



# TOWN OF APPLE VALLEY

## TOWN COUNCIL STAFF REPORT

To: Honorable Mayor and Town Council Date: January 12, 2016

From: Pam Cupp, Associate Planner Item No: 5  
Planning Department

Subject: **ADOPT ORDINANCE NO. 479 – AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF APPLE VALLEY, TO AMEND TITLE 9 "DEVELOPMENT CODE" OF THE TOWN OF APPLE VALLEY MUNICIPAL CODE BY AMENDING CHAPTER 9.75 "WATER CONSERVATION/LANDSCAPING REGULATIONS" TO COMPLY WITH THE STATE OF CALIFORNIA CODE OF REGULATIONS TITLE 23, DIVISION 2, CHAPTER 2.7 "MODEL WATER EFFICIENT LANDSCAPE ORDINANCE" AND TO ADD LANDSCAPING STANDARDS APPLICABLE TO SINGLE-FAMILY, INFILL DEVELOPMENT**

T.M. Approval: \_\_\_\_\_

Budgeted Item:  Yes  No  N/A

### RECOMMENDED ACTION:

That the Town Council adopt Ordinance No. 479.

### SUMMARY:

At its December 8, 2015 meeting, the Town Council reviewed and introduced Ordinance No. 479, which amends the Development Code Chapter 9.75 "Water Conservation/Landscaping Regulations" for compliance with the State of California's Model Water Efficient Landscape Ordinance and to add landscaping standards applicable to single-family, infill development.

As a part of the requirements to adopt any new ordinance, Ordinance No. 479 has been scheduled for adoption at the January 12, 2016 Town Council meeting.

### FISCAL IMPACT:

Not Applicable

### ATTACHMENTS:

Ordinance No. 479

**ORDINANCE NO. 479**

**AN ORDINANCE OF THE TOWN COUNCIL OF THE TOWN OF APPLE VALLEY, CALIFORNIA, AMENDING TITLE 9 "DEVELOPMENT CODE" OF THE TOWN OF APPLE VALLEY MUNICIPAL CODE, BY AMENDING CHAPTER 9.75 "WATER CONSERVATION/LANDSCAPING REGULATIONS" TO COMPLY WITH THE STATE OF CALIFORNIA CODE OF REGULATIONS TITLE 23, DIVISION 2, CHAPTER 2.7 "MODEL WATER EFFICIENT LANDSCAPE ORDINANCE" AND TO ADD LANDSCAPING STANDARDS APPLICABLE TO SINGLE-FAMILY, INFILL DEVELOPMENT**

**WHEREAS**, Title 9 "Development Code" of the Municipal Code of the Town of Apple Valley was adopted by the Town Council on April 27, 2010; and

**WHEREAS**, Title 9 (Development Code) of the Municipal Code of the Town of Apple Valley has been previously modified by the Town Council on the recommendation of the Planning Commission; and

**WHEREAS**, on April 7, 2015, the Community Development Department hosted a workshop with developers and others to hear concerns regarding single family infill development; and

**WHEREAS**, on June 9, 2015, the Town of Apple Valley Town Council formed an Ad Hoc Committee for Infill Residential Issues that met on three (3) occasions to discuss issues relating to single family infill development and provided recommendations for a Development Code Amendment; and

**WHEREAS**, specific changes to Chapter 9.75 "Water Conservation/Landscaping Regulations" as it pertains to Governor Brown's Executive Order B-29-15 for compliance with the State Model Water Efficient Landscape Ordinance and landscape standards for single family infill development; and

**WHEREAS**, the project is not subject to the California Environmental Quality Act (CEQA) pursuant to Section 15061(b)(3) of the State Guidelines to Implement CEQA, which states that the activity is covered by the general rule that CEQA applies only to projects that have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question, the proposed code amendment, may have a significant effect on the environment, the activity is not subject to CEQA; and

**WHEREAS**, on November 4, 2015, the Planning Commission of the Town of Apple Valley conducted a duly noticed public hearing on Development Code Amendment No. 2015-006, receiving testimony from the public and adopting Planning

Commission Resolution No. 2015-010 forwarding a recommendation to the Town Council; and

**WHEREAS**, on December 8, 2015, the Town Council of the Town of Apple Valley conducted a duly noticed and advertised public hearing on Development Code Amendment No. 2015-006, receiving testimony from the public.

**NOW, THEREFORE**, the Town Council of the Town of Apple Valley, State of California, does ordain as follows:

**Section 1.** Find that the changes proposed by Development Code Amendment No. 2015-006 is consistent with the Goals and Policies of the Town of Apple Valley Adopted General Plan.

**Section 2.** Pursuant to Section 15061(b)(3) of the State Guidelines to Implement the California Environmental Quality Act (CEQA), it can be determined that the code amendment is covered by the general rule that CEQA applies only to projects that have the potential for causing a significant effect on the environment. Where it can be seen with certainty, as with the proposed code amendment, that there is no possibility that the proposal approved under Development Code Amendment No. 2015-006 will have a significant effect on the environment and, therefore, the amendment is EXEMPT from further environmental review.

**Section 3.** Amend Development Code as shown in Attachment A, "Development Code Section 9.75 Text Changes".

**Section 4.** Notice of Adoption. The Town Clerk of the Town of Apple Valley shall certify to the adoption of this Ordinance and cause publication to occur in a newspaper of general circulation and published and circulated in the Town in a manner permitted under Section 36933 of the Government Code of the State of California.

**Section 5.** Effective Date. This Ordinance shall become effective thirty (30) days after the date of its adoption.

**Section 6.** Severability. If any provision of this Ordinance, or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications and, to this end, the provisions of this Ordinance are declared to be severable.

**APPROVED** and **ADOPTED** by the Town Council and signed by the Mayor and attested to by the Town Clerk this 12th day of January, 2016.

\_\_\_\_\_  
Barb Stanton, Mayor

**ATTEST:**

---

La Vonda M-Pearson, Town Clerk  
**APPROVED AS TO FORM:**

**APPROVED AS TO CONTENT:**

---

John Brown, Town Attorney

---

Frank Robinson, Town Manager

## CHAPTER 9.75 WATER CONSERVATION/LANDSCAPING REGULATIONS

### 9.75.010 PURPOSE

The purpose of this Chapter is to provide minimum water conservation and landscape development standards which will promote the general welfare of Apple Valley residents through the provision of an outdoor environment which will:

- A. Use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount.
- B. Create aesthetically pleasing views and vistas along public streets.
- C. Complement and enhance the functional and aesthetic design of new building and site development projects so as to protect and enhance property values.
- D. Use water conservation designs that create a mini-oasis concept, where plants and turf are concentrated in areas near buildings where they may be enjoyed at a pedestrian level.
- E. Provide visual screening of parking, service and storage areas.
- F. Mitigate the adverse impacts of higher intensity land uses upon lower intensity uses through the provision of needed landscape buffers.
- G. Promote water conservation by restricting the use of turf and ornamental water features and requiring the utilization of low water use plant materials.
- H. Promote climate modifications for enhancement of pedestrian environment at street frontages, parking lots and building facades.
- I. Provide maximum shade on ground surfaces to reduce the "urban heat island effect" produced by large expanses of unprotected paved areas.

### 9.75.020 APPLICABILITY

- A. All persons owning, developing or maintaining property subject to the provisions of this Chapter shall comply with all applicable provisions contained herein. The landscape standards and requirements established by this Chapter shall apply to all new developments that require the approval of a building permit, site development plan or Development Permit.
- B. No Building Permit shall be approved or issued unless the Planning Division finds that the project satisfies the criteria set forth in this Chapter.
- C. Cemeteries shall only be required to provide scheduled irrigation based on CIMIS (California Irrigation Management Information System) or conduct water audits every three (3) years with strict adherence to the recommendations in the water audit. CIMIS and water audits shall be submitted to the water serving entity for compliance.
- D. This Chapter does not apply to the following:
  - 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.
- E. The provisions California Code of Regulations Title 23, Division 2, Chapter 2.7 "Model Water Efficient Landscape Ordinance (MWELO)", which may be amended from time to time are made part of this Chapter by reference with the same force and effect as if the provisions therein were specifically and fully set out herein, excepting that when the provisions of this chapter are more restrictive than conflicting State provisions, this chapter shall prevail.

### 9.75.030 DEFINITIONS

*Application Rate* means the depth of water applied to a given area, usually measured in inches per hour.

**Applied Water** means the portion of water supplied by the irrigation system to the landscape.

**Automatic Irrigation Controller** means a timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers are able to self-adjust and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

**Backflow Prevention Device** means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

**Bubbler Emitter** – See Low Volume Irrigation Systems

**Certified Irrigation Designer** means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.

**Certified Landscape Irrigation Auditor means** a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor program.

**Check Valve or anti-drain valve** means a valve located under a sprinkler head or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.

**Common Open Space** means the land within or serving as a part of a development, not individually owned or dedicated for public use, which is designed and intended for the common use or enjoyment of the residents of the development and may include such complementary structures and improvements as are necessary and appropriate.

**Compost** means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

**Conversion Factor (0.62)** means the number that converts acre-inches per acre per year to gallons per square foot per year.

**Distribution Uniformity** means the measure of the uniformity of irrigation water over a defined area.

**Drip Emitter** – See Low Volume Irrigation System.

**Drip Irrigation** means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

**Ecological Restoration Project** means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

**Effective Precipitation or Usable Rainfall (EPPT)** means the portion of total precipitation which becomes available for plant growth.

**Electric Automatic Controllers** refers to time clocks that have the capabilities of multi-programming and multiple start times in order to control amount of water applied to landscaping.

**Emitter** means a drip irrigation emission device that delivers water slowly from the system to the soil.

**Established Landscaping** means the point at which new plants in the landscape have developed roots into the soil adjacent to the root ball.

**Establishment Period** means the first year after installing the plant in the landscape.

**Estimated Total Water Use (ETWU)** is the estimated water needs calculated and based on the plants used and irrigation method selected for the landscape design. The ETWU must be below the Maximum Applied Water Allowance.

**ET Adjustment Factor (ETAF)** means 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.

**Evapotranspiration Rate** means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

**Flow Rate** means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

**Flow Sensor** means 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 receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.

**Friable** means 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.

**Fuel Modification Plan Guideline** means guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

**Graywater** means 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.

**Hardscapes** shall mean any durable material (pervious and non-pervious) such as concrete and/or inorganic decorative landscape materials, including but not limited to, stones, boulders, cobbles, pavers, decorative concrete, etc.

**Hydrozone** means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated. Hydrozones are categorized as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation.

**Infiltration Rate** means the rate of water entry into the soil expressed as a depth of water per unit of time (inches per hour).

**Interior Open Space** is that open space enclosed by line extensions of the exterior walls of one or more buildings constructed on a common building site.

**Invasive Plant Species** means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

**Irrigation Audit** means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or 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.

**Irrigation Efficiency** means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum irrigation efficiency for purposes of these regulations is 0.75 for overhead spray devices and 0.81 for drip systems.

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

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

**Landscape Architect** means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

**Landscape Area** means 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).

**Landscape Contractor** means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

**Landscaping** means all living plants such as trees, shrubs, vines, vegetative ground cover, organic or inorganic materials, earthen berms, walls, walkways, plazas, courtyards, lighting, benches, trash containers, ponds, fountains, sculptures, and other site furnishings creating an attractive environment. It also includes decorative materials such as bark, rock or stone which are allowed to be used in conjunction with live material planting beds.

**Landscape Plan.** A graphic representation of the development of a site that illustrates the nature, design, and location of all landscaping and irrigation elements and materials.

**Landscape Water Meter** means 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.

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



**Low Volume Irrigation systems** means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

**Low Water Use Plant Material** means trees, shrubs and ground covers that survive with a limited amount of supplemental water, as identified in the Approved Plant list.

**Main Line** is the pressurized pipeline that delivers water from the water source to a valve or outlet.

**Master Shut-Off Valve** is 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.

**Maximum Applied Water Allowance (MAWA)** means the upper limit of annual applied water for the established landscaped area as specified in Section 492.4. It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, 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.  $MAWA = (ET_o) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$ . The  $ET_o$  factor for Apple Valley is 66.2 and the ETAF is 0.55 for residential and 0.45 for non-residential.

