

COUNTY OF SOLANO
CLASS SPECIFICATION
ENGINEER ASSISTANT
Effective Date of Revision: XX/XX/XX

CLASS SUMMARY:

Under immediate supervision, incumbents in the class of Engineer Assistant performs civil engineering work in development, design and construction of civil and/or traffic engineering projects.

DISTINGUISHING CHARACTERISTICS:

This is entry level within the professional Civil Engineer series level engineering using judgment and initiative to perform common engineering projects. The amount of supervision received and complexity of assigned projects varies with experience. As experience is acquired, the employee is expected to receive only occasional instruction or assistance as new or unusual situations arise.

This class is distinguished from the:

- Civil Engineer, which is expected to function at a higher knowledge level and exercise more independent discretion and judgement in matters related to work procedures and methods.

SUPERVISION RECEIVED AND EXERCISED:

- Supervision is provided by an Engineering Services Supervisor or Senior Civil Engineer.
- And
- Employees in this class may provide technical assistance to newly hired engineers and technical level engineering staff.

ESSENTIAL DUTIES: This class specification represents the core area of responsibilities; specific position assignments will vary depending on the needs of the department.

- Designs or assists in the design of projects such as roads, drainage structures and buildings; prepares or assists in preparing construction plans, contract specifications and cost estimates, insuring conformity to state, federal and local requirements.
- Inspects or assists in the inspection of construction of subdivisions, private roads and projects awarded to contractors or County crews.
- Checks plans and design calculations for conformance to applicable codes, standards and engineering design principles; recommends acceptance or rejection of subdivision plans and confers with supervisors regarding County project plans.
- Analyzes survey information for certain County, federal and state projects; prepares project proposals, specifications and instructions for project contractors.
- Assists in and learns to apply principles of specialized professional engineering activity related to traffic, grading/soils, hydraulics, pavements, utilities design, and construction.
- Maintains professional knowledge in applicable areas and keeps abreast of changes in job-related rules, statutes, laws and new business trends; makes recommendations for the implementation of changes; reads and interprets professional literature; attends training programs, workshops and seminars as appropriate.

EDUCATION AND EXPERIENCE:

- **Education/Training:** Bachelor's degree from an accredited college or university in Civil Engineering is required.

AND

- **Experience:** No experience required.

LICENSING, CERTIFICATION, AND REGISTRATION REQUIREMENTS:

- Possession of or ability to obtain a valid Class C California driver's license is required.
- Possession of Engineer-in-Training Certification or a Registered Civil Engineer license in the State of California is required.
- Incumbents shall obtain Registration as a Civil Engineer in the State of California within 4 years from the date of employment. Incumbents of this class will demonstrate necessary knowledge and abilities to be promoted to Civil Engineer within 4 years.

Note: All licenses, certificates and registrations must be acquired and/or kept current while employed in this class. Failure to do so may constitute cause for personnel action in accordance with Civil Service Rules or applicable bargaining agreement.

REQUIRED KNOWLEDGE, SKILLS, AND ABILITIES:

Knowledge of:

- Modern principles and practices in civil engineering and surveying.
- Mathematics, physics and chemistry as applied to civil engineering.
- Strength, properties and uses of engineering construction materials.
- Practices, methods and equipment used in construction, hydraulics and hydrology.
- Knowledge of methods and procedures in surveying used to describe real property.

Skill and/or Ability to:

- Operate office equipment including a personal computer, copy and fax machines and printers.
- Drive a motor vehicle.
- Ability to prepare complete designs of common road and drainage structures with skill and accuracy.
- Accurately produce drafting work from field notes and other data.
- Multi-task a variety of assignments, ensuring that timelines are met.
- Utilize computer aided drafting and engineering design software.
- Perform work with increasing independence and judgment as experience is gained.
- Draw detailed plans and write sections of specifications.
- Inspect road, flood control, drainage structures, and related construction in the field.
- Ability to prepare lengthy technical reports.
- Develop and implement operational procedures.
- Research regulations, procedures and/or technical reference materials on inspection criteria for construction.

PHYSICAL REQUIREMENTS:

- **Mobility and Dexterity:** Positions in this class typically require stooping, kneeling, reaching, standing, walking, fingering, grasping, feeling (i.e. sense of touch), and repetitive motion.
- **Lifting, Carrying, Pushing and Pulling -- Light Work:** Employees in this class will be exerting up to 20 pounds of force occasionally and/or up to 10 pounds of force frequently, and/or a negligible amount of force constantly to move objects.
- **Vision:** Positions in this class require the employee to have close visual acuity, with or without correction, to prepare and analyze data and figures, transcribe, view a computer terminal, read, etc. Positions in this class also requires employees to have depth perception in order to operate a motor vehicle.
- **Hearing/Talking:** Positions in this class require the employee to perceive the nature of sounds at normal speaking levels with or without correction, and have the ability to receive detailed information through oral communication. Positions in this class require the employee to express or exchange ideas by means of the spoken word.

WORKING CONDITIONS:

- **Office Work plus Outdoor Work:** While most work will be in an office setting, visits to outdoor worksites will require an employee in this class to occasionally work outside and be subject to a variety of weather conditions, walking on uneven terrain, and working around vehicles in operation and around machinery with moving parts.
- **Work in an Industrial Area:** Employees in this class will often be working in an industrial area and thus will be subject to exposure to moving mechanical parts, electrical currents, toxic agents, fuel, oil, gases, smoke, fumes, odors, dust, and vibrations; employees may be subject to injuries when working with hand and power tools and equipment.
- **Traffic Hazards:** Employees in this class will be required to operate a vehicle and thus will be subject to traffic hazards while driving.

OTHER REQUIREMENTS:

- **Independent Travel:** Incumbents are required to travel independently, for example, to perform work at other work sites, to attend meetings with other County employees, to attend meetings with community organizations, etc.
- **Hours of Work:** Incumbents may be required to work weekends, holidays, irregular hours, on-call, and after normal business hours.

CLASS HISTORY AND CLASS INFORMATION:

- **Date Approved by the Civil Service Commission:** October 8, 1986;
- **Date Adopted by the Board of Supervisors:** June 30, 2003
- **Date(s) Revised:** November 2002, May 2003, April 12, 2006
- **Date(s) Retitled and Previous Titles of the Class:** Associate Civil Engineer, Civil Engineer (Entry)
- **Class Code:** 372010