



CITY OF EL CAJON

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COMMUNITY DEVELOPMENT

January 29, 2010

Department of Water Resources
Office of Water Use Efficiency
901 "P" Street, 3rd Floor
P.O. Box 942836
Sacramento, CA 94236-0001

SUBJECT: WATER EFFICIENT LANDSCAPE ORDINANCE

To Whom It May Concern:

On January 25, 2010, the El Cajon City Planning Commission considered Amendment of the Zoning Ordinance (AM ZO) No. 415, to add regulations to the Zoning Ordinance requiring water conservation in landscaping as required by Assembly Bill 1881. The Planning Commission recommended that the El Cajon City Council approve the addition of Chapter 17.94, also know as the Water Efficient Landscape Ordinance, to Title 17 of the El Cajon Municipal Code. The El Cajon City Council will consider AM ZO No. 415 on February 23, 2010. If approved by the City Council at the meeting on February 23, 2010, the new regulations would become effective on April 23, 2010. Attached to this letter is a copy of the proposed ordinance, which is entitled Chapter 17.94 - Water Efficient Landscaping.

Respectfully,

Eric Craig
Assistant Planner
City of El Cajon

Attachments:

Chapter 17.94 ECMC (draft)

CC: Michael Mills
AM ZO No. 415 project file

Chapter 17.94

WATER EFFICIENT LANDSCAPING

Sections:

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17.94.010 Intent and purpose

The intended purpose of this water efficient landscape ordinance is to:

1. promote the values and benefits of landscapes while recognizing the need to use water and other resources as efficiently as possible;
2. establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction.
3. promote the efficient use of water by setting a Maximum Applied Water Allowance as an upper limit for water use in landscaping, thus reducing water use to the lowest practical amount;
4. encourage conservation and prevent water waste in existing landscapes;
5. establish water use standards for landscaping that implement the 2006 development landscape design requirements established by the Water Conservation in Landscaping Act, Government Code sections 65591 et seq.

17.94.020 Definitions.

The definitions alphabetically listed below in Section 17.94.020, shall be used when interpreting and implementing the requirements of this chapter. Refer to the El Cajon Landscape Design Manual for a more comprehensive list of definitions, including technical landscaping terminology.

“Active recreation area” means an area that is dedicated to active play, where turf provides a playing surface. Examples of active recreation areas include golf courses, sports fields, parks and tot-lots.

“Applicant” means a person who seeks or receives approval of a discretionary land use permit or building permit, or Landscape Documentation Package.

“As-built plans” 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.

“Automatic irrigation controller” means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers shall schedule irrigation events using either evapotranspiration (ET_o) (weather-based) or moisture sensor data.

“Building permit” means a certificate authorizing construction activity that is subject to the provisions of local, state, and federal regulations and codes applicable to building and construction activities.

“Certificate of Completion” means the document required under Section 17.94.190.

“Certified landscape irrigation auditor” means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other accredited certification program.

“Conversion factor” means the number (0.62) that converts acre-inches per acre per year to gallons per square foot per year.

“Developer” means a person who seeks or receives permits for or who undertakes land development activities and that is not a single-family homeowner. Developer includes a developer’s partner, associate, employee, consultant, trustee or agent.

“Director” means the director of community development, which is the department responsible for managing the city’s planning and building divisions and implementing the zoning ordinance and general plan, or his or her designee.

“Discretionary permit” means any permit requiring the planning commission or city council to exercise judgment prior to its approval, conditional approval or denial.

“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.

“Estimated total water use” (ETWU) means the estimated total water use in gallons per year for a landscaped area.

“Evapotranspiration adjustment factor” (ETAF) means a factor that when applied to reference ETo, adjusts for plant water requirements and irrigation efficiency, two major influences on the amount of water that is required for a healthy landscape.

“Evapotranspiration rate” means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time period.

“Grading” means any minor importation, excavation, movement, loosening or compaction of soil or rock that does not require a grading and drainage plan per the requirements of El Cajon Municipal Code, Section 15.64.020.

“Grading and drainage plan” means the plan required by El Cajon Municipal Code, Section 15.64.020.

“Hardscape” means any durable surface material, pervious or non-pervious, located within and around the landscape area.

