

**NUMBER:** 238.4

**TITLE:** AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MILPITAS AMENDING TITLE VIII, CHAPTER 5 OF THE MILPITAS MUNICIPAL CODE RELATING TO WATER CONSERVATION IN LANDSCAPING REGULATIONS

**HISTORY:** This Ordinance was introduced (first reading) by the City Council at its meeting of December 1, 2015, upon motion by Councilmember Giordano and was adopted (second reading) by the City Council at its meeting of \_\_\_\_\_, upon motion by \_\_\_\_\_. The Ordinance was duly passed and ordered published in accordance with law by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

APPROVED:

\_\_\_\_\_  
Mary Lavelle, City Clerk

\_\_\_\_\_  
Jose S. Esteves, Mayor

APPROVED AS TO FORM:

\_\_\_\_\_  
Christopher J. Diaz, City Attorney

## **RECITALS AND FINDINGS:**

**WHEREAS**, the City Council adopted Ordinance 238.3 on August 3, 2010, pursuant to the California Water Conservation in Landscaping Act, also known as the State Landscape Model Ordinance (“Model Ordinance”) that was implemented by a Statewide Landscape Task Force overseen by the California Urban Water Conservation Council. The California Water Conservation in Landscaping Act was amended pursuant to AB 2717 (Chapter 682, Stats. 2004) and AB 1881 (Chapter 559, Stats. 2006); and

**WHEREAS** on January 17, 2014, Governor Brown declared a State of Emergency to exist throughout the State of California due to severe drought conditions; and

**WHEREAS** on April 25, 2014, Governor Brown declared a Continued State of Emergency to exist throughout the State of California due to the ongoing drought; and

**WHEREAS**, Article X, Section 2 of the California Constitution and Section 100 of the California Water Code declare that the general welfare requires water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof; and

**WHEREAS**, a reliable minimum supply of potable water is essential to the public health, safety and welfare of the people and the economy of the City of Milpitas; and

**WHEREAS**, the State Legislature has identified the provision of a more reliable water supply and the protection, restoration and enhancement of the Delta ecosystem as a high priority for the State. Pursuant to this, in November 2009, the State Legislature passed Senate Bill 7 (7<sup>th</sup> Extraordinary Session) requiring certain urban water suppliers to reduce per capita urban water use by 20% by the year 2020. Accordingly, the City Council finds that implementation of this Ordinance is consistent with the policies and goals established by the State Legislature in enacting SB 7 (7<sup>th</sup> Extraordinary Session); and

**WHEREAS**, the California Water Commission approved an updated State Model Water Efficient Landscape Ordinance on July 15, 2015, with an effective date of December 1, 2015; and

**WHEREAS**, Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, policy, sanitary, and other ordinances and regulations not in conflict with general laws; and

**WHEREAS**, the City Council finds and determines that this Ordinance is not subject to the California Environmental Quality Act (Public Resources Code, Section 2100 *et seq.*) (“CEQA”) pursuant to Section 15307 (the activity assures the maintenance, restoration, enhancement, or protection of a natural resource) and Section 15378 (b)(2) (the activity is not a project as it involves general policy and procedure making) of the State CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, since it makes and implements policies and procedures to ensure that water resources are conserved by reducing water consumption through the establishment of a structure for planning, designing, installing, maintaining and managing water-efficient landscapes; and

**WHEREAS**, the adoption and enforcement of this Ordinance is necessary to manage the City of Milpitas’ potable water supply in the short and long term and to avoid or minimize the effect of drought and shortage within the City of Milpitas. This Ordinance is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare.

**NOW, THEREFORE**, the City Council of the City of Milpitas does ordain as follows:

### **SECTION 1. RECORD AND BASIS FOR ACTION**

The City Council has duly considered the full record before it, which may include, but is not limited to such things as the City staff report, testimony by staff and the public, and other materials and evidence submitted or provided to the City

Council. Furthermore, the recitals set forth above are found to be true and correct and are incorporated herein by reference.

## **SECTION 2. AMENDMENT OF MILPITAS MUNICIPAL CODE CHAPTER 5, TITLE VIII**

Chapter 5 of Title VIII of the Milpitas Municipal Code is hereby repealed in its entirety and replaced with the text below to read as follows:

### **CHAPTER 5 - WATER EFFICIENT LANDSCAPES**

#### **Section 1 - GENERAL PROVISIONS**

##### **VIII-5-1.01 - FINDINGS**

The City Council has found:

- A. That the limited supply of City waters are subject to ever increasing demands;
- B. That the City's economic prosperity depends on adequate supplies of water;
- C. That City policy promotes conservation and efficient use of water;
- D. That landscapes provide recreation areas, clean the air and water, prevent erosion, offer fire protection, and replace ecosystems displaced by development; and
- E. That landscape design, installation, and maintenance can and should be water efficient.

