

COUNTY OF SOLANO

ENGINEERING TECHNICIAN (SENIOR)

DEFINITION

Performs complex technical engineering work in the office and in the field involving any of the following functional area; construction inspection, environmental permitting/design, surveys and mapping or traffic and permits or other specialized work.

CLASS CHARACTERISTICS

This is an advanced level technician class performing a variety of complex engineering tasks. This class is characterized by the responsibility to perform specialized technical tasks in support of engineering services. Incumbents may specialize in traffic studies, land/topographic/construction surveying, plan checking/processing, engineering design, construction inspection or other such activities. Work may be performed independently or in a lead worker capacity with a small team of engineering technicians.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from the Civil Engineer.

May provide technical and functional assistance to lower-level engineering technicians.

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

Administers departmental quality assurance program; provides training/bi-annual training and certifies construction personnel in material testing and inspection methods and procedures; prepares and submits quality assurance program reports to document individual training and certification requirements.

Inspects construction, enforces plans and specifications, and ensures safety in work zones; measures, calculates, and counts completed construction work actions to develop monthly contractor pay estimates; uses computerized spreadsheet to create monthly contractor pay estimates detailing payment for work performed; routes pay estimates to contractors.

Performs as office engineer for contract construction projects; assures compliance with Federal, State and local payroll requirements; prepares project reports, monthly pay estimates, and notice of completion.

Reviews records of survey and parcel maps for accuracy and completeness; writes legal descriptions; draws maps for various projects and makes prints or reproductions of recorded maps; makes calculations in connection with assessment splits.

Interacts with contractors to resolve job-related problems; contacts other agencies as part of problem resolution efforts.

Reviews contractor-supplied materiel submittals for acceptability to use in construction projects; approves or disapproves submittals as appropriate; notifies contractors of disapproval actions for resubmittal.

Verifies survey data (cut sheets) to field conditions for construction projects.

Responds to and investigates complaints from the public; develops corrective action to resolve problems; initiates unsolicited investigations to resolve developing public complaints/problems.

Performs soil and aggregate testing for compaction, particle size, quality, and chemical composition using a nuclear soils density gauge, scales, meters, or other apparatus; collects and analyzes samples; maintains current nuclear gauge license to operate a nuclear soils density gauge; maintains nuclear gauge in serviceable condition; maintains material test laboratory equipment; ensures scheduling and conducting of annual calibration checks.

Reviews records of survey and parcel maps for accuracy and completeness; writes legal descriptions; draws maps for various projects and makes prints or reproductions of recorded maps; makes calculations in connection with assessment splits.

Orders and approves payment for expendable supplies.

Reviews and edits environmental reports to ensure permit conditions are integrated into upcoming projects.

Provides assistance to professional engineers by preparing complex engineering plans, making calculations, researching and interpreting engineering records and/or maps; applies traffic engineering standards in performing various traffic flow studies, counts, accident investigations, surveys, signing, and marking analyses; assists professional engineers in the administration of the Solano County Flood Control and Water Conservation District by maintaining records of water deliveries and payments for water received.

Conducts studies to determine traffic volumes, prevailing speeds, types of signing and striping required; maintains traffic accident records and sign inventory; provides report to County Risk Manager concerning County liability for traffic accidents; makes recommendations to improve the safety of County roads.

Prepares, receives, completes, processes, and maintains a variety of forms, reports, correspondence, logs, and records; writes work reports and maintains files; informs County management of progress, problems and costs on projects involving outside engineers or architects; may act as resident engineer on a small construction project or assist the resident engineer on a larger project.

Attends meetings as needed.

Maintains a comprehensive, current knowledge of applicable regulations, standards, and specifications; maintains an awareness of new methods, materials, trends, and advances in the profession; reads professional literature; maintains professional affiliations; attends workshops and training sessions as appropriate.

JOB RELATED AND ESSENTIAL QUALIFICATIONS

Knowledge of:

Policies, procedures, and activities of the County and of departmental practices as they pertain to the performance of duties relating to the position; agency goals and purposes; terminology, principles, and methods utilized within the department.

Laws, ordinances, standards, and regulations pertaining to specific duties and responsibilities of the position.

Principles of algebra and trigonometry;

principles of traffic engineering.

Principles and practices associated with land surveying, drafting, survey procedures, and survey equipment.

Principles and practices associated with traffic engineering.

Common engineering construction methods.

Materials testing procedures.

Legal descriptions, and their interpretation and application.

Computers and software programs typically used in the position; computerized data collection, retrieval, and analysis.

Skills to:

Operate a nuclear soils density gauge, coring machine, laboratory equipment, oven, weighing scale, survey tools, engineer's level, tripod, rod, engineer's scale, drafting tools, hand tools, measuring devices, or other equipment typically used in the position.

Utilize basic office equipment; use a computer to gather and analyze data.

Drive a motor vehicle.

Ability to:

Comprehend, interpret, explain, and apply a variety of complex laws, regulations, procedures, and other information related to engineering construction and design.

Understand program objectives in relation to departmental goals and procedures.

Develop and implement operational procedures.

Draft plans and maps; prepare engineering specifications.

Interpret engineering records and maps.

Lead and train others engaged in technical engineering activity; plan, organize, and prioritize daily assignments and work activities.

Prepare narrative and statistical reports; maintain accurate records and document actions taken.

Perform required mathematical calculations.

Research regulations, procedures and/or technical reference materials.

Communicate clearly and concisely, both orally and in writing.

Establish, maintain, and foster positive and harmonious working relationships with those contacted in the course of work, including those who have objectives counter to assigned role.

Experience and Education/Training

Experience:

Five (5) years of full time technical engineering experience involving engineering design, construction inspection, traffic engineering, surveying, plan review, or other specialized area(s) of assignment, supplemented by experience in interpretation and enforcement of specification requirements, field inspections, soil/aggregate material testing, and interaction with contractors.

Education/Training:

Completion of 15 semester units or equivalent from an accredited college or university in mathematics, engineering design, construction inspection, traffic engineering, surveying, or other related fields.

SPECIAL REQUIREMENTS

Possession of valid Caltrans Certificate of Proficiency in Sampling & Testing may be required.

Possession of valid Caltrans Certificate of Proficiency as an Acceptance Tester may be required.

Possession of a valid Class C California Driver's License is required.

SUPPLEMENTAL INFORMATION

Independent travel is required.

ADA COMPLIANCE

Physical Ability: Tasks require the regular and, at times, sustained performance of moderately physically demanding work, typically involving some combination of climbing and balancing, stooping, kneeling, crouching, and crawling, and that may involve the lifting, carrying, pushing, and/or pulling of moderately heavy objects and materials (20-60 pounds).

Sensory Requirements: Some tasks require the ability to perceive and discriminate sounds, depth, texture, and visual cues or signals. Some tasks require the ability to communicate orally.

Environmental Factors: Performance of essential functions may require exposure to adverse environmental conditions, such as dirt, dust, humidity, rain, temperature and noise extremes, machinery, traffic hazards, and uneven terrain.

Director of Human Resources

Established Date: October, 1986

Revised Date: June, 2002

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BOS Date: June 30, 2003

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