“Homeowner-provided landscaping” means landscaping installed either by a private individual for a single-family residence or installed by a landscaping contractor hired by a homeowner.

“Hydrozone” means a portion of the landscape area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

“Invasive plant species” means species of plants not historically found in California that spread outside cultivated areas and may damage environmental or economic resources.

“Irrigation audit” means an inspection which includes an in depth evaluation of the performance of an irrigation system conducted by a certified landscape irrigation auditor. An irrigation audit may include, 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.

“Irrigation efficiency” (IE) means the measurement of the amount of water beneficially used divided by the water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices.

“Landscaped area” means an area with outdoor plants, turf and other vegetation. A landscaped area includes a water feature either in an area with vegetation or that stands alone. A landscaped area may also include design features adjacent to an area with vegetation when allowed under Section 17.94.140. A landscaped area does not include the footprint of a building, decks, patio, sidewalk, driveway, parking lot or other hardscape that does not meet the criteria in Section 17.94.140. A landscaped area also does not include an area without irrigation designated for non-development such as designated open space or area with existing native vegetation.

“Landscape contractor” means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

“Landscape design manual” means the manual, approved by the director that establishes specific design criteria and guidance to implement the requirements of this chapter.

“Landscape Documentation Package” means the permit application and additional items listed under Section 17.94.060.

“Landscape grading plan” means the plan required by Section 17.94.100. A landscape grading plan is NOT considered a grading and drainage plan as required by El Cajon Municipal Code, Section 15.64.020.

“Landscape professional of record” means a licensed landscape architect, a licensed architect, or a licensed civil engineer that is listed in a Landscape Documentation Package and Certificate of Completion as the person responsible for ensuring that a landscape project was developed and is operating as approved. For residential projects only, this definition also includes a California licensed landscape contractor if, and only if, the licensed landscape contractor has a signed agreement to install the landscape project.

“Low head drainage” means a sprinkler head or other irrigation device that continues to emit water after the water to the zone in which the device is located has shut off.

“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 lines or bubblers.

“Mass grading” means any activity that requires a grading and drainage plan per the requirements of El Cajon Municipal Code, Section 15.64.020.

“Maximum Applied Water Allowance” (MAWA) means the maximum allowed annual water use for a specific landscaped area based on the square footage of the area, the ETAF and the reference ETo.

“Mulch” means an organic material such as leaves, bark, straw or inorganic mineral materials such as rocks, gravel or decomposed granite left loose and applied to the soil surface to reduce evaporation, suppress weeds, moderate soil temperature or prevent soil erosion.

“Overspray” means the water from irrigation that is delivered outside an area targeted for the irrigation and makes contact with a surface not intended to be irrigated.

“Passive recreation area” means a landscaped recreational area where turf is present but does not provide an active playing surface. Examples of passive recreation areas include picnic areas, and areas dedicated for outdoor relaxation and meditation.

“Pervious” means any surface or material that allows the passage of water through the material and into underlying soil.

“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 ordinance, the plant factor shall be 0.1 for very low water use plants, 0.3 for low water use plants, 0.5 for moderate water use plants and 0.8 for high water use plants. These plant factors are derived from the Department of Water Resources publication “Water Use Classification of Landscape Species”.

"Recycled water" means waste water that has been treated at the highest level required by the California Department of Health Services for water not intended for human consumption. "Tertiary treated recycled water," means water that has been through three levels of treatment including filtration and disinfection.

"Reference evapotranspiration" (ET_o) means a standardized measurement of environmental parameters which affect the water use of plants. ET_o is given in inches per day, month, or year and is an estimate of the ET_o of a large field of four-inches to seven-inches tall, cool season turf that is well watered. Reference ET_o is used as the basis of determining the maximum applied water allowance so that regional differences in climate can be accommodated.

"Rehabilitated landscape" means any re-landscaping project that is required by a building permit or site development plan or discretionary permit, in which the rehabilitated or modified landscape area is equal to or greater than 2,500 square feet, and constitutes at least 50% of the total on-site landscape area, and which is required to be completed within a 12 month period.

"Runoff" means water that is not absorbed by the soil or landscape to which it is applied and flows from the landscaped area.

