



**July 2023**

**FLSA: NON-EXEMPT**

## **SENIOR ENGINEERING TECHNICIAN**

### **DEFINITION**

Under direct or general supervision, performs lead direction to assigned personnel; performs a variety of specialized paraprofessional engineering field and office duties in support of professional engineering staff, involving surveying, design of public works facilities, construction inspection and drafting; researches engineering topics and prepares basic to complex engineering calculations; provides technical advice to the public; coordinates plan submittals; issues permits; maintains plan files and engineering records; prepares reports; and performs related work as required.

### **SUPERVISION RECEIVED AND EXERCISED**

Receives direct or general supervision from assigned supervisory or management personnel. Exercises technical and functional direction and training over assigned staff.

### **CLASS CHARACTERISTICS**

This is the advanced journey-level class in the engineering technical support series with responsibilities spanning the entire spectrum of paraprofessional engineering functions, including independent responsibilities for projects and support programs. Incumbents apply paraprofessional engineering knowledge and skills to complete assignments in engineering, mapping, surveying, contract coordination, and preparation of specifications, plans and estimates. The work requires public contact, the frequent use of tact and judgment, good knowledge of departmental operations and the ability to conduct independent projects and programs. This class is distinguished from the professional engineering series in that the latter requires a professional degree and performs professional engineering work with independent judgment.

### **EXAMPLES OF ESSENTIAL JOB FUNCTIONS (Illustrative Only)**

*Management reserves the right to add, modify, change or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.*

- Prepares or assists in the preparation of and/or interprets specifications, plans, estimates and reports pertaining to the construction, maintenance and operation of a variety of engineering, land development, utility, and other capital improvement projects, including conducting a variety of surveys for creation of sidewalks, utility lines, and topography maps, collecting all pertinent information to create useful maps, issuing permits and work orders required for construction activities to public clients, and evaluating building plans for compliance with public works standards.
- Performs basic design and drafting duties in connection with streets, storm drains, traffic facilities and other projects.
- Performs field, office and computer-aided studies and prepares periodic and special reports based on findings from research, studies and surveys; and makes recommendations on findings.
- Receives, tags and logs, and reviews submitted engineering plans, maps, and related documents for plan check; checks calculations used in designs and estimates; routes documents to consultants or developers for preceding and following plan review; tracks status of plan checks and original

documents; advises parties of revisions; contacts inspectors following plan approval to initiate construction observation.

- Performs construction inspections of public works projects to ensure compliance with contractual agreements, plans, and specifications, including preparing and recommending progress payments and change orders, evaluating possible public improvements as needed, ensuring work performed adheres to City standards, determining and noting major and minor defects, and evaluating appropriate actions in order to remedy defects as needed.
- Reviews building permit applications; confirms accuracy of submitted documents and/or requires revisions; provides written notice to applicants of required public improvements.
- Collects fees; issues permits for water and wastewater services required for new developments; issues permits for the performance of construction projects within the public right-of-way; issues transportation permits for oversized loads; records, distributes, copies, and files permits.
- Maintains engineering and traffic/transportation files, including plans, studies, inspections, surveys, maps and other data related to engineering and transportation projects; prepares, updates, reproduces, and distributes maps, drawings, blueprints, and other information recorded in GIS.
- Receives and responds to information requests from the public, consultants, engineering firms, developers, title companies, public works inspectors and staff for base maps, parcel maps and improvement plan information, encroachment permits, benchmarks, copies of maps and other geographical data, soils reports, as-builts, and street improvements; retrieves plans, reports, permits and files as necessary to comply with requests; responds to complaints from the public and resolves conflicts between owners, contractors, developers, utility companies, and others.
- Maintains and updates department records, tracking lists, permit records, and files of engineering plans, including grading, encroachments, improvements, storm drain, landscaping and final maps.
- Utilizes Computer-Aided Drafting software to create and modify engineering drawings, sketches, plot plans, site lay-outs, topographic maps, improvement plans and illustrative graphics, such as charts, illustrations, graphs for reports, drawings for design manuals and other projects.
- Utilizes Geographic Information System (GIS) to create and modify mapping, collect field data and analyze data sets.
- Prepares a variety of legal documents, including construction project contract documents, hold harmless agreements, street tree agreements, sidewalk café agreements and various others
- Exercises technical and functional direction over assigned staff.
- Provides training to assigned staff.
- Performs other duties as assigned.