##### **VIII-5-1.02 - PURPOSE**

- A. Consistent with the findings, the purpose of this Chapter is to:
  - 1. Promote the values and benefits of landscaping practices that integrate and go beyond the conservation and efficient use of water;
  - 2. Establish a structure for designing, installing, and maintaining water efficient landscapes in new construction and rehabilitated projects by encouraging the use of a watershed approach that requires cross-sector collaboration of industry, government and property owners to achieve the many benefits possible;
  - 3. Establish provisions for water management practices and water waste prevention for established landscapes.
  - 4. Insure efficient landscape irrigation water use. This Chapter is applicable to all new project landscapes 500 square feet or greater, and rehabilitated landscapes 2,500 square feet or greater, all common area landscapes in single-family and multi-family subdivisions or planned unit developments, and all existing landscapes one acre or more in size, irrigated with potable water.
- B. Landscapes that are planned, designed, installed, managed and maintained with the watershed based approach can improve California's environmental conditions and provide benefits and realize sustainability goals. Such landscapes will make the urban environment resilient in the face of climatic extremes. Consistent with the findings and purpose of this Chapter, conditions in the urban setting will be improved by:
  - 1. Creating the conditions to support life in the soil by reducing compaction, incorporating organic matter that increases water retention, and promoting productive plant growth that leads to more carbon storage, oxygen production, shade, habitat and esthetic benefits;

2. Minimizing energy use by reducing irrigation water requirements, reducing reliance on petroleum based fertilizers and pesticides, and planting climate appropriate shade trees in urban areas;
3. Conserving water by capturing and reusing rainwater and graywater wherever possible and selecting climate appropriate plants that need minimal supplemental water after establishment;
4. Protecting air and water quality by reducing power equipment use and landfill disposal trips, selecting recycled and locally sourced materials, and using compost, mulch and efficient irrigation equipment to prevent erosion;
5. Protecting existing habitat and creating new habitat by choosing local native plants, climate adapted non-natives and avoiding invasive plants, utilizing integrated pest management with least toxic methods as the first course of action.

## Section 2 – DEFINITIONS

### VIII-5-2.01 - DEFINITIONS

The words used in this Chapter have the meanings set forth below:

1. **Antidrain valve or check valve:** a valve located under a sprinkler head to hold water in the system so it minimizes drainage from the lower elevation sprinkler heads.
2. **Application rate:** the depth of water applied to a given area, usually measured in inches per hour.
3. **Applied water:** the portion of water supplied by the irrigation system to the landscape.
4. **Automatic irrigation controller:** a mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application. Automatic irrigation controllers are able to self-adjust and schedule irrigation events using either evapotranspiration (weather based) or soil moisture data.
5. **Backflow prevention device:** a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.
6. **Certified Irrigation Designer:** a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the U.S. Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer Program.
7. **Certified Landscape Irrigation Auditor (CLIA):** a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the U.S. Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Associations Certified Landscape Irrigation Auditor program.
8. **Certified or Authorized Professional:** a certified irrigation designer, a certified landscape irrigation auditor, a licensed landscape architect or a licensed landscape contractor, or any other person authorized to design a landscape.
9. **City of Milpitas (City):** the entity that is responsible for adopting and implementing this Chapter. The City is also responsible for enforcement of this Chapter, including but not limited to: approval of a permit and plan check or design review or a project.
10. **Compost:** the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

11. **Conversion factor (0.62):** a number that converts the maximum applied water allowance from inches per acre per year to gallons per square foot per year (1 inch/acre/yr = 0.62 gallons/sf/yr). The conversion factor is calculated as follows:
 

325,829 gallons/43,560 square feet/12 inches = 0.62  
 325,829 gallons = 1 acre-foot  
 43,560 square feet = 1 acre  
 12 inches = 1 foot

To convert gallons per year to 100 cubic feet per year, another common billing unit for water, divide gallons per year by 748 (748 gallons = 100 cubic feet).
12. **Distribution Uniformity:** the measure of uniformity of irrigation water over a defined area.
13. **Ecological restoration project:** a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
14. **Effective precipitation or usable rainfall:** the portion of total precipitation that is used by the plants. Precipitation is not a reliable source of water but can contribute to some degree toward the water needs of the landscape. For the purpose of this document, “effective precipitation” is 25 percent of local annual mean precipitation.
15. **Emitter:** drip irrigation fittings that deliver water slowly from the system to the soil.
16. **Established landscape:** the point at which plants in the landscape have developed roots into the soil adjacent to the root ball.
17. **Establishment period:** the first year after installing the plant in the landscape; or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.
18. **Estimated Total Water Use (ETWU):** the total water used for the landscape as described in VIII-5-3.03A.
19. **ET adjustment factor (ETAF):** a factor of 0.55 for residential areas and 0.45 for non-residential areas, 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. The ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.
20. **Evapotranspiration:** the quantity of water evaporated from adjacent soil surfaces and other surfaces and transpired by plants during a specified time.
21. **Flow rate:** the rate at which water flows through pipes, valves and emission devices (gallons per minute, gallons per hour, or cubic feet per second).
22. **Flow sensor:** an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of flow receiving signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.
23. **Friable:** a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.
24. **Fuel Modification Plan Guideline:** guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

