

ORDINANCE NO. 2009-1328

AN ORDINANCE OF THE CITY OF SAN MARCOS CITY  
COUNCIL AMENDING THE MUNICIPAL CODE AND  
ADOPTING A NEW SECTION 20.82 WATER EFFICIENT  
LANDSCAPE ORDINANCE

Case No.: TA 09-61 / ND 09-791  
City of San Marcos

WHEREAS, on September 10, 2009, the Department of Water Resources adopted a State Model Water Efficient Landscape Ordinance as required by AB 1881; and

WHEREAS, said legislation requires local jurisdictions to adopt the State Model Water Efficient Landscape Ordinance or adopt their own ordinance that complies with the intent of the State Model Ordinance; and

WHEREAS, a Water Efficient Landscape Ordinance was prepared consistent with the intent of the State Model Ordinance and reviewed with local water purveyors; and

WHEREAS, the Planning Commission did recommend approval of the Water Efficient Landscape Ordinance to the City Council on November 2, 2009; and

WHEREAS, the Planning Commission did recommend approval to the City Council of Negative Declaration ND 09-792 for said request pursuant to the California Environmental Quality Act (CEQA); and

WHEREAS, the required public hearing held on December 8, 2009 was duly advertised and held in the manner prescribed by law; and

WHEREAS, the City Council's decision is based upon the following findings and determinations:

- A. The proposed Text Amendment is needed to comply with the State's Model Water Efficient Landscape Ordinance.
- B. That establishment of the Water Efficient Landscape Ordinance is necessary to provide a uniform and comprehensive set of procedures and standards for landscape design and water conservation through better design practices that preserves local water resources and to ensure an adequate supply of water by using water more responsibility and efficiently in landscape design.

NOW, THEREFORE, the City Council resolves as follows:

- A. The foregoing recitals are true and correct.
- B. Negative Declaration ND 09-791 is hereby approved.
- C. The attached Ordinance is hereby adopted.

EFFECTIVE DATE: This ordinance shall be effective thirty (30) days after its adoption. Within fifteen (15) days after its adoption, the City Clerk shall publish this ordinance or the title hereof as a summary in a newspaper of general circulation in the city as required by law.

INTRODUCED at a regular meeting of the City Council of the City of San Marcos, California, on the 8th day of December, 2009.


PASSED, APPROVED AND ADOPTED at a regular meeting of the City Council of the City of San Marcos, California on the 12<sup>th</sup> day of January, 2010, by the following roll call vote:

AYES: COUNCILMEMBERS: JONES, MARTIN, ORLANDO, PRESTON, DESMOND

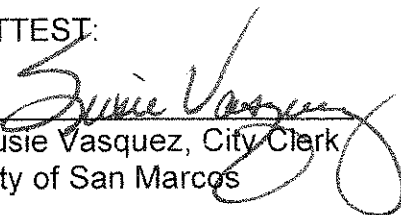
NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: NONE

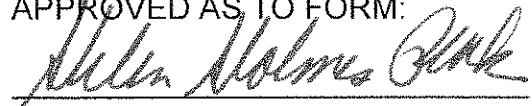
APPROVED:

  
\_\_\_\_\_  
James M. Desmond, Mayor  
City of San Marcos

ATTEST:

  
\_\_\_\_\_  
Susie Vasquez, City Clerk  
City of San Marcos

APPROVED AS TO FORM:

  
\_\_\_\_\_  
Helen Holmes Peak, City Attorney  
City of San Marcos

**Chapter 20.82**  
**Water Efficient Landscape Ordinance**

Sections:

20.82.010	Title and Effective Date
20.82.020	Purpose and Intent
20.82.030	Applicability
20.82.040	Definitions
20.82.050	Provisions for New Construction, Rehabilitated, or Existing Landscape
20.82.060	Landscape Documentation Package Submittal
20.82.070	Landscape Bonds/Cash Deposit/Letter of Credit
20.82.080	Violations; Penalties
20.82.090	Waiver Application & Review Procedure
20.82.100	Conflict, Enforcement, and Interpretation
20.82.110	Appeal Process
20.82.120	Severability

**20.82.010 Title and Effective Date**

This Chapter of the Municipal Code shall be titled as the “Water Efficient Landscape Ordinance” and shall become effective (**insert date**).

**20.82.020 Purpose and Intent**

The purpose of this Landscape Ordinance is to establish specific standards for landscape and irrigation design and installation to ensure beneficial, efficient, and responsible use of all available water resources for residence and businesses within the city of San Marcos. These design requirements are intended to support landscape that are essential to the quality of life in California by providing areas for active and passive recreation and aesthetic enjoyment and enchantment. This Ordinance is intended to be at least as effective in conserving water as the model ordinance adopted pursuant to California Government Code Section 65595. The requirements meet a variety of landscaping objectives, including preventing erosion, filtering, treating, and utilizing storm water runoff; and offering fire protection. Landscaping design, ph level, installation, maintenance, and management can and should be water efficient. The right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use.

**20.82.030 Applicability**

- A. After January 1, 2010, this ordinance shall apply to all of the following landscape projects:
1. New construction and rehabilitated landscapes for public agency projects and private development projects with a landscape area equal to and greater than 2,500 square feet; requiring a permit, plan check, or design review;
  2. New construction and rehabilitated landscapes which are developer-installed in single-family and multi-family residential projects with a landscape area equal to

- and greater than 2,500 square feet requiring a permit, plan check, or design review;
3. New construction landscapes which are homeowner-provided and/or home owner hired in single-family and multi-family residential projects with a total project landscape of equal to and greater than 5,000 square feet requiring a building or landscape permit, plan check, or design review;
  4. Existing landscapes limited to Section 20.82.050; & 060 Q. & R; and
  5. Cemeteries. Recognizing the special landscape management needs of cemeteries, New and rehabilitated cemeteries are limited to Sections 20.82.050; & 060 C., K, & L.  
and existing cemeteries are limited to Section 20.82.050. L.
  6. A model home that includes a landscape area.

B. Exemptions.

1. Homeowner-provided and homeowner-hired landscaping at single-family and multi-family residential projects less than 2,500 square feet;
2. Registered local, state, or federal historical sites;
3. Ecological restoration projects that do not require a permanent irrigation system;
4. Mined-land reclamation projects that do not require a permanent irrigation system; or
5. Plant collections as part of a botanical gardens and arboretums open to the public.
6. Any single family residence that is being rebuilt after it was destroyed due to a natural disaster, such as a fire, earthquake, hurricane or tornado.

