



Maryland–Minimum Standards of Practice & Ethics

Four (4) Continuing Education Hours
Course #MD1002

Approved Continuing Education for Licensed Professional Engineers & Professional Land Surveyors

EZ-pdh.com
Ezekiel Enterprises, LLC
301 Mission Dr. Unit 571
New Smyrna Beach, FL 32170
800-433-1487
helpdesk@ezpdh.com



Course Description:

The Maryland–Minimum Standards of Practice & Ethics course satisfies the Continuing Professional Competency (CPC) requirement of mandatory minimum four (4) hours required per COMAR. §09.13.08.03.

The course is designed as a distance learning interactive course that enables the practicing professional land surveyor to examine and revisit the Maryland standards of practice for boundary surveys as well as ethical conduct.

Objectives:

The primary objective of this course is to familiarize the student with the standards of practice and ethical standards in Maryland and satisfy the four required hours of continuing education required per COMAR. §09.13.08.03.

Upon successful completion of the course, the student will have a thorough understanding of this topic.

Grading:

Students must achieve a minimum score of 70% on the online quiz to pass this course.

The quiz may be taken as many times as necessary to successful pass and complete the course.

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Title 09 DEPARTMENT OF LABOR, LICENSING, AND REGULATION

Subtitle 13 BOARD FOR PROFESSIONAL LAND SURVEYORS

Chapter 03 Survey Markers

.01 Purpose.

The purpose of these regulations is to promulgate minimum standards for survey markers set by all licensees that will insure the permanency of the marker and allow for easy identification of the licensee responsible for setting the marker.

.02 Marker Specifications.

- A. All licensees shall use a survey marker made of durable material that will activate a magnetic detector.
- B. The material for a survey marker may include any one of the following:
 - (1) Iron pipe;
 - (2) Iron rod;
 - (3) Rebar;
 - (4) Impregnated plastic stake; or
 - (5) Concrete monument.

.03 Marker Identification.

- A. The top of all survey markers, described in Regulation .02, of this chapter, set by a licensee or a permit holder shall have a legible inscription that identifies the licensee or a permit holder responsible for setting the survey marker.
- B. The top of all survey markers, described in Regulation .02, of this chapter, set by a licensee or a permit holder shall have a legible inscription stating the words "Property Marker" or the abbreviations "Prop. Mark." or "Prop. Mkr.".

.04 Existing Natural Markers.

- A. All licensees shall put an identifying mark on all existing objects that serve as markers for property corners.
- B. The identifying mark may include any one of the following:
 - (1) Drill hole;
 - (2) Cross cut;
 - (3) Square cut;
 - (4) Spike;
 - (5) P.K. nail; or
 - (6) Lag bolt.
- C. All licensees shall describe the identifying mark in any legal description or plat prepared by the licensee.

Chapter 06 Minimum Standards of Practice

.01 Purpose.

- A. In the general interest of the public, these standards are promulgated to set forth the minimum acceptable level of performance to be exercised by all individuals practicing professional land surveying and property line surveying in Maryland.
- B. If anything contained in these regulations conflicts with other federal or State requirements, the more stringent requirements shall be followed.

.02 Definitions.

- A. In this chapter, the following terms have the meanings indicated.
- B. Terms Defined.
 - (1) "As-constructed survey" has the meaning stated in Regulation .07 of this chapter.
 - (2) "Bench mark" means an identifiable stable reference point established as a record for future use or reestablishment of the elevation datum of a survey requiring vertical data.
 - (3) "Boundary survey" has the meaning stated in Regulation .03 of this chapter.

- (4) "Consumer" means a property owner or a prospective property owner, as the case may be, for whose benefit surveying services are performed.
- (5) "Date" means the date of the latest field work.
- (6) "Licensee" means:
- (a) A professional land surveyor as stated in Business Occupations and Professions Article, §15-101(l), Annotated Code of Maryland; or
 - (b) A licensed property line surveyor as stated in Business Occupations and Professions Article, §15-101(g), Annotated Code of Maryland.
- (7) "Metes and bounds description" has the meaning stated in Regulation .08 of this chapter.
- (8) "Monument" means an identifiable object or marker which physically identifies the location of property division lines or other survey points on the ground.
- (9) "Planimetric survey" has the meaning stated in Regulation .05 of this chapter.
- (10) "Plat" means a drawing prepared at an appropriate scale to show the results of the findings and conclusions of a survey.
- (11) "Relative positional precision" means the length of the semi-major axis expressed in feet or meters, of the error ellipse representing the uncertainty due to random errors in measurements in the location of the property evidence, marking any corner of the surveyed property relative to the property evidence, and marking any other corner of the surveyed property at the 95 percent confidence level (two standard deviations).**
- (12) "Right of way/easement survey" has the meaning stated in Regulation .09 of this chapter.
- (13) "Special purpose survey" has the meaning stated in Regulation .10 of this chapter.
- (14) "Survey" means the process of conducting research, performing field measurements and observations, and applying mathematical principles to determine or obtain the data necessary to record, display, or indicate, or all of these, land boundaries, land areas, and the position and characteristics of any natural or artificial, or both, features on or near the surface of the earth.
- (15) "Survey marker" means, within the meaning of COMAR 09.13.03, an identifiable point, object, or mark which physically identifies the location of any point utilized or established to fix the position of a survey control station.

(16) "Surveyor" means:

- (a) A professional land surveyor as stated in Business Occupations and Professions Article, §15-101(l), Annotated Code of Maryland;
- (b) A licensed property line surveyor as stated in Business Occupations and Professions Article, §15-101(g), Annotated Code of Maryland; or
- (c) An individual otherwise authorized to practice professional land surveying or property line surveying under Business Occupations and Professions Article, §15-303, Annotated Code of Maryland.

(17) "Topographic survey" has the meaning stated in Regulation .04 of this chapter.

(18) "Witness monument" means an identifiable point, object, or marker offset from the position of a survey marker, boundary point, or line which is used for the purpose of identifying the position of the survey marker, boundary point, or point on line through the use of distance measurements or angular measurements, or both.

.03 Boundary Surveys.

A. Purpose.

(1) The boundary survey is a means of marking boundaries for sufficient definition and identification to uniquely locate each lot, parcel, or tract.

(2) The purpose of a boundary survey is to establish, reestablish, or describe, or all of these, the physical position and extent of the boundaries of real property.

B. Result. Unless otherwise directed by the party requesting the survey, sufficient monuments or reference control points which were used to determine the property lines shall be:

(1) Set or recovered on the ground, to the extent feasible; and

(2) Shown on a plat upon completion of the boundary survey so that the property lines can be determined or readily reestablished.

C. Research and Investigation.

(1) The surveyor shall be provided by the party requesting the survey with copies of public records and private records, if any, in sufficient scope and depth that a surveyor of ordinary prudence and skill may consider in identifying with reasonable certainty the following:

- (a) The location of the property's record boundaries, so long as the information exists in the public records and is properly indexed; and
- (b) Conflicting record property boundary line locations which may differently locate the property's boundaries.

(2) The surveyor shall make a reasonable effort to identify, locate, and review private survey records which are cited in the provided public records and which may:

- (a) Be material in locating the property's boundaries,
- (b) Have the potential for disclosing conflicting descriptions of the property's boundaries, or
- (c) Affect the location of the property's boundaries.

D. Monumentation. In providing appropriate monumentation for boundary surveys, a surveyor shall comply with the minimum standards for survey markers set forth in COMAR 09.13.03.

E. Field Procedures.

- (1) Field measurements shall be made by methods that will provide the precision required by this regulation.
- (2) Observable physical evidence, including boundary, possession, visible encroachments, and visible indications of rights, including evidence of recorded servitudes or those that may be acquired by prescription or adverse possession, shall be located.

F. Plats.

- (1) An original plat of a boundary survey shall be a reproducible drawing at a suitable scale, clearly indicating the results of the field work, computations, research, and record information, as compiled, checked, and analyzed.
- (2) A plat shall be prepared in conformity with the following procedures:
 - (a) A reasonably stable and durable drawing paper, linen, or film of reproducible quality, is considered suitable material for boundary survey plats;
 - (b) Plats may not be smaller than 8-1/2 x 11 inches;
 - (c) Dimensions, bearings, or angles, including sufficient data to define curves, shall be neatly and legibly shown with respect to each property boundary line;

- (d) Markers shall be labeled as "found" or "set", with a brief description of the marker and relevant reference markers, if any, along with their spatial relationship to the subject corner;
- (e) Relevant natural or artificial visible features shall be labeled, dimensioned, and referenced to the nearest property boundary line or represented by a symbol on the plat in its proper location, and each symbol shall clearly indicate what is represented or shall be labeled for identification either individually or in a separate key to symbols;
- (f) Plats shall show a north arrow;
- (g) A statement indicating the origin and method of determination of the bearings or coordinate system shall be made on a plat, and shall include one of the following:
 - (i) A reference to true north, as determined by astronomic observation;
 - (ii) A reference to the Maryland Coordinate System with the controlling stations and a combination factor comprised of an elevation factor and a scale factor noted;
 - (iii) A reference to a local coordinate system with the controlling stations listed;
 - (iv) A reference to the record bearing of a well-established line found monumented on the ground, as called for in a relevant deed or plat; or
 - (v) If the above alternatives in this paragraph are not practical, a dated magnetic bearing may be used;
- (h) If separate intricate details or inserts are required for clarity, they shall be properly referenced to the portion of the plat where they apply, particularly in areas where:
 - (i) Lines of occupation do not conform to the deed lines; and
 - (ii) A comparison of adjoining properties' deed descriptions indicates the existence of a gap or an overlap;
- (i) Cemeteries and burial grounds found by the surveyor within the premises being surveyed shall be noted on the plat;
- (j) All relevant evidence of monuments found beyond the subject tract, on which establishment of the corners of the subject tract are dependent, and their application related to the survey shall be indicated;

(k) Different line weights or delineating letters or numbers shall be used to clearly show the limits of the survey; and

(l) Evidence of any easements, servitudes, or uses burdening the surveyed property, whether or not disclosed in the record documents provided to the surveyor, observed in the process of conducting the survey.

(3) In addition to the criteria set forth in §F(2) of this regulation, each plat shall show the following:

(a) Caption or title and general location of the property or a vicinity map;

(b) Scale;

(c) Date;

(d) Land area;

(e) Name and address of the surveyor or firm;

(f) A statement to the effect that a licensee either personally prepared a boundary survey or was in responsible charge over its preparation and the surveying work reflected in it, all in compliance with requirements set forth in Regulation .12 of this chapter; and

(g) Seal and signature of the surveyor who personally prepared or was in responsible charge over the preparation of the boundary survey.

G. Accuracy Standards.

(1) The maximum allowable relative positional precision for boundary surveys shall be 0.07 feet (or 2 centimeters) plus 50 parts per million, based on the direct distance between the two corners being tested.

(2) The surveyor shall ascertain that the positional uncertainties resulting from the survey measurements do not exceed the allowable relative positional precision.

(3) If the size or configuration of the property to be surveyed or the relief, vegetation, or improvements on the property will result in survey measurements for which the relative positional precision will exceed the allowable amount, the surveyor shall add a note to a survey explaining the site conditions that necessitated the deviation from the relative positional precision.

(4) The surveyor shall, to the extent necessary to achieve the standards set forth in §G of this regulation, compensate or correct for systematic errors, including those associated with instrument calibration.

(5) The surveyor shall use appropriate error propagation and other measurement design theory to select the proper instruments, field procedures, geometric layouts, and computational procedures to control and adjust random errors to achieve the allowable relative positional precision tolerance.

.04 Field Run Topographic Surveys.

