

# Standard Operating Guideline – Sewer Pump Station

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## **SALISBURY HILL SEWER PUMP STATION OPERATION & MAINTENANCE PLAN**

Project Name: **Salisbury Hill – Salisbury Hill Boulevard, Worcester, MA**

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### **OBJECTIVE:**

A “pump station” is a facility that is discharging into a force main. The purpose of this document is to provide adequate equipment and process control information, necessary to ensure the pump station operates as designed, routine inspections and preventative maintenance are performed to prevent costly repair bills, eliminate spills, and avoid property losses.

### **RATIONALE / PURPOSE:**

- Pump stations will be inspected on a quarterly basis by the Management Company’s engineers and consultants.
- Records of these inspections must be maintained using written notes, logs, notebooks, and /or computer format.
- These are to be referenced by management, operations, and maintenance crews, to ensure established procedures are being followed to ensure the maximum lifespan of all facilities and equipment.
- Documentation may also be required by outside regulatory agencies and insurance companies in the event of a spill, equipment failure, or property loss.

### **METHODS / PROCEDURES:**

1. Wet wells should be pumped out and cleaned at least once a year, to prevent solids and grease build-up. Build-up of solids can create odors and damage to the pump.
2. Inspection of pumps (submersible and dry) should be performed quarterly. Inspection of the impeller should be performed annually or when motor hours are not within 10 percent of each other. The inspections would assure that the impeller is free of debris.

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3. Inspection of the check valves should be performed at least four times a year, to insure proper working order and to prevent backflow from the force main to the wet well.
4. Cleaning and inspections of floats should be performed four times a year to assure proper performance. The buildup of grease prevents floats from working properly.
5. Inspection of the light and alarm systems should be performed weekly. An alarm system in working order can alert you to problems immediately.
6. The hour meter installed on each motor will give one an accurate record of how often each motor is cycling; and hence, the amount of water being pumped through the system. A logbook of motor hours, dates and maintenance performed should be kept.
7. Amp and vibration readings should be taken at least four times a year on each motor in the on-site lift station. If the readings do not meet the manufacturer's specifications.
8. An annual inspection of all electrical motor control equipment should be performed to find poor connections and worn parts. This inspection should include infrared testing and panel maintenance.
9. During routine inspections, the emergency backup generator needs to be visually checked for fuel level, battery, and general condition. On a quarterly basis, the generator is to be operated to ensure proper operation and per operating permit requirements.
10. The sewer pump station will be monitored 24 hours a day by a Central Station using a remote central notification system. These systems must be able to provide 24-hour notification to system operators, and remote monitoring and control of pumps, water level, alarms, and power status.

The following information should be included within the pump station inspection information collected:

- Date;
- Time;
- Initials of person performing inspection;
- Meter readings for each pump;
- General appearance (note if there is grease buildup);
- Any maintenance done to the lift station;
- Date of pump and equipment calibrations.

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## **INSPECTION / CHECKLIST / DOCUMENTATION:**

The following is an outline of the minimum inspections that will be performed and documented by the Management Company and its Engineers & Consultants.

### **SEWER PUMP STATION INSPECTION**

#### **Scheduled Quarterly:**

1. Visually inspect the pump station for vandalism;
2. Clean up any trash or debris material;
3. Record pump hours for each pump;
4. Run each pump by hand / manual control and watch level control go up and down to ensure pumps are operating properly;
5. Place pump controls back in auto position prior to leaving station;
6. Visually inspect emergency generator for fuel and ability to operate properly;
7. Test all panel lights and change as needed to ensure proper operation;
8. Lock up station, including exterior power panels if required, prior to leaving;
9. Complete all required paperwork;
10. Open the wet well and visually inspect the pumping of each pump;
11. Inspect wet well for excessive grease build up on surface, clean when needed;
12. Check wet well floats for rag build up, clean as needed;
13. Pumps and piping are checked visually for defects;
14. Clean grit and grease from the wet well using a vac-con truck, as needed;
15. Generator is to be operated, under load, for 15 minutes
16. Place pump controls back in auto position prior to leaving station;
17. Visually inspect emergency generator for fuel and ability to operate properly;
18. Test all panel lights and change as needed to ensure proper operation;