**20.82.040 Definitions**

As used in this chapter, the following terms shall have the indicated meanings:

- (a) **Application Efficiency or "AE"**: Is a measure of the efficiency of an irrigation system.
- (b) **Application Rate**: means the depth of water applied to a given area, measured in inches per minute, inches per hour or gallons per hour.
- (c) **Applied Water**: means the portion of water supplied by the irrigation systems to the landscape.
- (d) **Automatic Controller**: A mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application.
- (e) **Backflow Prevention Device**: A safety device used to prevent pollution or contamination of the water supply due to reverse flow of water from the irrigation system. Backflow device must comply with Department of Environmental health standards.
- (c) **Berm**: An earthen mound designed to provide visual interest, screen undesirable views, and/or decrease noise.
- (d) **Barricade**: Protection for vegetation to be preserved which is erected at the drip line and clearly visible to heavy equipment operators.
- (e) **BMP's**: Methods, measures, or practices designed to prevent or reduce water pollution.

- (f) **Bubbler:** An irrigation head that delivers water to the root zone by “flooding” the planted area, usually measured in gallons per minute. Bubblers exhibit a trickle, umbrella or short stream pattern.
- (g) **Buffer, Perimeter Landscape:** A continuous area of land set aside along the perimeter of a lot in which landscaping is used to provide a transition between and to reduce the environmental, aesthetic, and other impacts of one type of land use upon another.
- (h) **Buffering:** means the use of landscaping or retained native vegetation or the use of landscaping along with berms, walls or decorative fences that at least partially and periodically obstruct the view from the street or an abutting property in such a manner that vehicular use areas, parking lots, parked cars, detention ponds and conflicting activity areas will be partially or completely screened.
- (i) **Buf feryard:** means a landscaped area usually at the side or rear of development sites which are provided to separate and partially obstruct the view of adjacent land uses or properties.
- (j) **Caliper:** Refers to the thickness of trees as measured in inches, feet, etc. Trunk diameter for trees up to four (4) inches shall be measured six (6) inches above the soil line, and all trees over four (4) inches in diameter will be measured fifty-four (54) inches above the soil line.
- (k) **Certificate of Completion:** means the document required under Section 20.82.050. I.
- (l) **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 United States Environmental Protection Water Sense irrigation auditor certification program and Irrigation Association Certified Landscape Irrigation Auditor program.
- (m) **Certified Irrigation Designer:** means a person certified to design irrigation systems by an accredited institution a professional trade organization or other program such as the United States Environmental Protection Water Sense irrigation auditor certification program and Irrigation Association Certified Landscape Irrigation Auditor program.
- (q) **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 system is off.
- (r) **Common interest developments:** Means community apartment projects, condominium projects, planned developments, and stock cooperatives per California Civil Code Section 1353.8.
- (s) **Conservation Easement:** A legally binding agreement not to develop part of a property, but to leave it "natural" permanently or for some designated very long period of time. The property still belongs to the landowner, but restrictions are placed both on the current landowner and on subsequent landowners.
- (t) **Controller :** means an automatic timing device used to remotely control valves to set an irrigation schedule. A weather-based controller is a controller that uses evapotranspiration or weather data. A self-adjusting irrigation controller is a controller that uses sensor data (i.e., soil moisture sensor).
- (u) **Conversion factor: (0.62)"** means the number that converts acre-inches per acre per year to gallons per square foot per year.

- (v) **Detention Area:** means an area designed by hydrological calculations for the temporary storage of a determined quantity of water with a release rate that is either fixed or variable.
- (w) **Development:** means any proposed material change in the use or character of the land, including but not limited to land clearing or the placement of any structure or site improvements on the land. In this instance, development does not include room additions, pools, patio covers for which a plot plan approval is not necessary (reference requirements for each zone in the San Marcos Zoning Code).
- (x) **Drip Emitter:** means drip irrigation fittings that deliver water slowly at the root zone of the plant, usually measured in gallons per hour.
- (y) **Drip Irrigation:** means any non-spray low volume irrigation system utilizing emission devices with a flow rate equal to or less than two (2) gallons per hour.
- (z) **Drip line:** means an imaginary vertical plumb line that extends downward from the tips of the outermost tree branches and intersects the ground.
- (aa) **Ecological Restoration Project:** means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- (bb) **Effective Precipitation or usable rainfall:** (*Eppt*) means the portion of total precipitation that is used by the plants.
- (cc) **Emitter:** Means a drip irrigation emission device that delivers water slowly from the system to the soil.
- (dd) **Established landscape:** means the point at which plants in the landscape have developed significant root-growth into the site. Typically, most plants are established after one or two years of growth
- (ee) **Establishment period of the plants:** means the first year after installing the plant in the landscape, or the first two years if irrigation will be terminated after establishment.
- (ff) **Estimated Total Water Use (ETWU):** means the total water used for the landscape as described in Section 20.82.060. (C) 1.e.
- (gg) **ET adjustment factor:** means a factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. For purposes of the ET Adjustment Factor, the average irrigation efficiency is 0.71. Therefore, the ET Adjustment Factor  $(0.7) = (0.5/0.71)$ . ETAF for a special Landscape Area shall not exceed 1.0. ETAF for existing, non-rehabilitation landscape is 0.8.
- (hh) **Evapotranspiration rate:** means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specific time.
- (ii) **Evergreen:** means a plant that retains foliage and remains green year-round.
- (jj) **Flow rate:** means the rate at which water flows through pipes, valves, or emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.
- (kk) **Flow Rate:** means the rate at which water flows through pipes, valves and erosion devices, measured in gallons per minute, gallons per hour, or cubic feet per second.
- (ll) **Grading Plan:** means the Grading Plan shall be shown at the same scale as the Planting and Irrigation Plan. The Grading Plan shows all finish grades, spot elevations as necessary and existing and new contours with the developed landscaped area.

**(mm) Gross Building Area:** means all enclosed floor areas, as measured along a building's outside perimeter.

**(nn) Ground Cover:** Ground Cover means anything which covers the ground surface or topsoil and has the effect of reducing erosion. Preferably, this would be a vegetative layer of grasses and/or other low-growing plants but may also include plant residues such as leaf litter and tree debris as well as various forms of rock or mulch. Artificial groundcovers may also be established with such materials as straw mulch, jute mesh, or artificial turf.

**(oo) Hardscapes:** means any durable surface material (pervious and non-pervious).

**(pp) Homeowner-provided landscaping:** means landscaping either installed by a private individual for single family residence or installed by a license contractor hired by the homeowner.

**(qq) Hydrozone:** means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

**(rr) Infiltration rate:** means the rate of water entry into the soil expressed as a depth of water per unit of time (*i.e.*, inches per hour).

**(ss) Invasive Plants Species** means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species.

**(tt) 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 run off that causes overland flow, and preparation of an irrigation schedule.

**(uu) Irrigation Designer:** means a person who has been certified by the Irrigation Association to prepare irrigation system designs, and/or a Landscape Architect.

**(vv) Irrigation Efficiency (IE):** 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 minimum irrigation efficiency for purposes of this ordinance is 0.71.

**(ww) Irrigation Plan:** The irrigation plan shall be shown at the same scale as the planting plan. The irrigation plan shall show the components of the irrigation system with water meter size, backflow prevention, precipitation rates, flow rate and operating pressure for each irrigation circuit, and identification of all irrigation equipment.

