

## Article 42. - WATER EFFICIENT LANDSCAPE

### Sec. 9-2.4201. - Purpose.

The purpose of this article is to define standards that regulate the design, installation, maintenance, and management of new, rehabilitated, and existing landscapes for the purpose of water conservation.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)

### Sec. 9-2.4202. - Applicability.

This article shall apply to all residential and non-residential landscape projects requiring a building or special use permit in the unincorporated area of the County of Plumas.

- (a) New landscape projects with an aggregate landscape area equal to or greater than 500 square feet.
- (b) Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet.
- (c) Existing landscapes.
- (d) Cemeteries, new/rehabilitated subject to subsection 9-2.4209(a)(1), and existing subject to subsection 9-2.4209(a)(2).
- (e) Landscape projects, new or rehabilitated, with an aggregate landscape area between 500 square feet and 2,500 square feet, may comply with the performance requirements of this article or conform to the prescriptive compliance option contained in subsection 9-2.4205(e) and subsection 9-2.4206(g).
- (f) Landscape projects utilizing graywater or rainwater captured on-site are subject only to subsection 9-2.4206(g)(1)(v), if:
  - 1.

Any lot or parcel within the project has less than 2,500 square feet of landscape area;  
and

2. Meets the landscape water requirement (estimated total water use) entirely with graywater or rainwater captured on-site.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)

#### Sec. 9-2.4203. - Exemptions.

The following landscape projects are exempt from this article:

- (a) Registered local, state, or federal historical sites.
- (b) Ecological restoration projects that do not require a permanent irrigation system.
- (c) Mined-land reclamation projects that do not require a permanent irrigation system.
- (d) Gardens or plant collections, as part of botanical gardens and arboretums open to the public.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)

#### Sec. 9-2.4204. - Definitions.

- (a) "Applied water" means the portion of water supplied by the irrigation system to the landscape.
- (b) "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.
- (c) "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.
- (d) "Certificate of completion" means the document required under subsection 9-2.4205(f).

- (e) "Certified irrigation 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) "Certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization, or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Association's Certified Irrigation Auditor program.
- (g) "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.
- (h) "Common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.
- (i) "Compost" means the product resulting from the controlled biological decomposition of organic wastes that are source separated from the municipal solid waste stream, or which are separated at a centralized facility. Compost includes vegetable, yard, and wood wastes which are not hazardous waste pursuant to Section 40110 of the California Public Resources Code as currently in force or as hereafter amended.
- (j) "Conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year.
- (k) "Distribution uniformity" means the measure of the uniformity of irrigation water over a defined area.
- (l) "Drip irrigation" means any non-spray low volume irrigation system utilizing emission devices with a volume 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.

- (m) "Ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- (n) "Effective precipitation" or "usable rainfall" means the portion of total precipitation which becomes available for plant growth.
- (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 (2) years of growth.
- (q) "Establishment period of the plants" means the first year after installing the plant in the landscape or the first two (2) years if irrigation will be terminated after establishment. Typically, most plants are established after one or two (2) years of growth. Native habitat mitigation areas and trees may need three (3) to five (5) years for establishment.
- (r) "Estimated total water use" or "ETWU" means the total water used for the landscape as described in subsection 9-2.4205(b)(1)(vii).
- (s) "Evapotranspiration adjustment factor" or "ETAF" means a factor of 0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiencies, two (2) major influences upon the amount of water that needs to be applied to the landscape. The ETAF for 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 rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specific time.
- (u) "Volume flow rate" means the rate at which water flows through pipes, valves, and emissions devices, measured in gallons per minute (gal/min), gallons per hour (gal/hr), 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 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 a 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 the Plumas County Agricultural Commissioner as noxious species. Lists of invasive plants are maintained at the California Invasive Plant Inventory (Cal-IPC) and USDA invasive and noxious weed 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" or "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 article are 0.75 for overhead spray devices and 0.81 for drip system.
- (ff) "Irrigation survey" means an evaluation of an irrigation system that is less detailed than an irrigation audit.
- (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" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

(kk) "Landscape documentation package" means the documents required under Section 9-2.4205.

(ll) "Landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this article, meeting requirements under Section 9-2.4202.

(mm) "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.

(nn) "Lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

(oo) "Local agency" means a city or county, including a charter city or charter county, that is responsible for adopting and implementing the ordinance. The local agency is also responsible for the enforcement of this article, including, but not limited to, approval of a permit and plan check or design review of a project.

(pp) "Local water purveyor" means any entity, including a public agency, city, county, or private water company that provides retail water service.

(qq) "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.

(rr) "Main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.

(ss) "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.

