

City of South San Francisco
Human Resources Department

Principal Engineer
Class Description

Definition

Plans, supervises and coordinates advanced professional engineering assignments on a wide range of municipal projects of a complex nature, including civil, sanitary, traffic, and other municipal public works, maintenance, and construction projects; directs and supervises professional, technical engineering staff performing design, inspection, and surveying duties; responsible for the administration, direction and supervision of the Engineering Division; and does related work as required. Receives administrative direction from the Director of Public Works/City Engineer.

Distinguishing Characteristics

This is the management level class in the professional engineering series. The Principal Engineer is distinguished from the Senior Civil Engineer by the performance of more complex engineering duties as well as broader project management and supervisory responsibilities. This position shall also be capable of reviewing and completing staff work to a high degree of completion. Strong communication and writing skills are essential. The applicant must have strong interpersonal skill and be able to build consensus and convincingly be able to represent the City in a wide variety of concerns and interests. Incumbents work independently, seeking assistance only as new or unusual situations arise. The Principal Engineer position is responsible for the general administrative direction of the Engineering Division and control of all projects.

Typical and Important Duties

1. Plans, organizes and directs the activities of the Engineering Division. Assigns, reviews and evaluates the work of staff in the division for accuracy, suitability and completeness.
2. Develops and implements the Division's goals, policies and procedures; administrative planning and problem resolution.
3. Acts as project manager for major construction projects, which includes contract administration; project schedule coordination; manage the work of consultants and staff; coordinate the work of consultants, utilities, staff, other public agencies, elected officials, and the public; communicating with the consultants, staff, public, other agencies, and elected officials; ensuring quality control of the project, including conducting field inspections; preparing and presenting a variety of reports and studies.
4. Plans, coordinates and supervises responsible engineering work in connection with municipal Public Works projects; manages the design and preparation of plans, specifications, and cost estimates for the construction of streets, storm drains, signals, parks, sanitary sewer system, building and other improvements; makes feasibility and economic studies of alternative plans.

5. Supervises review of private development and/or subdivision plans for conformance to standards. Participates in the development of capital improvement projects for compliance with City specifications; resolves disputes between the City and developers, contractors, engineers and the general public relative to City policies, specifications, regulations, procedures and extra work.
6. Coordinates work projects requiring both engineering office and field work.
7. Assists, supervises, and reviews work of subordinate engineering staff engaged in compiling data relating to and in the design and preparation of drawings, maps, profiles, estimates, surveys, studies, and reports relating to a wide variety of municipal engineering projects.
8. Reviews plans for conformance to established engineering standards and practices. Interprets and applies relevant codes, ordinances, rules and regulations.
9. Tracks new or pending regulatory requirements that affect the Public Works Department and provides support to meet these requirements (e.g. nonpoint and point discharge, water conservation, air and groundwater contamination, etc.)
10. Reviews standard specifications and inserts special provisions for unusual engineering projects.
11. Supervises staff reviewing a wide variety of traffic engineering projects, including planning and studies; conducts surveys; investigates complaints; and presents written and oral reports to elected and appointed officials.
8. Assists in evaluating the need for, and developing plans and schedules for long-range engineering and public works projects.
9. Provides continuing technical assistance to staff; supervises and participates in the work of lower-level engineering staff in preparation of project plans, agreements, specifications, cost estimates and contract administration for capital projects.
10. Assists in the preparation, coordination, and control of the operating and capital improvement budget; assists in evaluating the need for and developing plans and schedules for long-range Public Works projects.
11. Directs the inspection of public works projects for conformance to established plans and specifications.
12. Responds to questions from the general public and attends meetings with representatives of other departments and agencies and takes appropriate action.
13. Makes presentations to the City Council, City Manager, and other boards and commissions, business organization and homeowner's association.
14. Performs related duties and responsibilities as assigned.

Job-related Qualifications

Knowledge of:

- Principles, methods, and practices of civil, sanitary, traffic, seismic, and mechanical engineering for planning, designing, and constructing municipal public works facilities, including sewers, streets, traffic, and construction projects.
- Design principles, methods, materials, and techniques used in the construction, construction management and maintenance of public works, utilities, or building construction projects.
- Technical, legal, financial, and public relations aspect of municipal government.
- Modern developments, current literature, and sources of information on engineering laws and regulations.
- Principles and practices of municipal management, including supervision and evaluation of personnel, budget planning and preparation, and public relations.