**(xx) Irrigation Survey:** means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes but is not limited to: inspection, system test and written recommendation to improve performance of the irrigation system.

**(yy) Irrigation Water Use Analysis:** means an analysis of water use data based on meter readings and billing data.

**(zz) Invasive Plants:** means those plant species, which tend to become nuisances because of their undesirable growth habits such as pampas grass, but which, if properly cultivated, may be useful or functional as elements of landscape design.

**(aaa) Impervious Surface:** means land area covered by a surface treatment that hinders the ability of the underlying soils to percolate water.

**(bbb) Landscape Area:** means all of 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 area designated for non-development (e.g. open space and existing native vegetation).

**(ccc) Landscape Architect:** means a person who holds a license to practice landscape architecture in the State of California (Government Code Section 5615).

**(ddd) Landscape Contractor:** means a person licensed (with a valid C-27 license) by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems and facilities consistent with the Business and Professions Code, Section 7058 and 7059.

**(eee) Landscape Irrigation Audit:** means a process to perform site inspections, evaluate irrigation systems and develop efficient irrigation schedules.

**(fff) Landscape Documentation Package:** means the documents required under Section 20.82.060. (B).

**(ggg) Landscape project:** means total area of landscape in a project as defined in “landscape area” for the purposes of this ordinance, meeting the requirements under Section 20.82.030.

**(hhh) Land Clearing:** means the removal of vegetation from any site, parcel or; provided, however, it does not include mowing, trimming or pruning, so as to maintain vegetation in a healthy, viable condition.

**(iii) Lateral Line:** means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

**(jjj) Line-of-Sight Triangle:** The area on either side of an access way at its junction with a public street forming a triangle within which clear visibility of approaching vehicular or pedestrian traffic must be maintained.

**(kkk) Local Agency:** means the City of San Marcos that is responsible for the adopting and implementing the ordinance. The City of San Marcos will be responsible for landscape plan checks, design review of the project, and approval of the landscape permit.

**(lll) Local Water Purveyor:** means Vallecitos Water District (VWD), Vista Irrigation District (VID), Olivenhain Water district (OWD), and Rincon Water District (RWD) serve as the **retail water purveyor** within the limits of San Marcos that provides retail water service.

**(mmm) 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 especially designed to apply small volumes of water at or near the root zone of plants.

**(nnn) Main line:** means the pressurized pipeline that delivers water from the water source to the valve or outlet.

**(ooo) Maximum Applied Water Allowance (MAWA):** means the upper limit of annual applied water for the established landscaped area as specified in Section 20.82.060.(C) 1. d. 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, area permanently and solely dedicated to be edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water, are subject to the MAWA with ETAF not to exceed 1.0.

**(ppp) Microclimate:** means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to wind, sun exposure, plant density, proximity to reflective surfaces, etc.

**(qqq) 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.

**(rrr) Mulch:** means any organic material such as leaves, bark, and straw or inorganic mineral materials such as rocks, gravel, and 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.

**(sss) New Construction** means for the purpose of this ordinance, a new building with a landscape or other new landscape such as a park, playground, or greenbelt without an associated building.

**(ttt) Operating Pressure:** means the pressure at which parts of the an irrigation system are designed by the manufacturer to operate.

**(uuu) Overhead Sprinkler Irrigation Systems:** means systems that deliver water through the air (e.g., spray heads and rotors).

**(vvv) Overspray:** means the water which is delivered beyond the target area, and in which can cause overland flow caused by irrigation events onto non-targeted areas such as pavements, walks, and structures.

**(www) Permit:** means any permit issued by the City of San Marcos for new buildings or rehabilitated landscape.

**(xxx) Pervious:** means any surface or material that allows the passage of water through the material and into the underlying soil.

**(yyy) Plant Factor or Plant Water use Factor:** means a factor when multiplied by ETo estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor of low water use plants ranges from 0 to 0.3, the plant factor of moderate water use plants ranges from 0.4 to 0.6, and the plant factor of high water use plants ranges from 0.7 to 1.0. Plant factors cited in this ordinance are derived from the Department of Water Resources 1999 publication "Water Use Classification of landscape Species".

**(zzz) Precipitation Rate:** means the depth of water applied to a given area, usually measured in inches per hour.

**(aaaa) Project applicant:** means the individual or entity submitting a Landscape Documentation Package required under Section 20.82.060. (B), to request a permit, plan check, or design review from the City of San Marcos. A project applicant may be the property owner or his/her designee.

**(bbbb) Rain Sensor or Rain Sensing Shutoff Device:** means a component which automatically suspends the irrigation event when it rains.

**(cccc) 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.

**(dddd) Recreational Area:** means areas dedicated to active play such as parks, sports field, and golf courses where turf provides a playing surface.

**(eeee) Recycled Water: "Reclaimed Water," or "Treated Sewage Effluent Water"** means treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation. This water is not intended for human consumption.

**(ffff) Referenced Evapotranspiration (ETo)** means a standard measurement of environmental parameters which affect the water use of plants. ETo is given in inches per day, month, or year as represented in Section 20.82.030. & 050, and is an estimate of the

evapotranspiration of a large field of four-to seven-inch tall, cool season turf that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.

**(gggg) Rehabilitated landscapes:** means any re-landscaping project that requires a permit, plan check, or design review and meets the requirements of Section 20.82.030 A. 4. The modified landscape area is greater than 2,500 square feet and 50% of the total landscape area and the modifications occur within one year.

**(hhhh) Runoff:** means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

**(iiii) 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.

**(jjjj) Soil Texture:** means the classification of soil based on its percentage of sand, silt, and clay.

**(kkkk) Special landscape Area (SLA)** means an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water areas dedicated to active play as parks, sports fields. Golf course, and where turf provides playing surfaces.

**(llll) Sprinkler Head:** means a device, which sprays water through a nozzle.

**(mmmm) Static Water Pressure:** means the pipeline or municipal water supply pressure when water is not flowing.

**(nnnn) Station:** means an area served by one valve or by a set of valves that operate simultaneously.

**(oooo) 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.

**(pppp) Turf:** means a groundcover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are common cool-season grasses. Bermuda grass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are common warm-season grasses.

**(qqqq) Water-Conserving Plant:** means a plant species identified as having a low plant factor.

**(rrrr) Valve:** means a device used to control the flow of water in the irrigation system.

**(ssss) Water conserving plant species:** A plant species identified as using less water than plants in the same water use category.

**(tttt) Water Feature** means a design element where open water performs as 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 treatment or storm water best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features, and therefore not subject to the water budget calculation.

**(uuuu) Watering Window** means a time of day irrigation is allowed.

**(vvvv) WUCOLS** means Water Use Classification of landscape Species and refers to

the Department of Water Resources 1999 publication authorized by a U.C. Cooperative Extension employee, Larry Costello.

