

County of Humboldt Job Specification
ASSISTANT ENGINEER I/II
Classification 0306A/B



DEFINITION

Under general supervision (Assistant Engineer I) to direction (Assistant Engineer II), performs a variety of professional engineering field and office work related to the management, planning, design, construction, and maintenance of the County's Capital Improvement Program; prepares specifications and conducts inspections of projects for streets, storm drains, and related structures; performs office and field work related to transportation studies and multimodal planning; prepares applications for and administers grants and other funding; provides project coordination, direction, and review; performs related duties as assigned.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision (Assistant Engineer I) and direction (Assistant Engineer II) from assigned supervisory or management personnel. Exercises no direct supervision over staff.

CLASS CHARACTERISTICS

Assistant Engineer I: This is the entry-level classification in the professional Engineer series. Initially under close supervision, incumbents learn and perform routine professional and technical engineering work in land development, public works infrastructure, and daily departmental operations, in addition to providing project management and administration. As experience is gained, assignments become more varied, complex, and difficult; close supervision and frequent review of work lessen as an incumbent demonstrates skill to perform the work independently. Positions at this level usually perform most of the duties required of the positions at the Assistant Engineer II level but are not expected to function at the same skill level and usually exercise less independent discretion and judgment in matters related to work procedures and methods. Work is usually supervised while in progress and fits an established structure or pattern. Exceptions or changes in procedures are explained in detail as they arise.

Assistant Engineer II: This is the journey-level classification in the professional Engineer series. Positions at this level are distinguished from the Assistant Engineer I by the performance of the full range of duties as assigned, working independently, and exercising judgment and initiative. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit. This class is distinguished from the Associate Civil Engineer, in that the latter requires registration as a Professional Engineer consistent with regulatory requirements and exercises independent discretion and judgment in matters related to work procedures and methods.

Positions in the Assistant Engineer I/II class series are flexibly staffed and positions at the II level are typically filled by advancement from the I level after gaining the knowledge, skill, and experience which meet the qualifications for, and after demonstrating the ability to perform the work of, the higher-level classification.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change, or rescind the work assignment of different positions.

Some duties, knowledge, skills, and abilities may be performed in a learning capacity for entry-level (I Level) positions.

- Plans, designs, and inspects all phases of public works projects such as roadway, traffic signal, and storm drainage systems, including defining the scope of the project; securing adequate funding from federal and state grant programs and other funding sources; coordinating with permitting, environmental, and public utility agencies; performing historical document research and review; surveying and engineering analysis of alternatives; preparing plans, specifications, and cost estimates; performing research, map, and field studies and surveys; drafting site plans with specialized computer software; applying engineering principles and practices to specific problems; coordinating construction schedules with other projects and agencies; inspecting construction of projects to ensure compliance with construction documents; and related planning and design work.
- Reviews construction plans prepared by consulting engineers and private contractors to verify compliance with County sidewalk, public utility, and improvement requirements; checks plans for conformance with regulations regarding line, grade, size, elevation, and location of structures; reviews engineering calculations of other engineers or engineering technicians; participates in pre-design, construction, and utility coordination meetings and issues permits for work performed in or on County infrastructure.
- Provides construction administration, management, and inspection of capital projects, including coordinating work with other divisions and County departments, reviewing and inspecting work to ensure conformance with plans and specifications, tracking and maintaining all project accounting, coordinating schedules, and providing public notices of projects.
- Prepares consultant requests for proposal for professional and/or construction services and the advertising and bid processes, including responding to questions; evaluates proposals and recommends project award; prepares submittal packages for legal review.
- Investigates field problems affecting property owners, contractors, and maintenance operations; responds to citizen inquiries and complaints; provides information to the public at the front counter in person, via telephone, or other means of communication regarding grading, permits, right of way and property line information, utility information, slope stability and groundwater issues, improvement plan check, and payment processes.
- Conducts a variety of preliminary materials investigations for design activities; performs geological subsurface investigations and analyzes samples.
- May direct and review the work of technical engineering staff; assists with training technical support staff; may provide input into selection, evaluation and disciplinary matters and other personnel decisions.
- Assists in budget preparation for the assigned projects or programs; monitors annual expenditures; assists in bid procedures.
- Designs roadway structural sections, following established guidelines.
- Prepares detailed drawings, makes calculations and develops recommendations; prepares and writes a variety of technical and administrative reports.
- Reviews plans, tract, parcel maps, and applications for land development projects for conformance to applicable codes, regulations, and ordinances.