- (tt) "Maximum applied water allowance" or "MAWA" means the upper limit of annual applied water for the established landscaped area as specified in subsections 9-2.4205(b)(1)(v)—(b)(1)(vi). 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 as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0.  $MAWA = (ET_o)(0.62)[(ETAF \times TLA) + ((1 - ETAF) \times SLA)]$
- (uu) "Median" is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.
- (vv) "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.
- (ww) "Mined-land reclamation projects" means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.
- (xx) "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.
- (yy) "New construction" means, for the purposes of this article, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.
- (zz) "Non-residential landscape" means landscapes in commercial, institutional, industrial, and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.



- (aaa) "Operating pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.
- (bbb) "Overhead sprinkler irrigation systems" or "overhead spray irrigation systems" means systems that deliver water through the air (e.g., spray heads, rotors, impulse sprinklers, micro-sprays)
- (ccc) "Overspray" means the irrigation water which is delivered beyond the target area.
- (ddd) "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.
- (eee) "Permit" means an authorizing document issued by the County for new construction or rehabilitated landscapes.
- (fff) "Pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.
- (ggg) "Plant factor" or "plant water use factor" is a factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this article, 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. Plant factors cited in this article are derived from the publication "Water Use Classification of Landscape Species." Plant factors may also be obtained from horticultural researchers, academic institutions, or professional associations as approved by the California Department of Water Resources (DWR).
- (hhh) "Project applicant" means the individual or entity submitting a landscape documentation package required under Section 9-2.4205, to request a permit, plan check, or design review from the County. A project applicant may be the property owner or his or her designee.
- (iii) "Rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.
- (jjj)

"Record drawing" or "as-builts" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

(kkk) "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.

(lll) "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.

(mmm) "Reference evapotranspiration" or "ET<sub>o</sub>" means a standard measurement of environmental parameters which affect the water use of plants. ET<sub>o</sub> is expressed in inches per day, month, or year, and is an estimate of the evapotranspiration of a large field of four (4") inch to seven (7") inch tall, cool season grass that is well watered. Reference evapotranspiration is used as the basis of determining the maximum applied water allowances so that regional differences in climate can be accommodated.

(nnn) "Regional water efficient landscape ordinance" means a local ordinance adopted by two (2) or more local agencies, water suppliers and other stakeholders for implementing a consistent set of landscape provisions throughout a geographical region. Regional ordinances are strongly encouraged to provide a consistent framework for the landscape industry and applicants to adhere to.

(ooo) "Rehabilitated landscape" means any relandscaping project that requires a permit, plan check, or design review, meets the requirements of Section 9-2.4202, and the modified landscape area is equal to or greater than 2,500 square feet.

(ppp) "Residential landscape" means landscapes surrounding single or multifamily homes.

- (qqq) "Run off" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, run off may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.
- (rrr) "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.
- (sss) "Soil texture" means the classification of soil based on its percentage of sand, silt, and clay.
- (ttt) "Special landscape area" or "SLA" means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.
- (uuu) "Sprinkler head" or "spray head" means a device which delivers water through a nozzle.
- (vvv) "Static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.
- (www) "Station" means an area served by one valve or by a set of valves that operate simultaneously.
- (xxx) "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.
- (yyy) "Submeter" means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.
- (zzz) "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. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.
- (aaaa) "Valve" means a device used to control the flow of water in an irrigation system.

- (bbbb) "Water conserving plant species" means a plant species identified as having a very low or low plant factor.
- (cccc) "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.
- (dddd) "Watering window" means the time of day irrigation is allowed.
- (eeee) "WUCOLS" means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources 2014.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)

Sec. 9-2.4205. - Submittal requirements.

- (a) *Landscape documentation package.* Prior to construction of any landscape project described in Section 9-2.4202, the project applicant shall submit a landscape documentation package with the building or special use permit application. The landscape documentation package shall contain the following:
  - (1) Project information that includes:
    - (i) Date.
    - (ii) Project applicant.
    - (iii) Project location identified by address and assessor parcel number(s) (APN(s)).
    - (iv) Total landscape area and turf area (square feet).
    - (v) Project type (e.g., new, rehabilitated, public, private, cemetery).