**(www) Xeriscape:** Is creative landscape design for water conservation. Xeriscape principles – the sum of planning and design, practical turf areas, appropriate plant selection, soil improvements, mulches, efficient irrigation, and appropriate maintenance to achieve a landscape that conserves water and other resources.

**20.82.050 Provisions for New Construction, Rehabilitated, or Existing Landscape**

The City of San Marcos may designate the local retail water purveyors, to implement some or all of the requirements contained in this ordinance. The City of San Marcos may collaborate with water purveyors to define each entity's specific responsibility relating to this ordinance. Single family residential with existing landscape is exempt from ordinance unless they make a change to the existing landscape greater than 2,500 square feet which will require compliance with this ordinance.

**20.82.060 Landscape Documentation Package Submittal**

**A Compliance with Landscape Documentation Package (LDP)**

1. Prior to final approval of the Landscape Documentation Package, the Planning Department must obtain approval from the local water purveyor to verify that the water budget calculations specified in the Landscape Documentation Package meet the water allocation specified by the local water purveyor.
2. Prior to construction, Planning Department shall:
  - a. provide the project applicant a copy of the Landscape Ordinance and procedures for design review, plan checks, or permits. Copies of the reference Evapotranspiration Table, Water Efficient Landscape Worksheet, Water Budget Calculation Sheet, a Certification of Completion form shall be provided in the landscape application form;
  - b. review the Landscape Documentation Package submitted by the project applicant;
  - c. approve or deny the Landscape Documentation Package;
  - d. complete the design review, approved the plans, and issue a permit and
  - e. Upon approval of the Landscape Document Package, submit an electronic copy of the Water Efficient Landscape Worksheet to the local retail water purveyor.
2. During construction, the project applicant shall:
  - a. maintain an approved Landscape Documentation Package at the job site;
  - b. maintain an approve copy of the Landscape Permit, a record the date of the approval of the landscape Permit;
3. Upon completion of all landscape design, the project applicant shall:
  - a. obtain a Certificate of Completion signed by Planning Department;
  - b. submit an electronic copy of the approved Landscape Documentation

- Package along with the record drawings, and an electronic copy of the Water Efficient Landscape Worksheet to the local retail water purveyor.
4. Applicants on-going responsibility after Planning Department signs off Certificate of Completion shall:
    - Contact the local retail water purveyor, or a certified landscape irrigation auditor, and secure a landscape audit that will include a recommended irrigation schedule.
  5. The first eighteen (18) months, after the City approves planting, shall be considered as the “establishment period” for the landscape plant materials. A bond or cash deposit will be submitted to the City, prior to issuing a Landscape Permit and held until a final inspection is conducted by the City to verify the landscape is thriving in a healthy manner. It will be the responsibility of the developer/owner to contact the City a minimum of thirty (30)-days prior to end of the eighteen (18)-months for the final inspection

**B Elements of the Landscape Documentation Package.**

1. The Landscape Documentation Package shall include following elements:
  - a. Project information
    - (1.) Date of submittal;
    - (2.) Project Applicant’s full name;
    - (3.) Project Address and/or assessor parcel number(s);
    - (4.) Total existing & proposed landscape area in square feet;
    - (5.) Define project type (e.g. new, rehabilitated, public, cemetery, owner-installed);
    - (6.) Adjacent land uses and zoning designations.
    - (7.) Approximate location and quantity of all proposed and existing specimen trees.
    - (8.) Location of all existing and proposed storm, sanitary, and utility lines. Root barriers shall be required when trees are planted within 5 feet (or as directed by the local water purveyor) of public water and sewer mains.
    - (9.) Location of all existing and proposed contours two (2) foot minimum.
    - (10.) Location of proposed and existing buildings, structures and paved areas.
    - (11.) Landscape Plans must be drawn to scale, and in cases where a grading permit is required, both landscape and grading plans must be the same scale.
    - (12.) Provide a planting schedule with proposed plant material names (common and botanical), quantity, size, and spacing, and any special planting notes. Size of plants should be describing the actual size at the time the planted is installed.
    - (13.) Separate landscape plan(s) submittal will be required for:

- 1.) Community Facilities District (CFD) Areas.
  - 2.) Privately Owned Landscape Areas.
  - 3.) Home Owners Association (HOA).
  - 4.) Master Development Association.
  - 5.) Master Retail Association.
- (14.) Landscape plans must address all Best Management Practices (BMP's), coincide with grading plans, address brush management zones, and address biological constraints.
  - (15.) The landscape plan must also address any sight visibility triangle issue if applicable.
  - (16.) All hardscape, i.e., decorative paving, scored concrete, trellis design, location of monument sign and other special design items must be addressed on the landscape plans.
  - (17.) Water supply type (e.g. potable, recycle, **or** well and identify the local retail water purveyor if the applicant is not served by a private well.
  - (18.) Checklist of all documents in the Landscape Documentation Package;
  - (19.) Project contacts to include contact information (name, address, & phone number) for the project applicant, landscape architect, contractor, and property owner; and
  - (20.) Applicant/ property owner signature and date with statement "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package."
- b. Water Efficient Landscape Worksheet;
    - (1.) Hydrozone Information Table.
    - (2.) Water Budget Calculations.
    - (3.) Maximum Applied Water Allowance (*MAWA*)
    - (4.) Estimated Total Water Use (*ETWU*)
  - c. Soil Management Report;
  - d. Landscape Design Plan;
  - e. Irrigation Design Plan; and
  - f. Grading Design Plan.
  - g. Fuel Management Plan (FMP)
    1. Establish a meeting with the Fire Marshall early in the design process to determine if a Fuel Management Plan is required.
    2. The fuel management area shall be design with the appropriate plant species recognized under the FMP.
  - h. Biological Constraints Plan
    1. If it is determined that the project site located in a biologically sensitive area, the following shall apply:
      - a. The landscape plans shall be reviewed and approved by a certified biologist for:

- 1.) Compatible plants that are not considered invasive.
  - 2.) Confirm the boundary of the biological constraint area.
  - 3.) Arrange for the biologist to be present for the preconstruction meeting to discuss any constraints with developer.
  - 4.) Have the biologist assist the civil engineer in stacking the construction buffer area.
  - 5.) Submit a copy of all Agency Permits, a copy of an approved Property Assessment Records (PAR) and maintenance plan prior to any grading activity.
- i. Screening of Utilities/Equipment
1. A utility plan must be submitted with the site plan prior to recording easements in an effort to coordinate placement of all utilities.
  2. Mechanical equipment, such as cooling towers, air compressors, pool pumps, transformers, sprinkler pumps, satellite dish antennae, etc. must be adequately screened.
  3. Screening shall exceed the vertical height of the equipment being screened by at least six (6) inches. A three (3) foot open area shall be maintained around such equipment to facilitate repairs.
- j. Landscape Maintenance/Terms
1. All plants shall be maintained in a healthy and thriving condition during the specified time for the responsible party. Initially, it shall be the responsibility of the developer to maintain (water & weed) all slopes where required by the provisions of this chapter until such time as the property is occupied by reason of lease or purchase, at which time the responsibility for such maintenance shall be transferred to a mandatory Community Association. Covenants, Conditions, and Restrictions of the subject tract shall provide for acceptance of the responsibility for maintenance by the Community Association.
  2. Maintenance shall include restoration of any portion of a slope area affected by installation of walls, fences, pools and the like.
  3. A special brochure or maintenance plan shall be prepared by the responsible landscape architect for the purpose of instructing the lessee or purchasers of the property and any landscape maintenance company working on the property on the proper maintenance and watering of landscape slopes, and these landscape brochures or maintenance plan must be submitted and approved by the Planning

Department prior to issuance of a building permit or as directed by the Planning Director.

