

WATER EFFICIENT LANDSCAPE GUIDELINES



Revised December 2016

INTRODUCTION

Adoption of a Water Efficient Landscape Ordinance (WELo) is required by State law (AB 1881). The purpose of the ordinance is to reduce water waste in landscaping by promoting the use of region-appropriate plants that require minimal supplemental irrigation, and by establishing standards for irrigation efficiency. To comply with the law, the City of Saratoga has adopted a WELo ordinance and has implemented these guidelines which establish a structure for planning, designing, installing, and maintaining water efficient landscapes in new construction and rehabilitated projects. They promote the values and benefits of local landscapes while recognizing the need to invest water and other resources as efficiently as possible. To establish the efficient use of water without waste, a Maximum Applied Water Allowance is set as an upper limit to reduce water use in the landscape to the lowest practical amount.

Prior to building permit issuance, projects subject to WELo must show compliance with the City of Saratoga Water Efficient Landscape Guidelines by submitting required components of a Landscape Documentation Package. Upon installation and completion of the landscape, a signed Certificate of Completion must be submitted, accompanied by an Irrigation Audit Report and Maintenance Schedule. All documents are submitted through the Community Development Department, and must be approved by the Director of Community Development, or a designee of the Director, prior to the next step in the project approval process (e.g., permit issuance, occupancy). Landscape projects subject to these guidelines shall be subject to final inspection by the City's Consulting Landscape Architect to verify compliance with the approved plans.

A Water Efficient Landscape Review Deposit Fee will be collected as part of the building permit application for affected projects. This deposit is to cover the administrative costs associated with Landscape Documentation Package review by the City's Consulting Landscape Architect and for final site inspection and audit.

The landscape design elements, irrigation design elements, and compliance documentation requirements of the City of Saratoga Water Efficient Landscape Guidelines are described on the following pages. All forms and worksheets are included in the appendix of these guidelines.

Applicability Thresholds

Section 15-47.015(b) of Municipal Code

Type of Project or Use	Criteria	Threshold	Compliance Requirements
Small Project or Use	Installing Small New Landscape Area	500 to 2,500 sq ft	Water Budget Option* or Streamlined Option**
Large Project or Use	Installing New Large Landscape Area	>2,500 sq ft	Water Budget Option*
Re-landscaping Project or Use	Rehabilitating Existing Landscape Area	>2,500 sq ft	Water Budget Option*
Small Project or Use with Graywater or Rainwater Irrigation	Meets Landscape Water Budget Requirements with Graywater or Rainwater Capture System	500 to 2,500 sq ft	Water Budget Option* or partial Streamlined Option** (Per Section 15-47.020(c)(1))
Large Project or Use with Graywater or Rainwater Irrigation	Use of Graywater or Rainwater for Large Landscape Area	>2,500 sq ft	Water Budget Option*
Cemetery Project	Cemeteries, New or Rehabilitated	All Cemeteries	Partial compliance (Per Section 15-47.020(c) and 15-47.030)
Existing Large Landscape Areas	Installed prior to December 1, 2015 that does not meet above criteria	>one acre	Partial compliance (Per Section 15-47.070)

*Full Compliance Option

** Prescriptive Compliance Option pursuant to Appendix D of the State Model Water Efficient Landscape Ordinance

**CITY OF SARATOGA COMMUNITY DEVELOPMENT DEPARTMENT
 REQUIREMENTS FOR LANDSCAPE AND IRRIGATION PLANS
 (Revised 8/2016)**

It is essential that all applicable items below are submitted with the application to avoid delays.

1. **FEE DEPOSIT AND AGREEMENT** – Applicant shall setup a deposit account to cover the cities WELO consultant costs in reviewing the landscape and irrigation plans and other materials required to determine WELO compliance which includes the Certificate of Completion. The applicant shall also submit a Fee Deposit and Agreement form provided by the City.
2. **COVER SHEET** – Include all of the following information (regardless of duplication elsewhere)
 - a. Assessor's Parcel Number
 - b. Address of Project
 - c. Owner's Name
 - d. Project contact Information Name, Address, Email, Telephone Number
 - e. Date of drawing and subsequent revisions
 - f. Irrigation water source (e.g. municipal, well, recycled),
 - g. Retail water purveyor (if applicable)
 - h. ****Authorized Plan Preparer's Name, Address Telephone Number, and Credentials (see below)**
 - i. **Authorized Plan Preparer's Statement: "The Landscape and Irrigation Plans comply with City Code Article 15-47 and the Water-Efficient Design Criteria provided in the City of Saratoga Requirements for Landscape and Irrigation Plans document" [included in this document]**

****The landscape design portion shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or any other person authorized by the State of California to design a landscape.**

****The irrigation design portion shall be prepared by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized by the State of California to design an irrigation system.**

j. Landscape Area Summary Table

Total Landscape Area: _____sf	Landscape area: All planting areas, turf, and water features (including swimming pools and spas) in a landscape installation. Turf area: Ground cover surface consisting of non-native grass species that is customarily mowed. Special landscape area: An area of the landscape dedicated solely to edible plants, recreational, areas irrigated with recycled water, and/or water features using recycled water.
Turf Area: _____sf	
Non-Turf Plant Area: _____sf	
Special Landscape Area: _____sf	
Water Feature / Wet Surface: _____sf	
Existing landscape and/or non- irrigated landscape to remain: _____sf	

k. Streamlined (Prescriptive Compliance) Option.