- Reviews sewer and hydrology studies and hydraulic calculations.
- Meets and confers with contractors, engineers, developers, architects, a variety of outside agencies, and the general public in acquiring information and coordinating engineering matters; provides information regarding County development requirements.
- Attends meetings, conferences, workshops, and training sessions and reviews publications and audio-visual materials to become and remain current on principles, practices, and new developments in assigned work areas.
- Drafts a variety of written communications, including analytical reports, correspondence, and revisions to plans, policies, and procedures.
- Drafts memos, resolutions, and project information for the Board of Supervisors.
- Provides technical direction and training to other engineering and technical staff.
- Performs other related duties as assigned.

The requirements listed below are representative of the knowledge and ability required. Reasonable accommodations may be made to enable qualified individuals with disabilities to perform the essential functions.

QUALIFICATIONS

Knowledge of:

- Principles and practices of leadership.
- Principles of providing functional direction and training.
- Applicable federal, state, and local laws, codes, and ordinances relevant to the area(s) of responsibility.
- Civil engineering principles, techniques, policies, and procedures.
- Principles and practices of materials testing engineering, including geology and soil mechanics.
- Methods, materials, and techniques used in the construction of public works projects, including water and wastewater systems, storm water, and street design.
- Basic principles, practices, procedures, and standards related to County public works, engineering infrastructure development and maintenance, and surveying.
- General design, layout, and construction practices for public improvements such as streets, storm drains, grading, and landscaping.
- Modern office practices and technology, including personal computer hardware and software application related to the work, such as computer-aided drafting (CAD) concepts and applications, and Geographic Information Systems (GIS) programs.
- Principles of advanced mathematics and their application to engineering work.
- Practices of researching engineering and design issues, evaluating alternatives, making sound recommendations, and preparing and presenting effective staff reports.
- Safety principles and practices pertaining to the work.
- Grant writing procedures.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and County staff.
- The structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

- Modern equipment and communication tools used for business functions and program, project, and task coordination, including computers and software programs relevant to work performed.

Ability to:

- Plan, organize, and coordinate the work of assigned staff.
- Effectively provide staff leadership and work direction.
- Apply engineering principles and techniques to evaluate and solve simple to difficult civil engineering problems.
- Prepare, understand, and interpret engineering construction plans, specifications, and other contract documents.
- Conduct comprehensive engineering studies and prepare reports with recommendations.
- Assist in, develop, and administer contracts for professional services and construction in a public agency setting.
- Design engineering projects.
- Read and understand technical drawings and specifications.
- Perform mathematical and engineering computations with precision.
- 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.
- Make engineering design computations and check, design, and prepare engineering plans and studies.
- Understand, interpret, and apply all pertinent laws, codes, regulations, policies and procedures, and standards relevant to work performed.
- Effectively represent the department and the County in meetings with governmental agencies; community groups; various business, professional, and regulatory organizations; and in meetings with individuals.
- Effectively use computer systems, software applications relevant to work performed, and modern business equipment to perform a variety of work tasks.
- Communicate clearly and concisely, both orally and in writing, using appropriate English grammar and syntax.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Minimum Qualifications:

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 a bachelor's degree from an accredited college or university with major coursework in civil engineering or a related field

and

Assistant Engineer I: None.

Assistant Engineer II: Two (2) years of experience performing increasingly responsible professional civil engineering design and construction work or materials testing at a level equivalent to the County's class of Assistant Engineer I.

Licenses and Certifications:

- Must possess a valid US driver's license upon date of application. Must obtain California driver's license following hire date per California DMV regulations.

PHYSICAL DEMANDS

- Mobility to work in a standard office setting and use standard office equipment, including a computer; to operate a motor vehicle and visit various County sites; primarily a sedentary office classification although standing in work areas and walking between work areas may be required; occasionally bend, stoop, kneel, reach, push, and pull drawers open and closed to retrieve and file information; ability to lift, carry, push, and pull materials and objects up to 50 pounds, or heavier weights, in all cases with the use of proper equipment and/or assistance from other staff.
- Vision to read printed materials and a computer screen.
- Hearing and speech to communicate in person and over the telephone.
- Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment.

When assigned to field inspection:

- Mobility to work in changing site conditions; to sit, stand, and walk on level, uneven, or slippery surfaces; to reach, twist, turn, kneel, and bend; and to operate a motor vehicle and visit various County sites.
- Strength and stamina to perform light to medium physical work; lift, carry, push, and pull materials and objects averaging a weight of 50 pounds, or heavier weights, in all cases with the use of proper equipment and/or assistance from other staff.
- Vision to inspect site conditions and work in progress.
- Fieldwork requiring frequent walking in operational areas to identify problems or hazards, with exposure to hazardous materials in some site locations.

ENVIRONMENTAL CONDITIONS

- Office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances.
- Also includes field work with exposure to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, vibration, 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.

ADDITIONAL REQUIREMENTS

Some departments may require pre-employment screening measures before an offer of employment can be made (i.e. background screening, physical examination, etc.).