C. Water Efficient Landscape Worksheet

1. A project applicant shall complete the Water Efficient Landscape Worksheet which contains two sections. (worksheet provided in landscape application)
  - a. A Hydrozone Information Table (Appendix B, Section A) for the Landscape project provided in the landscape application handout from the Planning Division.
  - a. A Water Budget Calculation (provided in the landscape application in Planning Department) for the landscape project. For the calculation of the maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the *ETo* values from the reference Evapotranspiration Table provided in the landscape application handout from the Planning Division.
  - c. Water Budget Calculations shall adhere to the following requirements:
    - (1.) The plant factor used shall be from *WUCOLS*. The plant factor ranges from 0 to 0.3 for low water use, from 0.4 to 0.6 for moderate water use plants and from 0.7 to 1.0 for high water use plants.
    - (2.) 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.) All special landscape Area shall be identified and its water use calculation as described below.
    - (4.) *ETAF* for Special landscape Area Water Allowance shall not exceed 1.0.
  - d. Maximum Applied Water Allowance (MAWA)
    - (1.) The landscape projects maximum Applied Water Allowance shall be calculated using this equation:

$$\text{MAWA} = (\text{ETo})(0.62)[0.7 \times \text{LA} + \text{SLA}]$$

Where:

**MAWA** = Maximum Applied Water Allowance  
(gallons per year)

**ETo** = Reference Evapotranspiration  
(inches per year).

**0.7** = ET Adjustment Factor

**LA** = Landscape Area includes Special landscape  
Area (square feet)

**.62** = Conversion Factor (to gallons per square foot)

**SLA** = Portion of the landscape area identified as  
Special Landscape Area (square feet)

**0.3** = the additional ET Adjustment Factor for  
Special Landscape Area (1.0 - .07 = .03).

e. Estimated Total Water Use

- (1.) The Estimate Total Water Use shall be calculated using the equation below. Estimated Total Water Use shall not exceed MAWA. The sum of the Estimated Total Water use calculations for all hydrozones shall not exceed MAWA.

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

Where:

**ETWU** = Estimated Total Water Use per year (gallons)

**ETo** = Referenced Evapotranspiration (inches)

**PF** = Plant Factor from WUCOLS (see Section 20.82.040. vvvv.)

**HA** = hydrozone Area [high, medium, & low water use areas] (square feet)

**SLA** = Special Landscape Area (square feet)

**.062** = Conversion Factor

**IE** = Irrigation Efficiency (minimum (0.71))

D. Soil Management Report

In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed as follows:

- a. The soil management plan shall be prepared by a licensed landscape architect, licensed civil engineer, or a licensed architect.
  - b. Submit soil sample to a laboratory for analysis and recommendations
    - (1.) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants; and
    - (2.) The soils analysis shall include:
      - (a.) Soil Texture.
      - (b.) infiltration rate determined by laboratory test or soil texture infiltration rate table;
      - (c.) Identify pH level;
      - (d.) total soluble salts;
      - (e.) Sodium level;
      - (f.) Percentage of organic matter; and
      - (g.) Recommendations about the soil amendments may be necessary to foster plant growth and plant survival in the landscape area using efficient irrigation techniques.
2. The project applicant shall comply with one of the following:
- a. If the project does not exceed the movement of greater than 50 cubic yards of dirt, the soil analysis report shall be submitted to Developmental Services as part of the Landscape Documentation Package.

- b. If greater than 50 cubic yards of dirt is moved, the soil analysis report shall be submitted accompanied by the Certificate of Completion
- c. The soils analysis report shall be readily available to the professionals preparing the landscape and irrigation design plans.
- d. The project applicant shall submit documentation verifying implementation of the soil analysis report recommendations to Developmental Services with the Certificate of Completion

#### E. Landscape Design Plan

1. For efficient use of water, a landscape plan shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting following design criteria shall be submitted as part of the Landscape Documentation Package.
  - a. Plant Material
    - (1.) Any plant may be selected for the landscape, providing the total landscape area does not exceed the maximum Applied Water Allowance. To encourage the efficient use of water, the following is highly recommended:
      - (a.) Protection and preservation of native species and natural vegetation;
      - (b.) Selection of water-conserving plant species and turf species;
      - (c.) Selection of canopy shading; and
      - (d.) Selection of plants base on disease and pest resistance.
    - (2.) Each hydrozone shall have plant materials with similar water use, with the exception of plants with mixed water use. For hydrozones with plants of mixed use, refer to Section 20.82.060.G. for more information.) Plants shall be selected and planted appropriately based upon their adaptability to climate, geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended:
      - (a.) Use the Sunset Western Climate Zone which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continent and marine influence on local climate;
      - (b.) Recognize the horticulture attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., building, sidewalks, power lines]; and
      - (c.) Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
    - (3.) Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).

- (4.) A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensive space or zone around the zone a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches.
- (5.) The use of invasive and/or noxious species is prohibited.
- (6.) Invasive species of plants shall be avoided especially near parks, buffers, greenbelts, water bodies, and open spaces because of their potential cause to harm to environmentally sensitive areas. .
- (7.) 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 an effect of prohibiting the use of low-water use.  
plants as a group (Civil Code Section 1358.8).

2. Water Features

- a. Re-circulating water shall be used for water features. Water features must comply with Department of Environmental Health standards.
- b. Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculations.

3. Mulch and Amendments

- a. A minimum four (4") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf area, creeping or rooting groundcovers or direct seeding applications where mulch is contraindicated.
- b. Stabilizing mulching products shall be used on slopes.
- c. The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirements.
- d. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for plants selected (see Section 20.82.050.(D)a.b.(2)(g).