For each new project or use with an aggregate landscape area equal to or greater than 500 sq. ft. and less than or equal to 2,500 sq. ft., the applicant may submit for Community Development Department approval a landscape and irrigation design plan which conforms to the Prescriptive Compliance Option, Appendix D of the State Model Water Efficient Landscape Ordinance (MWELo) attached hereto. In order to use the Streamlined Option, the applicant must demonstrate the following:

- (1) For a residential area at least seventy-five percent of the landscape area is native or low water use plants. Turf shall be less than twenty-five percent of the landscape area.
- (2) For a commercial area one hundred percent of the landscape area is native or low water use plants. Turf is not permitted in the landscape area.

For a new project or use using entirely treated or untreated graywater or stored rainwater captured on site with an aggregate landscape area equal to or greater than 500 square feet and less than or equal to 2,500 sq. ft., which meets the landscape water requirement (estimated water use), the applicant is only subject to the requirements in Appendix D Section (b)(5) of MWELo.

3. **Landscaping.** The landscape portion of the Plan shall include the following at a minimum:

- a. Directional Arrow and Scale
- b. Identification of pertinent site factors such as sun exposure, microclimate, drainage, topography, stormwater features, etc.
- c. Proposed grading
- d. Existing landscape features to be removed
- e. Property lines, setbacks, footprint of all structures, and underground/above-ground utilities
- f. All proposed and existing to remain hardscape (both pervious and impervious surfaces)
- g. Percent of hardscape in the front setback area
- h. All proposed and existing to remain fencing, walls, retaining walls, etc.
- i. All proposed and existing to remain water features and wet surface areas (e.g., spa, fountain)
- j. Common name and trunk diameter of all existing trees whose trunk circumference is greater than six (6) inches, measured 54 inches above grade
- k. Special landscape areas (planting areas, turf, and water features in a landscape installation)
- l. Location, type, and application depth of mulch
- m. Layout/spacing of proposed plantings based on species and size at maturity (legend symbol)
- n. General notes, planting notes
- o. Delineate and label each hydrozone, and identify the water needs category as low water, moderate water, high water, or mixed (low/moderate), as defined by the Department of Water Resources Water Use Classifications of Landscape Species (WUCOLS) or the Department of Water Resources (DWR)
- p. Table with the following information for all plants to be installed as part of project:
 - (1) Legend symbol
 - (2) Common name
 - (3) Botanical name
 - (4) Container size
 - (5) Quantity
 - (6) Type (e.g. grass, succulent, shrub)

- (7) Water needs category as defined by WUCOLS or as approved by DWR with rating number provided next to each plant
- (8) Unique physical specifications (e.g., bare-root, field-potted, multi-trunk)
- (9) Seed mix, if applicable

4. **Irrigation.** The irrigation portion of the Plan shall include the following at a minimum:
- a. 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, backflow prevention devices and master valve with flow sensor
 - b. Static water pressure at the point of connection to the public water supply
 - c. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station
 - d. Irrigation schedule
 - e. Location and size of separate water meters or submeters for landscape (if applicable)
 - f. Graywater discharge piping system components and areas of distribution
 - g. Clarification of any circuits which are temporary and only for establishment period

Water Budget. For projects not meeting the streamlined (Prescriptive Compliance) option, a water budget is required and shall adhere to the requirements in City Code Section 15-47.030, including but not limited to: Error! Bookmark not defined.

- a. The water budget must be completed by an authorized certified professional
- b. The MAWA, ETWU, and reference evapotranspiration adjustment factor (ETAF .55 for residential and .45 for non residential) shall be calculated using the equation provided on the revised 2016 Water Efficient Landscape Worksheet
- c. The sum of the ETWU calculated for all hydrozones shall not exceed the MAWA
- d. The plant factor used shall be from WUCOLS or DWR
- e. All water features shall be calculated as a high water use
- f. All Special Landscape Areas and their water use shall be included in the water budget
- g. Irrigation system efficiency shall be greater than or equal to 75% for overhead spray devices and 81% for drip systems
- h. Effective precipitation (25% of annual precipitation) and the alternative MAWA equation provided on the Water Efficient Landscape Worksheet may be used in tracking water use

PLEASE NOTE THAT FRONT YARD AND EXTERIOR YARD LANDSCAPING
MUST BE INSTALLED PRIOR TO GETTING FINAL BUILDING PERMIT SIGN-OFF

Water-Efficient Design Criteria

The Landscape and Irrigation Plans shall conform to the Saratoga Water Efficient Landscape Ordinance and the following criteria:

A) Plant Material:

- 1) Plants shall be chosen and arranged appropriately based upon the site's climate, soil characteristics, sun exposure, wildfire susceptibility and other factors. Plants with similar water needs shall be grouped within hydrozones.
- 2) Turf shall be less than 25% of the landscape area in residential areas and there shall be no turf in nonresidential areas.
- 3) Turf shall not be planted on slopes greater than 25%.
- 4) Turf areas shall not be less than ten feet wide.
- 5) The horticultural attributes of plant species (e.g., mature plant size, invasive roots, and structural attributes) shall be considered, in order to minimize the potential for damage to property or infrastructure (e.g., buildings, septic systems, sidewalks, power lines).
- 6) Fire-prone plant materials and highly flammable mulches are strongly discouraged. In areas designated wildland urban interface, plants shall be selected, arranged and maintained to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291.
- 7) Installation of invasive plant species shall be prohibited.
- 8) Existing invasive plants and noxious weeds within or adjacent to the proposed landscape area shall be removed prior to installation.
- 9) The architectural guidelines, conditions, covenants or restrictions of a common interest development shall not supersede City Code Article 15-47 by either prohibiting low water use plants, or including conditions that have the effect of restricting low water use plants.