**Median** is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

**Micro Sprinkler** - See Low Volume Irrigation Systems.

**Microclimate** means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.

**Mined-Land Reclamation Projects** means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

**Mulch** means any organic material such as leaves, bark, straw, compost or inorganic mineral material such as pebbles, stones, gravel and decorative sand or decomposed granite left loose and applied to the soil surface to reduce evaporation suppressing weeds, moderating soil temperature, and preventing soil erosion.

**Native Plants** means plants that are : (1) Indigenous to the desert region of California, Nevada and/or Arizona; and (2) Native to the southwestern United States and northern Mexico and (3) are low to minimal water users.

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

**Non-Residential Landscape** means 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 recreational areas.

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

**Overdraft** shall mean that situation wherein the current total annual consumptive use of water in the Mojave Basin Area exceeds the long-term average annual natural water supply to the Basin Area or Sub Area.

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

**Overspray** shall mean the water, which is delivered beyond the landscaped area, wetting pavements, walks, structures or other non-landscaped areas.

**Parkway** means the area of a public street that lies between the curb and the adjacent property line or physical boundary definition such as fences or walls, which is used for landscaping and/or passive recreational purposes.

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

**Plant Factor Or Plant Water Use Factor** is a factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is 0.1 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance 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).

**Qualified Professional** means a person who has been certified by his or her professional organization or a person who has demonstrated knowledge and is locally recognized as qualified around Landscape Architects due to long time experience.

**Rain Sensor or Rain Shutoff Device** shall mean a system which automatically shuts off the irrigation system when it rains.

**Reclaimed Water, Recycled Water, or Treated Sewage Effluent Water, means** treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation and water features. This water is not intended for human consumption.

**Recreation Areas** means 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.

**Reference Evapotranspiration (ETo)** means a standard measurement of environmental parameters which affect the water use of plants. The ETo for Apple Valley is 66.2 inches per year, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated.

**Rehabilitated Landscape** means any relandscaping project that requires a permit, plan check, or design review, and the modified landscape area is equal to or greater than 2,500 square feet.

**Residential Landscape** means landscapes surrounding single or multifamily homes.

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

**Salvaged/Harvested Water.** Storm water collected for landscape use.

**Soil Moisture Sensing Device or Soil Moisture Sensor** means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

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

**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.

**Sprinkler Head** shall mean a device which sprays water through a nozzle.

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

**Station** shall mean an area served by one valve or by a set of valves that operate simultaneously.

**Swing Joint** means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

**Submeter** means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.

**Turf** shall mean a surface layer of earth containing mowed grass with its roots.

**Valve** shall mean a device used to control the flow of water in the irrigation system.

**Water Conserving Plant Species** means a plant species identified as having a very low or low plant factor.

**Water Feature** means 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 best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.

**Water Waste** shall mean any unreasonable or non-beneficial use of water or any unreasonable method or use of water, including but expressly not limited to, the specific uses, conditions, actions or omissions prohibited or restricted by the Ordinance, as hereinafter set forth.

**Watering Window** means the time of day irrigation is allowed.

**WUCOLS** means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources 2014.

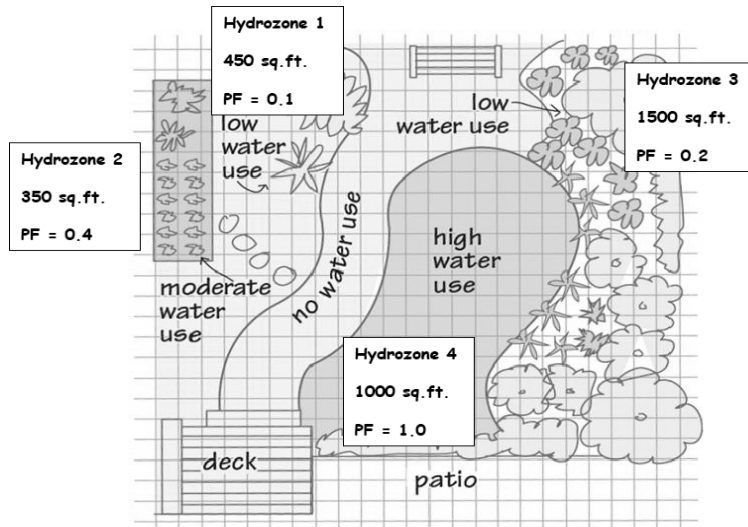
**Xeriscape Landscaping.** A water conservation concept that stresses the use of the appropriate plant material and irrigation techniques which are well suited for the local micro-climate. This concept incorporates native plants, selected hardscapes, and proper planting and irrigation techniques that improve the overall water efficiency of a landscape system.

**Zone** means an area served by one valve, sometimes referred to as a Station.

## **9.75.040 PROCESSING PROCEDURES AND SUBMITTAL REQUIREMENTS**

As a condition of approval for any development proposal, the applicant shall submit a landscape documentation package to the Planning Division that include the following:

- A. **Landscape Plans.** Plans submitted for residential development are not required to be prepared by a licensed Landscape Architect. All non-residential development requires a California licensed Landscape Architect, Architect, Landscape Contractor (within the scope of his/her license) or Certified Irrigation Designer shall prepare the landscape plans. All landscape plans submitted by the applicant shall be fully dimensioned and drawn at a minimum scale of one (1) inch equals thirty (30) feet (maximum sheet size 30" X 42") and contain the following information:
1. Date
  2. Project applicant
  3. Project address (if available, parcel and/or lot number(s))
  4. Total landscape area (square feet), including a breakdown of turf and plant material
  5. Project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)
  6. 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
  7. Contact information for the project applicant and property owner
  8. Applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option to the MWEL0" or for landscape area over 2,500 square feet, include the statement, "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package".
  9. A table containing Lot size and breakdown of square feet with total percentage of lot area occupied by each of the following:
    - a. Buildings;
    - b. Paved areas;
    - c. Irrigated landscape area
    - d. Irrigated Turf area; and
    - e. Hardscape area
  10. A table listing the plant material including the plant symbols, common and botanical names, plant factor, sizes, spacing (if applicable), quantities, required guarantee and other remarks as appropriate to describe the plant selection. Table shall also include symbols and description of all inorganic materials schedule including type of materials (i.e. decomposed granite, river rock, Arizona stone, etc.).
  11. Show all existing and proposed buildings, roof overhangs and other structures, paved areas, landscaped areas (including non-irrigated areas), power poles, fire hydrants, water meters, light standards, streets, street names, signs, fences/walls, water features (including pools and ponds), storm water retention/detention areas and other permanent features to be added and/or retained on site;
  12. Show the location of existing and proposed plant materials. If required, to be preserved in place, indicated by botanical name and variety, common name, size and location. The location of all plant material shall be shown on the plan at approximately two-thirds the mature size of the plant material.
  13. A diagram showing the amount of shading that the landscaping is expected to provide at its maturity with sun at its apex.
  14. **Additional Requirements.** Landscape areas with an average WUCOL Plant Factor exceeding 0.3 and/or landscape areas that exceed 2,500 square feet, shall also include the following on the Landscape Plan:
    - a. Delineate and label each hydrozone by number, letter, or other method;
    - b. Identify each hydrozone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation.



Source: Santa Clara Valley Water District, "Rules of Thumb for Water-Wise Gardening"

- c. Identify recreational areas.
- d. Identify areas permanently and solely dedicated to edible plants;
- e. Identify areas irrigated with recycled water;
- f. Identify type of mulch and application depth (three (3)-inch minimum within all planting areas);
- g. Identify soil amendments, type, and quantity;
- h. Identify type and surface area of water features.
- i. Identify any applicable rain harvesting or catchment technologies and its 24-hour retention or infiltration capacity.
- j. Identify any applicable graywater discharge piping, system components and area(s) of distribution.
- k. Attach a completed Water Efficient Landscape Worksheet with hydrozone information table and water budget calculations.
- l. Soils Management Report. 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:
  - 1) Submit soil samples to a laboratory for analysis and recommendations.
  - 2) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
  - 3) The soil analysis shall include:
    - a) Soil texture;
    - b) Infiltration rate determined by laboratory test or soil texture infiltration rate table;
    - c) Ph;
    - d) Total soluble salts;
    - e) Sodium;
    - f) Percent organic matter; and
    - g) Recommendations.
  - 4) 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.
  - 5) 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 local agency as part of the Landscape Documentation Package; or

b) If significant mass grading is planned, the soil analysis report shall be submitted to the local agency as part of the Certificate of Completion.

- 6) 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.
- 7) The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the local agency with Certificate of Completion.

**B. Irrigation Design Plan.** All irrigation plans shall contain the following minimum information:

- 1. Location and size of separate water meters for landscape, if applicable.
- 2. Location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;
- 3. A table including the manufacturer and a description of all parts use in the irrigation plan.
- 4. Details of the backflow prevention devices, valves, sprinkler heads, controllers, etc.
- 5. Static water pressure at the point of connection to the public water supply;
- 6. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
- 7. Recycled water irrigation systems, if any;
- 8. 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
- 9. The signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system.

**C. Additional requirements.** Landscape areas with an average WUCOL Plant Factor exceeding 0.3 and/or landscape areas that exceed 2,500 square feet, shall also provide the following documentation upon submittal:

- 1. Water Efficient Landscape Worksheet;
  - a. Hydrozone information table
  - b. Water budget calculations
    - 1) Maximum Applied Water Allowance (MAWA)
    - 2) Estimated Total Water Use (ETWU)
- 2. Soil management report;
- 3. Grading design plan.

**D. Project Completion.** Landscape areas 500 square feet or greater shall submit the following to the Planning Division prior to the project's final inspection for occupancy:

- 1. **A Certificate of Completion** shall be provided to the Planning Division, local water purveyor and the property owner or his or her designee. containing the following information:
  - a. Project information sheet that contains:
    - 1) date;
    - 2) project name;
    - 3) project applicant name, telephone, and mailing address;
    - 4) project address and location; and
    - 5) property owner name, telephone, and mailing address;

- b. Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package;
    - 1) Where there have been significant changes made in the field during construction, these “as-built” or record drawings shall be included with the certification;
    - 2) A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.
    - 3) Irrigation scheduling parameters used to set the controller
2. **Landscape and irrigation maintenance schedule.** Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.
- a. A regular maintenance schedule shall include, but not be limited to, routine inspection; auditing, adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; topdressing with compost, replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing obstructions to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.
  - b. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents or with components with greater efficiency.
  - c. A project applicant is encouraged to implement established landscape industry sustainable Best Practices for all landscape maintenance activities.
3. **Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.**
- a. (a) All landscape irrigation audits shall be conducted by a local agency landscape irrigation auditor or a third party certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape.
  - b. (b) 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.
  - c. The project applicant shall submit an irrigation audit report with the Certificate of Completion to the Planning Division that may include, but is not limited to: 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;

### **9.75.050 WATER CONSERVING LANDSCAPE DESIGN STANDARDS**

For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. All landscape design plans must meet the following design criteria:

- A. Use only those plants officially approved on the currently adopted plant list or alternative plants as approved by the Director.
- B. Any plant from the list may be selected for the landscape, providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance.
- C. **Turf Limitations on New Landscaping Projects.**
  - 1. Turf shall not exceed twenty-five (25) percent of the total landscape in any residential areas.
  - 2. Except for Special Landscape Areas, the use of turf for non-residential uses is prohibited.
  - 3. Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).

- 4. Turf is prohibited within public rights-of-way, including parkways.
- D. Each zone (hydrozone) shall have plant materials with similar water use.
- E. Water Features
  - 1. Recirculating water systems shall be used for water features.
  - 2. Where available, recycled water shall be used as a source for decorative water features.
  - 3. Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.
  - 4. Pool and spa covers are highly recommended.
- F. High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians or right-of-way.
- G. The use of invasive plant species, such as those listed by the California Invasive Plant Council, is strongly discouraged.
- H. Artificial turf/plants are not limited.
- I. Compacted soils, including areas of caliches, shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.
- J. Add soil additives within landscape areas to increase the water holding capacity of the soil and improve the health of the plants. 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.
- K. Cover final soil surfaces with organic or inorganic mulches to insulate against soil temperature extremes and conserve moisture. 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.
- L. **Unity and Continuity** Landscape unity and continuity may be significantly enhanced through the selection of a dominant tree and shrub species. Such dominance shall be established by making the selected species clearly in the majority of sixty (60) percent or more.
- M. **Tree and Shrub Placement in Proximity to Fire Hydrant.** Trees, as measured from trunk center, shall be placed a minimum of five (5) feet from fire hydrants. Shrubs, as measured from their mature perimeter, shall be located a minimum of five (5) feet from the rear of a fire hydrant. In no case shall any material other than groundcover be placed between the street or roadway and within fifteen (15) feet of either side or front of a fire hydrant (Figure 9.75.020-A).