- (vi) Water supply type (e.g., potable, recycled, well, graywater) and identify the local water purveyor if not served by a private well.
  - (vii) Checklist of all documents included in the landscape documentation package.
  - (viii) Contact information for the applicant and property owner.
  - (ix) Applicant signature and date with statement, "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Design Package."
- (2) Water efficient landscape worksheet that complies with subsection 9-2.4205(b).
  - (3) A landscape design plan that complies with subsection 9-2.4205(c)(1) and subsection 9-2.4206(a).
  - (4) An irrigation design plan that complies with subsection 9-2.4205(c)(2) and subsection 9-2.4206(b).
  - (5) A grading design plan that complies with subsection 9-2.4205(c)(3) and subsection 9-2.4206(c).
  - (6) A soil management report that complies with subsection 9-2.4205(d).
- (b) *Water efficient landscape worksheet.* A sample worksheet may be found in Appendix B of Chapter 2.7, Division 2, Title 23 of the California Code of Regulations. The water efficient landscape worksheet shall be completed by a civil engineer, landscape architect, or other professional appropriately licensed by the State of California. The worksheet shall contain all of the following:
- (1)

Information on the plant factor (PF), irrigation method, irrigation efficiency (IE), and landscape area associated with each hydrozone. Calculations demonstrating the maximum applied water allowance (MAWA), estimated total water usage (ETWU), and the evapotranspiration adjustment factor (ETAF). Regular landscape areas and special landscape areas shall be identified and water uses organized as shown in Appendix B of Chapter 2.7, Division 2, Title 23 of the California Code of Regulations. The following equations and standards shall be utilized for the calculations:

- (i) *Plant factor (PF)*. The plant factors used shall be from WUCOLS or from horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources. 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. High water use plants shall not be mixed with low or moderate water use plants.
- (ii) *Irrigation efficiency (IE)*. The irrigation efficiency is determined by the type of irrigation method.
  - (aa) Spray irrigation = 0.75.
  - (ab) Drip irrigation = 0.81.
- (iii) *ETAF*. The evapotranspiration adjustment factor for a landscape project is based on the plant factor and irrigation method selected for each hydrozone. The maximum ETAF allowed is 0.55 for residential areas and 0.45 for non-residential areas and is expressed as annual gallons required, exclusive of special landscape areas. The ETAF for new and existing (non-rehabilitated) special landscape areas, including any recycled water areas, shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8. ETAF shall be calculated utilizing the following equation:

$$ETAF = \frac{PF}{IE}$$

Where:

PF = Plant Factor

IE = Irrigation Efficiency

- (iv) *ETAF (average and sitewide)*. The calculated ETAF for both the regular landscape areas,  $ETAF_{AVG\_Regular}$ , and sitewide landscape areas,  $ETAF_{Sitewide}$ , shall not exceed the maximum allowable ETAF of 0.45 for non-residential areas and 0.55 for residential areas. Average ETAF for regular landscape areas and Sitewide ETAF for sitewide landscape areas shall be calculated utilizing the following equations:

$$ETAF_{AVG\_Regular} = \frac{Total\ Regular(ETAF \times HA)}{TRLA}$$

Where:

Total Regular(ETAF x HA) = Sum of ETAF x HA, excluding Special Landscape Areas.

ETAF = evapotranspiration adjustment factor

HA = hydrozone landscape area (square feet)

TRLA = total regular landscape area of all hydrozones, excluding Special Landscape Areas (square feet)

$$ETAF_{Sitewide} = \frac{Total\ Regular(ETAF \times HA) + SLA}{TLA}$$

Where:

Total Regular(ETAF x HA) = Sum of ETAF x HA, excluding special landscape areas.

ETAF = evapotranspiration adjustment factor

HA = hydrozone landscape area (square feet)

SLA = total Special Landscape Area (square feet)

TLA = total landscape area of all hydrozones (regular and special)  
(square feet)

- (v) *MAWA (New or rehabilitated landscapes)*. The maximum applied water allowance for new and rehabilitated landscapes shall be calculated based on the maximum ETAF allowed. MAWA shall be calculated utilizing the following equation:

$$\text{MAWA} = (\text{ETo})(0.62)[(\text{ETAF} \times \text{TLA}) + ((1 - \text{ETAF}) \times \text{SLA})]$$

Where:

ETo = reference evapotranspiration determined from Appendix A of Chapter 2.7, Division 2, Title 23 of the California Code of Regulations (inches per year). For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.

0.62 = conversion factor (acre inches to gallons)

ETAF = evapotranspiration adjustment factor (0.45 for non-residential and 0.55 for residential)

TLA = total landscape area of all hydrozones (square feet)

SLA = total Special Landscape Area (square feet)

- (vi) *MAWA (existing landscape)*. The maximum applied water allowance for existing landscapes shall be calculated using the following equation:

$$\text{MAWA} = (\text{ETo})(0.62)(0.8)(\text{TLA})$$

Where:

ETo = reference evapotranspiration determined from Appendix A of Chapter 2.7, Division 2, Title 23 of the California Code of Regulations (inches per year). For geographic areas not covered in Appendix A, use



data from other cities located nearby in the same reference  
evapotranspiration zone, as found in the CIMIS Reference  
Evapotranspiration Zones Map, Department of Water Resources, 1999.