B) Soil, Conditioning, and Mulching:

- 1) Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need to meet this requirement.
- 2) Soil amendments, such as compost or fertilizer, shall be appropriately added according to the soil conditions at the project site and based on what is appropriate for the selected plants. A site specific soils analysis shall be included.
- 3) A minimum three (3)-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, except in areas of direct seeding application (e.g. hydro-seed).
- 4) For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top six inches of soil are exempt from adding compost and tilling.
- 5) Stabilizing mulching products shall be used on slopes.

C) Hydrozones:

- 1) Hydrozones shall group plant materials of similar water use, and shall generally demarcate areas of similar slope, sun exposure, soil, and other site conditions appropriate for the selected plants.
- 2) The flow of water to each hydrozone shall be controlled by a separate valve.
- 3) Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
- 4) Within a hydrozone, low and moderate water use plants may be mixed, but all plants within that hydrozone shall be classified as moderate water use for MAWA calculations. High water use plants shall not be mixed with low or moderate water use plants.

D) Water Features:

- 1) Recirculating water systems shall be used for water features.
- 2) The wet surface area of a water feature shall be counted as a high water use for purposes of a water budget calculation, except as provided in subsection 3, below.
- 3) The surface area of a pool or spa with a cover shall be counted as a medium water use for purposes of a water budget calculation.

E) Irrigation System:

- 1) An irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations.
- 2) The irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance.
- 3) Landscape water meters shall be required for all non-residential irrigated landscapes of 1,000 SF but not more than 5,000 SF and residential irrigated landscapes of 5,000 SF or greater, except for installations where irrigation water is provided by an individual onsite well.
- 4) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data utilizing non-volatile memory for irrigation scheduling are required.
- 5) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems.
- 6) The irrigation hardware for each hydrozone shall include a separate valve. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.
- 7) The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions.
- 8) Irrigation systems are required to have pressure regulators and master shut off valves.
- 9) Low-volume irrigation shall be required in mulched areas, in areas with slope greater than 25%, within 24 inches of a non-permeable surface, or in any narrow or irregularly shaped areas that are less than ten (ten) feet in width in any direction.
- 10) Average irrigation efficiency is 75% for overhead spray devices and 81% for drip systems. Irrigation systems shall be designed, maintained, and managed to meet or exceed the average landscape irrigation efficiency.
- 11) Irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. (or as regulated by your water purveyor, whichever is more restrictive), unless unfavorable weather prevents it or otherwise renders irrigation unnecessary. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

- F) **Wildfire Management.** The plant list shall exclude plant types that increase wildfire susceptibility. In areas designated wildland urban interface, the plan shall demonstrate that plants have been selected and arranged to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291.
- G) **Storm Water Management.** Storm water best management practices shall be incorporated as appropriate into the landscape installation; the details of which shall be shown on the landscape design plan. Installation shall be subject to National Pollutant Discharge Elimination System (NPDES) storm water discharge permit requirements.
- H) **Grading.** If the landscape project area will be graded, then, at a minimum, grading contours and quantities shall be shown on the landscape design plan. Grading shall meet all applicable requirements of the City Code, including permitting requirements for grading in excess of established thresholds. A geotechnical engineer should be consulted prior to the installation of landscaping materials and irrigation hardware on slopes greater than 50%, or in any areas where slope stability may be compromised.

COMPLETION OF INSTALLATION

Upon installation and completion of the landscape, the applicant shall submit the Certificate of Completion (Appendix E or F). The certificate must be accompanied by:

1. An Irrigation Audit Report prepared by a certified landscape irrigation auditor* that contains the following:
 - a. Operating pressure of the irrigation system.
 - b. Distribution uniformity of overhead irrigation.
 - c. Precipitation rate of overhead irrigation.
 - d. Report of any overspray or broken irrigation equipment.
 - e. Preparation of an Irrigation Schedule including:
 - (1) Plant establishment irrigation schedule.
 - (2) Parameters used to set the sensor-based automatic irrigation controller, including as applicable: plant type, root depth, soil type, slope factor, shade factor, irrigation interval (days per week), irrigation runtimes, number of start times per irrigation day, gallons per minute for each valve, precipitation rate, distribution uniformity, and monthly estimated water use.
2. A Landscape and Irrigation Maintenance Schedule timeline must be attached to the Certificate of Completion that includes routine inspections, adjustment and repairs to the irrigation system, aerating and dethatching turf areas, replenishing mulch, fertilizing, pruning, and weeding.

A final Site Inspection shall be performed by the City's Consulting Landscape Architect to verify compliance with these guidelines. Certificate of Occupancy shall not be issued until the landscape inspection is approved.

*The applicant can retain the City's Consulting Landscape Architect to prepare the audit, at the applicant's cost. If the applicant chooses their own auditor, the audit shall be peer reviewed by the City's Consulting Landscape Architect at the applicant's expense.

WATER-EFFICIENT LANDSCAPE ORDINANCE (WELO)

City Staff Checklist

This checklist will assist the City Reviewer in reviewing the Landscape Documentation Package Submittal.