A. Purpose. The purpose of a field run topographic survey is to locate, describe, or map, or all of these, the elevations and positions of the physical features and characteristics of the surface of the earth including spot elevations, contours, and other features.

B. Result.

(1) The results of a topographic survey shall clearly show the results of the field and office work and shall be presented, depending on the type of professional services requested, in the form of:

- (a) A plat;
- (b) A worksheet;
- (c) Raw data; or
- (d) Adjusted data.

(2) Plats are intended for a release as stand-alone products. Worksheets and raw data are intended as components to be included in other surveying or engineering documents and are not intended as stand-alone products. Worksheets and raw data are not required to comply with this regulation.

C. Field Procedures.

(1) Field work shall be performed in accordance with accepted surveying theory, practice, and procedures as specified in this section.

(2) A surveyor in responsible charge shall adhere to the following procedures:

- (a) The vertical datum of a topographic survey shall run from a known bench mark, if possible, or as otherwise specified in the scope of survey services for the project;
- (b) A closed level loop, where practical, shall run through or include a second established bench mark to confirm the vertical datum;
- (c) A minimum of one bench mark shall be established on or near the surveyed site;

(d) Topographic data may be obtained based on an assumed vertical datum, if the base elevation of the datum is obviously different than the existing datum, and if the final document clearly indicates that the data was obtained based on an assumed vertical datum; and

(e) Field data satisfying the requirements of these regulations shall be gathered, and the surveyor shall make a reasonable effort to maintain the data.

D. Plats.

(1) An original plat of a topographic survey shall be a reproducible drawing at a suitable scale clearly indicating the results of the field work, computations, research, and record information as compiled, checked, and analyzed.

(2) A plat shall be prepared in conformity with the following procedures:

(a) A reasonably stable and durable drawing paper, linen, or film of reproducible quality is considered suitable material for topographic survey plats;

(b) Plats may not be smaller than 8-1/2 X 11 inches;

(c) The source of the vertical datum shall be noted on the plat;

(d) Relevant natural or artificial visible features shall be labeled and represented by a symbol on the plat in its proper location, and each symbol shall clearly indicate what is being represented or shall be labeled for identification either individually or in a separate key to symbols;

(e) Plats shall show a north arrow;

(f) A statement indicating the source of the bearings shall be made on the plat;

(g) The source of a coordinate system, if used on the plat, shall be identified;

(h) A description and the elevation of a minimum of two bench marks established on or near the site for the survey shall be indicated on the plat;

(i) Cemeteries and burial grounds found by the surveyor within the premises being surveyed shall be noted on the plat;

(j) Different line weights or delineating letters or numbers shall be used to clearly show the limits of the survey; and

(k) Spot elevations shall be shown in accordance with vertical accuracy standards as specified in §E(3) of this regulation.

(3) In addition to the criteria set forth in §D(2) of this regulation, the plat shall show the following:

- (a) Caption or title and general location of the property or a vicinity map;
- (b) Scale;
- (c) Date;
- (d) Name and address of the firm or surveyor;
- (e) A statement to the effect that a licensee either personally prepared a topographic survey or was in responsible charge over its preparation and the surveying work reflected in it, all in compliance with requirements set forth in Regulation .12 of this chapter; and
- (f) Seal and signature of the surveyor who personally prepared or was in responsible charge over the preparation of the topographic survey.

E. Tolerances.

(1) Horizontal tolerances for topographic mapping shall meet the following accuracy standards of this subsection. On maps with publication scales larger than 1:20,000, not more than 10 percent of the points tested shall be in error by more than 1/30 inch, measured on the publication scale, and on maps with publication scales of 1:20,000 or smaller, 1/50 inch. These limits of accuracy shall apply in all cases to positions of well-defined points only. Well defined points are those that are easily visible or recoverable on the ground, such as monuments or markers, including:

- (a) Bench marks;
- (b) Property boundary monuments;
- (c) Intersections of roads;
- (d) Railroads;
- (e) Corners of large buildings; and
- (f) Other similar points.

(2) In general, what is well defined may also be determined by what is plottable on the scale of the map within 1/100 inch.

(3) Vertical tolerances for topographic mapping shall meet the accuracy standards of this subsection. Vertical accuracy, as applied to contour maps on all publication scales, shall be such that not more than 10 percent of the elevations tested shall be in error more than 1/2 the contour interval. In checking elevations taken from the map, the apparent vertical error may be decreased by assuming a horizontal displacement within the permissible horizontal error for a map of that scale.

.05 Field Run Planimetric Surveys.

A. Purpose. The purpose of a field run planimetric survey is to locate, describe, or map, or all of these, the horizontal positions of the physical features and characteristics of the surface of the earth and other features.

B. Result.

(1) The results of a planimetric survey shall clearly show the results of the field and office work, and shall be presented, depending on the type of professional services requested, in the form of:

- (a) A plat;
- (b) A worksheet;
- (c) Raw data; or
- (d) Adjusted data.

(2) Plats are intended for a release as stand-alone products. Worksheets and raw data are intended as components to be included in other surveying or engineering documents and are not intended as stand-alone products. Worksheets and raw data are not required to comply with this regulation.

C. Field Procedures.

(1) Field work shall be performed in accordance with accepted surveying theory, practice, and procedures specified in this section.

(2) Field data satisfying the requirements of these regulations shall be gathered, and the surveyor shall make a reasonable effort to maintain the data.

D. Plats.

(1) An original plat of a planimetric survey shall be a reproducible drawing at a suitable scale clearly indicating the results of the field work, computations, research, and record information, as compiled, checked, and analyzed.

(2) The plat shall be prepared in conformity with the following procedures:

- (a) A reasonably stable and durable drawing paper, linen, or film of reproducible quality is considered suitable material for planimetric survey drawings;
- (b) Plats may not be smaller than 8-1/2 X 11 inches;
- (c) Relevant natural or artificial visible features shall be labeled and represented by a symbol on the plat in its proper location, and each symbol shall clearly

indicate what is being represented or shall be labeled for identification either individually or in a separate key to symbols;

- (d) The plat shall show a north arrow;
- (e) A statement indicating the source of the bearings shall be made on the plat;
- (f) The source of a coordinate system, if used on the plat, shall be identified;
- (g) Cemeteries and burial grounds found by the surveyor within the premises being surveyed shall be noted on the plat; and
- (h) Different line weights or delineating letters or numbers shall be used to clearly show the limited of the survey.

(3) In addition to the criteria set forth in §D(2) of this regulation, the plat shall show the following:

- (a) Caption or title and general location of the property or a vicinity map;
- (b) Scale;
- (c) Date;
- (d) Name and address of the firm or surveyor;
- (e) A statement to the effect that a licensee either personally prepared a planimetric survey or was in responsible charge over its preparation and the surveying work reflected in it, all in compliance with requirements set forth in Regulation .12 of this chapter; and
- (f) Seal and signature of the surveyor who personally prepared or was in responsible charge over the preparation of the planimetric survey.

E. Tolerances.

(1) Horizontal tolerances for planimetric mapping shall meet the accuracy standards of this subsection. On maps with publication scales larger than 1:20,000, not more than 10 percent of the points tested shall be in error by more than 1/30 inch, measured on the publication scale, and on maps with publication scales of 1:20,000 or smaller, 1/50 inch. These limits of accuracy shall apply in all cases to positions of well-defined points only. Well-defined points are those that are easily visible or recoverable on the ground, such as the following monuments or markers, including:

- (a) Property boundary monuments;
- (b) Intersections of roads;

- (c) Railroads;
- (d) Corners of large buildings; and
- (e) Other similar points.

(2) In general, what is well defined may also be determined by what is plottable on the scale of the map within 1/100 inch.

.06 Location Drawings.

A. Purpose. The purpose of a location drawing is to locate, describe, and represent the positions of buildings or other visible improvements affecting the subject property.

B. Result. The location drawing shall delineate the subject property and the location of the buildings and other visible improvements on the property. Location drawings do not include foundation certifications or wall checks.

C. Approval by the Consumer and Disclosures.

(1) The surveyor may not accept compensation pursuant to this regulation until the surveyor receives a signed approval form as described in this section.

(2) A surveyor is presumed to have received the approval form, if it is delivered to the surveyor by the following means:

- (a) Personal delivery;
- (b) Regular, registered, or certified mail, return receipt requested; or
- (c) Facsimile device or email transmission capable of producing a tangible record of delivery.

(3) The approval form shall be sufficient if it is signed by the consumer, whether one or more, with respect to the property for which services pursuant to this regulation are sought.

(4) The approval form shall contain at least the following statements:

Approval Form

In connection with the purchase or refinancing of the property located at _____ (this office has been requested) (a licensed Maryland surveyor will be engaged) to prepare a location drawing. A location drawing shows the property inspected and the locations of buildings or other visible improvements affecting the property. A LOCATION DRAWING IS NOT A BOUNDARY SURVEY AND CANNOT BE RELIED UPON BY ANYONE TO SHOW WHERE THE PROPERTY'S BOUNDARIES ARE. The only purpose of a location drawing is to

provide some assurance that improvements are located on the property. This assurance is for the use of a lender or an insurer only.

If a boundary survey, which could be relied upon for various purposes (for example setting the property markers, erecting a fence, building a garage, or making other improvements on the property), is desired, a surveyor should be contacted independently. The cost of a boundary survey will be greater than the cost of a location drawing.

For further information, contact:

Surveyor's/Company's Name:

Address:

Telephone Number:

Initial appropriate lines:

_____ I/we approve the preparation of a location drawing. I/we have read and understand that, in the absence of any problem revealed by or during the preparation of this drawing, it will be all that is required by the lending institutions and title companies for settlement.

_____ I/we request a boundary survey that will include a location drawing, and will identify property boundary lines and mark property boundary corners. I/we have read and understand that this may not be required for settlement purposes.

Consumer's Signature Consumer's Signature

_____ Date _____ Date _____

Contact Phone Number

(5) Upon receipt of an approval form which complies with this section and upon complying with Regulation .12A of this chapter, the surveyor shall perform the services approved by the consumer. If the consumer requests a boundary survey which includes a location drawing, the survey shall be consistent with the provisions set forth in Regulation .03 of this chapter and the requirements set forth in §D(5) of this regulation.

(6) If the consumer approves the preparation of a location drawing, the surveyor shall perform at least the following procedures:

(a) Examine the current deed to and recorded plat, if any, of the subject parcel;
and

(b) Take sufficient on-site measurements to enable the surveyor to perform the tasks called for by this regulation with regard to the:

(i) Approximate locations of buildings and those other improvements referenced in this regulation,

(ii) Possible encroachments reasonably determined based on a visual inspection, and

(iii) A flood hazard zone, if requested.

(7) If, in connection with the preparation of a location drawing, a surveyor finds evidence to warrant, in the surveyor's professional opinion, the performance of a boundary survey, the surveyor shall so notify the consumer.

(8) Disclosures.

(a) If the consumer, pursuant to this regulation, has approved a location drawing, the plat prepared by the surveyor shall prominently display, at a minimum, advice to the effect that the plat:

(i) Is of benefit to a consumer only insofar as it is required by a lender or a title insurance company or its agent in connection with contemplated transfer, financing, or refinancing;

(ii) Is not to be relied upon for the establishment or location of fences, garages, buildings, or other existing or future improvements; and

(iii) Does not provide for the accurate identification of property boundary lines, but this identification may not be required, for the transfer of title or securing financing or refinancing.

(b) The statements under this regulation may be written on a separate page, if the:

(i) Separate page is stapled or otherwise permanently affixed to the plat;
and

(ii) Page containing the plat bears a prominent statement to the effect that the advice is an integral part of the plat, and is to be found on the affixed page.