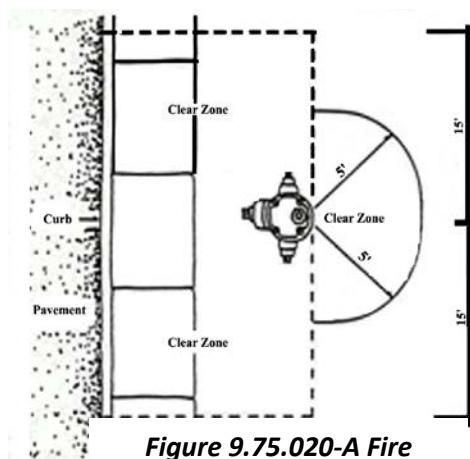


Figure 9.75.020-A Fire

N. **Ground Surface Treatment**



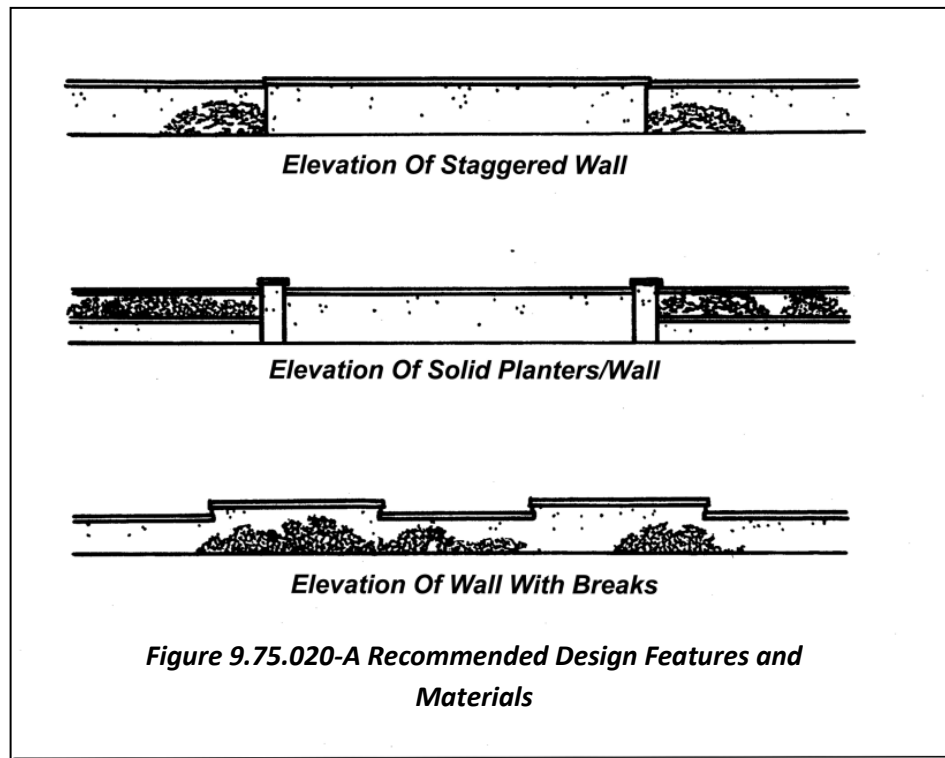
1. **Pre-Treatment of Ground Surfaces Required.** A mesh weed barrier shall be applied to the ground prior to the placement of natural surface materials (decomposed granite, gravel, crushed rock, river run rock, etc.) in any landscaped area to prevent weed growth.
  2. **Inorganic Ground Cover.** Inorganic ground covers (decomposed granite, crushed stone, etc.) shall be of a natural color harmonious with other site and architectural materials and shall be installed to a minimum depth of two (2) inches.
  3. **Plant Cover/Dust Control.** Unless otherwise provided for within this Chapter, all portions of a development site (including future building pads) not occupied by buildings, structures, paved improvements, and required landscape areas shall be temporarily landscaped with plant materials in accordance with this Chapter or treated with an appropriate inorganic ground cover and maintained in a weed and dust free condition.
- O. Plant Massing.** The massing of trees and shrubs into groups containing three (3) or more plants is required unless standards elsewhere within this Chapter require only a single element, e.g., single trees within parking lot planter islands. Planting of single shrub specimens, unless used to repeat an element already established within a massed planting within the same visual area, is prohibited.
- P. Plant Groupings (Hydrozones).** The grouping of plant species commonly found together in natural associations or of common environmental requirements (soil type, water, sun exposure, temperature limitations, etc.) is required.
- Q. Plant Spacing.** In order to foster a more natural look, an uneven spacing of plants is required unless such plants are being used to create a massed shrub or groundcover bed. The spacing of shrubs shall be sufficient to allow plants to reach their natural mature size and form.
- R. Consistency with Existing Streetscape Standards.** Street frontage landscaping shall be consistent with any previously adopted specific streetscape standards.

## 9.75.060 LANDSCAPE AREA AND MATERIAL REQUIREMENTS

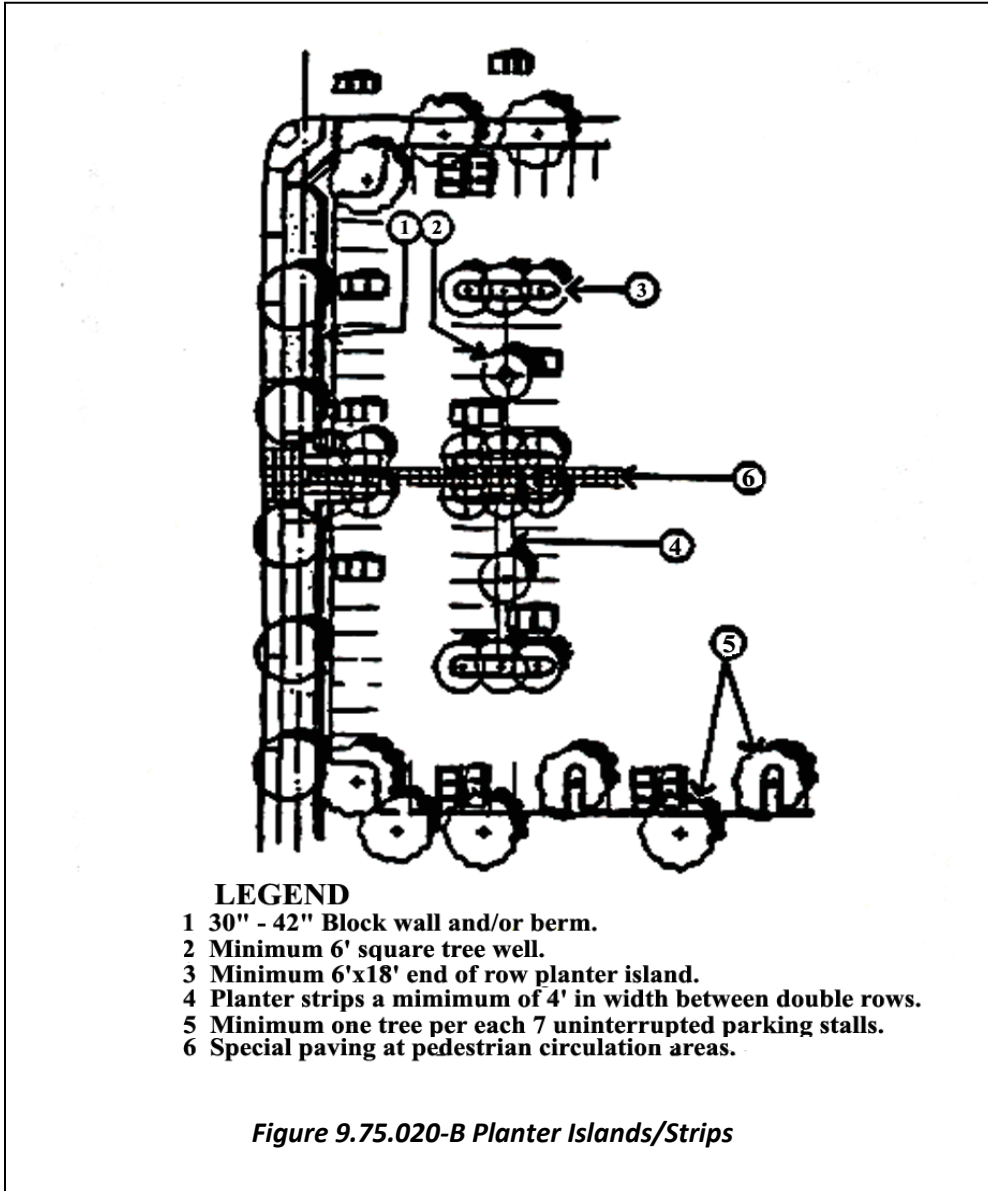
### A. Landscape Area Requirements for Residential Tracts, Multi-family Residential and All Non-Residential Development.

All portions of a development site not utilized for building development, service areas, paved or improved storage areas, parking, driveways, etc., shall be landscaped. Minimum areas of landscaping are as follows:

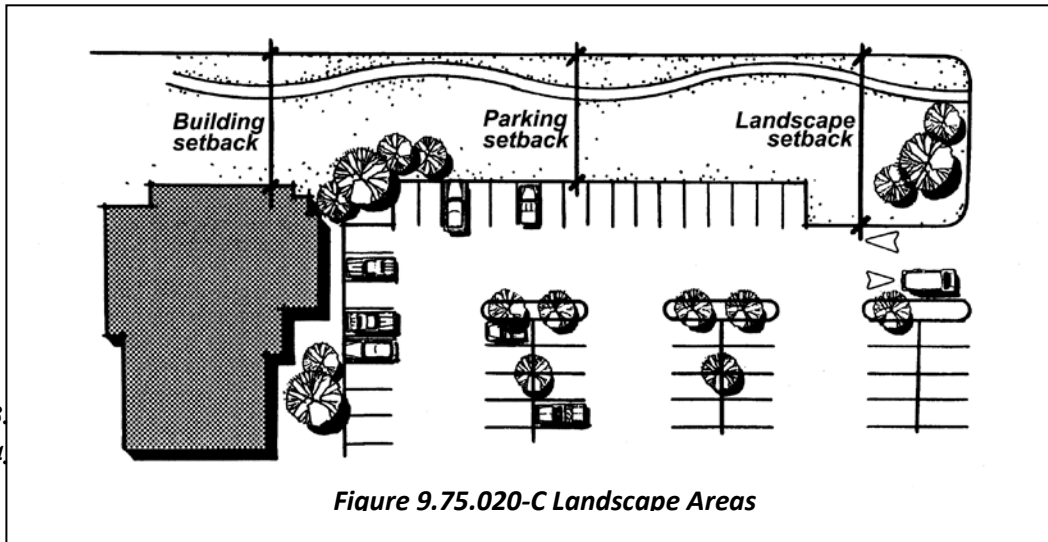
1. **Front Building Setback/Street Right-of-Way Areas.** All front building setback and street right-of-way areas located between on-site improvements and the back of existing or future public sidewalks or street curbs, except needed access driveways, shall be fully landscaped, unless otherwise provided for in this Development Code.
2. **Parking Lot Area.** The following landscaping standards apply to parking lots (Figure 9.75.020-A, B and C):
  - a. In order to reduce the "heat island effect" of large expanses of unprotected paved areas, a minimum of thirty (30) percent of the interior parking surface of all parking lots shall be shaded at the maturity of the landscaping.
  - b. Provide a minimum of one (1) tree (minimum fifteen (15) gallon size when planted) for each seven (7) parking spaces located so as to visually disrupt long rows of parking spaces, trees may be clustered where appropriate.
  - c. A thirty-six to forty-two (36-42)-inch high decorative masonry wall, hedge or landscaped berm, as measured from the finished grade of the parking area, shall also be used adjacent to public rights-of-way to screen the parking area. The height of the screening wall or berm may be reduced when the parking lot is below grade. Horizontal and vertical variations in the design of screening walls are required where the length of such walls exceed forty (40) feet. Said variations are subject to Planning Staff approval.