0.62 = conversion factor (acre inches to gallons)

ETAF = evapotranspiration adjustment factor = 0.8

TLA = total landscape area of all hydrozones (square feet)

- (vii) *ETWU*. The estimated total water use is calculated based on the plants used and irrigation method selected for the landscape design. ETWU shall be calculated utilizing the following equation:

$$ETWU = (ET_o)(0.62)(ETAF)(HA)$$

Where:

$ET_o$  = reference evapotranspiration determined from Appendix A of Chapter 2.7, Division 2, Title 23 of the California Code of Regulations (inches per year). For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.

0.62 = conversion factor (acre inches to gallons)

ETAF = evapotranspiration adjustment factor

HA = hydrozone landscape area (square feet)

- (viii) Total ETWU must be below MAWA. To calculate total ETWU, the ETWU for all hydrozones, regular landscape areas and special landscape areas, shall be summed.

- (ix) *Effective precipitation*.

(aa)

Effective precipitation (twenty-five (25%) percent of annual precipitation) in tracking water use and may use the following equations to calculate MAWA:

(a) *For residential landscapes:*

$$\text{MAWA} = (\text{ETo} - \text{EPPT})(0.62)[(0.55 \times \text{TLA}) + ((.45) \times \text{SLA})]$$

(b) *For non-residential landscapes:*

$$\text{MAWA} = (\text{ETo} - \text{EPPT})(0.62)[(.45 \times \text{TLA}) + ((.55) \times \text{SLA})]$$

Where:

ETo = reference evapotranspiration determined from Appendix A of Chapter 2.7, Division 2, Title 23 of the California Code of Regulations (inches per year). For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.

EPPT = 25% of annual precipitation

TLA = total landscape area of all hydrozones (square feet)

0.62 = conversion factor (acre inches to gallons)

SLA = total Special Landscape Area (square feet)

(c) *Design plans.*

- (1) *Landscape design plan.* The landscape design plan shall be completed by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. The landscape design plan shall meet all applicable criteria set forth in subsection 9-2.4206(a) and shall:

- (i) Include general notes, planting notes, plant layout based on size at maturity, species, and symbol legend.
- (ii) Delineate and label each hydrozone by number, letter, or other method.
- (iii) Identify each hydrozone as very low, low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation, as defined by WUCOLS.
- (iv) Identify special landscape areas.
- (v) Identify areas permanently and solely dedicated to edible plants.
- (vi) Identify irrigated areas with recycled water or graywater.
- (vii) Identify type of mulch and application depth.
- (viii) Identify soil amendments, type, and quantity.
- (ix) Identify type and surface area of water features.
- (x) Identify hardscapes.
- (xi) Identify any applicable rain harvesting or catchment technologies as discussed in subsection 9-2.4206(f) and their twenty-four (24) hour retention or infiltration capacity.
- (xii) Identify any graywater discharge piping, system components and area(s) of distribution.
- (xiii) Contain the following statement: "I have complied with the criteria of the Plumas County Water Efficient Landscape Ordinance and applied them for the efficient use of water in the landscape design plan."
- (xiv) Include a plant legend, in tabular form, demonstrating the following:
  - (aa) Plant type (e.g., tree, shrub, ground covers, vine, perennials, grasses).
  - (ab) Common name and botanical name.
  - (ac) Quantity.

(ad) Container size.

(ae) Remarks.

(2) *Irrigation design plan.* The irrigation design plan shall be completed by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation plan. The irrigation design plan shall meet all applicable criteria set forth in subsection 9-2.4206(b) and shall contain:

- (i) General notes, irrigation notes, hydrozone notes (zone number, water use, landscape area, etc.), irrigation layout, species, device type, and irrigation legend.
- (ii) Hydrozone areas shall be designated by number, letter, or other designation on the irrigation design plan.
- (iii) Include on the irrigation design plan, designated areas irrigated by each valve, and assign a number to each valve. Use this number in the water efficient landscape worksheet.
- (iv) The irrigation design plan, at a minimum, shall contain:
  - (aa) Location and size of separate water meters for landscape.
  - (ab) Location, type, and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices.
  - (ac) Static water pressure at the point of connection to the main water supply.
  - (ad) Volume flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station.
  - (ae) Recycled water irrigation systems as specified in subsection 9-2.4206(d), if applicable.
  - (af)

The following statement: "I have complied with the criteria of the Plumas County Water Efficient Landscape Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan."

