

CITY OF EL CERRITO

ASSISTANT, ASSOCIATE AND SENIOR ENGINEER

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

DEFINITION

To perform professional level work in the field of engineering.

DISTINGUISHING CHARACTERISTICS

Assistant Engineer

This is the first level of the professional engineering classification series with responsibilities spanning the full range of the City's engineering function. Incumbents manage routine engineering projects under supervision where project plans and technical specifications are reviewed by the Public Works Director, Senior or Associate Engineer. Assistant Engineer is normally considered to be in a training status and, as assigned responsibilities and breadth of knowledge increase with experience, may reasonably expect their positions to be reassigned to the next higher class of Associate Engineer if the minimum requirements are met for each level. This class of Assistant Engineer is distinguished from Associate Engineer in that the latter may require registration as a professional engineer and is assigned more advanced project management, design and plan review responsibilities. The Associate Engineer class operates with a greater level of independence.

Associate Engineer

This is the journey-level in the professional engineering classification series and incumbents may perform the full range of the engineering functions, but with primary emphasis on infrastructure development and traffic issues in a developing City. This class is distinguished from the higher level of Senior Engineer in that the Senior Engineer handles complex projects and has full supervisory authority over lower-level Engineers and Inspectors. It is distinguished from the lower-level of Assistant Engineer in that the Associate Engineer has project management responsibilities in addition to performing the full range of professional engineering duties on routine projects and performs more complex plan checks.

Senior Engineer

This is the advanced level in the professional engineering classification series. Assignments may include ongoing project or program management and successful performance of the work requires an extensive professional background, as well as skills in coordinating work with other city departments, contractors, regulatory bodies and other public agencies. Senior Engineer is distinguished from the next lower level of Associate Engineer in that the Senior Engineer handles the most complex and sensitive work and has full supervisory authority over lower level engineers.

SUPERVISION RECEIVED AND EXERCISED

Assistant Engineer

Receives general supervision from the Public Works Director, Senior Engineer, and Associate Engineer. May exercise functional and technical supervision over less experienced technical staff such as the

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Engineering Technician and contractors, and provide limited work direction to the Public Works Department staff, clerical and temporary employees.

Associate Engineer

Receives general supervision from the Public Works Director, and Senior Engineer. May exercise functional and technical supervision over less experienced technical staff such as the Assistant Engineer, Engineering Technician, CIP Project Manager and contractors, and provide limited work direction to the Public Works Department staff, clerical and temporary employees.

Senior Engineer

Receive general supervision from the Public Works Director. May exercise functional and technical supervision over less experienced technical staff such as the Engineering Technician and contractors, and provide limited work direction to the Public Works Department staff, clerical and temporary employees.

ESSENTIAL FUNCTIONS STATEMENT

Essential Functions:

Assistant Engineer

Serve as plan check engineer or project manager on routine projects, including defining project scope, selecting consultants, negotiating contracts, change orders and amendments; prepare and monitor project schedules; monitor, review and coordinate project design and construction; evaluate contractor's requests for extra work; monitor contractor's work and enforce terms of the contract; process payments and change orders; coordinate projects with businesses, utilities and other city departments.

Prepare routine plans, designs, specifications, estimates and reports, including determining materials and availability of funding; provide special study engineering reports and draft engineering staff reports for the City Council.

Review private development plans submitted by developers, land owners and engineers for adequacy of application and conformance to City standards, plans and specifications.

Provide technical advice to contractors, other professionals and the general public regarding policies, codes and regulations; assist in resolving problems.

Perform technical review of plans ensuring plans are in compliance with codes and regulations; process a variety of encroachment permit applications.

Participate in and conduct the development of consultant requests for proposal for professional and/or construction services and the advertising of bid processes; evaluate bids and proposals and make recommendations on project award.

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Conduct engineering and related studies; prepare staff reports and grant applications.

Review and monitor Geographic Information Systems (GIS) consultant services to the City for base map updates and production and maintenance of GIS mapping activities.

May act as the City's representative at meetings and promote the City's interests and objectives.

Maintain accurate records and files.

Associate Engineer

In addition to duties of Assistant Engineer:

Conduct field and construction site inspections; ensure contractor compliance with contract documents and time and budget estimates; recommend field changes.

Prepare and review traffic signal timing plans and updates as needed; construct traffic signal computer models used to prepare timing plans and prepare traffic signal designs and specifications.

Prepare designs, specifications, plans, estimates and reports for assigned Capital Improvement projects and the development and modification of City infrastructure.

Conduct civil and traffic engineering and related studies, evaluate alternatives, make recommendations and present reports to superiors and others; conduct studies and confer with the public regarding transportation and traffic issues.

Prepare a variety of written materials, including staff and engineering reports and grant applications for engineering and transportation projects.

