

## **KANSAS STATE BOARD OF TECHNICAL PROFESSIONS**

### **SURVEY EXPERIENCE OF A CHARACTER SATISFACTORY TO THE BOARD**

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The **Kansas** Board has determined that a certain amount of surveying experience must consist of "Progressive" surveying experience. The following guidelines shall be used to assign credit for work experience:

**Progressive surveying experience** may include the following eight (8) elements of professional surveying: project management; research; measurements and locations; computations and analysis; legal principles and reconciliation; land planning and design; monumentation; and documentation and land information systems. These guidelines closely follow the NCEES guidelines which were developed from a comprehensive task analysis of work performed by licensed professional surveyors throughout the country. NOTE: It is not necessary to have experience in all eight (8) elements to qualify for the FS.

1. **PROJECT MANAGEMENT** – A surveyor should have a knowledge of: Prevailing professional standards, practices and ethics; being able to communicate with clients, contractors, government agencies, etc.; dealing with administrative problems concerning selection of appropriate control and necessary data for a project; estimating required time and materials; selecting safety standards and policies; determining what supervisory controls, priorities, interpersonal relations, record documentation and procedures to use; and managing drafting work, survey and computer use.
2. **RESEARCH** – A surveyor should have a knowledge of how and where to obtain information necessary to complete a project and the relevance of various information to a particular application, including: land records, land descriptions, soils and vegetation, rules of evidence, court decisions, regulations, riparian determinations, highway maps and plans, land title, real property acquisition, rights of way, workplans, standards, policies and procedures.
3. **MEASUREMENTS AND LOCATIONS** – A surveyor should have a knowledge of various measurement techniques and mathematics involved such as: title surveys, topographic surveys, plane and geodetic surveys, boundary determinations, taping, leveling, electronic distance measurement, horizontal and vertical control, direction, traverse, triangulation, trilateration, stadia, celestial observations and error balancing and reduction techniques; also have a knowledge of use and maintenance of surveying and related equipment such as: tape, transit, theodolite, electronic distance measuring (EDM) equipment, total stations, level, rods, compass, photogrammetric equipment, plumb bob, odometers, etc.; and be able to understand and conform with codes and standards.
4. **COMPUTATIONS AND ANALYSIS** – A surveyor should have a knowledge of: mathematics including algebra, trigonometry, geometry and statistics; computational techniques including computer application and usage associated with accuracy, traverse, triangulation, trilateration, differential and trigonometric leveling, angles and directions, geographic position, public land system, state plane coordinates, errors and adjustments, horizontal and vertical curves, photogrammetry, earthwork quantities, plane and geodetic surveys, area, volume, and construction layout; and analyzing data and evidence using computations, prevailing professional standards, judgment and legal standards, land titles, survey plats and parcel descriptions.
5. **LEGAL PRINCIPLES AND RECONCILIATION** – A surveyor should have knowledge of legal principles applicable to: real estate, surveying, mapping and contract law, resolution of conflicts through analyzing data and records, court decisions and land title, standards, policies and procedures, rules of evidence and land descriptions.
6. **LAND PLANNING AND DESIGN** – A surveyor should have a knowledge of: basic land planning (including lot and street layout), general requirements for land development, determine constraining factors which may limit development, earthwork quantities, required control, plans and maps, computations for design and layout, horizontal and vertical control, photogrammetric mapping, topographic surveys, boundary information, land ownership and planning and zoning.
7. **MONUMENTATION** – A surveyor should have a knowledge of: vertical and horizontal monumentation, types and priorities of existing monumentation, placement or replace of monuments, determination of validity of existing natural or manmade monumentation, lost or obliterated corners and monuments of record, the use of highway plans or survey plats for information on monumentation, construction layout and boundary determination.
8. **DOCUMENTATION AND LAND INFORMATION SYSTEMS** – A surveyor should have a knowledge of: maintaining records, preparing maps and plats, documenting field and record evidence, writing property descriptions, drafting techniques, standards and regulations. A surveyor should also have knowledge of: vertical and horizontal monumentation, types and priorities of existing monumentation, placement or replacement of monuments, determination of validity of existing natural or manmade monumentation, lost or obliterated corners and monuments of record, the use of highway plans or survey plats for information on monumentation, construction layout and boundary determination.

**Basic surveying experience** is considered by the Board to include surveying experience which is normally identified with engineering projects. This would include construction staking, curb and gutter projects, sanitary sewers, and design surveys for highways or bridges other than those that relate to right-of-way surveys.