- d. A minimum of five (5) percent of the interior parking surface area of all parking lots shall be landscaped. Such percentage may be achieved by combining the following:
- 1) Planter islands a minimum of five (5) feet in width shall be located at the ends of all rows of parking stalls between the last stall and any drive aisle. Where drive aisles are curved, alternative dimensions with similar area may be approved (Figure 9.75.020-B); and
  - 2) Planter islands, shall be uniformly distributed throughout the interior parking area, and protected by raised curbs (Figure 9.75.020-B); or
  - 3) Planter strips, located between double rows of parking stalls, shall be a minimum of four (4) feet in width. Each parking stall may overhang two (2) feet into this area (Figure 9.75.020-B).



- e. Trees within parking lots shall be kept trimmed to a minimum clear canopy height of six (6) feet for visual safety.
- f. A landscaped strip with a minimum width of ten (10) feet shall be provided where parking lots are adjacent to a public right-of-way or residential uses or districts, unless otherwise provided for in this Code.



3. **Landscape Buffers/Perimeter Landscape Strips**

a. **Landscape Buffers.** When providing a buffer between commercial/industrial and residential uses or districts the following features are required:

- 1) Landscaping shall include one (1) tree for each 200 square feet of required landscape area. Said tree shall be a minimum fifteen (15) gallon size when planted, twenty (20) percent of such required trees shall be twenty-four (24)-inch box size; and
- 2) A six (6)-foot decorative masonry wall reflecting the design, material, and color of the primary structures within the project, excluding approved gate openings; and
- 3) Evergreen trees a minimum of six (6) feet in height planted at a maximum spacing of twenty (20) feet on center and shrubs planted at a rate of five (5) per one hundred linear feet.

4. **Front Building Setback Area.** Landscaping in the front building setback area shall be provided at a minimum rate of one (1) tree and six (6) shrubs per thirty (30) linear feet of frontage plus sufficient groundcover plantings to provide combined shrub and ground coverage of fifty (50) percent of the total landscaped area. Trees and shrubs may be grouped, but gaps between groupings of plants shall not exceed forty (40) feet.

5. **Other Perimeter Areas.** Landscaping in other perimeter areas shall be provided at a minimum rate of one (1) tree and six (6) shrubs per forty (40) linear feet plus sufficient groundcover plantings to provide combined shrub and ground coverage of forty (40) percent of the total landscaped area, except where screening is required. Trees shall be a minimum fifteen (15) gallon size when planted, twenty (20) percent of which shall be twenty-four (24) inch box size. Trees and shrubs may be grouped, but gaps between groupings of plants shall not exceed fifty (50) feet.

B. **Landscape Improvement Requirements.** The following minimum landscape improvements are required within the following landscape areas:

1. **Single-Family Residential Tracts and Multi-Family Residential Developments**

a. Common open space/retention areas, A minimum of one (1) tree and six (6) shrubs per 500 square feet of open space plus such additional vegetative ground cover as is necessary to cover a minimum of fifty (50) percent of the total landscaped area with shrubs, ground cover and turf in accordance with subsection 9.75.9020.I above.



8. Xeriscape landscaping is required for all front yards, street side yards. The use of turf is strongly discouraged.
  9. The use of turf may not exceed twenty-five (25) percent of the total landscaped area.
  10. Low water use plants and low volume irrigations systems are to be used on all additional landscape areas.
  11. The use of artificial turf is not limited.
  12. A minimum of one (1) tree and ten (10) shrubs shall be required per fifty (50) feet of street frontage.
  13. Minimum size shall be five (5) gallon shrubs and fifteen (15) gallon trees.
  14. Fifty (50) percent of trees shall be canopy trees as defined within the Section 9.75.050 "Approved Plant List".
  15. Grouping of plants with similar water needs is required.
  16. Uneven spacing is required to create a natural look.
17. ***Deferment of Landscape Installation Provisions.*** No Building Permit shall be approved or issued unless the Planning Division finds that the project satisfies the criteria set forth in this Chapter. Residential infill lots not built and permitted to the owner of the property is exempt from this requirement, provided that a deposit of an amount adopted by Council Resolution is submitted prior to issuance of building permits. For this exemption, a landscape plan implementing the criteria of this Chapter must be submitted and approved by the Planning Division prior to occupancy of the residence. The property owner is required to install the approved landscaping within six (6) months from the date of occupancy. Failure to complete the approved landscaping in said time frame will result in forfeiting the deposit to the Town and having the non-compliance of landscape requirements forwarded to the Code Enforcement Division for legal action. One extension of time not to exceed six (6) months may be approved at the discretion of the Director for special circumstances.

### **9.75.070 IRRIGATION DESIGN STANDARDS**

This section applies to landscaped areas requiring permanent irrigation, not areas that require temporary irrigation solely for the plant establishment period. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

- A. Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor. 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, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.
- 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 to minimize water loss in case of an emergency (such as a main line break) or routine repair.
- E. Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.
- F. Flow sensors that detect high flow conditions created by system damage or malfunction are required for all on non-residential landscapes and residential landscapes of 5000 sq. ft. or larger.

- G. 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.
- H. 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.
- I. The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
- J. Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
- K. The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
- L. The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in the submitted Water Efficient Landscape Worksheet and the Maximum Applied Water Allowance.
- M. 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.
- N. In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.
- O. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
- P. Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
- Q. 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.
- R. Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur.
- S. For non-residential projects with landscape areas of 1,000 sq. ft. or residential irrigated landscapes of 5,000 sq. ft. or greater, a submeter(s), to measure landscape water use shall be installed. The submeter may be privately owned or provided by the water purveyor.
- T. 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.
- U. It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.
- 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:
  - 1. The landscape area is adjacent to permeable surfacing and no runoff occurs; or
  - 2. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
  - 3. The irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 492.7 (a)(1)(I). Prevention of overspray and runoff must be confirmed during the irrigation audit.
- W. Slopes greater than 25% shall not be irrigated with an irrigation system with a application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.
- X. Hydrozone
  - 1. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

2. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
  3. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf 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.
  4. Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:
    - a. Plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
    - b. The plant factor of the higher water using plant is used for calculations.
    - c. Individual hydrozones that mix high and low water use plants shall not be permitted.
    - d. 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 (see Appendix B Section A). This table can also assist with the irrigation audit and programming the controller.
- Y. Irrigation Scheduling. For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:
1. Irrigation scheduling shall be regulated by automatic irrigation controllers.
  2. Overhead sprinkler irrigation shall be scheduled to operate during the months of May through October, between the hours of 6:00 P.M. and 9:00 A.M. and during the remaining months of November through April, between the hours of 9:00 A.M. and 3:00 P.M. to reduce water loss from wind and evaporation and to avoid ice during winter months. Drip irrigation and subterranean devices shall not be subject to this water window.
  3. For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data.
  4. Parameters used to set the automatic controller shall be developed and submitted for each of the following:
    - a. the plant establishment period;
    - b. the established landscape; and
    - c. temporarily irrigated areas.
  5. Each irrigation schedule shall consider for each station all of the following that apply:
    - a. irrigation interval (days between irrigation);
    - b. irrigation run times (hours or minutes per irrigation event to avoid runoff);
    - c. number of cycle starts required for each irrigation event to avoid runoff;
    - d. amount of applied water scheduled to be applied on a monthly basis;
    - e. application rate setting;
    - f. root depth setting;
    - g. plant typesetting;
    - h. soil type;
    - i. slope factor setting;
    - j. shade factor setting; and
    - k. irrigation uniformity or efficiency setting.



**9.75.080 ENFORCEMENT/REPORTING.**

- A. The Town shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance.
- B. All existing landscapes that were installed before December 1, 2015 and are over one acre in size, that have a water meter, the Town, or other designated authority, shall administer programs that may include, but not be limited to, irrigation water use analyses, 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.
- C. For landscapes that do not have a meter, the Town, or other designated authority, 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.
- D. All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

**9.75.090 PUBLIC EDUCATION (AMENDED ORD. 326)**

The Town of Apple Valley shall make available information about water efficient landscaping to water users throughout the community. The Town will also use public education to encourage users to conserve water through voluntary compliance. In addition to education, the Town may use enforcement measures to curb water waste.

- A. Information shall be provided to new homeowners about designing, installing and maintaining water efficient landscapes.
- B. Model Homes. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance as follows:
  - 1. Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that 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, managing, and maintaining water efficient landscapes.

**9.75.100 APPROVED PLANT LIST**

All landscape shall strive to maximize the use of native species as provided in the approved plant list in this Section or as approved by the Director. Where native material is not appropriate for the intended use or appearance, plant species that are regionally adapted and non-invasive may be used with the approval of the Director. *SOURCE: UNIVERSITY OF CALIFORNIA WATER USE CLASSIFICATION OF LANDSCAPE SPECIES (WUCOLS IV).*

<b>Ground Cover</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Abelia x grandiflora and cvs.	glossy abelia	Moderate	0.5
Acacia redolens	prostrate acacia	Low	0.2
Achillea millefolium (non-native hybrids)	yarrow (non-native hybrids)	Low	0.2
Achillea millefolium (CA native cultivars)	yarrow	Low	0.2
Ajuga reptans (shade)	carpet bugle	Moderate	0.5
Artemisia spp. (herbaceous)	angel's hair	Moderate	0.5

Artemisia spp. (shrubby)	sagebrush	Low	0.2
<b>Ground Cover (cont.)</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Baccharis "Starn"	Starn coyote brush	Low	0.2
Berberis aquifolium "Compacta" (partial shade in South Inland)	compact Oregon grape holly	Moderate	0.5
Berberis aquifolium var. repens (shade)	creeping mahonia	Moderate	0.5
Cerastium tomentosum	snow in summer	Moderate	0.5
Cistus spp. and cvs.	rockrose	Moderate	0.5
Convolvulus mauritanicus	ground morning glory	Moderate	0.5
Cotoneaster horizontalis	rock cotoneaster	Moderate	0.5
Cotoneaster spp.(ground covers)	cotoneaster	Moderate	0.5
Cuphea llavea	bat-faced cuphea	Moderate	0.5
Cytisus x kewensis	Kew broom	Moderate	0.5
Dalea capitata	dalea (capitata)	Moderate	0.5
Dalea greggii	trailing indigo bush	Low	0.2
Euonymus fortunei	purple winter creeper	Moderate	0.5
Fragaria spp. (CA native and non-natives species)	strawberry	Moderate	0.5
Gazania spp.	gazania	Moderate	0.5
Geranium spp.	cranesbill	Moderate	0.5
Juniperus spp.	juniper	Moderate	0.5
Lantana camara & cvs.	lantana	Moderate	0.5
Lantana hybrids	hybrid lantana	Moderate	0.5
Lantana montevidensis (sellowiana)	trailing lantana	Moderate	0.5
Lantana "New Gold"	New Gold lantana	Moderate	0.5
Lonicera japonica	Japanese honeysuckle	Moderate	0.5
Malephora spp.	ice plant (Maleophora)	Low	0.2
Myoporum parvifolium & cvs.	myoporum	Moderate	0.5
Oenothera speciosa (O. berlandieri)	Mexican evening primrose	Moderate	0.5
Oenothera stubbei	Baja evening primrose	Low	0.2
Parthenocissus quinquefolia	Virginia creeper	Moderate	0.5
Parthenocissus tricuspidata	Boston ivy	Moderate	0.5
Potentilla verna	spring cinquefoil	Moderate	0.5
Rosa hybrids..ground covers	carpet roses	Moderate	0.5
Rosmarinus cvs.	trailing rosemary	Moderate	0.5
Santolina spp.	lavender cotton	Low	0.2
Teucrium chamaedrys	germander	Moderate	0.5
Thymus spp. and cvs.	thyme	Moderate	0.5
Trachelospermum asiaticum	Asian star jasmine	Moderate	0.5
Trachelospermum jasminoides	star jasmine	Moderate	0.5
Verbena peruviana	Peruvian verbena	Moderate	0.5
Verbena rigida	vervain	Moderate	0.5
Verbena stricta	hoary vervain	Moderate	0.5
Verbena tenera (pulchella)	rock verbena	Moderate	0.5
Verbena tenuisecta	moss verbena	Moderate	0.5
Vinca minor	periwinkle	Moderate	0.5
Wedelia trilobata	trailing daisy	Moderate	0.5
Zinnia grandiflora	prairie zinnia	Low	0.2