(3) *Grading design plan.*

- (i) If the landscape project area will be graded, the grading design plan shall be completed by, and bear the signature of, a landscape architect, civil engineer, or architect licensed by the State of California and shall be submitted as part of the landscape documentation package.

Grading shall meet all applicable County grading requirements. A grading plan prepared by a civil engineer for other local agency permits satisfies this requirement. The grading design plan shall meet all applicable criteria set forth in subsection 9-2.4206(c) and shall contain:

- (aa) A landscape grading plan that indicates finished configurations and elevations of the landscape area including:
  - (a) Height of graded slopes.
  - (b) Drainage patterns.
  - (c) Pad elevations.
  - (d) Finished grade.
  - (e) Stormwater retention improvements, if applicable.
- (ab) The grading design plan shall contain the following statement: "I have complied with the criteria of the Plumas County Water Efficient Landscape Ordinance and applied them accordingly for the efficient use of water in the grading design plan."

(d) *Soil management report.*

- (1) A soil management report shall be completed by the project applicant, or his/her designee, as follows:
  - (i) An analysis completed by a properly certified or accredited laboratory using accepted industry protocol.
  - (ii)

The analysis shall be of the soil for the proposed landscape areas of the project that includes information about:

- (aa) Soil texture.
  - (ab) Soil infiltration rate determined by laboratory test or soil texture infiltration rate table.
  - (ac) pH.
  - (ad) Total soluble salts.
  - (ae) Sodium.
  - (af) Percent organic matter.
  - (ag) Recommendations on soil amendments.
- (iii) The project applicant, or his/her designee, shall comply with one of the following:
- (aa) If significant mass grading is not planned, the soil analysis report shall be submitted as part of the landscape documentation package; or
  - (ab) If significant mass grading is planned, the soil analysis report shall be submitted to the local agency as part of the certificate of completion.
- (iv) In projects with multiple landscape installations a soil sampling rate of one in seven (7) lots or approximately fifteen (15%) percent will satisfy this requirement.
- (e) *Prescriptive compliance option.* Utilization of the prescriptive compliance option requires compliance with the following standards and shall be documented on a landscape design plan:
- (1) Submit a landscape documentation package which includes all of the requirements listed in subsections 9-2.4205(a)(1)(i)–(a)(1)(i)(vi), (a)(1)(i)(viii), and (a)(1)(i)(ix) and adheres to the design elements listed in subsection 9-2.4206(g).
  - (2)

At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule, and a schedule of landscape and irrigation maintenance.

(f) *Certificate of completion.*

(1) The certificate of completion (see Appendix C of Chapter 2.7, Division 2, Title 23 of the California Code of Regulations for a sample Certificate of Completion) shall include the following six (6) elements:

(i) Project information sheet that contains:

(aa) Date.

(ab) Project name.

(ac) Project applicant name, telephone, and mailing address.

(ad) Project address and location.

(ae) Property owner name, telephone, and mailing address.

(ii) Certification by either the signer of the landscape design plan, irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved landscape documentation package:

(aa) Where there have been significant changes made in the field during construction, these "as-built" or record drawings shall be included with the certification;

(ab) A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.

(iii) An irrigation schedule that complies with Section 9-2.4207 that describes the irrigation times and irrigation parameters for the project.

(iv) Landscape and irrigation maintenance schedule (see Section 9-2.4208).

(v) Irrigation audit report (see Section 9-2.4209).

(vi)

Soil management report, if not submitted with landscape documentation package, and documentation verifying implementation of soil report recommendations (see subsection 9-2.4205(d)).

(2) The project applicant shall:

- (i) Submit the signed certificate of completion to the Plumas County Planning Department for review.
- (ii) Ensure that copies of the approved certificate of completion are submitted to the property owner or his or her designee.

(3) Upon receiving the certificate of completion, the Plumas County Planning Department shall approve or deny the certificate of completion. If the certificate of completion is denied, the Planning Department shall provide information to the project applicant regarding reapplication, appeal, or other assistance.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)

Sec. 9-2.4206. - Design elements.

The landscape and irrigation design plans shall be carefully designed and planned for the intended function of the project. The following standards shall be adhered to when designing landscape and irrigation design plans.

(a) *Landscape design plan.*

(1) *Plant material.*

- i. Any plant may be selected for the landscape, providing the ETWU in the landscape area does not exceed the MAWA. Methods to achieve water efficiency shall include one or more of the following:
  - (aa) Protection and preservation of native species and natural vegetation.
  - (ab) Selection of water-conserving plant, tree, and turf species, especially local native plants.
  - (ac)



Selection of plants based on local climate suitability, disease, and pest resistance.

