

Civil Engineer

(Technician to PE)

FLSA Status: Exempt
Safety/COL Sensitive: No

Created: 03/21/2023
Last Revised: N/A

DEFINITION: Under general supervision, incumbents perform a broad range of duties involving technical engineering work in support of technical personnel, managers, and professional engineers. Duties include, but are not limited to, drafting, engineering calculations, surveying (GPS), construction inspection, asset management, roadway/right-of-way engineering, planning, permitting and inspection in support of civil or related engineering and operations programs, as well as other duties as may be required.

DISTINGUISHING CHARACTERISTICS: This is the journey level position within the Engineering field. Incumbents exercise judgment when applying guidelines and specifications regarding the course of action to accomplish assignments. Incumbents are required to understand and integrate engineering concepts and practical solutions for operations and contractors. The knowledge, skills and abilities acquired at the Engineering Technician level are suited to prepare incumbents for performing more specialized and technical engineering related work or advance within management of engineering and operations of a public utility.

ESSENTIAL FUNCTIONS: *(Performance of these functions is the reason the job exists. Assigned job tasks/duties are not limited to the essential functions).*

1. Performs a variety of basic technical engineering support work in the design and construction of public works, roads, culverts, drainage, capital improvements projects, and related areas.
2. Performs field inspections of construction projects, reservoirs, pump stations, wells and customer properties relating to water use, material, equipment, property lines and boundaries, right-of-way mapping, and safety barriers. Performs field measurements and records data.
3. Reviews and interprets construction plans and specifications to determine compliance.
4. Oversees the maintenance management system and assists operations for scheduling, monitoring and tracking routine work, planned maintenance, preventative maintenance and preemptive maintenance.
5. Prepares graphic displays, organization charts, and similar materials.
6. Prepares traffic safety plans as necessary.
7. Responds to and provides information, discusses problems, and recommends solutions to contractors, consultants, property owners, district personnel, and the public.
8. Performs manual and computer-aided drafting assignments by preparing maps, charts, graphs, tables, slopes, and contours for construction projects, right-of-way location, and water rights ownership, water rights data, data analysis, and local, state, federal, and private property locations and ensures integration into the GIS and CMMS.
9. Assists in performing field and laboratory tests, setting up equipment for water quality as well as surveying ensuring results are technically accurate and comply with the end use.
10. Gathers and compiles data, analyzes technical problems, conducts research and analyzes data to ensure accuracy and conformance to policies, procedures, guidelines, and standards.
11. Assists engineers, contractors, district personnel, other agencies, the general public, and private businesses regarding water right ownership, bid documents, contract plans, right-of-way plans, acquisition and disposal documentation, contract specifications, test results and local, state, and federal guidelines and procedures.
12. Performs technical research to ensure department programs, testing methods, policies and procedures comply with local, state, and federal requirements.
13. Prepares scope, plans and specifications appropriate for small purchases and serves as project manager in programs as appropriate.

14. Reviews contracts and tracks warranty and discrepancy corrections for purchases and contracts.
15. Reviews technical documents, analyzes and interprets data and notes discrepancies.
16. Maintains records and contract documents in accordance with established filing system.
17. Enters data into computer system for analysis and reviews construction, and contract documents, and/or plan specifications.
18. Must maintain confidentiality and proprietary information including non-disclosure agreements.
19. Checks applications and technical reports for completeness, clarity, and conformance to district guidelines and local, state, and federal policies and procedures.
20. Research county and federal records to determine property ownership, boundaries, encumbrances, and condition of title.
21. May supervise administrative or technical personnel.

QUALIFICATIONS FOR EMPLOYMENT:

Knowledge, Skills, and Abilities: (KSAs are the attributes required to perform a job; generally demonstrated through qualifying experience, education, or training.)

Knowledge of:

- Automated engineering and operations software tools such as Maintenance Management Systems and related systems such as GIS, SCADA, customer service desk/work orders, cross-connection control as commonly used in public utilities.
- Safety procedures when working in labs, construction sites, or other work sites;
- Trigonometry, algebra, and geometry used in engineering calculations;
- Construction plans and specifications;
- Traffic safety plans;
- Testing and calibration for laboratory and field equipment;
- Engineering maps and records and management/maintenance of these records;
- Personal computers and related ancillary equipment;
- Methods of compiling technical data and analytical tools to evaluate, make reports and refine as information for management and policy decisions;
- Engineering drafting methods, conventional symbols and sources of information.
- AWWA Standards for Construction and Analytical analysis.
- General engineering practices and procedures relating to water, sewerage, roads and stormwater.

Skill to:

- Perform technical engineering calculations applicable to typical tasks; Accurately copy, post or transcribe data;
- Convert mathematical data, quantities and measurements, and calculate area, volume, length and proportion.
- Comprehend and integrate automated data management form multiple systems.
- Design and conduct technical studies and refine complex material into a useable tool for planning or implementing solutions.

Ability to :

- Operate and manipulate drawing/drafting, GIS and CMMS software;
- Write technically correct inspection reports, field notes and other documents;
- Apply general rules to specific problems to generate solutions;
- Understand and apply instructions from technical manuals to specific situations;
- Work effectively with frequent interruptions;
- Read, draft and understand policy and procedures;
- Perform repetitive work according to prescribed procedures, sequence and pace;
- Work as a member of a team;
- Effectively communicate with coworkers and public.

Required Certifications and Licenses: None. The position may be eligible for special pay commensurate with certifications identified in the district Human Resources Policy Manual.

Experience and Training:

Any combination of training, education, and experience that would provide the required knowledge and abilities. A typical way to gain the required knowledge and ability is:

Associate's degree from an accredited college, university, or technical school with major coursework in engineering, engineering technology, environmental science, geology, math, physical sciences, or related field and six months of experience in an applicable role; **or** graduation from high school or equivalent education and five years of progressively responsible experience as described above; **or** two years' experience in a similar role as Engineering aide; **or** an equivalent combination of education and experience.

Physical and Mental Requirements:

The physical and mental requirements described here are representative of those that must be met by an employee to successfully perform the essential functions of the job.

Frequent sitting, standing, and occasional walking on uneven construction sites, lifting manholes and storm drain covers. Position requires typing and writing. The employee must be able to give, receive, and understand written and oral instructions. Requires climbing into confined spaces, hearing, seeing, climbing stairs, and lifting up to 50 lbs. Stamina to sit at a desk for prolonged periods of time. Visual stamina to view a computer monitor for long periods of time.

The incumbent must have situational awareness and be comfortable in a dynamic environment which requires adapting to immediate changes due to customer needs, management and other external drivers such as regulatory and safety compliance.

In compliance with applicable disability laws, reasonable accommodations may be provided for qualified individuals with a disability who require and request such accommodations. Incumbents and individuals who have been offered employment are encouraged to discuss potential accommodations with the employer.

Working Conditions:

Work is performed under the following conditions.

Standard office environment with some work in outdoor conditions which can include wet, dusty, poor lighting, dirty, and noisy circumstances. Winter conditions may occur while working outside. Work with public and contractors. Requires driving to construction sites. Physical hazard from traffic and construction equipment may be present.

Employee's Acknowledgment: I acknowledge that I have read the above job description and have received a copy for my records.

Employee's Signature

Date Signed

