

City of Greenfield



MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO)

Application & Submittal Guidance

Effective as of July 1, 2019

City of Greenfield
599 El Camino Real
Greenfield, CA 93927

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO)

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Introduction:

In September 2009, the state adopted the Water Conservation in Landscaping Act of 2006 (AB 1881). As of January 1, 2010, all local jurisdictions in California are required to implement this law, with the aim of reducing water consumption by landscaping.

Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the State's Model Water Efficient Landscape Ordinance (MWELO) through expedited regulation. The California Water Commission approved the revised MWELO Ordinance on July 15, 2015.

Which Projects are Subject to the Ordinance?

Landscaping is believed to use, on average, more than half the water used in urban areas. The state Department of Water Resources (DWR) has prepared a **Model Water Efficient Landscape Ordinance (MWELO)** for use by local jurisdictions to ensure a reduction of water waste and to stretch the state's limited water supplies.

Jurisdictions have a choice to adopt a local ordinance which is "at least as effective as" the MWELO, or to apply the MWELO. The City of Greenfield is currently applying the state's MWELO. The ordinance is available on the web at:

<http://www.water.ca.gov/wateruseefficiency/docs/MWELO09-10-09.pdf> . This guidance document contains the most important regulations from the ordinance, reformatted for ease of readability.

The new state ordinance contains specific requirements related to the design, installation, maintenance, and performance of new and rehabilitated landscapes. The designs must be based on regional conditions, including average rainfall and plants adapted to the local area, and irrigation that matches plants' water needs throughout the year.

The ordinance applies to all new or rehabilitated landscapes over 2,500 square feet in size for all commercial, industrial, and developer-installed residential landscaping. It also applies to homeowner-installed new residential landscapes over 5,000 square feet that need a building or landscape permit, or plan check review.

LANDSCAPE STANDARDS:

Effective December 1, 2015, the State's Model Water Efficient Landscape Ordinance (MWELo) went into effect and further clarifies Greenfield's current landscape requirements pursuant to the City's Chapter 17.54: Landscaping Ordinance.

The current 2015 Updated MWELo State ordinance can be found here:
<https://water.ca.gov/legacyfiles/wateruseefficiency/landscapeordinance/>.

Applicability of the MWELo includes:

- New construction projects with an aggregate landscape area of 500 square feet or larger that requires a building or landscape permit, plan check, or design review; or
- Rehabilitated landscape projects with an aggregate landscape area of 2,500 square feet or larger that requires a building or landscape permit, plan check, or design review; or
- Existing landscapes (limited to MWELo Chapter 2.7 §493, 493.1, 493.2); and
- New and rehabilitated cemeteries (limited to MWELo Chapter 2.7 §492.4, 492.11, 492.12); and
- Existing cemeteries (limited to MWELo Chapter 2.7 §493, 493.1, 493.2).
- Registered local, state or federal historical sites are exempt from the MWELo.

Submittal Requirements

All projects that require a building or grading permit, plan check or design review must comply with MWEL0. The City of Greenfield currently relies on both city staff and licensed consulting professionals to review and process all landscape documentation submittals. An electronic copy of all Landscape Documentation Package materials shall be provided at submittal, on USB drive or labeled CD.

Elements of the required Landscape Documentation Package to the city include:

1. Project Information (included in Building Permit Application or Uniform Application for design review or planning projects)
 - A separate summary of hydro zones must also be completed: **Hydro zone Summary Sheet (Attachment A)**.
2. Water Efficient Landscape Worksheet:
 - A detailed worksheet – **Water Efficient Landscape Worksheet (Attachment B)** – using resources described below to complete.
 - Water budget calculators for residential and non-residential landscape projects are located on the [State WEL0 webpage](#).
 - Evapotranspiration Adjustment Factor (ETAF) shall not exceed 0.55 for residential areas and shall not exceed 0.45 for non-residential areas.
 - ETAF for Special Landscape Areas (i.e. areas dedicated solely to edible plants, common use recreational areas, areas irrigated with recycled water, or water features using recycled water) shall not exceed 1.0.
 - Calculation of Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use shall use values for the project's geographic area from [Appendix A of the MWEL0: Reference ETo Tables](#)
 - Average irrigation efficiency is 0.75 for overhead spray devices and 0.81 for drip system devices.
 - Plant factors for Water Budget Calculations shall be from the current Water Use Classification of Landscape Species: [WUCOLS IV](#)
3. Soil Management Report
 - A soil analysis report must include soil texture, infiltration rate, pH, total soluble salts, sodium, percent organic matter, and recommendations.
 - Soil sampling shall be per laboratory protocols, including adequate sampling depth for the intended plants. Projects with multiple landscape installations (e.g. production homes) shall be at a rate of 1 in 7 lots.