4. The landscape design shall at a minimum contain the following:

- a. Delineate and label hydrozone by number, letter, or other method;
- b. Identify each hydro zone as low, moderate, highwater use or mixed water-use. Temporarily irrigated areas of the landscape shall be included in the low water use hydro zone for the water budget calculation;
- c. Identify recreation areas;
- d. Identify areas permanently and solely dedicated to edible plants;
- e. Identify areas irrigated with recycled water;
- f. Identify type of mulch and application depth;
- g. Identify soil amendments, type, and quantity
- h. Identify type and surface area of water features;
- i. Identify hardscapes (pervious and on-pervious)
- j. Identify location and installation details of any applicable stormwater best management practices that encourage on-site retention and

infiltration of stormwater. Stormwater best management practices are encouraged in the landscape design plans and examples include but are not limited to:

- i. Infiltration beds, swales and basins that would allow water to collect and soak into the ground;
- ii. Constructed wetlands and retention ponds that retain water, handle excess flow and filter pollutants; and
- iii. Pervious or porous surfaces (e.g. permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff;
- k. Identify any applicable rain harvesting or catchment technologies (e.g., rain gardens cisterns, etc.);
- l. The landscape design shall have the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan; and
- m. The signatures of a licensed landscape architect, licensed landscape contractor or any other applicable landscape professional, person, licensed or unlicensed, as listed in the Business and Professions Code, California Code of Regulations, or Food and Agricultural Code.

#### F. Irrigation Design Plan

1. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturer recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation package.
2. Automatic irrigation controllers utilizing either evapotranspiration or moisture sensor data shall be required for irrigation scheduling in all irrigation systems.
3. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufactures recommended pressure range for optimal performance;
  - a. 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.
  - b. 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 design stage. If the measurements are not available at the design stage, the measurement shall be conducted at installation.
4. Sensors (rain, freeze, wind, etc.) either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions such as rain or a freeze shall be required on all irrigation systems, as appropriate for local climate conditions. Irrigation should be avoided during windy or freezing weather or during rain.
5. Manual shut-off valves (such as gate valves, ball valve, or butterfly valve) shall be

- required as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency (such as a main break) or routine repair.
6. If separate water meters are proposed, backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall contact the Department of Environmental Health for additional backflow prevention requirements.
  7. High flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended.
  8. The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
  9. Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
  10. The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
  11. The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 20.82.060. C. regarding the Maximum Applied Water Allowance.
  12. The project applicant shall inquire with the retail water purveyor about peak hour water operating demands (on the water supply system) or water restrictions that may impact water availability or water pressure and could compromise the effectiveness of the irrigation system.
  13. In mulched planting areas, the use of low volume water irrigation is required to maximize water infiltration into the root zone.
  14. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufactures specifications.
  15. Head to head coverage is recommended. However, sprinkler spacing shall be set to achieve distribution uniformity using the manufactures specifications.
  16. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.
  17. Check valves or anti-drain valves are required for all irrigation systems.
  18. Narrow or irregularly shaped areas including turf, less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or low-volume irrigation technology.
  19. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from a non-permeable surface 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:
    - a. The landscape area is adjacent to permeable surfacing and no runoff occurs; or
    - b. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
    - c. 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 Section 20.82.060.F.8.

- Prevention of overspray and runoff must be confirmed during irrigation audit.
20. Slopes greater than 25% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies 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.
  21. The irrigation design plan shall contain the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan.
  22. Provide the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor or any other applicable landscape professional person, authorized to design an irrigation system as listed in the Business and professional Code, California Code of Regulation, or Food and Agriculture Code.

#### G. Hydrozone Design

1. Each valve shall irrigate a hydrozone with a similar site, slope, sun exposure, soil conditions and plant materials with similar water use.
2. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
3. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.
4. Individual hydrozones that mix plants of moderate and low water use or moderate and high water use, may be allowed if:
  - a. Plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
  - b. The plant factor of the higher water using plant is used for calculations.
5. Individual hydrozones that mix high and low water use plants shall not be permitted.
6. On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information table (provided in the landscape application handout from the Planning Division). this table can also assist with pre-and final inspections of the irrigation system and programming the controller.
7. If proposed, show location and size of separate water meters for landscape.
8. Show 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 devices.
9. Show the static water pressure at the point of connection to the public water supply.
10. Describe the flow rate (gallons per minute), application rate (inches per hour) and design operating pressure (pressure per square inch) for each station.
11. Indicate if there is recycle water being used for the irrigation system and if so, as specified in Section 20.82.060. N.
12. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufactures specifications. The irrigation system and its

related components shall be planned and designed to allow for proper installation, management and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

13. Weather-based irrigation controllers or soil moisture-based controllers or other self-adjusting irrigation controllers shall be required for irrigation scheduling in all irrigation systems.

#### H. Grading Design Plan

1. For efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff and water waste. A grading design plan shall be submitted as part of the Landscape Documentation Package. A comprehensive grading plan shall be prepared by a civil engineer, that satisfies this requirement.
2. The project applicant shall submit a landscape grading plan that indicates finish configurations and elevations of the landscaping area including:
  - a. Height of graded slopes;
  - b. Drainage patterns;
  - c. Pad elevations;
  - d. Finished grade; and
  - e. Storm water retention improvements, if applicable.
- ~~3.~~ Prevent excessive erosion and runoff by BMP design.
4. The grading design plan shall contain the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading design plan" and the signature of a licensed professional as authorized by law.

#### I. Certificate of Completion

1. The Certificate of Completion (sample provided in landscape application) shall include the following information and documentation:
  - a. Date;
  - b. Project name;
  - c. Project applicant name, telephone, and mailing address;
  - d. Project address and location;
  - e. Property owner name, telephone and mailing address;
  - f. Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Document Package;
  - g. Irrigation audit, see Section 20.82.060.L.;
  - h. Parameters used to set the controller, see Section 20.82.060.H.2.;
  - i. Landscape and irrigation maintenance schedule, see Section 20.82.060. K.
  - j. Irrigation audit report, see Section 20.82.060. L.; and
  - k. Soils analysis report and documentation verifying implementation of soil report recommendations see Section 20.82.060. (D).
2. The project applicant shall:
  - a. Submit the signed Certificate of Completion to the Planning Department for review;

- b. Ensure that electronic copies of the approved Certificate of Completion are submitted to local retail water purveyor and property owner or his/her designee.
3. The Planning Department shall:
- a. Receive the Certificate of Completion from the project applicant;
  - b. Approved or deny the Certificate. If the Certificate of Completion is denied, the Planning Department shall provide information to the project applicant regarding reapplication, appeal or other assistance.

J. Irrigation Scheduling

1. For efficient use of water, All irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:
  - a. Irrigation scheduling shall use automatic irrigation systems controllers.
  - b. Overhead irrigation shall be scheduled 6:00 p.m. and 10:00 a.m. unless weather conditions prevent it. If allowable hours of irrigation differ from the local water purveyor, the stricter of the two shall apply. Operation of the irrigation system outside of the normal watering window is allowed for auditing and system maintenance.
  - a. For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water use. Total annual applied water shall be less than or equal to MAWA. Actual irrigation schedules shall be based on current time reference evapotranspiration data (e.g., CIMIS or soil moisture sensor).
2. Parameters used to set the controller shall be developed and submitted for each of the following:
  - a. The plant establishment period;
  - b. The established landscape; and
  - c. Temporary irrigated areas.
3. Each irrigation schedule shall consider for each station all of the following that apply:
  - a. Irrigation interval (days between irrigation);
  - b. Irrigation run times (hours or minutes per irrigation event to avoid runoff);
  - c. Number of cycle starts required for each irrigation event to avoid runoff;
  - d. Amount of applied water scheduled to be applied on a monthly basis;
  - e. Application rate setting;
  - f. Root depth setting;
  - g. Plant type setting;
  - h. Soil type;
  - i. Slope factor setting;
  - j. Shade factor setting; and
  - k. Irrigation uniformity or efficiency setting.