"Special landscaped area" means an area of the landscape dedicated to edible plants, an area irrigated with recycled water, or an area dedicated as turf area within a park, sports field or golf course where turf provides a passive or active recreational surface.

"Subsurface irrigation" means an irrigation device with a delivery line and water emitters installed below the soil surface that slowly and frequently emit small amounts of water into the soil to irrigate plant roots.

"Transitional area" means a portion of a landscaped area that is adjacent to a natural or undisturbed area and is designated to ensure that the natural area remains unaffected by plantings and irrigation installed on the property.

"Turf" means a groundcover surface of mowed grass.

"Typical plans" means complete sets of landscaping plans that depict landscaping improvements that are applicable to multiple and identical landscape areas within multi-unit residential developments

"Water feature" means a design element where open water performs an aesthetic or recreational function. A water feature includes a pond, lake, waterfall, fountain, artificial streams, spa and swimming pool. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices are not water features.

"Water purveyor" means the Helix Water District or the Padre Dam Municipal Water District as applicable.

“WUCOLS” means Water Use Classification of Landscape Species, and refers to the most current version of the California Department of Water Resources publication of the same name.

17.94.030 Applicability

A. This chapter shall apply to the following projects, which require a building permit or a discretionary permit:

1. A project for a new industrial, commercial, public, or institutional development or use, where the new landscaped area is greater than or equal to 2,500 square feet.
2. New developer-installed residential and common area landscapes where the total landscaped area for the development is greater than or equal to 2,500 square feet.
3. A new single-family residence with homeowner-provided landscaping where the landscaped area is greater than or equal to 5,000 square feet. This requirement includes landscaping provided to a homeowner by a landscaping contractor.
4. A model home that includes a landscaped area.
5. A rehabilitated landscape for an existing industrial, commercial, institutional, public agency or multifamily development where a building permit or discretionary permit is required and when the applicant is also installing and/or modifying 2,500 square feet or more of landscaping.
6. A cemetery under the limited requirements listed in Section 17.94.150.

B. This chapter shall not apply to the following:

1. A registered local, state or federal historical site.
2. An ecological restoration project that does not require a permanent irrigation system.
3. A mined land reclamation project that does not require a permanent irrigation system.
4. A botanical garden or arboretum, open to the public.

17.94.040 Landscape approval and installation.

No person shall install or modify landscaping for a project subject to the requirements of this chapter without first obtaining the review and approval of landscape plans by the director. A person constructing a project or establishing a use subject to the requirements of this chapter shall obtain approval for the landscape project as follows:

A. A person applying for a building permit for a single-family residence with landscaping improvements equal to, or greater than 5,000 square feet shall obtain approval of a Landscape Documentation Package from the director as part of the building permit process.

B. A person applying for a site development plan, or a discretionary permit associated with a project described above in Section 17.94.030 other than a cemetery or a single-family residence:

1. Shall submit a landscape concept plan as part of the project application. The concept plan shall indicate the site features, the proposed planting areas, the proposed method of irrigation and the other proposed elements of the landscaping, including areas of turf, water features and hardscape areas.
2. Shall obtain approval of a Landscape Documentation Package as part of the building permit process and prior to the issuance of building permits for each project segment or phase that requires the installation or rehabilitation of irrigated landscaping.

3. Shall obtain director approval of the Certificate of Completion prior to obtaining certificates of occupancy for the proposed development and prior to the establishment of the proposed use.
4. May use "typical" plans for developer-installed landscaping at individual units in a multi-unit residential development.

17.94.050 Administration and Landscape Design Manual.

The director shall administer and enforce this chapter. Moreover, the director shall create and maintain a Landscape Design Manual to provide guidance to applicants regarding compliance with the requirements of this chapter. In addition to providing contact information and links to a variety of helpful landscaping resources, the Landscape Design Manual shall include the reference evapotranspiration rate for El Cajon, all forms and tables required for the submittal of a Landscape Documentation Package and Certificate of Completion, and sample calculations demonstrating how to calculate the maximum applied water allowance and estimated total water use for a landscaping project.