4. Landscape Design Plan

- Such plans must include the required statement and be signed by a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape, per MWEL0.
- Landscaping shall be designed for efficient use of water for the proposed project, and shall adhere to MWEL0 (Chapter 2.7 §492.6) with regard to plant material, water features, soil preparation/mulch/amendments.
- At minimum, the landscape design plan shall identify:
 - i. Delineate and label each hydro zone;
 - ii. Each hydro zone as low, moderate, high, or mixed water use;
 - iii. All recreational areas;
 - iv. Areas permanently and solely dedicated to edible plants;
 - v. Areas irrigated with recycled water;
 - vi. Type of mulch and application depth;
 - vii. Soil amendments, type, and quantity;
 - viii. Type and surface area of water features;
 - ix. All hardscapes (pervious and non-pervious);
 - x. Location, installation details, and 24-hour retention or infiltration capacity of stormwater areas;
 - xi. Any associated rain harvesting or catchment technologies; and
 - xii. Applicable greywater discharge piping, system components and areas of distribution.

5. Irrigation Design Plan

- o Such plans must include the required statement and be signed by a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system, per MWEL0.
- Irrigation system shall be planned and designed for proper installation, management, and maintenance, and shall adhere to MWEL0 (Chapter 2.7 §492.7) with regard to design of the system and hydro zone.
- At minimum, the irrigation design plan shall contain:
 - i. Location and size of separate water meters;
 - ii. Location, type and size of all components of the irrigation system;
 - iii. Static water pressure at the point of connection to the public water supply;
 - iv. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;

- Recycled water irrigation systems as specified in MWEL0 (Chapter 2.7 §492.14).
6. Grading Design Plan
- Such plans must include the required statement and be signed by a licensed civil engineer or other licensed professional as authorized by law, per MWEL0.

Compliance Verification

As part of the City's sign-off process for landscape projects (e.g. grading permit or building permit), installation of the approved landscaping must be verified with an onsite inspection. Upon completion of the landscape project, the project applicant shall submit the following required items to the City of Greenfield:

1. [Certificate of Completion \(Attachment C\)](#), stating the project has been installed per the approved Landscape Documentation Package, acknowledged by the signer of the landscape design plan, signer of the irrigation design plan, or the licensed landscape contractor;
2. If applicable, "as-built" drawings to document any significant changes made in the field during construction;
3. Diagram of the irrigation plan showing hydro zones shall be kept with the irrigation controller for subsequent management purposes;
4. Irrigation scheduling parameters used to set the controller as specified in MWEL0 (Chapter 2.7 §492.10);
5. Landscape and irrigation maintenance schedule as specified in MWEL0 (Chapter 2.7 §492.11);
6. Irrigation audit report as specified in MWEL0 (Chapter 2.7 §492.12);
7. Soil analysis report (only if not submitted previously for design review).

Hydro zone Summary Sheet (Attachment A)

HYDROZONE SUMMARY SHEET

As part of the Landscape Documentation Package, this summary sheet must be completed by the project applicant. Please complete for each hydrozone, and include additional sheets as needed to clarify the square footage of landscape area per hydrozone.

Hydrozone*	Zone or Value	Irrigation Method*	Area (Sq. Ft.)	% of Landscape Area
TOTAL				100%

Summary by Hydrozone	Area (Sq. Ft.)	% of Landscape Area
High Water Use		
Moderate Water Use		
Low Water Use		
TOTAL		100%

***Hydrozone**

HW = High Water Use Plants
 MW = Moderate Water Use Plants
 LW = Low Water Use Plants

**** Irrigation Method**

MS = Micro-spray B=Bubbler
 S = Spray D = Drip
 R = Rotor O = Other

Water Efficient Landscape Worksheet (Attachment B)

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet must be filled out by the project applicant and is a required element of the Landscape Documentation Package.

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	

MAWA (Annual Gallons Allowed) = (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x 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.

- ^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 x 0.62 x ETAF x Area
 where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

Sitewide ETAF	(B+D) / (A ÷ C)
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Certificate of Completion (Attachment C)

CERTIFICATE OF COMPLETION

This certificate must be filled out by the project applicant upon completion of the landscape project.

PART 1. PROJECT INFORMATION SHEET

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

Project Address and Location

Street Address:	Parcel, tract, lot number, if available	
City:	Planning Permit #(S)	
State:		

Property Owner or his/her designee:

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

Property Owner

"I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

Property Owner Signature

Date

Please answer the questions below:

1. Date the Landscape Documentation Package was submitted to the local agency _____
2. Date the Landscape Documentation Package was approved by the local agency _____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the local water purveyor _____

PART 2. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE

"I/we, the undersigned, certify that based upon periodic site observations, the work has been completed in accordance with the applicable State and local landscape ordinances, and that installation of the landscape planting and irrigation systems 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

PART 3. IRRIGATION SCHEDULING

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

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE Attach schedule of Landscape and Irrigation Maintenance per ordinance Section 492.11.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per ordinance Section 492.12.

PART 6. SOIL MANAGEMENT REPORT

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section 492.6. Attach documentation verifying implementation of recommendations from soil analysis report per ordinance Section 492.6.

**Landscape Design Professional's Stamp
(if Applicable)**