(9) If the consumer, pursuant to this regulation, has approved a location drawing, the following shall be shown:

- (a) Significant buildings, structures, and other improvements, in their approximate relationship to the apparent property lines reflected in the deed, based on the field measurements taken by the surveyor, and any other evidence considered by the surveyor;
- (b) Statement with regard to the level of accuracy of distances to apparent property lines; and
- (c) Possible encroachments to the extent reasonably determined by a visual inspection of the property either way across property lines.

D. Plats.

- (1) The original plat of a location drawing shall be a reproducible drawing at a scale which clearly shows the results of the field work, computations, research, and record information, as compiled, checked, and analyzed.
- (2) The plat shall be prepared in accordance with the following procedures:
 - (a) A reasonably stable and durable drawing paper, linen, or film is considered a suitable material;
 - (b) Plats may not be smaller than **8-1/2 B 11 inches**;
 - (c) Plats shall show a north arrow;
 - (d) A statement indicating the source of the bearings shall be made on the plat; and
 - (e) The source of a coordinate system, if used on the plat, shall be identified.
- (3) In addition to the criteria set forth in §D(2) of this regulation, the plat shall show the following:
 - (a) Caption or title and address of the property or a vicinity map;
 - (b) Scale;
 - (c) Date;
 - (d) Name and address of the firm or surveyor;
 - (e) A statement to the effect that a licensee either personally prepared a location drawing or was in responsible charge over its preparation and the surveying work reflected in it, all in compliance with requirements set forth in Regulation .12 of this chapter; and
 - (f) Seal and signature of the surveyor who personally prepared or was in responsible charge over the preparation of the location drawing.

.07 As-Constructed or Record Surveys.

A. General. At the time the surveyor performs as-constructed, sometimes referred to as an as-built, or record surveys, the surveyor shall obtain field measurements of vertical or horizontal dimensions, or both, of constructed improvements. The constructed improvements located by the survey shall be shown by symbols, notations, or delineations and shall be so certified. All plats prepared shall meet these minimum technical standards as applicable.

B. Accuracy. The horizontal or vertical accuracy, or both, shall permit the determination of whether the position of visible constructed improvements encroach upon adjoining properties or whether they are properly placed on the subject property, in rights-of-way, or in easements provided. The vertical accuracy or horizontal accuracy, or both, shall be such that it may be determined whether the position of visible improvements is in accordance with the plans or other documents as approved by appropriate jurisdictions.

C. Seal and signature of the surveyor who personally prepared or was in responsible charge over the preparation of the as-constructed or record survey.

.08 Metes and Bounds Descriptions.

A. Purpose. The purpose of a metes and bounds description is to create a written legal description of the subject tract of land that provides information necessary to properly locate the property on the ground and distinctly set it apart from all other properties.

B. Result.

(1) A metes and bounds description shall indicate the general location of the property by:

(a) Naming the particular lot or block, or other acceptable identification within which it is located, if the property is located in a subdivision; or

(b) By reference to the deed for the parcel being described, and information with regard to tax or election district, county, and state.

(2) The description shall also logically compile and incorporate calls for the following:

(a) Courses and distances with a statement regarding the basis of bearing;

(b) Adjoining record title lines, and rights-of-way as appropriate; and

(c) Statement of the subject land area.

- (3) The point of beginning shall be carefully chosen and described in a manner which will distinguish it indisputably from any other point.
- (4) Curved boundaries shall include sufficient data to define the curve, including the direction of curve, radius, arc length, chord bearing, and chord length. The description shall also include the identification of non-tangent curves.
- (5) If a metes and bounds description is based upon a boundary survey performed in accordance with Regulation .03 of this chapter, sufficient monuments or reference control points which were used to determine the property lines shall be called in the metes and bounds description.
- (6) The metes and bounds description shall contain a statement to the effect that a licensee either personally prepared a metes and bounds description or was in responsible charge over its preparation and the surveying work reflected in it, all in compliance with requirements set forth in Regulation .12 of this chapter.
- (7) The metes and bounds description shall be signed and sealed by a surveyor who personally prepared or was in responsible charge over the preparation of the metes and bounds description.

.09 Right-of-Way/Easement Surveys.

- A. General. A right-of-way/easement survey is a means of obtaining, reporting, or displaying, or all of these, the necessary data to establish or reestablish the location of sufficient property lines of the affected tract of land to assure the accurate location of the strip or parcel of land being described for the use and benefit of others.
- B. Result. A right-of-way/easement survey shall result in the establishment of the location of lines, areas, if needed, and other relevant data. The surveyor is not required to set markers on a right-of-way/easement survey, unless required by a party requesting surveying services.
- C. Compliance. In performing the right-of-way/easement survey, the surveyor shall comply with all terms, conditions, standards, and procedures that are set forth in Regulation .03 of this chapter, except as may be otherwise modified by this regulation, or by the State, its instrumentalities, or any public or corporate body having the power of eminent domain.
- D. Seal and signature of the surveyor who personally prepared or was in responsible charge of the preparation of the right-of-way/easement survey.

.10 Special Purpose Surveys.

A. General. A survey not previously defined in these regulations is classified as a special purpose survey and is permitted. The purpose and conditions of this survey shall be clearly shown on the survey plats. A survey performed in accordance with this regulation may not be construed to constitute a variance from these standards.

B. Special Conditions. If special conditions exist that effectively prevent the survey from meeting the minimum standards set forth in this chapter, the special conditions and any necessary deviation from the standards shall be noted on the plat. It is a violation of regulations in this chapter to use special conditions to circumvent the intent and purpose of the minimum standards set forth in this chapter.

C. Information Purposes. Copies of a plat provided for informational purposes only may be issued without the signature or seal, or both, of the surveyor in responsible charge when it is clearly shown that the plat is invalid without the signature or seal. It is a violation of the regulations of this chapter to use this section to circumvent the intent and purpose of the minimum standards set forth in this chapter.

.11 Compliance with Federal, State, and Local Requirements.

The surveyor shall comply with all applicable federal, State, and local requirements related to the preparation of site plans, road and street plans, subdivision plans and plats, condominium plats, foundation certifications, wall checks, sediment and erosion control plans, storm drain plans, stormwater management design plans, and any other surveying work products.

.12 Business Practices.

A. Before undertaking the performance of professional services for which payment or other consideration is expected, a surveyor or a duly authorized agent of the surveyor shall discuss at least the following with the requesting party:

- (1) The type of survey required;
- (2) The limits to be surveyed;
- (3) The specific survey services to be provided;
- (4) An approximate completion time schedule; and
- (5) An agreement for payment.

B. For mutual protection, it is encouraged that a written agreement be executed by both parties. The agreement may be in the form of a memorandum, services letter, confirmation of work ordered, or any other mutually acceptable form. The agreement may also establish the extent and limitations of the surveyor's responsibilities.

C. If previously unknown factors are discovered during work that significantly affects either cost or completion schedule, the surveyor shall immediately notify the party responsible for the payment of the cost of the surveying services.

D. The surveyor shall make a reasonable effort to maintain adequate records, including names or initials of all personnel, dates of service, references to field data, such as book number, loose-leaf pages, and other relevant data.

E. A licensee may not sign or seal surveys, plats, drawings, certificates, or other professional documents unless the licensee personally prepared the documents or the documents were prepared under the licensee's responsible charge.

F. Licensee In Responsible Charge. A licensee shall be considered to be in responsible charge within the meaning of Business Occupations and Professions Article, §15-101(n), Annotated Code of Maryland, if the licensee:

(1) Has authority to make necessary revisions to surveying documents during their preparation by the licensee's employees or other subordinates;

(2) Provides a detailed review and personal inspection of surveying documents;
and

(3) Has authority to direct the surveying tasks and provides actual direction of the specific surveying tasks performed.

G. A licensee in responsible charge shall be readily available to the licensee's employees or other subordinates on a reasonable basis to provide personal direction and direct control, as necessary and appropriate.

H. By signing and sealing surveying documents, a licensee assumes full responsibility for the preparation of the surveying documents described in this chapter and for the accuracy and adequacy of the surveying work reflected in the documents.

I. When signing and sealing surveying documents, a licensee shall indicate the license expiration date on the documents before submitting them in accordance with requirements set forth in Business Occupations and Professions Article, §15-502(a), Annotated Code of Maryland.

J. Types of Signatures.

(1) A surveyor may sign surveying documents by one of the following methods:

(a) A handwritten signature in permanent ink containing the name of person who applied it; or

(b) For electronic or digital documents, an electronic authentication process attached to or logically associated with the document.

(2) A digital signature described in §J(1)(b) of this regulation shall satisfy the following criteria:

- (a) It must contain an identification unique to a licensee using it, such as the **licensee's name and license number**;
- (b) It must be under the exclusive control of the licensee using it;
- (c) It must be verifiable; and
- (d) It must be linked to the document in such a manner that any subsequent modifications to the document after the digital signature is appended to it will result in the document no longer being prepared or approved by the licensee.

(3) Nothing in this regulation is intended to modify any of the requirements set forth in §I of this regulation.

.13 Violation of Minimum Standards.

Violation of the minimum standards of practice by a professional land surveyor or a property line surveyor shall constitute grounds for disciplinary actions under Business Occupations and Professions Article, Title 15, Annotated Code of Maryland.

.14 Review.

The Board shall undertake a periodic review of the minimum standards of practice set forth in these regulations to assure their accuracy and completeness and shall make those changes, if any, it deems appropriate.

Land Surveyor's Ethics

Introduction

Background

Survey licensing acts in each of the fifty states confer professional status upon surveyors. This status gives recognition to the expert knowledge attained by the surveyor and grants a privilege to practice the profession of surveying. Along with this recognition and privilege come inherent responsibilities to the client and to the general public both of whom must place trust in the knowledge, expertise and actions of the surveyor. State survey licensing boards are often confronted with complaints from clients or from members of the public who feel that this trust has been compromised or betrayed.

Professionalism and ethics are very important in the practice of surveying. Ethics is the web that binds the various components of surveying practice into a recognizable and respected profession. It serves as a framework for dealing with clients, employees, employers, other practitioners, other professions, and the public at large. A course on professionalism and ethics is essential to gaining a basic understanding of the practical application of ethics, expose practitioners to ethical dilemmas and their resolution, to learning value based ethical analysis, and to the application of ethics to help make responsible professional and business decisions.

Surveyors are often confronted with ethical dilemmas in the day to day practice of their profession. While some of these problems may be routinely handled by the proper application of common sense, other problems are often ambiguous. Often, there is no right or wrong answer to the dilemma. However; we often find that some answers are preferable to others. How the surveyor handles each problem reflects not only on that individual surveyor, but also on the surveying profession.

Professional organizations offer many excellent "ethical canons" or "codes of ethics" that are useful as guidelines for ethical behavior. In addition, many state survey licensing laws have codified unacceptable ethical behavior. While such codes and laws are quite useful for many simple cases, situations often arise where the codes or laws may appear to conflict with one another. Such complex and confusing

situations require greater reflection by the surveyor in order to find an acceptable course of action. In some cases, it may appear that there is no absolutely correct course of action, nor may all surveyors agree as to the best course of action. In such cases surveyors must be able to satisfactorily justify to both themselves and to others their apparent best course of action.

Problem

Unfortunately, surveyors often receive little training in how to apply rules of ethical behavior to the problems they may face in everyday practice. This deficiency is now beginning to be addressed in the surveying programs in universities and by national and state level surveying professional organizations across the U. S. despite a deficiency of training materials. However, those already in practice may have little or no chance to attend classes at these universities and need to be offered other avenues to ethical education. These surveyors also should be able to benefit from ethics education through means that do not cause inconvenience or hardship.

