

Water Audit Template

Name of Water System: _____

WSID: _____

Date due: _____

Date received: _____

Many of the methods described in this checklist will only apply to large industrial water systems. However, this and other methods can be used effectively by small, industrial/commercial water systems.

Section 1: Preparation and Information Gathering Before beginning the actual water audit, collect pertinent information from company and utility records. Identify the people who are familiar with daily operations—particularly operations and maintenance supervisors and staff. Collect the following information:				
		YES	NO	NA
1.	building and location information, including physical size of the facilities, floor plans, plumbing schematics and drawings			
2.	operating schedules, including total number of employees and number of employees per shift			
3.	location maps identifying each water supply meter that measures incoming (source) water, plus each water meter that records onsite use.			
4.	inventory of plumbing fixtures			
5.	inventory of all water-using equipment with manufacturers' flow rates			
6.	outdoor water use data, including irrigation systems, watering schedule, and water volume			
7.	utility records (water and sewer) for the past two years			
8.	records that show actual water use during the past two years			
9.	any prior water and energy audits			
10.	anticipated water and sewer billing rates for the next two years			
Use the above water records to determine the amount of water used to provide services or produce products. Graph the results to show monthly water use. — for service establishments (i.e., restaurants, hotels, hospitals, military bases and schools): get records for meals served, rooms occupied, etc. Using monthly water-use data determine the water used per: patient, guestroom occupied, meal served or applicable service rendered. — for manufacturing sites: divide the amount of water used by the quantity of product manufactured to determine the gallons per ton or gallons per unit produced.				

Section 2: Conduct Facility Survey				
After the information in Section 1 has been collected, the next step is a physical survey of the facility.				
		YES	NO	NA
1.	Walk through the facility with production people and supervisors to understand how water is used in the various areas and production centers.			
2.	Identify and list all equipment that uses water, including water-using process equipment, cooling towers, boilers, reverse osmosis filters, rinsing tanks, kitchen equipment, faucets, toilets, showerheads, etc.			
3.	Check the water-using equipment against your inventory information. Compare floor plans, plumbing drawings, and schematics with actual conditions. Note discrepancies so an accurate record of equipment can be created.			
4.	Record hours of operation for each piece of water-using process equipment. Whenever possible, verify schedules of use with operating personnel familiar with the building use and equipment.			
5.	Note devices, equipment, and/or plumbing fixtures that use water for more than one operation. (For example, some ice makers use water for making ice and for cooling.)			
6.	Calibrate all existing water meters to ensure accuracy.			
7.	Measure the amount of water used by each water-consuming fixture or piece of equipment. If permanent meters have not been installed, a temporary strap-on flow meter that uses ultrasonic waves to measure water flow can be used. In some cases, a bucket and a stopwatch can be used to measure the flow rate in gallons per minute (gpm).			
8.	Compare your water-use measurements with the manufacturers' listed and/or recommended flow rates. Note any discrepancies.			
9.	Ask for water conservation suggestions from employees who are familiar with each water-use process.			
10.	Measure water quality, too. Knowing the quality of water as it flows through a facility may point out areas where water discharge from one process can be rerouted for use in another process. (For example, reverse osmosis reject water might be suitable for use as initial rinse water.) Water quality considerations include: chemical make-up, pH level, conductivity, total dissolved solids (TDS/ppm), waste content, and temperature.			
11.	Measure exterior water use, especially water used for irrigation. Obtain diagrams of all irrigation systems and inventory all sprinkler heads and water-delivery devices to determine flow rate.			
12.	Determine daily water usage for the major operating and production areas. Add these area totals to get total facility usage. Make sure that your total consumption figures match the total usage figures from your water utility, water well meters, and other water source records.			
"Implement high-payback measures now. You don't need a complete audit to know that fixing a leaky toilet is smart water conservation."				

Section 3: Prepare An Audit Report

After the completion of the physical inspection of the facility, in which each water-use area was carefully examined and water-use data was recorded, it is time to collate the data into a final audit report. This report will provide the "baseline" by which your water conservation efforts will be measured. Your report should include the following:

		YES	NO	NA
1.	an updated set of facility diagrams, blueprints and water flow charts.			
2.	a current list of all water-using equipment with manufacturers' recommended input/output flow rates and the actual flow rates recorded during your water audit.			
3.	a current schedule of operation for all areas and equipment, including shift scheduling, number of employees per shift, production levels, average occupancy rates, etc.			
4.	a month-by-month landscape irrigation watering schedule (landscape irrigation varies dramatically by month and by season)			
5.	a water flow chart that shows the movement of water from the time it enters the facility until it is discharged			
6.	water use figures (total facility, and broken out by operating areas and processes)			
7.	any additional water-use observations revealed by the walk-through audit and analysis			
8.	an evaluation of the total cost of water used by the entire facility			

Major discrepancies between your facility's total water consumption figures and the sum of each water-using area may indicate underground leaks in your water delivery system. Further (more detailed) water measurement may be required to pinpoint the leak. Make sure your Plan of Action includes these leak-detection activities.

The Audit Report shall contain the water conservation implementation schedule to be followed by your facility.