Step 1 – Review Applicability of WELO (Section 15-47.015 of the Municipal Code)

- Is this a New Landscape Project? (A New Landscape Project means a new building or new development with associated landscaping and subject to a building or landscape permit, plan check or design review, with a landscape area equal to or greater than 500 square feet.)
- Is this a Rehabilitated Landscape Project? (A Rehabilitated Landscape Project means a project with associated re-landscaping or replacement landscaping greater than 2,500 SF and subject to a building or landscape permit, plan check or design review.)
- Is either of the above-two boxes checked? If yes, proceed to Step 2. If no, DOES NOT APPLY.

Step 2 – Exceptions for Applicability of WELO (Section 15-47.015 of the Municipal Code)

- Is the building or property being developed or redeveloped a registered historical site?
- Is the building or property being developed or redeveloped a surface mine reclamation project that does not require a permanent irrigation system site?
- Is the building or property being developed or redeveloped an ecological restoration project that does not require a permanent irrigation system?
- Is the building or property being developed or redeveloped a part of a botanical garden or arboretum open to the general public site?
- Is the building or property being developed or redeveloped an agricultural and horticultural commerce site (e.g. commercial activities such as farming of grains, wine grapes, vegetables, fruit and nut trees and other agricultural crop production: greenhouses, nurseries; and floriculture facilities)?
- Is the building or property being developed or redeveloped a cemetery site greater than one acre?
- Are any of the above-boxes checked? If yes, end of review process. MWELo does not apply. If no, proceed to Step 3.

Step 3 – Landscape Documentation Package Submittal

- Is the Water Efficient Landscape Worksheet form filled out and included?
- Is a landscape plan included (prepared by, and bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized by the State of California to design a landscape) and signed with the following statement: "I have complied with the criteria of the City of Saratoga Water Efficient Landscape Ordinance currently in effect and applied them for the efficient use of water in the Landscape Plan?"
- Is an irrigation plan included (prepared by, and bear the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized by the State of California to design an irrigation system) and signed with the following statement: "I have complied with the criteria of the City of Saratoga Water Efficient Landscape Ordinance currently in effect and applied them for the efficient use of water in the Irrigation Plan?"
- Is a soil management report included?
- If applicable, is a grading plan included?
- Is a check in the amount of \$3,000 made out to the City of Saratoga provided (deposit)?
- Is a Fee/Deposit Agreement provided?
- Are all of the above-boxes checked? If yes, then city staff will accept and process the submittal package. If no, return to applicant to resubmit deficient items.

LANDSCAPE DOCUMENTATION PACKAGE CHECKLIST APPLICANT CHECKLIST

Use the checklist below to assemble the Landscape Documentation Package for your project as the components go through City review and approval.

<u>Item</u>	<u>Description</u>	<u>Submittal Stage</u>
<input type="checkbox"/>	WATER BUDGET WORKSHEET (Appendix B or C) Maximum Applied Water Allowance (MAWA) Estimated Total Water Use (ETWU)	Building Permit/ Plan Check
<input type="checkbox"/>	LANDSCAPE DESIGN PLAN	Building Permit/ Plan Check
<input type="checkbox"/>	IRRIGATION DESIGN PLAN	Building Permit/ Plan Check
<input type="checkbox"/>	HYDROZONE TABLE	Building Permit/ Plan Check
<input type="checkbox"/>	GRADING DESIGN PLAN	Building Permit/ Plan Check
<input type="checkbox"/>	SOILS LABORATORY REPORT	Building Permit/ Plan Check
<input type="checkbox"/>	CERTIFICATE OF COMPLETION (Appendix E or F)	Installation
<input type="checkbox"/>	IRRIGATION AUDIT REPORT	Installation
<input type="checkbox"/>	LANDSCAPE AND IRRIGATION MAINTENANCE SCHEDULE	Installation

APPENDIX A

1/3/2017

Saratoga, CA Code of Ordinances

Article 15-47 - WATER-EFFICIENT LANDSCAPING^[4]

Footnotes:

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Editor's note— Ord. No. 321, § 1, adopted Nov. 19, 2014, repealed the former Art. 15-47, § 15-47.010, and enacted a new Art. 15-47 as set out herein. The former Art. 15-47 adopted the State of California Model Water Efficient Landscape Ordinance and derived from Ord. No. 279, adopted May 19, 2010. See List of Ordinances for prior derivation.

15-47.010 - Purpose of Article.

The purpose of this Article is to reduce water waste in landscaping by promoting the use of region-appropriate plants that require minimal supplemental irrigation, and by establishing standards for irrigation efficiency. This Article implements the California Water Conservation in Landscaping Act.

(Ord. No. 321, § 1, 11-19-2014)

15-47.015 - Applicability.

- (a) The provisions of this Article shall not apply to the following projects or uses:
- (1) Any new or rehabilitated landscapes that do not require a building or landscape permit, plan check or design review;
 - (2) Any rehabilitated landscape area that is less than or equal to two thousand five hundred square feet;
 - (3) Any new landscapes less than five hundred square feet;
 - (4) Registered local, state or federal historical sites where landscaping establishes a historical landscape style, as determined by the City Council;
 - (5) Surface mine reclamation projects that do not require a permanent irrigation system;
 - (6) Ecological restoration projects that do not require a permanent irrigation system;
 - (7) Existing plant collections, as part of botanical gardens and/or arboretums open to the public; or
 - (8) Agricultural and horticultural commerce (e.g. commercial activities such as farming of grains, wine grapes, vegetables, fruit and nut trees and other agricultural crop production: greenhouses; nurseries; and floriculture facilities).
- (b) **Table defining applicability thresholds.** The provisions of this Article shall apply to all projects or uses that do not meet criteria for exemption in Section 15-47.015(a):