An attitude of mind. Any man in any honorable calling can make his work professional through an altruistic motive.

A certain kind of work. The individual practice of some science or art on an elevated intellectual plane.

A special order in society. A group of persons set apart and specifically charged with a distinctive social function.

A confidential relationship. It involves a confidential relationship between an agent and a client.

A vocation or occupation requiring special, usually advanced, education and skill; e.g. law or medical professions. Also refers to the whole body of such profession.

Professionalism

Definition

There is sometimes confusion over what the term “professional” really means in American society today. Like many other words in the English language, abuse of this term has led many to define a “professional” as one who does something for pay, as opposed to an “amateur” who performs from purely altruistic motives. Thus, we have “professional” and “amateur” athletes, “professional” truck drivers, and even “professional” pet sitters. This abuse has led to blurred understandings over what being a professional really means and what special privileges are conferred and what special responsibilities are expected from those practicing as professionals.

Definitions

Occupation. That which principally takes up one's time, thought, and energies, especially one's regular business or employment; also, whatever one follows as the means of making a livelihood. Particular business, profession, trade, or calling which engages individual's time and efforts; employment in which one regularly engages or vocation of his life.

Practitioner. He who is engaged in the exercise or employment of any art or profession as contrasted with one who teaches such.

Vocation. One's regular calling or business; one's occupation or profession. The activity on which one spends major portion of his time and out of which he makes a living.

Trade. The act or business of buying and selling for money; traffic; barter. Trade is not a technical word and is ordinarily used in three senses: (1) in that of exchanging commodities by barter or by buying and selling for money; (2) in that of an occupational generally; (3) in that of a mechanical employment, in contradistinction to the learned professions, agriculture, or the liberal arts.

The business which a person has learned and which he carries on for procuring subsistence, or for profit; occupation or employment, particularly mechanical employment; distinguished from the liberal arts and learned professions, and from agriculture. A line of work or a form of occupation pursued as a business or calling, as for livelihood or for profit; anything practiced as a means of getting a living, money, booty, etc.; mercantile or commercial business in general, or the buying and selling, or exchanging, of commodities, either by wholesale or retail within a country or between countries.

Professional association. Any group of professional people organized to practice their profession together, though not necessarily in corporate or partnership form. A group of professionals organized for education, social activity, lobbying and the like; e.g., bar or medical association.

The roots of professionalism are thought to lie in theology where clergy “professed” a duty to God. “Profession” took on a secular meaning sometime in the late 17th century, extending to medicine and law and later to surveying and engineering in the mid-19th century.

Professionalism is also thought to have roots in the trade guilds of medieval Europe which attempted to protect their crafts through quality standards and strict membership criteria. Law and medicine, where advanced doctoral degrees are **required for admission to the profession, can be considered the “higher” professions.** Engineering, architecture, geology, surveying, etc., normally **require only a bachelor’s** degree as a prerequisite for professional stature.

Professionals are distinguished from businesspersons primarily by providing services instead of goods. However, not all service providers may be considered professionals. Those services requiring predominantly manual skills are considered trades. Only those services which require high intellectual skills as well as manual skills are considered professions.

Whichever definitions of professional or professionalism are used, we can see that the professional is given a special recognition by society in return for a special commitment by that profession. Being a professional is not a right brought about by **servicing one’s time and passing an exam but, rather, it is instead a privilege** that must be earned and maintained by each individual professional.

A profession guarantees to the public the competency of its practitioners while the public protects the profession by granting it a privileged status before the law. Belonging to a profession implies an obligation to serve society over and above the obligations to serve a client or employer.

Professionals have clients while non-professionals have customers. While many normal business relationships with customers may be based on the concept of *caveat emptor* (let the buyer beware), the professional business relationship confers a responsibility on the practitioner to protect the client. Clients defer to the expertise of professionals to provide guidance in the kinds of services needed and, thus, must have *trust* in the profession and the individual professional. Both the profession and the professional are obligated to ensure that this trust is not misplaced.

Professions are dynamic. New technologies are constantly being developed which in turn require constant revision and updating of both intellectual and physical professional skills. Professionals must know not only how the technology works, but also when it is appropriate to apply a new technology. An understanding of professional commitments to the client may preclude the use of expensive new technologies that provide no appreciable benefit to either the client or to the public.

Characteristics of a Profession

Professions are characterized by several factors:

1) Professions have a systematic theoretical base. This theoretical base is the focus of all professional practice. It is a body of consistent knowledge, based on theory, which is constantly checked and updated, and which forms the basis for professional actions. Mastering this base requires intellectual as well as practical experience to acquire sufficient skills to practice the profession.

2) Professions must satisfy an indispensable and beneficial social need. Public health, safety and welfare may be harmed from misuse or poor application of these services. The client or employer, who may be requesting professional services merely as a regulatory or permitting requirement, does not always appreciate this factor.

3) The client grants Professional authority. The client presumes his needs will be met without having to direct the process. Responsibility for the service to be performed passes from the client to the professional. The professional decides which services are actually needed and provides them. The professional is trusted not to exploit this authority to gain unreasonable profit or gain.

4) The profession must have community approval. Such approval is typically given in the United States through a state board of registration. The board will set qualifications and administer exams to ensure minimal technical proficiency. The board is usually empowered to take actions against those who misuse their professional authority. Boards may also take actions against those practicing without registration with the board.

5) There must be a professional culture comprised of social values and interpersonal behavior norms among members of the profession. These **norms, sometimes called "professional courtesy," may extend to include client acquisition and screening, as well as specific responsibilities to the client during performance of professional services.** Elements of this culture may be explicitly expressed in codes of professional conduct.

6) There must be codes of professional conduct (also called "codes of ethics" or "canons of ethics"). These codes serve as guidelines for behavior within the profession. They also inform the public of the basic rules by which services are offered and provided. Codes may be written by professional societies, which make them voluntary, or they may be written into professional statutes or regulations and enforced by state boards of registration.

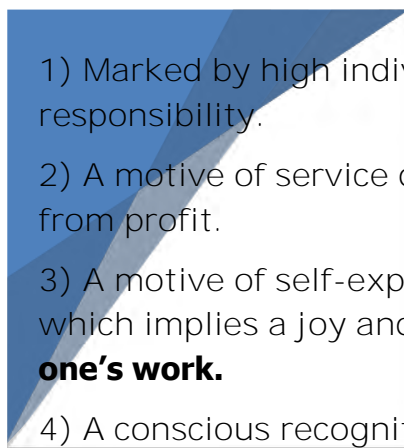
Professional Societies

Professional societies are composed of members of a profession. Any member of the profession may be eligible to join although, in many cases, not all do. Professional societies help to define the profession and provide direction for professional activities. Professional societies represent the profession in the task of ensuring trust for the profession among clients and the public. Most have a code of professional conduct that defines proper professional behavior and serve as a possible body of peers ready to judge possible misbehavior of their colleagues (Wisely, 1983).

Professional societies serve both professionals and the public. They are the vision of the future of the profession. They are often the voice of professionals in enacting or revising laws pertaining to the profession. They set the standards to which professionals are expected to perform. They provide support and dignity to individual members in the success of their professional careers. And they provide a window into the profession by which the public may judge it.

Like professions, professional societies are also dynamic. A society composed of several hundred or several thousand members cannot hope to voice the differing concerns of each individual member. Care must be taken that individuals and/or cliques of authority within the society do not ignore the legitimate concerns of individual members. Care must also be taken that the society does not adopt policies that may degrade perceptions of the profession in the eyes of the public. Constant debate and criticism from within are signs of a healthy professional society.

Membership in professional societies ensures that the professional is in touch with issues that concern his or her profession. Members have meetings and educational seminars that allow the professional to keep abreast of current technology. Those

- 
- 1) Marked by high individual responsibility.
 - 2) A motive of service distinct from profit.
 - 3) A motive of self-expression which implies a joy and pride in **one's work.**
 - 4) A conscious recognition of social duty to be accomplished by:
 - a) guarding the standards and ideals **of one's profession;**
 - b) advancing the profession in public understanding and esteem;
 - c) sharing advances in professional knowledge; and
 - d) rendering gratuitous public service.

Characteristics of individual professionals

who do not follow the activities of professional societies risk losing touch with their profession and thus failing their responsibilities as a professional.

Professional Opinions

The most important privilege conferred to professionals is the right to a “professional opinion.” This privilege allows the professional the right to express an opinion or prepare a design as a function of professional service in his or her area of expertise. This privilege is denied to all others.

While many see only the end results, or “products” offered by professionals, these products are not possible without the exercise of professional opinions. The lawyer decides the strategy to defend a client in court. The doctor decides the proper course of treatment for a disease. The engineer decides the best design for a bridge. The surveyor decides the proper location of a property boundary line. All these decisions are based on the legal right to express a professional opinion and then provide the necessary services or product to implement the opinion. Given the often incomplete or conflicting information professionals must deal with when concluding their opinions, it is not surprising that occasionally different professionals will conclude differently. As long as both opinions were formed on the basis of prudent technical and ethical standards, **both opinions may be “right” even though one opinion may** eventually prevail over the other.

Professional opinions are not trivial things. They are based on a solid foundation of **knowledge and experience and require the “high level of mental and intellectual activity” found in the legal definition of professionalism. Misuse of this privilege can** result in serious harm; thus, it is only granted to those who are able to show by education and experience to be able to properly exercise this right. Professionals can be distinguished from others in society by their right to form an opinion and to base their services and/or products on this opinion.

Professional Liability

Professionals are held to a different standard of liability than non-professionals. While all persons entering business transactions are held to the terms of business contracts, whether written or not, only professionals may be held responsible for terms outside of the contract. These liabilities include the responsibility to provide adequate, competent, and timely service to the client, the responsibility to safeguard public health, safety, welfare and property, and the responsibility to exercise professional courtesy to fellow professionals and the responsibility to act in a dignified manner.

Professionals have the duty and responsibility to maintain ethical and technical standards designed to ensure an adequate level of service to their clients. Adherence to such standards provides a basis for adequate, competent, and timely service. Constant changes in our society are reflected in changes to what an adequate level of service might entail. For this reason, professionals must continually educate themselves to acquire new skills as needed and to refresh and reinforce their knowledge of existing skills.

Professionals are expected to safeguard the public against dangers that may occur as a result of their services or their participation in a project. This includes warning the proper authorities when others have breached proper ethical and technical standards. Professionals are also expected to safeguard the interests of third parties who might be foreseeably damaged at some future date by actions undertaken by the professional.

Failure to comply with either of the above may be defined as a breach of the **"standard of care."** **This standard does not mean that the client or the public is** entitled to perfection from the professional, but only that they are due a responsible exercise of care when the professional performs his or her services. This standard of care is often defined as **"what a reasonable and prudent person would do under similar circumstances"**. The time element is often critical in standard of care cases, since prudent practice changes over time. Professional liability is normally subject to the standard of care at the time of services.

Proof of negligence in standard of care cases has often relied on the expert testimony of other professionals. Today, **many states are turning to "minimum standards" written into state statutes or regulations to help** prosecute such cases. State and/or national codes of conduct may also be used as a basis for tort action, but while codes of professional conduct may extol idealistic goals of performance, the law only requires ordinariness of practice by the professional. However, it is better to err on the side of caution and safety if one really wishes to avoid liability. Aspiration for excellence along with a reputation for quality work can be excellent defenses against possible charges of negligence.

Professionals must recognize that privileges and responsibilities extend not only to themselves, but to all other professionals as well. Professionals must respect competent practice by other professionals as well as true differences of professional opinion. Professionals must act in a dignified manner when conducting their practice, including interaction with clients, other professionals, employees, and the general public.