K. Landscape and Irrigation Maintenance Schedule.

1. Landscape shall be maintained to ensure water use efficiency. A regular maintenance

- schedule shall be submitted with the Certificate of Completion.
2. A regular maintenance schedule shall include, but not be limited to, routine inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscape areas and removing any obstruction to emission devices. Operation of the irrigation system outside of the normal watering window is allowed for auditing and system maintenance.
  3. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.
  4. A project applicant is encourage to implement sustainable or environmentally-friendly Practices for overall landscape maintenance.
- L. Irrigation Audit, Irrigation Survey and Irrigation Water Use Analysis.
1. All landscape irrigation audits shall be conducted by a certified landscape irrigation Auditor.
  2. For new construction and rehabilitated landscape projects installed after January 1, 2010, as described in Section 20.82.030. A.
    - a. The project applicant shall submit Certificate of Completion to the Planning Department; along with a certification statement from the landscape Architect certifying that the landscaping and irrigation system have been installed according to the approved plans”.
    - b. The Planning Department shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits and irrigation surveys for compliance with the maximum Applied Water Allowance.
- M. Irrigation Efficiency.
1. For the purpose of determining the Maximum Applied Water Allowance, average Irrigation, efficiency is assumed to be 0.71. Irrigation systems shall be designed, Maintained, and managed to meet or exceed average landscape irrigation efficiency of 0.71.
- N. Recycled Water
1. The installation of recycled water irrigation systems shall allow for the current and future use of recycled water, unless a written exemption has been granted as described in Section 20.82.060.N.2. Otherwise, irrigation systems must comply with Department of Environmental health standards.
  2. Landscape using recycled water are considered Special landscape Areas. The ET Adjustment Factor for Special landscape Areas shall not exceed 1.0.
  4. All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.
- O. Storm water Management
1. Storm water management practices minimize runoff and increase infiltration which recharges groundwater and improves water quality. Implementing storm water best management practices into landscape and grading design plans to

- minimize runoff and to increase on-site retention and infiltration are encouraged.
2. Project applicants shall refer to both the City of San Marcos Storm water Program Manager and Regional Water Quality Control Board for information on any Storm water ordinances and storm water management plans.
  3. Rain gardens, cisterns, and other landscape features and practices that increase rainwater capture and create opportunities for infiltration, onsite storage, and any other means of storm water management as required by the City Engineer.

P. Public Education

1. The City of San Marcos shall provide information to owners of new, single-family residential homes regarding design installation, management and maintenance of water efficient landscapes. The owners **shall** contact the local retail water purveyor for additional information.
2. All model homes that are to be landscaped shall use signs and written information to demonstrate the principals of water efficient landscapes described in this ordinance.
  - a. Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment that contribute to the overall water efficiency theme.
  - b. Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.

Q. Irrigation Audit, Irrigation Survey and Irrigation Water Use Analysis

1. For all existing landscape installed before January 1, 2010 that are one acres or more, the City of San Marcos shall administer programs to encourage irrigation water use analysis, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the maximum Applied Water Allowance for existing landscape. The Maximum Applied Water Allowance for existing landscape shall be calculated as:  $MAWA = (0.8)(ET_o)(LA)(0.62)$ .
2. For all existing landscape installed before January 1, 2010 that do not have a meter, the local agency shall administer programs to encourage irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.
  - a. Maximum Applied Water Allowance for existing landscapes shall be calculated as  $MAWA = (0.8)(ET_o)(LA)(0.62)$ .
  - b. The audits shall comply with the Irrigation Association Certified landscape Irrigation Auditor training Manual (2204) or the most current edition.
  - c. All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

R. Water Waste Prevention

1. The City of San Marcos and the local retail water purveyors shall in concert with the Regional Water Quality Control Board, shall discourage water waste resulting from inefficient landscape irrigation by prohibiting runoff from 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 violation of these prohibitions shall be administered by agencies appropriately authorized.

S. Effective Precipitation.

Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate maximum Applied Water Allowance:  $MAWA = (ET_o - Eppt)[(0.7 \times LA) + (0.3 \times SLA)]$ .

**20.82.070 Landscape Bonds/Cash Deposit/Letter of Credit**

- A. A special Landscaping Performance Bond, Cash Deposit, or Letter of Credit in an amount established by the Planning Director and in a form approved by the City Attorney, shall be posted by the developer to guarantee that the planting will become permanently established. This bond will become effective upon certification that all landscape is planted per the approved landscape plan and will be held by the City for minimum of 18-months unless it can be proven that the landscape is thriving in a healthy condition under an approved maintenance plan.

**20.82.080 Violations; Penalties**

- A. Violations shall be considered as but not limited to :
1. Removal of existing mature landscape without approval by the City of San Marcos.
  2. Damage to existing mature landscape.
  3. Any person who violates any of the provisions of this Chapter shall be punishable by a fine under Chapter 1.12. and Chapter 1.14 of this Municipal Code.
  4. Each such person shall be guilty of a separate offense for each and every day during any portion of which any violation is committed, continued or permitted by any such person.
  5. In addition to receiving any fines or other monetary remuneration, the City of San Marcos shall have the right to seek injunctive relief for any and all violations of this Chapter and all other remedies provided by law or in equity.
  6. The retail water purveyors shall establish and administer penalties for water waste violations, which can lead to restrictions on irrigation water deliveries.
- B. **Penalties.** The City of San Marcos may establish and administer penalties to the project applicant for non-compliance with the ordinance, to the extent permitted by law.

**20.82.090 Waivers Application & Review Procedure**

A local agency may administratively waive or modify one or more requirements of the ordinance when unusual circumstances make their strict application impossible, and upon a determination that the waiver or variance is consistent with the purpose and intent of the ordinance.

**A. Waiver Application**

1. Applications for waiver shall be submitted to the Planning Director. Application for waiver shall include the following information:
  - a. name of applicant.
  - b. Address or location of site, including Assessor's Parcel Number.
  - c. Calculations of the total area of the site to be landscaped.
  - d. A minimum of eight photographs of the site, four looking into the property and four looking out from the property from each cardinal direction.
  - e. An explanation of the reason for the waiver request.

**B. Waiver Review Process**

1. The Planning Director shall review the application and upon determination of one of the following findings, may grant a waiver:
  - a. Practical difficulties make the strict application of the ordinance feasible.
  - b. The waiver is consistent with the purpose and intent of the Ordinance.
  - c. Full compliance with the requirements of this ordinance would not materially contribute to the objectives of water conservation.