Type of Project or Use	Criteria	Threshold	Compliance Requirements
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Small Project or Use	Installing Small New Landscape Area	500 to 2,500 sq ft	Water Budget Option* or Streamlined Option**
Large Project or Use	Installing New Large Landscape Area	>2,500 sq ft	Water Budget Option*
Re-landscaping Project or Use	Rehabilitating Existing Landscape Area	>2,500 sq ft	Water Budget Option*
Small Project or Use with Graywater or Rainwater Irrigation	Meets Landscape Water Budget Requirements with Graywater or Rainwater Capture System	500 to 2,500 sq ft	Water Budget Option* or partial Streamlined Option** (Per <u>Section 15-47.020(c)</u> (1))
Large Project or Use with Graywater or Rainwater Irrigation	Use of Graywater or Rainwater for Large Landscape Area	>2,500 sq ft	Water Budget Option*
Cemetery Project	Cemeteries, New or Rehabilitated	All Cemeteries	Partial compliance (Per <u>Section 15-47.020(c)</u> and <u>15-47.030</u>)
Existing Large Landscape Areas	Installed prior to December 1, 2015 that does not meet above criteria	>one acre	Partial compliance (Per <u>Section 15-47.070</u>)

* Full Compliance Option

** Prescriptive Compliance Option pursuant to Appendix D of the State Model Water Efficient Landscape Ordinance

(Ord. No. 321, § 1, 11-19-2014; Ord. No. 339, § 1, 3-16-2016)

15-47.020 - Demonstration of landscape water efficiency.

Unless otherwise specified in this Article, each project or use to which this Article is applicable shall demonstrate that the landscape area complies with subsection (a), (b), (c) or (d) of this Section:

- (a) **Small project or use—Streamlined option.** For each project or use with an aggregate landscape area of less than or equal to two thousand five hundred square feet, the applicant may submit for Community Development Department approval a landscape and irrigation design plan which conforms to the Prescriptive Compliance Option, Appendix D of the State Model Water Efficient Landscape Ordinance. In order to use the streamlined option, the applicant must demonstrate the following:
- (1) For a residential area at least seventy-five percent of the landscape area is native or low water use plants. Turf shall be less than twenty-five percent of the landscape area.
 - (2) For a commercial area one hundred percent of the landscape area is native or low water use plants. Turf is not permitted in the landscape area.
- (b) **Large project or use/rehabilitated landscape project—Water budget option.** For each project or use that requires full compliance pursuant to Section 15-47.015(b), the applicant shall submit for Community Development Department approval the following completed documents demonstrating that the estimated total water use (ETWU) of the landscape area will not exceed the maximum applied water allowance (MAWA):
- (1) Water-efficient landscape worksheet, as provided by the Community Development Department;
 - (2) Water budget in compliance with the standards in Section 15-47.030;
 - (3) Landscape and irrigation design plan in accordance with Section 15-47.040;
 - (4) Certificate of completion. A certificate of completion, on such forms as may be prescribed, shall be filed with the Community Development Department prior to final building permit approval; and
 - (5) Landscape plan check fee. Fees for review and processing of required documents, as set forth in the fee schedule adopted by the City.
- (c) **Project or use with graywater or rainwater irrigation pursuant to Section 15-47.015(b)—Water budget or partial streamlined option.**
- (1) For a project or use using treated or untreated graywater or rainwater captured on site, any parcel within the project that has less than or equal to two thousand five hundred square feet of landscape and meets the parcel's landscape water requirement (estimated water use)

entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Appendix D Section (b)(5) of the State Model Water Efficient Landscape Ordinance, available at the Community Development Department.

- (2) For a project or use using treated or untreated graywater or rainwater captured on site, any parcel within the project that has more than two thousand five hundred square feet of landscape shall be subject to a water budget pursuant to Section 15-47.030 and shall submit for Community Development Department approval completed documents referenced in Section 15-47.020(b) demonstrating that the estimated total water use (ETWU) of the landscape area will not exceed the maximum applied water allowance (MAWA).

(d) Other projects pursuant to Section 15-47.015(b)—Partial compliance.

- (1) Any new or rehabilitated cemetery shall be subject to a water budget pursuant to Section 15-47.030 and shall submit for Community Development Department approval completed documents referenced in Section 15-47.020(b) demonstrating that the estimated total water use (ETWU) of the landscape area will not exceed the maximum applied water allowance (MAWA).
- (2) Any existing landscape area larger than one acre, including a cemetery, shall comply with Section 15-47.070.

(Ord. No. 321, § 1, 11-19-2014; Ord. No. 339, § 1, 3-16-2016)

15-47.030 - Water Budget Standards (Water Budget Option Requirements).

If the applicant complies with Article 15-47 by means of the "water budget" option, a water budget is required, which shall satisfy the following requirements:

- (a) The water budget must be completed by a certified professional who is authorized by the State of California to complete a water budget.
- (b) The maximum applied water allowance (MAWA) (gallons per year) shall be calculated using the equations set forth below:

$$\text{Standard MAWA} = (ET_o)(0.62)[(ETAF \times LA) + (1 - ETAF) \times SLA]$$

Where:

ET_o = Reference Evapotranspiration (inches per year)

ETAF = ET Adjustment Factor (Section 15-47.030(e))

0.62 = Conversion Factor (acre-inches to gallons per year)

LA = Landscape Area including SLA (square feet)

SLA = Special Landscape Area (square feet)*

* **Special Landscape Area (SLA)** means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.

