

CLASS SPECIFICATION



CLASS: Senior Engineering Technician
ALLOCATION: Community Development and Services Agency
FLSA STATUS: Non-Exempt
UNION AFFILIATION: YCEA

ESTABLISHED: July 2022
REVISED:

JOB SUMMARY:

Under general supervision, provides lead direction and technical assistance and training to Engineering Technicians; performs the most complex and responsible paraprofessional and technical office and field work in support of County engineering and GIS activities including surveying, drafting, Stormwater Management Program, National Flood Insurance Program, permit issuance, plan review, and creation and maintenance of maps, tables, graphs and other geographic source data with the use of enterprise GIS and other computer programs, and performs related work as assigned.

This is the lead / specialist in the engineering technician class series. This position is not flexibly staffed with Engineering Technician I/II or III classifications.

CLASS CHARACTERISTICS:

This position reports directly to a Principal Engineer and may receive lead direction from other professional Engineers. This class is distinguished from the Assistant/Associate Engineer in that the latter provides higher level assistance to management staff or higher level engineers in the areas of research, data collection, project administration, preparation of reports and preparation of engineering plans and specifications. This class is further distinguished from Engineering Technician III as the scope of responsibilities are focused on project management, providing lead direction over assigned functions, and serving as resource expert on assigned functions.

EXAMPLES OF DUTIES:

Essential:

- Act as project leader in an assigned functional area, program and/or projects; provides lead direction, technical assistance, training, and work review to Engineering Technicians
- Assists with the planning, implementing, coordinating, training and providing day-to-day guidance over an assigned functional area, program and/or projects; organizes and assigns work, sets priorities and follows up to ensure coordination and completion of assigned work.
- Perform the most complex office and field duties related to land surveying and mapping; work on a survey party; may serve as party chief on survey crew; make field calculations and reduces field survey notes; and make related office computations.
- Provide information to the public, developers, engineers, surveyors, other departments and external agencies associated with County procedures and regulations, which require the interpretation of policies and procedures related to plan requirements, property ownership and facility locations; provide guidance to other technicians as a technical expert; may review work of others.
- Review a variety of plans and designs to ensure conformance with codes and regulations; review engineering drawings and specs to verify calculations, quantities, accuracy and completeness.
- Review deeds, easements, records, documents and other survey data pertinent to a mapping or survey analysis project.
- Review proposed projects for conformance with federal, state, and county requirements for development within floodplains.
- Conducts complex spatial analysis using GIS software tools with multiple databases and GIS software to perform analyses for special projects that involve multiple stakeholders.
- Analyzes GIS needs for multiple County departments and coordinates project scopes, schedules, and work with stakeholders.
- Assists users and provides technical guidance and support for the user group and departmental staff on GIS systems, applications and procedures.
- Researches and designs databases; collects, analyzes, and inputs data, including collecting extensive utility field data using mapping-grade global positioning system; develops, produces, and analyzes output.