25. **Graywater:** untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. “Graywater” includes but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.
26. **Hardscape:** any durable material (pervious or non-pervious).
27. **Hydrozone:** a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.
28. **Infiltration rate:** the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).
29. **Invasive Plant Species:** 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. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.
30. **Irrigation Audit:** 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 runoff that causes overland flow, and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the Irrigation Association’s Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency “Watersense” labeled auditing program.
31. **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 irrigation efficiency for purposes of this Chapter is 0.75 for overhead spray devices and 0.81 for drip systems.
32. **Landscape Architect:** a person who holds a license to practice landscape architecture in California as further defined by the California Business and Professions Code, Section 5615.
33. **Landscape irrigation audit:** a process to perform site inspection, evaluate irrigation systems, and develop efficient irrigation schedules.
34. **Landscape area:** all 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 areas designated for non-development (e.g. open spaces and existing native vegetation).
35. **Landscape Contractor:** a person licensed by the State of California to construct, maintain, repair, install or subcontract the development of landscape systems.
36. **Landscape Project:** total area of landscape in a project as defined in “landscape area” for the purpose of this Chapter.
37. **Landscape Water Meter:** an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.
38. **Lateral line:** the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

39. **Local annual mean precipitation:** the Department of Water Resources 20-year historical rainfall data.
40. **Low Volume Irrigation:** the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as a drip, drip lines and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.
41. **Main line:** the pressurized pipeline that delivers water from the water source to the valve or outlet.
42. **Master shut-off valve:** an automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.
43. **Maximum Applied Water Allowance (MAWA):** for design purposes, the upper limit of annual applied water for the established landscaped area is specified in VIII-5-3.03A. It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscaped area. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscaped Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0.  $MAWA = (ET_o) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$ .
44. **Median:** an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.
45. **Mulch:** any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, or decomposed granite left loose and applied to the soil surface to reduce evaporation, suppress weeds, moderate soil temperature, and prevent soil erosion.
46. **Native Plant:** a plant indigenous to a specific area of consideration. For the purposes of these guidelines, the term shall refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community(ies) of the project's vicinity.
47. **New Construction:** construction of a new building or structure containing a landscape or other new land improvement, such as a park, playground, or greenbelt without an associated building.
48. **No-Water Using Plant:** a plant species with water needs that are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established.
49. **Non-Residential Landscape:** landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreation areas.
50. **Operating pressure:** the pressure at which parts of an irrigation system are designed to operate.
51. **Overhead Sprinkler Irrigation System:** System that delivers water through the air (e.g. spray heads and rotors).
52. **Overspray:** the water which is delivered beyond the landscaped area, wetting pavements, walks, structures, or other non-landscaped areas.
53. **Parkway:** the area between a sidewalk and the curb or traffic lane. It may be planted or unplanted, and with or without pedestrian egress.
54. **Permit:** an authorizing document issued by the City of Milpitas for a new construction or rehabilitated landscape.

55. **Pervious:** any surface or material that allows the passage of water through the material and into the underlying soil.
56. **Plant factor:** a factor that when multiplied by reference evapotranspiration, estimates the amount of water needed by plants. For purposes of this Chapter, the plant factor range for very low water use plants is 0 to 0.1, the plant factor for low water-using plants range from 0.1 to 0.3, the plant factor range for moderate water-using plants is 0.4 to 0.6, and the plant factor range for high water use plants the range is 0.7 to 1.0. Plant factors cited in this Chapter are derived from the publication “Water Use Classification of Landscape Species.” Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources (DWR).
57. **Project Applicant:** the individual or entity submitting a Landscape Documentation Package required by the Milpitas Municipal Code, Title VIII, Chapter 5, to request a permit, plan check or design review from the City or requesting new or expanded water service from the City. The project applicant may be the property owner or his/her designee.
58. **Rain sensor or rain sensing device:** a system which automatically shuts off the irrigation system when it rains.
59. **Record drawing or as-builts:** 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.
60. **Recreational area:** areas, excluding private single family residential areas, designated for active play, recreation, or public assembly in parks, sports fields, picnic grounds, amphitheaters, or golf course tees, fairways, roughs, surrounds, and greens.
61. **Recycled water, reclaimed water, or treated sewage effluent water:** treated or recycled wastewater of a quality suitable for non-potable uses such as landscape irrigation; not intended for human consumption.
62. **Reference evapotranspiration (ET<sub>o</sub>):** a standard measurement of environment parameter which affect the water use of plants. ET<sub>o</sub> is given in inches per day, month, or year as represented in VIII-5-6 and is an estimate of the evapotranspiration of a large field of 4- to 7-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis in determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.
63. **Rehabilitated landscape:** any re-landscaping project that requires a permit, plan check, or design review, meets the requirements in VIII-5-3.01, and the modified landscape area is equal to or greater than 2,500 square feet.
64. **Residential Landscape:** landscapes surrounding single or multifamily homes.
65. **Runoff:** water which is not absorbed by the soil or landscape to which it is applied and flows from the 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 severe slope.
66. **Soil moisture sensing device:** a device that measures the amount of water in the soil.
67. **Soil texture:** the classification of soil based on the percentage of sand, silt, and clay in the soil.
68. **Special Landscape Area (SLA):** an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.
69. **Sprinkler head or spray head:** a device which sprays water through a nozzle.

