surveyor met the accuracy specifications and positional tolerances contained in the Louisiana *Minimum Standards for Property Boundary Surveys*.
 - D. None of the above.
7. What surveying services must be performed by or under the responsible charge of a professional land surveyor?
- A. Boundary surveys.
 - B. Subdivision surveys and plats.
 - C. Public land surveys.
 - D. All of the above.
8. Based on the specific purpose of the survey, what data must the professional land surveyor evaluate the necessity to obtain?
- A. The most recent recorded legal descriptions and plats of the tract to be surveyed and tracts adjoining or in proximity to the property to be surveyed.
 - B. The recorded legal descriptions of adjoining, severing, or otherwise encumbering servitudes or rights-of-way, including highways, roadways, pipelines, utility corridors, and waterways used for drainage, navigation or flood control.
 - C. Grants, patents, subdivision plats or other recorded data that will reference or influence the position of boundary lines.
 - D. A and B
 - E. A, B and C

9. What items must be physically located during the survey?
- A. All boundary discrepancies, visible encroachments, and visible indications of rights which may be acquired through prescription or adverse possession.
 - B. All evidence of servitudes that is visible without meticulous searching.
 - C. Non-visible, recorded servitudes, even if not requested by the client.
 - D. A and B
 - E. A, B and C
10. When performing a survey of a township or a portion thereof, where no survey has been made, what should be the major consideration of the professional land surveyor?
- A. Making the survey conform as nearly as practicable to the lots and sections indicated upon the plats by which the lands were granted by the state or by the United States.
 - B. Making the survey conform as nearly as practical to the lines shown on plats previously prepared and recorded by Professional Land Surveyors licensed to practice in the State of Louisiana.
 - C. Making the survey conform as nearly as practical to the lines shown on survey plats prepared for the adjoining tracts, if those tracts are senior to the property being surveyed and if those surveys were performed by a surveyor licensed to practice in the State of Louisiana.
 - D. All of the above.
11. What must all field measurements of angles and distances satisfy?
- A. The closures and tolerances expressed in the Minimum Standards.
 - B. The minimum precision tables listed in the owner's manual for the total station that was used for that specific survey.
 - C. The positional tolerances published by ALTA and the National Society of Professional Surveyors.

D. All of the above.

12. In the event that no plat of survey is required, what must be professional land surveyor do?
- A. Maintain adequate records to substantiate his professional opinion in reestablishing boundary lines and corners on a survey.
 - B. A copy of the surveyor's field notes must be filed with the State Land Office.
 - C. A copy of the surveyor's field notes must be filed with the Clerk of Court of the parish in which the property is located.
 - D. A plat must always be prepared for a property boundary survey performed in Louisiana.
13. What products may result from a completed property boundary survey?
- A. A certified map or plat depicting the survey as made on the ground.
 - B. A sealed, signed and dated written metes and bounds description of the surveyed property.
 - C. A sealed, signed and dated written report of the professional surveyor's findings (i.e. a *proces verbal*).
 - D. Property corner monuments and/or witness monuments designated as "set" or "found."
 - E. All of the above
14. If bearings are used on a plat, map or drawing, then the basis of the bearings may be premised upon one or more of the following:
- A. Reference to true north as computed by an astronomic observation performed within one mile of the surveyed site.
 - B. Reference to the Louisiana State Coordinate System with the proper zone and controlling stations noted.

- C. Reference to the record bearing of a well-established line found monumented on the ground, as called for in a relevant deed or survey plat.
 - D. A and B
 - E. All of the above
15. Which of the following items must be shown on each original plat or map of a boundary survey?
- A. Client's name and/or purpose of the survey.
 - B. Contours and reference to vertical datum used.
 - C. General location of the property or a vicinity map.
 - D. All of the above
 - E. A and C
16. Which of the following must appear on all final plats or maps issued to a client?
- A. Certification by the surveyor that the plat or map represents his/her survey.
 - B. Certification that the survey conforms to the applicable standards of practice as stipulated in the minimum standards based on the current survey "classification".
 - C. Certification that the client has provided all of the necessary title documents, including plats and legal descriptions for all adjoining tracts.
 - D. A and B
 - E. A, B and C
17. What information pertaining to parent tracts must appear on all final plats or maps?
- A. Original section, grant, subdivision or survey lines, when an integral part of the deed, must be shown in proper location with pertinent labeling.