- Provides project management for development of CDSA's geographic information system, including developing the utility GIS schedule, analyzing data and inputs, drafting the work plan, monitoring resources, training interns and coworkers, communicating with field employees and their supervisors on issues related to these functions and overall development of the utility portion of the GIS.
- Maintain Public Works online information and participate in improving online information.
- Support the administration of programs including but not limited to, Stormwater Pollution Prevention and Floodplain Management, including use of Best Management Practices, performing water quality monitoring and inspections, and applying water quality enforcement actions.
- Inspect public works construction and County infrastructure such as roads, bridges and related projects performed by private contractors and County crews for compliance with plans and specifications; conduct compliance tests on construction materials.
- Analyze, create, compose, modify and edit GIS spatial and attribute data; export data for a variety of special projects.
- Produce maps, tables, charts, plans and graphs for internal and external use; determine and execute the appropriate sequence of data processing tasks; use established GIS and permitting systems to query data and produce documents.
- Update and maintain GIS databases according to department's policies and procedures; analyze and improve data and make corrections in response to changes and additional data sets integrated into GIS.
- Provide a variety of ad hoc queried data to County departments and outside agencies.
- Perform editing tasks such as constructing new features and editing attributes in a GIS; perform spatial operations with GIS tools to analyze and query data.
- Perform quality control checks to integrity of GIS data and applications; review and resolve conflicts in data; evaluate currency, usefulness, and completeness of data.
- Provide assistance to departments, outside agencies and the general public in obtaining information; research and compile materials and maps; produce digital copies of County data as requested; maintain maps and records; provide technical support related to software troubleshooting.
- Serve as administrator for a variety of department software and database systems, and TRAKiT, Tyler Software, iWorQ; set up permissions, add and delete users, configure modules, and provide training and technical assistance to users; create and edit webpages for the Department's website.
- Maintains GIS layers including Fire Districts, Floodplain Management, Storm Water Management, and Water Quality GIS layers; includes analyzing data and inputs.
- Perform the full range of engineering technician duties.
- Establish and maintain accurate files and records; develop and update permanent files for County retention.

Important:

- Comply with all County equipment and safety policies and procedures, and California Occupational Safety and Health Administration (CalOSHA) rules and regulations.
- Use specialized equipment to develop and produce copies of maps, drawings and blueprints; use specialized surveying instruments and field measuring devices.
- Use standard office equipment in the course of the work; drive a personal or County-owned motor vehicle to attend meetings and visit work sites.

EMPLOYMENT STANDARDS:

Knowledge of:

- Techniques for working successfully with other employees in a lead capacity.
- Principles and practices of being a resource expert.
- Principles of supervision, including training, motivation, evaluation, and discipline
- Engineering principles, practices and methods applicable to office and fieldwork involving the design and construction of public works projects, surveying and drafting.
- Principles and practices of cartography and engineering drafting including map projections and scales.
- In depth knowledge of Geographic Information Systems (GIS), including techniques for graphical representation, data analysis and input, geodatabases, and quality assurance control.
- Geographic Information System (GIS), Computer-Assisted Design (CAD), AutoCAD, ESRI based ArcGIS suite of software, automated mapping applications, and other relevant software, programs and databases and their uses.
- Terminology, methods, principles, practices and techniques used in GIS and computer operating systems.
- Electronic equipment, computer hardware and software, including applications and programming.
- Engineering or surveying mathematics.

- The County's Stormwater Management Program, SWPPPs.
- FEMA Flood Insurance Rate Maps, federal and state floodplain development standards, flood zones, elevation certificates.
- Relevant laws, codes, regulations and ordinances.
- TrakiT and Tyler, CDSA's land management and permitting program.
- The County's addressing system, and its interconnectivity with CDSA's land management program.
- Safety principles, practices and equipment related to the work.

Skill in:

- Providing lead direction over assigned staff including planning, directing and reviewing the work of others on a project or day-to-day basis.
- Performing responsible engineering office and fieldwork including surveying, drafting, construction inspection and various computer programs.
- Technical duties in support of the County's GIS application and production of reports, maps, and graphics, including field work involving data collection, quality assurance and control, data loading and editing, and analysis.
- Competently using relevant software, programs, and computer applications to import/export and analyze data.
- Reading, reviewing, and interpreting engineering drawings, maps, plans and specifications, legal descriptions, regulations, survey data, and technical documents.
- Gathering, compiling, and analyzing data and information and preparing accurate technical reports and documents.
- Performing accurate mathematical calculations.
- Communicating and working effectively with a variety of individuals, agencies and organizations.
- Planning, organizing and prioritizing the work of others on a project or day-to-day basis.
- Properly using engineering equipment, tools and instruments routinely used by the Public Works Department.
- Understanding and implementing the County's Stormwater Management Program.
- Planning, coordinating, operating, and managing computer systems to meet work unit needs including GIS, Autocad, and programs used to maintain online information.
- Activities pertaining to CDSA's land management program; including administrative functions, configurations, issues, and resolutions.
- Performing technical and professional work independently.