70. **Static water pressure:** the pipeline or municipal water supply pressure when water is not flowing.
71. **Station:** an area served by one valve or by a set of valves that operate simultaneously.
72. **Submeter:** a metering device to measure water applied to the landscape that is installed after the primary utility water meter.
73. **Turf:** a surface layer of earth containing mowed grass with its root. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are cool-season grasses. Bermuda grass, Kikuyu grass, Seashore paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.
74. **Valve:** a device used control the flow of water in the irrigation system.
75. **Water Feature:** a design element where open water performs 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 wastewater treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculated.
76. **Watering window:** the time of day irrigation is allowed.
77. **WUCOLS:** means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension, the Department of Water Resources 2014.

### Section 3 - PROVISIONS FOR NEW OR REHABILITATED LANDSCAPES

#### VIII-5-3.01 - APPLICABILITY

- A. Except as provided in VIII-5-3.01E, below, this Chapter shall apply to:
  1. All new construction projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review;
  2. All proposed rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review;
  3. All existing landscapes limited to Section 4, Provision for Existing Landscapes, VIII-5-4;
  4. All cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections VIII-5-3.03A, VIII-5-3.03F, and VIII-5-3.03G and existing cemeteries are limited to Section 4, Provision for Existing Landscapes, VIII-5-4.
- B. Projects subject to this Section shall conform to the provisions in this Chapter.
- C. Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of this Chapter or conform to the prescriptive measures contained in Section 7- Prescriptive Compliance Option.
- D. For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less that 2,500 square feet of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to VIII-7.01-B-5.
- E. This Chapter shall not apply to:
  1. registered local, State or federal historical sites;
  2. ecological restoration projects that do not require a permanent irrigation system;

3. mined-land reclamation projects that do not require a permanent irrigation system; or
4. existing plant collections, as part of botanical gardens and arboretums open to the public.

### **VIII-5-3.02 - LANDSCAPE DOCUMENTATION PACKAGE**

- A. A copy of the landscape documentation package conforming to this Chapter shall be submitted to the City Engineer or his or her designee. No permit shall be issued until the City reviews and approves the landscape documentation package.
- B. A copy of the approved landscape documentation package shall be provided to the property owner or site manager along with the record drawings and any other information normally forwarded to the property owner or site manager.
- C. The landscape documentation package shall include the following elements, which are described in VIII-5-3.03 and 5.01:
  1. Water Efficient Landscape Worksheet
  2. Soil Management Report
  3. Landscape Design Plan
  4. Irrigation Design Plan
  5. Effective Precipitation Disclosure Statement
  6. Certificate of Completion
  7. Landscape and Irrigation Maintenance Schedules
  8. Irrigation Audit Report

### **VIII-5-3.03 ELEMENTS OF LANDSCAPE DOCUMENTATION PACKAGE**

#### **A. Water Efficient Landscape Worksheet**

1. A project applicant shall complete the Water Efficient Landscape Worksheet shown on the following page, which contains information on the plant factor, irrigation method, irrigation efficiency, and area associated with each hydrozone. Calculations are then made to show that the evapotranspiration adjustment factor (ETAF) for the landscape project does not exceed a factor of 0.55 for residential areas and 0.45 for non-residential areas, exclusive of Special Landscape Areas. The ETAF for a landscape project is based on the plant factors and irrigation methods selected. The Maximum Applied Water Allowance is calculated based on the maximum ETAF allowed (0.55 for residential areas and 0.45 for non-residential areas) and expressed as annual gallons required. The Estimated Total Water Use (ETWU) is calculated based on the plants used and irrigation method selected for the landscape design. ETWU must be below the MAWA.
2. In calculating the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the ETo values from the Reference Evapotranspiration Table in Section 6.
3. Water budget calculations shall adhere to the following requirements:
  - a. Water Budget Calculations must be completed by a certified or authorized professional.
  - b. The plant factor used shall be from WUCOLS or from horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources (DWR). The plant factor ranges from 0.0 to 0.1 for very low water using plants, 0.1 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.
  - c. All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low hydrozone.
  - d. All Special Landscape Areas (SLA) shall be identified and their water use calculated as shown on the Water Efficient Landscape Worksheet.
  - e. The referenced evapotranspiration adjustment factor (ETAF) for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