<b>Perennials</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Melampodium leucanthum	blackfoot daisy	Low	0.2
Nolina spp. (CA natives and non-natives)	bear grass	Low	0.2
Oenothera caespitosa	tufted (white) evening primrose	Low	0.2
Oenothera stubbei	Baja evening primrose	Low	0.2
Penstemon SW native spp. and cvs.	penstemon (SW natives)	Low	0.2
Perovskia spp. & cvs.	Russian sage	Low	0.2
Poliomintha longiflora	Rosemary mint	Low	0.2
Portulacaria afra & cvs.	elephant's food	Low	0.2
Psilostrophe tagetina	paper flower	Low	0.2
Romneya coulteri	Matilija poppy	Low	0.2
Ruellia brittoniana	Mexican petunia	Low	0.2
Salvia dorrii	purple sage	Low	0.2
Santolina spp.	lavender cotton	Low	0.2
Tetraneuris acaulis (Hymenoxys acaulis)	stemless four-nerve daisy	Low	0.2
Tetraneuris scaposa	four-nerve daisy	Low	0.2
Thymophylla acerosa (Dyssodia acerosa)	shrubby dogweed	Low	0.2
Thymophylla pentachaeta (Dyssodia pentachaeta)	golden fleece	Low	0.2
Verbena gooddingii (Glandularia gooddingii)	Goodding verbena	Low	0.2
Zinnia acerosa	desert zinnia	Low	0.2
Zinnia grandiflora	prairie zinnia	Low	0.2
Achillea millefolium (non-native hybrids)	yarrow (non-native hybrids)	Low	0.2
Achillea millefolium (CA native cultivars)	yarrow	Low	0.2
Adiantum spp. (shade) CA native and non-native	maidenhair fern	Moderate	0.5
Agastache coccinea pink	agastache	Moderate	0.5
Agave americana (and thick-leaved relatives)(CA native and non-native)	agave	Very Low	0.05
Agave attenuata (and thin-leaved relatives) (Ca native and non-native)	agave	Low	0.2
Ajuga reptans (shade)	carpet bugle	Moderate	0.5
Argemone corymbosa	prickly poppy	Low	0.2
Artemisia spp. (herbaceous)	angel's hair	Moderate	0.5
Asclepias (CA native species)	milk/silk weed	Low	0.2
Asclepias subulata	desert milkweed	Low	0.2
Asclepias tuberosa	orange milkweed	Moderate	0.5
Asparagus aethiopicus and cvs. (A. densiflorus)	asparagus fern	Moderate	0.5
Aspidistra elatior (shade)	cast iron plant	Moderate	0.5
Baileya multiradiata	desert marigold	Low	0.2
<b>Perennials (cont.)</b>			

<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Berlandiera lyrata	chocolate scented daisy	Low	0.2
Bulbine frutescens	stalked bulbine	Low	0.2
Calibrachoa cvs	million bells	Moderate	0.5
Calylophus drummondiana	Texas primrose	Moderate	0.5
Calylophus hartwegii	Sierra sundrop	Moderate	0.5
Carex divulsa (sold as C. tumulicola)	European gray sedge	Moderate	0.5
Carex tumulicola	Berkeley sedge	Moderate	0.5
Catharanthus roseus	Madagascar periwinkle	Moderate	0.5
Centaurea cineraria	dusty miller (cineraria)	Moderate	0.5
Centranthus ruber	red valerian	Moderate	0.5
Conoclinium greggii "Boothill"	blue mist flower	Moderate	0.5
Coreopsis auriculata "Nana"	dwarf coreopsis	Moderate	0.5
Coreopsis grandiflora	large flower tickseed	Moderate	0.5
Coreopsis lanceolata	lanceleaf tickseed	Moderate	0.5
Coreopsis rosea	pink tickseed	Moderate	0.5
Coreopsis verticillata cvs.	threadleaf coreopsis	Moderate	0.5
Dianella tasmanica (shade in desert)	Tasman flax lily	Moderate	0.5
Dianthus spp.	pink/carnation	Moderate	0.5
Dietes bicolor and cvs	fortnight lily	Moderate	0.5
Dietes iridioides and cvs.	fortnight lily	Moderate	0.5
Echinacea spp.	cone flower	Moderate	0.5
Echinopsis spp. (Trichocereus spp.)	torch cactus	Low	0.2
Epilobium spp.(Zauschneria) and cvs.	California fuchsia	Moderate	0.5
Equisetum spp. (native and non-native spp.)	horsetail	Moderate	0.5
Erigeron divergens	native fleabane	Moderate	0.5
Erigeron karvinskianus	fleabane	Moderate	0.5
Eriogonum spp. (CA native and non-native spp.)	buckwheat	Low	0.2
Erysimum "Bowles Mauve"	Bowles Mauve wallflower	Moderate	0.5
Eupatorium spp.	mistflower	Moderate	0.5
Euphorbia antisyphilitica	candelilla	Low	0.2
Euryops pectinatus	euryops/shrub daisy	Moderate	0.5
Euryops pectinatus viridis	green euryops	Moderate	0.5
Gaillardia x grandiflora and cultivars	blanket flower	Moderate	0.5
Gaura lindheimeri and cvs.	gaura	Moderate	0.5
Geranium spp.	cranesbill	Moderate	0.5
Glandularia aristigera and cvs (Verbena tenuisecta)	South American rock vervain	Moderate	0.5
Helianthus maximiliani	Maximilian sunflower	Moderate	0.5
Hemerocallis spp.	day lily	Moderate	0.5
Heuchera sanguinea	coral bells	Moderate	0.5
Hibiscus moscheutos & cvs.	mallow rose	Moderate	0.5
Iris germanica	bearded iris	Moderate	0.5
Kniphofia spp. and cvs.	poker plant	Moderate	0.5
<b>Perennials (cont.)</b>			

<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
<i>Liatrix spicata</i>	gay feather	Moderate	0.5
<i>Kniphofia uvaria</i> hybrids and cvs.	red hot poker	Moderate	0.5
<i>Liriope</i> spp.	lilyturf	Moderate	0.5
<i>Mammillaria geminispina</i>	cactus	Very Low	0.05
<i>Mammillaria melanocentra</i>	cactus	Very Low	0.05
<i>Manfreda</i> spp.	manfreda	Moderate	0.5
<i>Melampodium leucanthum</i>	blackfoot daisy	Low	0.2
<i>Nolina</i> spp. (CA natives and non-natives)	bear grass	Low	0.2
<i>Mirabilis jalapa</i>	four o'clock	Moderate	0.5
<i>Monarda didyma</i>	scarlet bee balm	Moderate	0.5
<i>Nepeta</i> spp.	catmint/catnip	Moderate	0.5
<i>Nephrolepis cordifolia</i> (SHADE IN DESERT)	southern sword fern	Moderate	0.5
<i>Nephrolepis exaltata</i> SHADE	Boston fern	Moderate	0.5
<i>Oenothera caespitosa</i>	tufted (white) evening primrose	Low	0.2
<i>Oenothera speciosa</i> (O. berlandieri)	Mexican evening primrose	Moderate	0.5
<i>Oenothera stubbei</i>	Baja evening primrose	Low	0.2
<i>Ophiopogon clarkei</i> SHADE in desert	Clark lily turf	Moderate	0.5
<i>Ophiopogon jaburan</i> SHADE in desert	giant lily turf	Moderate	0.5
<i>Ophiopogon japonicus</i> SHADE in desert	mondo grass	Moderate	0.5
<i>Ophiopogon planiscapus</i> var. <i>nigrescens</i> SHADE in desert	black mondo grass	Moderate	0.5
<i>Penstemon</i> garden hybrids	penstemon (hybrids)	Moderate	0.5
<i>Penstemon</i> SW native spp. and cvs.	penstemon (SW natives)	Low	0.2
<i>Perovskia</i> spp. & cvs.	Russian sage	Low	0.2
<i>Poliomintha longiflora</i>	Rosemary mint	Low	0.2
<i>Portulacaria afra</i> & cvs.	elephant's food	Low	0.2
<i>Psilostrophe tagetina</i>	paper flower	Low	0.2
<i>Ratibida columnifera</i>	Mexican hat	Moderate	0.5
<i>Romneya coulteri</i>	Matilija poppy	Low	0.2
<i>Ruellia brittoniana</i>	Mexican petunia	Low	0.2
<i>Salvia coccinea</i>	Texas sage	Moderate	0.5
<i>Salvia dorrii</i>	purple sage	Low	0.2
<i>Salvia farinacea</i> and cvs.	Mealy cup sage	Moderate	0.5
<i>Salvia</i> "Gayle Nielson" (also Trident as registered trademark name)	Gayle Nielson/Trident sage	Very Low	0.05
<i>Salvia greggii</i> & hybrids	autumn sage	Moderate	0.5
<i>Salvia officinalis</i> and cvs.	garden/kitchen sage	Moderate	0.5
<i>Santolina</i> spp.	lavender cotton	Low	0.2
<i>Sphaeralcea</i> spp. (CA native and non-native spp.)	desert/globe mallow	Very Low	0.05
<i>Stachys byzantina</i>	lamb's ears	Moderate	0.5
<i>Symphotrichum praealtum</i> ( <i>Aster praealtum</i> )	Rodney's aster	Moderate	0.5
<b>Perennials</b>			

<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Tagetes lemmonii	mountain marigold	Moderate	0.5
Tagetes lucida	Mexican tarragon	Moderate	0.5
Tetraneuris acaulis (Hymenoxys acaulis)	stemless four-nerve daisy	Low	0.2
Tetraneuris scaposa	four-nerve daisy	Low	0.2
Teucrium chamaedrys	germander	Moderate	0.5
Thunbergia battiscombei	thunbergia (battiscombei)	Moderate	0.5
Thymophylla acerosa (Dyssodia acerosa)	shrubby dogweed	Low	0.2
Thymophylla pentachaeta (Dyssodia pentachaeta)	golden fleece	Low	0.2
Thymus spp. and cvs.	thyme	Moderate	0.5
Tulbaghia fragrans	sweet garlic	Moderate	0.5
Tulbaghia violacea	society garlic	Moderate	0.5
Verbena bonariensis	verbena (bonariensis)	Moderate	0.5
Verbena gooddingii (Glandularia gooddingii)	Goodding verbena	Low	0.2
Verbena hybrids	garden verbena	Moderate	0.5
Verbena peruviana	Peruvian verbena	Moderate	0.5
Verbena rigida	vervain	Moderate	0.5
Verbena stricta	hoary vervain	Moderate	0.5
Verbena Tapien hybrids	Tapien verbena	Moderate	0.5
Verbena tenera (pulchella)	rock verbena	Moderate	0.5
Verbena tenuisecta	moss verbena	Moderate	0.5
Vinca major	periwinkle	Moderate	0.5
Vinca minor	periwinkle	Moderate	0.5
Wedelia trilobata	trailing daisy	Moderate	0.5
Zinnia acerosa	desert zinnia	Low	0.2
Zinnia grandiflora	prairie zinnia	Low	0.2
<b>Shrubs</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Abutilon palmeri	Indian mallow	Moderate	0.5
Acacia constricta	whitethorn acacia	Low	0.2
Acacia craspedocarpa	leatherleaf acacia	Low	0.2
Acacia greggii	catclaw acacia	Low	0.2
Acacia pennatula	pennatula acacia	Low	0.2
Acacia redolens	prostrate acacia	Low	0.2
Acanthus mollis (shade in the desert) (dormant in summer in CV)	bear's breech	Moderate	0.5
Achillea millefolium (non-native hybrids)	yarrow (non-native hybrids)	Low	0.2
Achillea millefolium (CA native cultivars)	yarrow	Low	0.2
Agave americana (and thick-leaved relatives)(CA native and non-native)	agave	Very Low	0.05

