

## **WATER CONVEYANCE TECHNICIAN**

**PURPOSE:** Ensure the dependability and functionality of water/wastewater/storm water pumping stations and perform flow monitoring and sampling operations of wastewater and storm water.

Employees in this classification will perform semi-skilled work and be trained to perform skilled work in the functional areas listed below.

**FUNCTIONAL AREAS:** Under supervision:

1. Assist with work in the operation and maintenance of water/wastewater/storm water pump stations.
  - \* A. Perform proper safety methods when entering manholes, vaults, reservoirs, wet wells, confined work spaces, working with electricity, using hand and power tools, operating heavy equipment or driving a motor vehicle.
  - B. Monitor the daily operation of pumping stations, booster stations and drinking water storage tanks, with the Supervisory Control & Data Acquisition (SCADA) system to ensure the proper operation of all equipment at each station so the normal flow is not interrupted.
  - C. Ensure proper operation and maintenance of City owned water and low pressure sewer systems to include but not limited to grinder stations, booster stations, pumps, structures, controls, or air release valves.
  - D. Implement emergency procedures on each pump station in the event of the malfunction of either primary pumping equipment or any auxiliary equipment.
  - \* E. Troubleshoot for the cause of any malfunction affecting pumps or any related equipment of each pump station.
  - \* F. Maintain and repair all types of water and wastewater pumps.
  - \* G. Maintain and repair industrial type electric motors.
  - H. Perform work to diagnose, repair or replace any programmable controllers (MicroLogic), transformers, control boards, electronic circuit systems, circuit breakers, voltage regulators and related electronic or electrical equipment to ensure proper operation.
  - I. Monitor, perform and record required predictive maintenance program tasks.
  - J. Train assigned personnel in proper, safe operating and maintenance procedures.
  - K. Maintain and operate large stand-by generators for emergency back-up or a planned power service shutdown.
  - L. Maintain and repair various wet well and reservoir level sensing systems.
  - \* M. Maintain and repair valves, couplings, and drive-shafts.
  - N. Maintain wet wells, reservoirs, storage basins, bar screens, tipping trough systems and grinder pump stations.
  - \* O. Monitor and maintain inventory of parts for proper pump station system operation.
  - P. Maintain and operate large auxiliary pumps for emergency back-up or by-pass pumping.
  
2. Perform work in the installation and collection of data utilizing flow monitor/sampling equipment.
  - A. Perform work to install, connect, calibrate flow poke equipment.
  - B. Install various types of flow meters; bubbler, area velocity, ultrasonic and submerged

- probe.
- C. Install, maintain and collect data from various types of water/wastewater samplers and rain gauges.
  - D. Monitor and maintain sampling/flow monitor inventory; loggers, batteries, battery chargers, spring rings, flow metering inserts, rapid transfer devices.
  - E. Monitor and maintain magnetic flow meters to include transmitters.
  - F. Perform work to download, upload and review data between computer and field installed data collecting devices.
  - G. Perform related duties as required.

## **JOB REQUIREMENTS**

### **Education & Experience Requirements**

- ❖ A. Possession of a State of Minnesota Maintenance Electrician's License and one (1) year of verifiable experience working with programmable controllers (MicroLogic); or
- ❖ B. Completion of a City of Duluth Water & Gas Maintenance training program, Utility Operator apprenticeship program, or Lift Station Operator apprenticeship program; or
- ❖ C. Four (4) years verifiable experience in wastewater collection systems or water distribution systems.

### **License Requirements**

- ❖ A. Possess and maintain a valid Minnesota Driver's License or privilege.
- B. Ability to obtain and maintain a valid Minnesota Pollution Control Agency Wastewater Facility Operators Class S-D Certificate within 18 months of hire date.
- C. Ability to obtain a Minnesota Maintenance Electrician's License or become license eligible within five years of hire date.

### **Knowledge Requirements**

- ❖ A. Knowledge of electricity and electronics.
- B. Basic knowledge of personal computers and related data processing equipment.
- C. Knowledge of telemetry/SCADA software and hardware.
- D. Knowledge of the National Electrical Code in relation to pump station functions.
- E. Knowledge of plumbing and building codes in relation to pump stations.
- ❖ F. Knowledge of Minnesota Pollution Control Agency regulations pertaining to wastewater discharge.
- ❖ G. Knowledge of Minnesota Department of Health regulations pertaining to water distribution systems.
- H. Knowledge of confined space entry procedures.
- I. Knowledge of lock-out tag-out procedures.

### **Skill Requirements**

- ❖ A. Skill in the repair of heavy duty pumps and electric motors.
- B. Skill in the operation/maintenance of sampling/flow meter installation and data collection.
- ❖ C. Skill in the operation and use of a variety of maintenance and testing tools and equipment – flow meters, poly-phase meter, volt-ohm meter, gear pullers, conduit benders, tap and die sets, atmospheric-testing meters, portable generators, and electric hoists.
- ❖ D. Skill in setting up appropriate traffic controls.

Ability Requirements

- ❖ A. Ability to develop and maintain effective working relationships with others.
- ❖ B. Ability to communicate effectively in both written and oral form.
- C. Ability to calculate water and wastewater volumes.
- ❖ D. Ability to read and interpret schematic drawings.
- E. Ability to identify good flow monitoring sites.
- ❖ F. Ability to successfully complete a "Competent Person" training program.

Physical Requirements

- ❖ A. Ability to frequently lift and carry equipment and materials weighing up to 50 pounds.
  - ❖ B. Ability to occasionally lift and carry with assistance equipment and materials weighing up to 100 pounds, such as generators and pumps.
  - ❖ C. Ability to frequently push, pull, stoop, kneel, crouch and reach to perform maintenance on pumps.
  - ❖ D. Ability to occasionally climb and balance while working on tanks and basins at heights up to 30 feet.
  - ❖ E. Ability to work in confined spaces.
  - ❖ F. Ability to work outside in inclement weather.
  - ❖ G. Ability to attend work on a regular basis.
- \* Essential functions of the position
- ❖ Job requirements necessary the first day of employment

Anlst: JA	Class: 4211	Union: Basic	Pay: 29	CSB: 20110808
CC:20130325	Res:13-0136R	EEOC: Skilled Craft	EEOF: Sanitation/Sewage	WC: 7520