## WATER EFFICIENT LANDSCAPE WORKSHEET

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

Reference Evapotranspiration (ET<sub>o</sub>)

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

<sup>a</sup>Hydrozone #/Planting Description

E.g

1.) front lawn

2.) low water use plantings

3.) medium water use planting

<sup>b</sup>Irrigation Method

overhead spray

or drip

<sup>c</sup>Irrigation Efficiency

0.75 for spray head

0.81 for drip

<sup>d</sup>ETWU (Annual Gallons Required)

=  $ET_o \times 0.62 \times ETAF \times Area$

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

<sup>e</sup>MAWA (Annual Gallons Allowed) =  $(ET_o) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$

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)
<b>Average ETAF</b>	<b>B ÷ A</b>

**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)
<b>Sitewide ETAF</b>	<b>(B+D) ÷ (A+C)</b>

## **B. Soil Management Report**

1. In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by the project applicant, or his/her designee, as follows:
  - a. Submit soil samples to a laboratory for analysis and recommendations.
    - i. Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
    - ii. The soil analysis shall include:
      - (1) soil texture;
      - (2) infiltration rate determined by laboratory test or soil texture infiltration rate table;
      - (3) pH;
      - (4) total soluble salts;
      - (5) sodium;
      - (6) percent organic matter; and
      - (7) recommendations.
  - b. In projects with multiple landscape installations (i.e. production home developments) a soil sampling rate of 1 in 7 lots or approximately 15% will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to 1 in 7 lots.
2. The project applicant, or his/her designee, shall comply with one of the following:
  - a. If significant mass grading is not planned, the soil analysis report shall be submitted to the City as part of the Landscape Documentation Package; or
  - b. If significant mass grading is planned, the soil analysis report shall be submitted to the City as part of the Certificate of Completion.
3. The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.
4. The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the City with Certificate of Completion.

## **C. Landscape Design Plan**

The components of the Landscape Design 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. A landscape design plan meeting the following requirements shall be submitted as part of the landscape documentation package.

### **1. Plant Material**

- a. Any plant may be selected for the landscape, providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance. Methods to achieve water efficiency shall include one or more of the following:
  - i. protection and preservation of native species and natural vegetation;
  - ii. selection of water-conserving plant, tree and turf species, especially local native plants;
  - iii. selection of plants based on local climate suitability, disease and pest resistance;
  - iv. selection of plants based on applicable local tree ordinances or tree shading guidelines, and size maturity as appropriate for the planting area; and
  - v. selection of plants from local and regional landscape program plant lists;
  - vi. selection of plants from local Fuel Modification Plan Guidelines.
- b. Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in VIII-5-3.03D (3) (d).

- c. Plants shall be selected appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the site. Protection and preservation of native species and natural areas is encouraged. The planting of trees is encouraged wherever it is consistent with the other provisions of this Chapter. Methods to achieve water efficiency shall include one or more of the following:
- i. use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
  - ii. recognize the horizontal attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; allow for adequate soil volume for healthy root growth; and
  - iii. consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- d. 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).
- e. High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.
- f. A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire prone plant materials and highly flammable mulches. Refer to the local Fuel Modification Plan guidelines.
- g. The use of invasive plant species, such as those listed by the California Invasive Plant Council, is strongly discouraged.
- h. The architectural guidelines of a common interest development shall not prohibit or include conditions that have the effect of prohibiting the use of low- and/or no-water use plants as a group.
2. Water Features
- a. Re-circulating water shall be used for decorative water features.
  - b. Where available, recycled water shall be used as a source for decorative water features.
  - c. Pool and spa covers are required.
  - d. Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.
3. Soil Preparation, Mulch and Amendments
- a. Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.
  - b. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see VIII-5-3.03B).
  - c. 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 6 inches of soil are exempt from adding compost and tilling.

d. 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 application where mulch is contraindicated. To provide habitat for beneficial insects and other wildlife, up to 5% of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.

e. Stabilizing mulching products shall be used on slopes that meet current engineering standards.

f. The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.

g. Organic mulch materials made from recycled or post-consumer shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available. Organic mulches are not required where prohibited by local Fuel Modification Plan Guidelines or other applicable local ordinances.

