

DCR Water Conservation for Public Facilities- Short Term Measures

Irrigation and Plant Maintenance

During a State-declared Drought

- Do not water between 9 AM and 6 PM (to avoid evaporative losses). Review all automatic irrigation systems (even those maintained by outside landscape contractors) to make sure that they are programmed to only water between 6 PM and 9 AM.
- Regions in Drought Advisory: limit watering to 1 day per week at the most
- Regions in Drought Watch: limit watering to hand-held only or drip irrigation
- Regions in Drought Warning: Do not water (let lawns go dormant¹)
- To check your drought region and status go to: www.mass.gov/dcr/drought

During Non-drought Conditions

- To avoid evaporative losses, do not water between 9 am and 6 pm.
- Check facilities' locations to determine the water supplier in the area. Check with local water supplier about water use restrictions and follow them. (Most likely, but not always, the public water supplier is part of town government).
- Make regular adjustments to irrigation systems to ensure efficiency and check for leaks
- Review all automatic irrigation systems to make sure that they are programmed to only water between 6 PM and 9 AM.
- Isolate zones that may not need to be watered as much
- Check for rain sensors on the irrigation system to assure that the system is not operating during a rain event
- Incorporate mulch around shrubs and garden plants to help reduce evaporation, inhibit weed growth, moderate soil temperature, and prevent erosion.
- Allow turf grass to reach 2 to 3 inches before mowing. Leave grass clippings on the lawn to return nutrients to the soil. Prune only in the dormant season.

Other

- Sweep driveways, walks, patios, and other outdoor areas with a broom rather than hosing them off. If water is necessary, use a water-conserving pressurized cleaning device².
- Where possible, wash vehicles using a bucket and sponge, employing a hose with a shut-off nozzle for rinse only, or, if available, use a commercial car wash that recycles water (most do).

Water Conservation for Public Facilities- Long-term Measures

General

- Inventory facilities to determine:
 - Source of water (e.g., town water, self-supplied, MWRA, etc.)

¹ Irrigation to establish a new lawn and new plantings may be allowed when mandatory restrictions are in place. In addition, irrigation of public parks and recreational fields by means of automatic sprinklers outside the hours of 9 am to 5 pm and irrigation of lawns, gardens, flowers, and ornamental plants by means of hand-held hose may be exempt. Check local restrictions.

² A water-conserving pressurized cleaning device is one that either (a) discharges water at a minimum of 1,000 pounds per square inch (psi), or (b) is rated at using less than three gallons of water per minute.

- Water fixtures (e.g., type, numbers, age, amount of water per use)
- Conduct indoor and outdoor audits and account for full use of water
- Develop an action plan/timetable to address and implement the recommendations of the water audit
- Identify measures where the greatest efficiencies and potential savings can be realized
- Replace/retrofit water-consuming equipment in buildings (e.g. bathrooms, boilers, chillers), where appropriate
- Analyze existing water-use data to spot trends, patterns, and unexplained increases that could indicate leaks or inefficient use of water
- Build new public buildings with equipment that reduces water use, such as faucet aerators, low-flow showerheads, composting or high-efficiency toilets (HETs) (or —dual-flush models), and self-closing faucets. EPA’s WaterSense website has information about water-efficient WaterSense labeled products. <https://www3.epa.gov/watersense/>
- Water-saving devices and measures should be well identified to users of public buildings and facilities.

Landscaping and Irrigation

- Minimize lawn or landscape water needs by following established water-smart principles.³
- If irrigation is necessary to maintain turf health and functionality, follow best management practices outlined by WaterSense⁴ to minimize water use
- At a minimum, create an irrigation plan that:
 - limits the number of watering days per week and time of day. Check with the facility’s public water supplier for on-going restrictions or water only 1 day/week from 6 PM to 9 AM
 - incorporates rain/moisture sensors
 - adjusts the amount of irrigation based on the age of plants and isolates zones that may not need to be watered as much.
- Consider using the WaterSense Water Budget Approach to designing landscaped areas that will use water efficiently. Minimize installation of high water-use landscape areas⁵. Instead, design the landscape to take advantage of natural rainfall to satisfy watering needs.
- Inspect irrigations systems regularly to assure that programming for time of day watering and rain/moisture sensors are operating correctly

Site Development and Redevelopment

- Limit land clearing and loss of vegetated cover and preserve natural vegetation;
- Prohibit topsoil stripping and earth removal and require a minimum 6-inch depth of topsoil⁶ on all cleared areas to help retain moisture;
- Restrict topographic alterations and require that natural topography be maintained to the maximum extent feasible;
- Preserve or restore a site's natural hydrology (by using techniques such as low-impact development and open-space design⁷)

³ [Water-Smart Landscapes Start with WaterSense \(EPA WaterSense\)](#) and [Water-Wise Landscaping & Watering Guide \(www.wateruseitwisely.com\)](#).

⁴ See irrigation system design, operation, and maintenance guidelines in Section 5, Outdoor Water Use, of *WaterSense at Work: Best Management Practices for Commercial and Institutional Facilities* (links available on Outdoors tab on the Commercial web page at <http://www.epa.gov/watersense/commercial/bmps.html#tabs-outdoor>). Tips for reducing water use on golf courses can be found at the U.S. Golf Association’s Golf’s Use of Water Resource Center (<http://www.usga.org/greensectionMicrosite.aspx?id=21474866248>).

⁵ EPA’s WaterSense Water Budget Tool can be used to guide landscape design and calculate an efficient allotment of water for a landscape in a specific climate. See resources at the Tool’s webpage: http://www.epa.gov/watersense/water_budget/.

⁶ Generally, a sandy loam with 5% organic content is recommended for turf grass and landscapes.

⁷ See the Massachusetts Smart Growth/Smart Energy Toolkit (http://www.mass.gov/envir/smart_growth_toolkit/), which includes modules on low-impact development and Open Space Design/Natural Resource Protection Zoning; and the EEA [LID webpage](#).

DCAMM Recommended Measures for Facility Managers

Water systems and plumbing fixtures

- Check the water supply system for leaks, and turn off unnecessary flows.
- Shut off the water supply to equipment and areas that are unused.
- Discontinue water circulation pumping in areas not in use.
- Check for leaky faucets, showers, pipes, etc. Shut off and/or fix.
- Faucet aerators are cheap and are available on statewide contract or from MWRA. Those will cut down usage at sinks. If you haven't installed them, now is a good time!
- Read water meters monthly. Compare the results to the same month of the previous year. This will help to identify leaks as they occur, as well as monitor your conservation efforts.
- Check the pressure. Where system pressure is excessive, install pressure-reducing valves.

Mechanical Systems

- Improve cooling tower efficiency and water use:
 - Eliminate once-through cooling.
 - Install a conductivity controller on each cooling tower.
 - Equip cooling towers with overflow alarms.
 - Use high-efficiency drift eliminators.
 - Install sub-meters to monitor make-up and bleed on each cooling tower.
 - Properly train and educate cooling tower operators.

Reduce the amount of blow down for cooling towers – temporarily stop automatic blow downs

Facility Management Support:

All facility managers are encouraged to use the statewide contract FAC76 Maintenance Repair and Operations (for plumbing, heating, and HVAC supplies.) The link to the FAC guide is:

<http://www.mass.gov/anf/docs/osd/uguide/fac76.pdf>.

Additional information for building owners can be found:

<https://www.swfwmd.state.fl.us/conservation/waterwork/checklist-office.html>