

PLANNING AND LAND USE

18 Attachment 1

Appendix A Water-Efficient Landscaping Ordinance Chapter 18.105 **Definitions**

As set forth in Pleasant Hill Municipal Code § 18.105.020, defined terms used in the Water-Efficient Landscaping Ordinance of the City of Pleasant Hill (Chapter 18.105 of Title 18 of the Pleasant Hill Municipal Code) shall have the definitions set forth below.

- A. **Applicant** means the individual or entity submitting a Landscape Project Application (LPA) required under Chapter 18.105, as part of a permit, plan check, or design review. A project applicant may be the property owner or his or her designee.
- B. **Applied water** means the portion of water supplied by the irrigation system to the landscape.
- C. **Automatic irrigation controller** means a timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers are able to self-adjust and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.
- D. **Backflow prevention device** means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.
- E. **Certified irrigation system auditor (designer)** means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense Irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.
- F. **Check valve or anti-drain valve** means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.
- G. **Common interest developments** means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.
- H. **Compost** means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.
- I. **Conversion factor (0.62)** means the number that converts acre-inches per acre per year to gallons per square foot per year.
- J. **Distribution uniformity** means the measure of the uniformity of irrigation water over a defined area.

PLEASANT HILL CODE

- K. **Drip irrigation** means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.
- L. **Ecological restoration project** means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- M. **Effective precipitation or usable rainfall (Eppt)** means the portion of total precipitation which becomes available for plant growth.
- N. **Emission Device** means any device that is contained within an irrigation system that is used to apply water. Common emission devices in an irrigation system include, but are not limited to, spray and rotary sprinkler heads, bubblers, and drip irrigation emitters.
- O. **Emitter** means a drip irrigation emission device that delivers water slowly from the system to the soil.
- P. **Established landscape** means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.
- Q. **Establishment period of the plants** means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.
- R. **Estimated Total Water Use (ETWU)** means the total water used for the landscape as described in the water allowance worksheet.
- S. **ET adjustment factor (ETAF)** means a factor, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape.
- When applied to reference evapotranspiration establishes the upper limit (Maximum Allowable Water Allowance) of the amount of water that can be applied through the irrigation system to sustain landscape. The ETAF shall be 0.55 for residential areas and 0.45 for nonresidential areas. The ETAF for a new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.
- T. **Evapotranspiration** means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants and evaporated from the soil and plant surfaces.
- U. **Flow rate** means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.
- V. **Flow sensor** means an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be

PLANNING AND LAND USE

connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.

- W. **Friable** means a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.
- X. **Fuel Modification Plan Guideline** means guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.
- Y. **Graywater** means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. “Graywater” includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.
- Z. **Hardscapes** means any durable material (pervious and non-pervious).
- AA. **Hydrozone** means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.
- BB. **Infiltration rate** means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).
- CC. **Invasive plant species** means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.
- DD. **Irrigation audit** means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the Irrigation Association’s Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency “Watersense” labeled auditing program.
- EE. **Irrigation efficiency (IE)** means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The irrigation efficiency for purposes of this ordinance are 0.75 for overhead spray devices and 0.81 for drip systems. Greater irrigation efficiency can be expected from well-designed and well-maintained systems.

PLEASANT HILL CODE

- FF. **Irrigation survey** means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.
- GG. **Irrigation water use analysis** means an analysis of water use data based on meter readings and billing data.
- HH. **Landscape architect** means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.
- II. **Landscape area** means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).
- JJ. **Landscape contractor/installer** means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.
- KK. **Landscape water meter** means an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.
- LL. **Lateral line** means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- MM. **Local water purveyor** means any entity, including a public agency, city, county, or private water company that provides retail water service.
- NN. **Low volume irrigation** means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.
- OO. **Main line** means the pressurized pipeline that delivers water from the water source to the valve or outlet.
- PP. **Master shut-off valve** is an automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.
- QQ. **Maximum Applied Water Allowance (MAWA)** means the upper limit of annual applied water for the established landscaped area as specified in the "Water Allowance Work Sheets." It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such

PLANNING AND LAND USE

as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0. $MAWA = (ET_o) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$.