SURVEYING AS A PROFESSION

The questioning of surveying as a profession arises from time to time. Confusion may **sometimes be a result of the misuse of the term "surveyor."** Technicians and aides working for surveyors are often referred to as surveyors (and often refer to themselves as surveyors). This is not the case in other professions. For example, orderlies performing technical tasks under the supervision of doctors do not call **themselves "doctors."**

Although in past times surveyors have ordinarily been learned men, some (such as George Washington and Abraham Lincoln) going on to bigger and better things, surveying was not always a full-time profession. In many small communities, surveying needs were often assumed by locals who had some requisite knowledge and skill at performing the necessary services. As communities grew, the need for full time surveyors arose.

Surveyors were regulated in the United States earlier than civil engineers, yet the licensing of civil engineers seems to somehow have absorbed the practice of surveying into civil engineering in many states for many years. The separation of the practices of surveying and civil engineering is still not complete -- with many regional differences -- but recognition of the differing skill and knowledge has once again led to emergence of surveying as a separate profession.

Professional Surveyor registration

The problem of whether or not surveying is a profession today has been addressed in many jurisdictions by specifically titling professional surveyors as **"Professional Surveyors" (PS), "Registered Surveyors" (RS), or "Licensed Surveyors" (LS)** under state statutes. These state statutes often define the minimal qualifications of **professional or registered surveyor as well as the act of "surveying" or "land surveying" itself.** The definitions of surveying and the qualifications of surveyors vary from state to state.

Licensing by itself is not a sign of professionalism. Licensing is required only in cases where the state finds it necessary to protect the public health, safety, and welfare. **After all, having a driver's license does not make one a professional driver.** However, language in state licensing statutes *explicitly stating that surveying is a profession* gives great weight to the professional standing of surveying. Most states use the **word "Professional" in their surveying statutes and/or in the name of their registration boards.**

However, not all surveyors become professional through licensing or registration. Many states do recognize the professional stature of unlicensed surveyors working

for the federal government, over whom states have no jurisdiction. Many other surveyors are educated in, and practice in, areas that do not currently fall under the definitions of surveying found in state statutes, such as geodetic surveying. However, they have attained sufficient knowledge and experience to qualify as experts in their specialties.

Likewise, the federal government recognizes surveying as a profession. The **Department of Labor's Directory of Occupational Titles**, , defines a surveyor as one who:

Plans, organizes, and directs work of one or more survey parties engaged in surveying earth's surface to determine precise location and measurements of points, elevations, lines, areas, and contours for construction, map-making, land division, titles, mining or other purposes. Researches previous survey evidence, maps, deeds, physical evidence, and other records to obtain data needed for surveys. Develops new data from photogrammetric records. Determines methods and procedures for establishing or reestablishing survey control. Keeps accurate notes, records, and sketches to describe and certify work performed. Coordinates findings with work of engineering and architectural personnel, clients, and others concerned with project. Assumes legal responsibility for work and is licensed by state.

Surveyors are further recognized as professionals by the federal government under the terms of the Brooks Act, which requires the federal government to negotiate contracts with professionals, rather than request competitive bidding.

Fitting professional characteristics

We can also apply the six characteristics listed previously to the practice of surveying to determine its professional status.

1) Surveying has a strong theoretical base in several technical areas. First, measurement theory provides a basis for determining and understanding measurements and measurement errors. Boundary case law provides an understanding of the legal principles needed to properly determine property lines. **Understandings of the earth's shape provide methods of continually refining measurements on or near the earth's surface. This theoretical base is now collected, preserved, and expanded by approximately twenty surveying programs at universities and colleges across the United States. Similar university programs exist in many other countries.**

2) Surveying provides an indispensable and beneficial social need. In our society people need to know where their property lines are in order to build improvements that enhance their quality of life. They need accurate maps to provide

for the design and construction of those improvements. And they need reliance that services so rendered will stand up in disputes before the courts.

3) The surveyor must provide the client not only with what they want, but also with what they need. The surveyor is obligated to determine the needs of the client and to be sure that they are met. This may mean educating the client as to what his or her actual needs are. The surveyor must also determine the best way to **achieve the client's needs. The surveyor, not the client, may** become liable if those needs are not fulfilled.

4) As mentioned above, all fifty states as well as U.S. territories regulate surveying. This is done through professional boards of registration. Some states have individual boards for surveyors while other states may combine the activities of engineering and/or architecture with surveying. Registration of surveyors in the U.S. began in California in 1891. The last state to regulate surveying was New Hampshire in 1969 (Bender, 1987).

5) There is a clear and distinct surveying community. Surveying associations began forming in Europe in the late 1800s. The International Federation of Surveyors (FIG) was formed in 1878. The American Society of Civil Engineers (ASCE) formed a Surveying and Mapping division in 1926. The American Congress on Surveying and Mapping was formed in 1941. Today every state has an active state surveying society, which holds seminars and has annual meetings for continuing education and discussion of items related to surveying. Most state surveying societies also have local chapters that meet monthly to keep up to date with local, state, and national issues related to surveying.

6) Codes of conduct are prevalent in surveying through national and state professional societies as well as being a part of the surveying regulations or statutes of many states.

The final measure of surveying professionalism is what the surveyor sells. He or she does not sell a product, but a service. That service is delivered in the form of an expert opinion which may include a design concept. Products, such as plats or legal descriptions, generated as a result of the expert opinion or design concept are merely a part of this service and are not considered goods under the Uniform Commercial Code. A surveyor provides professional opinions to a client, not goods or services to a customer.

Surveying Standard of Care

Surveying, as with any technology-based profession, is not based on a standard of perfection. Nor should the surveyor guarantee the correctness of his or her work. But

the surveyor is obligated to exercise the standard of care appropriate for the client's need. Failure to do so may result in court and/or board action against the surveyor.

The surveyor, as a professional, must give the client or employer what he or she *needs* not merely what he or she asks for. The special knowledge and skill of the professional override the competency of the layman in determining what those needs are. Should a surveyor only give the client or employer what he or she asks for, the client or employer may find he or she is damaged and can begin tort action against the surveyor. Oftentimes, a client or employer must be educated or informed as to **what they need. The client who asks for "just a survey of my deed" may have** grounds to sue the surveyor who ignores additional evidence showing the actual location of property lines.

The damage caused by the negligence need not occur to the client or employer to be collectible under the standard of care doctrine. Any future landowner that becomes affected by a fault in the survey can sue for damages.

It is important to note that surveying a line in a "wrong" place may not in itself constitute negligence. If the line was placed by the surveyor using his or her opinion based on the best available evidence and good surveying practice, then there was no breach of professional responsibility. The duty of the surveyor is not to certify his or her work as correct, but to merely perform as best as possible. After all, when surveyors cannot professionally agree as to where a boundary lies then the courts decide where the boundary is located under American law.

Minimum standards

Many states now have minimum standards for performing surveys written into state surveying statutes or board regulations. Other states have adopted minimum standards through state surveying societies. This is motivated by the need for uniformity as well as a need for a tool to bring action against incompetent surveyors (Buckner, 1991). Minimum standards set in writing the standard of care to which the surveyor is expected to perform. Those performing below the minimum standard are subject to action from the board and may be held *ipso facto* liable for damages arising from any survey which fails to meet minimum standards.

Many believe that minimum standards have become necessary to ensure the integrity of surveying practice. Others believe that minimum standards are **unnecessary and intrude upon a professional's right to express a professional** opinion. State boards of registration have found minimum standards necessary in this litigious age to protect them from lawsuits by practitioners contesting board disciplinary actions. However, one feels about minimum standards, when they are the law, surveyors are legally bound to follow them. However, any surveyor who

practices only at the level required by minimum standards is not striving to better the profession and may be guilty of unethical behavior.

ETHICS

Definition

Ethical practice, simply put, is doing the right thing at the right time. Ethics are different from morals in that ethics involve behavior while morals imply values or beliefs. Ethics are morals put into action. Morals define who you are; ethics get you what you want. Most of what we consider ethical behavior is based on the values of character, fairness, honesty, impartiality, and justice.

Actions must often be put into a context before they can be judged as ethical or not. It is sometimes difficult to understand if something is ethical unless more about a situation is known. Consider the following conversations among coworkers about the same situation:

- 1) "It would take a thousand dollars for me to place the boundary where the client wanted."**
- 2) "I took a thousand dollars from the client to put the boundary where she wanted it."**
- 3) "The client wanted to subdivide her lot by running the boundary through a swamp. This cost a thousand dollars."**

The first statement sets a value and does not signify an action and is therefore not a possible violation of ethics. The second statement shows an action and implies the possible violation of ethical practice (the taking of a bribe). The third statement sets the problem in context. The thousand dollars was not a bribe to place the boundary in an improper location, but to compensate the surveyor for the difficulty of his or her services.

Ethics are a vital part of professionalism. They set the limits of actions a professional may take with a client, with the public, and with other professionals. Professional ethics are different from everyday ethics, in that they need only be followed when one is practicing the profession. But any behavior can form the basis of how professionals, when acting in their professional capacity, are judged by clients, by the public, and by other professionals.

Legal justice and moral justice do not always coincide. Ethics differ from liability in **that tort liability requires actual damages to occur because of a person's misconduct or negligence.** Ethics define bad behavior, even if no damages have occurred. Conversely, if a client or a third party has suffered damages, yet the surveyor

conducted his or her duties faithfully, e.g., there was no negligence or breach of duty on the surveyor's part; there are no grounds for tort liability. 15

Ethics, the Virtues, and Skepticism about Morality

Ordinary, commonsense moral thinking follows Aristotle in judging people "ethical" just in case they have a disposition to perform morally right acts for the right reasons. To have the virtue of honesty, for example, you have to be the sort of person who finds lying shameful and would not do it even if you could get away with it. There are a number of different virtues that one must possess to be a good person, including honesty, integrity, fidelity, courage, justice, temperance, prudence, charity or beneficence, respect for the law, loyalty to friends and country, tolerance, and fairness. Someone who possesses these virtues will not reason or act like a pure **egoist ("I'll do it only if I stand to benefit from it")**. To have the virtues of benevolence, honesty, and justice is to be unwilling to engage in an act of lying, cheating, or stealing, even if one could get away with it and one would, on balance, gain from doing it.

Are the virtues just mentioned the only ones? Isn't **faith or piety a virtue, as many theologians have contended?** And what exactly do any of the virtues require of us? Does justice require that we tax the rich to aid the poor? Does loyalty to friends require that one help a terminally ill friend who wants to commit suicide to do so? Obviously different people, committed to different moral principles, will answer these questions differently. **Judeo-Christian ethics and "secular humanism" give opposing answers to the question about helping the friend who wants to commit suicide.** The fact that several different answers to these questions have been defended leads some people to accept a radical subjectivism or skepticism about morality. According to them, morality is just a matter of opinion or taste; any moral judgment is as valid, true, or reasonable as its contrary.

Here is not the place to canvass the arguments for and against moral subjectivism. We would, however, like to make three observations about it and its defenders. First, most of the people who claim to accept it would feel moral outrage and not just anger if they or their loved ones were mugged. They would claim that the perpetrator *deserves to be punished, forgetting to add "but of course that's only my opinion, and the opinion of those who think that muggers should be rewarded is really just as valid as mine."* **Second, moral disagreement among us has its limits. No one seriously thinks that society should reward rather than punish muggers, or that it's morally okay for majorities to enslave or commit genocide against hated minorities.** (Nor is it easy to find anyone in a surveying ethics course who sincerely thinks that there is nothing wrong with a surveyor taking a bribe from a client to put

boundaries where he or she wants them). In many cases the main difficulty that morality presents is not in figuring out what its requirements are, but in resisting the temptation to do what we all agree is wrong. Third, the allure of moral skepticism may be due in part to wishful thinking. We would like to believe that it is true, because if it were, that would excuse us from the difficult and often painstaking task of trying to figure out what the correct values are and acting in accordance with them. Also, believing in moral skepticism will protect our self-esteem from any damage that the moral criticism of our actions by others might do it.