(c) The estimated total water use (ETWU) (gallons) shall be calculated using the equations set forth below:

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

Where:

ETo = Reference Evapotranspiration (inches)

PF = Plant Factor from WUCOLS

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 0.75 for overhead spray devices and 0.81 for drip systems)

* **Hydrozone area** means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone area may be irrigated or non-irrigated.

(d) The sum of the ETWU calculated for all hydrozones shall not exceed the MAWA.

(e) The reference evapotranspiration adjustment factor (ETAF) for new and existing (non-rehabilitated) special landscape areas shall not exceed 1.0. The ETAF for the remaining landscaped area shall not exceed 0.55 for residential areas and 0.45 for nonresidential areas.

(f) The plant factor used shall be:

(1) From the Water Use Classification of Landscape Species (WUCOLS), adopted by reference as published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation and kept on file at the Community Development Department; or

(2) From horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources (DWR).

(g) Each water feature shall be included in the high water use hydrozone.

(h) Each special landscape area (SLA) shall be identified, and its water use included, in the water budget calculations.

(i) Irrigation system efficiency shall be greater than or equal to seventy-five percent for overhead spray devices and eighty-one percent for drip system devices.

(j) A project applicant may consider effective precipitation (twenty-five percent of annual precipitation) in tracking water use and may use the alternative MAWA equation set forth below:

Alternative MAWA for Residential Areas =

$(ET_o - Eppt)(0.62)[(0.55 \times LA) + (0.45 \times SLA)]$

Alternate MAWA for Non-Residential Areas =

$(ET_o - Eppt)(0.62)(0.45 \times LA) + (0.55 \times SLA)$

(Ord. No. 321, § 1, 11-19-2014; Ord. No. 339, § 1, 3-16-2016)

Editor's note— Ord. No. 339, § 1, adopted March 16, 2016, retitled the catchline of § 15-47.030 from "Water budget standards" to read as herein set out.

15-47.040 - Landscape and irrigation plan.

- (a) The landscape and irrigation plan shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or that of a certified or authorized professional who is authorized by the State of California to complete a water budget, and shall contain the following statement: "I have complied with the criteria of the City of Saratoga Water Efficient Landscape Ordinance currently in effect and applied them for the efficient use of water in the Landscape and Irrigation Plan."
- (b) The landscape and irrigation plan shall constitute an exhibit to, and contain all information required on, the water efficient landscape and irrigation plan checklist, developed by the Community Development Department, as necessary to demonstrate compliance with Article 15-47, and shall at a minimum:
- (1) Identify type and location of all irrigation systems, meters, automated controls, separate valves, hours of operation, and efficiency levels. Irrigation systems are required to have pressure regulators and master-shut off valves.
 - (2) Identify type and location of all plant material, turf and non-turf areas, and mulching. Turf shall be less than twenty-five percent of the landscape area in residential areas and there shall be no turf in nonresidential areas.
 - (3) Identify all hydrozones and special landscape areas including square footage of each separate hydrozone.
 - (4) Identify all hardscapes and water features.
 - (5) Identify all low impact development (LID) site design measures as required to comply with any and all stormwater management requirements established by law.
 - (6) Identify all grading contours and quantities, as applicable. Turf shall not be planted on sloped areas which exceed a slope of one foot vertical elevation change for every four feet of horizontal length.
 - (7) Identify all dedicated landscape water meters or submeters, which shall be required for all non-residential irrigated landscapes greater than one thousand square feet or and residential irrigated landscapes greater than five thousand square feet, except for those installations where irrigation

water is provided by an individual on-site well. Flow sensors that detect and report high flow conditions due to broken pieces and/or popped sprinkler heads are required for landscape areas greater than five thousand square feet.

- (8) Irrigate with subsurface irrigation or other means that produce no runoff or overspray for all areas less than ten feet in width in any direction. Turf is prohibited in parkways less than ten feet wide unless the parkway is adjacent to a parking strip and used to enter and exit vehicles.
- (9) For established landscapes that have dedicated irrigation meters, the maximum applied water allowance (MAWA) shall be calculated as follows:

Audited MAWA = (ET_o) (0.62) (LA) (0.8) where ETAF = 0.8

- (10) Identify any applicable graywater discharge piping system components and areas of distribution.

(Ord. No. 321, § 1, 11-19-2014; Ord. No. 339, § 1, 3-16-2016)

15-47.050 - Landscape and irrigation maintenance.

As to each project or use to which this Article 15-47 is applicable, each landscape area shall be maintained in compliance with the standards in Article 15-47 to ensure water use efficiency, including by inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning; weeding in each landscape area; and removing obstructions to emission devices.

(Ord. No. 321, § 1, 11-19-2014; Ord. No. 339, § 1, 3-16-2016)

15-47.060 - Stormwater management and rainwater retention.

Stormwater best management practices shall be implemented into each project landscape and irrigation plan and each project grading design plan to minimize runoff and to increase on-site rainwater retention and infiltration and be consistent with any and all stormwater management requirements established by law.

(Ord. No. 321, § 1, 11-19-2014; Ord. No. 339, § 1, 3-16-2016)

Editor's note— Ord. No. 339, § 1, adopted March 16, 2016, retitled the catchline of § 15.47.060 from "Stormwater management" to read as herein set out.

15-47.070 - Provisions for existing landscape areas over one acre in size.

Each property owner of a property containing landscape area(s) over one acre in size, that were installed prior to adoption of the ordinance codified in this Article, and do not otherwise meet the applicability criteria of Section 15-47.015, shall:

- (a)

Cooperate with their water purveyors who may provide water waste prevention recommendations resulting from a landscape irrigation water use analysis, landscape irrigation audit, and/or landscape irrigation survey.