Ability to:

- Analyze and design geodatabases associated with the GIS base mapping and subsequent map layers.
- Perform technical GIS work involving quality assurance and control, data analysis/loading, and editing.
- Research sources of geographic data and collect, analyze, interpret and integrate cartographic data from different sources to prepare maps and reports.
- Independently interpret maps; prepare maps accurately delineating feature locations and boundaries.
- Understand and implement the County's Stormwater Management Program, including use of Best Management Practices, performing water quality monitoring and inspections, and applying water quality enforcement actions.
- Assist in public outreach efforts associated with the County's Stormwater quality and flood plain management programs.
- Take the lead on an assigned program or task.
- Plan work and carry out projects independently.
- Deal tactfully and effectively with the public, regulatory agencies and policy-making bodies, developers, engineering firms and contractors, and others contacted in the course of the work.
- Organize, plan and prioritize work, developing specific goals and plans to accomplish work in a timely manner as established by regulations and local policy.
- Provide lead direction; effectively train staff.
- Communicate clearly and concisely, both verbally and in writing.

Physical Demands: The physical demands and work environment described here are representative of those that must be met by an employee to successfully perform the essential function of the job, with or without accommodation. Prospective employees must complete a pre-employment medical exam (Occupational Group V, which will measure the ability to:

- See well enough to read fine print and view a computer screen; speak and hear well enough to understand, respond, and communicate clearly in person and on the telephone; independent body mobility sufficient to stand, sit, walk, stoop and bend to access the work environment and a standard office environment; manual dexterity and

sufficient use of hands, arms and shoulders to repetitively operate a keyboard and to write; and the ability to sit or walk for prolonged periods of time.

- Strength and stamina to walk for long periods of time and conduct field inspections and investigations.
- Perform physical activities that require considerable use of arms and legs, and moving your whole body, such as climbing, lifting, walking, stooping, kneeling, crouching and crawling.
- Mobility to drive a motor vehicle to visit field sites.

Accommodation may be made for some of these physical demands for otherwise qualified individuals who require and request such accommodation.

Work Environment:

- Work is performed both in office and in the field at various work sites.
- Position may work with exposure to heavy traffic, hazardous terrain, moving construction equipment, noise, chemicals, and various weather conditions (sometimes extreme).

QUALIFICATIONS:

The minimum and preferred requirements are listed below. While the following requirements outline the minimum qualifications, Human Resources reserves the right to select applicants for further consideration who demonstrate the best qualifications match for the job. Meeting the minimum qualifications does not guarantee further participation in selection procedures.

Licenses and Certification:

- The ability to obtain a valid California Class C driver's license within ten (10) days of employment; maintain throughout employment.
- Valid certification through CASQA as a Qualified SWPPP Developer (QSD) desirable

Special Requirements:

- Must successfully complete an extensive and thorough background investigation which may include Live Scan fingerprinting prior to hire.
- DMV printout prior to hire.
- May be required to file statements of economic interest with the Yuba County Clerk/Recorder.
- Will be required to perform disaster service activities pursuant to Government Code 3100-3109.

Education and Experience:

MINIMUM: Associate's Degree from an accredited college in an appropriate engineering, geography, geographic information systems discipline or related field and 6 years of progressively responsible experience as an Engineering Technician. Relevant experience as defined above may be substituted for up to two years of the required education on a year-for-year basis.

PREFERRED: In addition to the minimum, additional years of experience as described above in a lead capacity.

This class specification lists the major duties and requirements of the job. Incumbent may be expected to perform job-related duties other than those contained in this document.

Approval: Department Head

Date:

Signature: _____

Human Resources Approval: Analyst

Date:

Signature: _____

EEOC: C
WC: 9410

Established: July 2022
Revised: