

## WATER CONSERVATION CHECKLIST :



# SCHOOLS/EDUCATION FACILITIES

EVERY DROP COUNTS!

### GETTING STARTED WITH USER EDUCATION/AWARENESS

Schools are excellent organizations to implement water conservation. Students can be an enormous resource for ideas on using less water in their daily activities. An added benefit is that measures students learn at school concerning water use will be taken home and put into practice. However, before engaging the student body, educators and administrative staff must be committed to supporting new and potentially challenging efforts to reduce water consumption. Consider the following steps to implement a successful water conservation program at your educational facility:

- Educate and involve employees and students on water conservation. Get input and ideas from staff, students and faculty. Locate suggestion boxes in prominent areas. Conduct student contests that solicit ideas for posters, slogans and water conservation suggestions. Encourage water conservation at home as well.
- Identify areas of water consumption in and around the facility. Install signs in all restrooms encouraging water conservation.
- Develop a water conservation program where you:
  - know water-using sources, their purposes and related costs;
  - identify options to use less water and set reduction goals;
  - offer incentives for successful ideas;
  - delegate responsibility for implementing options; and
  - chart progress and post results.

### IMMEDIATE LOW OR NO COST OPTIONS

#### Initiate School-Wide Conservation Campaign

- Make conserving water at your school an effort that affects all students, teachers, administrative staff, and even visitors/volunteers.
- Adopt a motto/slogan or character that represents the school's endeavors to reduce its water use.
- Get everyone involved; send home notices that explain the school's intent to conserve water. Publicize status of program during the daily school announcements or in newsletters. Incorporate water conservation into the student curriculum.
- Feature a water-efficiency display in common areas to highlight the program.
- Track and measure water consumption and make everyone aware of usage and reductions accomplished.
- Reward those involved for their successes. Check out EPA's WAVE program at <http://www.epa.gov/owm/water-efficiency/faq.pdf> for free guidance on developing and maintaining a water conservation program at your facility.

#### Identify Water Usage and Repair Leaks (One leaking faucet can waste up to 1,000 gallons of water per week!)

- Check water meter readings to know water use and determine periods of peak usage. Identifying patterns of water use may also help to identify any inconsistencies due to leaks or nonfunctioning equipment.
- Post signs in restrooms to conserve water use and minimize the time faucets are allowed to run.
- Repair leaks in dripping faucets, spigots, toilets, pipes, pumps and other water supply lines.



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- Turn off any unnecessary flows and turn off equipment when not in use.
  - Check valves and switches on all water-using equipment and replace/repair as necessary.
  - Ensure hot water supply lines are insulated.

### **Pool and Spas**

- Keep it covered! Use a pool cover to reduce water loss due to normal evaporation.
- Repair any swimming pool leaks. An inch-a-day leak in a 15-by-30-foot pool can waste approximately 102,000 gallons per year!
- If heated, reduce your pool and spa water temperature. Warmer water evaporates more quickly.
- Shut down unnecessary fountains and waterfalls. The effect of aeration loses a significant amount of water to evaporation.
- Evaluate filter backflush schedule; reduce backflushing to minimum necessary without compromising public health and safety.

### **Food Preparation Areas**

- Do not use running water to thaw foods; instead place frozen goods in refrigerator to defrost.
- Use ponded water to soak wares and utensils instead of running water.
- Turn off continuous flow used to clean drain trays for beverage islands; clean trays as needed.
- Turn off dishwasher when not in use and only use when full. Ensure water flow rates are set at the manufacturer's minimum required levels.
- Practice dry cleanup by sweeping. Use squeegees to remove surface and floor residuals/debris before washing with water.
- Consider reducing or eliminating nightly hosing in kitchen areas where mopping will provide adequate sanitation.
- Adjust ice machines to produce only the amount necessary.
- Consider discontinuing use of food grinders/disposals; consider composting as an option.

Refer to Food Service Checklist for additional information.

### **Menu Considerations**

- Purchase fruits, vegetables and salad ingredients in "ready-to-serve" form instead of fresh that requires considerable rinsing with water.
- Serve water only on request and offer bottled water at cost.
- Offer ice upon request. Post signs to inform diners of menu changes due to water conservation efforts.

### **Landscaping**

- Water only when needed. Look for signs of wilt before watering and water only in morning or evening to avoid evaporation.
- Avoid runoff! Ensure sprinklers are directed to landscaped areas and not parking lots and sidewalks.
- Put in drought tolerant plants and grasses.

Refer to Landscaping Checklist for more information.

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## **LONG TERM OPTIONS**

### **Fixture & Equipment Retrofits**

- Install flow reducers and aerators on all faucets and other plumbing fixtures where possible.
- Install water-saving showerheads in bathrooms.
- Retrofit flushometer toilets and urinals with low consumption valve replacement kits.
- If only replacing a limited number of fixtures, replace heavily-used units in high traffic areas first.
- For dish machines, replace spray nozzles with water efficient types.
- If using hoses, ensure they are fitted with high pressure, low-volume nozzles.
- Retrofit once-through water-cooled refrigeration and ice machines and incorporate into recirculating cooling loop wherever possible.
- Install high pressure/low-flow spray rinsers with automatic shut off for pot washing.
- For ice machines, install flow regulators to prevent excess flows through the icemakers.

### **Equipment Modifications/Purchases**

- End use of once-through ("single-pass") cooling of icemaking machines. Consider replacing water-

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cooled units with air-cooled models, or supply cooling water for the icemaker from the plant's recirculating chilled water system. Otherwise, reuse the cooling water for some other purpose, such as landscape watering.

- Consider life cycle costing and replacement of water using equipment such as dishwashers, refrigeration units and ice machines with water efficient and air-cooled models.

### Laboratory Considerations

- Ensure all washing equipment have aerated spray nozzles equipped with shutoff valves.
- Eliminate once-through water cooling of lab equipment such as autoclaves and lasers by incorporating into a recirculating chilled cooling loop.
- Retrofit Bradley (circular) sinks with water-saving spray heads or sectional spray heads.

### Water Reuse and Recycling and Flow Restrictions

- Recycle final rinse water from the kitchen's multi-compartment sinks to use as makeup for the initial washing and rinsing of wares and utensils.
- Reuse water from cafeteria steam tables as makeup for mop water.
- Ensure the final rinse water from the dish machines is used for the initial rinse in the next wash sequence.
- Reduce water pressure to building and associated fixtures (sinks, toilets, showers, food grinders/disposals, laundry and dishwashing machines).

### SUCCESS STORY

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Dillard Road Middle School in Raleigh harvests rainwater from its roof for irrigation and toilet water. Low-flow and water-conserving fixtures were used to minimize water waste. Xeriscaping and using natural vegetation were also incorporated to minimize water use.



The North Carolina Division of Pollution Prevention and Environmental Assistance provides free, non-regulatory technical assistance and education on methods to eliminate, reduce, or recycle wastes before they become pollutants or require disposal. Call DPPEA at (919) 715-6500 or (800) 763-0136 or e-mail [nowaste@p2pays.org](mailto:nowaste@p2pays.org), or visit DPPEA's Web site at <http://www.p2pays.org> for assistance with issues in this checklist or any of your waste reduction concerns.