Prepare Requests for Proposals and administer consultant selection process for the design of assigned capital projects; administer construction contracts during the construction phase.

Coordinate projects with activities of businesses, utilities, special districts and other City departments.

Respond to complaints and assist in solving problems related to construction or City plans; interpret plans and policies; confer with and provide information to property owners, contractors, engineers, consultants and the general public on conformance to standards, plans, specifications and codes.

Senior Engineer

In addition to the duties of Assistant and Associate Engineer:

Monitor and manage projects, including developing short and long-range goals, objectives and budgets, coordinating activities with other departments and agencies, overseeing records maintenance, monitoring budgets and approving and monitoring expenditures, overseeing reporting requirements, evaluating program or project service delivery and cost effectiveness; ensure that procedures are being followed and assist in resolving complex problems which require professional level input.

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Conduct advanced and complex engineering and related studies, evaluate alternatives, make recommendations and present reports to the Public Works Director, Planning Commission and/or City Council.

Serve as project manager on complex projects, including defining project scope, selecting consultants, negotiating contracts, amendments and change orders, preparing and monitoring project schedules; monitor, reviewing and coordinate project design and construction; evaluate contractor's requests for extra work; enforce terms of the contract, process payments and change orders; coordinate projects with businesses, utilities and other city departments; conduct field and construction site inspections, and resolve contract disputes.

Prepare and direct the preparation of designs, specifications, plans, estimates and reports for Capital Improvement projects and the development and modification of City infrastructure.

Review and direct the review of private development plans submitted by developers, landowners and engineers for adequacy of application and conformance to City standards.

Prepare a variety of written materials, including staff reports, engineering reports and grant applications for engineering projects; may conduct studies and confer with the public regarding traffic and transportation issues.

May serve as the City's department or program representative with a variety of committees, commissions, businesses and community organizations; attend meetings and promote department and or City activities and objectives; maintain liaison with other regulatory and public and private entities; foster collaborative relationships to the mutual benefit of the City and these organizations.

Confer with and provide information to property owners, contractors, developers, engineers, architects and the general public regarding conformance to standards, plans, specifications and codes; explain codes, requirements and procedures and evaluate alternatives.

Perform project development for complex projects such as capital improvement, including finalizing scope of projects, preparing bid summaries, conducting bid openings, preparing project budgets and preparing cost estimates.

Monitor and supervise design and construction, including reviewing plans, specifications, estimates and calculations and giving technical advice on corrective action.

Prepare engineering documents, including agreements, maps, legal descriptions, resolutions and ordinances.

Marginal Functions:

Perform related duties and responsibilities as assigned.

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May give written and verbal presentations for the Planning Commission, City Council, or courts of law.

QUALIFICATIONS

Knowledge of:

Assistant Engineer

Basic engineering theories and principles.

Basic principles of project management.

Basic principles of capital improvement cost estimation and contract administration.

Computer applications related to the work including basic GIS and AutoCad concepts and applications.

Practices of researching engineering and design issues, evaluating alternatives, making sound recommendations and preparing and presenting effective staff reports.

Techniques for dealing with a variety of individuals from various socio-economic, cultural and ethnic backgrounds, in person and over the telephone.

Associate Engineer

Engineering theories and principles related to the area of assignment.

Construction theories and principles.

Principles of project management.

Computer applications related to the work including basic GIS and AutoCad concepts and applications.

Principles of capital improvement cost estimation and contract administration.

Basic supervisory principles and practices.

Practices of researching engineering and design issues, evaluating alternatives, making sound recommendations and preparing and presenting effective staff reports.

Techniques for effectively representing the City in contacts with government agencies, community groups, various businesses, professional and regulatory organizations and the public.

Senior Engineer

Complex engineering design theories and principles.

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Principles and practices of management and supervision.

Experience working with construction theories and principles.

Experience working with surveying theories and principles.

Experience preparing budgets and financial practices used on public projects.

Experience in program and project development, management and evaluation.

Experience in developing capital improvement cost estimation and contract administration.

Up to date and extensive knowledge of applicable laws, regulations, codes, policies and engineering standard practices.

Computer applications related to the work, including basic GIS and AutoCad concepts and applications.

Techniques for effectively representing the City in contacts with government agencies, community groups, various business, professional and regulatory organizations, and with property owners, developers, contractors and the public.

Ability to:

Assistant Engineer

Prepare engineering designs and plans.

Prepare, negotiate and manage contracts and projects and monitoring the work of contractors and consultants.

Read blueprints, plans and technical specifications.

Write technical reports and preparing cost estimates.

Interpret, apply and explain codes, regulations and ordinances.

Represent the department and the City in meetings with other public agencies, community groups, and various business and professional and regulatory organizations and in meetings with individuals.