<b>Shrubs (cont.)</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Agave attenuata (and thin-leaved relatives) (Ca native and non-native)	agave	Low	0.2
Aloe saponaria	African aloe	Low	0.2
Aloysia macrostachya	aloyasia	Low	0.2
Aloysia triphylla	lemon verbena	Low	0.2
Ambrosia deltoidea	triangleleaf bursage	Low	0.2
Ambrosia dumosa	white bursage	Low	0.2
Ambrosia monogyra (Hymenoclea monogyra)	burrow bush	Very Low	0.05
Amorpha fruticosa	false indigobush	Moderate	0.5
Anisacanthus spp.	desert honeysuckle	Low	0.2
Arbutus unedo	strawberry tree	Moderate	0.5
Artemisia arborescens	large wormwood	Moderate	0.5
Artemisia filifolia	sand sagebrush	Very Low	0.05
Artemisia "Powis Castle"	Powis Castle sagebrush	Moderate	0.5
Artemisia spp. (shrubby)	sagebrush	Low	0.2
Artemisia tridentata	big sagebrush	Low	0.2
Atriplex spp	Salt bush	Low	0.2
Baccharis "Centennial"	Centennial baccharis	Low	0.2
Baccharis pilularis cvs.	dwarf coyote brush	Moderate	0.5
Baccharis salicifolia	mule fat	Moderate	0.5
Baccharis sarothroides	desert broom	Low	0.2
Baccharis "Starn"	Starn coyote brush	Low	0.2
Bahiopsis deltoidea (Viguiera deltoidea)	goldeneye	Low	0.2
Bambusa spp.	bamboo (Bambusa)	Moderate	0.5
Berberis aquifolium var. repens (shade)	creeping mahonia	Moderate	0.5
Berberis bealei (Mahonia bealei)	leatherleaf mahonia	Moderate	0.5
Berberis "Golden Abundance" (Mahonia)	golden abundance mahonia	Moderate	0.5
Berberis nevinii	Nevin mahonia	Moderate	0.5
Berberis pinnata & cvs. (Mahonia pinnata)	California holly grape	Moderate	0.5
Buddleja alternifolia	fountain butterfly bush	Moderate	0.5
Buddleja davidii and hybrids	butterfly bush	Moderate	0.5
Buddleja marrubiiifolia	woolly butterfly bush	Low	0.2
Buxus microphylla japonica	Japanese boxwood	Moderate	0.5
Buxus sempervirens	English boxwood	Moderate	0.5
Caesalpinia gilliesii	desert bird of paradise	Low	0.2
Caesalpinia mexicana	Mexican bird of paradise	Low	0.2
Caesalpinia pulcherrima (deciduous in desert)	dwarf poinciana	Low	0.2
Calliandra "Sierra Star"	fairy duster hybrid	Low	0.2
Calliandra californica	Baja fairy duster	Low	0.2
Calliandra eriophylla	fairy duster	Low	0.2
Callistemon "Little John"	Little John bottlebrush	Moderate	0.5
Cephalocereus spp.	old man cactus	Low	0.2
Ceratostigma abyssinicum	African plumbago	Moderate	0.5

<b>Shrubs (cont.)</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Ceratostigma griffithii	Burmese plumbago	Moderate	0.5
Cercocarpus betuloides	mountain ironwood	Very Low	0.05
Chaenomeles cvs.	flowering quince	Low	0.2
Chamaerops humilis	Mediterranean fan palm	Moderate	0.5
Chrysactinia mexicana	damianita daisy	Low	0.2
Chrysothamnus nauseosus	rabbit brush	Very Low	0.05
Cistus spp. and cvs.	rockrose	Moderate	0.5
Cleome isomeris	bladder pod	Low	0.2
Cneoridium dumosum	bushrue	Low	0.2
Coleogyne ramosissima	blackbrush	Very Low	0.05
Condea emoryi (Hyptis emoryi)	desert lavender	Low	0.2
Convolvulus cneorum	bush morning glory	Low	0.2
Cordia parvifolia	little leaf cordia	Low	0.2
Cortaderia selloana	Pampas grass	Low	0.2
Cotinus coggygria	smoke tree	Low	0.2
Cotoneaster spp. (shrubs)	cotoneaster	Moderate	0.5
Cuphea hyssopifolia	false heather	Moderate	0.5
Cuphea llavea	bat-faced cuphea	Moderate	0.5
Cycas revoluta	sago palm	Moderate	0.5
Dalea bicolor	dalea (bicolor)	Low	0.2
Dalea frutescens	black dalea	Low	0.2
Dalea pulchra	indigo/pea bush	Low	0.2
Dalea versicolor	dalea (versicolor)	Low	0.2
Dasyliirion spp.	desert spoon	Low	0.2
Dioon spp.	Mexican cycad	Moderate	0.5
Dodonaea viscosa	hopseed bush	Moderate	0.5
Dodonaea viscosa "Purpurea"	purple hopseed bush	Moderate	0.5
Elaeagnus x ebbingei	Ebbinge's silverberry	Moderate	0.5
Encelia farinosa	brittle bush	Very Low	0.05
Ephedra nevadensis	Nevada ephedra	Very Low	0.05
Ephedra viridis	green mormon tea	Very Low	0.05
Eremophila maculata	spotted emu bush	Low	0.2
Eremophila racemosa	Easter egg bush	Low	0.2
Eremophila x "Summertime Blue"	Summertime Blue emu	Low	0.2
Ericameria laricifolia	turpentine bush	Low	0.2
Eriobotrya "Coppertone"	coppertone loquat	Moderate	0.5
Eriodictyon tomentosum	woolly yerba santa	Very Low	0.05
Eriogonum fasciculatum and cvs. (not listed above)	California buckwheat	Very Low	0.05
Eriogonum spp. (CA native and non-native spp.)	buckwheat	Low	0.2
Espositoa lanata	Peruvian old man cactus	Low	0.2
Euonymus japonicus	evergreen euonymus	Moderate	0.5
Euryops pectinatus	euryops/shrub daisy	Moderate	0.5
Euryops pectinatus viridis	green euryops	Moderate	0.5
Fallugia paradoxa	Apache plume	Low	0.2
Ferocactus spp. (CA native and non-native spp.)	barrel cactus	Low	0.2
Forestiera pubescens	desert olive	Low	0.2
<b>Shrubs (cont.)</b>			



<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
<i>Fouquieria macdougalii</i>	Mexican tree ocotillo	Low	0.2
<i>Fouquieria splendens</i>	ocotillo	Very Low	0.05
<i>Gutierrezia sarothrae</i>	matchweed	Very Low	0.05
<i>Hamelia patens</i>	Texas firecracker bush	Moderate	0.5
<i>Hesperaloe campanulata</i>	bell flower hesperaloe	Low	0.2
<i>Hesperaloe funifera</i>	Coahuilan hesperaloe	Low	0.2
<i>Hesperaloe nocturna</i>	seven-son flower	Low	0.2
<i>Hesperaloe parviflora</i>	red/ yellow yucca	Low	0.2
<i>Hesperoyucca</i> spp. ( <i>Yucca whipplei</i> , <i>Yucca californica</i> )	yucca	Low	0.2
<i>Heteromeles arbutifolia</i>	toyon	Low	0.2
<i>Hibiscus rosa-sinensis</i>	Chinese hibiscus	Moderate	0.5
<i>Hibiscus syriacus</i>	Rose of Sharon	Moderate	0.5
<i>Ilex cornuta</i> "Burfordii"	Burford holly	Moderate	0.5
<i>Ilex vomitoria</i>	yaupon	Moderate	0.5
<i>Ilex x altaclarensis</i> "Wilsonii"	Wilson holly	Moderate	0.5
<i>Isocoma</i> spp. ( <i>Haplopappus</i> )	goldenbush	Very Low	0.05
<i>Jasminum mesnyi</i>	primrose jasmine	Moderate	0.5
<i>Juniperus californica</i>	California juniper	Low	0.2
<i>Juniperus</i> spp.	juniper	Moderate	0.5
<i>Justicia californica</i> ( <i>Beloperone californica</i> )	chuparosa	Low	0.2
<i>Justicia spicigera</i>	Mexican honeysuckle	Low	0.2
<i>Kerria japonica</i>	Japanese rose	Moderate	0.5
<i>Kolkwitzia amabilis</i>	beauty bush	Moderate	0.5
<i>Krascheninnikovia lanata</i>	winterfat	Low	0.2
<i>Lantana camara</i> & cvs.	lantana	Moderate	0.5
<i>Larrea tridentata</i>	Creosote Bush	Low	0.5
<i>Lavandula</i> spp. & cvs.	lavender	Moderate	0.5
<i>Leonotis leonurus</i>	lion's tail	Moderate	0.5
<i>Leucophyllum langmaniae</i> "Lynn's legacy"	Lynn's everblooming texas sage	Low	0.2
<i>Leucophyllum</i> spp. & cvs.	purple sage, Texas ranger etc.	Low	0.2
<i>Ligustrum japonicum</i>	Japanese privet	Moderate	0.5
<i>Lobelia laxiflora</i>	Mexican lobelia	Moderate	0.5
<i>Lycium fremontii</i>	wolfberry	Low	0.2
<i>Mahonia oiwakensis</i> ( <i>M. lomariifolia</i> )	Chinese holly grape	Moderate	0.5
<i>Malpighia glabra</i>	Barbados cherry	Moderate	0.5
<i>Myoporum parvifolium</i> & cvs.	myoporum	Moderate	0.5
<i>Myrtus communis</i>	true myrtle	Moderate	0.5
<i>Nandina domestica</i>	heavenly bamboo	Moderate	0.5
<i>Nandina domestica</i> "Purpurea"	heavenly bamboo (Nana)	Moderate	0.5
<i>Nerium oleander</i> & cvs.	oleander	Moderate	0.5
<i>Nolina</i> spp. (CA natives and non-natives)	bear grass	Low	0.2
<i>Opuntia</i> spp. & cvs. (CA natives and non-natives)	prickly pear/cholla	Very Low	0.05
<i>Osmanthus</i> spp.	sweet olive/osmanthus	Moderate	0.5
<b>Shrubs (cont.)</b>			

<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
<i>Pachycereus marginatus</i>	Mexican fence post cactus	Very Low	0.05
<i>Pedilanthus bracteatus</i>	tall slipper plant	Low	0.2
<i>Pedilanthus macrocarpus</i>	slipper plant	Low	0.2
<i>Peritoma arborea</i> (Isomeris arborea)	bladderpod	Low	0.2
<i>Perovskia</i> spp. & cvs.	Russian sage	Low	0.2
<i>Phlomis fruticosa</i>	Jerusalem sage	Moderate	0.5
<i>Photinia serratifolia</i> ( <i>P. serrulata</i> )	Chinese photinia	Moderate	0.5
<i>Photinia x fraseri</i>	Fraser photinia	Moderate	0.5
<i>Phyllostachys</i> spp.	bamboo ( <i>Phyllostachys</i> )	Moderate	0.5
<i>Pinus mugo</i>	mugo pine	Moderate	0.5
<i>Pittosporum tobira</i> and cvs.	mock orange	Moderate	0.5
<i>Pluchea sericea</i>	Coville arrow weed	Low	0.2
<i>Plumbago scandens</i>	summer snow	Moderate	0.5
<i>Podocarpus macrophyllus</i>	yew pine	Moderate	0.5
<i>Portulacaria afra</i> & cvs.	elephant's food	Low	0.2
<i>Prunus fasciculata</i>	desert almond	Very Low	0.05
<i>Psilostrophe cooperi</i>	paper flower	Very Low	0.05
<i>Psilostrophe tagetina</i>	paper flower	Low	0.2
<i>Punica granatum</i> & cultivars	dwarf pomegranate	Moderate	0.5
<i>Pyracantha</i> sp.	Firethorn	Moderate	0.5
<i>Quercus berberidifolia</i>	California scrub oak	Low	0.2
<i>Quercus dumosa</i>	Nuttall's scrub oak	Low	0.2
<i>Quercus turbinella</i>	shrub live oak	Low	0.2
<i>Raphiolepis indica</i> & cvs	Indian hawthorne	Moderate	0.5
<i>Rhus ovata</i>	sugar bush	Low	0.2
<i>Rhus typhina</i>	staghorn sumac	Low	0.2
<i>Romneya coulteri</i>	Matilija poppy	Low	0.2
<i>Rosa woodsii</i> subsp. <i>ultramontana</i>	mountain wood rose	Moderate	0.5
<i>Rosmarinus</i> cvs.	trailing rosemary	Moderate	0.5
<i>Rosmarinus officinalis</i> & <i>prostratus</i>	rosemary	Moderate	0.5
<i>Ruellia brittoniana</i>	Mexican petunia	Low	0.2
<i>Ruellia</i> "Little Katie"	dwarf ruellia	Low	0.2
<i>Ruellia peninsularis</i>	Baja ruellia	Low	0.2
<i>Russelia equisetiformis</i>	coral fountain	Moderate	0.5
<i>Sabal</i> spp.	palmetto	Moderate	0.5
<i>Salvia</i> "Allen Chickering"	Allen Chickering sage	Low	0.2
<i>Salvia apiana</i>	white sage	Low	0.2
<i>Salvia chamaedryoides</i>	blue sage	Moderate	0.5
<i>Salvia clevelandii</i> & hybrids	salvia Cleveland/Alan Chickering etc.	Low	0.2
<i>Salvia dorrii</i>	purple sage	Low	0.2
<i>Salvia</i> "Gayle Nielson" (also Trident as registered trademark name)	Gayle Nielson/Trident sage	Very Low	0.05
<i>Salvia greggii</i> & hybrids	autumn sage	Moderate	0.5
<i>Salvia leucophylla</i> and cvs.	purple sage	Moderate	0.5
<i>Salvia officinalis</i> and cvs.	garden/kitchen sage	Moderate	0.5
<b>Shrubs (cont.)</b>			

