

**COUNTY OF SOLANO**  
**CIVIL ENGINEER (SENIOR)**

Rev. 04/06

**DEFINITION**

Participates in and provides technical oversight of professional and technical engineering staff in the performance of advanced level professional and technical engineering work including planning, scheduling, designing, organizing, evaluating and reviewing public works projects; to enforce Federal, State, and local regulations and codes.

**CLASS CHARACTERISTICS**

This is an advanced journey level class that possesses a significant level of specialized, technical, and functional expertise beyond that expected at the journey level. Incumbents must possess highly specialized knowledge, abilities, skills, and experience, and often exercise independent judgment in the performance of duties. This class assumes responsibility for managing a defined section and provides technical and/or functional oversight of subordinate professional, technical, and clerical staff. This class is distinguished from the Engineering Services Supervisor in that the latter has overall supervisory responsibility for a team of professional engineers and technician level staff members.

**SUPERVISION RECEIVED AND EXERCISED**

Works under the direction or general direction of the Engineering Services Supervisor or Engineering Manager.

Exercises technical and functional oversight over professional, technician and clerical staff.

**EXAMPLES OF DUTIES** *-Duties may include but are not limited to the following:*

Plan, organize, direct, and coordinate inspection of the work, sampling, and testing of materials and approval of construction projects.

Draft, check, and approve complex plans and specifications for construction; interprets, and enforces project plans, specifications, and standards; 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.

Designs and directs projects such as roads, bridges, drainage structures and buildings; prepares construction plans, contract specifications and cost estimates ensuring conformity to state, federal and local requirements; inspects construction activity; facilitates and monitors construction bid and operational activity; interprets contract specifications; prepares contract change orders and negotiates additional costs or savings.

Serves as a liaison between the County and other agencies regarding intergovernmental projects and studies; analyzes survey information for certain County, Federal and State projects; investigates funding opportunities and submits applications for funding; provides project proposals, specifications and instructions to project contractors; administers specially funded projects and programs.

Develops and/or implements pavement management systems; collects and analyzes data needed to recommend remedial measures and to otherwise maintain County roadways; conducts traffic demand forecasting and capacity studies.

Reviews and approves contractors shop drawings, material submittals, traffic control plans, erosion control plans, pollution control plans and construction schedules.

Directs and/or performs construction inspections; recommends maintenance and improvement work to be accomplished; coordinates construction activity and provides liaison with interested parties; enforces pollution controls on project sites.

Consults with supervisor regarding budgets and long term departmental goals; performs related administrative tasks; measures and monitors quantities of materials used in construction; originates pay estimates and submits invoice for payment; notifies emergency responders of upcoming road construction and bridge projects.

Responds to complaints concerning flooding, roadway design, and other such matters made by the public; investigates problems, analyzes data compiled and determines appropriate solutions to resolve the problem within constraints, finances, long range plans and political concerns.

Supervises a project or operations team of assigned engineers and technicians; enforces safety requirements on project sites.

### **JOB RELATED AND ESSENTIAL QUALIFICATIONS**

#### **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.

Methods and procedures used in describing real property.

#### **Skills to:**

Utilize basic office equipment and engineering tools.

Drive a motor vehicle.

**Ability to:**

Prepare and complete designs of road and flood control structures with skill and accuracy.

Prepare accurate drafting work from field notes and other data.

Draw detailed plans and write sections of specifications.

Inspect road, flood control and related construction in the field.

Prepare technical reports.

Understand, interpret, and explain laws, regulations and policies governing civil engineering operations.

Develop and implement operational procedures.

Understand engineering objectives in relation to departmental goals and procedures.

Understand and analyze expenditure reports.

Research regulations, procedures and/or technical reference materials.

**Experience and Education/Training**

**Experience:**

Five (5) years of increasingly responsible professional civil engineering experience that includes, traffic, structure, hydraulic, and/or utility system design and/or construction responsibilities.

**Education/Training:**

Bachelor's degree from an accredited college or university in Civil Engineering is required.

**SPECIAL REQUIREMENTS**

Possession of a valid license as a Registered Civil Engineer issued by the California State Board of Registration for Professional Engineers is required.

Possession of or ability to obtain a valid Class C California driver's license is required.

**SUPPLEMENTAL INFORMATION**

Independent travel is required.

Positions allocated to this class may require specific knowledge of an engineering specialty.

The title of this class is used to promote consistency in the County Classification/Pay Plans.

**ADA COMPLIANCE**

**Physical Ability:** Tasks require the ability to exert moderate, though not constant physical effort, typically involving some combination of climbing and balancing, stooping, kneeling, crouching, and crawling, and which may involve some lifting, carrying, pushing and/or pulling of objects and materials of moderate weight (12-20 pounds). Tasks may involve extended periods of time at a construction site on ones feet conducting inspections.

**Sensory Requirements:** Some tasks require visual perception and discrimination. Some tasks require oral communications ability.

**Environmental Factors:** Incumbents must be able to work in varying environments that may include exposure to dusts, heat, cold, odors, toxic agents, noise, smoke, vibrations, wetness, humidity, machinery, bright or dim light, and electrical currents in an open construction area which requires additional care when conducting work tasks.



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**Yolanda Irigon**  
**Director of Human Resources**

**CSC Date:** April 12, 2006  
**Revised Date:** November 2002  
**BOS Date:** June 30, 2003