City of Alameda
Code No. 2575
Approved by C.S.B.
October 8, 2025

PUMP STATION MAINTENANCE TECHNICIAN

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DEFINITION

Under general supervision, performs journey level work related to the installation, maintenance, and repair of electronically sophisticated storm and sewer pump stations to include, level and flow measurement devices, radio and cellular communications and telemetering systems, and control systems, including programmable logic controllers (PLCs), remote terminal units (RTUs), and/or supervisory control and data acquisition (SCADA) systems and other low voltage electrical systems (480 VAC and below) and electro-mechanical equipment and systems throughout City facilities. Performs other related work as required.

DISTINGUISHING FEATURES

This is a journey level classification assigned to the pump station maintenance specialty. Incumbents are required to have a thorough knowledge of the maintenance and repair of pump station equipment and control systems gained through formal education in electrical or electronic trade school, or from considerable and varied experience in working with the installation, maintenance and repair of electric and electronic pump station control devices and SCADA systems.

EXAMPLES OF DUTIES

The following list of duties is intended only to describe the various types of work that may be performed and the level of technical complexity of the assignment(s) and is not intended to be an all-inclusive list of duties. The omission of a specific duty statement does not exclude it from the position if the work is consistent with the concept of the classification or is similar or closely related to another duty statement.

Reasonable accommodations may be made to enable individuals with disabilities to perform these essential functions.

Essential Duties

1. Monitors City pump station operations and investigates alarms and trouble calls and makes repairs if needed.
2. Makes preventive maintenance inspections for normal operation and makes necessary adjustments.
3. Performs electrical and electronic repair, maintenance and operation of pumping stations, lagoon gates, diesel emergency generators, SCADA and other City electrical and electro-mechanical systems.
4. Installs, maintains, repairs, troubleshoots and replaces electrical wiring, conduits, lighting, motors, actuators, radio and cellular equipment and power/control circuits.
5. Reads and interprets various diagrams, including wiring, mechanical, electrical, control systems, piping and instrumentation drawings, and specifications in making installations or performing major repair work; utilizes vendor manuals and drawings to establish and maintain complex instruments; assists in designing layout and field installation details for new equipment and machinery.
6. Maintains, installs, troubleshoots and repairs electronic computer systems including Programmable Logic Controller (PLC), Human Machine Interface (HMI), Supervisory Control and Data Acquisition (SCADA), Remote Telemetry Units (RTU), Variable Frequency Drive (VFD) and Soft Start systems.
7. Troubleshoots telemetry, SCADA, and PLC software and hardware issues, develops recommendations for change/modification; performs programming for PLC and logic controllers; implements and documents changes applied to the software and hardware.
8. Works as part of a confined space non-entry rescue team; installs suitable rated equipment within class/division hazardous areas including confined spaces.
9. Leads or participates in the design and/or redesign of electronic controls, power circuits and control circuits as necessary. Gathers data for engineering project as required. Assists with systems start-up and acceptance.
10. Operates a variety of hand and power tools and heavy equipment related to work assignments.
11. Maintains accurate CMMS records and files of work performed and materials used; prepares regular and special reports on operation of equipment and systems; requisitions parts and supplies as needed.

12. Drives and operates specialized vehicular equipment (crane truck, bucket truck, wash rig).
13. Responds to emergency calls and repairs pumps, pump controls, portable pumping equipment and diesel powered power generation equipment as required.
14. Installs, maintains, repairs, overhauls, calibrates, and tests a wide variety of industrial instrumentation that record, indicate, control, and regulate level and flow.
15. Reviews engineering designs and modifications to control systems and recommends both technical and operational improvements.
16. Works with Maintenance Workers and other staff independently.

WORKING CONDITIONS

- Work is primarily performed outdoors on City streets with regular exposure to varying weather conditions including heat, cold, rain, wind, and humidity.
- Frequent exposure to electrical and mechanical hazards, noise, dust, and fumes.
- Travel by City vehicle within City limits to City work sites, locations, and meetings to conduct work.
- May work alone or in proximity to others depending on task assignments.
- Required to wear appropriate personal protective equipment (PPE) as needed for various tasks.
- Subject to occasional emergency call-outs, including evenings, weekends, and holidays.

PHYSICAL DEMANDS

- Must possess physical strength and stamina to perform moderate to heavy physical labor for extended periods.
- Standing, walking, bending, stooping, crouching, climbing ladders, kneeling, and reaching overhead or below the waist.
- Lifting, carrying, pushing, and pulling tools, equipment, and materials typically weighing up to 50 pounds; heavier lifting may be required with assistance.
- Seeing to inspect detailed work and read instructions, gauges, or electronic displays.
- Dexterity of hands and fingers coordination to operate hand and power tools, computer equipment, and precision instruments.
- Hearing and speaking to hear alarms, signals, or verbal instructions in a noisy environment.
- Ability to work in confined spaces and outdoors in varying weather conditions.

EMPLOYMENT STANDARDS

Education/Experience

Any combination equivalent to education and experience likely to provide the required knowledge and abilities. A typical way to obtain the knowledge and abilities would be:

Education: Equivalent to graduation from high school supplemented by courses in electricity and electronics.

Experience: Progressively responsible experience either in the skilled maintenance and repair of pump station equipment.

Knowledge

Proficiency in electrical and electronic theory; expertise in electrical equipment repair and maintenance; familiarity with tools and equipment used in the repair and maintenance of electrical and electronic equipment; maintenance and repair techniques for pump station equipment and safe work practices and procedures.

Ability

Ability to troubleshoot, install and repair electrical instrumentation, equipment, and systems; plan and complete work involving conduit and wiring in accordance with national standards; interpret electrical codes and regulations; read and interpret blueprints, maps and understand complex wiring schematics; operate specialized equipment, welding equipment and electric and electronic measuring devices; diagnose and make changes to PLC and SCADA software and hardware; troubleshoot and repair microprocessor based control and communication equipment; diagnose electronic failures to the component level; work in high places and confined spaces while wearing appropriate safety equipment; accurately

estimate labor and materials costs; perform essential duties of the job without causing harm to self or others; ensure precision in record-keeping and report preparation; identify workplace hazards and/or unsafe conditions and take appropriate corrective action; safely perform confined space entry tasks while using appropriate PPE for the task; establish and maintain effective working relationships with employees and the general public; work independently, set priorities, meet critical deadlines, and follow-up on assignments with minimal direction; understand the organization of reference materials, computerized data entry and maintenance management systems; operate modern office equipment including computer equipment and specialized software applications programs; communicate clearly and concisely, both orally and in writing.

Special Requirements
Willingness and ability to respond to after-hours emergency calls as required.

Other Requirements
Must be willing to work outdoors in a variety of weather conditions. Must be willing to work shifts, weekends, holidays, and overtime and standby as needed.

Possession of Grade 1 California Water Environmental Association (CWEA) Electrical and Instrumentation Technologist (EIT) Certification or ability to obtain within 12 months of hire.

Possession of a valid Class B State of California Driver's License (or possession of a valid Class C license at the time of employment and the ability to obtain Class B within six months of employment) and a satisfactory driving record as conditions of initial and continued employment. Employees in positions requiring a Class B license are subject to provisions of the Department of Transportation's drug and alcohol testing program.