Communicate effectively with officials, co-workers, contractors, consultants, representatives of organizations and others sufficient to convey information, both directly and over the telephone.

Maintain physical and mental capacities appropriate to the performance of assigned duties and responsibilities.

Associate Engineer

In addition to the abilities of the Assistant Engineer the Associate Engineer will be able to independently accomplish more complex projects and assignments.

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Prepare, negotiate and manage large contracts and monitor the work of contractors and consultants.

Write complex technical reports and preparing cost estimates.

Coordinate and manage multiple projects, often with competing deadlines.

Appropriately provide training and supervision to the Assistant Engineer.

Senior Engineer

Monitor and manage program area activities, goals and objectives, evaluating effectiveness.

Develop and review engineering plans and designs for municipal public works projects.

Develop and administer contracts for professional services and construction in a public agency setting.

Effectively representing the department and the City in meeting with governmental agencies, community groups and various business, professional and regulatory organizations, and in meetings with individuals.

Manage multiple tasks, often with competing deadlines.

Prepare and review budgets and cost estimates.

Write and review complex technical reports and reviewing plans, specifications, estimates and engineering calculations.

Supervise and evaluate other professional staff as well as other office staff.

Mentor and train professional staff to improve the abilities and understanding of complex engineering practices.

Communicate technical information effectively with officials, co-workers, subordinates, the general public, representatives of public and private organizations and others sufficient to exchange or convey information and to receive work direction.

Experience and Training Guidelines:

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

Experience:

Assistant Engineer

Two years of professional engineering experience

Associate Engineer

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Three years of professional engineering experience

Senior Engineer

Five years of professional engineering experience which must have included two years of project management or supervisory experience

Training:

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Equivalent to graduation from a four-year college or university with major coursework in an engineering curriculum or a field related to the area of assignment.

Licenses/Certificates/Other Requirements:

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Possession of a valid California Driver's License

An Engineer in training certificate or valid certificate of registration as an Engineer issued by the California State Board of Registration for Civil and Professional Engineers is desired. Senior Engineer with Professional Engineer registration is eligible for higher salary level.

PHYSICAL DEMANDS

Sitting:	Frequently	Lifting:	
Standing:	Occasionally	up to 10 lbs:	Frequently
Walking:	Frequently	11 to 25 lbs:	Occasionally
Bending:	Occasionally	26 to 50 lbs:	Occasionally
Crouching:	Occasionally	51 to 75 lbs:	Never
Stooping:	Occasionally	76 to 100 lbs:	Never
Kneeling:	Occasionally	100 + lbs:	Never
Crawling:	Occasionally	Carrying:	
Climbing:	Occasionally	up to 10 lbs:	Occasionally
Balancing:	Occasionally	11 to 25 lbs:	Occasionally
Running:	Occasionally	26 to 50 lbs:	Occasionally
Twisting:	Occasionally	51 to 75 lbs:	Never
Turning:	Occasionally	76 to 100 lbs:	Never
Jumping:	Occasionally	100 + lbs:	Never

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Pushing/Pulling:

Up to 10 lbs:	Occasionally
11 to 25 lbs:	Occasionally
26 to 50 lbs:	Never
51 to 75 lbs:	Never
76 to 100 lbs:	Never
100 + lbs:	Never

Grasping – firm:	Occasionally
Finger dexterity:	Occasionally
Reaching forward:	Occasionally
Reaching overhead:	Occasionally
Pinch grasp:	Occasionally
Grasp – light:	Occasionally

Coordination	-	Eye-hand:	Occasionally
		Eye-hand-foot:	Occasionally
		Driving:	Occasionally

Talking	-	Face-to-face:	Frequently
		Verbal contact:	Frequently
		Public:	Frequently

Vision	-	Acuity far:	Required
		Acuity, near:	Required
		Depth perception:	Required
		Field of vision:	Required
		Accommodation:	Required
		Color vision:	Required

Hearing	-	Conversation:	Frequently
		Telephone:	Frequently
		Earplugs:	Occasionally

MENTAL REQUIREMENTS

Abstract variables, interpret instructions, problems-standard, detailed-uninvolved instructions, one or two-step instructions, reading-simple, reading-complex, writing-simple, writing-complex, math skills-simple, math skills-complex, clerical, coordination, analyzing, compiling, computing, copying, comparing, negotiating, instructing, supervising, persuading, speaking-signaling, serving, taking instructions-helping, setting up, comprehend/follow instructions, perform simple-repetitive tasks, maintain work pace, relate to others, influence other people, perform varied-complex tasks, generalizations/evaluations, responsibility for direction.

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WORK ENVIRONMENT

Indoors, Outdoors, Unprotected heights, Moving machinery, slippery/uneven surfaces, below ground, using computer/computer monitor screen, Works around others, Works alone, Works with others.