#### 4. Landscape Design Plan Specifications

The landscape design plan shall be drawn on project base sheets at a scale that accurately and clearly identifies:

- a. Delineation and labels for each hydrozone by number, letter, or other method;
- b. Designation of hydrozones, identifying each as low-, moderate-, high-water, or mixed use;
- c. Recreational areas;
- d. Areas permanently and solely dedicated to edible plants;
- e. Areas irrigated with recycled water;
- f. Soil amendments, type, and quantity;
- g. Hardscapes (pervious and non-pervious);
- h. Landscape materials, trees, shrubs, ground cover, turf, and other vegetation. Planting symbols shall be clearly drawn and plants labeled by botanical name, common name, container size, spacing, and quantities of each group of plants indicated;
- i. Property lines and street names;
- j. Streets, driveways, walkways, paved areas, and any other pervious and non-pervious hardscapes;
- k. Pools, ponds, water features, fences, and retaining walls. Identify the type and surface area of water features;
- l. Existing and proposed buildings and structures including elevation if applicable;
- m. Natural features including, but not limited to, rock outcroppings, existing trees, shrubs that will remain;
- n. Tree staking, plant installation, soil preparation details, and any other applicable planting and installation details;
- o. A calculation of the total landscaped area;
- p. Type of mulch and application depth;
- q. Location, installation details, and 24-hour retention or infiltration capacity of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Project applicants shall refer to the City of Milpitas or Regional Water Quality Control Board for information on any applicable stormwater technical requirements;
- r. Any applicable rain harvesting or catchment technologies;
- s. Any applicable graywater discharge piping, system components and area(s) of distribution;
- t. And contains 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”;
- u. And bears the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape.

#### **D. Irrigation Design Plan**

This Section applies to landscaped areas requiring permanent irrigation, not areas that require temporary irrigation solely for the plant establishment period. The irrigation design portion shall be prepared by, and bear the

signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or that of a certified or authorized professional. An irrigation design plan meeting the following conditions shall be submitted as part of the Landscape Documentation Package.

1. System

- a. **Runoff and Overspray.** Soil types and infiltration rate shall be considered when designing irrigation systems. All irrigation systems shall be designed to minimize runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures. Proper irrigation equipment and schedules, including features such as repeat cycles, shall be used to closely match application rates to infiltration rates, therefore, minimizing runoff. Low volume irrigation (less than 0.75 inches per hour) is required in mulched areas, in areas with slopes greater than 25%, and within 24-inches of a non-permeable surface, or in areas that are less than ten feet wide in any direction.
- b. **Equipment:** Location, type and size of all components of the irrigation system shall be noted
- c. **Water meters.** Landscape water meters, defined as dedicated water service meters, shall be installed for all non-residential irrigated landscapes of 1,000 square feet or greater and residential (including single family) irrigated landscapes of 2,500 square feet or greater. A privately owned meter or submeter is only allowed upon approval of the City Engineer.
- d. **Controllers.** Automatic irrigation control systems utilizing either evapotranspiration or soil moisture sensor data using non-volatile memory shall be required for all irrigation systems and must be able to accommodate all aspects of the design.
- e. **Valves.** Plants which require different amounts of water shall be irrigated by separate valves. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use. Where feasible, trees shall be placed on separate valves from shrubs, groundcover and turf. Antidrain (check) valves shall be installed in strategic points to minimize or prevent low-head drainage.
- f. **Sprinkler heads.** Heads and emitters shall have consistent application rates within each control valve circuit. Sprinkler heads shall be selected for proper area coverage, application rate, operating pressure, adjustment capability, and ease of maintenance.
- g. **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.
- h. **Soil Moisture Sensing Devices.** It is recommended that soil moisture sensing devices be considered where appropriate.
- i. **Backflow Prevention Assemblies** Backflow protection shall be in accordance with Chapter 3, Title VIII of the Milpitas Municipal Code which establishes backflow prevention and cross-connection control.
- j. **Pressure Regulating Devices.** If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
- k. **Flow Sensors.** Flow sensors that detect high flow conditions created by system damage or malfunction are required for all non-residential landscapes and residential landscapes 5,000 sq. feet or larger.
- l. **Master Shut-off Valves.** Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.
- m. Manual shut-off valves (such as a gate valve, ball valve, or butter-fly 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 line break) or routine repair.

- n. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turfgrass.
- o. Relevant information from the soil management plan, such as soil typed infiltration rate, shall be utilized with designing irrigation systems.
- p. The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
- q. The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria regarding the Maximum Applied Water Allowance.
- r. All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/ International Code Council's (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 ABSABE/ICC 802-2014.
- s. Sprinkler heads and other emissions devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
- t. Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
- u. Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur.
- v. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces 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:
  - i. The landscape area is adjacent to permeable surfacing and no runoff occurs; or
  - ii. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
  - iii. The irrigation designer specifies an alternative design or technology, as part of the landscape documentation package. Prevention of overspray must be confirmed in the irrigation audit.