- RR. **Median** is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.
- SS. **Microclimate** means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.
- TT. **Mulch** means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, or decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.
- UU. **New construction** means, for the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.
- VV. **Non-Permeable** means any surface or material that will not allow the passage of water through that surface or material and into the underlying soil at a rate that ensures run-off will not occur.
- WW. **Operating pressure** means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.
- XX. **Overhead irrigation** (overhead sprinkler irrigation systems or overhead spray irrigation systems) means systems that deliver water through the air (e.g., spray heads and rotors).
- YY. **Overspray** means the irrigation water which is delivered beyond the target area.
- ZZ. **Parkway** means the area between a sidewalk and the curb or traffic lane. It may be planted or unplanted, and with or without pedestrian egress.
- AAA. **Pervious** means any surface or material that allows the passage of water through the material and into the underlying soil.
- BBB. **Plant factor or plant water use factor** is a factor, when multiplied by ET_o , estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is 0.1 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. The plant factors for this ordinance are from the WUCOLS publication. Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources (DWR).
- CCC. **Precipitation rate** for this ordinance means the rate of application of water measured in inches per hour.

PLEASANT HILL CODE

- DDD. **Rain sensor or rain sensing shutoff device** means a component which automatically suspends an irrigation event when it rains.
- EEE. **Recreational area** means areas, excluding private single-family residential areas, designated for active play, recreation or public assembly in parks, sports fields, picnic grounds, amphitheaters or golf course tees, fairways, roughs, surrounds and greens.
- FFF. **Recycled water, reclaimed water, or treated sewage effluent water** means treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation and water features. This water is not intended for human consumption.
- GGG. **Reference evapotranspiration or ETo** means a standard measurement of environmental parameters that affect the water use of plants.
- HHH. **Rehabilitated landscape** means any re-landscaping project that requires a permit, plan check, or design review, or requires a new or expanded water service application or meets the requirements of Section 18.105.030, and the modified landscape area is equal to or greater than 2,500 square feet.
- III. **Retail water supplier** means any entity, including a public agency, city, county, district or private water company that provides retail water service.
- JJJ. **Runoff** means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area.
- KKK. **Smart irrigation controllers** means controllers using weather information or soil moisture readings along with site information to automatically adjust the irrigation schedule on a daily basis.
- LLL. **Soil moisture sensing device or soil moisture sensor** means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.
- MMM. **Special Landscape Area (SLA)** means an area of the landscape dedicated solely to edible plants, recreational (active play) areas, areas irrigated with recycled water, cemeteries, or water features using recycled water.
- NNN. **Sprinkler head or spray head** means a device which delivers water through a nozzle.
- OOO. **Static water pressure** means the pipeline or municipal water supply pressure when water is not flowing.
- PPP. **Station** means an area served by one valve or by a set of valves that operate simultaneously.
- QQQ. **Storm Water Control Plan Requirements (C.3)** means Provision C.3 of the City's Municipal Regional Stormwater Permit, as approved by San Francisco Bay Regional Water Quality Control Board on October 14, 2009 under Order No. R2-2009-0074, NPDES Permit No. CAS612008, which requires jurisdictions to include appropriate source control, site design, and stormwater treatment measures in new development and

PLANNING AND LAND USE

redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. (See PHMC Chapter 15.05.)

- RRR. **Swing joint** means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.
- SSS. **Submeter** means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.
- TTT. **Turf** means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.
- UUU. **Valve** means a device used to control the flow of water in the irrigation system.
- VVV. **Water conserving plant species** means a plant species identified as having a very low or low plant factor.
- WWW. **Water feature** means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.
- XXX. **Watering window** means the time of day irrigation is allowed.
- YYY. **WUCOLS** means the Water Use Classification of Landscape Species, published by the University of California Cooperative Extension, the Department of Water Resources 2014.

(Ord. 900 § 1, 2016; Ord. 979, 12/1/2025)