17.94.060 Landscape Documentation Package.

A. Building permit applications for projects described in Section 17.94.030 shall include a Landscape Documentation Package that complies with the provisions of this chapter and with the Landscape Design Manual.

B. For projects described above in Section 17.94.030, which require landscaping improvements but which do not require approval of a building permit, the applicant or property owner shall submit a Landscape Documentation Package to the planning division that complies with the provisions of this chapter and with the Landscape Design Manual. The Landscape Documentation Package and Certificate of Completion shall be approved by the director prior to the establishment of any use authorized by a discretionary permit and subject to the requirements of this chapter.

C. An applicant for a project establishing a cemetery is not required to submit a Landscape Documentation Package, but shall comply with Section 17.94.150.

D. The Landscape Documentation Package shall contain the following items:

1. An application form including the name and contact information of the property owner, the property owner's agent, and the professional of record for the landscape project.
2. A soil management report and plan that complies with Section 17.94.070, and that analyzes the soil within each landscaped area of the project and makes recommendations regarding soil additives.
3. Planting and irrigation plans that comply with Section 17.94.080, and that describe the landscaping and irrigation for the project.
4. A water efficient landscape worksheet that complies with Section 17.94.090, and that calculates the maximum applied water allowance the estimated total water use for the project.
5. A landscape grading design plan that complies with Section 17.94.100, and that describes the grading of the project. If the project applicant has submitted a grading and drainage plan with the application for the project, the director may accept that grading and drainage plan in lieu of the landscape grading design plan required by this subsection if the grading and drainage plan complies with the requirements of Section 17.94.100.

17.94.070 Soil management report.

A. The soil management report required for a Landscape Documentation Package shall be prepared by a licensed landscape architect, licensed civil engineer, licensed architect or other landscape professional licensed by the state to prepare soil management reports. The soil management report shall contain an analysis of the soil for the proposed landscaped areas of the project including information about the soil texture, soil infiltration rate, pH, total soluble salts, sodium, percent organic matter. The soil management report shall also contain recommendations about soil amendments that may be necessary to foster plant growth and plant survival in the landscaped area using efficient irrigation techniques.

B. When a project involves mass grading of a site, the applicant shall submit the soil management report with the Certificate of Completion package required by Section 17.94.190, rather than submitting it with the Landscape Documentation Package.

C. The soil management report shall include the following information regarding proposed soil amendments and mulch:

1. The report shall identify any soil amendments and their type and quantity.
2. The report shall identify the type and amount of mulch for each area where mulch is applied. Mulch shall be used as follows:
 - i. A minimum two-inch layer of mulch shall be applied on all exposed soil surfaces in each landscaped area except in turf areas, creeping or rooting ground covers or direct seeding applications where mulch is contraindicated.
 - ii. Stabilizing mulch shall be applied on slopes.
 - iii. Highly flammable mulch material shall not be used.

17.94.080 Planting and irrigation plans.

A. The planting and irrigation plans required as part of the Landscape Documentation Package shall be prepared by a licensed landscape architect, licensed civil engineer, licensed architect or other landscape professional licensed by the state to prepare planting and irrigation plans. The plans shall:

1. Include the maximum applied water allowance for the proposed landscaping, including the calculations used to determine the maximum applied water allowance. The calculations shall be based on the formula in Section 17.94.120.
2. Include the estimated total water use for the proposed landscaping, including the calculations used to determine the estimated total water use. The calculations shall be based on the formula in Section 17.94.130.
3. Include a statement signed under penalty of perjury by the person who prepared the plans that provides, "I am familiar with the requirements for landscape and irrigation plans contained in Chapter 17.94 of the El Cajon Municipal Code. I have prepared these plans in compliance with those regulations and the El Cajon Landscape Design Manual. I certify that the plans implement those regulations to provide efficient use of water."
4. Demonstrate compliance with best management practices and other storm water regulations required by the City of El Cajon's Jurisdictional Runoff Management Program (JURMP) and the City of El Cajon's Storm Water Ordinance (Municipal Code Chapters 13.10 and 16.60.)

5. Address fire safety issues and demonstrate compliance with applicable requirements for defensible space around buildings and structures and shall avoid the use of fire prone vegetation in designated fire hazard areas.