- (b) Maintain irrigation levels not exceeding the standard MAWA equation if the site has a water meter.

(Ord. No. 321, § 1, 11-19-2014; Ord. No. 339, § 1, 3-16-2016)

15-47.080 - Penalties.

Any violation of this Article shall be subject to enforcement in accordance with the terms thereof and in addition to any other rights and remedies available to the City under Chapter 3 of this Code by reason of the same violation.

(Ord. No. 321, § 1, 11-19-2014)



APPENDIX B WATER EFFICIENT LANDSCAPE WORKSHEET

The project applicant must fill out this worksheet as it is a required element of the Landscape Documentation Package. Complete all sections of the worksheet.

Reference Evapotranspiration (ETo) _____

Hydrozone # /Planting Description ^a	Plant Factor (PF)	Irrigation Method ^b	Irrigation Efficiency (IE) ^c	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU) ^e
Regular Landscape Areas							
				Totals	(A)	(B)	
Special Landscape Areas							
				1			
				1			
				1			
				Totals	(C)	(D)	
						ETWU Total	
						Maximum Allowed Water Allowance (MAWA)^e	

^aHydrozone #/Planting Description

- E.g
 1.) front lawn
 2.) low water use plantings
 3.) medium water use planting

^bIrrigation Method

- overhead spray
 or drip

^cIrrigation Efficiency

- 0.75 for spray head
 0.81 for drip

^dETWU (Annual Gallons Required) =

$Eto \times 0.62 \times ETAF \times Area$
 where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

^eMAWA (Annual Gallons Allowed) = $(Eto) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$

where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	(B)
Total Area	(A)
Average ETAF	B ÷ A

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)
Total Area	(A+C)
Sitewide ETAF	(B+D) ÷ (A+C)



APPENDIX C

WATER EFFICIENT LANDSCAPE WORKSHEET

PRESCRIPTIVE COMPLIANCE OPTION

Applicability: New development projects that have between **500 square feet and 2,500 square feet of required landscape area**. Compliance with the requirements listed below shall be deemed to meet the "Prescriptive Compliance" requirements of the California Model Water Efficient Landscape Ordinance (MWELO) Appendix D (Prescriptive Compliance) and City of Saratoga Code Article 15-47 (Water Efficient Landscaping).

Compliance with the following items is mandatory and must be documented in the Landscape Document Package in order to use the prescriptive compliance option:

PROJECT INFORMATION

Date		
Project Applicant	Telephone No.	
	Email Address	
Project Street Address	APN	
City	Zip Code	
Project Type (i.e. new residential, new non-residential, rehabilitated, homeowner installed)		
Water Supply Type (i.e. potable, recycled, well and identify water purveyor if not served by a private well)		
Total Landscape Area (s.f.)	Turf/Grass (s.f.)	Other high water use plants or features (description and s.f. if applicable)

COMPLIANCE REQUIREMENTS

Requirements for all projects	Yes	No	N/A
Areas landscaped with live plant material have incorporated compost at a rate of at least 4 cubic yards per 1,000 square feet to a depth of 6 inches.			
Are there any landscape areas that are covered with hard surfaces (concrete, gravel, pavers, decomposed granite) and are void of live plants?			
Do landscape areas that utilize bark or hard surfaces include live plant material that will provide 60% coverage of landscape area at maturity (typically 2 years)?			
Is there a minimum of 3 inches of mulch applied to all exposed soil surfaces of the required landscape areas?			
Requirements for residential projects	Yes	No	N/A
Exclusive of vegetable and edible flower garden areas, are at least 75 percent of all other plants and trees native species or low water users.			

Water Efficient Landscape Worksheet Prescriptive Compliance Option

(continued)

Requirements for residential projects	Yes	No	N/A
Does turf/grass or other high water use plants comprise more than 25% of the required landscape area?			
Where turf/grass is used does it meet the requirements of MWELO and Section 15-47.040 of the Saratoga Municipal Code.			
Requirements for non-residential projects	Yes	No	N/A
Exclusive of edible garden areas, does 100% of all other planted landscape areas utilize native species or low water users.			
Does the project include any turf areas? If yes demonstrate compliance with MWELO and Section 15-47.040 of the Saratoga Municipal Code.			
Irrigation System Requirements	Yes	No	N/A
All irrigated landscape areas utilize microspray, drip, or subsurface irrigation systems.			
Do all landscape areas that are less than 10 feet in width in any direction utilize a subsurface irrigation system or drip system with no overspray?			
There is an automatic irrigation controller with evapotranspiration or soil moisture sensor data that will not lose programming date in the event the power source is interrupted.			
The manual shut-off valve (such as a gate valve, ball valve, or butterfly valve) is installed as close as possible to the point of connection of the water supply.			
There is a pressure regulator installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended			
Does the project include any "greenway strips" with turf?			
Does the greenway have a sub-surface or similar irrigation system?			
Are the greenway strips at least 10 ft wide?			
If less than 10 ft are they used to enter/exit vehicles?			

LANDSCAPE PLANS

Landscape and irrigation plans shall be drawn to scale and shall at a minimum include the following: with dimensions of all landscape areas identified.

