

Conserving Water: Grounds Maintenance and Operations

Savings from water conservation devices can be impressive. A number of strategies can be employed in grounds maintenance and operations across a range of facilities, including hotels and resorts, golf courses, parks, schools and universities, and many other properties with small or significant landscapes and grounds.

Monitoring Water Consumption

Independent metering for different areas of building operations (where applicable and possible) can augment audits and ongoing (facility-wide) monitoring by supplying critical information for these areas.

Independent metering for the exterior and grounds maintenance areas allows for easier identification of problems, as they occur, and may indicate opportunities for specific improvements.

The following measures can help reduce water consumption levels in relation to irrigation:

- Different grass and plant types transpire (*i.e.*, give off water vapor) at different rates. Many ornamental flowers, trees, and shrubs used for landscaping may originate from remote locations with very different climates. It is generally preferable to use whatever indigenous (local) plants that are available, as these will be naturally adapted to your climate. In the case of grasses, there are some “new” drought-resistant species (*e.g.*, buffalograss and bermudagrass) that use significantly less water.
- With respect to optimizing turf grass height, the following practices should be adopted:
 - ⇒ Adjust mowing height to avoid cutting more than one-third of the leaf blade at any one time.
 - ⇒ Keep the mower blades sharp so that grass is not torn or shredded.
 - ⇒ Mow during dry periods when possible to prevent the spread of disease.
 - ⇒ Mow high (3” is recommended) to keep the soil – root interface cooler and wetter.
 - ⇒ Leave turf at a two inch height through the winter to make it less prone to matting and less susceptible to pests such as snow mold.
- Facilities with significant ground cover have found success with installing low-consumption irrigation systems that provide required watering in an effective, yet conserving manner.
- The incorporation of soil humidity sensors will reduce consumption by controlling watering frequencies strictly according to actual need.
- Routine inspection and repair of equipment, hoses, and connections will reduce unnecessary (and expensive) water losses.



Adjusting mowing height to avoid cutting more than one third of the leaf blade at any one time and keeping the mower blades sharp so that grass is not torn or shredded are two ways to keep grass healthy and reduce unnecessary irrigation.

- Scheduling watering times during evenings, early mornings, or even overnight will reduce losses due to evaporation, especially in warmer weather.
- “Soaker” hoses are preferable to conventional sprinklers because they also minimize evaporation losses by delivering water directly to the ground surface.
- Mulching (leaves, twigs, etc.) can provide a protective cover for tree and flower beds, which further reduces evaporation losses.
- Collection systems for rain water range in technical sophistication (e.g., as simple as empty barrels or other large containers can be left out to fill with water over the rain season), but can be very cost effective and useful in areas with high water utility costs or for facilities that must provide their own water sources.
- In some parts of the world, “gray water” or treated waste-water has been used for some time as a watering source because it is less expensive and high in nutrients that can be used by turf grass. It should be noted, however, that waste-water can only be used after proper treatment to remove soils and undesirable bacteria.



Designing and installing low consumption irrigation systems provide a significant means of reducing water consumption.

Sweeping Paved Areas

At some facilities, it is common practice to remove accumulated dust, dirt, leaves, and other debris from walkways and driveways by hosing them down. While reasonably effective, this practice can consume significant amounts of water. From an eco-efficiency point of view, it is preferable to opt for “elbow grease” over water power, and sweep such paved areas.

System to Recover, Reclaim, Reuse Water

“Gray water” may be recovered and reused, and technologies are being developed and implemented for this purpose. These systems may be product-specific or a component of water supply systems to entire facility areas. Specific to this operational area, some technologies exist that recover pool water and/or room humidity for a secondary purpose. One obvious example is to use (already) heated pool water to fill the whirlpool.

Other Water Saving Initiatives

Facilities may implement other relevant initiatives, such as efficient use of on-site water sources like wells or water bodies; ‘spiking’ the ground in order to aerate the turf, increase water infiltration rates (*i.e.*, absorption levels of water from the turf grass into the soil layers below), and loosen soils; etc. Another idea is to avoid watering altogether by leaving portions of the grounds to “go wild.”