B. The planting plans shall meet the following requirements:

1. The plans shall identify by common and botanical name, any existing vegetation that will be retained as part of the new or rehabilitated landscape area.
2. The plans shall include a legend listing all vegetation by common and botanical name that will be added to each landscaped area. No invasive plant species shall be added to a landscaped area. The plans shall list the total quantities by container size and species. If the applicant intends to plant seeds, the plans shall describe the seed mixes and applicable purity and germination specifications.
3. The plans shall be accompanied by drawings showing the specific location of all vegetation, retained or planted, the plant spacing and plant size, natural features, water features, and hardscape areas.
4. All plants shall be grouped in hydrozones and the irrigation shall be designed to deliver water to hydrozones based on the moisture requirements of the plant grouping. A hydrozone may mix plants of moderate and low water use or mix plants of high water use with plants of moderate water use. No high water use plants shall be allowed in a low water use hydrozone. A high water use hydrozone may, however, provide for some low water use plants if the low water use plants are of a type that are likely to thrive and flourish with the additional water. The plan shall also demonstrate how the plant groupings accomplish the most efficient use of water.
5. The plans shall identify areas permanently and solely dedicated to edible plants.
6. The plans shall include a detailed description of each water feature that will be included in the landscaped area.
7. The plans shall demonstrate that landscaping when installed and at maturity will be positioned to avoid obstructing motorists' views of pedestrian crossings, driveways, roadways and other vehicular travel ways. If the landscaping will require maintenance to avoid obstructing motorist's views, the plans shall describe the maintenance and the frequency of the proposed maintenance.
8. The plans shall avoid the use of landscaping with known surface root problems adjacent to a paved area, unless the plan provides for installation of root control barriers or other appropriate devices to control surface roots.
9. Plants in a transitional area shall consist of a combination of site adaptive and compatible native and/or non-native species. No invasive species shall be introduced or maintained in a transitional area. The irrigation in a transitional area shall be designed so that no overspray or runoff shall enter an adjacent area that is not irrigated.
10. On a project other than a single-family residence, the plan shall identify passive and active recreational areas.

C. The Irrigation Plans shall meet the following requirements:

1. The plans shall show the location, type and size of all components of the irrigation system that will provide water to the landscaped areas, including the controller, water lines, valves, sprinkler heads, bubblers, emitters, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices.

2. The plans shall identify the static water pressure at the point of connection to the public water supply and the flow rate in gallons, the application rate in inches per hour and the design operating pressure in pressure per square inch for each station.
3. The irrigation system shall be designed to prevent runoff, overspray, low-head drainage and other similar conditions where irrigation water flows or sprays onto areas not intended for irrigation. The plans shall also demonstrate how grading and drainage techniques promote healthy plant growth and prevent erosion and runoff.
4. The plans shall identify each area irrigated with recycled water.
5. The plans shall provide that any slope greater than 25 percent will be irrigated with an irrigation system with a precipitation rate of 0.75 inches per hour or less to prevent runoff and erosion. As used in this chapter, 25 percent grade means one foot of vertical elevation change for every four feet of horizontal length. An applicant may employ an alternative design if the plans demonstrate that no runoff or erosion will occur.
6. The plans shall provide that all wiring and piping under a paved area that a vehicle may use, such as a parking area, driveway or roadway, will be installed inside a PVC conduit.
7. The plans shall provide that irrigation piping and irrigation devices that deliver water, such as sprinkler heads, shall be installed below grade if they are within 24 inches of a vehicle or pedestrian use area. The director may allow on-grade piping where landform constraints make below grade piping infeasible.
8. The plans shall provide that only low volume or subsurface irrigation shall be used to irrigate any vegetation within 24 inches of an impermeable surface unless the adjacent impermeable surfaces are designed and constructed to cause water to drain entirely into a landscaped area.
9. The irrigation system shall provide for the installation of a manual shutoff valve as close as possible to the water supply. Additional manual shutoff valves shall be installed between each zone of the irrigation system and the water supply.
10. The irrigation system shall provide that irrigation for any landscaped area will be regulated by an automatic irrigation controller.
11. The irrigation system shall be designed with a landscape irrigation efficiency necessary to meet the maximum applied water allowance.
12. The plans shall describe each automatic irrigation controller the system uses to regulate the irrigation schedule and whether it is a weather based system or moisture detection system. The plans shall depict the location of electrical service for the automatic irrigation controller or describe the use of batteries or solar power that will power valves or a smart controller.