- Dimensions of all landscape areas.
- Proposed plant locations, species, sizes, and water use needs (i.e. low, medium, or high as identified on the Water Use Classification of Landscape Species (WUCOLS) or the California Department of Water Resources study. All water features shall be identified as high water use and temporarily irrigated areas shall be identified as low water use.
- Location of any existing trees over six inches in diameter, and whether such tree(s) is proposed for retention or removal.
- Location and type of any existing and/or proposed fencing.
- Location and type of any existing and/or proposed paving or hardscape material(s).
- Irrigation plan that at a minimum indicates the location, type and size of all components of the irrigation system and demonstrates compliance with the requirements of the MWELO and City of Saratoga Code Article 15-47 (Water Efficient Landscaping).
- Soil Analysis Report pursuant to MWELO Section 492.6.
- Any additional proposed landscape elements and any other measures to facilitate plant growth or control erosion.

COMPLIANCE STATEMENT

The following shall be signed by the preparer of the landscape document package. ***“Under penalty of perjury, the information provided above in the ‘Compliance Requirements’ section is accurate and I agree to comply with the requirements of the prescriptive compliance option to the MWELO and City of Saratoga Code Article 15-47 (Water Efficient Landscaping).”***

Signature

Date

APPENDIX D

Prescriptive Compliance Option

(a) This appendix contains prescriptive requirements which may be used as a compliance option to the Water Efficient Landscape Ordinance.

(b) Compliance with the following items is mandatory and must be documented on a landscape plan in order to use the prescriptive compliance option:

(1) Submit a Landscape Documentation Package which includes the following elements:

- (A) date
- (B) project applicant
- (C) project address (if available, parcel and/or lot number(s))
- (D) total landscape area (square feet), including a breakdown of turf and plant material
- (E) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)
- (F) water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well
- (G) contact information for the project applicant and property owner
- (H) applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option to the MWELO".

(2) Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test);

(3) Plant material shall comply with all of the following;

- (A) For residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water; For non-residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;
- (B) A minimum three inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.

(4) Turf shall comply with all of the following:

- (A) Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in non-residential areas;
- (B) Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical elevation change for every 4 feet of horizontal length;
- (C) Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.

Prescriptive Compliance Option

(continued)

(5) Irrigation systems shall comply with the following:

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

(6) For non-residential projects with landscape areas of 1,000 sq. ft. or more, a private submeter(s) to measure landscape water use shall be installed.

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

LANDSCAPE CERTIFICATE OF COMPLETION

(Continued)

3. Maximum Applied Water Allowance (MAWA) from approved Landscape Documentation Package. _____
4. Estimated Total Water Use from approved Landscape Documentation Package. _____

SECTION B. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE

"I certify under penalty of perjury under the laws of California that 1) the landscaping and irrigation project approved by the City of Saratoga has been completed, 2) the landscaping and irrigation installation conforms to the criteria and specifications of the approved Landscape Documentation Package and 3) the irrigation system operates and performs as designed and approved."

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

*Signer of the Landscape Documentation Package.

SECTION C. IRRIGATION SCHEDULING

Attach the irrigation schedule for each controller as required by the California Model Water Efficient Landscape Ordinance (MWELo) Section 492.10.

SECTION D. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach the Landscape Irrigation Audit Report as required by MWELo Section 492.11.

SECTION E. LANDSCAPE AND IRRIGATION AUDIT REPORT

Attach the schedule of landscape and irrigation maintenance as required by MWELo Section 492.12.

SECTION F. SOIL MANAGEMENT REPORT

Attach soil analysis report as required by MWELo Section 492.6 if not previously submitted with the Landscape Documentation Package.

Attach documentation verifying implementation of recommendations from soil analysis report.



APPENDIX F CERTIFICATE OF COMPLETION USING PRESCRIPTIVE COMPLIANCE OPTION

Project Applicant must submit this Certificate of Completion upon completion of the landscape project.

SECTION A.1 PROJECT INFORMATION SHEET

PROJECT APPLICANT INFORMATION	
Date:	Project Name:
Name of Project Applicant:	Phone:
Title:	Email:
Company:	Mailing Address (with city, state & zip):

PROJECT ADDRESS AND LOCATION
Street Address:
APN:

PROPERTY OWNER OR THEIR DESIGNEE	
Name:	Phone:
Title:	Email:
Company:	Mailing Address (with city, state & zip):

PROPERTY OWNER

I/we certify that I/we have received, at the time of final inspection, a Certificate of Completion, Certificate of Installation, Irrigation Schedule and a Schedule of Landscape and Irrigation Maintenance, as described in the Water Conservation Landscaping Ordinance, and that it is our responsibility to see that the project is maintained in accordance with the aforementioned Schedule of Landscape and Irrigation Maintenance

Signature of Property Owner

Date

**CERTIFICATE OF INSTALLATION USING
PRESCRIPTIVE COMPLIANCE OPTION**

(Continued)

**SECTION B.1 CERTIFICATION OF INSTALLATION ACCORDING TO THE APPROVED
WATER USE APPLICATION USING PRESCRIPTIVE COMPLIANCE OPTION**

"I/we certify, by signing below, that based upon periodic site observations, the work has been completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Water Use Application Using Prescriptive Compliance Option."

**Signer of the Landscape Design Plan, signer of the Irrigation Plan, or a Licensed Landscape Contractor.*

Signature *		Date:
Name (Print):	Phone:	
License No. or Certification No.		
Title:	Email:	
Company:	Mailing Address (with city, state & zip):	

SECTION C.1 IRRIGATION SCHEDULING

Attach parameters for setting the irrigation schedule on controller.

SECTION D.1 SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach schedule of Landscape and Irrigation Maintenance.