<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Sambucus spp. (CA native and non-native spp.)	elderberry	Moderate	0.5
Santolina spp.	lavender cotton	Low	0.2
Senecio cineraria (Jacobaea maritima)	dusty miller	Moderate	0.5
Senna armata (Cassia armata)	spicy senna	Very Low	0.05
Senna artemisioides (Cassia artemisioides)	feathery cassia/senna	Low	0.2
Senna covesii	desert senna	Very Low	0.05
Senna lindheimeriana (Cassia lindheimeriana)	Lindheimer's senna/cassia	Low	0.2
Senna nemophila (Cassia nemophila)	desert cassia	Low	0.2
Senna phyllodinea (Cassia phyllodinea)	silver leaf cassia/senna	Low	0.2
Senna sturtii (Cassia sturtii)	Sturt's cassia/senna	Low	0.2
Senna wislizeni (Cassia wislizeni)	shrubby senna	Low	0.2
Simmondsia chinensis	jojoba	Low	0.2
Sophora secundiflora	Texas mountain laurel	Low	0.2
Sorbus aucuparia	European mountain ash	Moderate	0.5
Spartium junceum	Spanish broom	Very Low	0.05
Spiraea spp. (CA native and non native spp.)	spiraea	Moderate	0.5
Strelitzia reginae (shade in desert)	bird of paradise	Moderate	0.5
Styrax redivivus (S. californicus, S. fulvescens))	snowdrop bush	Moderate	0.5
Syringa hybrids (including Descanso hybrids)	lilac	Moderate	0.5
Syringa vulgaris	lilac	Moderate	0.5
Syringa x persica	Persian lilac	Moderate	0.5
Taxus baccata	English yew	Moderate	0.5
Taxus baccata "Fastigiata"	Irish yew	Moderate	0.5
Tecoma "Crimson Flare"	yellow bells	Moderate	0.5
Tecoma fulva spp. guarume (T."Orange Jubilee"	Orange Jubilee tecoma	Moderate	0.5
Tecoma stans	yellow bells	Moderate	0.5
Tecoma "Sunrise"	Sunrise tecoma	Moderate	0.5
Tecomaria capensis	cape honeysuckle	Moderate	0.5
Teucrium chamaedrys	germander	Moderate	0.5
Teucrium fruticans	bush germander	Moderate	0.5
Thuja occidentalis	American arborvitae	Moderate	0.5
Trachelospermum asiaticum	Asian star jasmine	Moderate	0.5
Trachelospermum jasminoides	star jasmine	Moderate	0.5
Trixis californica	trixis	Low	0.2
Ungnadia speciosa	Mexican buckeye	Low	0.2
Vauquelinia californica	Arizona rosewood	Low	0.2
Vauquelinia corymbosa var. heterodon	narrow leaf rosewood	Low	0.2
Viburnum tinus	laurustinus	Moderate	0.5
Viguiera parishii	desert goldeneye	Low	0.2
<b>Shrubs (cont.)</b>			

<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Wedelia texana (Zexmenia hispida)	hairy wedelia	Low	0.2
Weigela florida	weigela	Moderate	0.5
Xylosma congestum	shiny xylosma	Moderate	0.5
Yucca aloifolia	Spanish bayonet	Low	0.2
Yucca baccata	banana yucca	Very Low	0.05
Yucca brevifolia	Joshua tree	Very Low	0.05
Yucca decipiens	palma China	Very Low	0.05
Yucca elata	soaptree yucca	Very Low	0.05
Yucca faxoniana	giant white yucca	Very Low	0.05
Yucca filamentosa & cvs.	Adam's needle	Low	0.2
Yucca glauca	soapweed yucca	Low	0.2
Yucca gloriosa	Spanish dagger	Low	0.2
Yucca recurvifolia	curve leaf yucca	Low	0.2
Yucca rigida	blue yucca	Very Low	0.05
Yucca rostrata	beaked yucca	Very Low	0.05
Yucca rupicola	twisted yucca	Low	0.2
Yucca schidigera (Y. californica, Y. mohavensis)	Mojave yucca	Very Low	0.05
Yucca schottii	mountain yucca	Very Low	0.05
Yucca thompsoniana	Thompson's yucca	Very Low	0.05
<b>Ornamental Trees</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Acacia constricta	whitethorn acacia	Low	0.2
Acacia craspedocarpa	leatherleaf acacia	Low	0.2
Acacia greggii	catclaw acacia	Low	0.2
Acacia pennatula	pennatula acacia	Low	0.2
Arbutus unedo	strawberry tree	Moderate	0.5
Azara microphylla	box leaf azara	Moderate	0.5
Brahea armata	blue hesper palm	Moderate	0.5
Brahea edulis	Guadalupe palm	Moderate	0.5
Butia odorata (B. capitata)	pindo palm	Moderate	0.5
Celtis pallida	desert hackberry	Low	0.2
Celtis reticulata	western hackberry	Low	0.2
Cercis occidentalis	western redbud	Moderate	0.5
Chilopsis linearis	desert willow	Moderate	0.5
Cotinus coggygria	smoke tree	Low	0.2
Cupressus sempervirens	Italian cypress	Moderate	0.5
Dioon spp.	Mexican cycad	Moderate	0.5
Eysenhardtia orthocarpa	kidneywood	Low	0.2
Havardia pallens (Pithecellobium pallens)	tenaza	Low	0.2
Hesperocyparis stephensonii (Cupressus arizonica ssp. arizonica, C. arizonica var. glabra)	Cuyamaca cypress	Low	0.2
Heteromeles arbutifolia	toyon	Low	0.2
Juniperus scopulorum cvs.	Rocky Mountain juniper	Moderate	0.5
Juniperus spp.	juniper	Moderate	0.5

<b>Ornamental Trees (cont.)</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Lagerstroemia spp., hybrids and cvs.	crape myrtle	Moderate	0.5
Olneya tesota	desert ironwood	Low	0.2
Parkinsonia aculeata	Mexican palo verde/ Jerusalem thorn	Low	0.2
Parkinsonia floridum	Blue Palo Verde	Low	0.2
Parkinsonia microphyllum	Little leaf palo verde	Low	0.2
Phoenix dactylifera	date palm	Moderate	0.5
Photinia serratifolia (P. serrulata)	Chinese photinia	Moderate	0.5
Phyllostachys spp.	bamboo (Phyllostachys)	Moderate	0.5
Podocarpus henkelii	long leaf yellow wood	Moderate	0.5
Prosopis alba	Argentine mesquite	Low	0.2
Prosopis glandulosa (P. chilensis)	Chilean mesquite	Low	0.2
Prosopis glandulosa var. torreyana	honey mesquite	Low	0.2
Prosopis hybrids and cvs.	prosopis hybrids	Low	0.2
Prosopis juliflora	Arizona mesquite	Low	0.2
Prosopis pubescens	screwbean mesquite	Low	0.2
Prosopis velutina	velvet mesquite	Low	0.2
Prunus caroliniana	Carolina laurel cherry	Moderate	0.5
Prunus spp. edible	apricot	Moderate	0.5
Prunus spp. edible	nectarine	Moderate	0.5
Prunus spp. edible	nectarine (low chill)	Moderate	0.5
Prunus spp. edible	peach	Moderate	0.5
Prunus spp. edible	peach (low chill)	Moderate	0.5
Prunus spp. edible	plum	Moderate	0.5
Prunus spp. edible	plum (low chill)	Moderate	0.5
Prunus spp. peach	flowering peach	Moderate	0.5
Prunus spp. plum	flowering plum	Moderate	0.5
Punica granatum	pomegranate	Moderate	0.5
Pyrus kawakamii	evergreen pear	Moderate	0.5
Rhaphiolepis "Majestic Beauty"	majestic beauty	Moderate	0.5
Sabal spp.	palmetto	Moderate	0.5
Syagrus romanzoffiana (Arecastrum romanzoffiana)	queen palm	Moderate	0.5
Tecoma stans	yellow bells	Moderate	0.5
Trachycarpus fortunei	windmill palm	Moderate	0.5
Vitex Agnus-castus	Chaste Tree	Moderate	0.5
Washingtonia filifera	California fan palm	Moderate	0.5
Washingtonia Robusta	Mexican Fan Palm	Moderate	0.5
Yucca brevifolia	Joshua Tree	Low	0.2
<b>Canopy Trees</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Ailanthus altissima	Tree of heaven	Low	0.2
Albizia julibrissin	silk tree	Moderate	0.5
Allocauarina verticillata (Casuarina stricta)	coast beefwood	Moderate	0.5
Calocedrus decurrens	incense cedar	Moderate	0.5
Carya illinoensis	pecan	Moderate	0.5

<b>Canopy Trees (cont.)</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Casuarina cunninghamiana	river she-oak	Moderate	0.5
Catalpa speciosa	western catalpa	Moderate	0.5
Cedrus atlantica	Atlas cedar	Moderate	0.5
Cedrus deodara	deodar cedar	Moderate	0.5
Celtis australis	European hackberry	Moderate	0.5
Celtis occidentalis	common hackberry	Moderate	0.5
Celtis sinensis	Chinese hackberry	Moderate	0.5
Chitalpa tashkentensis	Pink Dawn	Low	0.2
Cordia boissieri	Texas olive	Low	0.2
Cordia parvifolia	little leaf cordia	Low	0.2
Diospyros kaki	Japanese persimmon	Moderate	0.5
Eucalyptus gunnii	Cider Gum	Moderate	0.5
Eucalyptus microtheca	coolibah	Moderate	0.5
Eucalyptus nicholii	Nichol's willow leaf peppermint	Moderate	0.5
Eucalyptus polyanthemos	silver dollar gum	Moderate	0.5
Eucalyptus rudis	flooded gum	Moderate	0.5
Eucalyptus sideroxylon	red iron bark	Moderate	0.5
Fraxinus angustifolia "Raywood" (F. oxycarpa)	Raywood ash	Moderate	0.5
Fraxinus "Moraine"	moraine ash	Moderate	0.5
Fraxinus uhdei	evergreen ash	Moderate	0.5
Fraxinus velutina	Arizona ash	Moderate	0.5
Fraxinus velutina "Modesto"	Modesto ash	Moderate	0.5
Geijera parviflora	Australian willow	Moderate	0.5
Ginkgo biloba	maiden hair tree	Moderate	0.5
Gleditsia triacanthos	honey locust	Low	0.2
Hesperocyparis arizonica (Cupressus arizonica)nomen. unresolved	Arizona cypress	Low	0.2
Koelreuteria paniculata	golden rain tree	Moderate	0.5
Laurus nobilis	sweet bay	Moderate	0.5
Laurus "Saratoga"	Saratoga laurel	Moderate	0.5
Ligustrum lucidum	glossy privet	Moderate	0.5
Liquidambar styraciflua	sweet gum	Moderate	0.5
Malus hybrids	crabapple	Moderate	0.5
Malus spp.(edible)	apple	Moderate	0.5
Melia Azedarach	Chinaberry	Low	0.2
Morus alba	white mulberry	Moderate	0.5
Olea Eruopaea	Olive	Low	0.2
Picea glauca	Alberta spruce	Moderate	0.5
Picea pungens	Colorado spruce	Moderate	0.5
Pinus brutia	Calabrian pine	Moderate	0.5
Pinus brutia ssp. eldarica	eldarica pine	Moderate	0.5
Pinus canariensis	Canary Island pine	Moderate	0.5
Pinus coulteri	Coulter pine	Moderate	0.5
Pinus edulis	pinyon pine	Low	0.2
Pinus halepensis	Aleppo pine	Moderate	0.5
Pinus monophylla	single leaf pinyon pine	Low	0.2
Pinus nigra	Austrian black pine	Moderate	0.5
<b>Canopy Trees (cont.)</b>			

