

ENGINEER III

JOB PURPOSE AND SUMMARY

This is professional level engineering work for the Department of Public Works. Within general parameters established by management, the employees occupying positions of this class perform complex technical work in a specialized phase of engineering.

CLASSIFICATION DISTINCTIONS

The Engineer III requires specialized knowledge in an area of engineering and requires the use of independent judgment to resolve complex or unique problems. To progress to the Engineer III level the employee must become a Certified Professional Engineer. This is the third step in a career progression that starts at the Engineer I level. Those at the Engineer I level perform routine civil engineering tasks and resolve problems by working within established guidelines whereas Engineer II employees resolve more technical and complex civil engineering tasks working within the framework of broad engineering guidelines.

KEY OR TYPICAL TASKS AND RESPONSIBILITIES

- Develops, or provides direction and coordination of the development of construction design plans and specifications for complex engineering projects involving road, bridge and drainage control structures; sewage collection and treatment facilities; water quality, traffic signal, and transportation systems. Certifies with Professional Engineer's seal and signature that engineering designs conform with accepted professional engineering standards and practices and the requirements of law.
- Inspects proposed highway routes, bridge and other structure placements and recommends final route or placement to achieve efficient, economical design as to grade, curves, cross-section, soils excavation problems, transportation, maintenance, drainage features, etc. Develops detailed final cost estimates and financing proposals for project implementation.
- Conducts in-depth studies and analyses on the effectiveness of current Public Works policies/comprehensive plans, suitability of existing structural facilities, feasibility of proposed designs and design concepts, etc. Interprets results and makes recommendations regarding comprehensive plans, designs, and Public Works improvement projects.
- Utilizes the computer as an aid in analyzing and developing solutions to engineering problems.
- Prepares construction reports for matching funds and cooperative contracts with Federal, state and city governments. Reviews design plans and specifications for conformance to job requirements. Prepares, develops and checks complex specialized contract provisions and design agreements. Conducts pre-bid and pre-construction conferences detailing principle construction features and agreements.

- Coordinates with other sections and departments on issues related to grant and contract administration.
- Coordinates with Planning and Permit staff in the review of development plans for sewer and storm drainage; residential and commercial street development; and profiles of short-plats and sub-divisions to ensure compliance with County standards and policies. With input from the divisions of Transportation, Design and Maintenance, makes recommendations regarding changes necessary for achieving compliance. Represents Public Works at public hearings on proposed developments.
- Performs inspections of construction projects. Ensures that all phases of several road projects proceed on schedule and that specifications are met by contractors, utilities and other organizations involved in projects. Reviews progress reports and authorizes payments.
- Directs investigations and develops resolutions of claims and complaints from contractors or property owners. Maintains office records of design, construction and other engineering activities, as required by County, State, and Federal regulations.
- Coordinates with the Survey Section Supervisor/County Surveyor to ensure accurate, complete and quality field survey data is collected and that information is acquired in a cost-effective, efficient manner. Directs the preparation of, and prepares, more complex property descriptions.
- Requests and monitors material quality control review, sampling and analysis; preparation of soil profiles (testing and sampling) in connection with highway location and construction design; evaluation of new materials, construction materials, new test equipment and related activities. Ensures record files relative to sampling and testing are complete and accurate.
- Prepares, and provides direction in the preparation of, resolutions and documents for developments and Local Improvement Districts. Represents Public Works at public hearings; conducts and certifies elections and petitions for the formation of a Local Improvement District as necessary. Develops right-of-way data, information pamphlets, and procedural manuals. Works with the Prosecuting Attorney in preparation of bond sales for Local Improvement District financing. Recommends alternative financing methods as may be possible.
- Develops and maintains effective relations with the public. Represents Public Works on various committees; at neighborhood organization and community meetings; public hearings; before governmental bodies and in legal processes.
- Prepares complex technical engineering and administrative reports and develops critical correspondence and comprehensive reports in support of engineering projects and decisions.
- Participates in the development, implementation and review of ongoing programs and existing methods - assessing job effectiveness and cost efficiencies.

- Participates in the formulation and updating of goals and objectives consistent with the mission of the Department

Performs other related duties as assigned.

QUALIFICATIONS

- B.S. degree in Civil or related engineering and two (2) years of experience in an Engineer II or equivalent position and registration as a professional civil or structural engineer;

- AND -

- Possess or be able to obtain a valid driver's license by date of appointment.

Knowledge of....principles and practices of civil engineering and of the physical sciences (hydraulics, mechanics, etc.) involved; modern and efficient engineering methods and techniques in the design, construction and maintenance of facilities relative to one or more areas of Public Works engineering (e.g. Transportation, Design, Utility, Construction, etc.); project management, including planning, scheduling, monitoring, and problem solving; Knowledge of the application and interpretation of County regulatory codes, state regulatory and legislative requirements, court decisions and Attorney Generals opinions concerning the wide variety of engineering functions; departmental policies and procedures, work standards and codes applicable to the job.

Ability to....establish and maintain effective working relationships with engineering and survey staff, contractors, and the public; adopt approved engineering methods and standards to the planning, design and construction of a variety of public works projects; read and interpret complex plans and specifications and to become familiar with engineering standards; perform highly technical research work and to give reliable advice on difficult engineering problems; prepare, draft, interpret and utilize complex engineering plans, maps, specifications and reports, and to maintain orderly, accurate engineering records; perform complex and difficult engineering computations in designing major engineering projects; inspect and provide direction to technicians inspecting the work of contractors on complex engineering projects and to obtain adherence to plans and specifications; coordinate and effectively manage resources dedicated to a number of on-going projects; communicate and express ideas effectively, orally and in writing, including public speaking; give accurate and factual testimony at hearings or trials.

Skill in....the use and care of instruments and equipment employed in the area of specialization.

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