APRIL 2016
FLSA: NON-EXEMPT

ENGINEERING/GIS TECHNICIAN

DEFINITION

Under general supervision, performs a variety of paraprofessional engineering assignments including designing and reviewing new water pipeline construction drawings and maintaining the Geographic Information System (GIS) and GIS-based Water Atlas maps using AutoCAD Map and ArcGIS software; performs field surveys and investigations; assists in maintaining records, project files and engineering database management; performs general engineering department functions and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from the Director of Engineering, Operations, and Maintenance. Exercises no supervision of staff.

CLASS CHARACTERISTICS

This is a journey-level paraprofessional Engineering/GIS technician position. Incumbents perform the full range of technical work in engineering support areas, including researching engineering topics, creating and maintaining maps and drawings, providing assistance and plan check reviews for development projects, and performing office and field work related to assigned engineering projects and programs. Positions at this level receive only occasional instruction or assistance as new or unusual situations arise and are fully aware of the operating procedures and policies of the work unit.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

Management reserves the right to add, modify, change, or rescind the work assignments of different positions and to make reasonable accommodations so that qualified employees can perform the essential functions of the job.

- Assists the Director of Engineering, Operations, and Maintenance in water related construction design and drafts plans for District construction projects, system repair and replacements, and improvements; checks and processes water improvement plans.
- Maintains, and prints GIS Atlas Maps; posts main pipeline breaks in the system; prints Fire Hydrant Flow maps; provides maps and queries for all staff; creates banners and display signs as needed.
- Utilizes AutoCAD Map to create drawings and maps for Water Operations group and maintain standard drawings; creates design for Capital Improvement Project (CIP) projects and programs.
- Maintains GIS and posts new developments in system.
- Performs calculations and studies; creates and develops reports for review by the Director of Engineering, Operations, and Maintenance, General Manager, and/or regulatory agencies.
- Coordinates capital improvement projects with contractors, utility companies, other agencies, and the public; enforces project safety standards; ensures compliance with District infrastructure standards.

- Confers with representatives from engineering firms, developers, property owners, utilities, public work agencies, other governmental agencies, and/or contractors on technical matters to verify data, locate lines and coordinate work in the various stages; provides plan check review, processes revision submittals, and posts new pipeline in the GIS system.
- Responds to a wide variety of technical and standard questions and inquiries from the general public, contractors, builders, realtors, engineers, and other District staff.
- Maintains and updates department records, tracking lists, permit records, and files of engineering plans, including grading, encroachments, improvements, and final maps.
- Performs other duties as assigned.

QUALIFICATIONS

Knowledge of:

- Basic engineering principles, practices, and methods applicable to office and field work involving the design and construction practices and methods of water distribution facilities and infrastructure, including pipelines, pipe fittings, and related appurtenances.
- Engineering plan types, review practices, and permit filing and approval procedures.
- Principles and practices of technical civil engineering drafting and surveying support.
- Technology, hardware and software, and current applications related to GIS systems, including databases, mapping and report generation, and desktop publishing systems.
- Computerized mapping and digital data conversion, manipulation and adaptation.
- Geospatial database management tools, GIS software, and modern drafting and mapping procedures.
- Applicable Federal, State, and local laws, codes, and regulations, including administrative and department policies and procedures.
- Technical engineering mathematics.
- Modern office practices, methods, and computer equipment and applications, including AutoCAD, GIS, and related applications.
- Principles and procedures of record keeping and technical report writing.
- English usage, grammar, spelling, vocabulary, and punctuation.
- Techniques for providing a high level of customer service by effectively dealing with the public, vendors, contractors, and District staff.

Ability to:

- Read and prepare a variety of plans, specifications, maps, graphic materials, and technical engineering reports.
- Modify engineering drawings, topographic maps, improvement plans, and illustrative graphics using AutoCAD and GIS software.
- Perform engineering design and review ensuring compliance with construction standards and District requirements.
- Make mathematical calculations and accurate engineering computations and drawings.
- Make and record accurate field engineering observations.
- Understand and follow oral and written instructions.
- Organize own work, set priorities, and meet critical time deadlines.
- Operate modern office equipment including computer equipment and specialized software applications programs.
- Use English effectively to communicate in person, over the telephone, and in writing.

- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:
Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be

Equivalent to the completion of twelfth (12^{th}) grade, supplemented by college-level coursework in engineering, drafting, Autodesk Map, GIS or a related field, and two (2) years of increasingly responsible paraprofessional experience in engineering, drafting, surveying, or a related field. Experience working with a water agency performing pipeline design is highly desirable.

Licenses and Certifications:

- Possession of, or ability to obtain, a valid California Driver's License by time of appointment.
- Possession of an AutoCAD and/or ESRI GIS certification is desirable.

PHYSICAL DEMANDS

Work is performed in an office environment and in the field. The office environment requires the mobility to work in a standard office setting and use standard office equipment, including a computer, vision to read printed materials and a computer screen; and hearing and speech to communicate in person, before groups, and over the telephone. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator and to operate standard office equipment. Positions in this classification occasionally bend, stoop, kneel, reach, push and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push and pull materials and objects weighing up to 25 pounds. The field environment requires the mobility to walk long distances, traverse uneven, hilly terrain, climb ladders, and stairs. The field work requires the agility to inspect temporary, unfinished, construction sites and access points, which may include entry into confining spaces and inspecting sites of significant height. Requires the ability to operate a motor vehicle to visit various District development and meeting sites.

ENVIRONMENTAL ELEMENTS

Employees work in an office environment with moderate noise levels, controlled temperature conditions, and no direct exposure to hazardous physical substances. Employees also work in the field and may be exposed to loud noise levels, cold and hot temperatures, inclement weather conditions, road hazards, rough terrains, vibration, mechanical and/or electrical hazards, and hazardous physical substances and fumes.