Ability to:

- Determine, plan, assign and manage Engineering Division priorities.
- Effectively supervise and train professional, technical and clerical support staff.
- Learn and retain City administrative, budgeting, and purchasing and personnel processes and procedures.
- Be proactive in identifying problem areas and develop alternative solutions and recommendations.
- Prepare engineering estimates, plans, drawings, and specifications.
- Perform difficult engineering work in design and construction of public works facilities.
- Make complex engineering calculations and to check, design, and supervise the construction of a wide variety of municipal improvements and construction projects.
- Interpret and accurately apply applicable Federal, state, and local policies, procedures, codes, laws, ordinances, and regulations.
- Administer contracts.
- Conduct technical engineering research, make analysis, and write comprehensive reports.
- Prepare construction contracts and requests for proposal.
- Analyze, interpret, and apply information, choose among alternative courses of action, and arrive at a recommendation.
- Understand and implement laws, regulations, policies, and procedures.
- Communicate effectively in writing, orally, and with others to assimilate, understand, and convey information accurately to non-engineering staff, consultants and the general public, in a manner consistent with job functions.
- Make effective oral presentations.
- Develop and implement improvements to systems, organization, and operations within the division.
- Represent the City and the department effectively in contacts with representatives of other agencies, City departments, and the public.
- Establish and maintain cooperative relationships with those contacted in the course of the work, such as with employees, labor unions, contractors, consultants, elected and appointed officials, and the public.

- Apply computer programs related to the work, including presentation, project management, GIS, and data management applications.
- Take a proactive approach to customer service issues.
- Maintain confidentiality regarding sensitive information.
- Work in a safe manner following City safety practices and procedures in a variety of environments; model and coach others in correct City safety practices; identify, correct, and report safety hazards.

Skill in:

- Using a personal computer and associated applications, and other engineering resources. Developing and implementing improvements to systems and operations.

Experience and Training

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

Experience: Five years of progressively more responsible professional civil engineering experience at least comparable to an Associate Civil Engineer, with at least two years of this experience must be equivalent to a Senior Civil Engineer in municipal professional engineering and two years in project management providing direction to other engineering staff.

Training: A bachelor's degree from an accredited college or university with a major coursework in civil, sanitary, mechanical engineering or a closely related field. A master's degree in engineering, business administration, public administration or related field is highly desirable.

Licenses and Certificates

All licenses and certificates must be maintained as a condition of employment.

- Possession of, or ability to obtain, an appropriate valid California driver's license, and a satisfactory driving record.
- Possession and maintenance of a valid certificate of registration as a Civil Engineer issued by the State Department of Registration for Professional Engineers is preferred.

Special Requirements

Essential duties require the following physical skills and work environment:
Physical Skills: Able to use standard office equipment, including using a computer sit, stand, walk, kneel, crouch, stoop, squat, twist, climb, lift and carry 40 pounds; maintain sustained posture in a seated or standing position for prolonged periods of time; vision to read a computer screen and printed materials, including maps and plans; hearing and speech to communicate in person, over the telephone, and to make presentations; walk construction sites.

Work Environment: Mobility to work in a typical office setting and occasional field environment; exposure to traffic and traffic hazards; cold, heat, outdoors, chemicals, explosive materials, mechanical hazards, and electrical hazards.

Ability to: Travel to different sites and locations; drive safely to different sites and locations; maintain a safe driving record; work protracted and irregular hours; and available for evening meetings.

Approved:	September 2012
Revised Date:	January 21, 2014, March 2019
Former Titles:	
Abolished:	
Bargaining Unit:	Mid-management
ADA Review:	September 2012, January 2014
DOT:	No
Physical:	Class 3
Status:	Unclassified/Exempt
EEOC Category:	EF2\EJ2
Job Code:	M760

ADA Documentation of Essential Duties

1. SDE
2. SDE
3. SDE
4. SDE
5. MWE
6. MME
7. MME
8. MME
9. SDE
10. SDE
11. OAE
12. SDE
13. MME