

Project Surveyor Job Responsibilities

Title Project Surveyor

Department(s) Operations- Field

Reports to Director of Survey

Job Summary

In addition to the Party Chief requirements, Project Surveyors are required to demonstrate a more comprehensive knowledge of surveys and field operations. This shall include but is not limited to independent judgment, communication and supervisory abilities. The individual in this position is well versed in the day to day operational functions of a field and/or office survey organization. This person possesses advanced technical and supervisory skills. Work elements listed below further describe the requirements related to this position.

Summary of Essential Job Function

1. Types of Surveys

- a) Know the principles of performing basic surveys such as leveling, traversing, public land surveys, metes and bounds surveys, topographic surveys, construction surveys, horizontal control surveys, State Plane Coordinate surveys and as-built surveys.
- b) Be familiar with requirements of global positioning (GPS) and geographic/land information systems (GIS). Have a general knowledge of hydrographic, mining and photogrammetric surveying.

2. Field Equipment & Instruments

- a) Be familiar with proper procedures for the care, cleaning and use of a variety of surveying tools and equipment, including field radios.
- b) Have ability to inventory, evaluate, specify, and purchase field equipment.
- c) Be able to determine proper equipping of personnel.
- d) Know how to operate, check, and perform basic field adjustments on theodolites, total stations, data collectors, levels, compass, tribrachs, and tripods. This would include repeating observations and steel taping.
- e) Have ability to inventory, evaluate, specify, and purchase field instruments. Some historical knowledge is required.

3. Survey Computations

- a) Perform mathematical checks of trigonometry, geometry, algebra, coordinate geometry, and basic surveying computations.
- b) Having a working knowledge of hand-held calculators is important.

c) Be able to perform traverse and level loop computations including closure, precision determination and adjustment computations. Be familiar with taping corrections, basic principles of measurement, EDM baseline comparison computations, error propagation, and astronomic azimuth determination. Perform and/or check lot, area, and intersection (bearing-bearing, distance-distance, bearing-distance) computations. Have a familiarity with land use regulations as they relate to lot and site development.

4. Control Points: Horizontal & Vertical

a) Know when to use, how to obtain, and how to interpret control point records and data sheets.

5. Field Operations

a) Be able to coordinate and supervise field work for a variety of standard types of surveys.

b) Have knowledge of proper record keeping, timekeeping, and job expenses.

6. Field Notes

a) Know how to keep, reduce, and check (for completeness and accuracy) neat and orderly field notes for standard surveying operations: leveling, traversing, topographic mapping, layout, as-built surveys, boundary surveys, profile and cross section surveys.

7. Plan Reading & Preparation

a) Have knowledge and understanding of plan reading and preparation.

b) Have knowledge of and familiarization with general applications of computer aided drafting (CAD).

c) Be able to coordinate design elements obtained from professionals and format into final drawings.

8. First Aid & Safety

a) Have a basic knowledge of treatment practices for a variety of medical emergencies.

b) Have a general knowledge of traffic control and safety procedures for a variety of surveying and construction operations.

9. Principles of the Profession

a) Have knowledge of ethics and technical standards and organizations such as ALTA, NGS, NSPS/ACSM, BLM, ASCE, etc.

b) Show responsibility in the profession (i.e. attire, honesty, respect for personal property).

10. Office Operations

a) Using hand calculations or micro-computer software, be able to enter or check field data and the resulting positional information.

b) Have knowledge of microcomputer operating systems and peripheral computer equipment.

- c) Be able to inventory, evaluate, and specify computer software peripheral equipment and supplies.

11. Supervisory Skills

- a) Have a comprehensive knowledge of and familiarity with client contacts, dealing with the public and governmental agencies, field crew management, scheduling, equipment and supplies management.
- b) Have knowledge of on-site office operation, office work flow procedures, and field and office problem solving techniques.
- c) Be able to evaluate personnel performance, and perform basic budgeting and cost control techniques.
- d) Have ability to train personnel in all aspects of field and/or office surveying practices.
- e) Be able to coordinate and supervise field work, staking and stake marking for a variety of standard types of surveys.
- f) Have a general familiarity with local and state land use regulations as they relate to lot site development.

12. Other Qualifications

- a) Must possess PLS
- b) Responsible for budgeting and project cost control
- c) Have clear and concise communications
- d) Manage client contact
- e) Understand codes and regulations
- f) Responsible for delegating and coordinating
- g) Responsible for evaluating and selecting equipment and supplies
- h) Practice good management practices
- i) Have good organizational ability
- j) Be able to independently investigate/research - problem solving
- k) Understand the permitting processes
- l) Able to complete project estimating
- m) Able to handle crew scheduling
- n) Able to handle staffing
- o) Have a thorough understanding of plans and specifications
- p) Understand company structure

In summary, this individual is someone who has the level of judgment to put all of the pieces together, weed out extraneous information, and respond to a variety of situations while maintaining quality and minimizing costs.