## 2. Irrigation Design Plan Specifications

Irrigation system shall be designed to be consistent with hydrozones.

The irrigation design plan shall be drawn on project base sheets. It should be separate from, but use the same format as the landscape design plan. The scale shall be the same as that used for the landscape design plan described in VIII-5-3.03C-4.

The irrigation plan shall accurately and clearly identify:

- a. Location and size of separate water meters for the landscape.
- b. Location, type, and size of all components of the irrigation system, including automatic irrigation controllers, main and lateral lines, valves, sprinkler heads, pressure regulators, moisture sensing devices, rain switches, quick couplers, and backflow prevention devices.
- c. Static water pressure at the point of connection to the public water supply.
- d. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (psi) for each station.

- e. Recycled water irrigation systems as specified in the VIII-5-3.03I
- f. 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”; and
- g. The signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system.

### 3. Hydrozone

- a. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
- b. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within the hydrozone.
- c. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf to facilitate the appropriate irrigation of trees. The mature size and extent of the root zone shall be considered when designing irrigation for the tree.
- d. Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:
  - i. plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
  - ii. the plant factor of the higher water using plant is used for the calculations.
- e. Individual hydrozones that mix high and low water use plants shall not be permitted.
- f. 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 on the Water Efficient Landscape Worksheet.

### 4. Irrigation Schedules

Irrigation schedules satisfying the following conditions shall be submitted as part of the Landscape Documentation Package. The irrigation schedule shall:

- i. Include run time (in minutes per cycle), suggested number of cycles per day, and frequency of irrigation for each station; and
- ii. Provide the amount of applied water (in hundred cubic feet, gallons, or in whatever billing units the local water supplier uses) recommended on a monthly and annual basis.
- iii. With the exception of testing, maintenance, and audits, and unless superseded by VIII-6, the landscape irrigation shall be scheduled during non-daylight hours, 8:00 p.m. to 10:00 a.m., unless unfavorable weather prevents it or otherwise renders it unnecessary.

## **E. Certificate of Completion**

The Certificate of Completion, Parts 1-6, shall be submitted to the City and to the Owner of Record. The City shall receive the signed Certificate and approve or deny the Certificate of Completion.

A licensed Landscape Architect, Irrigation Designer or Licensed or Certified Professional in Horticulture or in a field related to Horticulture shall provide a certificate of completion to the City and to the owner of record.

## CERTIFICATE OF COMPLETION

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

### PART 1. PROJECT INFORMATION SHEET

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)	
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 City \_\_\_\_\_
2. Date the Landscape Documentation Package was approved by the City \_\_\_\_\_
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the City \_\_\_\_\_

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

"I/we certify that based upon periodic site observations, the work has been completed in accordance with Chapter 5 of Title VIII of the Milpitas Municipal Code 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.

**PART 3. IRRIGATION SCHEDULING**

Attach parameters for setting the irrigation schedule on controller per Subsection VIII-5-3.03D (A) (4).

**PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE**

Attach schedule of Landscape and Irrigation Maintenance per Subsection VIII-5-3.03F.

**PART 5. LANDSCAPE IRRIGATION AUDIT REPORT**

Attach Landscape Irrigation Audit Report per Subsection VIII-5-3.03G.

**PART 6. SOIL MANAGEMENT REPORT**

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per Subsection VIII-5-3.03C.  
 Attach documentation verifying implementation of recommendations from soil analysis report per Subsection VIII-5-3.03C.

## **F. Landscape and Irrigation Maintenance Schedule**

A regular maintenance schedule satisfying the following conditions shall be submitted as part of the Certificate of Completion:

1. Landscape shall be maintained to ensure water efficiency. A regular maintenance schedule shall include, but not be limited to, routine inspection, checking, auditing, adjusting, and repairing irrigation equipment; resetting the automatic irrigation controller; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning, weeding in all landscaped areas; topdressing with compost; and removing obstructions to emission devices.
2. Whenever possible, repair of irrigation equipment shall be done with the originally specified materials or their equivalents or with components with greater efficiency.
3. A project applicant is encouraged to implement established landscape industry sustainable Best Practices for all landscape maintenance activities.

## **G. Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis**

A schedule of landscape irrigation audits, satisfying the following conditions shall be submitted to the City as part of the Landscape Documentation Package.

1. Landscape irrigation audits for new or rehabilitated landscapes shall be conducted by a Certified Landscape Irrigation Auditor (CLIA) after the landscaping and irrigation system has been installed.
2. For new construction and rehabilitated landscape projects installed after December 1, 2015, at a minimum, audits shall include inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming.
3. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape.
4. In large projects or projects with multiple landscape installations (i.e. production home developments) an auditing rate of 1 in 7 lots or approximately 15% will satisfy this requirement.
5. The City has the right to administer ongoing landscape efficiency requirements that may include, but are not limited to, irrigation audits, surveys, water use analysis, post installation landscape inspection and water budget calculations to evaluate compliance with the MAWA (applicable to those who use the Water Budget Calculation Option). Owners of applicable landscapes shall comply, at the owner's expense, with the City's ongoing landscape efficiency requirements when deemed necessary by the City, to maintain landscape irrigation facilities in order to prevent waste water and runoff.