- (ad) Selection of trees based on size at maturity as appropriate for the planting area.
- (ae) Selection of plants from local and regional landscape program plant lists, if available.
- (af) Selection of plants from local fuel modification guidelines.
- ii. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. Plants with similar water needs shall be grouped within hydrozones. Methods to achieve water efficiency shall include one or more of the following:
  - (aa) Use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate.
  - (ab) Recognize the horticultural attributes of plants (i.e., mature plant size, invasive roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; allow for adequate soil volume for healthy root growth.
  - (ac) Consider solar orientation for plant placement to maximize summer shade.
- iii. Turf shall not be planted on slopes greater than twenty-five (25%) percent where the toe of the slope is adjacent to an impermeable hardscape, and where twenty-five (25%) percent means one foot of vertical elevation change for every four (4') feet of horizontal length:  
$$(Slope\ Percent = \frac{Rise}{Run} \times 100).$$
- iv. The use of invasive plant species, such as those listed by the California Invasive Plant Council, is strongly discouraged.

v.

Existing invasive plants within or adjacent to the proposed landscape area shall be removed prior to installation, to minimize potential for spread into installation area.

- vii. High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.
  - viii. The architectural guidelines of a common interest development, which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.
- (2) *Hydrozones*. Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in subsection 9-2.4206(b)(2)(iv). On the landscape design plan, hydrozone areas shall be designated by number, letter, or other designation. All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.
- (3) *Fire management*. A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches.
- (4) *Water features*.
  - (i) Recirculating water systems shall be used for water features.
  - (ii) Where available, recycled water shall be used as a source for decorative water features.
  - (iii) Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.
  - (iv) Pool and spa covers are highly recommended.
- (5) *Soil preparation, mulch, and amendments*.

- (i) Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.
  - (ii) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected.
  - (iii) For landscape installations, compost at a rate of a minimum of four (4) cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six (6") inches into the soil. Soils with greater than six (6%) percent organic matter in the top six (6") inches of soil are exempt from adding compost and tilling.
  - (iv) A minimum three (3") inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated. To provide habitat for beneficial insects and other wildlife, up to five (5%) percent of the landscape may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.
  - (v) Stabilizing mulching products shall be used on slopes that meet current engineering standards.
  - (vi) The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.
  - (vii) Organic mulch materials made from recycled or post-consumer shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available.
- (b) *Irrigation design plan.* An irrigation system shall meet all the requirements listed in this section and the manufacturer's recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance.

(1) *System requirements.*

- (i) A dedicated water meter or submeter, shall be installed for all non-residential irrigated landscapes of 1,000 square feet but not more than 5,000 feet (the level at which Water Code 535 applies). A landscape water meter may be either:
  - (aa) A water service meter dedicated to landscape use; or
  - (ab) A privately owned meter or submeter.
- (ii) Automatic irrigation controllers utilizing evapotranspiration, soil moisture sensor data, or any other type of self-adjusting controller, utilizing non-volatile memory shall be required for irrigation scheduling in all irrigation systems.
- (iii) If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
  - (aa) If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
  - (ab) Static water pressure, dynamic or operating pressure, and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.
- (iv) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as

appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.

- (v) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.
- (vi) Backflow prevention devices shall be installed to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the Plumas County Environmental Health Department for any additional backflow prevention requirements.
- (vii) Flow sensors that detect high flow conditions created by system damage or malfunction shall be installed for all non-residential landscapes of 5,000 square feet or larger.
- (viii) Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.
- (ix) Irrigation systems shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas.
- (x) Relevant information from the soil management report, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
- (xi) The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
- (xii) The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in subsection 9-2.4205(b) regarding the maximum applied water allowance (MAWA).
- (xiii)

All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard." All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

- (xiv) The project applicant is encouraged to inquire with the local water purveyor about peak water operating demands or water restrictions that may impact the effectiveness of the irrigation system.
- (xv) Sprinkler heads and other emission devices shall have matched precipitation rates.
- (xvi) Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity.
- (xvii) Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turf grass.
- (xviii) Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur.
- (xix) Overhead irrigation shall not be permitted within twenty-four (24") inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if one of the following circumstances apply:
  - (aa) The landscape area is adjacent to permeable surfacing and no runoff occurs.
  - (ab)

The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.

