

## COUNTY OF SOLANO

### CIVIL ENGINEER

Rev. 04/06

#### **DEFINITION**

Performs complex, professional civil engineering work related to inspection, development, design and construction of civil engineering projects including roads, bridges, fuel tanks, storm drains, grading, drainage, flood control, and related projects.

#### **CLASS CHARACTERISTICS**

This is the fully qualified professional engineer level within the Civil Engineer series and is characterized by the use of independent judgment and initiative to perform assigned engineering projects, which require a professional engineer registration. Judgment is required both in interpreting established policies, goals, and objectives, and in applying concepts, plans, strategies, which may deviate from traditional methods and practices. Monitors and reviews plans and project work in progress and engineering plans and work and performance of other engineers providing technical assistance and guidance. 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 the Building Official.

May lead a project team or provide functional oversight of technician level staff or function as a lead worker in civil engineering work.

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

Reviews and approves plans for grading, erosions control, drainage/storm water design, traffic control, and/or pollution control; and checks calculations, material submittals and construction schedules.

Designs and 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; prepares contract change orders and negotiates additional costs or savings.

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.

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.

Directs and/or performs construction inspections; recommends maintenance and improvement work to be accomplished; coordinates construction activity and provides liaison with interested parties.

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.

May supervise a project or operations team of assigned engineers and technicians; may supervise technical work such a permit processing activity.

### **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 and review the work of other engineers for a variety of projects with skill and accuracy.

Prepare accurate drafting work from field notes and other data.

Draw detailed plans and write sections of specifications and/or review plans and reports submitted by other engineers; validate and inspect work.

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

Prepare technical reports and review reports prepared by other engineers.

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.

Research regulations, procedures and/or technical reference materials.

**Experience and Education/Training**

**Experience:**

Two years of professional civil engineering experience in the assigned specialty area.

**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; the concept of this class is what is known in the engineering profession as an Associate Civil Engineer.

**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 involve field work activities at a construction site conducting inspections.

**Sensory Requirements:** 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**

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