## **QUALIFICATIONS**

### **Knowledge of:**

- Civil engineering principles, practices and methods applicable to office and field work involving the design, construction and maintenance of public works projects.
- Basic design and construction practices and methods of streets, underground facilities and related public works infrastructure.
- Engineering plan types, review practices, and permit filing and approval procedures.
  - Principles and practices of technical civil engineering drafting and surveying support.
  - Drafting and surveying equipment, computers, principles, problems, techniques and practices.
  - Applicable Federal, State, and local laws, codes, and regulations, including administrative and department policies and procedures; State Subdivision Map Act.
  - Technical engineering mathematics.
  - Modern office practices, methods and computer equipment.

- Computer applications related to the work, including computer-aided drafting concepts and applications, geographic information systems (GIS) concepts and applications.
- Technical report writing practices and procedures.
- Principles and procedures of record keeping.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for dealing effectively with the public, vendors, contractors and City staff, in person and over the telephone.
- Techniques for providing a high level of customer service to public and City staff, in person and over the telephone.

**Ability to:**

- Prepare a variety of plans, specifications, maps, graphic materials, cost estimates, and technical engineering reports.
- Modify engineering drawings, topographic maps, improvement plans and illustrative graphics using Computer-Assisted Drafting (CAD) software.
- Modify and create maps using geographical information systems (GIS).
- Perform responsible technical engineering support work with accuracy, speed, and minimal supervision.
- Read and interpret engineering plans, technical drawings, specifications, and subdivision maps.
- Perform standard engineering design under professional engineering supervision.
- Make mathematical calculations and accurate engineering computations and drawings.
- Make and record accurate field engineering observations.
- Use engineering, drafting and surveying instruments and equipment, including GIS data acquisition equipment.
- Prepare clear and concise reports, correspondence, policies, procedures and other written materials.
- Apply technical research methodologies and write technical reports.
- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner; organize own work, set priorities and meet critical time deadlines.
- Operate modern office equipment including computer equipment and specialized software applications programs.
- Use English effectively to communicate in person, over the telephone and in writing.
- Use tact, initiative, prudence and independent judgment within general policy, procedural and legal guidelines.
- Establish and maintain effective working relationships with those contacted in the course of the work.

**Education and Experience:**

*Any combination of training and experience that would provide the required knowledge, skills and abilities is qualifying. A typical way to obtain the required qualifications would be:*

- Equivalent to completion of the twelfth (12<sup>th</sup>) grade supplemented by two (2) years of college-level coursework in civil engineering, drafting, surveying, mathematics, or related field.
- Two (2) years of experience in the field or office performing engineering technical support or drafting which has provided familiarity with engineering drafting, surveying, map checking, construction inspection, materials testing, basic engineering design, and GIS, equivalent to the Engineering Technician I/II at the City of Eureka.

**License:**

Must possess and maintain a valid California class C driver's license and have a satisfactory driving record.

**PHYSICAL DEMANDS**

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a motor vehicle; and to visit and inspect various City development sites; vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups and over the telephone. This is primarily a sedentary office classification, although the job involves field inspection work requiring frequent walking at inspection sites to monitor performance and to identify problems or hazards; standing in work areas and walking between work areas may be required. Finger dexterity is needed to access, enter and retrieve data using a computer keyboard, typewriter keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects necessary to perform job functions.

**ENVIRONMENTAL ELEMENTS**

Employees work primarily in an office environment with moderate noise levels and controlled temperature conditions; but may occasionally be assigned to field work, which may involve loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, confining workspace, chemicals, mechanical and/or electrical hazards, and hazardous physical substances and fumes. Employees may interact with upset staff and/or public and private representatives in interpreting and enforcing departmental policies and procedures.