The Good and the Ethical Surveyor

Our concern here is not with the moral virtues that any human being must possess in order to be a morally good person, but rather with what are the virtues that a **surveyor must possess to be an “ethical” surveyor. We use the word “ethical” rather than “good” here, because the criteria for being a good surveyor are not moral at all. When we say that someone is a “good” surveyor, or doctor, or policeman/policewoman, or burglar, what we mean is that they are good *at* what they do. They are competent, proficient, or skilled, possessing the nonmoral virtues that define excellence in their respective roles or disciplines. A good burglar is someone who is good at burgling, and anyone who engages in that activity, competently or not, is an unethical person. Obviously the same isn’t true of surveying; it’s possible to be both a good and an ethical surveyor. But it’s also possible to be a good surveyor without being an ethical one. We can imagine a surveyor who always takes accurate measurements, seldom makes mistakes, and does high quality work, but who also overcharges his clients, takes bribes, or engages in unfair competitive practices against other surveyors. The converse—being an ethical surveyor, without being an especially good one—also seems possible, at least up to a point. But perhaps it is more common for the nonmoral virtues that constitute a good surveyor and the moral ones that constitute ethical ones to go together. Certainly, a surveyor who does shoddy work because he or she is lazy and **indifferent to his or her client’s needs is a poor surveyor** *because* he or she is an unethical one.**

The Ethical Professional and the Ethical Businessman

The **surveyor’s moral duties and responsibilities can be divided into three categories.** There are those owed to the client; those owed to the profession and other surveyors, and those owed to society. We will delve into these responsibilities in more detail in the next chapter. As we will see when we get there, many of the **surveyor’s responsibilities stem from the fact that surveying is a profession, not just a business.**

Consider, for example, that the surveyor has a duty to his or her client to be not only honest, but open as well. People sometimes interpret honesty narrowly, as forbidding only deception—that is, relating information which one knows is inaccurate, with the intention of misleading others. If honesty is so interpreted, then there is nothing dishonest or deceptive about a surveyor withholding from (or failing to divulge to) a **client information that would affect the client’s decision about whether to retain the surveyor’s services**. But there is clearly something unethical about it. Whether we call it **dishonest or manipulative or a failure to be open really doesn’t matter**.

The fact that a surveyor has a duty to be open as well as honest (in the narrow sense) is something that he or she has in common with a doctor and that differentiates him or her from a used car salesperson. The salesperson has no duty to inform a customer that he or she would probably be better off with a more reliable, less expensive car than a less reliable, more expensive one. The salesperson has a duty not to lie, but he or **she doesn’t have a duty to share with the customer** everything that he or she knows about the strengths and weakness of cars, if doing so would cost the salesperson some business. The salesperson can try to sell the customer the most expensive car on the lot. (Not everyone agrees that it is permissible for the salesperson not to be completely open. The great 18th century German moral philosopher Immanuel Kant famously held that all of us—whether or not we are professionals—have a duty to treat other persons **always as “ends” and never as “mere means.”** He seems to have thought that one violates this duty if one withholds information from others, as a means of controlling or manipulating them.) A doctor, by contrast, would be acting unethically if he or she provided a sick patient with more expensive treatment X rather than less expensive but equally effective treatment Y, if the patient requests X, is unaware of Y, and the doctor fails to inform the patient of Y. The doctor has a duty to inform the patient of all of his or her **treatment options, even if doing so would lower the doctor’s profits**.

Why this difference between the car salesperson and the doctor? Because the salesperson is merely a businessperson, while the doctor is a professional (in addition to being a businessperson). All businesspersons have a duty not to deceive their customers, but professionals have a duty to be open with them as well. The surveyor as a professional has a duty to provide his or her client with the services that he or she, as a professional knows his or her client needs. If the client wants **more than he or she needs, then it is the surveyor’s professional responsibility** to educate the client, even if that means that the surveyor will lose some business.

Some other differences between a mere business and a profession is that professionals (e.g. doctors, lawyers, psychiatrists, financial consultants, surveyors)

have a duty to respect client confidentiality, **whereas businesspersons usually don't** have one, unless they contractually agree with their customers not to disclose information about them to others. Moreover, professionals have a duty to avoid conflicts of interest and the appearance of impropriety, whereas businesspersons usually do not.

Why does society hold professionals to higher ethical standards than businesspersons **who aren't professionals? Because the standards**—and holding professionals accountable for violating them—encourage the client to trust the professional and his or her advice. Society is better served if patients can trust that doctors will put their **interests in good health and affordable care ahead of doctors' interests in making** money. Why? The doctor is an expert about technical matters of which the patient has little understanding and this expertise gives the doctor the ability to take advantage of the patient. Patients need some assurance that doctors will not do this, **or else they will hesitate to follow doctors' advice. The consequence** of such hesitation would be a decline in public health, which society obviously has an interest in preventing.

So, society imposes higher ethical standards on the professional for paternalistic reasons, that is, to safeguard the interests of a client unable to look out for himself **or herself. It doesn't impose the same** standards on car salespersons, because it assumes that car buyers do not need any great technical expertise to make reasonably intelligent decisions about which cars to buy. But it does impose them on surveyors; because it rightly assumes that surveying is more like medicine than buying and selling cars.

Why Be Ethical?

"Granting that all of this is true, why should I as a surveyor always try to live up to the higher ethical standards that society imposes on me as a professional? What's in it for me?" Of course, the very same sort of question could be raised about the requirements that morality imposes on everyone. One might wonder **"Why should I be honest with others? Why shouldn't I be dishonest with them or take advantage of them over in other ways, if I can get away with it and it would profit me to do so?"**

The answer to these questions has two parts. First, it is wrong to treat others in ways that you would object to if the roles were reversed (this is the point of the Golden Rule), and you should avoid **doing what's morally wrong, even if that involves** some sacrifice on your part. Second, it probably is not in your long-term, rational self-interest to have the policy of taking advantage of others whenever you think you could get away with it. Instead, **it's** in your best interests to cultivate all of the virtues in your character. If we examine their behavior over a very short period of time, we

will find instances when unjust people do better for themselves than just people. But if we examine their behavior over their entire lifetimes, we probably find that just people tend to do better for themselves—having more friends and loved ones, spending less time in jails, not having to worry **about the people whom they've** victimized wanting revenge, etc.—than unjust people.

The same two-part answer can be given to any surveyor who asks why he or she should abide by the higher ethical standards that society imposes on him or her as a professional. First, if he or she violates them, then he or she is acting wrongly, **because he or she is taking advantage of his or her client's reasonable expectation** that surveyors will behave like professionals. (Use golden-rule reasoning here: if he or she were the patient of a doctor or client of a financial advisor who acted similarly, surely, *he or she* would object that they had taken advantage of *his or her* reasonable expectation that they would behave like the professionals they are supposed to be.) The surveyor should not unfairly take advantage of others because to do so is wrong. Second, such behavior is unlikely to be in his or her long-term self-interest. Surveyors who habitually engage in unethical behavior eventually get caught. Sometimes state boards suspend their licenses. Usually they get a reputation for being untrustworthy and that reputation drives away some potential clients. One **might think to himself or herself "I'll only do it this one time; and the chances of getting caught if I only do it once are remote."** **But this thought is dangerous. People who get away with unethical behavior once tend to find it easier and more tempting to repeat it in the future. It becomes like a drug. (How many heroin users are there who've said, "I'll only shoot up this one time" and then resisted the temptation to do it again?) That's why it's in one's best interests to be uncompromising in one's** refusal to engage in unethical behavior—that is, to have the virtues that define the ethical professional.

Codes of Professional Conduct

Codes of conduct (also called codes of ethics or canons of ethics) can be promulgated by any organization, not just professionals. Boy Scouts have a code of conduct. Many business companies have codes of conduct. Codes of conduct serve as guidelines; they define, in writing, the obligations and the limits of actions that members of the organization are expected to follow. Codes of conduct, to be meaningful, must also reflect how society expects members of that organization to act. To command respect by professionals the codes must contain rules that are realistic and achievable in everyday business practices and have the full sanction of the profession behind them.

The professions must enforce codes of conduct, since the public lacks the expertise to recognize the potential harms of bad behavior. When codes are written into state surveying statutes or regulations, enforcement comes under the board of registration. Codes of conduct that are ignored with impunity are ineffective and degrade the profession, rather than lift it, in the eyes of the public. If a profession is to claim special privileges in society, it must show responsibility and that it is willing to live by standards higher than those required by law.

The obligations and limits in a specific code of conduct often change with time due to changes within organizations or to changes within society. For example, advertising was once banned by most professional codes of conduct. However, courts have since decided that such bans are a restriction of free trade and codes of conduct have had to be changed to allow advertising. Most codes of conduct now provide guidelines for acceptable advertising within the profession.

Professional codes of conduct serve as guidelines for behavior of professionals on an everyday basis. They explicitly state the responsibilities to which the profession has committed in return for professional recognition. But a code of conduct also has an implied right. A surveyor who has diligently followed a code of conduct should expect full support from both professional societies and state boards of registration against frivolous actions brought by clients or third parties.

Please reference the on the following page the Model Rules of Professional Conduct written by the National Society of Professional Surveyors.

NSPS: Ethics Creed & Canons

As a Professional Surveyor, I dedicate my professional knowledge and skills to the advancement and betterment of human welfare.

I pledge:

To give the utmost of performance;

To participate in none but honest enterprise;

To live and work according to the laws of humankind and the highest standards of professional conduct;

To place service before profit, honor and standing of the profession before personal advantage, and the public welfare above all other considerations;

In humility and with need for Divine Guidance, I make this pledge.

Canon 1.

A Professional Surveyor should refrain from conduct that is detrimental to the public.

Canon 2.

A Professional Surveyor should abide by the rules and regulations pertaining to the practice of surveying within the licensing jurisdiction.

Canon 3.

A Professional Surveyor should accept assignments only in one's area of professional competence and expertise.

Canon 4.

A Professional Surveyor should develop and communicate a professional analysis and opinion without bias or personal interest.

Canon 5.

A Professional Surveyor should maintain the confidential nature of the surveyor-client relationship.

Canon 6.

A Professional Surveyor should use care to avoid advertising or solicitation that is misleading or otherwise contrary to the public interest.

Canon 7.

A Professional Surveyor should maintain professional integrity when dealing with members of other professions.

TENETS OF SURVEYING ETHICS

Understanding or interpreting a code of conduct can be confusing at times, especially when the reasons for an element of the code are not clearly understood. We find that if we take some time to study the reasons for a particular code, understanding how to use it can become much easier and simpler. The tenets, or principles, of codes of conduct for surveying can be categorized in nine areas:

- 1) Administration;
- 2) Communication;
- 3) Compensation;
- 4) Competition;
- 5) Interaction;
- 6) Knowledge;
- 7) Resolution;
- 8) Service; and
- 9) Trepidation.

We discuss each of these categories below.