## **H. Recycled Water**

1. The installation of recycled water irrigation systems shall be required to allow for the current and future use of recycled water.
2. The recycled water irrigation systems shall be designed and operated in accordance with all local and State codes.
3. Landscape using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

## **I. Graywater Systems**

Graywater systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All graywater systems shall conform to the California Plumbing Code (Title 24, Part 5, Chapter 16) and any applicable City standards.

#### **J. Stormwater Management and Rainwater Retention**

1. Stormwater management practices minimize runoff and increase infiltration which recharges groundwater and improves water quality. Implementing stormwater best management practices into the landscape and grading design plans to minimize runoff and to increase on-site rainwater retention and infiltration are encouraged.
2. Project applicants shall refer to Milpitas Municipal Code, Title XI, Chapter 16 for information on any applicable stormwater technical requirements.
3. All planted landscape areas are required to have friable soil to maximize water retention and infiltration. Refer to VIII-5-3.03C (3).

### **VIII-5-3.04 - PUBLIC EDUCATION**

#### **A. Publications**

The City will maintain public information materials on water efficient landscaping at the public information counter at City Hall.

#### **B. Model Homes**

At least one model home that is landscaped in each project consisting of eight or more homes shall demonstrate via signs and information the principles of water efficient landscape described in this Chapter.

1. Signs shall be used to identify the model as an example of water efficient landscape and featuring elements such as hydrozones, irrigation equipment, and others which contribute to the overall water efficient theme. Signage shall include information about the site water use as designed per the local ordinance; specify who designed and installed the water efficient landscape; and demonstrate low water use approaches to landscaping such as using native plants, graywater systems, and rainwater catchment systems.
2. Information shall be provided about designing, installing, and maintaining water efficient landscapes.

### **Section 4 - PROVISIONS FOR EXISTING LANDSCAPES**

#### **VIII-5-4.01 - WATER MANAGEMENT**

This Section shall apply to all existing landscapes that were installed before December 1, 2015 and are over one acre in size.

1. For all existing landscapes installed before December 1, 2015, that are over one acre in size, and that have a water meter, the City shall administer programs that may include, but not be limited to, 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 landscapes shall be calculated as:  $MAWA = (0.8)(ET_o)(LA)(0.62)$ .
2. For all existing landscapes installed before December 1, 2015, that are over one acre in size, and that do not have a water meter, the City shall administer programs that may include, but not be limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.
3. All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

#### **VIII-5-4.02 - WATER WASTE PREVENTION**



\*the values in this table were derived from:

1. California Irrigation management Information System (CIMIS); and
2. Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999; and
3. Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources (1987) Bulletin 1922; and
4. Determining Daily reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426.

## **SECTION 7 - PRESCRIPTIVE COMPLIANCE OPTION**

### **VIII-5-7.01 - PRESCRIPTIVE COMPLIANCE OPTION**

- A. These prescriptive requirements may be used as a compliance option to the Water Efficient Landscape Ordinance, where permitted under VIII-5-3.01C.
- 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 the property owner
    - h. Applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option to the Water Efficient Landscape Ordinance."
  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 materials 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 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 subsurface irrigation or by other technology that creates no overspray or runoff.
  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.
  - g. For non-residential projects with landscape areas of 1,000 sq. ft. or more, a private submeter(s) to measure landscape water shall be installed.
6. 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.

**SECTION 8 - PENALTIES**

**VIII-5-8.01 - PENALTIES**

Any person or persons, company, corporation or association, who shall violate any of the provisions of this Chapter or fail to comply therewith, or who shall violate or fail to comply with any order made thereunder, shall severally for each and every violation and non-compliance respectively, be guilty of an infraction, punishable in accordance with the provisions of I-1-4.09-1 of the Milpitas Municipal Code. The imposition of one fine for any violation shall not excuse the violation or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time; and when not otherwise specified, each day that prohibited conditions are maintained shall constitute a separate offense.

**SECTION 3 SEVERABILITY**

The provisions of this Ordinance are separable, and the invalidity of any phrase, clause, provision or part shall not affect the validity of the remainder.

**SECTION 4 EFFECTIVE DATE**

In accordance with Section 36937 of the Government Code of the State of California, this Ordinance shall take effect thirty (30) days from and after the date of its passage. The City Clerk of the City of Milpitas shall cause this Ordinance or a summary thereof to be published in accordance with Section 36933 of the Government Code of the State of California.