- (ac) The irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in subsection 9-2.4206(b)(1)(ix). Prevention of overspray and runoff must be confirmed during the irrigation audit.
- (xx) Slopes greater than twenty-five (25%) shall not be irrigated with an irrigation system with an application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the landscape documentation package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

(2) *Hydrozone.*

- (i) Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
- (ii) Irrigation devices (sprinkler heads, drip emitters, etc.) shall be selected based on what is appropriate for the plant type within each hydrozone.
- (iii) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf to facilitate the appropriate irrigation of trees.
- (iv) Moderate and high water use, or low and moderate water use plants may be mixed within a hydrozone, if one of the following apply:
  - (aa) Plant factor calculation is based on the proportions of respective plant water uses and their plant factor.

- (ab) The plant factor is set to the plant(s) with the greater water use in the hydrozone to determine the calculations for the water efficient landscape worksheet. Individual hydrozones that mix high and low water use plants shall not be permitted.
- (c) *Grading design plan.* For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. To prevent excessive erosion and runoff, it is highly recommended that project applicants:
  - (1) Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes.
  - (2) Avoid disruption of natural drainage patterns and undisturbed soil.
  - (3) Avoid soil compaction in landscape areas.
- (d) *Recycled water.*
  - (1) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water.
  - (2) In addition to this article, landscapes utilizing recycled water shall be designed and operated in accordance with all applicable State and local laws and regulations related to the use of recycled water.
- (e) *Graywater systems.*
  - (1) Graywater systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All graywater systems shall conform to the California Plumbing Code (Title 24, Part 5, Chapter 16) and all applicable County standards. Refer to subsection 9-2.4202(f) for the applicability of this article to landscape areas less than 2,500 square feet with the estimated total water use met entirely by graywater.
- (f) *Stormwater management and rainwater retention.* Stormwater best management practices shall be incorporated as appropriate into the landscape installation, the details of which shall be shown on the landscape design plan. Project applicants shall refer to the Regional Water



Quality Control Board for information on any applicable storm water requirements. To ensure water retention and infiltration is maximized, all planted landscapes shall have friable soil. It is recommended that:

- (1) Landscape areas be designed for capture and infiltration capacity that is sufficient to prevent runoff from impervious surfaces (i.e., roof and paved areas) from either:
  - (i) The one inch, twenty-four (24) hour rain event; or
  - (ii) The 85<sup>th</sup> percentile, twenty-four (24) hour rain event; and/or
  - (iii) Additional capacity as required by any applicable local, regional, state, or federal regulation.
- (2) Stormwater projects incorporate any of the following elements to improve on-site stormwater and dry weather runoff capture and use:
  - (i) Grade impervious surfaces, such as driveways, during construction to drain to vegetated areas.
  - (ii) Minimize the area of impervious surfaces such as paved areas, roof, and concrete driveways.
  - (iii) Incorporate pervious or porous surfaces (e.g., gravel, permeable pavers or blocks, pervious or porous concrete) that minimize runoff.
  - (iv) Direct runoff from paved surfaces and roof areas into planting beds or landscaped areas to maximize site water capture and reuse.
  - (v) Incorporate rain gardens, cisterns, and other rain harvesting or catchment systems.
  - (vi) Incorporate infiltration beds, swales, basins, and drywells to capture stormwater and dry weather runoff and increase percolation into the soil.
  - (vii) Consider constructed wetlands and ponds that retain water, equalize excess flow, and filter pollutants.

(g)

*Prescriptive compliance.* In order to utilize prescriptive compliance option, the following criteria shall be met:

- (1) Compliance with the following design elements is mandatory and shall be documented on a landscape plan:
  - (i) Provide all the requirements listed in subsections 9-2.4205(a)(1)(i)–(a)(1)(vi), (a)(1)(viii), and (a)(1)(ix)).
  - (ii) Incorporate compost at a rate of at least four (4) cubic yards per 1,000 square feet to a depth of six (6") inches into landscape area (unless contraindicated by a soil test);
  - (iii) Plant material shall comply with all of the following:
    - (aa) For residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for seventy-five (75%) percent of the plant area excluding edibles and areas using recycled water. For non-residential areas, install climate adapted plants that require occasional, little, or no summer water (average WUCOLS plant factor 0.3) for 100 percent of the plant area excluding edibles and areas using recycled water.
    - (ab) A minimum three (3") inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
  - (iv) Turf shall comply with all of the following:
    - (aa) Turf shall not exceed twenty-five (25%) percent of the landscape area in residential areas, and there shall be no turf in non-residential areas.
    - (ab) Turf shall not be planted on sloped areas which exceed a slope of one foot vertical elevation change for every four (4') feet of horizontal length.
    - (ac)

Turf is prohibited in parkways less than ten (10') feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by subsurface irrigation or by other technology that creates no overspray or runoff.