17.94.090 Water efficient landscape worksheet.

The water efficient landscape worksheet shall be prepared by a licensed landscape architect, licensed civil engineer, licensed architect, or other landscape professional licensed by the state to prepare water efficient landscape worksheets, and shall contain the following elements:

- A. A hydrozone information table that contains a list of each hydrozone in the landscaped area of the project and complies with the following requirements:
 1. For each hydrozone listed, the table shall identify the plant types and water features in the hydrozone, the irrigation methods used, the square footage and the percentage of the total landscaped area of the project that the hydrozone represents.
 2. The plant types shall be categorized as turf, high water use, moderate water use or low water use.

- B. Water budget calculations, which shall meet the following requirements:
1. The plant factor used shall be from WUCOLS III. The plant factor shall be 0.10 for very low water use plants 0.30 for low water use plants, 0.50 for moderate water use plants and 0.80 for high water use plants. A plan that mixes plants in a hydrozone that require a different amount of water shall use the plant factor for the highest water using plant in the hydrozone.
 2. Temporarily irrigated areas shall be included in the low water use hydrozone. Temporarily irrigated as used in this chapter means the period of time when plantings only receive water until they become established.
 3. The surface area of a water feature, including swimming pools, shall be included in a high water use hydrozone.
 4. The calculations shall use the formula for the maximum applied water allowance as indicated in Section 17.94.120 and for the estimated total water use as indicated in Section 17.94.130.
 5. Each special landscaped area shall be identified on the worksheet and the area's water use calculated using an ETAF of 1.0.

17.94.100 Landscape grading design plan.

The landscape grading design plan shall be prepared by a California licensed civil engineer, licensed landscape architect, licensed architect, or other landscape professional licensed by the state to prepare landscape grading design plans, and shall comply with following requirements:

A. The grading on the project site shall be designed for the efficient use of water by minimizing soil erosion, runoff and water waste, resulting from precipitation and irrigation.

B. The plan shall show the finished configurations and elevations of each landscaped area including the height of graded slopes, the drainage pattern, pad elevations, finish grade and any storm water retention improvements.

C. The landscape grading and design plan does not meet the requirements for a grading and drainage plan as required by El Cajon Municipal Code, Section 15.64.020. However, a grading and drainage plan, which must be prepared by a California licensed civil engineer, may include a landscape grading and design plan as a component.

17.94.110 Irrigation schedule.

The irrigation schedule shall be prepared by a licensed landscape architect, licensed civil engineer, licensed architect, or other landscape professional licensed by the state to prepare irrigation schedules, and shall provide the following information:

A. A description of the automatic irrigation system that will be used for the project.

B. The ETo data relied on to develop the irrigation schedule, including the source of the data.

C. The time period when overhead irrigation will be scheduled and confirm that no overhead irrigation shall be used between 10:00 a.m. and 6:00 p.m.

D. The parameters used for setting the irrigation system controller for watering times for:
1. The plant establishment period.

2. Established landscaping.
3. Temporarily irrigated areas.
4. Different seasons during the year.

E. The consideration used for each station for the following factors:

1. The days between irrigation.
2. Station run time in minutes for each irrigation event, designed to avoid runoff.
3. Number of cycle starts required for each irrigation event, designed to avoid runoff.
4. Amount of water to be applied on a monthly basis.
5. The root depth setting.
6. The plant type setting.
7. The soil type.
8. The slope factor.
9. The shade factor.