**20.82.100 Conflict, Enforcement, and Interpretation**

In the event of a conflict between this Chapter and another zoning code chapter, the more restrictive shall apply.

**20.82.110 Appeal Process**

A Landscape Permit is required if a developer or property owner is proposing one of the following landscape designs as described under Section 20.82.030. The decision of the final decision-making body or official is final and effective ten (10) calendar days after adoption or the resolution or written decision, unless within such ten (10) day period the applicant or any other interested party or person files a written appeal utilizing the same appeal procedure to the other permits which are processed concurrently with the Landscape Permit. If no other discretionary permits are being processed concurrently with the Landscape Permit, then the appeal procedures in Section 20.104.170 shall apply.

**20.82.120 Severability**

If any clause, sentence, paragraph, or part of this Ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect the remaining provisions of this ordinance.

## Appendix A - Reference Evapotranspiration (ETo) Table

SAN DIEGO													
Chula Vista	2.2	2.7	3.4	3.8	4.8	4.7	5.5	4.9	4.5	3.4	2.4	2.0	44.2
Escondido SPV	2.4	2.6	3.9	4.7	5.9	6.5	7.1	6.7	5.3	3.9	2.8	2.3	54.2
Miramar	2.3	2.5	3.7	4.1	5.1	5.4	6.1	5.8	4.5	3.3	2.4	2.1	47.1
Oceanside	2.2	2.7	3.4	3.7	4.9	4.6	4.6	5.1	4.1	3.3	2.4	2.0	42.9
Otay Lake	2.3	2.7	3.9	4.6	5.6	5.9	6.2	6.1	4.8	3.7	2.6	2.2	50.4
Pine Valley	1.5	2.4	3.8	5.1	6.0	7.0	7.8	7.3	6.0	4.0	2.2	1.7	54.8
Ramona	2.1	2.1	3.4	4.6	5.2	6.3	6.7	6.8	5.3	4.1	2.8	2.1	51.6
San Diego	2.1	2.4	3.4	4.6	5.1	5.3	5.7	5.6	4.3	3.6	2.4	2.0	46.5
Santee	2.1	2.7	3.7	4.5	5.5	6.1	6.6	6.2	5.4	3.8	2.6	2.0	51.1
Torrey Pines	2.2	2.3	3.4	3.9	4.0	4.1	4.6	4.7	3.8	2.8	2.0	2.0	39.8
Warner Springs	1.6	2.7	3.7	4.7	6.7	7.6	8.3	7.7	6.3	4.0	2.5	1.3	56.0



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**Section B1. Maximum Applied Water Allowance (MAWA)**

The project's Maximum Applied Water Allowance shall be calculated using this equation:

$$MAWA = (ET_0)(0.62)(0.7 \times LA + 0.3 \times SLA)$$

where:

- MAWA = Maximum Applied Water Allowance (gallons per year)
- ET<sub>0</sub> = Reference Evapotranspiration Appendix A (inches per year)
- 0.7 = ET Adjustment Factor
- LA = Landscaped Area includes Special Landscape Area (square feet)
- 0.62 = Conversion factor (to gallons per square foot)
- SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
- 0.3 = the additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

Maximum Applied Water Allowance = \_\_\_\_\_ gallons

Show calculations.

Maximum Applied Water Allowance = \_\_\_\_\_ gallons

Show calculations.

**Section B2. Estimated Total Water Use (ETWU)**

The project's Estimated Total Water Use is calculated using the following formula:

$$ETWU = (ET_0)(0.62) \left( \frac{PF \times HA}{IE} + SLA \right)$$

where:

- ETWU = Estimated total water use per year (gallons)
- ET<sub>0</sub> = Reference Evapotranspiration (inches)
- PF = Plant Factor from WUCOLS (see Section 491)

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- HA = Hydrozone Area (high, medium, and low water use areas) (square feet)
- SLA = Special Landscape Area (square feet)
- 0.62 = Conversion Factor
- IE = Irrigation Efficiency (minimum 0.71)

**Hydrozone Table**

Please complete the hydrozone table(s). Use as many tables as necessary.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)	Area (square feet)	PF x Area (square feet)
			Sum	
	SLA			

Estimated Total Water Use = \_\_\_\_\_ gallons

Show calculations:

## Appendix C

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### §495.3 Appendix C – Sample Certificate of Completion

#### **CERTIFICATE OF COMPLETION**

This certificate is filled out by the project applicant upon completion of the landscape project.  
Please complete all sections (A, B, C and D) below.

#### **SECTION A. PROJECT INFORMATION**

Date		
Project Name		
Name of Project Applicant	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

#### **Project Address and Location:**

Street Address		Parcel, tract or lot number, if available.
City		Latitude/Longitude (optional for GIS applications)
State	Zip Code	

#### **Property Owner or his/her designee:**

Name	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Please answer the questions below:

1. Did you submit a Landscape Documentation Package to the local agency?  Yes  No
2. Was your Landscape Documentation Package approved by the local agency?  Yes  No
3. Was a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculations) submitted to the local water purveyor?  Yes, Date: \_\_\_\_\_  No

#### **SECTION B. DOCUMENTS**

##### **SECTION B1. IRRIGATION SCHEDULING**

- Attach parameters for setting the irrigation schedule on controller per ordinance Section 492.10.

##### **SECTION B2. LANDSCAPE IRRIGATION AUDIT REPORT**

- Attach Landscape Irrigation Audit Report per ordinance Section 492.12.

##### **SECTION B3. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE**

- Attach schedule of Landscape and Irrigation Maintenance per ordinance Section 492.11.

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**SECTION B4. SOIL MANAGEMENT PLAN**

- Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section 492.5.
- Attach documentation verifying implementation of recommendations from soil analysis report per ordinance Section 492.5.

**SECTION C. CERTIFICATION AT FINAL OBSERVATION OR INSPECTION**

"We certify that based upon periodic site observations, the work has been substantially completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved landscape documentation package."

Signature *		Date	
Name (print)	Telephone No.		
	Fax No.		
Title	Email Address		
License No. or Certification No.			
Company		Street Address	
City	State	Zip Code	

\*Signer of the landscape design plan, signer of the irrigation plan or a licensed landscape contractor.

**SECTION D. PROPERTY OWNER**

"We certify that we have received all of the contract documents and that it is our responsibility to see that the project is maintained in accordance with the Schedule of Landscape and Irrigation Maintenance."

Signature of Property Owner or his/her Designee		Date	
Name (print)	Telephone No.		
	Fax No.		
Title	Email Address		
Company		Street Address	
City	State	Zip Code	

**LOCAL AGENCY USE ONLY**

Signature of the Local Agency Representative			
Name of the Local Agency Representative			
Title			
Telephone No.		Fax No.	
Email Address			
Name of Local Agency			
Name of Department/Division/Unit			
Street Address			
City	State	Zip Code	