

SENIOR ENGINEERING TECHNICIAN

Approved: July 2016

FLSA: Non-exempt

Unit: SEIU



Definition
Under general direction, performs the most difficult and complex technical and paraprofessional engineering and/or transportation support work in the field and office; provides quality control for Capital Improvement Projects; conducts traffic studies; researches engineering topics; prepares basic engineering calculations; provides technical advice to the public; reviews permit requests and plan submittals; issues permits, and develops consultant requests for proposals for professional and/or construction services; may have responsibility of an assigned technical engineering support area; provides lead direction and training for other staff; and performs related duties as required.
Supervision received and exercised
Receives direction from assigned supervisory or management staff. Exercises technical and functional direction over and provides training to lower-level staff.
Class characteristics
This is the advanced journey-level class in the engineering technician classification series. Incumbents are responsible for leading, and participating in, the work of staff responsible for performing a wide variety of paraprofessional engineering functions including mapping, surveying, traffic and transportation studies, contract coordination and other related duties. Incumbents regularly work on tasks that are varied and complex, requiring considerable discretion, initiative and independent judgment. Positions in this classification rely on experience and judgment to ensure the efficient and effective functioning of the assigned section. The work involves problem-solving of unique issues or increasingly complex problems without precedent and/or structure. Assignments are given with general guidelines and incumbents are responsible for establishing objectives, timelines, and methods to deliver work products. This class is distinguished from the Engineering Technician I/II by the performance of the most complex tasks assigned the series including lead supervision.
Examples of typical 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. <ul style="list-style-type: none">• Plans, organizes, assigns, supervises, and reviews the work of Engineering Technicians, Public Works Inspectors, and part-time and seasonal workers.• Prepares and interprets specifications, plans, estimates, and reports pertaining to the construction, maintenance, and operation of a variety of engineering, land development, utility, transportation and other Capital Improvement Program (CIP) projects, including conducting a variety of surveys for the creation of sidewalks, utility lines and topography maps.• Performs traffic studies, including review and approval of traffic control plans, accident analysis, channelization, traffic volume and spot speed studies; sets traffic counters and conducts manual counts; repairs and maintains traffic equipment; assists the public in responding to complaints and answering questions related to traffic and traffic safety; communicates with law enforcement offices; may supervise the installation of striping and marking.• Receives, tags and logs, and reviews submitted engineering plans, maps, and related documents for plan check; routes documents to consultants or developers for preceding and following plan review; tracks status of plan checks and original documents; advises parties of revisions.• Receives and responds to inquiries from the public, developers, engineers, surveyors, other departments, and outside agencies to provide information related to the work; retrieves plans, reports, permits, and files as necessary to comply with requests; responds to complaints from the public and works to resolve conflicts between owners, contractors, developers, utility companies and others.• Coordinates projects and programs such as the Signage and Striping Program and Traffic Volume Monitoring Program, which includes sending out bids, hiring and working with contractors, providing work orders and managing the project budget.• Inspects job sites to ensure work is in compliance with Federal, State, and local standards and specifications; calculates progress payments; performs permit intake, review and issuance.• Provides customer service at Engineering Division Counter; responds to and answers questions from the public, in person and by phone and email, regarding a variety of issues, including encroachment permits, Federal Emergency Management Agency (FEMA) compliance, grading and drainage requirements, right of way projects, heritage tree removals, capital improvement projects, etc.• Responds to and inspects traffic signal complaints and emergencies to resolve issues and coordinate repair if necessary.

- 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 the Geographic Information System (GIS).
- Reviews subdivision maps, parcel maps, improvement plans, records of surveys, deeds, descriptions and other private land surveyor's data for compliance with design criteria, special conditions and State, Federal, and local laws and ordinances.
- Utilizes GIS software to draft and modify plot plans, topographic maps, improvement plans and illustrative graphics, such as charts, illustrations and graphs for reports, drawings for design manuals, and other projects; prepares or checks engineering reports, specifications and contract documents.
- Performs drafting duties in connection with streets, storm drains, utilities, traffic signals 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.
- Develops and administers requests for proposals for construction, maintenance and professional services.
- Utilizes a wide variety of engineering equipment, including calculators, computers and drafting and survey tools and equipment.
- Maintains and updates department records, tracking lists, permit records and files of engineering plans, including grading, encroachments, improvements, storm drain, landscaping and final maps.
- Maintains parking meter machines to ensure machines are operating properly.
- Researches, prepares, and maintains concise and accurate correspondence, records and reports on a variety of engineering activities related to the assignment, including staff reports for presentation to City boards, commissions and City Council.
- Communicates information to the real estate community, property owners and others involved in projects.
- Performs general administrative duties including attending meetings, preparing reports and correspondence, entering and retrieving computer information, preparing complex spreadsheets, copying and filing documents, and disseminating public information.
- Provides work direction to lower level engineering technician staff.
- Performs other duties as assigned.

Qualifications

Knowledge of

- Principles and practices of lead supervision and training.
- Principles, practices, and methods applicable to office and field work involving the design, construction, and maintenance of public works and transportation projects.
- Basic design and construction practices and methods of streets, traffic, underground facilities and related public works infrastructure.
- Engineering plan types, review practices, permit filing and approval procedures.
- Principles and practices of technical civil and transportation engineering drafting and surveying support.
- Materials and installation practices for street signing and striping projects.
- Drafting and surveying equipment, computers, principles, problems, techniques and practices.
- Technical engineering mathematics.
- Applicable Federal, State and local laws, codes and regulations, including administrative and department policies and procedures.
- Modern office practices and methods, including computer equipment and software programs relevant to work performed.
- Basic principles of mapping, property assessment and ownership.
- Technical report writing practices and procedures.
- Principles and procedures of record keeping.
- English usage, grammar, spelling, vocabulary and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors and City staff.

Ability to

- Perform responsible technical engineering support work with accuracy, speed and minimal supervision.
- Read, interpret and review engineering plans, technical drawings, specifications and traffic control plans.
- Inspect construction work for compliance with plans and specifications.
- Perform standard engineering drawing and calculations under professional engineering supervision.
- Make mathematical calculations and accurate engineering computations.
- Make and record accurate field engineering observations.
- Use engineering, drafting, and surveying instruments and equipment.

- Design and modify drawing layers in AutoCAD and/or GIS.
- Prepare clear and concise reports, permit applications, correspondence, policies, procedures and other written materials.
- Prepare a variety of plans, specifications, maps, graphic materials and cost estimates.
- Understand and follow complex technical oral and written instructions.
- Conduct research, evaluate alternatives, make sound recommendations, and compile accurate data in areas of responsibility.
- Organize own work, set priorities and meet critical time deadlines.
- Operate modern office equipment including computer equipment and software programs relevant to the work performed.
- Use English effectively to communicate in person, over the telephone and in writing.
- Make clear and concise presentations.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of 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 (12th) grade supplemented by two (2) years of college-level coursework in engineering, drafting, surveying, mathematics or a related field.
- Four (4) years of increasingly responsible paraprofessional experience in civil engineering, drafting, surveying or related field.

Licenses and certifications

- Possession of a valid California Class C driver's license.

Physical demands

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer, to inspect City and traffic development sites, traversing uneven terrain, to operate a motor vehicle, and to visit various City and meeting 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 partially 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 and walking between work areas may be required. Finger dexterity is needed to access, enter, and retrieve data using a computer 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 weighing up to 25 pounds.

Environmental elements

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees may work in the field and occasionally be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, 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.