17.94.120 Maximum applied water allowance (MAWA).

A. A landscape project subject to this chapter shall not exceed the maximum applied water allowance. The maximum applied water allowance for a landscape project shall be determined by the following calculation:

$$MAWA = (ET_o)(0.62)[0.7 \times LA + 0.3 \times SLA]$$

B. The abbreviations used in the maximum applied water allowance equation have the following meanings:

1. MAWA = Maximum Applied Water Allowance in gallons per year.
2. ET_o = Evapotranspiration in inches per year.
3. 0.62 = Conversion factor to gallons per square foot.
4. 0.7 = ET adjustment factor for plant factors and irrigation efficiency (ETAF.)
5. LA = Landscaped area includes special landscaped area in square feet.
6. 0.3 = the additional ET adjustment factor for a special landscaped area (1.0 - 0.7 = 0.3)
7. SLA = Portion of the landscaped area identified as a special landscaped area in square feet.

17.94.130 Estimated total water use (ETWU).

A. An applicant for a project subject to this chapter shall calculate the estimated total water use for each landscaped area and the entire project using the following equation:

$$ETWU = (ET_o)(0.62) \left(\frac{PF \times HA}{IE} + SLA \right)$$

B. The abbreviations used in the estimated total water use equation have the following meanings:

1. ETWU = Estimated total water use in gallons per year.
2. ET_o = Evapotranspiration in inches per year.
3. 0.62 = Conversion factor to gallons per square foot.
4. PF = Plant factor from WUCOLS.

5. HA = Hydrozone Area in square feet. Each HA shall be classified based upon the data included in the landscape and irrigation plan as high, medium or low water use.
6. IE = Irrigation Efficiency of the irrigation method used in the hydrozone.
7. SLA = Special landscaped area in square feet.

C. The estimated total water use for a proposed project shall not exceed the maximum applied water allowance.

17.94.140 Adjustment to the landscape area (LA) for non-vegetated areas.

Rock and stone or pervious design features, such as decomposed granite ground cover that are adjacent to a vegetated area may be included in the calculation of the maximum applied water allowance and estimated total water use provided the features are integrated into the design of the landscape area and the primary purpose of the feature is decorative.

17.94.150 Cemeteries.

A person submitting an application proposing to establish a cemetery shall include the following:

1. A landscape concept plan, as described in Section 17.94.040.
2. A water efficient landscape worksheet that calculates the maximum applied water allowance for the project as described in Section 17.94.090.
3. A landscape irrigation and maintenance schedule as described in Section 17.94.200.

17.94.160 Turf regulations.

The following regulations shall apply to the use of turf on projects subject to the requirements of this chapter:

- A. Only low volume or subsurface irrigation shall be used for turf in a landscaped area:
 1. On a slope greater than 25 percent grade where the toe of the slope is adjacent to an impermeable hardscape.
 2. Where any dimension of the landscaped area is less than six feet wide.
- B. On a commercial, industrial, institutional or multi-family project, no turf shall be allowed on a center island median strip or on a parking lot island.
- C. Ball fields, parks, golf courses, cemeteries and other similar uses shall be designed to limit turf in any portion of a landscaped area not essential for the operation of the facility.
- D. No turf shall be allowed in a landscaped area that cannot be efficiently irrigated without creating runoff or overspray.

17.94.170 Model Homes.

If a residential project has a model home or homes that include landscaping, then the landscaping shall be designed and installed to meet the water efficiency criteria established in this chapter and shall include a sign in the front yard of the model home that is visible and readable from the roadway that the home faces, and that states in capital black lettering at least two inches high on a white sign, "THIS MODEL HOME USES WATER EFFICIENT LANDSCAPING AND IRRIGATION."

Furthermore, a person who obtains a permit to construct a single-family residential development that contains a model home or homes shall provide a water efficient landscaping brochure, or pamphlet to each group of adults visiting the model home. At a minimum, such a brochure or pamphlet shall include information describing the water efficient features of the landscaping and a statement and contact information encouraging prospective home buyers to contact the applicable water purveyor and the planning division staff for additional information regarding water efficiency in landscaping.

17.94.180 Recycled water.

- A. A person who obtains a permit for a project that is subject to this chapter shall use recycled water for irrigation if recycled water is available from the water purveyor who supplies water to the property.
- B. A person using recycled water shall install a dual distribution system for water received from a public water purveyor. Pipes carrying recycled water shall be purple.
- C. A person who uses recycled water under this section shall be entitled to an ETAF of 1.0.
- D. This section does not excuse a person using recycled water from complying with all State and local laws and regulations related to recycled water use.

