

## **City of Coronado**

### **64.06.010 Purpose.**

The State Legislature determined in the Water Conservation in Landscaping Act (the "Act"), Government Code sections 65591 et seq., that the State's water resources are in limited supply. The Legislature also recognized that while landscaping is essential to the quality of life in California, landscape design, installation, maintenance and management must be water-efficient. The general purpose of this chapter is to establish water use standards for landscaping in the City of Coronado that implement the 2006 development landscape design requirements established by the Act. Consistent with the Legislature's findings, the purpose of this chapter is to:

- A. Promote the values and benefits of landscapes while recognizing the need to utilize water and other resources as efficiently as possible.
- B. Establish a structure for planning, designing, installing, maintaining and managing water-efficient landscapes in new construction.
- C. Encourage the protection and preservation of native species and vegetation, and the selection of water-conserving plant and turf species.
- D. Use water efficiently without waste by setting a maximum applied water allowance (MAWA) as an upper limit for water use and reduce water use to the lowest practical amount. (Ord. 2014 § 2 (Att. A), 2010)

### **64.06.020 Definitions.**

The following definitions shall apply to this chapter:

- A. "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<sub>o</sub>) (weather-based) or moisture sensor data.
- B. "Estimated total water use" (ETWU) means the estimated total water use in gallons per year for a landscaped area.
- C. "ET adjustment factor" (ETAF) means a factor that, when applied to reference ET<sub>o</sub>, adjusts for plant water requirements and irrigation efficiency, two major influences on the amount of water that is required for a healthy landscape.
- D. "Evapotranspiration" (ET<sub>o</sub>) means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time period. "Reference evapotranspiration" means a standard measurement of environmental parameters which affect the water use of plants. ET<sub>o</sub> is given in inches per day, month, or year and is an estimate of the ET<sub>o</sub> of a large field of four-inch- to seven-inch-

tall, cool season turf that is well watered. Reference ETo is used as the basis of determining the MAWA so that regional differences in climate can be accommodated.

E. "Hardscape" means any durable surface material, pervious or nonpervious.

F. "Hydrozone" means a portion of the landscape area having plants with similar water needs. A hydrozone may be irrigated or nonirrigated.

G. "Invasive species" means vegetation that is not native to the area where it occurs and interferes with native species growing or attempting to grow in the area based on applicable federal or state guidelines for the location.

H. "Irrigation efficiency" 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.

I. "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 CMC 64.06.080(B)(7). 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 CMC 64.06.080(B)(7). A landscaped area also does not include an area without irrigation designated for nondevelopment such as designated open space or area with existing native vegetation.

J. "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.

K. "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.

L. "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.

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

N. "Plant factor" means a factor that, when multiplied by the ETo, estimates the amount of water a plant needs.

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

P. "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.

Q. "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.

R. "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 storm water best management practices are not water features.

S. "Water purveyor" means a public utility, municipal water district, municipal irrigation district or municipality that delivers water to customers.

T. "WUCOLS III" means water use classification of landscape species and refers to the Department of Water Resources 1999 publication or the most current version. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.030 Applicability.**

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

1. A new construction project for an industrial, commercial, institutional, public agency, or multifamily residential use where the landscaped area is greater than or equal to 2,500 square feet.
2. 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.
4. A rehabilitated landscape for an existing industrial, commercial, institutional, public agency or multifamily use where a building permit or discretionary permit is being issued and the applicant is installing or modifying 2,500 square feet or more of landscaping.

B. This chapter shall not apply to the following:

1. Any project exempted from this chapter as determined by the exemption worksheet.
2. A registered local, State or Federal historical site.
3. An ecological restoration project that does not require a permanent irrigation system.

4. A botanical garden or arboretum open to the public.

5. Any single-family residence that is being rebuilt after it was destroyed due to a natural disaster, such as a fire, earthquake, or hurricane. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.040 Administration and enforcement.**

A. The Director of Community Development or designee shall administer and enforce this chapter and shall provide guidance to applicants on how to comply with the requirements of this chapter.