- B. A reference to the Conveyance records (book and page number) in the Clerk of Court's office of the parish in which the property is located.
 - C. A measurement of course and distance must be shown to a parent tract corner, block corner, section corner, subdivision or grant corner, and existing monuments must be indicated.
 - D. All of the above
 - E. A and C
18. In regard to lines and curves, what data must be shown on the plat, map, or drawing prepared by a Professional Land Surveyor?
- A. Curve radii
 - B. Curve lengths
 - C. Positional tolerances of all Points of Curvature and all Points of Tangency.
 - D. Sufficient data to calculate a map closure.
19. What disciplinary action can the Board take against a Professional Land Surveyor who is found by the Board to be guilty of practicing land surveying with an expired license?
- A. Reprimand.
 - B. Suspension or revocation of license.
 - C. Fines up to \$5000 per violation.
 - D. All of the above
 - E. None of the above
20. If new survey results differ from prior deed information in regard to course, distance, location or quantity, what information must the plat contain?

- A. The plat must contain an explanation of the errors found in the prior deed.
 - B. The plat must contain a mathematical closure for the calls shown on the prior deed as well as a mathematical closure for the new survey.
 - C. The plat must indicate such differences or discrepancies.
 - D. None of the above.
21. Artificial monuments may consist of the following:
- A. Ferrous material having an outside diameter of at least 0.5 inch and a length of at least 1.5 feet.
 - B. Wooden stakes made from pressure-treated lumber having a thickness of at least 2 inches and a length not less than 18 inches.
 - C. Concrete monuments having a width of at least 3 inches, reinforced with an iron rod having a diameter not less than 0.25 inch.
 - D. All the above
 - E. A and C
22. When the surveyor is required to subdivide a section, this survey must be performed as follows:
- A. Using a chain of the same material and construction as that used in performing the original public lands surveys.
 - B. In accordance with the Bureau of Land Management's *Manual of Instructions for the Survey of the Public Lands of the United States*, and all applicable federal laws.
 - C. Using a compass of similar type and construction as that used in performing the original public lands surveys.
 - D. A and C
 - E. None of the above

23. Every metes and bounds description should contain the following:
- A. Courses and distances of the new survey
 - B. Parenthetical deed calls if different from the new survey.
 - C. Township, range, land district, parish and state.
 - D. A and C
 - E. A, B and C
24. The Point of Beginning for a survey should be:
- A. the property corner that is most accessible and most easily identified by interested parties
 - B. located a minimum of 50 feet outside the limits of any highway or pipeline servitude to prevent damage or disturbance.
 - C. marked with a durable coating of enamel or other suitable material that will facilitate the recovery and identification of the point during future surveys.
 - D. All of the above.
 - E. A and B
25. Every original plat or boundary survey map should:
- A. be prepared using a durable and stable linen or film of reproducible quality.
 - B. have dimensions no smaller than 8-inches by 10.5-inches.
 - C. depict rights of way that adjoin, surround or sever the surveyed tract.
 - D. All of the above.
 - E. A and B.

LOUISIANA PROFESSIONAL ENGINEERING AND LAND SURVEYING BOARD

Minimum Standards Quiz

(October 2009)

ANSWER SHEET

- | | A | B | C | D | E | | A | B | C | D | E |
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| 2. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 15. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 16. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
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| 6. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 19. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 20. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 21. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 22. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 23. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 24. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | 25. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | | | | | | |

I certify by my signature below that I am the person taking this examination and that the answers contained hereon are solely of my knowledge and hand.

Print Name (*First, Middle Initial, Last*)

Signature

Date

Social Security Number