Botanical Name	Common Name	Water Use	Plant Factor
<i>Pinus patula</i>	Jelegote pine	Moderate	0.5
<i>Pinus pinea</i>	Italian stone pine	Moderate	0.5
<i>Pinus roxburghii</i>	chir pine	Moderate	0.5
<i>Pinus thunbergii</i>	Japanese black pine	Moderate	0.5
<i>Pistacia chinensis</i>	Chinese pistache	Moderate	0.5
<i>Pistacia x "Red Push"</i>	red push pistache	Moderate	0.5
<i>Pithecellobium Flexicaule</i>	Texas Ebony	Low	0.2
<i>Pittosporum tobira</i> and cvs.	mock orange	Moderate	0.5
<i>Podocarpus macrophyllus</i>	yew pine	Moderate	0.5
<i>Populus "Mohavensis"</i>	Mohave poplar	Moderate	0.5
<i>Pyrus calleryana</i> cultivars	Callery pear	Moderate	0.5
<i>Pyrus communis</i>	edible pear	Moderate	0.5
<i>Quercus dumosa</i>	Nuttall's scrub oak	Low	0.2
<i>Quercus fusiformis</i>	escarpment live oak	Low	0.2
<i>Quercus gambelii</i>	Gambel oak	Low	0.2
<i>Quercus ilex</i>	holly oak	Moderate	0.5
<i>Quercus lobata</i>	Valley Oak	Moderate	0.5
<i>Quercus macrocarpa</i>	burr oak	Moderate	0.5
<i>Quercus muehlenbergii</i>	chinquapin oak	Low	0.2
<i>Quercus suber</i>	cork oak	Low	0.2
<i>Quercus texana</i>	Texas red oak	Low	0.2
<i>Quercus virginiana</i>	southern live oak	Moderate	0.5
<i>Quercus wislizeni</i>	interior live oak	Moderate	0.5
<i>Quercus x Heritage</i>	Heritage oak	Moderate	0.5
<i>Robinia x ambigua</i>	locust	Moderate	0.5
<i>Sambucus</i> spp. (CA native and non-native spp.)	elderberry	Moderate	0.5
<i>Schinus polygamus</i>	Peruvian pepper tree	Low	0.2
<i>Searsia lancea</i> ( <i>Rhus lancea</i> )	African sumac	Moderate	0.5
<i>Sophora secundiflora</i>	Texas mountain laurel	Low	0.2
<i>Sorbus aucuparia</i>	European mountain ash	Moderate	0.5
<i>Styphnolobium japonicum</i> ( <i>Sophora japonica</i> )	Japanese pagoda tree	Moderate	0.5
<i>Styrax japonicus</i>	Japanese snowbell	Moderate	0.5
<i>Taxus baccata</i>	English yew	Moderate	0.5
<i>Taxus baccata "Fastigiata"</i>	Irish yew	Moderate	0.5
<i>Ulmus crassifolia</i>	cedar elm	Moderate	0.5
<i>Ulmus parvifolia</i>	Chinese evergreen elm	Moderate	0.5
<i>Ulmus pumila</i>	Siberian elm	Moderate	0.5
<i>Ungnadia speciosa</i>	Mexican buckeye	Low	0.2
<i>Zelkova serrata</i>	saw leaf zelkova	Moderate	0.5
<i>Ziziphus jujuba</i>	Chinese jujube	Moderate	0.5
<b>Vines</b>			
Botanical Name	Common Name	Water Use	Plant Factor
<i>Ampelopsis brevipedunculata</i>	blueberry creeper	Moderate	0.5
<i>Bignonia capreolata</i>	cross vine	Moderate	0.5
<i>Campsis</i> spp.	trumpet creeper	Moderate	0.5
<b>Vines (cont.)</b>			
Botanical Name	Common Name	Water Use	Plant Factor

Clematis armandii	evergreen clematis	Moderate	0.5
Clematis hybrids and cvs.	clematis	Moderate	0.5
Euonymus fortunei radicans	winter creeper	Moderate	0.5
Fallopia baldschuanica (Polygonum aubertii)	fleeceflower	Moderate	0.5
Ficus pumila (repens)	creeping fig	Moderate	0.5
Gelsemium sempervirens	Carolina jessamine	Moderate	0.5
Lonicera hildebrandiana	giant Burmese honeysuckle	Moderate	0.5
Lonicera japonica	Japanese honeysuckle	Moderate	0.5
Lonicera sempervirens	trumpet honeysuckle	Moderate	0.5
Lonicera x americana	Americana honeysuckle	Moderate	0.5
Macfadyena unguis-cati	cat's claw	Low	0.2
Parthenocissus quinquefolia	Virginia creeper	Moderate	0.5
Parthenocissus tricuspidata	Boston ivy	Moderate	0.5
Rosa banksiae	Lady Banks rose	Moderate	0.5
Rosa "Cecile Brunner"	Cecile Brunner rose	Moderate	0.5
Tecomaria capensis	cape honeysuckle	Moderate	0.5
Thunbergia alata	black eyed susan	Moderate	0.5
Trachelospermum asiaticum	Asian star jasmine	Moderate	0.5
Trachelospermum jasminoides	star jasmine	Moderate	0.5
Vitis californica	California wild grape	Moderate	0.5
Vitis girdiana	desert grape	Moderate	0.5
Vitis labrusca	American grape	Moderate	0.5
Vitis "Roger's Red"	Roger's Red grape	Moderate	0.5
Vitis vinifera	European grape	Moderate	0.5
Wisteria spp.	wisteria	Moderate	0.5
<b>Bamboo</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Bambusa spp.	bamboo (Bambusa)	Moderate	0.5
Phyllostachys spp.	bamboo (Phyllostachys)	Moderate	0.5
<b>Bulbs</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Allium spp. mostly from CA or Mediterranean	allium	Low	0.2
Calochortus spp.	Mariposa lily	Very Low	0.2
Lilium columbianum	Columbia lily	Moderate	0.5
Lilium formosanum	Formosan lily	Moderate	0.5
Lilium humboldtii	Humboldt lily	Moderate	0.5
Lilium pardalinum	leopard lily and Wiggins lily	Moderate	0.5
Lilium parryi	lemon lily	Moderate	0.5
Lilium parvum	alpine lily	Moderate	0.5
Lilium tigrinum	tiger lily	Moderate	0.5
Lilium wallichianum	wallichianum lily	Moderate	0.5
Ranunculus spp. (winter growing)	Persian ranunculus	Moderate	0.5
Zephyranthes candida	white rain lily	Low	0.2
Zephyranthes spp.	zephyr flower	Low	0.2
<b>Grass</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Andropogon gerardii	big bluestem	Low	0.2



Andropogon scoparius	little bluestem	Low	0.2
Aristida purpurea	purple threeawn	Low	0.2
Bouteloua curtipendula	sideoats grama	Low	0.2
Bouteloua gracilis and cvs.	blue grama	Low	0.2
Calamagrostis x acutiflora cvs. e.g. Karl Foerster	feather reed grass	Moderate	0.5
Festuca californica and cvs.	California fescue	Moderate	0.5
Festuca glauca	blue fescue	Moderate	0.5
Festuca ovina and cvs.	sheep fescue	Moderate	0.5
Festuca "Siskiyou Blue"	Siskiyou Blue fescue	Moderate	0.5
Hilaria rigida (Pleuraphis rigida)	big galleta grass	Moderate	0.5
Muhlenbergia capillaris and cvs.	hairy awn muhly	Moderate	0.5
Muhlenbergia dumosa	bamboo muhly	Moderate	0.5
Muhlenbergia emersleyi	bull grass	Moderate	0.5
Muhlenbergia lindheimeri	Lindheimer muhly	Moderate	0.5
Muhlenbergia porteri	bush muhly	Moderate	0.5
Muhlenbergia rigens	deer grass	Moderate	0.5
Muhlenbergia rigida "Nashville"	Nashville deer grass	Moderate	0.5
Panicum virgatum and cvs.	switch grass	Moderate	0.5
Pennisetum x advena (P. setaceum hybrids)	purple/burgundy fountain grass	Moderate	0.5
Saccharum ravennae (Erianthus ravennae)	plume grass	Moderate	0.5
Schizachyrium scoparium	little bluestem	Low	0.2
Sporobolus airoides	alkalai sacaton	Low	0.2
Sporobolus wrightii	big sacaton	Low	0.2
Stenotaphrum secundatum	St Augustine grass	Moderate	0.5
Stipa hymenoides (Oryzopsis hymenoides)	Indian rice grass	Low	0.2
Stipa tenuissima (Nassella tenuissima)	Mexican feather grass	Low	0.2
Zoysia tenuifolia	Mascarene grass	Moderate	0.5
<b>Palm &amp; Cycad</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Brahea armata	blue hesper palm	Moderate	0.5
Brahea edulis	Guadalupe palm	Moderate	0.5
Butia odorata (B. capitata)	pindo palm	Moderate	0.5
Chamaerops humilis	Mediterranean fan palm	Moderate	0.5
Cycas revoluta	sago palm	Moderate	0.5
Dioon spp.	Mexican cycad	Moderate	0.5
Phoenix canariensis	Canary Island date palm	Moderate	0.5
Sabal spp.	palmetto	Moderate	0.5
Syagrus romanzoffiana (Arecastrum romanzoffiana)	queen palm	Moderate	0.5
Trachycarpus fortunei	windmill palm	Moderate	0.5
Washingtonia filifera	California fan palm	Moderate	0.5

<b>Succulents</b>			
<b>Botanical Name</b>	<b>Common Name</b>	<b>Water Use</b>	<b>Plant Factor</b>
Dasyliirion spp.	desert spoon	Low	0.2
Echinopsis spp. (Trichocereus spp.)	torch cactus	Low	0.2
Euphorbia antisyphilitica	candelilla	Low	0.2
Ferocactus spp. (CA native and non-native spp.)	barrel cactus	Low	0.2
Fouquieria macdougalii	Mexican tree ocotillo	Low	0.2
Fouquieria splendens	ocotillo	Very Low	0.05
Hesperaloe campanulata	bell flower hesperaloe	Low	0.2
Hesperaloe funifera	Coahuilan hesperaloe	Low	0.2
Hesperaloe nocturna	seven-son flower	Low	0.2
Hesperaloe parviflora	red/ yellow yucca	Low	0.2
Hesperoyucca spp. (Yucca whipplei, Yucca californica)	yucca	Low	0.2
Mammillaria geminispina	cactus	Very Low	0.05
Mammillaria melanocentra	cactus	Very Low	0.05
Opuntia spp. & cvs. (CA natives and non-natives)	prickly pear/cholla	Very Low	0.05
Pachycereus marginatus	Mexican fence post cactus	Very Low	0.05
Pedilanthus bracteatus	tall slipper plant	Low	0.2
Pedilanthus macrocarpus	slipper plant	Low	0.2
Portulacaria afra & cvs.	elephant's food	Low	0.2
Yucca aloifolia	Spanish bayonet	Low	0.2
Yucca baccata	banana yucca	Very Low	0.05
Yucca brevifolia	Joshua tree	Very Low	0.05
Yucca decipiens	palma China	Very Low	0.05
Yucca elata	soaptree yucca	Very Low	0.05
Yucca faxoniana	giant white yucca	Very Low	0.05
Yucca filamentosa & cvs.	Adam's needle	Low	0.2
Yucca glauca	soapweed yucca	Low	0.2
Yucca gloriosa	Spanish dagger	Low	0.2
Yucca recurvifolia	curve leaf yucca	Low	0.2
Yucca rigida	blue yucca	Very Low	0.05
Yucca rostrata	beaked yucca	Very Low	0.05
Yucca schottii	mountain yucca	Very Low	0.05
Yucca thompsoniana	Thompson's yucca	Very Low	0.05