B. The Director may designate another agency, such as a water purveyor, to implement some or all of the requirements contained in this chapter. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.050 Landscape documentation package.**

A. Unless exempted, building permit applications for projects subject to these regulations shall include a landscape documentation package that complies with the provisions of this chapter, prepared by a licensed landscape architect, licensed civil engineer, licensed architect or other landscape professional appropriately licensed by the State.

B. The landscape documentation package shall contain the following:

1. A soil management report and plan that analyzes the soil within each landscaped area of the project and makes recommendations regarding soil additives.

2. Grading design plan that minimizes soil erosion, runoff, and water waste.

3. Planting and irrigation plans that describe the landscaping and irrigation for the project. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.060 Soil management report.**

A. The soil management report shall contain the following information:

1. An analysis of the soil for the proposed landscaped areas of the project that includes information about the soil texture, soil infiltration rate, pH, total soluble salts, sodium, and percent organic matter.

2. Recommendations about soil amendments that may be necessary to foster plant growth and plant survival in the landscaped area using efficient irrigation techniques.

B. The soil management report shall include information regarding proposed soil amendments and mulch:

1. The report shall identify the type and amount of mulch for each area where mulch is applied. Mulch shall be used as follows:

- a. 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.
- b. Stabilizing mulch shall be applied on slopes.
- c. The mulching portion of seed/mulch slurry in hydroseeded applications shall meet the mulching requirement.

2. The report shall identify any soil amendments and their type and quantity. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.070 Grading design plan.**

The grading design plan shall contain the following information:

- A. The plan shall show that the grading on the project site is 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 stormwater retention improvements. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.080 Planting, irrigation and maintenance plans.**

A. The planting and irrigation plans shall include a cover sheet that contains the following information:

1. Include the MAWA for the project, and the calculations used to determine the MAWA. The calculations shall be based on the formula in CMC 64.06.100.
2. Include the ETWU for the project, and the calculations used to determine the ETWU. The calculations shall be based on the formula in CMC 64.06.110.
3. Include a statement signed under penalty of perjury by the person who prepared the plan that provides:

I am familiar with the requirements for landscape and irrigation plans contained in the City of Coronado Water-Efficient Landscape Regulations. I have prepared this plan in compliance with those regulations. I certify that the plan implements those regulations to provide efficient use of water.

B. The planting plan shall meet the following requirements:

1. A water-efficient landscape worksheet that complies with CMC 64.06.090 shall be included as part of the planting plan.

2. The plan shall include a list of all vegetation, by common and botanical plant name, which is proposed for each landscaped area. No invasive plant species shall be added to a landscaped area. The plan shall include the total quantities by container size and species. If the applicant intends to plant seeds, the plan shall describe the seed mixes and germination specifications.
3. The plan shall include a detailed description of each water feature that will be included in the landscaped area. Water features should incorporate recirculating water systems and, where possible, recycled water. The surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.
4. The plan shall be accompanied by a drawing showing, on a page or pages, the specific location of all vegetation, retained or planted, the plant spacing and plant size, natural features, water features, and hardscape areas. The drawing shall include a legend listing the common and botanical plant name of each plant shown on the drawing.
5. 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.
6. The plan shall identify areas dedicated to edible plants.
7. 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 MAWA and ETWU.
8. On a commercial, industrial, institutional or multifamily project, no turf shall be allowed on a center island median strip or on a parking lot island.

C. The irrigation plan shall meet the following requirements:

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

4. The plan shall identify each area irrigated with recycled water.
5. The plan shall provide that any slope greater than 25 percent will be irrigated with an irrigation system with a precipitation rate of .75 inches per hour or less to prevent runoff and erosion. An applicant may employ an alternative design if the plan demonstrates that no runoff or erosion will occur.
6. The plan 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.
7. 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.
8. The irrigation system shall provide that irrigation for any landscaped area will be regulated by an automatic irrigation controller.
9. The irrigation system shall be designed with a landscape irrigation efficiency necessary to meet the MAWA.
10. The plan 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 plan 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.
11. Only low volume or subsurface irrigation shall be used for turf in a landscaped area:

- a. On a slope greater than 25 percent grade where the toe of the slope is adjacent to an impermeable hardscape.
- b. Where any dimension of the landscaped area is less than six feet wide.