(v) Irrigation systems shall comply with the following:

- (aa) Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.
- (ab) Irrigation controllers shall be of a type which does not lose programming data in the event of primary power source interruption.
- (ac) Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.
- (ad) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.
- (ae) All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014, "Landscape Irrigation Sprinkler and Emitter Standard." All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.
- (af) Areas less than ten (10') feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

(vi) To measure the landscape water use of landscapes in non-residential areas with landscapes greater than 1,000 square feet, a private submeter, or as many submeters as necessary, shall be installed.

Sec. 9-2.4207. - Irrigation scheduling.

The irrigation schedule required by subsection 9-2.4205(f)(1)(iii) shall be prepared by a California licensed, landscape architect, civil engineer, architect, landscape contractor, or property owner and provide the following information:

- (a) Irrigation scheduling shall be regulated by automatic irrigation controllers.
- (b) Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it. If allowable hours of irrigation differ from local water purveyor, the stricter of the two (2) shall apply.
- (c) For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission devices, flow rate, and current reference evapotranspiration, so that applied water meets the ETWU. Total annual applied water shall be less than or equal to MAWA. Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data.
- (d) Parameters used to set the automatic controller shall be developed and submitted for each of the following:
  - (1) The plant establishment period.
  - (2) The established landscape.
  - (3) Temporarily irrigated areas.
- (e) Each irrigation schedule shall consider for each station all of the following that apply:
  - (1) Irrigation interval.
  - (2) Irrigation run times.
  - (3) Number of short cycles required to minimize runoff.
  - (4) Amount of applied water scheduled to be applied on a monthly basis.
  - (5) Application rate setting.

- (6) Root depth setting.
- (7) Plant type setting.
- (8) Soil type.
- (9) Slope factor setting.
- (10) Shade factor setting.
- (11) Irrigation uniformity or efficiency setting.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)

Sec. 9-2.4208. - Landscape and irrigation maintenance schedule.

- (a) Landscapes shall be maintained to ensure water efficiency. A regular maintenance schedule shall be submitted with the certificate of completion.
- (b) A maintenance schedule shall include, but not be limited to:
  - (1) Routine inspection.
  - (2) Auditing.
  - (3) Adjustment and repair of the irrigation system and its components.
  - (4) Aerating and dethatching turf areas.
  - (5) Weeding in landscape areas.
  - (6) Fertilizing.
  - (7) Pruning.
  - (8) Removing obstructions from emissions devices.
  - (9) Top dressing with compost.
  - (10) Replenishing mulch.
- (c) Operation of irrigation systems outside of the allowed watering period is permitted for auditing and system maintenance.
- (d) Repair of all irrigation equipment shall be done with the originally installed components, their equivalents, or with components with greater efficiency.
- (e) A project applicant is encouraged to implement established landscape industry sustainable best practices for all landscape maintenance activities.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)

Sec. 9-2.4209. - Irrigation audit, survey, and water use analysis.

(a) *Irrigation audit.*

(1) *New/rehabilitated landscapes.*

- (i) All landscape audits shall be conducted by a certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape.
- (ii) In large projects or projects with multiple landscape installations (i.e., production home developments) an auditing rate of one in seven (7) lots or approximately fifteen (15%) percent will satisfy this requirement.
- (iii) For new construction and rehabilitated landscape projects installed after December 1, 2015, as described in Section 9-2.4202:
  - (aa) The project applicant shall submit an irrigation audit report with the certificate of completion to the Plumas County Planning Department that may include, but is not limited to:
    - (a) Inspection.
    - (b) System tune-up.
    - (c) System test with distribution uniformity.
    - (d) Reporting overspray or runoff that causes overland flow.
    - (e) Preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure, and any other factors necessary for accurate programming.

(2) *Existing.* Landscapes that were installed before December 1, 2015 and are over one acre in size.

- (i) All landscape audits shall be conducted by a certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape.

- (ii) For landscapes with a water meter, programs shall be administered by the County that include, but not be limited to, irrigation water use analyses, irrigation surveys, and irrigation audits.
  - (iii) For landscapes that do not have a water meter, programs shall be administered by the County that may include, but not be limited to, irrigation surveys and irrigation audits.
- (b) *Irrigation survey.* Irrigation surveys are less intensive and 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. Irrigation surveys shall be conducted by a certified irrigation auditor.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)

Sec. 9-2.4210. - Severability.

If any provision of this article, or the application thereof, is held invalid, that invalidity shall not affect any other provision or application of this article that can be given effect without the invalid provisions or application; and to this end, the provisions or application of this section are severable.

(§ 1(Exh. A), Ord. 2019-1124, adopted November 5, 2019)