Administration

Administration, or virtuous administration, codes require practitioners to operate their businesses, conduct their professional duties, and carry out employment responsibilities in a dignified, moral, proper, honest, straight-forward, and decent manner. The practitioner shall not:

- 1) Seek or perform services or operate a business in a manner that is derogatory to the dignity or respect of the profession or otherwise discredits the reputation of the profession. This includes a requirement to take action when silence or inaction would bring discredit to the profession.
- 2) Operate their businesses in such a manner that improper or inadequate supervision does or will likely occur. Improper supervision includes:
 - a) Establishing a branch office which is managed or supervised by and entirely staffed by employees or partners that are not licensed and without day to day contact by licensed surveyors;
 - b) Scheduling vacations, leaves, or absences from the office at such times and duration that employees working on ongoing operations lack adequate, actual, and personal supervision during day to day operations; and

c) The number of personnel or crews in combination with the diversity, distance, or scope of services currently provided do not allow reasonable, competent, and adequate review of the services by supervisory licensed personnel.

3) Loan their name to, organize, operate, or remain employed in a business, firm, or venture offering services to the public where decisions: i) requiring professional licensing, ii) governed by professional standards, or iii) covered by professional ethics have been, could be, or are made by owners, partners, operators, principals, etc., without the review and absolute veto power of licensed personnel. Professional decisions include, but are not limited to:

- a) Depth and scope of record research;
- b) Duration, scope, and technical standards used for fieldwork;
- c) Decisions affecting the location of boundaries and property rights;
- d) The scope, depth, quality, and content of work products; and
- e) Matters that would reflect adversely on the profession or the integrity of the licensed practitioner such as advertising, communications with clients, fee structuring, and scope of services.

In determining the application of this type of code to a particular operation, fee allocation to non-licensed personnel, responsibility or authority given under partnership agreements or bylaws, employment contracts, wage payroll statements, etc., should be considered. However, form should not be allowed to substitute for substance.

While avoiding the above, the practitioner shall:

4) Take steps to prevent unprofessional or improper conduct by others who through their continuous conduct, intentionally or negligently fail to provide effective, timely, and competent professional services. Continuous conduct is any unprofessional or improper conduct that:

- a) Has common and similar attributes for different clients;
- b) Occurs more times than good conscience would suggest is possible in subsequent service offerings;
- c) Occurs often enough to suggest to a reasonable person that there is intentional or negligent ignorance of professional standards of practice for prior services, or
- d) Is allowed to continue without correction, notice to the client, or steps to contain damage for any single service upon being informed of the misconduct.

5) Give proper credit and honors for work done and ideas developed by subordinates, employees, and others and not seek credit for designs and ideas not their own.

Communication

The practitioner shall cause or encourage complete, clear, accurate, objective, truthful, and timely communications between themselves and the client, or prospective client, regarding the services sought and rendered. The basic components of this communication are:

1) "Cause and encourage" means taking responsibility for initiating communication

reasonably expected and required for professional services and to nourish questions and responses from clients and third parties by listening and timely responding to reasonable requests or questions.

2) Complete communication means the practitioner shall provide sufficient information so that the client or prospective client is appraised of costs, problems, hazards, and opinions. This shall include sufficient information, facts, materials, etc., that the client:

- a) Will not be reasonably led to a fallacious conclusion;
- b) Can act in an informed manner; and
- c) Has knowledge of pertinent matters. Matters include, but are not limited to, facts, information, opinions, evidence, etc.:
 - i) affecting fee basis, time constraints, or deviation from accepted standards in preparing the agreement or modifications to the agreement,
 - ii) affecting a cloud or slander of the client's title or reputation,**
 - iii) affecting the cost and expense of the services rendered,
 - iv) that may cause the delay or the prevention of the timely completion of services,
 - v) that may cause potential conflicts as the practitioners should or does become aware of them,
 - vi) that may sway or appear to sway the practitioner's professional judgment** (e.g., evidence),
 - vii) that involve risk, including the nature, extent of risks to title, marketability, environment, third party harm, and prospective use, or

viii) things that the practitioner is aware or suspects the client has, could, or may have come to believe or rely upon, even mistakenly.

3) Clear communication means the practitioner shall communicate in a manner that the client, or their agent, attorney, etc., will understand and be able to comprehend significant information and aspects of the service.

4) Accurate communication requires the practitioner to provide information that, to the best of the **practitioner's knowledge and belief, is correct and may be relied upon** considering any express caveats and concerns. Accurate communication also requires the practitioner to cause relevant or important oral communication be reduced to writing as soon as practicable in order to avoid misunderstandings or losing the gist of the information or understanding later.

5) Objective communication means the practitioner shall, when possible, provide unbiased information or information not tainted by personal (as opposed to professional) motive or opinion.

6) Truthful communication means the practitioner will provide realistic and honest **appraisal of the situation relying on a reasonable application of the practitioner's** knowledge, skill, experience, and education founded upon information and evidence normally relied upon by similarly situated practitioners.

7) Timely communication requires that the practitioner communicate without undue delay so that the client is not unnecessarily and unexpectedly hindered in their duties **or obligations as a result of the practitioner's response. Unnecessary delay is** assumed when the practitioner has failed to adequately respond or communicate by the:

- a) Date or time established by the terms in the contract or agreement; or
- b) A reasonable time period.

8) The scope, depth, and contents of the communication shall be commensurate with:

- a) **The practitioner's knowledge, skill, experience, and education; and**
- b) The terms of the contract, agreement, or understanding with the client.

Compensation

Practitioners shall seek and accept only equitable and just compensation for services **rendered for the client and the practitioner's compensation shall not exceed a** reasonable amount for the services provided the client.

- 1) Unreasonable compensation is defined as an amount that would cause a practitioner of ordinary prudence to be left with a definite and firm conviction that the compensation is not deserved.²⁵
- 2) In considering the reasonableness of the fee, the practitioner shall consider:
 - a) The time and labor involved;
 - b) The novelty of the services;
 - c) The skill prerequisite to perform the services properly;
 - d) The likelihood (apparent to the client) that this employment will preclude other employment;
 - e) The fee customarily charged in the locality for similar services;
 - f) The responsibility assumed;
 - g) The potential liability that will result;
 - h) The scope and difficulty of the services requested;
 - i) Time limitations imposed by the client or circumstances;
 - j) The nature and length of the professional relationship with the client;
 - k) The experience, reputation, and ability of the practitioner;
 - l) The fee arrangements (e.g., lump sum, hourly, percentage, etc.); and
 - m) Written evidence of an agreement.
- 3) Services rendered or provided mean:
 - a) Work completed on behalf of the client according to the terms of the contract or agreement;
 - b) Work completed on behalf of the client that is ordinarily done on behalf of a client and is not expressly excluded by contract; or
 - c) Work to be completed under agreement or contract and not performed provided that money paid by the client in contemplation of the work (e.g., retainer or advance payment) is segregated **from practitioner's funds until such time as the** money so retained has been earned according to the contract.
- 4) Compensation should be sufficient as to not create a financial incentive to perform substandard work.²⁶

Competition

Practitioners shall engage in dignified and sincere competition. Practitioners shall not use business practices in competing with other practitioners that denigrate the profession or are improper, mislead, or unfairly coerce favorable business.

1) Practices that do not denigrate the profession are practices that a reasonable client or another practitioner under similar circumstances would see and understand to be dignified, sincere, and accurate. In this regard, the practitioner shall:

- a) Accurately state their education, experience, and licenses held;
- b) Honestly communicate their ability and limitations to carry out the services sought or needed by the client; and
- c) Not state or imply that they are able to influence improperly or upon irrelevant grounds any public body or person.

2) Practices that are improper include practices that are illegal or give the practitioner and unfair cost advantage, such as:

- a) Obtaining and using insider information,
- b) Using public or employer equipment, supplies, time, etc., for personal business;
- c) Collusive pricing;
- d) Deceptive advertising and/or solicitation; and
- e) Underbidding to obtain work then overcharging for changes or extra work sought.

3) Practices that mislead include:

- a) Deceptive practices or information;
- b) Omitting a material fact necessary to keep statements from being misleading or intended or likely to create unreasonable expectations;
- c) Misrepresentation or exaggeration of prior assignments, degree of responsibility, education, skills, experience, licenses, professional qualifications, honors, abilities, etc.;²⁷
- d) Allowing false but laudatory statements by others to go uncorrected when discovered; and
- e) Statements containing material misrepresentation of fact intended or likely to create unreasonable expectations, such as:
 - i) prediction of future success, and
 - ii) puffery, showmanship, or self-laudatory statements.

4) **“Unfairly coerce”** means behavior on the part of the practitioner or their agent that compels favorable business toward the practitioner out of fear, loss of friendship, expectation of benefits, or gratitude.

Interaction

The practitioner shall behave with respect, patience, civility, and courtesy towards clients, other practitioners, third parties, and employees during the course of performing services. The practitioners:

- 1) Shall not practice in a manner that attempts to or could injure the professional reputation or business prospects of their employer or another practitioner falsely or maliciously.
- 2) Shall not take steps to falsely or maliciously supplant or interfere with ongoing business relationship in a manner that will injure the reputation or business of another practitioner. Falsely or maliciously means to disregard the truth or fail to investigate before making factually sounding statements.
- 3) Shall keep communications open by responding to all queries from others in a **timely manner, accurately, and to the best of the practitioner’s ability.**
- 4) Shall be punctual in keeping appointments, sending correspondence, or returning phone calls.
- 5) Shall in a prompt and expedient manner notify affected parties when delayed or unable to keep appointments.
- 6) Shall attempt to resolve differences through expeditious negotiation rather than expensive litigation.
- 7) Shall not make promises that cannot be kept, keep those promises that are made, and state when promises are not appropriate.²⁸
- 8) **Shall not discriminate based on a person’s appearance, gender, or other attributes** that are present at birth or arise from military service or accident.

Knowledge

A practitioner shall keep their knowledge current, sufficient, and applicable to normal and reasonable professional practice and stand ready to be able to apply that **knowledge for the client’s benefit.**

- 1) Knowledge encompasses an understanding and ability to apply subject matter required for competent services to include, but not limited to:
 - a) Technical subjects;

b) Business matters; and

c) Communication.

2) Current means a level of knowledge on matters deemed necessary to practice that equal or exceed the scope and depth of knowledge similarly situated practitioners under similar circumstances have and legally provide in their practice. Current knowledge is evidenced by (but not proof of):

a) Past and continuing practice above reproach;

b) Continuing attendance and participation in formal continuing education activities;

c) Participation, good standing, and membership in professional or technical societies that periodically publish educational material, promote seminars or meetings featuring speakers on topics within the scope of practice, or engage in public education and service on behalf of the profession;

d) Self-study as evidenced by speaking before or writings to be read by other practitioners; or

e) Meeting mandated continuing education requirements for renewal of licensure.

3) "Stand ready to apply" requires the practitioner to apply the full extent of their **ability on the client's behalf unless limited by contract, law, or by other obligations** made known to the client.

Resolution

The practitioner shall act with unbiased, impartial and chaste resolution, the practitioner shall avoid conflicting interest or the appearance of a conflicting interest and shall fully inform the client of all potential for conflicting interests.

1) A conflict of interest is a situation where the practitioner's analysis, opinion, actions, or testimony are impinged, changed, modified, or swayed from what another competent practitioner with the same information would more likely not have done or do if the circumstances forming the basis for the conflict were absent.

2) The appearance of a conflict of interest is any situation where a reasonable **person with knowledge of all the facts would suspect that the practitioner's analysis,** opinion, actions, or testimony could reasonably be impinged, changed, modified, or swayed -- regardless of the actual impact.

3) Conflict of interest may arise by one or more of the following circumstances:

a) Competing, differing, or dissenting interests;

- b) Personal gain other than fees or remuneration flowing from the client for providing services agreed upon; or
 - c) Prior association, friendship, service, family ties, etc., with a party whose interest **may be adverse to the client's interest.**
- 4) A *potential* (as opposed to actual) conflict of interest may be alleviated in whole or in part by:
- a) Full disclosure to the client of the potential conflict;
 - b) Disclosure of all reasonable and probable ramifications should an actual conflict arise;
 - c) Permission from all parties that could suffer losses occasioned by a conflict in interest and its ramifications; and
 - d) Prompt withdrawal when an actual conflict in interest arises.