17.94.190 Certificate of Completion.

- A. Prior to the issuance of a certificate of occupancy a person obtaining approval of a Landscape Documentation Package shall submit a signed Certificate of Completion, under penalty of perjury.
- B. The certificate shall include a statement, signed by the landscape professional of record, verifying that the landscaping and irrigation were installed as authorized by the approved landscape and irrigation plans, all approved soil amendments were implemented, the installed irrigation system is functioning as designed and approved, the irrigation control system was properly programmed in accordance with the irrigation schedule, and the person operating the system has received all required maintenance and irrigation plans.
- C. Where there have been significant changes to the landscape plans during the installation of landscaping or irrigation devices or irrigation system components, the professional of record for the landscape design shall submit "as built" plans that show the changes.
- D. The Certificate of Completion shall include an irrigation schedule that complies with Section 17.94.110, and that describes the irrigation times and water usage for the project
- E. The Certificate of Completion shall include a landscaping and irrigation system maintenance schedule that complies with Section 17.94.200, and
- F. The Certificate of Completion shall include a soil management report that complies with Section 17.94.070, if the applicant did not submit the report with the Landscape Documentation Package.

17.94.200 Maintenance.

A. As part of the Certificate of Completion, a maintenance schedule shall be prepared for the approved landscaping and irrigation system. After director approval of the Certificate of Completion, a copy of the maintenance schedule shall be provided to the property owner. The schedule shall provide for:

1. routine inspection to guard against runoff and erosion and to detect plant or irrigation system failure.
2. replacement of dead, dying and diseased vegetation.
3. eradication of invasive species.
4. repairing the irrigation system and its components.
5. replenishing mulch.
6. soil amendment when necessary to support and maintain healthy plant growth.
7. fertilizing, pruning and weeding and maintaining turf areas.
8. maintenance to avoid obstruction of motorists' view.
9. the schedule shall also identify who will be responsible for maintenance.

B. After approval of a landscape plan, the property owner is required to:

1. Maintain and operate the landscaping and irrigation system on the property consistent with the maximum applied water allowance.
2. Maintain the irrigation system to meet or exceed an irrigation efficiency necessary to meet maximum applied water allowance.
3. Replace broken or malfunctioning irrigation system components with components of the same materials and specifications, their equivalent or better.
4. Ensure that when vegetation is replaced, replacement plantings are representative of the hydrozone in which the plants were removed and are typical of the water use requirements of the plants removed, provided that the replaced vegetation does not result in mixing high water use plants with low water use plants in the same hydrozone.

17.94.210 Preventing Water Waste.

A. The city shall prevent water waste resulting from inefficient or improperly maintained landscape irrigation. In order to prevent water waste, the director may require water audits and may penalize property owners for water waste such as runoff leaving the target landscape due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways; parking lots, or structures. Penalties for water waste resulting from inefficient landscaping may be imposed in the form of monetary fines, the amount of which shall be determined by the City Council based upon the magnitude, duration and/or frequency of the ordinance violation.

B. Restrictions regarding overspray and runoff may be modified if:

1. the landscape area is adjacent to permeable surfacing and no runoff occurs; or
2. the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.

17.94.220 Enforcement.

The director of the community development department shall administer and enforce the provisions of this chapter. The city council may delegate or enter into a contract with a local water purveyor or other qualified person to implement and administer any of the provisions of this chapter on behalf of the city. Penalties for water waste resulting from inefficient landscaping may be imposed in the form of monetary fines, the amount of which shall be determined by the city council based upon the magnitude, duration and/or frequency of the ordinance violation.

17.94.230 Public Education.

Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of design, installation, management and maintenance that save water is encouraged in the community. Developers of new residential subdivisions shall provide information to buyers of new, single-family residential homes regarding the design, installation, management, and maintenance of water efficient landscapes. Moreover, the city shall make information available to the public regarding the design, installation, management, and maintenance of water efficient landscapes

17.94.240 Fees.

An applicant for a project subject to the requirements of this chapter shall include all fees established by the city council to cover the city's cost to review the Landscape Documentation Package, the Certificate of Completion, and the limited materials required for approval of landscaping at a cemetery.