12. Include an irrigation schedule providing 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:

- i. The plant establishment period.
- ii. Established landscaping.
- iii. Temporarily irrigated areas.
- iv. Different seasons during the year.

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

- i. The days between irrigation.
- ii. Station run time in minutes for each irrigation event, designed to avoid runoff.
- iii. Number of cycle starts required for each irrigation event, designed to avoid runoff.
- iv. Amount of water to be applied on a monthly basis.
- v. The root depth setting.
- vi. The plant type setting.
- vii. The soil type.
- viii. The slope factor.
- ix. The shade factor.

D. The maintenance plan shall provide for the following:

1. An applicant issued a landscape approval for a project under these regulations shall install the approved landscaping and irrigation system before final inspection of the project.
2. A property owner using water on property subject to a landscape approval under these regulations shall prepare a maintenance schedule for the landscaping and irrigation system on the project. The schedule shall provide for:

- a. Routine inspection to guard against runoff and erosion and detect plant or irrigation system failure.
- b. Eradication of invasive species.
- c. Repairing the irrigation system and its components.
- d. Replenishing mulch.

e. Soil amendment when necessary to support and maintain healthy plant growth.

3. After approval of a landscape plan, the owner is required to maintain the landscape in accordance with the maintenance plan. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.090 Water-efficient landscape worksheet.**

A. The water-efficient landscape worksheet shall contain the following:

1. A hydrozone information table that contains a list of each hydrozone in the landscaped area of the project and complies with the following requirements:

a. 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.

b. The plant types shall be categorized as turf, high water use, moderate water use or low water use.

2. Water budget calculations, which shall meet the following requirements:

a. The plant factor used shall be from WUCOLS III. 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. 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.

b. 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.

c. The surface area of a water feature, including swimming pools, shall be included in a high-water-use hydrozone.

d. The calculations shall use the formula for the MAWA in CMC 64.06.100 and for the ETWU in CMC 64.06.110.

e. Each special landscaped area shall be identified on the worksheet and the area's water use calculated using an ETAF of 1.0. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.100 Maximum applied water use.**

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

$$\text{MAWA} = (\text{ET}_0)(0.62)[0.7 \times \text{LA} + 0.3 \times \text{SLA}].$$

B. The abbreviations used in the equation have the following meanings:

1. MAWA = Maximum Applied Water Allowance in gallons per year.
2. ETo = 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.
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. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.110 Estimated total water use.**

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

$$\text{ETWU} = (\text{ETo})(0.62)(\text{PF} \times \text{HA} / \text{IE} + \text{SLA}).$$

B. The abbreviations used in the equation have the following meanings:

1. ETWU = Estimated total water use in gallons per year.
2. ETo = 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 ETWU for a proposed project shall not exceed the MAWA. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.120 Certificate of completion.**

A signed certificate of completion, under penalty of perjury, on a form provided by the City of Coronado within 10 days of installation, or prior to final inspection.

A. The certificate shall include a statement verifying that the landscaping and irrigation were installed as detailed in the approved landscape and irrigation plan, 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.

B. Where there have been significant changes to the landscape plan during the installation of landscaping or irrigation devices or irrigation system components, the professional of record for the landscape design shall show documentation that the plan change complies with the MAWA per the approved plan.

C. The certificate shall be signed by the professional of record for the landscape design.

D. A copy of the signed certificate shall be transmitted to the local water purveyor by the applicant. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.130 Enforcement.**

A. This chapter shall be enforced using the civil and criminal provisions found in CMC Title 1 (General Provisions). All remedies are cumulative.

B. Nothing herein prevents the City, or its designated enforcement agency, from inspecting properties, in a manner allowed by law, to determine if violations of this chapter have occurred, including the use of landscape irrigation audit procedures as authorized by law. (Ord. 2014 § 2 (Att. A), 2010)

**64.06.140 Fees.**

An applicant for a project subject to this chapter shall include with the application all fees established by resolution by the City Council to cover the City's cost to review an application, any required landscape documentation package and any other documents the City reviews pursuant to the requirements of this chapter. (Ord. 2014 § 2 (Att. A), 2010)