

## Example: OPERATIONS PLAN FOR SMALL GROUNDWATER SYSTEMS

### Brief description:

The **ABC Water Company** is a small public water systems with a well, **hydro-pneumatic storage tank and distribution system serving 25 homes**. **John Doe, who lives in another city, owns the water system. The manager Mr. Bob Smith who lives in one of the houses operates this system.** There is a laboratory technician that takes water samples every month. **The system also employs a part time maintenance man, Joe Fixit.** The water system gets its groundwater from a well. The well was constructed in **1978**. It has a **50-foot cement** annular seal. The well is **200 feet** deep with a **50-foot** gravel pack. **The storage tank is a 15,000 gallon welded steel tank. The distribution system consists 400 feet of a two-inch PVC main line, with approximately 200 feet of one-inch laterals connecting each home. The 15,000-gallon hydro-pneumatic storage tank maintains the water pressure.** The system has one pressure zone maintained at between **25** and **55** psi. There is a flow meter located between the Storage tank and the distribution system to record water usage.

- Routine Operational Procedures for each component of the system:
  - A. Visual inspection of **WELL** (daily).
    1. Check for the following; leaks, openings, lubricants, electrical hazards, chemical hazards, etc. (record observations and correct problem).
    2. Check the pump for proper operation.
  - B. Visual inspection of the **STORAGE TANK** (daily).
    1. Inspect for any leaks or damage (record observations and repair as needed).
    2. Check **PRESSURE GAUGE**, record system pressure. Record the pressure the pump turns on, the pressure the pump turns off and the duration of the run time.
    3. **Cleaning of STORAGE TANK** (semi-annually). Record date cleaned and observations.
  - C. Maintenance of **GAUGES and METERS**.
    1. Inspect all gauges and meters for leaks and proper function daily. Repair or replace as needed (keep record of date).
  - D. Inspection and exercising of the **VALVES**.
    1. Inspect valves for leaks (record observations, repair or replace if leaking).
    2. Exercise valves (semi-annually, record dates on attached sheet).
  - E. Operation and maintenance of **DISTRIBUTION** facilities.
    1. Visually inspect the distribution system for leaks on a regular basis. Record date and observations.
    2. Flush dead end mains (semi-annually, record date and observations).
- Monitoring and Reporting.
  - A. **BACTERIOLOGICAL MONITORING**; As per approved Sample Siting Plan (attached), required monthly, report to the Department by the 10<sup>th</sup> of each month, following the sample.
    1. If sample positive, take four repeat samples at once.
    2. Take five routine samples the month following a positive sample.

3. Keep bacteriological results for five years.
4. Keep any corrective action for sampling for three years.

B. **CHEMICAL MONITORING**; as required by the Department, forward results to the Department.

1. Keep chemical results for ten years.
2. Keep variance and exemptions for five years.

- Response to violations.

A. **PUBLIC NOTIFICATION** of violation required.

1. Notification shall be given as per "Emergency public notification" method on record with the Department (attached), or in a manner directed by the Department.
2. State problem and what has been done to correct it.
3. Send a copy of the notification to the Department.

- Consumer complaint response procedures.

A. **CONSUMER COMPLAINT** procedures.

1. Record in complaint log (name, address and nature of the problem).
2. Investigate the complaint.
3. Verify or dismiss the complaint.
4. Record the steps taken to address or correct the problem.
5. Notify complainant of action taken.
6. Keep complaint records with corrective action for five years.

- Emergency Operational Practices. (*See Emergency/Disaster Plan for complete description*).

A. List of **equipment on hand** for emergency repairs.

1. Miscellaneous wrenches.
2. Leak clamps.

B. List of sources of needed **equipment, not on hand**.

Name	Address	Phone #	Equipment	Rental/ Contract
			Steel Tank Welder	
			Electrical repair	
			Digging equipment	
			Generator	
			Chemicals	

C. List of distributors or suppliers of **replacement parts** for the system.

Name	Address	Phone #	Equipment
			PVC pipe, valves, and fittings
			pumps, pressure tank and gauges

			Chlorinator

D. List of **emergency contact numbers**:

	<b>Name</b>	<b>Phone #</b>
1.	Contra Costa Environmental Health	(925) 692-2500
2.	CA Dept. of Public Health	(510) 620-3474
3.	Law Enforcement -	
4.	Electrician	
5.	Laboratory	
6.	Pump repair service	
7.	Chemical disinfectant supplier	
8.	Equipment supplier	
9.	Owner	

(Attachments)