Service

A practitioner shall be trustworthy in deeds and act for the client diligently, faithfully, and with principles.

1) The practitioner shall only accept employment if the practitioner is willing and able to perform the work in a professional manner:³⁰

- a) **"Willing"** means to have both the motivation and desire to accomplish the services;
- b) **"Able"** means to have the time, knowledge, skill, and resources necessary to accomplish the services; and
- c) **"Professional manner"** means to give the matter unbiased attention, pursue the matter diligently, and use the best judgment and dedication to pursue the timely completion of the services.

2) The practitioner shall render services **in a such manner that the client's legitimate rights are protected, and the neighbor's or public's rights are not harmed.** In this regard, the practitioner shall:

- a) Render a defensible professional opinion on the location of the record boundary and its relation with the ownership and possession boundaries; or
- b) Provide a design prepared and communicated in a manner and form that uses good surveying principles, that will facilitate government approval, that will help in the profitable sale of units, and is acceptable as a permanent public record.

3) The practitioner shall take steps necessary to acquaint, acquire, or otherwise apply special skills, knowledge, and experience necessary to provide competent service to a client. These steps include, but are not limited to:

- a) A learning period sufficient to acquire the special skills;
- b) Seeking appropriate advice from better qualified or specialty practitioners; or
- c) Retaining or employing qualified or specialty practitioners on the client's behalf.**

4) The practitioner shall not use confidences of the client to the disadvantage of the client or to advantage themselves.

a) Confidences include, but are not limited to:

- i) information of commercial interest to others,
- ii) inchoate possessory rights that **have or could ripen to ownership in the client's favor,**
- iii) development or proposed transactions that could affect the market value of the property,
- iv) the advantages of ownership of nearby property, or
- v) the availability of obtaining, quieting, or resurrecting title at less than fair market value;

b) Confidences do not include:

- i) information found or available from the public record, archives, or depositories,
- ii) information the client has expressly given the practitioner permission to use and disclose provided the information is disclosed or used under the conditions stated,
- iii) information that is available or owned by the practitioner as designated by the contract or normal standards of professional practice,
- iv) information that if not disclosed would initiate or encourage illegal activity, and
- v) information that if not disclosed would or could present physical harm to persons.

5) The practitioner shall take responsibility for verifying the accuracy and completeness of another practitioner's **work products before relying on them or fully** appraise the client of potential ramifications flowing from the failure to verify the accuracy or completeness of the information.

6) The practitioner shall not accept outside employment providing professional services within the scope offered by their employer without notifying and, in **appropriate cases, seeking their employer's permission.**

7) The practitioner shall not attract and hire an employee from another practitioner using false or misleading tactics or pretenses.

Trepidation

The practitioner shall act with integrity, candor, and honesty in trepidation of loss of his or her professional stature. The practitioner shall take steps to prevent improper conduct; correct mistakes when they are made; and prevent likely mistakes from occurring.

1) The practitioner shall withdraw from services when:

a) Requested by the client;

b) The practitioner's:

i) **personal morals or values conflict with the client's demands,**

ii) other commitments require time and resources beyond those available, or

iii) mental or physical ability degrades to a level that further service for that client would be inconsistent with achieving minimum acceptable standards of professional practice;

c) That service may encourage:

i) illegal activity,

ii) **activity detrimental to the public's or a person's physical health, or**

iii) creating or serving to aid in creating an environmental hazard;

d) Where it appears that by continuing services the practitioner's integrity, candor, honesty, or opinion will conflict with the client's interests or intentions -- often arising when:

i) The client seeks incompatible results (e.g., "I have always been told the boundary was . . ." or "I just want what the deed says"),

ii) the client pursues tactics that are improper for practitioner involvement,

iii) the client has interests **that are adverse to the practitioner's professional obligations,**

iv) continued employment will result in violation of professional rules of conduct.

2) The practitioner shall take steps to prevent circumstances that would encourage improper conduct. In particular, the practitioner shall not:

- a) Take on partners that may influence or otherwise cause the practitioner to provide unbiased or unprofessional service;³³
- b) Allow employees to practice without adequate supervision or sufficient checks that will ensure competent professional service; or
- c) Tender as their own work, work products, or portions thereof that the practitioner has not taken responsible charge of or made reasonable attempts to ensure are accurate and complete.

3) The practitioner shall take the proper steps necessary to prevent or terminate the practices of others that pose a substantial risk or harm to the public. In determining if the conduct poses a substantial risk or harm to the public, the practitioner shall consider:

- a) Substantial violation of published or acceptable standards;
- b) Participation in illegal activities;
- c) Participation in conduct involving fraud, dishonesty, deceit, or misrepresentation; and
- d) Memory loss, mental degradation, abnormal psychiatric behavior, etc., caused or influenced by drugs, alcohol, age, disease, etc.

Summary

Professionalism

Professionals are given a special place in society to fulfill needed services that require learned, competent and ethical attention to safeguarding both individuals and society. Entry into the profession is based on a combination of proven knowledge and skill and is usually regulated by the state. Professional competence can be enhanced by participation in professional societies where the frontiers of professional knowledge are explored and standards for the profession are developed or changed. Professionals are given exclusive privileges to practice their profession along with the power to make professional opinions on which to base their services. They are expected to value this privilege and use it responsibly by keeping their competence current and effective and exercising proper judgment. Professionals can be held liable for abuse of their privileges and must exercise caution at all times.

Surveying as a Profession

Surveying is a profession that is sometimes clouded with confusion. However, misuse of the term to include technicians and aides working for surveyors has possibly led to confusion over whether surveying is a profession or not. Surveying practice meets all the definitions of professionalism and is regulated by the state and federal governments as a profession. Surveyors are given the privilege of forming professional opinions on the validity of measurements and the placement of property boundaries. Surveyors are expected to practice within the **guidelines of a "standard of care."** **Problems with enforcing unwritten "standards of care" have led to** promulgation of written minimum standards and codes of conduct within the statutes and regulations governing professional surveying practice. Surveyors are expected to know and understand the statutes and regulations and then practice accordingly.

Ethics

Ethics form the core of our social behavior. They are necessary for the successful interaction needed in a productive society built on trust. Ethics differ from morals by placing the emphasis on actions not values. For judgment on whether a given behavior is ethical or not, the context of the behavior must be known.

There is a difference between a "good" and an "ethical" surveyor. Being a "good" surveyor does not by itself make one an ethical surveyor. Surveyors must also remember that they are professionals, and not businessmen, and are held to a higher standard of conduct than businessmen are. A surveyor should behave ethically for two basic reasons: 1) because that is how he or she should expect to be treated by others; and 2) it is in his or her long-term interest to build a reputation as an ethical, trustworthy professional that the public can rely upon.

Professional ethics differ from personal ethics by requiring that the professional assume responsibilities to clients and the general public in the practice of his or her professional privileges. Codes of conduct set these responsibilities in writing. As society changes, so must the standards of conduct. Adherence to a professional code of conduct is a key to successful professional practice and the avoidance of professional liability.

Tenets of Surveying Ethics

Codes of professional conduct for surveyors can be broken down into recognizable individual, yet overlapping, tenets. These tenets are based on a relationship of trust between the professional and his or her client and the safeguarding of both the profession and the general public from harm. Understanding these tenets can be useful in the interpretation and practical application of codes of conduct. However, there must also be recognition that situations may develop where one part of the

code appears to conflict with another part of the code. Dealing with such conflicts requires the careful application of ethical judgment.

Quiz Questions

The following twenty (20) **question quiz will test the student's comprehension of the course**. The student must pass this online quiz with a score greater than 70%.

1. What surveying services may be performed by a professional land surveyor or by persons under his/her responsible charge?
 - Hydrographic surveys
 - Boundary surveys
 - Construction layout surveys
 - All of the above

2. What is the purpose of a boundary survey?
 - The boundary survey is a means of marking boundaries for sufficient definition and identification to uniquely locate each lot, parcel, or tract
 - The purpose of a boundary survey is to establish, reestablish, or describe, or all of these, the physical position and extent of the boundaries of real property
 - All of the above
 - None of the above

3. When an inconsistency is found, including a gap or overlap, excess or deficiency, erroneously located boundary lines or monuments, or when any doubt as to the location on the ground of the true boundary or property rights exists, then:
 - The nature of the inconsistency shall be clearly shown on the drawing
 - Consultation with the client is required
 - Disregard all inconsistencies
 - Any of the above

4. Artificial monuments may consist of the following:
- Plastic monuments having a width of at least 1/4 inches and a length of at least 24 inches
 - Wooden stakes made from pressure-treated lumber having a thickness of at least 2 inches and a length not less than 18 inches
 - Be a Ferrous material or contain a ferrous material having an outside diameter of at least 0.5 inch and a length of at least 1.5 feet
 - All of the above
5. In regard to circular curves, what data must be shown on the plat, map, or drawing prepared by a Professional Land Surveyor?
- Radius
 - Arc length
 - Chord bearing
 - Chord length
 - All of the above
6. Regardless of the type of survey, a plat or survey shall bear what?
- Name and address
 - Date of field survey
 - Signature and seal
 - All of the above
7. True or False? The purpose of a field run planimetric survey is to locate, describe, or map, or all of these, the horizontal positions of the physical features and characteristics of the surface of the earth and other features.
- True
 - False

8. True or False? The purpose of a metes and bounds description is to create a written legal description of the subject tract of land that provides information necessary to properly locate the property on the ground and distinctly set it apart from all other properties.
- True
 - False
9. A survey that is not previously defined in these regulations is classified as?
- Special purpose survey
 - Boundary survey
 - None of the above
 - Topographical survey
10. What is an identifiable stable reference point established as a record for future use or reestablishment of the elevation datum of a survey requiring vertical data?
- Bench Point
 - Bench Seat
 - Bench Mark
 - Bench Press
11. **When relying on another practitioner's work products, a surveyor** must what?
- Verify the other practitioner's credentials**
 - Rely on the work product only if it passes a litmus test
 - Verify the work product for accuracy and completeness
 - Cannot rely on that work product

12. What is the most important privilege conferred to professionals?

- Professional Societies
- The right to a professional opinion
- Public service
- Professional courtesy

13. What is ethical practice?

- Is doing the right thing at the right time
- Is morals put into action
- None of the above
- All of the above

14. What can be used as a guide for ethical behavior in the land surveyor profession?

- Ethical cannons
- State laws
- Code of ethics
- Both A and C

15. What are ethics in the practice of surveying?

- Theoretical Framework when dealing with all aspects of surveying
- A web that makes surveying practice recognizable and respected
- It grants privilege to practice the profession by recognizing inherent responsibilities and trust in the expertise and knowledge of the surveyor
- All of the above

16. True or False? The actions of the surveyor only reflects on himself.

- True
- False

17. True or False? If the surveyor fails to obligate the standard of care **appropriate for the client's need**, court and/or board action may be taken against the surveyor.
- True
 - False
18. Professionalism and _____ are very important in the practice of surveying.
- Recognition
 - Responsibilities
 - Expertise
 - Ethics
19. How does ethics differ from morals?
- Ethics places emphasis on values not actions
 - Ethics places emphasis on actions not values
 - There is no difference
 - Ask any politician
20. How are professionals distinguished from businesspersons?
- Professionals provide services instead of goods
 - Professionals provide services that require high intellectual skills as well as manual skills
 - Professionals hold a doctoral, masters or bachelors degree
 - All of the above