

## **ASSISTANT ENGINEERING SURVEYOR**

### **Definition**

Under direction of the City Engineer, to act as chief of survey party performing moderate to difficult survey tasks; works with survey instruments on construction and engineering surveys; performs moderate to difficult engineering tasks for a variety of public works projects; and does related work as required.

### **Examples of Duties**

Discusses work projects with supervisor; works independently; operates total station, GPS and level for a large variety of survey work; determines lines, corners, elevations, grades, curves, alignments, angles, positions and distances; keeps field notes of readings and observations; makes field sketches to record engineering data; sets and marks stakes for slopes, grades and other constructions purposes; calculates cuts and fills; does computing and delineation involved in reducing field survey matters; drafts maps, grades, delineations and structures; plots road alignments showing profiles, contours and topographic features; maintains survey equipment; maintains office files and records; checks subdivision plans for mathematical and technical accuracy, resets lost or obliterated monuments; interprets construction plans, property deeds, and other related material.

Prepares engineering calculations, designs, plans specifications, quantity estimates and cost estimates for the constructions of streets, sewers, storm drains and other structures. Most of this design work is to be accomplished with the help of such computer programs and "AutoCAD MAP". Acts as project engineer for designs done-in-house and as project manager for consultant-designed projects; provides information on department operations to interested parties; aides in preparation of assessment districts; talks with citizens in the office, over the phone, and by computer with regard to City engineering work and permits; answers inquiries for information about sewers, storm drains, easement and right of way locations; assists citizens in making applications for special permits; reviews private development plans with respect to impact on City property and infrastructure; represents the City at meetings and conferences; makes specialized studies and investigations for the department as necessary; may supervise subordinate technical personnel and surveycam members; writes staff reports.

## **Employment Standards**

### **Education and Experience**

Any combination equivalent to graduation from an ABET accredited college or university with a bachelor's degree in civil engineering or geomatics (surveying), and two years of experience in engineering survey work.

### **Knowledge and Abilities**

*Knowledge of:* Engineering field survey principles and practices; knowledge of the proper use and adjustment of surveying instruments such as total station and level; knowledge of boundary control and legal principles; knowledge of coordinate systems and conversions between them; knowledge of photogrammetric principles; knowledge of the Land Surveyor's and the Map Acts; knowledge of mathematics, trigonometry, and geometry as applied to surveys; knowledge of principles, practices and methods of civil engineering as applied to the planning, design and construction of streets buildings, storm drains, and sewer systems and other public works projects; knowledge of design principles, strength of materials, and stress analysis required in designing public works projects;

*Ability to:* Perform route surveys, slope staking, construction staking, prepare "cut sheets", topographic surveying and mapping, resolve boundary conflicts, and prepare legal descriptions; ability to make mathematical computations quickly and accurately; ability to read and interpret legal descriptions, maps, and construction drawings; ability to direct the work of subordinates; ability to prepare engineering field notes and sketches; ability to do drafting and use AutoCAD MAP; ability to prepare accurate plans, specifications, drawings, computations, cost estimates and engineering reports; ability to review the work of others either on staff or from consultant sources; ability to understand and carry technical instructions; ability to use "Windows" based computers and common programs.

### **License or Certificate Required**

Must possess a valid California Driver's License.

Possession of a Land Surveyor in Training certificate is mandatory. Possession of an Engineer in Training certificate is highly desirable.